HOPEX COMMON FEATURES

User Guide

HOPEX Aquila 6.2



Bizzdesign

Information in this document is subject to change and does not represent a commitment on the part of MEGA International.

No part of this document is to be reproduced, transmitted, stored in a retrieval system, or translated into any language in any form by any means, without the prior written permission of MEGA International.

© MEGA International, Paris, 1996 - 2026

All rights reserved.

HOPEX is a registered trademark of MEGA International.

Windows is a registered trademark of Microsoft Corporation.

The other trademarks mentioned in this document belong to their respective owners.

CONTENTS

HOPEX Desktop 27

Accessing HOPEX 28
Activating your HOPEX Account 28
Logging in to HOPEX 29
Switching Profile 32
Resetting your Password 32
Interface Presentation 34
HOPEX Desktops 35
Toolbar *36*
Navigation bar *36*
Breadcrumb *39*
Edit Area *39*
Homepage 40
Accessing the homepage *40*
Homepage description *41*
Interface Elements 45
Navigation menus *46*
Browse area *48*
Main menu *50*
Working in HOPEX 52
Workspace Types and Updates 52
What is your workspace type? *52*
Public workspace *52*
Private workspace *53*
Read-only workspace *53*
Saving your Work 53
Saving your work (public workspace) *53*
Saving your work (private workspace) *54*
Viewer and Contributor Type Profiles 54
Viewer type profile *55*
Contributor type profile *56*
Customizing your Personal Parameters 56
Modifying your password *56*
Modifying your avatar *57*
Resetting your Desktop Customizations 58

Setting a Current Library . . . 58
Consulting your Licenses . . . 59
Customizing your HOPEX Desktop . . . 61
Modifying your Data Language . . . 61
Modifying your User Interface Language . . . 61
Customizing your Dashboard . . . 62
Accessing the dashboard . . . 62
Adding a dashboard to your desktop . . . 62
Adding a widget to your dashboard . . . 62
Displaying a widget in full page . . . 64
Expanding/Collapsing a widget window . . . 66
Updating the widget content . . . 66
Deleting a widget . . . 66
Accessing your options . . . 66
Extending the Visibility (Metamodel or Advanced Features) . . . 68
Introduction to HOPEX Metamodel Access . . . 68
Displaying advanced UI . . . 69
Displaying the Repository Activity . . . 69
Displaying Administration Properties and Links . . . 70
Accessing the Technical Metamodel . . . 70
Displaying the technical metamodel . . . 70
View abstract MetaClasses . . . 71
Accessing links details . . . 71
Modifying the definition of path of MetaAssociation . . . 72
Lists and Trees . . . 73
Handling Lists . . . 73
Defining the columns to display . . . 73
Modifying the column width . . . 74
Modifying the column order . . . 74
Resetting the column order . . . 75
Resetting column configuration . . . 75
Grouping data by field . . . 76
Freezing a column . . . 76
Mass modification of the data in a list . . . 78
Handling Trees . . . 79
Expanding/Collapsing a tree by one level . . . 79
Searching for objects in a tree . . . 79
Action on a folder of a tree . . . 80
Common Actions on Objects . . . 81
Actions on a List of Objects . . . 81
Creating an object from a list . . . 82
Filtering a list data . . . 82
Actions on Several Objects in a List . . . 84
Actions on an Object in a List . . . 86
Actions on an object using the menu bar of a list . . . 86
Actions on an object from the Local Name of a list . . . 87
Object pop-up menu . . . 88
Actions on an Object in a Tree . . . 89
Actions on the row of an object . . . 90
Object pop-up menu . . . 91
Actions on an Object in a Diagram . . . 91

Search 93

Introduction to Searches 94
Search Types 94
Using the Search Tool to Connect Objects 94
Connecting an object 94
Choosing the object selection mode 97
Full-text Search 98
Performing a Simple Full-Text Search 98
Selecting Object Types for your Search 100
Performing an Extended Full-Text Search 102
Filters 106
Advanced Search 110
Advanced Search Tool Introduction 110
Advanced search tool description 110
Accessing advanced search 110
Advanced Search Options 112
Displaying the technical metamodel 113
Expanding the advanced search to the abstract metamodel 113
Extending the advanced search to administration and/or translation attributes 114
Defining the condition combination rules 115
Using the NearMatch search 116
Quick search 116
Search in Wizard mode 117
Search with a Registered Query 119
Search in ERQL mode 120
Performing an advanced search in ERQL mode 121
Performing an advanced search in ERQL Mode with the wizard mode 122
Saving an ERQL query 124

DIAGRAMS

Diagram Creation and Edition 129

Introduction to Diagrams 130
Diagram Creation 131
Creating a Diagram (property pages) 131
Creating a Diagram (list) 134
Creating a Diagram (tree) 135
Handling Diagrams 137
Accessing an Object Diagrams 137
Accessing the diagrams of an object (property pages) 137
Accessing an object diagrams (list) 138
Accessing an object diagrams (tree) 139
Accessing a diagram from another diagram 141

Modifying the display order of diagrams *141*
Opening a Diagram 142
Opening a diagram describing the object *142*
Opening a diagram containing the object *142*
Filtering the list of diagrams *143*
Adding a Diagram to the Favorites 143
Navigating through a Diagram in Edit or View Mode 144
Deleting a Diagram 145
Editing Diagrams 146
Accessing Diagram Edition 146
Open a diagram in edit mode *146*
Switching from view mode to edit mode *147*
Editing a diagram in a new tab *147*
Diagram Edition Tools 148
Diagram toolbar (top) *149*
Element arrangement bar (top center) *150*
Diagram edit bar (left) *150*
Diagram insert bar (left) *151*
Editing tools for the diagram text (Aspect tab) *152*
Editing tools for the diagram shapes (Aspect tab) *153*
Keyboard Shortcuts 154
Diagrams in Tabular Entry Mode 157
Access to Tabular Mode 157
General Display of Tabular Entry Mode 158
Title banner *158*
Tabs *158*
Action buttons *159*
Table *159*
Diagram preview *159*
Tabular Mode Actions 159
Creating an Object *159*
Create several objects of the same type *160*
Deleting an object *160*
Create participants (BPMN diagrams only) *160*
Creating sequences (BPMN diagrams only) *161*
Add org-units (Organizational Chart only) *162*
Tabular Mode Options 162
Configuring the diagram default opening mode *162*
Modifying the edition mode of a diagram *163*
Modifying the default diagram opening mode *163*
Advanced configuration *163*
Tabular Mode Limits 164
Sketches 165
Sketching with HOPEX 165
Drawing a Sketch with HOPEX 166
Creating a new sketch *166*
Creating a sketching diagram from an Enterprise Architecture object *167*
Inserting an image in a sketching diagram *167*
Modifying the position of a sketching item name *167*
Modifying the shape of a sketching item *168*
Connecting a sketching item with a repository object *168*
Importing diagrams in a Sketching diagram *169*

Diagram Elements 171

Objects in a Diagram 172
Add Objects in a Diagram. 172
The object multi-add box 172
Adding an object by drag & drop 174
Adding objects with the diagram insert bar 176
Adding several objects with the diagram insert bar 177
Adding an object from an object contained in the diagram 177
Inserting an object in a sequence flow 178
Handling Links Between Objects 180
Creating links 180
Shifting the attachment point of a link 182
Changing the target of a link. 183
Modifying a link appearance 184
Moving a link text 184
Removing and Deleting an Object from a Diagram 185
Deleting an object from the diagram and from the repository 185
Removing an object from a diagram 186
Updating diagram objects 186
Object Status Indicators 187
Modifying the Shape of an Object. 189
Modifying an object shape 190
Modifying the shape set 190
Modifying the content displayed on an object shape. 191
Customizing the object graphical shape (color, position). 191
Modifying the text characteristics of an object shape 194
Updating the text of shapes 196
Modifying the position of the text field of an object 197
Using Pools: Improving Graphical Presentation 198
Creating a pool 199
Adding a participant to a pool 200
Adding a participant next to another participant 202
Adding an assignment to a participant 202
Modifying the order of participants in a pool 203
Removing a Participant from a pool 204
Deleting a Participant from a pool 204
Globally modifying the size of Participants of a pool 204
Modifying the size of a single Participant of a pool 206
Configuring the Object Types (Views) and Details of a Diagram 207

Texts in a Diagram 209
Inserting a Text in a Diagram 209
Creating a text 209
Modifying a Text 209
Modifying the text style 210
Displaying a text vertically 211
Inserting a Field in a Diagram 211
Inserting a Note in a Diagram 213
Adding a note to an object of the diagram 213
Adding a note to one or several objects of the diagram 213
Inserting a Title or a Title Block 214

Adding a title to a diagram *214*
Adding a title block to a diagram *214*
Adding an External Reference to a Diagram 215
Graphic Elements 216
Creating Graphic Objects 216
Cut, Copy, Paste 217
Modifying a Shape Fill 217
Defining a shape color *218*
Defining a color gradient or a pattern to a shape *219*
Managing transparency *219*
Modifying a Shape Border 220
Lines in a Diagram 222
Drawing Lines 222
Tracing a line *222*
Creating a joint *222*
Deleting a joint *223*
Delete all joints *223*
Moving Line Segments 223
Moving Lines 223
Connecting a Line to an Element 224
Centering Attachment Points 225
Reversing the Angle Position of an Orthogonal Line 226
Modifying a line style 226
Configuring Bridges 231
Parameterizing the default appearance of bridges *232*
Modifying the appearance of bridges in a diagram *232*

Working with Diagrams 235

Element Handling 236
Adding Space between Elements 236
Moving a set of elements horizontally *236*
Moving a set of elements vertically *237*
Selecting Elements 239
Selecting an element *239*
Selecting several elements one by one *239*
Selecting all elements *239*
Selecting all of the elements of an area *240*
Moving Elements 241
Moving elements *241*
Moving nested elements *243*
Moving elements outside the display area *244*
Moving elements outside the diagram area *245*
Ordering Elements 247
Sending a graphic object behind an element *247*
Bringing an element to front *247*
Sending an element back *247*
Aligning Elements 248
Using smart guides *249*

Aligning elements included in an area 250
Aligning elements selected one by one 250
Aligning elements on grid 250
Distributing Elements Equally 252
Resizing Elements in a Diagram 253
Resizing Drawing Objects 253
Resizing with proportions 253
Resizing with comparison to another element size 253
Using the Grid 254
Showing the grid 254
Activating the grid 254
Configuring the grid display 254
Diagram Handling **256**
Opening a Diagram in Edit Mode 256
Zooming 256
Moving a diagram 256
Handling a Diagram Preview 257
Zooming in a diagram preview 257
Diagram preview toolbar 257
Using the pie menu in a diagram preview 258
Displaying Diagram Thumbnail in a Diagram 259
Displaying the diagram describing the object as a thumbnail 259
Launching the exploded diagram report 261
Defining the Diagram Layout 263
Defining the layout settings 263
Layout limitations 265
Printing a Diagram 266
Exporting Diagrams to PowerPoint 267
Comparing Diagrams **269**
Diagram Comparison 269
Comparing a Diagram 270
Modifying the Comparison Display 272

OBJECTS AND DATA

Objects **277**

Object Properties **278**
Accessing Object Properties 278
Displaying an object properties (list or tree) 278
Displaying an object properties (Diagram) 279
Displaying an object properties (report) 281
Displaying an object properties in a new tab 281
Property Page: Overview 282
Description 282
Changing content 283

Going back to the default content *285*
Opening the content in a new tab *285*
Card of an Object 286
Card of an object (list) *286*
Card of an object (property pages) *290*
Handling Object Property Pages 290
Handling pages *291*
Showing/Hiding pages *292*
Showing/Hiding sections *293*
Property page customization 295
Property Page Customization Principle 295
Customizing an Object Property Page 297
Creating an Attribute 301
Managing Attributes and Sections 306
Reorganizing attributes and sections *306*
Removing an attribute *307*
Modifying an attribute *307*
Removing a section *307*
Rename a section *308*
Handling sections *308*
Managing your Page 309
Dispatching your page *309*
Managing a draft *310*
Creating a Property Page 311
Deleting a Custom Property Page 313
Object description 314
Entering Object Description 314
Text formatting 315
Inserting Object Names in the Description 316
Object Handling 317
Deleting or Removing an Object 317
Removing Objects *317*
Deleting an object *317*
Connecting Objects 318
Undoing or Redoing Actions on Objects 318
Undoing/Redoing an action *319*
Undoing/Redoing several actions *319*
Duplicating Objects 320
Duplicated object naming *321*
Duplication strategy choice *321*
Duplicating in another library *321*
Duplicated object names in a multilingual environment *322*
Favorites 323
Adding an Object to Favorites 323
Adding an object to favorites *323*
Adding several objects of a list to favorites *324*
Mass adding objects to favorites *325*
Accessing Favorites 325
Organizing your Favorites 326
Creating a sub-folder of favorites *326*
Classifying a favorite in a sub-folder *327*
Removing an Object from Favorites 327

Object History 328
Accessing the History of Viewed Objects 328
Accessing the History of an Object 330
Object Naming 331
Object Name Restrictions 331
Length 331
Allowed characters 331
Limitation 331
Name of an Object (Local/Short or Long) 331
HOPEX in a Multilingual Context 336
Managing the Data Language 336
Defining the available languages 336
Modifying the data language 336
Entering Data in Several Languages 337
Prerequisites to the manual translation of data 337
Object characteristics in the target language 337
Object Description in the target language 338
Multilingualism and duplicated object names 338
Viewing Untranslated Objects 339
Using Automatic Translation for Data 339
Prerequisites for the use of automatic translation 339
Introduction to the automatic translation of data 340
Using interactive automatic translation of an object 340
Using the incremental automatic translation batch 340
Object Variations 342
Activating Variations 342
Creating a Variation of an Object 344
Variation Modeling Rules 344
Variation Inheritance 345
Viewing inherited elements 345
Replacing an element with another: substitution 346
Excluding an element from the variant 347
Restoring elements 347
Viewing variations and substitutions graphically 347
Inheritance limits 347
Consolidating the variants history 348
Finding the Variations of an Object 348
Variation Reports 349
Object Versions 351
Creating Object Versions 351
Accessing Object Versions 353

Enterprises and libraries 355

About Containers 356
Introduction to Building Blocks and Their Container 356
Defining the Scope of a Container 356
Defining the object owned by a container 357
Importing other objects in a container 358

Analyzing Container Dependency Errors. 358
Creating an analysis report for container dependency errors 359
Report description 360
Using Libraries 362
Creating a Library 362
Exporting Library Content 362
Using Enterprises 363
Creating an enterprise 363
Linking an enterprise to a library 363

Data Exchange with Excel 365

Introduction 366
Exporting Data via Excel 367
Introduction 367
Accessing the Excel Export Wizard 367
Using an export template. 368
Export using an Excel template 368
Choosing the objects to export. 369
Choosing the Export Mode 370
Exporting a List of Objects to Excel 371
Importing data via Excel 373
Introduction 373
Downloading an Excel Template 373
Using the Excel import wizard 374
Accessing the Excel import wizard 374
Choosing the Import Mode. 374
Excel import report 375
Accessing the import report 376
Error report presentation. 376
Excel Template Builder 378
Launching the Template Builder 378
Managing an Excel Template 378
Selecting the Excel template to edit 378
Finishing the Template Edition 379
Export from this template 380
Specifying a worksheet with the template builder 380
Excel Template Builder interface. 381
Managing the Excel Template Worksheets 381
Configuring an Excel Template Worksheets. 382
Data Processed by the Excel Import/Export Wizard 386
Product view 386
Managing non-modifiable data 386
Managing multiple relationships 387
Updating the cell content. 387
Advanced Options and Settings of Excel Wizards 388
Options for the use of Excel import/export 388
Options for Excel import/export access 388

Date format *388*
Advanced Settings of the Excel Template Builder 388
Advanced settings of the template *388*
Advanced settings of the worksheet *389*
Column advanced settings *390*

DOCUMENTATION

Generating Documentation 395

Introduction to Documentation 396
Documentation Tools 396
Generated Documents 396
Report Structure 397
Parameters *397*
Chapters *398*
Report Renderer Types 399
Generating Reports 401
Accessing Reports 401
Accessing a report *404*
Adding filters *405*
Removing a filter *409*
Accessing your reports *410*
Accessing the reports embedded in object *410*
Accessing the reports embedded in your dashboard *412*
Creating a Report 413
Adding filters *418*
Managing Report DataSets 420
Introduction to Report DataSets 420
Report DataSet *420*
Report DataSet Definition *421*
Accessing Report DataSets *421*
Accessing a Report DataSet properties *422*
Properties of a Report DataSet *422*
Creating a Report DataSet 425
Configuring and Using a Report DataSet 427
Sharing a Report DataSet *428*
Updating Report DataSet data *429*
Hiding Report DataSet column display *430*
Restricting the display of Report DataSet rows (display only specified data) *430*
Exporting a Report DataSet *431*
Managing Instant Reports 432
Introduction to Instant Reports 432
Grouping characteristics of objects *433*
Attributes available in instant reports *434*
Instant Report Types and Examples 436

Matrix (list) . . . 438
Matrix (Report DataSet) . . . 439
Quantitative (list) . . . 443
Quantitative (Report DataSet) . . . 443
Breakdown (list) . . . 445
Breakdown (Report DataSet) . . . 448
Table (Report DataSet) . . . 452
Bubble chart (Multidimensional) . . . 453
Heatmap . . . 454
Word cloud . . . 457
Time (Gantt) . . . 457
Graph: Exchanges between applications . . . 458
Dendrogram . . . 459
Launching an Instant Report . . . 461
Launching an instant report from a list . . . 461
Launching an instant report from a Report DataSet . . . 465
Creating a Dendrogram Instant Report (list) . . . 468
Creating a Matrix Instant Report (List) . . . 472
Managing a Table Instant Report data (Report DataSet) . . . 475
Defining the columns in a table-type instant report . . . 475
Adding a filter to the columns and to the column data values in a table-type instant report . . . 479
Adding a filter to the columns and to the column data values (with initial values) in a table-type instant report . . . 480
Example of column definition on a table . . . 481
Example 1: column configuration with break . . . 481
Example 2: column definition (display, order) and value computation . . . 483
Example 3: filters on the table columns . . . 487
Example 4: filter on the table columns and cells (initial values) . . . 490
Saving an Instant Report . . . 493
Saving the report . . . 493
Saving an instant report as a report template . . . 494
Handling an Instant Report . . . 494
Adding an Instant Report Dendrogram to the Property Pages . . . 494
Adding a dendrogram report to the Reporting page of an object . . . 494
Adding a dendrogram report to the Overview page of an object . . . 495
Adding an Instant Report to your Dashboard . . . 496
Managing Reports . . . 497
Managing Report Properties . . . 498
Accessing report properties . . . 499
Modifying the persons concerned by a report . . . 499
Adding tags to a report . . . 499
Adding a description to a report . . . 499
Hiding a report chapter . . . 500
Saving a Report . . . 500
Adding a Report to Favorites . . . 500
Deleting a Report . . . 501
Customizing a Report Style . . . 501
Adding a Description to a Report or to a Report Chapter . . . 502
Modifying the Report Parameters or the Report Presentation . . . 503
Customizing a Report Chart Display . . . 504
Modifying the chart content . . . 504

Modifying the chart font 504
Modifying the chart style 505
Modifying the label style 505
Modifying the legend style 506
Modifying the series parameter style 506
Modifying the style for export 506
Resetting the Customization of the Report Settings 507
Resetting a parameter value 507
Resetting all the report customization 507
Managing Report Styles 507
Creating a report style 507
Applying a style to your report 508
Handling Reports 509
Handling a Report 509
Displaying a chart in full page 509
Displaying a report in a new tab 509
Updating a report 510
Getting the list of objects contained in a report part 511
Displaying the properties of an object contained in a report 511
Printing a Report 515
Exporting a Report 516
Handling a Bar Chart or Line Chart 517
Zooming in on a chart part 517
Modifying the chart content 517
Modifying the chart style 518
Modifying the label style 520
Modifying the legend style 520
Modifying the parameter style of a series 521
Customizing a Pie Chart Display 522
Hiding a data series 522
Modifying the legend position 524
Modifying the legend format 525
Customizing a Table or Matrix Display 526
Modifying the content of a table or matrix 527
Handling a Bubble Chart 528
Modifying the style in a bubble chart 529
Improving a bubble chart readability 531
Zooming in and moving through a bubble chart 533
Displaying the bubble legend 533
Handling a Dendrogram 534
Improving a dendrogram readability 535
Displaying the next level 538
Displaying the dendrogram in full page 539
Zooming in and moving through a dendrogram 540
Handling a Graph 540
Modifying an object style in a graph 541
Modifying the graph style 543
Improving a graph readability 545
Displaying a graph analysis criterion 547
Finding an object in the graph 549
Zooming in and moving through a graph 550
Displaying a graph in 3D 551

Handling a relationships grouping *552*
Displaying the graph in full page *553*
Displaying the properties available in tooltips *554*
Example: Application Environment Graph *555*
Handling a Treemap 556
Customizing a treemap display *557*
Modifying a treemap colors *559*
Modifying the text display in boxes *559*
Modifying the sorting order of boxes *560*
Example of a Report Template showing a treemap *560*
Handling a Breakdown Report 564
Zooming in a breakdown report *566*
Customizing a breakdown report display *567*
Hiding object types an/or criteria *571*
Highlight a criterion *573*
Displaying all items *573*
Filtering (root columns, criteria) *576*
Handling data over time *581*
Example of a Report Template showing a breakdown map *583*
Handling a Heatmap 593
Handling a Chord Diagram 596
Example of a Report Template showing a chord diagram *597*
Managing Report Options 604
Hiding/Displaying Information in your Reports 604
Deactivating the Display Limit in Reports 604
Defining your Report Formats 605
Activating Dashboard Option 605
Managing Reports MS Word 606
Reports MS Word 606
Content *606*
Specificities *606*
Creating a Report MS Word in HOPEX 607
Accessing the Reports MS Word Related to an Object 609
Opening a Report MS Word Related to an Object 609
Revising Reports MS Word 610
Approving the report MS Word revision 612
Creating a distribution list 613

Generating a Web Site 615

Objective 615
Prerequisites 615
Generating or Scheduling the Generation of a Web Site 616

Using External References 619

Creating an External Reference 620
Predefining a URL address 621
Using External References 622
Deleting a Predefined Address 622
Accessing External References 622
Opening an external reference from a diagram 622
Accessing an external reference from an object property dialog box 622
Accessing external references from the query tool 622
External references relative to the environment or site 623

Using Business Documents 625

Business Documents Overview 626
Accessing Business Documents 626
Accessing business documents referenced from an object repository 626
Accessing the list of Business Documents 626
Creating Business Documents 626
Business Document Category 627
Managing Business Document Content 628
Updating the current version of a business document 628
Managing business document versions 628
Deleting Business Documents 630

COLLABORATION TOOLS

Communicating in HOPEX 633

Access to Collaboration in HOPEX 634
Accessing a Collaboration Feature 634
Accessing collaboration features on an object 635
Review Notes 637
Actions Linked to the States of a Review Note 637
Accessing Review Notes 639
Accessing all your review notes 639
Accessing the review notes of an object 639
Adding a Review Note to an Object 642
Modifying a Review Note 643
Answering a Review Note 643
Modifying your answer to a Review Note 644
Validating a Review Note 645

Canceling the Validation of a Review Note . . . 645
Closing a Review Note . . . 645
Reopening a closed review note . . . 646
Tags . . . 647
Accessing the Repository Tags . . . 647
Classifying the Tags . . . 651
Creating a Tag or Creating Mass Tags . . . 651
Mass Addition of a Tag to Objects . . . 652
Displaying all the Objects Tagged by a Given Tag . . . 653
Deleting a Tag from the HOPEX Repository . . . 654
Managing Tags on an Object . . . 655
Adding a tag to an object . . . 655
Removing a tag from an object . . . 656
Removing a tag from several objects . . . 656
Activity on Objects . . . 657
Managing Activity on Objects (Macro Level) . . . 657
Accessing the activity on objects . . . 657
Accessing the activity on the objects that you are following . . . 659
Filtering the activity . . . 659
Modifying the display period for the activity . . . 660
Managing Activity on an Object (Micro Level) . . . 660
Accessing the activity on an object . . . 661
Comparing the attribute/link values modified on an object . . . 662
Managing options on the activity feed . . . 664
Sharing with Other Users . . . 665
Sharing an Object as Email . . . 665
Notifications . . . 668
Managing the Object Follow-up . . . 668
Following an object . . . 668
Accessing the list of objects you are following . . . 669
Managing your Notifications . . . 670
Accessing your notifications . . . 670
Modifying the state of a notification . . . 671
Deleting a notification . . . 672
Managing your notification and object follow-up options . . . 672
Receiving your alerts in pop-up mode . . . 672
Stop receiving notifications on review notes concerning you . . . 673
Managing Your Alerts on Object Modification . . . 673
Accessing alert management . . . 673
Configuring management of your alerts . . . 674
Canceling Follow-up of an Object . . . 675
Canceling follow-up modifications on an object . . . 675
Canceling follow-up modifications on several objects . . . 676

Using Workflows. 677

Consulting Workflows. 678
Starting a Workflow 679
Participating in a Workflow 680
From the list of workflows that concern you 680
From a list of objects 680
Workflow Examples 682
Using Requests For Change 682
Request For Change Workflow 682
Accessing Requests for Change 682
Creating a Request For Change 682
Using the Unlocking Request Workflow 683
Context of use of the unlocking request workflow 683
Making an unlocking request 683
Accepting an unlocking request 683
Refusing an unlocking request 684

Using Action Plans 685

Using Action Plans 686
Accessing Action Plans 686
Entering Action Plan Information 686
General characteristics 687
Financial assertion 688
Action plan progress 688
Success factors 688
Scope 688
Milestones 689
Attachments 689
Managing Actions 690
Creating an Action 690
Action Status 690
Action Plan Execution 691
Bottom-up Action Plan Workflow 691
Top-down Action Plan Workflow 693
Action Workflow 694
Ensuring Action plan Follow-Up 696
Action Plan Progress Steps 696
Specifying Action Plan Progress Rate 696
Using Steering Calendars 696
Action Plan Reports 698
Action Plan Progress Report 698
Action Plans Summary Reports 698
Action Plan Progress 698
Action Plan Gantt Chart 699
Action Plan Follow-Up 699

Submitting and evaluating ideas 701

Idea Management Process 702
Profiles and Roles Associated with Ideation 702
Submitting an idea 702
Ascending ideation process 702
Descending ideation process 703
Assessing an idea 703
Validating an idea 704
Submitting an Idea 705
Creating an Idea 705
Viewing the Ideas 705
Accessing the properties of an idea 705
Idea Description 706
Idea category. 706
Objects concerned by the idea 706
Similar ideas 707
Projects inspired by the idea 707
Assigning an Idea to Persons 707
Submitting the Idea for Review (workflow) 707
View the ideas submitted for review 707
Starting an Ideation Campaign 709
Campaign Workflow 709
Creating an Ideation Campaign 709
Assigning an Ideation Campaign to Persons 710
Starting an Ideation Campaign 710
Adding Ideas to the Campaign 710
Assessing the ideas collected 711
Approving or Rejecting Campaign Ideas 711
Examining an Idea 712
Assessing an Idea 712
Assessing a particular idea 712
Assessing the ideas in an idea portfolio 712
Validating or Rejecting an Idea 714
Validating an Idea 714
Rejecting an Idea 714
Displaying the Number of Ideas at the Origin of Projects 714

ASSESSMENTS

Assessment Overview 717

Assessment Types and Modes in HOPEX 718
Assessment Types 718
Direct assessment 718

Assessments by campaigns and assessment sessions *718*
Assessment through data call *718*
Assessment Session Launching Modes 719
Data call 720
Data Call Usage Context *720*
Designing Assessment Templates for Data Call *720*
Difference between data call and assessment *720*
Managing Questionnaires 721
Accessing Assessment Questionnaires 721
Filling in Assessment Questionnaires 721
Requesting questionnaire Transfer 721
Using Excel to Fill in Questionnaires 721
Exporting and re-importing a questionnaire *722*
Question types not supported by Excel *722*

Defining Assessment Templates. 723

Accessing Assessment Templates 724
Creating an Assessment Template 725
Selecting the Object Types to Assess 726
Defining Assessment Template Visibility 727
Assessment Template Visibility Rules 727
Connecting Profiles to an Assessment Template 727
Connecting Assessment Templates to a Profile 727
Managing Assessed Characteristics 729
Creating an Assessed Characteristic 729
How to Update the Characteristic 729
Average if multiple values *729*
Copy value from one assessed value *730*
Specific macro *730*
Specifying Assessment Template Scope 731
Creating Assessment Deployment Cllections 732
Deployment Collection Filling Mode 732
Filled by user *732*
Deployment by tree *733*
Deployment by object list *733*
Deployment by macro *733*
Deployment by macro with parameters *733*
Deployment by query *734*
Defining Deployment Query Parameters 735
Creating a Deployment Query Parameter 735
Direct value *735*
From deployment collection *736*
Direct assessment *736*
Managing Parameter Values 736
Defining a parameter value *736*
Managing Scoring Rules 737
Creating Scoring Rules 737

Using Macros . . . 737
Creating a macro . . . 737
Implementing the macro . . . 738
Defining Aggregation Schemas . . . 739
Aggregation Schema Principle . . . 739
Aggregation Schema Example . . . 739
Creating an Aggregation Schema . . . 739
Creating an aggregation including aggregation steps . . . 740
Aggregation rule types . . . 740
Skipping the creation of aggregation nodes . . . 741

Defining Questionnaire Templates . . . 743

Accessing Questionnaire Templates . . . 744
Accessing Questionnaire Templates . . . 744
Accessing a Questionnaire Template Properties . . . 744
Opening a Questionnaire Template . . . 744
Creating Questionnaire Templates . . . 746
Interface for Questionnaire Creation . . . 746
Inserting Questions in a Questionnaire Template . . . 746
Previewing the Questionnaire Template . . . 747
Configuring Questionnaire Templates . . . 748
Configuring Questions Layout . . . 748
Defining Questionnaire Properties . . . 748
General properties . . . 748
Question layout . . . 748
Logo in the survey header . . . 750
Possible Questionnaire Presentations . . . 751
Presentation types . . . 751
Specifying Questionnaire Presentation . . . 752
Using Heatmap Questionnaires . . . 752
Use case . . . 752
Prerequisites to heatmaps . . . 753
Examples of assessment via Interactive Heatmap . . . 753
Filtering risks . . . 754
Using heatmap columns to assess risks . . . 756
Displaying the heatmap in full screen . . . 757
Sorting risks . . . 757
Question Types . . . 758
Summary of Question Types . . . 758
Using Questions of "Panel" Type . . . 760
Using Calculated Expressions . . . 761
Examples of calculated expressions . . . 761
Creating a calculated expression . . . 761
Managing digits after the decimal separator . . . 761
Using Questions of "Object" Type . . . 762
Object type . . . 762
Collection computing mode . . . 762
Authorize multiple selection . . . 762

Authorize object creation 762
Configuring Questions 763
Displaying an Indicative Answer 763
Defining a Default Value 763
Enriching Questions Visually 765
Modifying Question Layout 765
Managing Questions of HTML or Image Type 765
Creating a question of Image type 765
Creating a question of HTML type 766
Using Tooltips to Guide Respondents 766
Managing Conditions on Questions 767
Defining a Condition on a Question 767
Defining Validation Criteria 767
Defining Conditions at Questionnaire Level 769
Defining Trigger Actions 769
Set Value 770
Copy Value 770
Run expression 770
Defining Trigger Conditions 771
Defining Answer Computing Rules 773
Creating Scoring Rules 773
Using Macros 773
Creating a macro 773
Examples of macros used in HOPEX GRC 773
FAQs 775

Managing Assessment Campaigns 777

Introduction to Assessment by Campaign 778
What is assessment? 778
Assessment sessions and campaigns 778
Questionnaire templates and questionnaires 778
Scoring rules 779
Aggregation schemas 779
Accessing Assessment Templates 780
Creating Assessment Campaigns 781
Creating an Assessment Session Manually 783
Assessment session creation mode 783
Session start options 784
Following up Assessment Progress 785
Validating Assessment Questionnaires 785
Asking a respondent to modify answers 785
Reassigning Questionnaires 785
Following up Session Progress 786
Viewing Session Results 788
Closing the Assessment Session 789
Viewing Assessment Campaign Results 790

Generic Assessment Workflows 791
Assessment Campaign Workflow 791
Assessment Session Workflow 792
Questionnaire Workflow 792

OTHER FEATURES

Enterprise Architecture (EA) projects in HOPEX 795

Accessing Enterprise Architecture (EA) projects 795
Creating EA Projects 795
Describing an Enterprise Architecture (EA) Project 796
EA Project Characteristics 796
(EA) Project Structure 796
EA Project Objectives and Requirements 796
Defining the Objectives and Requirements of a (EA) Project 796
Creating an Objective and Requirement Diagram 797

Objectives and Requirements 799

Objectives, Indicators and Requirements 800
Reminder: Objective, Indicator and Requirement 800
Objectives 800
Indicators 801
Examples of indicators 801
Accessing indicators 801
Requirements 801
Creating a requirement from an EA project 802
Cause-and-Effect Diagram 803
Creating an Issue From an EA Project 803
Properties of an Issue 804
Issue type 804
Issue causes and effects 804
Creating a Cause-Effect Diagram from a Problem 804

Exploring the repository 807

The Explorer 808
Activating the Explorer 808
Exploring an Object 809
Viewing repository objects 809

View the object impacts on other objects *810*
Show unused links *810*
Exploring an other object *810*
Modifying the Repository with the Explorer 810
Creating objects *810*
Copying and pasting objects *811*
Connecting, disconnecting and deleting objects *811*
Matrices 812
Accessing Matrices 812
Specifying Matrix Content 812
Tools for Checking Objects 813
Definition of concepts 813
Consistency Rules *813*
Regulations *813*
Active Regulation Permanent Check 814
Defining an active regulation *814*
Consulting check results on an object *814*
Viewing state indicators in diagrams *814*
Regulation Specific Check 815

Repository snapshots 817

Creating Repository Snapshots 818
Compare-Align and Repository Snapshots 819

Contents

HOPEX DESKTOP

This chapter introduces the **Hopex** interface and explains how to navigate through the desktops.

The following points are dealt with in this chapter:

- ✓ Accessing Hopex
- ✓ Interface Presentation
- ✓ Working in Hopex
- ✓ Customizing your Hopex Desktop
- ✓ Extending the Visibility (Metamodel or Advanced Features)
- ✓ Lists and Trees
- ✓ Common Actions on Objects

ACCESSING HOPEX

See:

- Activating your Hopex Account
- Logging in to Hopex
- Switching Profile
- Resetting your Password

Activating your Hopex Account

To connect to **Hopex**, you must first activate your **Hopex** account, i.e.:

- define your password
  - Your password must include at least 8 characters, one uppercase, one lowercase, one digit, and one special character..
  - Your password must be complex enough to meet your enterprise security requirements.

    ☺ *Avoid common words (dictionary or Hopex vocabulary), your name, your first name, your login, a series of letters (abc) or numbers (123) that do not increase the complexity.*
- choose a security question and answer it

To activate your **Hopex** account:

1. Access your **Hopex** activation email and click the link included.

   ☛ *If you did not receive any email, contact your Hopex administrator for your account activation, see Hopex Administration - Supervisor (Web) > Initializing the user Web account.*
2. In the **New Password** field, enter your password.
   A colored progress bar (red, orange, green) indicates your password complexity level as you type.
3. In the **Confirm Password** field, confirm your password.

   ☛ *If needed, to view your password, click*  .
4. In the **Security question** field, select a security question.
5. In the **Answer to question** field, answer the selected security question.

   ☛ *Click*  *to check your answer.*
6. Click **Apply**.

   ☛ *If a message warns you that your password is not complex enough, click **OK** and go back to step 2.*

   Your **Hopex** account is activated and you can connect to **Hopex**.

Logging in to Hopex

To access your **Hopex** desktop:

1. Start the **Hopex** application using its HTTP address.

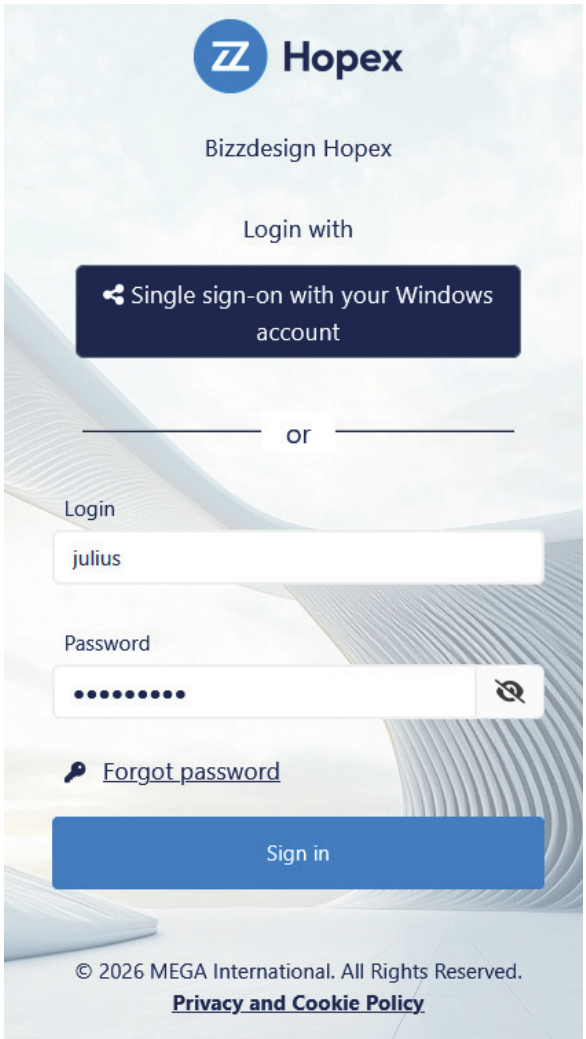
   ☛ *If you do not know this address, contact your administrator.*

   The authentication page appears.

2. Click your own log in button, or use the log in managed by **Hopex**:
   - in the **Login** field, enter your connection identifier
   - in the **Password** field, enter your password.

     ☛ *To view your password, click* .

     ☛ *If you have forgotten your password, click* ***Forgot password****, see* *Resetting your Password*.



3. Click **Sign in**.
   When you have been authenticated, the log in page appears.
4. (If you belong to a person group) In the drop-down menu for groups, select the group with which you want to log in, or "My assignments" to log in with one of your own assignments.
5. In the drop-down menu for repositories, select your work repository.

   ☛ *If you can access only one repository, this is automatically taken into account.*
6. In the profile drop-down menu, select the profile with which you want to work.

   ☛ *If you can access only one profile, this is automatically taken into account.*

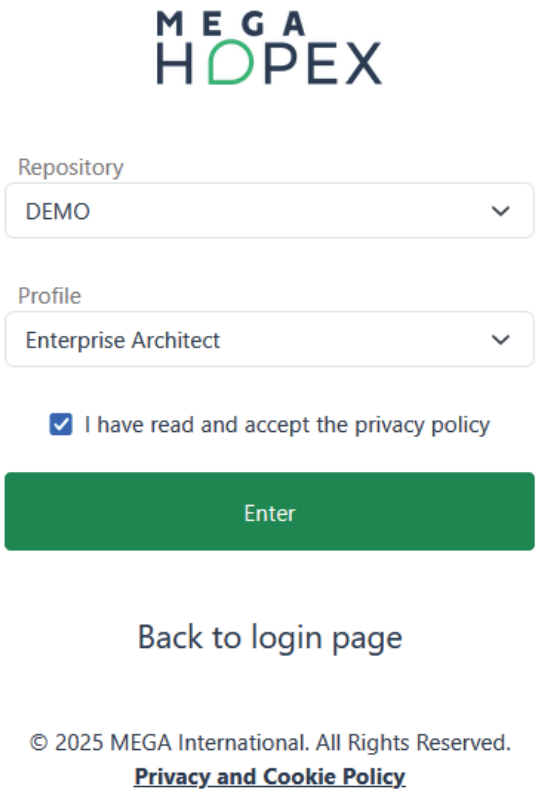
   ☛ *Your profile defines your desktop, which defines the workspace type in which you are going to work.*

   The "Create a private workspace" message indicates you are going to work in a private workspace, see Workspace Types and Updates.

   ☛ *The profile you select defines the applications you can access.*

7. Below the window, click the **Privacy and Cookie Policy** link and read the privacy policy, then select **I have read and accept the privacy policy**.
   The **Enter** button is active.

   ☛ *When you have read and accepted the confidentiality policy, a certificate is automatically linked to your person and this step is not required anymore.*



8. Click **Enter**.

   ☛ *Click **Back to login page** if you want to return to the authentication window.*

   Your desktop home page appears and a session is opened.

   ☛ *See Homepage.*

   ☛ *After a certain period of inactivity, you are disconnected from the desktop. To reconnect, repeat the steps of the procedure above. This inactivity period is configured by the portal administrator.*

9. (If the selected profile gives access to several applications) In the drop-down menu, select the application you want to access, then click **Enter**.

   ☛ *If you can access only one application with the selected profile, this field does not appear.*

Switching Profile

In your Hopex desktop, you can easily switch to another profile without logging out from Hopex.

☛ *If you are connected as a group, you can also switch to another profile. Only the profiles assigned to the group are available.*

To switch to another profile without logging out from **Hopex**:

1. In your **Hopex** desktop, click **Main Menu** .
2. Click **Switch profile** and select another profile.
3. (Case of a private workspace) Select your desktop exit mode:

   ☛ *Click **Cancel** if you no longer want to change profile.*

   - **Yes**

     Modifications you have made in your private workspace are saved in the repository.

     ☺ *In order to work effectively as a team, it is recommended that you dispatch frequently and regularly. Other users can update their own private workspace without dispatching their work (menu **File > Refresh**).*

   - **No**

     All the modifications you made since your last dispatch (private workspace) / save (public workspace) will be lost. This mode is recommended for read-only work.

     ☛ *Modifications to your desktop are also lost.*

   - **(Private workspace specific) Later**

     You work is kept, but other users are not yet seeing the changes you made.

     When you choose "Later" and in a following desktop you exit Hopex without keeping your modifications ("No"), this work is also lost. If you want to keep your work you must choose "Yes" as Hopex exit mode.

   The desktop associated with the selected profile is displayed.

Resetting your Password

☛ *To modify your password, see Modifying your password.*

If you lost your password to access a **Hopex** application on the Web, you can reset it.

To reset your password:

1. Open the connection page.

   ☛ *See Logging in to Hopex.*

2. Click **Forgot Password**.
   The **Lost password** page appears.
3. In the **Login** field, enter your login.

4. Click **Continue**.
5. Answer the security question.
6. Click **Reinitialize**.
   An e-mail containing a link with limited validity period is sent to you.
7. Click the link.
   The **Change your password** window appears.
8. In the **New password** field, enter your password.

   ☛ *For more details on the password, see Activating your Hopex Account.*

   A colored progress bar (red, orange, green) indicates your password complexity level as you type.

   ☛ *Attention: by default your last five passwords cannot be reused.*
9. In the **Confirm Password** field, confirm your password.

   ☛ *If needed, to view your password, click*  .
10. In the **Security question** field, select a security question.
11. In the **Answer to question** field, answer the selected security question.

    ☛ *Click*  *to check your answer.*
12. Click **Apply**.

    ☛ *If a message warns you that your password is not complex enough, click **OK** and go back to step 2.*

Interface Presentation

The desktop represents your workspace; the elements presented in the interface depend on the Solution as well as the profile you are signed in with.

See:

- Hopex Desktops
- Homepage
- Interface Elements

See also:

- Customizing your Hopex Desktop
- Lists and Trees
- Common Actions on Objects

Hopex Desktops

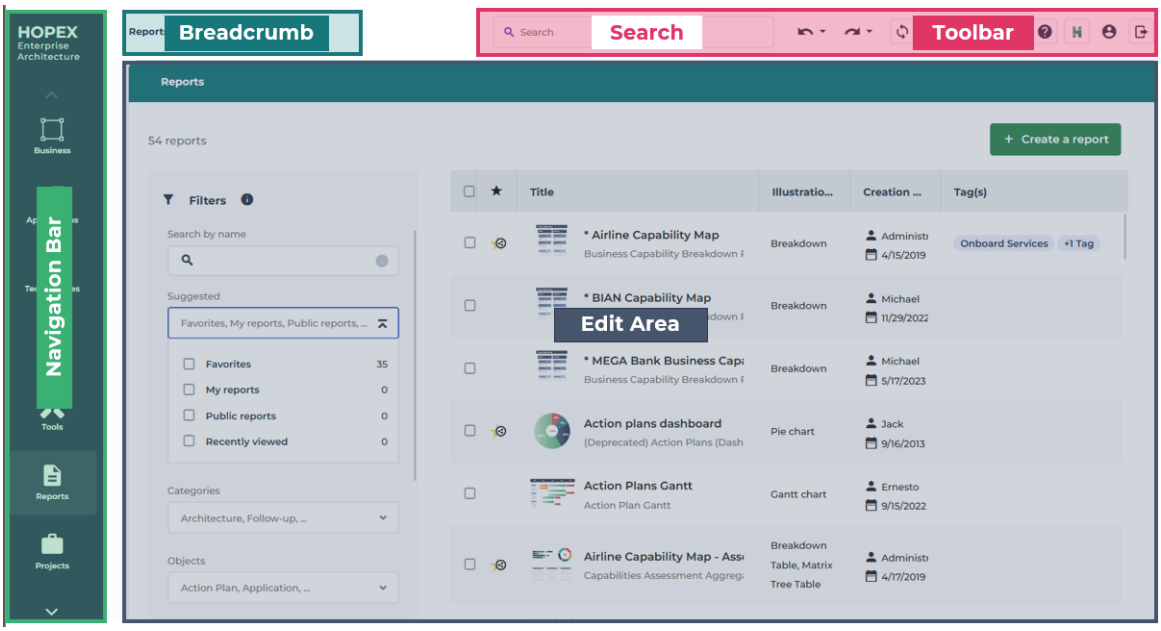
Hopex desktops include:

- a ***toolbar*** (common to all **Hopex** desktops) at the top-right, which includes the ***search***

  ☛ *See Search.*

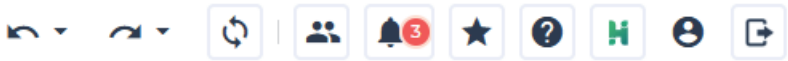
- a ***navigation bar*** on the left
- a ***breadcrumb*** at the top-left
- an ***Edit area***

  ☛ *See also Interface Elements.*



Toolbar

The toolbar is common to all **Hopex** desktops and remains available in all pages of the desktops.



Icon	Description
	Undo/Redo Cancels or redoes the last actions carried out ☛ *See Undoing or Redoing Actions on Objects.*
	Refresh Instantly updates all windows open in your desktop when you modify an object attribute name or value (trees, lists, property pages, diagrams) With **Homepage** displayed, updates all indicators of **My perimeters**
	Collaboration Access collaboration features easily ☛ *See Accessing a Collaboration Feature.*
	Notifications Access your notifications (the red dot indicates that you have unread notifications) ☛ *See Notifications.*
	Favorites Access your favorites and shared favorites ☛ *See Favorites.*
	Help Access (user and technical) online documentation about **Hopex** and its research tool
	Hexa Access **Hopex** IA assistant and ask Hexa your questions ☛ *See **Hopex Intelligence > Hexa** documentation.*
	Main menu Access your login information and main actions ☛ *See Main menu.* ☛ *See Modifying your avatar.*

Navigation bar

The navigation bar sits on the left of your **Hopex** desktop. It remains available on all pages of your **Hopex** desktop.

The navigation bar contains ***navigation menus*** that vary according to the Solution you use. These navigation menus provide access to a ***browse area***.

☛ *See Browse area.*

The navigation bar contains:

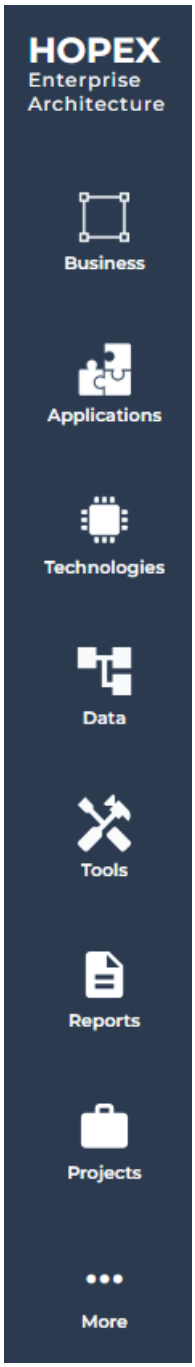
- at the top, the **Name of the Solution** used. It enables to return to the home page.

  ☛ *See Homepage.*

- the navigation menus specific to the Solution used
- if applicable, a **More** ••• drop-down menu to access additional menus

  ☛ *See Navigation menus.*

  E.g.: the navigation bar of the **Hopex Enterprise Architecture** desktop.


HOPEX
Enterprise
Architecture
Business
Applications
Technologies
Data
Tools
Reports
Projects
More

Breadcrumb



A breadcrumb is available on all **Hopex** desktops. It keeps the last pages that you viewed so you can reopen them easily if needed. It resets whenever you change navigation menu. Each tab of your edit area has its own breadcrumb.

With the breadcrumb trail you can go back to:

- the last page you were on
- another page in the breadcrumb: click the name of the page.

  ☛ *You can also click **Back** several times.*
- an older page from the same navigation menu, in the breadcrumb: click **...** then select the page you want to access.



Edit Area

The **Hopex** edit area is your main working area. The edit area is used to perform business and technical operations proposed by the selected Solution.

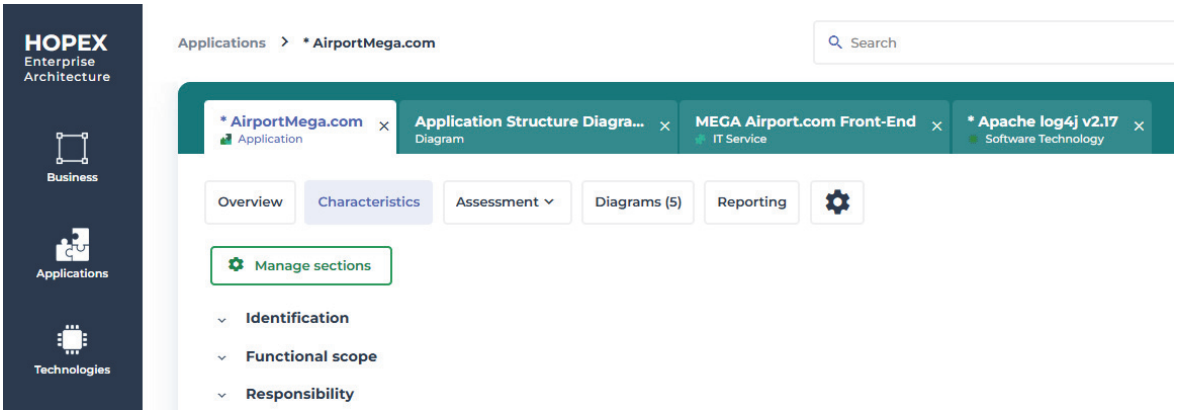
In the edit area, you can open as many different tabs as necessary. To ease your navigation and perform tasks in a simultaneous and efficient manner, each tab has its own breadcrumb.

As soon as you click another navigation menu, all of the tabs opened via the previous navigation menu are closed.

Within these tabs, you may for example edit a diagram, view a report or modify an object properties.

☺ *From the browse area, drag & drop objects from a tree or a list into a diagram.*

☛ *See Lists and Trees and Common Actions on Objects.*



When connecting to **Hopex**, the edit area features your homepage.

Homepage

Accessing the homepage

When logging in to **Hopex**, the edit area features your homepage.

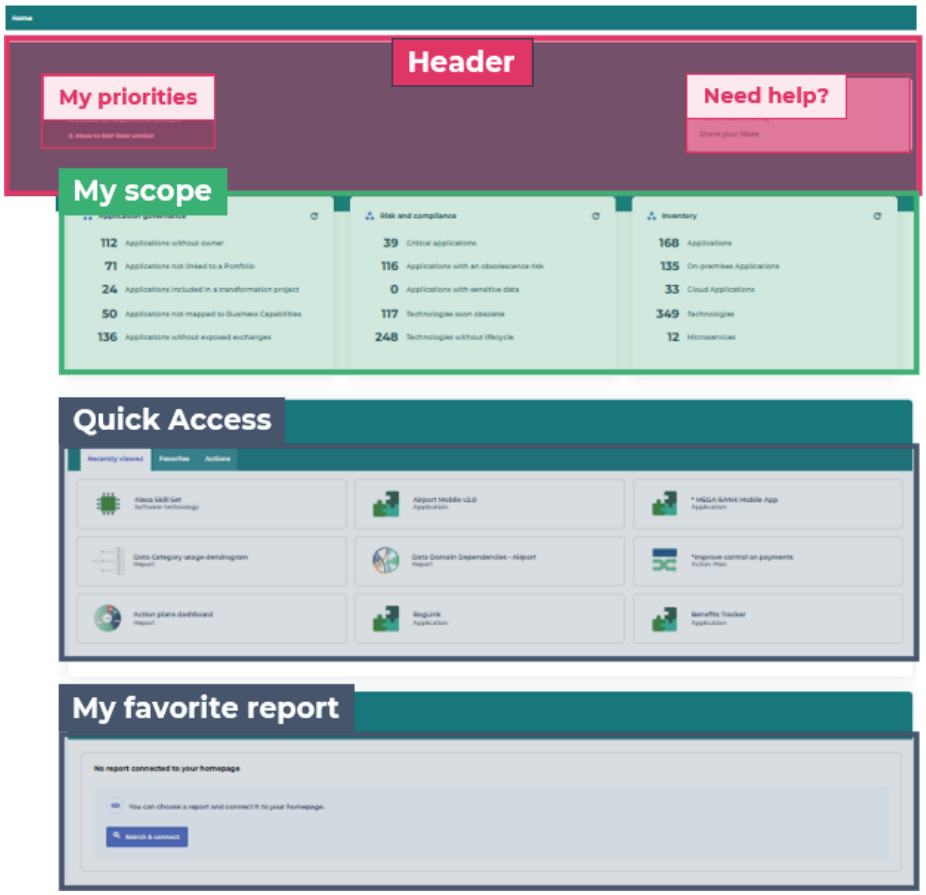
- Click the name of you Solution (navigation bar header) to come back to your homepage at any time.



Homepage description

The **Hopex** homepage is structured into four parts:

- ***Header***
- ***My scope***
- ***Quick access***
- ***My favorite report***



Your homepage is made of customized and customizable elements. The information contained in My scope is auto-generated from your repository data.

☛ *The terms above-mentioned are generic and can vary according to the Solution you use.*

☛ *To customize the* ***homepage****, See* ***Customization (Windows) > Customizing the User Interface > Versatile Desktop > Customizing the Homepage for a WET****.*

Header

The header is made of:

- ***My priorities***, showing three main goals assigned to your profile. It provides clickable links to object occurrences from your repository.
- ***Need help?***, providing useful links about the use of **Hopex**.

☛ *The Solution Functional Administrator is able to modify the header contents.*

☛ *To customize the **Header**, see **PLATFORM - Customization (Windows) > Customizing the User Interface > Versatile Desktop > Customizing the Homepage for a WET**.*

My scope

My scope provides an overview of your scope activity through key indicators (counts or percentages).

Thanks to this overview, you can:

- stay tuned on the overall condition of your perimeter
- obtain updated information about repository objects
- get a quick view on important data related to your perimeter
- access some objects of the repository in one click

Indicator values are not refreshed automatically, even at connection. Each frame indicates its refreshed date.

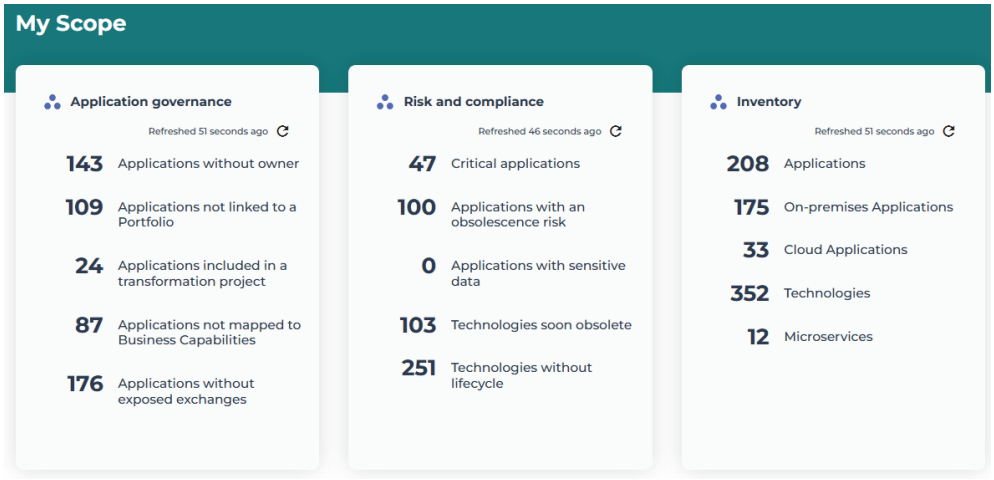
To update the indicator values of:

- a specific frame: click its **Refresh** .
- all the frames: in the **Hopex** toolbar, click **Refresh** .

To access the repository objects related to the given indicators:

- Click the indicator name.

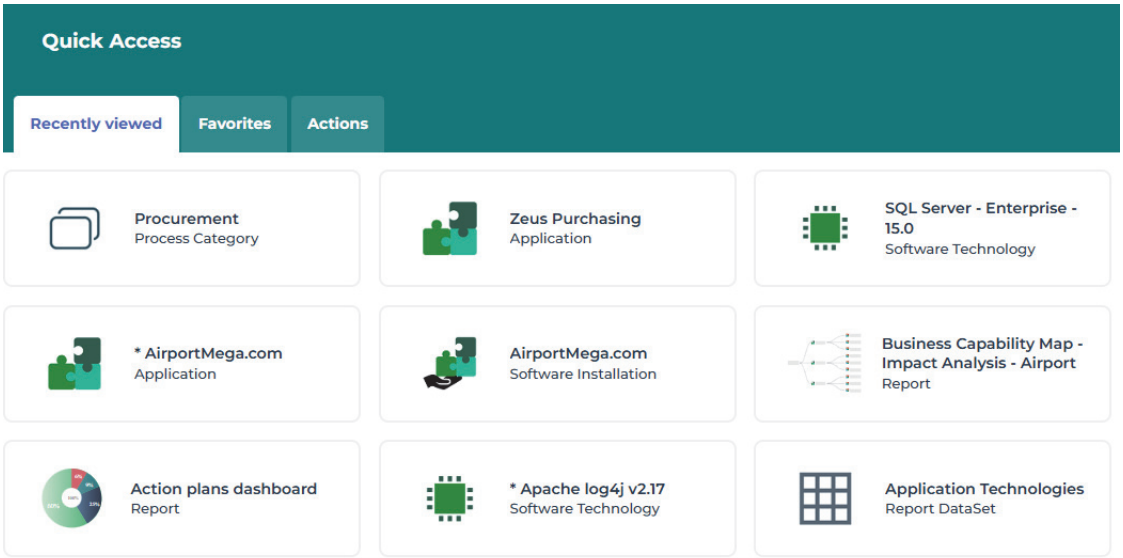
Example: indicators of the Hopex Enterprise Architecture desktop



☛ *To customize **My scope**, see **PLATFORM - Customization (Windows) (EN) > Customizing the User Interface > Versatile Desktop > Customizing the Homepage for a WET > Customizing the Scope Block**.*

Quick access

Quick access contains shortcuts facilitating your work in **Hopex**.



It is made of three tabs:

- in **Recently viewed**, you can find direct links to the objects you last viewed.
  The list of elements displays as tiles. Click the tile of the object to access its properties.
- in **Favorites**, manage your favorites and shared favorites.

  ☛ *See Favorites.*
- in **Actions**, find shortcuts facilitating your use and navigation in **Hopex**.
  The list of actions displays as tiles. Click the tile to launch the corresponding action.

  ☛ *To customize **Quick access**, see **PLATFORM - Customization (Windows) (EN) > Customizing the User Interface > Versatile Desktop > Customizing the Homepage for a WET > Customizing the Quick Access block**.*

To modify the tab order:

- Select a tab and drag and drop it to the required place.
  This order is kept for this profile.

My favorite report

In ***My favorite report***, you can display the report of your choice in your homepage. When signing in for the first time with a specific profile, a default report is set.

You can replace this report with the one of your choice.

☛ *The Hopex Customizer profile enables to define a default report for a profile. See **PLATFORM - Studio > Profiles and Permissions > Profiles > Configuring a Profile > Defining a default report on the homepage**.*

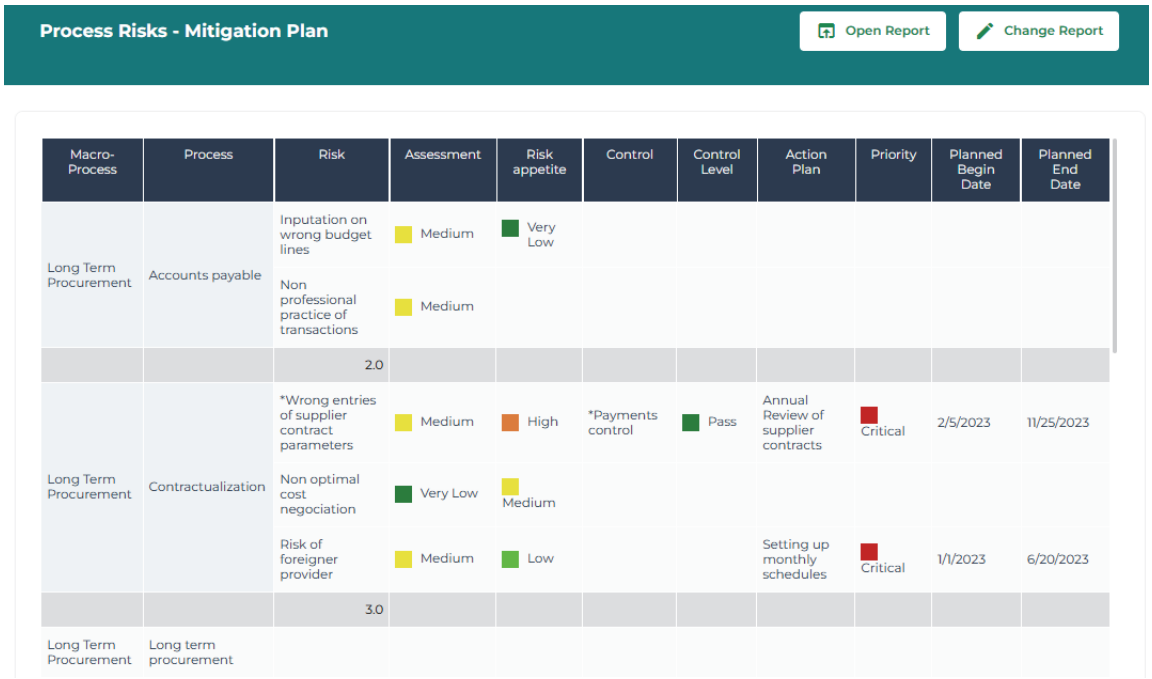
To modify the report of the homepage:

1. Click **Search and connect** to access the list of reports.
2. Using the wizard, search for the name of your report.
3. In the list, select your report.
4. Click **Connect**.
   The report displays in read-only mode.

You can:

- handle the report (e.g.: navigate through the report, access the properties of contained objects)
- (if the report contains cached data) refresh the report data
- open the report in a new tab to benefit from all the report features.
- modify the report and access all its features: click **Open Report** to open the report in the edit area.

  E.g.: report display in the Hopex Enterprise Architecture Solution.



To change the report to display:

1. In the title bar of the block, click **Change Report**.
2. In the list of reports, search and select a new report.
3. Click **Connect** to validate your choice.

☺ *A green header indicates that your report has been successfully linked to your homepage, and the name of the block becomes the chosen report name.*

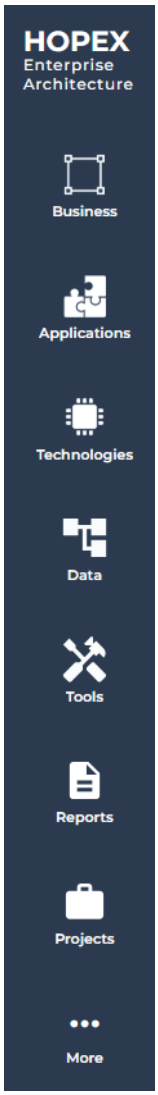
Interface Elements

The general aspect of the interface is common to all Solutions. However, every area contains elements that are specific and adapted to the profile you are using.

Navigation menus

Navigation menus vary according to the Solution and profile you use. They correspond to the various types of objects or various steps of a project.

E.g.: Hopex Enterprise Architecture.



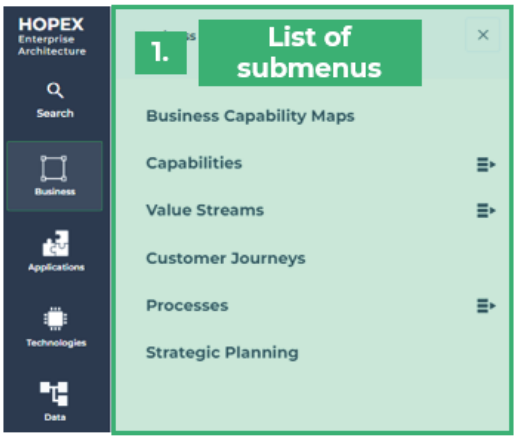
[If applicable] Click **More** ••• to show the menus that are not initially displayed on the navigation bar. If the list of menus is even longer, you can navigate through the navigation bar using the arrows . To scale back to the initial list of menus, click **Less** •••.

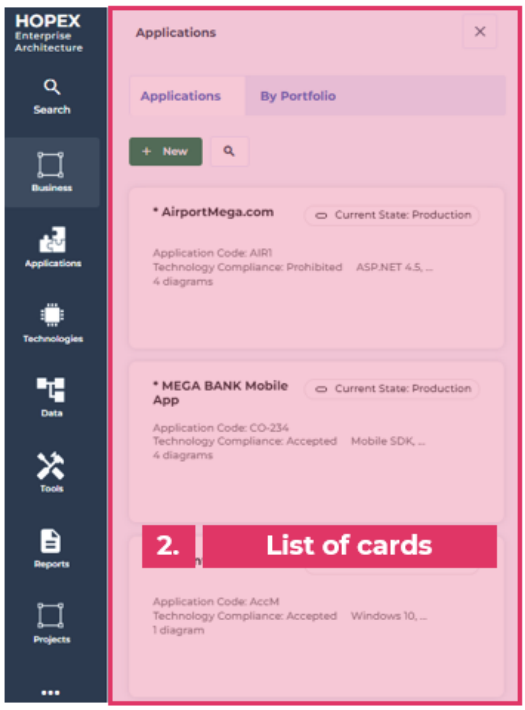
The **Browse** button appears when hovering the cursor over certain navigation menus.

☛ *See Browse area.*

Example 1: submenus displayed from the Business navigation menu with the Enterprise Architect profile.

Example 2: cardlist displayed from the Applications navigation menu with the Enterprise Architect profile.





Browse area

In the browse area, navigate through the repository irrespective of your actions in the edit area. In it, you can find:

- submenus

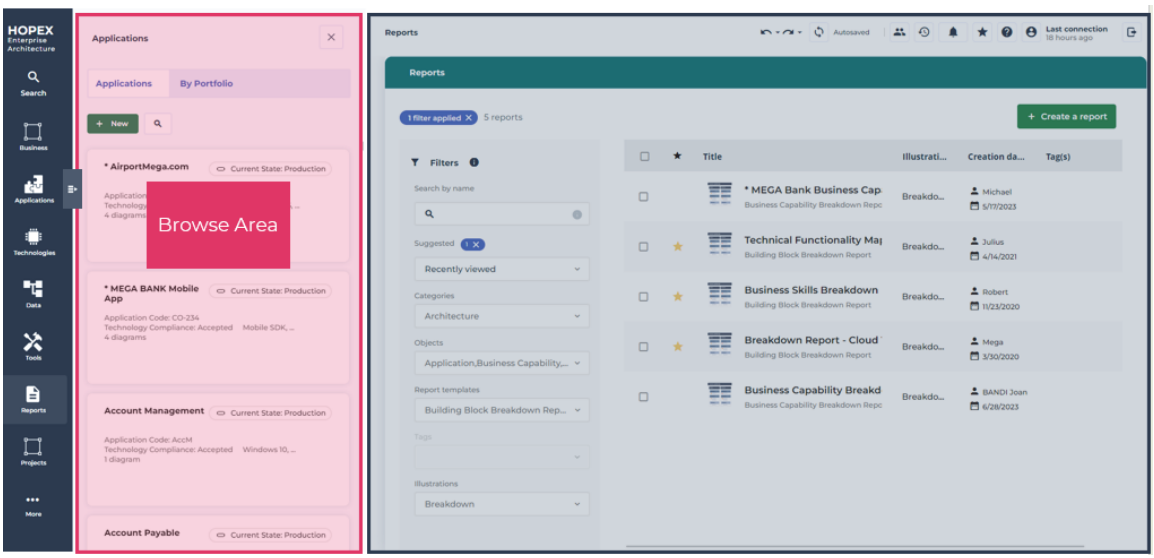
  ☛ *See Navigation menus.*

- a list of cards

  ☛ *See Card of an object (list).*

- a tree

  E.g.: on the Enterprise Architecture desktop, navigation in the browse area in parallel to a report edition.



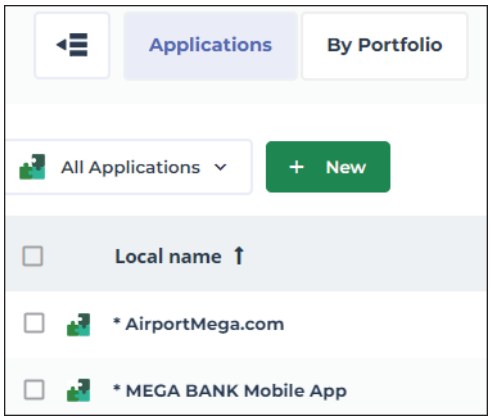
You can access the browse area:

- from the navigation menus

  ☺ *Click the navigation menu of your choice or the* ***Browse*** *button appearing when hovering the cursor over a navigation menu.*

- from a list header in the edit area

  E.g.: from a list of applications with the Enterprise Architect profile.



In the browse area, you can:

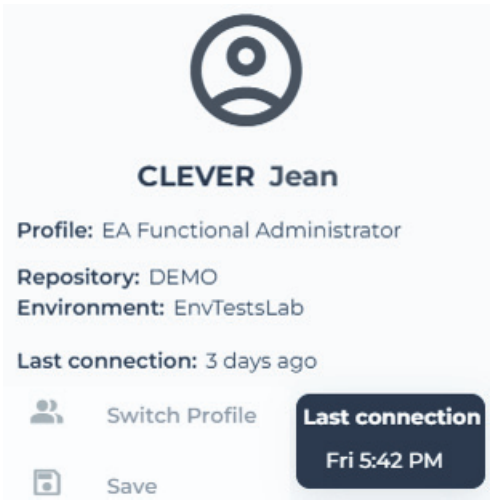
- navigate through an object environment
- drag & drop objects into a diagram

  ☛ *See Adding an object by drag & drop.*

Main menu

The **Main Menu** , represented by your avatar, gives access to:

- your connection information:
  - Name
  - Profile
  - Repository
  - Environment
  - Last connection (time elapsed since last connection, its tooltip shows the exact date/time)



☛ *To modify your avatar, see Modifying your avatar.*

- your **Hopex** connection and use parameters:
  - modification of your password

    ☛ *See Modifying your password.*
  - modification of your options (user level)

    ☛ *See Hopex Administration - Supervisor (Web) guide, Available Option Groups (User Level).*
  - management of your alerts

    ☛ *See Notifications.*
  - detail of your licenses

    ☛ *See Consulting your Licenses.*
  - **Hopex** version installed

The **Main Menu**  allows you to:

- change profile, without disconnecting
  - ☛ *See Customizing your Personal Parameters.*
- save your work underway
  - ☛ *See Saving your Work.*
- change data language.
  - ☛ *See Modifying your Data Language.*
- define or modify your current library
  - ☛ *See Setting a Current Library.*
- reset your personal parameters
  - ☛ *See Resetting your Desktop Customizations.*
- access the community

The **Main Menu**  gives you access to actions that concern:

- (Private workspaces) dispatching
  - ☛ *You can dispatch, refresh, or discard your work at any time. For more details on dispatching and refreshing, see Working in a Private Workspace.*
- import/export tools
  - ☛ *See Data Exchange with Excel.*
  - ☛ *See **Hopex Administration (Web) > Importing - Exporting a command file** documentation.*
  - ☛ *See the **Import and Export (EN)** Technical Article.*
- the mapping editor
  - ☛ *See Model Mapping.*
- the advanced search
  - ☛ *See Advanced Search.*

WORKING IN HOPEX

See:

- Workspace Types and Updates
- Saving your Work
- Viewer and Contributor Type Profiles
- Customizing your Personal Parameters
- Resetting your Desktop Customizations
- Setting a Current Library
- Consulting your Licenses

Workspace Types and Updates

According to the Solutions in which you work, or to your rights, you access your Hopex desktop in:

- a public workspace
- a private workspace
- a read-only workspace

What is your workspace type?

Your profile defines the desktop in which you are working. This desktop defines the type of workspace in which you are working.

Only the desktops that allow to work in ***private workspaces*** have in their **Main menu** specific menus to manage their tasks:

- **Dispatch**
- **Discard**

☛ *See Main menu.*

Public workspace

In most of the desktops, you work on a public workspace:

- You can perform modifications.
- Your modifications are automatically saved and dispatched in the repository as soon as the window on which you are working is closed.

☛ *Consecutive modifications applied in different propriety pages are only published when the Properties window gets closed (e.g.: when you*

select an other object or when you navigate somewhere else through the interface via the navigation menu).

- You can anticipate this automatic save.

  ☛ *See Saving your work (public workspace).*

- Your modifications are available for other users that are connected in the same way.

  `Desktop examples: Hopex Enterprise Architecture, Hopex Administration (Web).`

Private workspace

In some desktops, you work in a private workspace:

- You can perform modifications.
- Your modifications are viewable by other users once you have published your work.
  The other users must refresh their workspace to see your modifications.

  `Desktop example: Hopex Studio`

For more details on private workspaces and particularly on your work dispatch, see Hopex Administration (Web) > Managing Workspaces.

Read-only workspace

Some profiles provide a read-only access to the desktop.

`Examples of profile: Process Viewer, Data Viewer.`

You can, for example:

- add review notes to objects
- customize your personal settings
- customize your desktop

See details of Viewer type profile.

Saving your Work

How you save your work depends on the type of workspace in which you are working.

Saving your work (public workspace)

In a public workspace your work is automatically saved and dispatched in the repository as soon as the window on which you are working is closed.

☛ *From your **Hopex** desktop toolbar, you can view the last saving date and time: see Toolbar.*

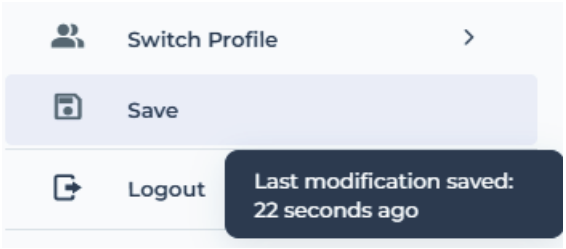
There might be a 30 second delay in the time display update.

You can save (and dispatch) the modifications you are performing on the current page, i.e. anticipate the automatic save.

To save (and dispatch) your work performed on the current page:

1. In your **Hopex** desktop, click **Main Menu** .
2. Select **Save**.
   Your modifications are saved and published in the repository.

   ☛ *Hover the cursor over **Save** to see the update. Note that there might be a delay in the time display update.*



Saving your work (private workspace)

In a private workspace, you can regularly save your modifications in your workspace. These modifications are not saved in the repository. To save your modifications in the repository, you must dispatch your work.

For more details on private workspaces and particularly on your work dispatch, see Hopex Administration (Web) > Managing Workspaces documentation.

To save the modifications you have made in your private workspace since the last save:

1. In your **Hopex** desktop, click **Main Menu** .
2. Select **Save**.
   Your modifications are saved in your workspace.

Viewer and Contributor Type Profiles

Viewer and Contributor type profiles give access to the same objects as the other profiles, but their actions are restricted.

- ***Viewer type profile***
  Viewer type profiles are used to navigate in **Hopex** and perform customization and collaboration actions that do not modify the objects of the **Hopex** repository.

  ☛ *In the property pages of a viewer type profile, its **Command Line** attribute contains **/HV**.*

  `E.g.: E.g.: Application Viewer, Process Viewer.`

- ***Contribution type profiles***
  Contribution type profiles are used to navigate in **Hopex**, perform customization actions without impacting the **Hopex** repository, and

perform modification actions that can modify the **Hopex** repository objects.

☛ *In the property pages of a contribution type profile, its **Command Line** contains **/HC**.*

E.g.: Application Contributor, Process Contributor.

Viewer type profile

Available features

A viewer type profile has particularly access to:

- basic features on objects, reports, diagrams:
  - searching
  - viewing
  - exporting (object and Excel)
- collaboration features:
  - participating in review notes
  - participating in Workflow transitions
  - sharing objects
  - managing notifications (object follow-up)
  - viewing the activity feed
- creating instant reports
- customizing desktop (e.g.: favorites, languages, options)

Non available features

A viewer type profile has particularly not access to the following features:

- creating workflows
- creating reports
- creating and editing diagrams
- modifying objects
- importing
- performing administration actions
- saving requests
- connecting to a private or collaborative workspace

Contributor type profile

Available features

On top of the viewer type profile features, the contribution type profile has access to the following features:

- creating and modifying objects (property pages)
- editing diagrams (tabular mode only)
- creating and saving reports
- import
- saving queries

Non available features

A viewer type profile has particularly not access to the following features:

- creating workflows
- editing diagrams (free mode)
- performing administration actions
- connecting to a private or collaborative workspace

Customizing your Personal Parameters

In your **Hopex** desktop, you can customize your personal parameters:

- modify your password

  ☛ *Only the administrator can reinitialize your password.*

- modify the image of your avatar

Modifying your password

Your password must include at least 8 characters and be complex enough to meet your enterprise security requirements.

☛ *For more details on the password, see Activating your Hopex Account.*

A colored progress bar (red, orange, green) indicates your password complexity level as you type.

To modify your password:

1. In your **Hopex** desktop, click **Main Menu**  .
2. Select **Settings > Modify Password**.
   The **Change password** window is displayed.
3. Enter your former password.

   ☛ *To view the password, click*  .

4. Enter and confirm your new password.

   ☛ *To view the password, click* .

   ☛ *You cannot leave the **New Password** field empty.*

5. Click **Apply**.
   Your modified password is saved but is not taken into account until you dispatch your work.

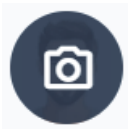
   ☛ *If you do not dispatch your current work, the modified password is not taken into account.*

Modifying your avatar

The **Main menu** is represented by your avatar. You can modify it by downloading an image in ico, bmp, gif, or png format up to a size of 30 MB.

To modify your avatar:

1. In your **Hopex** desktop, click **Main Menu** .
2. Hover the cursor over your avatar.
   Your avatar appears as a camera.



3. Click the camera.
   The file selection window opens.
4. Click **Browse** and select your image.
   The image file to be uploaded is defined.
5. Click **OK**.
   The **Main Menu** icon is replaced by your picture.
   Your avatar is updated.



Resetting your Desktop Customizations

In your **Hopex** desktop, you can reset your personal parameters. This includes customization of your desktop, such as for example:

- your homepage customization
- your dashboard customization
- your customization of columns in lists:
  - column display or not
  - column width
  - column order
  - column grouping
  - column locking

This does not include repository customizations such as:

- your avatar
- your alerts
- your data language and interface language
- your password
- your options

To reset your customizations:

1. In your **Hopex** desktop, click **Main Menu** .
2. Select **Settings > Reset personal parameters**.
   The reset activates after logging back in.

Setting a Current Library

A library is used to represent a work context.

☛ *For a detailed description on the use of libraries, see Enterprises and libraries.*

☛ *This is useful in particular when exporting an object.*

In your **Hopex** desktop, when you set a current library, by default all the objects that you have created are contained in this library.

When a library is set, if needed, on creation of the object you can modify the library that contains it.

Defining a current library prevents the existence of isolated objects and facilitates exporting objects in a given context.

If the administrator has defined a default library for you (user level), this also defines your current library.

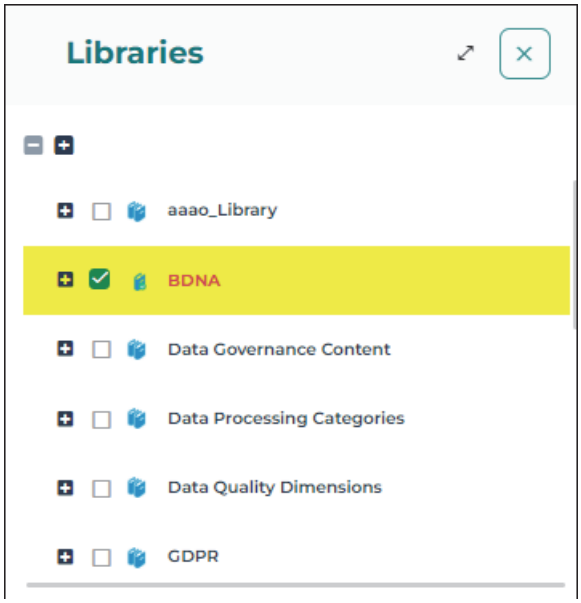
☛ *The **Hopex** administrator can define a default library at user level (see the Hopex Administration (Web) documentation > Defining a Person).*

To set a current library:

1. In your **Hopex** desktop, click **Main Menu** .
2. Select **Set Current Library**.
   The library tree window appears.
3. Select a library or a sub-library.

   The current library is highlighted and indicated by .

   ☛ *If you select a sub-library, the library concerned is expanded and the sub-library selected is represented by .*



Consulting your Licenses

According to your licenses, you have access to certain products.

Each product defines the metamodel, the parameterization (technical data) and the features you have access to.

To consult your license list:

1. In your **Hopex** desktop, click **Main Menu** .

2. Select **Settings > License information**.



For information regarding a product (e.g.: associated profiles, available objects (MetaClasses), report templates, and diagram types), see the online documentation: **Concepts > Products**.

CUSTOMIZING YOUR HOPEX DESKTOP

Customization can vary depending on the interface of your Solution.

See:

- Modifying your Data Language
- Modifying your User Interface Language
- Customizing your Dashboard
- Accessing your options

Modifying your Data Language

When you change the data language in **Hopex**, this language is saved for your upcoming connections.

Hopex supports more than 30 data languages. Reach out to your **Hopex** administrator if the language you want is not available.

To modify the data language:

1. In your **Hopex** desktop, click **Main Menu**  .
2. Select **<current language>** > **<new language>**.
   The translated data is displayed in the selected language.

Modifying your User Interface Language

Hopex User Interface (UI) is available in six languages (German, English, Spanish, French, Italian and Portuguese).

To modify your web interface language:

1. Access your Options.
   ☛ *See Accessing your options.*
2. In the Options tree, select **Installation > Web Application**.
3. In the right pane, use the drop-down menu to modify the value of the **GUI language** option.
4. Click **OK**.
   The language modification takes effect after signing out and back in.

Customizing your Dashboard

The **Dashboard** of your desktop is made up of widgets, which use formatters in the form of reports or other HTML pages. They enable fast access to repository information.

Example: your reports.

Accessing the dashboard

To access your dashboard and widgets:

- In your **Hopex** navigation bar, click the **Dashboard** menu.

  ☛ *If **Dashboard** is not available in your navigation bar, see Adding a dashboard to your desktop.*

Adding a dashboard to your desktop

If the **Dashboard** menu is not available by default in your navigation bar, you can add it up.

To add the **Dashboard** menu to your navigation bar:

1. Access your **Options**.

   ☛ *See Accessing your options.*

2. Select **Workspace > Dashboards**, and select the **Activate Dashboard**) option.
   The menu pops up in your navigation bar.

   ☺ *If the menu does not appear instantly, refresh the browser page.*

   ☺ *If **Dashboard** is not visible in your navigation bar, click the **Plus** drop-down menu to access it.*

Adding a widget to your dashboard

To follow the reports you are interested in, you can add them as widgets in your dashboard.

☛ *See also Adding an Instant Report to your Dashboard.*

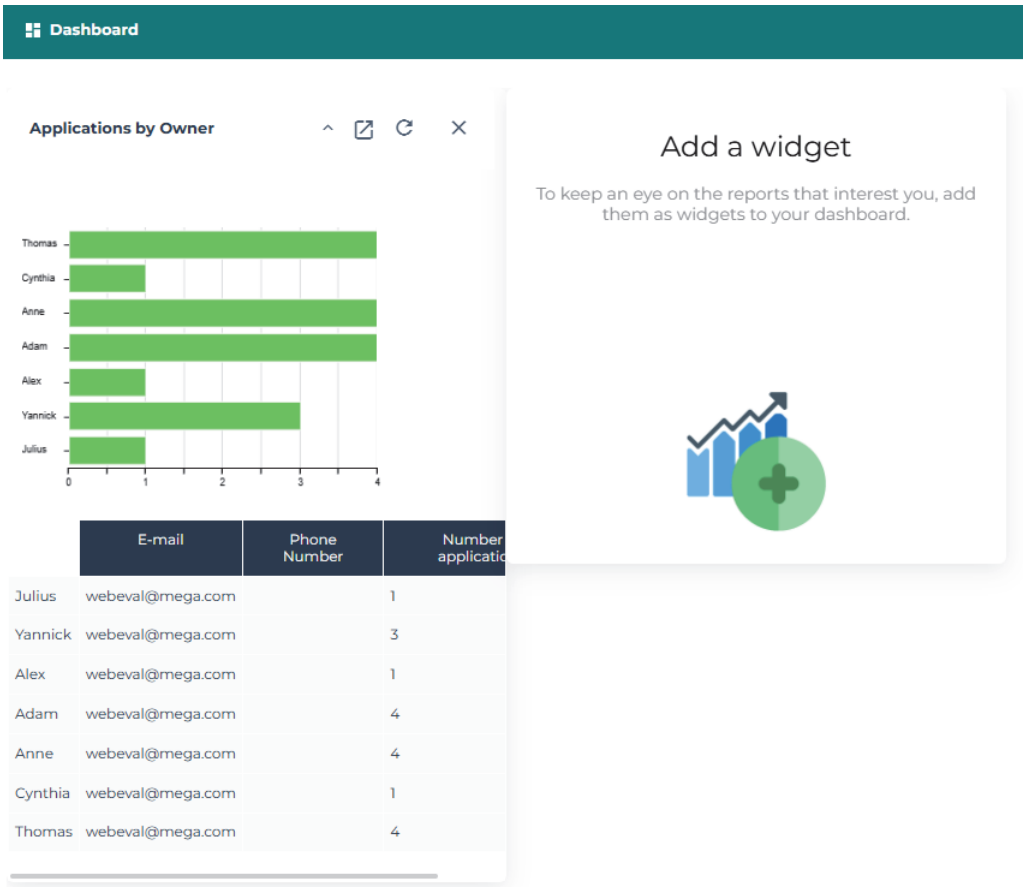
To add a widget to your dashboard:

1. In the navigation bar, select **Dashboard**.
2. In your dashboard, click **Add a widget** .

   A window displays the tree of the elements you can add. These elements are classified according to their category.
3. Expand the folder of the category concerned.

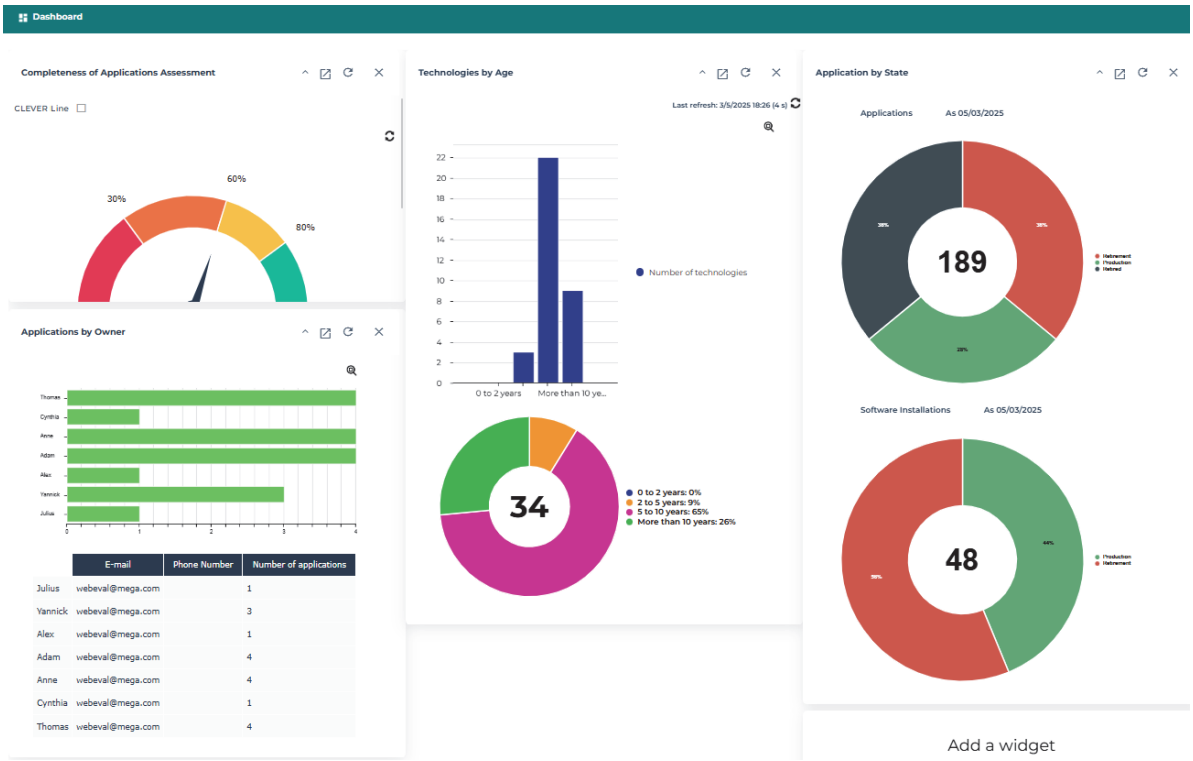
   Example: GRC, and the Risks subfile.

4. Click the report concerned.
The report is displayed as a widget in your dashboard.



You can add several widgets to your dashboard.

☺ *If you add many widgets, you can reduce the size of some of them, see Expanding/Collapsing a widget window.*



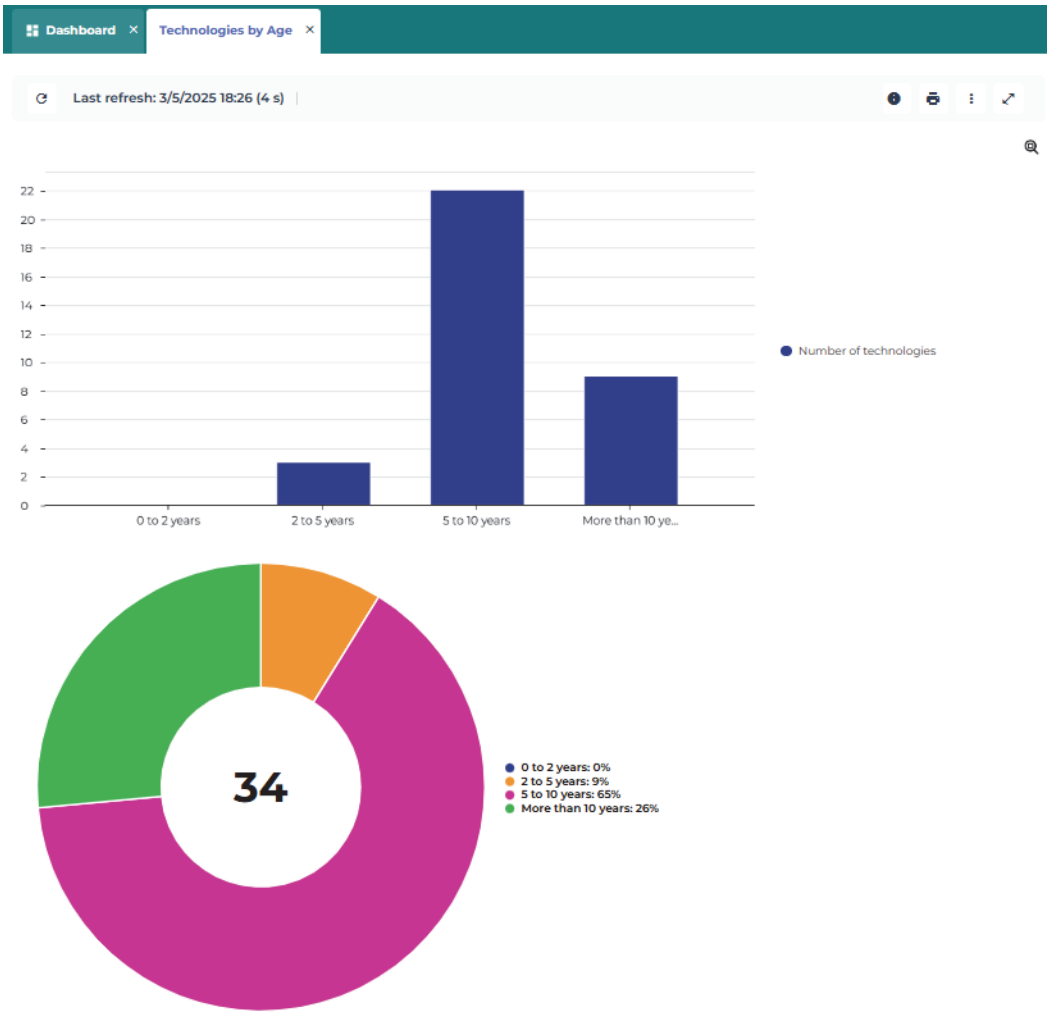
Displaying a widget in full page

Some widgets include reports with a lot of information. They may need to be displayed in full page for a better readability.

To display a widget content in full page:

- In the widget title bar, click **Open** .
  The content of the widget is displayed in a new tab.

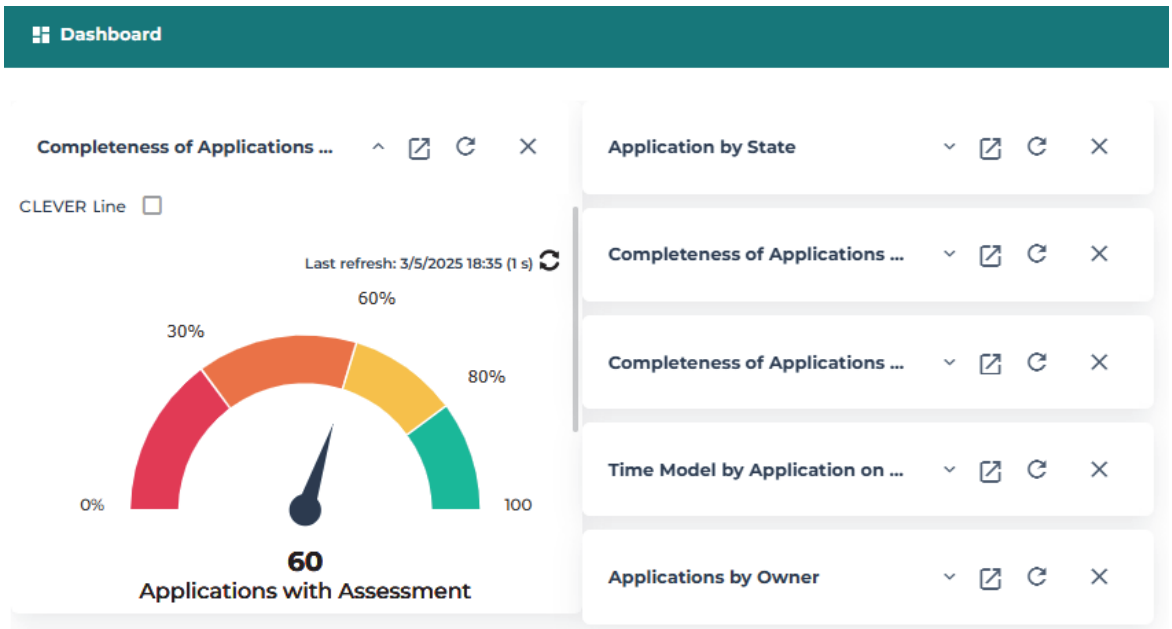
  ☛ *To return to your dashboard, in the breadcrumb trail, click **Dashboard**.*



Expanding/Collapsing a widget window

If you added a large number of widgets to your dashboard, in the widget title bar click **Collapse window** to reduce the widget and save space in your dashboard.

☛ *Click **Expand window** to expand the widget.*



Updating the widget content

A widget shows a report content.

To update this report with the repository data:

- In the widget title bar, click **Refresh**.

Deleting a widget

To delete a widget from your dashboard:

- In the widget title bar, click **Remove**.
  The widget is removed from your dashboard. It is not displayed at your next connection.

Accessing your options

To configure your **Hopex** desktop and access certain functionalities, you may need to configure your options (user level).

To modify your options (user level user):

1. In your **Hopex** desktop, click **Main Menu**  .
2. Select **Settings > Options**.
   The window with your options (user level) appears.

   ☛ *For more details on options, see the **Hopex Administration - Supervisor** guide, "Managing Options" chapter.*

Extending the Visibility (Metamodel or Advanced Features)

This chapter is made for advanced users.

See:

- Introduction to Hopex Metamodel Access
- Displaying advanced UI
- Displaying the Repository Activity
- Displaying Administration Properties and Links
- Accessing the Technical Metamodel

Introduction to Hopex Metamodel Access

Hopex metamodel (MetaClasses, MetaAttributes, MetaAssociations) access is adapted to each user work.

Thus, the metamodel is split into:

- ***a business metamodel***
  This metamodel is accessible to all of the users.
  Solution users can customize and search for the objects they are concerned by.
  ☛ *If you are an advanced user, see also Displaying advanced UI.*
- ***a technical metamodel***
  This metamodel is only available to users who configure or customize **Hopex**, i.e. users logged in as:
  - **Hopex Customizer**
  - **Hopex Customizer Publisher**
  - **Hopex Administrator**
  - **Hopex Administrator - SaaS**
  - **<Name of the Solution> Functional Administrator**

    ☛ *If you are a very advanced user, see Displaying the Repository Activity.*

Displaying advanced UI

Configuration of some specific attributes and access to some pages or options are restricted to advanced users.

```
Examples:
CAST Highlight ID attributes, Software Elegance Quartile
(advanced CAST Highlight Metrics)
Access to repository management pages
Access to Hopex data customization option
Access to the Save as report template menu
```

These elements are available with **Display advanced UI** option.

By default, only users connecting with the following profiles have access to administration properties and links:

- **Hopex Customizer**
- **Hopex Customizer Publisher**
- **Hopex Administrator**
- **Hopex Administrator - SaaS**
- **<Name of the Solution> Functional Administrator**

This option must be defined at user (or profile) level for advanced users.

To display these elements:

1. Access (user level) **Options**.
2. In the **Options** tree, select **Workspace > Desktop**.
3. In the right pane, select **Display advanced UI** option.

Displaying the Repository Activity

For specific needs, a very advanced user may need to consult the details of updates on objects.

By default, only users connecting with the following profiles have access to administration properties and links:

- **Hopex Customizer**
- **Hopex Customizer Publisher**
- **Hopex Administrator**
- **Hopex Administrator - SaaS**
- **<Name of the Solution> Functional Administrator**

To display the repository activity:

1. Access (user level) options.
2. In the **Options** tree, select **Repository > Metamodel**.

3. In the right pane, select **Display repository activity** option.

Displaying Administration Properties and Links

For specific needs, a very advanced user may need to access:

- the administration properties and links
- the referencing, duplication, and activity links
- authorizations
- confidentiality

By default, only users connecting with the following profiles have access to administration properties and links:

- **Hopex Customizer**
- **Hopex Administrator**
- **Hopex Administrator - SaaS**
- **<Name of the Solution> Functional Administrator**

To display administration properties and links:

1. Access (user level) options.
2. In the **Options** tree, select **Repository > Metamodel**.
3. In the right pane, select **Display repository administration properties and links**.

Accessing the Technical Metamodel

By default, only users connecting with the following profiles have access to the technical Metamodel:

- **Hopex Customizer**
- **Hopex Customizer Publisher**
- **Hopex Administrator**
- **Hopex Administrator - SaaS**
- **<Name of the Solution> Functional Administrator**

Displaying the technical metamodel

For specific needs, a very advanced user may need to access the technical metamodel elements.

E.g.: This option enables an advanced search by selecting the **Object Type** such as "MetaClass, "MetaAttribute" or "MetaModel".

☛ *For more details on the technical metamodel, see the "Concept" chapter in the **Hopex Customization** guide.*

To access to technical metamodel concepts:

1. Access (user level) options.
2. In the **Options** tree, select **Repository > Metamodel**.
3. In the right pane, set the **Technical metamodel display** option to "Yes".

View abstract MetaClasses

For specific needs, a very advanced user may need Abstract MetaClasses access.

E.g.: This option gives access to the **Element CRUD** abstract MetaClass instances. These instances can be of any type like **Application** or **Org-Unit**.

☛ *For more details on Abstract MetaClasses, see "Abstract Metamodel" in the **Hopex Customization** guide.*

To access abstract MetaClasses:

1. Access (user level) options.
2. In the **Options** tree, select **Repository > Metamodel**.
3. In the right pane, select the **View abstract MetaClasses** option.

Accessing links details

In the **Hopex** metamodel, intermediate objects are used to model a relationship between repository instances.

E.g.: The "Increasing benefits" **Business Capability** can include several **Business Capabilities** such as "Opening new customer sectors". Moreover, the "Opening new customer sectors" **Business Capability** probably contributes to another **Business Capability** of higher level, such as "Expanding the commercial scope".

A **Business Capability** can be based on other **Business Capabilities**. The model of this configuration includes an intermediate object used to connect the **Business Capability** used to the upper **Business Capability**. This intermediate object is a component of the upper **Business Capability**.

The **Business Capability component** link enables access to the intermediate objects that point the **Business Capabilities** used. While the **Business Capability used** link enables a direct access to the **Business Capabilities** used. This last link, which does not take into account the intermediate objects, is called "shortcut".

By default, only "shortcut" links are displayed. However, for specific needs, an advanced user may need to access the list of contextual objects connected to a specific instance.

To view the details of contextual objects (or intermediary objects) representing some MetaAssociations:

1. Access (user level) options.
2. In the **Options** tree, select **Repository > Metamodel**.

3. In the right pane, the **Display contextualization objects of links** option.

Modifying the definition of path of MetaAssociation

The **Definition of path of MetaAssociation** option enables to define the MetaAssociation behavior according to their type to ensure compatibility with **Hopex** versions earlier than V5.

> ☛ *For more details on MetaAssociation Types, see the "MetaAssociations" chapter in the **Hopex Customization** guide.*

The default value of the **Definition of path of MetaAssociation** option (**Options > Repository > Metamodel**) is "Standard Mode".

For compatibility needs, this option can be modified by an **Hopex Administrator** profile.

> ☛ *This option modification has no impact on data except Namespace. However, different behaviors may appear (e.g.: Namespace, navigation, extraction, protection, export, comparison).*

LISTS AND TREES

See:

- Handling Lists
- Handling Trees

Handling Lists

Repository objects are often presented as lists of objects of the same type.

☛ *Repository objects are often represented as trees of objects of the same type as well, see Handling Trees.*

In lists, you can customize the display of columns and data.

Defining the columns to display

Each column corresponds to an object characteristic. You can select the columns that you want to show or hide.

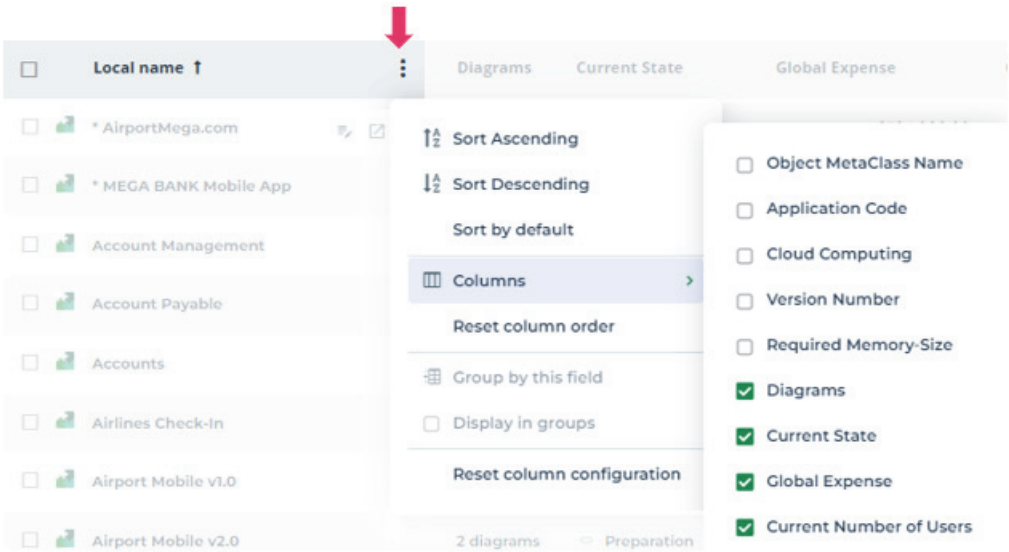
To display or hide one or several columns:

1. In your **Hopex** desktop, access the list of objects.

   ☺ *For example, click the "Applications" navigation menu.*

2. Hover the cursor over the column header and click **More** ⋮.

3. Hover the cursor over **Columns** and select the columns you want to display.



☛ *To hide a column, clear the corresponding check box.*

Modifying the column width

Each column width is adapted to its content.

When you modify a column width:

- the width gets locked
- the width of the column is saved in your customization parameters

☛ *See Actions on an object from the Local Name of a list.*

To modify the width of a column:

1. In your **Hopex** desktop, access the list of objects.
2. Click one of the column header dividers and drag the divider to the desired width.
   The width of the column is modified and saved.

☛ *To return to the default value, see Resetting column configuration or Resetting your Desktop Customizations.*

Modifying the column order

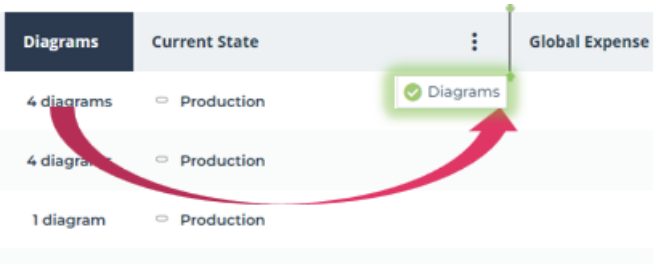
To modify the column order:

1. In your **Hopex** desktop, access the list of objects.

2. Click in the column header and drag-and-drop the column to the required location.
   A green cursor indicates that the chosen position is authorized.
   The order of the columns is modified and saved for your next connections.

   ☛ *Only the **Local Name** column can not be moved.*

   ☛ *To return to the initial display order of columns, see Resetting the column order.*



Resetting the column order

If you have modified the column order, you can return to the default order.

☛ *See also: Resetting column configuration.*

☛ *See also: Resetting your Desktop Customizations.*

To reset the column order:

1. In your **Hopex** desktop, access the list of objects.
2. Hover the cursor over the column header and click **More** ⋮.
3. Select **Reset column order**.
   The columns display in their default order.

Resetting column configuration

In a list, every customization at the column level is saved, even after signing out.

You can reset all the customizations that you have performed on columns, that is:

- displaying/hiding columns
- column width
- column order
- column locking

To reset the column configuration:

1. In your **Hopex** desktop, access the list of objects.
2. Hover the cursor over the column header and click **More** ⋮.
3. Select **Reset column configuration**.

Grouping data by field

In an object list, you can group the objects that have an identical attribute value.

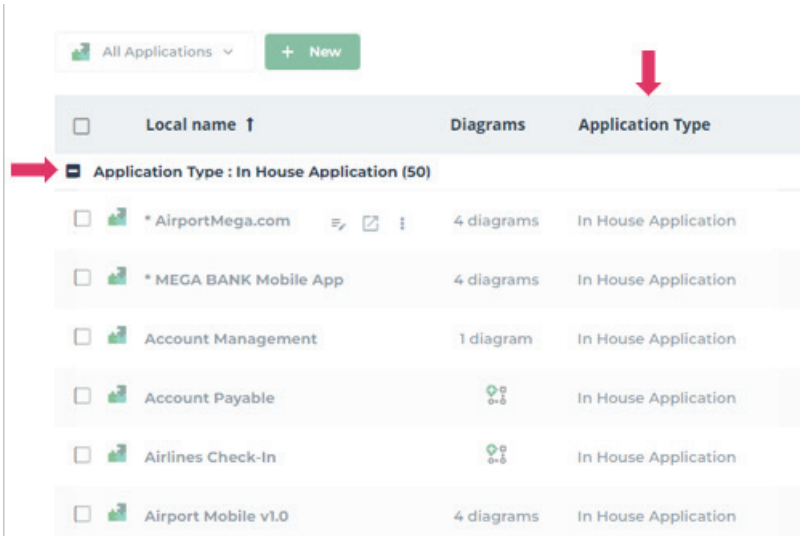
To group objects:

1. In your **Hopex** desktop, access the list of objects.
2. Hover the cursor over the column header and click **More** ⋮.
3. Select **Group by this field**.
   The objects are ranked according to the chosen value.

   In the **More** ⋮ menu of all columns, **Display in groups** is selected.

   ☛ *To disable presentation in group mode, in a column, clear **Display in groups**.*

   In the list of applications, you can for example group applications by type.

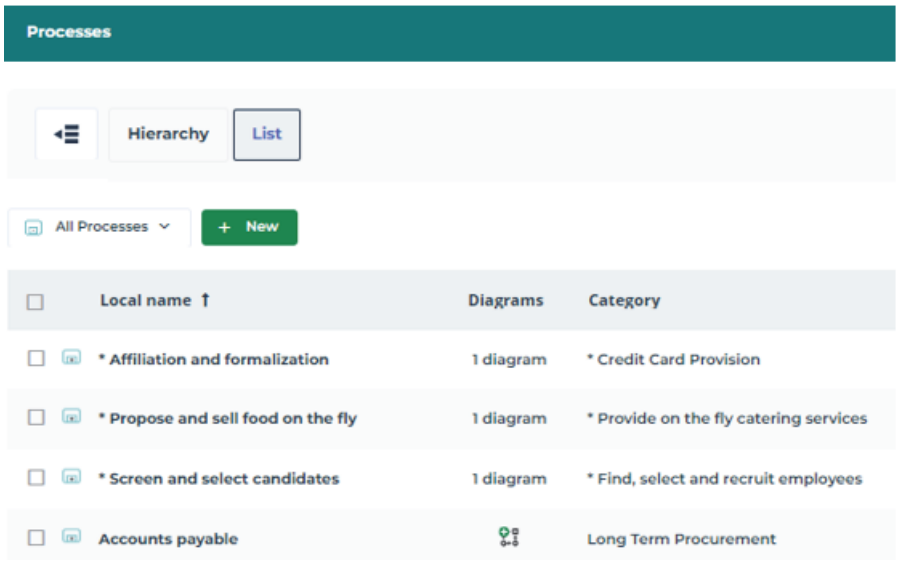


Freezing a column

In a list, by default, the columns are presented in the following order:

- check box
- icon of the object type of the list
- **Local Name**

Freezing a column anchors it at one place, irrespective of the scrolling bar. The column scrolling cursor is positioned at the level of the first unfrozen column (by default after **Local Name**).



If necessary, you can position one or more columns directly to the right of the **Local Name** column. To do this, you must freeze the column.

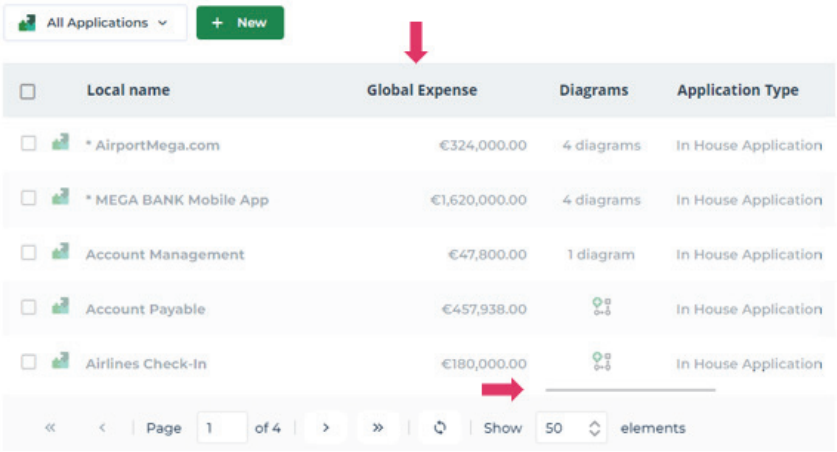
To freeze a column:

1. In your **Hopex** desktop, access the list of objects.
2. Hover the cursor over the column header and click **More** ⋮.
3. Click **Freeze Pane**.
   The column is moved to the right of the **Local Name** (or to the right of the last column already frozen)
   The scrolling cursor is positioned after this column.

   ☛ *To disable freezing of a column, select **Unfreeze** or move the column.*

You can, for example, place the **Technology Compliance** column directly after **Local Name** so it remains displayed when you view the other columns. The column scrolling cursor

is positioned at the first unfrozen column level (after **Global Expense**).



Mass modification of the data in a list

Hopex can be used to assign the same attribute value to several objects in a list.

> ☛ *Tags can not be managed in mass at the list level, see Mass Addition of a Tag to Objects.*

To assign the same attribute value to several objects:

1. In your **Hopex** desktop, access the list of objects.
2. In the list, select the objects concerned.
3. In the column of the attribute concerned, specify the new value in one of the fields of the selected objects.



The new value of the field is assigned to all selected objects.

Handling Trees

Repository objects are often presented in tree structures.

☛ *Repository objects are often represented as lists of objects of the same type as well, see Handling Lists.*

These trees enable to perform actions on objects, as well as drag and drop them from the tree into a diagram.

In trees you can:

- expand/collapse the entire tree by one level
- carry out queries on tree elements.
- add classification folders and sub-folders

Expanding/Collapsing a tree by one level

You can expand/collapse a tree by one level:

- a single branch of the tree
- all of the branches of the tree

To expand the tree by one level:

❱ Click **Expand by one level** .
You can expand the tree by one more level until displaying entirely 4 levels.

To collapse the tree by one level:

❱ Click **Collapse by one level** .

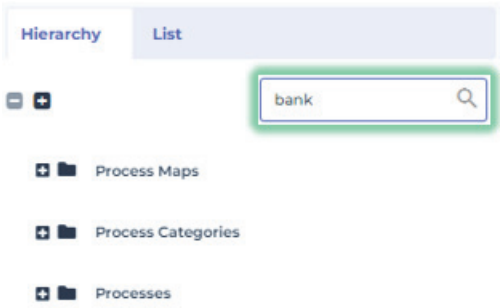
Searching for objects in a tree

The search in a tree is performed on its entire content (folder names and objects).

To search for objects in a tree:

1. In the **Search** field of the tree, enter the characters to search for.

   E.g.: enter "banking".



2. Press <Enter>.
The tree displays the elements that contain the searched string in their name.

☛ *To delete the search in the tree, in the search field, click ×.*

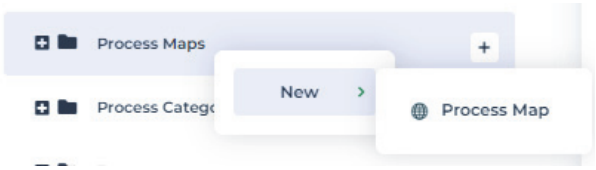
Action on a folder of a tree

On the folder of an object type, you can create an object of the same type.

E.g.: on the Application folder.

To create an object of the same type as the folder:

❱ Right-click the **<Object type>** folder and select **New > <Object Type>**.



COMMON ACTIONS ON OBJECTS

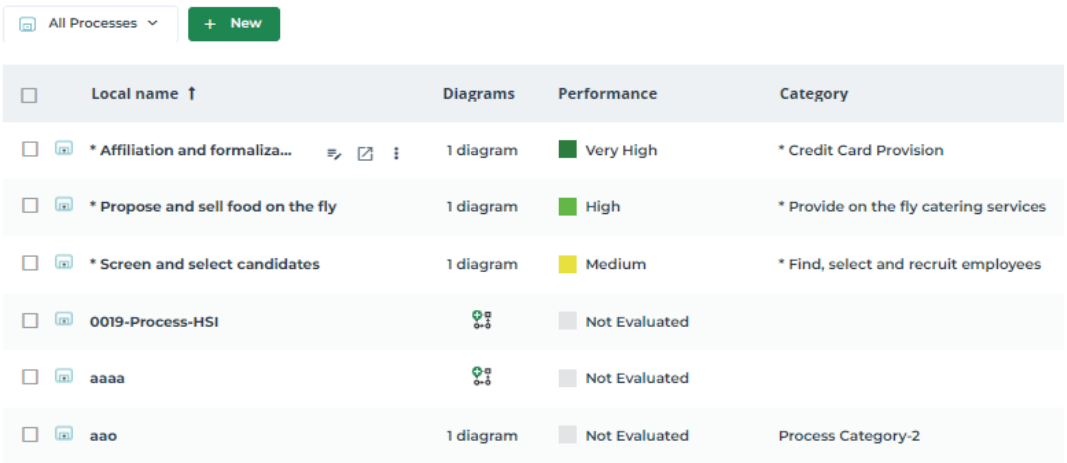
In your **Hopex** desktop, the objects in a list are useful entry points to perform actions on objects of the same type.

See:

- Actions on Several Objects in a List
- Actions on an Object in a List
- Actions on an Object in a Tree
- Actions on an Object in a Diagram

Actions on a List of Objects

In your **Hopex** desktop, the objects in a list are useful entry points to perform actions on objects of the same type.



Using the menu bar of a list of objects, you can perform common actions.

Icon	Action on the list of objects	For more details, see:
	Create an object matching the object list	Creating an object from a list
	Display/Hide the filters on the columns	Filtering a list data

Creating an object from a list

To create an object matching the object list:

1. In the list menu bar, click **New**  .
2. In the **Local Name** field, enter the name of your object.
3. (If needed) Enter the parameters.
4. Click **OK**.

Filtering a list data

In an object list you can filter data of one or several columns.

```
You can, for example, filter the objects of a list to
display only the objects whose specific characteristic
contains a string of characters with a specific character.
```

Operators available on a character string:

-  : to show values including the character string
-  : to show values that do not include the character string
-  : to show empty values only
-  : to show non empty values only

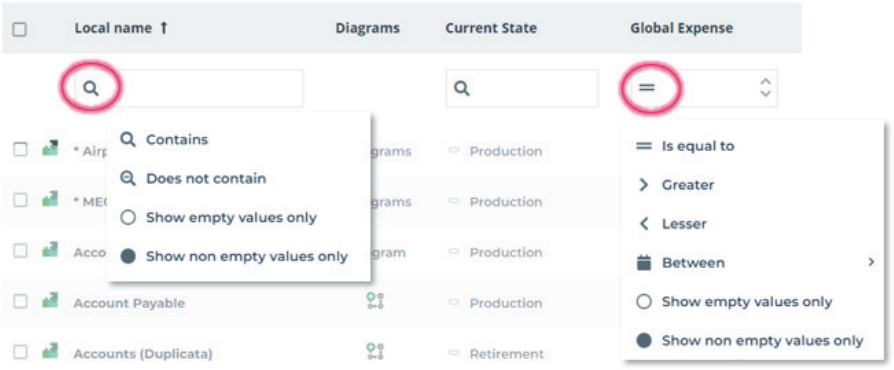
Operators available on a number or a date:

-  : to show values equal to
-  : to show values greater than
-  : to show values lower than
-  : to show values between two values
-  : to show empty values only
-  : to show non empty values only

To define a filter on a column:

1. In your **Hopex** desktop, access the list of objects.

2. Click **Display filters** on the top right-hand side.
Fields appear under the header of each column.



A default operator is displayed in the filtering field of each column.

3. (if needed) In the field of the column that you want to filter, click the operator and select another operator.

4. In the field of the column that you want to filter, depending on the case:
   - enter a string of characters.
   - select one of the proposed values.
   - enter a number.

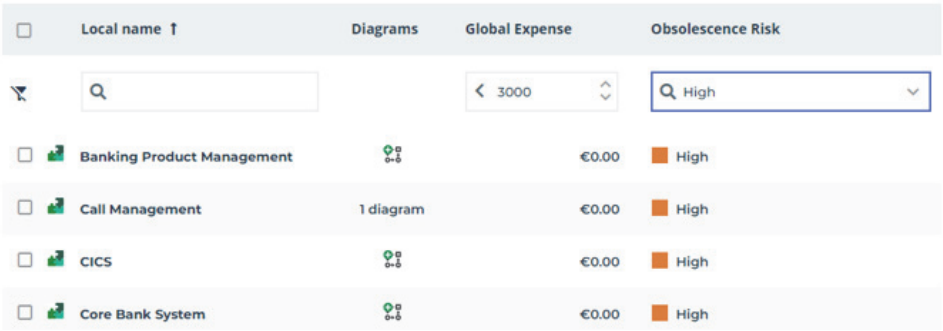
   The list of objects is automatically filtered according to the filtering criterion defined for the column.

   The title of the column that contains a filtering criterion is highlighted.

   ☛ *You can add as many filters as columns.*

   For example, to the list of applications, you can filter applications whose:

   - the corresponding expenses are above 3000€
   - the Obsolescence Risk is "Very high"



☛ *To remove the filter from a column, hover the cursor over the filter field and click* .

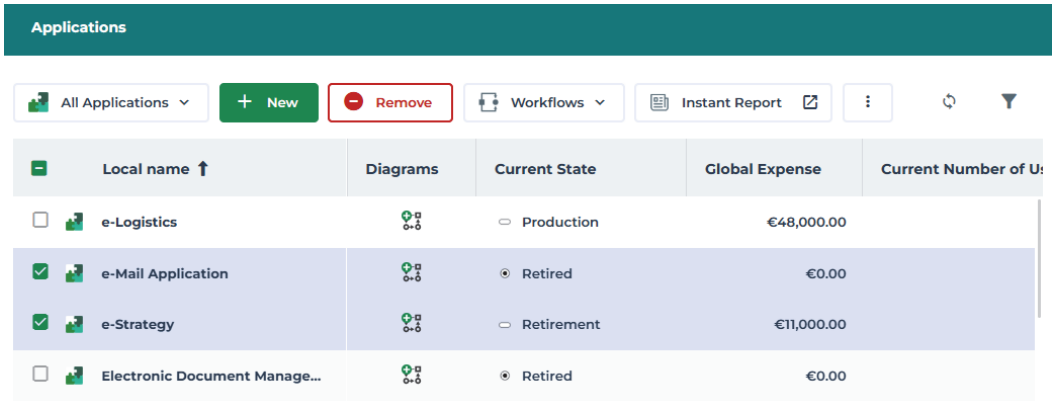
☛ *To remove the filtering from all columns, at the end of the filtering field row, click* ***Delete All Filters*** .

Actions on Several Objects in a List

In your **Hopex** desktop, the objects in a list are useful entry points to perform actions on several objects of the same type.

☛ *The objects selected in a list are highlighted in bold.*

When you select more than one object from the list, additional actions are available.



☛ *Click ⋮ to access hidden actions.*

Using the menu bar of a list of objects, you can perform common actions on several selected objects.

Icon	Action on the list of objects	For more details, see:
	Create an object matching the object list	Creating an object from a list
	Delete the selected objects from the **Hopex** repository	Deleting or Removing an Object
	Launch a mass workflow transition on the selected objects	Participating in a Workflow
	Run an instant report on the selected objects	Managing Instant Reports
	Export the selected objects in Excel format	Exporting a List of Objects to Excel
	Display/Hide the filters on the columns	Filtering a list data

Actions on an Object in a List

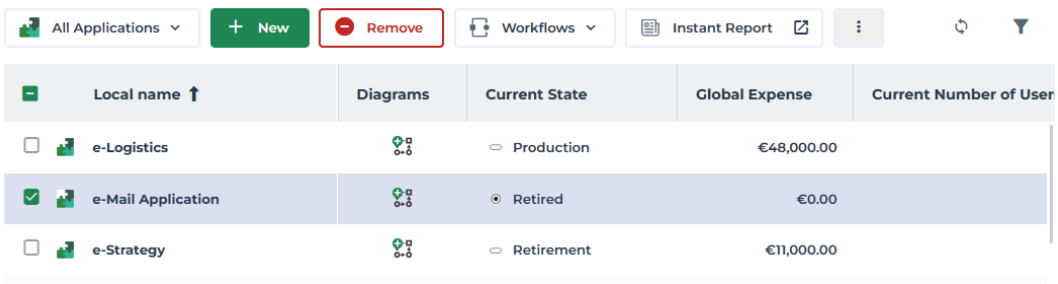
In an object list:

- when you click an object, its proprieties display over the list itself
- other actions on an object are available:
  - (after selecting the object) in the menu bar of the list
  - when you hover the cursor over the **Local Name** column of the object
  - when you right-click the object row, in the object conextual menu

Actions on an object using the menu bar of a list

When you select an object in a list of objects, the menu bar of the list enables you to perform general actions on the object.

☛ *To access all the actions available on an object, see Object pop-up menu.*



Icon	Actions on the object	For more details, see:
	Delete the object from the **Hopex** repository	Deleting or Removing an Object
	Access the object Workflows and launch a workflow transition on the object	Participating in a Workflow
	Run an instant report on this object	Managing Instant Reports
	Export the selected object in Excel format	Exporting a List of Objects to Excel

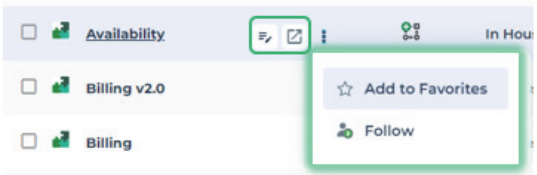
☛ *Click **More** to access hidden actions.*

Actions on an object from the Local Name of a list

In a list of objects, when you hover the cursor over the **Local Name** of an object, a list of buttons pops up:

- In the first part of the list, you can perform current actions on the object.
- The second part of the list gives you direct access to features related to this object.

☛ *See Accessing collaboration features on an object.*

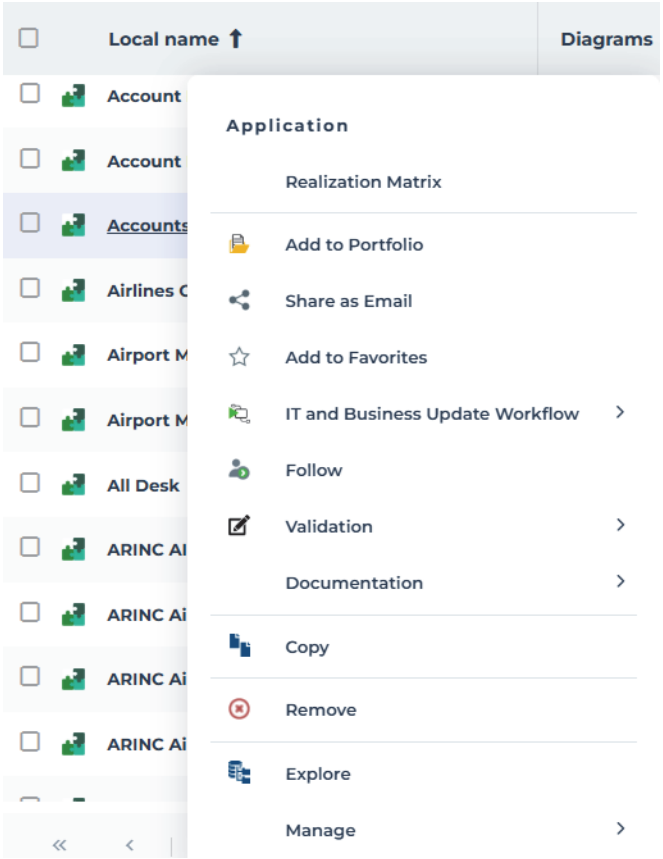


Icon	Action on the object	For more details, see:
	Display the properties of the object in the edit area	Object Properties
	Display the object properties in a new tab	Displaying an object properties in a new tab
	Add the object to your favorites	Favorites
	Follow the object	
	Access diagrams containing the object	Accessing an object diagrams (list)

Object pop-up menu

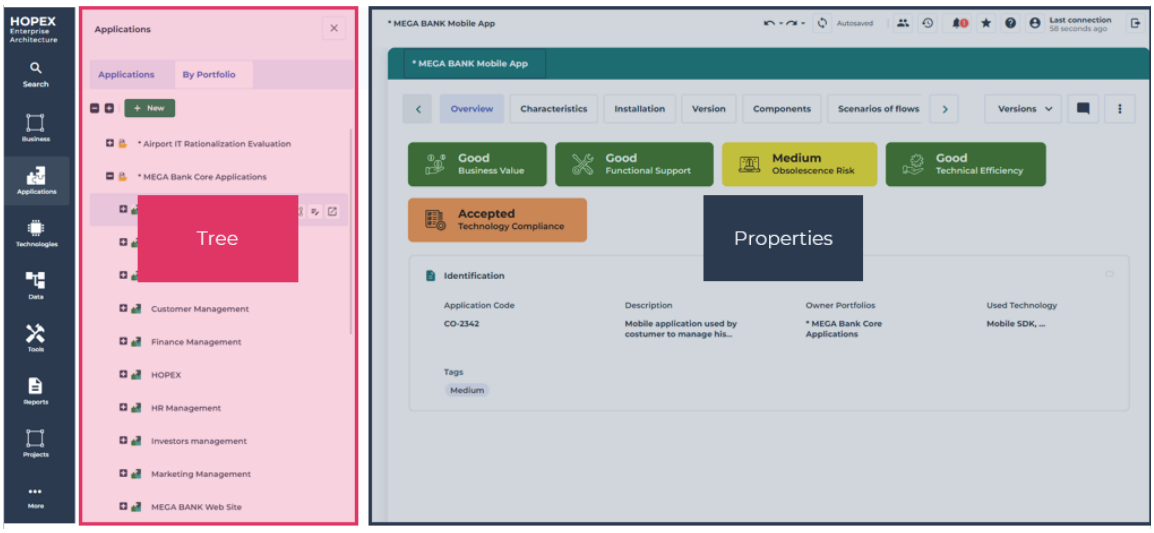
To access all the commands specific to an object in a list:

- Right-click the object row and in its pop-up menu, select the action.



Actions on an Object in a Tree

In a tree in the browse area, when you click on an object, its properties open to the right of the tree:



In a full page tree, when you click on an object, its properties open in the edit area in place of the tree.

In a tree, other actions on an object are available:

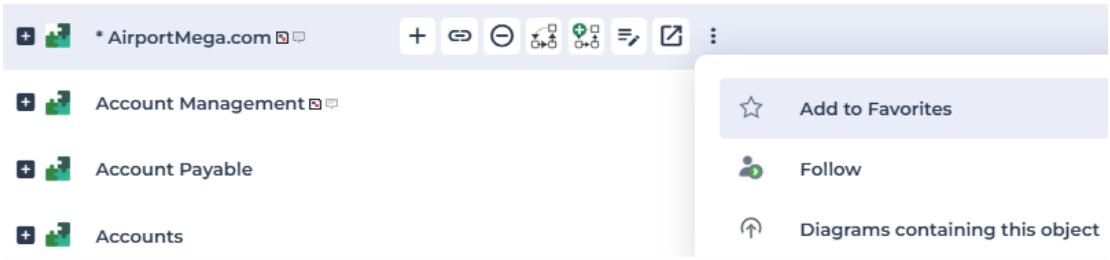
- when you hover the cursor over the object row
- when you right-click the object, in its contextual menu

Actions on the row of an object

In a tree, when you hover the cursor over an object row, a list of buttons pops up:

- with the first part of the list, you can perform common actions on the object
- (edit area specific) the second part provides direct access to collaboration features related to the object

☛ *See Accessing collaboration features on an object.*



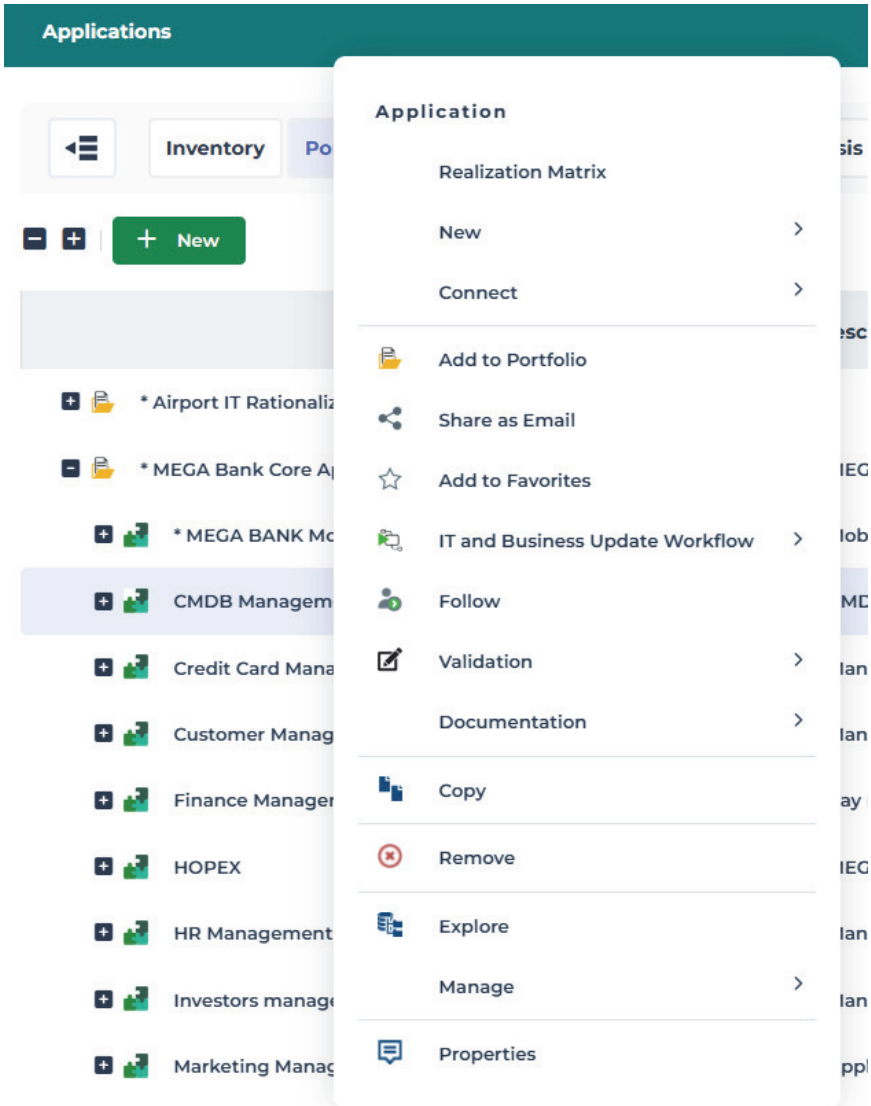
Icon	Action on the object	For more details, see:
+	Quick access, to define specific characteristics of the object	
🔗	Connect the object to an object type to which it can be connected	Connecting Objects
⊖	Remove the object from its folder (and/or delete it from the repository depending on cases)	Deleting or Removing an Object
	Access the diagrams describing the object, in the edit area	Accessing an object diagrams (tree)
	Create a diagram in the edit area	Diagram Creation
	Display the object properties in the edit area	Object Properties
	Display the object properties in a new tab	Displaying an object properties in a new tab
☆	Add the object to your favorites	Favorites
	Follow the object to be informed of all the modifica-tions performed on this object	Sharing with Other Users
	Access diagrams containing the object	Accessing an object diagrams (tree)

Object pop-up menu

To access all the commands specific to an object in a tree:

- Right-click the object row and in its pop-up menu, select the action.

E.g.: the contextual menu of an application in a tree, with the EA Functional Administrator profile.



Actions on an Object in a Diagram

The actions available on an object in a diagram depend on the display mode of the diagram in which you are working (edit mode or view mode).

When you click an object in a diagram:

- in view mode, you access the pie menu of the object.

  ☛ *See Using the pie menu in a diagram preview.*

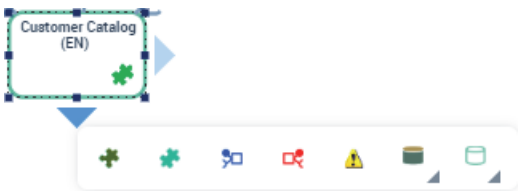


  - to access the object properties.
  - to add a review note to an object.

    ☛ *See Review Notes.*

  - to access the diagrams describing the object
  - to access the diagrams containing the object
- in edit mode, you access:
  - the object pop-up menu
  - the object properties
  - the object specific toolbar

    In a relational diagram in edit mode, using a table, a key, a column, an index, a physical view.



For more details on opening diagrams, see:

- Editing Diagrams
- Handling Diagrams

  ☛ *See also: Objects in a Diagram.*

SEARCH

✓ "Introduction to Searches", page 94
✓ "Full-text Search", page 98
✓ "Advanced Search", page 110

Introduction to Searches

Search Types

To perform searches on **Hopex** repository objects, you can use:

- the ***full-text search tool***: explore your repository using terms and keywords

  The full-text search is only available when the repository is indexed.

  ☛ *See "Full-text Search", page 98.*

- ***the advanced search tool***, based on an object type: perform a search over objects specific to your Solution or extend your search to all objects

  ☛ *See "Advanced Search", page 110.*

  According to your expertise, you may need to extend the search:
  - to the technical metamodel (for experienced user)
  - to abstract objects (for expert users)

  ☛ *See "Advanced Search Options", page 112.*

Using the Search Tool to Connect Objects

The search tool can be used:

- to list all of the objects of a given type
- to search for an object whose name contains or begins/ends with a given character string

Connecting an object

Hopex offers a wizard to connect an object.

Use this wizard to:

- list all the objects concerned by the source object
- refine the list with a search for the character string related to the object name:
  - name containing a given character string (by default)
  - name starting with a given character string
  - name ending by a given character string

To connect an object:

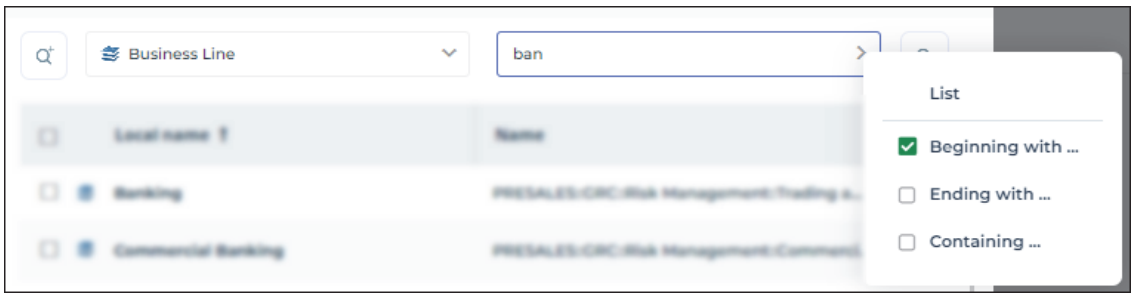
1. In the object properties, expand a section or select a page in which you can connect objects.
2. Click **Connect**  .

3. (Optional) In the first field, use the drop-down menu to modify the object type to which your search relates.

   ☛ *At times, HOPEX may offer different selection modes for the search.*
   See "Choosing the object selection mode", page 97.

4. (Optional, to refine your search) In the second field, enter the character string you want to search for.
   By default the search relates to the name **Containing** the character string you entered.

5. (If necessary) Click the arrow of the second field and select another criterion to refine your search:
   - **Beginning with**: to list the objects beginning with the character string entered.
   - **Ending with**: to list the objects ending with the character string entered.



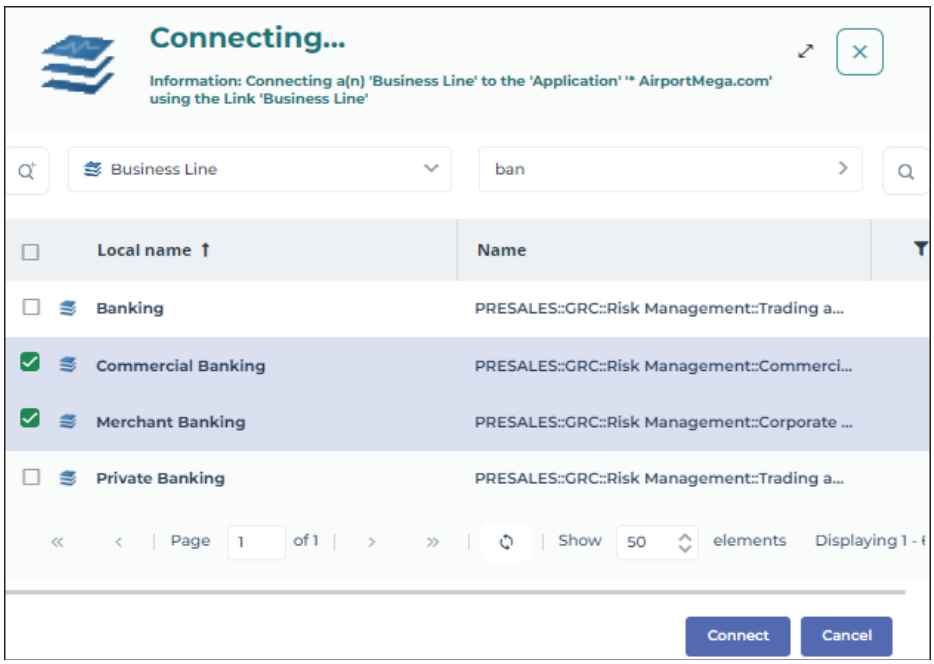
☛ *The last option selected becomes the default option.*

6. Click **Find** to run the search.

7. Select the object concerned.

   ☛ *You can select several objects.*

   ☺ *You can use the list filtering tool, see "Filtering a list data".*



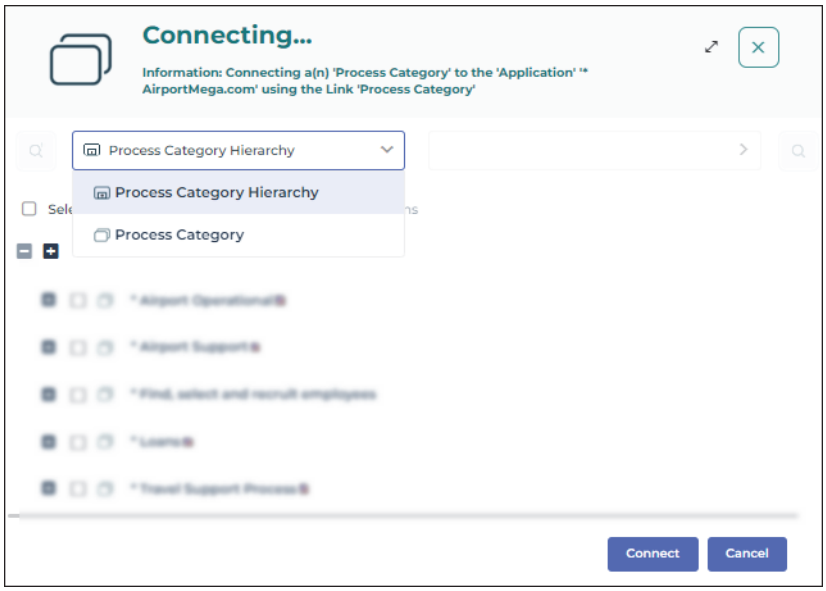
   ☛ *Whenever the result contains many objects, you can use the vertical scrollbar and/or the page arrow.*

8. Click **Connect**.
   The selected objects appear in the properties window.

Choosing the object selection mode

The search interface may offer you several modes to select objects.

Example: you want to define the functional scope of an application and connect processes to it. You can, for example, select the processes from a list or a tree.

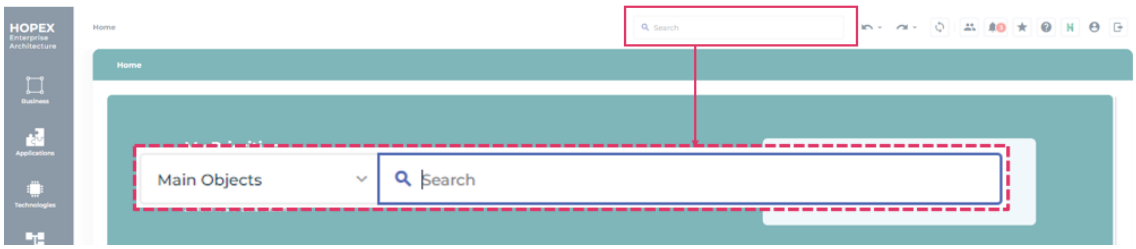


FULL-TEXT SEARCH

You can perform full-text searches over all the repository objects that are indexed.

> ☛ *Your repository must be indexed. If not, you can use the advanced search, see "Advanced Search", page 110.*

You can access the search function from your **Hopex** desktop toolbar at all times.



Full-text search gives access to two types of results, based on:

- the **name** (short name only) of objects, results of the ***simple full-text search***
- the **name** of objects as well as their **attributes**, results of the ***extended full-text search***

> ☛ *If the repository is indexed, indexation runs automatically every 10 minutes (which is an adaptable default value) thanks to the indexing scheduler. This indexing is incremental and about created and modified objects: see **Hopex Administration - Supervisor** guide in the chapter "Managing Repositories > Using Repositories > Enabling and Customizing Repository Indexing".*
>
> ☛ *See also "Name of an Object (Local/Short or Long)", page 331.*

Performing a Simple Full-Text Search

Prerequisite: the repository is indexed. Repository indexing is performed by your administrator.

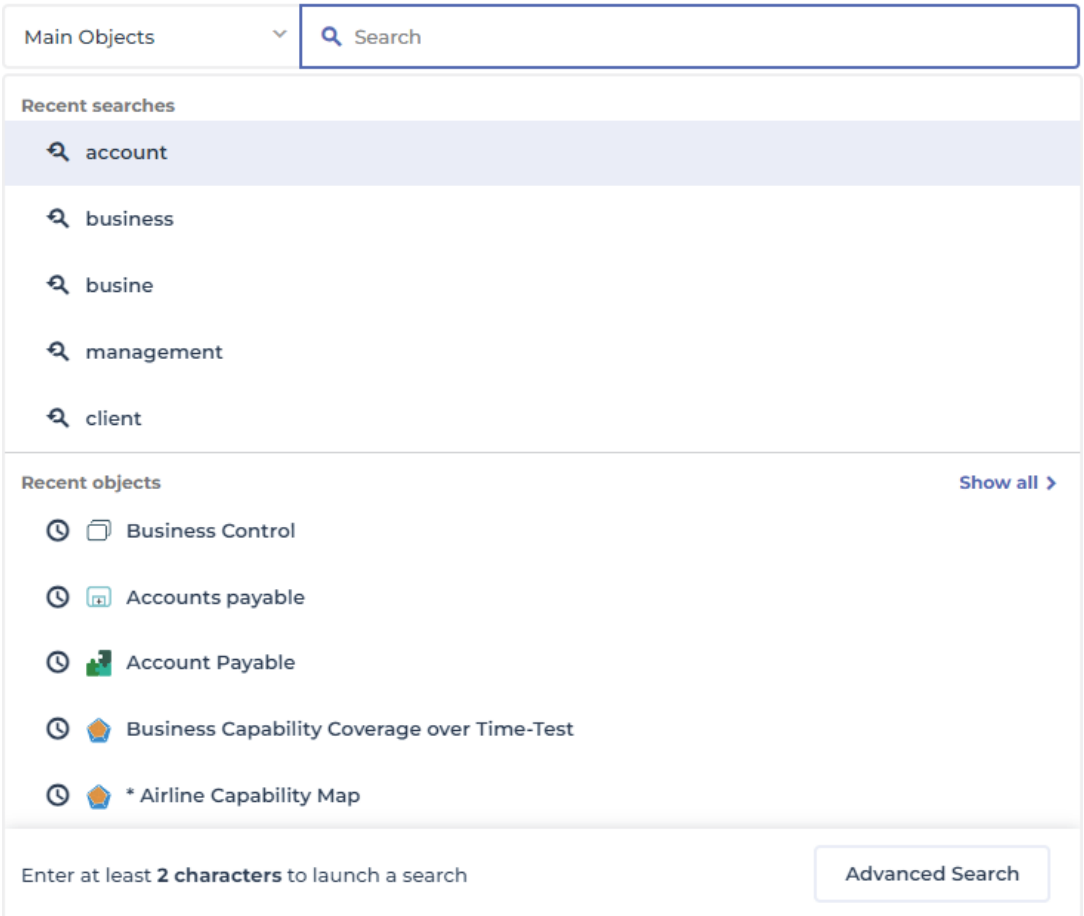
> ☛ *See the **Hopex Administration - Supervisor** guide, the "Managing Repositories > Using Repositories > Enabling and Disabling Repository Indexing" chapter.*

To perform a full-text search:

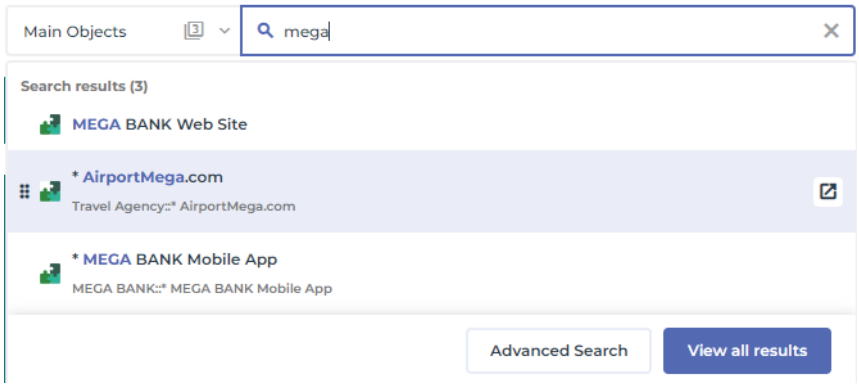
1. [Optional] Select the object types over which you want to perform your search.

   > ☛ *See "Selecting Object Types for your Search", page 100.*

2. In your **Hopex** desktop toolbar, click in the **Search** field.
   If possible, select the objects you are interested in amongst the suggested ones:
   - your recent searches
   - your recently viewed objects



3. In the **Search** field, enter at least the first two characters of the terms your want to search for.
   The search results are displayed below the tool search and are dynamically updated as you type.



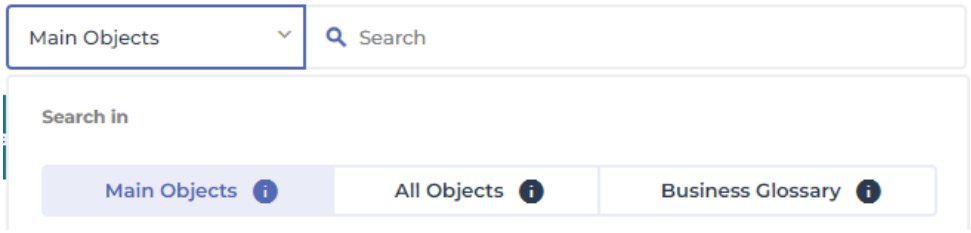
4. In the result list, you can:
   - display the properties of the object in the edit area: click the object
   - open the object properties, in another tab: hover the cursor over the object and click **Open in new tab**
   - add the object to a diagram or a list: hover the cursor over the object and drag & drop it in the list or diagram
5. To get a deeper view on your search results, click **View all results**.
   ☛ *See "Performing an Extended Full-Text Search", page 102.*
6. To access the advanced search tool, click **Advanced search**.
   ☛ *See "Advanced Search", page 110.*

Selecting Object Types for your Search

Before initiating your full-text search or to modify the current search, you can choose to perform the search on one of the following lists:

- **Main Objects** (by default, then the last selected list becomes the default one)
  The search is restricted to the business object types related to your current profile.
- **All Objects**
  The search expands to all object types related to your current profile.
- **Business Glossary** and **Data Catalog** available with specific Solutions only.

By default, all of the object types included in a list are taken into account in your search. You can narrow down the list to certain object types.



To select the object types included in the search:

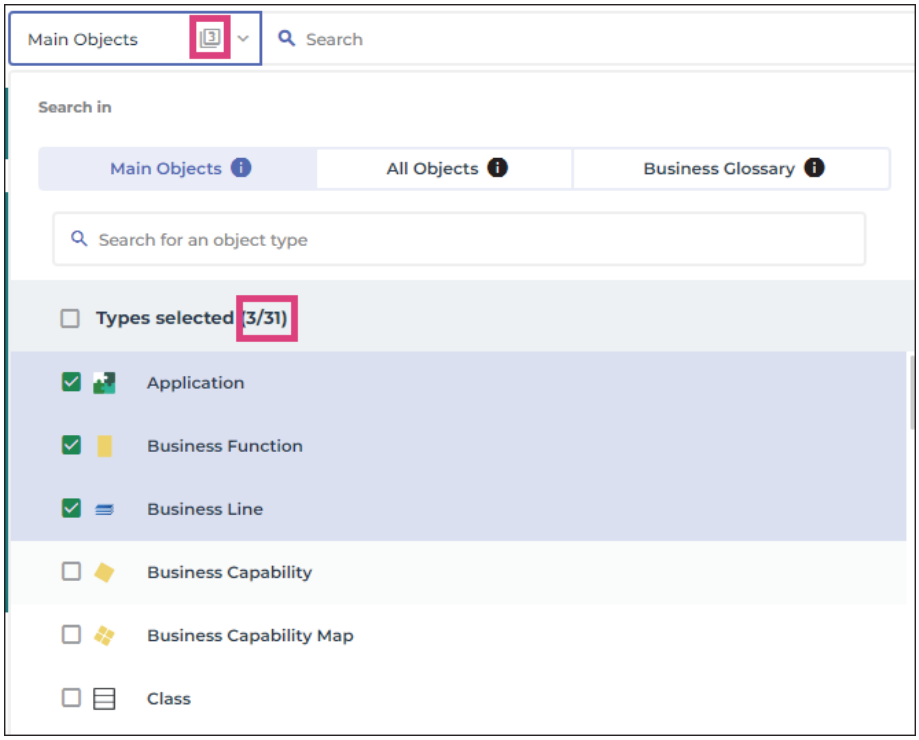
1. In your **Hopex** desktop toolbar, click in the **Search** field.
2. Click the drop-down menu arrow of the list

   E.g.: the **Main Object** list.
3. (If needed) Select another search extent.

   E.g.: **All Objects**.

4. In the object list, select the object types to include in your search. By default, all of the object types are taken into account.

   ☺ *To ease the selection, enter the first characters of the object type of interest in the **Search for an object type** field.*



   ☛ *The drop-down list reminds you that the list is filtered and, if applicable, indicates the number of object types over which the search is performed.*

5. Run your search, see "Performing a Simple Full-Text Search", page 98

Performing an Extended Full-Text Search

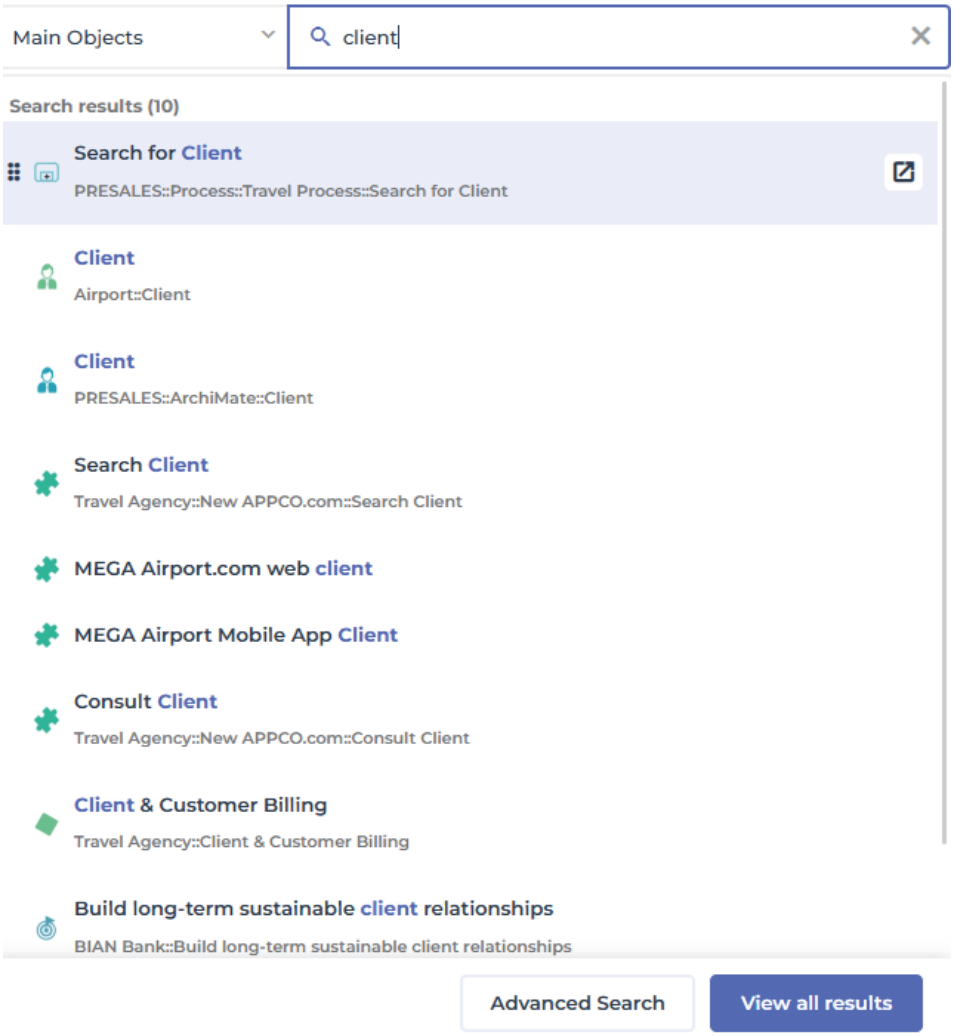
You may need to access a detailed view of your results after initiating a full-text search. These results are based on the ***name*** as well as all the ***attributes*** of the objects concerned by the search.

To access more details about your search and its results:

1. Launch a full-text search.

   ☛ *See "Performing a Simple Full-Text Search", page 98.*

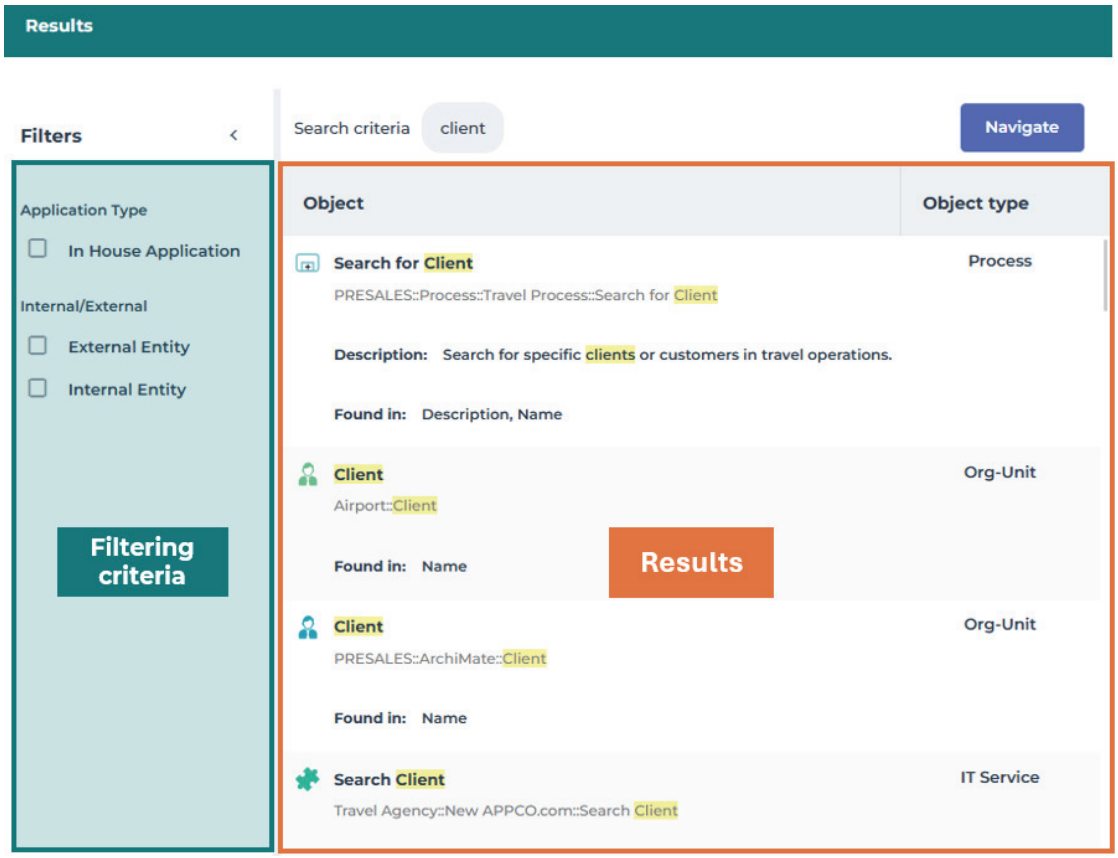
   `Example: searching for "client".`



2. Click **View all results** to display in details the results and access additional filters and features.

   ☛ *Alternative: press [Enter].*

   Results display in details in the Edit area.



3. [If needed] Apply the necessary filters to refine the list of your search results.

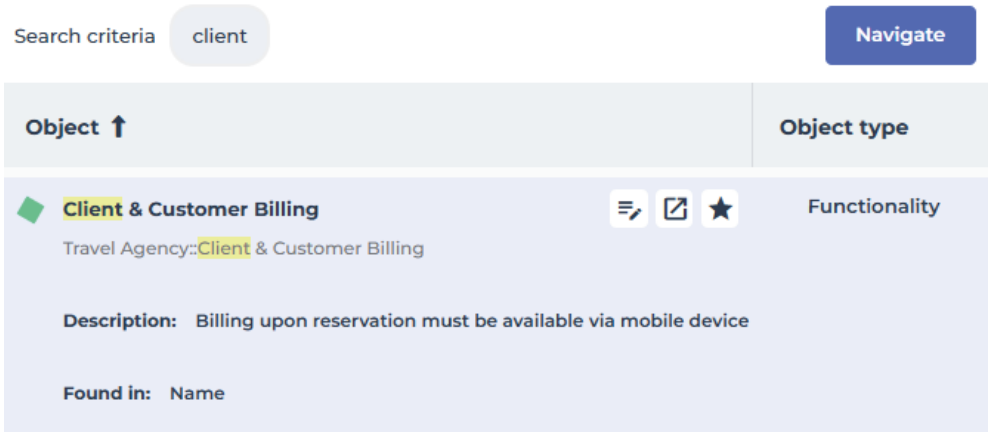
   ☛ *See "Filters", page 106.*

   Each full-text search detailed result shows:
   - long name
   - object **Description** [when applicable]
   - where the text entered was found (**Found in**)

     `E.g.: name, description.`

   in columns:
   - the **Object type**
   - the **Relevance** (not displayed by default, see "Defining the columns to display", page 75), taking into account how many times the text was found and the importance granted to the attribute concerned.

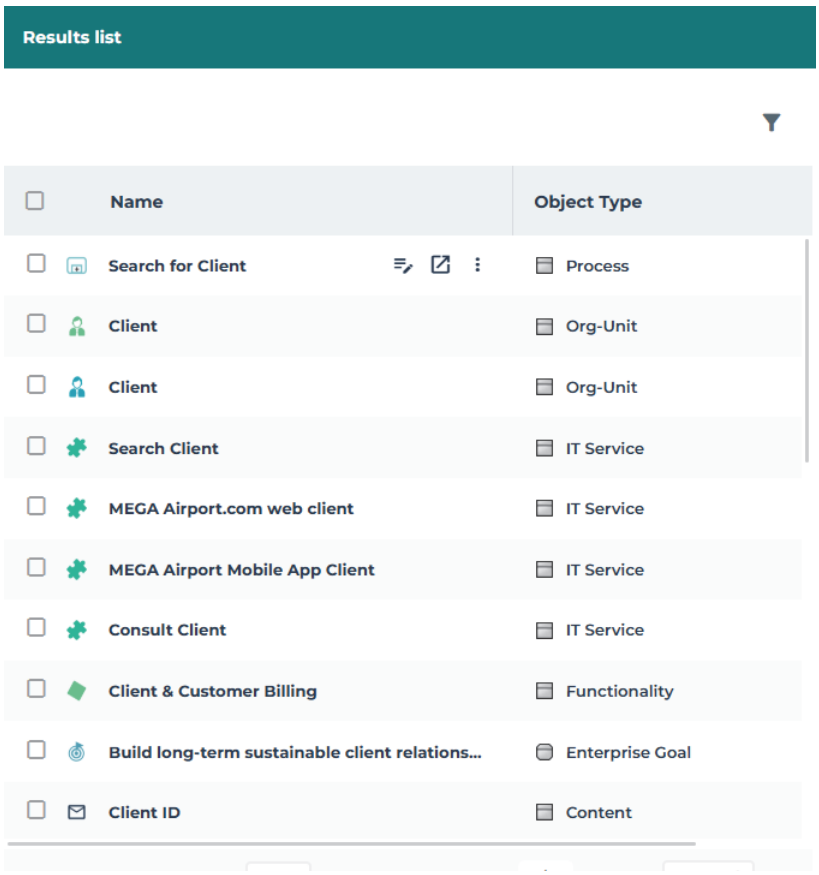
     `For example, the search for "management" string was found in the "Finance Management" object of type` **`Application`**`, in its` **`Name`**`, and` **`Description`**`.`



   You can display the object properties:
   - instead of the list of results: click the name of the object
   - to the right of the list of results: hover the cursor over the object and click **Properties**
   - in a new tab: hover the cursor over the object and click **Open in new tab**

4. [If needed] Click **Navigate** to display the search results as a list and access the actions available on objects in a list.

☛ *See "Actions on a List of Objects", page 83.*



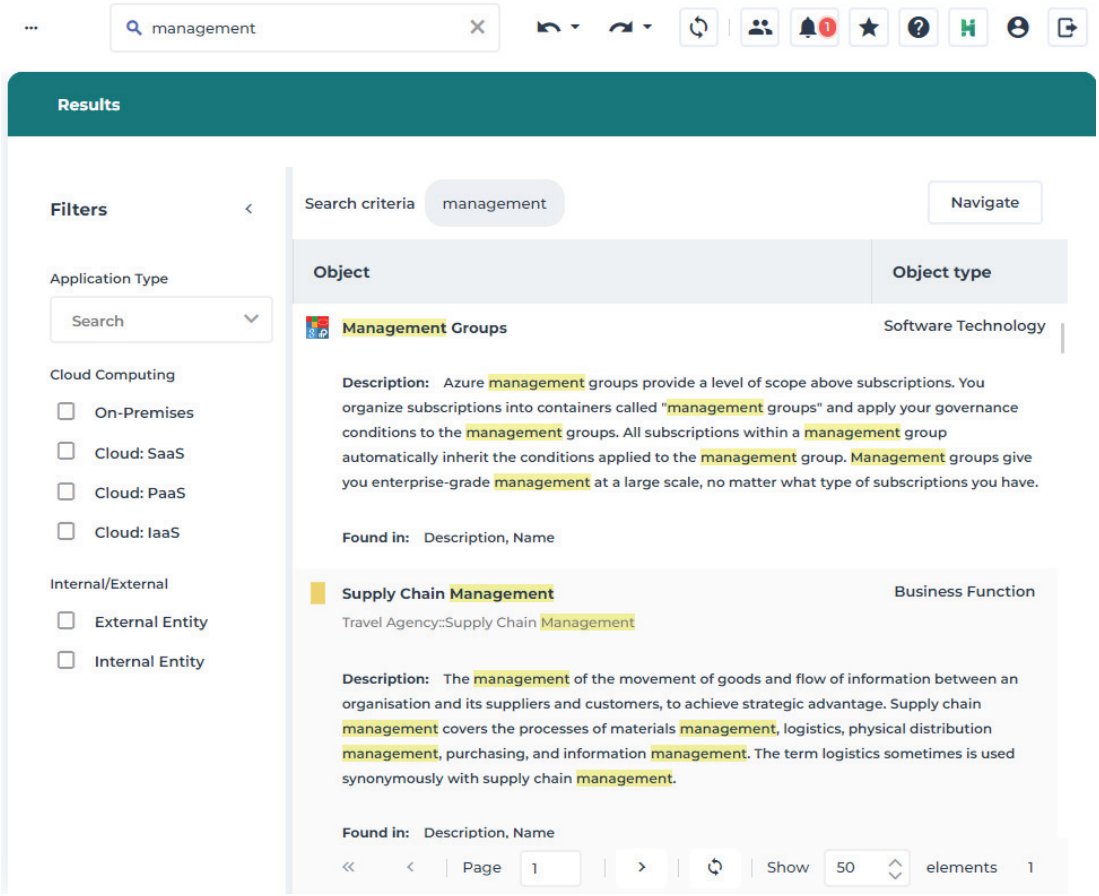
Filters

For each full-text search result, the **Filters** pane shows filters calculated dynamically according to the search result.

These filters are attributes of objects.

As soon as a filter value is selected, the other filter values are updated accordingly.

E.g.: the filters returned with a full text search on all the object types including "management".



☛ *Click **Collapse** to hide the filter pane.*

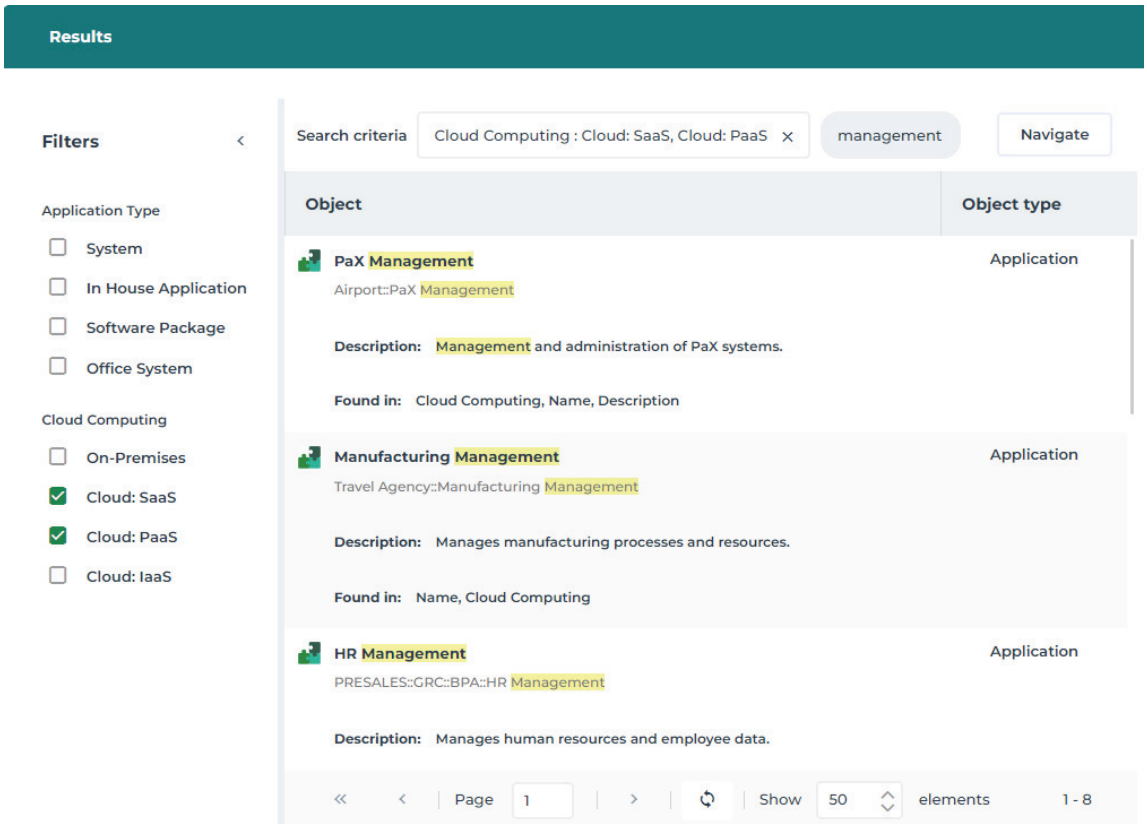
The search of results is performed according to the following rules:

- within the same filter type, the OR operator is applied

  Example:

  Search: "management"

  Filter **Cloud Computing:** "Cloud:SaaS" and "Cloud:PaaS"



- between filter types, the AND operator is applied

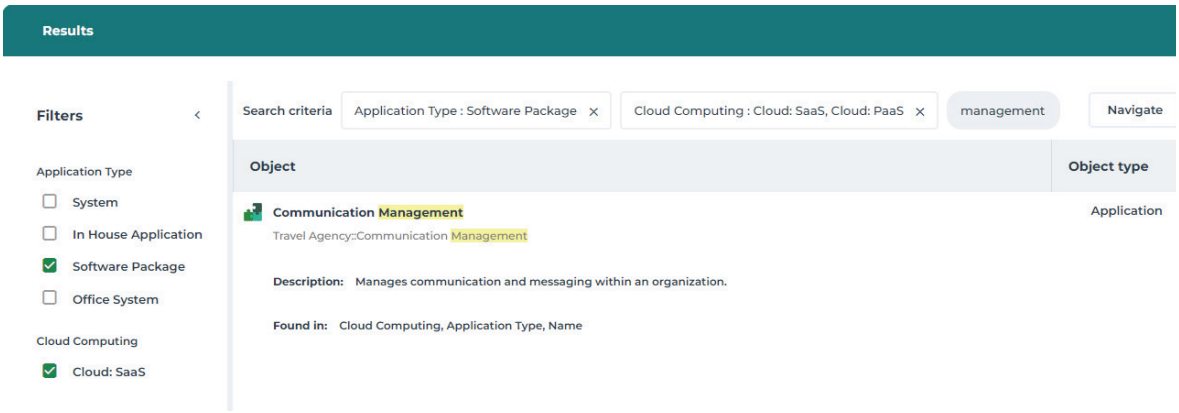
  Example:

  Search: "management"

  Filter 1 **Cloud Computing:** "Cloud:SaaS" and "Cloud:PaaS"

  Filter 2 **Application Type:** "Software Package" (the "Cloud:PaaS" value disappears from the **Cloud Computing**

filter as no application of “Software Package” Type is in “Cloud:Paas”)



ADVANCED SEARCH

With **Hopex** you can perform advanced searches on repository objects.

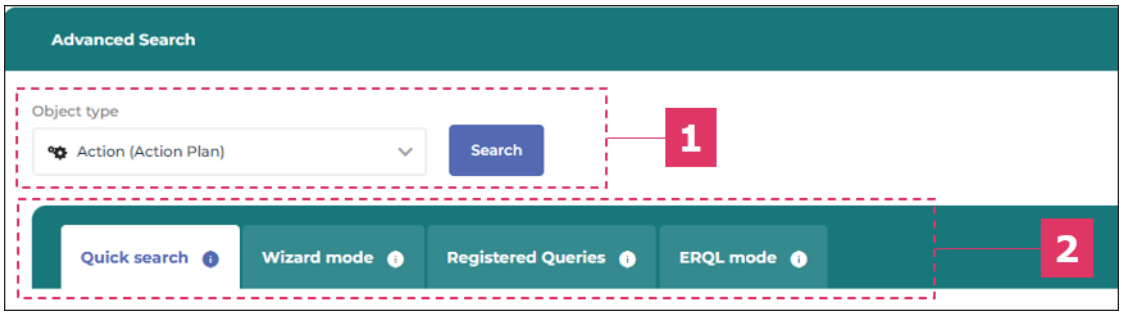
Advanced Search Tool Introduction

Advanced search tool description

☛ *To carry out searches in the form of queries, you must know the names of the object types handled, and be familiar with query syntax, see Hopex Power Studio - Customizing the Metamodel - Query Syntax.*

Advanced searches are carried out by means of queries. When you perform an advanced search, ***you need to select the object type first***. You can then set up your advanced search using:

- a quick search
  ☛ *See "Quick search", page 116.*
- a wizard
  ☛ *See "Quick search", page 116.*
- a registered query
  ☛ *See "Search with a Registered Query", page 119.*
- a query in ERQL language
  ☛ *See "Search in ERQL mode", page 120 and "ERQL Query Syntax".*



Accessing advanced search

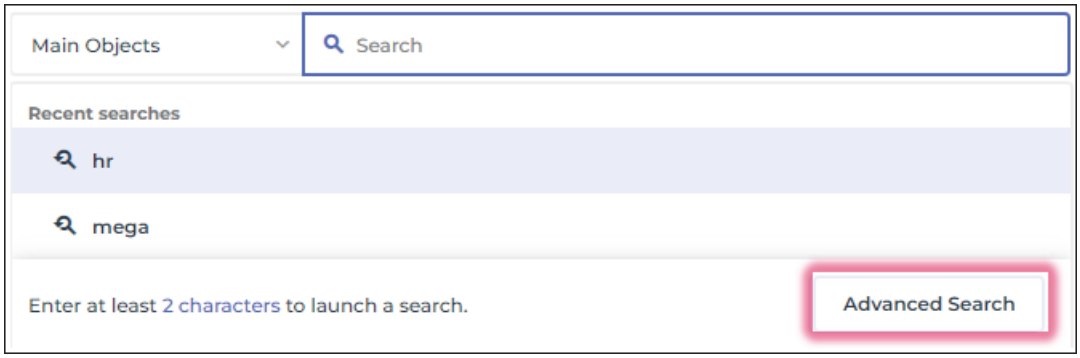
Access the advanced search tool from:

- the full-text search tool (see below)
- the main menu
  ☛ *See "Main menu", page 51.*

To access the advanced search:

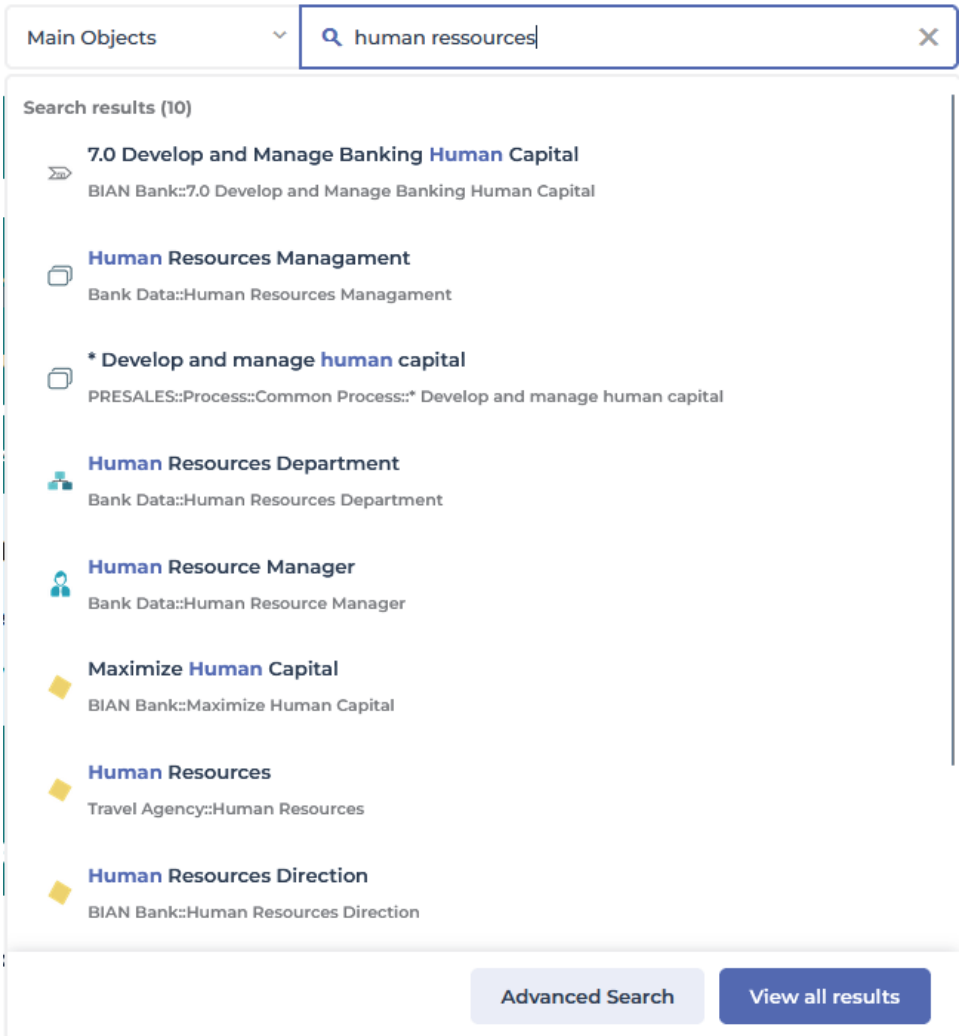
1. In your **Hopex** desktop toolbar, click in the **Search** field.

2. Click **Advanced search**.



3. The advanced search tool is displayed in the Edit area.

The advanced search is available when performing a full-text search as well. In this case, click **Advanced search** underneath your full-text search result list.



Advanced Search Options

In each Solution, the advanced search tool enables a search:

- restricted to business objects related to the profile used
- extended to all object types available
  This list takes the search options into account.

Depending on your expertise, you may need to extend your search:

- ***advanced user***:

  ☛ *By default, only **HOPEX Customizer**, **HOPEX Administrator** and **Functional Administrator of <Solution name>** profiles have access to the technical metamodel and administration attributes.*

  You can display the objects of the ***technical metamodel*** in the advanced search tool.

  ☛ *See "Displaying the technical metamodel", page 113.*

  You can display ***administration attributes*** and/or ***translation attributes*** in the advanced search tool.

  ☛ *See "Extending the advanced search to administration and/or translation attributes", page 114.*

- ***very advanced user***:
  In the advanced search tool, you can extend the search to all ***the metamodel***.

  ☛ *See "Expanding the advanced search to the abstract metamodel", page 113.*

Displaying the technical metamodel

For specific needs, an advanced user may need to access the technical metamodel in their search.

E.g.: the **Report Template** MetaClass is part of the technical metamodel.

To display the technical metamodel:

1. Access (user level) **Options**.

   ☛ *See "Accessing your options", page 68.*
2. In the **Options** tree, select **Repository > Metamodel**.
3. In the right pane, set the **Technical metamodel display** option to: "Yes".
4. For this modification to be taken into account in the search tools you must close and reopen **Hopex**.

Expanding the advanced search to the abstract metamodel

As an expert user, your can expand the advanced search to the abstract metamodel. For this, you must first modify your **Options** to expand the search results scope.

The abstract metamodel encompasses all objects types, i.e.:

- contextualization objects

  E.g.: Participant, Flow, Application Component.

- abstract objects

  ☛ *Abstract objects bear the prefix [A] and are listed subsequent to the concrete objects in the IntelliSense tool.*

  Abstract objects are prefixed with the / character and are first listed in the IntelliSense tool.

Activating the View abstract MetaClasses option

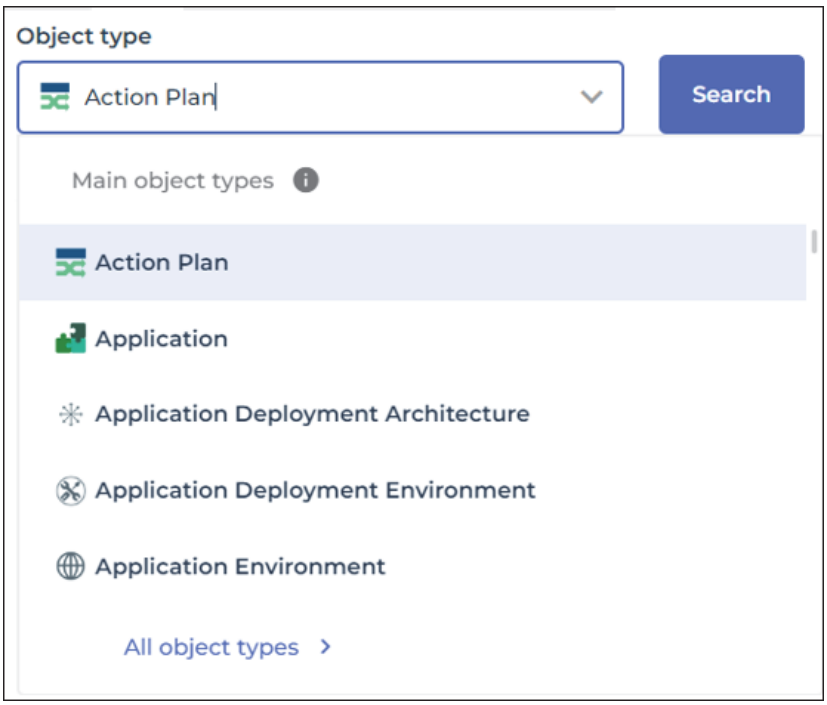
To show the abstract metamodel objects in the results of an advanced search:

1. Access your **Options**.
   ☛ *See "Accessing your options", page 68.*
2. Select **Repository** > **Metamodel**.
3. Activate the **View abstract MetaClasses** option.
4. Click **OK**.
   The abstract metamodel objects are now available in the advanced search tool.

Extending the search results to the abstract metamodel

To extend the scope of your search results to the abstract metamodel:

1. In your **Hopex** desktop, access the advanced search.
   ☛ *See "Accessing advanced search", page 110.*
2. In the object type selection drop-down menu, click **All object types**.
   The search expands to all object types available in your repository.



3. To get back to the main object types list, click **Main object types**.
   ☛ *The last option selected becomes the default option.*

Extending the advanced search to administration and/or translation attributes

When you run your search using the ***Wizard,*** to ease readability, by default, the administration and translation attributes are not available.

To extend the scope of the search to administration and/or translation attributes:

1. Access the advanced search in **Wizard mode**.

   ☛ *See "Accessing advanced search", page 110.*

2. In the search wizard toolbar, click **Display** .
3. Select the object properties that you want to add to your search:
   - **See administration properties**

     ☛ *Is only available if the **Display repository administration properties and links** (**Options > Repository > Metamodel**) is activated.*

     `Eg.: creator, creation date`
   - **See translation properties**

     ☛ *Is only available if the **Display Translation page** option is selected (**Options > Installation > Languages**).*

     `Eg.: in addition to the "Comment" attribute, you can also access comments in the other languages available, "comment (English)" and "comment (German)" for example.`

   The list of object attributes of the advanced search tool in wizard mode refreshes according to your selection.

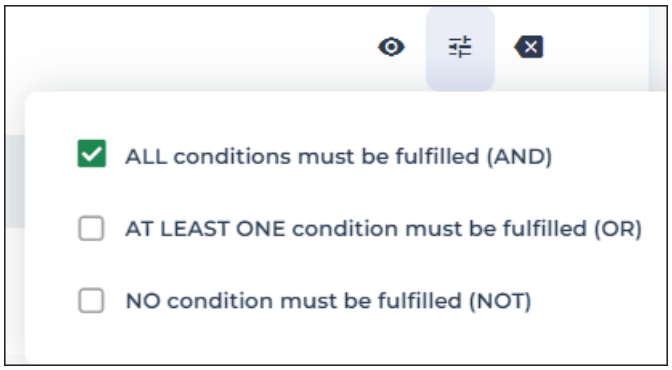
   ☛ *The last option selected becomes the default option.*

Defining the condition combination rules

When running an advanced search in ***Wizard mode***, by default, all the conditions that you define must be fulfilled.

If needed, you can change the condition combination rule:

- ALL conditions must be fulfilled (AND) (by default)
- AT LEAST ONE condition must be fulfilled (OR)
- NO condition must be fulfilled (NOT)



To define the condition combination rule:

1. Access the advanced search in **Wizard mode**.

   ☛ *See "Accessing advanced search", page 110.*

2. In the search wizard toolbar, click **Condition Combination Rule** .

3. Select the rule that you want.

   E.g.: Select "NO condition must be fulfilled" to search all objects that do not meet the conditions you defined.

   ☛ *The last option selected becomes the default option.*

Using the NearMatch search

You can perform "NearMatch" searches when using the advanced search tool:

- ***Fuzzy searching***
  Fuzzy searching enables to find a potentially misspelled word. It is useful to bypass typographical errors.

  E.g.: searching for "manage" will show results with "monage".

  You can adjust the level of fuzziness from 1 to 10. The higher the level, the higher the tolerance for differences and the more these differences can occur at the beginning of the word. The default value is 4. The length of the word to search must be greater than this value.

  ☛ *To modify the fuzziness tolerance level: in **Options > Tools > Query**, modify the value for **NearMatch approximation level**.*

- ***Phonic searching***
  The phonic search feature looks for a word that sounds like the one you are searching for and starts with the same letter.

  E.g.: searching for "seftwere" returns results with "software", "braquedone" returns results with "breakdown", "clems" returns results with "claims".

- ***Stemming***
  Stemming expands the research to cover the grammatical changes of a word.

  E.g.: a search on "manage" will return results containing: "manage", "manager", "management".

You can resort to the NearMatch feature only when your repository is indexed. As the indexing runs every 10 minutes by default, you may have to wait for up to 10 minutes to obtain exhaustive results.

☛

☛ *To activate and customize a repository indexing, see the administrator guide > Handling repositories > Enabling and Customizing Repository Indexing.*

Quick search

In the Advanced Search, the Quick search mode enables to perform a search on an object type based on a character string contained in the **Name** or **Comment** of the object.

To carry out a quick search:

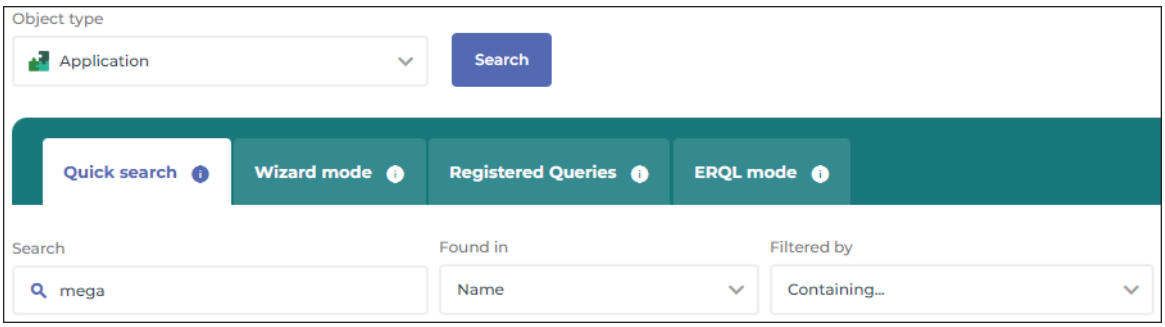
1. Access advanced search.

   ☛ *See "Accessing advanced search", page 110.*

   The **Advanced Search** page displays in the edit area.
2. Using the drop-down menu, select the object type over which you want to run your search.
3. In the **Quick search** pane, enter the appropriate characters in the **Find object** field.
4. In the **Found in** field, select the object **Name** or **Description containing**.
5. In the **Filtered by** field, select the value of your choice:
   - beginning exactly with,
   - containing (if the repository is indexed)
   - containing exactly, or
   - ending exactly with a given character string

   `Default values: "Name" and "Beginning exactly with"`
6. Click **Find**.
   The result list is displayed.

   `For example: search for applications whose Name contains the "mega" character string.`



Search in Wizard mode

With **Wizard Mode**, you can run more detailed searches. Details can relate to:

- object attributes and/or
- object properties

☛ *See also "Extending the advanced search to administration and/or translation attributes", page 114 and "Defining the condition combination rules", page 115.*

To perform an advanced search with the search wizard:

1. Access advanced search.

   ☛ *See "Accessing advanced search", page 110.*

   The **Advanced Search** page displays in the edit area.

2. In the drop-down menu, select the object type on which you want to perform your search.

   ☺ *If needed, enter the first characters of the object type.*

   ☛ *To extend or restrict the list of object types searched, see "Advanced Search Options", page 112.*

3. Click the **Wizard mode** tab.
   The lists of **Attributes**, **Links** and **Links by type** are automatically generated based on the selected object type.

4. (Optional) In the **Attributes** tab, specify the operator and value defining the attribute to which the search relates:

   ☛ *To display the administration or translation properties, see "Extending the advanced search to administration and/or translation attributes", page 114.*

   - Click in the **Operator** field of the attribute to which the search relates and select the required operator.

     `E.g.: "="`

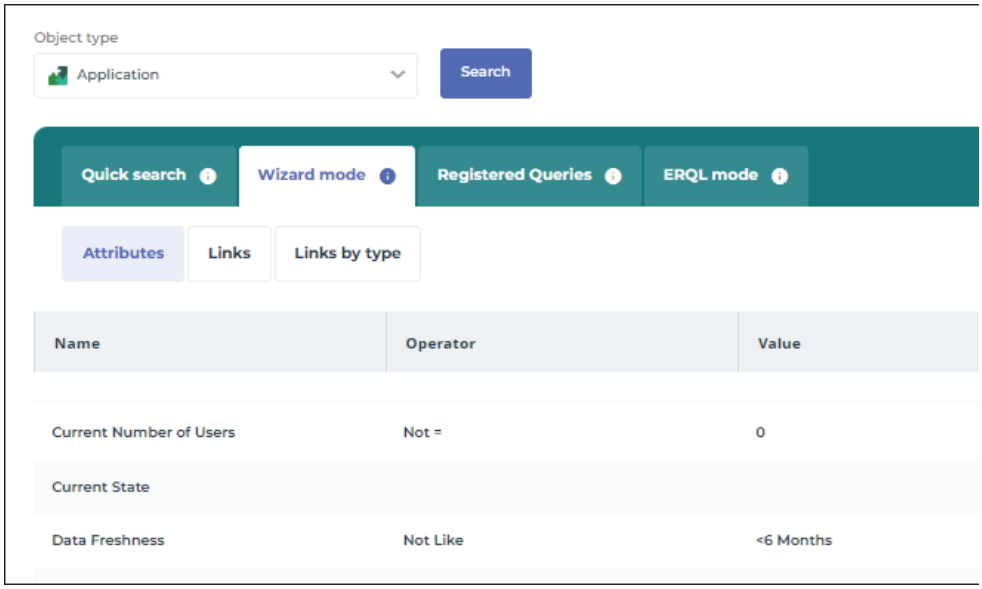
     ☛ *Operators in the drop-down list come directly from **Hopex**, see "List of Query Operators".*

     ☛ *Note the differences with:*

     the "Like" operator, the result contains the specified value,
     the "=" operator, the result is exactly the specified value,
     the "NearMatch" operator, the result contains a near match value.

   - Click in the **Value** field of the attribute and find, select one of the proposed values, or enter the string to search for.

     `E.g.: the technical efficiency and validation status of an Application`



☛ *Repeat this step 4 for each attribute to search for.*

5. To include link conditions in your search:
   - Click the **Link** tab (listed in alphabetical order) or **Links by Type** tab (listed by type of link).
   - As with step 4, enter the **Operator** and the **Value** defining the attribute to which the search relates.

     ☛ *Repeat this step 5 for each link to search for.*

     ☛ *By default, all conditions must be met. To modify the combination rules for search conditions, see "Defining the condition combination rules", page 115.*
6. Click **Search** to run the search.
   The result list is displayed.

   ☛ *To reset all search criteria, click **Remove all query criteria** .*

   ☛ *You can export the list to an Excel format, see "Actions on a List of Objects", page 83*

   ☛

   ☛ *You can launch an instant report from the list, see Common Features: Launching an instant report from a list.*

Search with a Registered Query

You can perform a search based on registered queries linked to an object, and run the query. **Registered Queries** mode facilitates access to queries by target object type and update.

Queries are sorted by type:

- ***internal query*** (by default in the Studio desktop): query used for technical parameterization (e.g.: descriptors, Report DataSets, report templates (MS Word), matrices)
- ***end-user query*** (by default in Solutions): query intended for end-users

  ☛ *To make a query entered in ERQL mode available in the list of registered queries, see "Saving an ERQL query", page 124.*

To perform an advanced search from a registered query:

1. Access advanced search.

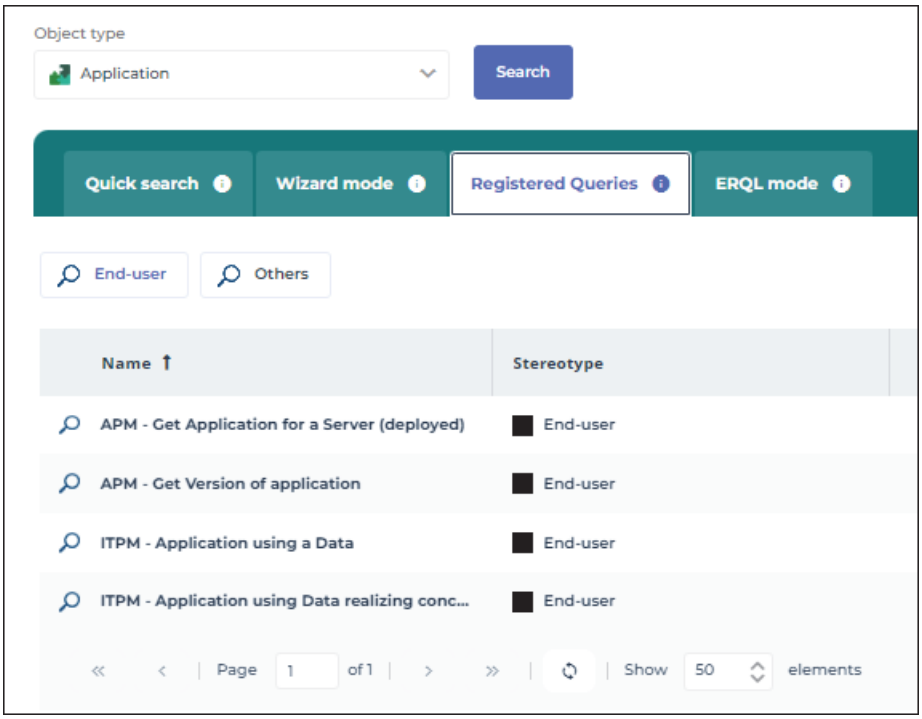
   ☛ *See "Accessing advanced search", page 110.*

   The **Advanced Search** page displays in the edit area.
2. In the drop-down menu, select the object type on which you want to perform your search.

   ☛ *If needed, enter the first characters of the object type.*

   ☛ *To extend or restrict the list of object types searched, see "Advanced Search Options", page 112.*
3. Click the **Registered Queries** tab.
   The list of registered queries relating to the selected object appears.

4. Select **End-user** or **Others**.



5. Select the query you are interested in.

   ☛ *The query code selected appears under the pages that list the queries.*

6. Click **Search** to run the query.
7. (If necessary) enter the required parameters.
   The result list is displayed.

   ☛ *You can export the list in Excel format*

   ☛

   ☛ *You can launch an instant report from the list, see Common Features: Launching an instant report from a list.*

   ☛ *To return to your search, in the breadcrumb trail, click **Advanced Search**.*

   ☛ *To reset all search criteria, click **Remove all query criteria** .*

Search in ERQL mode

An ERQL query enables to search for elements in the repository. Its syntax is based on a **Select**, followed by the searched element, to which a condition is applied.

Example:

Select Org-Unit **Where** Name **like**"#agent#"

This query enables to find org-units whose name contains agent.

The ERQL query syntax and conditions are detailed in the Hopex Power Studio - Customizing the Metamodel - Query Syntax documentaton.

Performing an advanced search in ERQL mode

To perform an advanced search in ERQL mode:

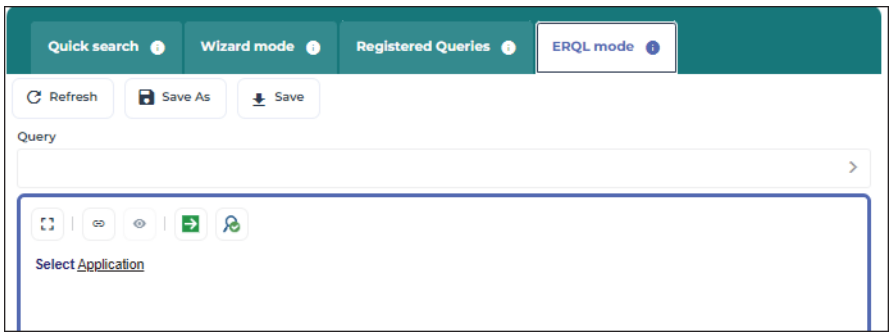
1. Access advanced search.

   ☛ *See "Accessing advanced search", page 110.*

   The **Advanced Search** page displays in the edit area.
2. In the drop-down menu, select the object type on which you want to perform your search.

   ☛ *If needed, enter the first characters of the object type.*

   ☛ *To extend or restrict the list of object types searched, see "Advanced Search Options", page 112.*
3. Click the **ERQL mode** pane.
   The list of registered queries relating to the selected object appears.



4. Enter your query meeting the ERQL query conditions and syntax.

   ☛ *See Hopex Power Studio - ERQL Query Syntax.*

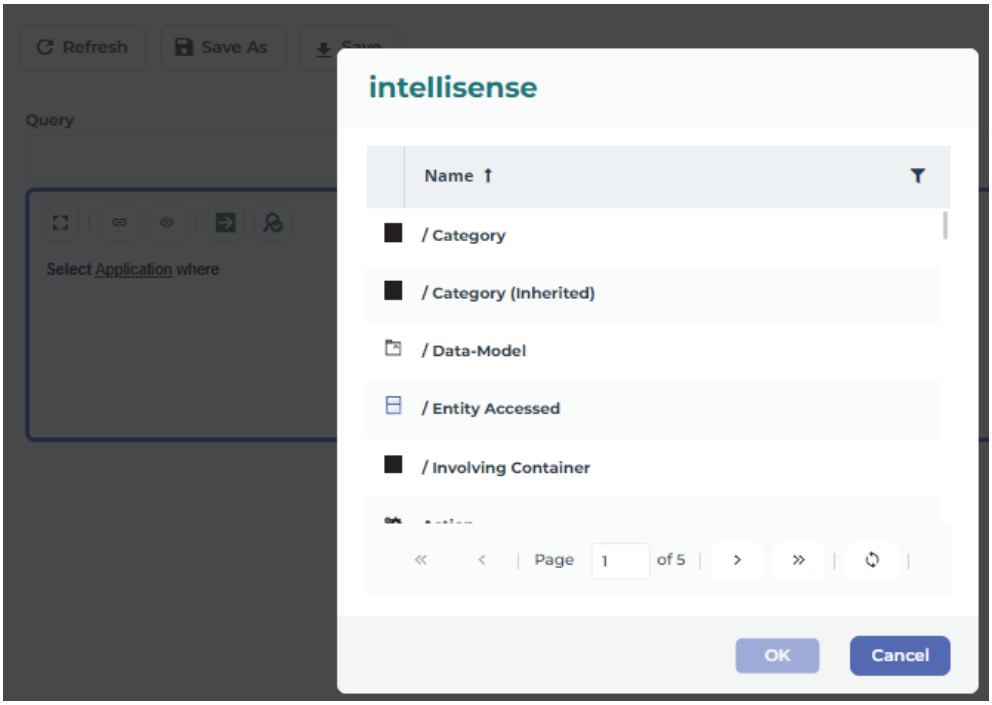
   You can use the **IntelliSense** feature to help you enter your query:

   - Press <Ctrl> + <Space> to display the list of eligible elements.

     ☛ *To extend/restrict the eligible elements displayed in the list, see "Expanding the advanced search to the abstract metamodel", page 113.*

   - Select an element to complete your query.

     ☛ *The calculated links are prefixed with the character / and appear first in the Intellisense tool.*



5. (Optional) Click **Analyze** to test the syntax of your request.

   ☛ *To save your query, click **Save As**, see "Saving an ERQL query", page 124.*

6. Click **Process** to run the search.
   The result list is displayed.
7. Select the object you want to consult.

   ☛ *You can export the list in Excel format*

   ☛ *You can launch an instant report from the list, see Common Features: Launching an instant report from a list.*

   ☛ *To return to your search, in the breadcrumb trail, click **Advanced Search**. If needed, you can modify it.*

Performing an advanced search in ERQL Mode with the wizard mode

To simplify data entry, you can build a query from the wizard mode.

To perform an advanced search in ERQL Mode with the help of the wizard mode:

1. Access advanced search.

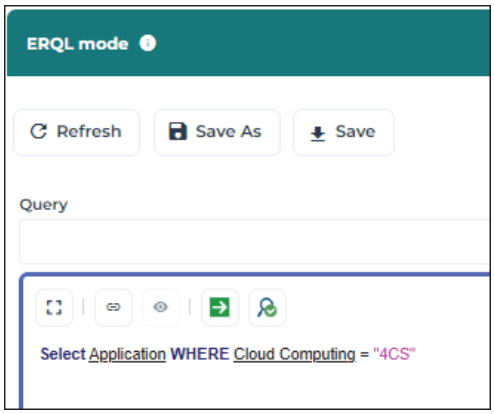
   ☛ *See "Accessing advanced search", page 110.*

   The **Advanced Search** page displays in the edit area.
2. In the drop-down menu, select the object type on which you want to perform your search.

   ☛ *If needed, enter the first characters of the object type.*

   ☛ *To extend or restrict the list of object types searched, see "Advanced Search Options", page 112.*
3. In the **Wizard Mode** pane, select the search parameters.

   ☛ *See "Quick search", page 116.*
4. When you have selected your parameters, select the **ERQL mode** pane.
5. In the command bar of the **ERQL mode** pane, click **Refresh**.
   The syntax of the query appears.

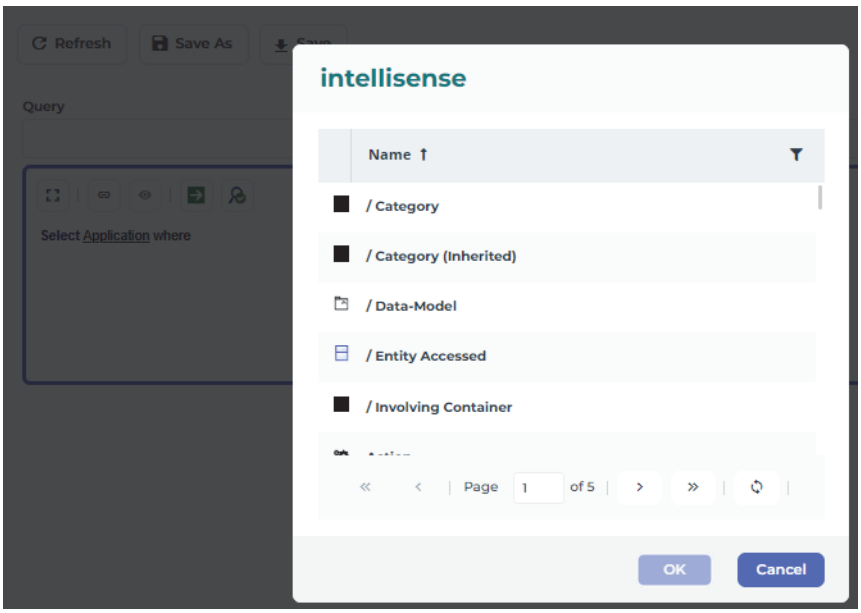


6. Complete the syntax.
   You can use the Intellisense feature to complete your code:
   - Press <Ctrl> + <Space> to display the list of eligible elements.

     ☛ *To extend/restrict the object types displayed in the list, see "Expanding the advanced search to the abstract metamodel", page 113.*
   - Select an element type to complete your code.

     ☛ *Abstract objects are prefixed with [A] and are listed after the concrete objects in the Intellisense tool.*

     Abstract objects are prefixed with the / character and are first listed in the Intellisense tool.



7. (Optional) Click **Analyze** to test the syntax of your request.

   ☛ *To save your query, click **Save As**, see "Saving an ERQL query", page 124.*

8. Click **Process** to run the search.
   The result list is displayed.

   ☛ *You can export the list in Excel format*

   ☛ *You can launch an instant report from the list, see Common Features: Launching an instant report from a list.*

   ☛ *To return to your search, in the breadcrumb trail, click **Advanced Search**. If needed, you can modify it.*

Saving an ERQL query

You can save an ERQL query to make it available in the registered queries.

To save an ERQL query:

1. Define your ERQL query.

   ☛ *See "Search in ERQL mode", page 120.*

2. Click **Save As**.

3. In the **Name** field, enter a name for your query.
4. In the **Stereotype** field, select the query type.

   ☛ *See "Queries are sorted by type:", page 119.*

5. Click **Next** to reread the code of your query.
6. Click **OK**.
   Your query is available in the **Registered Queries** pane of the **Advanced search**.

Diagrams

DIAGRAM CREATION AND EDITION

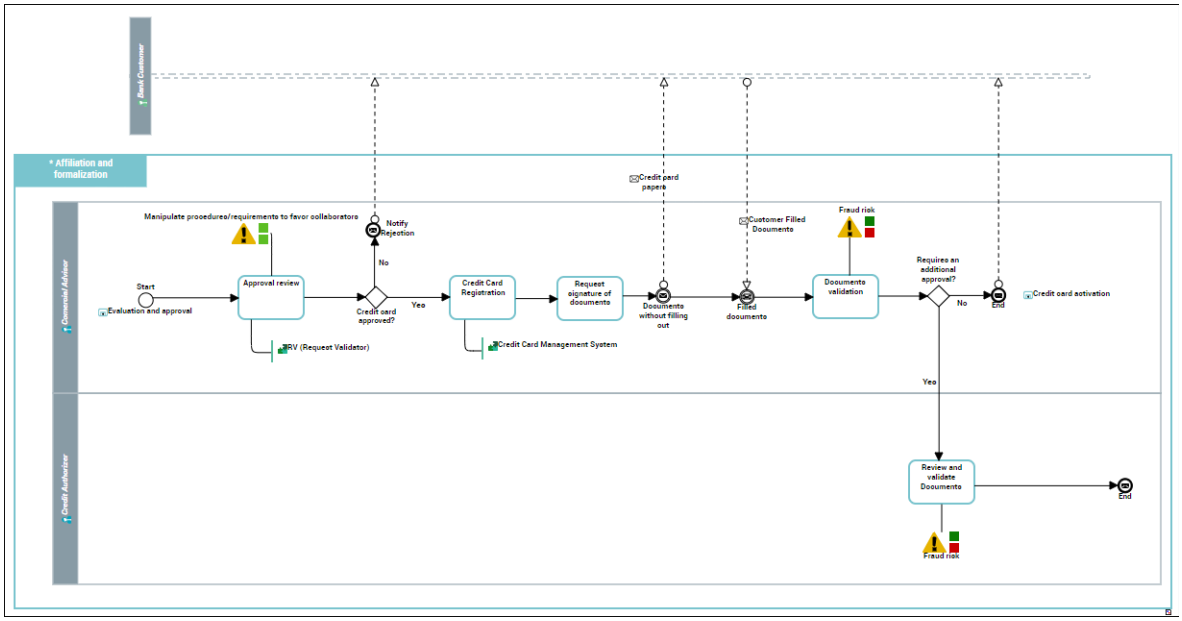
In this chapter, the following subjects are addressed:

- ✓ Introduction to Diagrams
  *General information about diagrams in **Hopex***
- ✓ Diagram Creation
  How to create model-based diagrams
- ✓ Handling Diagrams
  How to master the opening mode of a diagram
- ✓ Editing Diagrams
  All information related to the modification of diagrams
- ✓ Diagrams in Tabular Entry Mode
  *Handling and specificities of tabular mode diagrams in **Hopex***
- ✓ Sketches
  *Handling and specificities of sketching diagrams in **Hopex***

INTRODUCTION TO DIAGRAMS

A diagram describes an object of the repository.

Example:



This topic helps you make the most of all available diagram types.

To create an object, you can create:

- ***Standardized*** diagrams (based on models)

  ☛ *See Diagram Creation.*

  You can design or edit those diagrams:

  - using the diagram editor

    ☛ *See Editing Diagrams.*

  - in tabular mode

    ☛ *See Diagrams in Tabular Entry Mode.*

- ***Sketching*** diagrams (free style)

  ☛ *See Sketches.*

You can display the diagrams relating to an object:

- the diagrams describing the object
- the diagrams containing the object.

  ☛ *See Handling Diagrams.*

DIAGRAM CREATION

To create a diagram, you must initialize the diagram from the object you wish to describe. You can perform this action from:

- the object property pages
- the object in a list
- the object in a tree

You can then design the diagram:

- insert objects

  ☛ *See Objects in a Diagram.*

- insert shapes

  ☛ *See Graphic Elements.*

- insert text

  ☛ *See Texts in a Diagram.*

- organize objects and shapes

  ☛ *See Element Handling.*

To delete a diagram, see Deleting a Diagram

Creating a Diagram (property pages)

💣 **Certain types of diagram can only be created once per object (e.g.: one single process diagram can be created from a process).**

☛ *To customize the diagram types configuration, see Configuring Diagrams.*

To create a diagram from an object properties:

1. Access the object properties.

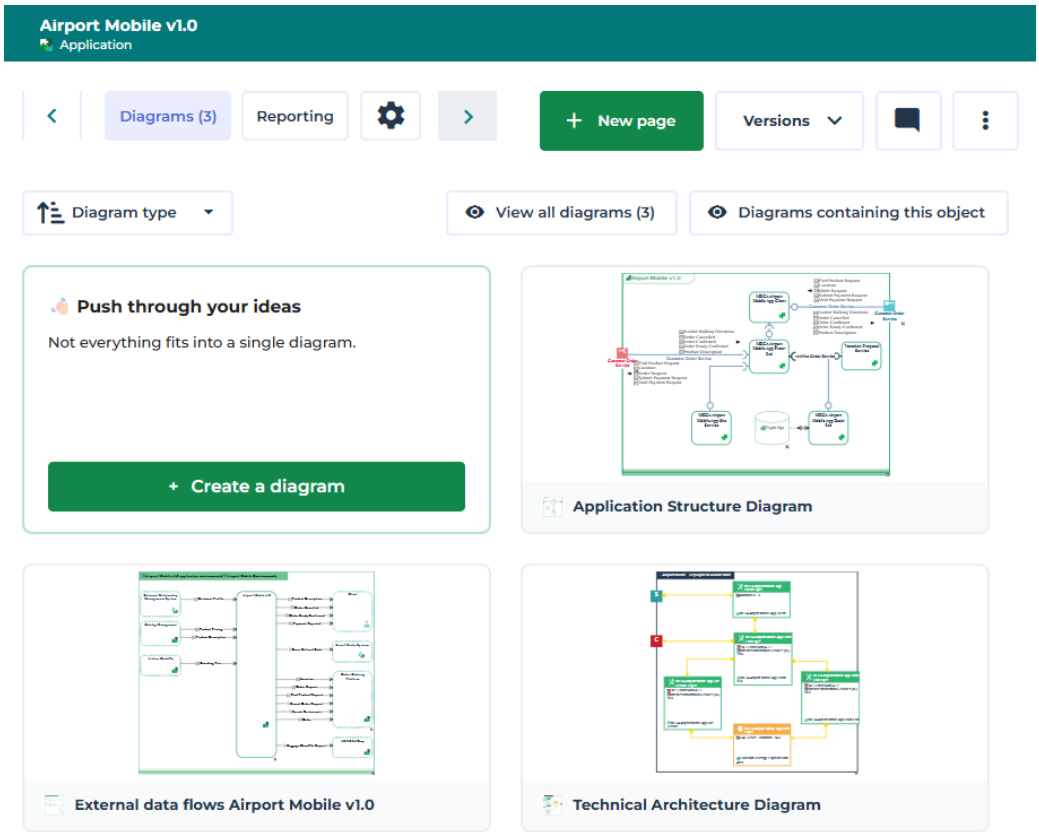
   ☛ *See Accessing Object Properties.*

2. Display its **Diagrams** page.
The number of diagrams already created for the object is specified at the page name level.

```
Example: here we have 3 diagrams
```

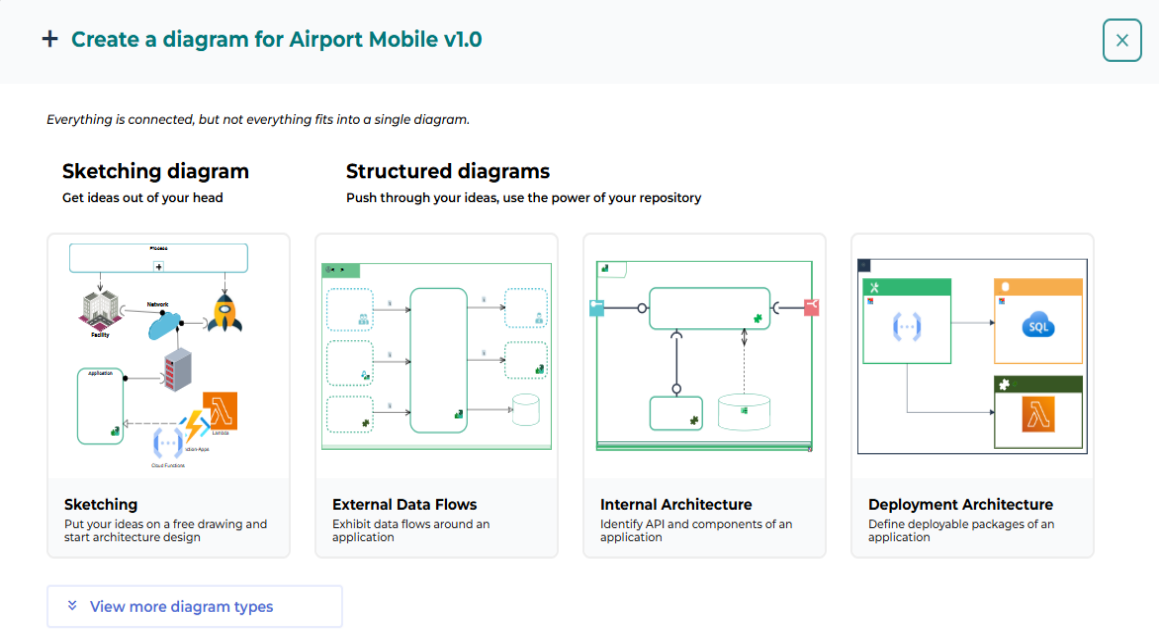
The diagrams which describe the object are displayed in the form of tiles.

```
Example: here the object is described by 3 types of diagrams.
```



3. Click the **Create a diagram** tile.
   The creation wizard opens. It presents the diagram types (**Structured diagram**) available for the object.

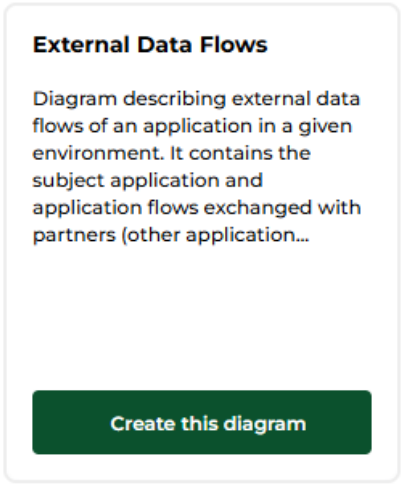
   ☛ *To create a **Sketch**, see Drawing a Sketch with Hopex.*



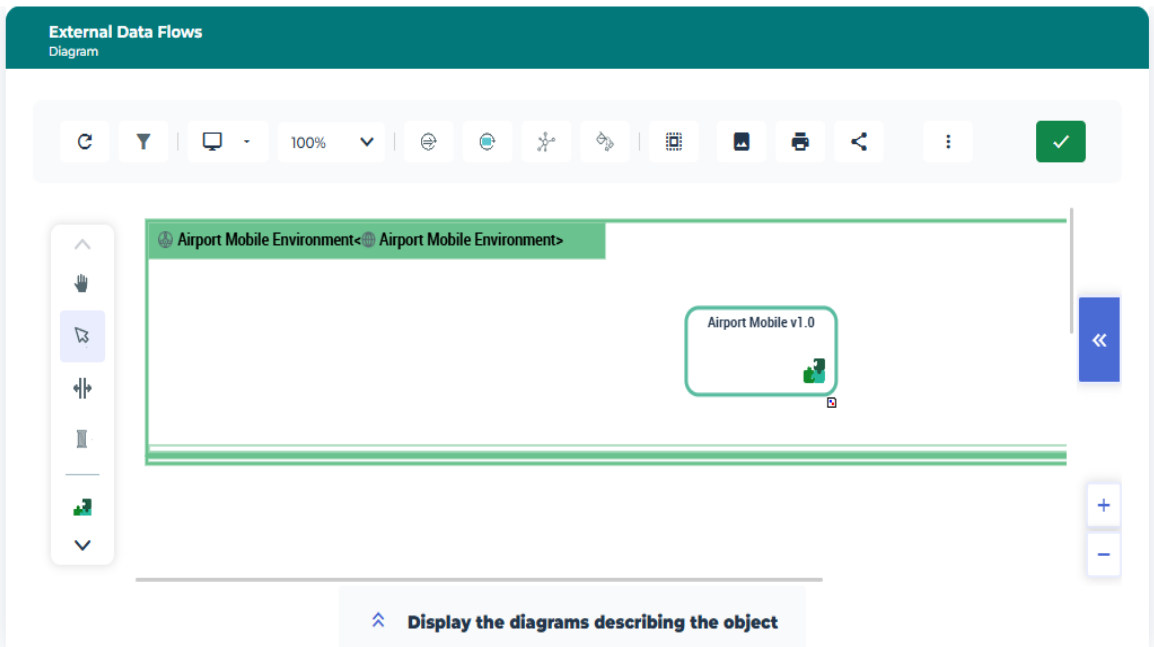
☺ *Hover the cursor over the tiles for more details on the specificities of the diagram type in question.*

☛ *If needed, click **View more diagram types**.*

4. Hover the mouse over the tile corresponding to the type of diagram you wish to design and click **Create this diagram**.



You diagram is initialized and opens in edit mode.



Creating a Diagram (list)

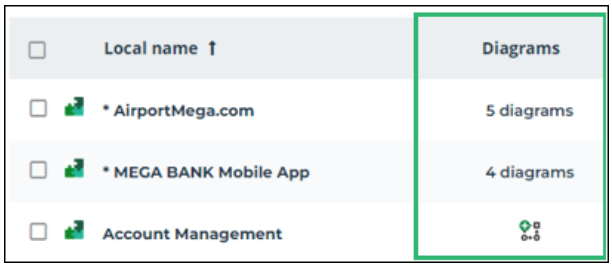
In most of the Solutions, object lists contain a **Diagrams** column. It facilitates the access to an object diagrams or to the creation of a diagram.

To create a diagram from a list:

1. Access a list of objects.

   `Example: go to a list of applications through a homepage indicator.`
2. In the **Diagrams** column, click the number of existing diagrams.
3. Click the **Create a diagram** tile.
4. Go on as indicated here: Click the Create a diagram tile.

   ☛ *If the object is not yet described by a diagram, the **Create a diagram** icon appears directly in the column. Click this icon to launch the creation wizard.*



Creating a Diagram (tree)

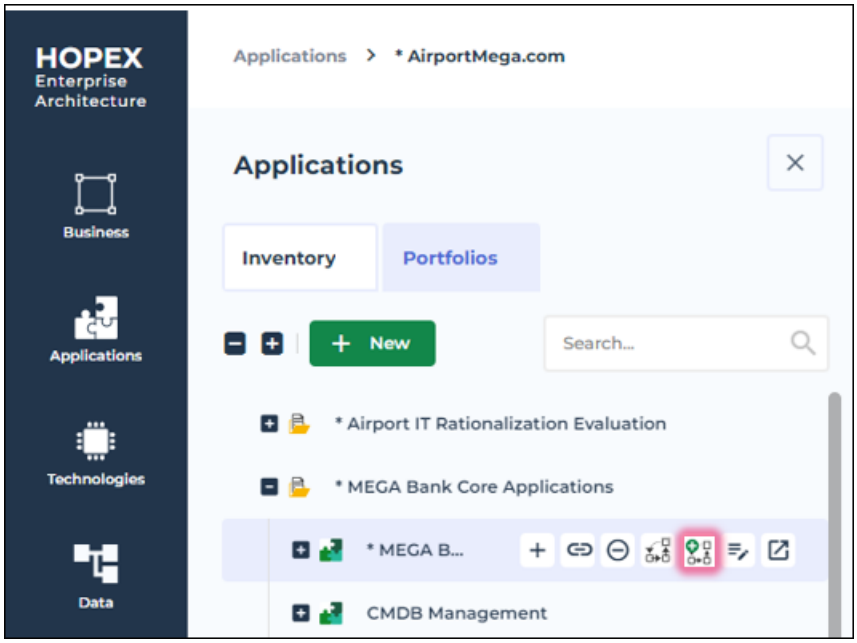
Trees can contain icons representing a shortcut to the creation of a diagram. These icons appear when hovering the cursor over the object name.

To create a diagram from a tree:

1. Access a tree of objects.

   `E.g.: a tree of applications in the Browsing area.`
2. Hover the cursor over the object name.

3. Click **Create a diagram** .



4. Go on as indicated here: Click the Create a diagram tile.

HANDLING DIAGRAMS

See:

- Accessing an Object Diagrams
- Opening a Diagram
- Adding a Diagram to the Favorites
- Navigating through a Diagram in Edit or View Mode
- Deleting a Diagram

Accessing an Object Diagrams

You can access the diagrams of an object from:

- the object property pages
- a list
- a tree

Accessing the diagrams of an object (property pages)

From the object properties, the **Diagrams** page enables you to access the diagrams:

- describing the object
- containing the object

You can navigate between diagrams and switch to edit mode if needed.

> ☛ *To view a hierarchy of diagrams within a single diagram, see Displaying Diagram Thumbnail in a Diagram.*

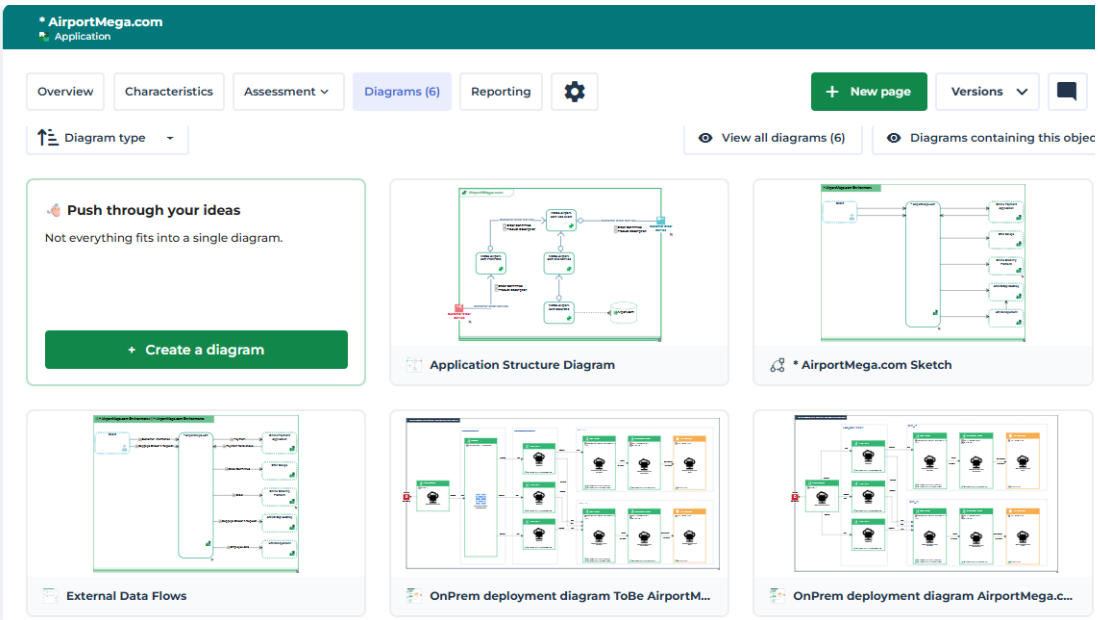
To access the diagrams of an object from its property pages:

1. Access the property pages of the object.

> ☛ *See Accessing Object Properties.*

2. Display its **Diagrams** page.
   The list of diagrams which describe the object appears in the form of tiles.
   Diagrams are by default sorted by type of diagram, by alphabetical order.

   ☛ *See Modifying the display order of diagrams.*



3. You can:
   - open the diagram of your choice (in edit or view mode)

     ☛ *See Opening a diagram describing the object.*

     ☺ *If the diagram list is long, click **View all diagrams** to access the advanced filtering tool. See Filtering the list of diagrams.*
   - access the diagrams which contain the object: click **Diagrams containing this object**, then select the diagram from the list.

     ☛ *See Opening a diagram containing the object.*

Accessing an object diagrams (list)

From a list, you can access the diagrams:

- describing the object
- containing the object

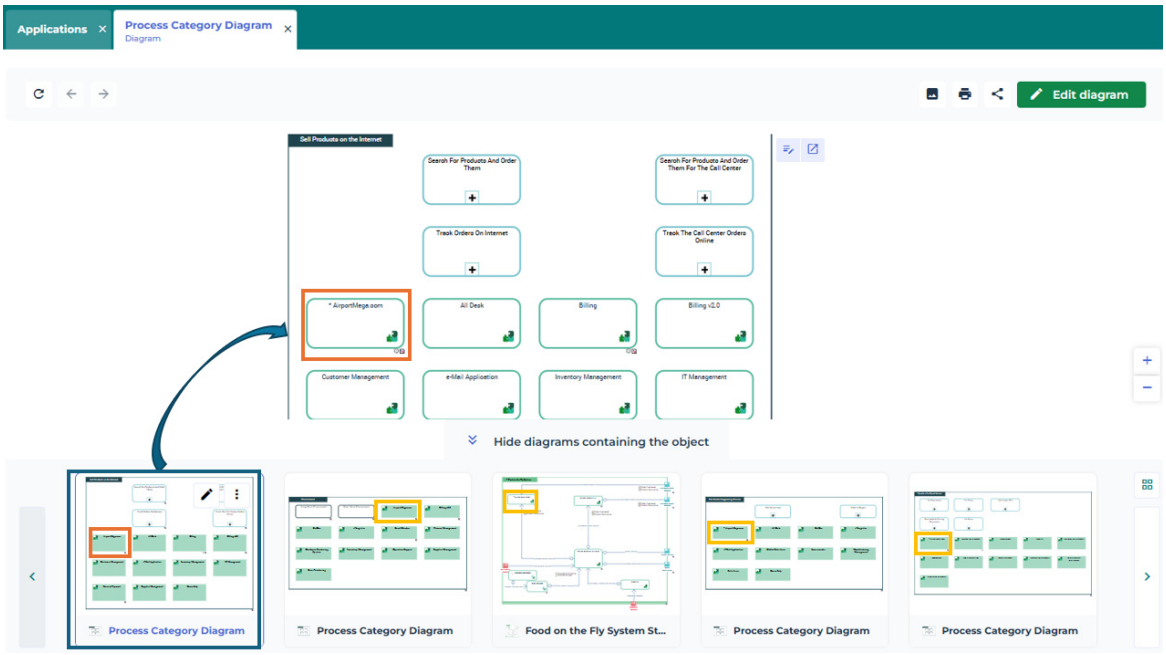
To access object diagrams from a list:

1. In the list, go to the line corresponding to the object.

   ☺ *To facilitate the access, you can use the list filtering tool.*

2. In the **Diagrams** column, click the number of corresponding diagrams.
   If the object contains:
   - one diagram only, it is displayed in view mode.
   - several diagrams, you are redirected to the object **Diagrams** property page.

     ☛ *See Accessing the diagrams of an object (property pages).*
3. To access directly the diagrams which contain the object: in the **Local name** column, hover the cursor over the object name and select **More** ⋮ > **Diagrams containing the object** ⬆.
   The diagrams containing the object display in another tab. You can click another tile in the bottom scrolling bar to display another diagram.



Accessing an object diagrams (tree)

From a tree, you can access the diagrams:

- describing the object
- containing the object

To access object diagrams from a list:

1. In the tree, access the object.

   ☺ *To facilitate the access, you can use the filter tool of the tree.*

2. Hover the cursor over the object and click **View Diagrams** .

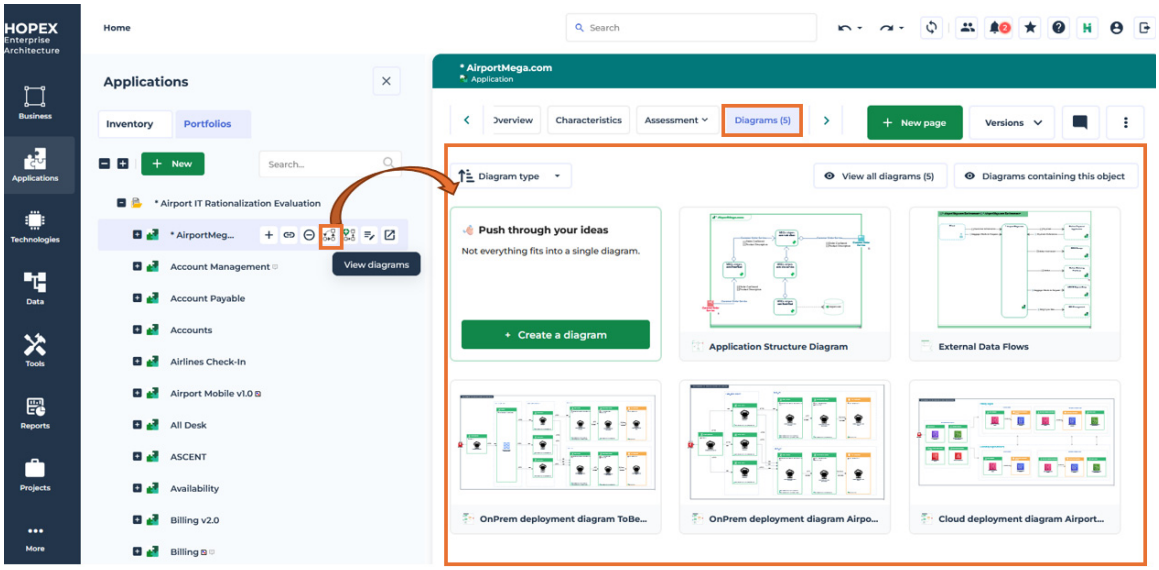
☺ *The name of the object described by a diagram is followed by the icon.*

The **Diagrams** property pages of the object appear in the form of tiles.

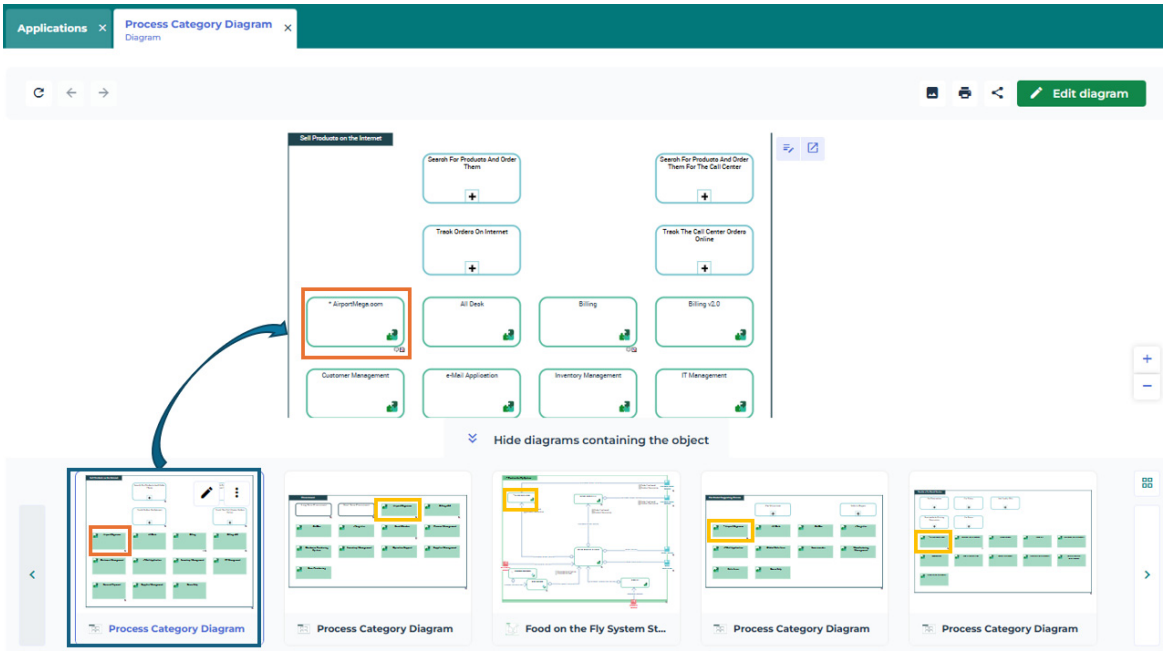
- in place of the tree, if you are in the Edit area.
- to the right of the tree, if you are in the Browse area.

☺ *When you switch to edit mode, you can drag-and-drop objects from the tree into the diagram. See Open a diagram in edit mode.*

☛ *See Accessing the diagrams of an object (property pages).*



3. (Tree in Edit area) To access directly the diagrams which contain the object: hover the cursor over the object name and select **More** > **Diagrams containing the object** .
The diagrams containing the object display in another tab. You can click another tile in the bottom scrolling bar to display another diagram.



Accessing a diagram from another diagram

You can display a diagram starting from another diagram containing or describing the object.

☛ *See Navigating through a Diagram in Edit or View Mode.*

Modifying the display order of diagrams

When you access an object list of diagrams, you can modify the diagrams display order criteria in order to ease your search.

- diagram type (by default)
- name
- last modified

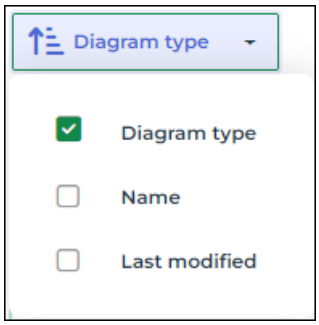
To modify the display order of an object diagrams:

1. Access the object diagrams.

☛ *See Accessing an Object Diagrams.*

Diagrams are sorted by type.

2. To modify the display criterion, click:
   - the arrow of the **Diagram type** drop-down menu and select the criterion of your choice



   - the text or the ↓ icon to invert the display order of the selected criteria

     `Example: select` **`Name`** `to sort the diagrams by alphabetical order (A-Z), or by inverted alphabetical order (Z-A).`

     ☛ *The selected order is not saved. It gets back to its default state after closing the window.*

     ☺ *If the diagram list is long, click* ***View all diagrams*** *to access the advanced filtering tool.*

Opening a Diagram

From the object property pages, the **Diagrams** page enables you to access the diagrams:

- describing the object (by default)
- containing the object

In a list, the **Local name** column gives directly access to the diagrams containing the object.

Opening a diagram describing the object

To open a diagram describing an object:

1. Access the object diagrams.

   ☛ *See Accessing an Object Diagrams.*

2. To open the diagram:
   - in ***view mode***: click the tile.
   - directly, in ***edit mode***: hover the cursor over the tile and click **Edit** ✎.

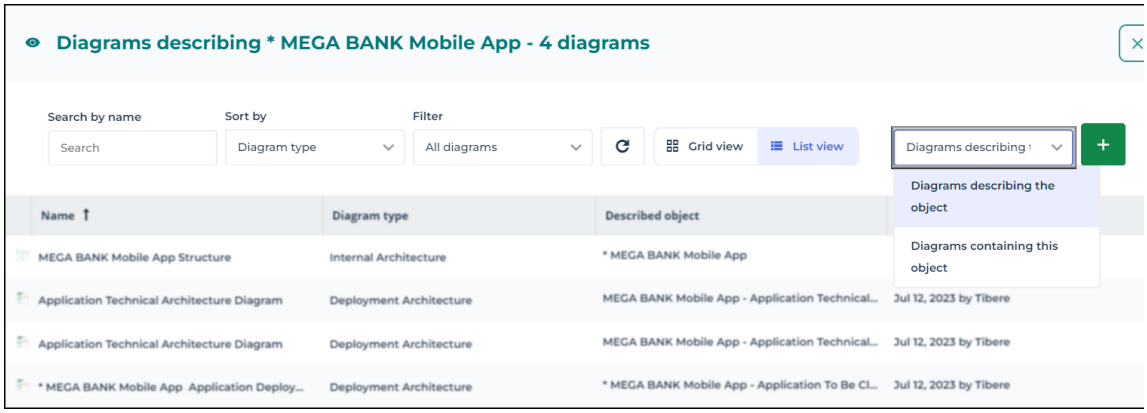
Opening a diagram containing the object

To open a diagram containing an object:

1. Access the object diagrams.

   ☛ *See Accessing an Object Diagrams.*

2. In the **Diagrams** property page, click **Diagrams containing this object** .
   A new window opens and displays all diagrams describing the object.



☛ *In the window tool bar, click the **Diagrams containing the object** drop-down menu and select **Diagrams describing this object** to display the list a diagrams which describe this object.*

Filtering the list of diagrams

The filtering bar enables to:

- search for a diagram by its name
- sort display by:
  - diagram type
  - diagram name
  - last update (modifications)
- filter by diagram type
- modify the display:
  - list view
  - tile view

Adding a Diagram to the Favorites

To ease your access to a diagram, you can add it to your favorites.

☛ *See Favorites and Quick access.*

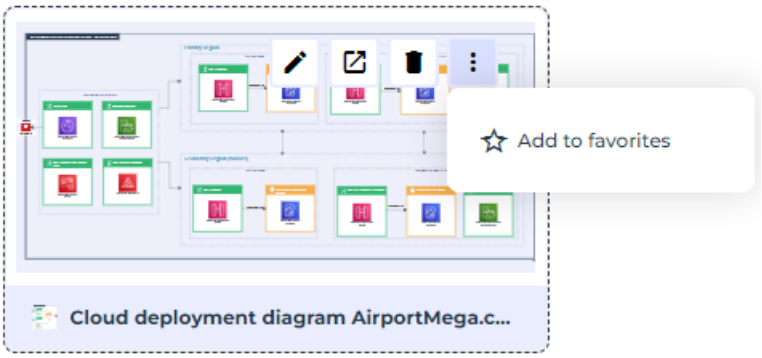
To add a diagram to your favorites:

1. Access the diagram list of an object.

   ☛ *See Accessing an Object Diagrams.*

2. Hover the cursor over the tile corresponding to the diagram of your choice.

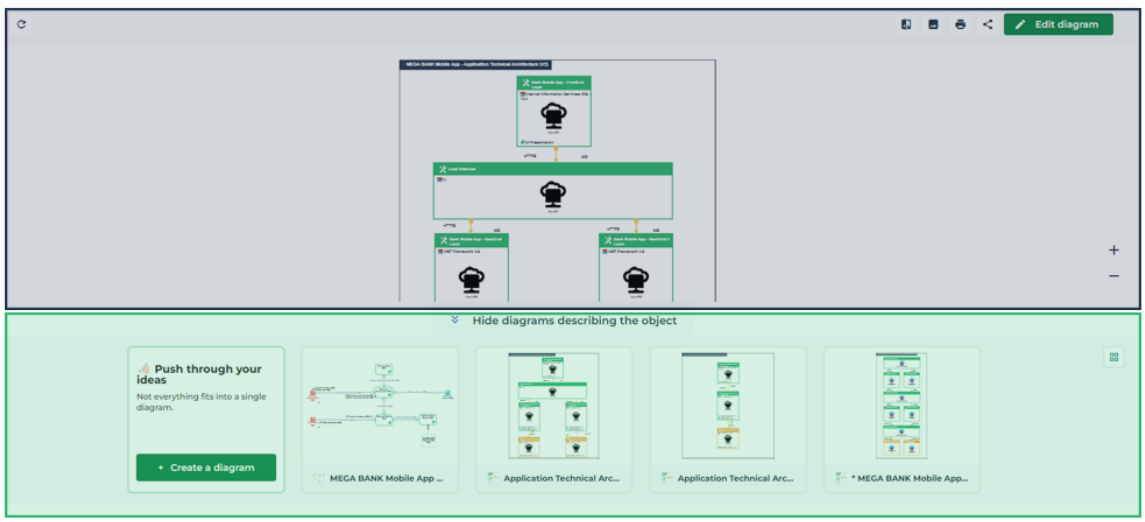
3. Click **More** ⋮ > **Add to favorites**.



Navigating through a Diagram in Edit or View Mode

The view and edit modes of diagrams contain a navigation banner at the bottom of the screen. Each mode shows:

- ***in the center***: the preview of one of the available diagrams.
- ***at the bottom***: the other diagrams as tiles.



E.g.: navigation in the edit mode of a diagram

Click **Show diagrams describing/containing the object** at the bottom of the edit zone to view the other diagrams tiles.

☺ *If needed, drag-and-drop the diagram for a better view.*

If more than 5 diagrams are available, the additional tiles are hidden. The diagram in view or edit mode also features in the tile list.

When scrolling through tiles, diagrams successively appear in the center. If more than 5 diagrams are available, the additional tiles will successively replace the current ones.

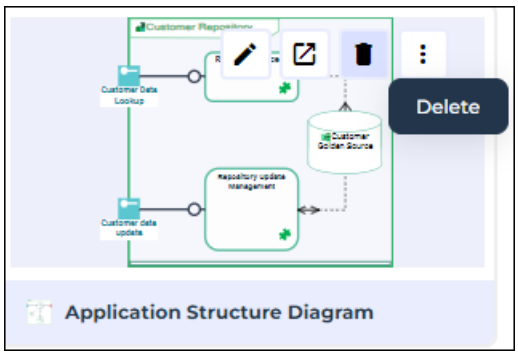
> ☛ *See Handling a Diagram Preview for more information about the operations that you can carry out on a diagram preview.*

Deleting a Diagram

You can delete a diagram describing an object.

To delete a diagram:

1. Access the diagrams of the object of interest.
   > ☛ *See Accessing the diagrams of an object (property pages).*
2. Hover the cursor over the tile of the diagram you want to delete.
3. Click **Delete**.



   A confirmation window opens.
4. The involved diagram is selected by default in the list. Click **Delete** to confirm the deleting of the diagram.

EDITING DIAGRAMS

Accessing Diagram Edition

You can access a diagram in edit mode from:

- the list of diagrams describing or containing the object
- the diagram preview

> ☛ *With some diagram types, you can open the diagram in tabular mode, see Diagrams in Tabular Entry Mode.*

If needed, on the right of the diagram, you can display the **Properties**, **Review Notes** adding and **Aspect** windows.

Open a diagram in edit mode

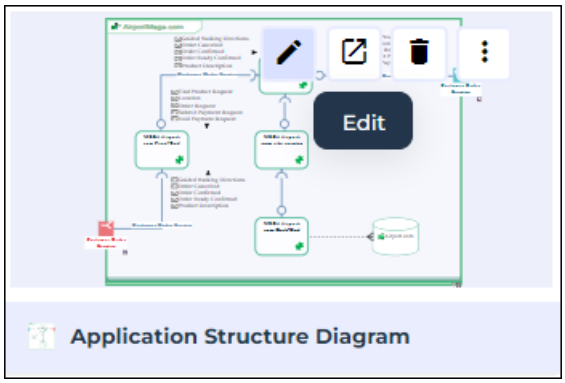
To open a diagram in edit mode:

1. Access the object described by the diagram.

   `E.g.: an object in a list or in a tree.`
2. Open the object diagrams list.

   > ☛ *See Accessing an Object Diagrams.*

   > ☛ *If no diagram describes the selected object, see Objects in a Diagram.*
3. Hover the cursor over the tile corresponding to the diagram of your choice.
4. Click **Edit**.



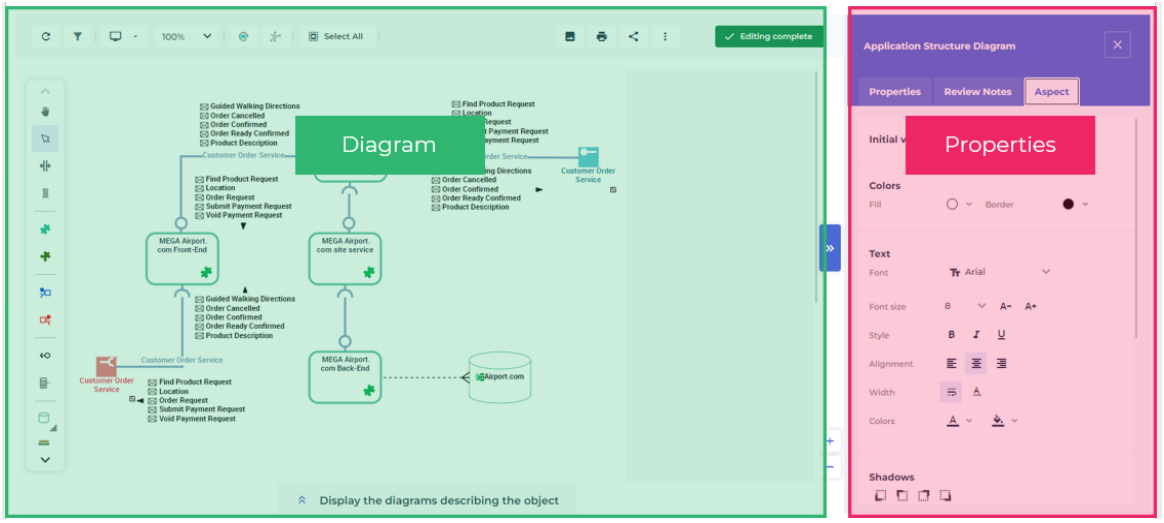
> ☛ *In a list of diagrams, click the **Name** of the diagram and click **Edit** .*

The diagram opens in edit mode:

- in full page if you launched it from a list or a tree in the Edit area
- to the right of the tree if you launched it from a tree in the Browse area

On the right of your diagram, you can display:

- the diagram properties via the **Properties** tab
- review notes via the **Review Notes** tab
- Formatting options via the **Aspect** tab



Switching from view mode to edit mode

From a diagram preview, you can switch to diagram edit mode.

To switch to diagram edit mode:

1. Display a diagram preview.

   ☛ *See Handling Diagrams.*

2. In the diagram toolbar, click **Edit diagram** .
   The diagram is displayed in edit mode.

Editing a diagram in a new tab

To isolate a diagram from other actions in **Hopex**, you can open and edit it in a new tab. The diagram gets saved when you click **Editing complete**.

To edit a diagram in a new tab:

1. Access the diagrams of the object of interest.

   ☛ *See Accessing an Object Diagrams.*

2. Hover the cursor over the diagram tile that interests you, and click **Open in a new tab** .
   The diagram preview displays in full page, in a new tab.
3. Click **Edit diagram**.
4. Edit your diagram in a new tab.
5. To get back to the diagram preview, click **Editing complete** when you are done with your modifications.

   ☛ *To work simultaneously on several diagrams, open each diagram in a new tab.*

Diagram Edition Tools

In edit mode, the diagram bars are:

- at the top:
  - a diagram toolbar
- on the left:
  - a diagram edit bar
  - an object insert bar
- on the right:
  - a dynamic bar for component edition

☛ *Below the bar,* ***Reinitialize*** *enables to go back to default values.*

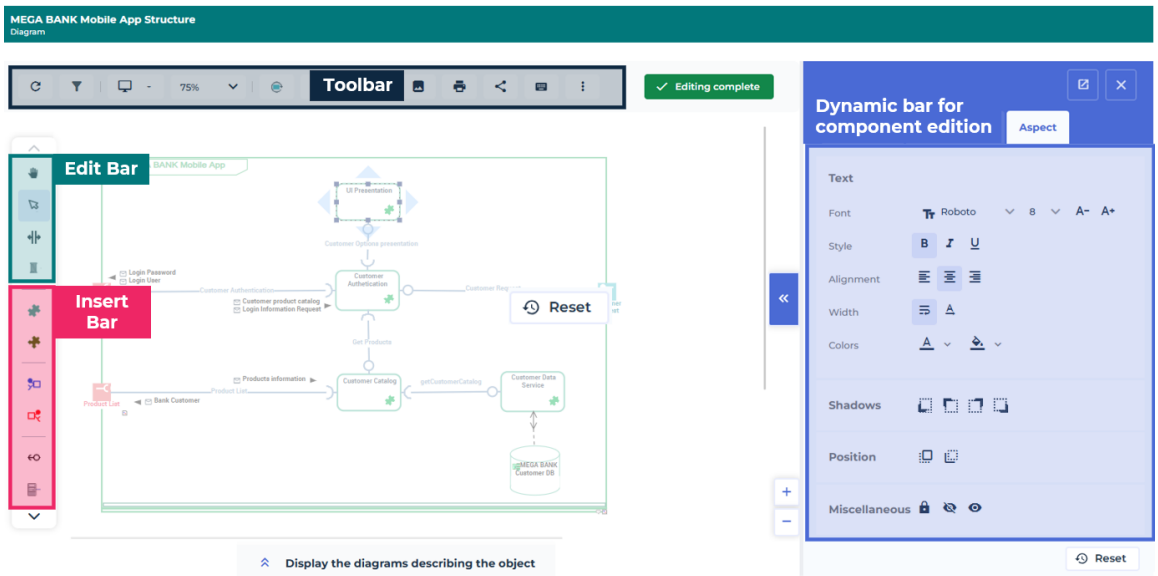
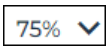


Diagram toolbar (top)

A diagram toolbar is composed of the diagram tools buttons.

Icon	Description
	**Refresh diagram**
	**Views and Details** To define the types of objects to be displayed in diagrams See Configuring the Object Types (Views) and Details of a Diagram.
	**Fit to page** Fits diagram to the page: - Fit to height - Fit to width
	**Zoom value** To define the zoom percentage, or to display the full diagram See Opening a Diagram in Edit Mode.
	**Reinitialize components** Adds the components created during the diagram initialization
	**Auto Layout** Enhances the diagram readability by increasing or reducing space between the diagram objects.
	**Select All** Selects all the diagram elements (objects, graphical forms, texts). See Selecting all elements.
	**Save the picture as** Enables to save the diagram as a picture in *.png, *.svg, *.emf, or *.jpg format
	**Print diagram** Displays the diagram as a PDF file, which enables to print it See Printing a Diagram.
	**Share diagram** Enables to share the diagram by email
	**Display the keyboard shortcuts** Enables to display all keyboard shortcuts available See Keyboard Shortcuts.
	More Access the general settings of the diagram (for example: properties, page boundaries, layout, fonts and colors)

Element arrangement bar (top center)

You can use the element arrangement bar to arrange selected elements against each other. The elements can be objects and/or graphic forms.

☛ *The arrangement bar appears when you have selected two or more elements in the diagram.*

Icon	Description
	**Align left**, **Align right** See Aligning Elements.
	**Align on top**, **Align at bottom** See Aligning Elements.
	**Align center vertically**, **Align center horizontally** See Aligning Elements.
	**Group** To group selected elements See Selecting Elements.
	**Ungroup** Cancels the grouping

Diagram edit bar (left)

The toolbar on the top-left of the diagram contains buttons for the edition of the diagram.

Icon	Description
	**Move** To move the diagram though the page See Moving a diagram. To zoom using the mouse wheel See Opening a Diagram in Edit Mode.
	**Select** To select an object in the diagram, then perform actions on this object See Selecting Elements.
	**Add/Remove space** To adjust the space between objects See Adding Space between Elements.
	**Link** To connect objects

Diagram insert bar (left)

The toolbar to the left of the diagram includes:

- objects specific to each diagram that you can insert into the diagram
- objects common to all diagrams

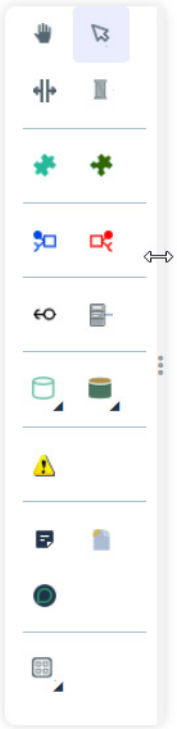
Icon	Description
	**Note** To add a note to the diagram See Inserting a Note in a Diagram.
	**External reference** To add an external reference to the diagram See Adding an External Reference to a Diagram.
	**Title** To add a title to the diagram See Inserting a Title or a Title Block.
	**Graphical object** To add shapes, texts, fields, a title block See Creating Graphic Objects.

To view all the Insert bar elements without using navigation arrows, you can expand the bar in order to show all the elements over several columns.

To expand the insert bar:

1. Place your cursor on the right edge of the bar so that it becomes a double arrow.

2. Click and drag your click to the expected width.



Editing tools for the diagram text (Aspect tab)

The **Aspect** tab contains the editing tools for each text in the diagram. It contains standard text-edition features (e.g.: font, alignment, text color) and other features detailed hereafter.

Icon	Description
A+	**Increase font size**
A-	**Reduce font size**
	Word-wrap text Enables to automatically wrap the text to a new line if it does not fit on one line
	Automatic width adjustment Enables automatic resizing of the frame according to the text
	Reset Enables to go back to default values

Editing tools for the diagram shapes (Aspect tab)

The diagram shape edit bar enables to:

- adjust the position of the elements (i.e.: grouping, moving front, aligning)
- customize the shape style (i.e.: colors, shadows, position)
- customize the line style (i.e.: orthogonal line, color)

Icon	Description
	**Freeze** Prohibits moving the selected element
	**Hide** To hide the selected element
	Show all Displays all hidden elements
	**Front** See Ordering Elements.
	**Back** See Ordering Elements.
	**Simple line** See Modifying a line style.
	**Perspective line** Technical architecture diagram See Modifying a line style.
	**Orthogonal line** See Modifying a line style.
	**Line style** See Modifying a line style.
	**Curved line** See Modifying a line style.
	**Double line** See Modifying a line style.
	**Rounded angles** See Modifying a line style.
	**Arrow style** To set the style of line edges See Modifying a line style.
	**Style of bridges** To define the default bridge style or to modify the bridge of a specific line See Modifying the appearance of bridges in a diagram.

Keyboard Shortcuts

You can use keyboard shortcuts when editing a diagram.

Those shortcuts are grouped by type of performed action:

- Object selection
- Edition
- Object handling
- Display

You can display the shortcuts as a tree or a list.

To find a shortcut:

1. Open the diagram in edit mode.

   ☛ *See Open a diagram in edit mode.*

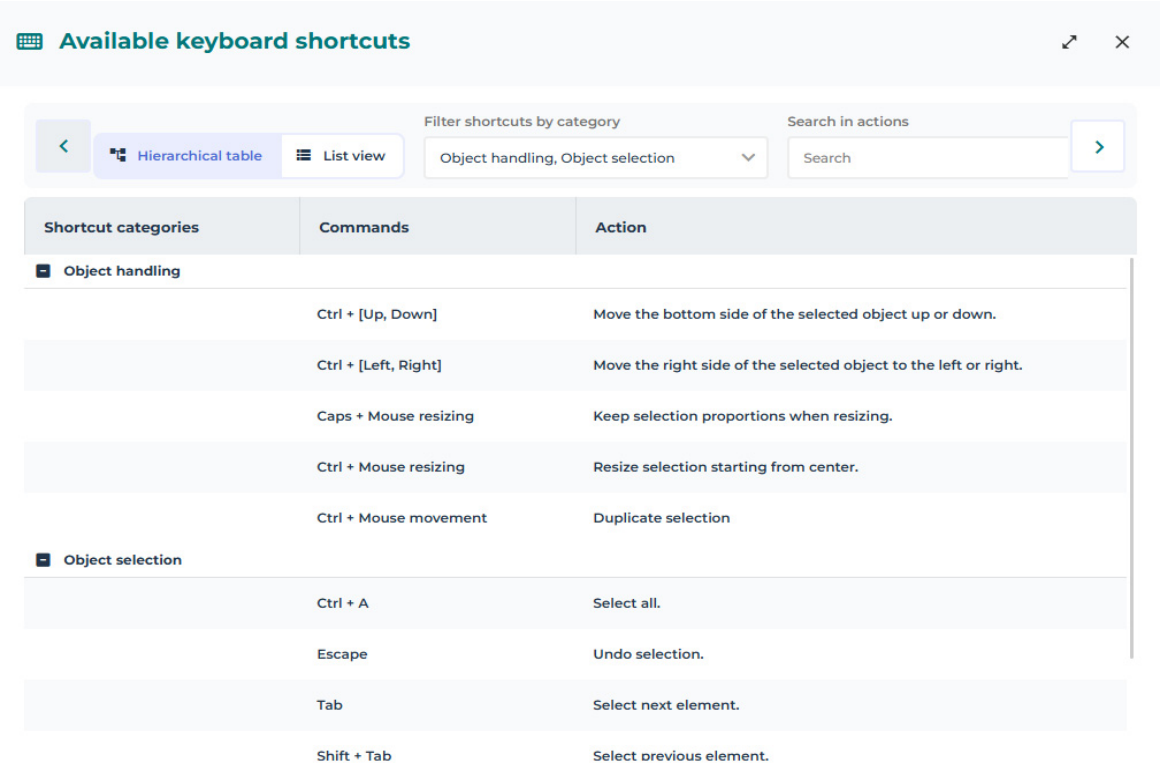
2. In the diagram toolbar, click **Show keyboard shortcuts** .
   A list appears showing the keyboard shortcuts.
3. To display the list as a grouping of type of actions, click **Hierarchical table**.

4. To filter shortcuts by type of action, in the **Filter shortcuts by category** drop-down list, select the category.

   ☛ *You may select multiple categories.*

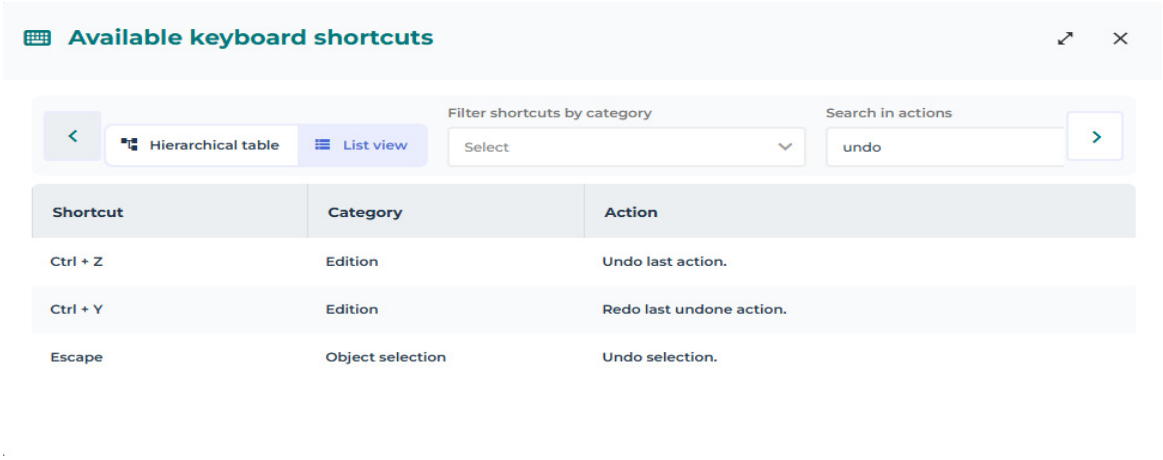
   `Example: select "Object selection" and "Object handling".`

   The list of shortcuts is filtered.



5. To search for a shortcut by term in its description, in the **Search in actions** field, enter a term.

   `Example: "undo"`



DIAGRAMS IN TABULAR ENTRY MODE

Tabular entry mode is used to create / edit a diagram from a table.

Tabular entry mode is recommended to initialize a diagram. With this mode you can easily create the general structure of your diagram and quickly insert objects.

The objects created, added and modified in Tabular entry mode are automatically updated in the repository.

You can preview the diagram at any time.

Access to Tabular Mode

Prerequisites

- The diagram must be available in tabular entry mode.
- The opening mode configuration must allow tabular entry.

  ☛ *See Tabular Mode Options.*

Diagrams available in tabular entry mode

With **Hopex Business Process Analysis**, the following diagrams can be modified through tabular entry:

- Process Map diagram
- Process Category diagram
- Value Stream diagram
- Process diagram
- Application Process diagram
- Business Capability Map diagram
- Organizational Chart
- Customer Journey Mapping
- Business Capability Structure diagram

With **Hopex IT Business Management** the following diagrams can be modified through tabular entry:

- Business Capability Map diagram
- Business Capability Structure diagram

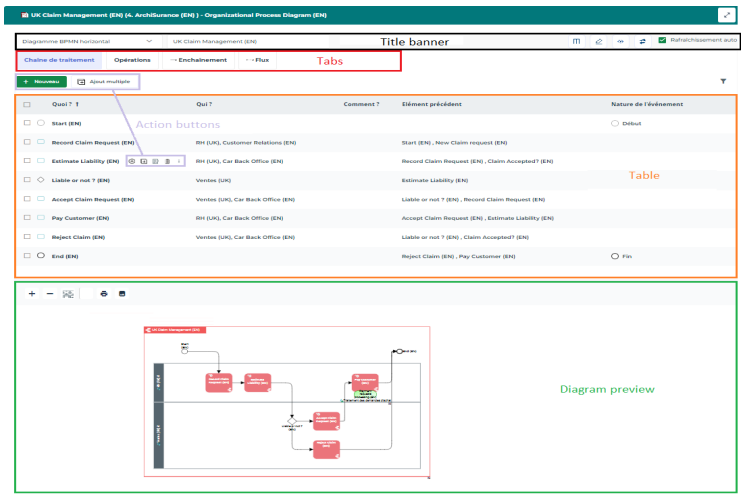
Access to Tabular entry mode

To create a diagram using tabular entry mode from a list of objects:

1. Click the **Create a diagram** button of the selected object.
   The diagram creation window opens.
2. Select **Create a diagram in tabular mode**.
   The diagram creation window in tabular mode opens.

General Display of Tabular Entry Mode

The diagram creation window in tabular mode displays the followings items:



☛ *Tabular entry mode display can vary according to the selected diagram.*

Title banner

The title banner displays the following items:

- Diagram type
- Diagram name
- **Switch to vertical** button or **Switch to horizontal** to change display
- **Edit the diagram** button to edit the diagram in graphical mode
- **Show/Hide the diagram** button
- **Refresh the diagram** button
- **Auto Refresh** case to automatically update diagram preview

Tabs

Tabs are used to display all the objects in the diagram broken down according to their type.

☛ *The number and the nature of tabs vary according to the type of diagram and the user profile.*

Action buttons

With **New** and **Multiple Add** buttons, you can add one or several objects in the table.

☛ *For more details, see Tabular Mode Actions.*

Table

You can fill the following elements in the table:

- object type (displayed in lines)
- Characteristics / links related to objects (displayed in columns)

Display of columns

You can display (or hide) the columns in the table.

To do so:

1. Click over any column header.
2. Select **Columns**
3. Tick the appropriate columns.

Diagram preview

You can preview the diagram at any time.

From the toolbar at the top of the diagram, you can perform the following actions on the diagram:

- Zoom in 
- Zoom out
- Show all 
- Print diagram 
- Save the picture 

To move the diagram in the window:

❱ Click the diagram and move the mouse.

Tabular Mode Actions

Creating an Object

Depending on the type of object and the type of the diagram you want to create, the creation procedure is different.

To create an operation in a Process diagram, for example:

1. Click the tab **Operations**.
2. Click **New**.
   The Add window appears.

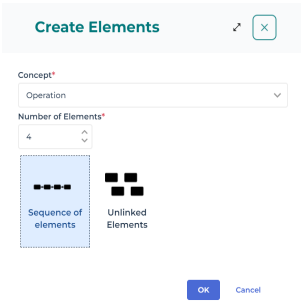
3. Select the **Operation** type and click **OK**.
   If you are in **Synchronized** mode, the diagram is automatically updated; otherwise, click on **Refresh**.

Create several objects of the same type

You can quickly create several objects of the same type possibly linked between them or to an object already in the diagram.

For example, to simultaneously create a number of operations in a Process diagram:

1. Click the tab **Operations**.
2. Click the **Multiple Add** button.
   A creation window opens.



3. Select the **Concept**.
4. Enter the **Number of Steps** you wish to create.
5. Link these operations by selecting **Sequenced** or **Independent**.
6. Click **OK**.

Deleting an object

To delete an object in the diagram from the table:

- Click the **Remove** icon that represents the object you wish to remove.

  The deleted objects are removed from the repository and consequently from all diagrams using them.

Create participants (BPMN diagrams only)

In the BPMN diagrams, the participants are special objects for the following reasons:

- If they are inside the described object, they are represented as pools that contain objects.
- If they are outside the described object, they are used to describe the flows exchanged between the described object and the outside.

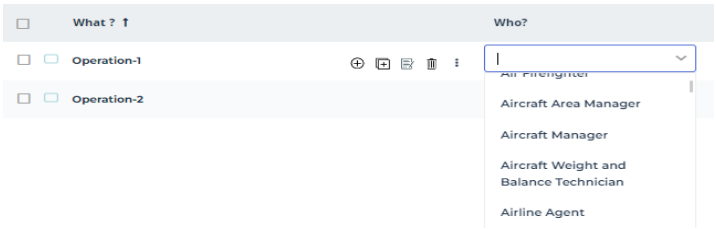
The creation mode for participants in tabular entry mode is specific to each of the two cases.

Creating a participant inside a described object

To create an operation in process diagram using tabular entry mode, for example:

1. Click **Processing Stream** tab to have access to the list of objects in the diagram.
2. Select the line related to the object you want to insert and click the **Who** column.
   A window opens prompting you to create or connect an org-unit to a participant.

   ☛ *The selected org-units then appear in the header of the participant.*



Creating a participant outside a described object

A participant external to a described process only has meaning if it is connected to a flow exchanged with an element included in the described process.

To create a participant outside of Process diagram, for example:

1. Click the **Message flow** tab to have access to the list of message flows in the diagram.
2. Click **New** to create a new message flow.
3. Select the line of the message flow that you have just created and click in the check box of the **Target** column, for example.
4. Click the right facing arrow and select the **Create participant**.
   The external participant appears in the diagram.

   ☛ *No org-unit can be associated to an external participant.*

Creating sequences (BPMN diagrams only)

In tabular entry mode, sequences are created automatically when a new element is inserted: the sequences can be viewed or modified using the columns that characterize the **Previous item** or **Next item**.

For example, to connect a start event to a process in a Process diagram:

1. Click **Processing Stream** tab to have access to the list of objects in the diagram that can be connected to a sequence.
2. Select the process that you want to connect and click in the related cell under the **Previous item** column.
3. Select the event that interests you.
   The organization of objects in the diagram is then updated.

Add org-units (Organizational Chart only)

The following actions are available in the table when creating / editing an Organizational Chart with Tabular entry mode:



- With **Add** , you can add an org-unit that directly reports to the main org-unit.
- With **Multiple add** , you can add several:
  - Org-units from the same rank (i.e. several org-units that directly report to the main org-unit).
  - Org-units from a descending hierarchy (i.e. several org-units that respectively report to one another).
- With **Insert** , you can insert an org-unit between the main org-unit and org-units already created that directly report to the main org-unit.

☛ *For more details, see Creating an Organizational Chart.*

Tabular Mode Options

Configuring the diagram default opening mode

An option allows you to define the default opening mode of all your diagrams. Possible options are the following:

- **Diagram Editor**: all the diagrams will be opened in graphical mode.
- **Tabular Entry**: all the diagrams available in tabular mode will be opened with tabular mode.
- **Ask the user**: when creating a diagram, the user will be able to choose between graphical mode and tabular mode.

To configure the default diagram opening mode:

1. From the Main menu, open the **Options** window.
2. Select **Compatibility > Diagram > Choice of diagram opening mode**.
3. Select the default diagram opening mode.

Modifying the edition mode of a diagram

From the tabular entry mode to the graphical mode

When editing a diagram in a tabular entry mode, you can easily switch to the graphical mode. To do so:

- Click the **Edit the diagram** button.
  The diagram is displayed in diagram edition mode.

From the graphical mode to the tabular mode

When editing a diagram in a tabular entry mode, you can easily switch to the graphical mode. To do so:

1. Click the **More options** button.
2. Select **Diagram properties**.
3. Select **Tabular entry** in the **Edition mode** field.
   The diagram is displayed in tabular entry mode.

> **The display of objects in the diagram may vary when you switch from the graphical mode to the tabular mode (the position of objects is recalculated).**

Modifying the default diagram opening mode

When a diagram is created in graphical mode, the graphical mode is the default opening mode of this diagram. Similarly, when a diagram is created in tabular mode, the tabular mode is the default opening mode of this diagram.

If need be, you can change the default opening mode of a diagram. To do so:

1. Access **Diagram properties** with the **More options** button.
2. In the **Edition mode**, select a value between:
   - **Diagram Editor**: this diagram will be opened by default in graphical mode.
   - **Table entry**: this diagram will be opened by default in graphical mode.
   - **Ask the user**: when opening this diagram, the user will be able to choose between graphical and tabular modes.

> **The display of objects in the diagram may vary when you switch from the graphical mode to the tabular mode (the position of objects is recalculated).**

Advanced configuration

An advanced configuration of the Tabular entry mode is available with **HOPEX Power Studio**.

For a given diagram type, you can configure functionalities including:

- the order of tabs associated with the object types represented,
- the display of a tab that provides an overview of all the objects in the diagram,
- the content of columns for a given object type and display order,
- the list of profiles authorized to use tabular entry mode.

> *For further details about tabular mode settings, see Configuring Tabular Entry mode in the PLATFORM - Customization (Windows) > Customizing Diagrams documentation.*

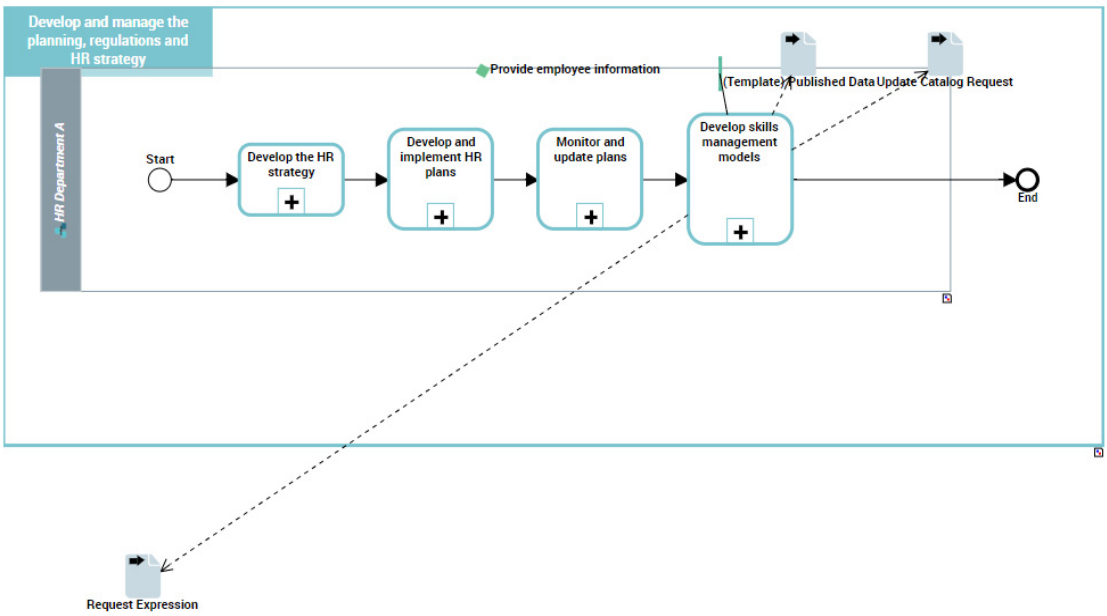
Tabular Mode Limits

Tabular mode is recommended when creating simple diagrams. It has limitations when diagram complexity increases.

Object positioning (BPMN diagram)

In process diagrams, when more than 3 objects are linked to a same object, the additional objects are positioned outside the diagram. They must be repositioned manually in graphical mode.

☛ *See Creating a Process Diagram in Tabular Mode.*



Example: if more than 3 objects (systems used, data objects) are linked to a same operation, the additional objects are placed outside the diagram.

Reorganization of complex diagram

Diagram reorganization may take several minutes to proceed for complex diagrams.

By default, automatic reorganization is not possible for diagrams containing more than 100 sequences.

☛ *If need be, you can modify this value with the option **Maximum number of links for automatic reorganization** via the Main Menu > Settings > Options > Diagrams > Display.*

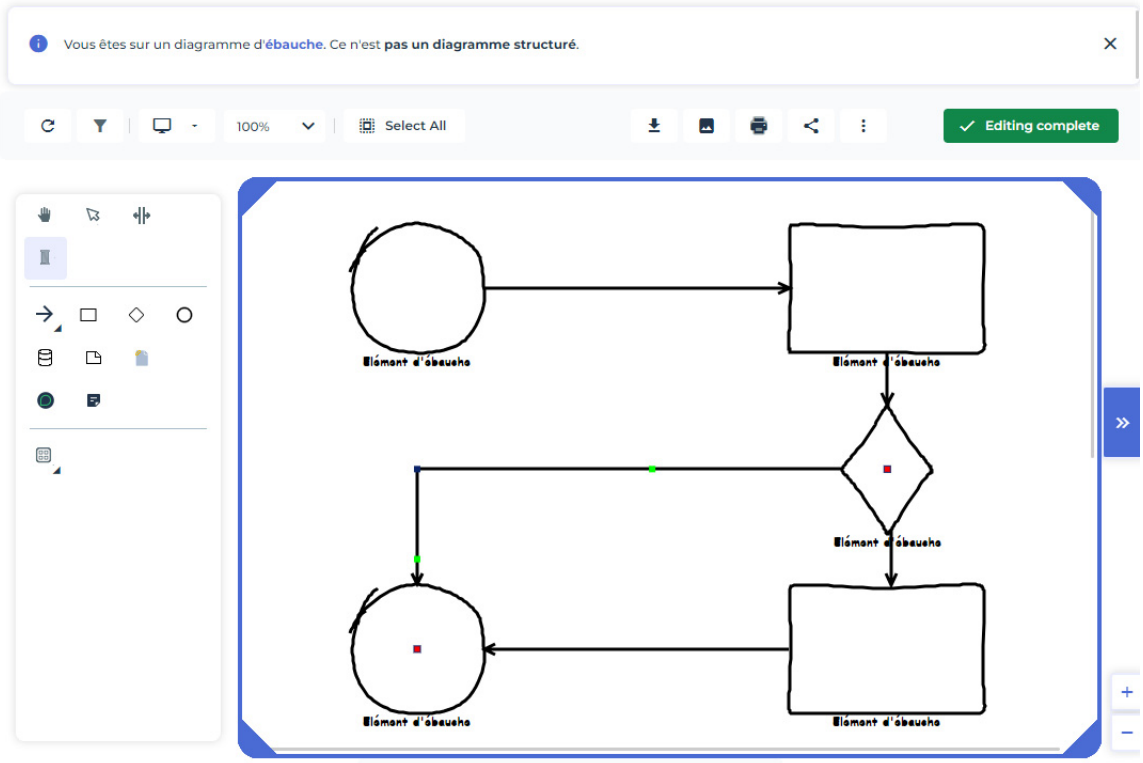
SKETCHES

Sketching with Hopex

Hopex allows you to use drawings to create diagrams from shapes without needing to specify the type of object represented from the start.

This feature makes teamwork easier by using sketches without any methodological or formalism constraints. Sketching diagrams can then be reworked and transformed into diagrams recognized by an **Hopex** solution.

A *Sketching diagram* consists of *sketching items* connected by *sketching links*.



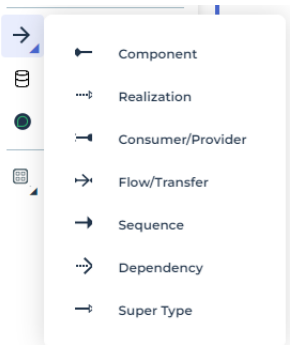
Available *Sketching items* are:

- rectangles
- rombus
- circles
- triangles
- barrels
- folded corner rectangles

You can connect *Sketching items* with repository objects representing architecture elements.

☛ *For further details, see Connecting a sketching item with a repository object.*

To represent different connection types, several shapes of *sketching lines* are provided:



- Component
- Realization
- Consumer/Provider
- Flow/Transfer
- Sequence
- Dependency
- Super Type

You can connect *Sketching items* with repository objects representing architecture elements.

☛ *For further details, see Connecting a sketching item with a repository object.*

Drawing a Sketch with Hopex

Creating a new sketch

To create a sketch with **Hopex**:

1. From the **Inventories** navigation menu, select **All sketches**.
2. Click **New**.
   A sketch creation dialog box opens.

3. Specify the name and click **OK**.
   The sketch appears in the list.

Creating a sketching diagram from an Enterprise Architecture object

Depending on its type, you can create a sketching diagram from an object of your repository.

To create a sketching diagram from an application, for example:

1. From **Applications** navigation menu available in the Hopex IT Architecture solution, select **All applications**.
   The list of applications appears.
2. Select the Application that interests you and click **Create Diagram**.
3. Select **Sketching diagram** and click **Create a sketching diagram**.
   The diagram appears and the sketch is created with the name of the application.

> ☛ *To insert a sketching item or a sketching link in a sketching diagram, see "Using diagrams" chapter in **Hopex Common Features** guide.*
>
> ☛ *For more details on the use of diagrams, see user diagrams" chapter in the **Hopex Common Features** guide.*
>
> ☛

Inserting an image in a sketching diagram

You can insert an image in jpg or png format in a sketching diagram created from an object of your repository.

To insert an image in a new sketching new diagram from an application, for example:

1. From **Applications** navigation menu available in the Hopex IT Architecture solution, select **All applications**.
   The list of applications appears.
2. Select the Application that interests you and click **Create Diagram**.
3. Select **Sketching diagram** and click **Upload image**.
4. Select the repository of the image that you want to import and click **Create Sketch**.
   The diagram appears and the sketch is created with the name of the application.

> ☛ *To insert a sketching item or a sketching link in a sketching diagram, see "Using diagrams" chapter in **Hopex Common Features** guide.*
>
> ☛ *For more details on the use of diagrams, see user diagrams" chapter in the **Hopex Common Features** guide.*
>
> ☛

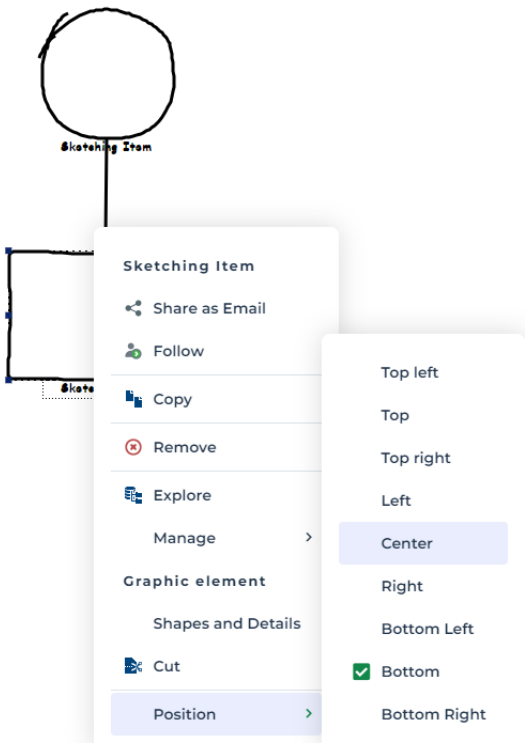
Modifying the position of a sketching item name

In a sketch, a shape may be associated with an explanatory text rather than a name. In the case, it may be interesting to move the name of the shape in its center.

To center the name of a shape:

1. Select the shape that interests you and open its contextual menu.

2. In the **Graphical Element** section, select **Position > Center**.
   The name appears in the center of the shape.



Modifying the shape of a sketching item

A sketching item shape depends on the initial item choice (rectangle or circle, for example) and on a choice proposed in the **View and Details** contextual menu of the item.

Connecting a sketching item with a repository object

If a *sketching item* represents an object already created in the repository, you can connect the sketching item to the architecture element.

To do this:

1. Open the **Characteristics** property page of the sketching item.
2. Click the arrow at the far right of the **Represented Object**field and select **Connect**.
3. In the connecting information window, select the type of object you want to connect, then select the adequate object from the referential.
   The sketching item appears in the form of the object type selected.

4. (Optional) In the **Appearance** section, untick the box **Use represented object representation**.
   The sketching item reappears in the form of the object type selected.

   ☛ *If need be, you can connect another shape to the sketching item.*

   ☛ *No check is made between the chosen shape and the type of the architectural element.*

Importing diagrams in a Sketching diagram

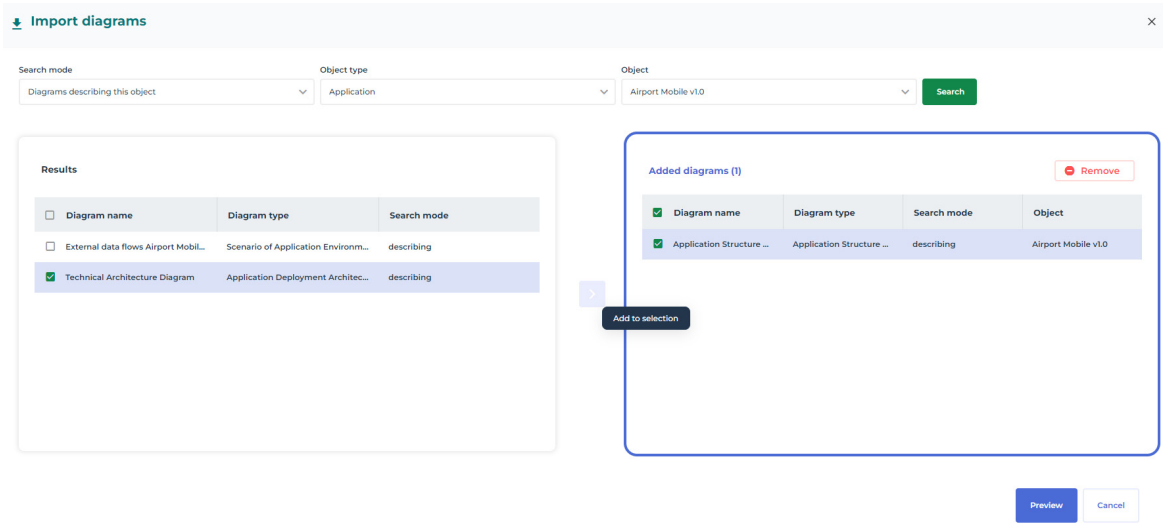
If you need to work freely on a set of objects referencing, in diagrams, a specific repository object, you can import several diagrams in a sketching diagram. The components of the imported diagrams become sketching items. So you can move or connect those elements without any consequence on your repository components and diagrams.

To import application diagrams, for example, in a sketching diagram:

1. Open the sketching diagram.
2. Click the **Import diagrams** button.
3. In the wizard window, indicate:

- **Search Mode** specifies if you are interested in diagrams describing the object or diagrams containing the object,
- **Object type** to select the type of the object that interests you,
- **Object**, the select the object whose diagrams will be imported.

4. Click the **Search** button.
   The list of diagrams corresponding to the specified **Search Mode** is displayed in the **Results** window.

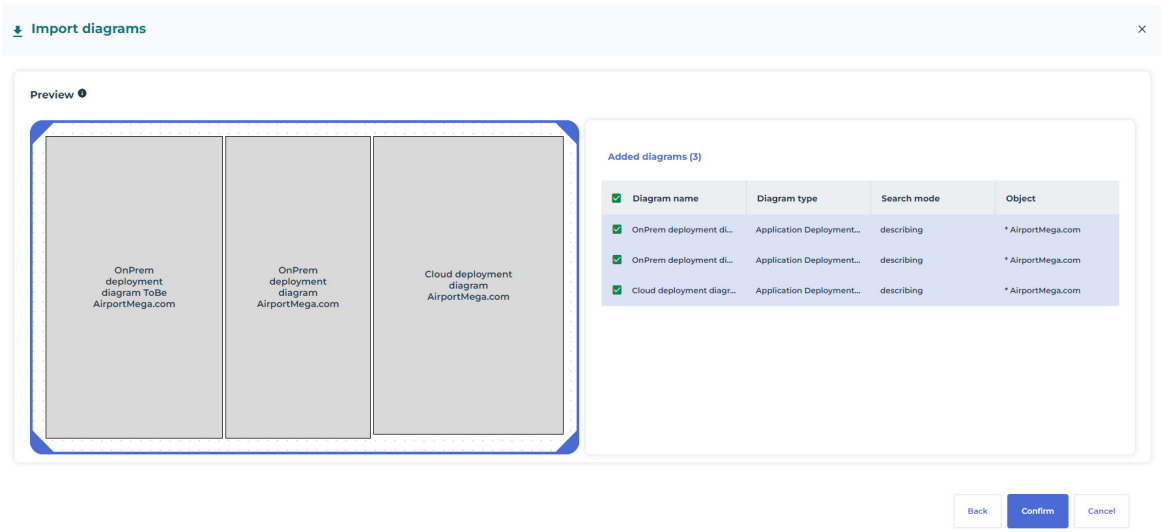


5. In the **Results** window, select the diagrams that interest you and click the **Add select** button.
   The selected diagrams are displayed in the **Added diagrams** window.

   ☛ *To remove a diagram from the **Added diagrams** window, you just have to select the diagram and to click the **Remove** button.*

6. Click the **Preview** button to view the organization of the imported diagrams in the sketching diagram.

   ☛ *The **Back** button can be used to modify the list of diagrams to import.*



7. Click the **Confirm** button to import the diagrams are imported in the sketching diagram. The selected diagrams are imported in the sketching diagram.

DIAGRAM ELEMENTS

This chapter deals with the handling of elements contained in diagrams, by element type:

- ✓ Objects in a Diagram
- ✓ Texts in a Diagram
- ✓ Graphic Elements
- ✓ Lines in a Diagram

OBJECTS IN A DIAGRAM

Described here are the actions you can perform on objects modeled in **Hopex** diagrams:

See:

- Add Objects in a Diagram
- Handling Links Between Objects
- Removing and Deleting an Object from a Diagram
- Object Status Indicators
- Modifying the Shape of an Object
- Using Pools: Improving Graphical Presentation
- Configuring the Object Types (Views) and Details of a Diagram

Add Objects in a Diagram

In a diagram, you can add objects:

- that you create
- that already exist in the repository

You can add these objects:

- by drag & drop (for existing objects only)
  - from the browse area
  - from the compact search tool

    ☛ *See You can access the search function from your HOPEX desktop toolbar at all times. and Card of an Object.*
- with the object insert toolbar
  - inserting objects

    ☛ *See Adding objects with the diagram insert bar.*
  - inserting multiple objects

    ☛ *See Adding several objects with the diagram insert bar.*
- with the insert bar available on each object

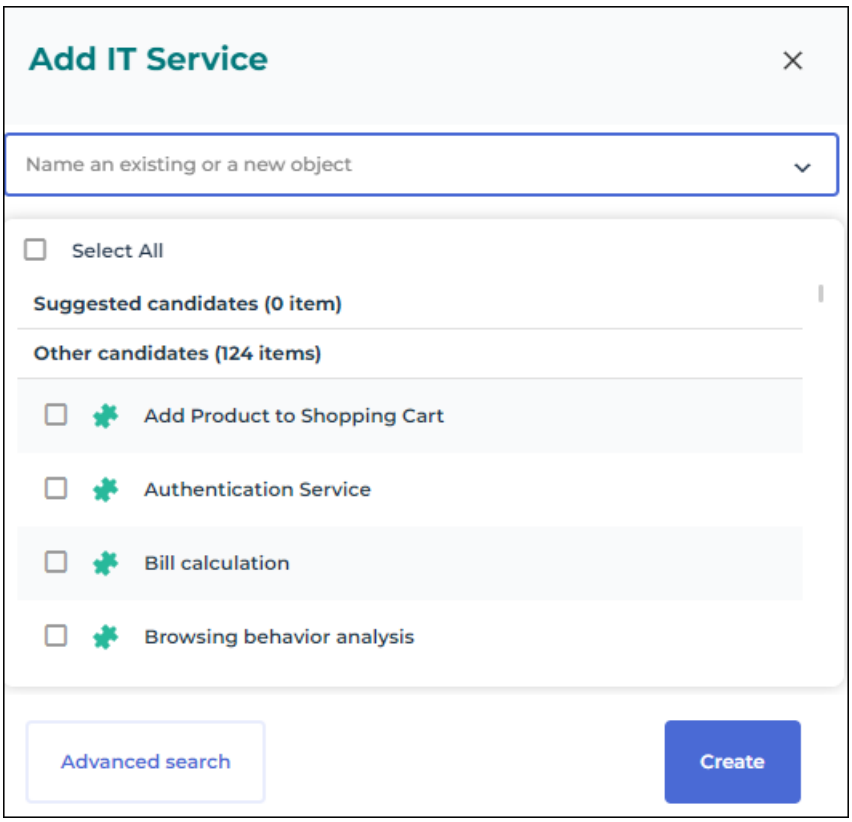
  ☛ *See Adding an object from an object contained in the diagram.*

The object multi-add box

Except when using drag & drop, you can add several objects at the same time in a diagram through the multi-add box. This box is displayed when you add on object:

- via the diagram insert toolbar
- via an object contained in the diagram

From the selection of an object type, you can select several objects of the same type to be added to the diagram, or create a new one. ***Suggested candidates*** and ***Other candidates*** are displayed depending on their relevance in the context of the diagram.



Adding existing objects to the diagram

To add existing objects to the diagram using the multi-add box:

1. Open the diagram of your choice in edit mode.

   ☛ *See Open a diagram in edit mode.*

2. Add an object type to the diagram:
   - via the diagram insert bar

     ☛ *See Adding objects with the diagram insert bar.*

   - via an object contained in the diagram

     ☛ *See Adding an object from an object contained in the diagram.*

   The multi-add box opens.
3. If you cannot find what you want in the suggested candidate list, you can:
   - enter the first 3 letters (minimum) of your choice and select the object(s) of interest in the list of results
   - select directly the objects of interest in the other candidates list
   - use the advanced search tool

     ☛ *See Advanced Search.*

4. (Optional) Click **Show selection** to display the selected objects, and, if needed, remove those that should not be added to the diagram.

5. Click **Add**.
   The selected objects appear in the diagram.

Creating an object with the multi-add box

To create an object from the multi-add box:

1. Open the diagram of your choice in edit mode.
   ☛ *See Open a diagram in edit mode.*
2. Add an object type to the diagram:
   - via the diagram insert toolbar
     ☛ *See Adding objects with the diagram insert bar.*
   - via an object contained in the diagram
     ☛ *See Adding an object from an object contained in the diagram.*

   The add box opens.
3. Click **Create**.
   The new object appears in the diagram.

Adding an object by drag & drop

The drag & drop feature in a diagram is available from:

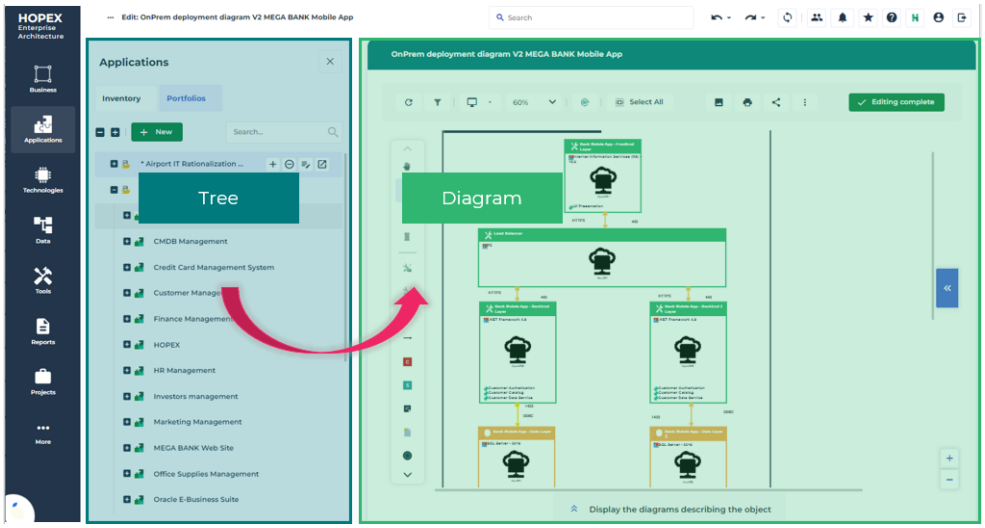
- the browse area (a tree or a list of cards)
  ☛ *See Browse area and Card of an Object.*
- the compact full-text search
  ☛ *See You can access the search function from your HOPEX desktop toolbar at all times..*

Adding an object from the browse area

To add an object from the browse area to a diagram by drag & drop:

1. Open the diagram of your choice in edit mode.
   ☛ *See Opening a Diagram.*
2. Hover the cursor over the menu of interest in the navigation bar (e.g.: **Applications**) and click **Browse**  .
   The browse area is displayed on the left of the diagram.

3. In the tree or the list, select the object of your choice and drag & drop it into the diagram.



☺ *Navigation in the browse area does not have any impact on the edit area or the tabs of your **Hopex** desktop.*

Adding an object from the compact search

To add an object from the compact search to a diagram by drag & drop:

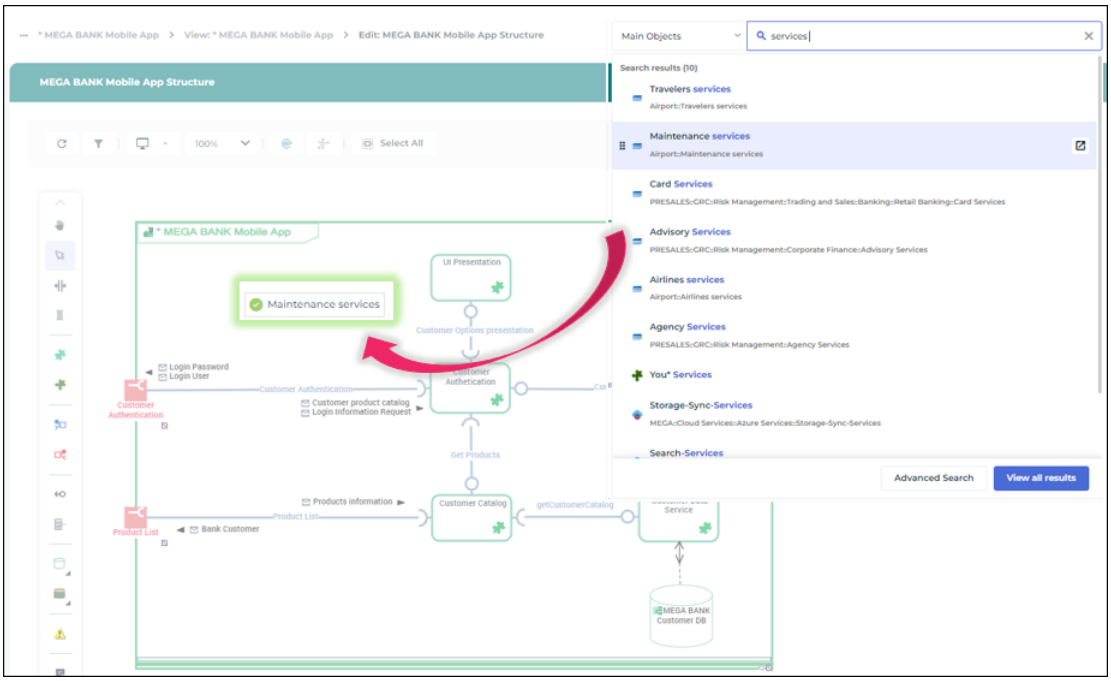
1. Open the diagram of your choice in edit mode.

   ☛ *See Opening a Diagram.*

2. Perform a full-text search on the object that you want to add to the diagram.

   ☛ *See Performing a Simple Full-Text Search.*

3. In your search result list, select the object of interest and drag & drop it into the diagram.



Adding objects with the diagram insert bar

You can add one or several objects to the diagram from its insert bar (in one click).

☺ *This enables to add one or several existing objects or to create and add an object in the diagram.*

The same object can appear several times in the same diagram.

To add one or more object(s) from the diagram insert bar:

1. Open the diagram of your choice in edit mode.

   ☛ *See Opening a Diagram.*

2. In the object insert bar, click the icon corresponding to the object type needed.

   ☛ *If you cannot find the appropriate object type, see Configuring the Object Types (Views) and Details of a Diagram.*

   `Example: Application Service` .

   The object ghost sticks to your cursor.

   ☛ *Smart guides or the grid will help you to properly position the object in the diagram, see Using smart guides and Using the Grid.*

3. In the diagram, click where you want the object to be.
   The Add window appears.

4. You can:
   - insert one or more repository object(s)
   - create an object: click **Create**

     ☛ *See The object multi-add box.*
5. Click **OK**.
   The object is added (and connected) to the diagram.

Adding several objects with the diagram insert bar

You can add several objects of the same type without using the object insert bar every time (through double-click).

☺ *This enables to create and add multiple objects in the diagram.*

To add multiple objects of the same type:

1. In the object insert bar, double-click the icon corresponding to the object type needed.
2. Add the first object.

   ☛ *See Adding objects with the diagram insert bar.*

   The ghost of the second object of the same type sticks to your cursor.
3. Repeat the action to add as many objects as you want.
   The object type remain selected as long as you do not press the <Esc> key or **Select** or another object type.

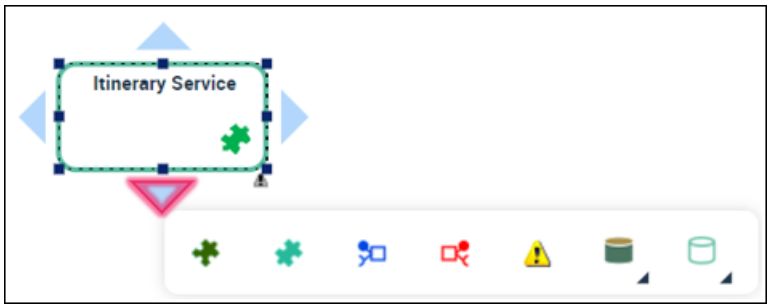
Adding an object from an object contained in the diagram

You can add an object to your diagram from an existing object. From this object, you have access to an insert toolbar. It only suggests objects that you can connect to the current object.

To add an object from an object in the diagram:

1. Open the diagram in edit mode.

   ☛ *See Opening a Diagram.*
2. Click the diagram object of your choice.
3. Select the direction you want to add the object in.



4. Click the icon corresponding to the object you want to add in the diagram.

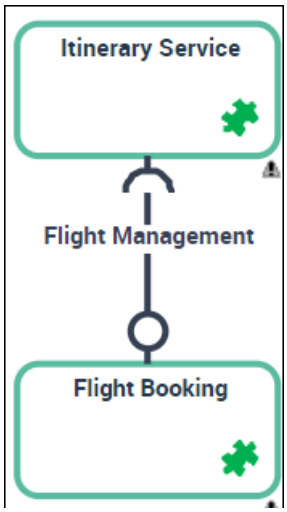
   ☺ *If the previously selected direction does not suit you, drag & drop the added object and place it manually where you want it to be.*

5. Add the wanted object(s) using the multi-add box.

   ☛ *See The object multi-add box.*

   ☛ *Click **Create** if you want to add an object that does not exist in your repository.*

6. The objects are automatically added to the diagram, next to the current object you have selected. The links between the current object and the new ones appear automatically.



Inserting an object in a sequence flow

You can insert an object directly into a sequence flow. The source sequence flow is automatically split into two sequence flows, avoiding the creation, deletion or displacing of sequences.

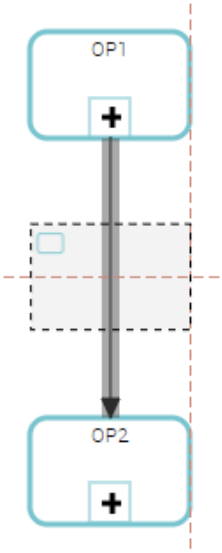
```
Example: you can insert an operation into a process sequence
flow.
```

To insert an object in a sequence flow:

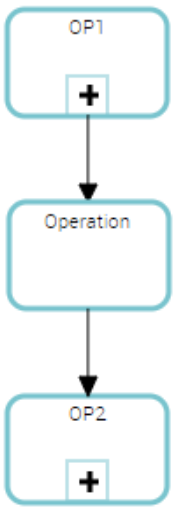
1. In the object insert bar, click the icon representing the object type you want to insert.

   ```
   Example: an operation.
   ```

2. Hover the cursor over the sequence flow on which you want to insert the object.
   The sequence flow is highlighted in gray.



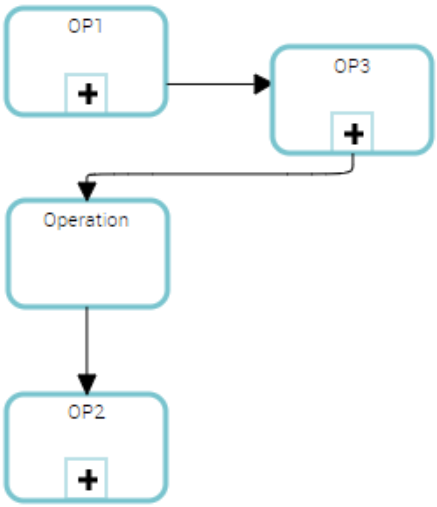
3. Let off your click.
   The object is inserted in the sequence flow.



The source sequence flow is automatically split into two sequence flows. Both of the sequence flows keep the customization applied to the source sequence flow (if any).

Note:

If you do not have enough space between both objects, the object is placed above the others. You must then move it.



☺ *To ease the insertion when there is not enough space to insert the object, you can add space beforehand, see Adding Space between Elements.*

Handling Links Between Objects

Creating links

You can create a link between two existing objects:

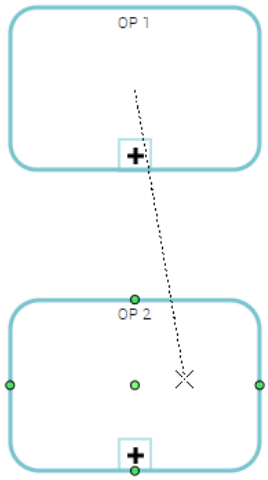
- from the source object
- from the diagram insert toolbar

Creating links between objects via the object insert bar

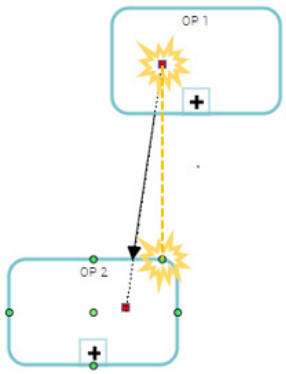
To connect objects to each other from the insert bar:

1. In the object insert bar, select **Link** .
2. Click the source object.

3. Hold down your click and drag the cursor towards the target object.
   If the target object is eligible, the cursor turns into a cross and green attachment points appear.
   Possible attachment points are:
   - centered on the target object edges or in its center, or



   - orthogonally located to the source end of the link



4. Let your click off on an available attachment point or on a free location.
   Both objects are now connected.

Creating a link from the source object

The **Link** feature is also available on the inserting pointers of a diagram object.

To create a link from an existing object:

1. Click the source object to make the direction pointers appear.

2. Click the pointer of your choice.



3. Hold down your click and drag the cursor towards the target object.



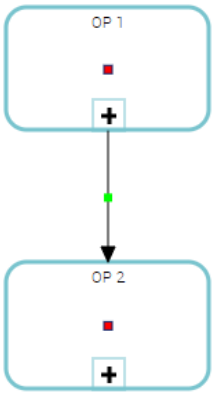
4. Release your click on the target object.
   The two objects are now connected.

Shifting the attachment point of a link

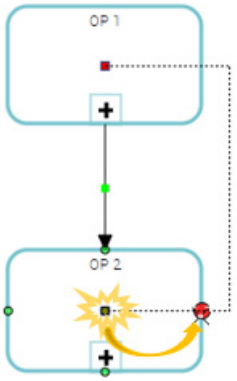
You can move the source and/or target attachment point of a link.

To shift the attachment point of a link:

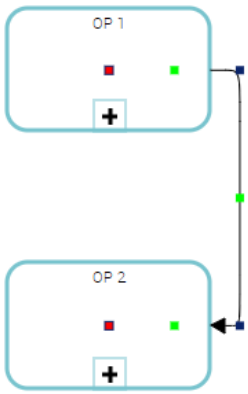
1. Click the link.
   Both its red-squared edges appear.



2. Click the end that you want to shift, hold down your click and move the cursor to the place where you want to put the end.



3. Let off your click.



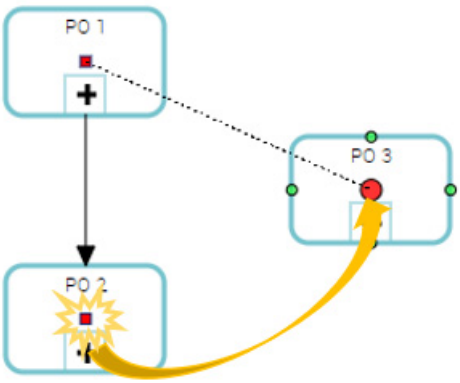
Changing the target of a link

You can modify the target of an object, that is to say the object to which the first object is connected.

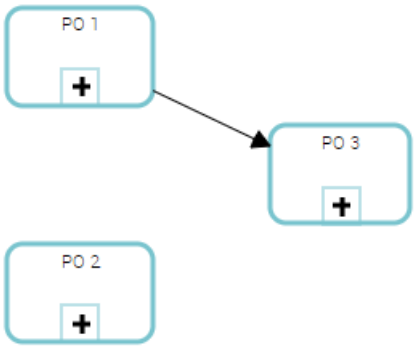
To change the target of an object:

1. Click the link.
   Both its red-squared edges appear.

2. Click the edge of the link to shift, hold down your click and move the cursor to an other target object.



3. Let off your click.



☛ *This action allows you to keep the characteristics of the link.*

Modifying a link appearance

Links are attached to the objects they connect. In diagrams, links behave as lines. You can modify their shape or their appearance, for example.

☛ *For more details, see Lines in a Diagram.*

Moving a link text

For certain links, text zones can be displayed.

```
Example: cardinalities.
```

To modify the position of the text with respect to the line:

1. Select the text zone.
2. Keep the selection and drag the cursor along the line.
3. Let off your click.
   Possible movements are limited so that the text remains attached to the link. This way, the text can be positioned above, below, or over the line.

Removing and Deleting an Object from a Diagram

A **Hopex** repository object is not only graphical. It exists in the repository and can be present in any, a single, or several diagrams.

The deleted objects are removed from the repository and consequently from all diagrams using them.

☛ *To view diagrams containing a particular object: right-click the object and select **Diagrams Containing Object**.*

Deleting an object from the diagram and from the repository

To delete an object from the diagram and from the repository:

1. Select the object you want to delete.
2. Press [del] on your keyboard.

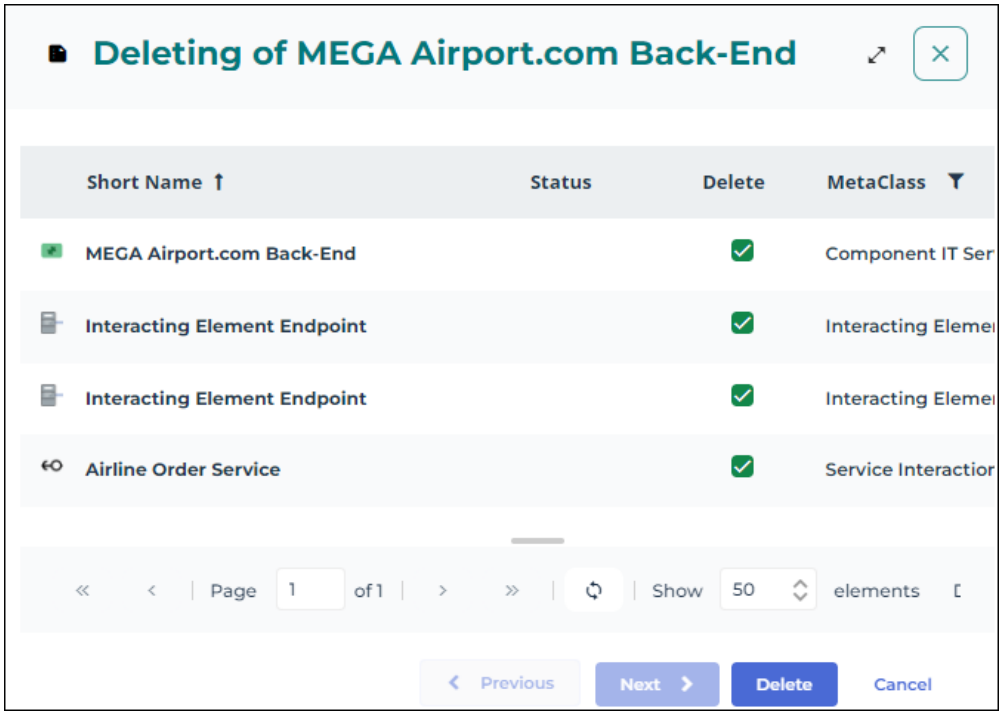
   ☛ *Alternative: right-click the object and select **Remove**.*

   The **Deleting of <object name>** window appears.

   It shows the object you want to delete, along with its dependent objects – if applicable.

   ```
   Example: the operations of an organizational process.
   ```

   By default all of the objects in the list are selected to be deleted.



3. (If needed) In the **Delete** column, clear the objects you want to keep.

4. Click **Delete**.
   Selected objects are deleted from both the diagram and the repository.

If you deleted an object by mistake, you can restore it using the **Undo** feature.

☛ *See Undoing or Redoing Actions on Objects.*

Warning: if you select a link between two objects, pressing the <Del> key deletes the link from the repository (and not only from the diagram).

☛ *You can not delete an object whose status is **Protected**. An object becomes protected as soon as it gets published in the repository (via a workspace or current diagram backup).*

Removing an object from a diagram

To remove an object from a diagram:

Right-click the object and select **Cut**.

The object no longer appears in the diagram, but still exists in the repository.

Updating diagram objects

When a diagram is created, the components of the described object are automatically inserted into the diagram. By default, if new components are added to the described object, they are not automatically taken into account in the diagram.

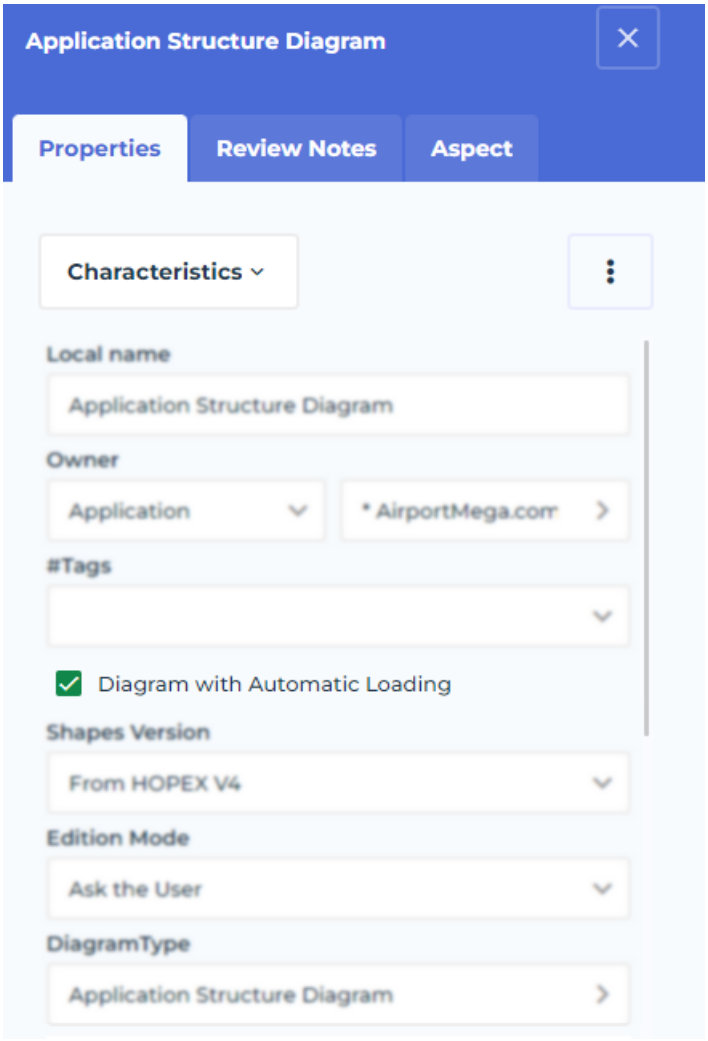
For all components connected to an object to be automatically added to one of the diagrams that describe the object:

1. Access the diagram describing the object in edit mode.

   ☛ *See Editing Diagrams.*

2. In the diagram toolbar, click **More** .
3. Select **Diagram properties** .

4. In the **Characteristics** page, select **Diagram with Automatic Loading**.



When you open the diagram again, all the components of the object described appear in the diagram.

Object Status Indicators

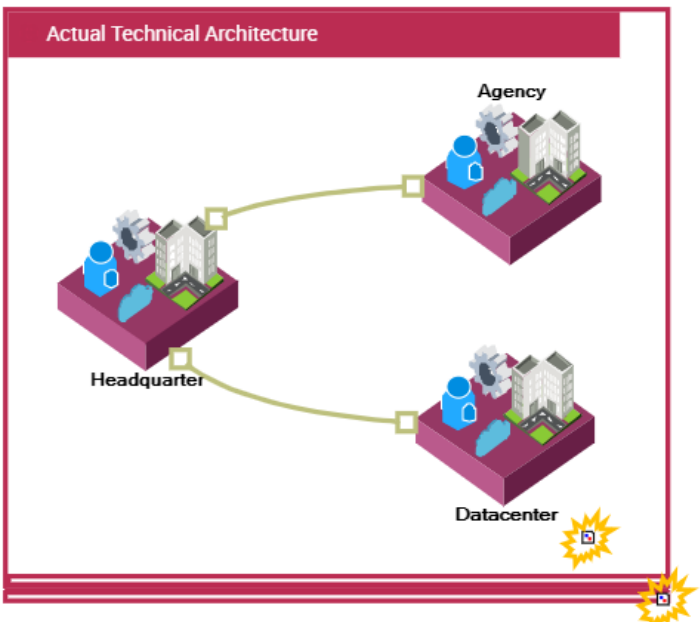
In diagrams, below some objects, icons give information regarding the object status.

For example:

- the object is owned by the parent object
- the object is not owned by the parent object
- the object is described by a diagram
- the object is described by a report (MS Word)
- the object cannot be modified (not authorized and/or locked)
- the object can be modified (authorized and not locked)
- the object has variants
- the object is a variant
- The object has a review note
  see Review Notes.

Example:

When an object in a diagram is described by one or several other diagrams, the status indicator appears below the object shape.



You can click the status indicator **Object described by a diagram** :

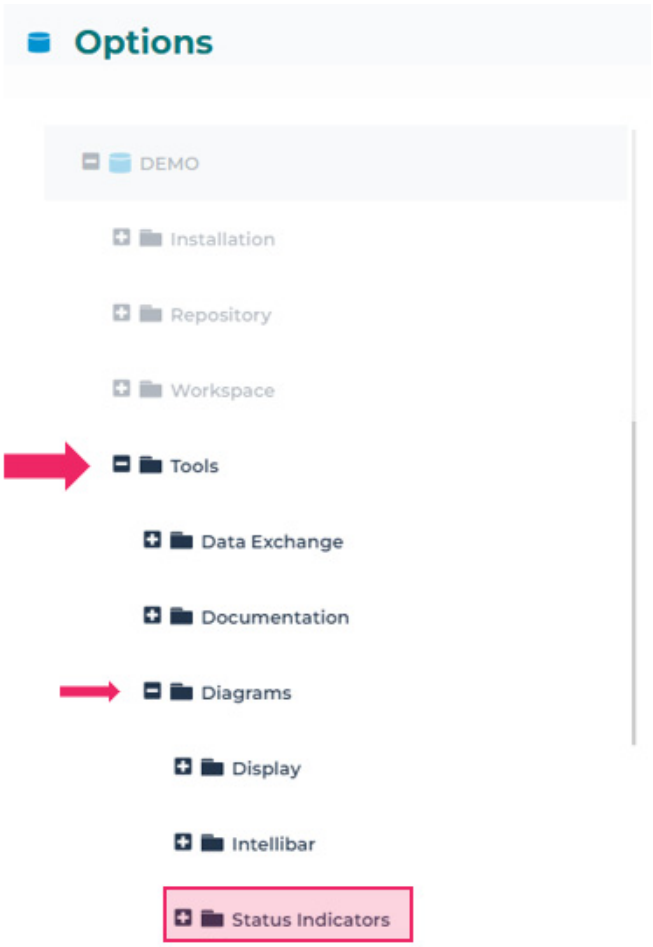
- below "Datacenter" to open the diagram describing the

"Datacenter" object in a pop-up window.

- below "Actual Technical Architecture" to open the diagram in a pop-up window and zoom in the window.

To configure the display of these icons:

1. Access the **Options** from your **Main menu**.
2. In the option tree, select **Tools** > **Diagrams** > **Status indicators**.
3. In the right pane, select (or clear) the relevant options.
4. Click **Apply**.



Modifying the Shape of an Object

Hopex objects are represented in a diagram by graphical shapes. Each object is represented by a default shape. Several shapes are available for each object.

You can:

- modify the graphical shape of the object
- Modify the content displayed on the object graphical shape
- customize the object graphical shape (colors, shadow, position)
- customize the text characteristics of the object graphical shape
  - Format: fonts, style, size, colors
  - Attributes: Strikeout, Underline, Outline, Word-wrap text, Automatic width adjustment
- the position of the object text field

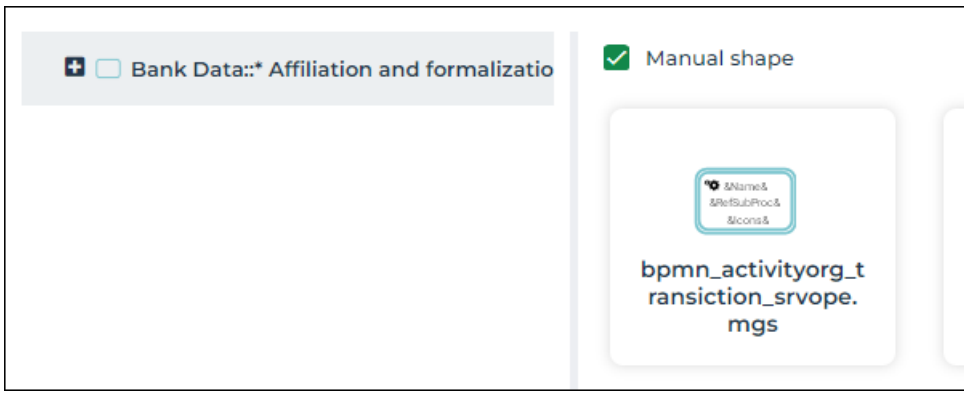
Modifying an object shape

To modify the object shape in a diagram:

1. In the diagram, right-click the object and select **Shapes and Details**.

   `E.g.: the object Sub-process.`

   The **Shapes and Details** window appears.
2. Select the required shape.
   Manual shape is automatically selected.



3. Click **OK**.
   The selected object shape is modified.

Modifying the shape set

By default, new diagrams use new shapes. If you want to, you may change new shapes into old shapes.

For compatibility, old diagrams always use old shapes. You can update them with the new shapes.

To modify the shapes version used in a diagram:

1. Open the **Characteristics** page of the diagram properties.
2. In the **Shapes Version** field, select a value.

   `E.g.: "From HOPEX V5" to update an old diagram.`
3. Click **OK**.
   Shapes are changed in the diagram.

Modifying the content displayed on an object shape

A shape:

- usually displays the object short name

  E.g.: the "Analyze a bus" process.

- can display other (text and/or graphic) characteristics.

  E.g.: the process "Analyze a bus" displays ✉ representing the "Receive" value of its **Task type** characteristics.



For a same object type, according to the shape selected, characteristics displayed might be different.

To modify the content displayed on a shape:

1. Right-click the shape concerned and select **Shapes and Details**.
2. In the left pane, expand the tree.
3. Select the content you want to configure.

   E.g.: **Task Type** of a process.

4. In the right pane, in the **With** section:
   - select the characteristics you want to display.
   - clear the characteristics you do not want to display.

   E.g.: clear **Task Type**. The Task Type graphical representation is no longer displayed.



Customizing the object graphical shape (color, position)

In a diagram, you can customize the graphical shape of an object to highlight it or send it to the back.

You can:

- customize its background and border colors

  Available for some of the diagrams only.

  Beware the consistency in object styles if you modify the border color.

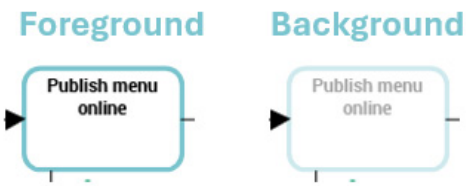
  For example: in a process diagram you can customize the background color of an operation.



- add shadow



- send the object to the background and bring it back to the foreground



- go back to the non-customized shape at all times

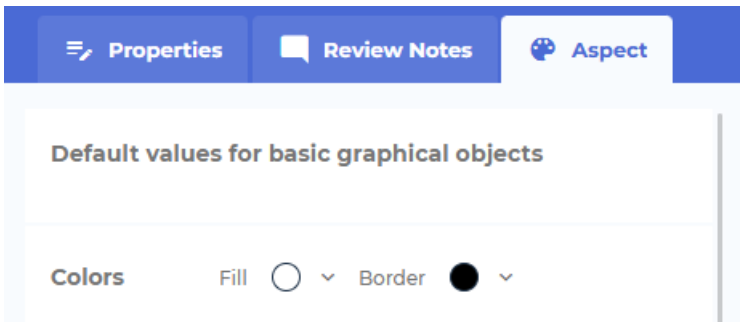
To customize the graphical shape of an object:

1. In the diagram, select the object of interest.

2. Open the **Aspect** page.

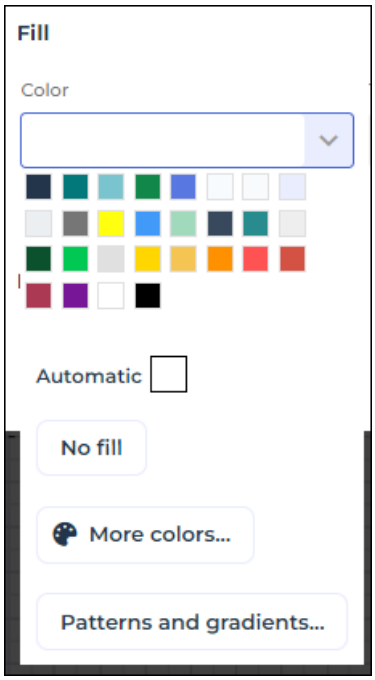
   ☛ *See Diagram Edition Tools.*

   The background shape is white by default and its border has the color corresponding to the object type.



3. In the **Colors > Fill** section, click the arrow and select the background color wanted.

   ☛ *If the **Colors** section is not available, your object cannot be customized.*



   ☛ *When elements cover other elements, the **No fill** color enables to view elements in the background.*

4. (If needed) Click **More colors** to adjust the color with the range sliders to the right, or with the hexadecimal values:
   - RGB (Red, Green, Blue)
   - HSV (Hue, Saturation, Lightness)
5. (If needed) Add a pattern or a color scale.

   ☛ *See Defining a color gradient or a pattern to a shape.*
6. In the **Colors > Border** section, click the arrow and select the line color wanted.

   ☛ *If the **Colors** section is not available, your object cannot be customized.*

   Pay attention to the consistency of object styles.
7. (If needed) Click **Reset** to reset a customization.

Modifying the text characteristics of an object shape

By default the shape usually displays the object short name.

To access the text characteristics of a shape:

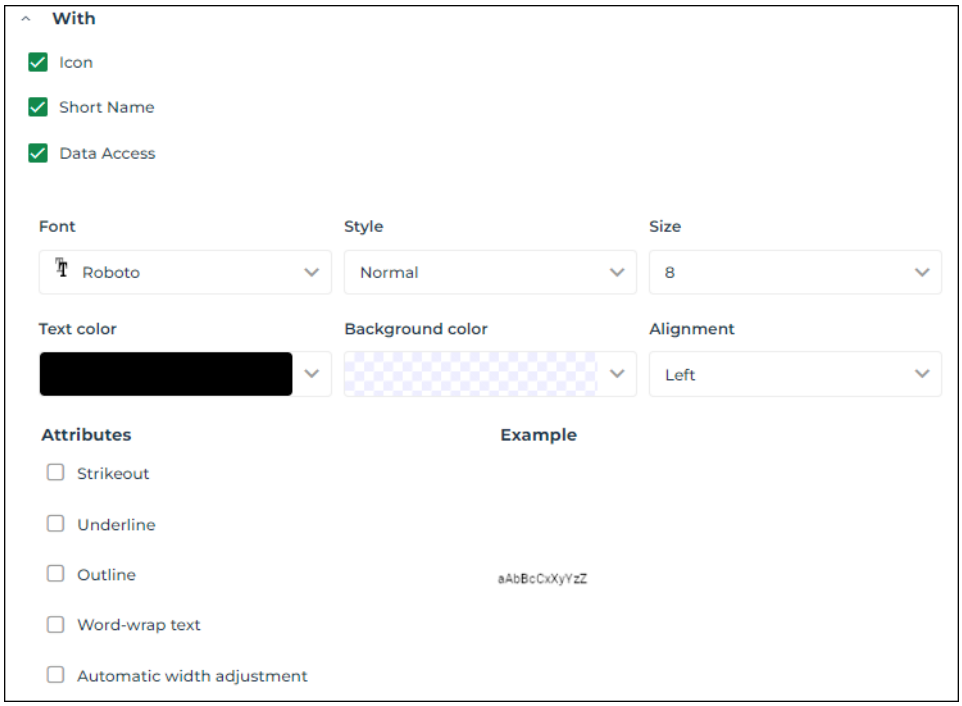
1. Right-click the shape concerned and select **Shapes and Details**.

   ☺ *You can also modify the main text characteristics in the **Aspect** page, see Modifying the text style.*
2. In the left pane, expand the tree.
3. Select a text characteristics.

   E.g.: **Short name**

4. In the right pane modify the font.

   E.g.: **Text color**, **Background color**, **Size**.



5. Click **OK**.
   The text characteristics of the selected object shape are modified.

   ☛ *If you have customized the size or the font of the text associated with the shape, these options remain unchanged on shape modification.*

Updating the text of shapes

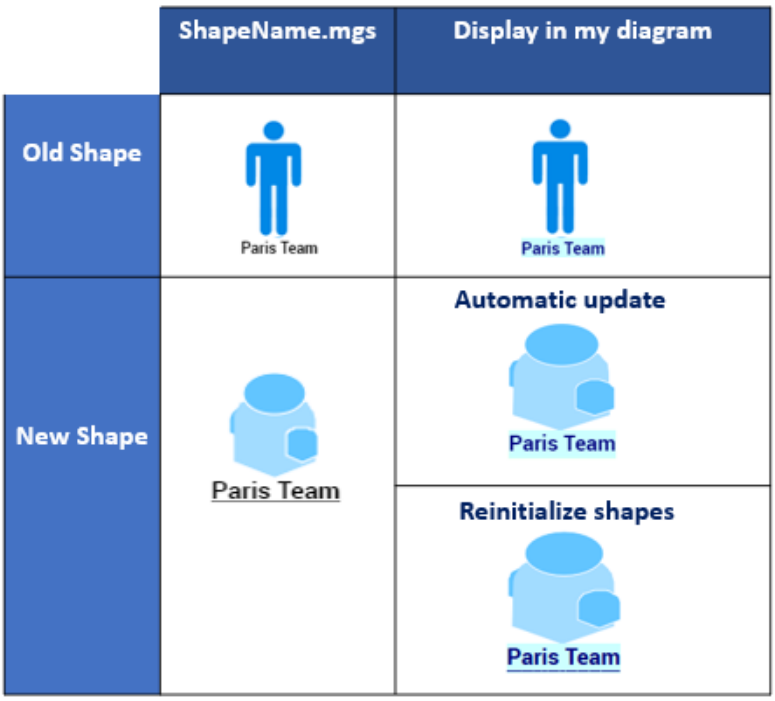
If the shape (.mgs file) of an object type has been modified, when opening the diagram that uses this shape:

- ***Shapes***
  All of the shapes of this object type are automatically updated.
- ***Text of the shapes***
  Texts of the shapes are not updated.
  You can update the texts of the shapes with the new shape (.mgs file). In this case:
  - the characteristics (e.g.: font, color) you modified in the diagram are kept.
  - the characteristics you did not modified in the diagram are updated.

    Example: you have customized the text of a shape (text color modified and background color added).

    When the shape is updated (.mgs file): the shape is automatically updated in your diagram and your text customization is kept (text color and background color)

    The **Reinitialize shapes** action updates only the characteristics you have not modified (underlined text).



To update the texts of the shapes in a diagram:

1. Right-click in the diagram and select **Initialize Shapes**.
   All of the texts of all of the shapes are updated (according to the defined rules).

Modifying the position of the text field of an object

You can modify the position of text fields of objects.

☛ *In this way, the position is no longer defined as static in the .mgs file.*

```
E.g.: bottom right instead of bottom centered.
```

To modify the position of the text field of an object:

1. Right-click the object text field and in the **Shape** section, select **Position** then the desired position.

```
E.g.: Bottom Right
```



Using Pools: Improving Graphical Presentation

To improve the graphical presentation of certain diagram types, you can add your participants in a pool.

E.g.: process diagram, System Process diagram.

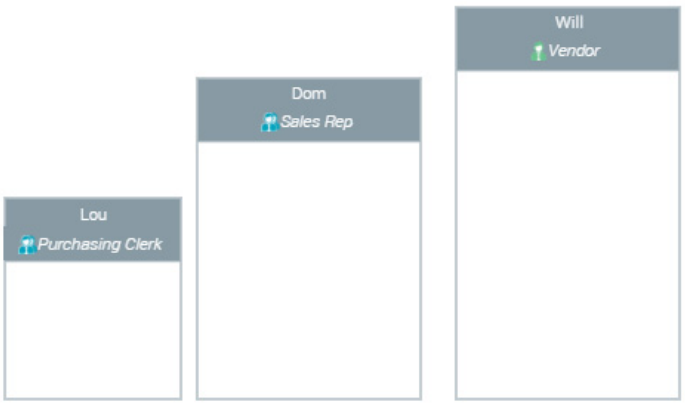
- The **pool** is a zone made up of several **swimlanes**. It can be horizontal or vertical.

  ☛ *By default, pools are horizontal.*

- When you add a **Participant** to a diagram, it is automatically included in a **swimlane**.
  You can add the Participant:
  - next to an isolated Participant to form a pool
  - in a pool
  - elsewhere in the diagram (it forms an isolated swimlane).

Example of 3 Participants (Org-Unit) in a diagram

Participants isolated in 3 swimlanes. Each participant can have its own specific dimensions.



Participants are grouped together in a pool. Participants are aligned with identical height.



You can add Participants with specific assignment types to the diagram.

Example: system process diagram

You can add Participants with Application assignment type (by default) or select another type (Org-unit, microservice, system process).

☛ *You can also add Participants without any assignment type and define their assignment later.*

Creating a pool

To create a pool:

1. In the diagram insert bar, click **Participant (< Assignment type>)** .

   Example: **Participant (Application)** by default in a System Process diagram.

   ☛ *According to your needs, to insert a Participant with another assignment type, click the arrow and select **Participant (<Other assignment type>)**.*

   You can also add participants without any assignment type, or modify their assignment later.
2. Click in the diagram, where you want to insert the pool.
3. (Optional) Enter the **Local Name** of the Participant.
   If you enter it, the **Local Name** of the Participant is displayed in the diagram.

   ☛ *If not entered, the **Local Name** takes by default the selected assignment value but is not displayed in the diagram.*

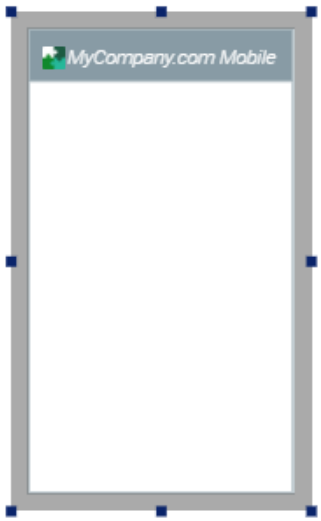
   ☛ *See the case of a Participant with several assignments, Adding an assignment to a participant.*
4. In the **<Assignment Type>** drop-down list, select the assignment.

   E.g.: in the **Application** drop-down list, select the application.

   ☛ *You can select several assignments.*
5. (If needed) Click **Next** to check your configuration and/or modify it.
   You can modify the **Local Name** and modify the assignments.

6. Click **OK**.
The pool comprises a swimlane, which includes the Participant and its assignment.

☛ *To add another assignment to the Participant, see Adding an assignment to a participant.*



7. Add other participants to form a pool.

☛ *See Adding a participant to a pool.*

☛ *See Adding a participant next to another participant.*

Adding a participant to a pool

You can add a participant:

- in a pool
- next to an isolated participant to form a pool

To add a participant to a pool:

1. In the diagram insert bar, click **Participant (< Assignment type>)** .

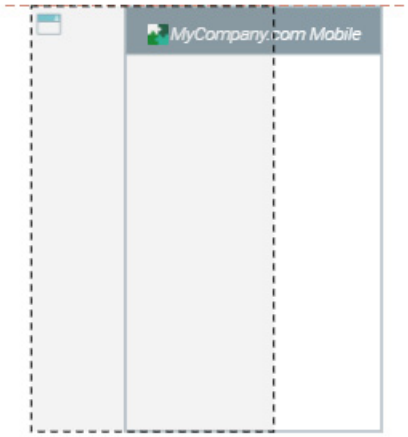
Example: **Participant (Application)** by default in a System Process diagram.

☛ *According to your needs, to insert a Participant with another assignment type, click the arrow and select **Participant (<Other assignment type>)**.*

☛ *Alternative: you can also select an isolated participant in the diagram, and move it in the pool by drag & drop.*

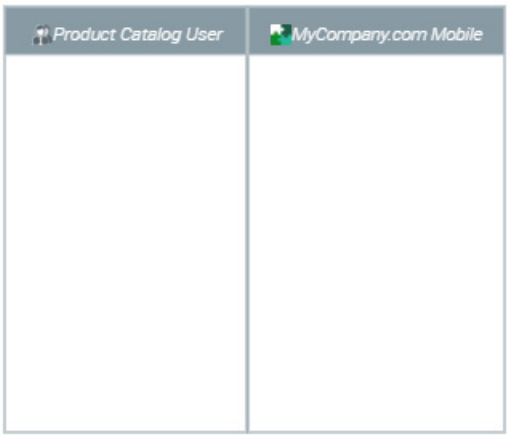
2. In the diagram, click the participant next to which you want to add the participant
   For the participant to be included in the pool, it must cover more than the half horizontal part of a participant already in the pool (horizontal pool).

   E.g.: the Participant will be added to the left of "MyCompany.com" **Particiapnt (Application)**.



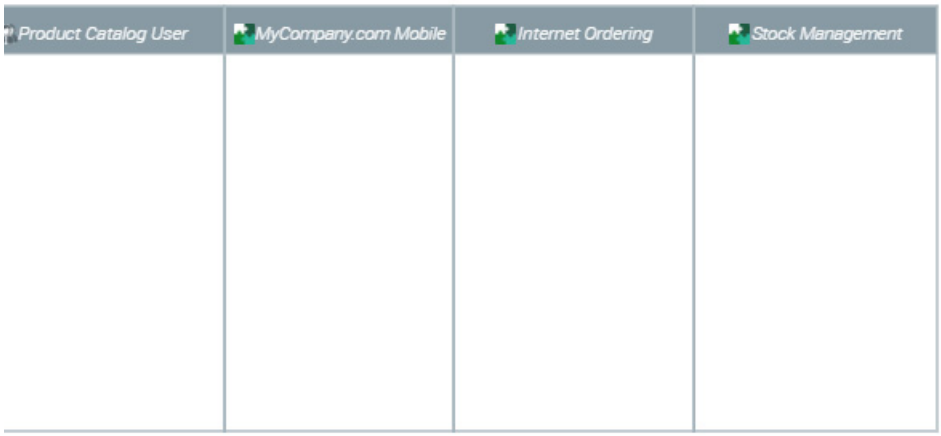
The new participant is added to the side which is half covered.

E.g.: the "product Catalog User" **Participant (org-unit)** is added to the left of "MyCompany.com" **Participant (Application)**.



3. Add as many participants as needed.

   ☛ *To reorder the participants, see Modifying the order of participants in a pool.*



Adding a participant next to another participant

In a horizontal pool, you can add a participant to the left or to the right of an other participant.

In a vertical pool, you can add a participant above or below an other participant.

☛ *To rearrange the Participants order, see Modifying the order of participants in a pool.*

To add a Participant to the right/left of a Participant:

1. In the diagram, click the Participant next to which you want to add the Participant.

   ☛ *If you click a pool, the participant is added to the right/left of the last/first Participant.*

2. In the insert bar of the Participant (or of the pool), click:

   - **Add a participant to the left**
   - **Add a participant to the right**

   The Participant is added to the left/right of the Participant.

   ☛ *See Adding an object from an object contained in the diagram.*

   ☛ *To define an assignment to the Participant, see Adding an assignment to a participant.*

Adding an assignment to a participant

A participant can have several assignments.

When a Participant has several assignments, its **Local Name** is automatically displayed.

To add an assignment to a Participant:

1. In the diagram, click the Participant.

2. Click **Add an assignment** .

   ☛ *Alternative: display the properties of the participant and in the **Characteristics** page, **Assignment** section, connect an assignment.*

3. In the drop-down list field, select the assignment.

   ☺ *To facilitate the selection, enter the first letter of the assignment you want to add.*

   Add as many assignments as needed: each assignment selected in the list is added.

   ☛ *To delete an assignment, in the field of the drop-down list, click* ✖ .

4. Click outside the field of the drop-down list.
   Each assignment is displayed.

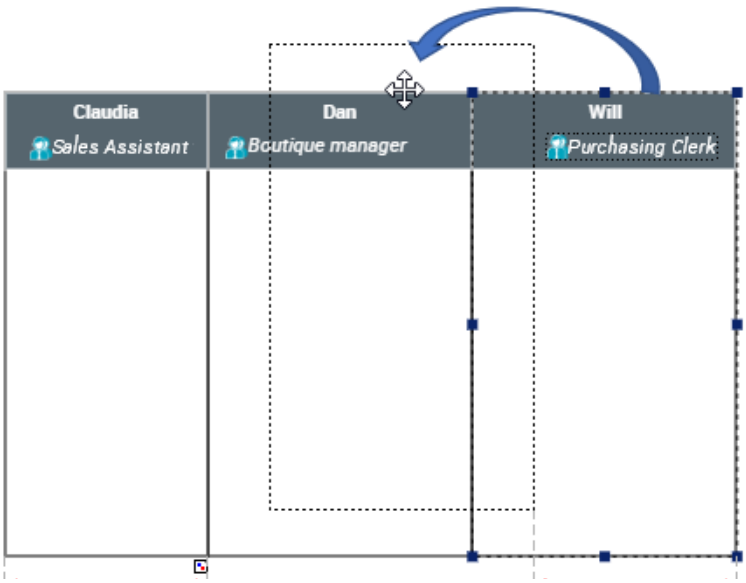


Modifying the order of participants in a pool

To modify the Participant order in a pool:

1. Select the Participant you want to move.

2. Hold the mouse button down and move the Participant to the required position.



The Participant is moved and the order modified.

Removing a Participant from a pool

You can remove a Participant from a pool and keep it in the diagram.

To remove a Participant from a pool:

1. In the pool, select the Participant.
2. Hold the click down and drag & drop the Participant outside the pool.
   The Participant and its content are moved outside the pool.

Deleting a Participant from a pool

You can remove a Participant from a pool and remove it from the diagram.

To delete a Participant from a diagram:

1. In the diagram, right-click the Participant and select **Remove**.
   ☛ *Alternative: select the Participant and press the [Del] key.*
2. In the deleting window, click **Delete**.
   The Participant is deleted from the diagram.

Globally modifying the size of Participants of a pool

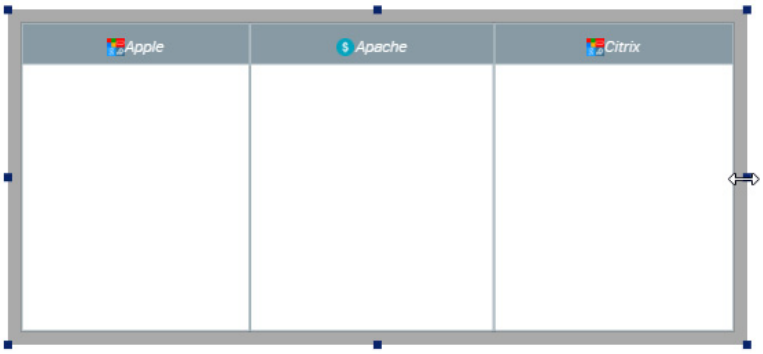
From a pool, you can modify the size of all of its Participants at once.

☛ *Alternative: with a horizontal pool, if you modify both dimensions of a Participant, the height of the other Participants is also adjusted. See Modifying the size of a single Participant of a pool.*

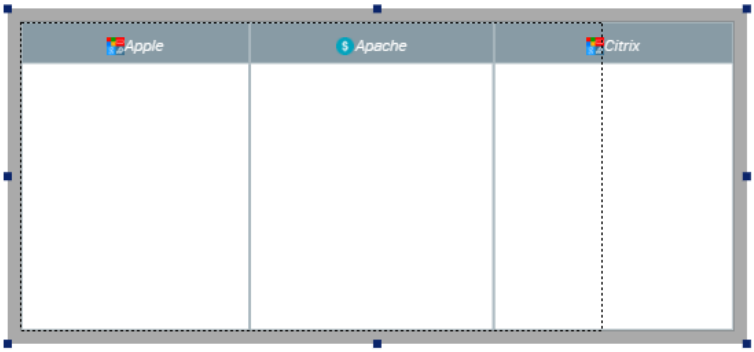
To globally modify size of objects in a pool:

1. Select the pool: click one of its outer edges.
2. Position the cursor on one of the pool handles.
   A double arrow appears.

   `E.g.: right edge handle.`



3. Click the double arrow, hold your click down and move the cursor to modify the size of the selection.



4. Let off your click.
   The size of all other participants of the pool is modified in identical proportion.

   `E.g.: the width of each Participant is modified similarly.`



Modifying the size of a single Participant of a pool

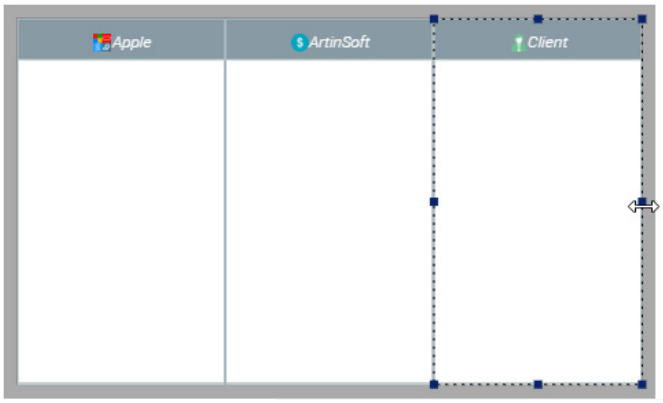
In a horizontal/vertical pool, you can modify the width/height on a single Participant.

☛ *With a horizontal/vertical pool, if you modify both dimensions of a Participant, the height/width of the other Participants is also adjusted.*

To modify the size of a single Participant of the pool:

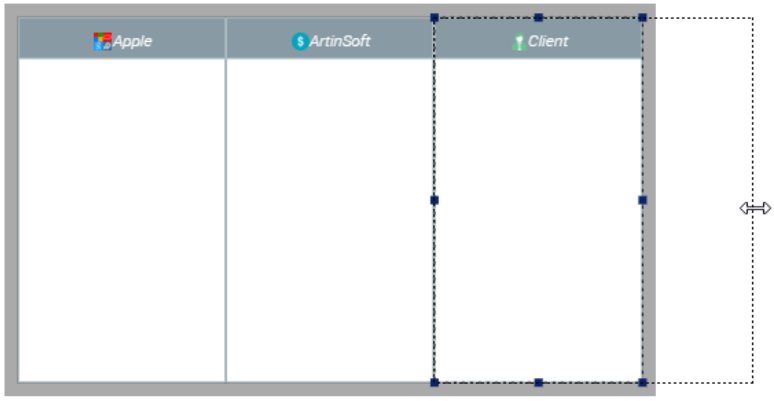
1. Select the Participant you want to modify.
2. Position the cursor on one of the Participant edge handle.
   A double arrow appears.

   `Example of a horizontal pool: select the right (or left) edge handle.`

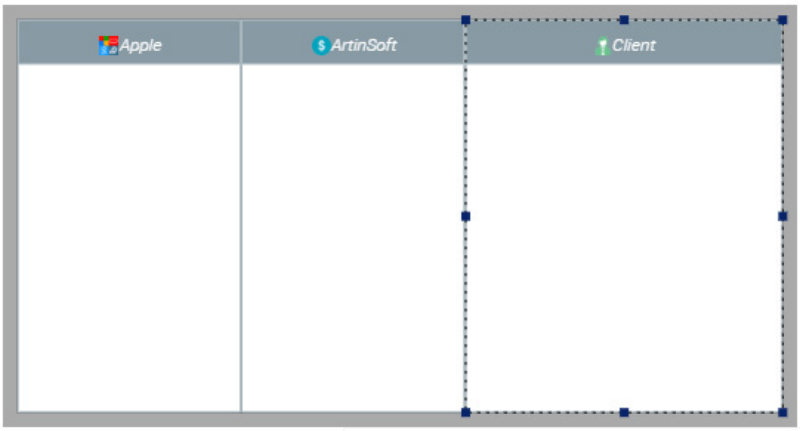


3. Click the double arrow and hold your click down while moving the cursor to the right/left so as to increase/decrease the size of the Participant.

   `E.g.: move the cursor to the right.`



4. Let off your click.
   Only the width of the selected Participant is modified.

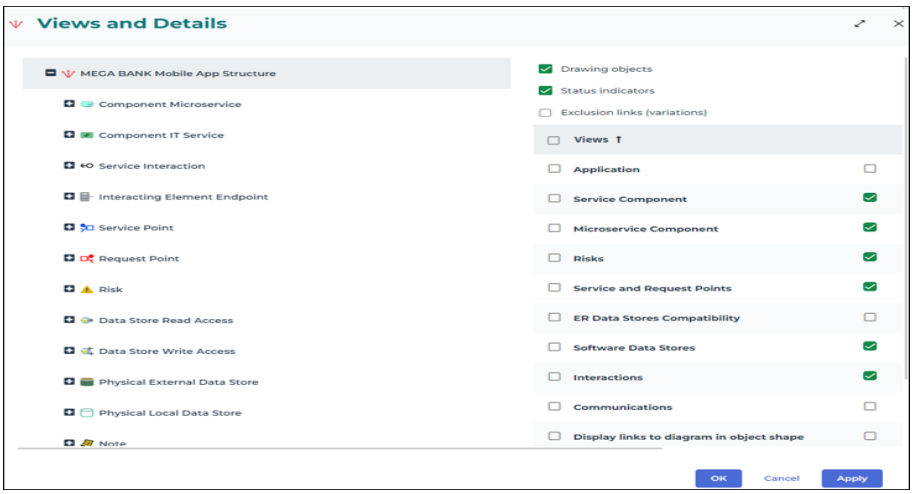


Configuring the Object Types (Views) and Details of a Diagram

The **Views and Details** window presents an extended list of object types (views) that can be displayed in the diagram. This list depends on the diagram type.

To configure the views window:

1. In the diagram toolbar, select **Views and Details** .
   ☛ *See Diagram toolbar (top).*
   The list of views (object types to be displayed) appears.
2. Select or clear the views you want to display or not.



☛ ***Drawing objects*** *enables to show or hide purely graphical elements representing neither object nor link.*

3. Click **OK**.
   The display and the insert toolbar of the diagram are updated according to the configuration specified.

TEXTS IN A DIAGRAM

In diagrams, texts enable informal documentation of diagrams.

See:

- Inserting a Text in a Diagram
- Inserting a Field in a Diagram
- Inserting a Note in a Diagram
- Inserting a Title or a Title Block

Inserting a Text in a Diagram

A text box is created under the shape of the element, containing the cursor for text entry.

☛ *To insert, in the diagram, variable data (e.g.: page number, date) whose update is automatically performed, see Inserting a Field in a Diagram.*

Creating a text

To insert a text in a diagram:

1. In the diagram object insert bar, click **Graphical object** > **Text**.
2. Click in the diagram.
   The text frame is displayed.
3. Enter the text you want to insert in the diagram.
4. Click in the diagram, outside the text frame.
   The text is inserted in the diagram.

Modifying a Text

To modify a text:

1. Select the text.
2. Press the <F2> key.

   ☛ *Alternative: double-click the text*

   The text edition frame pops up.
3. Click in the frame, or in the text where you want to position the cursor.

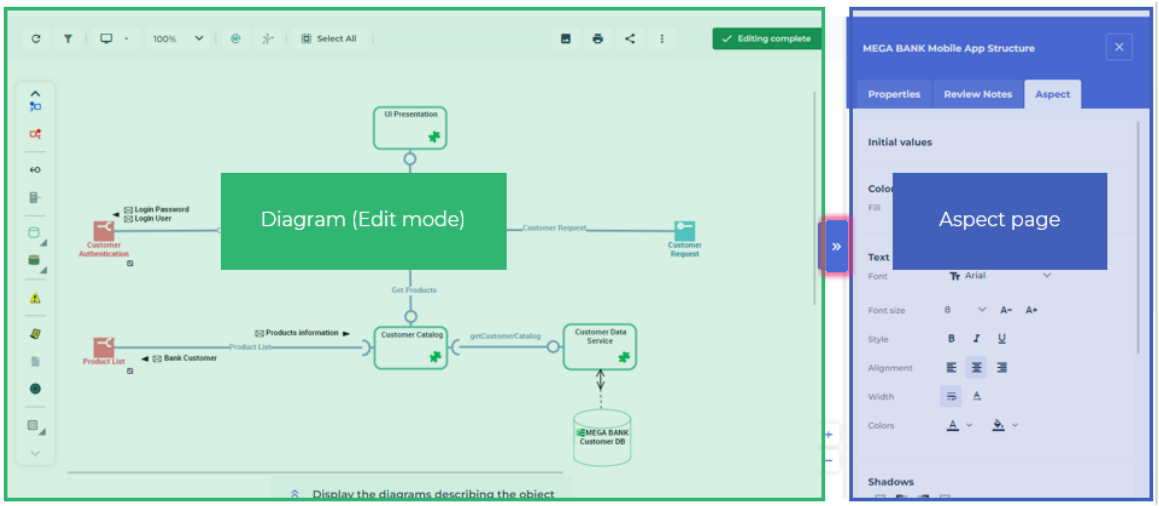
   ☛ *You can also move the cursor using the keyboard arrow keys.*
4. You may:
   - enter text: the characters are inserted where the cursor is positioned.
   - use the <Backspace> and <Delete> keys to delete characters.
   - use **Copy**, **Cut** and **Paste** after selecting text.
   - press <Enter> key to insert a line break.

Modifying the text style

You can modify the style of a text using the diagram **Aspect** lateral page.

To display this page, click the brackets on the right of the edit zone.

☛ *See Editing tools for the diagram text (Aspect tab).*



You can modify the text style:

- the character font and size

  By default: Arial 8.
- the text alignment

  By default: Center.
- the font color

  By default: Black.
- the text background color

  By default: none.

You can also select the options:

- **Word-wrap text** to automatically wrap the text to a new line if it does not fit on one line.

  Option selected by default.
- **Automatic width adjustment** to resize the text frame according to the actual size of the text.

  Option selected by default.

  ☛ *If you do not select this option, you may have to resize the text frame in order to display all of your text.*

To modify the text style:

1. In the diagram, open the **Aspect** page.

2. Select the text.
3. Use the **Aspect** page features to modify the style of the text.

Displaying a text vertically

To display a text vertically:

1. Select the text.
2. In the **Aspect** page, click **Rotation left 90°** or **Rotation right 90°** .
   ☛ *This text can then be reused in a shape.*

Inserting a Field in a Diagram

Fields enable to easily insert date, title, and page number in a diagram. Fields are updated automatically: when printing your diagram, you do not need not manually update it to view the updated printing date.

To insert a field in a diagram:

1. In the diagram inserting bar, click **Graphical object** > **Field**.
   The **Insert Field** dialog box appears.
2. Select the desired field in the **Field Type** box.
   The contents of the **Format** box are determined by the type of field you selected.
3. Select the **Format**.
4. Click **OK**.
5. Click in the diagram.
   The field is inserted into the diagram where you click.

Field formats

Formats appear as follows:

Date and time	
DD	Day
MM	Month number (1-12).
MMMM	Month name (fully spelled)
YY	Year in two numbers (93 for 1993).
YYYY	Year in 4 numbers (1993)
hh:mn	Hours and minutes on a 24-hour basis (14:45)
hh:mn AM/PM	Hours and minutes on a 12-hour basis (02:45)

Title/short title	
AAAAA AAAAA AAAAA	Uppercase
Aaaaa Aaaaa Aaaaa	Uppercase at the beginning of each word
aaaaa aaaaa aaaaa	Diagram name with no character change

Page number	
1 2 3	Arabic numerals
A B C	Letters
I II III	Roman numerals
1/x 2/x 3/x	Page number in Arabic numerals followed by total number of pages
1A 1B 1C 2A 2B 2C	Numbering in rows and columns.

- Diagram creator
- Diagram modifier
- Diagram creation date / time
- Diagram modification date / time
- Diagram nature
- Short name of object described
- Long name of object described

Inserting a Note in a Diagram

If you want to highlight a particular point in your diagram, you can:

- add a note to an object of the diagram
- add a note to the diagram, then link it to one or several objects of the diagram.

Adding a note to an object of the diagram

To add a note to an object of the diagram:

1. In the diagram, select the object to which you want to add a note.
2. In the diagram insert bar, select **Note** . The object ghost sticks to your cursor.

   ☛ *If **Note** is not shown, use the arrow to navigate .*
3. Click in the diagram, where you want to insert the note.
4. In the **Note** field, enter a name for the note, or keep the name automatically generated by **Hopex**.

   ☛ *A note is unique in the repository. You cannot give an already-existing name to the note.*
5. In the **Type** field, click the drop-down menu and select a note type.

   ☛ *Note types are for example: Warning, Correction, Improvement, Question, Remark, Justification, Example, etc.*
6. Enter your text in the **Comment** area.
7. Click **OK.**
   Your note is added to the object of the diagram.

Adding a note to one or several objects of the diagram

To add a note to one or several objects of the diagram:

1. In the diagram object insert bar, click **Note** .

   ☛ *To add **Note** to the insert bar: in the diagram toolbar, select **Views and Details** and select **Notes**.*
2. Click in the diagram.
   The **Creation of Note** window appears.
3. in the **Note** field, enter the name of the note or keep the name automatically generated by **Hopex**.

   ☛ *A note is unique in the repository. You cannot give an already-existing name to the note.*
4. In the **Type** field, click the drop-down menu and select a note type.

   ☛ *Note types are for example: Warning, Correction, Improvement, Question, Remark, Justification, Example, etc.*
5. Enter your text in the **Comment** area.
6. Click **OK**.
   Your note is created and appears in the diagram.

7. In the diagram editing bar, to link the note:
   - Click **Link** and connect the note to an object of the diagram.
   - Click **Link** and connect the note to another object of the diagram.
   - Repeat the action as many times as objects to be linked to the note.

   Your note is added to the objects of the diagram.

Inserting a Title or a Title Block

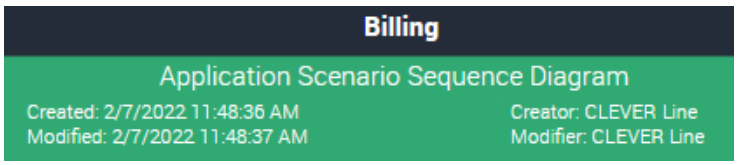
Adding a title to a diagram

A title is an area that displays information regarding the diagram:

- diagram name
- diagram type
- diagram creation and modification date
- diagram creator and modifier names

To add a title to a diagram:

1. In the diagram object inserting bar, click **Title** .
2. Click in the diagram, where you want to insert the title.
   The title is added to the diagram.



Adding a title block to a diagram

A title block is an area that displays information regarding the diagram:

- diagram type
- diagram update date
- diagram page number

To add a title block to a diagram:

1. In the diagram object insert bar, click **Graphical object > Title block**.
2. Click in the diagram, where you want to place the title block.
   The title block is added to the diagram.



Adding an External Reference to a Diagram

To add an external reference to a diagram:

1. In the diagram object insert bar, click **External reference** .
   ☛ *To add **External reference** to the insert bar: in the diagram toolbar, click **Views and details** and select **External references**.*
2. Click in the diagram.
   The **Add External reference** box appears.
3. In the **Name** field, click the arrow and select the (already existing) external reference of your choice.
   ☛ *If the external reference does not exist, Select **Create** and go to Creating an External Reference.*
4. Select the external reference and click **OK**.
   The name of the external reference appears in the **Add External Reference** window.
5. Click **Add**.
   The external reference is added to the diagram.

GRAPHIC ELEMENTS

In a diagram, you can add and customize graphic objects.

You may:

- add a graphic object
- customize the graphic object (e.g.: apply a fill color)
- customize the graphic object border (e.g.: modify its style, color, thickness)

See:

- Creating Graphic Objects
- Cut, Copy, Paste
- Modifying a Shape Fill
- Modifying a Shape Border

Creating Graphic Objects

You can insert basic graphic objects in the diagram.

`Example: rectangle, square, circle, polygon.`

☛ *To create a line or a text, see Lines in a Diagram and Texts in a Diagram.*

To create a graphic object:

1. In the object insert bar, click **Graphical object** .
2. Select the graphic object type.

   ☺ *To create a graphic object whose height is equal to its width (e.g.: circle, square): hold down the <Shift> key while dragging the cursor.*

   ☺ *To create a graphic object based on its center: hold down the <Ctrl> key while dragging the mouse.*

   ☛ *Hold down the <Shift> and <Ctrl> keys to create a graphic object with a regular shape from its central point.*
3. Click where you want to anchor one of the angles of the graphic object.
4. Hold your click down and drag the cursor to where you want the opposite angle to be:



5. Let off your click.
The graphic object is created. The handles around a graphic object indicate that it is selected.



The cursor returns to its standard shape. You can modify (e.g.: select, move) the graphic object.

Cut, Copy, Paste

You can use the following commands on elements:

- **Cut**
Removes from the diagram the selected elements and place them on the clipboard (the previous clipboard content is overwritten).

  ☛ *Only graphic objects and links are actually deleted with the **Cut** command. If you delete object, it is no longer displayed in the diagram, but still exists in the repository.*

- **Copy**
Copies your selection on the clipboard (the previous clipboard content is overwritten).
- **Paste**
Pastes the content of the clipboard in the diagram at the position you clicked last. Note that the clipboard is not emptied: you can paste its content again.

To perform actions on one or several graphic objects:

1. Select one or several elements.

   ☛ *See Selecting Elements.*

2. Right-click the selection and select **Copy** or **Cut**.

   ☛ *You can use <Ctrl> + <C> or <Ctrl> + <X> keys.*

3. Right-click in the diagram (it can be another diagram) where you want to paste the elements and select **Paste**.

   ☛ *You can use <Ctrl> + <V> keys.*

Modifying a Shape Fill

You may:

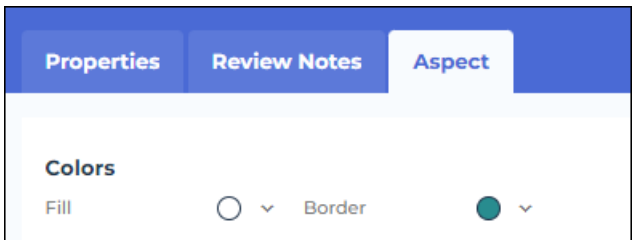
- fill your shapes with a solid color and manage transparency
- apply a color gradient or a pattern

Defining a shape color

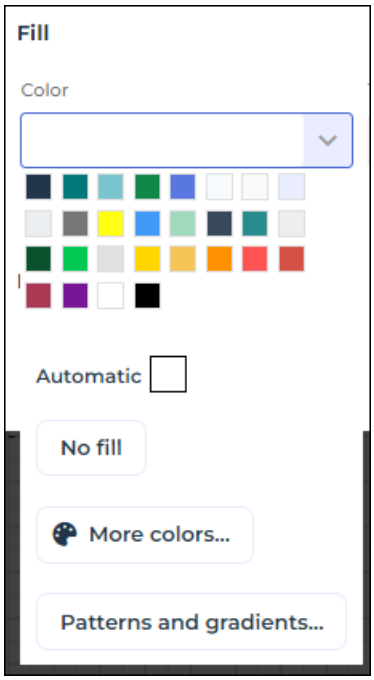
To define the color of a shape:

1. In the diagram, select the shape of interest.
2. Open the **Aspect** page.

   ☛ *See Diagram Edition Tools.*



3. In the **Colors > Fill** section, click the arrow and select the color wanted.



   ☛ *When elements cover other elements, the **No fill** color enables to view elements in the background.*

4. (If needed) Click **More colors** to adjust the color with the range sliders to the right, or with the hexadecimal values:
   - RGB (Red, Green, Blue)
   - HSV (Hue, Saturation, Lightness)

   ☛ *See Managing transparency to manage transparency.*

5. (If needed) Add a pattern or a color scale.

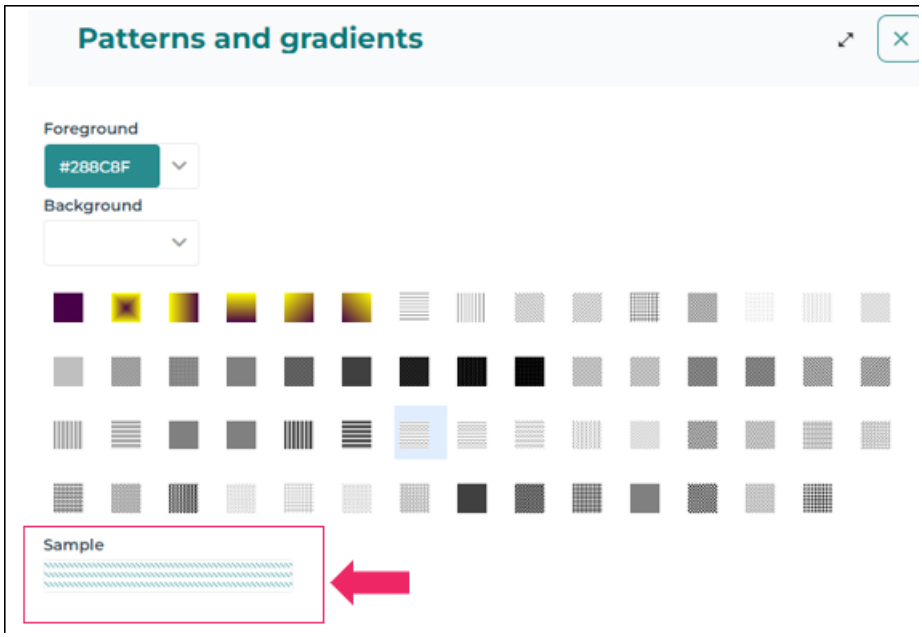
Defining a color gradient or a pattern to a shape

You can define two colors to a shape and apply:

- a color scale
  The shape color gradually moves from one color to the other one.
- a pattern

To apply a color gradient or a pattern to a shape:

1. In the diagram, select the shape of interest.
2. Open the **Aspect** page.
   ☛ *See Diagram Edition Tools.*
3. In the **Colors > Fill** section, click the arrow and select **Patterns and gradients**.
   The color of the **Foreground** field is predefined with the shape color.
4. (If needed) Modify the color of the **Foreground** field.
5. In the **Background** field, set the color of the background (or second color for a pattern with a color gradient).
6. Select a pattern.
   A sample of the rendering is shown at the bottom.



7. Click **OK**.

Managing transparency

To apply transparency to a shape:

1. Right-click the shape and select **Colors and borders**.

2. In the **Fill** section, in the **Transparency** field, select or enter a value.
   The value indicates the fill transparency level.

   `E.g.: 0%, by default, indicates that the shape is opaque.`

Modifying a Shape Border

By default the shape border is black, thickness 0.25 pt, solid line style.

You can make the border invisible or modify its rendering:

- its color
- its style (solid or dash line)
- its thickness

To modify the shape border:

1. In the diagram, select the shape of interest.
2. Open the **Aspect** page.

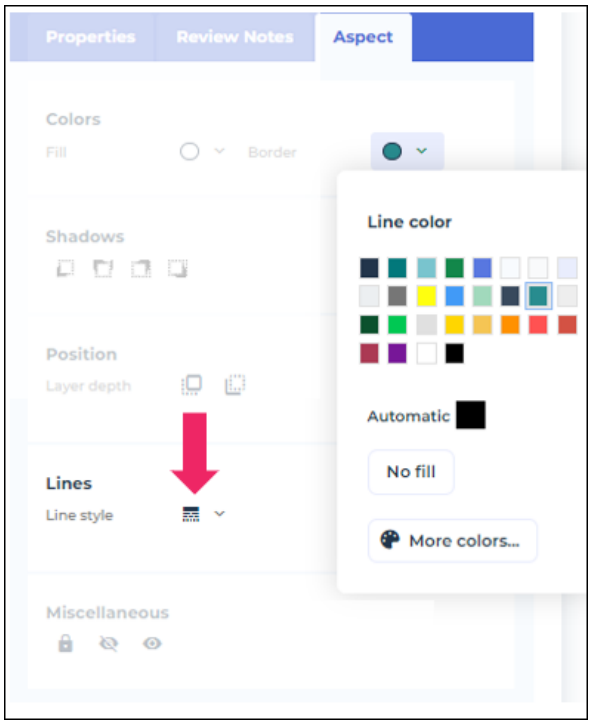
   ☛ *See Diagram Edition Tools.*
3. In the **Colors > Border** section, click the arrow.

   ☺ *Alternative: right-click the shape and select **Colors and Borders**.*
4. Select a color.

   `Default color: black.`
5. (If needed) Click **More colors** to adjust the color with the range sliders to the right, or with the hexadecimal, RGB (Red, Green, Blue) or HSV (Hue, Saturation, Lightness) values.
   To make the border invisible, select “No fill”.

6. (If needed) In the **Aspect** page, in the **Lines > Line style** section, click the arrow and select another style. You can also manage the line thickness.

   `Default style: solid line.`



LINES IN A DIAGRAM

In diagrams, links behave as lines: You can modify their shape or their appearance, for example. Links are attached to the objects they connect.

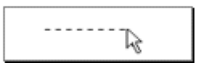
☛ *For more details on links, see Handling Links Between Objects.*

Drawing Lines

Tracing a line

To trace a line:

1. In the object insert bar, click **Graphical object** .
2. In the drop-down menu, select **Line**.
3. In the diagram, click where you want the line to start and drag the cursor while holding your click down.



4. Release your click where you want the line to end.
   The line is created as a straight line with a handle at each end.
5. (If needed) Modify its style using the **Aspect** page, in the **Lines** section.

Creating a joint

You can segment a line to create a jagged line for example.

To segment a line:

1. Select the line.
2. Position the cursor on the line.
3. Press the <Ctrl> key.
   The cursor turns into a + shape.

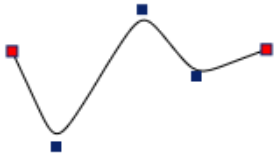


4. Holding down the <Ctrl> key, click and move the cursor to where you want to segment the line.
   A joint represented by a handle is added.



5. Holding down the <Ctrl> key, click and move your cursor outside the line to break it.

6. Release the <Ctrl> key.
   You can perform this operation as many times as you want. You can then drag the joints to modify the shape of the line.



Deleting a joint

To delete a joint (except at both ends):

- Right-click the joint and select **Delete Joint**.
  The joint is deleted.

  ☛ *Alternative: double-click the joint.*

Delete all joints

You can turn a broken line into a straight line.

To delete all the joints:

- Right-click a joint and select **Delete all Joints**.
  The line turns straight.

Moving Line Segments

To change the shape of a line:

1. Place your cursor on a joint.
   It changes shape.
2. Click the handle.
3. Hold down the mouse button and move the handle towards the desired position.
4. Let off your click.

Moving Lines

To move a line:

1. Select the line.
2. Click the line (taking care not to click a handle).
3. Hold down the mouse button and move the line towards the desired position.

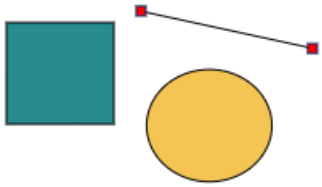
   ☛ *If you perform the above steps by selecting a handle, you will change the shape of the line and not its position.*

Connecting a Line to an Element

You can connect the end of a line to an element, so that if the element moves, the line moves with it.

To attach a line to an element:

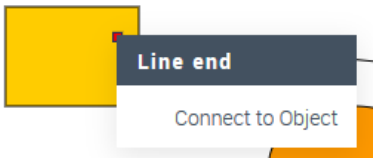
1. Select the handle at the end of the line.



2. Holding the mouse button down, drag the handle inside the element.

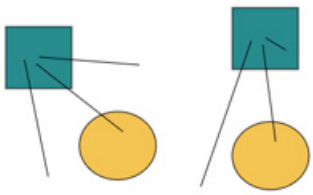
3. Let off your click.
4. Right-click the line handle and select **Connect to Object**.

   ☛ *You can also double-click the handle to connect or disconnect the line.*



The handle is connected to the element. When the element is moved, the handle follows it.

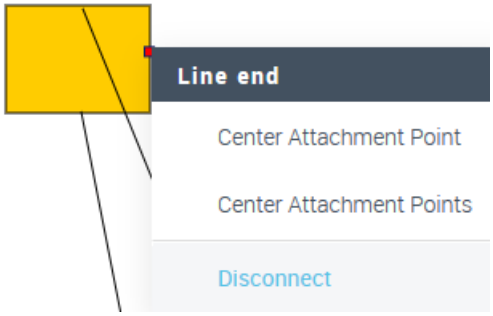
In this example, the three lines are connected to the rectangle and follow its movements.



To disconnect a line from an element:

1. Position the cursor over the connected end of the line.

2. In the pop-up menu, select **Disconnect**.



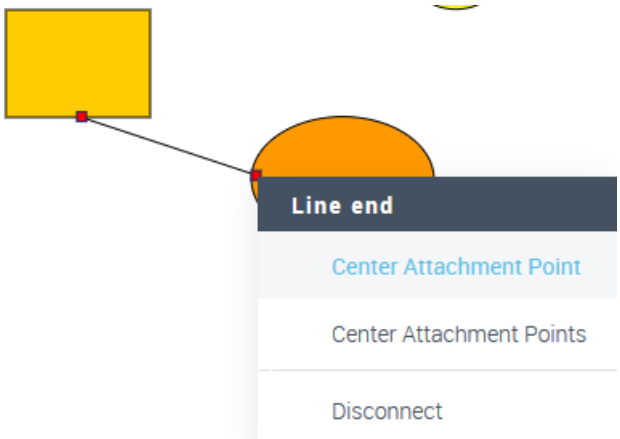
Centering Attachment Points

When a line is attached to an object, or in the case of links in diagrams, you can center the attachment points.

> ☛ *For more details on how to attach a line to an object, see Connecting a Line to an Element.*

To center attachment points:

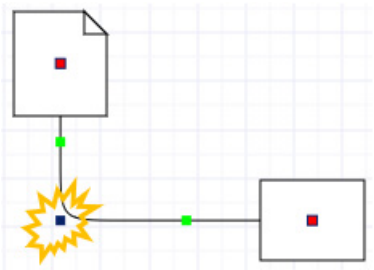
- Right-click an attachment point and select **Center Attachment Point**. To center both attachment points simultaneously, select **Center Attachment Points**.



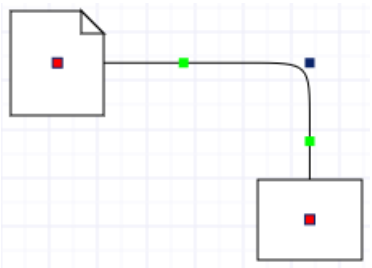
Reversing the Angle Position of an Orthogonal Line

To reverse the angle position of an orthogonal line:

- Double-click the handle of the angle of the line:



The orthogonal line angle reverses to the opposite side.



Modifying a line style

In a diagram, you can modify the style of each line.

You can also modify the style of several lines at once.

For each line, you can modify:

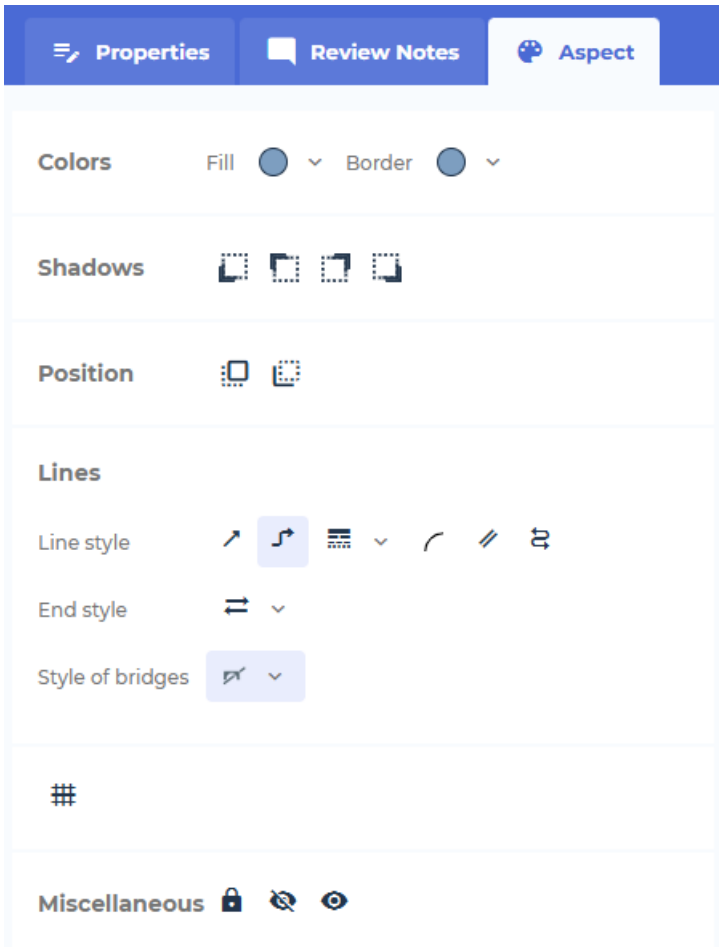
- its style:
  - free or orthogonal
  - closed: enables to draw an irregular polygon, which can be filled with a color or a pattern.
  - perspective: enables to adjust the right angle in diagram with object in perspective.
- its appearance:
  - curved or straight
  - rounded or right angles
  - simple or double
  - weight
  - dashed or solid
- its color
- its extremities:
  - line ends covered or not by connected elements
  - with or without shapes
  - (with shape) each shape color

To modify a line:

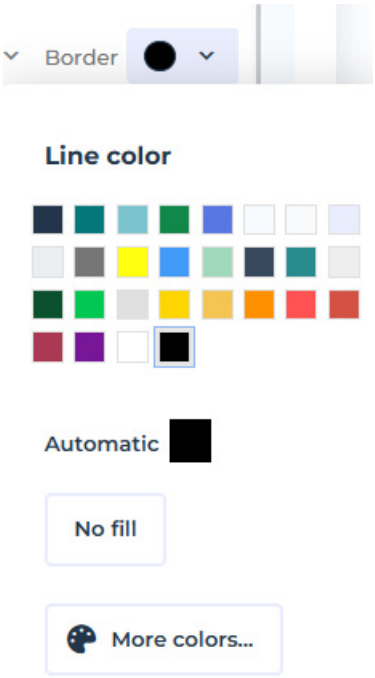
1. Select the line.

   ☛ *To modify several lines at once, use the [Ctrl] key to select the lines.*

2. Open the **Aspect** page.

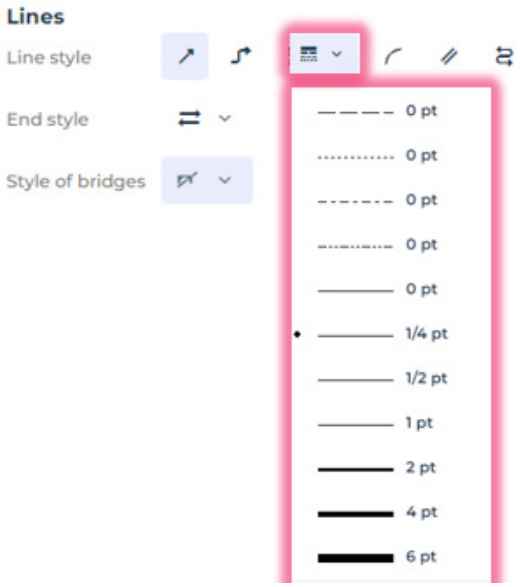


3. In the **Colors** section, use the **Border** drop-down list to modify the color of the line:

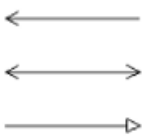


4. (If needed) In the **Shadows** and **Position** sections, you can:
   - add shadow
   - send the line to the back

5. In the **Lines** section, use the drop-down lists to modify the line:
   - its **Style** and **Thickness**



   - its **Extremities**

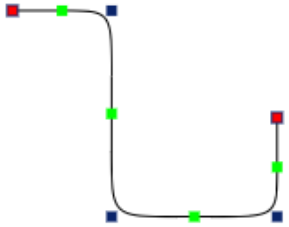


(If needed) Select:

- **Curved line**
- **Double line**
- **Rounded Angle**

Examples of lines

- Orthogonal line, rounded angles



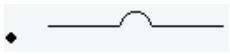
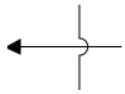
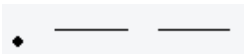
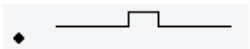
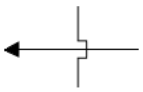
- Perspective line, rounded angles, start style: empty diamond, end style: circle filled with orange



Configuring Bridges

In a diagram, bridges can help you improve the readability of diagrams when several lines cross each other. Those lines can be, for example, drawing lines, links, sequences.

Style of bridge option value	Display in the shape edit bar of the diagram	Appearance in the diagram
Disabled		

Style of bridge option value	Display in the shape edit bar of the diagram	Appearance in the diagram
Semi-circle		
Empty space		
Rectangular		

Lines created in a diagram are associated by default to the style of bridge configured in the user options at the time the diagram was created.

☛ *See Parameterizing the default appearance of bridges.*

You can define a diagram specific style.

☛ *See Modifying the appearance of bridges in a diagram.*

Parameterizing the default appearance of bridges

To modify the default appearance of bridges in diagrams:

1. Access your options (**Main Menu > Settings > Options**).
   ☛ *See Accessing your options.*
2. In your options, select **Tools > Diagrams > Display**.
3. In the right pane, modify the **Style of bridges** option value.
   This style is applied by default in new diagrams.
   ☛ *Diagrams already created keep their bridge style.*

Modifying the appearance of bridges in a diagram

You can modify the style of bridges applied by default in diagrams or modify the style of a specific bridge.

You can modify the bridge style for each line of the diagram.

To modify the default appearance of bridges in a diagram:

1. In the **Aspect** page, click **Style of bridges** .
2. Select a style of bridge.
   This style applies to new bridges created in the diagram.

To change the bridge of a specific line:

1. Select the line concerned.
2. In the **Aspect** page, click **Style of bridges** .

3. Select a style of bridge.
   The bridge style of the selected line is modified.

WORKING WITH DIAGRAMS

This chapter deals with the types of manipulation that you can perform when using diagrams in **Hopex**:

- ✓ Element Handling
  Organize efficiently the elements contained in a diagram
- ✓ Diagram Handling
  The different possible actions on a diagram as a whole
- ✓ Comparing Diagrams
  How to use the diagram comparison feature

ELEMENT HANDLING

See:

- Adding Space between Elements
- Selecting Elements
- Moving Elements
- Ordering Elements
- Aligning Elements
- Distributing Elements Equally
- Resizing Elements in a Diagram
- Using the Grid
- Using smart guides

Adding Space between Elements

In a diagram, you can move a set of elements with respect to:

- a vertical line
- a horizontal line

Moving a set of elements horizontally

You can move a set of elements with respect to a vertical line:

- All the elements positioned entirely ***on the right*** of the line are moved ***to the right***.
- All the elements positioned entirely ***on the left*** of the line are moved ***to the left***.

If you move the set of elements beyond the right page, a page is automatically added to the right.

☛ *See Moving elements outside the diagram area.*

To move a set of elements horizontally:

1. Display the diagram in edit mode.

   ☛ *See Editing Diagrams.*

2. In the diagram editing bar, click **Add/Remove space**.
   Two lines appear under your cursor.
3. Position the cursor so that all of the objects you want to move are positioned on the right side of the vertical line, i.e. in the direction you want to move them.

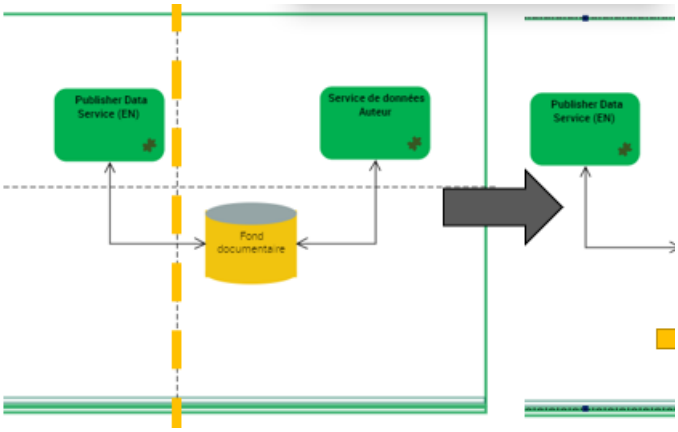
   ```
   Example: the objects to be moved are positioned on the right of the
   vertical line.
   ```

4. Click.
   The lines disappear.

5. Hold your click down and drag the cursor to the right (or the left), towards the location you want to move the objects to.
   The vertical line reappears and moves as you drag the mouse.

   `E.g.: move the line to the right.`

   Each object ghost is displayed as you move the line. Only the objects entirely positioned on the moving side are moved.



6. Let your click off once the desired position is reached.
   The objects are moved. Their container is enlarged, if needed, so that all of the objects remain contained.

Moving a set of elements vertically

You can move a set of elements with respect to an horizontal line:

- All the elements positioned entirely ***above*** the line are moved ***to the top***.
- All the elements positioned entirely ***below*** the line are moved ***to the bottom***.

If you move the set of elements beyond the bottom page, a page is automatically added to the bottom.

☛ *See Moving elements outside the diagram area.*

To move a set of elements vertically:

1. Display the diagram in edit mode.

   ☛ *See Editing Diagrams.*

2. In the diagram editing bar, click **Add/Remove space**.
   Two lines appear beneath your cursor.
3. Position the cursor so that all of the objects you want to move are positioned on the right side of the horizontal line, i.e. in the direction you want to move them.

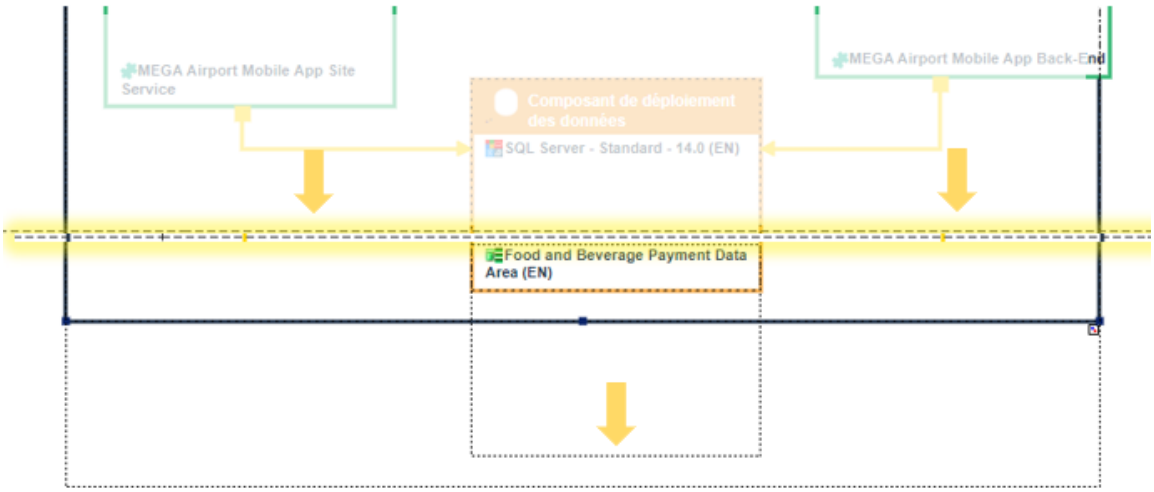
   `Example: the objects to be moved are positioned bellow the horizontal line.`

4. Click.
   The lines disappear.

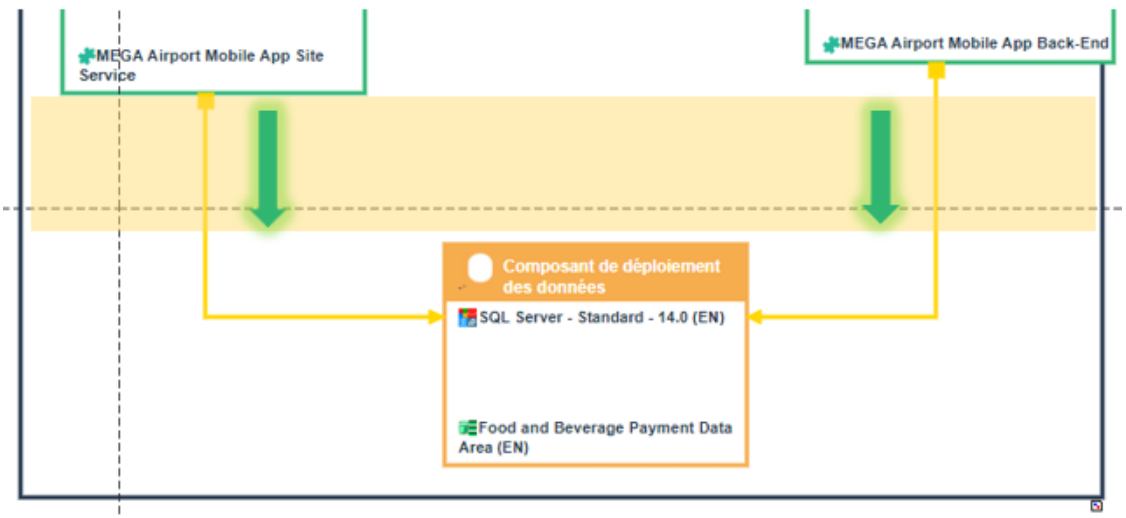
5. Hold down your click and drag the cursor up (or down) towards the place you want to move the objects.
The horizontal line reappears and moves as you drag the mouse.

```
E.g.: move the line to the bottom.
```

Each object ghost is displayed as you move the line. Only the objects entirely positioned on the moving side are moved.



6. Let your click off once the desired position is reached.
The objects are moved. Their container is enlarged, if needed, so that all the objects remain contained.



Selecting Elements

Selecting an element

To select an element:

1. In the diagram editing bar, click **Select** .
2. Position the cursor on the element.
3. Click.
   A shape is drawn around the element, with squares (the handles). These handles allow you to modify dimensions of the element.

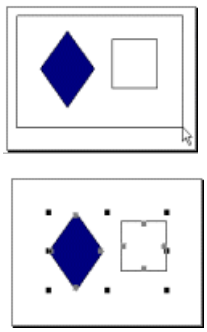
   ☛ *See Resizing Elements in a Diagram.*



If the drawing object selected is a line or a link, then the little squares are called "joints". Joints are found at the ends of each segment of lines.

☛ *See Lines in a Diagram.*

Selecting several elements one by one



With the <Ctrl> key, you can select elements one by one.

To select several elements:

1. In the diagram, click an element to select it.
2. Press the <Ctrl> key.
3. Hold the <Ctrl> key down and click another element to be added to your selection.
4. Repeat the action on each element you want to add.

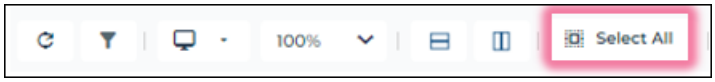
   ☛ *To unselect one of the elements, hold the <Ctrl> key down and click the element.*

   ☛ *To select all of the elements of the diagram, press <Ctrl> and <A> keys simultaneously.*

Selecting all elements

In a diagram in edit mode, you can select all the elements contained in the diagram in one click.

To select all diagram elements, click **Select all** in the diagram toolbar.

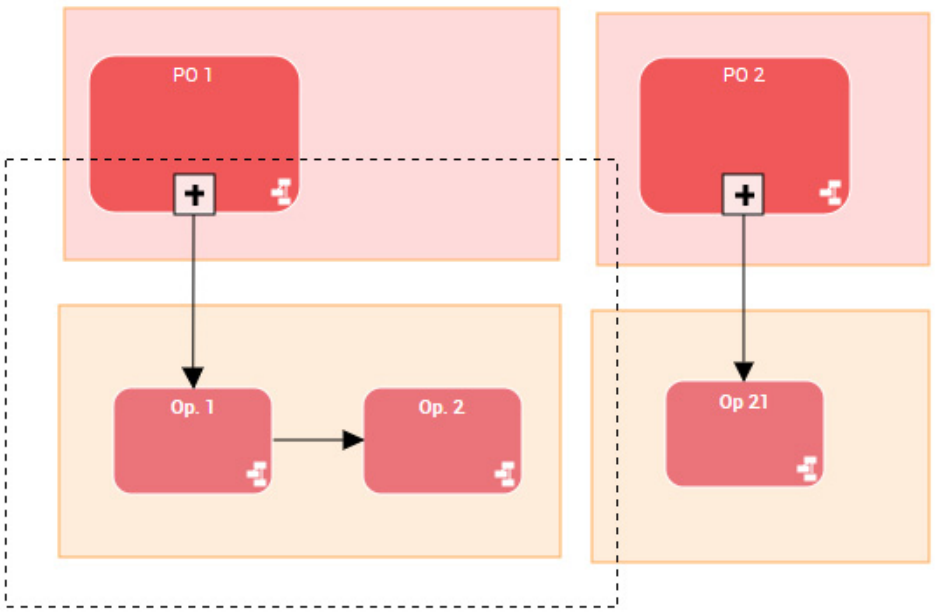


Selecting all of the elements of an area

You can draw with your cursor an area over the elements you want to select.

To select all of the elements of an area:

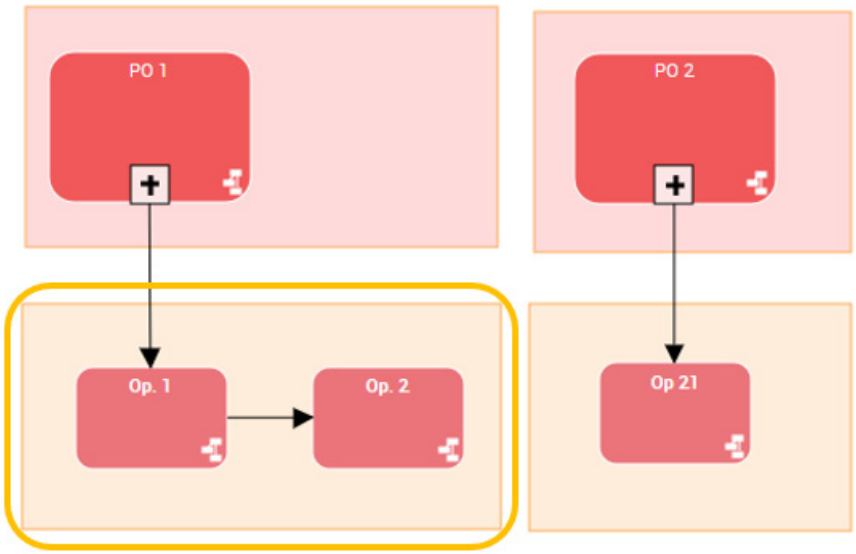
1. In the diagram, click a corner of the area you want to draw.
2. Hold your click down and move the cursor so as to draw a rectangle containing the entirety of the elements.



3. Let off your click.

4. The elements entirely included in the rectangle are selected.

   Example: both "Op. 1" and "op.2" operations and the rectangle at the botom left.



Moving Elements

> ☛ *While moving elements, if you cannot position them where you want, check that the grid is not active. As the grid can be hidden, but active. See Using the Grid.*

See:

- Moving elements
- Moving nested elements
- Moving elements outside the display area
- Moving elements outside the diagram area

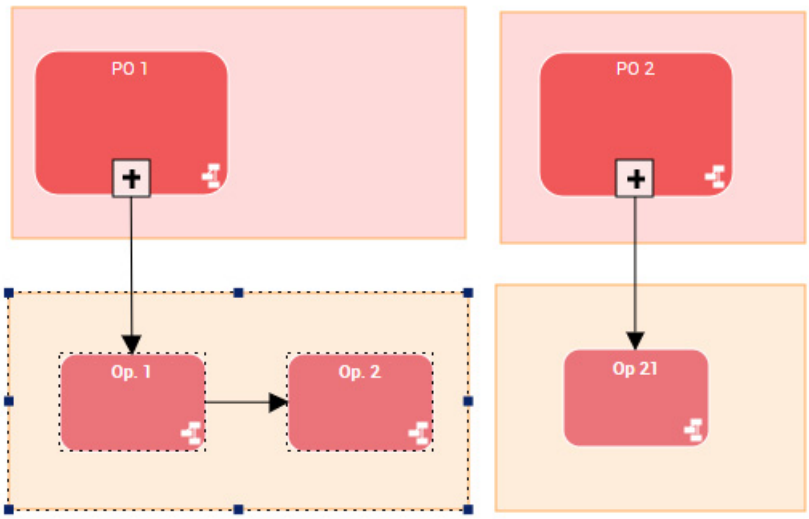
Moving elements

You can move one or several elements within the diagram.

To move an element or a set of elements:

1. Select the element or the set of elements.

   ☛ *See Selecting Elements.*



2. Click an element of the selection, avoiding a handle.

3. Hold down the mouse button and move the selection towards the desired position.

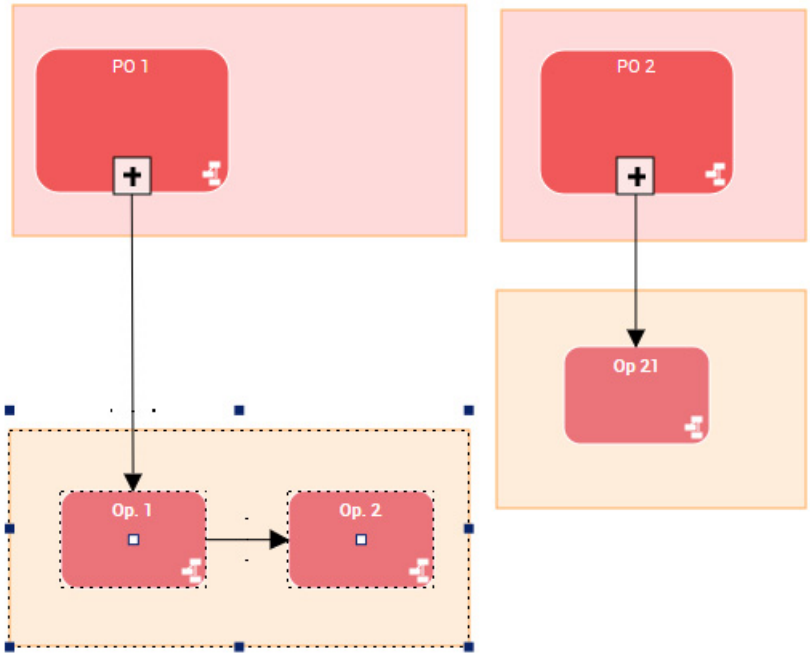
   ☛ *When the grid is enabled (see Using the Grid), elements you move are aligned with the grid.*

   If you move the selection outside the display area, the display area automatically scrolls to keep it in view.

   ☛ *See Moving elements outside the display area.*

   If you move the selection outside the diagram area, the required number of pages are automatically added.

   ☛ *See Moving elements outside the diagram area.*



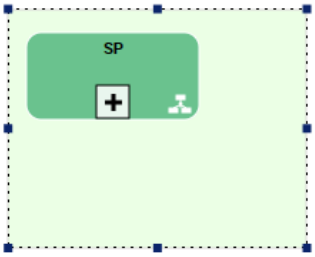
Moving nested elements

When an element is positioned inside another element, you can:

- move the element and all the elements it contains
- move the element without the elements it contains

To move the elements together:

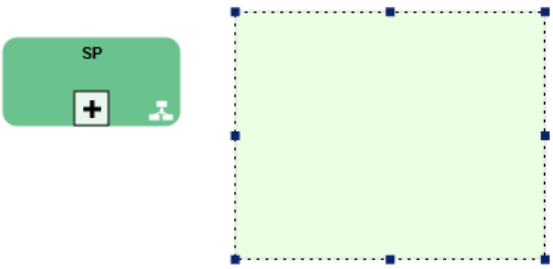
1. Click the element that contains the others.



2. Hold down the mouse button and move it.
   The element and all the elements it contains are moved together.

To move the containing element without moving its contained elements:

1. Press the <Shift> key.
2. Hold the <Shift> key down and select the containing element.
3. Move it.
   The elements that were contained are not moved.



☛ *This procedure can be useful, for example, to move a swimlane with or without its attached objects.*

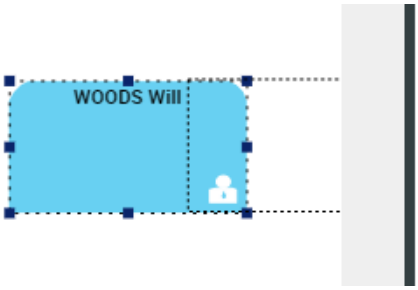
Moving elements outside the display area

It may happen that you move elements outside the display area.

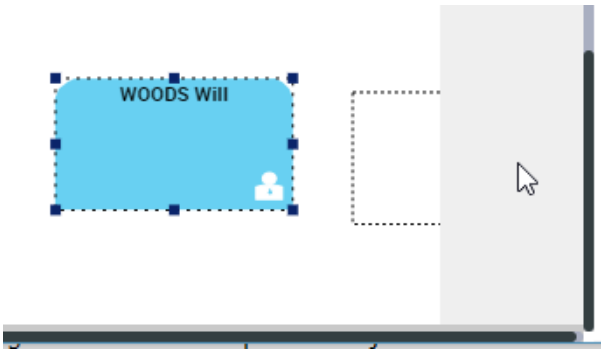
To move the display area while moving elements:

1. Select the elements to be moved.
2. Click the selection.
3. Hold down the mouse button and drag the cursor to the visible edge.

4. Keep the cursor stationary a few moment.



The display area starts scrolling automatically.



5. Release the mouse button once the required position is reached.

☛ *If the position is outside the diagram area, a page is automatically added, see Moving elements outside the diagram area.*



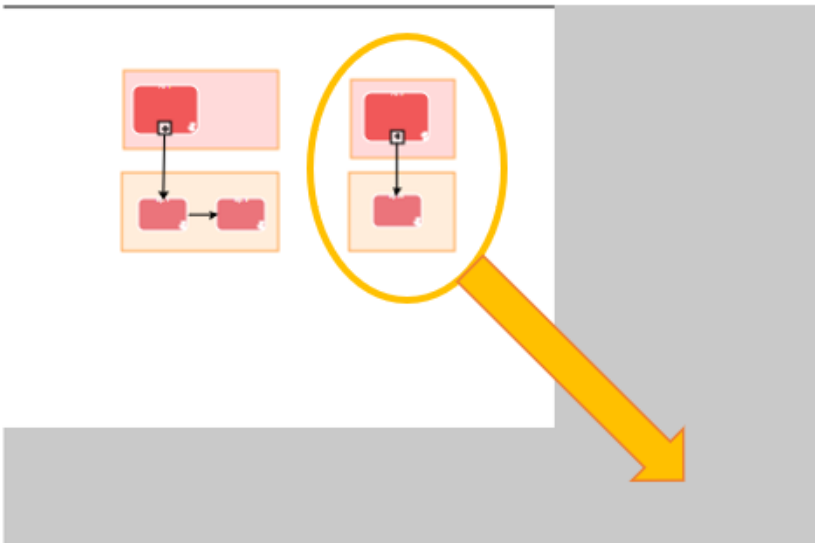
Moving elements outside the diagram area

When you move elements outside the diagram area, one or several pages are automatically added so as to include all of the elements.

To move elements outside the diagram area:

1. Select the elements and move them.

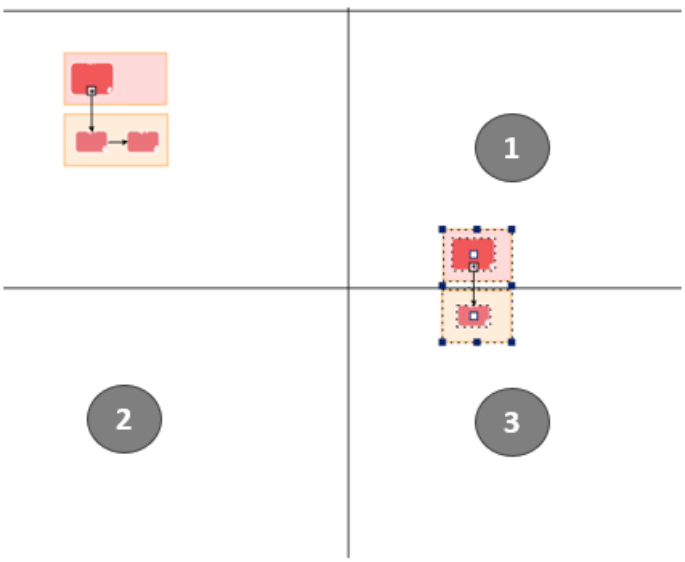
   E.g.: move both of the objects and both of the shapes to the bottom right.



   As soon as you move outside the diagram area, it enlarges the diagram area.

2. Release the selection where you want the selection to be.
   Required pages are automatically added.

   E.g.: in this example three pages are added.



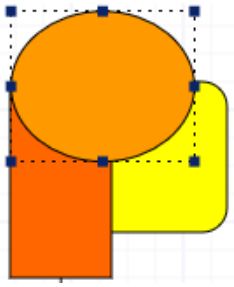
Ordering Elements

When several elements are positioned at the same place, they are overlaid on each other. The last element created is on top of the others. You can modify this order.

Sending a graphic object behind an element

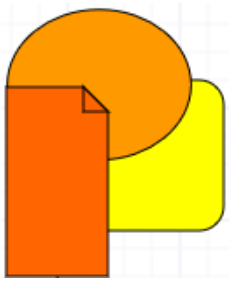
To send a graphic object behind an element:

1. Select the graphic object.



2. Right-click and select:
   - **Order > Bring Forward** to bring the graphic element before the first element that overlays it.
   - **Order > Send Backward** to send the graphic element behind the first element it overlays.

   E.g.: select **Send Backward** to send the circle behind the sheet.



Bringing an element to front

To bring an element to front (in front of all the others):

1. Select the element.
2. In the shape editing bar of the diagram, click **Front** .

Sending an element back

To send an element back (behind all the others):

1. Select the element.

2. In the shape editing bar, click **Back**  .

Aligning Elements

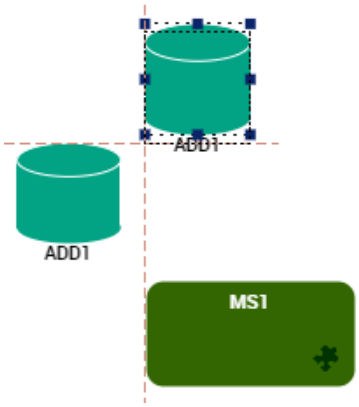
To position or align elements in a diagram, you can use:

- smart guides
  The smart guides indicate the spacings and alignments between elements in the diagram.
  Smart guides are active by default.
  ☛ *See Using smart guides.*
- the feature of alignment of selected elements:
  - left, right, or center
  - top, bottom, middle
  - perspective
    ☛ *See Aligning elements included in an area.*
    ☛ *See Aligning elements selected one by one.*
  - on grid
    ☛ *See Aligning elements on grid.*
- the grid
  The grid is displayed by default. The grid is also active by default, but smart guides take precedence over it.
  You can configure the grid, before drawing your diagram, so as to align each new element with the grid.
  ☛ *See Using the Grid.*

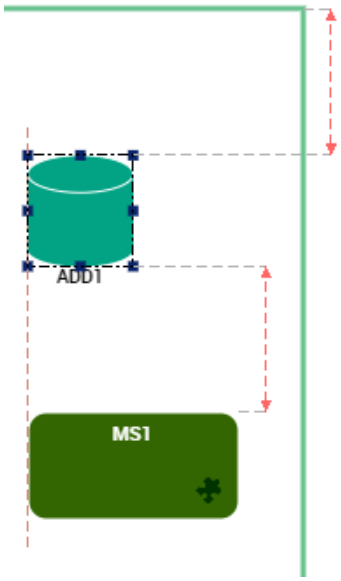
Using smart guides

As soon as you move an element, smart guides appear and indicate:

- vertical and horizontal alignments between the selected element and the other elements.



- equidistances between the selected element and the other elements.



Smart guides take precedence over the grid (if activated). If you want the grid to take precedence over the smart guides, you must hide the smart guides.

To hide the smart guides:

1. Right-click in the diagram and select **Grid**.
   The **Grid and Guides** window opens.
2. In the **Guides parameters** section, clear **Display smart guides when shapes are aligned**

Aligning elements included in an area

You can align elements included in an area:

- left, right, or center
- top, bottom, middle
- perspective

Objects are aligned:

- with the most top, bottom, right, left element, or with a vertical or horizontal median (for centering), or
- with a reference element that you define.

To align drawing objects:

1. Select the objects to be aligned.

   ☛ *See Selecting all of the elements of an area.*

2. (If needed) Define the reference element:
   - Press the <Shift> key.
   - Hold down the key and click the element.
3. In the element arrangement bar, select the alignment mode of your choice.

   ☛ *See Element arrangement bar (top center).*

   If you did not define a reference element, the top (bottom, left, right) edge of the most top (bottom, left, right respectively) element is used as reference in the **Top** (**Bottom**, **Left**, **Right**) alignment you chose

Aligning elements selected one by one

You can align elements selected one by one:

- left, right, or center
- top, bottom, middle
- perspective

The last item selected is used as the reference. The selection is aligned on the top (bottom, right, left respectively) edge of the element.

Centering is made with respect to the last element selected.

To align drawing objects:

1. Select the objects to be aligned.

   ☛ *See Selecting several elements one by one.*

2. In the element arrangement bar, select the alignment mode of your choice.

   ☛ *See Element arrangement bar (top center).*

3. Centering is made with respect to the border of the last element selected.

Aligning elements on grid

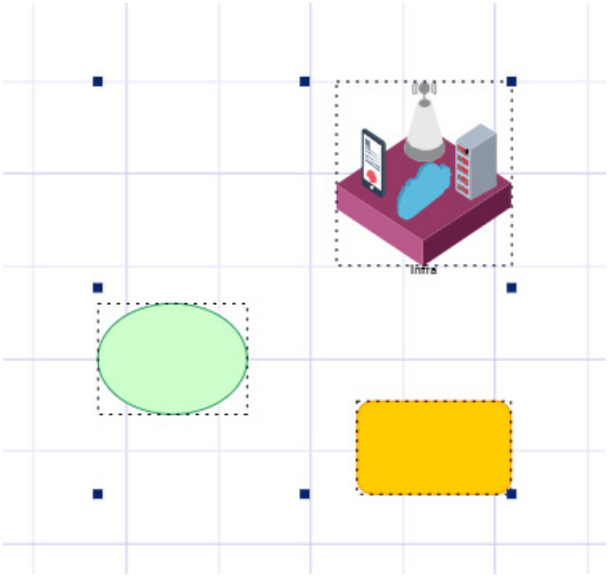
The size of objects created without a grid or using a finer grid is modified to become a multiple of grid spacing (the object is either slightly enlarged or reduced to minimize modifications).

To align elements on grid:

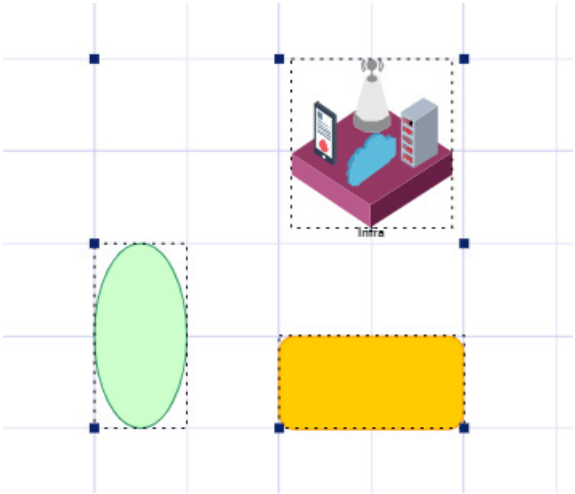
1. Activate and configure the grid

   ☛ *See Using the Grid.*

2. (If needed) Deactivate the smart guides.
   ☛ *See Using smart guides.*
3. Select the element(s) to align on grid.
   ☛ *See Selecting Elements.*



4. In the **Aspect** page, in the **Alignment** section, click **Snap to grid** .
   Each selected element is modified.

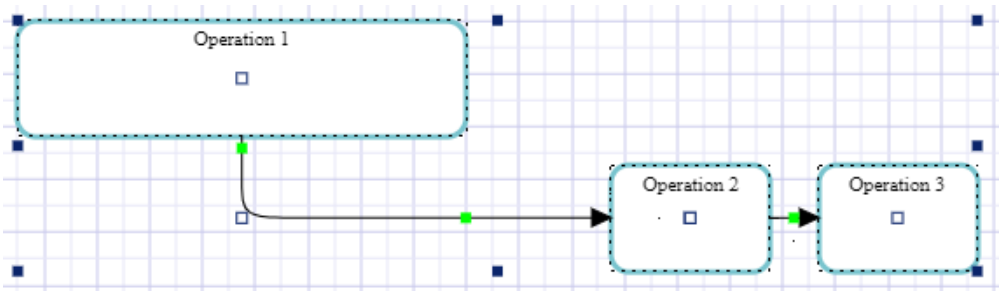


Distributing Elements Equally

To distribute elements equally:

1. Select the elements.

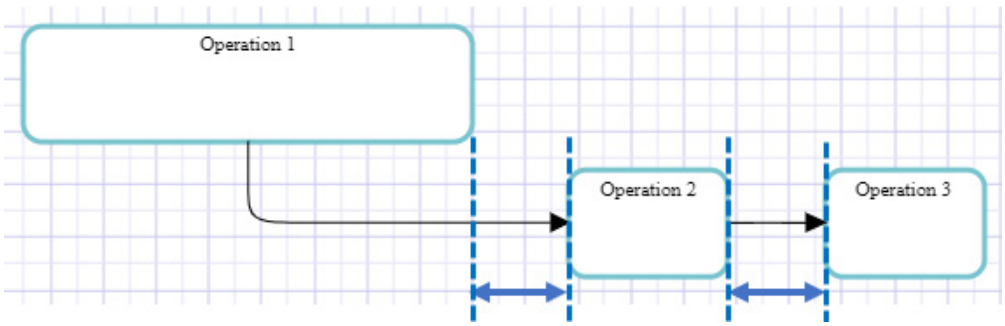
   ☛ *See Selecting Elements.*



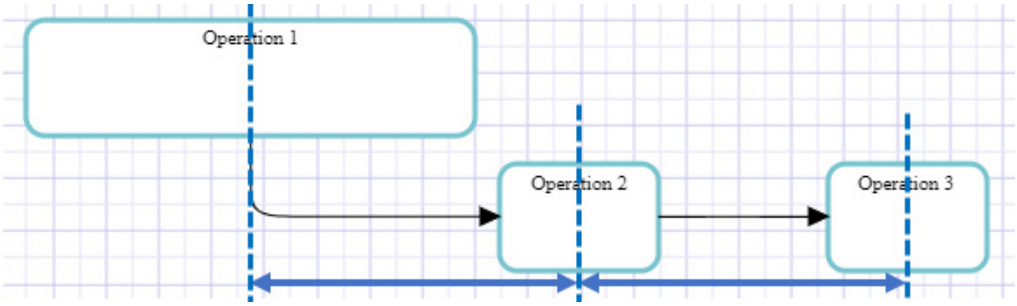
2. Right-click the selection and according to the direction required, select:

   ☛ *So that these commands are available, you must select at least three elements.*

- **Distribute > Horizontally** (or **Vertically**): the distance between the three elements edges is identical.



- **Distribute > Horizontally (middles)** (or **Vertically (middles)**): the distance between the three element edges is identical.



Resizing Elements in a Diagram

Resizing Drawing Objects

To resize an element:

1. Select the element concerned.
2. Place your cursor on a handle.
   The cursor turns into a double-headed arrow. The direction of the arrow indicates whether you can resize the element vertically, horizontally, or both: ↕↔⤡⤢.
3. Hold down your click and move the cursor.
   The element ghost displays the element new size.



4. Release your click once the required size is reached.

Resizing with proportions

To resize proportionally both height and width of an element:

1. Select the element to be resized.
2. Press the <Shift> key.
3. Hold down the <Shift> key and drag one of the handles at the element corner.

To enlarge and reduce an element from its center point:

1. Select the element to be resized.
2. Press the <Ctrl> key.
3. Hold down the <Ctrl> key while dragging the mouse.

Resizing with comparison to another element size

To resize one or more elements to the size of a reference element:

1. Select the elements to be resized.

   ☛ *See Selecting Elements.*

2. Press the <Shift> key.
3. Hold down the <SHIFT> key and right-click the reference element and select **Make same size > Height**, **Width**, or **Both** (height and width).
   The drawing objects now have the same height and/or width as the reference object.

Using the Grid

Showing the grid

By default, at diagram creation, the grid is hidden.

☛ *The grid can be hidden, but active.*

To show the grid:

1. Right-click in the diagram and select **Grid**.
   The **Grid and Guides** window opens.
2. Select **Display grid**.
3. Click **OK**.
   The grid is displayed in the diagram.

The grid display does not mean that it is active. To activate the grid, Align objects on grid must be selected.

Activating the grid

When the grid is activated, the new elements are automatically aligned with the grid lines. The element size is a multiple of grid spacing. When you move elements, they move by increments equal to grid spacing.

By default, smart guides are activated and take precedence over the grid.

To align already created elements with the grid, see Aligning elements on grid.

To activate the grid:

1. Right-click in the diagram and select **Grid**.
   The **Grid and Guides** window opens.
2. Select **Align objects on grid**.
   The grid is active.

☛ *The grid can be activated even if it is not displayed.*

☛ *When you hold down the <Alt> key while manipulating objects, the grid is temporarily deactivated if previously activated, and vice-versa.*

Configuring the grid display

You can configure:

- spacing of grid lines.
- color of grid lines.

To configure the grid display:

1. Right-click in the diagram and select **Grid**.
   The **Grid and Guides** window opens.

2. In:
   - the **Grid parameters** section, in the **Spacing** field, select the line spacing value and unit (mm, in., pt.).
   - the **Colors** section, you can define the line color and a grid pattern not as sharp.

     `E.g.: display a darker line every 4 lines.`

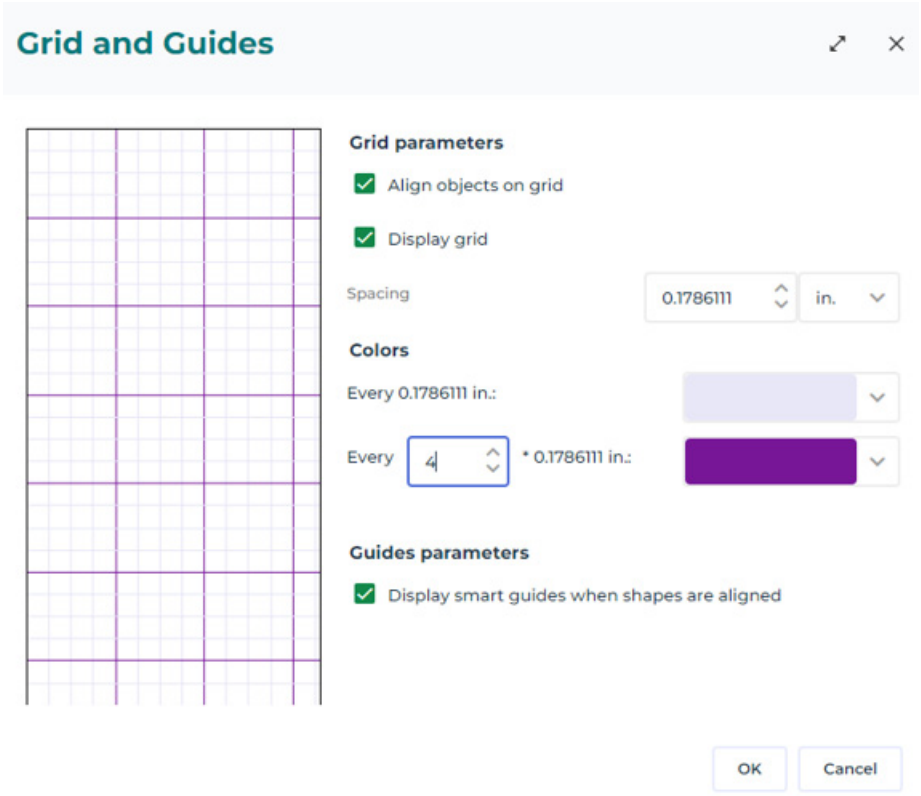


DIAGRAM HANDLING

See:

- Opening a Diagram in Edit Mode
- Handling a Diagram Preview
- Displaying Diagram Thumbnail in a Diagram
- Defining the Diagram Layout
- Printing a Diagram
- Exporting Diagrams to PowerPoint

Opening a Diagram in Edit Mode

Zooming

Zoom features enable, for example, to move easily through the diagram or to get an overview of the diagram.

In a diagram in edit mode, you can zoom in or zoom out:

- without precision, with the + and — buttons at the bottom right of the edit area
- with precision, using the 100% field of the diagram toolbar

> ☛ *Press the <Ctrl> key and simultaneously roll the mouse wheel to zoom in or zoom out the full page (this is a Web navigator feature).*

To perform a precise zoom in a diagram:

1. In the diagram editing bar, use the 100% field to refine your zoom.
2. You can:
   - enter a precise zoom value in the field
   - select in the drop-down list:

   - a percentage
   - "Width": to display the entire diagram in its width
   - "Height": to display the entire diagram in its height
   - "Last": to return to the previous zoom
   - "Page": to display the entire diagram

Moving a diagram

After zooming in a diagram, it may be useful to move the diagram quickly, without using the scroll bars.

To move a diagram:

1. In the diagram editing bar, click **Move** .
2. Click in the page, in a blank area outside the diagram.

3. Hold your click down, and move through the page as you want.

   ☛ *To quit this moving mode, in the diagram editing bar, click* ***Select*** .

Handling a Diagram Preview

In a diagram preview, you can:

- perform actions on the diagram

  `E.g.: share and print the diagram, switch to edit mode`

  ☛ *See Diagram preview toolbar.*

- perform actions on the objects of the diagram

  `E.g.: access diagrams containing or describing an object included in the diagram.`

  ☛ *See Using the pie menu in a diagram preview.*

- go back/forward to the previous/next display

Zooming in a diagram preview

In a diagram in preview mode, you can zoom in or zoom out:

- Roll the mouse wheel in the appropriate direction.
- Click + or — at the bottom right of the screen

When you are in a diagram preview, you might need to move the diagram around depending on your zoom level.

To move the diagram around, drag & drop it in the direction of your choice.

Diagram preview toolbar

Below are the main icons available.

☛ *Unavailable icons are grayed.*

Icon	Description
	**Edit the diagram** Displays the diagram in edit mode See Diagram Edition Tools.
	**Refresh diagram** Refreshes the diagram, for example if some components have been removed from the repository.
	**Print diagram** Displays the diagram as a PDF file, which enables to print it See Printing a Diagram.

Icon	Description
	**Save the picture as** Enables to save the displayed diagram as a picture in *.png, *.svg, *.emf, or *.jpg format
	**Share diagram** Enables to share the diagram by email See Sharing an Object as Email.
	**Compare** Enables to compare diagrams when using duplicates of diagrams See Comparing a Diagram.
	**Zoom in** Enables zooming in the diagram The mouse wheel enables to zoom in too
	Zoom out Enables zooming out from the diagram The mouse wheel enables to zoom out too
	**Open in new tab** Appears to the right of the diagram when hovering the cursor. Displays the properties of the object described by the diagram in a new tab.
	**Described object properties** Appears to the right of the diagram when hovering the cursor. Displays the properties of the object described by the diagram. Also contains a **Review notes** tab.

Using the pie menu in a diagram preview

In a diagram preview, you can perform actions on objects:

- access its properties
- access review notes
- access diagrams containing the object
- access diagrams describing the object

To perform actions on an object of the diagram:

1. In the diagram preview, click the object.
   A pie menu appears over the object.



Actions available on the object have a dark gray background.
Actions not available on the object have a light gray background.

2. Click:
   -  to access the object properties.
   -  to add a review note to an object.
     ☛ *See Review Notes.*
   -  to access the diagrams containing the object
   -  to access the diagrams describing the object

---

Displaying Diagram Thumbnail in a Diagram

Displaying the diagram describing the object as a thumbnail

Within a diagram, you can display the diagrams of the objects, which are themselves described. The objects are displayed in the form of thumbnails, which you can be enlarged.

To view the diagram of a described object:

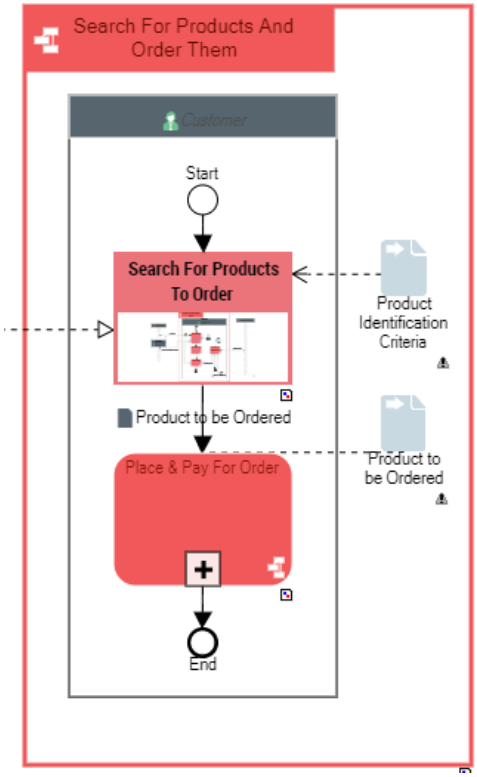
1. In the diagram, right-click an object itself described by a diagram

   E.g.: the ”Search for Products To Order” Process.

2. In the **Graphic element** section, select **Display the diagram describing the object**.

   ☛ *If the object at stake is not described by any diagram, this option does not appear.*

   The object is replaced by the thumbnail of the diagram, which describes it.

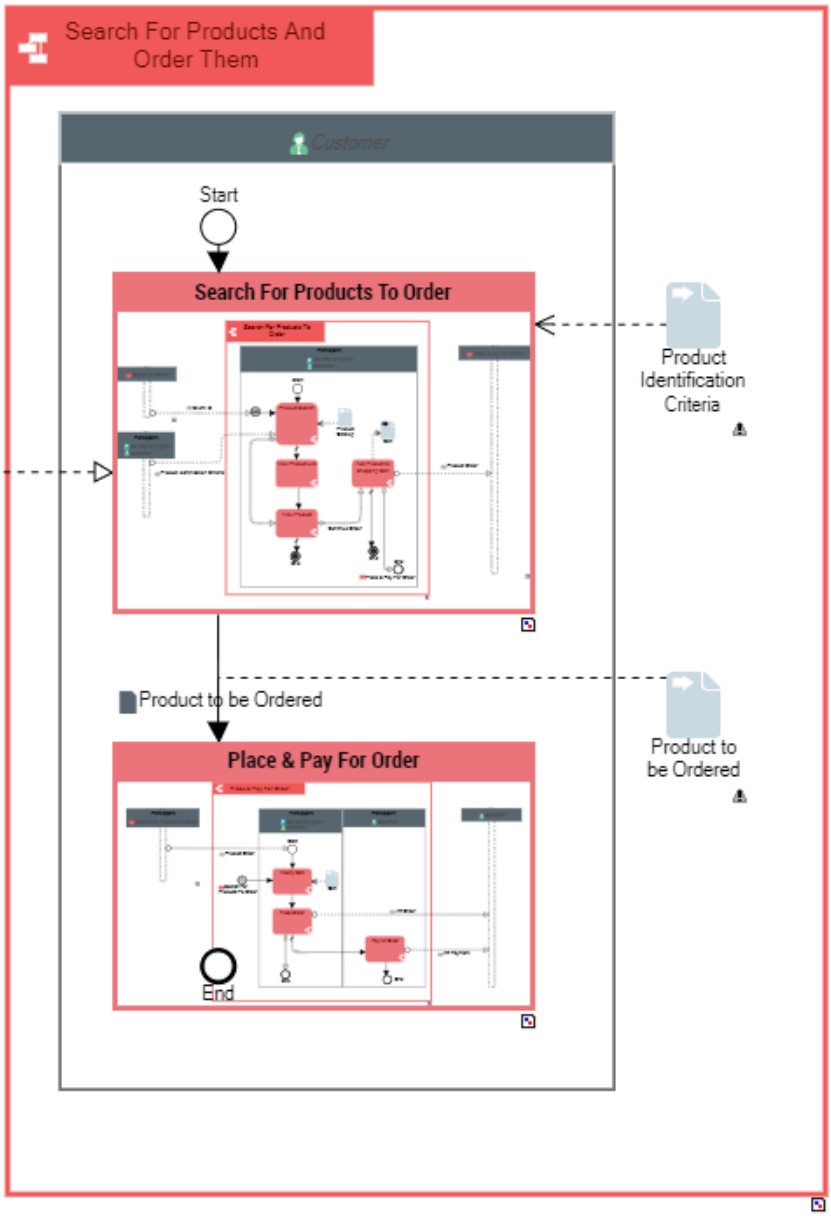


3. Repeat the action on another object described by a diagram.

   E.g.: the "Place & Pay for Order" Process.

4. You can enlarge the objects to make the thumbnails easier to read.

   ☛ *For help, see Adding Space between Elements.*



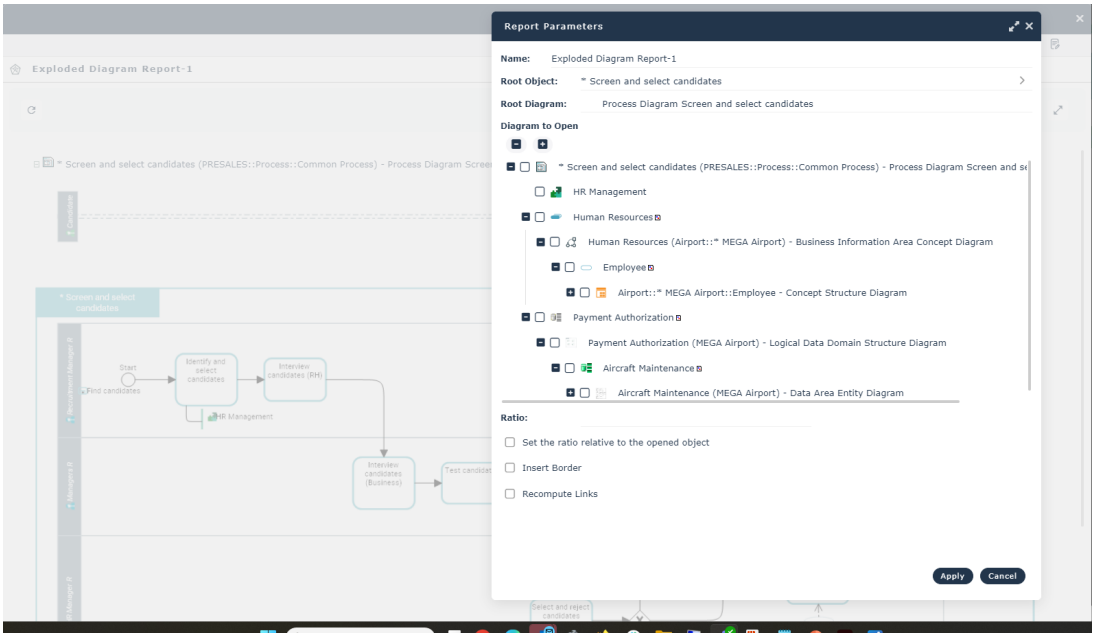
☛ *To no longer display the diagram thumbnail, right-click the object concerned and in the **Graphic element** section, clear **Display the diagram describing the object**.*

Launching the exploded diagram report

This report enables to build a summary view of a hierarchy of diagrams within a diagram.

It consists in opening the diagram of each object to include it in the diagram describing the root object.

The diagrams which describe the objects mentioned in the source diagram are displayed recursively, so that several diagramming may appear.



Report parameters

Input data of this report is specified by the selection of:

- A root object diagram
- Diagrams to be included and to display

Parameters	Constraints
Root object	One object is mandatory
Root diagram	Diagram associated with the root object
Diagrams to be included	Diagram(s) describing a tree object of **diagram > object in diagram > description > object in diagram > ...** type which is offered from the root diagram
Ratio	Defines the zoom factor applied to the diagram (by default equal to 1) - 0<ratio<1 : the diagram is smaller than the reference size - ratio>1 : the diagram is bigger than the reference size The reference size is defined in the option “The ratio is relative to the open object”.

Parameters	Constraints
The ratio is relative to the open object	This check box enables to define whether the ratio applies to the size of: - the diagram to include (check box unchecked) - the object in the root diagram (check box checked) Examples: - Check box unchecked and ratio of 0.5: the diagram included is twice smaller than the source diagram. - Check box checked and ratio of 1.0: the sub-diagram is the same size as the object of the root diagram.
Insert border	Deactivated by default Enables to insert a border around the sub-diagram included. This can be useful if for example the sub-diagram does not already contain a border around the described object.
Recompute links	Deactivated by default Enables to reroute all links which go to or from an opened object to the appropriate target in the sub-diagram (e.g. an interaction to or from the object may trigger a service point or be triggered by a request point in the sub-diagram); if deactivated, the lines from the top diagram remain as they were in the original position.

Defining the Diagram Layout

You can define the diagram layout:

- number of pages on which the diagram is displayed

  ☛ *When you move an element outside the diagram area, the page number is automatically updated.*

  ☛ *You cannot reduce the size of a diagram if elements appear in deleted pages: all elements should be placed in pages that will be kept before reducing format (display of page boundaries simplifies this operation).*

- paper size

  `E.g.: A3, A4, or its Width x Height values in inches.`

- Margins (in inches)

  ☛ *The **Margins** are superimposed on those defined by the printing device. This is done so that any information in these margins is not lost.*

- orientation

  `E.g.: Portrait or Landscape.`

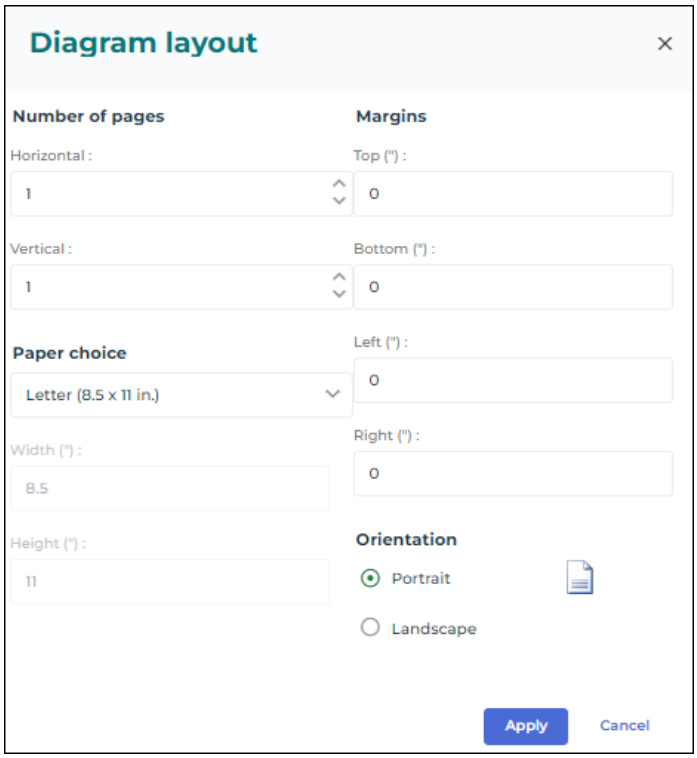
You can also indicate a scaling percentage when printing.

Defining the layout settings

To define the diagram layout:

1. Access the diagram in edit mode.

2. In the diagram toolbar, click **Diagram layout** .
   The **Diagram layout** window opens.



3. Modify the page layout parameters.
4. Click **Apply**.

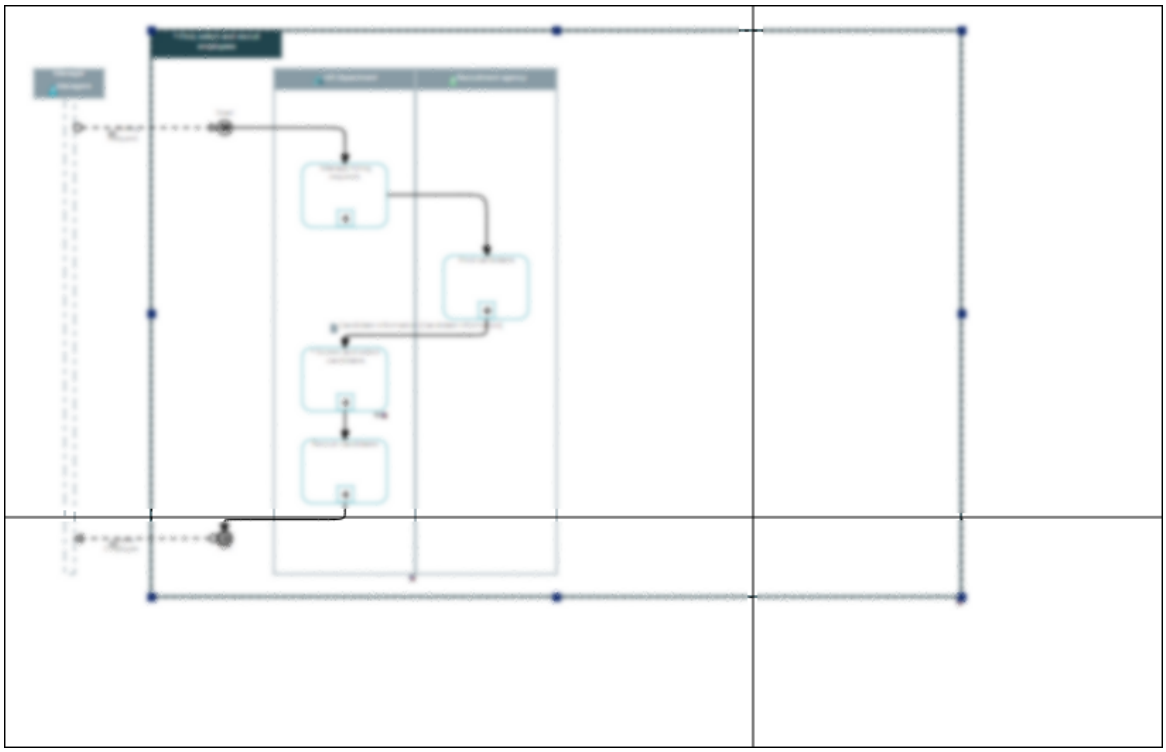
Layout limitations

Page number limitation (Height x width)	
A4 Landscape	6 x 8
A4 Portrait	9 x 6
Letter Landscape	7 x 8
Letter Portrait	9 x 7

Platform limitations	
Maximum width	200 cm
Maximum height	200 cm
Maximum number of pages in width	11
Maximum number of pages in height	8

☛ *(*) These limitations prevail over any other setting.*

In the diagram toolbar, click **More options** > **Page limitations** to view your diagram position against page limitations.



Printing a Diagram

To print a diagram you need to generate a PDF format file, which you can then print.

If you need to enlarge or reduce the diagram size for printing, you must display the diagram in edit mode before printing.

To print a diagram:

1. Access the diagram in edit mode.
2. In the diagram toolbar, click **Print diagram**.
3. (If you need to enlarge/reduce the diagram size for printing) In the **Scaling** section, select the "Enlarge/reduce" **Mode**.
4. Enter the number of pages (width and height) on which you want to print the diagram.
   ☛ *The **Zoom** value is modified as a result and previews the result of printing.*
5. Click **OK**.
   The PDF export process starts.
6. Print the PDF.

Exporting Diagrams to PowerPoint

Hopex enables creation of a Powerpoint file that contains a set of diagrams related to an object.

> ☛ ***Restriction**: You can export a diagram to Powerpoint only if the described object is directly connected to the diagram.*
>
> *You cannot export the diagram if it is connected to a context object (examples: application structure diagram, application deployment architecture diagram).*

To export diagrams in PowerPoint:

1. Right-click the object and select **Documentation > Export Diagrams**.
   The export wizard opens.
2. In the **Summary Line Number**, indicate the maximum number of lines for a summary page.

   ```
   E.g.: 10.

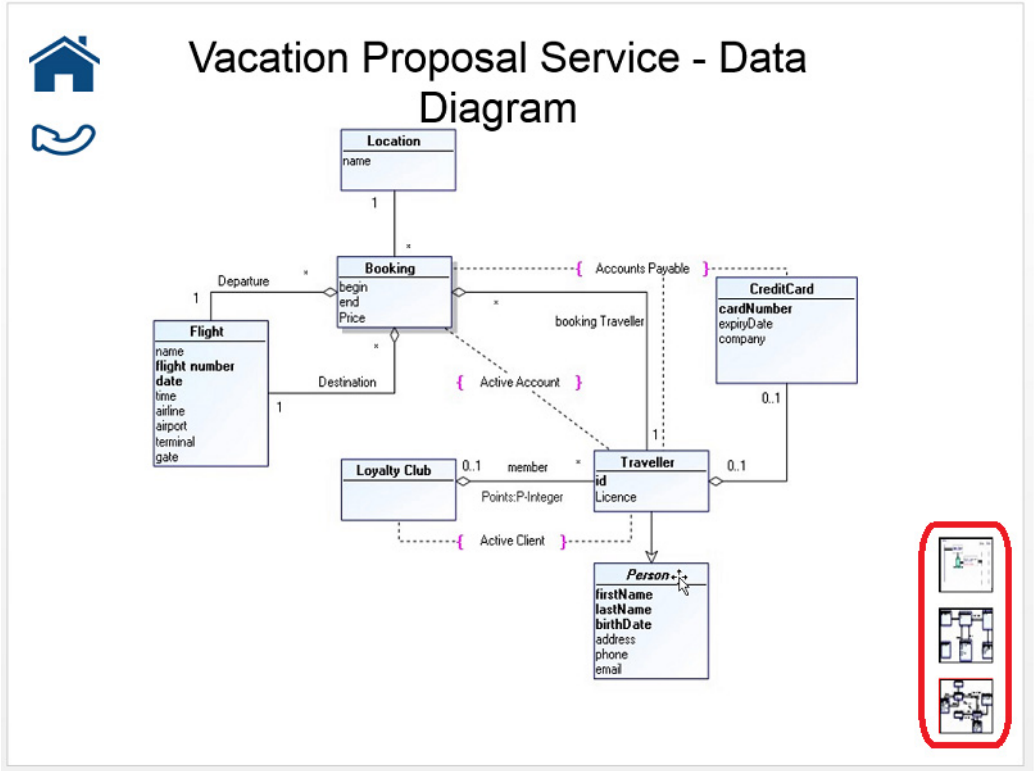
   If the summary contains 33 lines, 4 pages are created (10+10+10+3).
   ```
3. In the **PPT File Name** field, enter the name of the PowerPoint file to be generated.
4. Select the export mode:

- **All Diagrams**: all diagrams in which the object appears are exported. In the next window, indicate:
  - The **Deep level** needed to retrieve diagrams.

    ```
    All diagrams linked directly to the object are retrieved. From these
    diagrams it is possible to retrieve the objects connected. Depth level is
    2 by default. 0 corresponds to an infinite number of levels (except if
    the initial diagram is found in the tree at some point).
    ```
  - The **Diagram Natures** of interest.
- **Select Diagrams**: you can select the diagrams you want to display in the **PowerPoint** file.

5. Click **Next**.
   The PowerPoint diagram is generated. It contains a set of slides allowing navigation in diagrams, for instance:
   - a summary page
   - pages for each diagram

When an object is described by several diagrams of different types (of same level), an overview of diagrams is displayed on the bottom right hand side of the selected diagram page.



The button allows display of the previous page in a series of slides (and not the diagram page that was last viewed).

COMPARING DIAGRAMS

Diagram Comparison

Diagram comparison feature is useful, for example, to:

- follow the diagram changes over time
- compare a diagram according to an area, a country, a service
- compare a diagram according to a state (urgent or not urgent)

Steps

To perform a diagram comparison:

1. Create the diagram of the object.

   ☛ *See To create a diagram, you must initialize the diagram from the object you wish to describe. You can perform this action from:.*

2. Duplicate the object.

   ☛ *See Duplicating Objects.*

   The object, included its diagram, is duplicated.

   ☛ *Case of the follow-up of a diagram over time: you can duplicate the source object, then duplicate the duplicate, etc.*

   ☛ *Case of a diagram comparison according to criteria: you can duplicate the source object several times. You get as many diagrams as duplicates.*

3. Modify the diagram of the duplicated object.

   ☛ *If you have several duplicated objects, you can modify each of their diagrams.*

   ☛ *If needed, you can also modify the source object diagram.*

4. Compare the diagrams.

   ☛ *See Comparing a Diagram.*

   You can compare the differences of the diagram of each duplicate with the source diagram.

   The comparison is performed chronologically: from the oldest to the most recent diagram.

Source/Target diagram

You can start from any object (source or duplicate) to compare diagrams. By default, the comparison is performed from the diagram of the more recent object compared to the diagram of the oldest object.

In case of the follow-up of a diagram over time, you can modify the source object and/or the target object (**Parameters** section).

Differences

The diagram comparison highlights the differences on the diagram elements (for example on an Operation; a sequence flow deletion is not indicated).

The differences on objects are indicated on each diagram:

- in the comparison source diagram: the deleted objects
- in the comparison target diagram: the created and modified objects

By default the comparison source diagram is the diagram of the older object. Whatever diagram is chosen as source or target, the comparison is identical (see the example in Comparing a Diagram section).

The differences between the diagrams are indicated in:

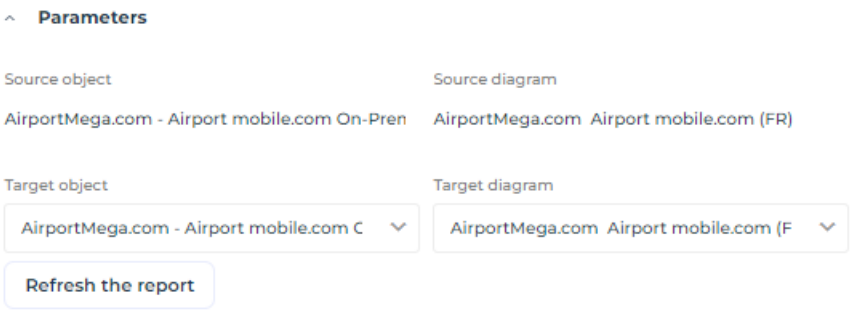
- green: created objects and links (target diagram)
- yellow: modified objects and links (target diagram)
- red: deleted objects (source diagram)

Comparing a Diagram

Prerequisite: Your object diagram is created and you have at least one duplicate of the object.

To compare a diagram:

1. Access the object described by the diagram you want to compare.
   You can access the source object, or one of its duplicates.
2. Open its diagram in view mode.
3. In the diagram tool bar, click **Compare** .
4. (With an object with several duplicates) Unfold the **Parameters** section:



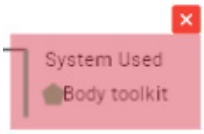
- In the **Target object** field, by default its closest duplicated object is selected. You can select another object.
- (In case of several target diagrams) If the target object is described by several diagrams, you can select another **Target diagram** type.

Click **Refresh the report**.

By default diagrams are **Overlaid**.

No matter which object is taken as source for the comparison, by default the oldest diagram hides the most recent diagram and is the source of the comparison.

Deleted objects are marked in red.



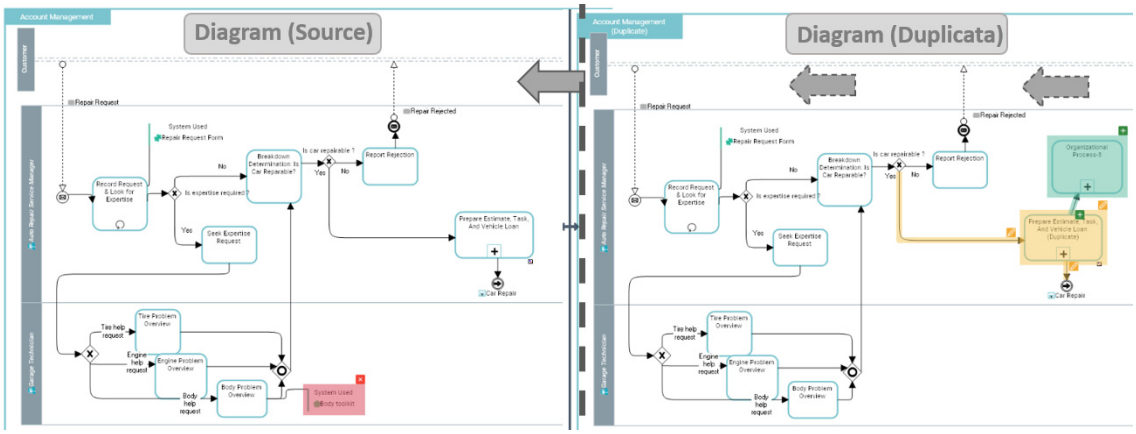
5. To the right of the diagram, select the scrolling bar, hold your click down and drag the cursor to the left to display the target diagram (the more recent diagram) and see the differences in the target diagram:
   - created objects and links are marked in green.



   - modified objects and links are marked in yellow.



E.g.: the source diagram on the left, and duplicated diagram on the right.



Below the diagrams, the **Legend** section displays the comparison details in tabular form.

Owner	Element	Type	Created	Modified	Deleted	Description
AirportMega.com - Airport mobile.com On-Prem	Fin de ligne de communication client (FR)	Connection Client Endpoint			X	This object does not exist in target
AirportMega.com - Airport mobile.com On-Prem	Ligne de communication technique-13 (FR)	Package Connection			X	This object does not exist in target
AirportMega.com - Airport mobile.com On-Prem	Fin de ligne de communication server (FR)	Connection Server Endpoint			X	This object does not exist in target
AirportMega.com - Airport mobile.com On-Prem V2	Firewall	Deployable Application Component	X			This object does not exist in source
AirportMega.com - Airport mobile.com On-Prem V2	Communication Server Endpoint	Connection Server Endpoint	X			This object does not exist in source
AirportMega.com - Airport mobile.com On-Prem V2	Communication Server Endpoint	Connection Server Endpoint	X			This object does not exist in source
AirportMega.com - Airport mobile.com On-Prem V2	Communication Client Endpoint	Connection Client Endpoint	X			This object does not exist in source

Modifying the Comparison Display

Displaying entirely both diagrams

The source diagram hides the target diagram by default. To display both diagrams entirely at the same time, in the diagram comparison tool bar, click:

- **Above/Below** to display the comparison source diagram above the comparison target diagram.
- **Side by side** to display the comparison source diagram to the left of the target diagram.

Hiding differences

To hide certain types of differences in the diagram, in the diagram comparison tool bar, clear:

- **Created**: to not mark created links and objects (target diagram)
- **Modified**: modified objects are not highlighted (target diagram)
- **Deleted**: deleted objects are not highlighted (source diagram)

> ☛ *In **Legend**, the table, detailing the differences, keep all the differences, even the hidden ones.*

Removing the synchronized zoom

By default, when you zoom in a diagram, both diagrams are zoomed in the same way.

To zoom in only one diagram, in the diagram comparison tool bar, clear **Synchronized scroll**.



Objects and Data

OBJECTS

The repository is at the heart of the **Hopex** software suite. It enables data storage as well as the management and consistency of your company knowledge.

This chapter details common operations that can be carried out on **Hopex** repository objects, excluding diagrams.

☛ *For more details on handling objects in diagrams, see Diagrams.*

✓ Object Properties
✓ Property page customization
✓ Object description
✓ Object Handling
✓ Favorites
✓ Object History
✓ Object Naming
✓ HOPEX in a Multilingual Context
✓ Object Variations
✓ Object Versions

OBJECT PROPERTIES

Objects have several property types. Available properties depend on the object type.

See:

- Accessing Object Properties
- Property Page: Overview
- Card of an Object
- Handling Object Property Pages

To add attributes to property pages or create pages, see Property page customization.

Accessing Object Properties

In **HOPEX**, you can display a property window:

- on an occasional basis in full page in the edit area, to access a specific object properties

  E.g.: to view or modify the object properties.

- on a permanent basis, to the right of a diagram, a report, a tree, to access the properties of the objects included in the diagram, the report, or the tree

  E.g.: when editing a diagram, to view or modify an object properties contained in the diagram.

- in a new tab in **Hopex**, to show permanently a specific object properties

You can get an overview of the essential properties of an object through object ***Cards***.

☛ *See Card of an Object.*

Displaying an object properties (list or tree)

To display an object properties from a list or a tree:

1. Hover the cursor over the object name.
2. Click **Properties** .
   The object properties are displayed in full page in the edit area.

   ☛ *See Actions on an object from the Local Name of a list and Actions on the row of an object.*

   ☛ *You can also open the properties of an object from a card list in the browsing area. See Card of an Object.*

Displaying an object properties (Diagram)

In a diagram, you can display an object or a link properties in parallel to the diagram:

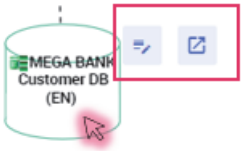
- in a panel to the right of the diagram
  and/or
- in new tab.

You can perform this action:

- when hovering the cursor over the object
- by clicking the object

To display an object (or a link) properties in a diagram:

1. Hover the cursor over the object, then click:



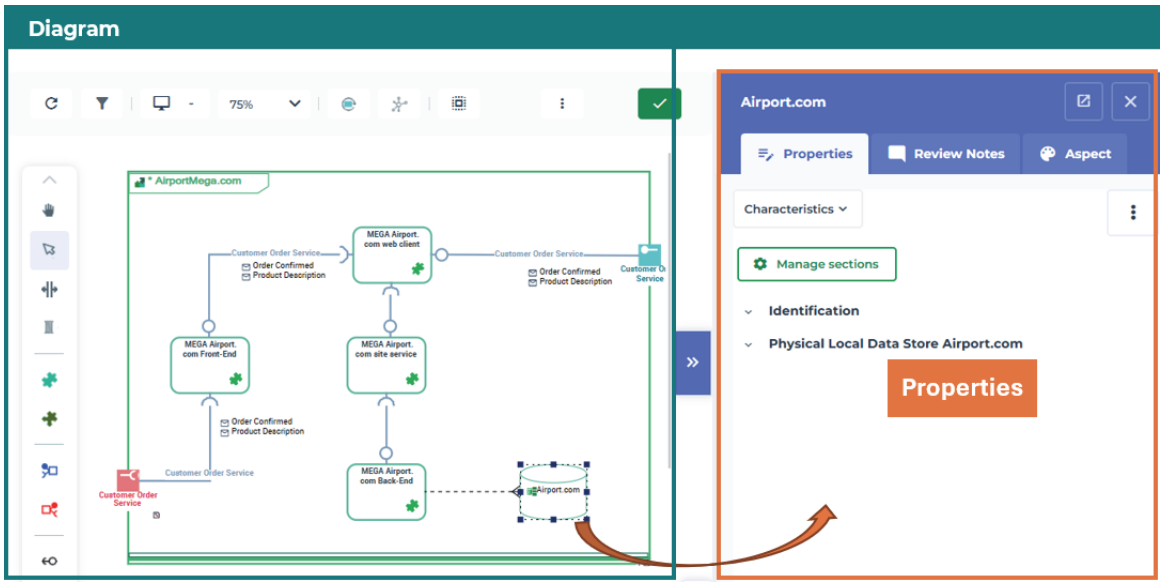
- **Open in a new tab** to display its properties in a new tab.
- **Properties** to display properties to the right of the diagram.

To display an object (or a link) properties in a diagram:

1. Click the object, then:
   - (edit mode) if needed, click « to display the panel to the right
   - (view mode) in the pie menu, select **Properties**



The object properties are displayed in the panel to the right.



☺ *You can display these properties in a new tab: click*  .

Case of a link

In the case of a link, the properties which can be viewed relate to the graphically highlighted part.

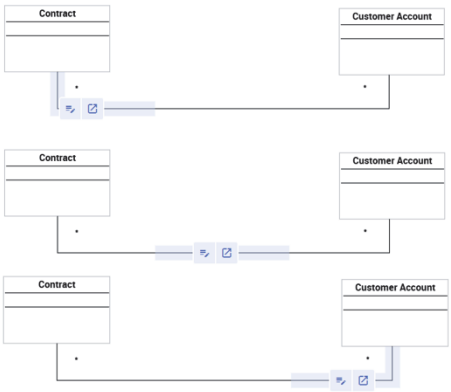
If the link:

- is simple, it is entirely highlighted.



Access to the properties of a link materializing an IT service reading a database

- consists of several objects, the objects are highlighted separately.



*Access to the properties of objects constituting an **Association** link between two **Classes***

Displaying an object properties (report)

With reports, as with diagrams, you can display an object properties to the right of the report and/or in a new tab.

☛ *See Displaying the properties of an object contained in a report.*

Displaying an object properties in a new tab

You may choose to display an object properties in a new tab, so as to access it at any time and perform other tasks simultaneously in **HOPEX**.

To open an object properties in a new tab:

1. Hover the cursor over of the object name and click **Open in a new tab** .
   The object properties are displayed in a new tab.

Property Page: Overview

Description

The **Overview** property page of an object:

- is displayed by default at an object property opening
- gives (in read-only) useful information about the object through:
  - color indicators
  - the detailed card of the object

    ☛ *See Card of an object (property pages).*
- displays a report or a diagram related to the object

    ☛ *Depending on the type of report or diagram, several pages may be shown. You can navigate through the pages.*

  For each object type, the Solution functional administrator can:
  - modify the content to display: type of report or diagram
  - go back to the default content



Every user can:

- open the report/diagram in a new tab and perform all standard actions
- (for reports containing cached data) refresh the report data

Changing content

The Solution functional administrator profile enables to change the content (report or diagram) of the **Overview** property page.

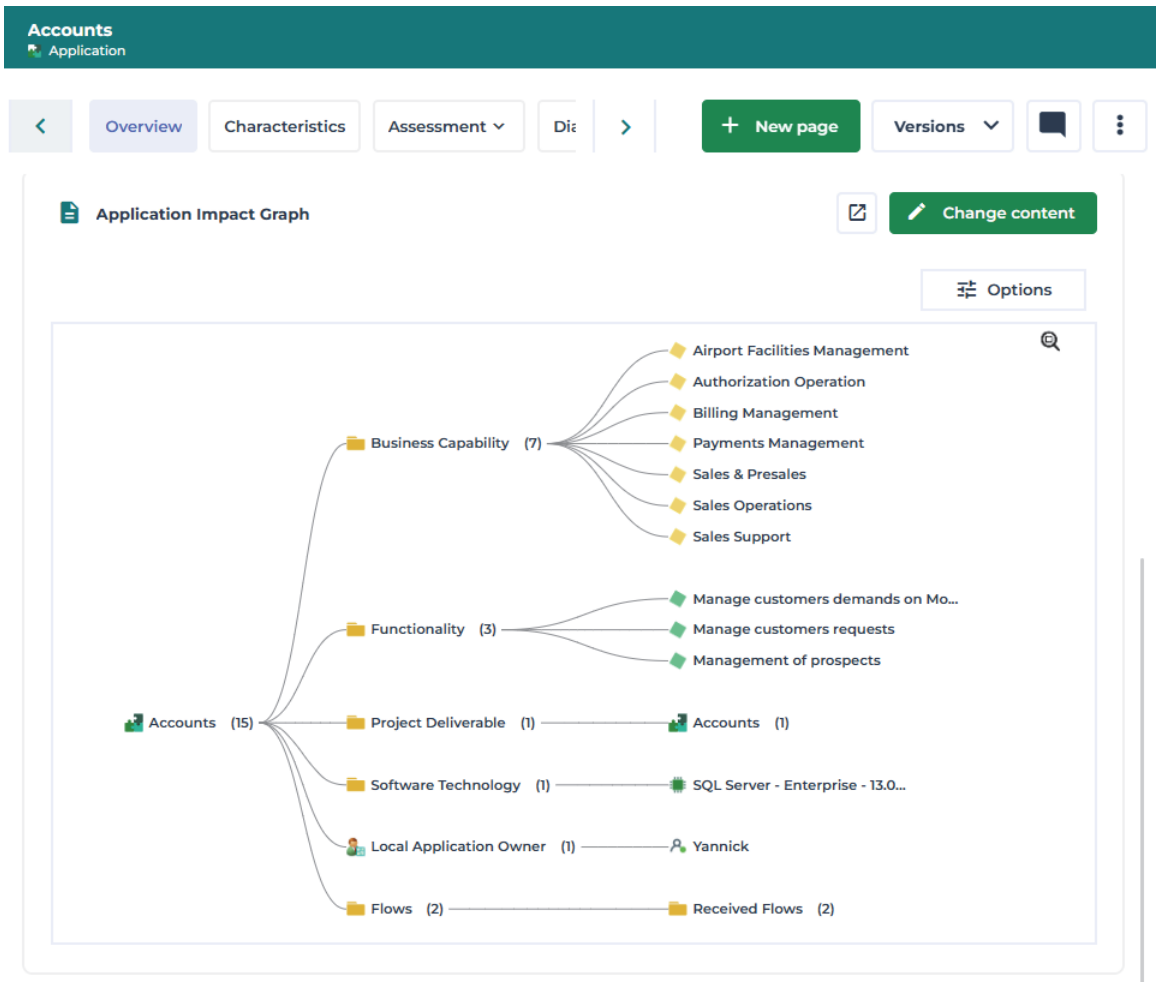
☛ *See also Adding a dendrogram report to the Overview page of an object.*

To change the content of the **Overview** property page:

1. Login as a Solution functional administrator.
2. Display the object property pages.

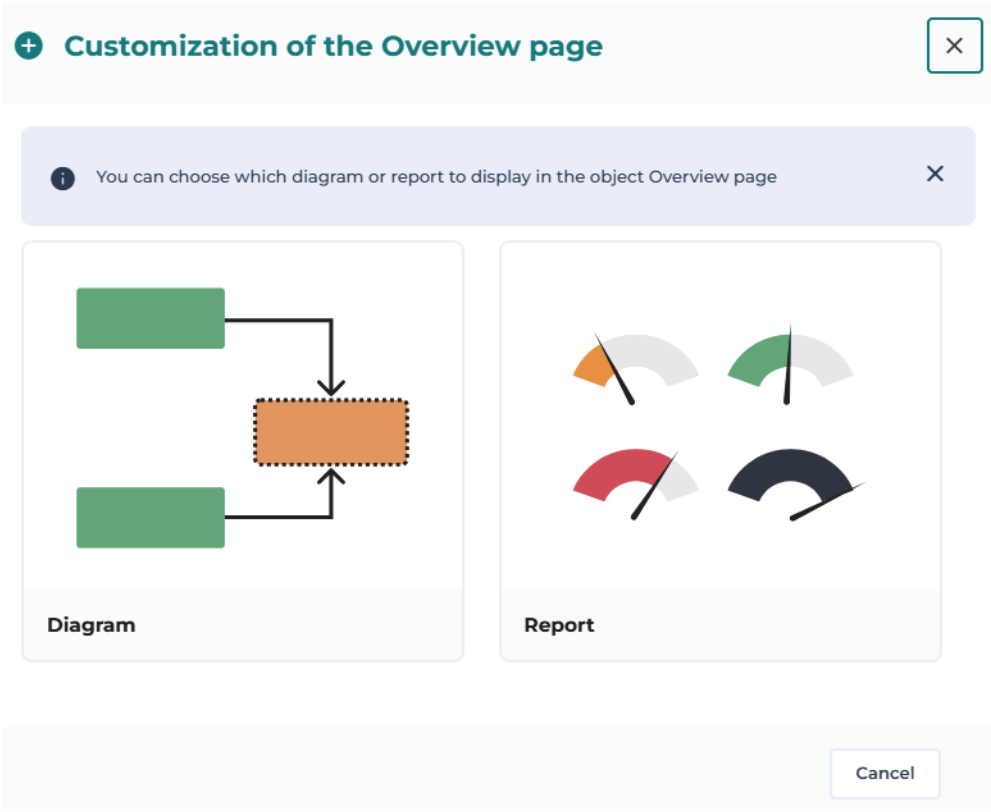
☛ *See Accessing Object Properties.*

Example: the properties of an application.



3. In the **Overview** page, click **Change content**.

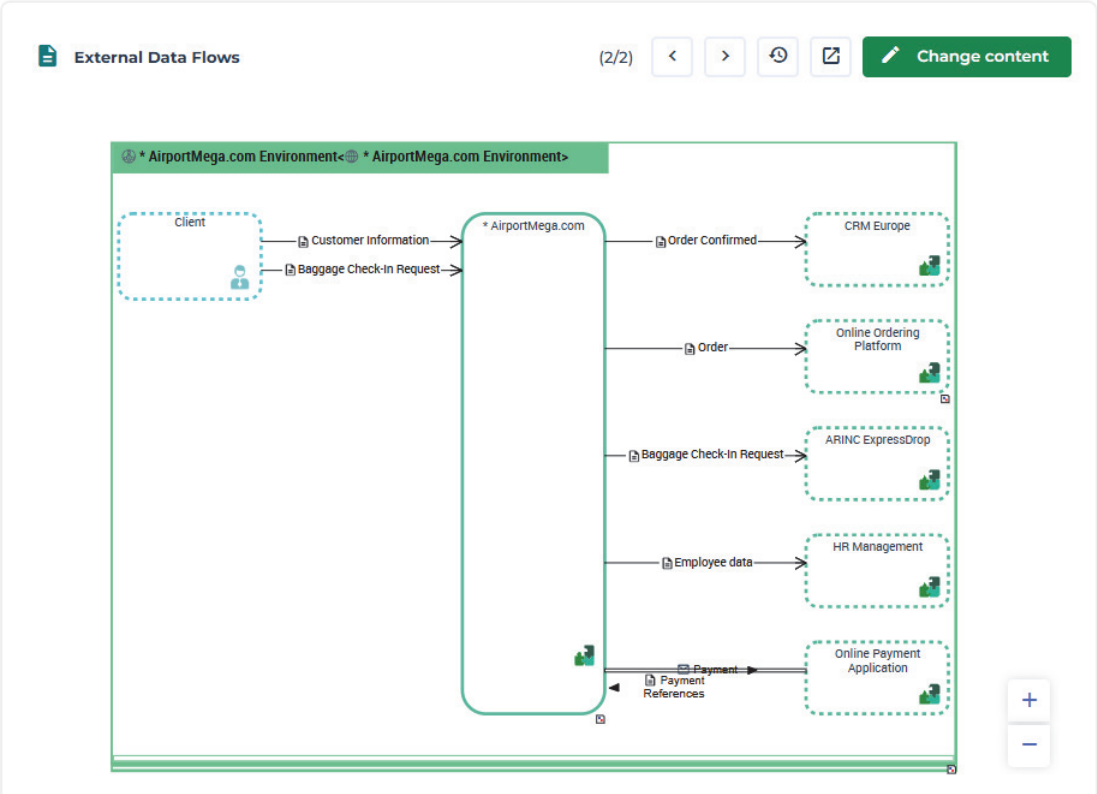
   ☛ *At any time you can **Cancel** or go back to the previous step (**Back**).*



4. Hover the cursor over the **Diagram** or **Report** tile and click **Search for the type of diagram** or **Search for the type of report**.
5. In the search page, search for the diagram or report (you can use filters) and hover the cursor over the tile corresponding to the type of diagram/ report and click **Select**.
   The corresponding diagram/report has been added to the **Overview** page of each object of the selected type.

   ☛ *If several diagrams are available, or if the report includes several chapters, the number of the page out of the total page number is*

*indicated in the toolbar. Arrows (**Previous** ←, **Next** →) enable to navigate among pages.*



Going back to the default content

The Solution functional administrator can go back to the default content (report or diagram) of the **Overview** property page.

To go back to the default content of the **Overview** property page:

1. Login as a Solution functional administrator.
2. Display the object property pages.

   ☛ *See Accessing Object Properties.*

   `Example: the properties of an application.`

3. In the content title bar, click **Reset** .

   ☛ ***Reset*** *is available only if the content is not the default one.*

   The report or diagram defined by default is displayed.

Opening the content in a new tab

For improved readability and/or access to the report or diagram in edit mode, you can display the content in a new tab.

To display the content in a new tab:

1. In the content title bar, click **Open in a new tab** .
   The report or diagram is displayed in a new tab.
   Standard actions offered on a report or diagram are available.

Card of an Object

The card of an object is meant to provide an overview (in read only) on the essential properties that identify the object in question. The nature of the data displayed depends on the Solution you are using.

Cards can be displayed:

- in a list in the browsing area, from the navigation menus and their submenus.
- in the edit zone, from the **Overview** property page of the object.

Card of an object (list)

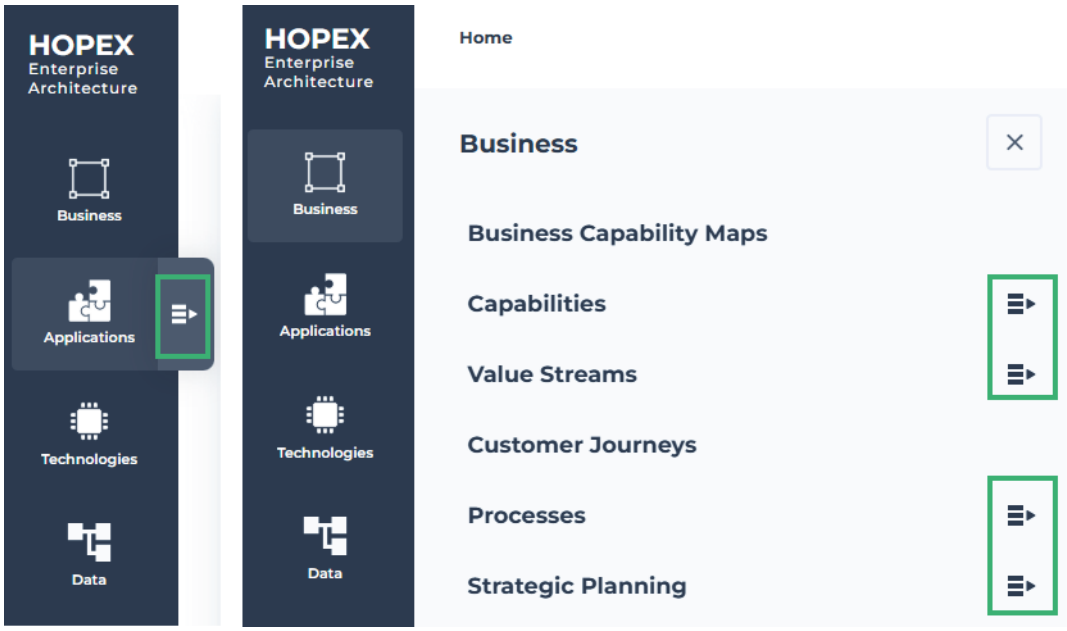
A card list is accessible via:

- the navigation menus and their submenus.
  Objects are listed alongside their main characteristics.
- an object list displayed in the edit area via a navigation menu

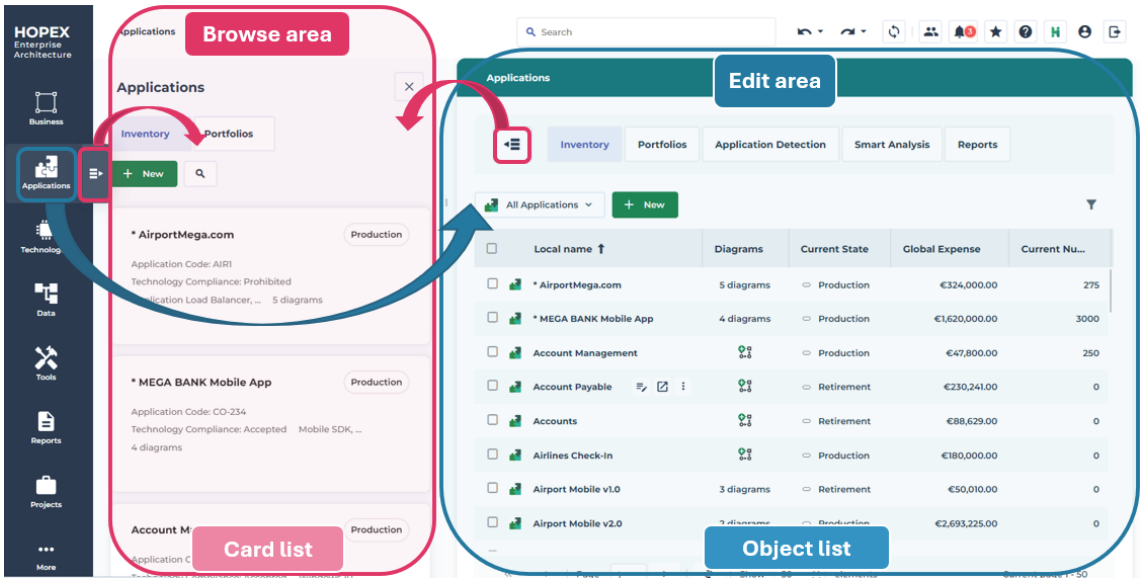
To display a list of cards, click:

- **Browse** in the navigation area
  - when hovering the cursor over a navigation menu
  - to the right of a submenu

    ☛ *Some navigation menus are broken down into submenus. Browsing is available for some of these submenus.*



- **Browse** in the edit area, to the left of an object list tabs



Managing the display of a card list

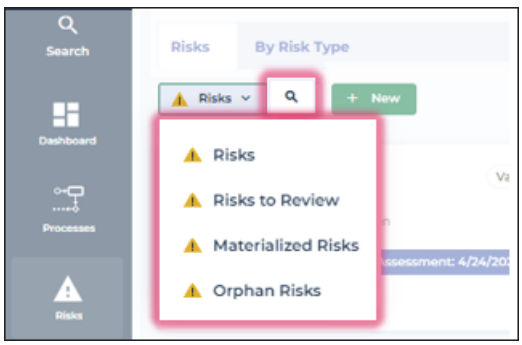
You can organize the display of your card list using the filters at the top of the list. These filters enable to:

- filter the objects by group

  ☛ *In certain Solutions, filtering by group is not available. In that case, the filtering window does not show.*

- perform a search over the objects contained in the list

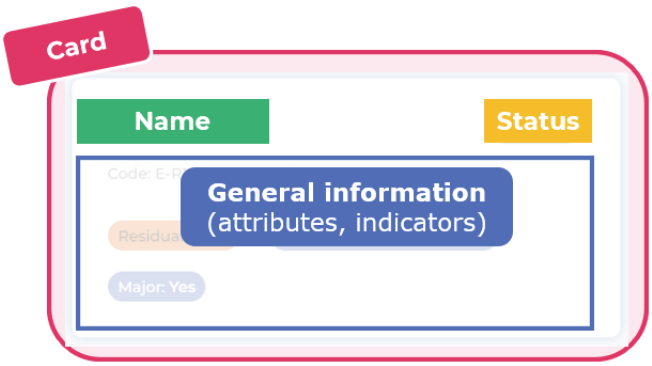
  E.g.: filters available in a card list of Risks in the **HOPEX GRC** desktop.



You can also create an object from a card list using the **New** button.

Card content in a list

In a list, the card only shows a limited amount of information. It is organized as follows:



In some Solutions, the cards show buttons when hovering the cursor. These buttons give access to elements related to the object of the card. These elements are presented as a tree or list.

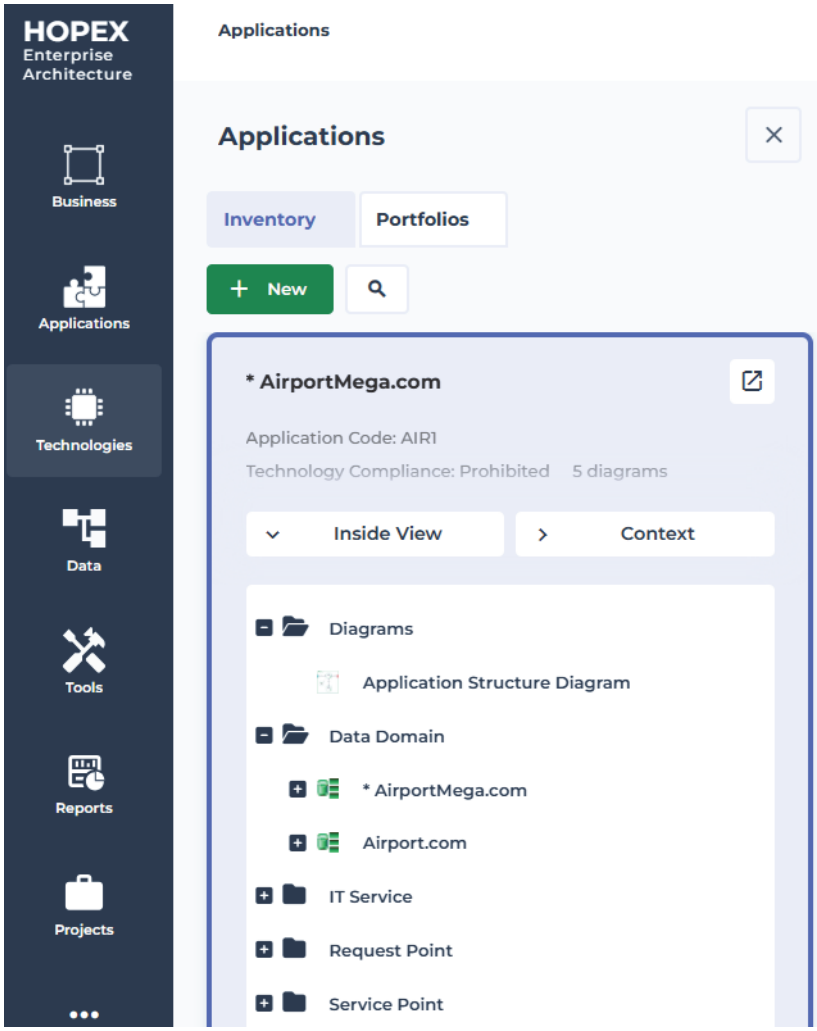
☛ *The list unfolds beneath the object card, in place of the other cards of the list.*

☺ *For more information about these buttons, see the documentation of the Solution.*

[If applicable] From this tree, you can:

- drag & drop an object to a diagram
- drag & drop an object to the property pages of another object
- click the object to open its property pages in the edit area
- open an object property pages in a new tab

Example of an unfolded tree in the card of an application (HOPEX Solution Architecture desktop).



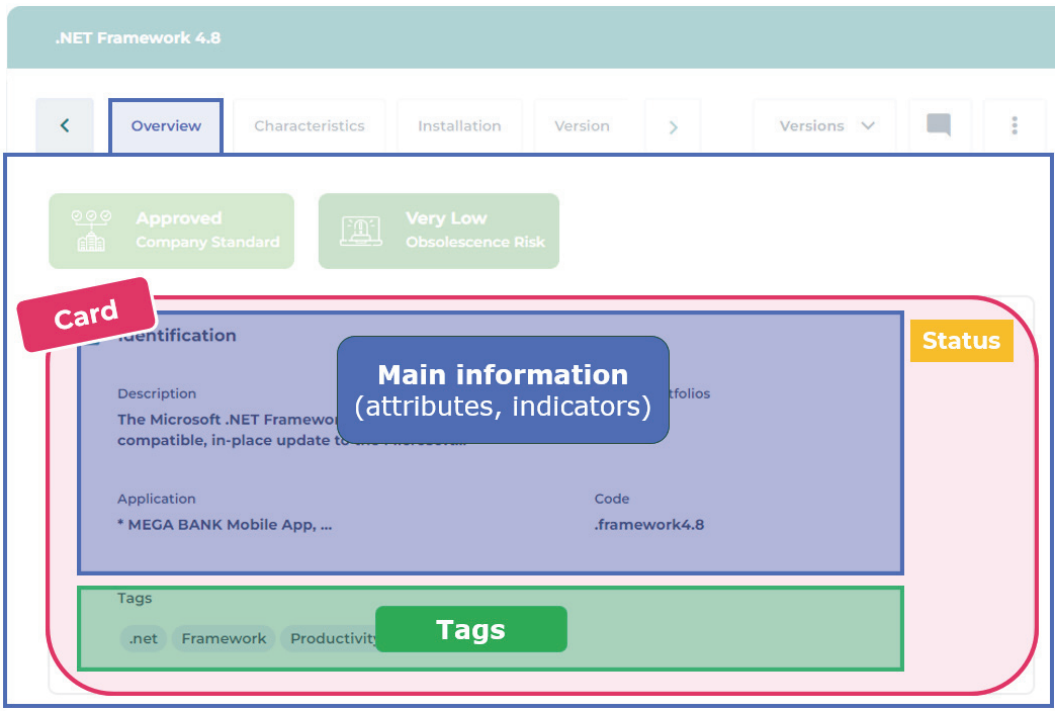
To get more information about an object and access to the card **Overview**:

- click the card in the list. The **Overview** page opens in the edit area.
- click **Open in a new tab** to open the **Overview** property page of the card in a new tab of your desktop.

Card of an object (property pages)

In an object property pages, the **Overview** page displays the object card with more details.

It is organized as follows:



Handling Object Property Pages

An object property window gives access to:

- the object property pages

  ☺ *To facilitate the reading, you can hide/display some of these pages.*

- the object review notes
- the object version management
- the object pop-up menu
- (environment development) the object property page customization, see Customizing an Object Property Page

You can manage the properties of an object inside its property pages. You can also customize the display of these pages.

Handling pages

To handle object properties pages:

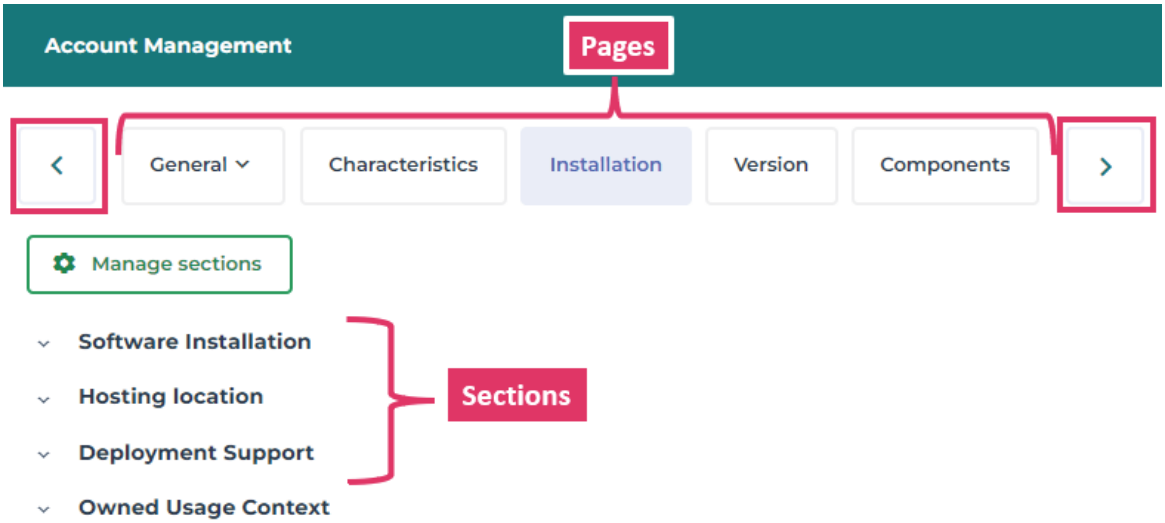
1. Access the object properties.

   ☛ *See Accessing Object Properties.*

2. In the property page scroll bar, select the page you want to display.

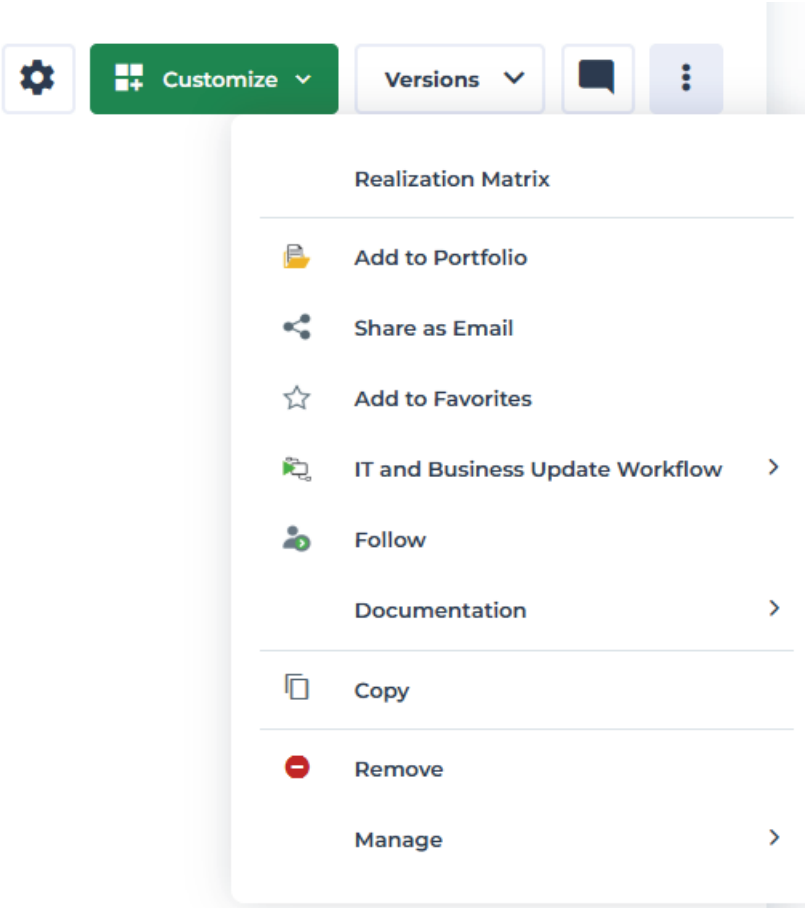
   ☛ *When the number of pages to show is important, you can quickly scroll through the pages using the mouse wheel.*

   Certain property pages are made up of sections.



3. To fold/expand a section: click ⌄/⌃ next to the name of the section.
4. To modify the display, see:
   - Showing/Hiding pages
   - Showing/Hiding sections

5. To access the pop-up menu of the object, in the object property page tool bar, click ⋮.



Showing/Hiding pages

To facilitate the reading, you can display or hide certain property pages of an object. The modification applies to all the objects of the same type.

To customize the display of the property pages:

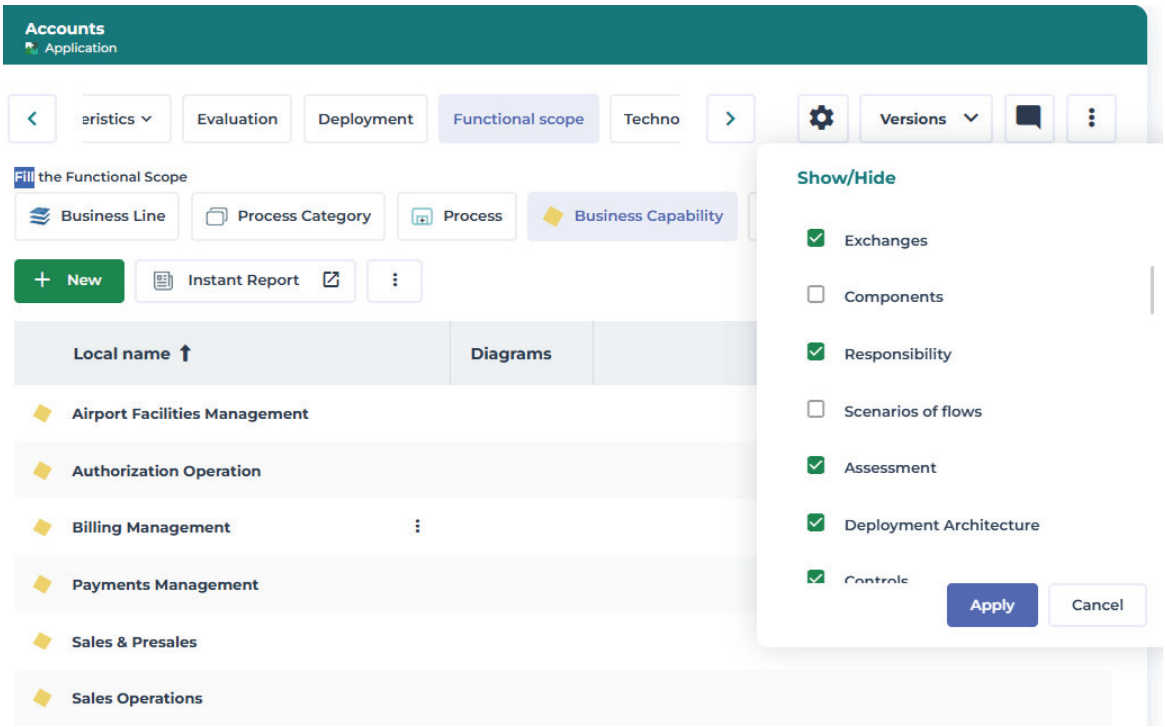
1. Access an object properties.

   ☛ *See Accessing Object Properties.*

2. In the property page tool bar, click **Show/Hide** ⚙.

3. Select or clear the pages that you want to show or hide.

   Certain pages are mandatory and cannot be hidden.



4. Click **Apply** to validate your modifications.
   The modifications apply to all of the objects of the same type.

Showing/Hiding sections

To facilitate the reading, you can display or hide certain sections of an object. The modification applies to all the objects of the same type.

To customize the display of a property page section:

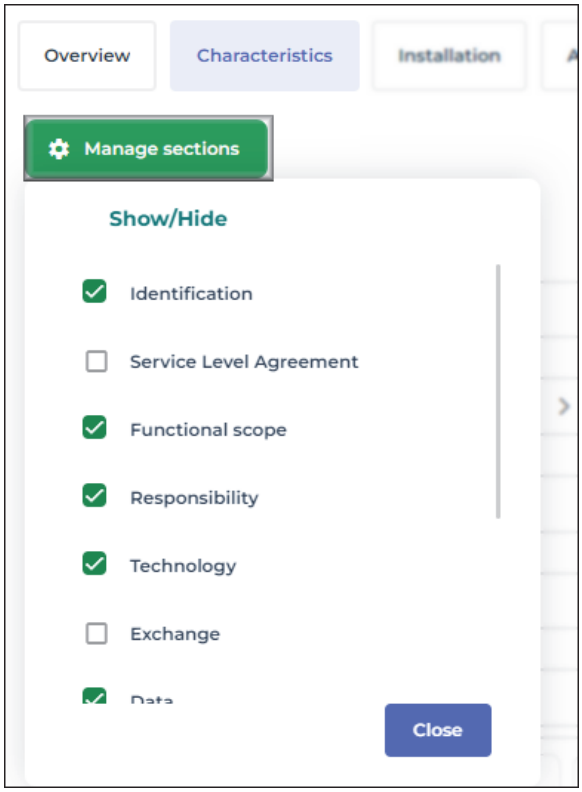
1. Display the relevant property page.

   See Accessing Object Properties.

   `E.g.: the` **`Characteristics`** `page.`

2. Click **Manage sections** .
3. Select or clear the section titles that you want to show or hide.
   Your modifications are simultaneously applied.

4. Click **Close** to close the selection window.



PROPERTY PAGE CUSTOMIZATION

See:

- Property Page Customization Principle
- Customizing an Object Property Page
- Creating an Attribute
- Managing Attributes and Sections
- Managing your Page
- Creating a Property Page
- Deleting a Custom Property Page

Property Page Customization Principle

The customization of object property pages is performed:

- in a ***development*** environment

  ☛ *In a **production** environment for a Functional Administrator with a Saas "Essential" offer.*

- with any profile (except read-only profiles)
- directly in an object property pages

  ☛ *Certain property pages are not available to customization. (for example: Overview, Diagrams, Reports).*

Actions

From the object property pages, you can perform the following actions:

- ***customize a page***
  - modify an existing page
  - create and add a page
- ***add attributes***
  - add existing attributes and/or
  - create and add your own attributes
  - modify your attributes

    ☺ *The same attribute can be displayed several times.*
- ***organize the page***
  - sort attributes in sections
  - reorganize sections and attributes
- ***dispatch***, ***save***, or ***delete***
  - directly dispatch your customization and thus apply it to all of the objects of the same type in all the Solutions

    Page creation: only the current Solution benefits from this new page.
  - save your customization as a draft, or
  - delete your customization or your draft

    ☛ *Any created attributes are deleted.*

Draft

As long as your customization is not complete, you can save it as a draft and continue the customization later on.

- Any other person can modify the draft.

  ☛ *In case of a new page, only the persons connected to the same Solution can modify the draft.*
- A draft can be edited by one person at a time only.
- Once the parameterization is complete, you (or another person) can dispatch it and thus apply it to all objects of the same type in all the Solutions.

The same object can have as many drafts as customizable pages. Several drafts can be edited simultaneously. Attributes created on a draft are not available for other drafts until dispatch.

Customizing an Object Property Page

Prerequisites:

- **Environment**: development

  ☛ *Production environment for a Functional Administrator with a Saas "Essential" offer.*

To customize an object property page:

1. Access the object property pages (of the object type you want to customize).

   E.g.: an Application property pages.

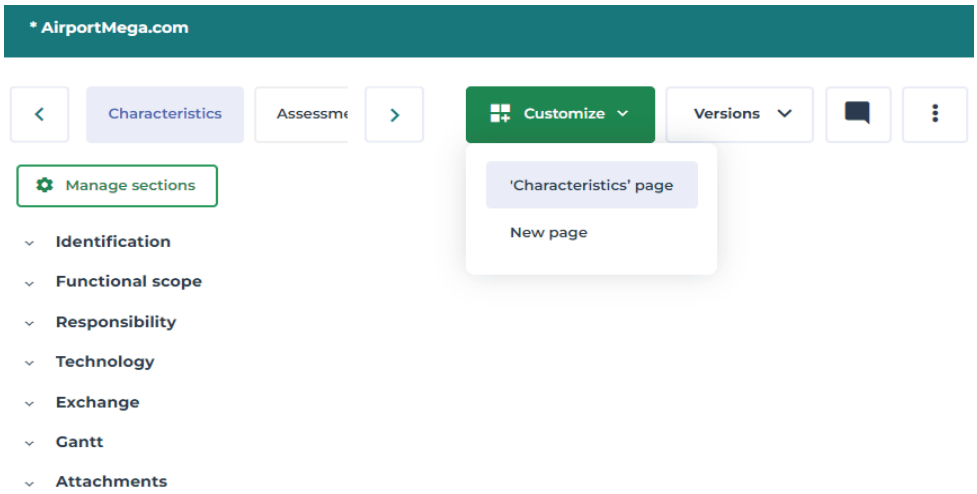
   ☛ *See Accessing Object Properties.*

2. Display the page you want to customize.

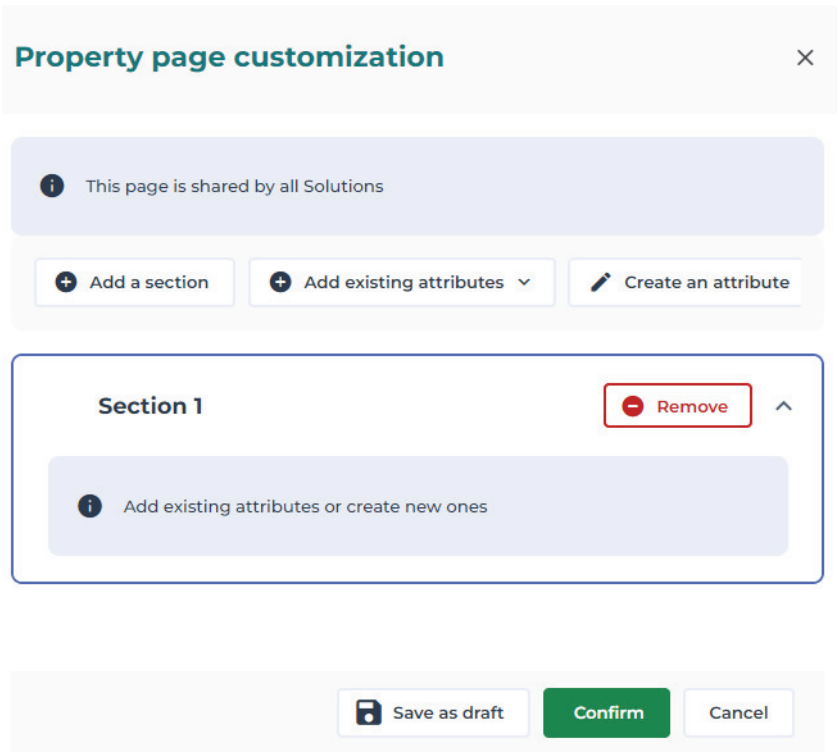
   E.g.: the **Characteristics** page.

3. Click **Customize > '<Page name>' page**.

   E.g.: **Customize > 'Characteristics' page.**



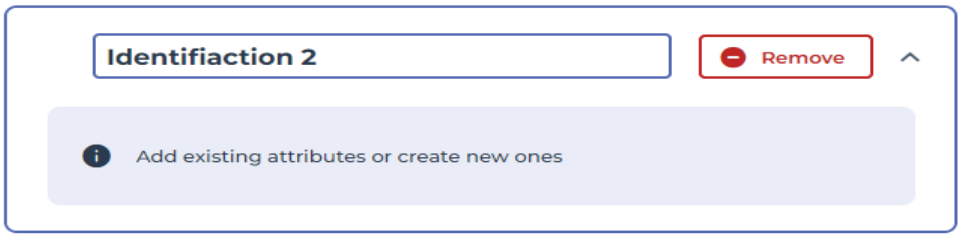
The customization page displays and the first section is initialized.



4. (Optional) Double-click **Section 1** and enter the name of you section.

   ☛ *The name of the section must be entered in the user interface language. If your data is in a different language, a flag reminds you of the language used when entering the name.*

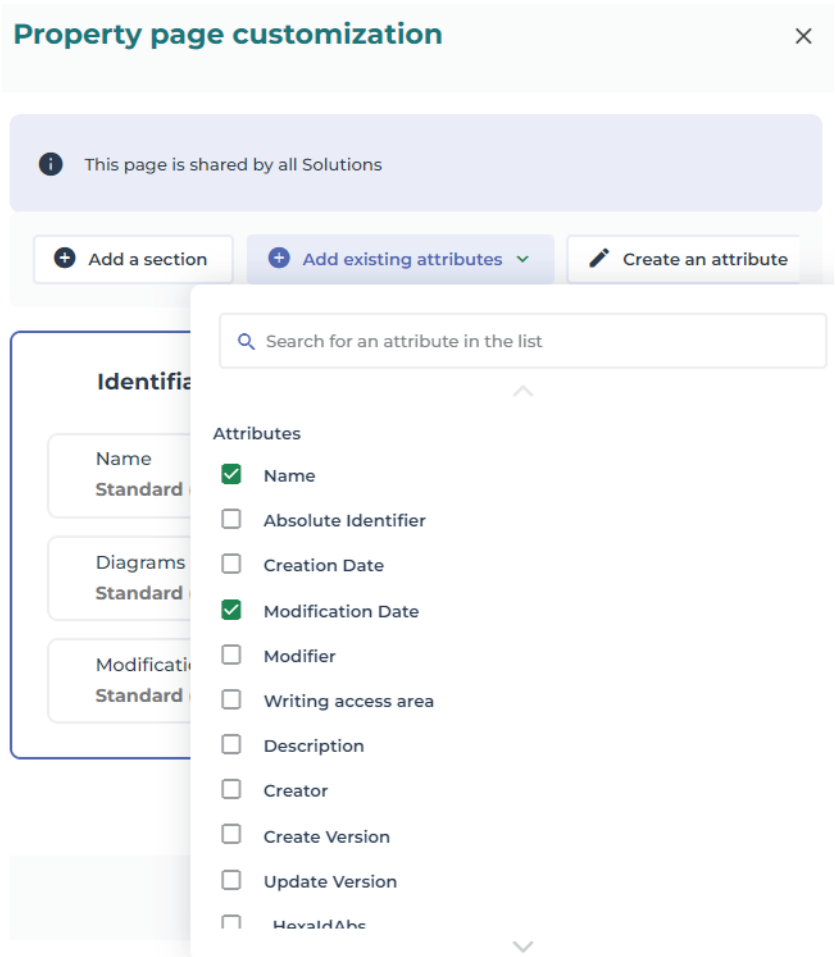
   `E.g.: Identification 2`



5. Add one or more attributes:
   You can add existing attributes or create other ones.
   - Click **Add existing attributes** or **Create an attribute**.

     ☛ *To create attributes, see Creating an Attribute.*
   - In the list, select the attributes. Attributes are added to the section as you select it.

     ☺ *If needed, use the dedicated search field to access the attribute. Enter characters in the dedicated search field: as you enter characters the list narrows down.*



6. (If needed) Click **Add a section** and configure another attribute group in the same way.
7. (If needed) Reorganize your attributes ans sections.

   ☛ *See Managing Attributes and Sections.*

8. If your customization:
   - is complete: click **Confirm** to apply your customization to all of the objects of the same type.
     ☛ *See Managing your Page.*
   - is not complete: click **Save as draft** and confirm your action (**Save as draft and close**), to complete the parameterization later on. Other persons can modify this draft.
     ☛ *If you want to delete your customization, click **Cancel**.*

Creating an Attribute

Attribute types and formats

You can create attributes of the following types and formats:

Attribute type	Description	Format
String	Alphanumeric or numeric character string (if not used to compute data) with a length between 0 and 1024	Standard Enumeration: with creation of values
Boolean	Boolean (true or false)	Standard
Short	Integer between 0 and 65535 Integer between -32767 and +32767	Standard Percent Signed Number
Long	Integer between 0 and 4294967295 Integer between -2147483647 and +2147483647	Standard Percent Signed Number
VarChar	ASCII text for long texts (e.g.: a description)	Standard (HTML or UTF8)
Float	Decimal number or percentage	Standard Percent
DateTime64	Date	Standard "YYYY-MM-DD" Date with Time "YYYY/MM/DD HH:MM:SS" Duration "HH:MM:SS"

To create an attribute:

1. In the property page customization window, click **Create an attribute**.

2. Enter the **Name** of the attribute.
   An attribute name is unique. If an attribute with this name already exists, you must enter another one.

   ☛ *The name of the attribute must be entered in the user interface language. If your data is in a different language, a flag reminds you of the language used when entering the name.*
3. Enter the **Description** of the attribute.

   ☺ *This description facilitates the understanding and use of the attribute.*

   If needed, you can modify or enter it after its parameterization.
4. Select:
   - its **Type**
   - its **Format**
5. Click **Create**.
   The attribute is created and added to the section.

   ☛ *If needed, you can modify it later.*

Creating an enumeration type attribute

For an enumeration type attribute, you must define the attribute values. You can also define the default value.

To create an enumeration type attribute:

1. In the property page customization window, click **Create an attribute**.
2. Enter the **Name** of the attribute.
   An attribute name is unique. If an attribute with this name already exists, you must enter another one.

   `E.g.: Issue`
3. Enter the **Description** of the attribute.

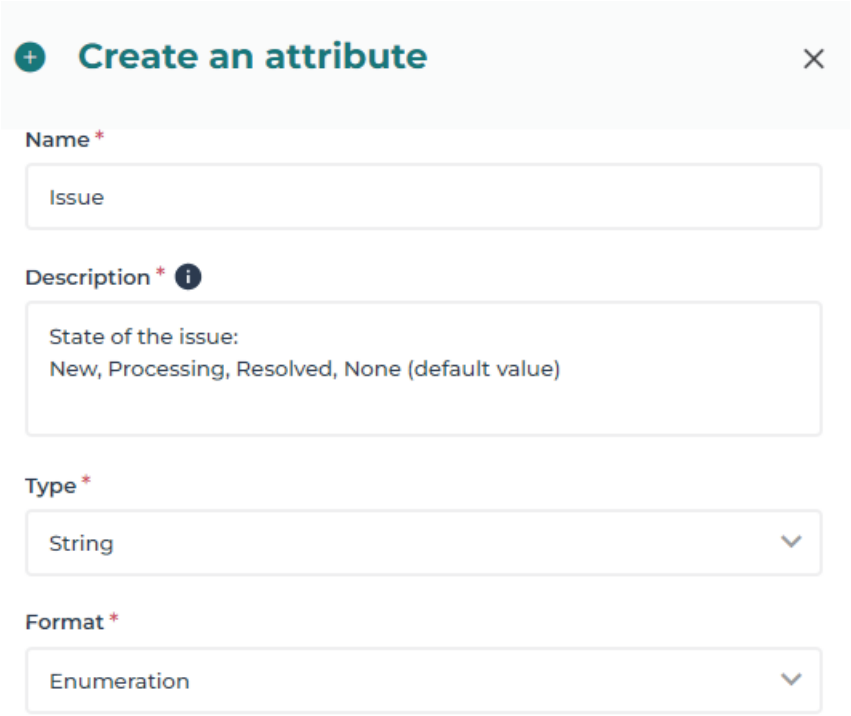
   ☺ *You can for example details its values.*

   `E.g.:`

   `State of the issue:`

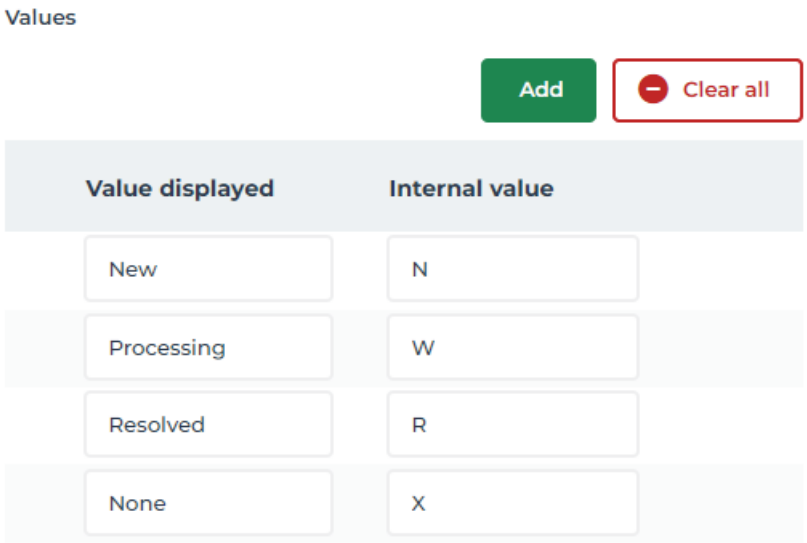
   `New, Processing, Resolved, None (default value)`

4. Select:
   - its **Type**: "String"
   - its **Format**: "Enumeration"



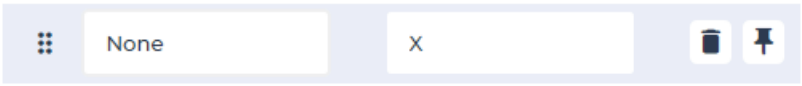
5. Define its values: for each value, click **Add** and in each field enter:
   - the **Value displayed** in the interface

     ☛ *The name of the value must be entered in the user interface language. If your data is in a different language, a flag reminds you of the language used when entering the name.*
   - the associated **Internal value**

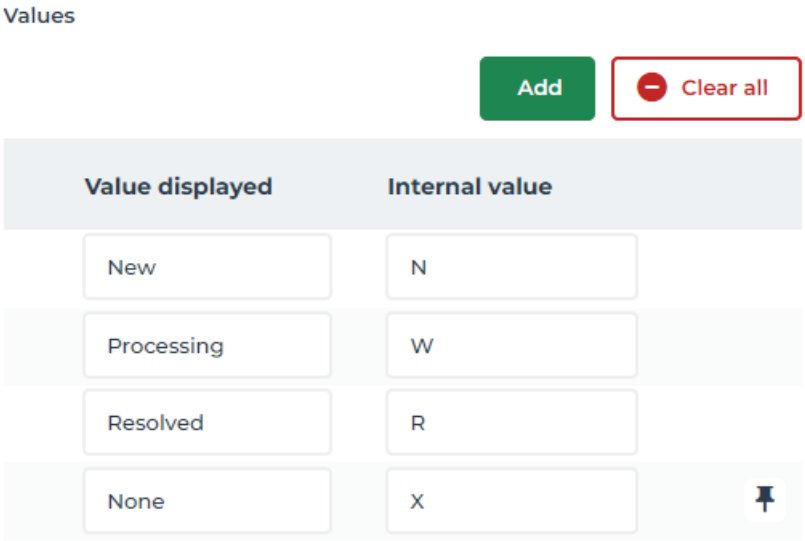


6. (If needed) To remove:
   - a value, hover the cursor over the attribute row and click **Remove** .
   - all of the values, click **Clear all** .

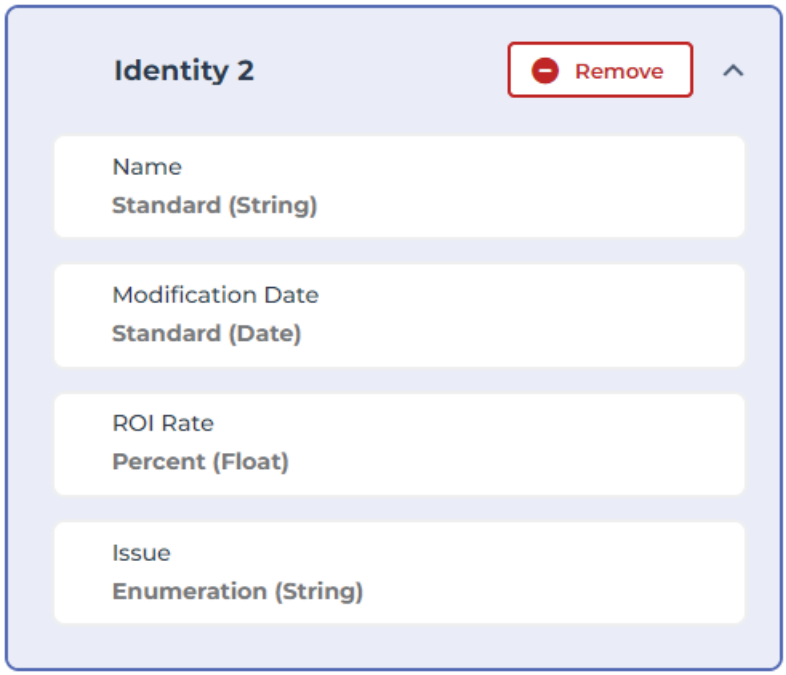
7. (Optional) Define a default value: hover the cursor over the row of the value concerned and click **Set as default value** .



The value is indicated as default value.



8. Click **Create**.
   The attribute is created and added to the section.
   ☛ *If needed, you can modify the attribute later.*



Managing Attributes and Sections

Reorganizing attributes and sections

You can reorganize the attributes and sections:

- reorganize the attributes within a section
- reorganize the added sections
  The sections added to a page are placed below the standard ones.
- move an attribute into another section

To modify the organization of attributes and sections:

1. In the property page customization window, hover the cursor over the element (attribute or section) that you want to move.
2. Click the handle ⠿ of the element and drag and drop it to the required place.

Removing an attribute

You can remove an attribute from a section.

☛ *This attribute is not deleted from the repository.*

To remove an attribute from a section:

1. (If needed) Hover the cursor over the section and click **Expand panel** .
2. Hover the cursor over the attribute and click **Remove** .



Modifying an attribute

You can modify an attribute you have created as long as it has not been confirmed.

☛ *You cannot modify the other attributes (those created by other users or those provided as standard).*

Any attribute characteristic can be modified (Name, Description, Type, Format).

To modify a customized attribute:

1. In the page customization window, hover the cursor over the attribute concerned and click **Modify** .



The attribute creation page appears.

2. Modify the attribute characteristics.

☺ *You might need to modify its **Description** too.*

3. Click **Apply**.
The attribute is modified.

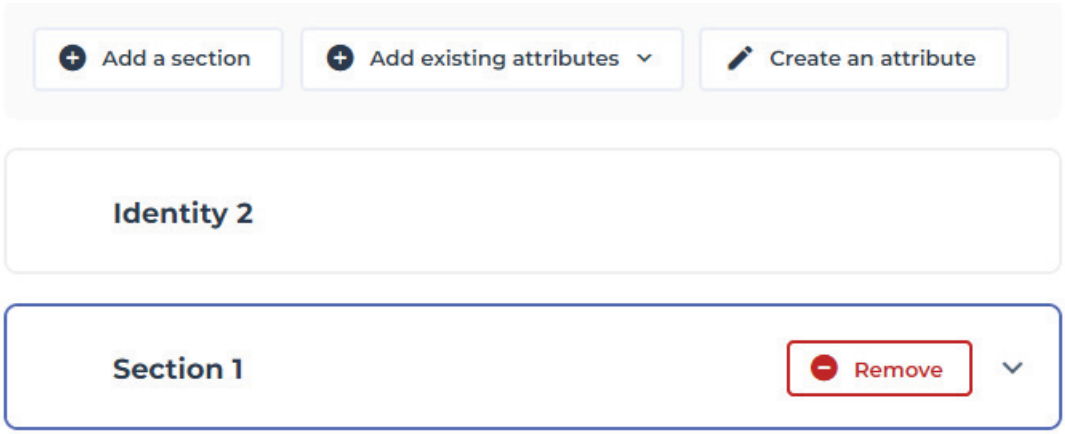
Removing a section

You can remove a section added.

If the section includes created attributes, those are still available for reuse in your page.

To remove a section:

1. Hover the cursor over the section and click **Remove** .
   The section is removed. If created attributes were included, those are still available.



Rename a section

To rename a section:

1. Double-click the name of the section.



2. Enter the name of the section.
   Maximum: 120 characters.

Handling sections

If you have many sections, to facilitate reading, you can reduce their display.

To modify the display of a section:

1. Hover the cursor over the section and click:
   - **Expand panel**
   - **Collapse panel**

Managing your Page

When your customization is complete, you can:

- dispatch your page
  The customization of the page applies to all of the objects of the same type.
- save your page as a draft and dispatch it later on

Dispatching your page

Once your customization is complete, you can dispatch your page or your draft.

Work Item

The dispatch is performed through a Work Item. All the customizations included in the same Work Item follow the same lifecycle.

You can:

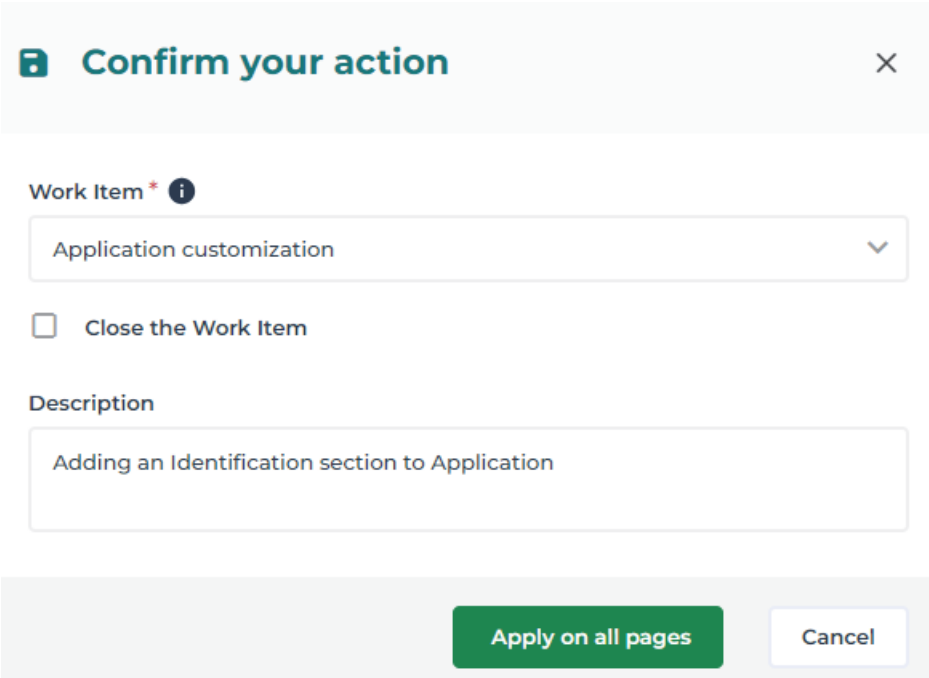
- use a Work Item already created and still open, or create a Work Item.
- close the Work Item or keep it open for other customizations.

```
E.g.: you can use the same Work Item to group all the
customizations related to the same object type.
```

To dispatch your page or your draft:

1. (If you have saved a draft) Display the draft: access the customized property page of an object of the type concerned and click **Customize > Draft of the 'Name of the page>' page**.
2. In the customized property page, click **Confirm**.
3. In the **Work Item** field:
   - use a Work Item: use the drop-down menu to select the Work item.
   - create a Work Item: enter a name
4. (If needed) To close the Work Item, select **Close the Work Item**.
   As long as the Work Item is not closed, it can be reused to add other modifications.

5. (Optional) In the **Description** pane, enter the description of the Work Item content.



6. Click **Apply on all pages**.
   The page is customized on all the objects of the same type.

Managing a draft

When a draft has been created, you can either:

- dispatch it
- delete it
- save it to keep it in edit mode
- reopen it to modify it

To modify a draft:

1. Display the draft: access the customized property page of an object of the type concerned.
2. Click **Customize > Draft of the '<Page name>' page**.
3. Modify the draft.
4. If the customization:
   - is not complete: click **Save draft**.
   - is complete: click **Confirm**.

   ☛ *See Dispatching your page.*

To delete a draft:

1. Display the draft: access the customized property page of an object of the type of objects concerned.
2. Click **Customize > Draft of the '<Page name>' page**.

3. In the draft page, click **Delete Draft** .
   The draft is deleted.

   Any created attributes are deleted.

Creating a Property Page

The page creation is performed in two steps:

- page settings:
  - name
  - position
- page content definition:
  - attributes
  - sections

  These actions are similar to those of a page modification.

To create a property page:

1. Access the object property pages (of the object type you want to customize).

   `E.g.: an Application property pages.`

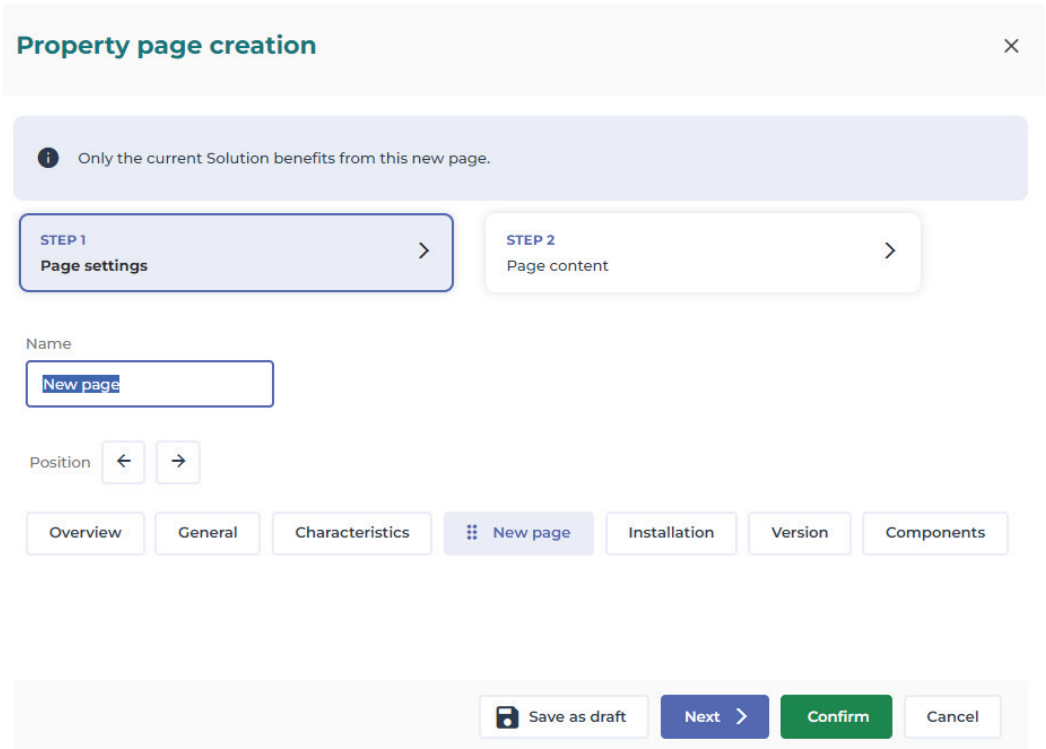
   See Accessing Object Properties.

2. In the menu bar of the property pages, click **New page**.



☛ *Or click **Customize > New page**, if the page displayed is also customizable.*

The page creation window opens on the **Page settings** step.



3. Customize your page, define:
   - its name: in the **Name** field, enter the name of the page.

     ☛ *The name of the page must be entered in the user interface language. If your data is in a different language, a flag reminds you of the language used when entering the name.*

   - its position: with the **Position** arrows (**Previous** ←, **Next** →), move the page to the required position. By default the page is placed to the right of the **Characteristics** page.

     ☺ *Alternative: you can also move the page by drag and drop using its handle.*

4. Click **Next**.

   ☺ *Alternative: to switch from a step to the other, click the step name.*

5. Define the **Page content**.

   ☛ *See Customizing an Object Property Page.*

6. Dispatch the page.
   In case of page creation, only the current Solution benefits from this new page.

   ☛ *See Managing your Page.*

Deleting a Custom Property Page

You can delete a custom property page.

To delete a custom property page:

1. Access the object property pages (of the custom object type).

   `E.g.: an Application property pages.`

   ☛ *See Accessing Object Properties.*
2. In the menu bar of the property pages, click **Customize > '<Name of the page>' page**.
3. Click **Delete page**.
4. In the **Work Item** field:
   - use a Work Item: use the drop-down menu to select the Work item.
   - create a Work Item: enter a name
5. (If needed) To close the Work Item, select **Close the Work Item**.
   As long as the Work Item is not closed, it can be reused to add other modifications.
6. (Optional) In the **Description** pane, enter the description of the Work Item content.
7. Click **Apply on all pages**.
   The page is deleted from all the objects of the same type.

   ☛ *Only the page is deleted. Any attribute created on this page is kept in the repository.*

OBJECT DESCRIPTION

Entering Object Description

To enter or modify the description associated with an object:

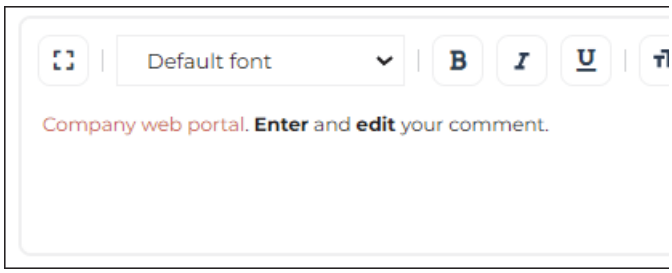
1. Access the object properties.

   ☛ *See Accessing Object Properties.*

2. Display its **Characteristics** page.

   ☛ *Depending on the object (e.g. : report), display the **Description** page or **Text > Description**.*

3. In the **Identification** section, the **Description** pane displays the description of the object.



4. Enter/Modify the description.

   ☛ *A spell check is integrated.*

   - To create a new paragraph while entering the description: press the <Enter> key.
   - For text formatting, see Text formatting.
   - To insert an object into the text, see Inserting Object Names in the Description.
   - You can copy/paste text.

     ☛ *The text is pasted without formatting.*

   The description entered is automatically taken into account in the generated documentation.

   When several types of text are available for the same object, a drop-down list allows you to select the type of text entered.

Text formatting

The **Description** toolbar includes standard text editing features.



Authorized formatting

Only the formatting available in the description window toolbar is allowed:

- Bulleted and numbered lists
  You cannot customize the lists.
- Text: color, background color
  By default, the text can be entered without applying a specific font to it.
  If you apply modifications to the font or the font size, these are not taken into account in Reports (MS Word) that include this description: the font used is the template default one.
- Character formats: bold, italic, underlined
- Paragraph formats: left or right aligned, centered

Prohibited formatting

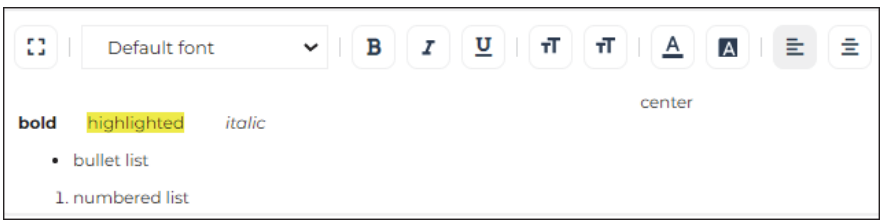
- Tables, pictures
  Tables or pictures pasted in the description not taken into account.
- Paragraph formats (page break, header, footer, margin, portrait/ landscape orientation)
- Links
  In Web sites, links are not reproduced except if these are derived from MetaClasses, see Inserting Object Names in the Description.

An RTF comment is not designed to store all Word documents. For this, external references should be used.

☛ *See Using External References.*

The format applied is used in generated reports (MS Word) and Web sites.

Example:



Inserting Object Names in the Description

In **Hopex**, you can insert object names as a field into the description. This enables:

- to automatically create links in generated websites
- to automatically update object names in descriptions

> ☛ *When you insert an object name, as a field, its name (when modified) is automatically updated in the description.*

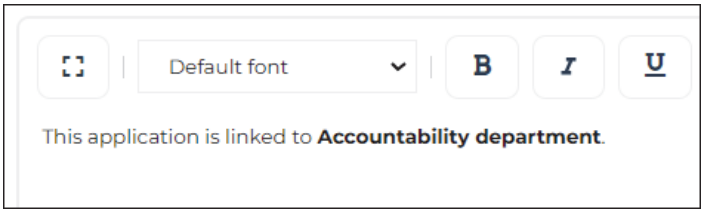
To insert an object in a description:

1. Entering the object description.

   > ☛ *See Entering Object Description.*

2. In the description pane toolbar, select **Insert object in text** .
3. Use the search tool to select the object and click **OK**.
   The name of the object is inserted in bold text (as a field).

   > ☺ *To access the inserted object properties, select the object and in the description pane toolbar select **Field Properties** .*



OBJECT HANDLING

See:

- Deleting or Removing an Object
- Connecting Objects
- Favorites
- Undoing or Redoing Actions on Objects
- Duplicating Objects
- Sharing an Object as Email

Deleting or Removing an Object

To remove or delete an object, use the **Remove** button. According to the context, you can then:

- delete the object from the repository.
  In this case, the deleting wizard pops up.
- remove the object from the list it is featured in
- disconnect an object from another one from a property page

Removing Objects

To remove an object:

1. Right-click the object and in its pop-up menu, select **Remove**.
   Depending on the case, a window prompts you to:
   - (by default) simply remove the object
   - permanently delete the object
2. Click **Remove**.
   The object is removed from the diagram, for example, but is kept in the repository.

Deleting an object

To delete an object from the repository:

1. Right-click the object and select **Remove**.
2. (Depending on the case) A window allows you to:
   - (by default) simply remove the object
   - permanently delete the object

   Select **Delete** and then click **Next**.

   The object and its child objects are listed and selected by default.

3. Click **Delete**.
The object and its child objects are permanently deleted from the repository.

☛ *When you are not authorized to delete the object, a message explains the reason (e.g.: objects created outside of the current private workspace, modification underway by another user).*

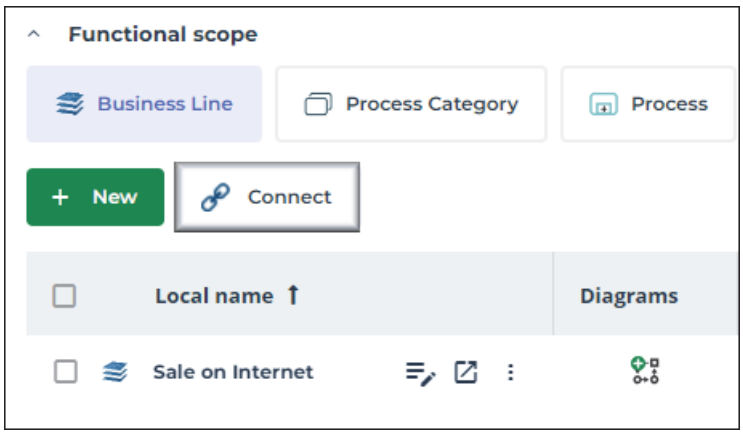
Connecting Objects

You can connect objects, for instance through:

- the **Connect** command available in a field menu



- the **Connect** button available in a property page list



☛ *The **Connect** feature is based on the query tool. For more details, see Advanced Search.*

Undoing or Redoing Actions on Objects

The undo mechanism in a diagram or in the browser cancels the last action carried out. After canceling an action, you can always change your mind and redo it.

This is true:

- for purely graphical operations
- for operations involving actions on the repository (creating or deleting objects for example)

When you create an object in a diagram, and you decide to undo this creation action, the object is deleted from both the diagram and the repository. The same applies when you redo an action that you canceled.

Undoing/Redoing an action

To cancel the last action carried out in a diagram or in the navigator:

- In the desktop toolbar, click **Undo** .

To redo an action you canceled in a diagram or in the navigator:

- In the desktop toolbar, click **Redo** .

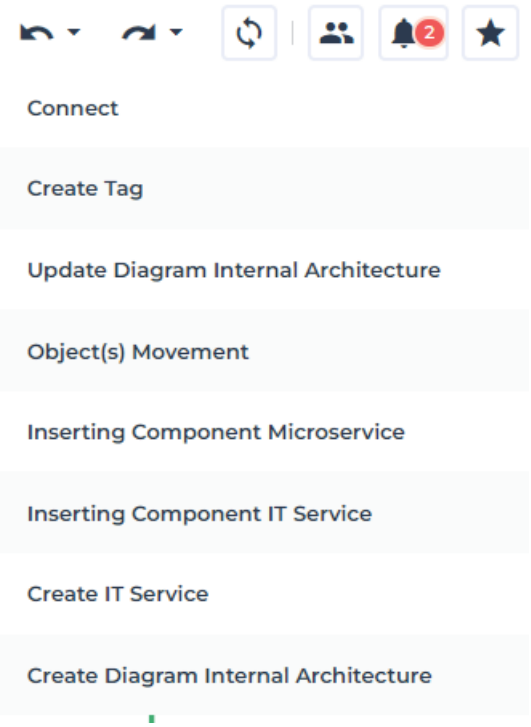
Undoing/Redoing several actions

You can undo or redo the last actions performed in your workspace. You can only undo actions chronologically.

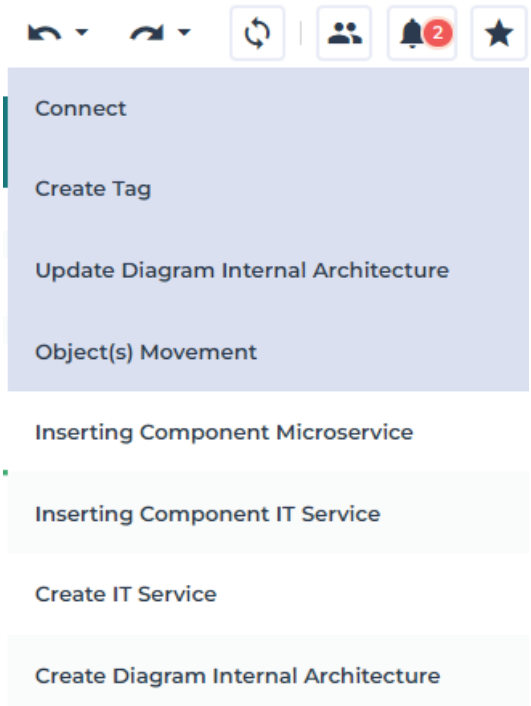
```
E.g.: object creation or deletion, modification of object
properties.
```

To undo one or more actions:

1. In the desktop toolbar, click the drop-down list of the **Undo** button. The list of the latest actions is displayed (the most recent first).



2. Place the cursor on the last action you want to undo.



3. Click to undo the actions.

☺ *To undo only the last action carried out, simply click **Undo** .*

To reset one or more canceled actions:

- Proceed in the same way as before, having clicked the drop-down list arrow of the **Redo** button.

☺ *To restore only the last action carried out, click **Redo**.*

Duplicating Objects

To duplicate an object:

1. Right-click the object and select **Manage > Duplicate**.
   The **Duplicate an Object** window appears.

   ☛ *Only certain object types can be duplicated (for example: Process category and Process).*

2. (Optional) Modify the format of the duplicated object name.
   Default format:

   ```
   < source object name> (Duplicate)
   ```

   ☛ *See Duplicated object naming.*

3. (Optional, library) By default, the object is duplicated in the same library as the source object. To store duplicated objects in another library:
   - Select **Create duplicates in another library**.
   - Click the arrow and select the library.

   ☛ *See Duplicating in another library.*
4. Click **OK**.
   The object is duplicated.
   If you defined another library, the object is duplicated in the defined library.

Duplicated object naming

There are two ways for naming duplicated objects (duplicate).

The duplicate can have:

- a **Suffix** (default option)

  `Example: Vehicle Breakdown Analysis (Duplicate)`
- a **Prefix**

  `Example: Duplicate of Vehicle Breakdown Analysis`

The option with suffix can be useful when, in a list, the duplicate is located below the duplicated object.



You can modify the **Prefix** or **Suffix** used to name component objects of the object.

☛ *The prefix and suffix are not used for objects that are in a namespace.*

Duplication strategy choice

For most objects that can be duplicated, you do not have a choice of duplication strategy.

For Process categories, you have the choice between:

- "Duplicate Value Streams and Sub-Categories"
- "Duplicate Processes"

Duplicating in another library

For objects already stored in a library, you can store duplicates in another library.

💣 **For objects not stored in a library, you cannot store duplicates in another library.**

Duplicated object names in a multilingual environment

When you duplicate an object, it must be in the repository language so that translations in the various languages will be correctly transferred to the duplicates.

☛ *To determine the language of your repository, consult the repository properties.*

FAVORITES

Favorites provide access to regularly viewed objects. They enable access to all actions possible on these objects. Favorites are useful when your repository is large and you want to save valuable time in navigation.

Adding an Object to Favorites

Adding an object to favorites

To add an object to your Favorites list:

1. In **Hopex**:
   - on an object (e.g.: in a tree, a report, or a diagram): right-click the object and select **Add to Favorites**,

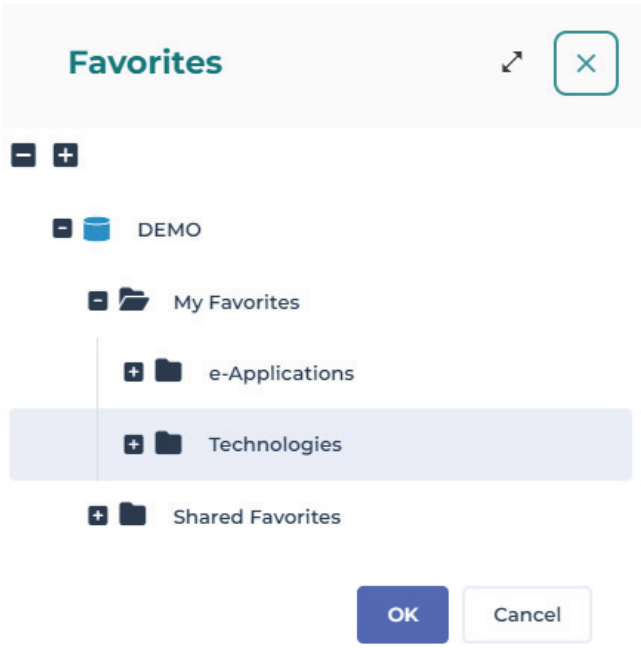
   or

   - in a list of objects: in the **Local Name** column, hover the cursor over the object and click **More** ⋮ **> Add to Favorites** ☆.

   The Favorites management pane pops up.

   ☺ *Alternative: display your favorites and in a card list, select the card of the object and add it to the folder of favorites by drag and drop.*
2. Select the folder or sub-folder in which you want to add the object.

   ☛ *If needed, create a sub-folder (right-click a folder and select **New > Folder of favorites**). See Organizing your Favorites.*



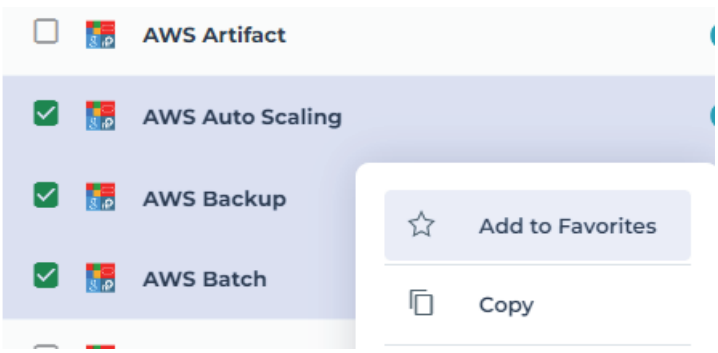
3. Click **OK**.
   The object is added to the selected favorites folder.

Adding several objects of a list to favorites

To add several objects to your Favorites list:

1. In **Hopex**, display the object list.
2. Select all the objects you want to add to your Favorites list.

   ☺ *If needed, use the filtering tool to filter the data displayed, see Filtering a list data.*
3. Right-click an object of the list and select **Add to Favorites**.



4. Select the folder or sub-folder in which you want to add the object.

5. Click **OK**.
   The objects are added to the Shared Favorites folder.

Mass adding objects to favorites

To mass add objects to your Favorites list:

1. Access your list of favorites.
   ☛ *See Accessing Favorites.*
2. Right-click the favorites folder concerned and select **<Name of favorites folder> > Connect > Object**.
3. In the object query window, select the objects that you want to add.
4. Click **OK**.
   The objects are added to the selected Favorites folder.

Accessing Favorites

Shared favorites are organized in trees, just as your favorites. They are available:

- from your homepage, in the **Favorites** tab
  ☛ *See Quick access.*
- from the **Hopex** toolbar via the **Favorites shortcut** 
  ☛ *See Toolbar.*

If needed, you can create sub-folders of favorites, see Organizing your Favorites.

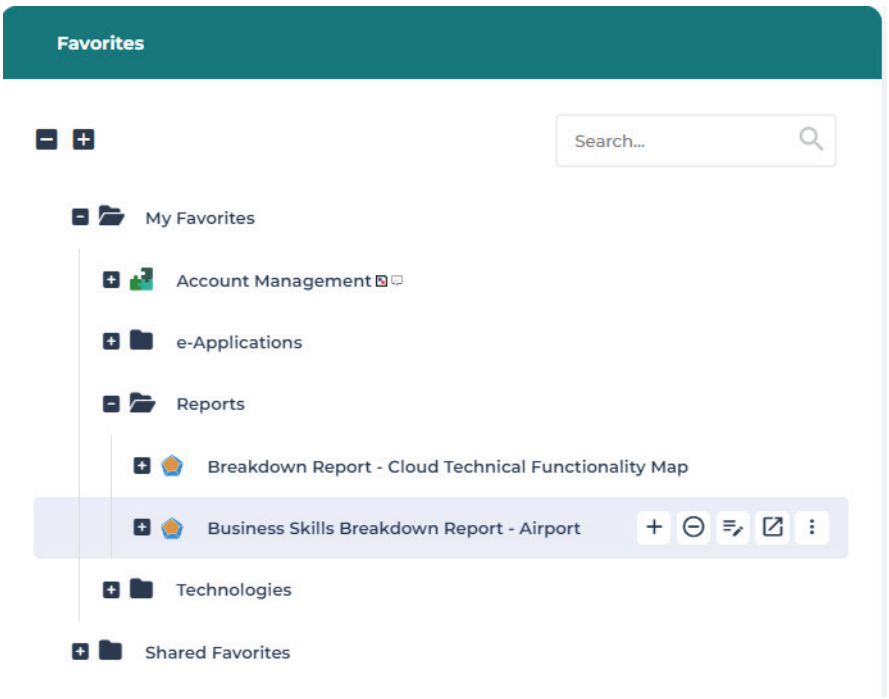
To access favorites:

1. Use one of these shortcuts:
   - In the **Hopex** toolbar, click **Favorites**  .
   - In the **Quick Access** inset of your homepage, select **Favorites**.

   The tree of your favorites is displayed.
2. Expand the folders concerned to access the favorites they contain.
   ☛ *For information on tree handling, see Expanding/Collapsing a tree by one level.*
   ☺ *Use the tree search tool to find a favorite, see Searching for objects in a tree.*

3. (If needed) To access the objects connected to a favorite, expand the favorite.

   ☛ *For information on available actions on an object in a tree, see Actions on an Object in a Tree.*



Organizing your Favorites

If needed, you can create sub-folders to organize your favorites.

☛ *Alternatively, you can create the sub-folder when adding the object to favorites, see Adding an Object to Favorites.*

When you drag and drop a favorite from a folder into another one, the favorite is connected to both folders. You can keep it or remove it from the source folder.

Creating a sub-folder of favorites

To organize your favorites:

1. Access the favorites.
2. Right-click a folder and select **New > Folder of favorites**.
3. In the **Local Name** field, enter the folder name.
4. Click **OK**.

Classifying a favorite in a sub-folder

When you add an object to your favorites, if you do not classify it in a specific folder or if you want to classify it in another folder, you can do it later.

To classify a favorite:

1. Access the favorites.
2. Select the favorite and drag and drop it into the required folder.
   The favorite is available in both source and target folders.
   You can remove it from one of the folders.

   ☛ *To remove a favorite from a folder, see Removing an Object from Favorites.*

Removing an Object from Favorites

An object can be available in **My favorites** folder or in one or more sub-folders of favorites.

You can remove the object from the folder or from one or several sub-folders.

To remove an object from a favorite folder:

1. Access the favorite folder from which you want to remove the object.
2. Hover the cursor over the object and click **Remove** ⊖.
3. Keep **Remove from** "Name of the favorite file" selected and click **Remove**.

   💣 **If you select Delete, the object is deleted from the Hopex repository.**

   The object is removed from your favorites.

OBJECT HISTORY

The history is used to:

- obtain the list of objects which you have recently accessed
- display the latest modifications performed on each object
- compare objects modified between two dates

Prerequisites for history display

Log must be activated so the history page appears. Logging is activated by default.

☛

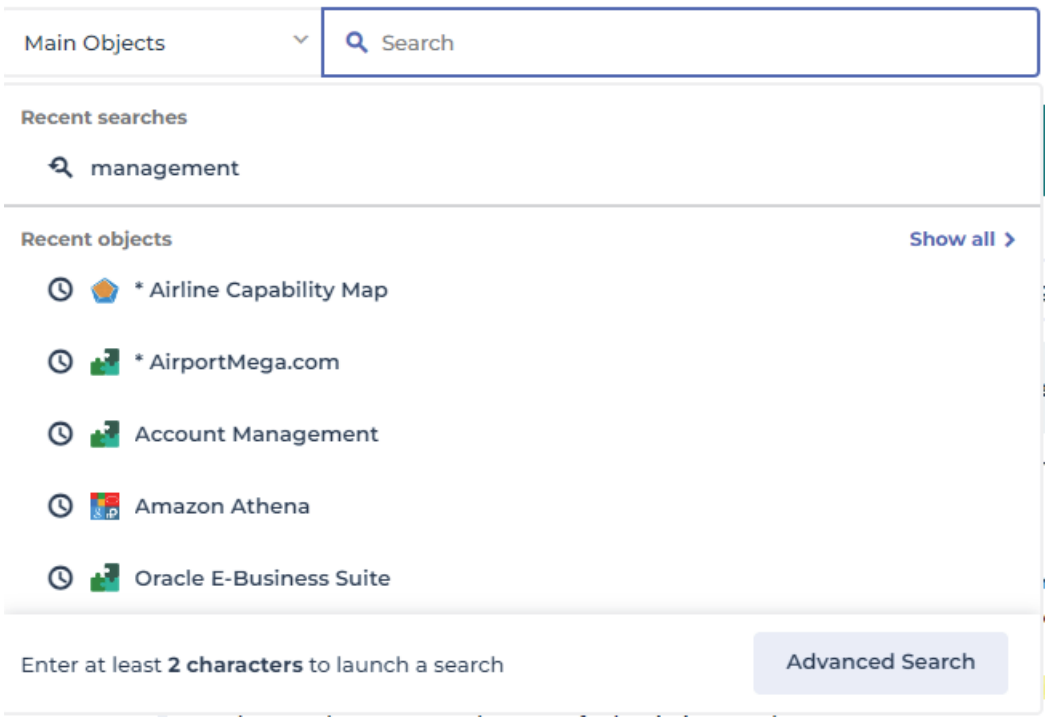
☛ *For more details, see the Hopex Administration - Supervisor guide, chapter "Managing Repositories".*

Accessing the History of Viewed Objects

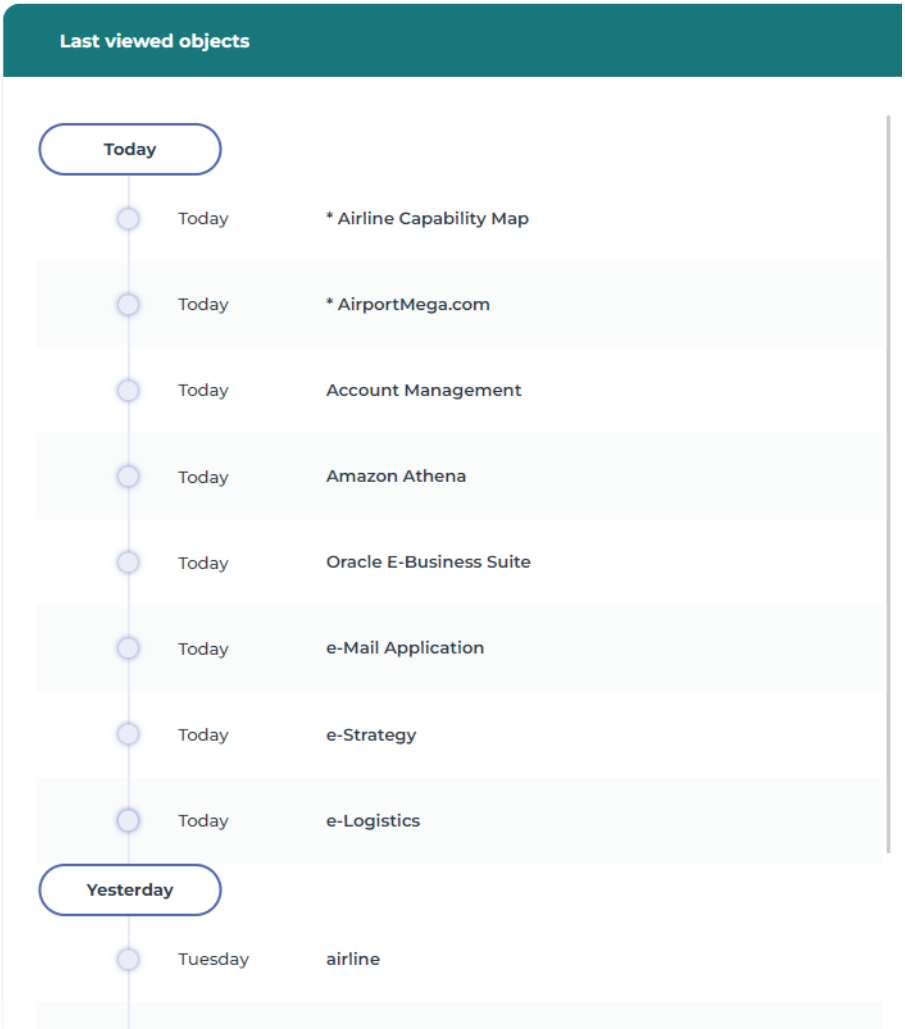
The history contains all the objects you have accessed (e.g.: display of their properties pages) or modified.

To access the history of viewed objects:

1. In the **Hopex** toolbar, open the **Search** field.
   The **Recent Objects** list displays the last five viewed objects.



2. Click **Show all** to access the entire list.
3. The full list of your recently viewed objects displays in chronological order.



Accessing the History of an Object

The history of an object displays:

- the object creation date and its author
- the object last modification date and its author
- all modifications made for the object in chronological order
  - the author of modifications
  - which attributes were modified
  - the date of each modification

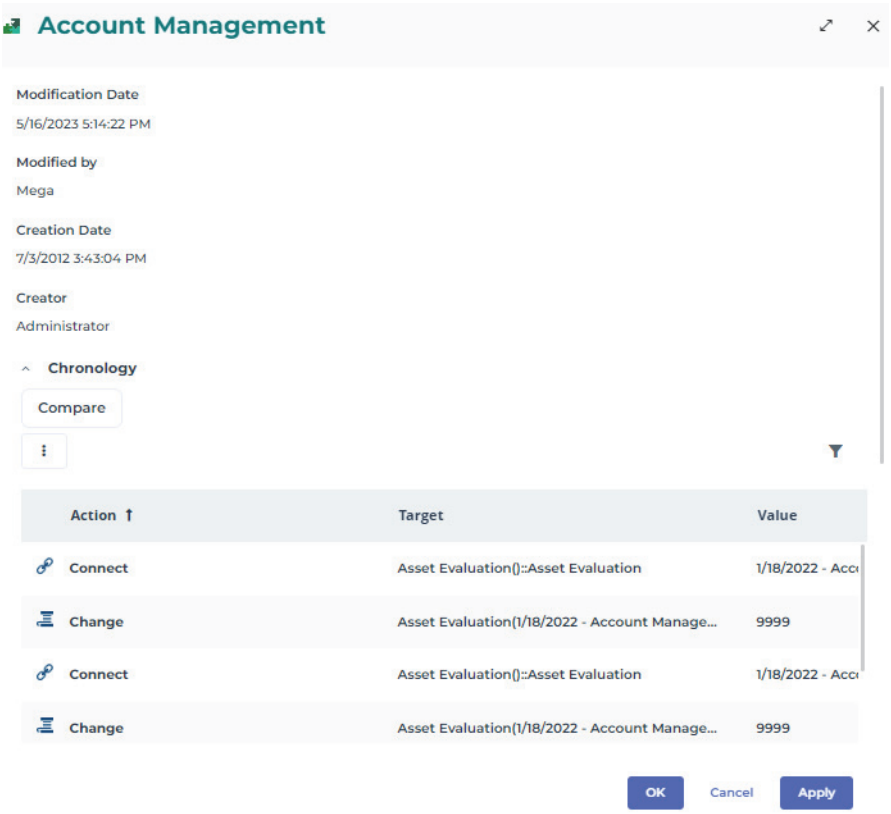
> ☛ *You can compare the attribute values and links of an object between two dates.*

To display the history of an object:

1. Right-click the object and select **Manage > History**.

   > ☛ *With the HOPEX Customizer profile, in the object properties, select **General > History**.*

   The chronology of the object modifications is displayed.



2. Click **Compare** to compare the attribute values and links of an object between two dates.

   > ☛ *See Comparing the attribute/link values modified on an object.*

OBJECT NAMING

Object Name Restrictions

Length

An object name maximum length is limited to 255 characters.

Allowed characters

The characters authorized in object names are the same as those authorized in concept names:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

à á â ã ä å ç é è ë ê ì í î ï ñ ò ó ô ö ù ú û ü ÿ ý

0 1 2 3 4 5 6 7 8 9

* ( ) / = + % ? $ _ & €

, ; - :

You cannot use & , ; - : characters as the first character.

☛ *See PLATFORM - Customization (Windows) > Customizing the Metamodel > ... > Concept names.*

Limitation

Object names can contain upper/lowercases, although the system does not take into account letter cases and accents.

Examples of words considered the same:

- Smith and smith
- Knobel and Knöbel
- Éclair and Eclair
- pale and pâle

Name of an Object (Local/Short or Long)

Certain types of objects in **Hopex** have a local name, specific to a given context. This mechanism allows another object to use the same name, but in a different context.

The "long" name includes the local name (or short name) preceded by the object owner name (the owner being the context in which the object is defined).

It is possible for example to use:

- different conditions with the same name in different processes.
- different "Enter Order" operations with the same name in two different processes. You can for example have operations:
  - "Enter Order" in the "Normal Order Delivery" process
  - "Enter Order" in the "Urgent Order Delivery" process

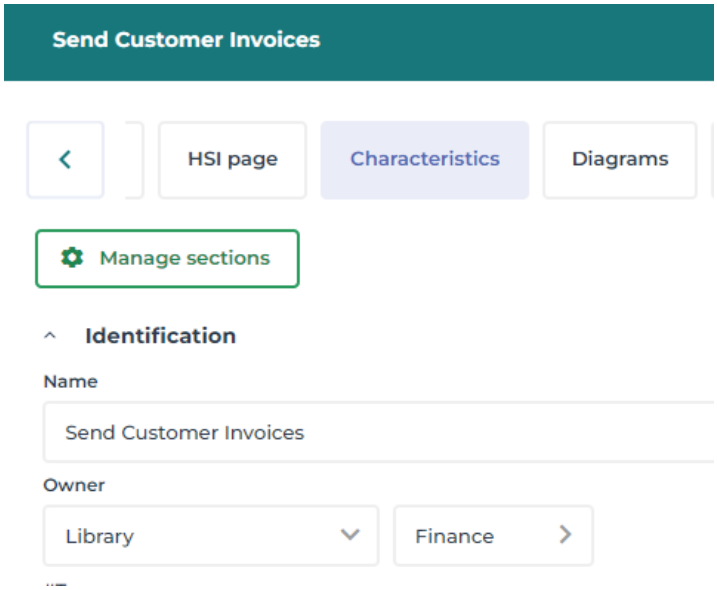
  The operations carry the same local name while being different. They can have a different description or send different messages.

  ☛ *Examples of object types with local names are: Application, Diagram, Operation, Service, Message, Collaboration, Package, Class.*

In the Property pages:

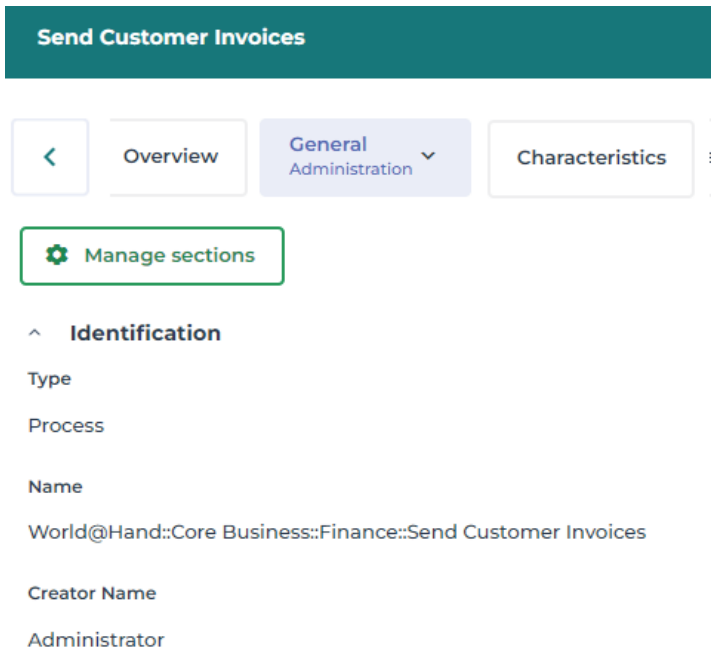
- the **Characteristics** page shows separately the **Name** of the object and its **Owner**
  This name is also called **Local Name** or **Short Name** of the object.

  Example: The **Name** of the process is "Send Customer invoices", its **Owner** is the "Finance" library.



- the **General** page, **Administration** subpage shows the long name of the object. The first part of this long name refers to the object owner.

  Example: The long name of the "Send Customer invoices" process is "World@hand::Send Customer invoices".
  The first part of this long name refers to the owner.



To change the object owner:

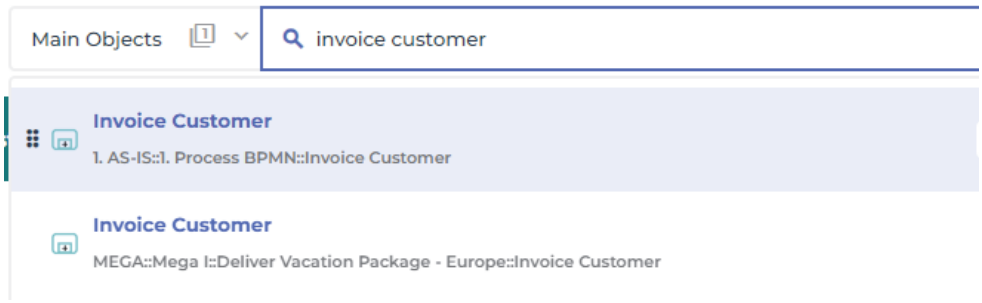
- In the object **Properties** > **Characteristics** page, use the **Owner** field drop-down menus.

The search and the object names

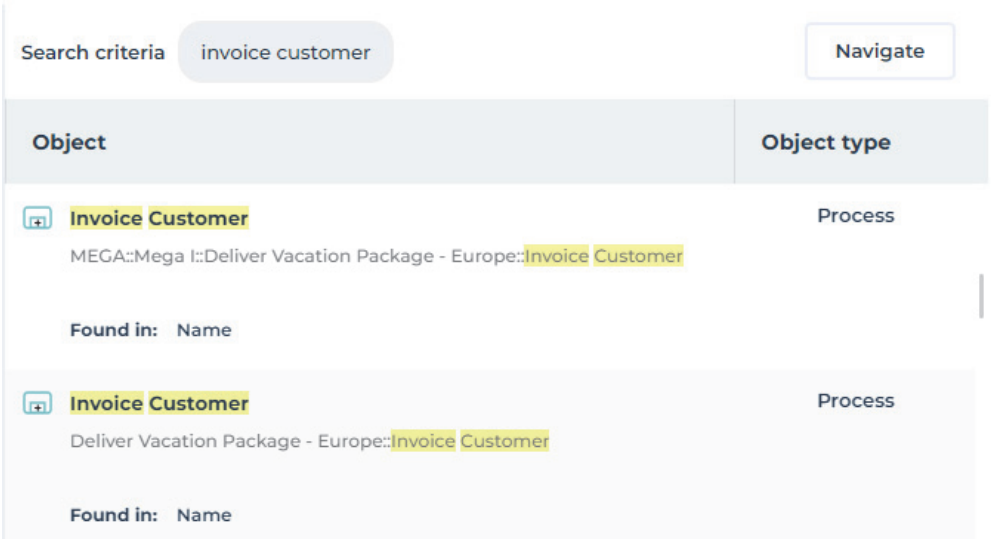
When the full-text search on an object returns two objects with the same name (local/short name):

- the result displays the object name (short/local name)
  Its (long) name with context is indicated below.

  For example, when two processes have the same short name, you can select it according to its context.



Display in the extended results:



HOPEX IN A MULTILINGUAL CONTEXT

Knowledge sharing is possible across the company and in different languages through multilingual support: repository content is managed and published in as many languages as required.

Hopex allows you to enter data in several languages.

You can easily switch from one language to another to enter or consult data, or to generate documents.

Managing the Data Language

Hopex allows you to enter data in several languages. You can switch from one language to another to enter or consult data or to generate documents.

Defining the available languages

Hopex supports more than 30 data languages: Arabic, Bosnian, Bulgarian, Chinese (Simplified), Chinese (Traditional), Croatian, Czech, Danish, Dutch, English, Spanish, Finnish, French, Greek, Hebrew, Hungarian, Icelandic, Indonesian, Italian, Japanese, Korean, Malay, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovenian, Swedish, Thai, Turkish, Vietnamese

Prerequisite: the data language in which you want to work is installed in **Hopex**.

☛ *To configure the list of available work languages, see Installing Additional Languages.in the **Hopex Administration - Supervisor** guide.*

☛ .

To make a language available, you must activate it:

1. In your **Hopex** desktop, access your **Options** (**Main Menu > Settings > Options**).
2. In the Options tree, select **Installation > Languages**.
3. In the right pane, select the language.
4. Click **OK**.
   The language is available in the **Main menu > <current language> > <language name>**.

Modifying the data language

In **Hopex**, you can switch from one language to an other as you need.

To modify the data language in **Hopex**:

1. In your **Hopex** desktop, click **Main Menu** .
2. Select **<current language> > <new language>**.
   The data (translated) appear directly in the selected language.

   ☛ *To identify untranslated data, see Viewing Untranslated Objects.*

Entering Data in Several Languages

Prerequisites to the manual translation of data

To manually translate your data:

- Check that the languages in which you want to translate your data are available.

  ☛ *See Defining the available languages.*

- Check that the **General > Translation** property page is available.

  ☛ *By default this page is not displayed in the Solutions.*

To display the **Translation** page:

1. Access options (**Main Menu > Settings > Options**).
2. In the Options tree, select **Installation > Languages**.
3. In the right pane, select the **Presentation of translations** option
   The **General** > **Translation** property page is available for all the repository objects.

Object characteristics in the target language

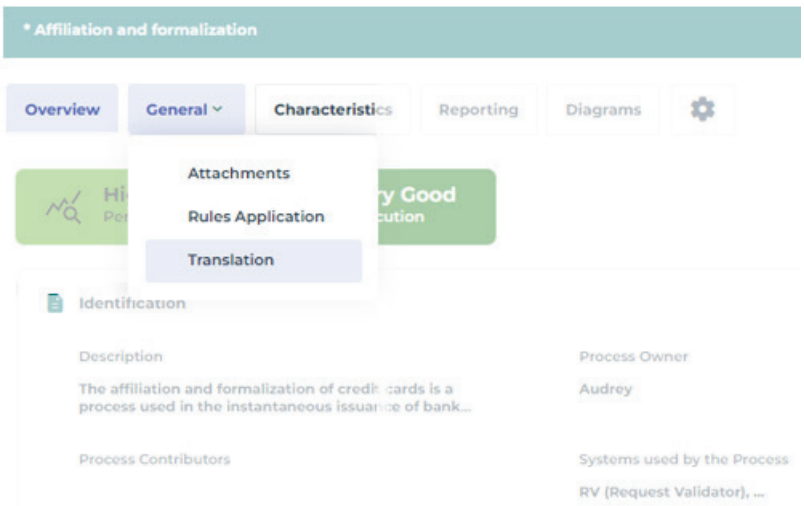
You can define the object characteristics in a target language.

```
E.g.: its name.
```

To enter an object characteristics in a target language:

1. Access the object properties.
2. Display the **General > Translation** page.

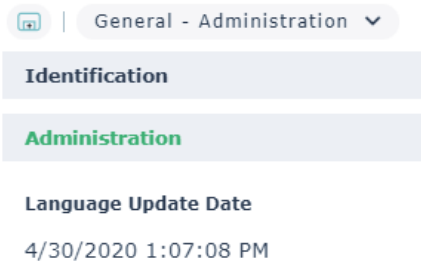
   ☛ *If you cannot see the General tab by default, access the property pages list to select it. See Showing/Hiding pages.*



3. In the **Translation** pane, in the **Name** field, enter the name of the object in the corresponding target language.

   ☛ *You can enter the name of the object in all of the available languages.*

   The **Date of language update** of the modified data is then updated on the **General > Administration** page, **Administration** section.



Data whose translation in a given language has been entered manually can no longer be translated automatically per batch in this language. Only interactive automatic translation is possible.

☛ *For more details, see Using Automatic Translation for Data.*

Object Description in the target language

To enter the object description in another language:

1. Access the object properties.
2. Display the **General > Translation** page.
   Each target language has a **Description (<language>)** tab.
3. Select the target language tab, i.e.: the tab of the language into which you want to translate your original text.
4. Enter your text.

   ☛ *You can use editing tools.*

Multilingualism and duplicated object names

When you duplicate an object, it must be in the repository language so that translations in the various languages will be correctly transferred to the duplicates.

☛ *To determine the language of your repository, consult the repository properties.*

☛ *For more details on duplication, see Duplicating Objects.*

Viewing Untranslated Objects

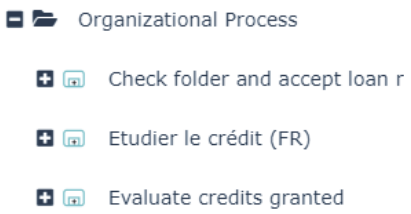
When you change the data language:

- Objects translated are displayed in the selected language.
- Objects untranslated are displayed in their creation language.
  The **Indication of objects not translated** option enables to add as suffix to untranslated object names, the corresponding language code (for example, FR for French).
  <data in its creation language> (<creation language code>)

  Example: Étudier le crédit (FR).

To add a suffix to untranslated object names:

1. Access the **Hopex** options (**Main Menu > Settings > Options**).
2. In the Options tree, select **Installation > Languages**.
3. In the right pane, select **Indication of objects not translated**.
   The corresponding language code is added as a suffix to the untranslated object names.



In the above example, applications have been created in English and have to be translated into the current language (French in this example).

Using Automatic Translation for Data

The automatic translation proposed by **Hopex** is based on Microsoft Translator Text API.

Prerequisites for the use of automatic translation

For the commands related to automatic translation of data to be available, you must have acquired a **Microsoft Translator Text API** license.

☛ *For further details about this license, see* https://azure.microsoft.com/en-us/services/cognitive-services/translator-text-api/.

An option enables your administrator to enter the **Authentication key** number, enabling activation of the automatic translation APIs.

☛ *For more details on this option, see the "Prerequisites for the use of automatic translation" chapter in the **HOPEX Administration > Automatic Translation Administration** Technical Article.*

Introduction to the automatic translation of data

There are two ways of using automatic translation of the data created by the users:

- interactively, object by object:

  ☛ *For more details, see Using interactive automatic translation of an object.*

- per batch processing by your Administrator.

  ☛ *For more details, see Using the incremental automatic translation batch.*

Automatic translation can only be used on the repository data created by the user. All the fields defined as translatable are translated automatically. For example:

- the **Name**
- **Description**

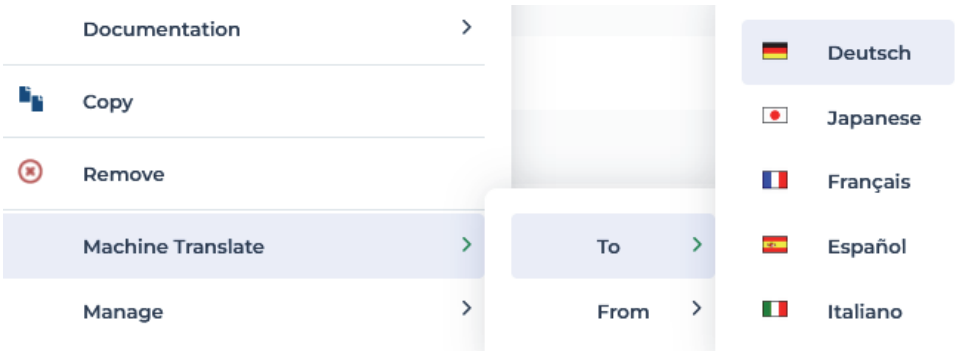
Using interactive automatic translation of an object

The automatic translation of the repository data operates from a source language to a target language.

To automatically translate an object from the data language into another language:

1. Right-click the object and select **Machine Translate > To > <Target language name>**.

   ☛ *For more details about the list of available languages, see Defining the available languages.*



The name of the object and its description are automatically translated.

☛ *If you use the command **Automatic translation > From**, you need to specify the source language. The target language is the data language.*

Using the incremental automatic translation batch

The incremental automatic translation batch makes it possible to translate all translatable data of the repository for which the source language has been entered (or modified) since the last translation into the target language.

Only your Administrator can activate the automatic translation batches. To activate automatic translation batches, the Administrator must create a trigger in the administration tool which implements the incremental automatic translation macro.

When the trigger has been created, you must then plan the automatic update of the translations.

> ☛ *For more information on trigger configuration, see the "Automatic Translation Administration" chapter in the **Hopex Administration - Supervisor** guide.*

Summary of automatic data translation conditions

The translation date for a data item in a specific language is indicated by two attributes:

- **Language Update Date** (<*Language*>) (or **LinkLanguageUpdateDate** (<*Language*>) for a link) if the translation has been entered manually, see Entering Data in Several Languages.
- **Machine translation update date** (<*Language*>) if the translation has been automatic for the data item, see Using Automatic Translation for Data.

So that the automatic batch translation does not modify a translation entered by a user, if the attribute **Language Update Date** (*target language*) is completed, then automatic batch translation of the data item is not possible. The only automatic translation authorized in this case is interactive.

Incremental automatic translation of a data item is performed if:

> **Language Update Date** (<*source language*>) > **Machine translation update date** (<*source language*>) ***AND (*****Language Update Date** (<*target language*>) is blank ***OR* Language Update Date** (<*source language*>) > **Language Update Date** (<*target language*>)***)***
>
> The value of the data item has been modified manually in the source language without the translation in the target language being updated.

In this case:

> **Machine translation update date** (<*source language*>)= **Machine translation update date** (<*target language*>)= current date

Consequently, the initialization phase of automatic batch translation consists in initializing for the current date the fields **Machine translation update date** (<*source language*>) and **Machine translation update date** (<*target language*>) for all the data items for which **Language Update Date** (<*target language*>) is blank.

OBJECT VARIATIONS

The system of variations enables the creation of an alternative view of an object or model. This alternate view differs in certain ways from the reference model and enables to track updates made to the model over time.

```
You can, for example, model an application and its deployed
instance while both refer to the same object.
```

Activating Variations

To be able to create variations:

1. Access the **Hopex** options (**Main Menu > Settings > Options**).
2. In the options tree, select **Solutions Hopex > Common Features**.
3. In the right pane, select **Activate Variations**.
4. Click **OK**.

Once this option has been activated, you can:

- create variations,
- view in the interface the options that enable modification of default behavior of variations in **Hopex**,

  ☛ *The descriptors and the query tool propose for example check boxes to take account of inheritance.*
- access the **Variations** subpage in the **General** page of the object properties.

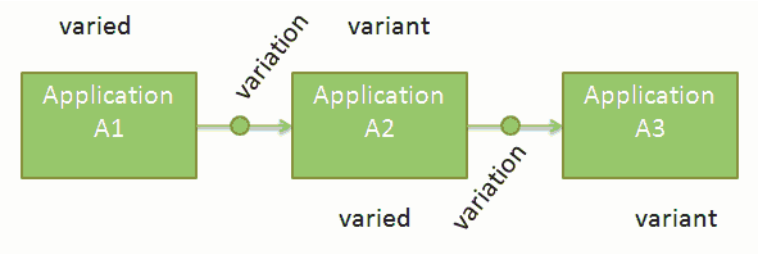
  ```
  Variations
  ```

A variation is a MetaClass that connects concepts to their variants. The link between the existing object and the new object allows the new object to inherit elements of the object from which it is derived.

The user can then indicate the differences to add to the new object, by modifying or replacing obsolete elements. This mechanism favors maintenance of modeled objects, since inherited elements are not duplicated and modifications to the first version of objects are automatically transferred to the variant objects.

There are three component types in a variation model:

- the varied model: this is the initial model.
  In the case of application version monitoring, the varied model is the initial application (version 1.0).
- the variant model: this is the new model similar to the first.
  For applications, it is the new application version (version 2.0).
- the variation: the variation is a modeling artifact that connects the varied model to the variant model.
  This object is of no interest from an application point of view, but it is the reference point for declaring differences between varied and variant.



The variation system can be applied to different object types: it involves variable objects.

This tool for modeling by variation was introduced to satisfy the following requirements:

- Reduced replication: between a variant object and a varied object, there is no replication. A certain number of elements attached to the initial object are considered as connected to the new version of the object, and we therefore talk of relationship ***inheritance***. Non-replication of links simplifies the maintenance of the different versions.

  ☛ *Not all elements attached to the initial object are inherited, but all inheritance relationships are defined at the level of the* ***Hopex*** *metamodel which can be easily modified.*
- Integration in ergonomics: elements from a varied object can be viewed graphically in diagrams, but they are also visible in properties pages.
- Included in reports: all elements linked to a varied object can appear in the different reports.

Objects that can be varied

From a theoretical point of view, the objects that can be varied are concepts (MetaClasses) inheriting from the "Variable Object" abstract MetaClass.

When a concept is inherited from "Variable Object":

- its instances can be varied.
- properties pages are automatically added to the object.
- the relationship inheritance system is available for this concept.

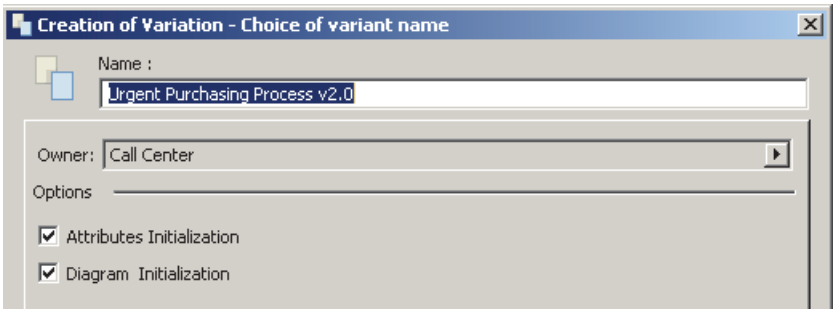
  ☛ *To make an object variable, see paragraph "How to make a concept variable" in the* **Hopex Power Studio** *guide.*

Creating a Variation of an Object

Variation creation functions are common to all variable objects.

To create a variation of an object:

1. Right-click the object and select **Variation > New Variant**.
   A variation creation wizard appears.
   By default:
   - the variant takes the name of the varied object, with extension v2.0.
   - Attributes and diagrams are copied.



☛ *For diagrams, the described object is not copied (it is a variation of the described object).*

☛ *You can choose to not copy attributes and diagrams. To do this, clear the **Attributes Initialization** and/or **Diagrams Initialization** check boxes.*

2. Click **OK**.
   The variant object appears in hierarchical views, under the varied object. By expanding the tree, you can see the inherited elements.

Variation Modeling Rules

Consistency rules available in the **Hopex** repository help you to check that your system of variations is correctly modeled.

To access the modeling rules, you must have access to **Hopex Power Studio** product.

☛ *The **Modeling rules** are available in the **MetaStudio** navigation window, under the **Repository Consistency** folder.*

Rules concerning the variations are the following:

- A substituting object must be correctly contextualized: this means that a substitution must connect objects of the same type and must also be connected to the variation in which it is involved.

  ☛ *For more details on substitution, see Replacing an element with another: substitution.*

- An object cannot be the result of several variations.
- An object cannot be its own variation.
- A variation relates to two objects of the same MetaClass.

To apply this regulation and thus check the consistency of objects you create with the rules to be respected:

1. Access the **Hopex** options (**Main Menu > Settings > Options**).
2. In the Options tree, select **Workspace > Modeling and Methods Regulations**.
3. In the right section, in the **Active modeling regulation** field, click the arrow and select **Select a regulation**.
4. In the dialog box that appears, select "Variation Modeling "Regulation.
5. Click **OK**.

You can access the results pertaining to this regulation at any time. They appear in the **General > Rules Application** property page of the objects concerned.

You can also display them in diagrams and navigators with status indicators showing objects that are not validated with respect to the regulation.

☛ *For more details on modeling rules, see Consistency Rules.*

Variation Inheritance

By default, the variant object inherits elements of the varied object (original object).

Commands available on inherited elements allow you to :

- exclude elements from the Variation, see Excluding an element from the variant.
- replace these with others, see Replacing an element with another: substitution.

```
Let us consider application A including functionalities F1
and F2. By default, the variant Application A v2.0 inherits
these functionalities.
```

Viewing inherited elements

To view inherited elements:

1. Open the **Characteristics > Variation Elements** properties page of the variant object.
2. In the **Owned Elements** section, click the **Inherited** tab.

To view elements excluded or replaced by a substitution:

1. Follow the previous steps.
2. Click the **Excluded** ✕ tab.

Replacing an element with another: substitution

A substitution indicates that a certain object is used instead of another in a given context. In the case of a variation, you can substitute one of the elements of the varied object with an object of your choice.

> ☛ *Unlike a variation, a substitution does not involve inheritance but a functional conformity.*

Substitution example

In the case of application versions, substitutions enable expression of the following: in considering an application evolution, a service 2 is replaced by a new service 3.

- The new service 3 must be linked to the variant application
- service 2 is linked to one of the parent applications (it is possible to have several application generations linked in cascade)

Differences between variation and substitution

Variations express a similarity relationship between two models; an application v2.0 is very similar to v1.0. The variation highlights their differences. These are expressed through another object. A variant is linked to only one varied object (to simplify inheritance issues).

A ***substitution*** however can be linked to several source elements and to several target elements. This allows indication that a certain set of services is replaced by another set of new services.

If a replacement object is similar to the replaced object (a new version of a service), this can be indicated by adding a variation between them.

The substitution context is also important: a service can in fact be shared between several applications, for example when we consider the service contribution link to application operation (application architecture service). In this case, to indicate only a replacement does not allow us to determine if this replacement is effective in all applications using this service. This must be specified by adding a contextualization link between application and service (see operating mode later).

> ☛ *The ability to inherit a relationship is a functionality declared at metamodel level, which can be adapted to suit requirements. The same applies to the ability to substitute a concept.*

Replacing an object

Certain elements of a variant can be replaced with others.

```
For example, in a new application you can replace an
inherited application service with any other service.
```

Other elements such as functionalities cannot be substituted. In this case, the replacement command is grayed out.

To replace an object with another in a variant:

1. Open the **Characteristics > Variation Elements** properties page of the variant object to view inherited objects.
2. In the **Owned Elements** section, click the **Inherited** tab.
3. Select the element that you want to replace.
4. Open its pop-up menu and select **Replace**.

5. In the dialog box that opens, select the substitution element and click **OK**.

Excluding an element from the variant

To exclude functionality F2 from the variant object in the above example:

1. Open the **Characteristics > Variation Elements** properties page of the variant object to view inherited objects.
2. In the **Owned Elements** section, click the **Inherited** tab.
3. Select the element you want to exclude.
4. Open its pop-up menu and select **Exclude**.

The element is removed from the list.

☛ *You have the possibility to restore it. For more details, see Restoring elements.*

Restoring elements

To restore a substituted or excluded element:

1. Open the **Characteristics > Variation Elements** properties page of the variant object to view inherited objects.
2. In the **Owned Elements** section, click the **Excluded** tab.
3. Open the pop-up menu of the element in question and select **Restore**.

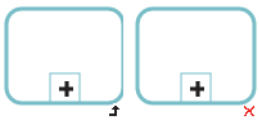
Viewing variations and substitutions graphically

The elements shown in a diagram are elements belonging to the described object.

☛ *When you click the icon associated with an object, an explanatory message appears.*

Inherited objects are associated with an inheritance arrow .

Elements that have been replaced are indicated by a red cross .



☛ *Diagram objects that are not linked to the described object, not inherited or not replaced are identified by a warning panel to indicate that their presence in the diagram assumes a link with the described object.*

Inheritance limits

There is a restriction on the length of sequences of variations. Elements inherited from a varied object cannot be reflected infinitely on all objects derived from the original object. At the end of a certain sub-level of variations (66), inheritance is lost. The limit is indicated by a message.

In the case of a large number of variations, consolidation of the variants history is recommended. See Consolidating the variants history below.

Consolidating the variants history

Thanks to variations, it is possible to keep track of the different versions of an application. After a certain time however, it can be difficult, even pointless, to manage obsolete versions. You can delete from the repository those versions earlier than a certain version, by consolidating the history of variants.

The consolidation command enables transfer of inherited elements of an object to the new object and destruction of ancestors. The purpose is to reduce the volume of the repository and remove obsolete information.

To consolidate an application:

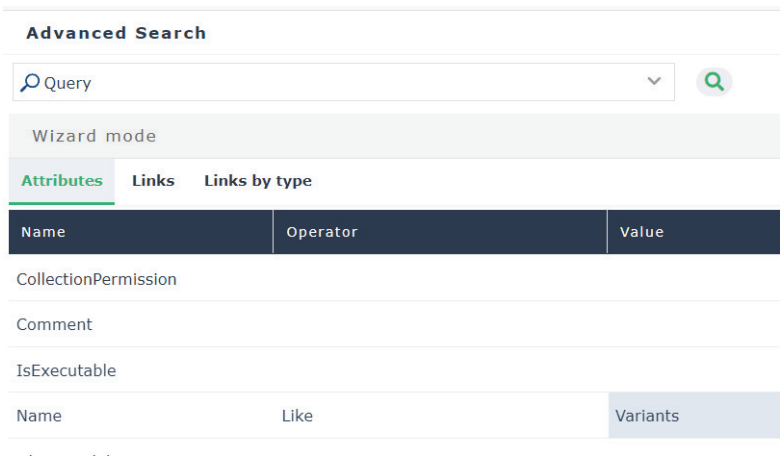
- Right-click the variant application and select **Variation > Consolidate**.

Finding the Variations of an Object

The "Variants of an object" query lets you find all the objects derived from another object.

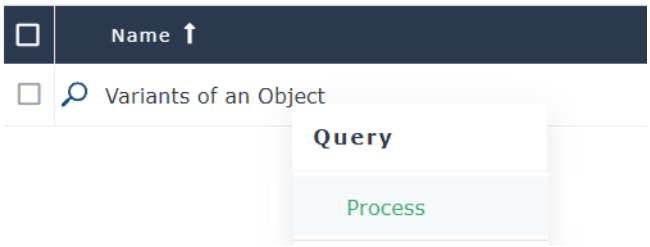
To find the variations of an object:

1. From the Main menu, select **Advanced Query**.
   - ☛ *See Accessing advanced search.*
2. In the **Wizard mode**, select the **Query** object type and enter "variants".



   - ☛ *You are able to select the "Query" object type with certain profiles only.*
3. Click **Find**.

4. Right-click the ***Variants of an Object*** query and select **Process**.



5. In the **Query parameters** dialog box, select **Connect**.
6. Among the objects of the "Variable object" MetaClass, search your "variant".
7. Once you have selected your variant, click **OK**.
8. Select an object from the list of derived objects.

☛ *The tool displays not only direct variants but also sub-variations.*

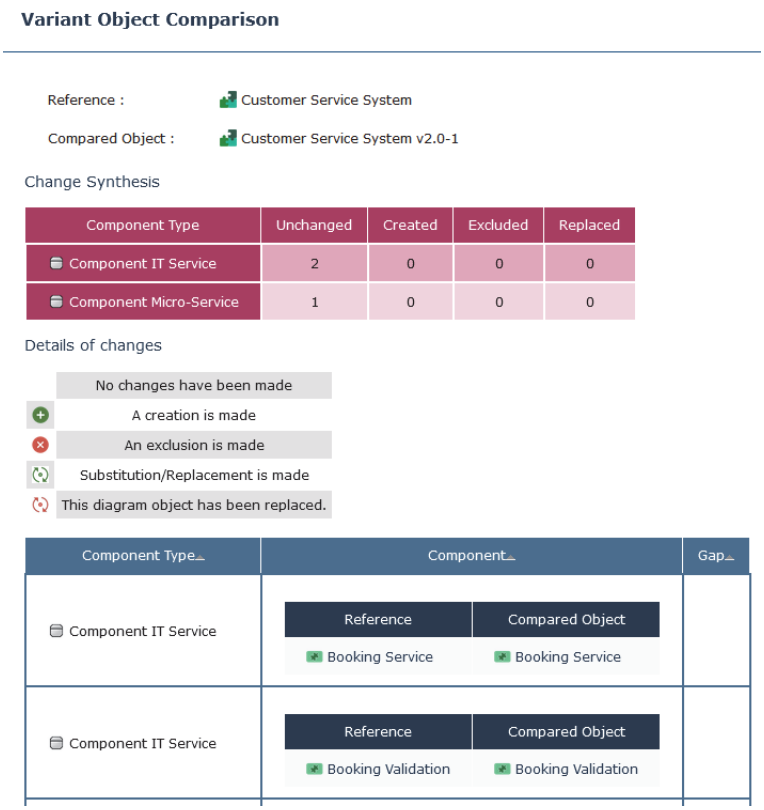
Variation Reports

In **Hopex**, the following report types deal with variations:

- **Varied Object Analysis**: this report type deals with varied objects. It gives a view of:
  - Internal variations in detail: when a varied object includes elements, these elements can also be varied in the context of the primary variation. The aim of this report is to show the variations of analyzed elements and the details of component variations.
  - Details of variation descendant lineage: variants themselves are variable objects and can therefore be varied in turn. This report details the complete lineage of a varied object.
- **Variation Analysis**: variations are used to establish relationships between a varied object and its variants. A variation can be broken down

into sub-variations that define how elements of the varied object are themselves varied. This report details the structure of certain variations.

- **Varied Object Comparison**: this report enables comparison of a referenced object with its variations.



Variant Object Comparison

Reference : Customer Service System

Compared Object : Customer Service System v2.0-1

Change Synthesis

Component Type	Unchanged	Created	Excluded	Replaced
Component IT Service	2	0	0	0
Component Micro-Service	1	0	0	0

Details of changes

No changes have been made
A creation is made
An exclusion is made
Substitution/Replacement is made
This diagram object has been replaced.

Component Type	Component		Gap
Component IT Service	Reference	Compared Object	
	Booking Service	Booking Service	
Component IT Service	Reference	Compared Object	
	Booking Validation	Booking Validation	

Example of a "Varied Object Comparison" report

OBJECT VERSIONS

The **Hopex IT Architecture** Solution facilitates the version management of the following blocks:

- applications,
- application services,
- microservices,
- technologies,
- Technology stacks.

Creating Object Versions

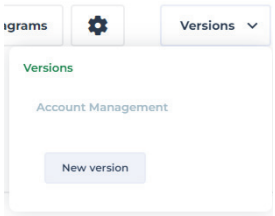
When you create a new version of an application, you duplicate the object while establishing a version link.

To create a version of an application:

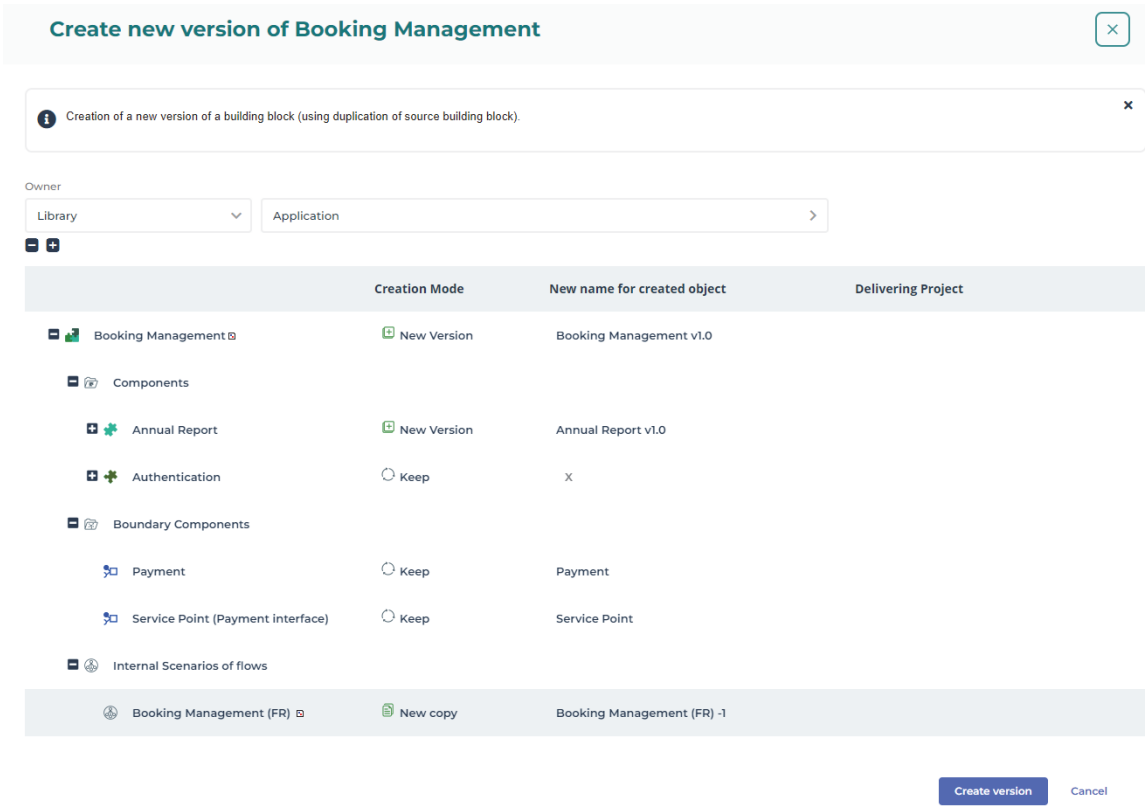
1. Access the properties of the object of interest.

   ☛ *See Accessing Object Properties.*

   The **Versions** button displays in the header of the properties page.



2. Click **New version**.
   A dialog box opens to help you create the new version via the list of components of the source object.



*Version creation wizard with **Hopex IT Architecture**.*

3. Select the **Owner** of the new version.
4. For each component of the source object, the **Creation mode** column offers the following options:
   - **Keep** the component, that will then be shared between source and target versions.

     ☛ *For **Frontier components**, a new component is created featuring the same characteristics as the source object frontier components. The characteristics (e.g.: a communication protocol) are shared between the different versions.*
   - Create a **New version** of the selected component. In this case, the name of the new component appears in the **New name for created object**.
   - **Ignore** the component that will not be duplicated or referenced.

5. For each element associated to the source object (e.g.: a scenario of flows, an environment or a deployment architecture), the **Creation mode** column offers the following options:
   - Create a **New version** of the selected element. In this case, the name of the new element appears in the **New name for created object** column.
     ☛ *A new version of the element is created. Associated diagrams are identically created.*
   - **Ignore** the element that will neither be duplicated nor referenced.
6. Click **Create a version** to validate your choices.
   The new version is created, it carries the name of the source object, with an extension corresponding to the version number.
   ☛ *The source object and its versions are not locked.*
   ☛ *The diagrams describing the source object are created and fit the specifications provided in the wizard.*

Accessing Object Versions

To access an object properties:

1. Access the properties of the object of interest.
   ☛ *See Accessing Object Properties.*
2. Click the **Versions** button.
   A dialog box opens. The **Versions** menu gives you access to the source object and its different versions.

ENTERPRISES AND LIBRARIES

This section presents the concepts of a *library* and an *enterprise*, and more broadly, a *container*, as offered by **Hopex**.

Containers are used to partition a repository **Hopex** into a number of separate spaces that can be viewed as logical bases, while providing dependency relationships between these spaces. Containers thus also form a logical partitioning of the repository.

> 🕮 *Libraries are collections of objects used to split repository content into several independent parts. They allow creation of virtual partitions of the repository. In particular, two objects owned by different libraries can have the same name.*
>
> 🕮 *An Enterprise is a purposeful undertaking, conducted by one or more organizations, aiming at delivering goods and services, in accordance with the enterprise mission in its changing environment. During its development over time, an enterprise has to adapt to its environment and sets up transformation goals and objectives along with course of action to achieve these objectives. The design and realization of the resulting transformation stages may transcend organizational boundaries and consequently require an integrated team working under the direction of a governing body to involve stakeholders in transformation initiatives. This requires the implementation of an integrated team, under the responsibility of a governing body, to involve the stakeholders in the transformation.*

The elements referenced by a *container* are *building blocks*. A *building block* belongs to a single container only. *Containers* thus play a namespace role which means that more than one building block can have the same name in different namespaces.

> 🕮 *A building block is an element that can be directly owned by a container such as a library.*
>
> 🕮 *A container is a body-of-knowledge which is made of a set of building-blocks. The building-blocks of a container are asserted to exist for a given understanding of a business domain by a semantic community.*

✓ "About Containers", page 356
✓ "Using Libraries", page 362
✓ "Using Enterprises", page 363

About Containers

Introduction to Building Blocks and Their Container

With **Hopex**, a *building block* is owned by a single *container*.

> 🕮 *A building block is an element that can be directly owned by a container such as a library.*
>
> For example, applications, org-units and processes are building blocks.
>
> 🕮 *A container is a body-of-knowledge which is made of a set of building-blocks. The building-blocks of a container are asserted to exist for a given understanding of a business domain by a semantic community.*
>
> For example, a company can be seen as a container.

Lastly, a building block or a container can be referenced by a container different from that to which it belongs. It is thus part of the scope of the container that references it.

Thus, with **Hopex**, *containers* have two components:

- *building blocks* , which are reusable elements owned by a single container.
- *import relationships*, which broaden the scope of a container to other modeling building blocks.

> 🕮 *An import relationship indicates that a building block or a set of building blocks for a target container is integrated in the scope of the container initiating the import. There are two import relationships: importing an entire container and importing building blocks on a unitary basis.*
>
> ☛ *You can define a library hierarchy that describes different business contexts.*

Defining the Scope of a Container

The scope of a container is defined by the set of building blocks accessible from this container via two possible links:

- an ownership link,
- an import link.

A building block can be owned by a container:

- explicitly, if the container owns it directly,
- implicitly, if its owner (or the owner of the owner, etc.) is itself in the container.
  The name of the object is unique only within the context of its owner.

  For example, let us look at two different containers:

  - a library dedicated to architecture building blocks related to "Public Transport".

  - a library dedicated to the "Accounting" public transport department.

  If the "Accounting" library is specialized in transport business functions, it will be owned by the "Public transport" library. The objects owned by the "Accounting" library will also be held by the "Public transports" library.

However, an object owned by a container can be used in the context of another container.

For example, let us look at the container associated with a "Public transport" client company.

The container that represents the client company can import equipment or human resources from the "Public transport" container.

Lastly, to prevent working on objects common to two different containers, you should create an additional container for the shared objects. There will be no name conflict as the users in each company work in their own container.

For example, if the "Accounting" container is sufficiently generic to be common to the "Public transport" company and its client company, it can also be imported in the container that represents the client company, on the one hand, and in the "Public transport" container, on the other hand.

In this case, it is no longer owned by the container associated with the transport company.

Thus, the users of one container can refer to, in their models, other objects created by the users in the other container. They can also share common objects in a third container.

Defining the object owned by a container

Defining the Object Owner

The owner of an object is automatically specified at creation of the object. If there is no current container, the object owner will be the current library.

To modify the container that owns an object:

1. Open the **Characteristics** properties page of the object.

2. In the **Owner** field, select the owner type and, from the drop-down menu, select **Connect...**.
   The connection window opens.
3. Select the container of your choice and click **OK**.
   The name of the container its type in the **Characteristics** properties page of the object.
   In hierarchical trees, the object appears under the container.

Defining objects contained using a navigation tree

To specify that a given object is owned by a container, a library for example:

1. From the **Environment** navigation menu, select **> Libraries**.
2. Expand the different library folders that interest you.
3. Drag and drop the object of you interest into the target library folder.
   The object appears in the navigation tree of the target library.

> ☛ *If the container is a library, the objects also appear in its **Scope** properties page.*

Importing other objects in a container

> ☛ *The building blocks and the containers imported in a container appear in the **Imports** properties page of the container.*

Defining the building blocks imported in a container

To specify that a building block owned by the current container can use an object owned by another container:

1. Open the **Import** properties page of the current container.
2. In the **Imported Building Blocks** section, click the **Connect** button.
   A connection dialog box opens.
3. Select the object type you want to import.
4. Select the objects that you want to import and click **Connect**.
   The imported objects appear in the section.

Defining the containers imported in a container

If the building blocks of the current container use other building blocks owned by another container, you can import the container in the current container:

1. Open the **Import** properties page of the current container.
2. In the **Container Import** section, click the **Connect** button.
   A connection dialog box opens.
3. Select the container that you want to import and click **Connect**.
   The imported container appears in the section.

Analyzing Container Dependency Errors

This dependency analysis report examines the objects used in the models and checks that this use is foreseen in the dependencies declared between the imported libraries.

Creating an analysis report for container dependency errors

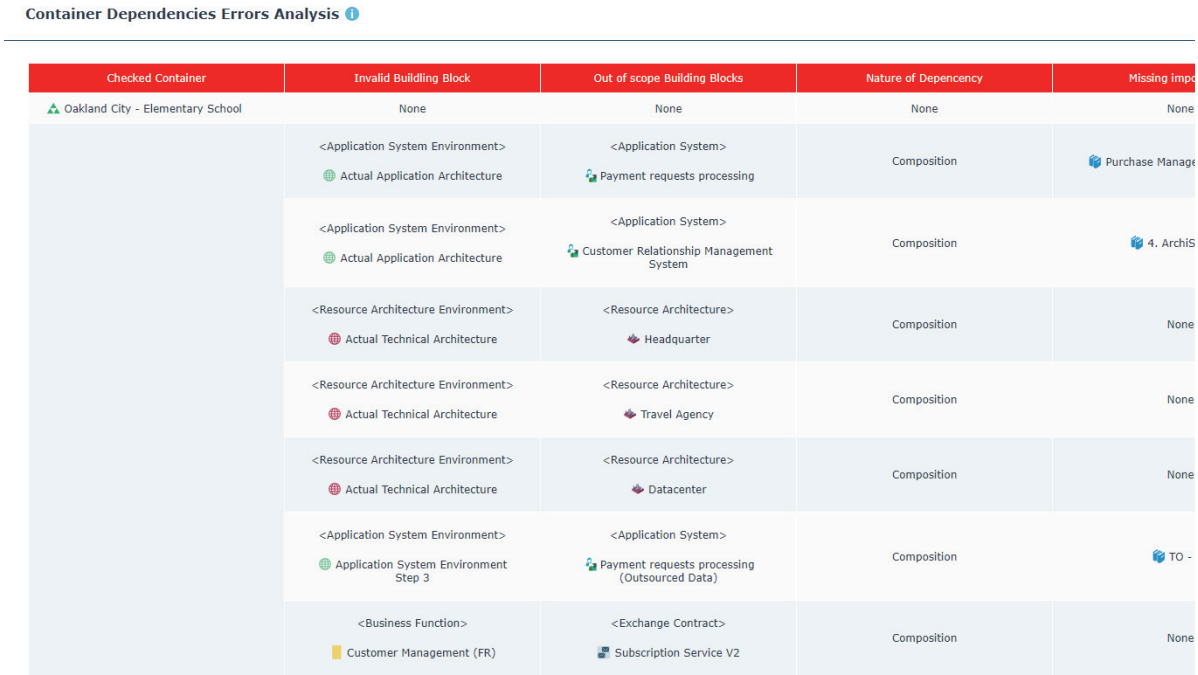
To create an analysis report for container dependency errors from the navigation menu **Reports**.

1. Click the **Create a report** button.
2. In the **Filters** section, select the "Referential Consistency" **Category**.
3. Select the **Container Dependencies Errors Analysis** report and click **Create a report**.
   A parameters specification dialog box opens.
4. Click the **Connect** button and select the container you wish to analyse.
5. Click **Preview**.
   The new report appears.
6. Click **Continue**.
   The property page of the new report appears.
7. Fill the **Name** and the **description** of the report, then click **Save and open**.
8. The report appears in the edit area.

Report description

This report is used to check the consistency of the use of architecture building blocks within the framework of a container with respect to:

- dependencies declared for the containers (for example, a library) imported by the container examined (for example an Enterprise),
- owner libraries of architecture building blocks.



Container Dependencies Errors Analysis

Checked Container	Invalid Buildling Block	Out of scope Building Blocks	Nature of Depencency	Missing impo
Oakland City - Elementary School	None	None	None	None
	<Application System Environment> Actual Application Architecture	<Application System> Payment requests processing	Composition	Purchase Manage
	<Application System Environment> Actual Application Architecture	<Application System> Customer Relationship Management System	Composition	4. ArchiS
	<Resource Architecture Environment> Actual Technical Architecture	<Resource Architecture> Headquarter	Composition	None
	<Resource Architecture Environment> Actual Technical Architecture	<Resource Architecture> Travel Agency	Composition	None
	<Resource Architecture Environment> Actual Technical Architecture	<Resource Architecture> Datacenter	Composition	None
	<Application System Environment> Application System Environment Step 3	<Application System> Payment requests processing (Outsourced Data)	Composition	TO -
	<Business Function> Customer Management (FR)	<Exchange Contract> Subscription Service V2	Composition	None

Example of a dependency analysis report

The report displays the following columns:

- **Container checked**: specifies the containers tested (entered as a parameter in the report).
- **Non-valid building blocks**: specifies which container building block checked presents a non-valid reference, and is therefore not valid,

  ☛ *Non-valid building blocks in libraries imported by the library entered as a parameter do not appear in the report.*

- **Building blocks out of context**: specifies which object referenced by the building block in the preceding column is not in the declared scope of the container (that is, that the building block is owned neither by the container itself, nor by one of the imported libraries, nor imported individually at the container level).
- **Type of dependency**: specifies the dependency type of the use between the non-valid building block identified in the second column and

the out-of-context building block in the third column (direct or by composition, for example),

- **Import missing**: specifies the owner of the out-of-context building block that must, for example, be added to the containers imported from the checked container.

Report parameters

Parameter	Parameter type	Constraints
Checked containers	Library Enterprise Building block container	At least one mandatory container.

USING LIBRARIES

Libraries are collections of objects used to split repository content into several independent parts. They allow creation of virtual partitions of the repository. In particular, two objects owned by different libraries can have the same name.

Creating a Library

Creation and management of accesses to the different libraries must be done under the supervision of the Hopex repository administrator. The number of libraries should be limited to avoid creating too many duplicates of the same object.

To create a library:

1. From the **Environment** navigation menu, select **Container > Libraries**.
2. Select the **Library** folder and click **New > Library**.
   The library creation dialog box opens.
3. Enter the **name** of the library.
4. If appropriate, enter the name of the **Owner**.
5. Click **OK**.
   The library appears in the hierarchical tree.

Exporting Library Content

Export of a library includes all objects owned by the library and, hierarchically, all objects owned by each of its objects.

To export a library, see the "Exporting HOPEX objevts" chapiter of the **Hopex Administration - Supervisor** guide.

USING ENTERPRISES

The Enterprise usage varies according to the HOPEX solution.

> *An Enterprise is a purposeful undertaking, conducted by one or more organizations, aiming at delivering goods and services, in accordance with the enterprise mission in its changing environment. During its development over time, an enterprise has to adapt to its environment and sets up transformation goals and objectives along with course of action to achieve these objectives. The design and realization of the resulting transformation stages may transcend organizational boundaries and consequently require an integrated team working under the direction of a governing body to involve stakeholders in transformation initiatives. This requires the implementation of an integrated team, under the responsibility of a governing body, to involve the stakeholders in the transformation.*

Creating an enterprise

To create an *Enterprise* with the **Hopex IT Business Management** solution:

1. From the **Environment** navigation menu, select **Container > Enterprises**.
   The tree of enterprises appears in the edit area.
2. Select the **Enterprise** folder and click **New > Enterprise**.
   The new enterprise appears in the tree.
3. You can modify the name of the Enterprise and link it to a library.

Linking an enterprise to a library

> *Libraries are collections of objects used to split repository content into several independent parts. They allow creation of virtual partitions of the repository. In particular, two objects owned by different libraries can have the same name.*
>
> ☛ *For more details on libraries, see "Using Libraries", page 362.*

To connect an *enterprise* to a *library*.

1. Open the **Characteristics** properties page of the enterprise that interests you.
2. From the **Owner** field, select the library to which you want to connect the enterprise.

DATA EXCHANGE WITH EXCEL

In this chapter, discover and learn how to master **Hopex** wizards for data exchanges with Excel. The following points are covered here:

- ✓ Exporting Data via Excel
- ✓ Importing data via Excel
- ✓ Excel Template Builder
- ✓ Advanced Options and Settings of Excel Wizards

INTRODUCTION

Hopex features different wizards facilitating data exchanges with Microsoft Excel:

✓ a wizard to export **Hopex** data towards an Excel file

☛ *See Exporting Data via Excel.*

✓ a wizard to import data from an Excel file into **Hopex**

☛ *See Importing data via Excel.*

✓ a wizard to build up Excel templates

☛ *See Excel Template Builder.*

The use of Excel in parallel of **Hopex** enables you to expand your repository, to carry out changes over it, and to harness your data in a context independent from **Hopex**.

The wizards especially ensure that **Hopex** properly manage the Excel files. You can then:

- create your own Excel templates compatible with **Hopex**
- import or export data between your repository and an Excel workbook
- carry out changes over your repository via Excel

```
E.g.: mass-modifying attribute values
```

These features are available from the **Main menu** of your interface.

The wizards support two file formats: .xls and .xlsx.

EXPORTING DATA VIA EXCEL

Introduction

The **Hopex** data export wizard enables to transfer and leverage data outside of **Hopex**.

Two types of export to Excel are available in **Hopex**:

- export from the wizard
  The most comprehensive and customizable export mode: define the objects, object types, the attributes and environments that you want to export.
  ☛ *See Accessing the Excel Export Wizard.*
- export from an object list
  Export a list of objects of the same type and their attributes.
  ☛ *See Exporting a List of Objects to Excel.*

Accessing the Excel Export Wizard

You can access the export wizard from:

- your **Hopex** workspace
- the **Administration** desktop

To access the wizard for export of data to an Excel file:

1. Check your export options.
   ☛ *See Options for the use of Excel import/export.*
2. Open the **Hopex Main menu**.
   ☛ *See Toolbar.*
3. Select **Export > Excel**.
   ☛ *On the **Administration** desktop: in the **Tools** pane, select the **Excel > Export** sub-folder.*
   ☛ *If this feature is not available, see Options for the use of Excel import/export.*

   The export wizard opens.

Using an export template

Once the export wizard is launched, you need to choose the export mode:

- exporting through a **Hopex** standard template enables to use a pre-defined template tailored to your Solution
- exporting through an other template enables to select a custom template in your file explorer

In both cases, the Excel assistant enables you to select the objects you want to export from your repository.

Export using an Excel template

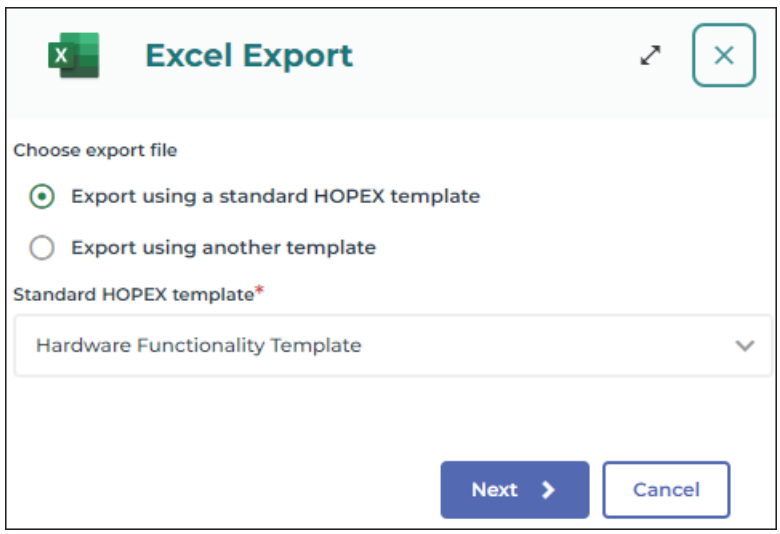
To export data from **Hopex** to an Excel file using an Excel template:

1. Access the Excel export wizard.

   ☛ *See Accessing the Excel Export Wizard.*

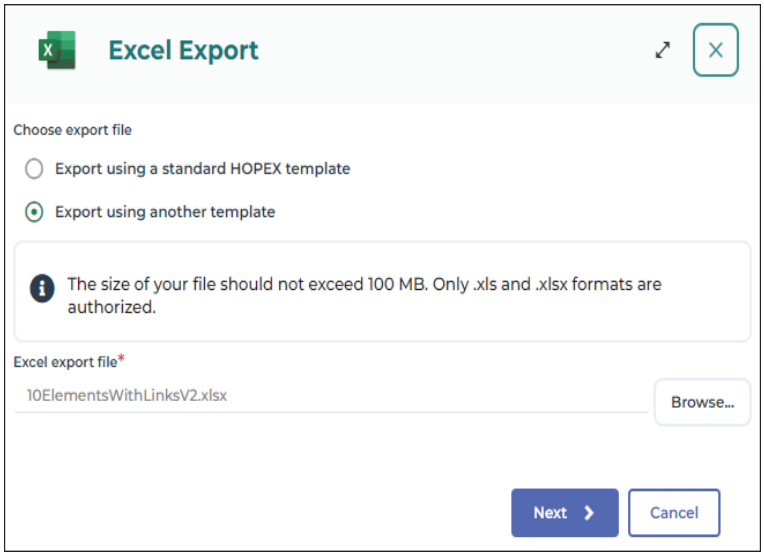
2. In the **Choose export file** section, select:
   - **Export using a standard HOPEX template** and, in the field **Standard HOPEX template**, click the drop-down list arrow and select the standard template of your choice in the list.

     ☺ *To ease your search, enter the first letters of the template of your choice.*



   - **Export using another template** and in the **Excel export file** field, click **Browse** to select the template of your choice in your file explorer.

3. Click **Next**.



Choosing the objects to export

Once you have chose your export file, the wizard guides you to specify which objects were added or not to the export file.

Displayed are:

- on the left, the list of worksheets of the Excel workbook They correspond to an object type.
- on top, a description of the sheet and its content
- in the middle, the list of objects to export contained in the worksheet

If you want to export all the objects of the type corresponding to the worksheet, check **Export all objects** (the option is selected by default).

To select the objects manually:

1. Select the worksheet corresponding to the type of object that interests you.
2. Uncheck the **Export all objects** option.
3. Click **Add**.
4. In the **Connecting...** search field, enter the object of your choice name(s).
5. Click **Connect**.
6. Click **Next**.

Choosing the Export Mode

After customizing your template, you must choose the export mode:

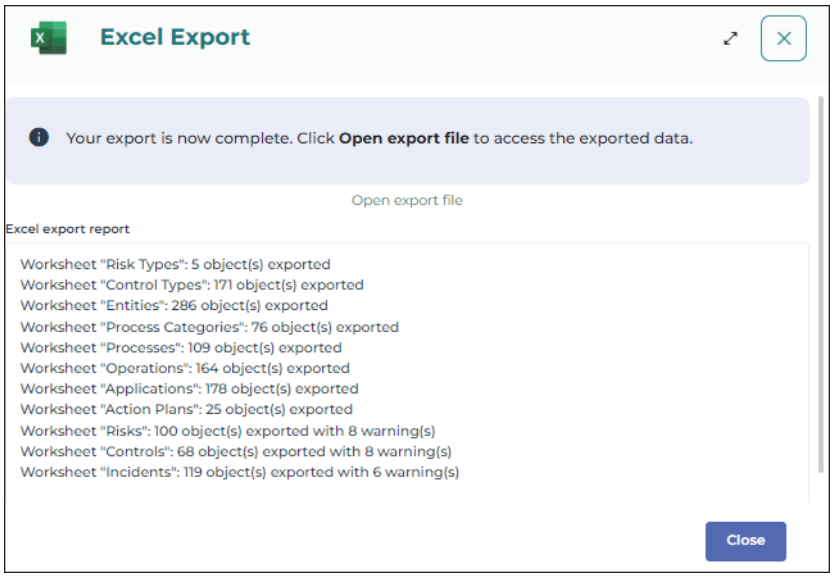
- an instant export starts the export process as soon as you click **Export**
- an export in background enables to schedule the execution of the export process so that you can keep working in **Hopex** regardless of this operation

Instant export

To run the export process instantly:

1. In the **Choose export mode** field, select **Export now** (which is the default value).
2. Click **Export** to launch the export process.
3. Once the export done, a reporting window displays.

   ☺ *The export result file is automatically downloaded. If not, click **Open export file**.*
4. Click **Close** to finish the export.



Export in background

The export in background mode enables to schedule and launch the execution of the export process so that you can keep working in **Hopex** regardless of this operation.

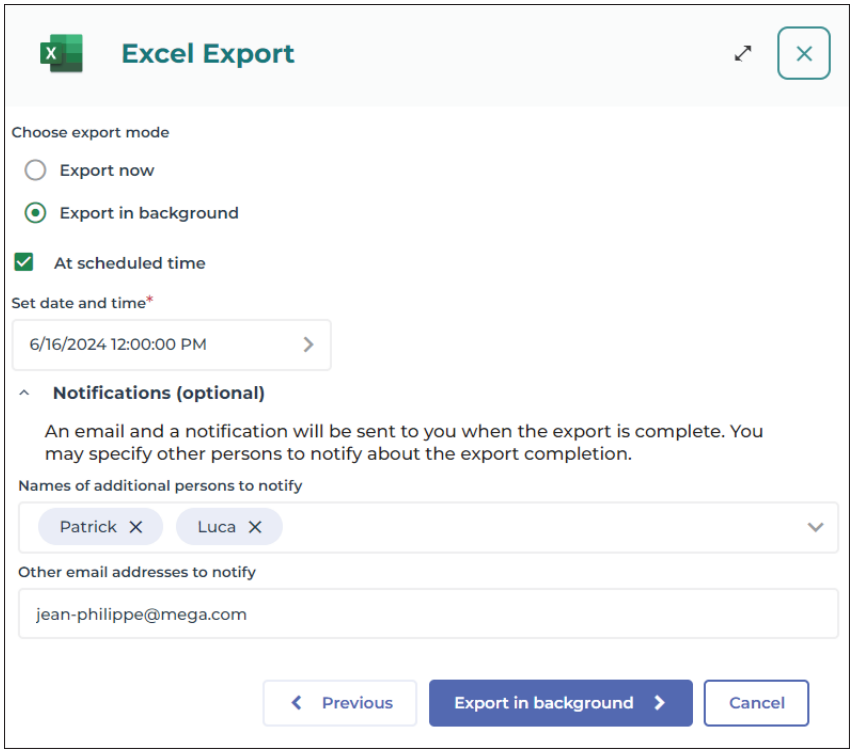
To export your data in background:

1. In the field **Choose export mode**, select **Export in background**.
2. (Optional) Check the **At scheduled time** option to schedule the export execution. You can then set the date and time you want to start the export process at.

3. (Optional) In the **Notifications** pane, enter the names and email addresses of the people to notify about the export completion:
   - In the **Names of additional persons to notify** field, in the list, select the **Hopex** users you want to notify about the export completion.

     ☺ *Enter the first characters of the name to make your search easier.*
   - In the **Other email addresses to notify** field, enter manually the email addresses you want to notify about the export completion.

     ☺ *Use a semi-colon to separate email addresses from each other.*
4. Click **Export in background**.



5. Once the loading complete, click **Confirm export** to validate the export execution in background.

   If you close the result window or if you click Cancel export, the export process will be canceled and your data will not be exported.

Exporting a List of Objects to Excel

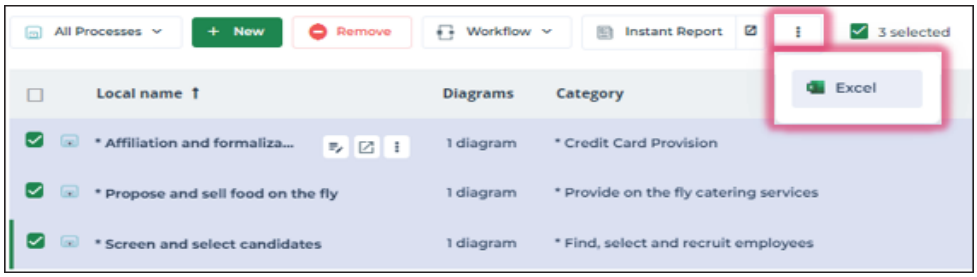
You can export an object list to an Excel-format file without using the Export wizard.

To export objects and the displayed attributes:

1. From a list, select the objects that interest you.

   ☛ *See Handling Lists.*

2. In the menu bar of the list, click **More** ⋮ **> Excel** .



The Excel file shows the exported objects in rows and some of the editable attributes in columns. This file cannot subsequently be imported again into **Hopex**.

IMPORTING DATA VIA EXCEL

Introduction

In **Hopex**, you can import external data in a structured manner via an Excel file. This operation enables you to:

- create or modify a list of objects
- connect objects through a given link

> ☛ *If a default library is defined for you, the import process will search objects in this library and not in the whole repository. For more details on the definition of a default library, see Setting a Current Library.*

To make sure your data import will run successfully, the import file must be structured in a way that is readable by **Hopex**. This file must be created using :

- a **standard template**
- a template created or edited using the Excel template builder

> ☛ *See Excel Template Builder.*

You can find and download all your import templates available in **Hopex** (standard and custom) in the template download tool.

> ☛ *See Downloading an Excel Template.*

Downloading an Excel Template

The Excel template download wizard features standard, default templates coming with your **Hopex** Solution as well as templates saved by yourself (previously created or edited using the Excel Template Builder).

In **Hopex**, you can download Excel templates useful to the import of your data into your repository. These templates are available in standard and are specifically engineered for the Solution in use.

To access the Excel template download wizard:

1. Check your export options.

   > ☛ *See Options for the use of Excel import/export.*

2. Open the **Hopex Main menu**.
3. Select **Import** > **Excel Template Download**.
   The list of available templates displays.
4. Hover the cursor over the row of the template of interest.
5. Click **Download** .
6. Retrieve the file in the **Downloads** menu of your File explorer.
   You can now fill out the file with the data to import.

Using the Excel import wizard

Accessing the Excel import wizard

To run the Excel export wizard in **Hopex**:

1. Make sure the necessary options were activated.

   ☛ *See Options for the use of Excel import/export.*

2. Open the **Hopex Main menu**.
3. Select **Import** > **Excel**.

   ☛ *On the **Administration** desktop: in the **Tools** pane, select the **Excel > Import** sub-folder.*

   The import wizard opens.
4. In the **Excel import file** field, click **Browse**.
5. In your file explorer, select the file to import.

   ☛ *Pour plus de détails sur le contenu d'un fichier d'import, voir Data Processed by the Excel Import/Export Wizard.*

6. (Optional) Check the **Save object history** option to keep access to the past history of the data concerning the objects included in the import.

   ☛ *This option may slow down the import process. Select it only if you wish to preserve the history of the changes operated throughout the import.*

Choosing the Import Mode

Once the import wizard is launched, you need to choose the import mode:

- the instant import starts the import process as soon as you click **Import**
- the import in background enables to schedule the import process execution so that you can keep working in **Hopex** regardless of this operation.

Instant import

To run the import process instantly:

1. In the **Choose import mode** field, select **Import now** (which is the default value).
2. Click **Import** to start the import process.
3. The import result window opens. Click **Open report file** to access the result details.

   ☛ *See Error report presentation.*

4. Click **Confirm import** to validate the import of your data into the **Hopex** repository.

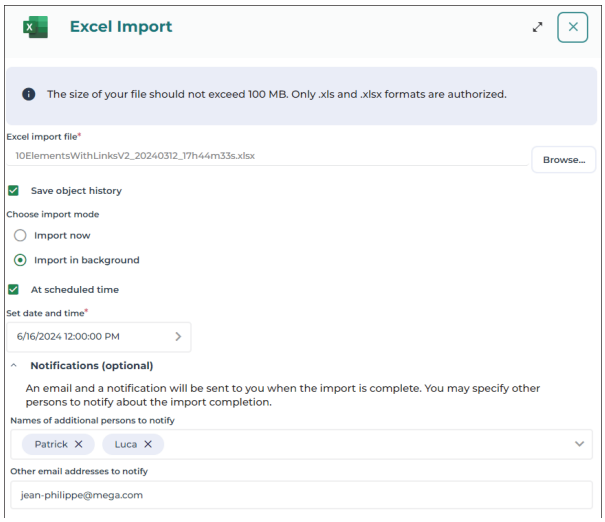
   If you close the result window or if you click Discard import, your data will not be import into the repository.

Import in background

The import in background mode enables to schedule and execute the import so that you can keep working on other tasks in **Hopex**.

To import your data in background mode :

1. In the field **Choose import mode**, select **Import in background**.
2. (Optional) Check the **At scheduled time** option to schedule the import execution. You can then set the date and time you want to start the import process at.
3. (Optional) In the **Notifications** pane, enter the names and email addresses of the people to notify about the import completion:
   - In the **Names of additional persons to notify** field, select in the list the **Hopex** users to notify about the import completion
     ☛ *Enter the first characters of the name to make your search easier.*
   - In the **Other email addresses to notify** field, enter manually the email addresses you want to notify about the import completion.
     ☛ *Use a semi-colon to separate email addresses from each other.*
4. Click **Import in background**.



5. Once the loading complete, a wizard opens to display the import results.. Click **Open report file** to access the result details.
   ☛ *See Error report presentation.*
6. Click **Confirm import** to validate the import execution in background.

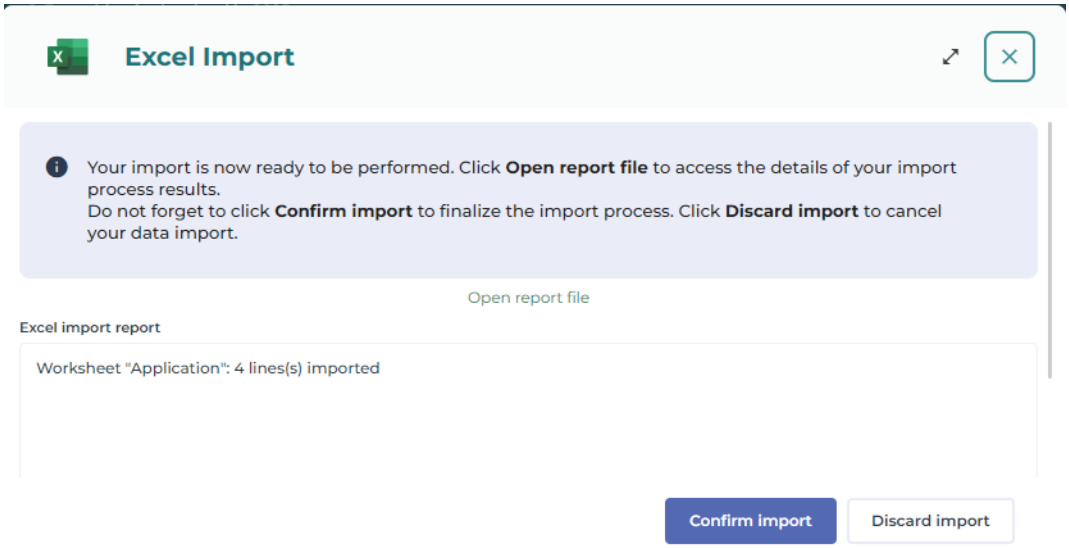
   If you close the result window or if you click Discard import, the import process will be canceled and your data will not be imported into the repository.

Excel import report

Before data import confirmation, you must study the import report.

Accessing the import report

Whichever import mode you choose, the wizard provides a report of the import results.



The Excel import report section provides the list of imported Excel worksheets, indicating the number of import errors for each one.

To get a detailed report of import errors:

- Click **Open report fileT**.

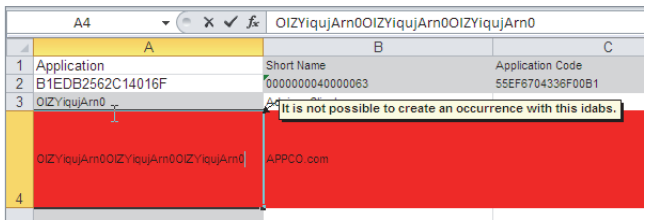
  ☛ *See Error report presentation.*

Error report presentation

The error report automatically generated after carrying out the import shows in red the problematic data.

☛ *For more details on possible import errors, see Data Processed by the Excel Import/Export Wizard.*

In the following example, the file has identified an application that exists in **Hopex** but whose identifier has been modified in the import file.



The first two lines of an Excel worksheet are reserved to file configuration. Ensure the first two lines of the imported file remain identical to those obtained after an export.

When you want to import Enumeration type attribute values (values available in a drop-down list), you must ensure that the data language in **Hopex** and the language of the Excel file are identical.

If, for example, your Excel file is in French and the data language in **Hopex** is English, a message like the following one will pop up when carrying out the import: "value_name outside table".

The data language and the interface language are two separate concepts.

EXCEL TEMPLATE BUILDER

The Excel template building wizard enables functional administrators and users connected with **HOPEX Customizer** profile to create new templates or to edit existing (standard or not) templates.

Launching the Template Builder

To access the template builder:

1. Check your export options.
   ☛ *See Options for the use of Excel import/export.*
2. In your **Hopex** desktop, click **Main Menu**.
3. Select **Excel Template Builder**.
   The wizard opening dialog box opens.
4. Choose the editing mode.
   ☛ *See Managing an Excel Template.*

Managing an Excel Template

The Excel template builder proposes several edition modes:

- the **From scratch** mode to create an Excel template specific to your needs. The wizard guides you through the steps necessary to the creation of the worksheets of your Excel template.
  ☛ *See Specifying a worksheet with the template builder.*
- the **From an uploaded template** mode to carry out changes on the not standard Excel template of your choice.
  ☛ *See Selecting the Excel template to edit.*
- the **From a HOPEX template** mode to carry out changes on the standard **Hopex** Excel template of your choice.
  ☛ *See Selecting the Excel template to edit.*

Modifying a template involves changing the worksheets and/or creating new ones.

☛ *See Specifying a worksheet with the template builder.*

At the end of the editing process, you can whether replace the exising template or create another one.

☛ *See Finishing the Template Edition.*

Selecting the Excel template to edit

To edit the template of your choice in the Excel template builder:

1. In the template builder wizard, select the template that interests you:
- if you have selected the **From an uploaded template** mode, select the template from the **File to upload** area.
- if you have selected the **From a HOPEX template** mode , select the template from the **HOPEX template** area.

2. Click **Start**.
A new window opens guides you through the steps necessary to the modification/creation of the worksheets of the selected template.

☛ *See Specifying a worksheet with the template builder.*

Finishing the Template Edition

When you are done with your editing job, you have several options to save your Excel template:

- download the template
- save as template
- export from this template

It is also possible to **Resume editing** to come back to the modification of worksheets step.

☛ *See Specifying a worksheet with the template builder.*

Download template

If you choose the **Download template** option, the latter will be directly downloaded and saved in the Downloads folder of your computer. You can then use the template as you want.

```
For example: fill it in with local data to subsequently
import them into Hopex
```

Save as template

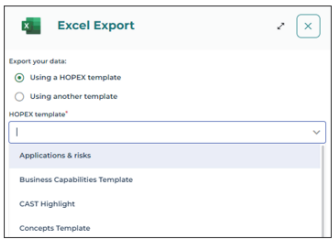
After editing the template, you can choose to save it as a template in **Hopex.**

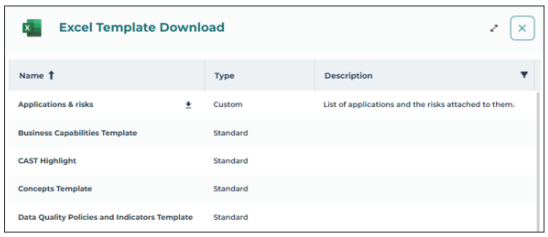
To save the template as new:

1. In the wizard, you must select one of the following options:

- **Save as new template**, you have to specify the **New template name**,

  ☛ *An error message is displayed if the name you have chosen has already been used.*






```
Your new template is now available in the download and
export wizards.
```

- **Overwrite an existing template**, you have to specify the **Template to overwrite**.

  ☛ *The old template will be overwritten and replaced by the new one.*

2. Click **Save**.

Export from this template

The **Export from this template** option directs you to the Excel export wizard in order to proceed to the export of Hopex data towards an Excel file.

☛ *See Exporting Data via Excel.*

Specifying a worksheet with the template builder

When using the template editor, you can perform various operations :

- add sheets, delete or modify existing ones

  ☛ *See Managing the Excel Template Worksheets.*

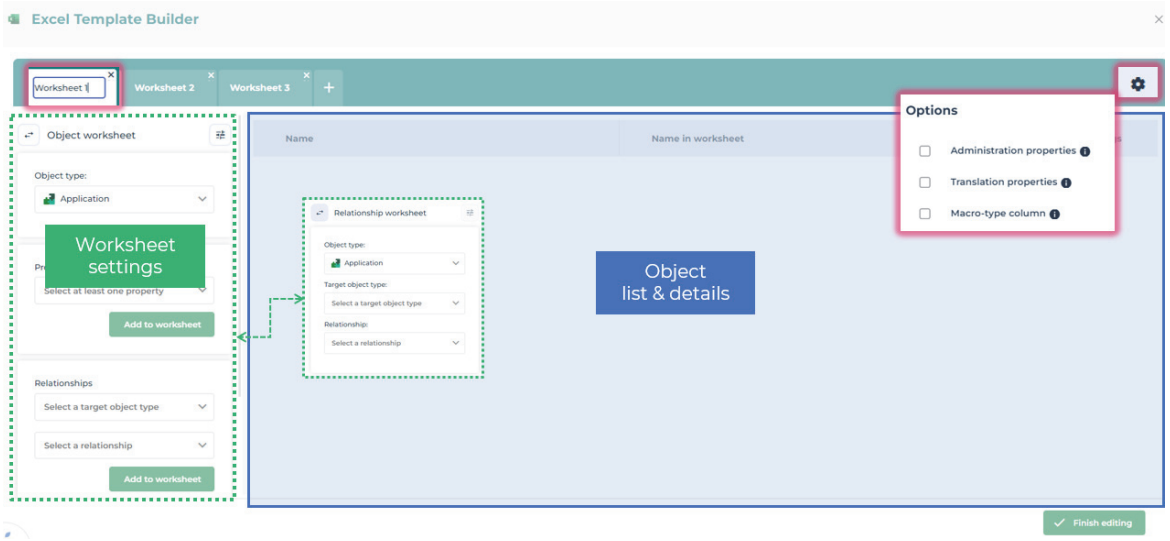
- parameterizing the new worksheets population or modifying the existing ones

  ☛ *See Configuring an Excel Template Worksheets.*

- modify model, worksheet and column parameters to access specific facilities

  ☛ *See Advanced Settings of the Excel Template Builder.*

Excel Template Builder interface

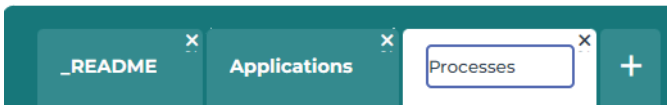


The Template Builder interface provides:

- atop, tabs for each of the worksheets composing the Excel workbook
  - ☛ *See Managing the Excel Template Worksheets.*
- on the left, the worksheet setting window This worksheet can be a relationship or an object worksheet.
  - ☛ *See Configuring an Excel Template Worksheets.*
  - ☺ *on the top-left, click ⇄ to switch worksheet type.*
  - 💣 **On the worksheet populated, you cannot change its type anymore.**
- in the center, the list of characteristics correspoinding to the columns of the worksheet and their details.
  - ☛ *See Creating columns.*
- on the top-right, template settings
  - ☛ *See Advanced settings of the template.*

Managing the Excel Template Worksheets

Worksheets contained in the workbook are represented by tabs at the top of the Builder interface.



You can:

- click **New worksheet**  to add a worksheet to the workbook
  - ☛ *See Configuring an Excel Template Worksheets.*
- double-click the name of the worksheet to rename it
- click **Delete**  (at the top-right of each tab) to delete a worksheet

When you start from an existing template, the name of some worksheets may bear an underscore as prefix. This indicates that the worksheet in question is only editable through Excel. Some of these worksheets may also contain information and recommendations regarding the use of your Excel workbook.

```
E.g.: the _README worksheet
```

Configuring an Excel Template Worksheets

An Excel import or export worksheet contains, by nature, a list of instances in rows, along with their attributes in columns.

Instances can be objects or relationships.

An Excel template can feature two types of worksheet:

- **object worksheets** which group together the characteristics of a list of objects of the same type,
  - ☛ *on a MetaModel point of view, an object type is represented by a MetaClass.*
- **relationship worksheets**, which group together the characteristics of a list of links of the same type.
  - ☛ *on a MetaModel point of view, an link type is represented by a MetaAssociation.*

You are able to include relationships in an object worksheet settings. Relationship worksheets are only useful if you need relationship attributes after parameterizing an object worksheet.

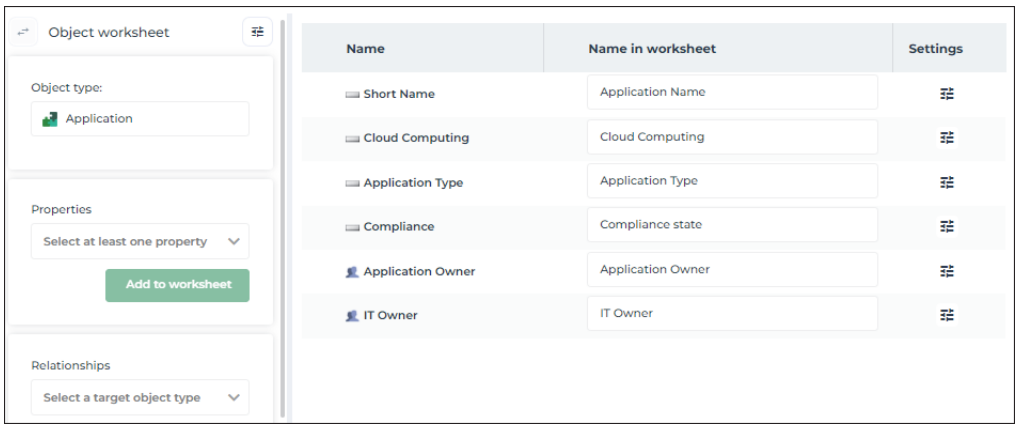
Setting up an object worksheet

To set up an object worksheet:

1. On the top-left, define **Object worksheet** as worksheet type (default value).
   - ☛ *If needed, click* *to switch worksheet type.*
2. In the **Object type** field, select the object you want to describe in the worksheet.
   The following fields display progressively.
3. [Optional] Define the worksheet advanced settings.
   - ☛ *See Advanced settings of the worksheet.*
4. Create the columns of your target file.
   - ☛ *See Creating columns.*
5. [Optional] Modify the **Name in the worksheet** to customize the naming of the columns.

6. [Optional] Define the columns advanced settings.

   ☛ *See Column advanced settings.*



E.g.: setting up an Applications object type worksheet.

Setting up a relationship worksheet

A relationship worksheet is meant to complement the information contained in an object worksheet: it defines attributes attached to the relationships mentioned in the object worksheet previously set up.

A relationship is defined between an object considered as a "source" and an object considered as a "target". The "source" object "source" is the relationship owner; if it is deleted, the relationship is also deleted.

The type of a relation ship is defined by the type of the "source" object and the type of the "target" object.

To set up a relationship worksheet:

1. Define **Relationship worksheet** as worksheet type.

   ☛ *If needed, click ⇄ to switch worksheet type.*

2. In the **Object type** field, select the source object type.
3. In the **Target object type** field, select the target object type.

   ☛ *The drop down list of target object types is computed depending on the source object type.*

4. In the **Relationship** field, select the type of the relationship that interests you between the source and the target objects.
5. [Optional] Define the worksheet advanced settings.

   ☛ *See Advanced settings of the worksheet.*

6. In the **Properties** field, in the drop down list, select the values that you want to see in the worksheet (these values correspond to columns in the target file).

   ☛ *The list of properties depends on the values previously selected.*

7. Click **Add to worksheet** to list the property values in the central area of the Builder.
8. [Optional] Edit the **Name in worksheet** column values to customize the column names.

9. [Optional] Define the columns advanced settings.

   ☛ *See Column advanced settings.*

Creating columns

The Excel target file columns feature as rows at the center of the Builder interface.

A column can be associated with different characteristics:

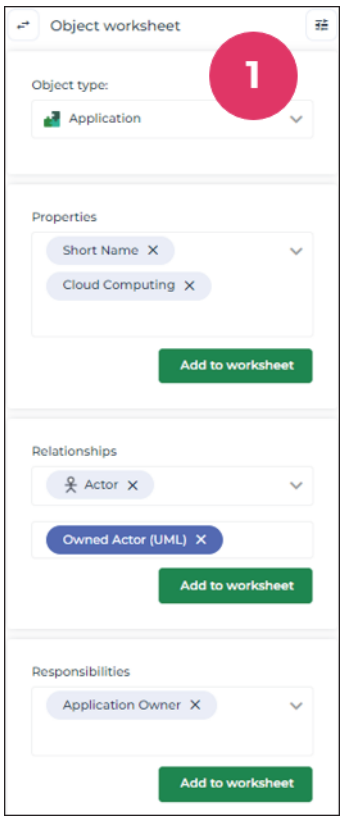
- an object attribute, defined in the **Properties** field,
- a link between the described object and a target object, defined in the **Relationships** field,
- a role or a profile associates to the described object, defined in the **Responsibilities** field.

  ☛ *In a relationships worksheet, only **Properties** can be specified.*

To add columns to a worksheet:

1. Open the worksheet that interests you.
   The following fields display depending on the pre-selected object type, as well as the other fields progressively filled in.

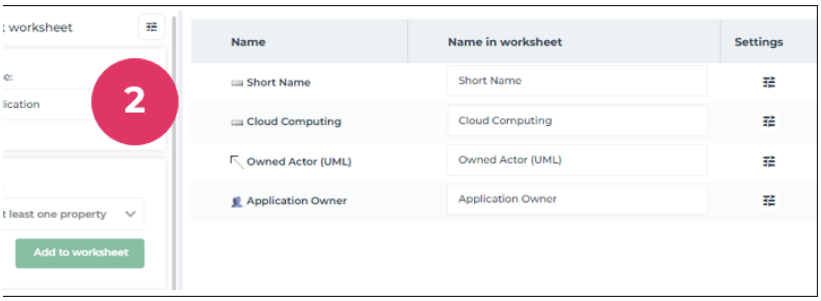
   `E.g.: creating columns for an Applications object type worksheet.`



2. In the **Properties** field, in the dropdown list, select the values that you want to see in the worksheet (these values correspond to columns in the target file).

   ☛ *The list of properties depends on the values previously selected.*

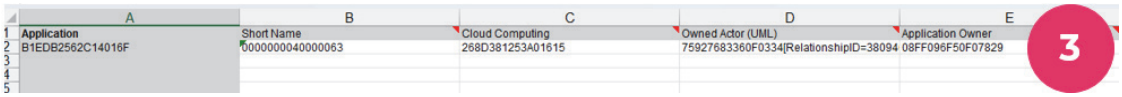
3. Click **Add to worksheet** to list the property values in the central area of the Builder.



4. [Optional] Edit the **Name in worksheet** column values to customize the column names.
5. [Optional] Define the columns advanced settings.

   ☛ *See Column advanced settings.*

Once the columns are created and the template is saved, the specified columns appear in the associated Excel worksheet.



Modifying the column order

To edit the column ordering in the target document:

1. Hover the cursor over the row of your choice.
2. On the far left of the row, click **Drag and drop to order column** . Hold down you click.
3. Drag and drop the row to the place you want to move it.

Data Processed by the Excel Import/Export Wizard

Wizards dedicated to data exchange between Excel and your **Hopex** repositories are also subject to standard data read/write rules.

These rules, presented in this chapter, concern :

- Data access, see Product view,
- Data protection, see Managing non-modifiable data,
- Managing relationships with multiple target objects, see Managing multiple relationships,
- Rules for updating the repository during an import, see Updating the cell content.

Product view

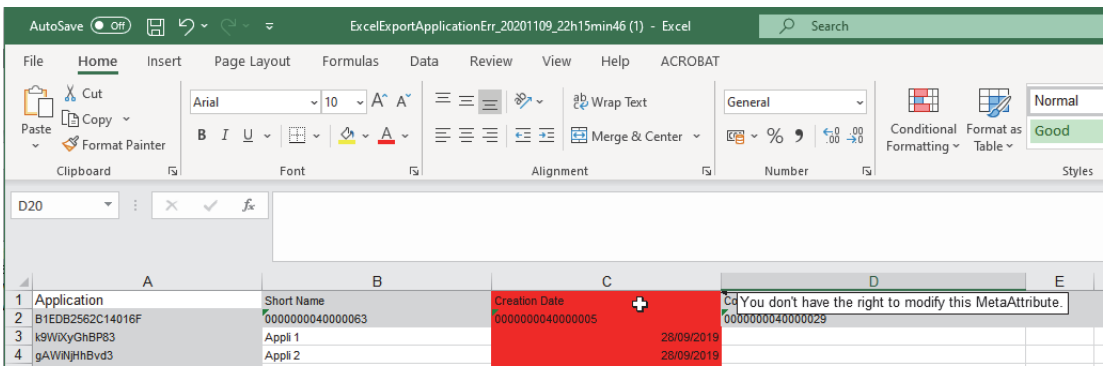
The MetaClasses, MetaAssociations and MetaAttributes appearing in the Excel worksheet reflect the view of the metamodel. Only concepts that are available with the product, the profile and the options you have selected are displayed.

☛ *For more details, see Extending the Visibility (Metamodel or Advanced Features).*

Managing non-modifiable data

For export, MetaAttributes that cannot be modified by the user appear in a grayed column in the Excel page.

It is possible to export properties that cannot be modified, such as calculated attributes (for example "Creation date" MetaAttribute), but it is not possible to import these. The wizard indicates that you do not have permission to update these properties.



Whether it be an export or an import, the first two lines of an Excel worksheet are reserved for file configuration. Ensure that no data is entered in these first two lines.

Managing multiple relationships

You can use some MetaAssociationEnds with cardinality equal to 1 to easily import some objects and their links.

In the **Hopex** MetaModel, a relationship represents a MetaAssociationEnd. Some MetaAssociationEnds have a cardinality greater than 1, it means that an instance can have several links of the same type.

For example, an Application may be composed of several Microservices.

In this case, the Excel import/export file presents each instance on different lines of the same cell.

A	B	C	D	E
Application	Name	Application Type	Microservice (Referenced Microservice)	
B1EDB2562C14016F	0000000040000002	CAA7CFFC38AB0020	B4BAB68B596F05A2[RelationshipID=59D65CD965F43F2	
UipMA8MNX1kV	MEGA University::ITA::Traveller Friend		Airline Management Service API Gateway Travel Optimizer	

After importing a file of this type, instances and their links are created.

Updating the cell content

In addition to MetaClasses and MetaAttributes, the export wizard supports:

- links and link attributes
- MetaAssociationEnds

  ☛ *For more details, see* Managing multiple relationships.
- queries
- macros

An Excel import allows you to create new objects and modify existing ones. The following rules apply:

- A new object is created if the name used does not already exist in the repository,
- If a cell is empty, it has no effect on the repository,
- the **#reset** string is used to delete the property or relationships associated with the cell.

  ☛ *In the case of a relationship,* ***#reset*** *can be followed by new links.*

Advanced Options and Settings of Excel Wizards

Options for the use of Excel import/export

Options for Excel import/export access

To access Excel import and export features:

1. Open the **Options** window.

   ☛ *See Accessing your options.*

2. Select **Tools > Data Exchange**.
3. Select **Exchange with third party tools** > **Excel**.
4. Make sure that the following check boxes are selected:

- **Activates the Excel import (*.xls, *.xlsx)**,
- **Activates the Excel export (*.xls, *.xlsx)**,
- **Enables the Excel Template Builder (*.xls, *.xlsx)**.

Date format

By default, date format of files generated through Excel import and export is: yyyy/mm/dd.

To modify this format:

1. Open the Options window.

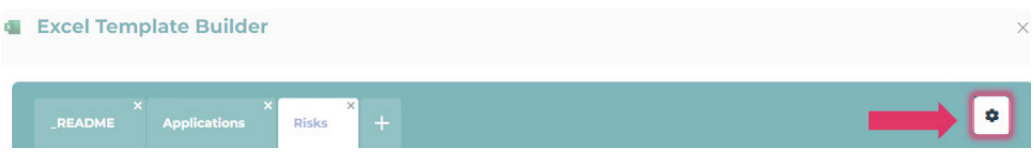
   ☛ *See Accessing your options.*

2. Select **Tools > Data Exchange**.
3. Select **Exchange with third party tools** > **Excel**.
4. In the option **Excel import/export: Date Format**, define the format of your choice.
5. Click **OK**.

Advanced Settings of the Excel Template Builder

Advanced settings of the template

The Builder option activation window is available on the top-right of the Template Builder at all time.



The template parameters are described below:

Administration properties	Activates the availability of administration properties in the property list. *Example : Creation date*
Translation properties	Activates the availability of translation properties in the property list. An option enables you to to process object names in each available language (for example the Short Name of an object in French, English, etc.). (See the available languages using **Options > Installation > Languages**).
Macro-type column	Activates the possibility to add macro-type columns. Once this option activated, the Macros section appears at the bottom of the worksheet setting area. You can select the macros of your choice using the dropdown menu. Macros featured in this list must comply with the signature template described below.

Advanced settings of the worksheet

The definition of these settings is optional.

To access the worksheet advanced settings, in the left setting pane, click **Define worksheet advanced settings**  next to the worksheet type.

☛ *The settings are displayed progressively depending on the selected worksheet type and the object type.*

An object worksheet parameters are described below:

Line macro	In this field, define a macro in charge of: - the search or creation of each line object in the context of an import - the potential number of lines to generate for a given object in the context of an export
Post-line treatment macro	[Import only] Defines a macro called at the end of each line treatment.
Data source (queries)	[Export only] Defines the query used to call the data populating the worksheet.
Data source (worksheet)	[Export only] Designates one worksheet of the same workbook as data source to populate the worksheet in question. Enables to not manually re-define the object list ascribed to the worksheet during the export process.
Create target object if not found	[Import only] The import engine automatically creates the object(s) that do not exist in the repository yet to avoid "object not found" type errors.
Attribute to use instead of name	Specifies an indexed attribute used instead of the Name during the import process in order to search each object. *Note that it is recommended to use the same indexed attribute to identify the source and target objects of the link if they are of the same type.*

A Relationship worksheet parameters are described below:

[Source] Data source (queries)	[Export only] Defines the query used to call the data populating the worksheet.
[Source] Data source (worksheet)	[Export only] Designates one worksheet of the same workbook as data source to populate the worksheet in question. Enables to not manually re-define the object list ascribed to the worksheet during the export process.
[Source] Create target object if not found	Import only] The import engine automatically creates the object(s) that do not exist in the repository yet to avoid "object not found" type errors.
[Source] Attribute to use instead of name	Specifies an indexed attribute used instead of the Name during the import and/or export process. [Export]: the attribute value is displayed in the cell instead of the Name. [Import]: the value is used to search for the object to link. *Note that it is recommended to use the same indexed attribute to identify the source and target objects of the link if they are of the same type.*
[Target] Create target object if not found	[Import only] The import engine automatically creates the object(s) that do not exist in the repository yet to avoid "object not found" type errors.
[Target] Attribute to use instead of name	Specifies an indexed attribute used instead of the Name during the import and/or export process. [Export]: the attribute value is displayed in the cell instead of the Name. [Import]: the value is used to search for the object to link. *Note that it is recommended to use the same indexed attribute to identify the source and target objects of the link if they are of the same type.*

Column advanced settings

The definition of these settings is optional and depends on the type of the column content.

To access the column advanced settings, click **Define advanced settings** on the column value of your choice.

☛ *These settings depend on the nature of the selected column (some column do not feature all the settings shown below).*

Setting name	Description
Column applicability	Defines the context of application of the column when using the template to import or export data. 3 possible values: - Import - Export - Import & export (default mode) *Example: if you select Export, the column will only appear in the template in the context of a data export process.*
Create target object if not found	Enables to create automatically an object in the case where it does not already exist in the repository. Activating this option avoids errors popping up untimely during the import process. 2 possible values : - yes - no
Attribute to use instead of name	Specifies an indexed attribute used instead of the Name during the import and/or export process. [Export]: the attribute value is displayed in the cell instead of the Name. [Import]: the value is used to search for the object to link. *Please note that it is recommended to use this same indexed attribute to identify objects of the same type that may be used in other columns of this sheet.*
Keep order	[Import only] This parameter is used to specify if the list of objects should be imported considering the defined order. The default value is false.

Custom parameter	*This parameter is propose if the* **Macro-type column** *Excel Template parameter is activated, see Advanced settings of the template.*
	Specifies a character string transmitted as is to the macro during the import or export process.
	`Example of use:`
	`A macro is usually created as soon as a column is created. One macro for one column. The same macro can hardly be reused for lack of a differentiator between the columns. The parameter can be used as differentiator in order to facilitate the reuse of a macro.`



Documentation

GENERATING DOCUMENTATION

- ✓ Introduction to Documentation
- ✓ Generating Reports
- ✓ Managing Report DataSets
- ✓ Managing Instant Reports
- ✓ Managing Reports
- ✓ Handling Reports
- ✓ Managing Report Options
- ✓ Managing Reports MS Word

INTRODUCTION TO DOCUMENTATION

See:

- Documentation Tools
- Generated Documents
- Report Structure
- Report Renderer Types

Documentation Tools

In **Hopex**, you can access different documentation tools providing a response to internal and external communication needs. Documentation is an essential task in the context of a modeling approach. A modeling approach does not only consist in the display of models, no matter how complete and accurate the latter may be.

These tools can be classified according to the type of document provided:

- tools enabling to ***generate*** documentation from the repository data:
  - reports
  - instant reports
  - reports MS Word

    ☛ *See Generated Documents.*

    ☛ *These features do not require any specific option.*
- tools enabling to ***store***, in Hopex, documents with a content unrelated to the repository:
  - external references
  - business documents

    ☛ *See Using External References and Using Business Documents.*

Generated Documents

From the repository objects, **Hopex** enables to generate the following document types:

- ***reports*** to study interactions between repository objects

  ☛ *See Generating Reports.*
- ***instant reports***, to get a statistical, graphic analysis of the data related to the analyzed objects

  ☛ *See Managing Instant Reports.*
- ***reports MS Word***

  ☛ *See Managing Reports MS Word.*

In **Hopex**, specific elements are available to help you generate documentation:

- the ***Report DataSet*** from which you can create instant reports

  A Report DataSet is an extraction of a set of repository data, displayed in a tabular form.

  ☛ *See Managing Report DataSets.*

- the ***GraphSet*** from which you can create graph-type reports

  A GraphSet is an extraction of a set of repository data, displayed in graph form (set of nodes and arcs grouped according to one or several analysis criteria).

- the ***TreeSet*** from which you can create tree-type reports (Dendrogram, Breakdown map, TreeTable)

  A TreeSet is an extraction of a set of repository data, displayed in a tree form (root node and its descendants).

You can customize your reports.

☛ *See Managing Reports.*

Report Structure

Parameters

The parameters define the input data used for the report, that is to say the object groups and the way they interact in the report. They vary according to the report template.

E.g.: a "Deployment" type report links the "To Deploy" parameter defining the deployed elements (such as applications, technical infrastructures, etc.) with the "Location" parameter defining the target sites.

☛ *Each report template parameter defines a multiplicity indicating whether it is possible to connect more than one value for the said parameter to a given report. If multiplicity is 1 or 0..1, only one parameter value can be connected.*

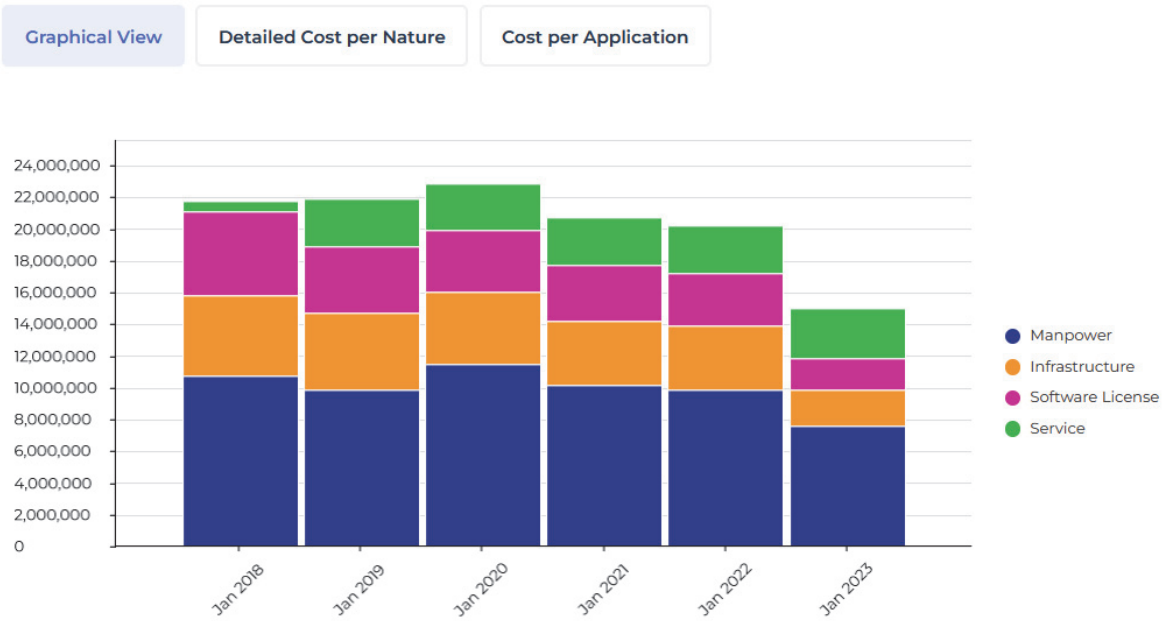
The definition of input parameters is not mandatory.

Chapters

A report can contain several chapters, displayed on separate pages. Each chapter covers one set of data that may or may not be represented in a graphic format.

Example: on an application portfolio, the "Cost report" includes three chapters that show:

- a graphical view of costs over time (bar chart)
- the details of costs by nature (table)
- the details of costs by application (table)



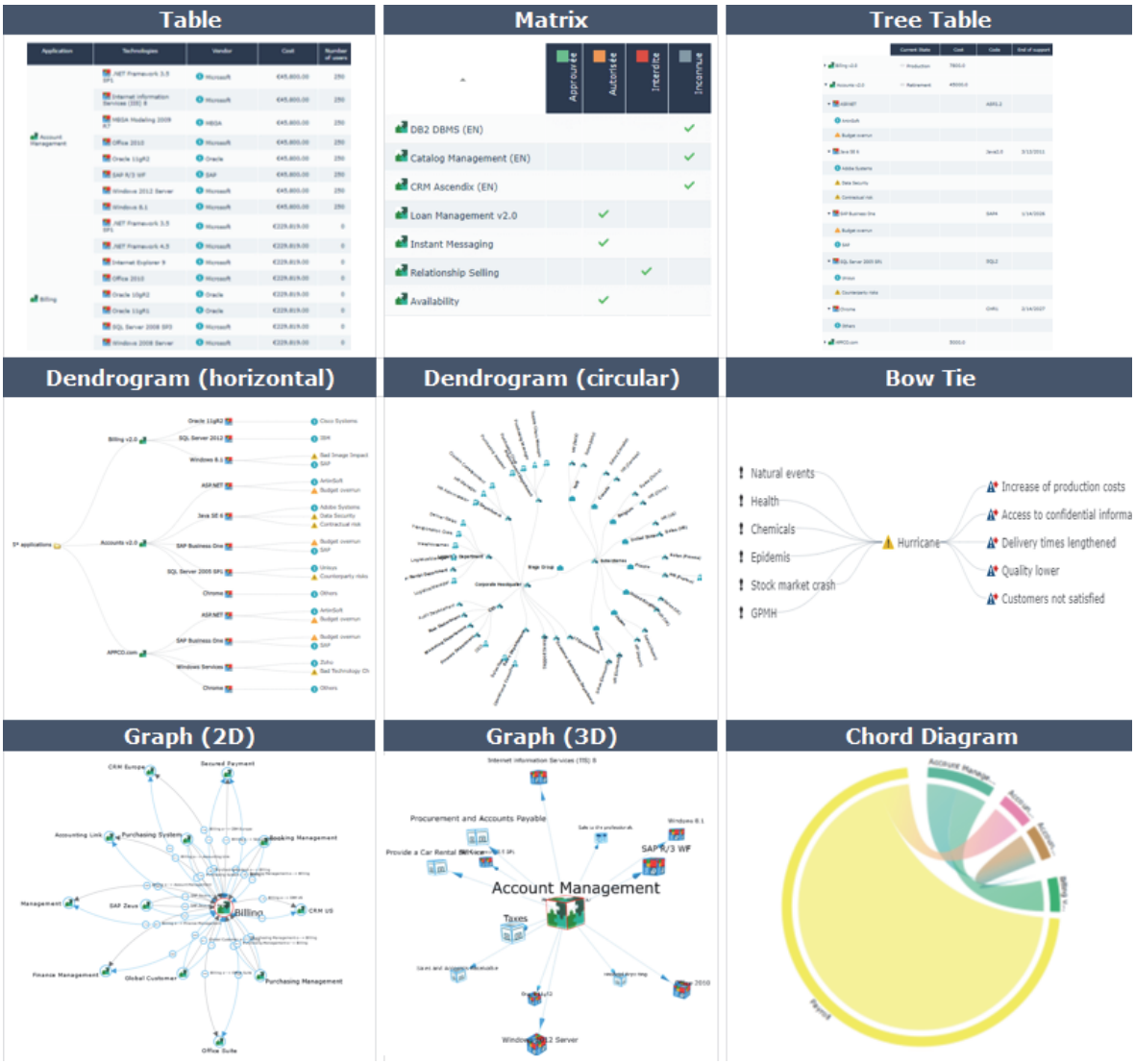
For more details on the functional content of each report, refer to the "Reports" chapter of the documentation specific to the Solution.

The details of the report parameters and chapters are viewable in the report properties.

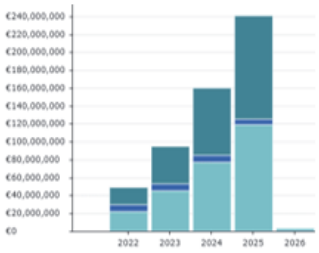
☛ *See Accessing report properties.*

Report Renderer Types

The following image shows the renderer types available in Hopex reports. Click a renderer type to access details about its handling.



Bar Chart



Line Chart



Bubble Chart



Pie Chart



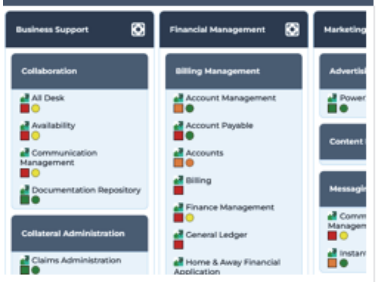
Set of gauges



Gantt Chart



Breakdown



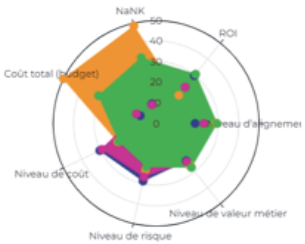
Treemap



Heatmap



Radar Chart



Word Cloud



Geographical Map



Diagram comparison



Diagram



Exploded Diagram



GENERATING REPORTS

Reports enable dynamic analysis of repository data under different perspectives.

A report is generated from a report template. This report template defines the type of objects processed and their perspective of analysis.

E.g.: you can analyze a set of applications to determine their functional compatibility level regarding a city plan.

Hopex provides predefined report templates specific to each **Hopex** Solution.

☛ *These report templates are listed in the **PLATFORM - Concepts > Report Templates** documentation.*

E.g.: Business Capability Decomposition report (HOPEX Enterprise Architecture Enterprise), Risk reduction report (Hopex GRC).

See:

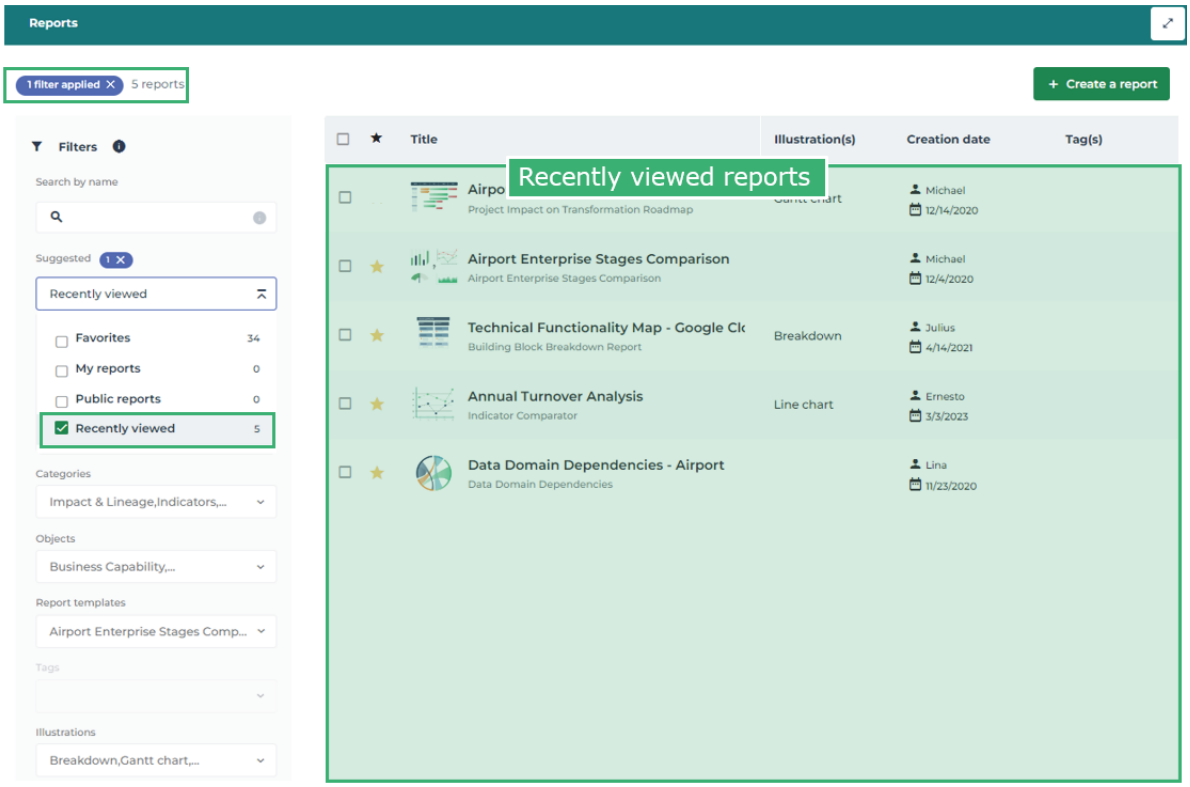
- Accessing Reports
- Creating a Report

Accessing Reports

Reports of a Solution are accessible from the **Reports** navigation menu of each Solution.

By default, the list of reports recently viewed is displayed.

☛ *Reports are sorted in alphabetical order.*



A filtering tool enables to display other reports and/or filter the displayed list.

To narrow down the list of displayed reports, you can:

- search for a report name

  ☛ *If you enter several terms, only the names containing all of them are searched.*

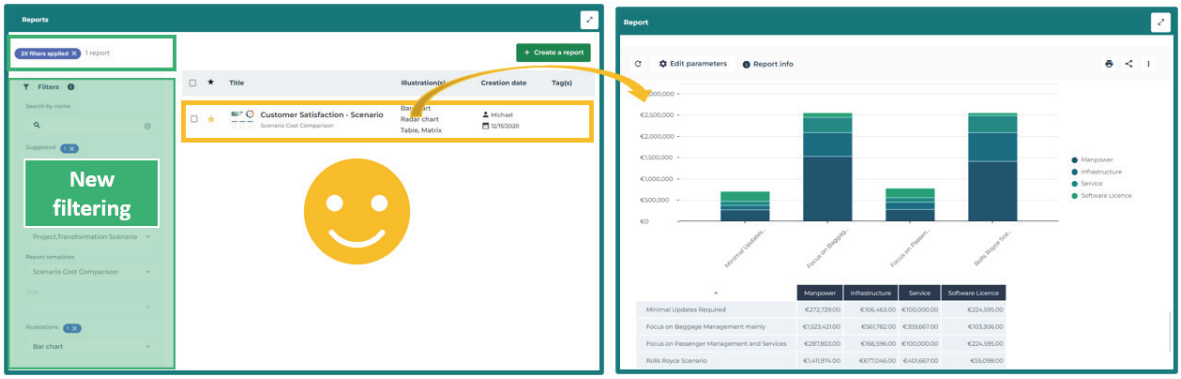
- search by filtering only, using one or several filters

  ☺ *E.g.: you can display your reports only.*

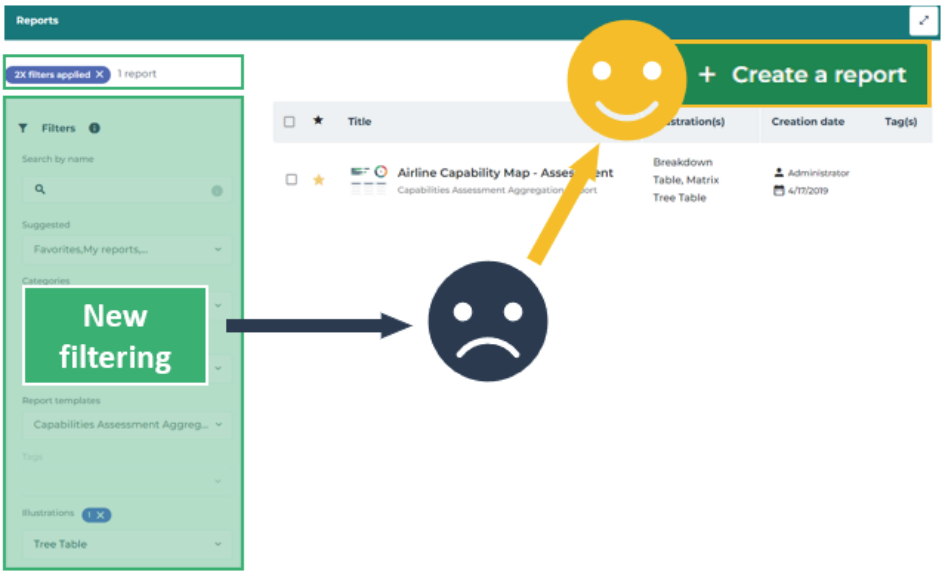
- mix search by name and filters

  ☛ *See Adding filters.*

Example 1: your filtering gives you the report you are looking for.

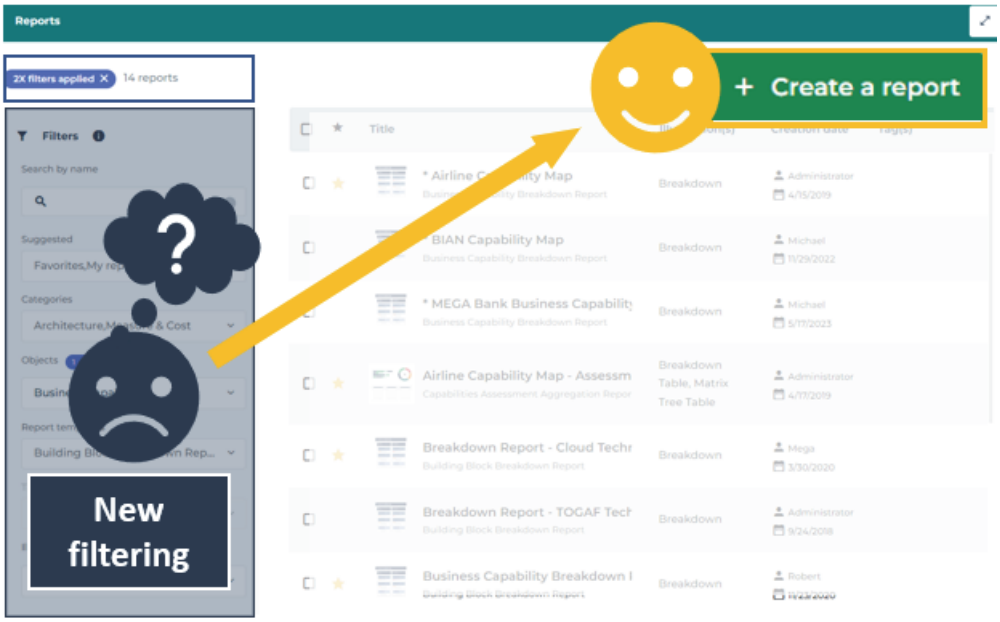


Example 2: your filtering does not give you the report you are looking for, you can then create a report.



Example 3: the filtering is dynamic and narrows down as you select categories. If you cannot configure the required

filtering, it means that the report does not exist. You can then create the report.



If you cannot find the report you are interested in, you can create it using one of the report types provided and define the data to be analyzed.

☛ *See Creating a Report.*

Accessing a report

To access a report:

1. In the navigation bar, click **Reports**.
   The list of reports recently viewed is displayed.
2. To access other reports, use the **Filters**:
   - (If needed) In the **Search by name** field, enter one or more words of the report name your are looking for.

     ☛ *To search for an exact string, add quotation marks to the string. Without quotation marks, the search results show the reports including at least one of the words entered.*
   - (If needed) Narrow down the search using the **Filters** available.

     ☛ *See Adding filters.*

   You can add multiple filters and select several values for each filter. The filtering is dynamic and narrows down as you select filters and values.

   The filtering results are automatically displayed.
3. Click the name of a report to open it.
   The report is displayed in the edit area.

   ☺ *If you need to return to the report list and keep your filtering: hover the cursor over the report name and click* ***Open in new tab***

Adding filters

The following filters are available:

- **Searching by name**
  Enables entry of one or more terms. If you enter several terms, the result contains only the names including all of the terms.
- **Suggested**
  Gives access to the reports you could be specifically interested in. You can choose among:
  - ***Recently viewed*** (selected by default)
  - ***Favorites***: the reports you have added to your favorites and the shared favorite reports
    ☛ *See Adding a Report to Favorites.*
  - ***My reports***: the reports you have created or you are interested in (i.e. the ones you are connected to)
  - ***Public reports***: the reports belonging to nobody
- **Categories**
  Enables to filter on one or more report categories.
  ☛ *Categories are specific to each Solution.*
- **Objects**
  Enables to filter on one or more object types displayed in the report.
  ☛ *Objects types are specific to each Solution.*
- **Report templates**
  Enables to filter on one or more report templates.
  ☛ *Report templates are specific to each Solution.*
- **Tags**
  Enables to filter on one or more tags shown in the report.
- **Illustrations**
  Enables to filter on one or more renderer types (see Report Renderer Types).

For each filter you can select one or more values. The result must contain at least one of the values of each filter.

The filtering is dynamic and narrows down as you select categories.

A search tool is available on each filter for a direct access to the value.

To add a filter:

1. Click the filter arrow.
   The list of the filter values appears.

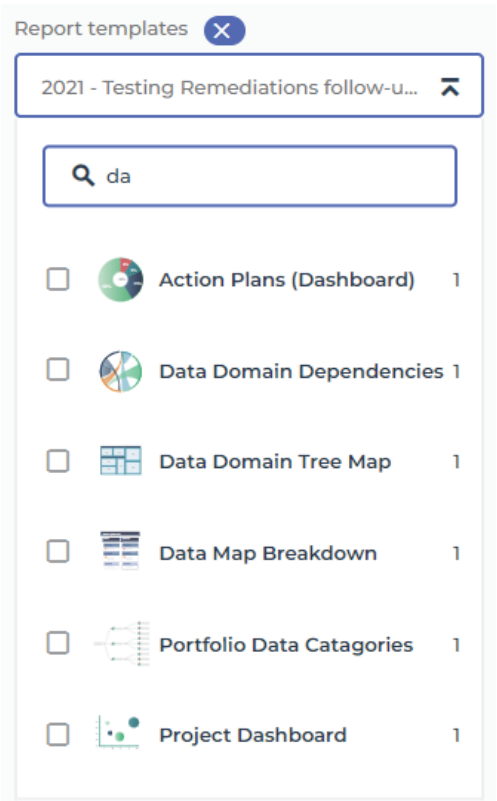
2. Select a value.

   ☛ *You can select multiple values.*

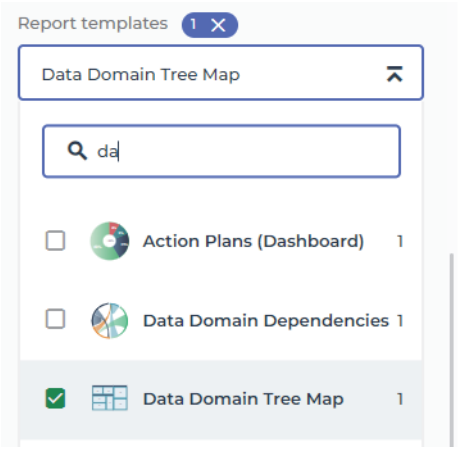
   If needed, use the search field dedicated to the filter to access the value:

   - Enter characters in the field: as you enter characters the list narrows down.

     E.g.: in the search field of the **Report templates** filter, enter: "da". The list narrows down to the report templates whose name includes "da".



   - Select one or more values.



The number of values selected is displayed to the right of the filter name. The list of reports matching the filtering is automatically updated.

3. (Optional) To fold the filter, click .

4. (If needed) Add more filters.
The filtering summary is shown above the filtering area:

- the number of filters applied

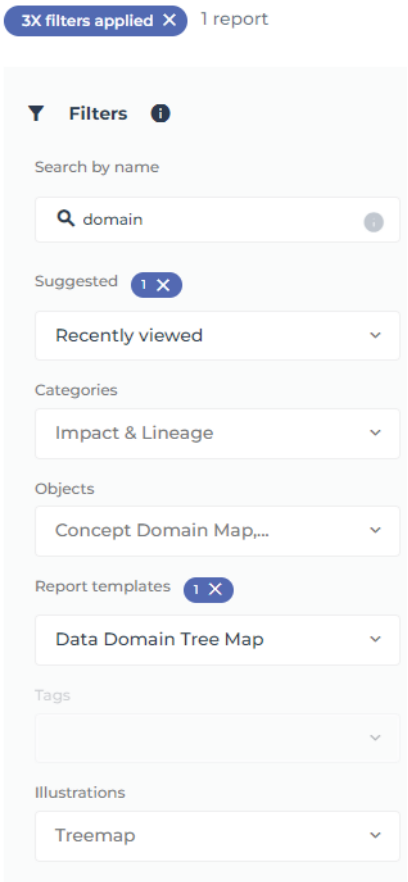
  ☛ *The number of values contained in each filter is indicated at each filter level.*

- the number of reports resulting from the filtering.

Examples:

Three categories of filters are applied here (each filter including one value), and the result shows one report:

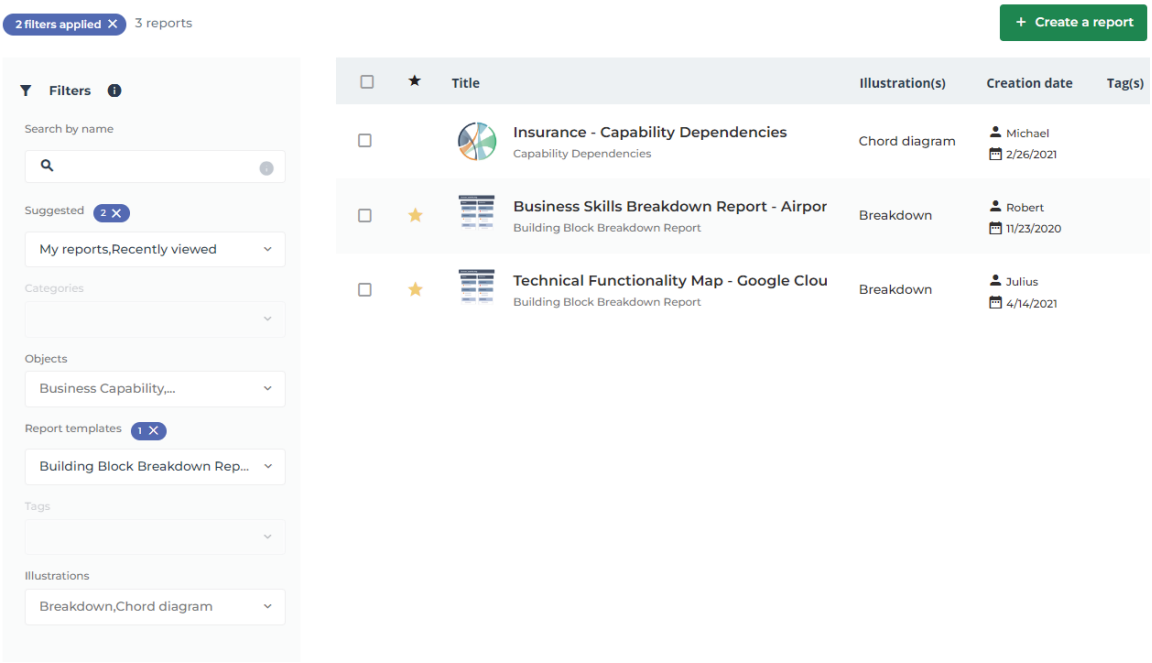
- **Search by name of the report**: "domain"
- **Suggested** filter: "Recently viewed reports"
- **Report templates** filter: "Data Domain Tree Map".



The search by report name is not used here, two filter categories are applied (each filter containing two values) and the result shows three reports:

- **Suggested**: "Recently viewed reports" or "My reports"
- **Report templates**: "Capability Treemap" or "Project

Roadmap”

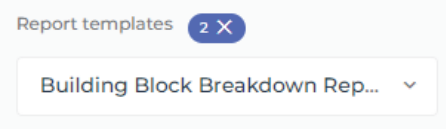


Removing a filter

You can remove a specific filter or all of them.

To remove a filter:

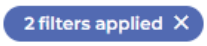
- At filter level, click the cross ✕ of the number of values of the filter.



The filter and all of its values are deleted.

To delete all of the filters:

- Above the filtering area, click the cross ✕ of the number of filters applied.



All of the filters are deleted.

Accessing your reports

Your reports correspond to the ones you create, you are concerned by, and the ones you saved:

- If you cannot find the report you are interested in, you can create it using one of the provided report types and define the data to analyze.

  ☛ *See Creating a Report.*

- If you are concerned by a report that you did not create, you can add yourself to the persons concerned by the report.

  ☛ *See Modifying the persons concerned by a report.*

- To save the content of a report (an instant report or a report embedded in an object, for example), you can save it.

  ☛ *See Saving a Report and Saving an Instant Report.*

The reports concerning you are easily accessible.

To access the reports that are of interest to you:

1. In the navigation bar, click **Reports**.
   The **Reports** page shows your recently viewed reports.
2. In the section **Filters > Suggested**:
   - Select **My Reports**.
   - Clear **Recently viewed**

   The **Reports** page only shows your reports.

   ☛ *You can filter this list if needed.*

   ☺ *In your homepage, you have direct access to the report of your choice.*

See also:

- Managing Reports
- Displaying a report in a new tab

Accessing the reports embedded in object

Some reports are embedded in the repository objects.

☛ *To access the full list of available reports, see Accessing Reports and perform a search with the Objects filter.*

These reports can vary depending on Hopex Solutions and provide near-instantaneous analyses on the selected objects according to a given problematic. For example:

- the functional analysis of a process
- a project portfolio roadmap
- the cost of an application portfolio

☛ *For more details on the provided report templates, see the documentation about the corresponding solution.*

Embedded reports are available in the properties of these objects, in the **Reporting** page:

- **Report Folders**
  Reports are sorted by topics.

  ☛ *To customize this section, see How to Add Reports to Object Property Pages and How to Customize the Reporting Page of an Object.*

  E.g.: in the Enterprise Architecture Solution, in the **Reporting** property page of an application, the **Architecture** folder gives access to three reports.

- **Custom Reports**
  These reports are custom reports not added to report folders.

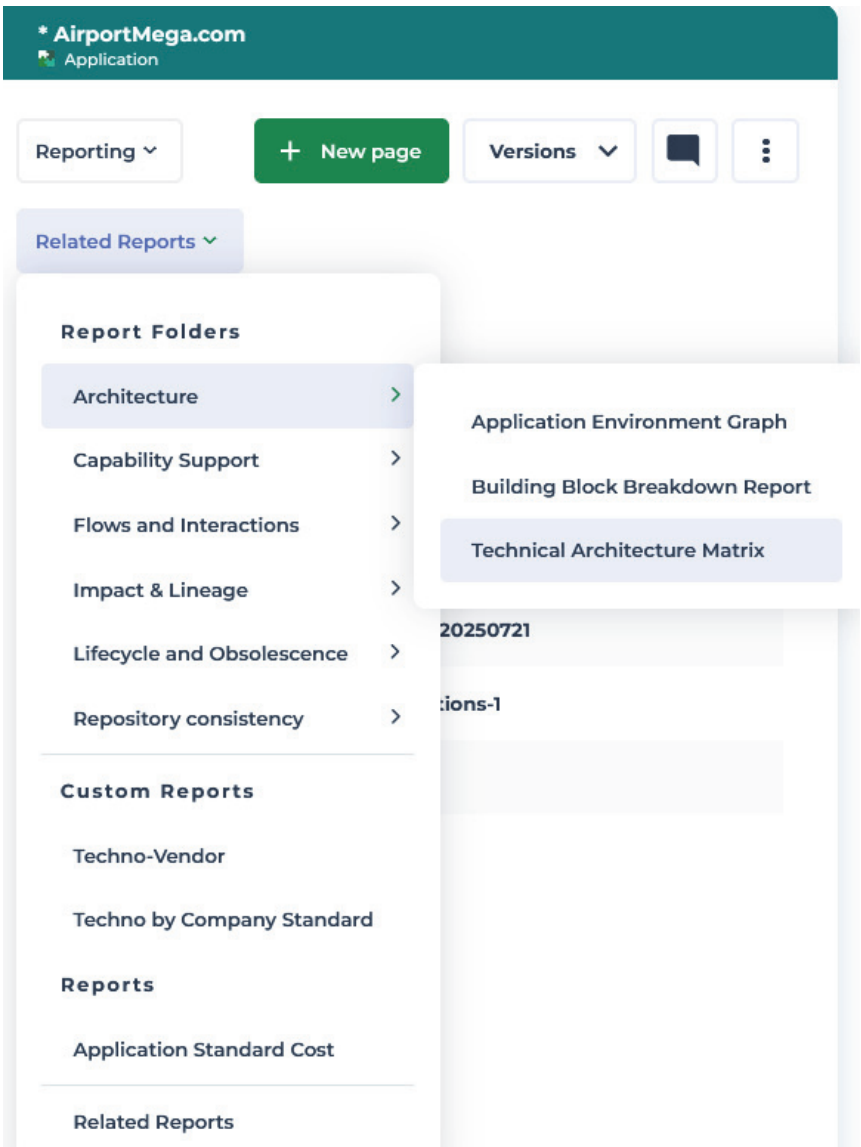
  E.g.: dendrogram-type instant reports added to the **Reporting** page of the object.

- **Reports**
  These reports are provided reports not added to report folders as considered more important.

  E.g.: in the Enterprise Architecture Solution, in the **Reporting** property page of an application, the **Reports**

section gives access to the "Application Standard Cost" report.

- **Related Reports**
  This reports are all the reports (reports and reports MS Word) related to the object.



Accessing the reports embedded in your dashboard

☺ *If the dashboard feature is not available in your Solution, you can add it (in the options: **Workspace > Dashboards**, select **Activate Dashboard**).*

The dashboard is used to quickly access repository information. The embedded reports that you are able to display in your dashboard depend on the solutions and profiles. They provide key indicators on your repository data.

You can:

- add a report as a widget to your dashboard to access it more quickly.

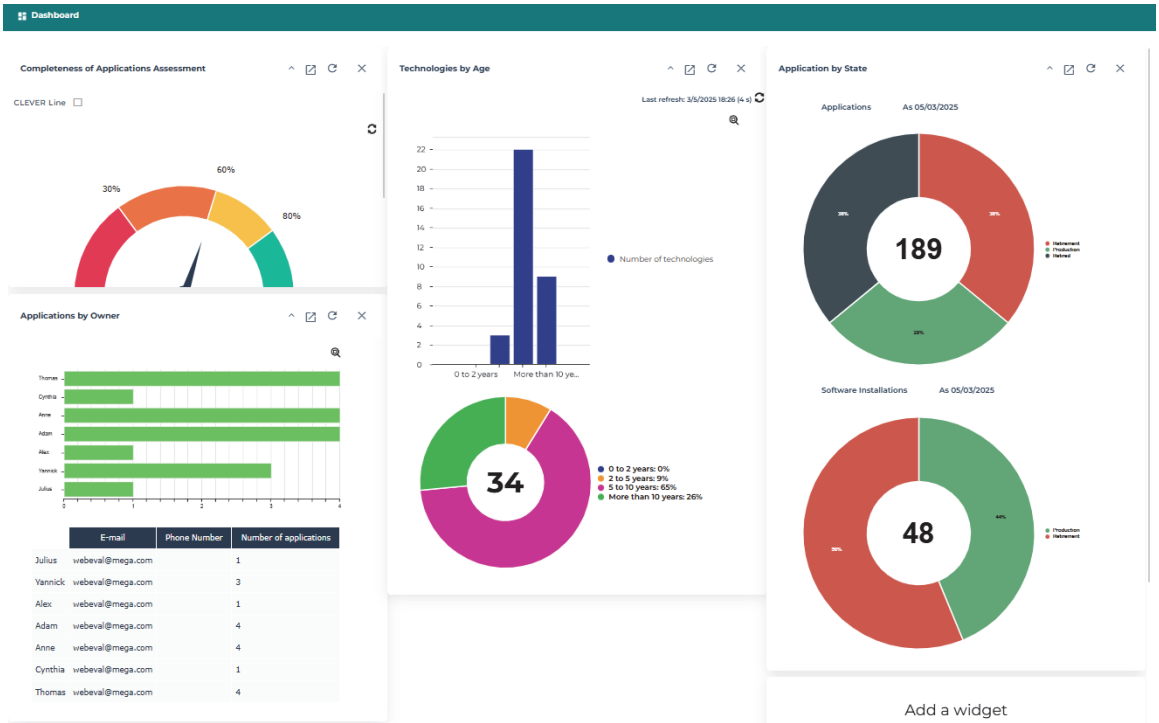
  ☛ *See Adding a widget to your dashboard.*

- add an instant report as a widget to your dashboard to access it more quickly.

  ☛ *To add an instant report to your dashboard, see Adding an Instant Report to your Dashboard.*

To view a report available in your dashboard:

1. In the navigation bar, select **Dashboard**.
   Reports added to your dashboard are displayed.
2. (If the widget of the report is folded) Click ^ to expand the widget and display the report.



Creating a Report

If you cannot find the report you are interested in in the available reports, you can create one using the provided report types.

☛ *See Accessing Reports.*

☛ *See also Accessing the reports embedded in object.*

To create a report you must:

- select the report template you want to base your report on.

  ☛ *Hopex includes predefined report templates specific to each Solution.*

- (if necessary) enter the report parameters. This consists in defining the report input data.

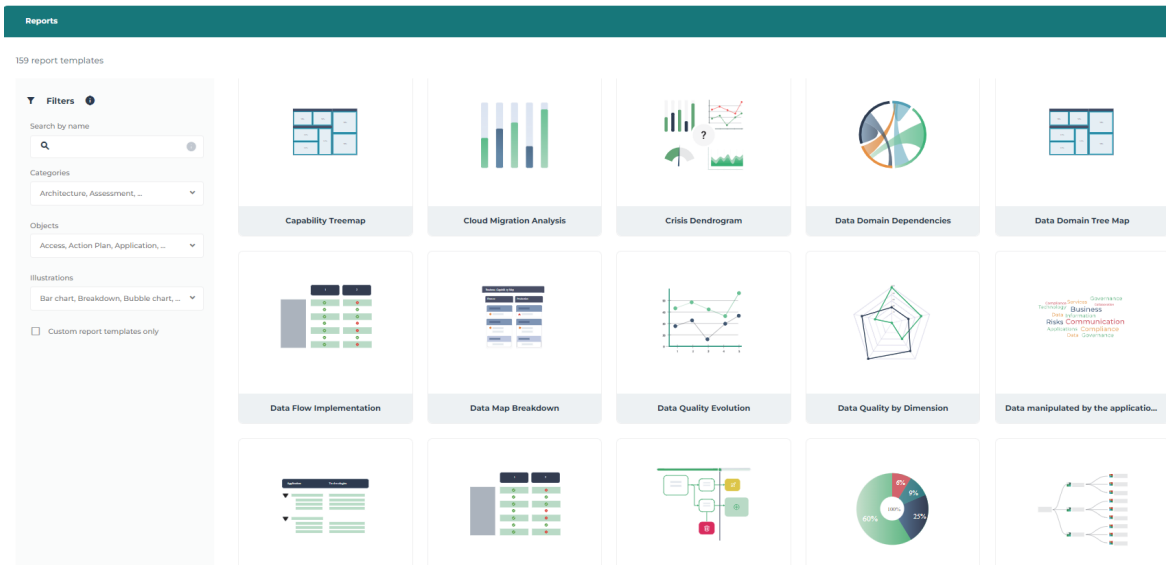
The report templates of a Solution are accessible from the **Reports** navigation menu of each Solution.

The report templates with the most reports are displayed first.

A filtering tool helps you to filter report templates and refine the result list. You can:

- search for the name of a report template
- search by filtering only, using one or several filters
- mix search by name and filters

  ☛ *See Adding filters.*



To create a report:

1. In the navigation bar, click **Reports**.
   The list of recently viewed reports is displayed.

2. Click + Create a report .
   The report templates available in the Solution display as tiles.

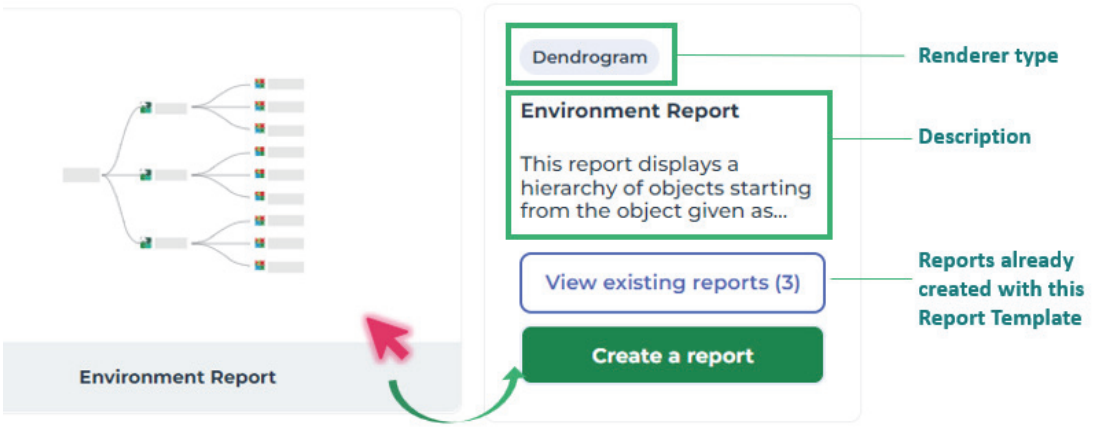
3. To narrow down the list, use the filters.
   - (If needed) In the **Search by name** field, enter one or more words from the name of the report template you are looking for.

     ☛ *To search for an exact string, add quotation marks to the string. Without quotation marks, the search results show the reports including at least one of the words entered.*
   - (If needed) Narrow down the search using the **Filters** available.

     ☛ *See Adding filters.*

   You can add multiple filters and select several values for each filter. The filtering is dynamic and narrows down as you select filters and values.
   The filtering results are automatically displayed.
4. Hover the cursor over the tile of the report template of interest.
   The tile shows:
   - the renderer type of the report (there can be multiple)
   - the report description
   - access to reports previously created with this report template

   `For ex.: Environment Report report template.`



5. (Optional) If reports of the same type were already created, you can view them before creating another report:
   - Click **See existing reports**.
   - Click the name of a report to view it.
   - In the breadcrumb, click **Reports** to come back to the existing reports list.
   - If the report template suits your needs, click **Create from <Name of report template>**. Otherwise click **Create from another report template**.
6. Click **Create a report**.
7. (If necessary) enter the required parameters.
8. Click **Preview**.
9. Click **Continue**.

   ☛ *If you need to change your parameters, click **Back**.*

10. Fill in the information of the report:
    - **Name** of the report: by default <report template name>-n (the -n suffix takes on 1 at each following report based on the same report template.
    - **Who is concerned by this report?** : by default, you are the only person concerned by the report. To add other persons, click **Add**

persons and select the persons using the drop-down list. If you select **Everybody**, the report does not concern a person specifically.

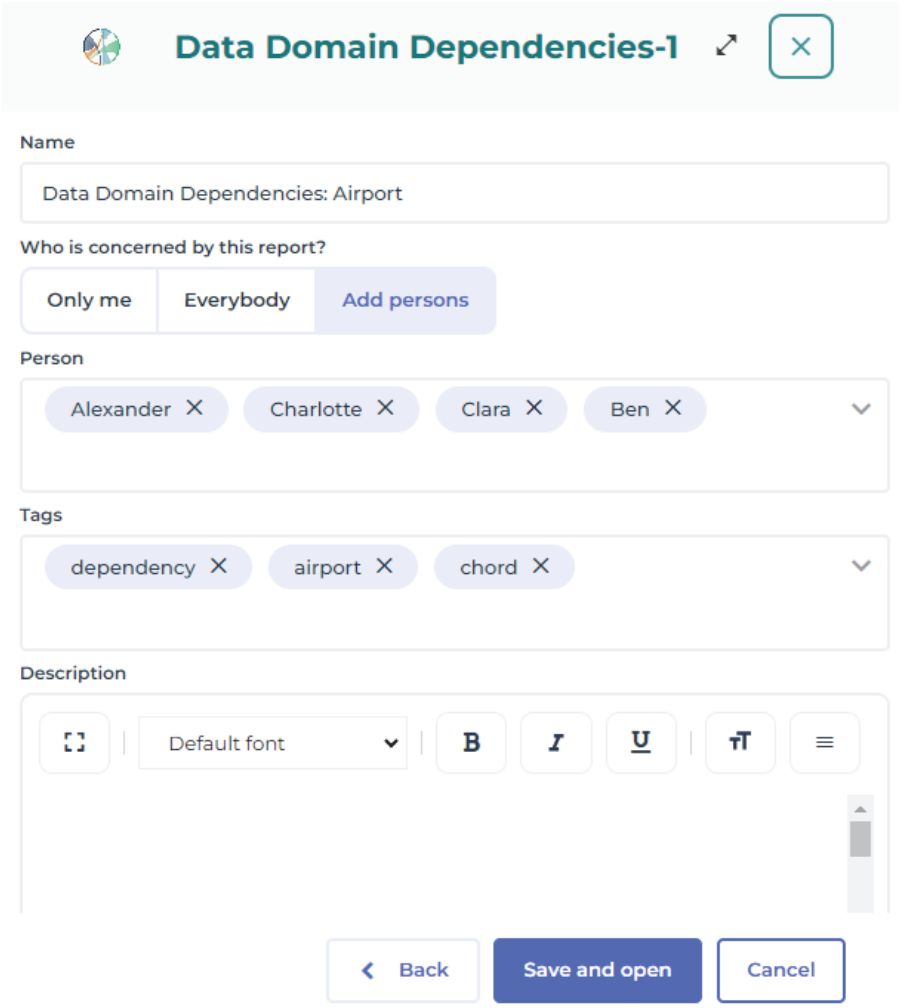
☺ *The persons concerned by a report have a quick access to the report thanks to the report search filter **My reports**.*

- **Tags**: you can add tags using the drop-down list or enter new tags in the field.

  ☺ *Adding a tag to a report facilitates quick access to it thanks to the report search filter **Tags**.*

- **Description**: you can add a description to the report, which displays at the top of the report.

  ☛ *You can update this information anytime, see Managing Report Properties.*



11. Click **Save and open**.
The report is displayed in full page.

> ☛ *To view the report later, in the report access page, select **My reports** filter. The other persons concerned by the report have also access to the report via **My reports** filter.*

Adding filters

In addition to the search by name, the following filters are available:

- **Categories**
  Enables to filter on one or more report categories.
- **Objects**
  Enables to filter on one or more object types displayed in the report.
- **Illustrations**
  Enables to filter on one or more renderer types (see Report Renderer Types).
- **Custom report templates only**
  Enables to consider the custom report templates only, i.e. those not provided at installation.

A search tool is available on each filter for a direct access to the value.

For each filter you can select one or more values. The result must contain at least one of the values of each filter.

To add a filter:

1. Click the filter arrow.
The list of the filter values appears.

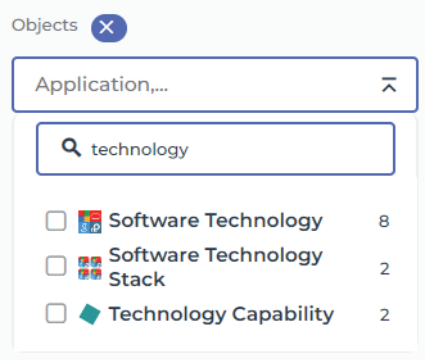
2. Select a value.

   ☛ *You can select multiple values.*

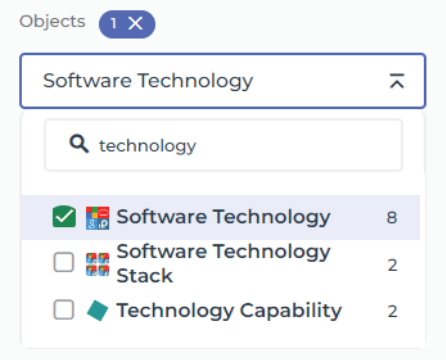
   If needed, use the search field dedicated to the filter to access the value:

   - Enter characters in the field: as you enter characters the list narrows down.

     E.g.: in the search field of the **Objects** filter, enter: "technology".



   - Select one or more values.



   The number of values selected is displayed beside the filter name.
   The list of report templates is automatically filtered.

3. (Optional) To fold the filter, click ⌃ .
4. (If needed) Add more filters.
   The filtering summary is shown above the filtering area:
   - the number of filters applied

     ☛ *The number of values contained in each filter is indicated at each filter level.*

   - the number of reports templates resulting from the filtering.

MANAGING REPORT DATASETS

See:

- Introduction to Report DataSets
- Creating a Report DataSet
- Configuring and Using a Report DataSet

Introduction to Report DataSets

Report DataSet

A **Report DataSet** is a set of data extracted from **Hopex** repository.

This set of data is presented in a tabular form and defined by a **Report DataSet Definition**.

☛ *To create a Report DataSet, Report DataSet definitions are available.*

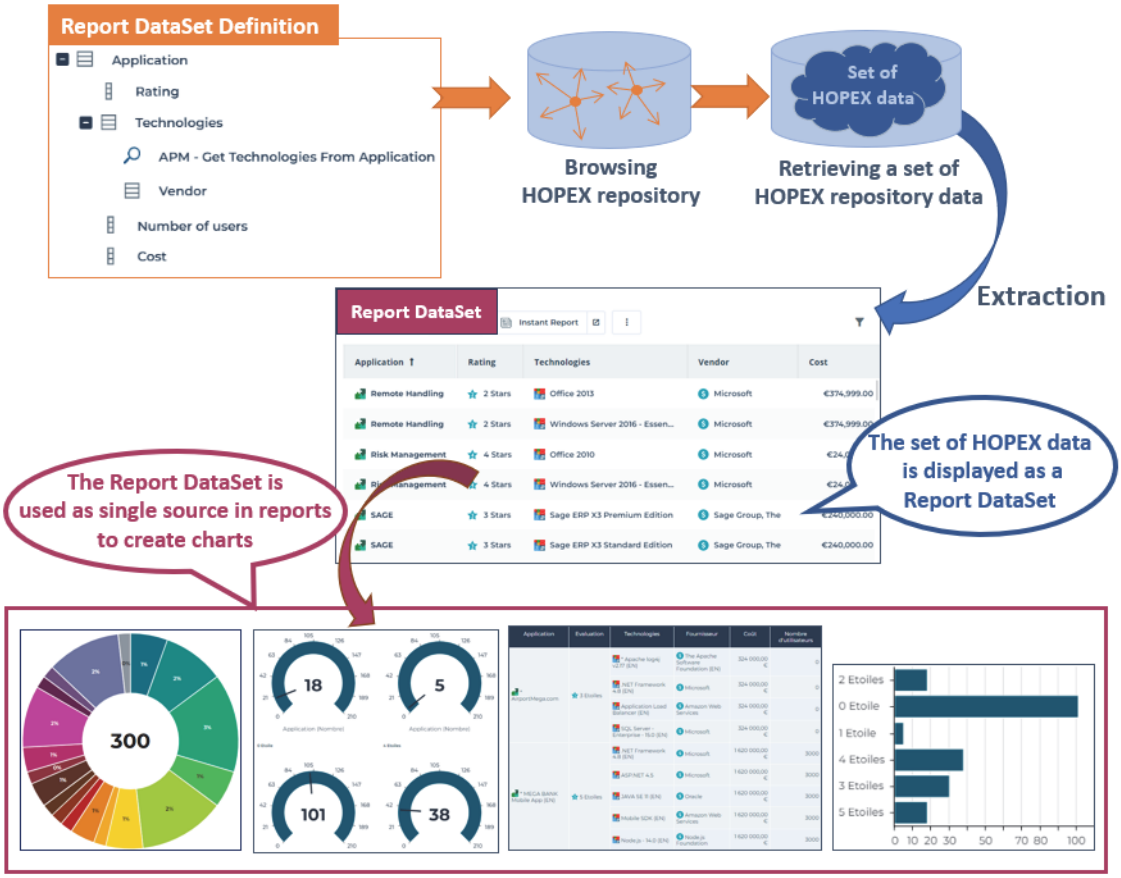
This set of data shown in a tabular form is used as a source of data in reports. Data can then be used and shown in different graphical formats.

☛ *See Managing Instant Reports.*

Report DataSet Definition

A **Report DataSet Definition** describes how to build a Report DataSet from the **Hopex** repository data.

☛ *For more details on **Report DataSet Definitions**, see Hopex Power Studio > Report Studio > Report DataSet Definition documentation.*



Accessing Report DataSets

Access to Report DataSets gets done the same way in all **Hopex** Solutions.

Report DataSets are listed in two pages:

- public Report DataSets
- my Report DataSets

Each Report DataSet is listed with the following characteristics:

- its confidentiality (public/private)
- the Report DataSet Definition on which it is based
- the date and time it was last generated
- its generation time
- its owner container

☛ *See Configuring and Using a Report DataSet.*

To access a Report DataSet preview, see Accessing a Report DataSet properties.

To access Report DataSets:

1. In the navigation bar, select **Environment > Common > Report DataSets**.

   ☛ *If **Environment** is not displayed, click **More** ••• to access it.*

   Your Report DataSets are listed.

   In this page, you can create a Report DataSet and access its properties.

   ☛ *See Creating a Report DataSet.*

   ☛ *See Accessing a Report DataSet properties.*

   ☛ *See also Configuring and Using a Report DataSet.*

2. To access your Report DataSets, in **My Report DataSets** drop-down menu, select **Public Report DataSets**.
   The public Report DataSets (including yours) are listed.

Accessing a Report DataSet properties

To access the properties of a Report DataSet:

1. Access Report DataSets.

   ☛ *See Accessing Report DataSets.*

2. In the Report DataSet list, access the Report DataSet needed.

   ☛ *To access the Report DataSet, you can use the list filtering tool, see Filtering a list data.*

3. Hover the mouse over the **Name** column and click:
   - **Properties** to display the properties in full page in the edit zone.
   - **Open in new tab** to display the properties in a new tab and thus easily access the properties of the Report DataSet while performing other tasks in parallel.

Properties of a Report DataSet

A Report DataSet is created from objects of the **Hopex** repository.

In the Report DataSet properties, the **Characteristics** section specifies the characteristics of the Report DataSet:

- **Report DataSet Definition** is the definition on which the Report DataSet is based
- **#Tags** shows the tags of the Report DataSet

  ☛ *See Managing Tags on an Object.*
- **Sharing** defines the confidentiality mode of the Report DataSet:
  - public: the Report DataSet is shared with the other users
  - private: the Report DataSet is confidential to the user who created it.

  ☛ *See Sharing a Report DataSet.*

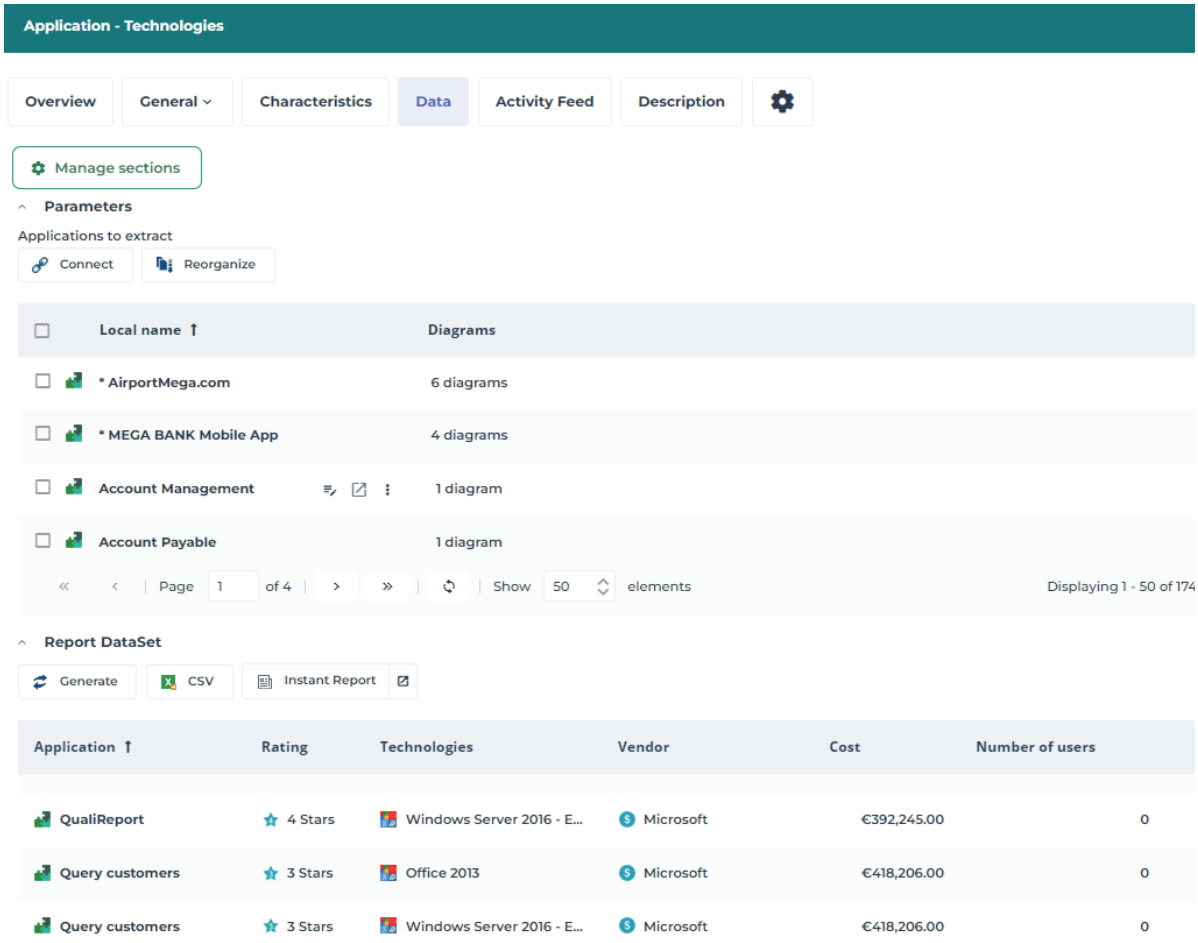
In the Report DataSet properties, the **Data** page includes the following sections:

- **Parameters**, which defines the objects to be extracted from the **Hopex** repository.
- **Report DataSet**, which shows the Report DataSet data in a tabular form.
  The data displayed is read-only.

  For example, a Report DataSet with "Applications - Technologies" as a definition contains the following data for each application selected (objects to extract):

  - "Application"
  - "Rating"
  - "Technologies"
  - "Vendor" (of the technologies)
  - "Cost"
  - "Number of Users".

  ☛ *See Creating a Report DataSet.*



From the **Data** properties page, you can:

- perform the following operations:
  - Sharing a Report DataSet.
  - Updating Report DataSet data
  - Hiding Report DataSet column display
  - Restricting the display of Report DataSet rows (display only specified data)

    ☛ *This is only valid regarding the display: when you launch an instant report, the instant report is performed on all data. You can filter the data in the instant report, see Managing a Table Instant Report data (Report DataSet).*
  - Exporting a Report DataSet
- launch one or several instant reports in parallel

  ☛ *See Launching an instant report from a Report DataSet.*

Creating a Report DataSet

To create a Report DataSet you must:

- define the Report DataSet Definition on which you want to base your Report DataSet.

  ***MEGA** provides predefined Report DataSet Definitions for each product.*

  `E.g.: Applications - Technologies.`
- (if necessary) enter the Report DataSet parameters.

  `E.g.: the applications concerned.`

  ☛ *This consists in defining report input data.*

  The parameters define the object groups and the way they interact in the report. They vary according to the Report DataSet Definition. A parameter value can group several objects.

To create a Report DataSet:

1. Access your Report DataSets.

   ☛ *See Accessing Report DataSets.*
2. Click **New**  .
   The Report DataSet creation window opens.
3. In the **Report DataSet Definition** field, use the drop-down list to select the Report DataSet definition on which you want to base your Report DataSet.

   Definitions are listed by name (and not by _GUIname).

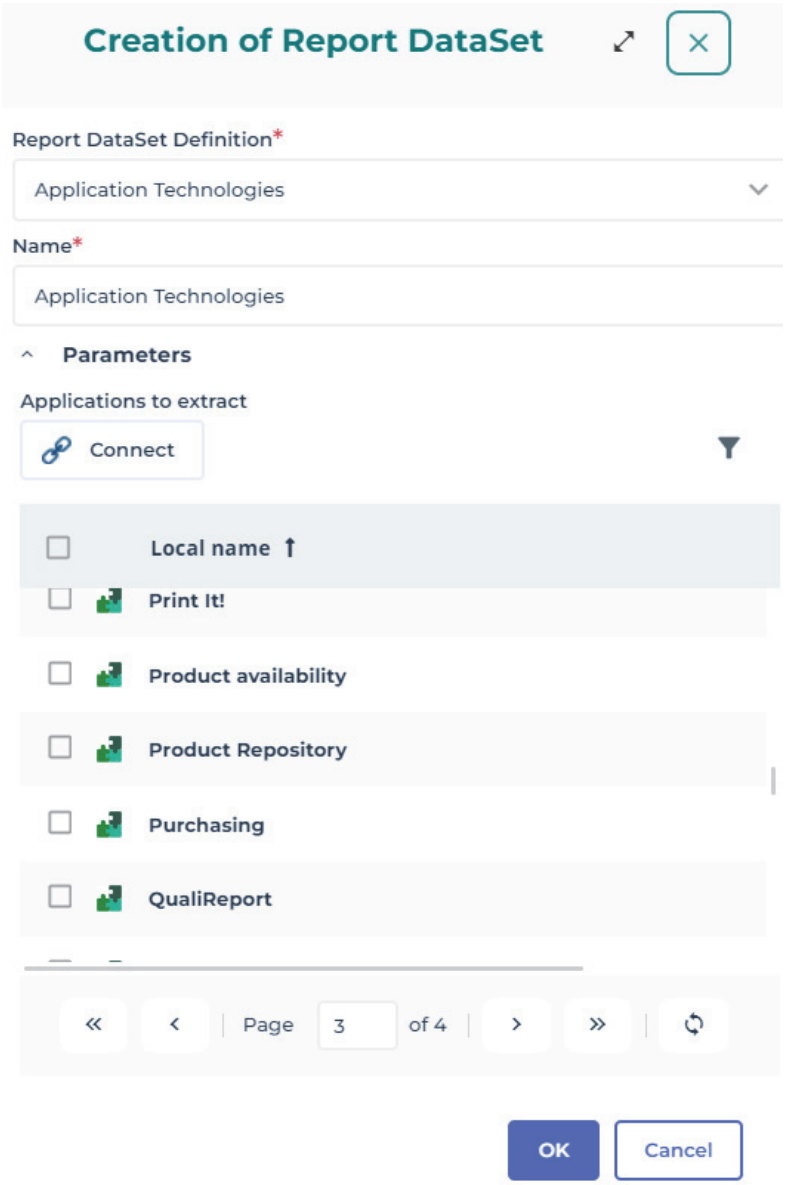
   `E.g.: Applications - Technologies.`
4. (Optional) Modify the **Name** of your Report DataSet.
   By default its name is the _GUIname (or name) of its definition, then for the following ones: <_GUIname (or name) of its definition>-n.

   The -n suffix takes on 1 at each following Report DataSet based on the same definition.

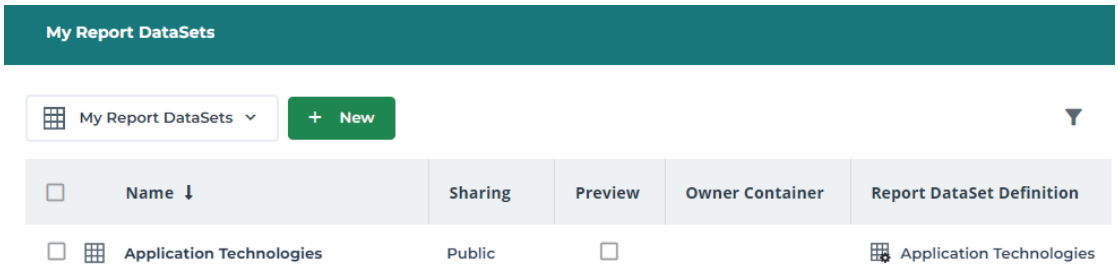
   `E.g.: Application Technologies -1.`

5. (If needed) In the **Parameters** section, enter the required parameters.

```
For ex.: connect the applications to extract.
```



6. Click **OK**.
   Your Report DataSet is created and fed by the selected data.
   Your Report DataSet is accessible in the list of your Report DataSets (**My Report DataSets**).



☛ *To configure and customize your Report DataSet, see Configuring and Using a Report DataSet.*

☛ *To launch an instant report from your Report DataSet, see Launching an instant report from a Report DataSet.*

Configuring and Using a Report DataSet

From the Report DataSet property pages, you can perform the following operations:

- Sharing a Report DataSet.
- Updating Report DataSet data
- Hiding Report DataSet column display
- Restricting the display of Report DataSet rows (display only specified data)
- Exporting a Report DataSet

See also:

- Launching an instant report from a Report DataSet

Sharing a Report DataSet

A Report DataSet sharing can be:

- ***Public*** (by default)
  The Report DataSet is accessible in **Public Report DataSets** by all the users.
  The Report DataSet is also accessible in **My Report Datasets** by the person who creates it.
- ***Private***
  The Report DataSet is not accessible in **Public Report DataSets**.
  It is only available in **My Report DataSets** for persons connected to it.

  ☛ *When you create a Report DataSet, you are automatically connected to the Report DataSet. It is available in **My Report DataSets**.*

  To facilitate access to a Report DataSet, you can make it "Private" and define the persons concerned.

  ☛ Even "Private" a Report DataSet is accessible by all the users via the advanced search.

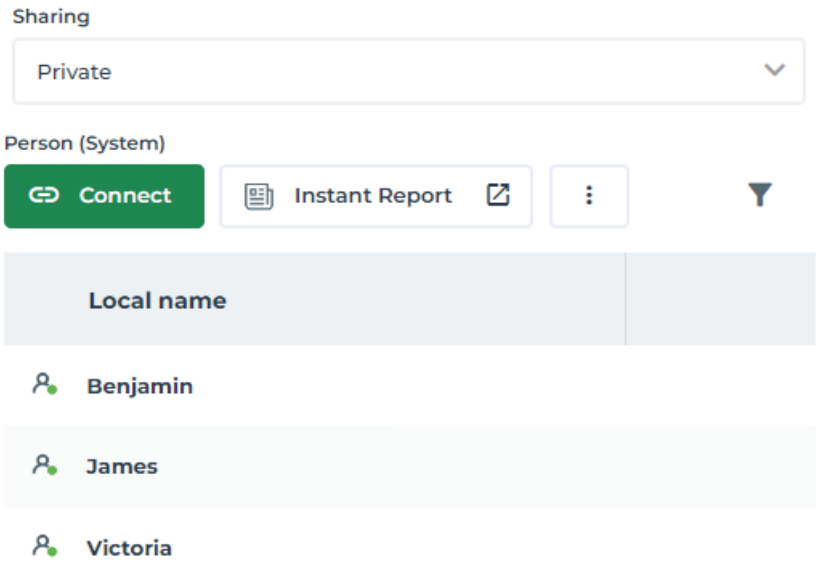
To modify the Report DataSet sharing:

1. Access the Report DataSet properties.

   ☛ *See Accessing a Report DataSet properties.*
2. Display the **Characteristics** page.
3. In the **Sharing** field, select "Private".
4. (optional) Click **Connect**  and select the persons with whom you want to share the Report DataSet.

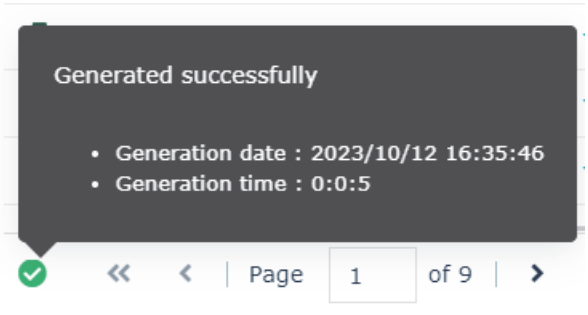
5. Click **Connect**.
   The selected persons can access the Report DataSet via **My Report DataSets**.

   E.g.: the persons Benjamin, James, and Victoria have access to the Report DataSet in **My Report DataSets**.



Updating Report DataSet data

In the Report DataSet properties, the date and time of the last Report DataSet generation as well as the time required for generation are indicated in a tooltip below the Report DataSet.



To update the Report DataSet data:

1. Access the Report DataSet properties.

   ☛ *See Accessing a Report DataSet properties.*

2. Display the **Data** page.
   The **Report DataSet** section specifies the date and time of the last Report DataSet generation, as well as the time required for generation.
3. In the **Report DataSet** section click **Generate**  .

Hiding Report DataSet column display

To facilitate readability of the Report DataSet, you can hide the Report DataSet columns that you do not want to show.

The data of hidden columns remains included in the Report DataSet. When you launch an instant report, the instant report is performed on all the Report DataSet data.

> ☛ *You can filter the data in the instant report, see Managing a Table Instant Report data (Report DataSet).*

For example, in a Report DataSet with the "Applications - Technologies" definition, you can hide the "Vendor" column.

To hide Report DataSet columns:

1. Access the Report DataSet properties.
   > ☛ *See Accessing a Report DataSet properties.*
2. Display the **Data** page.
3. In the **Report DataSet** section, from the drop-down menu of a column title, select **Columns**, then clear all the names of the columns you want to hide.
   Cleared columns are hidden in the **Report DataSet**.

Restricting the display of Report DataSet rows (display only specified data)

To facilitate readability of the Report DataSet, you can hide the Report DataSet rows whose column cell values are not specified.

The data of hidden rows remains included in the Report DataSet. When you launch an instant report, the instant report is performed on all the Report DataSet data.

> ☛ *You can filter the data in the instant report, see Managing a Table Instant Report data (Report DataSet).*

For example, in a Report DataSet with an "Applications - Technologies" definition, you can hide the application rows for which the "Vendor" is not specified.

To hide Report DataSet rows:

1. Access the Report DataSet properties.
   > ☛ *See Accessing a Report DataSet properties.*
2. Display the **Data** page.
3. In the **Report DataSet** section, click **Display filters**.
4. Configure filtering.
   > ☛ *See Filtering a list data.*

   The rows that correspond to the unspecified values of the column concerned are automatically hidden in the **Report DataSet**.

Exporting a Report DataSet

You can export a Report DataSet to a CSV format.

By default the list separator for CSV export is the ";" character. This enables to export objects with the "," character in their names.

> ☛ *You can modify this value in the **List separator for CSV export** (user options: **Tools > Data Exchange > Export > Tools/Third Party Format**).*
>
> *For Excel-CSV file compatibility, this value must be identical to the **List separator** option value in your Windows parameters.*

To export a Report DataSet:

1. Access the Report DataSet properties.

   ☛ *See Accessing a Report DataSet properties.*

2. Display the **Data** page.
3. In the **Report DataSet** section, click **CSV** .
   The Report DataSet is exported to a CSV format.

MANAGING INSTANT REPORTS

You can generate instant reports that give access to a more detailed analysis of a list of objects.

Instant reports provide statistical graphic analysis of the data of analyzed objects. They provide an overview on trends, or easy comparison of objects according to certain characteristics.

See:

- Introduction to Instant Reports
- Instant Report Types and Examples
- Launching an Instant Report
  - Launching an instant report from a list
  - Launching an instant report from a Report DataSet
- Creating a Dendrogram Instant Report (list)
- Creating a Matrix Instant Report (List)
- Managing a Table Instant Report data (Report DataSet)
- Saving an Instant Report
- Handling an Instant Report
- Adding an Instant Report Dendrogram to the Property Pages
  - Adding a dendrogram report to the Reporting page of an object
  - Adding a dendrogram report to the Overview page of an object
- Adding an Instant Report to your Dashboard

Introduction to Instant Reports

When a list includes characteristics (attributes) enabling automatic report calculation, this functionality is proposed.

You can launch instant reports from:

- a list of objects

  ☛ *See Launching an instant report from a list.*

- a Report DataSet

  ☛ *See Launching an instant report from a Report DataSet.*

You can:

- choose the object characteristics to represent
  - ☛ *Attributes available in instant reports.*

  E.g.: the cost of objects.
- define the type of chart displaying the data

  E.g.: quantitative, table, time.
  - ☛ *See Instant Report Types and Examples.*
- (table type instant report from a Report DataSet), add filters to each input data item
  - ☛ *See Managing a Table Instant Report data (Report DataSet).*
- customize your instant report
  - ☛ *See Managing Reports and Handling Reports.*

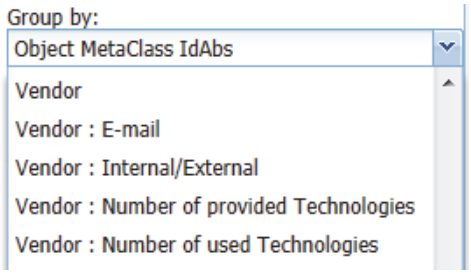
You can save an instant report:

- in your reports
  - ☛ *See Saving an Instant Report.*
- in your dashboard
  The report is recorded as a Widget and available to other users.
  - ☛ *See Adding an Instant Report to your Dashboard.*

Grouping characteristics of objects

Grouping characteristics can rely not only on the attributes of the selected object, but also on the attributes of an object that is connected to it by a multiplicity = 1. The attributes of the connected object may be grouped and are presented as follows: "Connected object: connected object attribute".

Example: the Provider object appears in the list of characteristics of the Technology object, with the different attributes on which the grouping can rely.



Attributes available in instant reports

Object attributes (characteristics) taken into account in instant reports are:

- those that naturally enable grouping of objects

  E.g.: tabulated value attributes (including booleans).

- those that position the object in time:

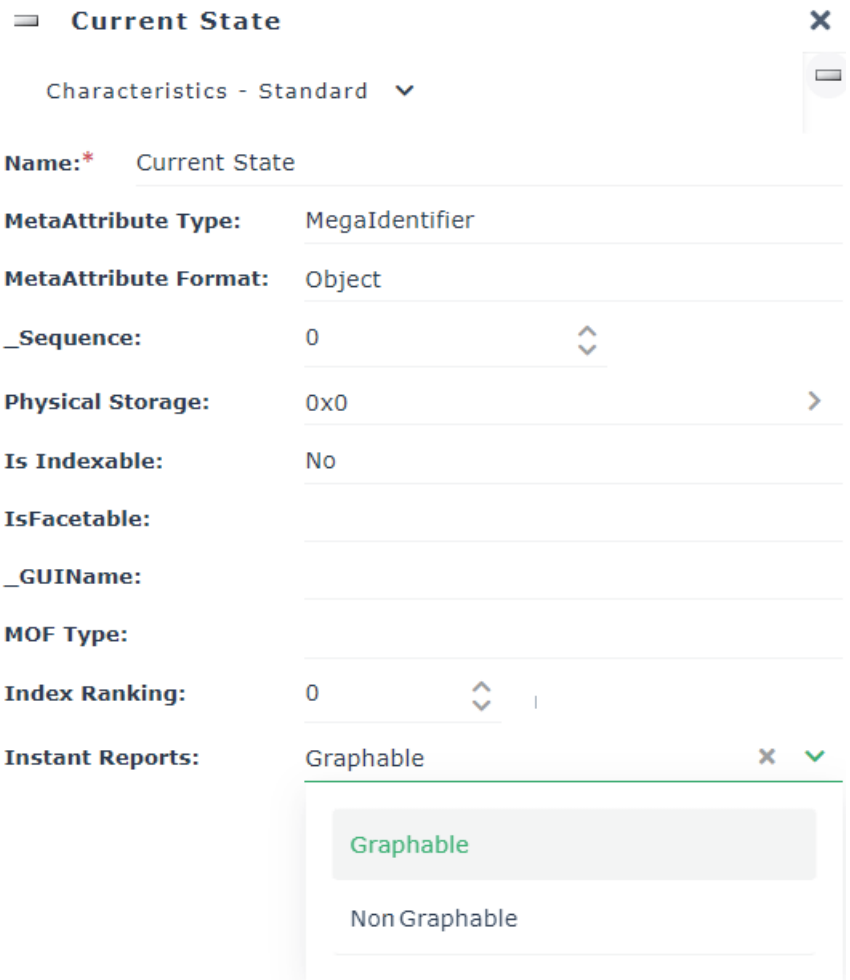
  E.g.: to create a Gantt diagram: life cycle

Unless otherwise specified, these eligible attributes are set by default to create a new report.

Other attributes can constitute grouping criteria, but need to be declared so at the level of their metamodel definition.

The **Instant Reports** attribute (in **Characteristics - Standard** property pages) on MetaAttributes/_LegAttributes enables specification of attribute behavior related to reports:

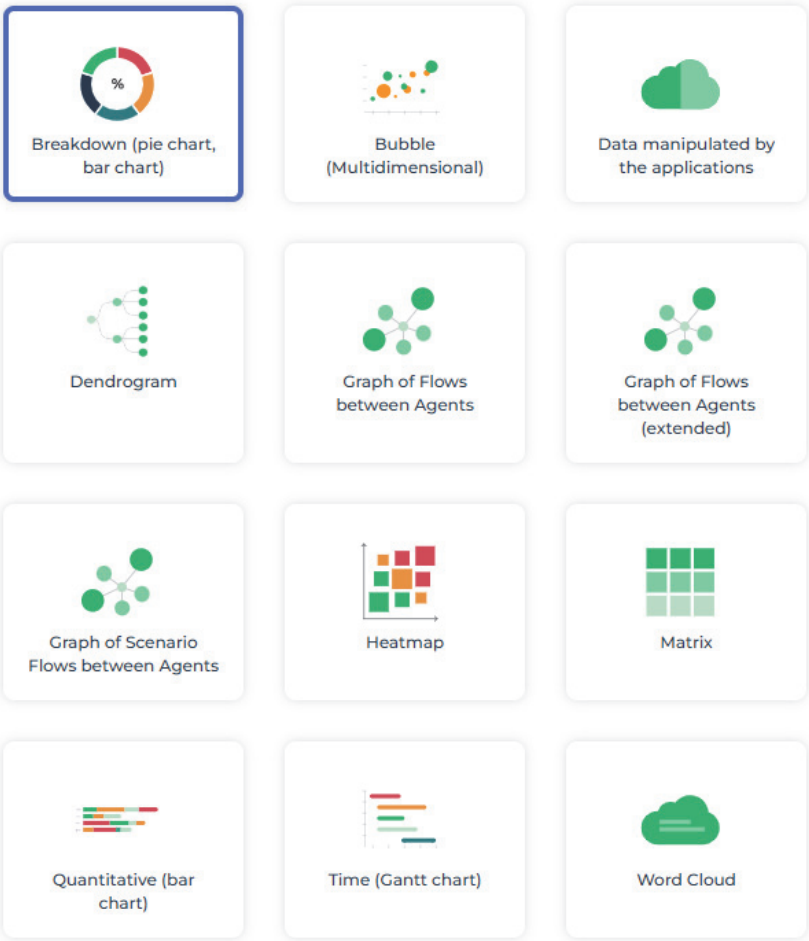
- Graphable: the attribute participates in the instant reports mechanism
- Non Graphable: the attribute is excluded from the instant reports mechanism



By default, tabulated value attributes and _legattributes are included in the mechanism.

This attribute is also available on links.

Instant Report Types and Examples



Depending on the objects selected, you can launch different types of instant reports:

- ***from an object list:***
  - **Matrix**
    - ☛ *See Matrix (list).*
  - ***Quantitative (bar chart)***: breakdown of values in the form of a bar chart.
    - ☛ *See Quantitative (list).*
  - ***Breakdown (pie chart, bar chart)***: breakdown of objects with respect to the values of a qualitative criterion in the form of a pie chart or a bar chart.
    - ☛ *See Breakdown (list).*
  - ***Bubble (Multidimensional)***: two- or three-dimensional display, depending on the criteria chosen, in the form of a bubble chart.
    - ☛ *See Bubble chart (Multidimensional).*
  - ***Heatmap***: two-dimensional display in the form of a Heatmap.
    - ☛ *See Heatmap.*
  - ***Time (Gantt chart)***: change in values over time (Gantt diagram).
    - ☛ *See Time (Gantt).*
  - ***Word cloud***: random distribution of #tags.
    - ☛ *See Word cloud.*
  - ***Graph***: display of the exchanges between the objects.

    `(On an application list)` ***`Exchange between applications`***`: display of the flows between the applications.`
    - ☛ *See Graph: Exchanges between applications.*
  - ***Dendrogram***: display of the environment of an object (or several objects) as a tree structure with hierarchical grouping.
    - ☛ *See Dendrogram.*
  - You can also launch all the ***reports*** available for this object list.
    - ☛ *To add the creation of a report to a list of objects, see Hopex Power Studio - How to Make a Report Creation Available on an Object List.*
- ***from a Report DataSet:***
  - ***Matrix***: display in the form of a bar chart or radar chart.
    - ☛ *See Matrix (Report DataSet).*
  - ***Quantitative***: breakdown of values in the form of a bar chart, line chart, or radar chart.
    - ☛ *See Quantitative (Report DataSet).*
  - ***Breakdown***: breakdown of objects with respect to the values of a qualitative criterion in the form of a bar chart, pie chart, gauge or word cloud.
    - ☛ *See Breakdown (Report DataSet).*
  - **Table**
    - ☛ *See Table (Report DataSet).*

Matrix (list)

You can create a matrix from an object list. These objects make up the row objects of the matrix. Then you define the object type in column and their relationship (a link or a query) with the row objects.

☛ *To create a matrix, see Creating a Matrix Instant Report (List).*

By default:

- the cells show ticks.
  With a link type relationship, you can display an attribute value of the link.
- header icons (rows and columns) are not shown.
  You can display them if needed.

  ☛ *To customize matrix display, see Customizing a Table or Matrix Display.*

Example 1: the matrix shows for each application (source MetaClass) its corresponding risks:

- **Objects in row**: 5 applications selected
- **Objects in column**: **Risk** object type
- **Cells**: the "Risk" link
- **Cell value**: none (the corresponding cells show a tick)
- **Show icons**: selected (icons of applications and risks are shown).



Example 2: the matrix shows for each application its corresponding city planning area, and the cells show the exploitation rate of each application per city planning area:

- **Objects in row**: 4 applications selected
- **Objects in column**: City planning area
- **Cells**: the "Hosting area" link
- **Cell value**: "Cost Contribution key\Area"
- **Show Icons**: not selected (icons are not displayed)

Application x City Planning Area
(Hosting Area)

Application	Customers Support	Documentation	Exchanges	IT	Marketing	Operations	Provider Requests	Quality	Quality Control	R&D	Resources	Risk & Audit Management	Sales	Steering	St
Compliance Management				10%	10%	10%		10%	10%	10%	10%	10%		10%	10%
Communication Management					100%										
CRM US	20%				20%	20%	20%						20%		
CRM Europe	20%	20%	20%		20%								20%		

Matrix (Report DataSet)

From a Report DataSet, all the Report DataSet columns are available to make up the rows and columns of the matrix.

> ☛ *By default, header icons (rows and columns) are not shown. You can display them if you need (**Configuration > Show icons**).*

For example, a Report DataSet with the "Application Technologies" definition contains the following information for each application selected:

- "Rating"
- "Technologies"
- "Vendor" (of the technologies)
- "Cost"
- "Number of Users"

From this Report DataSet, you can make up the following matrices:

- Matrix 1: each cell displays the number of applications, classified by vendor and rating.
  - Row: "Rating"
  - Column: "Vendor"
  - Cell Display: "Value"
  - Apply Computation On: "Application"
  - Compute: "Count"

Matrix | Bar Chart

	Amazon Web Services	Apple	Cisco Systems	Google	Microsoft	Microsoft Azure	Node.js Foundation	Oracle	SAP	Talend	The Apache Software Foundation
0 Star	0	0	0	0	2	0	0	0	1	0	0
1 Star	0	0	0	0	0	0	0	0	0	0	0
2 Stars	0	0	1	0	4	1	0	1	0	0	0
3 Stars	1	0	1	1	11	0	0	3	1	0	3
4 Stars	1	1	0	2	9	0	0	4	1	1	3
5 Stars	1	1	1	1	4	0	1	2	1	0	0

You can click any populated cell of the table to display the rows of the Report DataSet that meet the criteria used in the rows and columns of the matrix.

Example: in the matrix 1 example, click in a cell. You thus obtain its content as well as other useful information such as the cost and number of users.

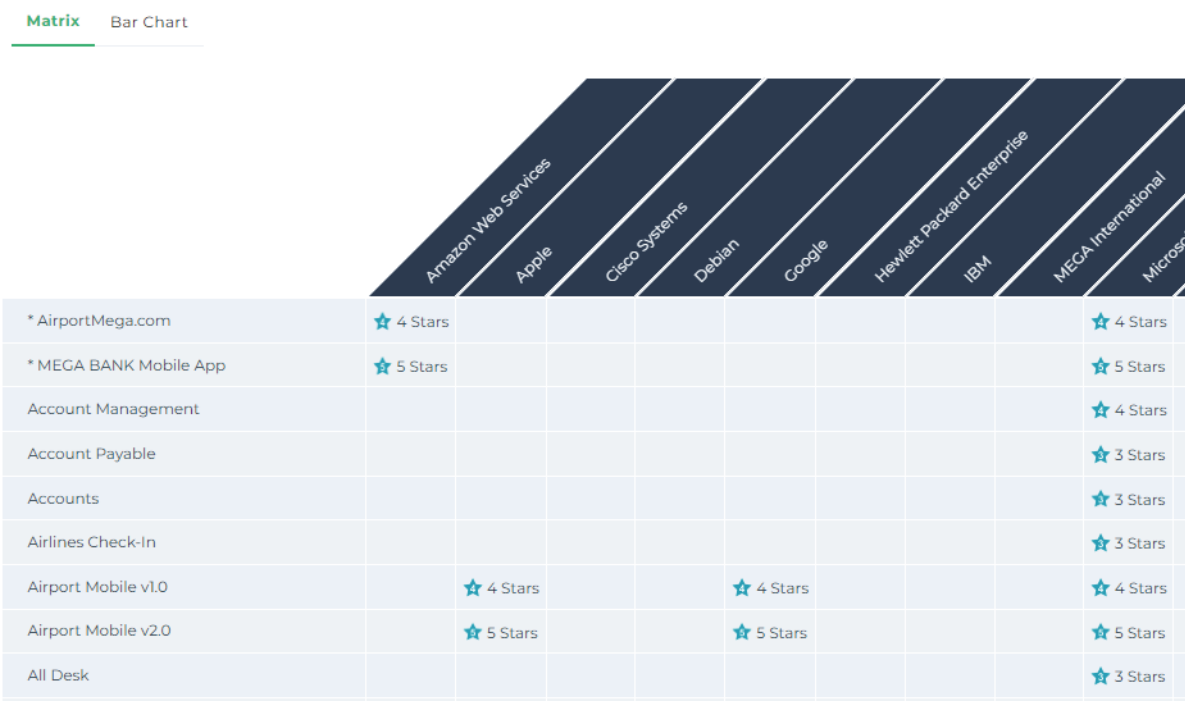
Application	Rating	Technologies	Vendor	Cost	Number of users
* MEGA BANK Mobile App	5 Stars	ASP.NET 4.5	Microsoft	€1,620,000.00	3000
Airport Mobile v2.0	5 Stars	.NET Framework 4.7.2	Microsoft	€2,693,225.00	2250
Availability	5 Stars	.NET Framework 4.5.1	Microsoft	€52,800.00	275
Claims Administration	5 Stars	SQL Server - Enterprise - 14.0	Microsoft	€261,725.00	250

- Matrix 2: each cell of the matrix displays the sum of the costs of an application ("Cost") by technology type ("Technologies").
  - Row: "Application"
  - Column: "Technologies"
  - Cell Display: "Value"
  - Apply Computation On: "Cost"
  - Compute: "Sum"

Matrix | Bar Chart

	* Apache log4j v2.17	.NET Framework 4.5.1	.NET Framework 4.7.1	.NET Framework 4.7.2	.NET Framework 4.8	Alexa Skills Kit - 2019-1-30	Android OS - 9	A
* AirportMega.com	€324,000.00				€324,000.00			
* MEGA BANK Mobile App					€1,620,000.00			
Account Management				€47,800.00				
Account Payable								
Accounts								
Airlines Check-In	€180,000.00							
Airport Mobile v1.0	€50,010.00			€50,010.00			€50,010.00	
Airport Mobile v2.0				€2,693,225.00			€2,693,225.00	

- Matrix 3: each cell of the matrix displays the best rating of an application by vendor.
  - Row: “Application”
  - Column: “Vendor"
  - Cell Display: “Value”
  - Apply Computation On: “Rating"
  - Compute: "Maximum"

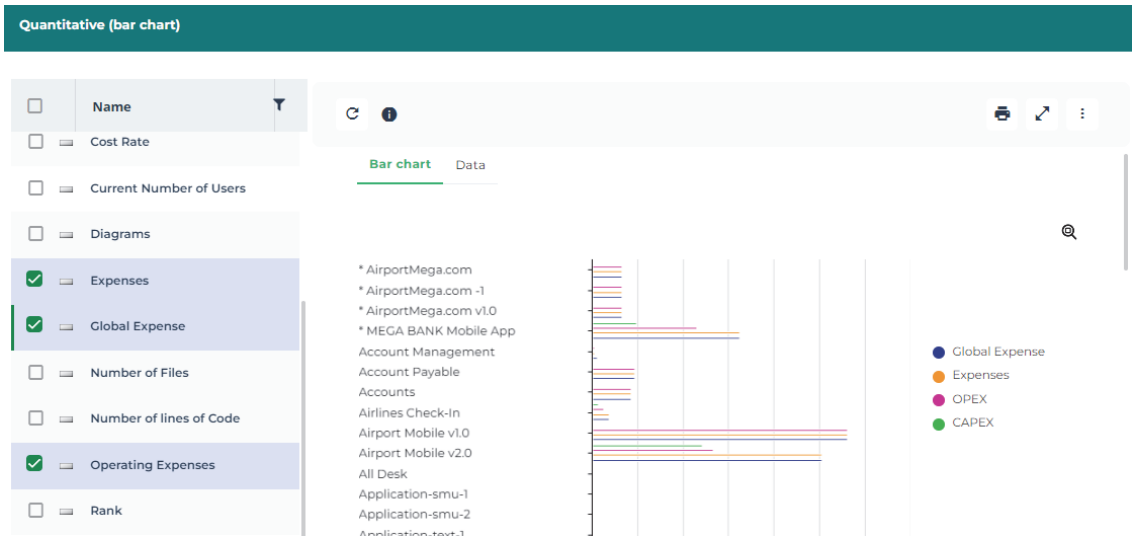


Matrix | Bar Chart

	Amazon Web Services	Apple	Cisco Systems	Debian	Google	Hewlett Packard Enterprise	IBM	MEGA International	Micros
* AirportMega.com	4 Stars							4 Stars	
* MEGA BANK Mobile App	5 Stars							5 Stars	
Account Management								4 Stars	
Account Payable								3 Stars	
Accounts								3 Stars	
Airlines Check-In								3 Stars	
Airport Mobile v1.0		4 Stars			4 Stars			4 Stars	
Airport Mobile v2.0		5 Stars			5 Stars			5 Stars	
All Desk								3 Stars	

Quantitative (list)

The quantitative report is based on one or more numerical attributes on which you can perform arithmetic operations. The quantitative report displays a bar chart.



Quantitative (Report DataSet)

From a Report DataSet, all the columns of the Report DataSet are available to make up distributed data and to define the grouping criterion. The other columns are used to make up series of data displayed in the graphic.

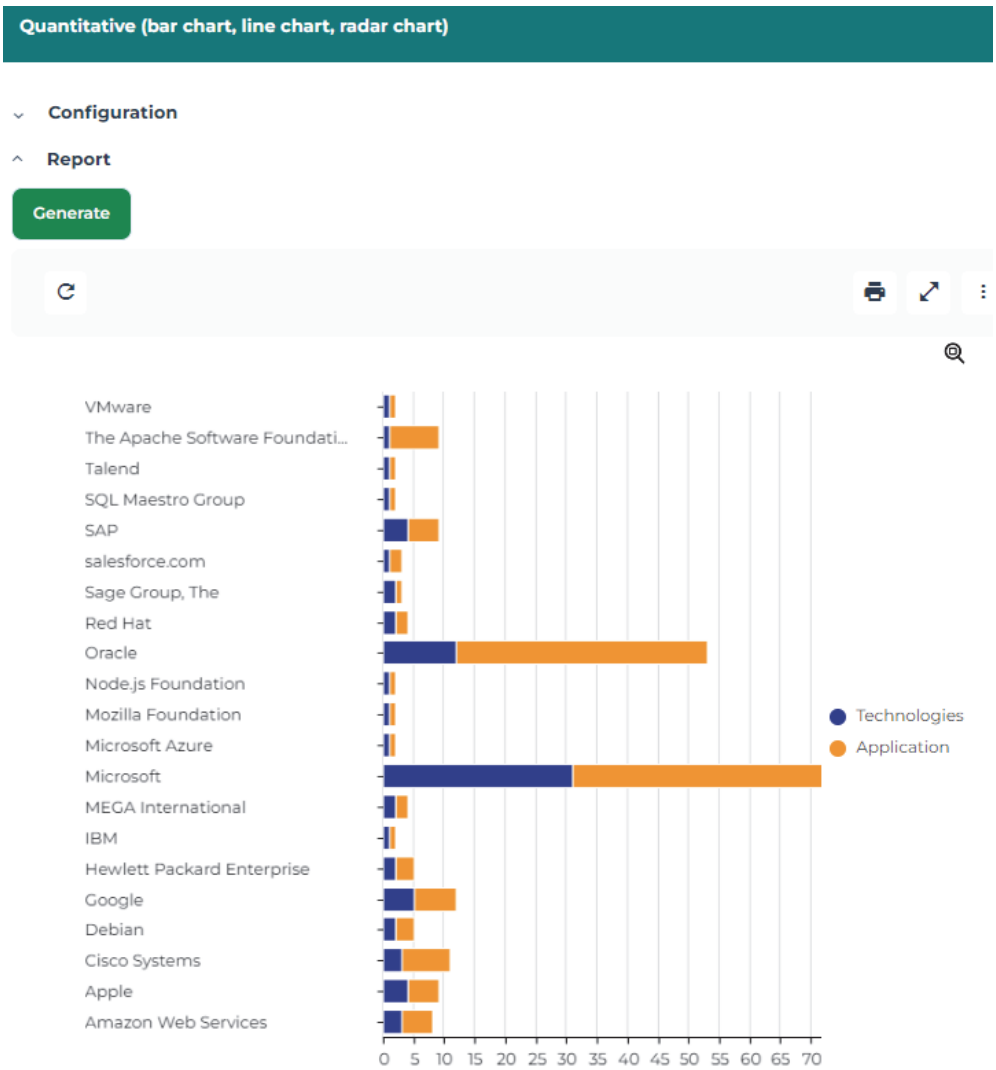
You can add a maximum of five data series within the same graphic. Bars can stack on top of each other.

For example, a Report DataSet with the "Application Technologies" definition contains the following information for each selected application:

- "Rating"
- "Technologies"
- "Vendor"
- "Cost"
- "Number of Users"

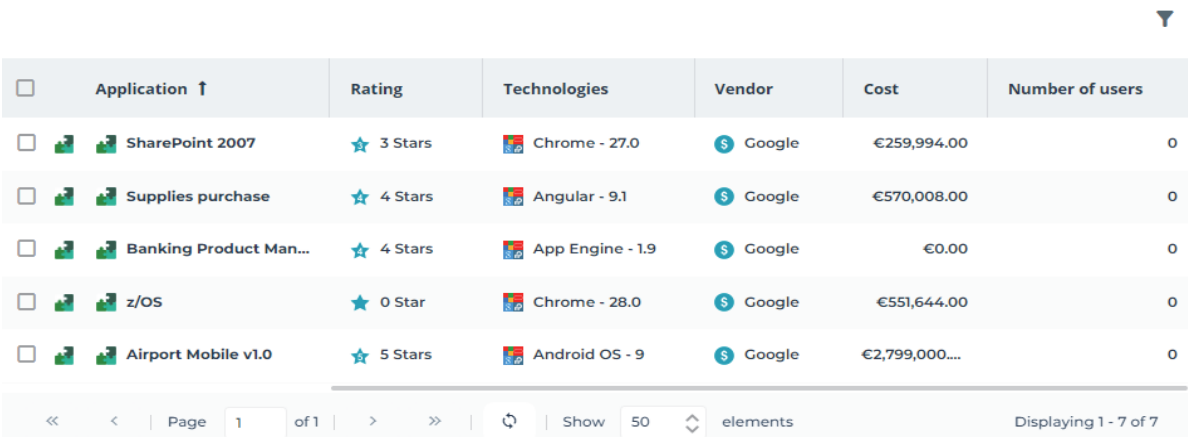
With this Report DataSet, you can for example aggregate the following bar charts distributed according to the "Vendor" parameter. The following information is displayed for each vendor:

- the number of technologies that use it (Series: “Technologies”, Compute: “Count”)
- the number of applications that use it (Series: “Application”, Compute: “Count”)



You can click any series (bar) to obtain its content and its complete corresponding characteristics:

Example: in the example for the "Google" vendor, click the "Application" series. In the **Results** window, you thus obtain other relevant information such as its cost.



Application	Rating	Technologies	Vendor	Cost	Number of users
SharePoint 2007	3 Stars	Chrome - 27.0	Google	€259,994.00	0
Supplies purchase	4 Stars	Angular - 9.1	Google	€570,008.00	0
Banking Product Man...	4 Stars	App Engine - 1.9	Google	€0.00	0
z/OS	0 Star	Chrome - 28.0	Google	€551,644.00	0
Airport Mobile v1.0	5 Stars	Android OS - 9	Google	€2,799,000....	0

Page 1 of 1 | Show 50 elements | Displaying 1 - 7 of 7

Breakdown (list)

The breakdown report is based on a qualitative criterion to present the breakdown of objects of the list related to this criterion.

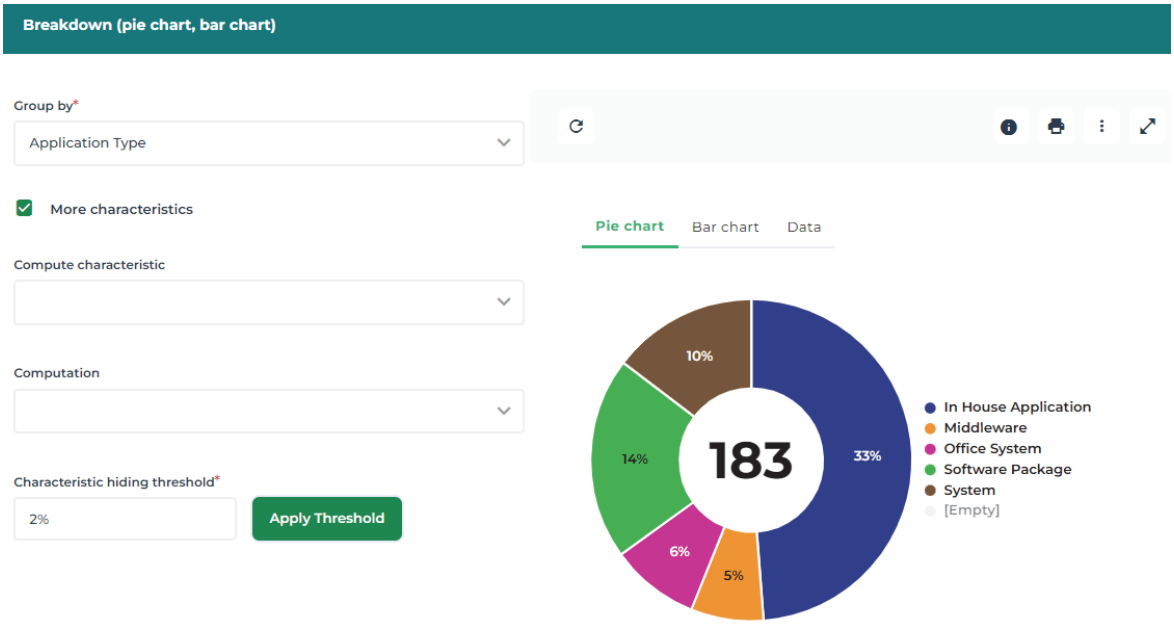
The presentation can be in the form of a:

- pie chart
- bar chart
- data table

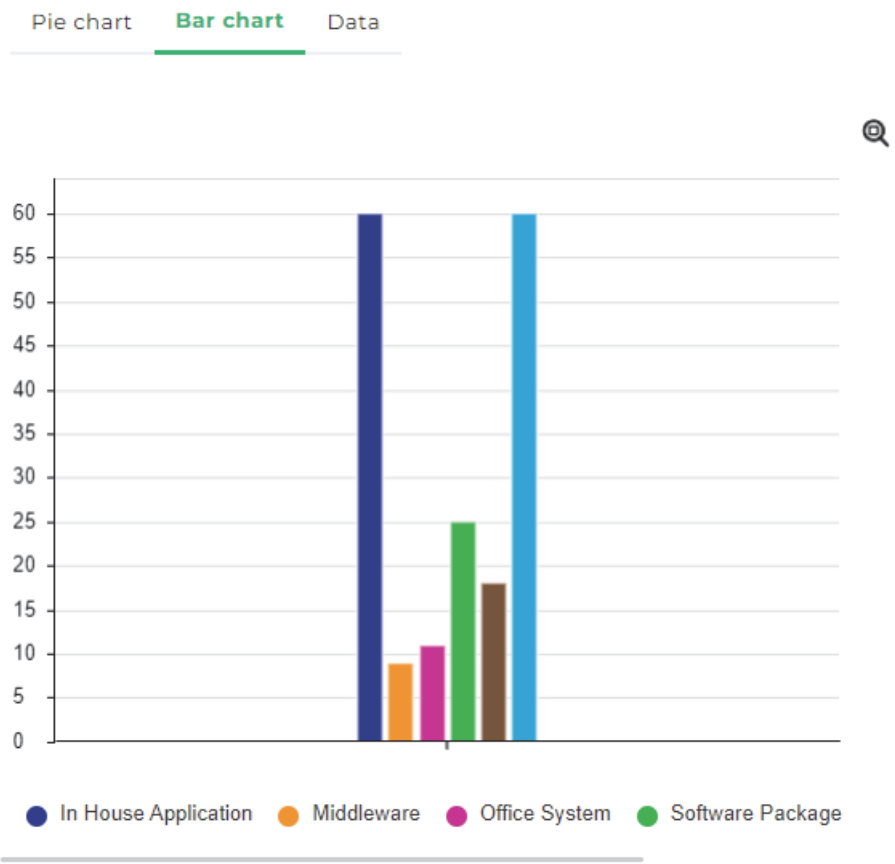
A qualitative criterion can be of different types, for example:

- a character string (code)
- a number
- a percentage
- a tabulated value attribute
- a boolean

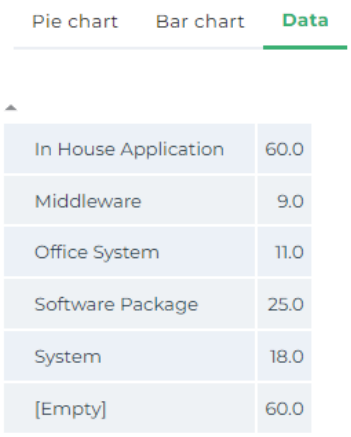
In the following example, the pie chart displays the breakdown of the selected applications according to their type (**Group by**: "Application type").



The **Bar chart** shows the number of applications for each application type.



It is a graphical display of the **Data** table.



☺ *You can also display the percentages in the **Data** table, see Modifying the Report Parameters or the Report Presentation.*

Calculations from a grouping criterion

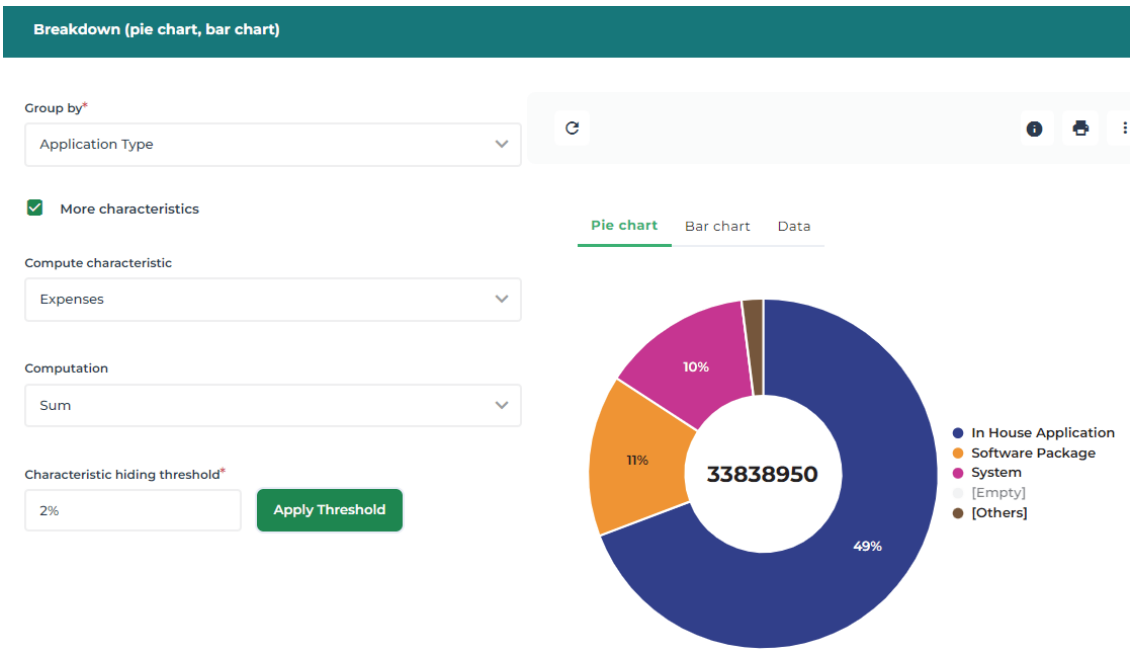
In the context of a breakdown report, when analyzed objects also include numerical value characteristics, you can associate these values with the grouping criterion and carry out simple calculations. The most common calculations are proposed (sum, average, maximum and minimum values).

In the example below, the pie chart indicates how application costs are distributed according to their type.

Group by: Application type

Computed characteristic: Expenses

computation: Sum



You can generate a new instant report from this chart.

Example: click the application type "System" part. You obtain the list of "System" type applications, with which you can launch another instant report.

Breakdown (Report DataSet)

With a Report DataSet, you can create a breakdown-type report on a column of the Report DataSet.

The breakdown report is based on a qualitative criterion to display the breakdown of the objects of a column according to this criterion.

The layout can be in the form of a:

- pie chart or bar chart

  ☛ *See Breakdown (Report DataSet).*

- a set of gauges
  A gauge displays in percentage the average value of a given column, with respect to the maximum value of the column.

  ☛ *See Breakdown (Report DataSet).*

- a word cloud

  ☛ *See Word cloud.*

For example, a Report DataSet with the "Application Technologies" definition contains the following information for each application selected:

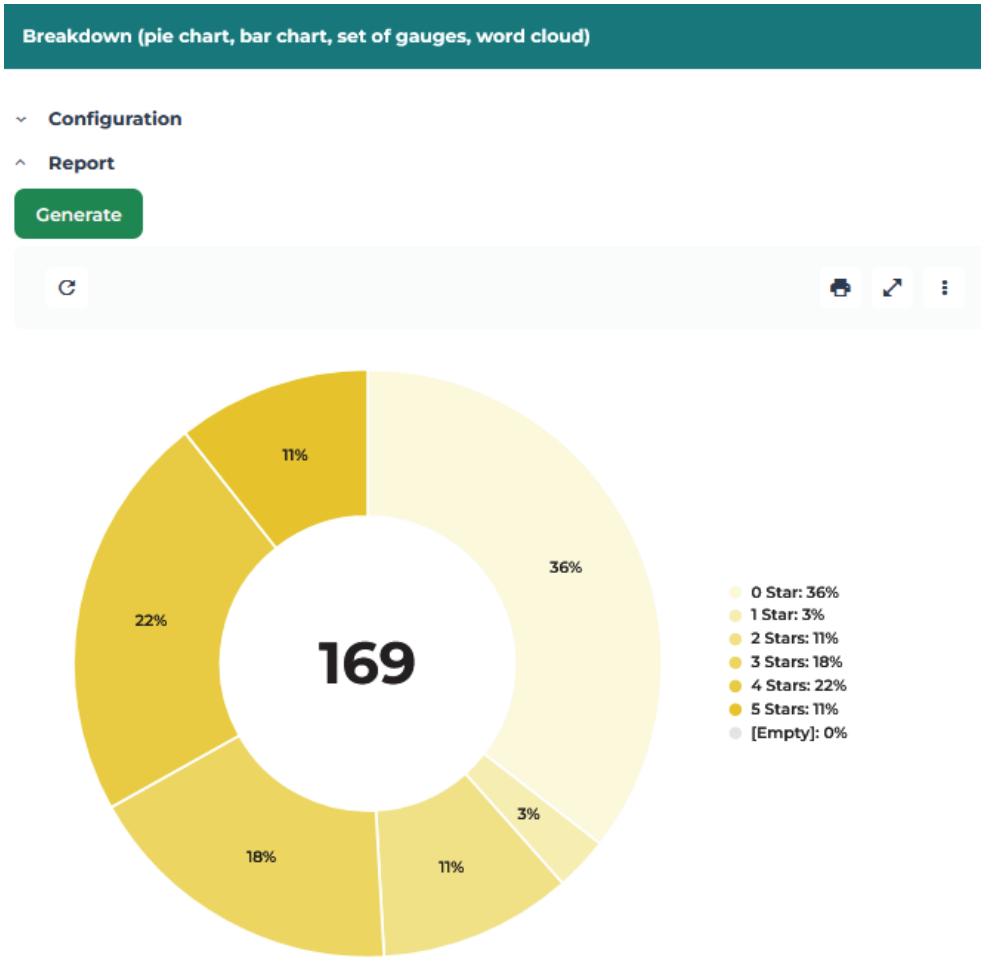
- "Rating"
- "Technologies"
- "Vendor"
- "Cost"
- "Number of Users"

Using this Report DataSet you can:

- display in a pie chart the application distribution according to their evaluation:

  Distribution by: "Rating"

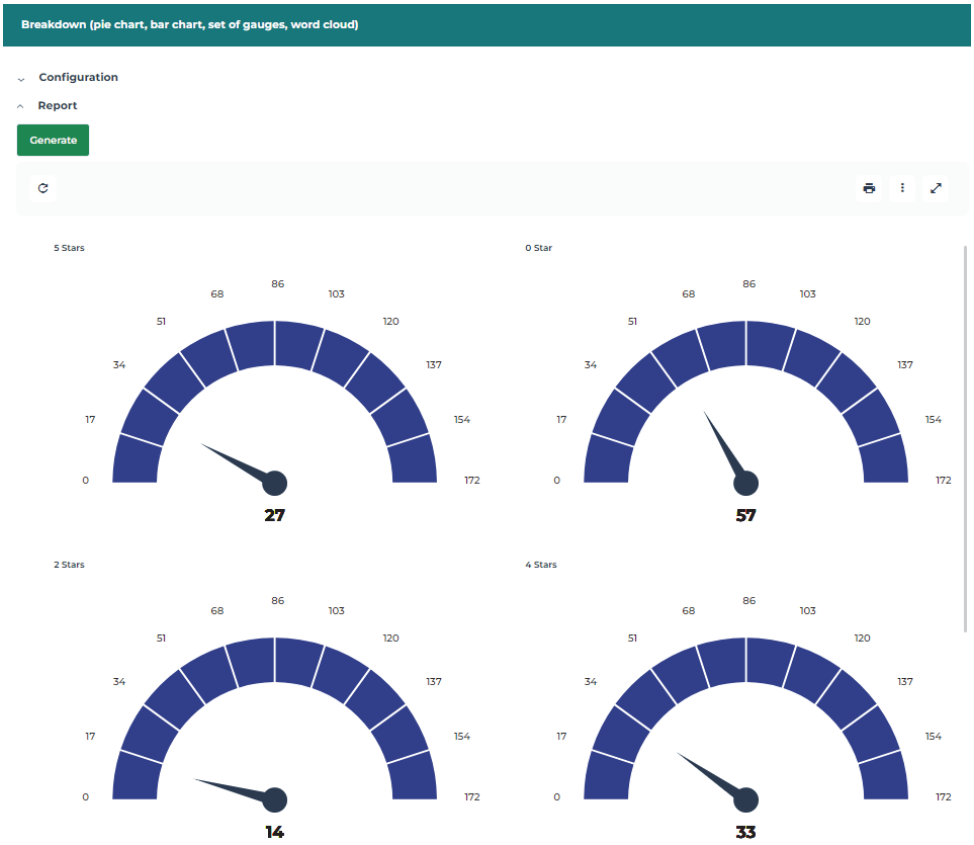
  Apply Computation On: "Application"



- display a gauge specifying the application number for each assessment.

  Distribution by: "Rating"

  Apply Computation On: "Application"



- display a gauge specifying the maximum cost for each assessment.

  Distribution by: "Rating"

  Apply Computation On: "Cost"

  Compute: "Maximum"

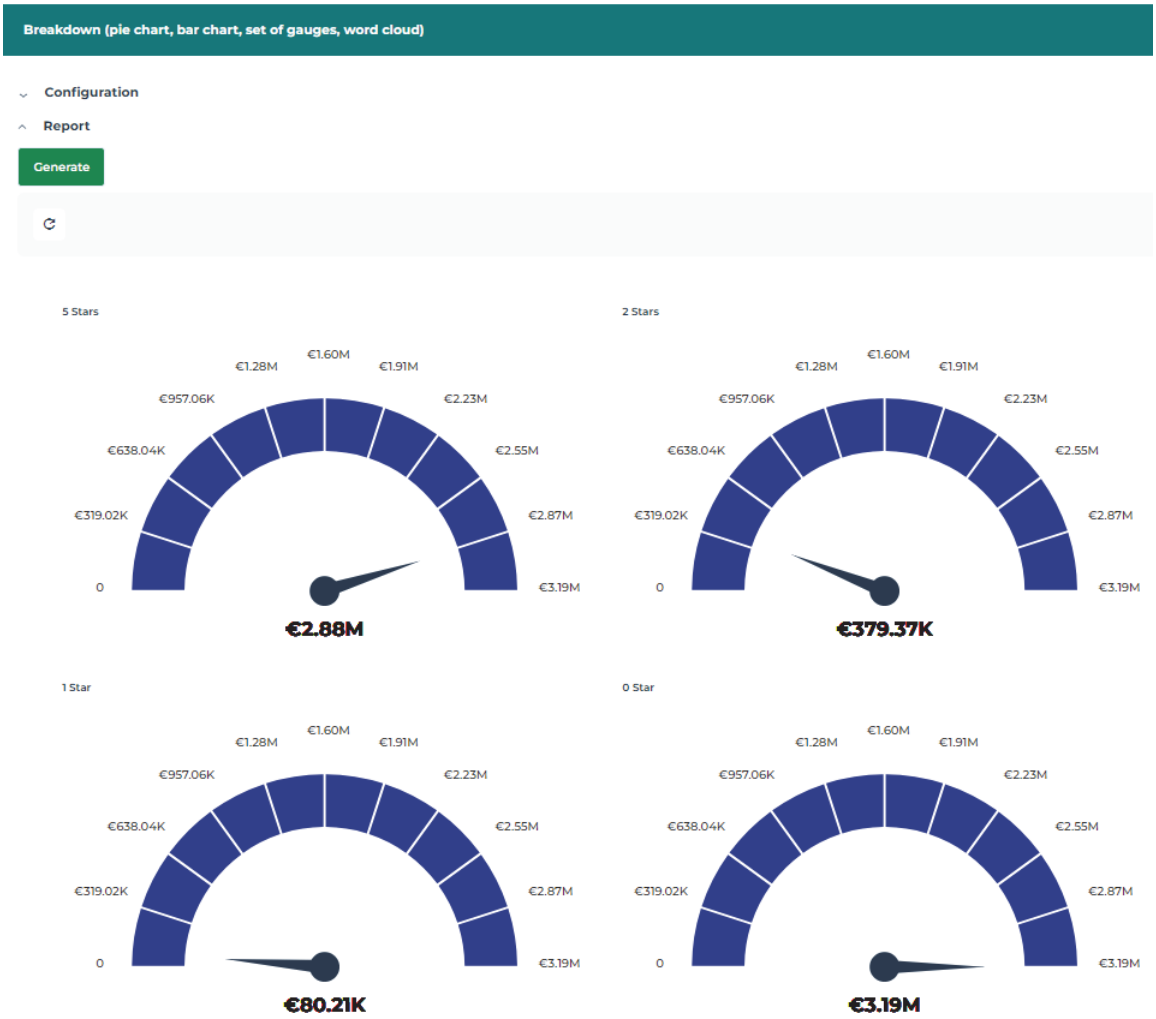


Table (Report DataSet)

From a Report DataSet, all the Report DataSet columns are available to make up the rows and columns of the table.

> ☛ *By default, object icons are not shown. You can display them if you need (**Configuration > Show icons**).*

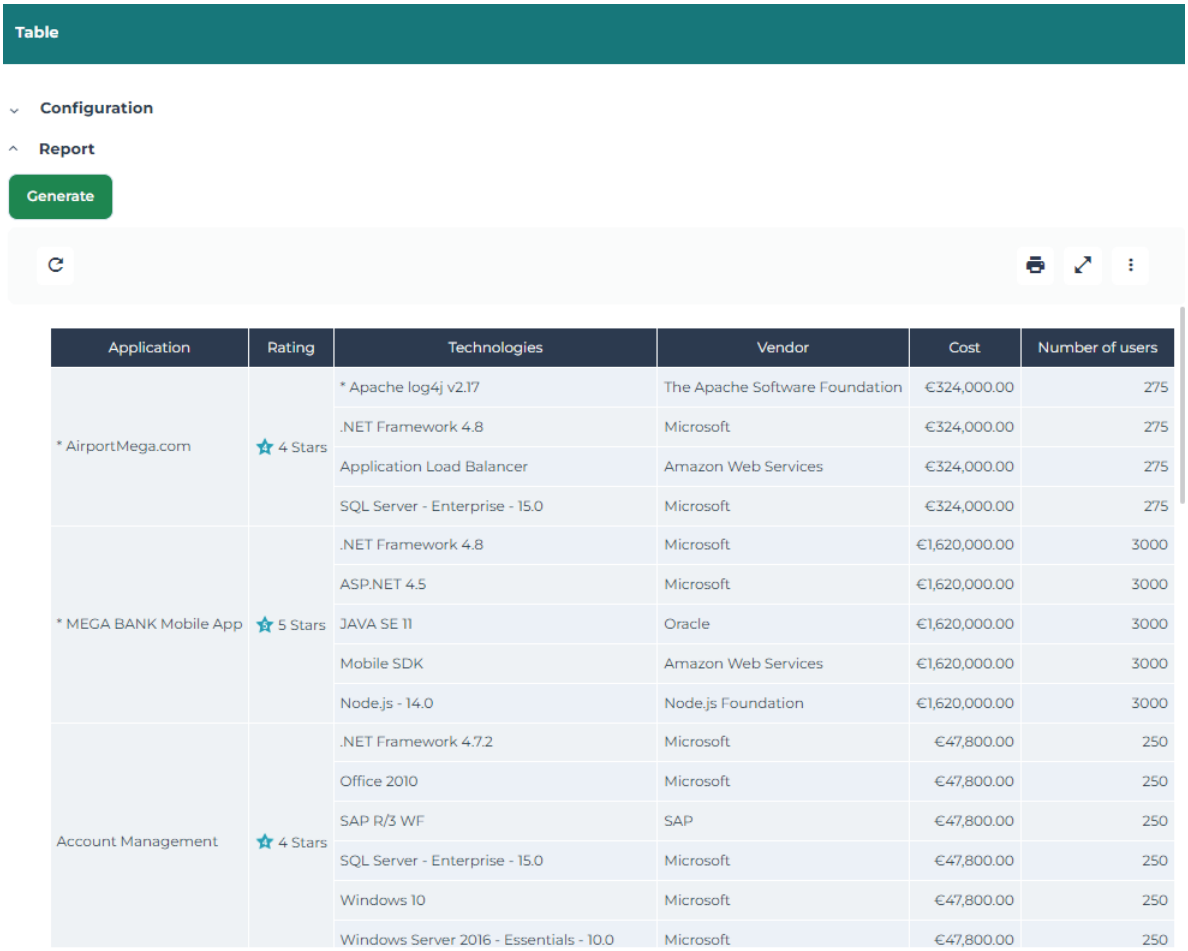
For example, a Report DataSet with the "Application Technologies" definition contains the following information (columns) for each application selected:

- "Rating"
- "Technologies"
- "Vendor" (of the Technologies)
- "Cost"
- "Number of Users"

It contains as many rows as objects (e.g. applications) and as many columns as object characteristics.

The resulting report displays this information in a table format that you can customize (e.g.: sorting on columns, grouping, addition of breaks).

☛ *see Managing a Table Instant Report data (Report DataSet).*



Application	Rating	Technologies	Vendor	Cost	Number of users
* AirportMega.com	4 Stars	* Apache log4j v2.17	The Apache Software Foundation	€324,000.00	275
		.NET Framework 4.8	Microsoft	€324,000.00	275
		Application Load Balancer	Amazon Web Services	€324,000.00	275
		SQL Server - Enterprise - 15.0	Microsoft	€324,000.00	275
* MEGA BANK Mobile App	5 Stars	.NET Framework 4.8	Microsoft	€1,620,000.00	3000
		ASP.NET 4.5	Microsoft	€1,620,000.00	3000
		JAVA SE 11	Oracle	€1,620,000.00	3000
		Mobile SDK	Amazon Web Services	€1,620,000.00	3000
		Node.js - 14.0	Node.js Foundation	€1,620,000.00	3000
Account Management	4 Stars	.NET Framework 4.7.2	Microsoft	€47,800.00	250
		Office 2010	Microsoft	€47,800.00	250
		SAP R/3 WF	SAP	€47,800.00	250
		SQL Server - Enterprise - 15.0	Microsoft	€47,800.00	250
		Windows 10	Microsoft	€47,800.00	250
		Windows Server 2016 - Essentials - 10.0	Microsoft	€47,800.00	250

Bubble chart (Multidimensional)

The three-dimensional report is based on the choice of three criteria displayed in a bubble chart. You define criteria on:

- the **Horizontal axis**
- the **Vertical axis**
- the **Bubble size**

You can also manage:

- the **Bubble Tooltips** based on a characteristic
- the **Bubble colors** managed by a characteristic



When you choose only two criteria, the number of objects determines the bubble size. Each bubble represents a set of objects that can in turn be the source of the report.

When a characteristic (numerical) is selected to determine bubble size, each bubble represents a distinct occurrence.

☛ *The three-dimensional report is only available if objects have at least two attributes.*

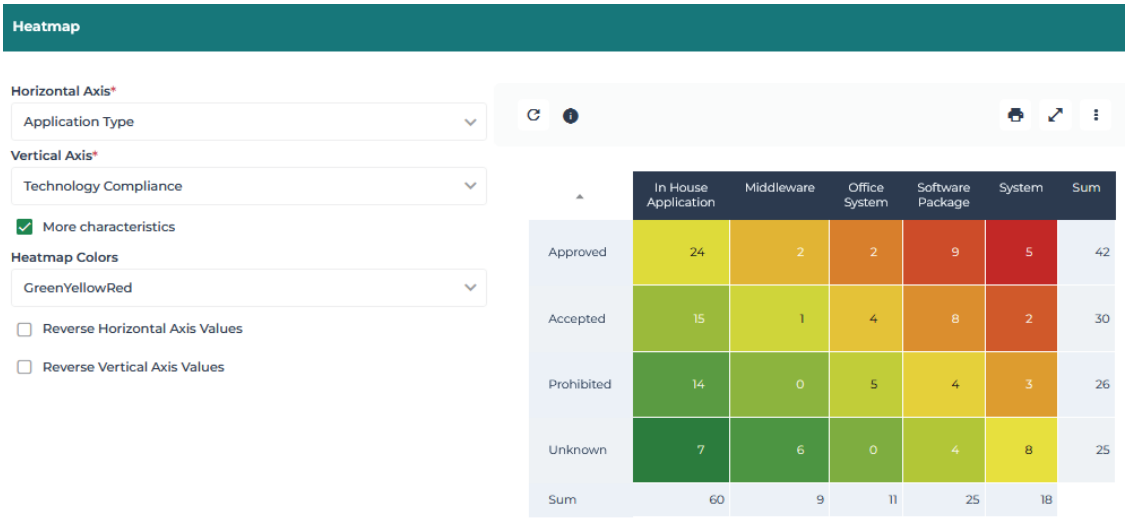
☛ *See Handling a Bubble Chart.*

Heatmap

The use of two qualitative criteria can be rendered into a heatmap type of matrix.

☛ *This type of chart is only available with discrete values (Enumeration type MetaAttributes)*

The following heatmap shows the technology compliance (approved, accepted, prohibited, unknown) of a list of applications according to their type (office system, system, etc.).

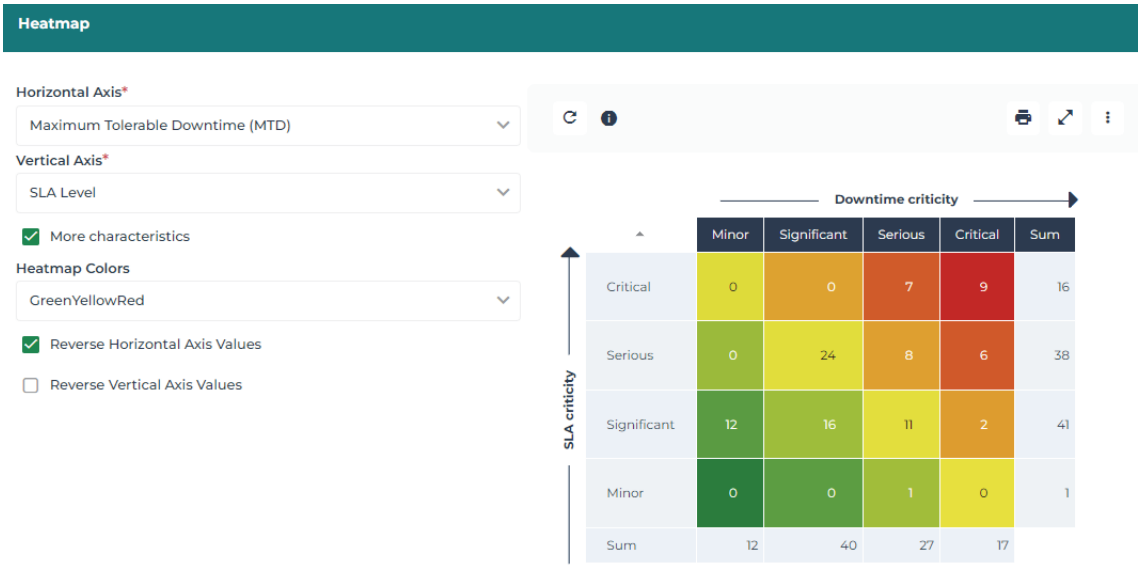


	In House Application	Middleware	Office System	Software Package	System	Sum
Approved	24	2	2	9	5	42
Accepted	15	1	4	8	2	30
Prohibited	14	0	5	4	3	26
Unknown	7	6	0	4	8	25
Sum	60	9	11	25	18	

You can:

- reverse the column order
- reverse the row order
- reverse the color display
  By default, the colors displayed are calculated as a gradation of three colors: green, yellow, red.
- add a title to columns
- add a title to rows
- add a direction (arrow) to columns
- add a direction (arrow) to rows

E.g.: you can invert the row order, add titles to columns and rows, and add arrows to axes.

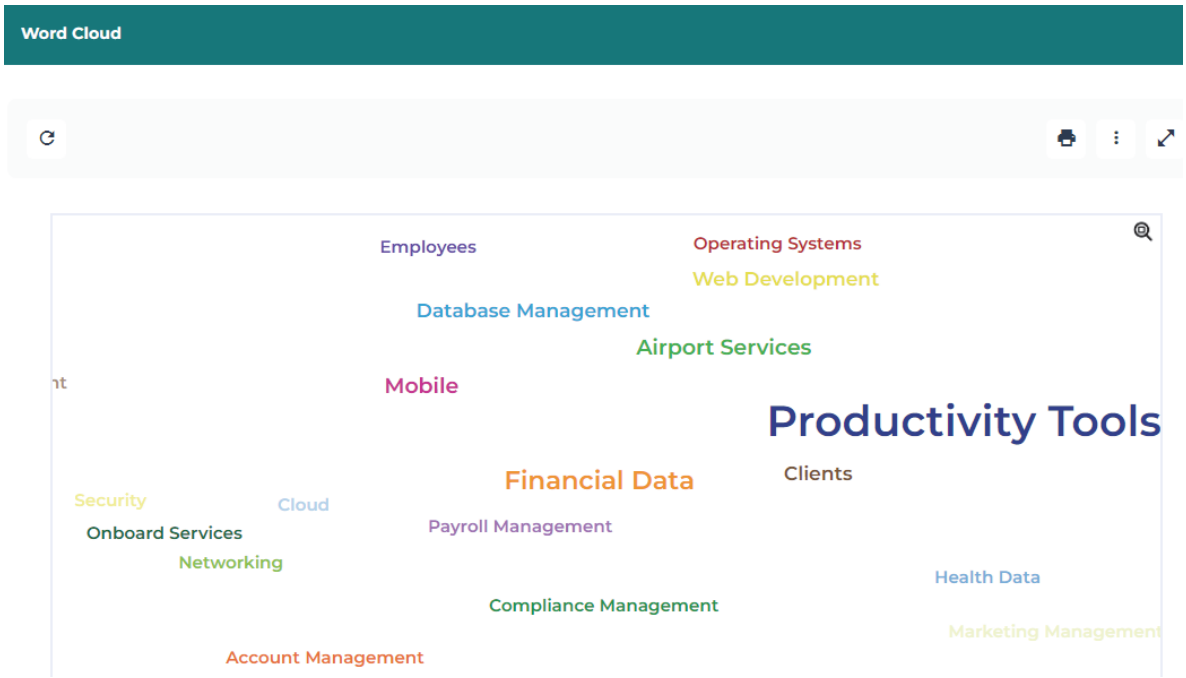


From this graphic you can get the content of a cell and generate a new instant report.

E.g.: click in the cell "Critical" x "Critical". You obtain the list of applications whose levels are both "Critical".

Word cloud

With the Collaboration functionality (see Tags), you can add tags to the objects. The word cloud report displays tags with sizes reflecting their frequency.



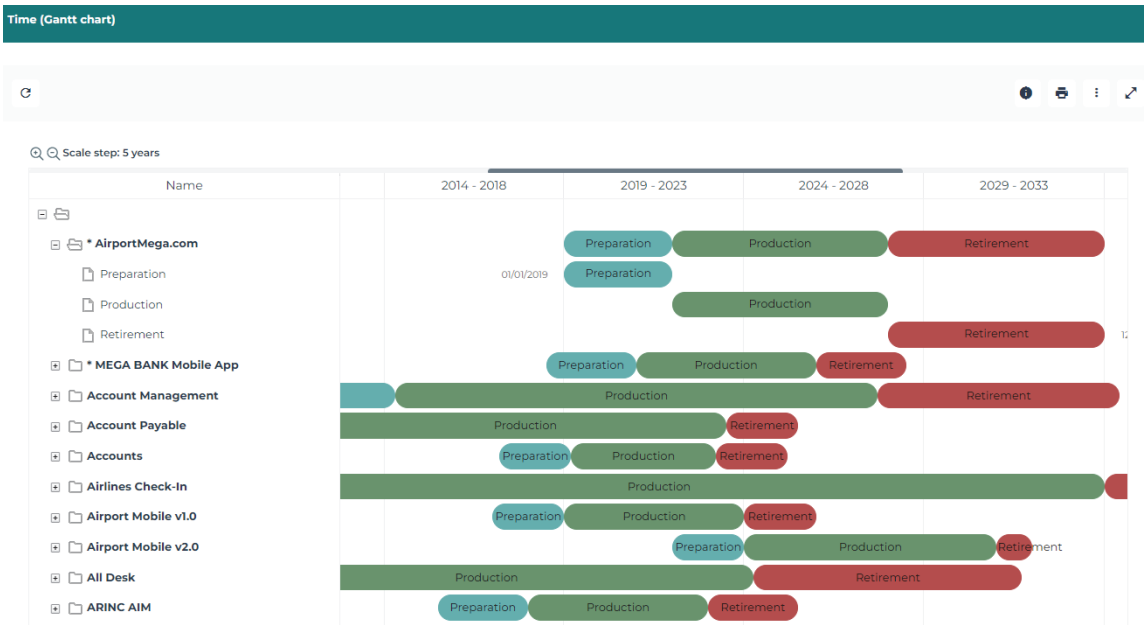
You can generate a new instant report from this chart.

```
E.g.: click "Mobile" to obtain the list of applications that
are tagged "Mobile".
```

Time (Gantt)

Objects are used to constitute a Gantt chart. The time-type instant report is only available if all the objects have a life cycle.

You can define the unit of scale: from week to year.



From this chart you cannot launch another instant report.

Graph: Exchanges between applications

The ***Exchanges between applications*** instant report is available on all the applications. It displays the graph of the exchanges between all the selected applications for a better understanding of the data structure and how the data interacts.



The graph includes facilities to optimize its readability and customize its display.

☛ *See Handling a Graph.*

Dendrogram

The dendrogram type instant report is available for one or several objects.

From an object, you can build:

- an impact analysis report: one level dendrogram
- an environment report: multi-level dendrogram

You can:

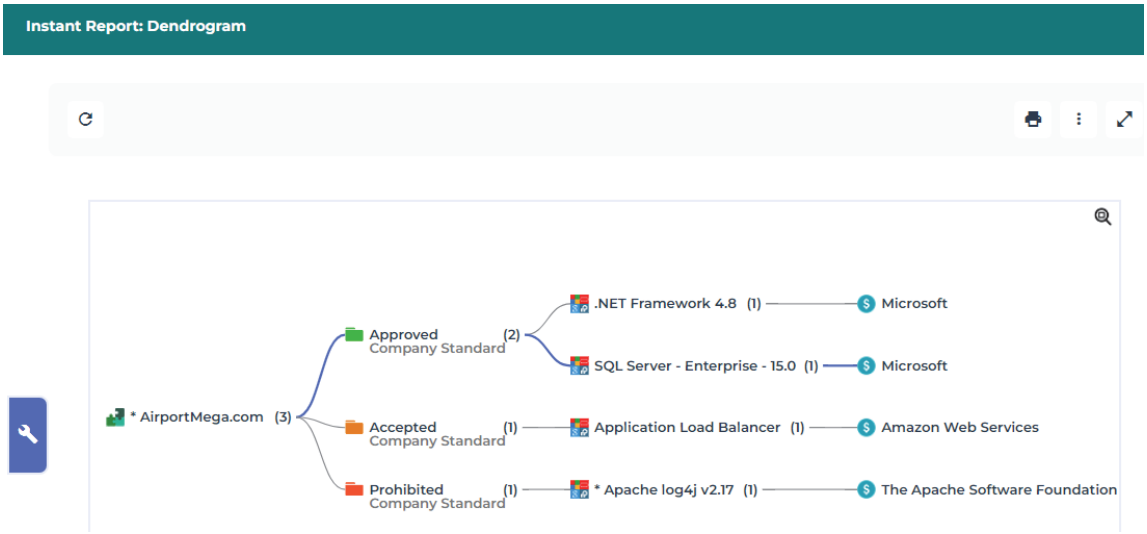
- create up to 10 levels
- group a level according to a criteria

The dendrogram displays the relationships between objects of your choice:

- a source object
  You can also select several objects of the same type.
- a target object type and its relationship with the source object
  These relationships can be links or queries.

  ☛ *See Creating a Dendrogram Instant Report (list).*

  ☛ *See Handling a Dendrogram.*



Launching an Instant Report

You can launch an instant report from:

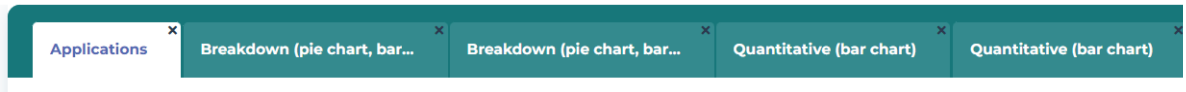
- ***a list of objects***

  ☛ *See Launching an instant report from a list.*

  Ex.: a list accessible via your homepage or the result of a search.

  You can generate the instant report in the current page or in a new tab. So that you can keep, in parallel, several instant reports generated from this list or a subset of it (filtered list).

  E.g.: from a list of applications.



- ***a Report DataSet***

  ☛ *See Launching an instant report from a Report DataSet.*

  You can generate the instant report in the current page or in a new tab. That way you can keep, in parallel, several instant reports, generated from this Report DataSet.

  E.g.: from a Report DataSet with "Application Technologies" definition, whose input parameters are applications.



- ***an object in a list***

  You can create a dendrogram type instant report from an object.

  ☛ *See Creating a Dendrogram Instant Report (list).*

Launching an instant report from a list

☛ *See Handling Lists.*

You can launch the instant report on all of the objects of the list or refine the analysis to specific objects.

To launch an instant report from a list:

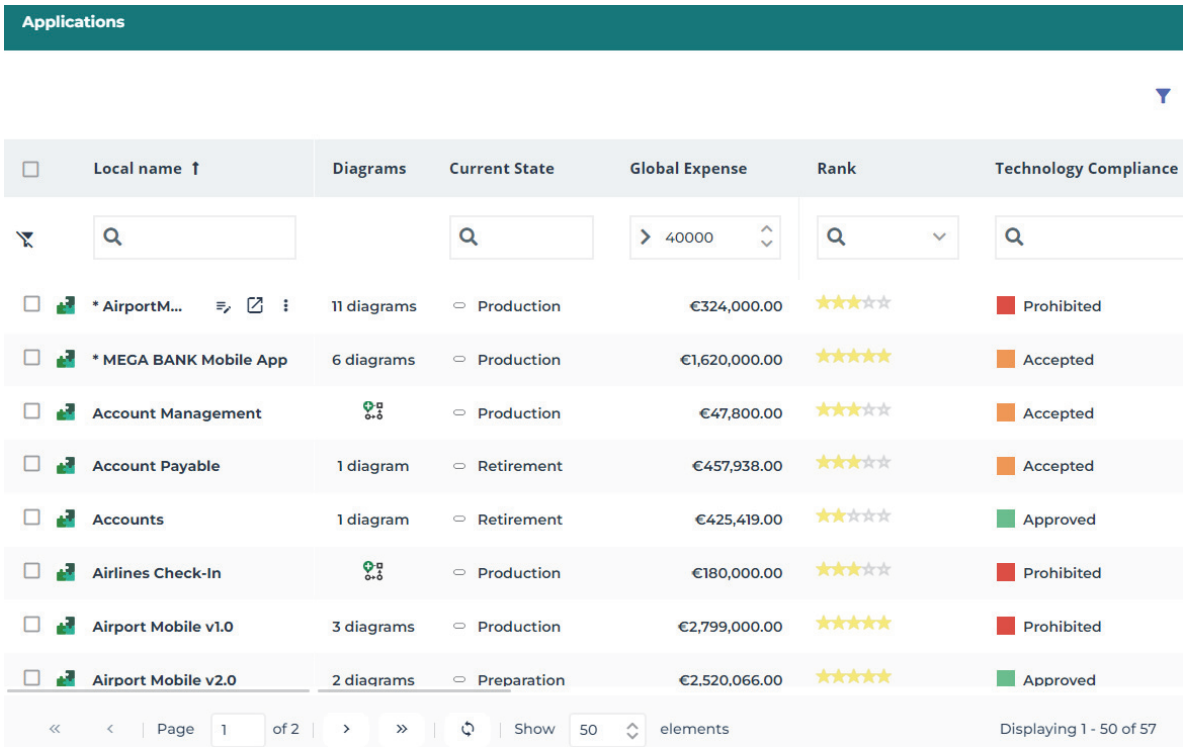
1. Display the relevant object list.

   E.g.: in your home page, from the access link to the inventory of the **Applications**, display the list of all the applications.

2. (Optional) Filter the list on the objects you are interested in.

   E.g.: applications with expenses > € 40,000.

   ☛ *See Filtering a list data.*

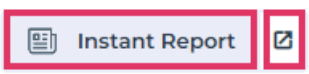


3. According to your needs:
   - To launch the instant report on all of the objects in the list (all the pages): select the column header check box.
   - To restrict the instant report to certain objects: select one or more objects in the list.
   - To restrict the instant report to a set of objects built through a filtering (or a query): filter, then select the whole list of object (select the column header check box).

     E.g.: Filter the applications whose **Global Expense** exceeds €40,000.

4. Click **Instant Report** .

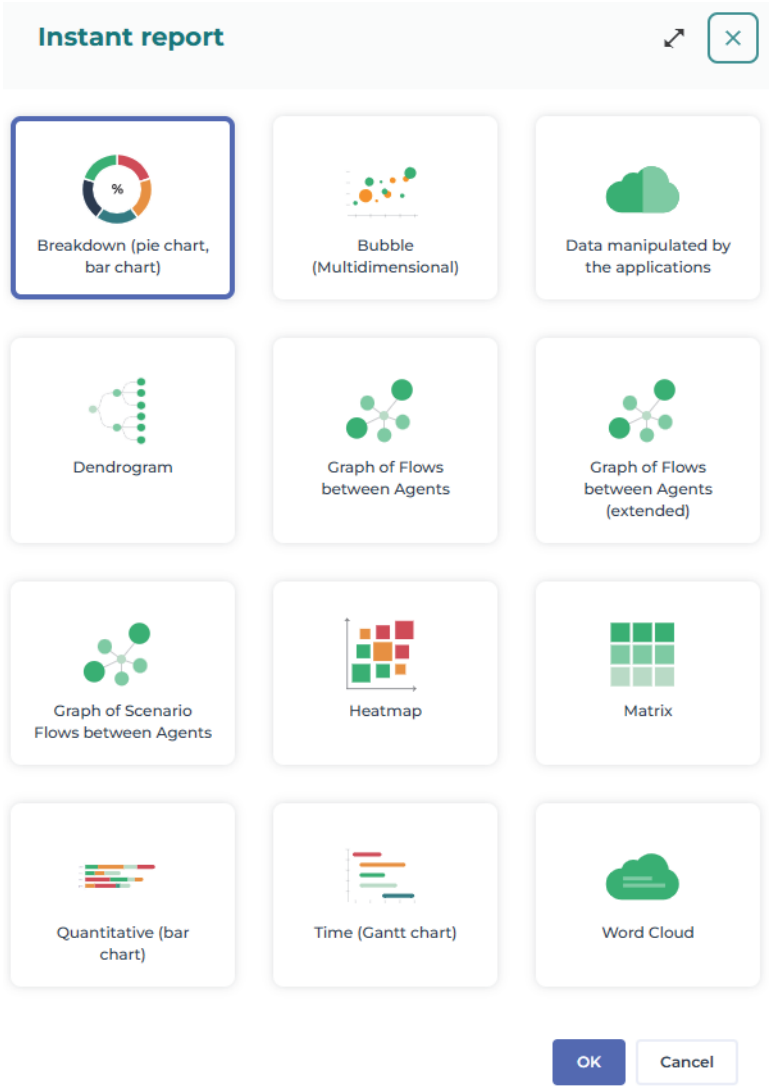
   ☛ *To generate the instant report in a new tab click* .



5. Select the required instant report type.

   ☛ *See Instant Report Types and Examples.*

   `E.g.: breakdown (pie chart, bar chart)`



6. Click **OK**.
   The instant report is displayed in the current page (or in a new tab).
7. Depending on the instant report type selected, enter the instant report parameter information.
   For example, for:
   - ***a breakdown-type instant report***, in the field **Compute characteristic**, select a characteristic from the list.

     ☛ *Characteristics offered are those corresponding to the columns of the list (or all of the object attributes when a single column). Depending*

*on your list content, select **More characteristics** to get more grouping characteristics.*

- ***a quantitative-type instant report***, select information to be taken into account in the chart display.
- ***a dendrogram-type instant report***, select the type of objects and their relationships to display in the dendrogram.

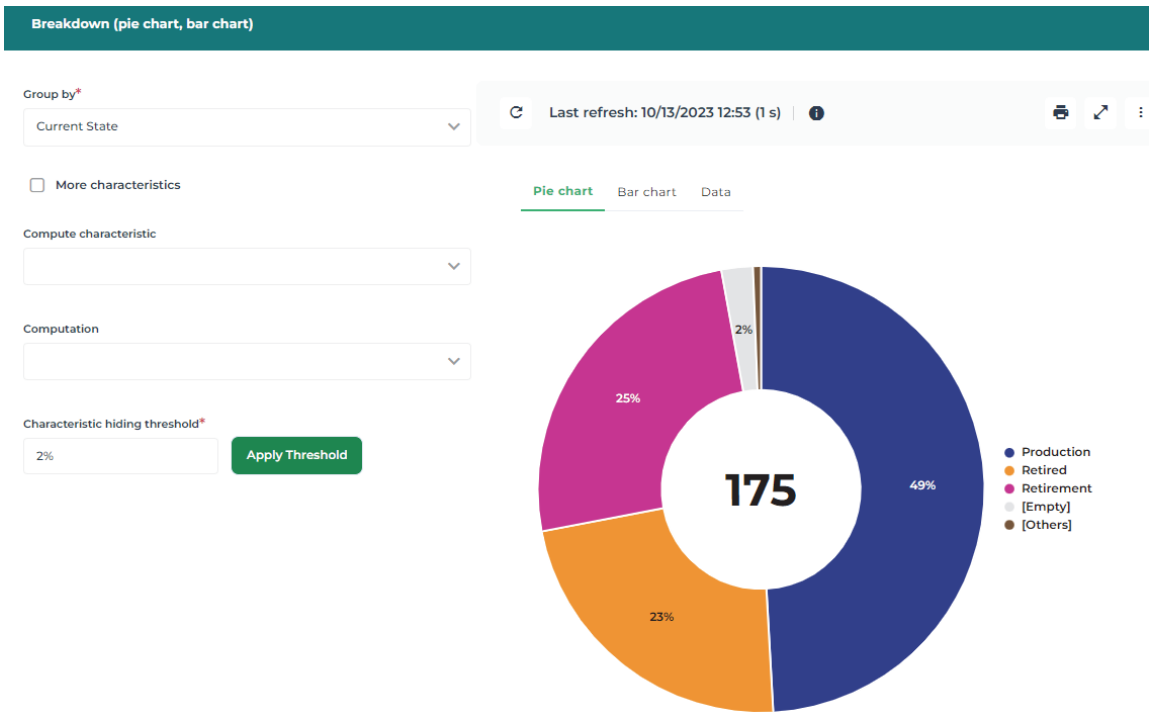
  ☛ *See Creating a Dendrogram Instant Report (list).*
- ***a matrix-type instant report***, select the type of objects to display in column and their relationships with the objects in row.

  ☛ *See Creating a Matrix Instant Report (List).*

Objects are automatically displayed according to the selected settings.

E.g.: "Current State".

For the set of selected applications, you get their breakdown according to their current state.



8. (if needed, with a breakdown type report) Select another type of breakdown display.
   By default, the breakdown chart appears in the form of a pie chart; click on another type.

   Example: Bar chart, Data.

9. You can:
   - customize the instant report
     ☛ *See Managing Reports and Handling Reports.*
   - save the instant report to keep it.
     ☛ *See Saving an Instant Report.*

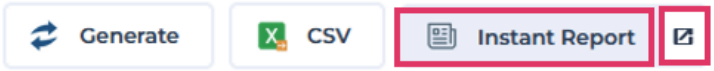
Launching an instant report from a Report DataSet

To generate an instant report from a Report DataSet:

1. Access the Report DataSet properties.
   ☛ *See Accessing a Report DataSet properties.*
2. Display its **Data** page.
3. (If needed) In the **Parameters** section, add input parameters.

   ```
   E.g.: with a Report DataSet with the "Application
   Technologies" definition, you can add applications.
   ```

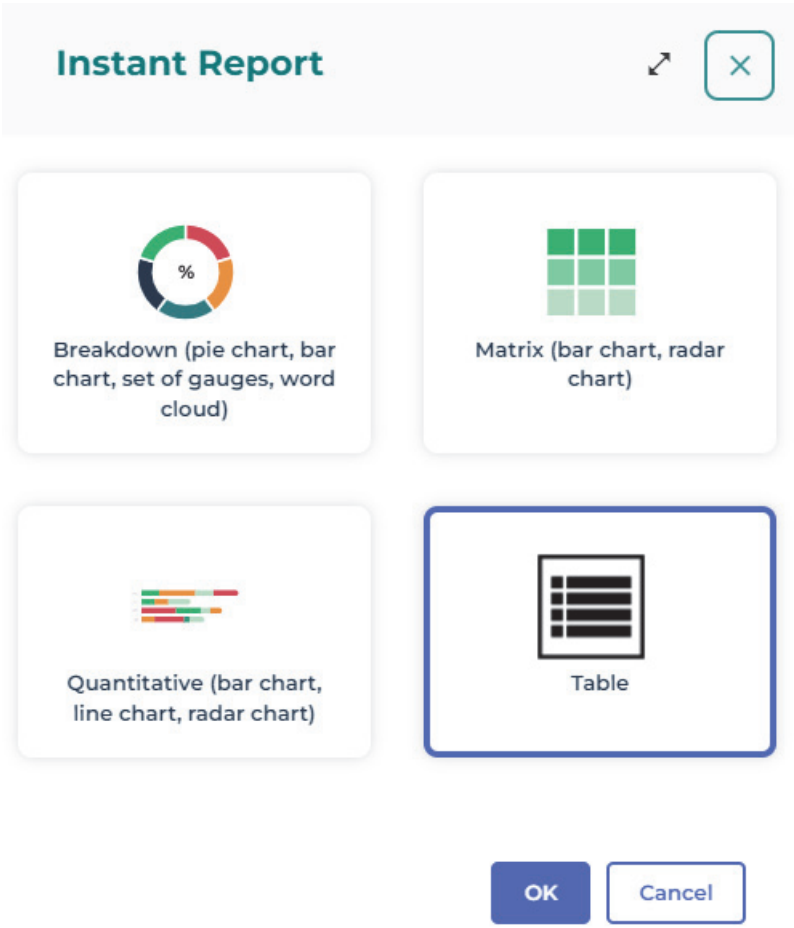
4. (If needed) In the **Report DataSet** section, click **Generate** .
5. In the **Report DataSet** section, click **Instant Report** .
   ☛ *To generate the instant report in a new tab click* .



6. Select the required instant report type.

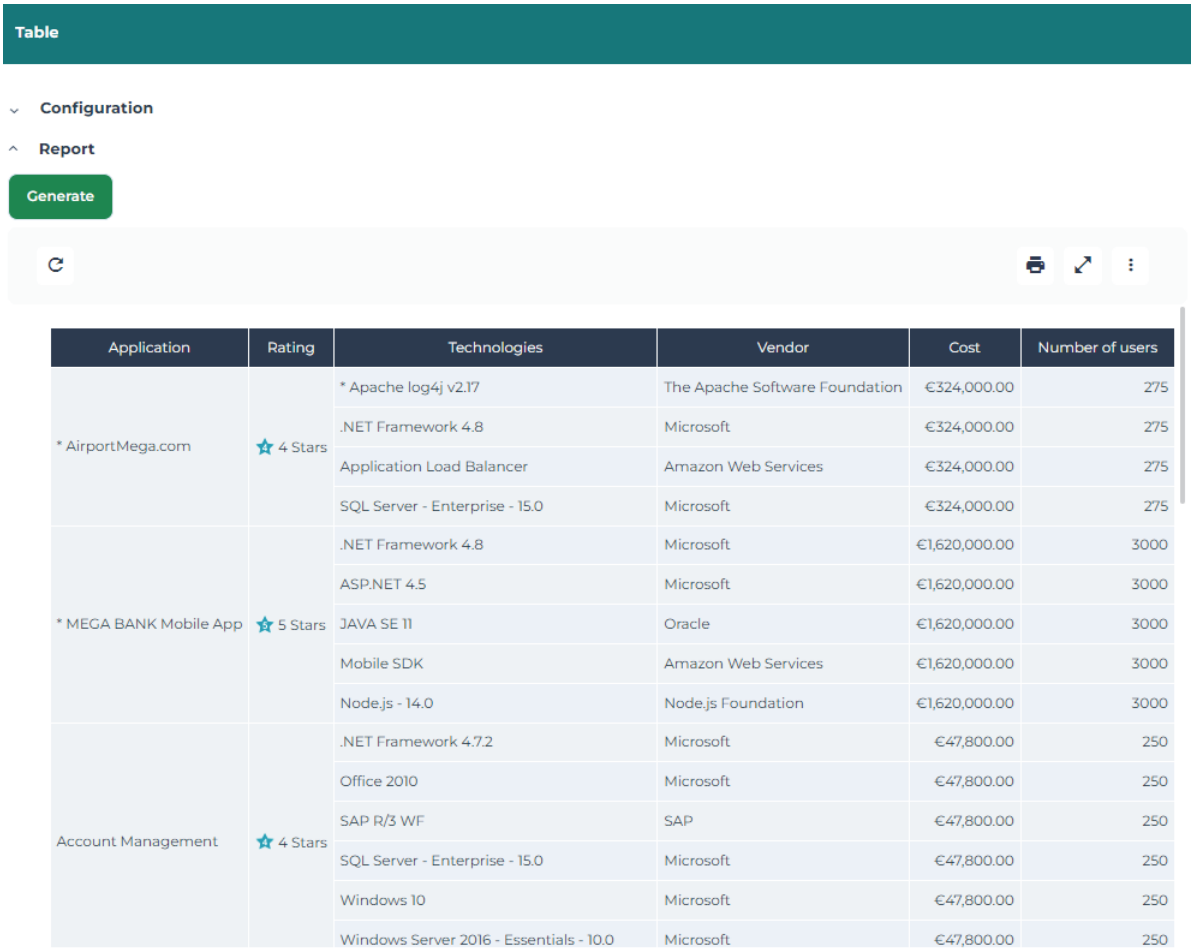
   ☛ *See Instant Report Types and Examples.*

   `E.g.: Table`



7. Click **OK**.
   The instant report is displayed in the current page (or in a new tab).

   E.g.: if it is a table, it contains as many rows as objects and as many columns as object characteristics.



Application	Rating	Technologies	Vendor	Cost	Number of users
* AirportMega.com	4 Stars	* Apache log4j v2.17	The Apache Software Foundation	€324,000.00	275
		.NET Framework 4.8	Microsoft	€324,000.00	275
		Application Load Balancer	Amazon Web Services	€324,000.00	275
		SQL Server - Enterprise - 15.0	Microsoft	€324,000.00	275
* MEGA BANK Mobile App	5 Stars	.NET Framework 4.8	Microsoft	€1,620,000.00	3000
		ASP.NET 4.5	Microsoft	€1,620,000.00	3000
		JAVA SE 11	Oracle	€1,620,000.00	3000
		Mobile SDK	Amazon Web Services	€1,620,000.00	3000
		Node.js - 14.0	Node.js Foundation	€1,620,000.00	3000
Account Management	4 Stars	.NET Framework 4.7.2	Microsoft	€47,800.00	250
		Office 2010	Microsoft	€47,800.00	250
		SAP R/3 WF	SAP	€47,800.00	250
		SQL Server - Enterprise - 15.0	Microsoft	€47,800.00	250
		Windows 10	Microsoft	€47,800.00	250
		Windows Server 2016 - Essentials - 10.0	Microsoft	€47,800.00	250

8. (If needed) You can:
   - customize the report display.

     E.g.: You can customize the table to get a more precise description of the result and facilitate the analysis. For this, in the **Configuration** section, add one or as many

filters as necessary to the input characteristics of the report.

☛ *See Managing a Table Instant Report data (Report DataSet).*

- display icons in the table

  ☛ *See Hiding/Displaying Information in your Reports.*

- access the properties of the objects contained in the table cells (and modify them)

  ☛ *See Displaying the properties of an object contained in a report.*

- save the report

  ☛ *See Saving an Instant Report.*

Creating a Dendrogram Instant Report (list)

A dendrogram illustrates the environment of an object.

You can create a dendrogram displaying the relationships between objects of your choice:

- a source object
  You can also select several objects (up to 50) of the same type, to compare several objects for example.
- a target object type and its relationship with the source object
  These relationships can be links or queries.

You can create up to 10 levels.

If needed, at anytime you can:

- navigate through the levels
- group the objects according to a criteria value, this action adds a level
- hide/display a level
- delete a level (the following levels are also deleted)

To create a dendrogram-type instant report:

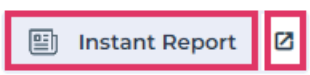
1. In an object list, select a source object.

   E.g.: an application.

   ☛ *You can select several source objects.*

2. Click **Instant Report** .

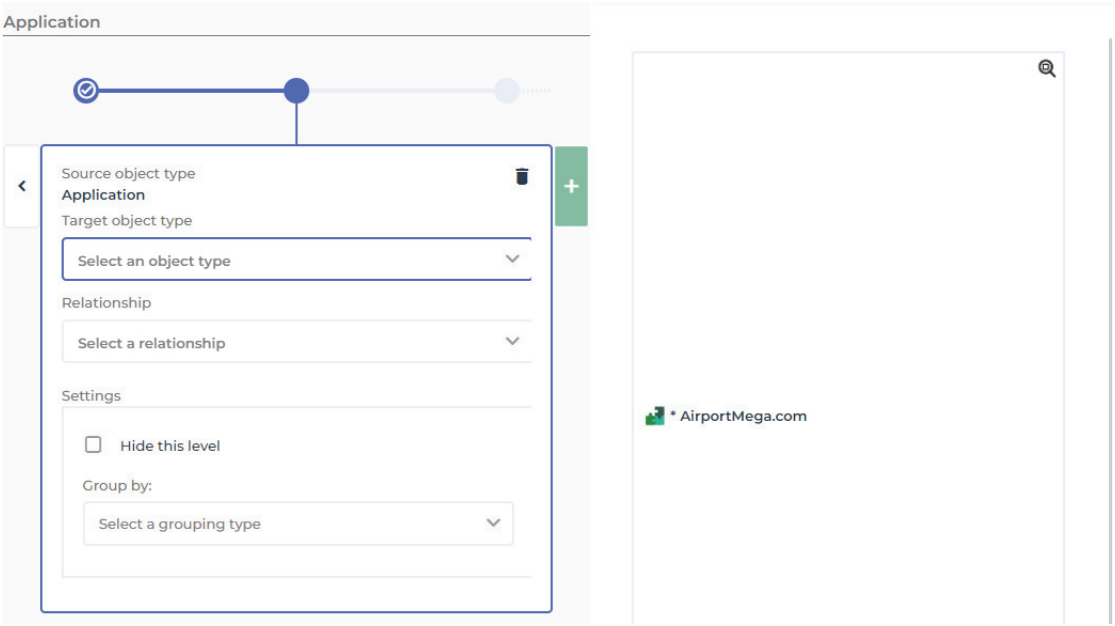
   ☛ *To generate the instant report in a new tab click .*



3. Select **Dendrogram**.

4. Click **OK**.
   The dendrogram building pane is displayed in the current page (or in a new tab).
   The dendrogram is initialized with the source object type.

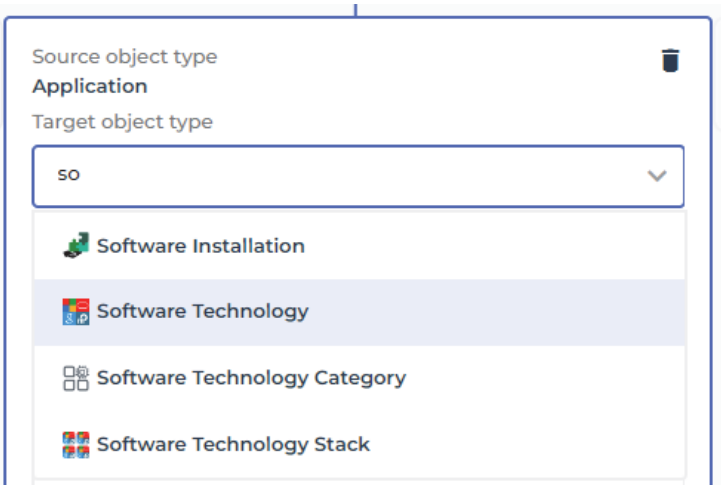
   E.g.: Application.



5. Define the target object type and its relationship with the source object type:
   - In the **Target object type** field, select the target object type.

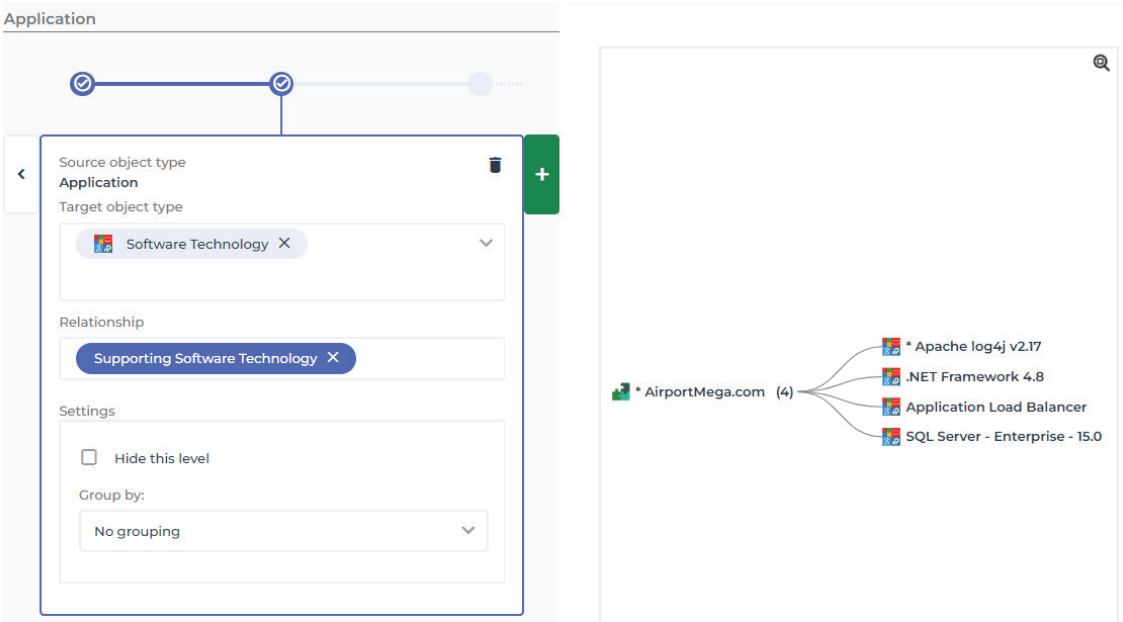
     ☺ *You can enter the first characters of the target object to reach it easily.*

     `E.g.: Software Technology.`



   - In the **Relationship** field, select the link or the query between both object types.

     `E.g.: Supporting Software Technology.`



☛ *If there is only one relationship between both object types, the*

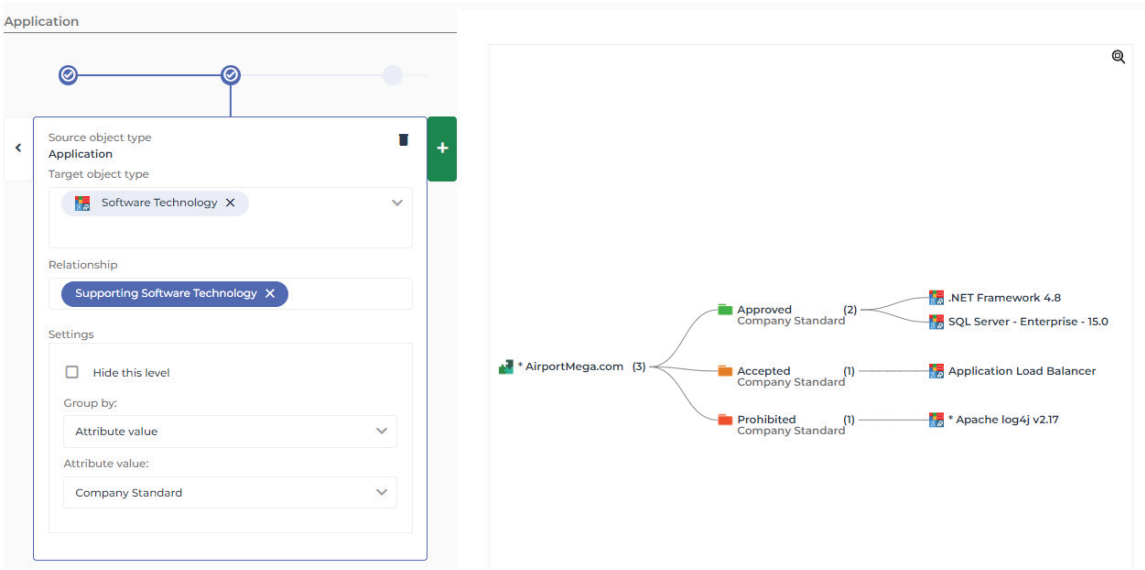
latter is automatically selected.

☛ *Depending on the relationship selected, this latter may enable to add also other target object types.*

6. (Optional) To group objects according to a parameter, in **Parameters**, **Group by**, select the grouping type and its value.
Grouping folders are automatically added to the dendrogram. Their number is indicated at the root.

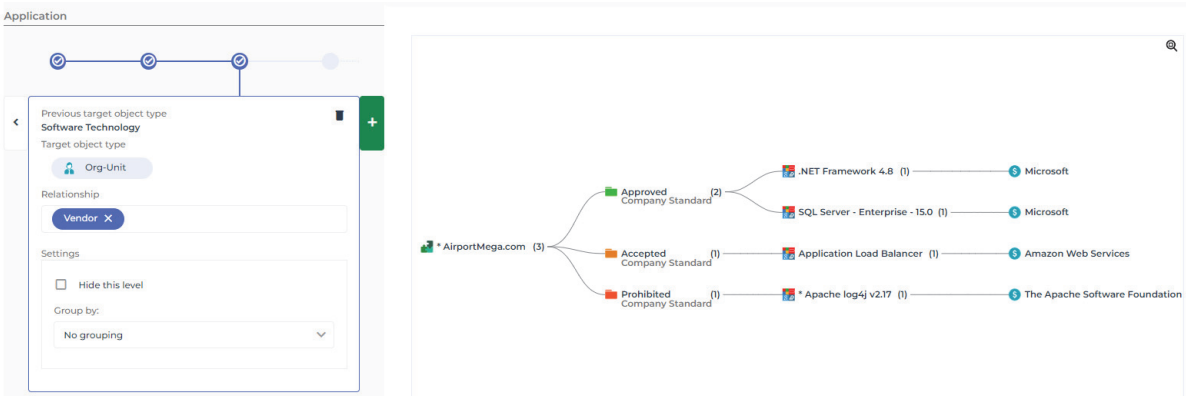
☺ *You can perform this action later. To return to the level concerned, click its* .

E.g.: **Group** the Software technologies by "Company Standard" **Attribute value**. Here three grouping folders are created: "Approved", "Accepted", "Forbidden".



7. (To add one more level) Click + (to the right of the current level definition) and define the following target object type and its relationship with the previous object type as detailed step 5.

   E.g.: the "Org-Unit" target object type with the "Vendor" **Relationship**.



8. (If needed) To hide/display a level: in its **Settings** pane, select/clear **Hide this level**.
   - the hidden level is identified by
   - the displayed level is identified by
9. (If needed) To delete a level and all of its following ones, click .

You can:

- save the report and then customize it
  - ☛ *See Saving the report and Handling a Dendrogram.*
- access the properties of the objects contained in the dendrogram (and modify them)
  - ☛ *See Displaying the properties of an object contained in a report.*

With a **Functional Administrator of a Solution**, **HOPEX Customizer**, or **HOPEX Customizer-Publisher** profile, you can also:

- add the report to the **Reporting** property page of the source object
  - ☛ *Non available with several source objects.*
  - ☛ *See Adding an Instant Report Dendrogram to the Property Pages.*
- save the report as a report template
  - ☛ *See Saving an instant report as a report template.*

Creating a Matrix Instant Report (List)

☛ *To create an instant report from a Report DataSet, see Matrix (Report DataSet).*

You can create a matrix from an object list. These objects make up the row objects of the matrix. Then you define the object type in column and their relationship (a link or a query) with the row objects.

> ☛ *If a matrix with the same object type in row has already been created, the matrix is predefined with the same object type in column and the same relationship.*

By default, the matrix:

- restricts the display to the first 50 rows
  You can display all the rows.
- does not display icons
  You can display them.
- displays all the rows including empty ones
  You can hide empty rows.

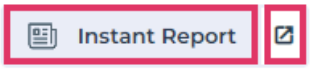
To create matrix-type instant report:

1. In an object list, select the source objects.
   These objects are the objects in row in the matrix.

   `E.g.: several applications.`

2. Click **Instant Report** .

   > ☛ *To generate the instant report in a new tab click* .



3. Select **Matrix**.
   Objects in row shows the object type selected.
4. In the **Objects in column** field, select the object type in column.

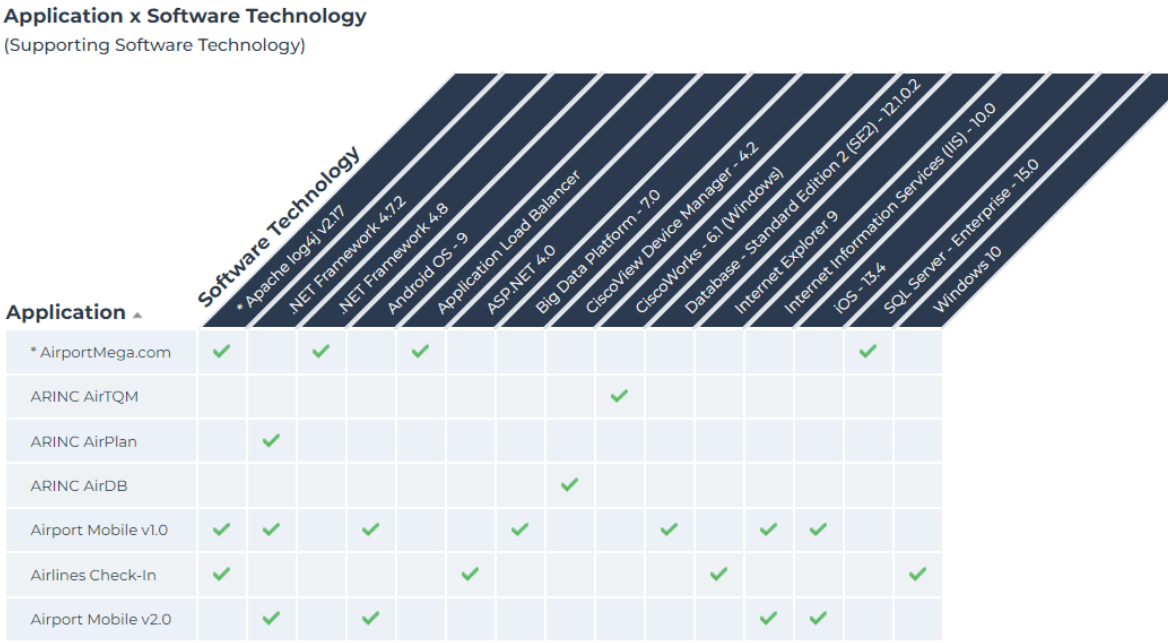
   > ☛ *If a matrix with the same object type in row has already been created, the object type in column and their relationship are pre-selected.*
   >
   > ☺ *You can enter the first characters of the object type to reach it easily.*

   `E.g.: Software Technology.`

5. Define the matrix cells:
   - In the **Cells** field select the relationship between objects in row and in column.

     ☛ *If there is only one relationship between both object types, the latter is automatically selected.*

     `E.g.: Supporting Software Technology.`
   - (If available) In the **Cell value** field, define the value to display in the cell (a tick by default).



6. To:
   - display icons: select **Display icons**.
   - hide empty rows: clear **Show empty rows**.
   - display all rows: clear **Preview first rows**.

     ☛ *Whatever the display, when saving/exporting the matrix, the entire matrix is saved/exported.*

You can:

- save the report

  ☛ *See Saving the report.*
- export the report in Excel format

  ☛ *See Exporting a Report.*
- access the properties of the objects contained in the matrix (and modify them)

  ☛ *See Displaying the properties of an object contained in a report.*
- customize the matrix display

  ☛ *See Customizing a Table or Matrix Display.*

Managing a Table Instant Report data (Report DataSet)

To obtain a more detailed description, improve the table and facilitate its analysis, in the **Configuration** section you can:

- define the input characteristics of the report, that is, the table columns (**Configuration** tab),
- add filters to the data values, that is, the cells of the table columns (**Filters** tab).

You can add as many configurations as necessary to the input characteristics of the report and their values.

☛ *See Defining the columns in a table-type instant report.*

You can add filters to the table columns and cells.

☛ *See Adding a filter to the columns and to the column data values in a table-type instant report.*

☛ *See Adding a filter to the columns and to the column data values (with initial values) in a table-type instant report.*

See:

- Defining the columns in a table-type instant report
- Adding a filter to the columns and to the column data values in a table-type instant report
- Adding a filter to the columns and to the column data values (with initial values) in a table-type instant report
- Example 1: column configuration with break
- Example 2: column definition (display, order) and value computation
- Example 3: filters on the table columns
- Example 4: filter on the table columns and cells (initial values)

Defining the columns in a table-type instant report

☛ *See the examples:*

Example 1: column configuration with break

Example 2: column definition (display, order) and value computation.

☛ *You can also add filters to the cells of the table, see Adding a filter to the columns and to the column data values in a table-type instant report.*

By default, the instant report includes all of the Report DataSet columns. You can modify its content and define the table columns and their position.

On columns, you can:

- display (/hide) one or more columns:
- modify the default column sort (order and priority):
  - By default, all of the columns are sorted by ascending order.
  - By default, column sort priorities are defined as the column display order at Report DataSet creation.
- modify the display order of columns

> **If you modify the column display order, mind the column sort priority.**
>
> ☛ *See Example 2: column definition (display, order) and value computation.*

On rows, you can:

- (by default rows are grouped) add breaks to the table
- add information to the break:
  - define the column considered by the information
  - define the information calculation
  - define a calculation performed on cell values
- display only the first 50 rows of the table.

> ☛ *See Example 1: column configuration with break.*

You can also display object icons.

To define the columns in a table-type instant report:

1. Launch the instant report on the Report DataSet.
   The instant report is displayed in full page.
   - The **Configuration** section displays all the possible columns of the table. It contains as many columns as object types and object characteristics.

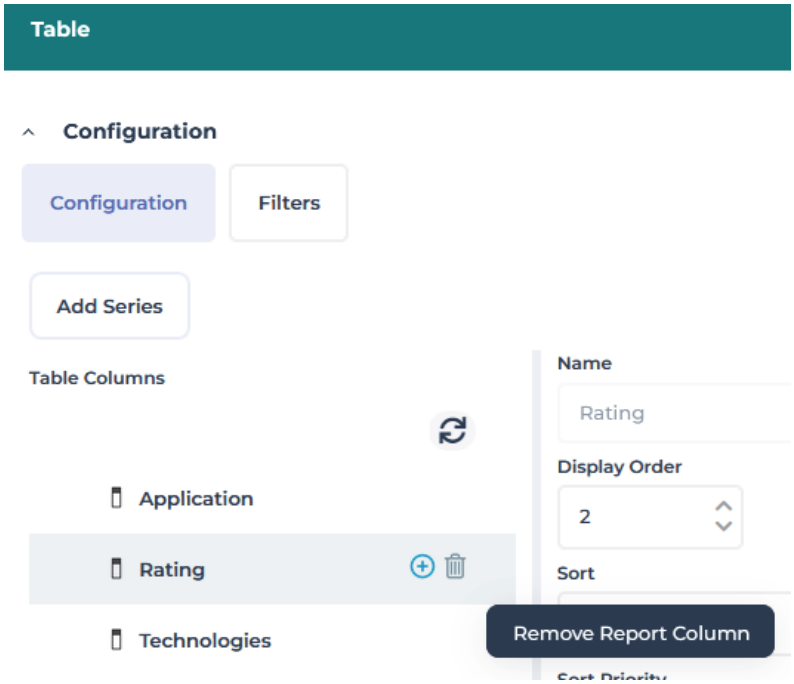
     ☛ *See Launching an instant report from a Report DataSet.*

     ☛ *You can add as many sorting characteristics as possible columns.*
   - The **Report** section displays the table. It contains as many rows as objects and as many columns as object characteristics.

2. To hide the display of a column in the table, hover the mouse over the column name and click **Remove Report Column** .

   ☛ *To reintegrate a hidden column, click **Add Series** and select the column of interest.*

   Example 2: from a Report DataSet with the "Application Technologies" definition, delete the "Rating", "Technologies" and "Number of Users" columns.



3. (if needed) Modify the **Display Order** of columns, then click to display this change in the **Table Columns** display too.

   ☛ *Alternative: in **Table columns**, drag and drop the column, the **Display order** values are modified accordingly.*

   Example 2: drag-and-drop the "Application" column after the "Vendor" column.

4. (if needed) Select a column and modify the default settings:
   - **Sort** order of the selected column (“Ascending” by default).

     Example 1: from a Report DataSet with the “Application Technologies” definition, “Rating” column: **Sort** field,

select “Descending” to sort the applications by rating level, from the highest scored to the lowest scored.

Example 2: from a Report DataSet with the “Application Technologies” definition, “Vendor” column, **Sort** “Ascending”. Vendors are sorted in alphabetical order.

- **Sort Priority** of the selected column
- **Group** field, ("Yes", by default table rows are grouped according to the selected column).

Example 1: from a Report DataSet with the “Application Technologies” definition, “Rating” column, **Group** “yes”: applications are grouped according to their rating level.

Example 2: from a Report DataSet with the “Application Technologies” definition, “Vendor” column, **Group** “yes”: applications are grouped according to their vendor.

5. (optional) In the **Value computation** field, select the computation value to perform on the column cells.

   Example 2: from a Report DataSet with the "Application Technologies" definition:

   “Application” column: in the **Value computation** field, select “Count” to display the number of applications by “Vendor”,

   “Cost” column: in the **Value computation** field, select “Sum” to display the sum of costs by "Vendor".

6. (optional) To highlight a grouping, you can add a break in the table:

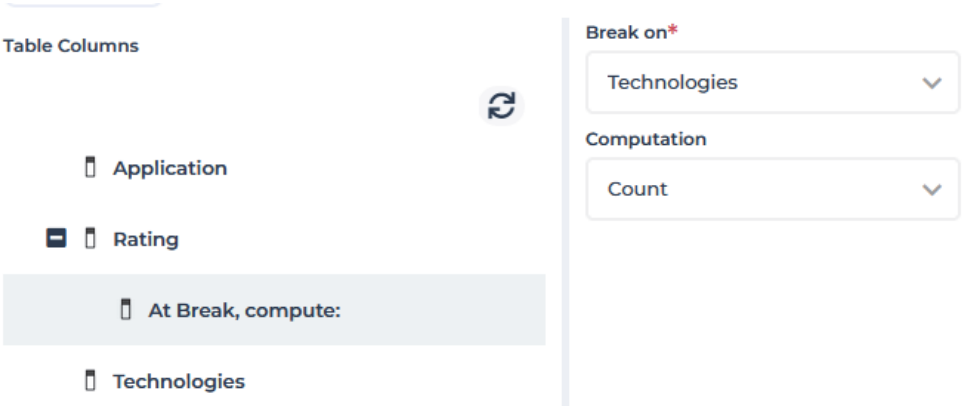
   hover the mouse over the column name and click **Add Break** ⊕.
   The break addition is specified below the column (**At break, compute**).

   ☛ *To delete the break, click **Remove break** 🗑.*

7. (optional) To add an information in the break, select **At break, compute** and in the right pane define the computation to be performed.
   - in the **Break On** field, select the column concerned by the computing.
   - in the **Computation** field, select the computing operator.

   Example 1: from a Report DataSet with the "Application Technologies" definition, for the grouping on the "Rating” column, at the break, in the **Break On** field select: "Technologies" and in the **Computation** field select: “Count"

```
to display in the break the number of technologies contained
in the grouping.
```



☛ *To add additional information to the break, click again* ***Add Break*** *and define the fields.*

☛ *To delete an information added in the break, delete its definition.*

8. (Optional) Select **Show icons** to display object icons of rows and columns.
9. In the **Report** section, click **Generate**.
   The report display takes the configuration applied into account.

☛ *You can configure several items.*

Adding a filter to the columns and to the column data values in a table-type instant report

☛ *See: Example 3: filters on the table columns.*

Filters are specific to the data type.

For example, the following filtering operators are available for a column whose cells are:

- numerical values: equals, inferior, superior, or shows a a value
- character strings: contains, starts with, ends with, contains a value
- Objects or multivalued attributes: choice of one or more objects (single or multiple choice), contains values

☛ *See Example 3: filters on the table columns and Example 4: filter on the table columns and cells (initial values).*

You can define as many filters as columns (characteristics) in the table.

☛ *You can also add a filter to the data values with initial values, see Adding a filter to the columns and to the column data values (with initial values) in a table-type instant report.*

To add a filter to the column cells in a table-type instant report:

1. Launch the instant report on the Report DataSet.
   - The instant report is displayed in full page. It contains as many rows as objects and as many columns as object characteristics.
   - In the **Configuration** section, the **Filters** tab is used to add a customized filter on each of the cells in the table.

     ☛ *See Launching an instant report from a Report DataSet.*
2. Click **Add Filter** to add a filter.
   The list of columns appears.
3. Select the column to which you want to add a filter.

   Example 3: from a Report DataSet with the "Application Technologies" definition, select "Vendor" and repeat the operation for "Cost" and "Application".
4. In the right part of the filter, define the filtering.
   The filtering definition depends on the type of data.

   Example 3: from a Report DataSet with the "Application Technologies" definition for the column:

   - "Application", in the **Filter choice** field, select **Contains**.

   - "Vendor", in the **Filter choice** field, select "Multiple choice".

     ☛ *You can add initial values to the "Multiple choice" or "Single choice" filters; see Adding a filter to the columns and to the column data values (with initial values) in a table-type instant report.*

Adding a filter to the columns and to the column data values (with initial values) in a table-type instant report

☛ *See the example Example 4: filter on the table columns and cells (initial values).*

You can define as many filters as columns in the table.

☛ *You can also configure the columns of the table, see Defining the columns in a table-type instant report.*

To add a filter to the column cells in a table-type instant report:

1. Launch the instant report on the Report DataSet.
   - The instant report is displayed in full page. It contains as many rows as objects and as many columns as object characteristics.
   - In the **Configuration** section, the **Filters** tab is used to add a customized filter on each of the cells in the table.

     ☛ *See Launching an instant report from a Report DataSet.*
2. Click **Add** to add a filter.
   The list of columns appears.
3. Select the column to which you want to add a filter with an initial value.

   Example 4: from a Report DataSet with the "Application Technologies" definition, select "Vendor".

4. In the right part of the filter, define the filter with an initial value. The filtering definition depends on the type of data.

   Example 4: from a Report DataSet with the "Application Technologies" definition for the "Vendor" column:

   - in the **Filter choice** field, select "Multiple choice".

   - in the **Initial values** field, select the "Microsoft" and "Oracle" values.

5. Click **Add** to add a filter to another column.

   Example 4: from a Report DataSet with the "Application Technologies" definition, select the column:

   - "Cost", then in the **Greater than** field, enter "10000".

   - "Application", in the **Filter choice** field, select "Contains", then in the **Contains** field, enter "management".

Example of column definition on a table

For example, in the instant report obtained from a Report DataSet with the "Application Technologies" definition you can configure the following columns:

- "Application"
- "Rating" (of the application)
- "Number of users" (of the application)
- "Cost" (of the application)
- "Technologies" (of the application)
- "Vendor" (of the technology)

☛ *See Example 1: column configuration with break, Example 3: filters on the table columns, Example 4: filter on the table columns and cells (initial values).*

You can also:

- hide columns
- modify the order of columns.

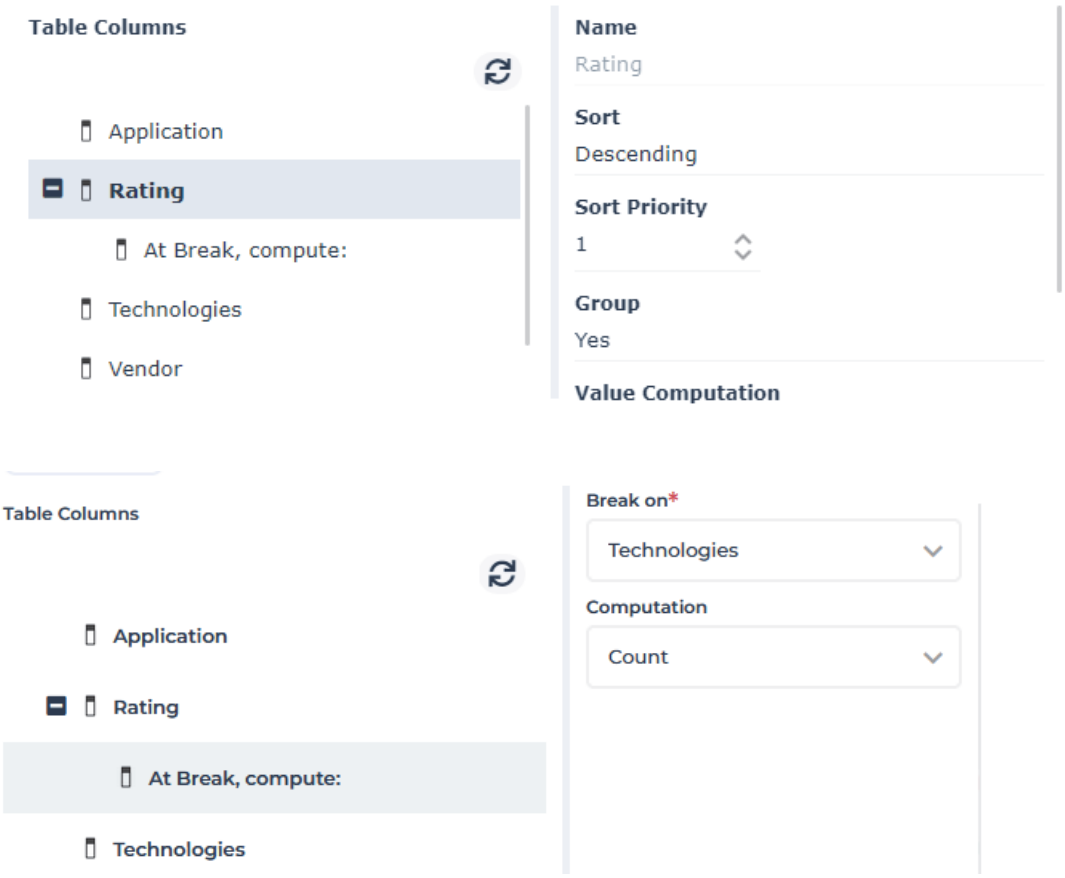
☛ *See Example 2: column definition (display, order) and value computation.*

Example 1: column configuration with break

☛ *To configure this filter, see Defining the columns in a table-type instant report.*

For example, in an instant report generated from a Report DataSet with the "Application Technologies" definition, you can:

- classify the applications by descending level of rating
- sort Rating by priority 1, then Application by priority 2
- keep the grouping and define an operation at a value break on this grouping criteria
- at the break level, indicate the number of Technologies included in this rating level.



This report result shows the applications sorted by descending level of rating. At each change of level, a break indicates the number of Technologies included in this rating level.

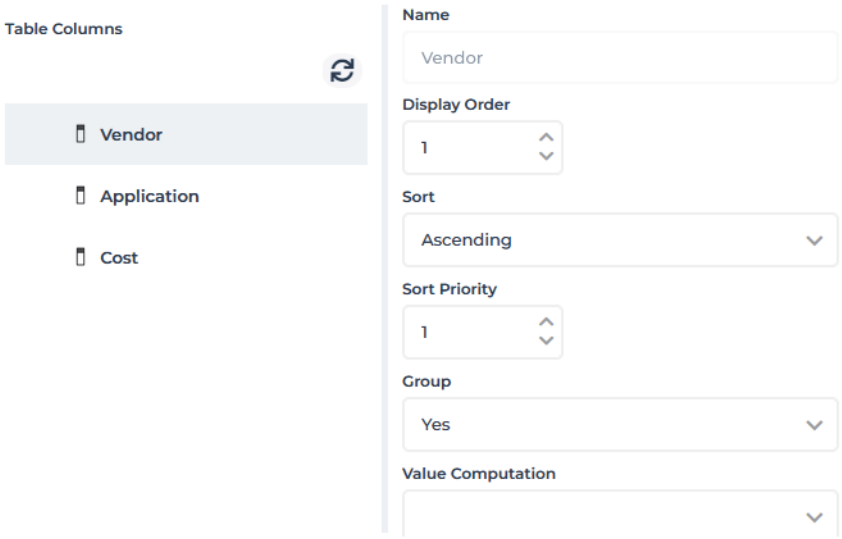
Application	Rating	Technologies	Vendor	Cost	Number of users
* AirportMega.com	3 Stars	* Apache log4j v2.17	The Apache Software Foundation	€324,000.00	0
		.NET Framework 4.8	Microsoft	€324,000.00	0
		Application Load Balancer	Amazon Web Services	€324,000.00	0
		SQL Server - Enterprise - 15.0	Microsoft	€324,000.00	0
		4.0			
* MEGA BANK Mobile App	5 Stars	.NET Framework 4.8	Microsoft	€1,620,000.00	3000
		ASP.NET 4.5	Microsoft	€1,620,000.00	3000
		JAVA SE 11	Oracle	€1,620,000.00	3000
		Mobile SDK	Amazon Web Services	€1,620,000.00	3000
		Node.js - 14.0	Node.js Foundation	€1,620,000.00	3000
		5.0			
Account Management	3 Stars	.NET Framework 4.7.2	Microsoft	€47,800.00	0
		Office 2010	Microsoft	€47,800.00	0
		SAP R/3 WF		€47,800.00	0
		SQL Server - Enterprise - 15.0	Microsoft	€47,800.00	0
		Windows 10	Microsoft	€47,800.00	0
		Windows Server 2016 - Essentials - 10.0	Microsoft	€47,800.00	0
Account Payable	3 Stars	JAVA 8 Update 191	Oracle	€457,938.00	0
		SQL Server - Enterprise - 15.0	Microsoft	€457,938.00	0
		7.0			

Example 2: column definition (display, order) and value computation

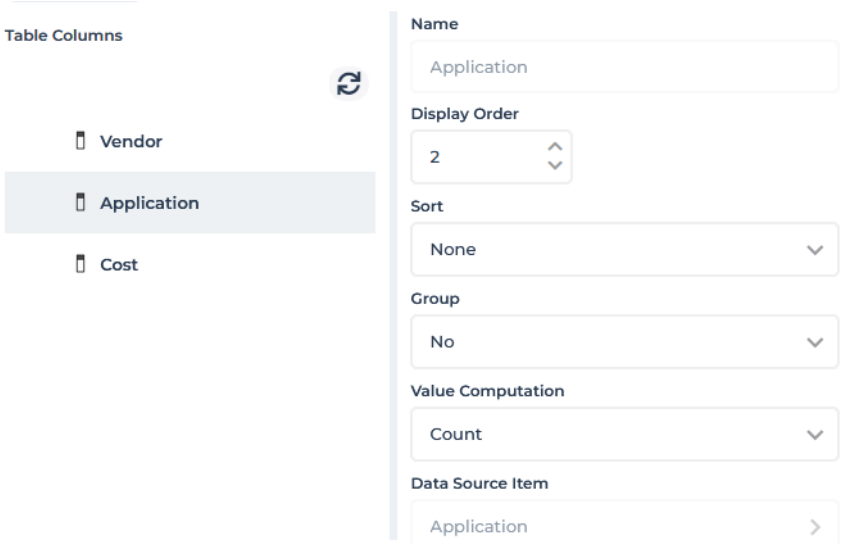
☛ *To configure this filter, see Defining the columns in a table-type instant report.*

For example, in an instant report generated from a Report DataSet with the "Application Technologies" definition you can:

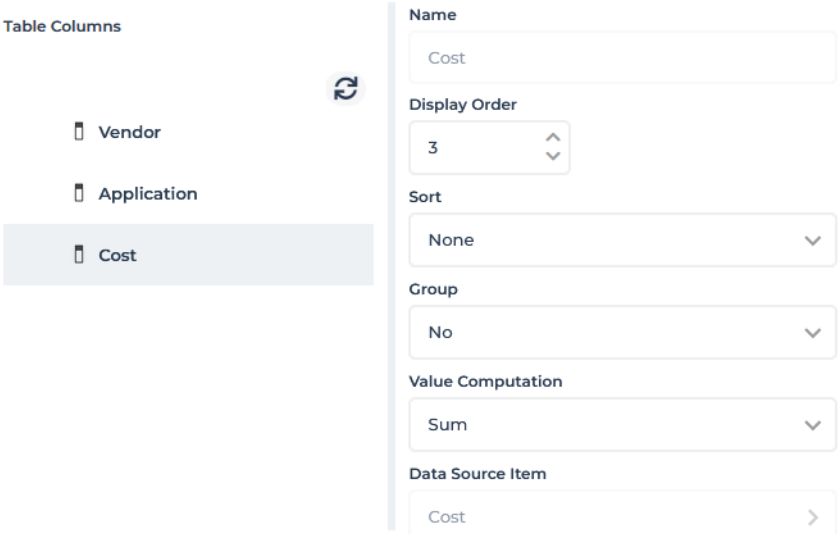
- hide the columns:
  - Rating
  - Technologies
  - Number of users
- modify the display order of columns:
  - column 1: Vendor
  - column 2: Application
  - column 3: Cost
- sort in ascending order and group the table rows by "Vendor"



- instead of displaying all the "Applications" by "Vendor", display their number



- display the sum of "Costs" by "Vendor"



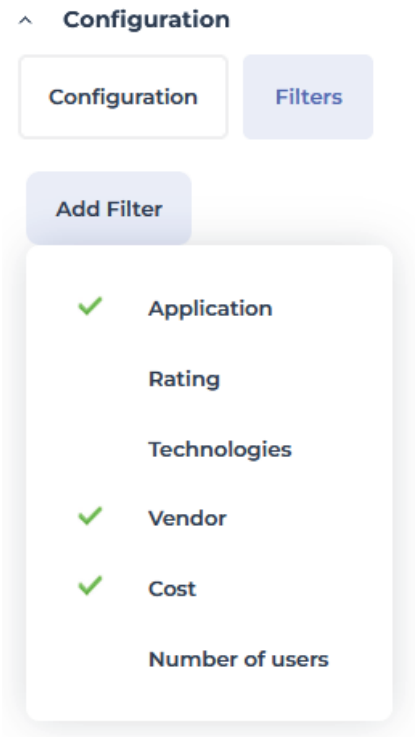
The report result presents the Vendors sorted in alphabetical order and specifies for each vendor the number of applications and their total cost.

Vendor	Application	Cost
	65	€14,164,117.00
Amazon Web Services	3	€1,945,036.00
Apple	5	€9,516,453.00
Cisco Systems	8	€474,539.00
Debian	3	€397,370.00
Google	7	€7,282,516.00
Hewlett Packard Enterprise	3	€1,956,000.00
IBM	1	€11,000.00
MEGA International	2	€280,968.00
Microsoft	98	€26,402,606.00

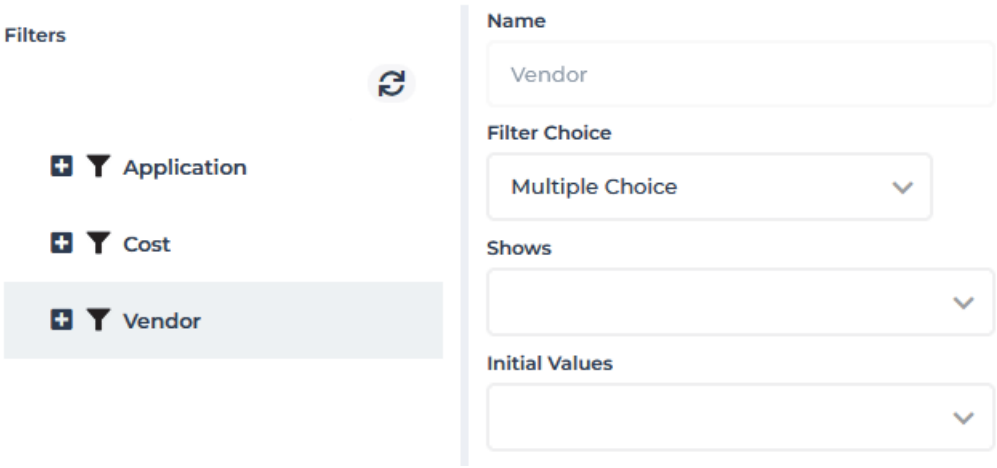
Example 3: filters on the table columns

For example, in an instant report generated from a Report DataSet with the "Application Technologies" definition you can:

- add a filter to each following table column:
  - "Application"
  - "Vendor"
  - "Cost"



- define each filter added



The three filters are available in the report result:



To define a filter:

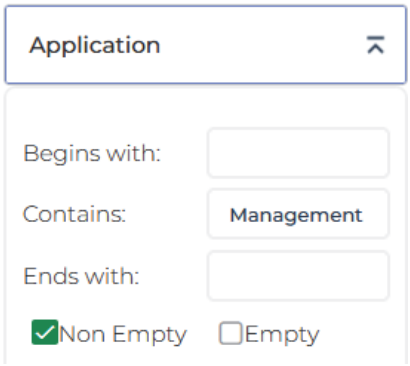
1. Click the name of the filter.

   `E.g.: Application`

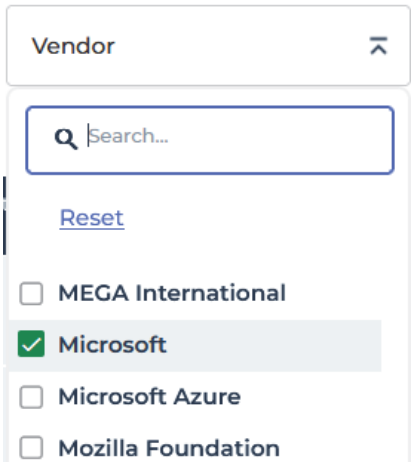
2. In the filter definition window, configure the filter.
   The filter configuration is displayed above the table.
   The report result is automatically updated as soon as a value is entered.

For example, you can display:

- the applications that contain "management" in their name,

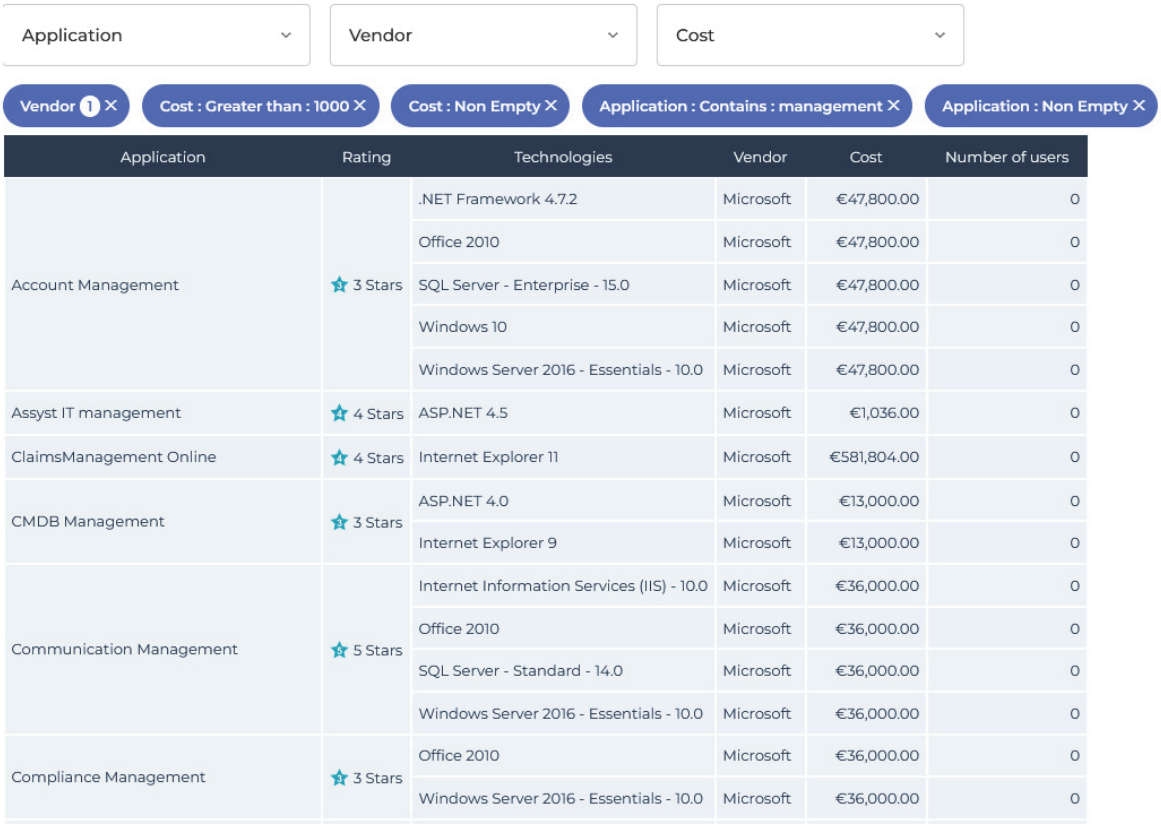


- for the "Microsoft" vendor " (selected in the multiple-choice list),



- and whose costs are greater than €1,000.





Application	Rating	Technologies	Vendor	Cost	Number of users
Account Management	3 Stars	.NET Framework 4.7.2	Microsoft	€47,800.00	0
		Office 2010	Microsoft	€47,800.00	0
		SQL Server - Enterprise - 15.0	Microsoft	€47,800.00	0
		Windows 10	Microsoft	€47,800.00	0
		Windows Server 2016 - Essentials - 10.0	Microsoft	€47,800.00	0
Assyst IT management	4 Stars	ASP.NET 4.5	Microsoft	€1,036.00	0
ClaimsManagement Online	4 Stars	Internet Explorer 11	Microsoft	€581,804.00	0
CMDB Management	3 Stars	ASP.NET 4.0	Microsoft	€13,000.00	0
		Internet Explorer 9	Microsoft	€13,000.00	0
Communication Management	5 Stars	Internet Information Services (IIS) - 10.0	Microsoft	€36,000.00	0
		Office 2010	Microsoft	€36,000.00	0
		SQL Server - Standard - 14.0	Microsoft	€36,000.00	0
		Windows Server 2016 - Essentials - 10.0	Microsoft	€36,000.00	0
Compliance Management	3 Stars	Office 2010	Microsoft	€36,000.00	0
		Windows Server 2016 - Essentials - 10.0	Microsoft	€36,000.00	0

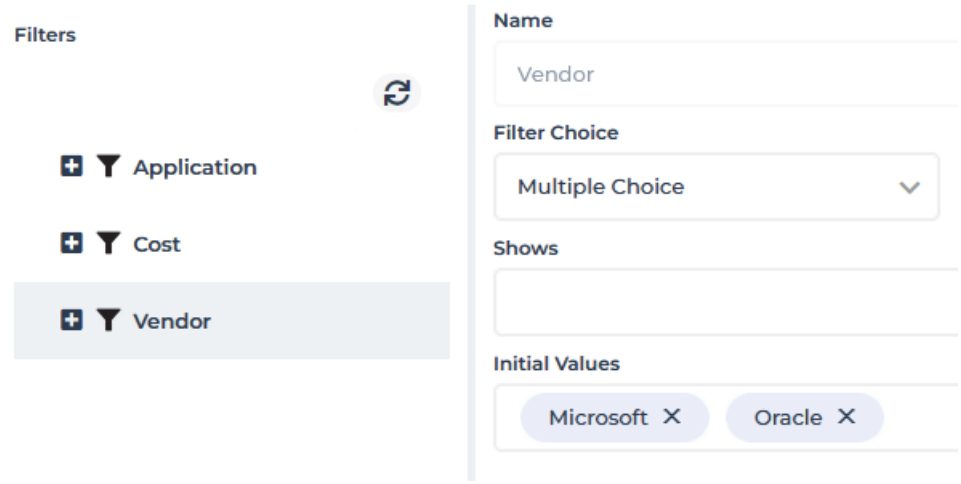
☛ *To configure this filter, see Adding a filter to the columns and to the column data values in a table-type instant report*

Example 4: filter on the table columns and cells (initial values)

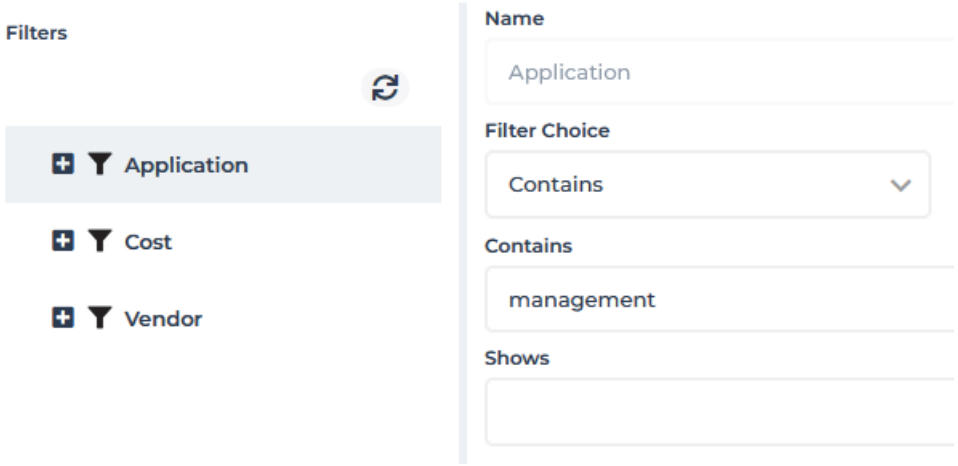
☛ *To configure this filter, see Adding a filter to the columns and to the column data values (with initial values) in a table-type instant report*

For example, in an instant report generated from a Report DataSet with "Application Technologies" definition, you can prefilter the table data with the following three filters on the cells:

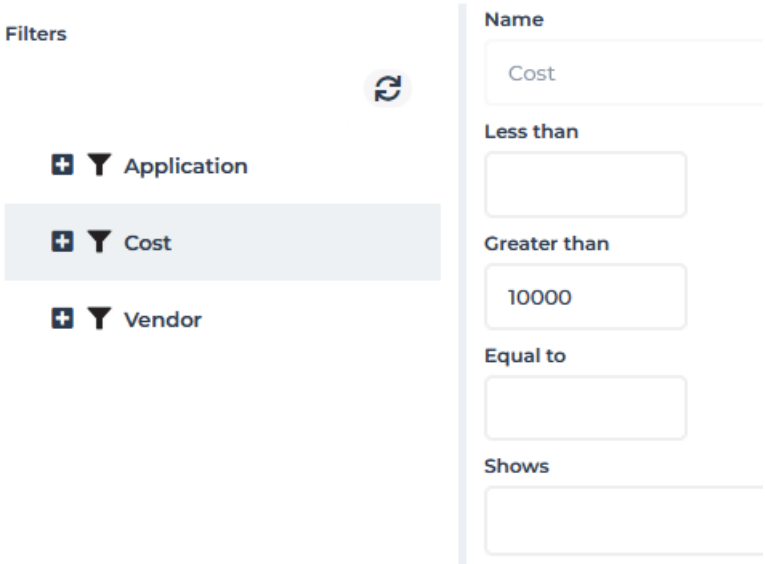
- display the "Microsoft" and "Oracle" vendors only



- display the applications that contain the word "management" only



- display costs greater than €10.000



The report result filters the applications that contain “management” in their name, whose vendors are “Microsoft”, “Red Hat”, and “Oracle”, and whose costs are greater than €10,000.

Application | Vendor | Cost

Application : Contains : management ✕ | Vendor 3 ✕ | Cost : Greater than : 10000 ✕

Application	Rating	Technologies	Vendor	Cost	Number of users
Account Management	3 Stars	.NET Framework 4.7.2	Microsoft	€47,800.00	0
		Office 2010	Microsoft	€47,800.00	0
		SAP R/3 WF		€47,800.00	0
		SQL Server - Enterprise - 15.0	Microsoft	€47,800.00	0
		Windows 10	Microsoft	€47,800.00	0
		Windows Server 2016 - Essentials - 10.0	Microsoft	€47,800.00	0
ClaimsManagement Online	4 Stars	Internet Explorer 11	Microsoft	€581,804.00	0
CMDB Management	3 Stars	ASP.NET 4.0	Microsoft	€13,000.00	0
		Internet Explorer 9	Microsoft	€13,000.00	0
Communication Management	5 Stars	Internet Information Services (IIS) - 10.0	Microsoft	€36,000.00	0
		Office 2010	Microsoft	€36,000.00	0
		Oracle 11gR2	Oracle	€36,000.00	0
		SQL Server - Standard - 14.0	Microsoft	€36,000.00	0
		Windows Server 2016 - Essentials - 10.0	Microsoft	€36,000.00	0

Saving an Instant Report

From an instant report, you can:

- save the report
- save the report as a report template

Saving the report

Saving an instant report enables at any time to:

- access the report

  ☛ *See Accessing Reports.*

- customize the report display (e.g.: display of values, legend format, titles).

  ☛ *See Managing Reports.*

When an instant report is generated from a ***Report DataSet***, you can filter and customize the instant report (in the **Configuration** section) before saving it.

☛ *See Managing a Table Instant Report data (Report DataSet).*

When the instant report is launched from a ***list***:

- an entire list or a set of objects selected unitary in the list: the report keeps the exact list of selected objects.
- a set of object built through a filtering (or query): the report keeps the filtering (or query).

  ☛ *Note: the filtering on calculated attributes is excluded from this case.*

  Examples:

  Filter the list of technologies whose **Company standard** is "Prohibited", the saved report uses the same filtering to retrieve the technologies.

  Filter the list of applications whose expenses exceed €40,000, the saved report uses the same filtering to retrieve the applications.

To save an instant report:

1. Launch your instant report.

   ☛ *See Launching an Instant Report.*

2. In the report toolbar, click **More** ⋮ **> Save as Report** .

   ☛ *If the instant report has been launched on a set of objects built through a filtering (or query), a message informs you that the selection criteria are kept for each report generation.*

3. Enter the report **Name**.
4. Click **OK**.
   The report is saved in your reports.

   ☛ *See Accessing Reports.*

   ☛ *You can modify the name of the report and open the report to edit and customize it; see Managing Reports.*

Saving an instant report as a report template

With a **Functional Administrator of a Solution**, **Hopex Customizer**, or **Hopex Customizer-Publisher** profile you can create a report template from an instant report (generated from a Report DataSet).

To save an instant report as a report template:

1. Launch your instant report.

   ☛ *See Launching an instant report from a Report DataSet.*

2. In the report toolbar, click **More** ⋮ **> Save as Report Template** .
3. Enter the report template **Name**.
4. Click **OK**.
   The report template is added to the list of report templates available to create reports.

Handling an Instant Report

An instant report is handled as a report.

☛ *See Handling a Report.*

Adding an Instant Report Dendrogram to the Property Pages

☛ *Available to the functional administrator profile of the Solution.*

When a dendrogram-type instant report is performed on a single source object, you can directly add the report to:

- the **Reporting** property page of the object
- the **Overview** property page of the object

Adding a dendrogram report to the Reporting page of an object

Prerequisite: you are logged in as the functional administrator of the Solution.

To add a dendrogram report to the **Reporting** property page of an object:

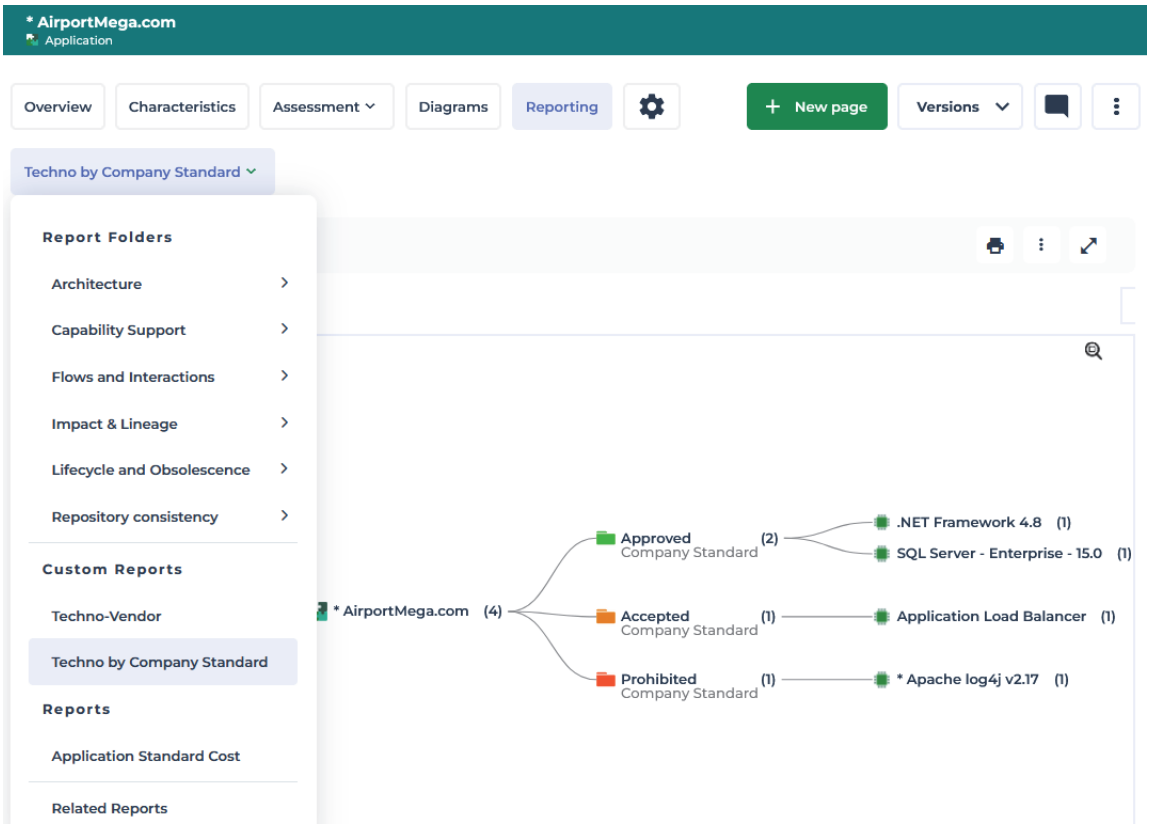
1. Create the dendrogram-type instant report.

   ☛ *See Creating a Dendrogram Instant Report (list) with a single source object.*

2. In the report toolbar, click **More** ⋮ **> Add to object Reporting page** .
3. Enter the **Name** of the report.

4. Click **OK**.
   The report is available in the **Reporting** page of the object, **Custom reports** section.

   ☛ *See Accessing the reports embedded in object.*



Adding a dendrogram report to the Overview page of an object

Prerequisite: you are logged in as the functional administrator of the Solution.

To add a dendrogram report to the **Overview** property page of an object:

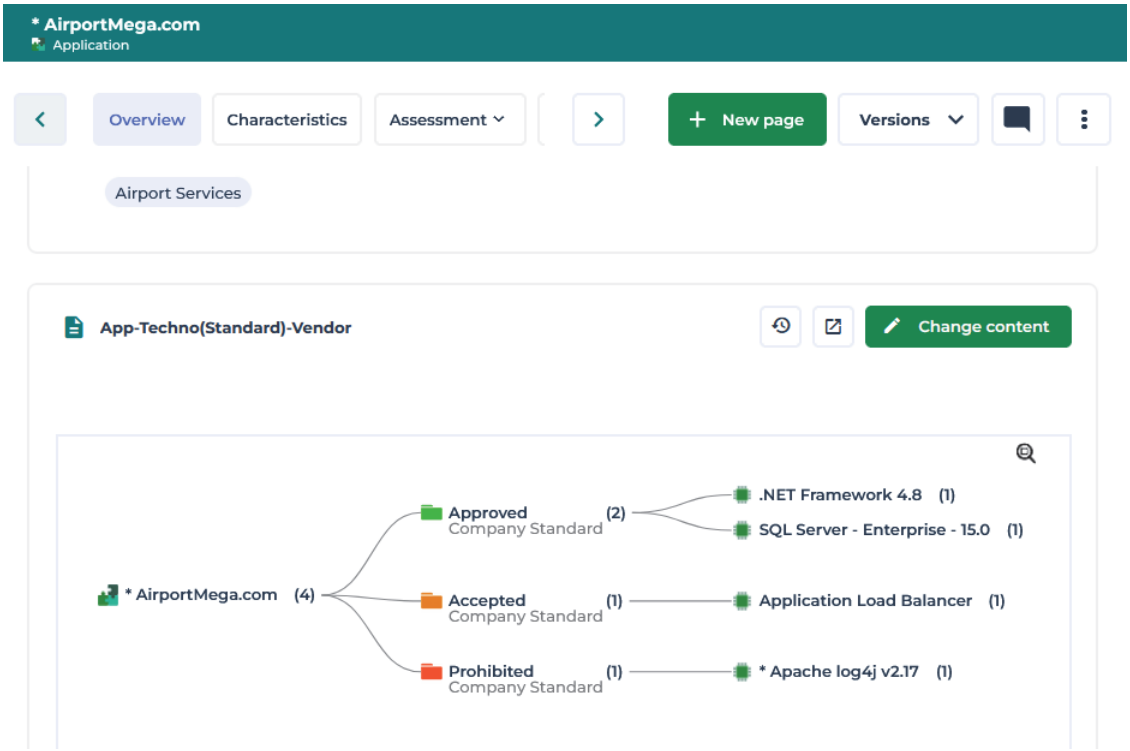
1. Create the dendrogram-type instant report.

   ☛ *See Creating a Dendrogram Instant Report (list) with a single source object.*

2. In the report toolbar, click **More** ⋮ **> Add to object Overview page** .
3. Enter the **Name** of the report.

4. Click **OK**.
The report replace the report or diagram already defined in the **Overview** page of the object.

☛ *See Property Page: Overview.*



Adding an Instant Report to your Dashboard

You can add an instant report to your dashboard. This instant report is then available in the list of Widgets for the other users.

☛ *See Adding a widget to your dashboard.*

To share an instant report as a Widget:

1. Launch your instant report.

☛ *See Launching an Instant Report.*

2. In the report result page, click **More** ⋮ **> Add to Dashboard** .
   - The report is added to your dashboard.
   - The report is added to the list of widgets available to populate dashboards. All users can use your report as a widget.

☛ *See Customizing your Dashboard.*

   - The report is saved in your reports.

☛ *See Accessing Reports.*

MANAGING REPORTS

In **Hopex** (Web Front-End) you can customize the report display.

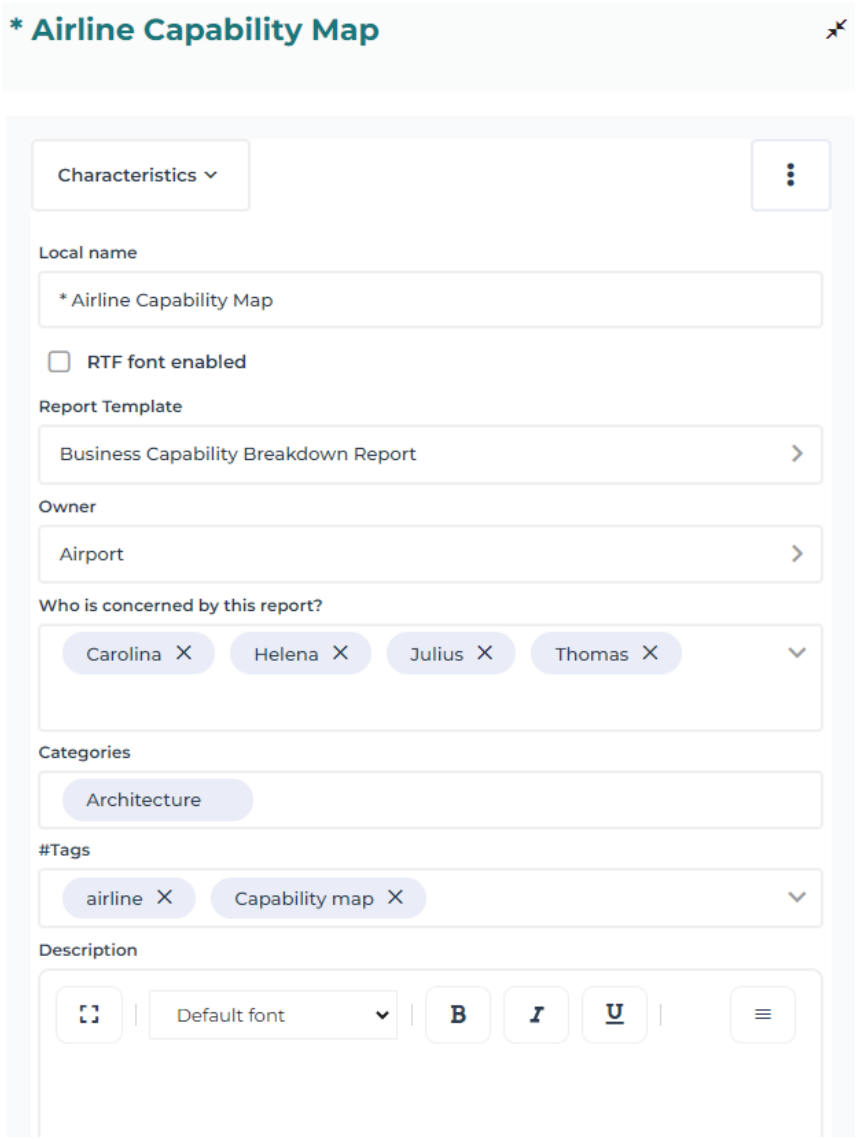
See:

- Managing Report Properties
- Saving a Report
- Adding a Report to Favorites
- Deleting a Report
- Customizing a Report Style
- Adding a Description to a Report or to a Report Chapter
- Modifying the Report Parameters or the Report Presentation
- Customizing a Report Chart Display
- Resetting the Customization of the Report Settings
- Managing Report Styles

Managing Report Properties

The **Characteristics** property page of a report includes:

- useful characteristics, especially to filter reports during a report search:
  - ***Who is concerned by the report?***
  - ***Categories***
  - ***Tags***
- the report ***Description*** (displayed above the report)



Accessing report properties

To access the properties of a report:

1. Access the reports.

   ☛ *See Accessing a report.*

2. In the list of reports, hover the cursor over the report of interest and click **Properties** .
   The report properties display on the right of the report list.

To display the properties of an open report:

1. Display the report.
2. In the report title bar, click **More** **> Properties** .
   The report properties display on the right of the report.

Modifying the persons concerned by a report

When creating a report, you can define the persons that are concerned by this report. These persons can then access the report easily through the report search with the filter **My reports**.

To modify the persons concerned by a report:

1. Access the properties of the report.
2. Display the **Characteristics** page.
3. Using the drop-down menu of the **Who is concerned by this report?** field, select the persons or enter the name of a person in the field.

Adding tags to a report

When creating a report, you can attach tags to it. These tags can be also used to filter reports during a search and ease access to them.

To add tags to a report:

1. Access the properties of the report.
2. Display the **Characteristics** page.
3. Using the drop-down menu of the **Tags** field, select an existing tag or enter a new tag in the field.

   ☛ *See Managing Tags on an Object.*

Adding a description to a report

When creating a report, you can add a description to it. This description is displayed above the report.

☛ *You can also add a description to a report chapter, see Adding a Description to a Report or to a Report Chapter.*

To add or modify a report description:

1. Access the properties of the report.
2. Display its **Characteristics** page.
3. In the **Description** text area, enter the description of the report. You can use the text editor of the text zone to help you.

Hiding a report chapter

Report chapters vary according to report type. In the report results, you can show some chapters and hide others.

To define the chapters to display:

1. Access the properties of the report.
2. In the **Report Chapters**, in the **Presence** column, clear the chapters you want to hide.
   By default, all chapters are displayed.

Saving a Report

To keep the results of a report embedded in an object, you can save it. It is then accessible in the report search via the filter **My reports**.

To save a report:

1. Open the report.
   ☛ *See Accessing the reports embedded in object.*
2. In the report toolbar, click **More** ⋮ **> Save as Report** .
3. Enter the **Name** of the report.
4. Click **OK**.
   The report is saved in your reports.
   ☛ *You can modify the report, see Managing Reports.*

Adding a Report to Favorites

A favorite report is easy to access with the **Favorites** filter.

☛ *See Adding filters.*

You can add a report to your list of favorites or to the list of favorite reports shared with the other users.

In the list of reports, reports added to:

- your favorites are identified by ★
- shared favorites are identified by ★

To add a report to favorites:

1. Access the reports.
   ☛ *See Accessing Reports.*
2. Search for the report with the help of the filters.
3. In the report list, hover the cursor over the report and select **More** ⋮ **> Add to favorites** ★.
4. Select the folder or sub-folder concerned:
   - **My Favorites**
   - **Shared Favorites**

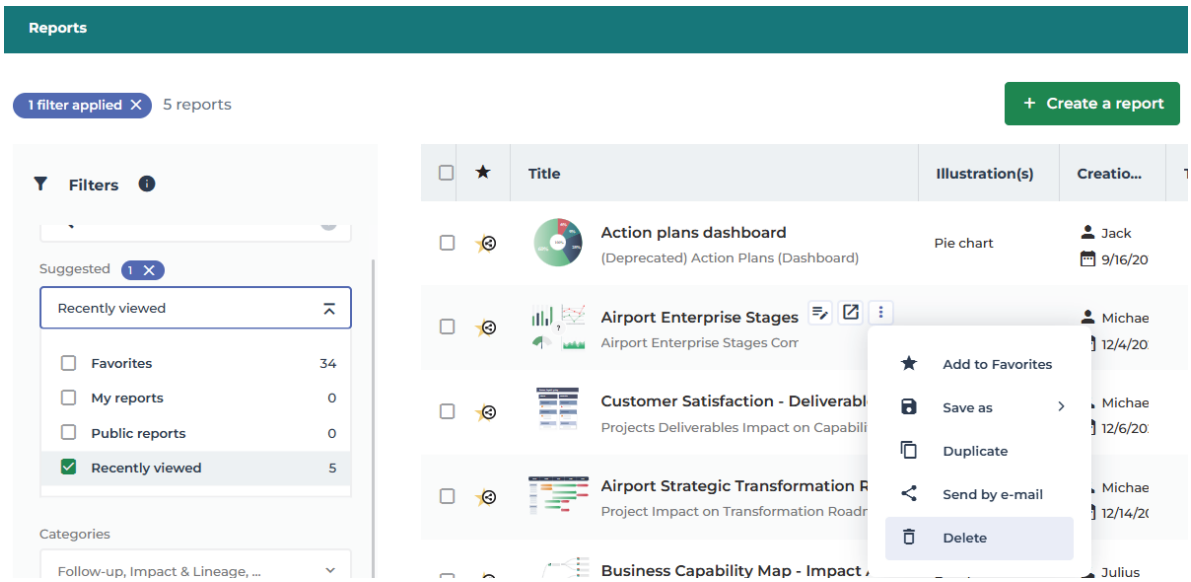
5. Click **OK**.
   The report is added to the selected list.

Deleting a Report

You can delete any report from the repository.

To delete a report:

1. Access the reports.
   ☛ *See Accessing Reports.*
2. Search for the report with the help of the filters.
3. In the report list, hover the cursor over the report and select **More** ⋮ **> Delete**.



4. Click **Yes** to confirm deletion.
   The report is deleted from the repository.
   ☛ *If needed, to undo this action: from Hopex toolbar, click* ***Undo*** .

Customizing a Report Style

To customize a report style, you must display the report edit pane

To customize a report style:

1. In the report page, click **More** ⋮ **> Edit the report** .
   The edit pane appears to the right of the report.

2. (If the report includes several chapters) Select the chapter you want to edit.
3. Customize the report.
    - ☛ *See Customizing a Report Chart Display.*
    - ☛ *See Customizing a Pie Chart Display.*
    - ☛ *See Customizing a Table or Matrix Display.*
    - ☛ *See Handling a Bubble Chart.*
    - ☛ *See Handling a Dendrogram.*
    - ☛ *See Handling a Graph.*
    - ☛ *See Handling a Treemap.*
    - ☛ *See Handling a Breakdown Report.*
    - ☛ *See Handling a Heatmap.*
    - ☛ *See Managing Report Styles.*
4. In the report page, click **Exit Report Edit Mode** × .

   The edit pane to the right of the report disappears. You are no longer in report edit mode.

   Your customization is saved.

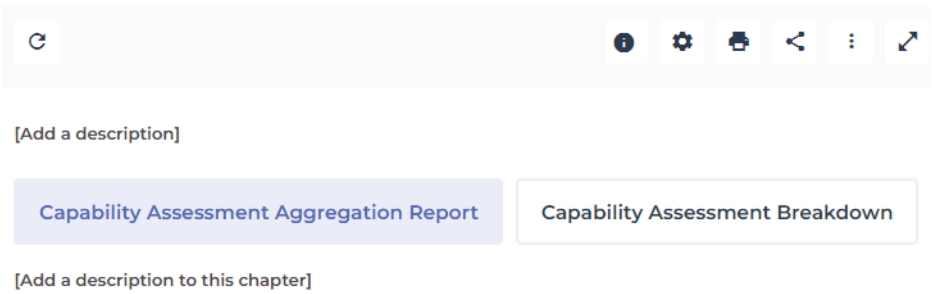
Adding a Description to a Report or to a Report Chapter

You can add a description at:

- report level
    - ☛ *See also Adding a description to a report.*
- report chapter level
    - ☛ *To hide the report chapter description, see Managing Report Options.*

To add a description to a report or to a report chapter:

1. In the report page, click **More** ⋮ **> Edit the report** .



2. To add a description to:
   - a report: click **Add a description**
   - a chapter: select the chapter and click **Add a description to this chapter**.

   An edit window opens.
3. Enter your text.
4. (To format your text) Click **Maximize** to enlarge the text edit window and display all formatting menus.

   ☛ *Alternative: click to access the text formatting menus.*
5. Click outside the edit window.
   The description is displayed at the top of the report / below the report chapter title.

   ☛ *If the **Hide chapter descriptions** option is selected after the addition of the description, the description is hidden. The content of the description reappears if the option is cleared. See Managing Report Options.*

Modifying the Report Parameters or the Report Presentation

You can access a report parameters to view or modify them.

☛ *To modify a report embedded in an object, you must first save it, see Saving a Report.*

You can modify

- its name
- its parameters
- its presentation

```
E.g.: legend format, titles, percentages in the data table.
```

☛ *See Modifying the legend format.*

To modify a report parameters:

1. Access the report.

   ☛ *See Accessing Reports.*
2. In report toolbar, click **Edit parameters** .
3. In the **Report Parameters** window, modify the required parameters.

   ☛ *You can also modify the report name.*
4. Click **Apply**.
   The report is automatically updated with the new parameters.

   ☺ *To return to the previous configuration, in the Hopex toolbar, click **Undo**.*

Customizing a Report Chart Display

You can customize a chart in your report at the following levels:

- chart content
- chart style
- series style
- style for export

> **The values modified locally override the global values defined for all reports.**

You can reset the default values at:

- a parameter level
- an entire chapter level

> *See Resetting the Customization of the Report Settings.*

You can add descriptions at:

- report level
- report chapter level

> *See Adding a Description to a Report or to a Report Chapter.*

Modifying the chart content

To modify the chart content:

1. Edit the report.

   > *See Customizing a Report Style.*

2. In the report page, click **Edit Style Parameter Values** and select **All Series**.
   The edit pane appears.
3. In the **Content** section, modify the relevant parameters.

   > *To reset the values, click **Reset Parameter Values** . **Caution**: the style parameter values in the report chapter are also reset.*

4. Click **Apply**.
   Your modifications are immediately taken into account in the report.

   > *If the modifications do not automatically appear, click .*

Modifying the chart font

You may, for example:

- modify the font size and color
- add a title to the chart

To modify the chart font:

1. Edit the report.

   > *See Customizing a Report Style.*

2. In the report page, click **Edit Style Parameter Values** and select **All Series**.
   The edit pane appears to the right.

3. In the **Style** section, modify the relevant parameters.
   - ☛ *To reset a parameter value, delete the value you entered.*
   - ☛ *To reset all values, click **Reset Parameters Values** .*
     ***Caution**: all parameter values in the report are also reset.*
4. Click **Apply**.
   Your modifications are immediately taken into account in the report.
   - ☛ *If the modifications do not automatically appear, click .*

Modifying the chart style

- ☛ *See for example:*

Modifying the style in a bubble chart
Modifying an object style in a graph
Modifying the graph style

To modify the chart style:

1. Edit the report.
   - ☛ *See Customizing a Report Style.*
2. In the report page, click **Edit Style Parameter Values** and select **All Series**.
   The edit pane appears to the right.
3. In the **Chart Style** section, modify the relevant parameters.
   - ☛ *To reset a parameter value, delete the value you entered.*
   - ☛ *To reset all values, click **Reset Parameters Values** .*
     ***Caution**: all parameter values in the report are also reset.*
4. Click **Apply**.
   Your modifications are immediately taken into account in the report.
   - ☛ *If the modifications do not automatically appear, click .*

Modifying the label style

To modify the label style of a chart:

1. Edit the report.
   - ☛ *See Customizing a Report Style.*
2. In the report page,, click **Edit Style Parameter Values** and select **All Series**.
   The edit pane appears to the right.
3. In the **Labels Style** section, modify the relevant parameters.
   - ☛ *To reset a parameter value, delete the value you entered.*
   - ☛ *To reset all values, click **Reset Parameters Values** .*
     ***Caution**: all parameter values in the report are also reset.*
4. Click **Apply**.
   Your modifications are immediately taken into account in the report.
   - ☛ *If the modifications do not automatically appear, click .*

Modifying the legend style

To modify the legend style of a chart:

1. Edit the report.

   ☛ *See Customizing a Report Style.*

2. In the report page, click **Edit Style Parameter Values** and select **All Series**.
   The edit pane appears to the right.
3. In the **Legend Style** section, modify the parameters concerned.

   ☛ *To reset all values, click **Reset Parameters Values** . **Caution**: all parameter values in the report are also reset.*
4. Click **Apply**.
   Your modifications are immediately taken into account in the report.

   ☛ *If the modifications do not automatically appear, click .*

Modifying the series parameter style

To modify the parameter style of a series:

1. Edit the report.

   ☛ *See Customizing a Report Style.*

2. In the report page, click **Edit the Style Parameters Values** and select the series that you want to modify.
   The edit pane of the selected series appears to the right.
3. In the pane of the selected series, in the **Chart Style** section, select the parameter values of the series that you want to modify.
4. Click **Apply**.

   The values defined locally replace the global values defined for all reports.

Modifying the style for export

You may, for example:

- bar chart:
  - define the maximum value of axes
  - display the bars in percentage
- pie chart:
  - define a sector to emphasize
  - define a legend background color

To modify the chart style for export:

1. Edit the report.

   ☛ *See Customizing a Report Style.*

2. In the report page, click **Edit Style Parameter Values** and select **All Series**.
   The edit pane appears to the right.
3. In the **Style for Export** section, fill in the required fields.

4. Click **Apply**.

   ☛ *See Exporting a Report.*

Resetting the Customization of the Report Settings

You can reset:

- the value of content or report style parameter
- all your customization applied to content and report style parameters

Resetting a parameter value

To reset the value of a content or report style parameter:

1. Edit the report.

   ☛ *See Customizing a Report Style.*

2. Delete the value that you have entered for the parameter.
3. Click **Apply**.
   The default value of the parameter is automatically taken into account.

Resetting all the report customization

To reset all your changes:

1. Edit the report.

   ☛ *See Customizing a Report Style.*

2. Click **Reset Parameters Values**  .
3. Click **Apply**.
   Caution: all content and report style parameters return to their default value.

Managing Report Styles

Creating a report style

You can customize the style of a report. To apply this style customization to an other report, you must create the style.

To create a style:

1. Open a report and customize its display.

   ☛ *See Customizing a Report Chart Display.*

2. Expand the **Manage Styles** section.
3. Click **Save as style**.
   The report style creation dialog box opens.
4. In the **Name** field, enter the name of the report style.

5. Click **OK**.
   Your report style is created.

   ☛ *To apply this style to another report, see Applying a style to your report.*

Applying a style to your report

To apply a style to your report:

1. Edit the report.

   ☛ *See Customizing a Report Style.*
2. Expand the **Manage Styles** section.
3. In the drop-down list of the **Apply Style** field, select the style that you want to apply to the report.

   ☛ *You must have created a style, see Creating a report style.*
4. Click **Apply**.
   The style is applied to your report.

HANDLING REPORTS

See:

- Handling a Report
- Handling a Bar Chart or Line Chart
- Customizing a Pie Chart Display
- Customizing a Table or Matrix Display
- Handling a Bubble Chart
- Handling a Dendrogram
- Handling a Graph
- Handling a Treemap
- Handling a Breakdown Report
- Handling a Heatmap
- Handling a Chord Diagram

Handling a Report

Displaying a chart in full page

You can display a chart from a report in full page. With this display you cannot:

- edit the report
- view the list of objects contained in a part of the chart at the same time (it is displayed in the edit zone below the chart)

To display the chart in full page: click **Display in full page** on the top right corner of the chart.

☛ *To exit the full page mode, click **Exit full page mode** .*

Displaying a report in a new tab

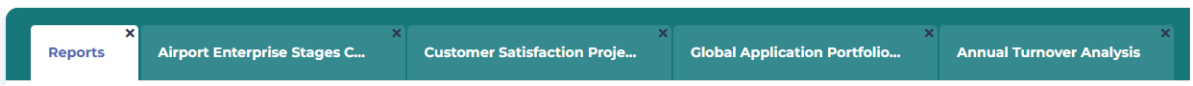
You can open a report in a new tab. That way you can keep, in parallel, several reports.

To display a report in a new tab:

1. Access the reports.

   ☛ *See Accessing Reports or Launching an Instant Report.*

2. Hover the mouse over of the report name and click **Open in a new tab** .
   You can then display several reports in multiple tabs.



Updating a report

Some reports may contain snapshots that save the input parameters and enable to reproduce the results of a report quickly when it is refreshed.

When the report has a snapshot, a message (at the top of the report) specifies the date of the latest generation of the report as well as the time required for generation.



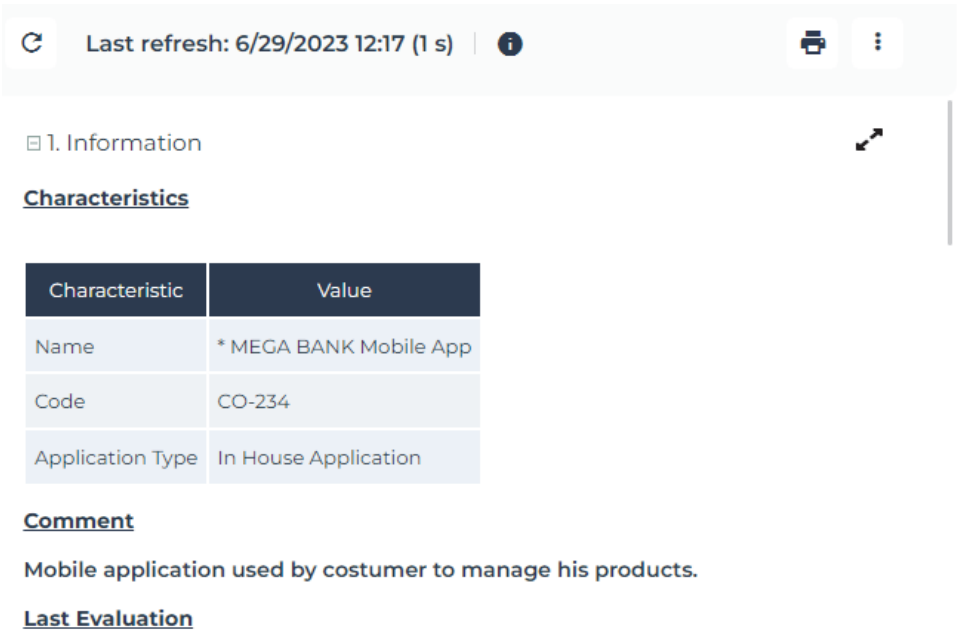
If the data contained in the list of objects changes, you must refresh the report to take these changes into account.

In case of an instant report generated from a Report DataSet, you must regenerate the Report DataSet, then launch an instant report for the modifications to be taken into account.

To update a report:

1. Access the report.

   ☛ *See Accessing Reports or Launching an Instant Report.*



2. In the report toolbar, click **Refresh the report** .
   The report is updated.

Getting the list of objects contained in a report part

You can get the list of objects contained:

- ***bubble chart***: in a bubble
- ***bar chart***: in a bar of a series
- ***pie chart***: in a section of the chart
- ***heatmap***: in a cell of the map
- ***word cloud***: in a tag
- ***matrix:***: in a cell
- ***Set of gauges***: in a gauge

To get the list of objects making up part of the chart:

1. Access the report.

   ☛ *See Accessing Reports or Launching an Instant Report.*

2. Click the chart part concerned.

   ☛ *In a bubble chart, hover the mouse over the bubble and click **Set of objects, click to view details**.*

   ☛ *In a chord diagram, click the chord and then **Click to view details***  .

   The list of objects included in this part is displayed bellow the chart.
   In the list, you can click:

   ☛ *The functionalities available depend on the desktop on which you are working*

   - **Instant Report**  , to generate an instant report for the series.

     ☛ *This feature is not available for reports generated from Report DataSets.*

   - **Excel**  , to export the elements of the series in .xlsx format.

     ☛ *You can also display the properties of an object in the list, see Displaying the properties of an object contained in a report.*

Displaying the properties of an object contained in a report

In a report, you can access object properties of:

- objects displayed in the chart

  ```
  E.g.: in a table, a matrix, a graph, a breakdown map, a
  treemap, a dendrogram, a tree table, a Gantt chart.
  ```

- objects making up a part of the chart

  ```
  Ex.: in a pie chart, bar chart, bubble chart, heatmap, word
  cloud.
  ```

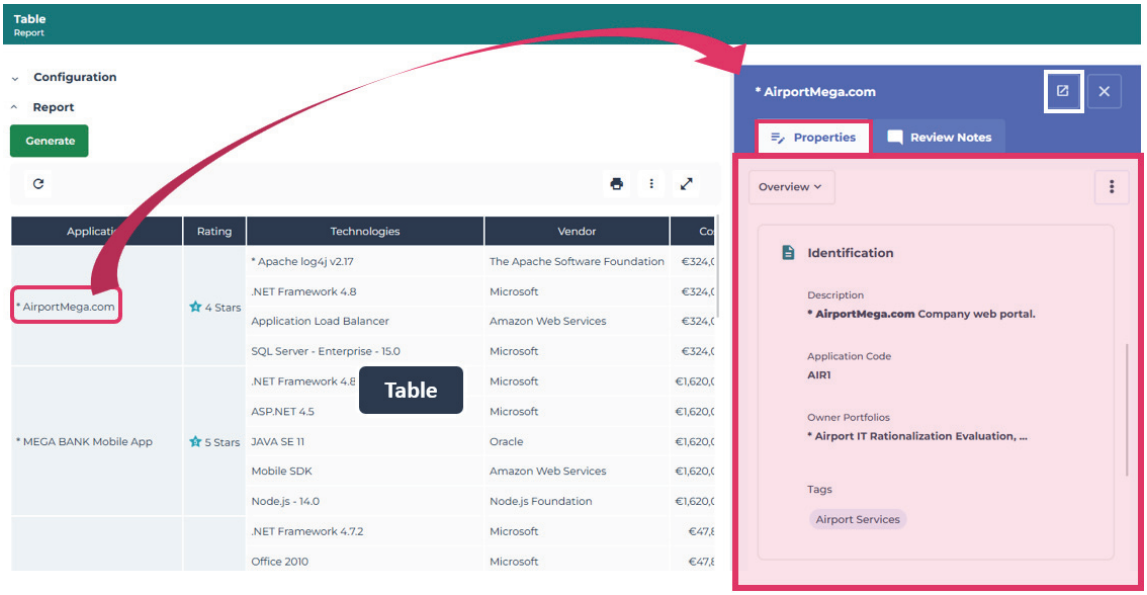
Table - Matrix - Graph - Breakdown map - Treemap - Dendrogram - Tree table - Gantt chart

To display the properties of an object contained in a report:

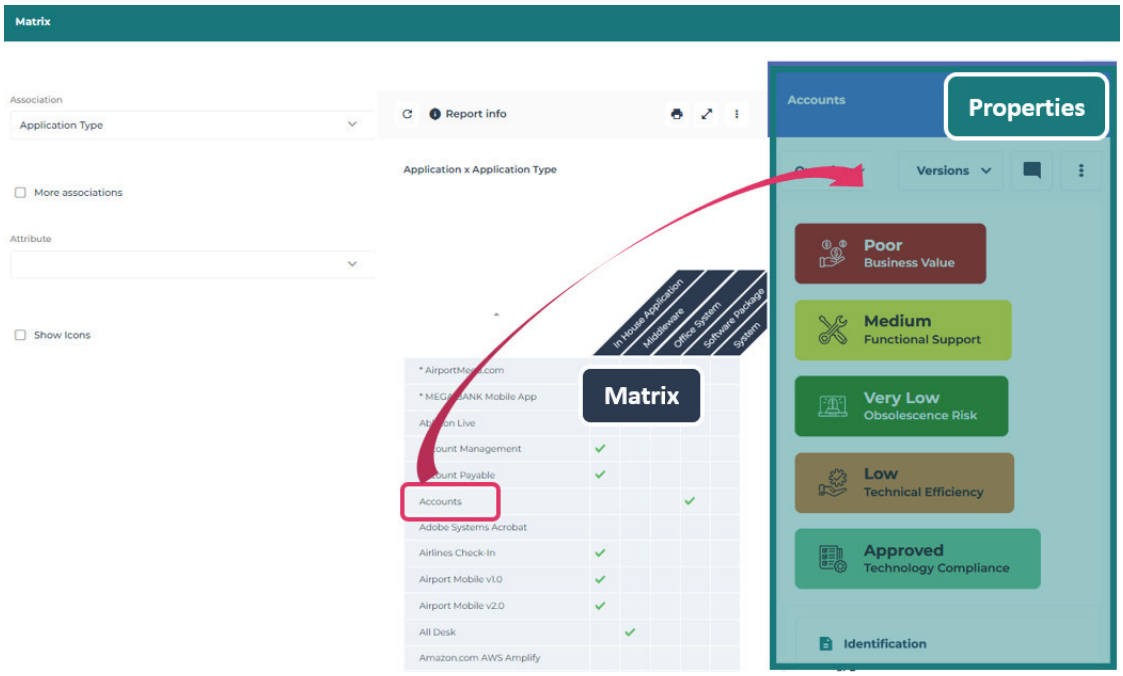
- In the chart, click the object.
  The object properties are displayed in the panel to the right. You can modify them.

E.g.: in a ***Table***, click the object in a cell of the table.

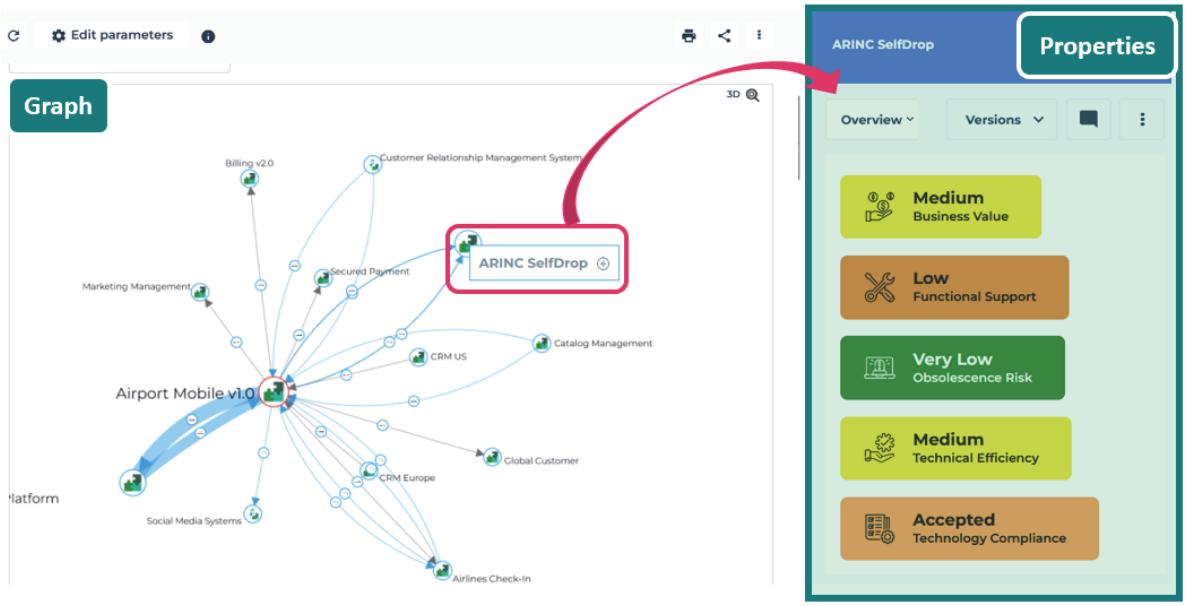
☺ *If needed, in the right pane, click* ***Open in a new tab***  *to display its properties in a new tab and access it easily later on.*



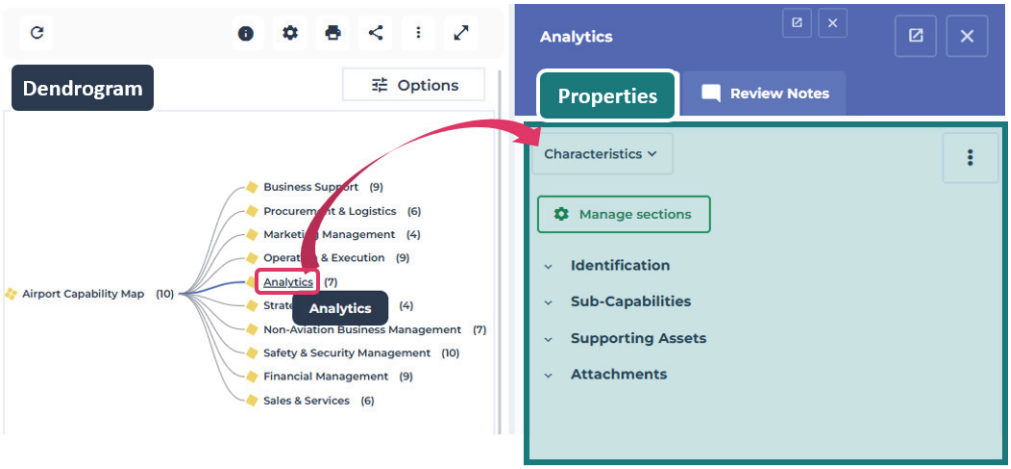
E.g.: in a ***Matrix***, click the object in a column/row header.



E.g.: in a ***graph***, click the object.



E.g.: in a ***Dendrogram***, click the object. The path from the source object is highlighted with a bold blue line.



Pie chart - Bar chart - Bubble chart - Heatmap - Word cloud

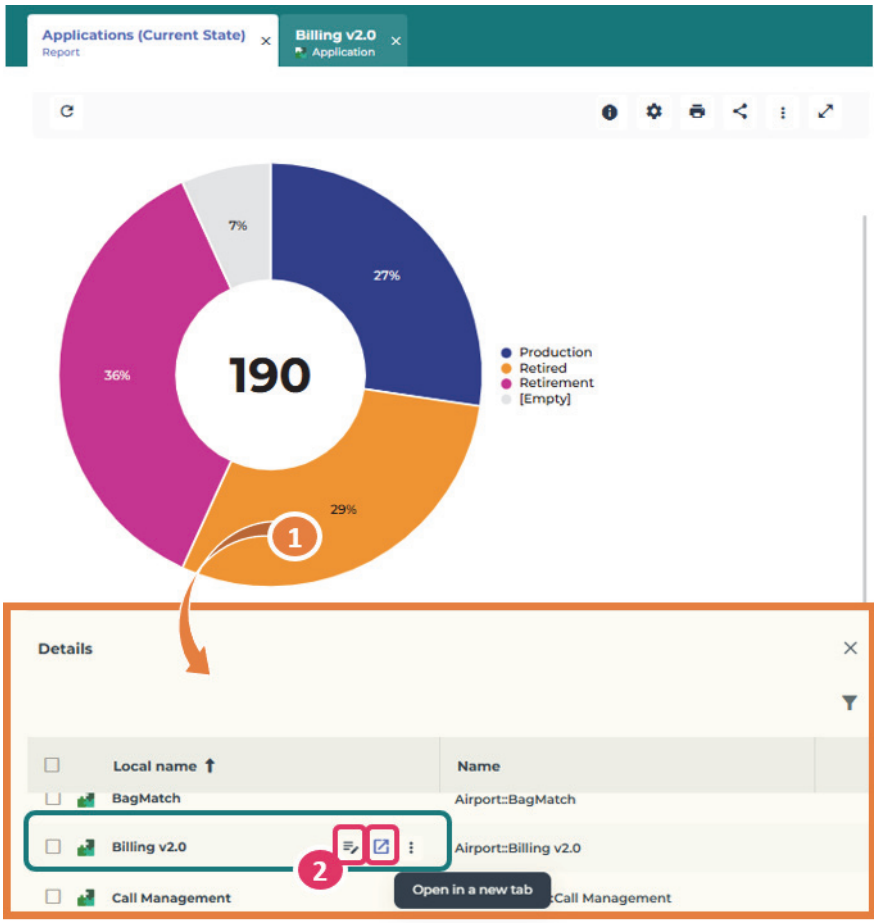
In a report, to display the properties of an object making up a chart part:

1. In the chart, click the relevant part.

   E.g.: in a pie chart.

   The list ob objects making up the chart part is displayed below the

2. In the result list, hover the cursor over the object, then:
   - select **Open in a new tab** to display its properties in a new tab.
   - select **Properties** to display properties in place of the report.
     ☺ *You can return to the report using the breadcrumb.*
   - click the object name to display its properties in the pane to the right of the report.
     ☺ *You can successively display the property pages of objects.*



Printing a Report

To print the content of a report:

1. Open the report.
   ☛ *See Accessing Reports.*
2. In the report toolbar, click **Print the report** .
   If the report includes several chapters, all of them are printed.

Exporting a Report

You can export the report content in RTF or Excel format.

> ☛ *To hide the export buttons on report chapters, see Managing Report Options.*

Exporting a report in RTF format

To export the entire content of the report in RTF format:

1. Open the report.

   > ☛ *See Accessing Reports.*

2. In the report menu bar, click **More ⋮ > RTF** .

   > ☛ *The first time you open a separate window, your web browser may request authorization to open unexpected windows. If this is the case, accept.*

   The report opens in MS Word.

Exporting a report in Excel format

You can export certain report data in Excel format.

This feature is available for Java report chapters but does not apply to VB or VBScript reports.

> ☛ *For more details on macros, see **Hopex Power Studio - Report Studio documentation**.*

By default, the export generates an .XLSX file. To generate the report in .XLS format, see Managing Report Options.

Excel export limitations:

- Certain charts such as the Gantt chart are not supported.
- Views of over three dimensions are not processed.

To export the content of the Excel format report:

1. Open the report.

   > ☛ *See Accessing Reports.*

2. To export:

   - the content of the full report: in the report page, click **Plus ⋮ > Excel** .
   - the content of a specific report chapter: at the title level, click **Excel**

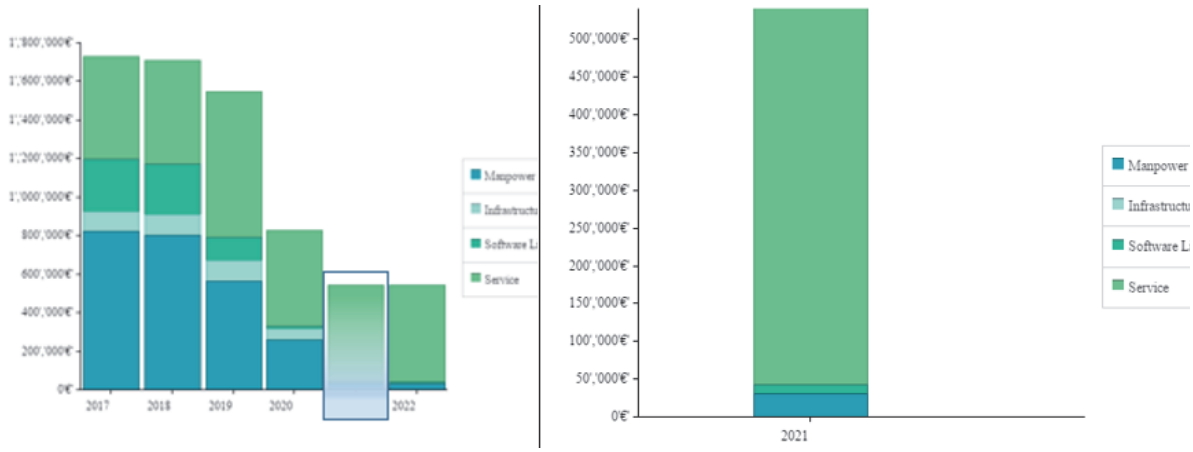
   > ☛ *The first time you open a separate window, your web browser may request authorization to open unexpected windows. If this is the case, accept.*

   The generated file presents one Excel sheet per chapter bearing the name of the chapter if there is one, or by default the name of the report type followed by a number (starting with 1).

Handling a Bar Chart or Line Chart

Zooming in on a chart part

For improved readability, you can zoom in on a chart part.



To zoom on one part of a chart:

1. Access the report concerned.
2. In the chart, with the mouse, click and draw a frame of the area you want to zoom in.
   The selected part is automatically zoomed.

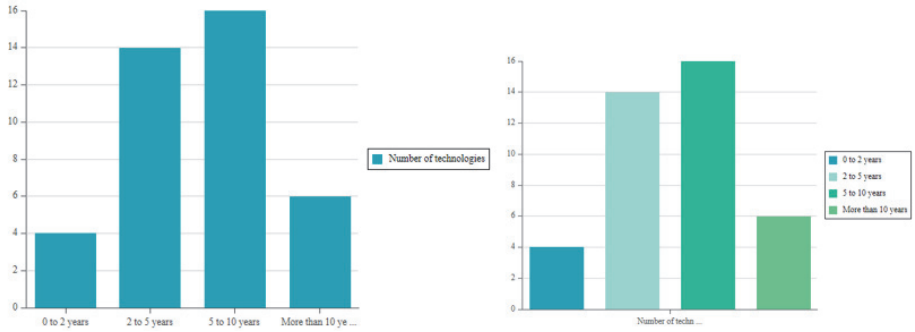
☛ *To zoom out, click* ***Reset zoom*** *or double-click in the chart.*

Modifying the chart content

☛ *See Modifying the chart content.*

You may, for example:

- reverse the display of the series



- show/hide the values (values or percentage) in the bars.
- add a title on the horizontal and/or vertical axis

Modifying the chart style

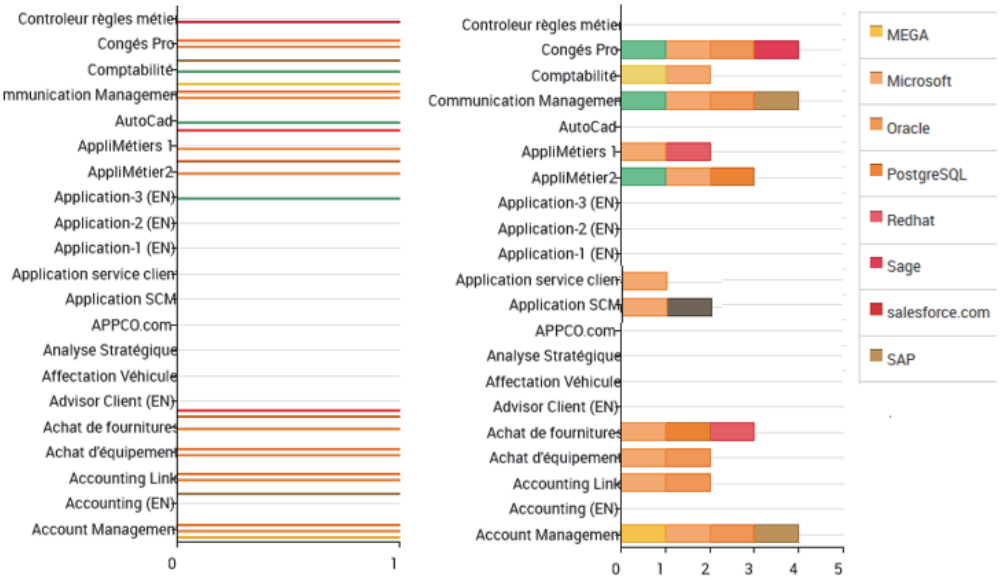
☛ *See Modifying the chart style.*

You may, for example:

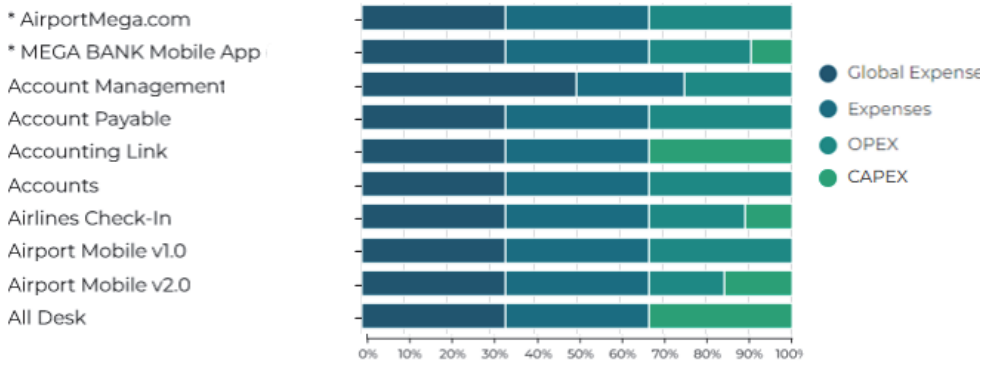
- modify the color palette of the series

  ☛ *By default, if the series contains text in the chart, the text color is automatically adapted to the color of the series to be readable. If the text color is defined, it is applied regardless of the series color.*

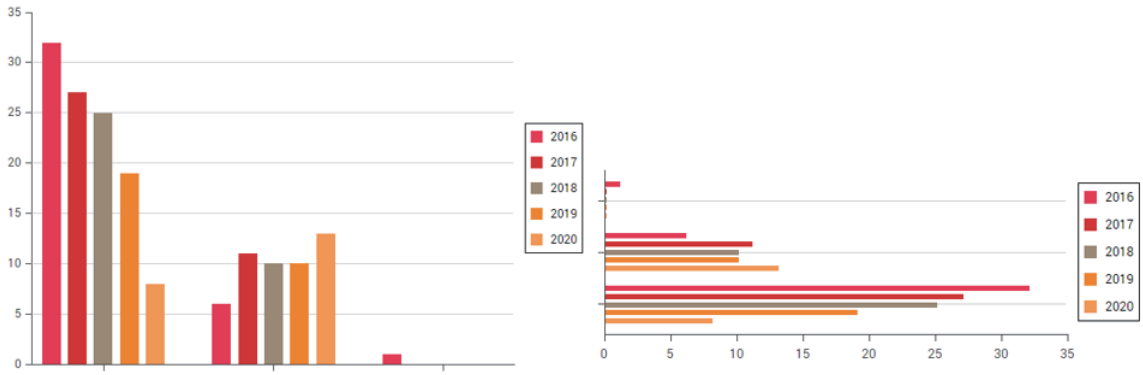
- add a horizontal and/or vertical grid
- add a horizontal and/or vertical grid spacing
- stack the bars



- stack the bars (percentage)



- reverse the bar direction (vertical or horizontal)



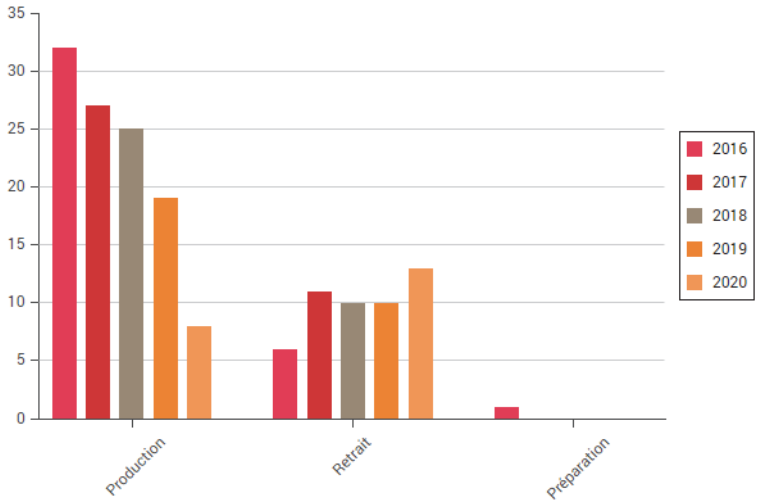
Modifying the label style

☛ *See Modifying the label style.*

You may, for example:

- hide the axes
- define the maximum value of axes
- truncate the labels
- reverse the label order
- sort by value order (vertical axis)
- define a display angle for the horizontal label (in degrees)

☛ *Default value: 0°, the text is horizontal.*

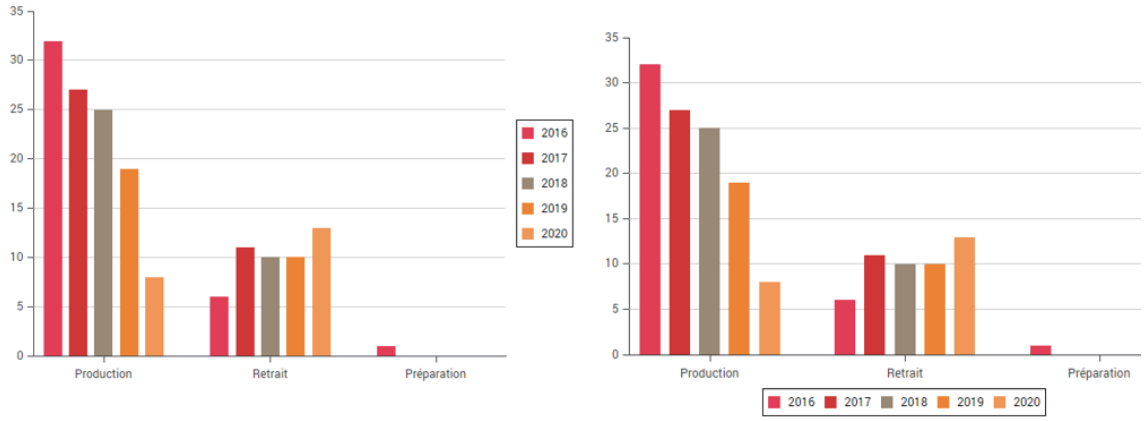


Modifying the legend style

☛ *See Modifying the legend style.*

You may, for example:

- hide/show the legend
  - ☛ *Default value: yes (displayed)*
- modify the position of the legend (on the bottom or right)
  - ☛ *Default value: to the right*
- hide/show the legend frame
  - ☛ *Default value: yes (displayed)*

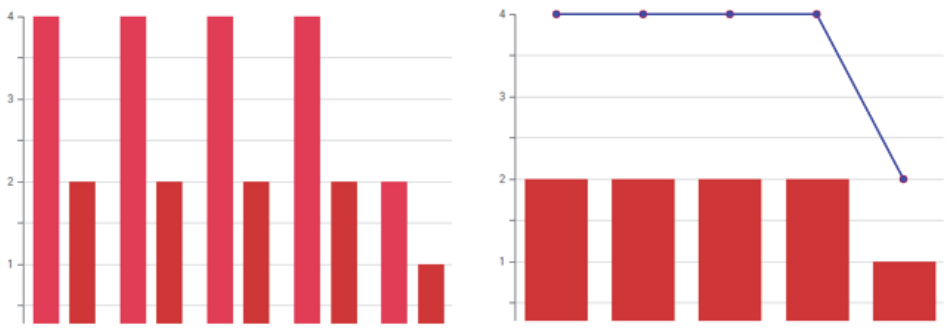


Modifying the parameter style of a series

☛ *See Modifying the series parameter style.*

You can:

- modify the display style (as bars or as lines)
  - ☛ *Default value: no (as bars)*



- modify the series color

Customizing a Pie Chart Display

You can customize the display of a pie chart of your report at:

- chart content level
  - Label format
  - Label hiding threshold
  - Chart title

    ☛ *See Modifying the chart content.*
- chart style level
  - Chart width
  - Font (style, color, size)
  - donut format

    ☛ *See: Modifying the chart font, Modifying the chart style, Modifying the label style, Modifying the legend style.*
- series style level

  ☛ *See Modifying the series parameter style.*
- style level, for exporting

  ☛ *See Modifying the style for export.*

  The values modified locally override the global values defined for all reports.

You can reset the default values at:

- a parameter level
- an entire chapter level

  ☛ *See Resetting the Customization of the Report Settings.*

You can also:

- hide a data series

  ☛ *See Hiding a data series.*
- modify the legend:
  - position

    ☛ *See Modifying the legend position.*
  - format

    ☛ *See Modifying the legend format.*
- add descriptions
  - report level
  - report chapter level

    ☛ *See Adding a Description to a Report or to a Report Chapter.*
- get the list of objects contained in a series

  ☛ *See Getting the list of objects contained in a report part.*

Hiding a data series

For improved readability, you can hide data series in the report chart.

To show/hide a data series:

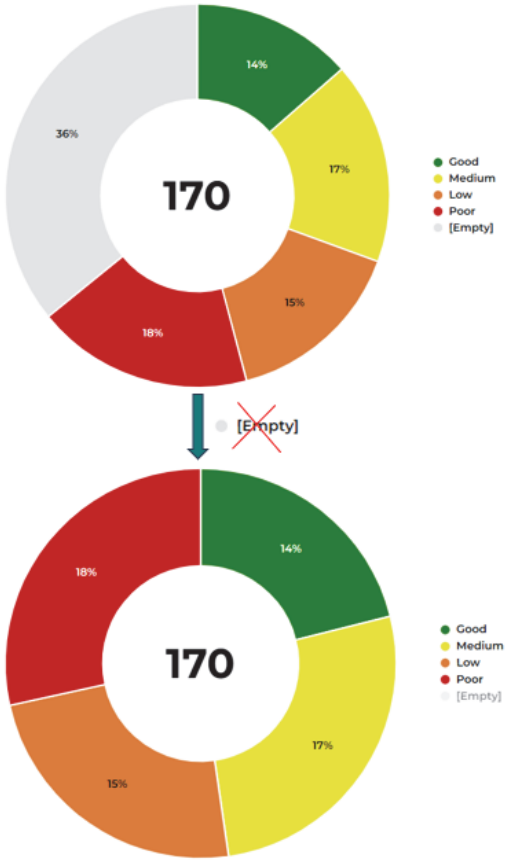
1. Edit the report (click **More** ⋮ **> Edit Report**).

   ☛ *See Customizing a Report Style.*

2. In the report legend, click the data series concerned.
   In the legend, the color that represents the series is grayed.
   The series is not shown anymore in the chart.

   ☛ *You can hide several series.*

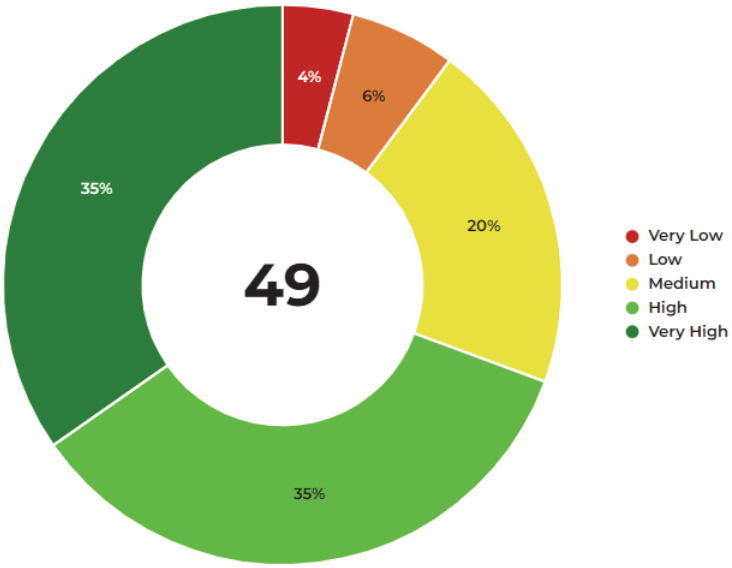
   Example: in the chart showing the breakdown of applications according to their current state, you can hide the series "[empty]" that represents the applications whose state is not entered.



3. In the legend, click the series again to re-display it in the chart.

Modifying the legend position

By default, the pie chart legend is positioned to the right of the chart.



You can hide the legend or change its position:

- below the chart
- in the chart

To modify the legend position:

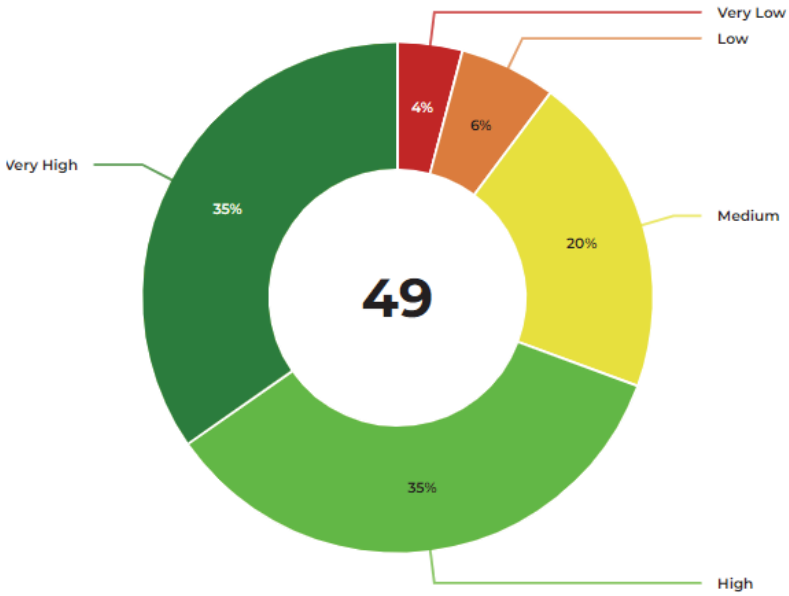
1. Edit the report (click **More** ⋮ **> Edit Report**).

   ☛ *See Customizing a Report Style.*

2. In the report page, click **Edit Style Parameter Values** and select **All Series**.

3. In the **Legend Style** section, modify the **Legend Position** value.

   Example: Labels with lines.



4. Click **Apply**.
   Your modifications are immediately taken into account in the report.

   ☛ *If the modifications do not appear automatically, click* ↻.

Modifying the legend format

By default, the pie chart legend consist of the names of the series.

You can also display their values, percentages, or mix them.

To modify the legend format:

1. Edit the report (click **More** ⋮ **> Edit Report** 🛠).

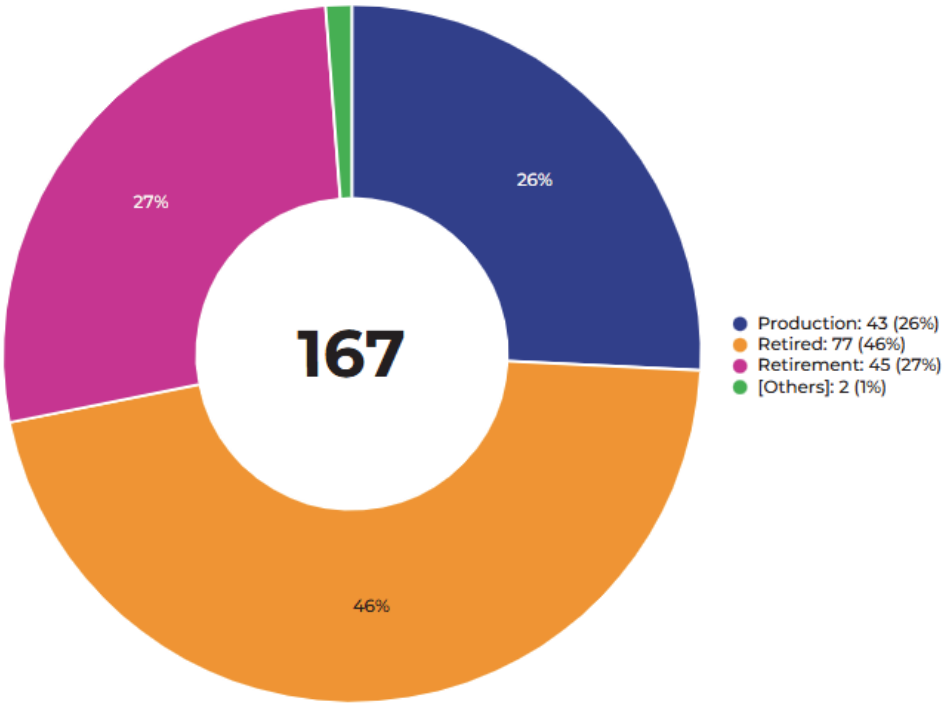
   ☛ *See Customizing a Report Style.*

   ☺ *To directly access the legend format parameters, in the report toolbar, click* ***Edit parameters*** ⚙ ***> Presentation.***

2. In the report page, click **Edit Style Parameter Values** ✎ and select **All Series**.

3. In the **Legend Style** section, modify the **Legend Format** value.

   `Example: Label, value, and percent.`



Customizing a Table or Matrix Display

You can customize the display of a table or a matrix of your report at:

- chapter table content level

  ☛ *See Modifying the content of a table or matrix.*

- chapter style level

  ☛ *See: Modifying the chart font, Modifying the chart style, Modifying the label style, Modifying the legend style.*

- chapter series style level

  ☛ *See Modifying the series parameter style.*

- chapter style level, for exporting

  ☛ *See Modifying the style for export.*

  The values modified locally override the global values defined for all reports.

You can reset the default values at:

- a parameter level
- an entire chapter level

☛ *See Resetting the Customization of the Report Settings.*

You can add descriptions at:

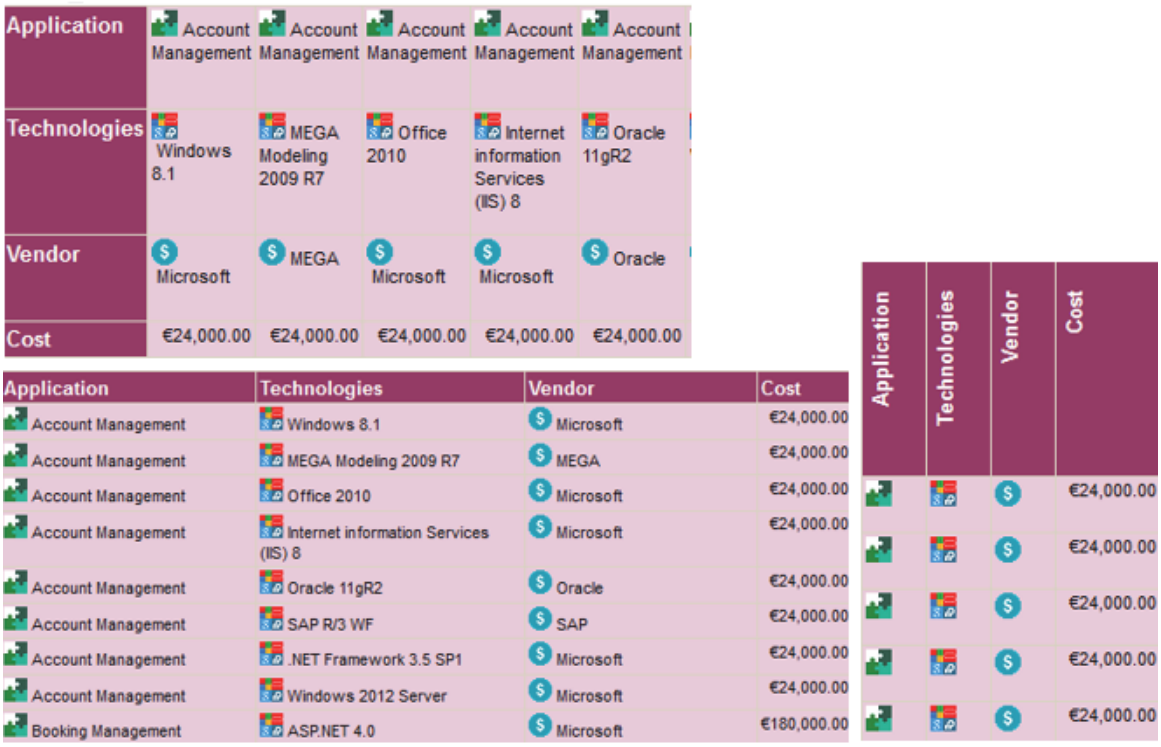
- report level
- report chapter level

☛ *See Adding a Description to a Report or to a Report Chapter.*

Modifying the content of a table or matrix

You may, for example:

- Customize the table header: add a background color, display the text vertically
- customize the cells: define the content (icon and/or text), add a background color
- reverse the display of the series



Application	Account Management	Account Management	Account Management	Account Management	Account Management
Technologies	Windows 8.1	MEGA Modeling 2009 R7	Office 2010	Internet information Services (IIS) 8	Oracle 11gR2
Vendor	Microsoft	MEGA	Microsoft	Microsoft	Oracle
Cost	€24,000.00	€24,000.00	€24,000.00	€24,000.00	€24,000.00

Application	Technologies	Vendor	Cost
Account Management	Windows 8.1	Microsoft	€24,000.00
Account Management	MEGA Modeling 2009 R7	MEGA	€24,000.00
Account Management	Office 2010	Microsoft	€24,000.00
Account Management	Internet information Services (IIS) 8	Microsoft	€24,000.00
Account Management	Oracle 11gR2	Oracle	€24,000.00
Account Management	SAP R/3 WF	SAP	€24,000.00
Account Management	.NET Framework 3.5 SP1	Microsoft	€24,000.00
Account Management	Windows 2012 Server	Microsoft	€24,000.00
Booking Management	ASP.NET 4.0	Microsoft	€180,000.00

Application	Technologies	Vendor	Cost
			€24,000.00
			€24,000.00
			€24,000.00
			€24,000.00
			€24,000.00

- hide the column titles
- add a title to the table
- add a total to the bottom of each column (sum, average, maximum, minimum)

To modify the content of a report chapter table:

1. Edit the report (click **More** > **Edit Report**).

   ☛ *See Customizing a Report Style.*

2. In the report page, click **Edit Style Parameter Values** and select **All Series**.
3. In the **Content** section, modify the relevant parameters.

   ☛ *To reset the values, click **Reset Parameter Values** . **Caution**: the style parameter values in the report chapter are also reset.*
4. Click **Apply**.
   Your modifications are immediately taken into account in the report.

   ☛ *If the modifications do not appear automatically, click or see Managing Report DataSets.*

Handling a Bubble Chart

In a bubble chart, you can:

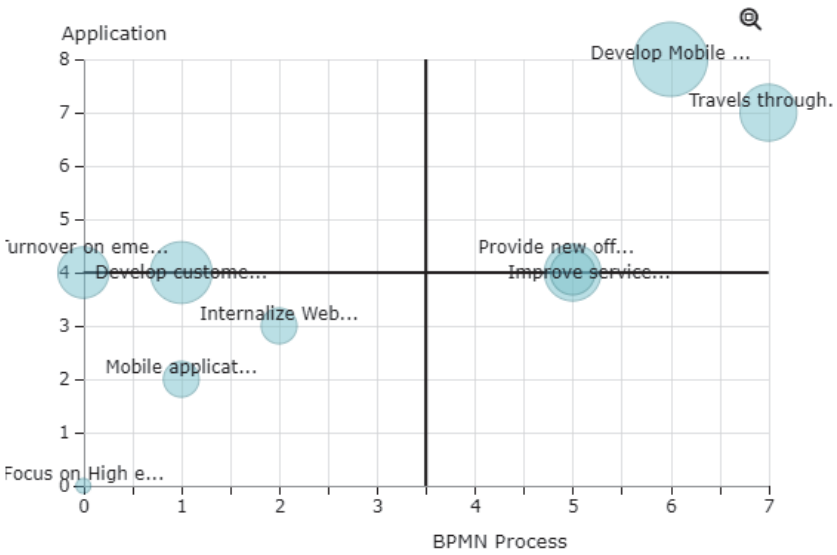
- modify the bubble and label style:
  - display, hide or reduce the length of labels to lighten the chart
  - display and highlight a bubble label
  - display the link between each bubble and its label
  - add a background image
- handle the chart:
  - display the legend
  - zoom in on and move about in the chart
  - get the list of objects contained in a bubble

    ☛ *See Getting the list of objects contained in a report part.*

Modifying the style in a bubble chart

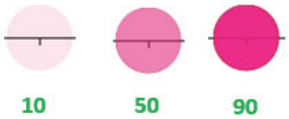
You can, for example:

- display median ***axes***



☛ *To remove or modify the grid lines, see Modifying the chart style.*

- modify the bubble ***color***
- modify the bubble ***opacity***
  By default: 50; to increase the opacity, set a value higher than 50; to decrease the opacity, set a value lower than 50.



- modify the bubble text ***font***
- add a ***background image*** (.png format)
  You can add an image (.png format) that is stored in Hopex (in **Mega_Std** folder of **HAS Customization**)

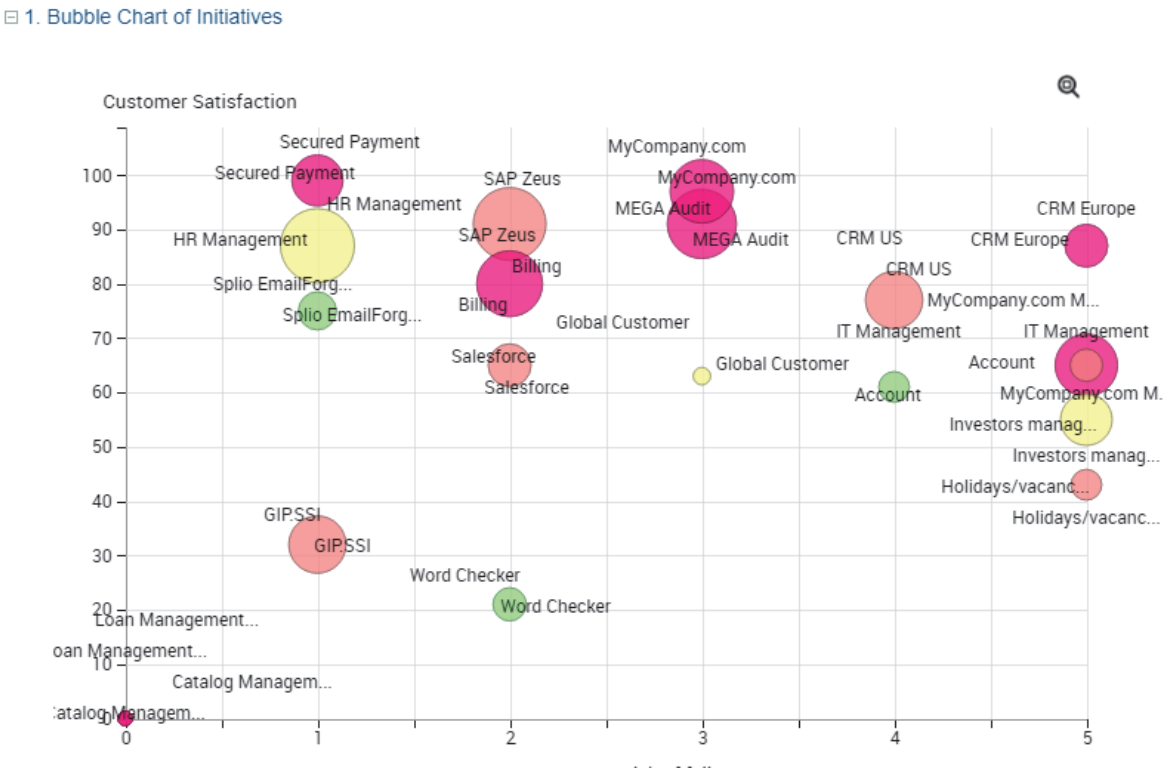


To modify the bubble style in a bubble chart:

1. Edit the report (click **More** ⋮ **> Edit Report**).
   ☛ *See Customizing a Report Style.*
2. In the report page, click **Edit Style Parameter Values** and select **All Series**.
   The edit pane appears to the right.
3. In the **Style** section, modify the relevant parameters.
   ☛ *To reset a parameter value, delete the value you entered.*
   ☛ *To reset all values, click **Reset Parameters Values** . **Caution**: all parameter values in the report are also reset.*
4. Click **Apply**.
   Your modifications are immediately taken into account in the report.
   ☛ *If the modifications do not appear automatically, click .*

Improving a bubble chart readability

To improve a bubble chart readability, you can:



- zoom in on and move about in the chart.

  ☛ *See Zooming in and moving through a bubble chart.*



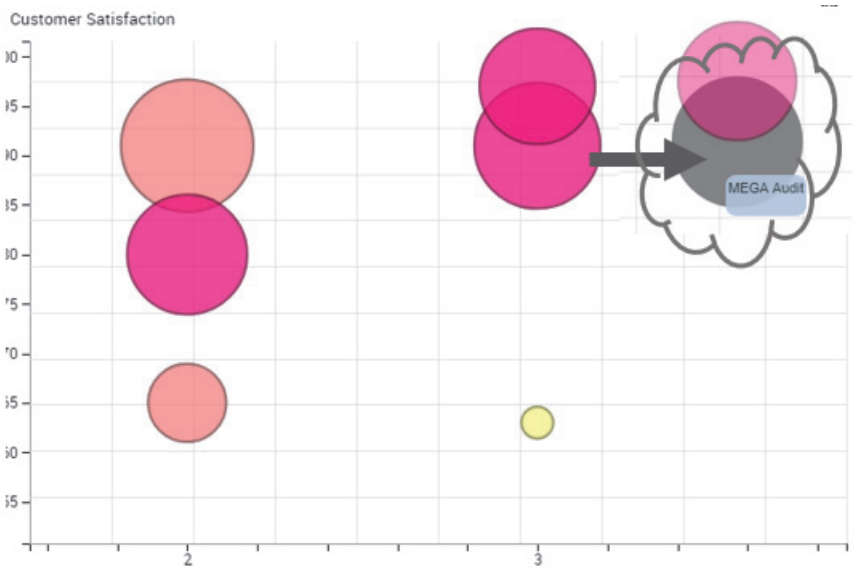
- modify the label style to display/hide the labels (by default) and their links.

  ☛ *See Modifying the label style.*

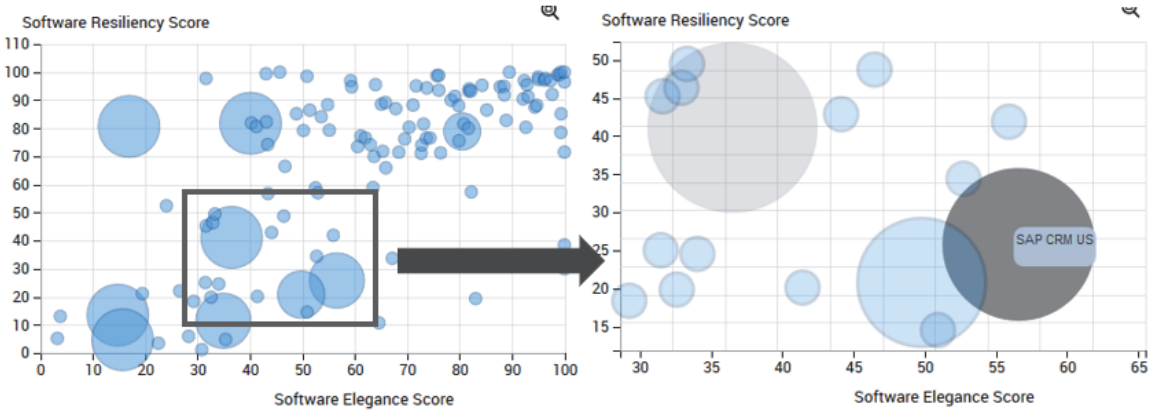
- Display/hide the labels: in the chart menu bar, click **Options** then select/clear **Display Labels**.
  You can also move the **Label Length** cursor to reduce the length of the labels text.
- add a background image

  ☛ *See Modifying the chart style.*

5. display its label: hover the cursor over the bubble



Zooming in and moving through a bubble chart



To zoom in and move through a bubble chart:

1. In the bubble chart, use the mouse wheel to zoom in/zoom out. The zoom is performed on the chart as a whole.
2. (if necessary) To move through the chart, click the chart, keep the mouse button pressed and move the mouse.

Displaying the bubble legend

If applicable, you can display the legend of:

- bubble colors
- bubble size

To display a bubble chart legend:

- In the menu bar of the bubble chart, click **Legend** .

  E.g.: here the bubble color represents the "Technical efficiency" characteristics and the bubble size represents the "Cost per user" characteristics.



Handling a Dendrogram

A dendrogram illustrates the environment of an object. You can improve its display:

- in the report parameters:
  - modify the **Number of displayed levels** by default
  - modify its **Display** mode (circular or horizontal)
- in the dendrogram:
  - modify the depth of display of a branch levels from a specific object
  - modify the display: object spacing and label size

You can also:

- display an additional level for a single branch
- display all of the levels of a specific branch
- display a dendrogram in full page
- zoom in and move through the dendrogram
- display the properties of an object contained in the dendrogram

See also: Displaying the properties of an object contained in a report.

Example of a Report Template showing a dendrogram:

> "Environment report"
>
> With **Display** and **Number of displayed levels** parameters, this Report Template also includes the following parameters:
>
> **Subject**: defines the source object of the dendrogram.
>
> **Hierarchy**: defines the link (via a MetaAssociationEnd or a query) browsed recursively to display the objects.
>
> **Deepness**: defines the number of displayable levels of a branch.

Improving a dendrogram readability

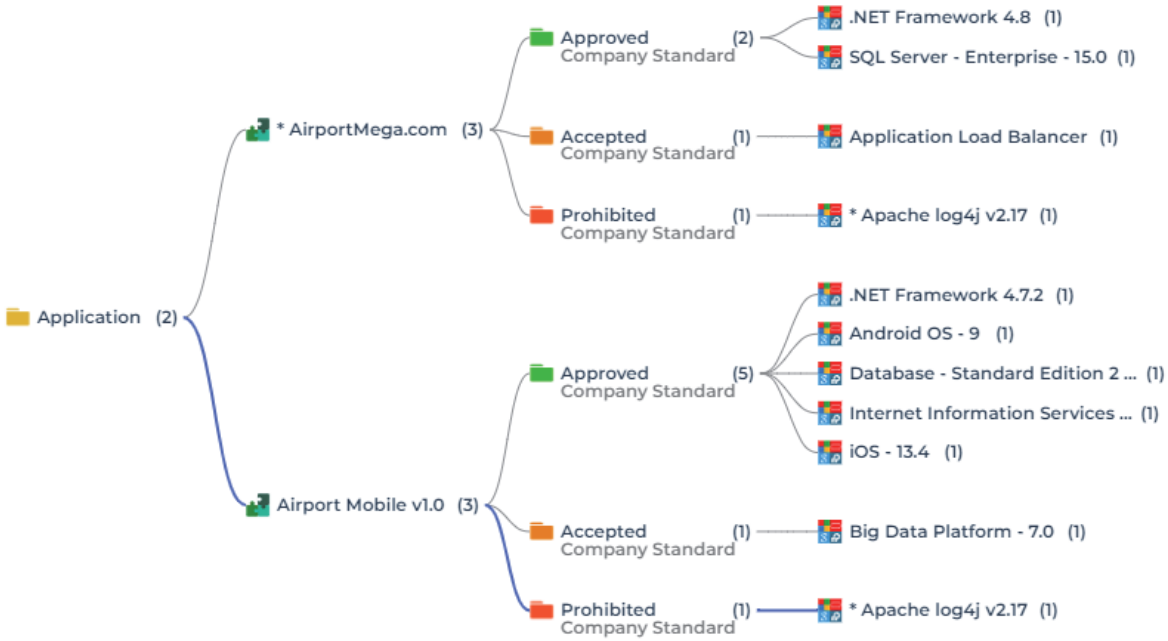
To improve a dendrogram readability:

1. (If needed) Zoom in and move through dendrogram.
2. Edit the report (click **More** > **Edit Report**).

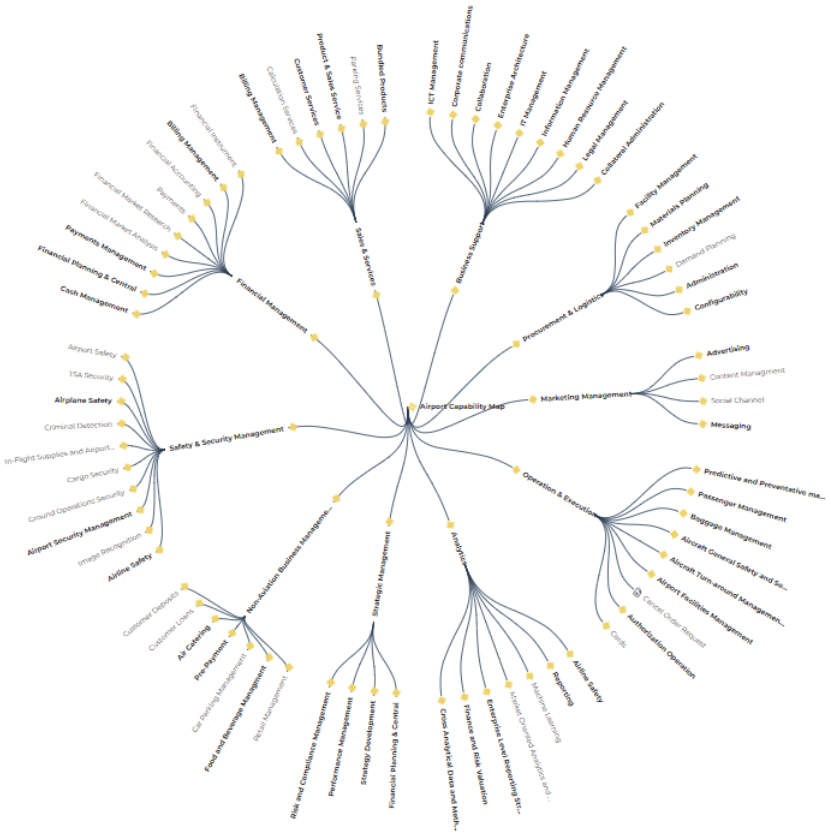
   ☛ *See Customizing a Report Style.*

3. In the edit pane, **Styles** section, modify the style parameters, then click **Apply**.
   Select, for example:
   - the most suitable **Display** mode

     `Horizontal (recommended mode)`

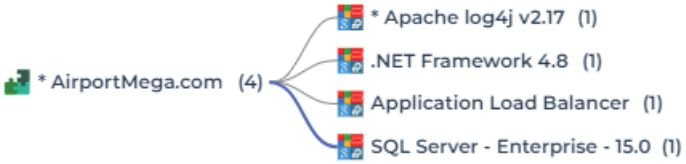


`Circular`

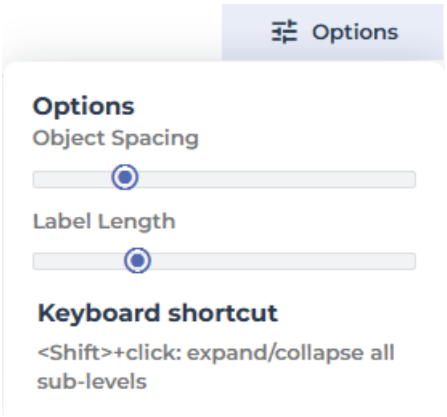


- the default **Number of displayed levels** for all of the branches

  `E.g.: 2 levels displayed by default`



4. In the chart menu bar, click **Options** and move the cursors so as to optimize the spacing.

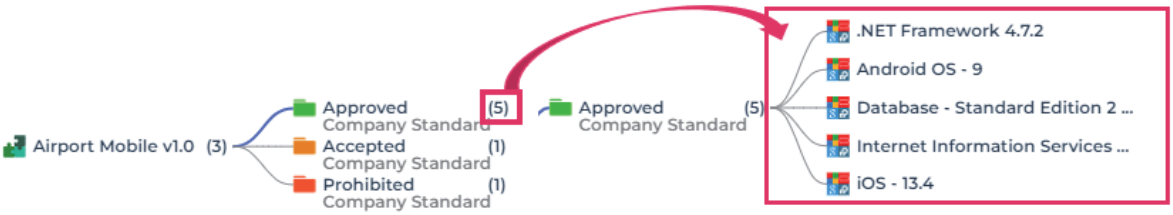


Displaying the next level

The number to the right of an object indicated its number of child objects. Objects without number after their name do not have additional levels.

You can display:

- the next level:
  Click the number to the right of the object.
  ☛ *Click the number to hide the level displayed.*



- all the next levels:
  Press the [Shift] key and click the number to the right of the object.
  ☛ *Click the number to hide all the levels displayed.*



Displaying the dendrogram in full page

Depending on the dendrogram size, you may want to display it in full page for better readability. When using this display, you cannot edit the report.

To display the dendrogram in full page: at the top right corner of the graphic, click **Display in full page mode** .

☛ *To exit the full page mode, click* ***Exit full page mode*** .

Zooming in and moving through a dendrogram



To zoom in and move through a dendrogram:

1. In the dendrogram, use the mouse wheel to zoom in/out.

   ☛ *To return to the original size, at the top right corner of the graphic, click* ***Reset Zoom*** .

   The zoom is performed on the dendrogram as a whole.
2. (if necessary) To move about within the chart, click the chart, keep the mouse button pressed and move the mouse.

Handling a Graph

A graph illustrates relationships between objects. These relationships can be grouped to highlight the relationship density between certain objects.

The graph includes facilities to optimize its readability and customize its display.

You can:

- improve the graph readability:
  - hide or reduce the length of labels
  - hide isolated objects
  - modify the object spacing
  - focus on an object

    ☛ *See Improving a graph readability.*
- choose the analysis criteria (layers)

    ☛ *See Displaying a graph analysis criterion.*
- ungroup grouped relationships

    ☛ *See Handling a relationships grouping.*
- highlight an object (style)

    ☛ *See Modifying an object style in a graph.*
- modify the graph style

    ☛ *See Modifying the graph style.*

You can also:

- perform searches to find objects in the graph

    ☛ *See Finding an object in the graph.*
- zoom in on and move about in the graph

    ☛ *See Zooming in and moving through a graph.*
- display the graph in 3D

    ☛ *See Displaying a graph in 3D.*
- display the graph in full page

    ☛ *See Displaying the graph in full page.*
- display the properties available in tooltips

    ☛ *See Displaying the properties available in tooltips.*
- access object properties

    ☛ *See Displaying the properties of an object contained in a report.*
- access the object pop-up menu (right-clicking the object)

Modifying an object style in a graph

To highlight an object, you can modify for example:

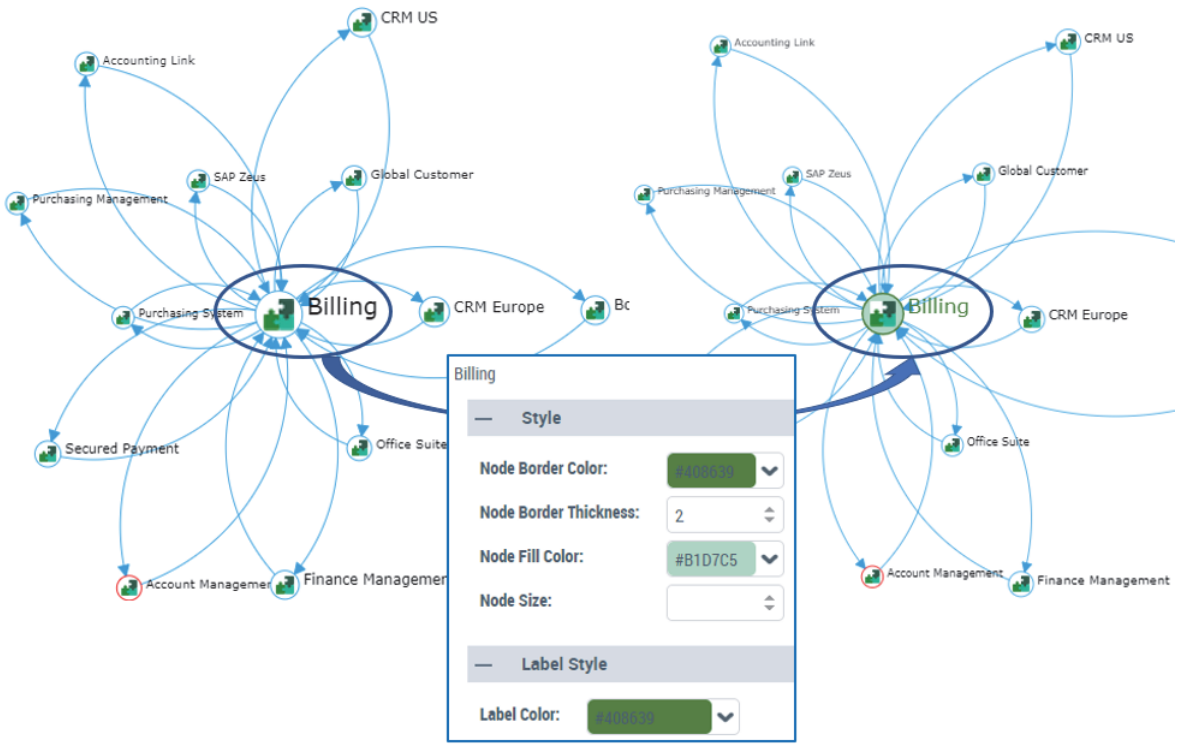
- the border (color, thickness, style) of the object
- the fill color of the object
- the label color of the object
- the size of the object

To modify the size of an object:

1. Edit the report (click **More** ⋮ **> Edit Report**).

    ☛ *See Customizing a Report Style.*
2. In the report page, click **Edit Style Parameter Values** and select an object.
   The edit pane of the object appears to the right.

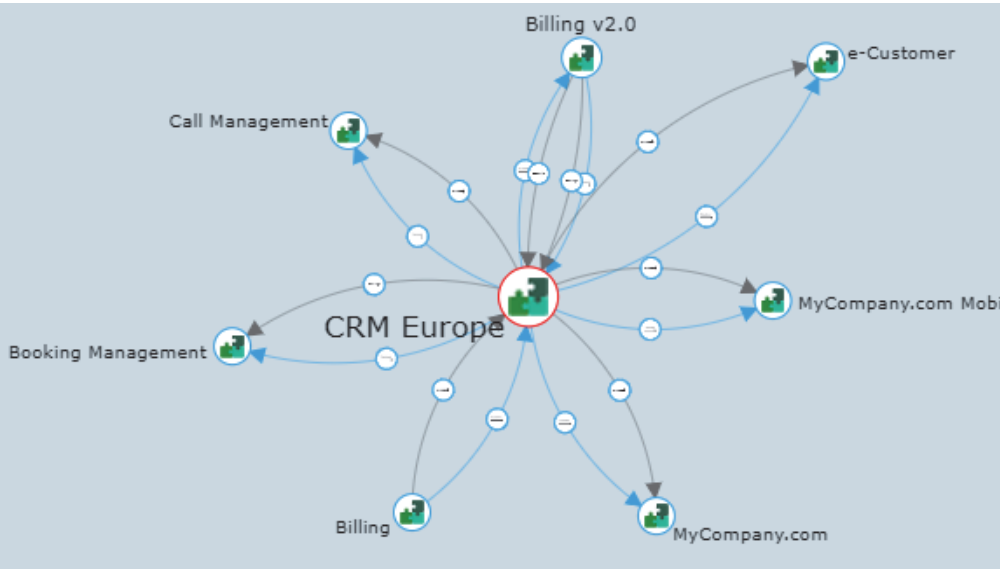
3. In the **Style** section, modify the object style.
4. In the **Labels Style** section, modify the label color.



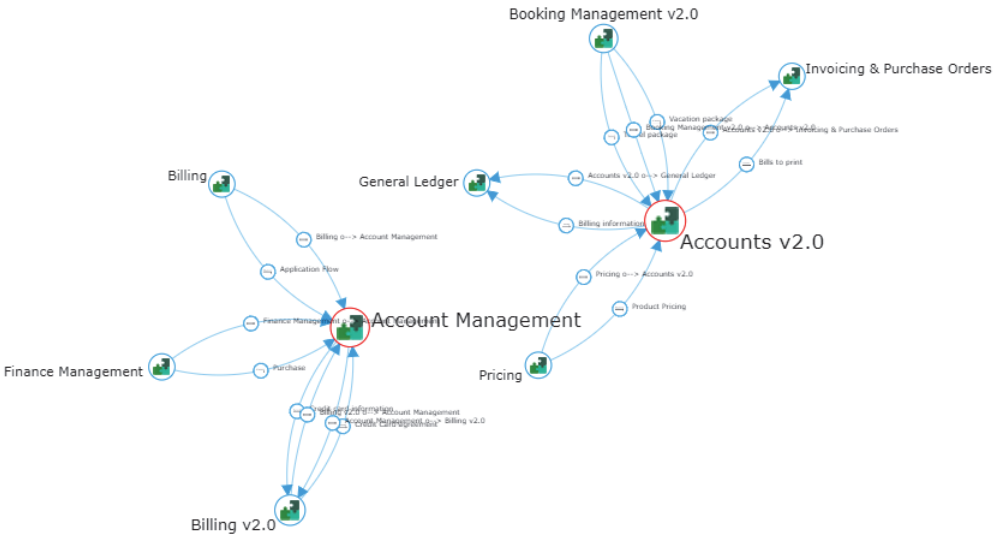
Modifying the graph style

You may, for example:

- define fixed size nodes
  - ☛ *By default the node size is proportional to its connections.*
- not color entry points
  - ☛ *By default entry points are highlighted with another color (e.g.: red).*
- define a background color to the graph
  - ☛ *By default the graph background is white.*

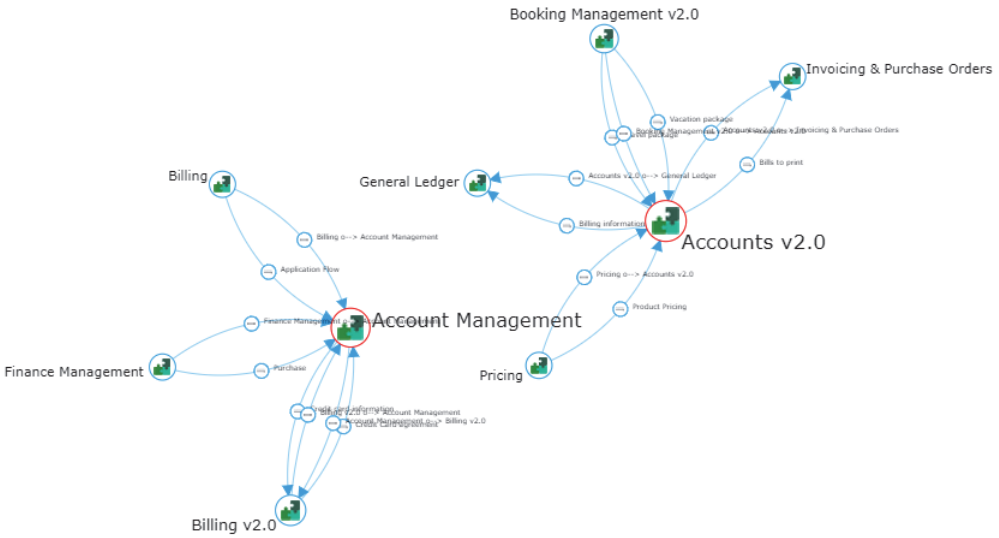


- modify the arc curvature
  By default:
  - single arc: straight arc
  - two arcs: curved arcs
  - more arcs: curved arcs, with the first arc straight



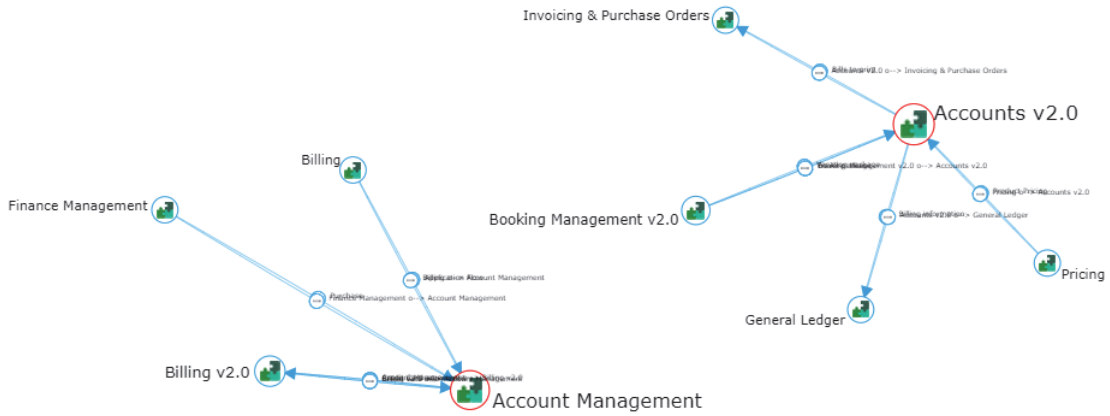
You can define:

- all arcs curved



- all arcs straight

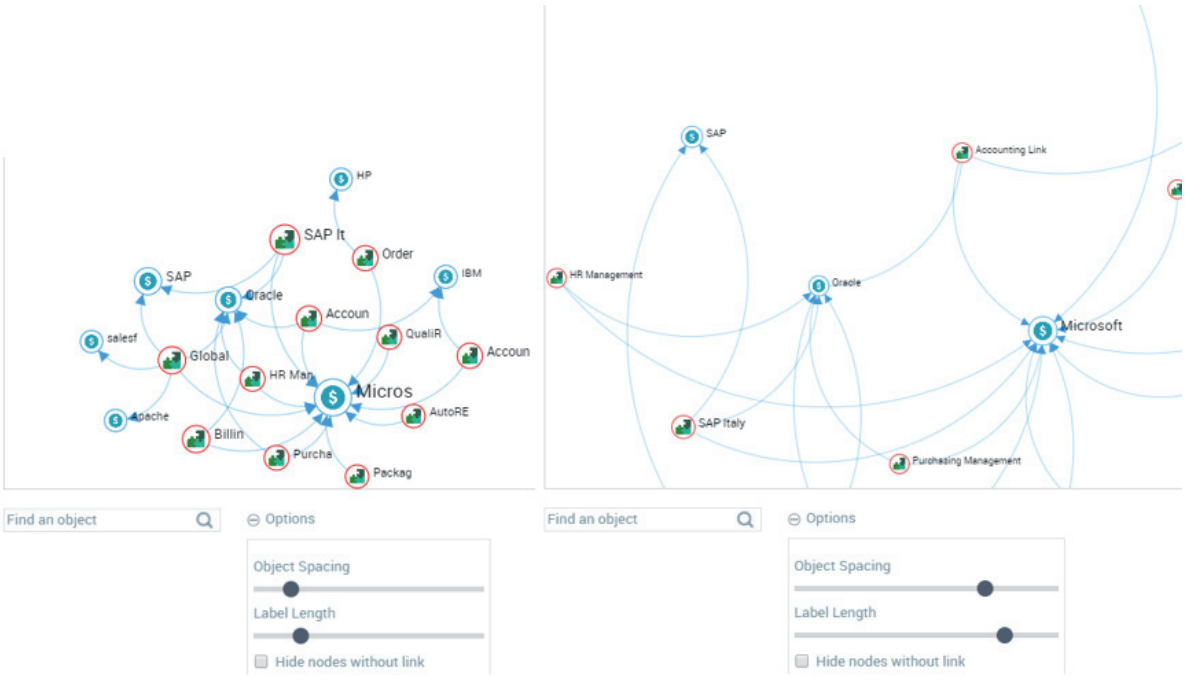
  ☛ *Be careful with this setting as arcs overlaps.*



Improving a graph readability

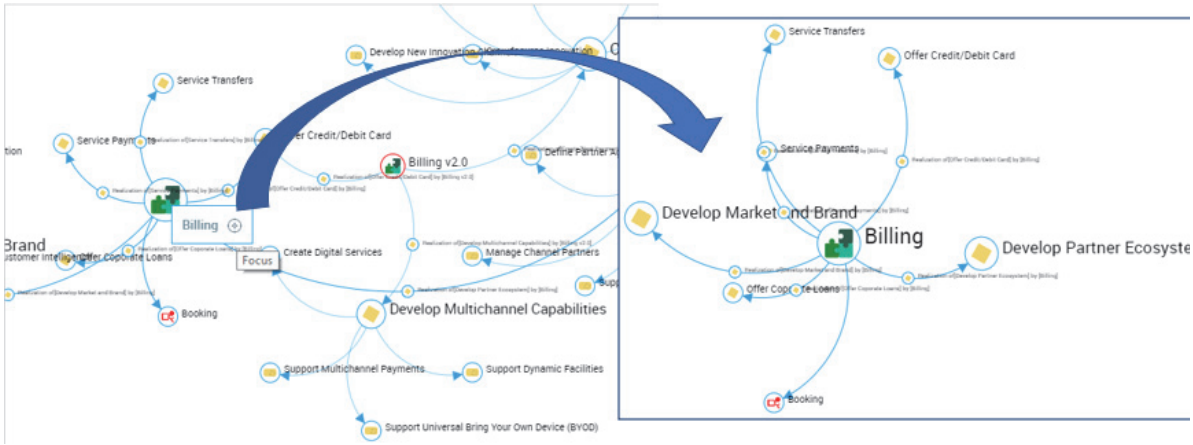
To improve a graph readability:

1. (If needed) Zoom in and move through the graph.
2. Below the graph, select **Options** and move the cursors:
   - **Label Length**, to the left to reduce or to the right to increase the character numbers of the labels.
   - **Object Spacing**, to the left to narrow the object spacing or to the right to increase the object spacing.

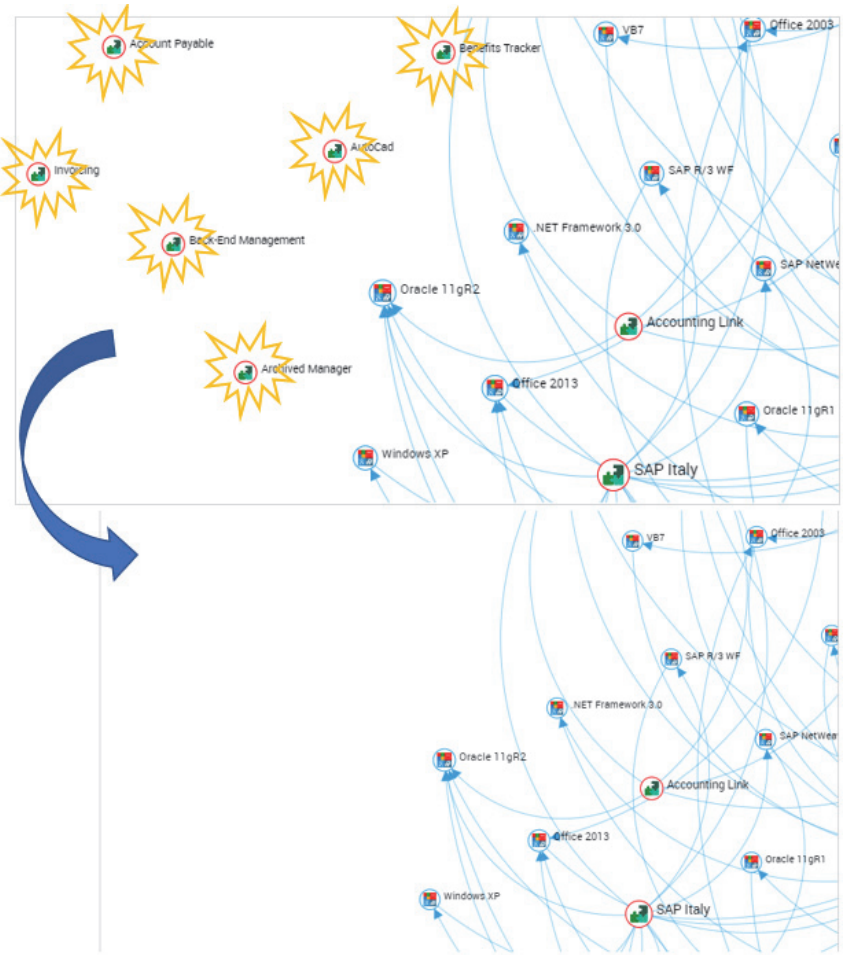


3. To isolate an object (display it with its direct relationships), hover the mouse over the object, and in the tooltip, next to its name, click **Focus** .
   The selected object is isolated.

   ☛ *Click in the graph to display the full graph again.*



4. To hide the isolated objects (nodes), below the graph, select **Options** and **Hide nodes without link**.



Displaying a graph analysis criterion

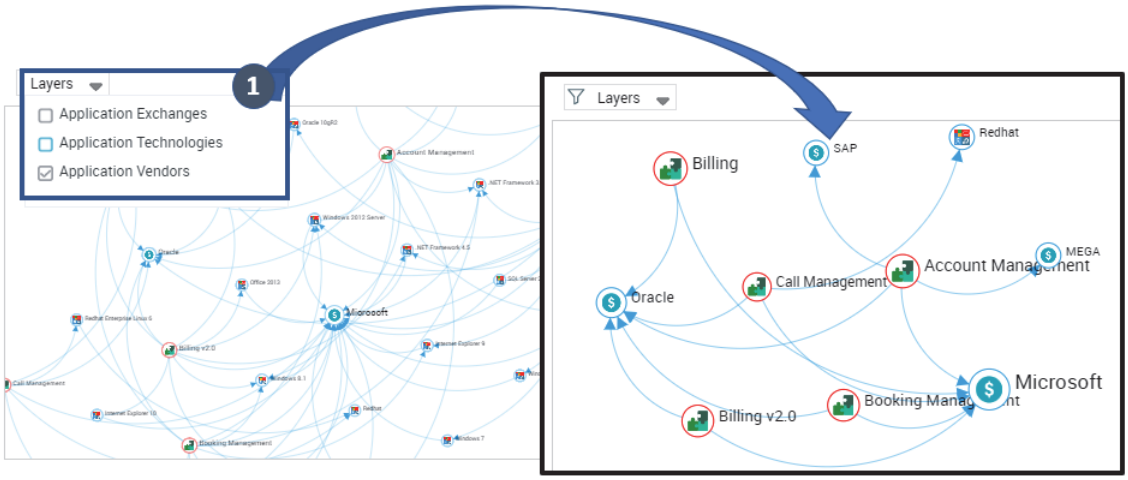
When a graph contains several analysis criteria, you can restrict its display to a single active layer.

That way, you can quickly switch from an analysis criterion to another one or overlay them.

To choose the analysis criteria to be displayed:

- Above the graph, click **Layers** and select the analysis criteria that you want to display.
  The cleared analysis criteria are hidden.

  Beside **Layers**, ▽ indicates that analysis criteria are filtered.



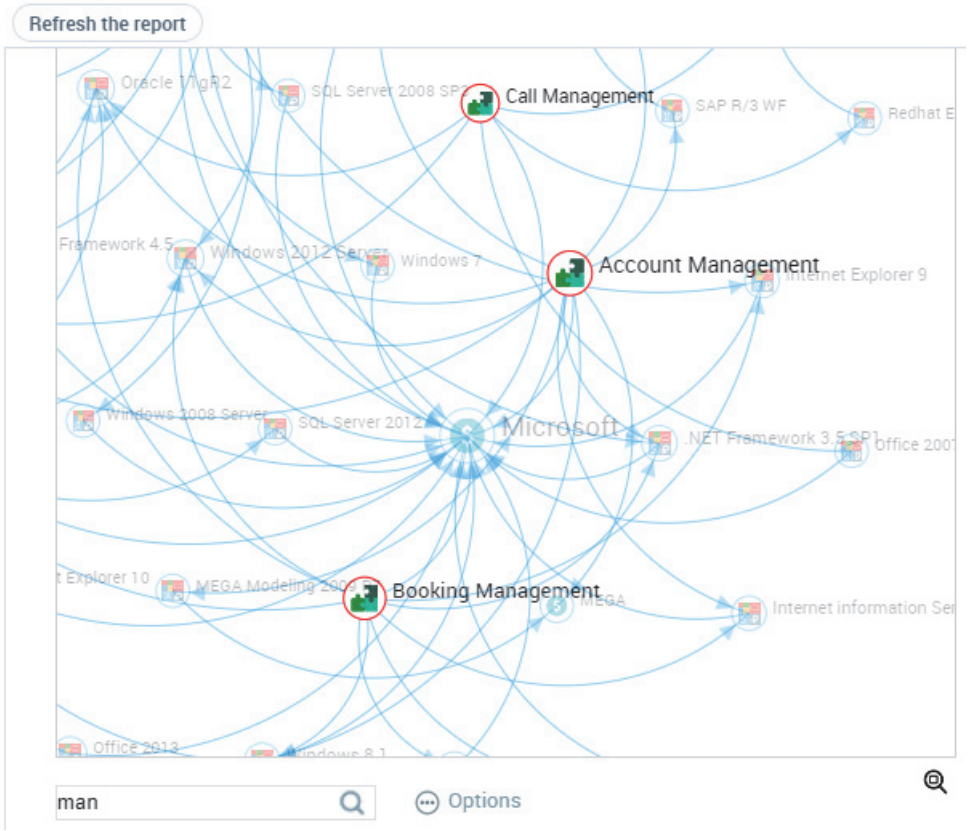
Finding an object in the graph

To find an object in the graph.

1. Below the graph, in the **Find an Object** field, enter a character string.

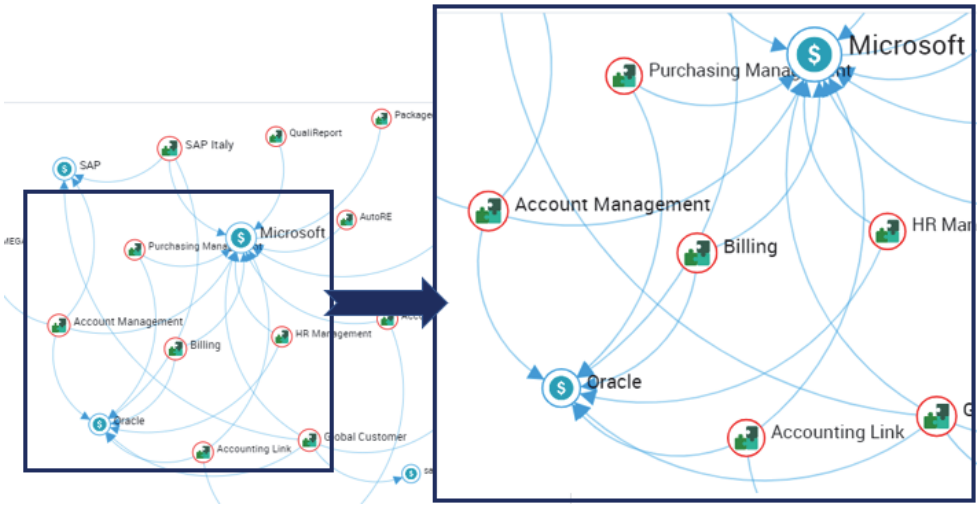
   `E.g.: enter "man".`

   The objects that do not contain the character string entered are automatically grayed.



2. To display all the objects again, click **Refresh the report**.

Zooming in and moving through a graph



To zoom in and move through a graph:

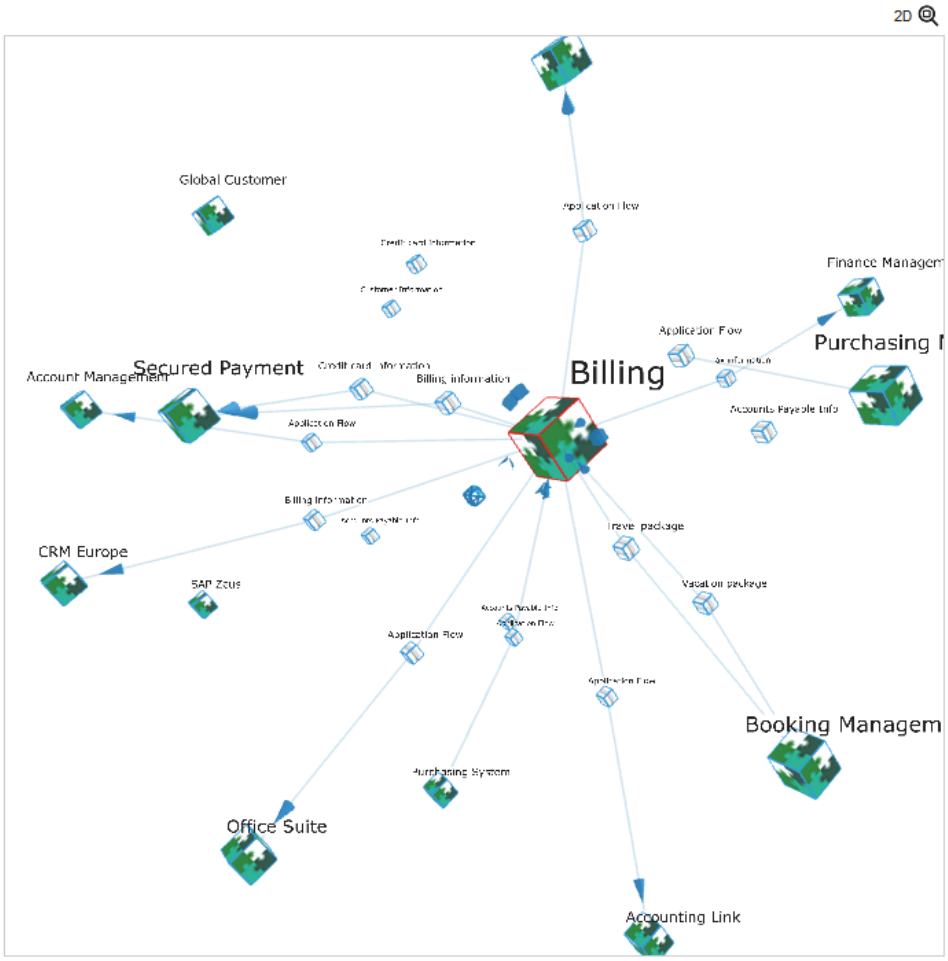
1. In the graph, use the mouse wheel to zoom in/zoom out.
   The zoom is performed on the graph as a whole.

   ☛ *To focus on a single object in the graph, see Improving a graph readability.*

2. (if necessary) To move about within the chart, click the chart (outside an object), keep the mouse button pressed and move the mouse.

   ☛ *To find an object in the graph, see Finding an object in the graph.*

Displaying a graph in 3D



To display a graph in 3D:

1. Above the graph, click **3D**.
   The **2D** button replaces the **3D** button.
   The graph is displayed in 3D.

   ☛ *To return to 2D, click **2D**.*

2. If needed:
   - Click in the graph and move the mouse in order to make the graph as readable as possible.
   - Focus on another object to highlight another object.

Handling a relationships grouping

In a graph, relationships between two objects can be grouped. A relationship grouping is identified by its stroke thickness. The strokes standing for relationships are called arcs.

E.g.: the arc between "Payroll" and "Accounting" stands for a relationship grouping.



You can:

- display the number of arcs included in the grouping
- ungroup arcs to display their intermediate objects
- simply display the list of intermediate objects

To handle an arc grouping:

1. (If needed) In the graph, find and/or isolate an object for more readability.
   - ☛ *See Finding an object in the graph.*
   - ☛ *See Improving a graph readability.*
2. Move the cursor over the data Data.
   A tooltip displays the number of arcs included in the grouping.

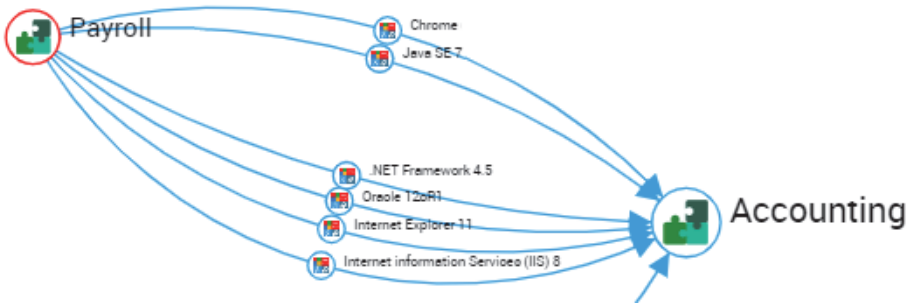
Example: the arc grouping between "Payroll" and "Accounting" stands for six arcs.



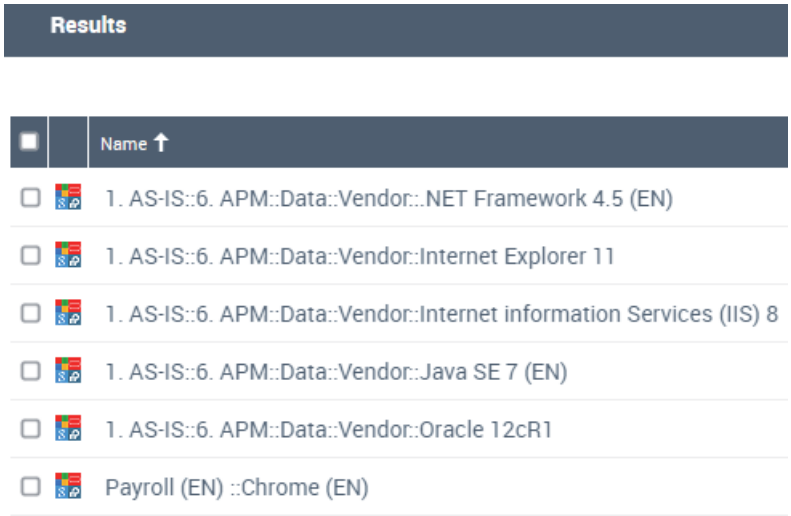
3. You can:
   - display the arcs of the grouping and their objects: click **Ungroup arcs** .

     ☛ *To regroup the arcs, hover the mouse over one of the arcs and click* ***Group arcs*** .

     E.g.: each arc between "Payroll" and "Accounting" includes one intermediate object (the grouping includes six intermediate objects).



   - simply list the intermediate objects in the **Results** window: click **Click to view details** .



Displaying the graph in full page

You can display the graph in full page. With this display, you keep the filtering, the object search, and the options, but you cannot edit the report.

To display the graph in full page: at the top right corner of the graph, click **Display in full page mode** .

☛ *To exit the full page mode, click* ***Exit full page mode*** .

Displaying the properties available in tooltips

Tooltips enable to display the properties available on:

- an object
- a relationship
- an intermediate object (object included in a relationship)

To display the properties available in tooltips in a graph:

1. Access the graph, and if needed find and/or isolate an object for more readability.

   ☛ *See Finding an object in the graph.*

   ☛ *See Improving a graph readability.*

2. Hover the mouse over:
   - the object concerned to display its available properties.
   - the relationship concerned to display its available properties.
   - the intermediate object concerned to display its available properties.

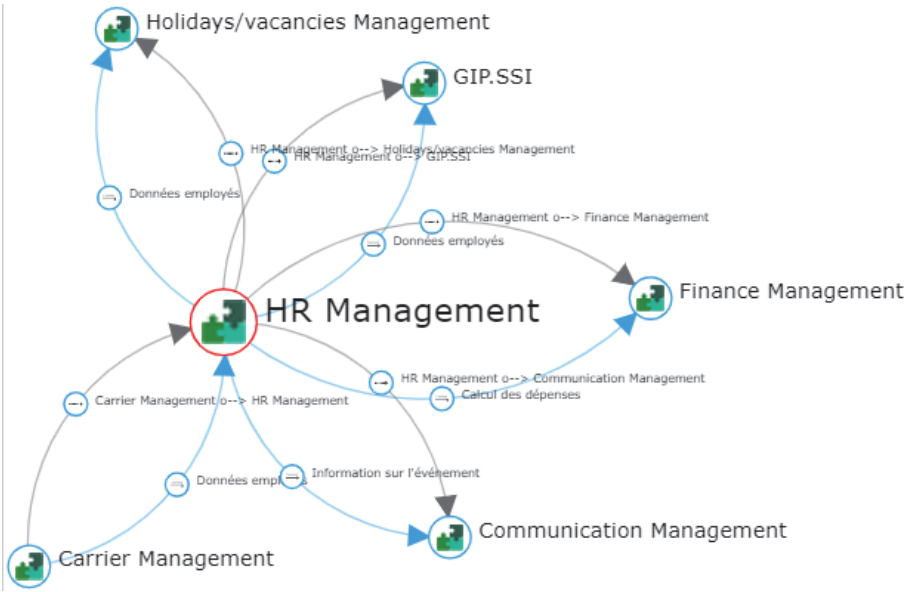
   ☛ *A maximum of five properties are displayed, click* ***Display more*** ⊞ *to display more (if any).*



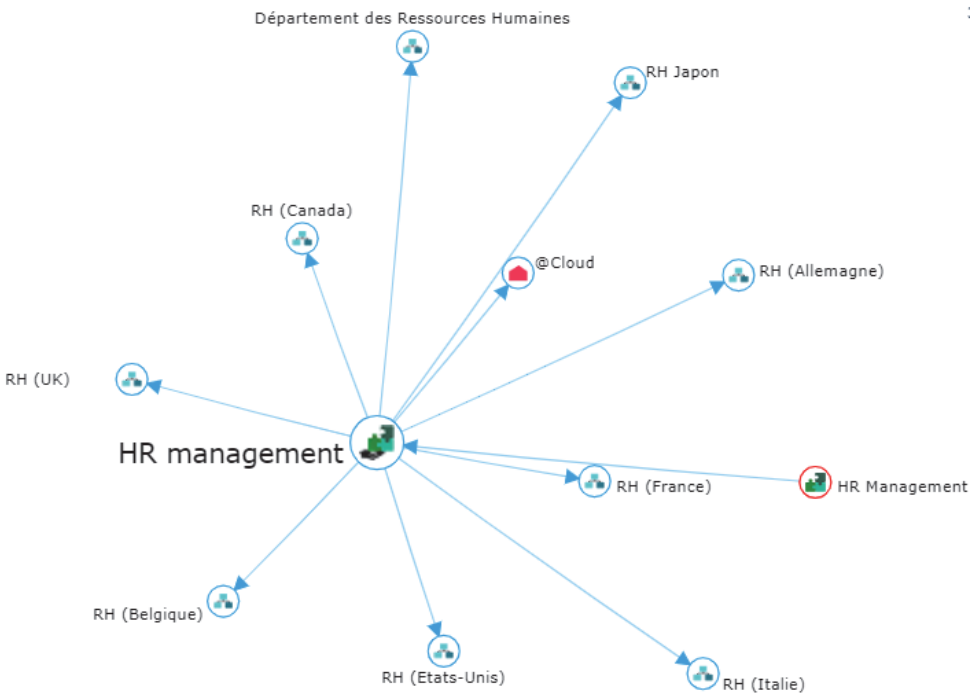
Example: Application Environment Graph

The application environment graph report is available on an application. It includes several graphs showing the selected application in different environments.

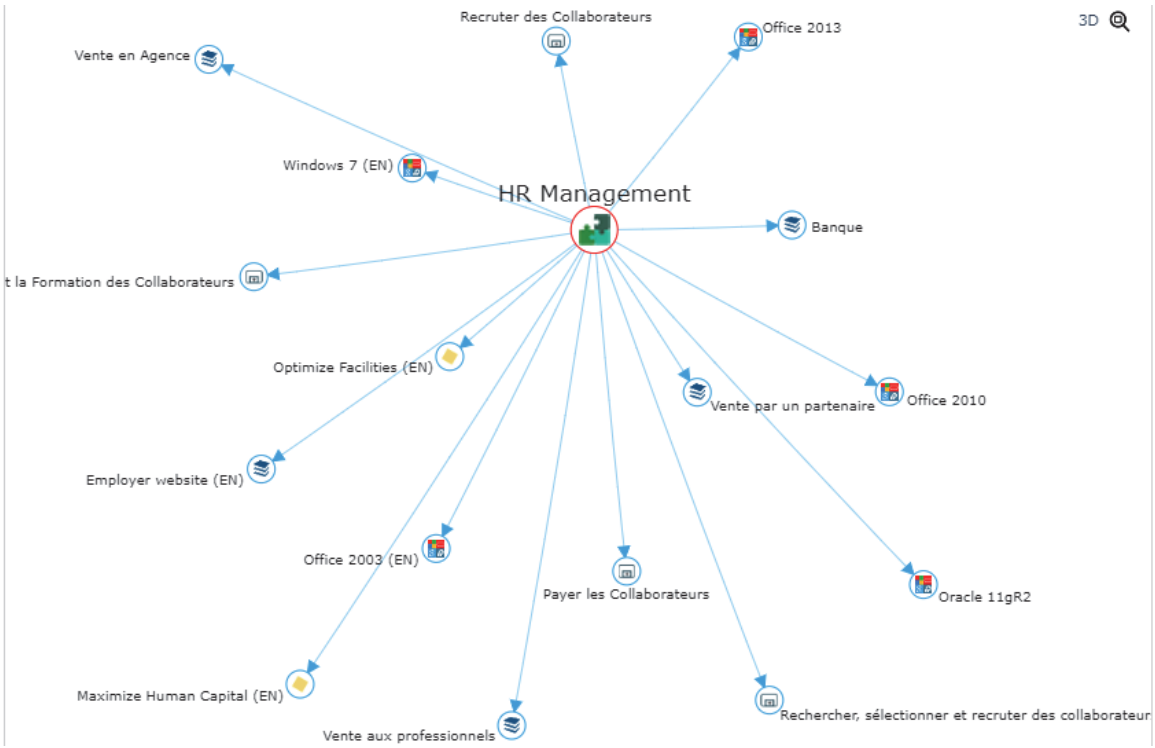
E.g.: Flows and Data Graph of the application.



E.g.: Software Installations Graph of the application.



E.g.: Functional Environment Scope Graph of the application.



Handling a Treemap

A Treemap shows a hierarchy of data as nested boxes whose size varies according to the associated value.

Treemaps enable to identify trends and make quick comparisons.

You can:

- modify the number of displayed levels
- modify the display criterion
- display an item (box) properties
- zoom in an item (box)

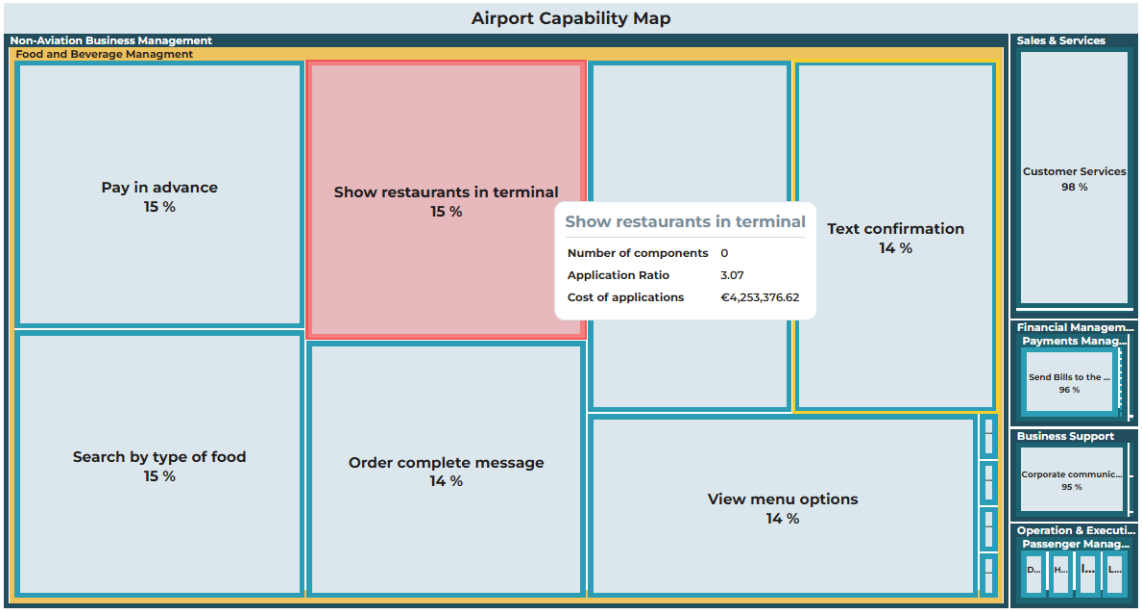
You can also:

- modify the box style (text size and box colors)
- sort boxes by size (Java reports)

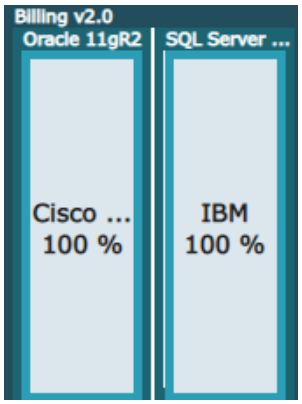
Customizing a treemap display

You can customize:

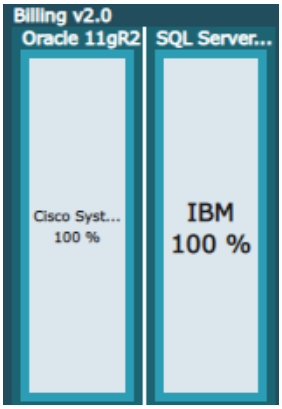
- the colors
  - a box (series) color change on hover
  - the box border color and thickness



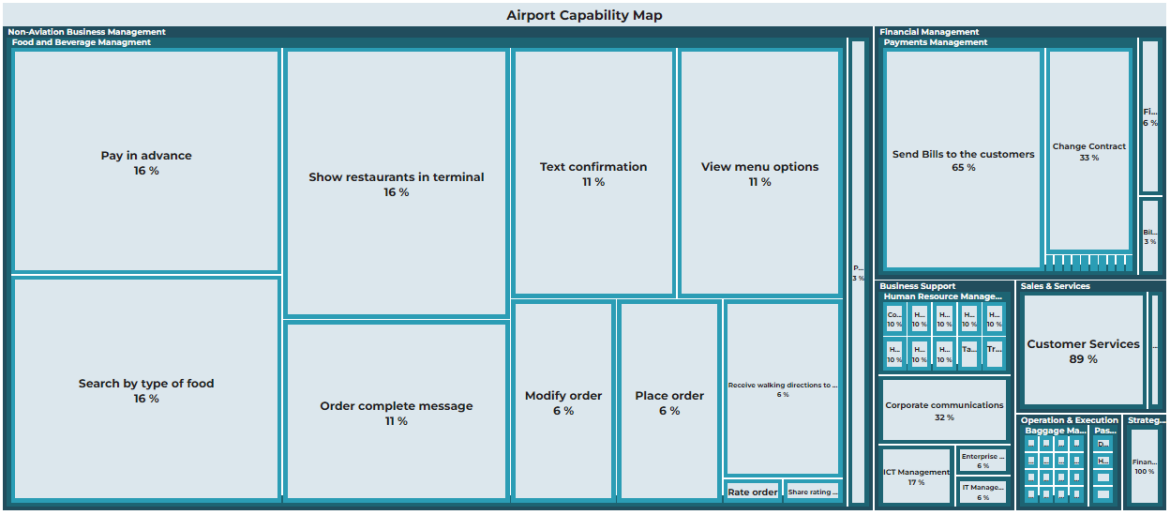
- the size of the text displayed in the boxes
  - (by default) box size dependent



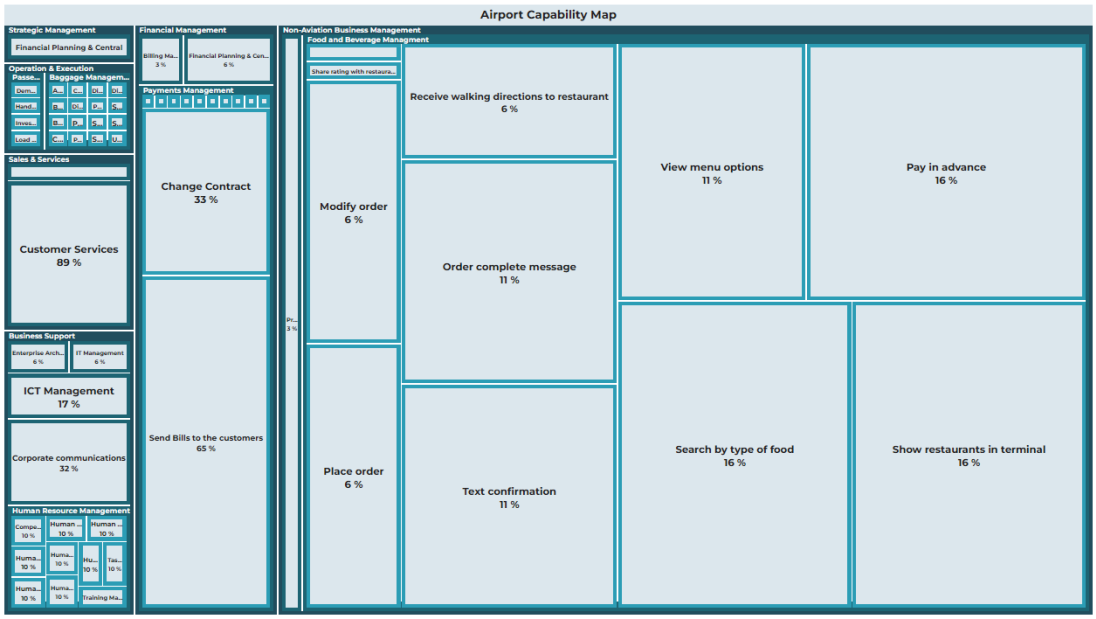
  - box width dependent



- the box sorting order (in Java report)
  - descending



  - ascending



Modifying a treemap colors

To modify a treemap box (series) color:

1. Edit the report (click **More** ⋮ **> Edit Report**).

   ☛ *See Customizing a Report Style.*

2. In the report page, click **Edit Style Parameter Values** and select the series for which you want to modify the color.
   The edit pane appears.
3. In the **Style** section, modify the relevant parameters:
   - **Box Color**
   - **Box Border Color**
   - **Box Border Thickness**

   ☛ *To reset the values, click **Reset Parameter Values** . **Caution**: the style parameter values in the report chapter are also reset.*
4. Click **Apply**.
   Your modifications are immediately taken into account in the report.

   ☛ *If the modifications do not appear automatically click .*

Modifying the text display in boxes

To modify the text display in a treemap boxes:

1. Edit the report (click **More** ⋮ **> Edit Report**).

   ☛ *See Customizing a Report Style.*

2. In the **Graphic Style** section, modify the **Proportional Text Size** field.

   ☛ *To reset the values, click **Reset Parameter Values** . **Caution**: the style parameter values in the report chapter are also reset.*

3. Click **Apply**.
   Your modifications are immediately taken into account in the report.

   ☛ *If the modifications do not appear automatically click .*

Modifying the sorting order of boxes

To modify the sorting order of boxes in a treemap:

1. Edit the report (click **More > Edit Report**).

   ☛ *See Customizing a Report Style.*

2. In the **Graphic Style** section, modify the **Sort boxes by size** field.

   ☛ *To reset the values, click **Reset Parameter Values** . **Caution**: the style parameter values in the report chapter are also reset.*

3. Click **Apply**.
   Your modifications are immediately taken into account in the report.

   ☛ *If the modifications do not appear automatically click .*

Example of a Report Template showing a treemap

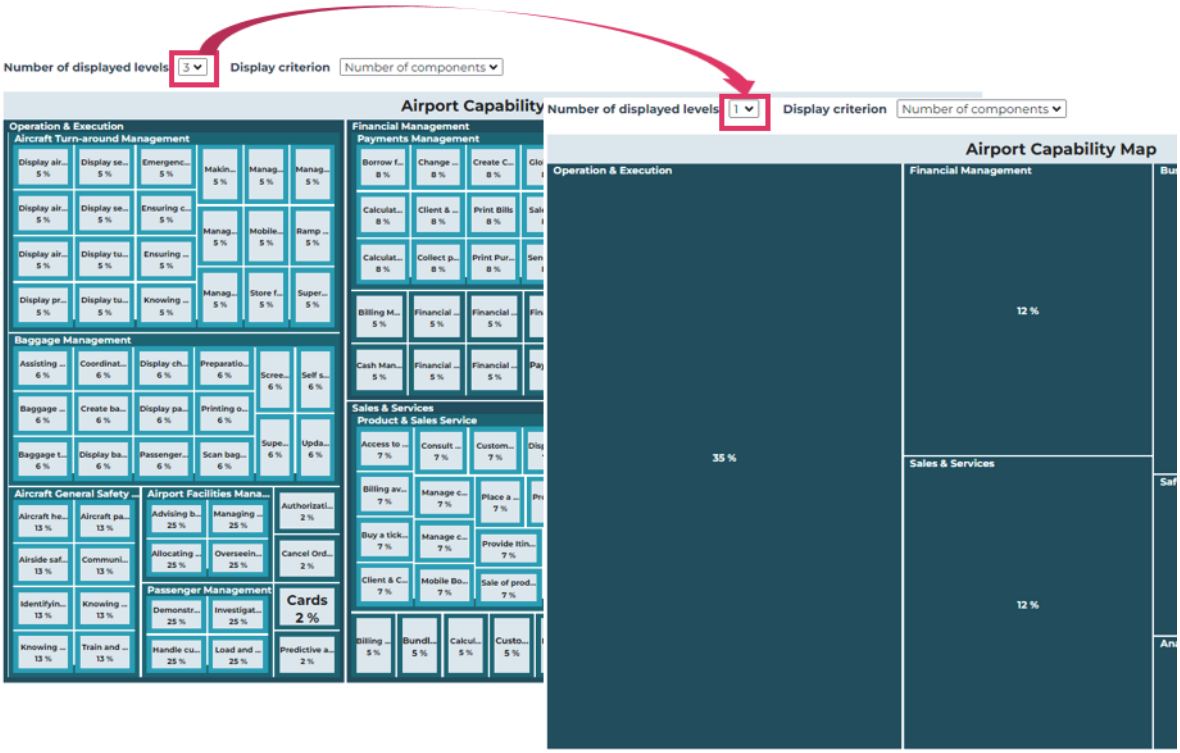
The "**Capability Treemap**" report template of the EA Solution presents a treemap.

This report breaks down a capability hierarchy into a treemap according to three available criteria (parameters):

- **Number of components**: the surface area is proportional to the number of descendants in the tree.
- **Application ratio**: the surface area is proportional to the number of realizing applications of current and descendant capabilities in the tree.
- **Cost of applications**: the surface area is proportional to the cost of applications realizing current and descendant capabilities in the tree.

To handle a treemap:

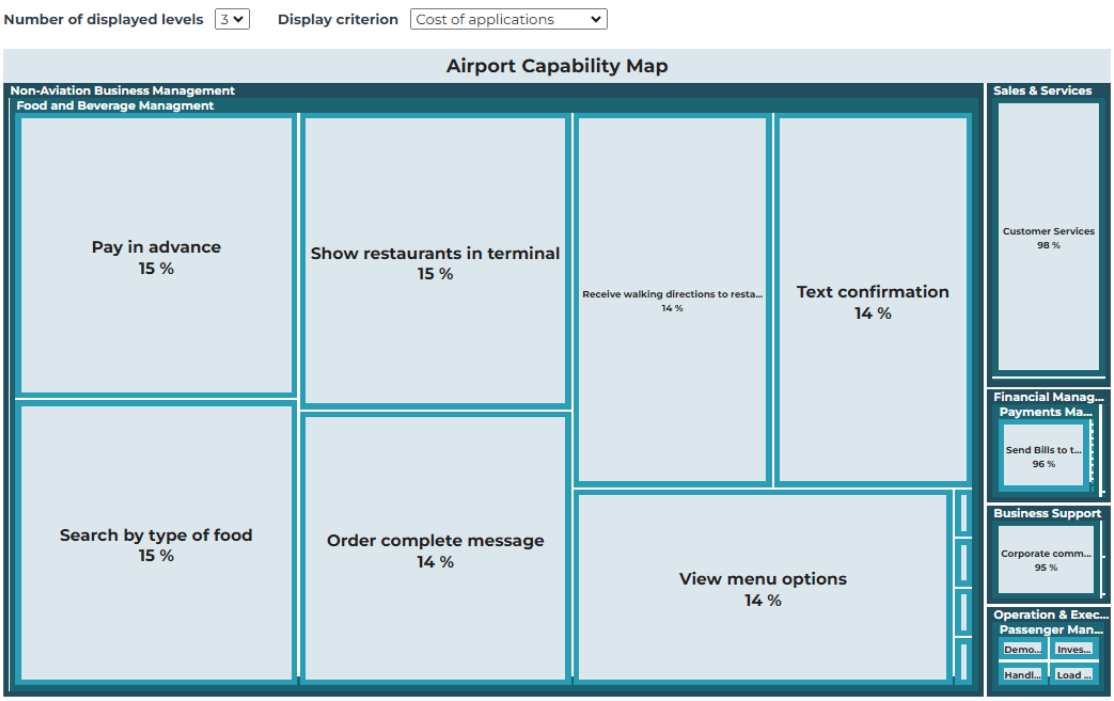
1. To lighten a treemap display, in the **Number of displayed levels** field, select an upper level.
   Lower levels are hidden.



2. To display the treemap according to another criterion, in the drop-down menu of the **Display criterion** field select another criterion.

   `E.g.: Cost of applications.`

   The box area corresponding to each element (e.g.: capability) is modified according to the new display criterion.



3. To display the values of an object, hover the mouse over the corresponding box.

   `E.g.: on a business capability.`

   The box color changes.

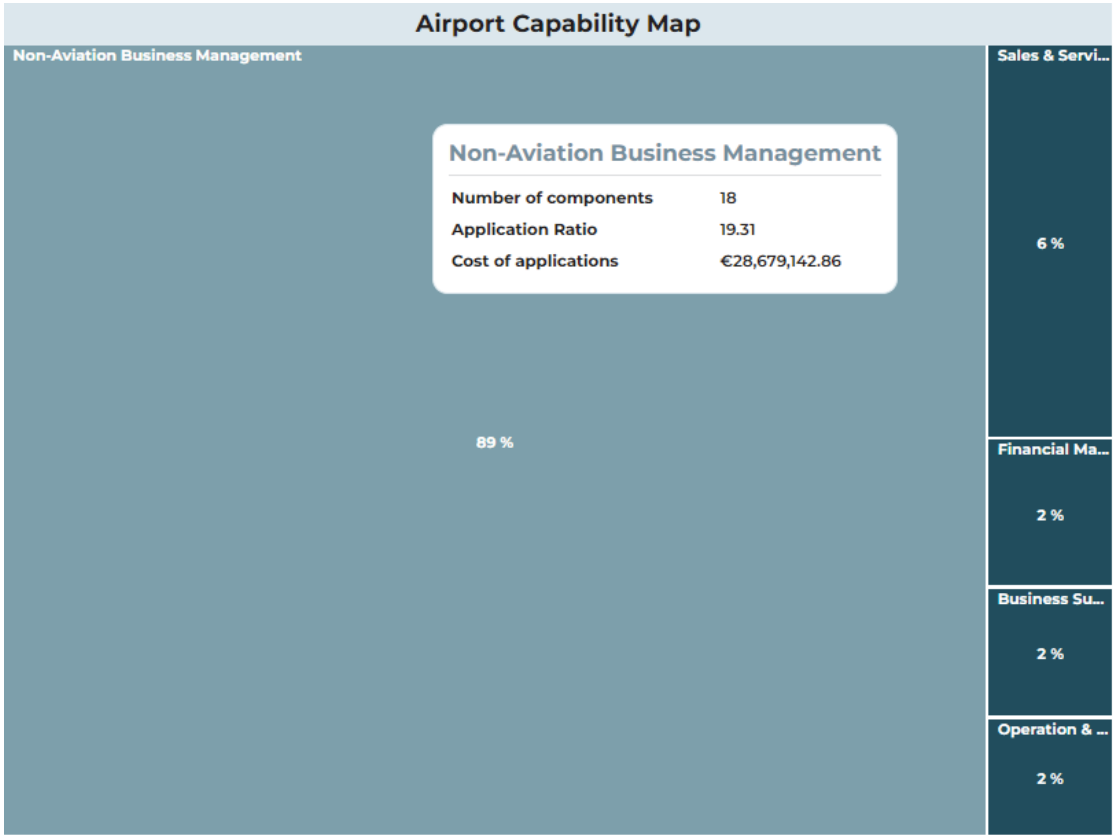
   The criteria values of the object (e.g.: the capability) are displayed:

   - the total number of components included in the object.

     `E.g.: 18`

   - its value for each available criterion.

     `E.g.: the ratio (19.31) and the cost (€28,679,142.86) of applications it includes.`

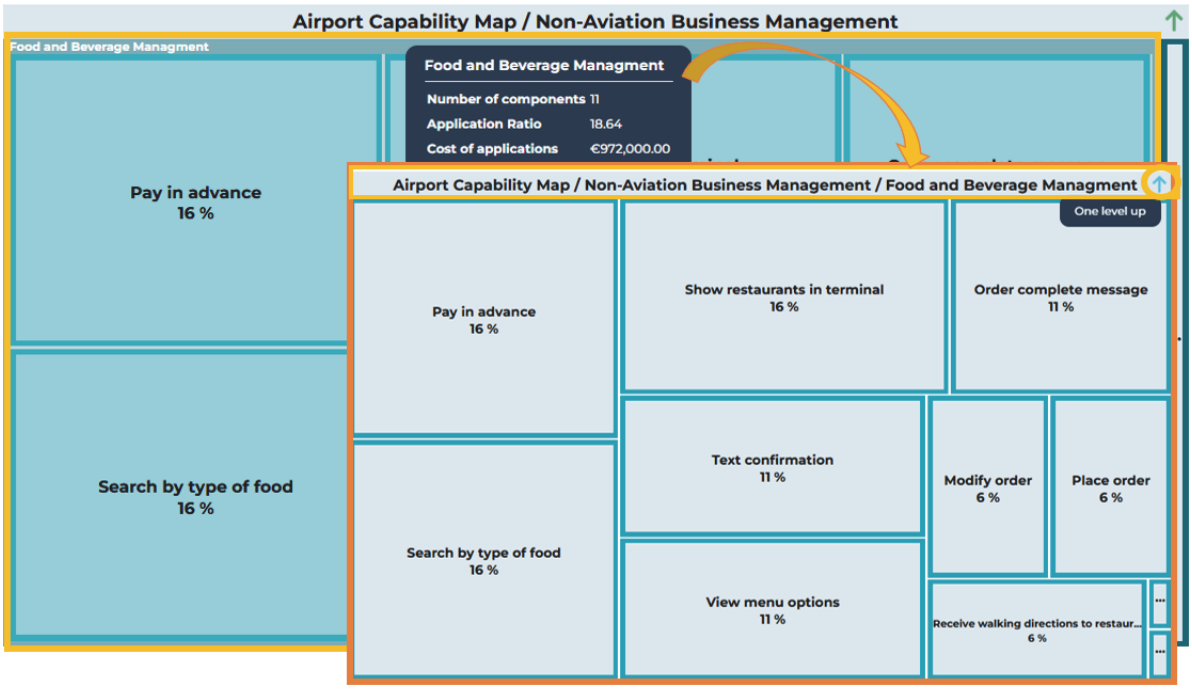


4. To zoom in on an item, click the item (box).
The treemap breadcrumb trail indicates you are one level lower down.

The selected item widens over the whole space of the treemap and displays its components.

You can drill down in the treemap levels, as long as the element includes items.

☛ *In the treemap top right corner, click **One level up** to go one level up. You can go up only one level at a time.*



Handling a Breakdown Report

A breakdown report can be specialized and adapted to each Solution specific needs.

This type of report enables to display the breakdown of an "Architecture Building Block" type root object (e.g.: Capability map) into sub-objects of different types and analyze their fulfillment by "Solution Building Block" type objects (e.g.: Application).

The Report Template showing a breakdown map is based on:

- a root object
- analysis criteria (on each breakdown level)

You can:

- ***display or hide***:
  - some object types
  - some analysis criteria

    ☛ *See Hiding object types an/or criteria.*
- ***filter***:
  - the report display according to specific criteria values

    ☛ *See Filtering (root columns, criteria).*
  - the items of a breakdown level using a predefined query

    ☛ *See Example of a Report Template showing a breakdown map.*
  - display all the items of the components that include more than 10 items

    ☛ *See Displaying all items.*
- ***modify the display***:
  - modify the number of displayed levels
  - zoom in on a component

    ☛ *See Zooming in a breakdown report.*
- ***customize the display***:
  - display the object icons
  - modify the number of levels displayed at opening
  - modify the column width

    ☛ *See Customizing a breakdown report display.*
- ***display an object properties*** (component or item)

  ☛ *See Displaying the properties of an object contained in a report.*
- ***view the report data values at another date*** (report with time line)

  ☛ *See Handling data over time.*

You can also modify the report input parameters:

- add or remove object types
- add or remove analysis criteria
- Modify criterion appearance (background color or symbols)

  E.g.: to highlight a criterion (background color), see Highlight a criterion.

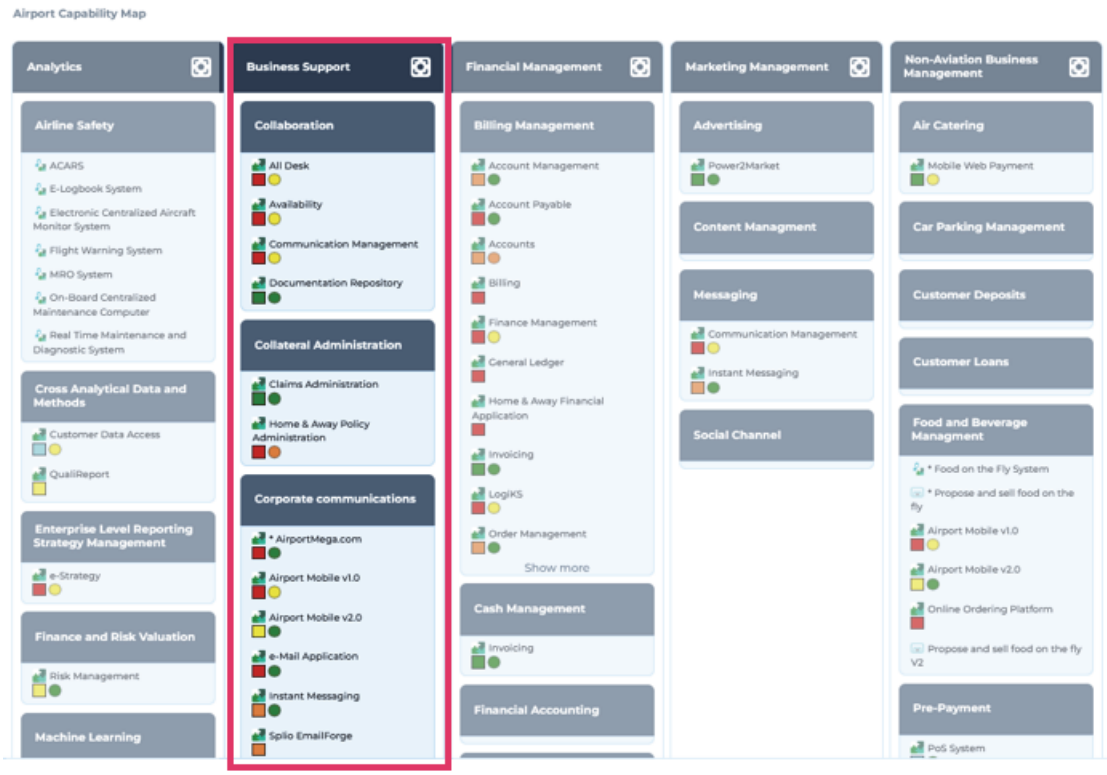
Zooming in a breakdown report

To zoom in on a component:

1. In the breakdown report, to the right of the component, click ⛶.

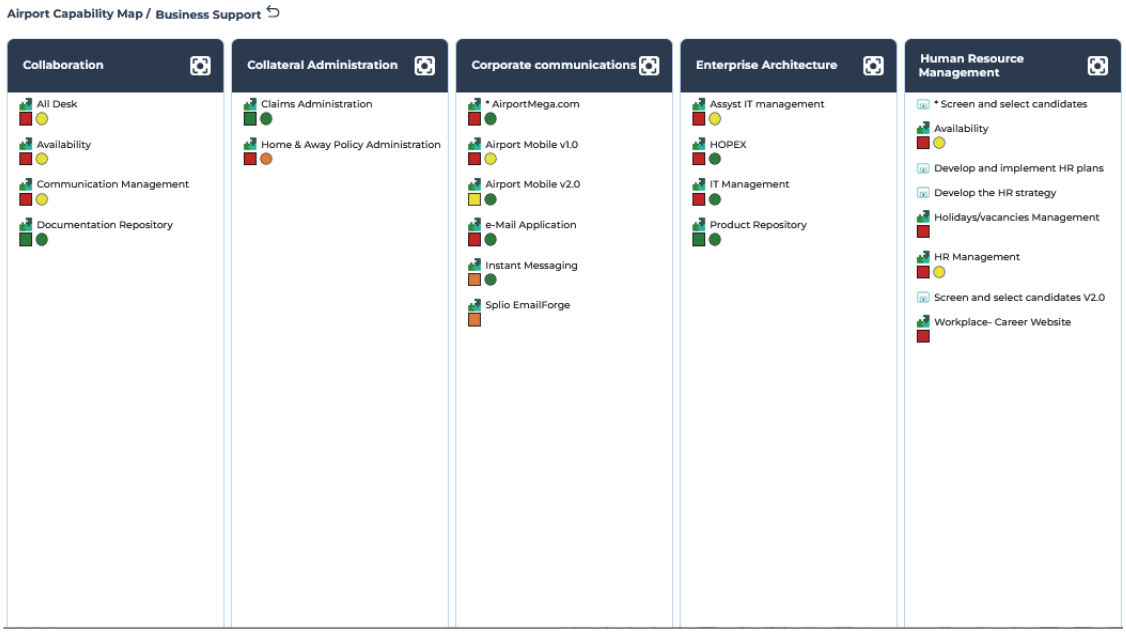
   ☛ *If you click its name, its property pages open.*

   E.g.: in the airport capability map, you can zoom in the "Business Support" Business Capability.



The report breadcrumb trail indicates that your are one lower level down.

The component selected widens over the whole space of the breakdown map and displays its components, its elements and analysis criteria.



2. You can move down in the map levels, as long as the component includes components.

   ☛ *To go up to the previous level, beside the breadcrumb trail, click* ***One level up*** .

Customizing a breakdown report display

By default, all levels and all object types are displayed at report opening. If needed, you can reduce the report content display at report opening:

- define the object types displayed at opening
- define the number of levels displayed at opening

In a breakdown report, you can display object icons:

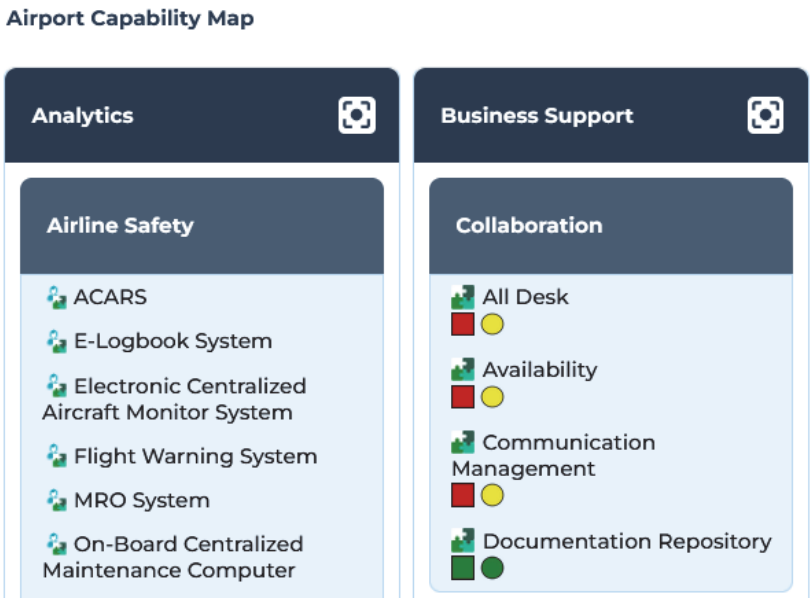
- component icons

  E.g.: icons of the Business Capacity Map and icons of its Business Capacities .



- icons of the items (default configuration)

  E.g. : Application and Application System icons.



- both component and item icons

  E.g.: icons of the Business Capacity Map and icons of its Business Capacities, as well as Application and Application System icons.



You can increase (or reduce) the column minimum width.





To modify the breakdown report display:

1. Edit the breakdown report (click **More** ⋮ **> Edit Report** ✎).

   ☛ *See Customizing a Report Style.*

   The edit pane appears to the right.

2. In the **Content** section, modify the relevant parameter value:
   - **Display all Object Types at opening**
   - **Level number at opening**
3. In the **Style** section, modify the relevant parameter value:
   - **Show Component Icons**
   - **Show Item Icons**
   - **Column Minimum Width**

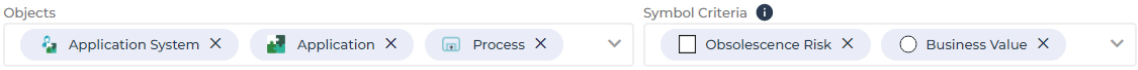
   ☛ *To reset a parameter value, delete the value you entered.*
4. Click **Apply**.

Hiding object types an/or criteria

In a breakdown report, you can:

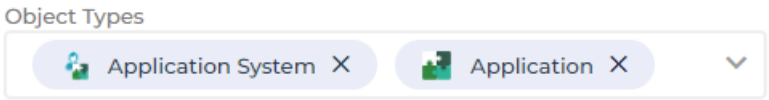
- hide or display certain object types
- hide or display certain criteria

In the report toolbar:



- in the **Object Types** field:
  - click the cross ✕ of the object type to hide.

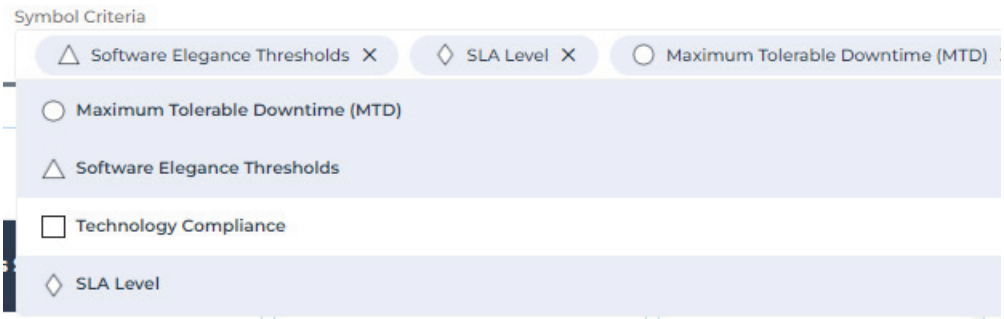
    `Ex. : hide` **`Process`**`.`

  - click the drop-down arrow then each object type to display.
- in the **Symbol Criteria** field:
  - click the cross ✕ of the criterion to hide.
  - click the drop-down arrow then each criterion to display.

    `E.g.: display "Obsolescence Risk" and "Technical Efficiency", and hide "Business Value" and "SLA level".`

    ☛ *You can also hide the* ***Color Criterion*** *in the same way.*



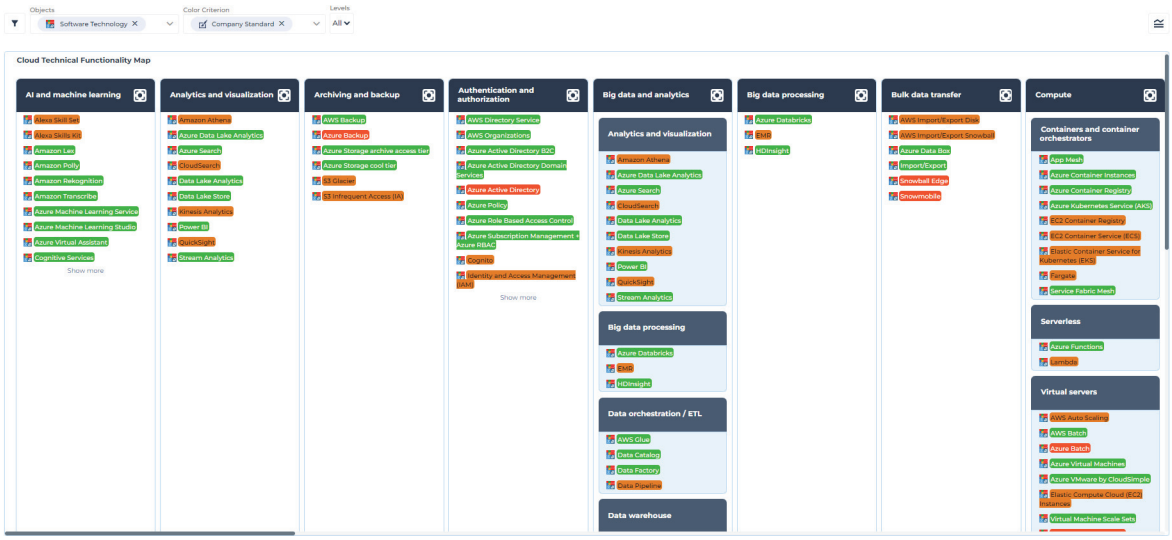
Only the evaluated criteria are available in the drop-down list.
To find out the available criteria that are not evaluated, hover the mouse over ⓘ of **Symbol Criteria**.

Highlight a criterion

The breakdown report may include:

- several symbol criteria
- one color criterion
  The color criterion highlights a criterion.

  E.g.: the "The Cloud Technical Functionality Map" breakdown report highlights the "Company Standard" criterion of the Technologies.



At breakdown report creation, you can choose the **Color Criterion** to highlights a criterion.

☛ *See Example of a Report Template showing a breakdown map.*

With specific reports, you can modify the criterion style: switching from **Symbol Criterion** to **Color Criterion** to highlights the criterion.

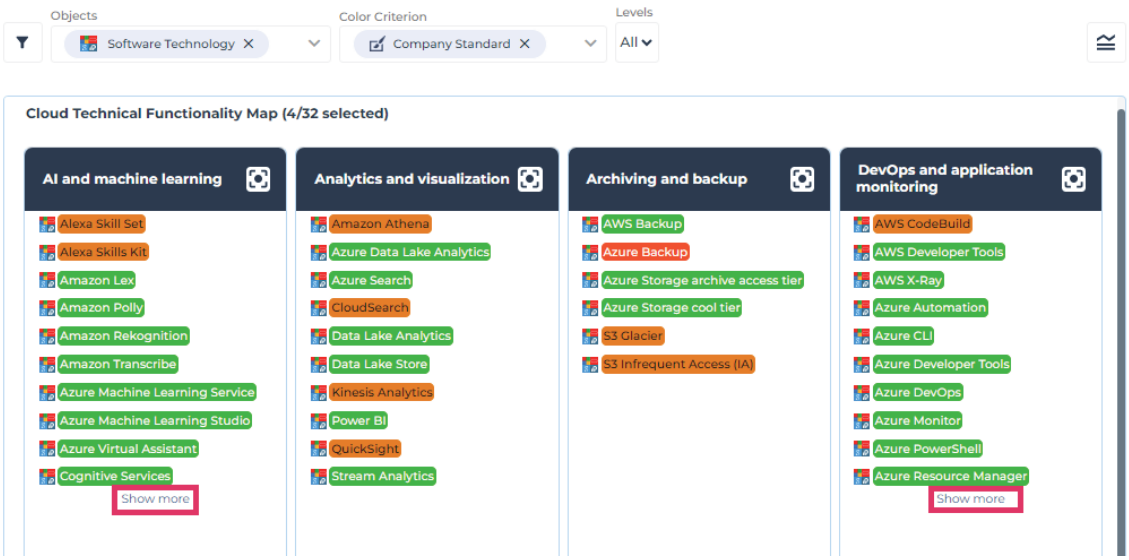
Displaying all items

To facilitate the reading, a component displays a maximum of 10 items.

You can display all the items of:

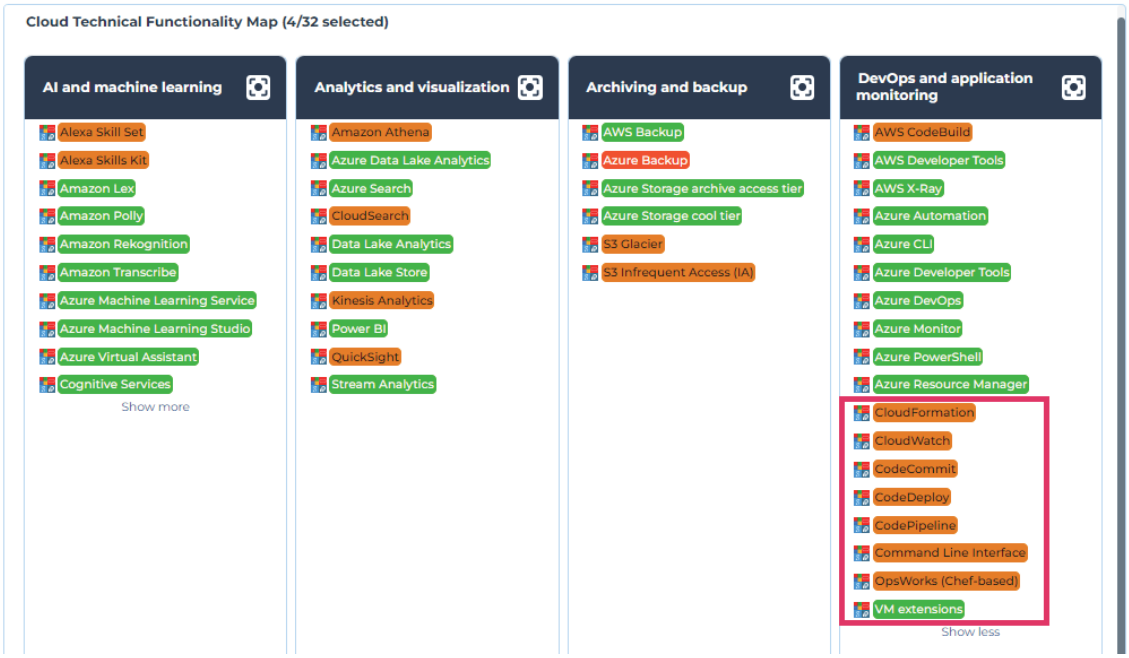
- a specific component
- all the components

E.g.: here two of the components include more than 10 items. **Show more** is available at the bottom of their item lists.

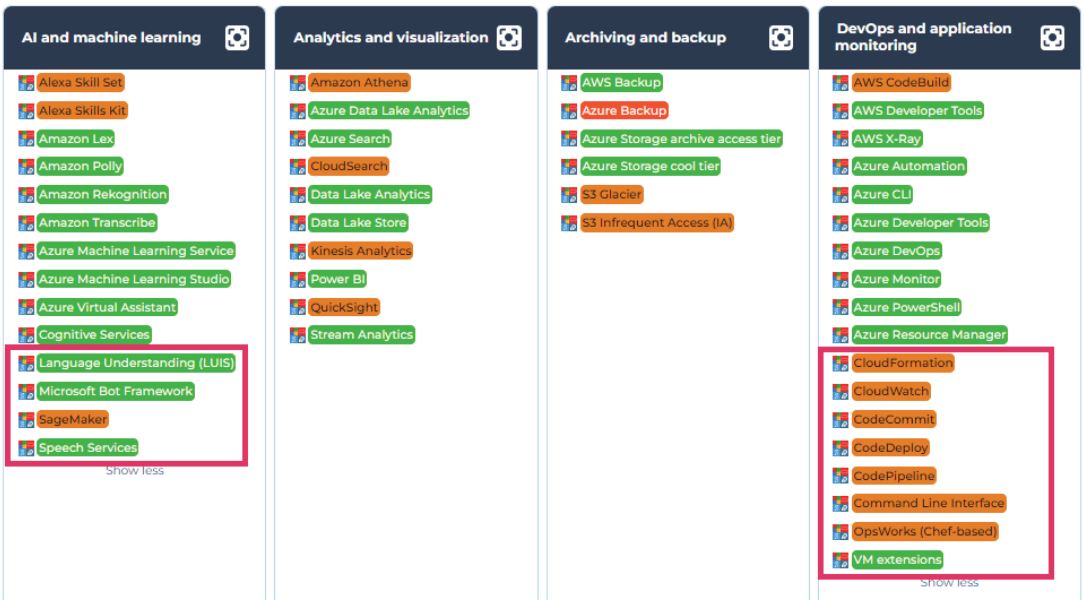


To display more items:

- on a specific component: at the bottom of the item list, click **Show more**.
  Only the component displays all of its elements.



- on all of the components at once: in the report toolbar click **Show Filters** , select **Show all items**.
  All of the components display all their items.



Filtering (root columns, criteria)

By default all of the root components (columns) and all of the criteria are displayed.

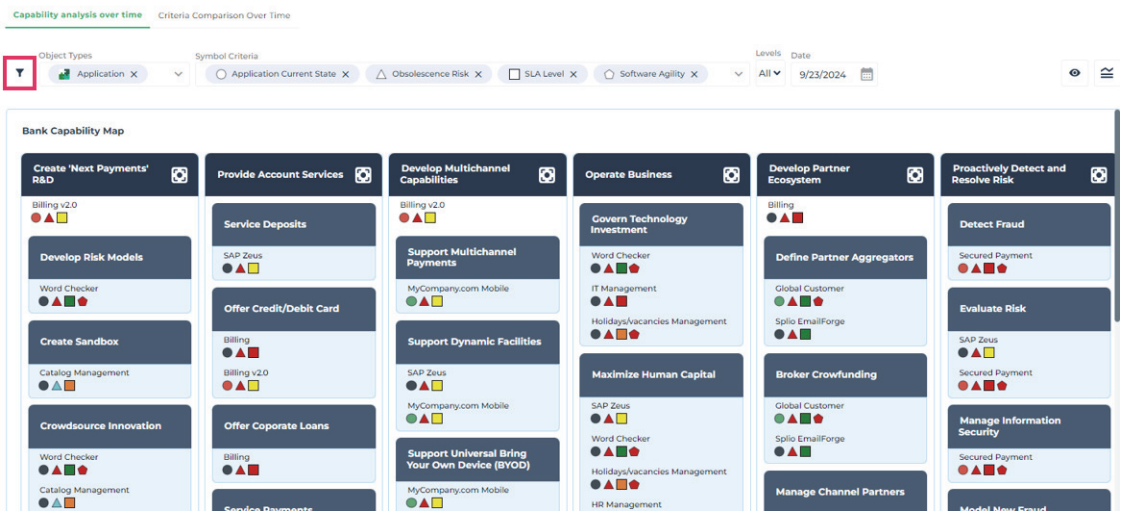
- To analyze one or more specific components, you can filter the others.
- You can also filter the items according to specific values of certain criteria.

For each filter you can select one or more values. The result must contain at least one of the values of each filter.

The number of values selected for each filter is indicated at each filter level.

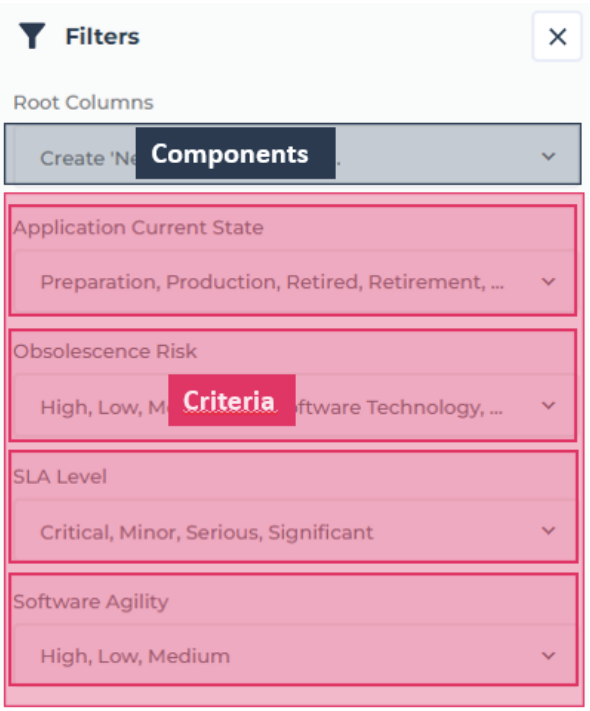
To filter the display according to specific components and specific criteria:

1. In the report toolbar, click **Show Filters** .



The **Filters** pane includes:

- a filter on components: the root columns
- as many filters as criteria



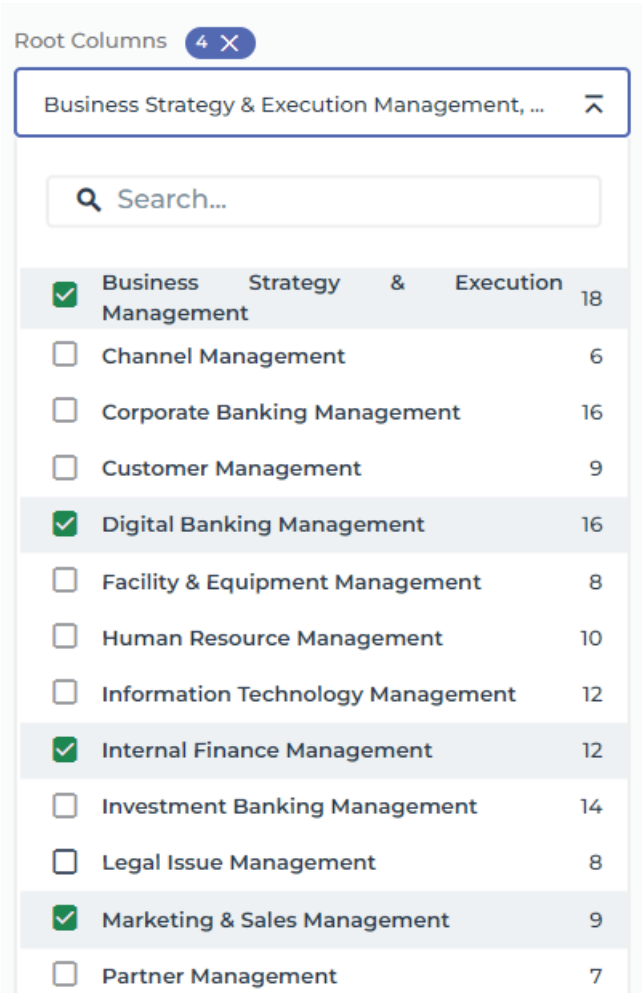
2. To filter the report according to certain ***components***: in the **Root Columns**, click the drop-down menu and select the components to display.

   ☺ *If needed, use the search field dedicated to the filter to access the component:*

   Enter characters in the field: as you enter characters the list narrows down.

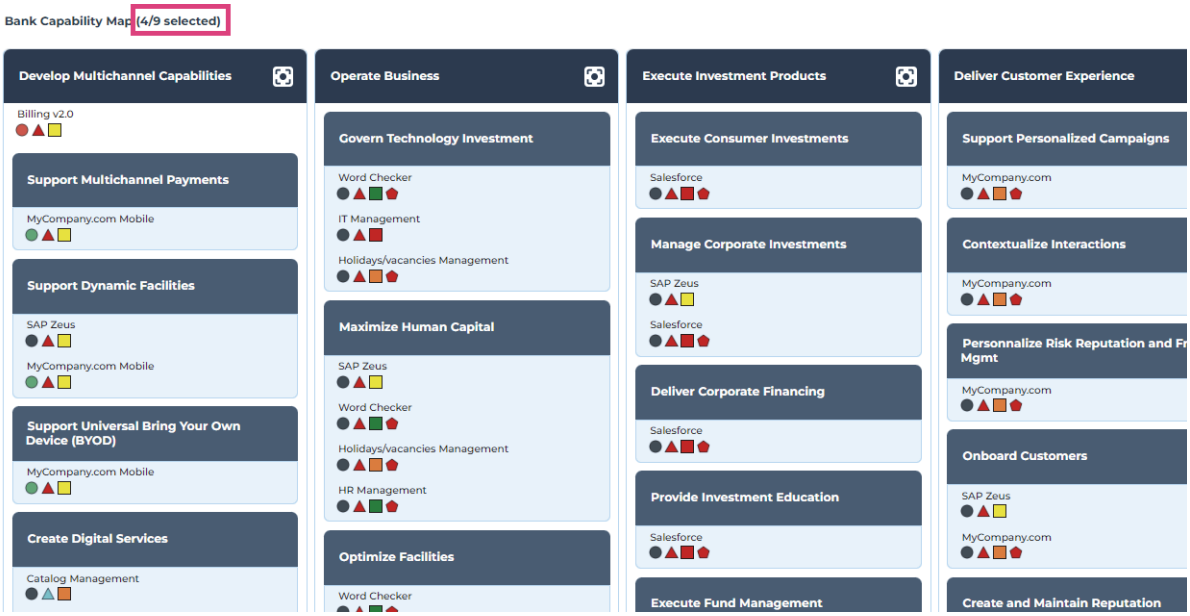
   The number of components selected is displayed to the right of the **Root Columns** filter.

   E.g.: filter on four components.



   The report is automatically filtered on the selected components.

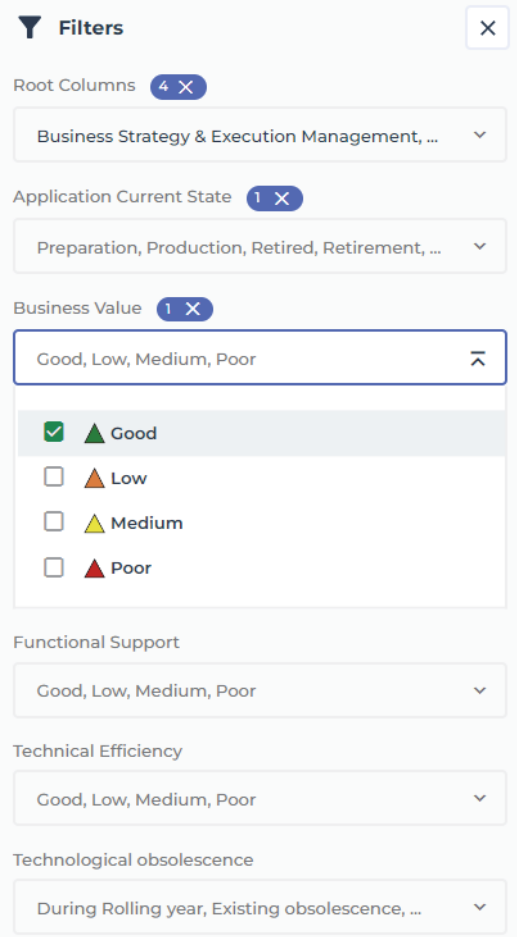
   E.g.: four components out of ten are displayed.



3. (Optional) To fold the filter, click .

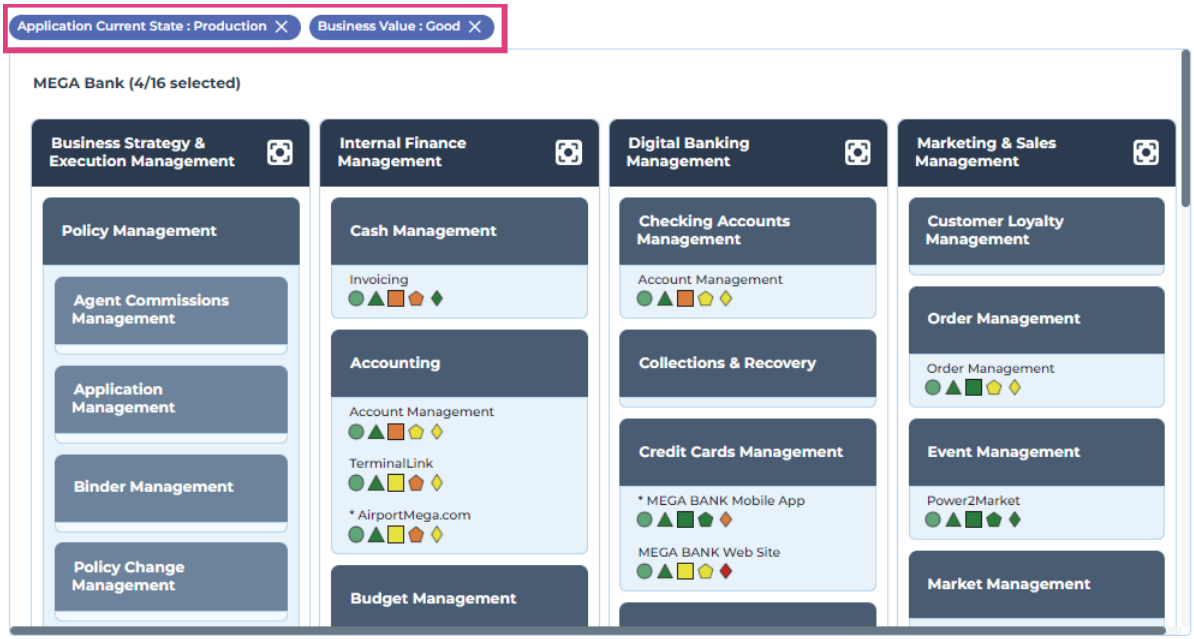
4. To filter the items according to certain ***criterion values***: in the **<Criterion name>** field, click the drop-down menu and select the values you want to apply to the filtering.
You can add to the filtering as many values on as many criteria you want.
The number of values selected is displayed beside the filter name.

E.g.: filter on the "Production" **Current state** and "Very high" **Obsolescence Risk** criteria.



The report displays only the items that match at least one of the filtering criteria.
The filtering is indicated at the top of the report: the criterion and its value.

☛ *To delete a filtering, click its cross* ☒.



☺ *To analyze a component more closely, you can zoom in the component, see Zooming in a breakdown report.*

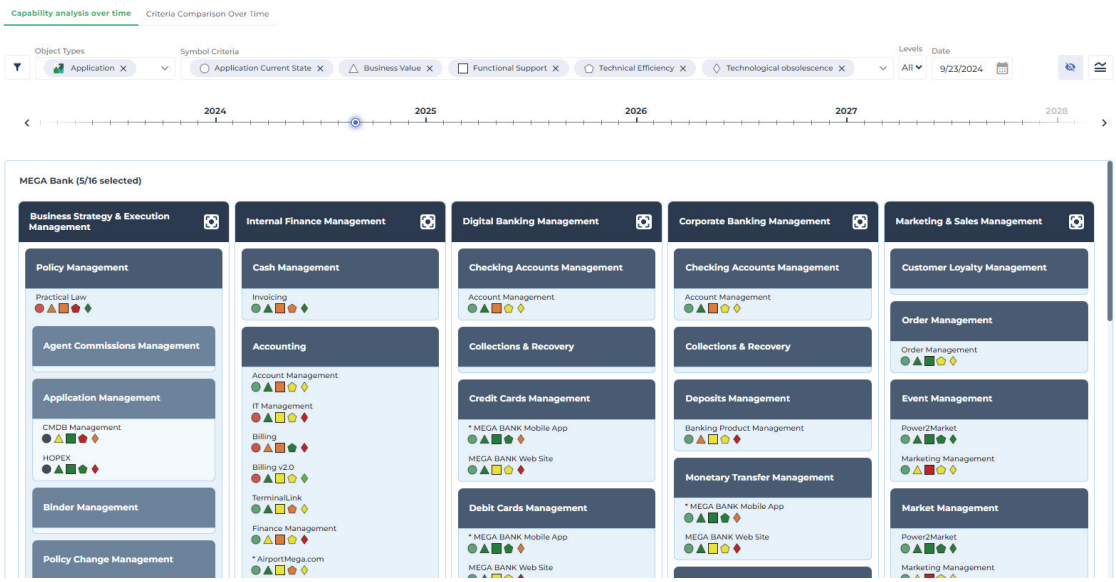
Handling data over time

With certain breakdown reports you can track data value evolution over time.

These reports include in their toolbar:

- a date field indicating the date of the displayed data values
  At opening, the report displays the data values at the current date.
- a time line with a dot cursor enabling to change the date of the displayed data

  E.g.: the Business Capability Coverage over Time report.



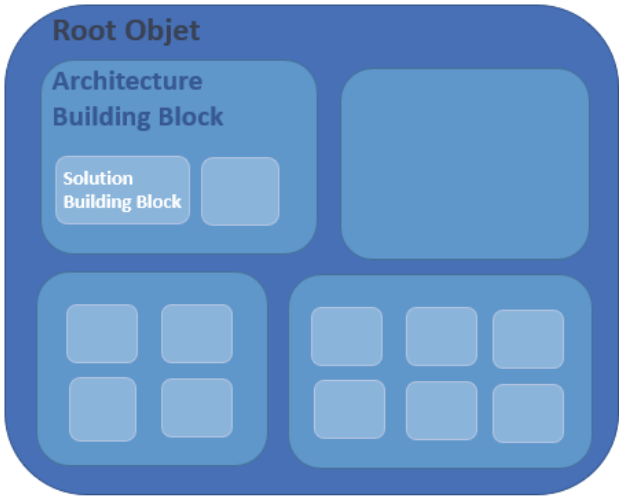
To track indicator value evolution over time:

1. In the timeline, click the dot cursor and drag it over the timeline up to the required date.
   The values of the criteria are updated according to the selected date.
   In the report toolbar, the date field indicates data display date.

To Show/Hide the timeline, click **Show/Hide Timeline** .

Example of a Report Template showing a breakdown map

The "**Building Block Breakdown Report**" shows a breakdown map.



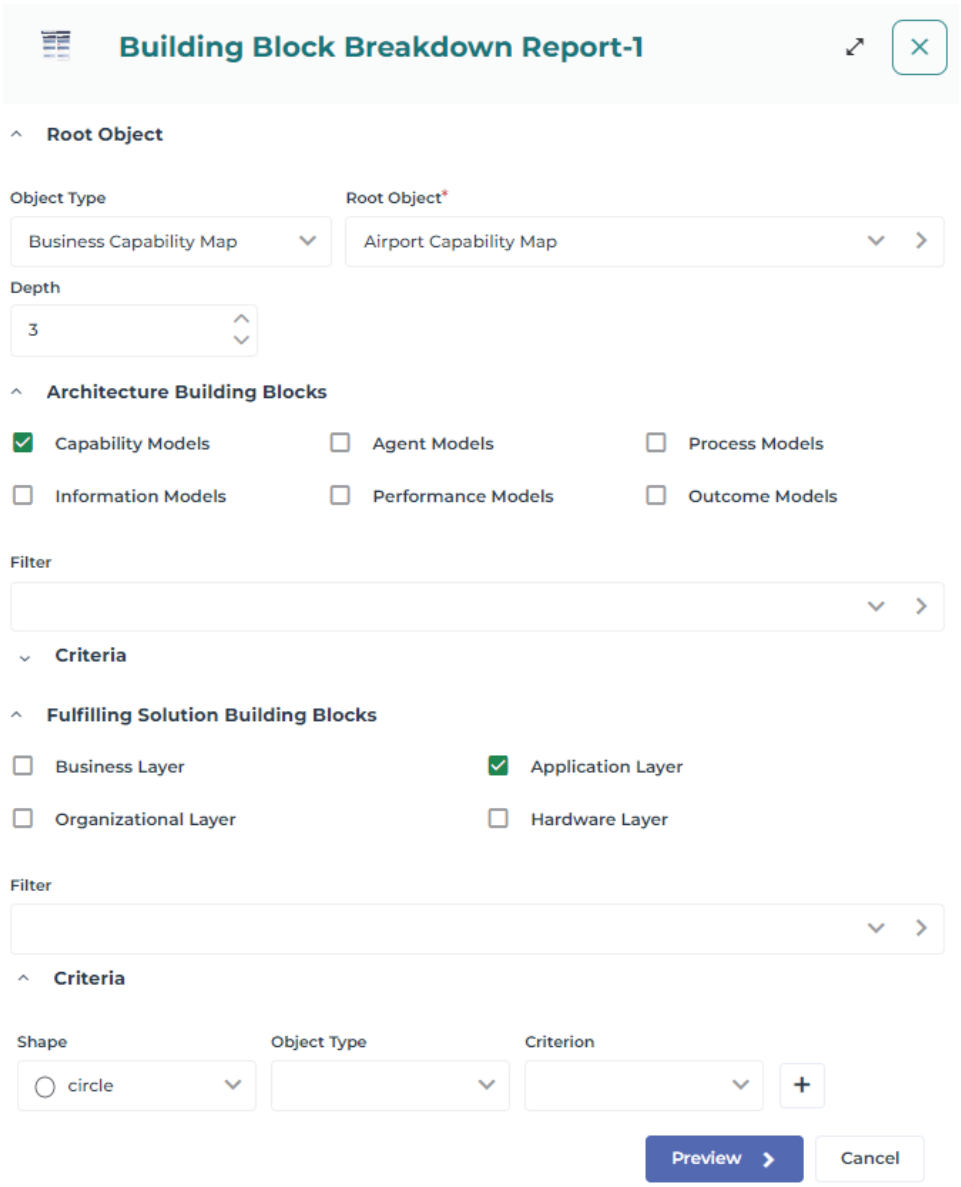
The "**Building Block Breakdown Report**" report template details the breakdown of a **Root Object** (e.g.: the "Airport Capability Map" Business Capability Map) according to selected classifier objects:

- **Architecture Building Blocks**

  E.g.: Capability Models.

- **Fulfilling Solution Building Blocks**

  E.g.: Application layer.



For each building block, you can add:

- a content filter (using a query)

  Examples:

  The "Capabilities with fulfilling solutions building blocks" filter, which you can add to the Architecture

Building Blocks, enables to display only capabilities fulfilled by applications (Solution building blocks).

The "Applications in production" filter, which you can add to the Fulfilling Solution Building Blocks, enables to display only the applications that are in production.

- analysis criteria and choose their associated symbols (shapes)

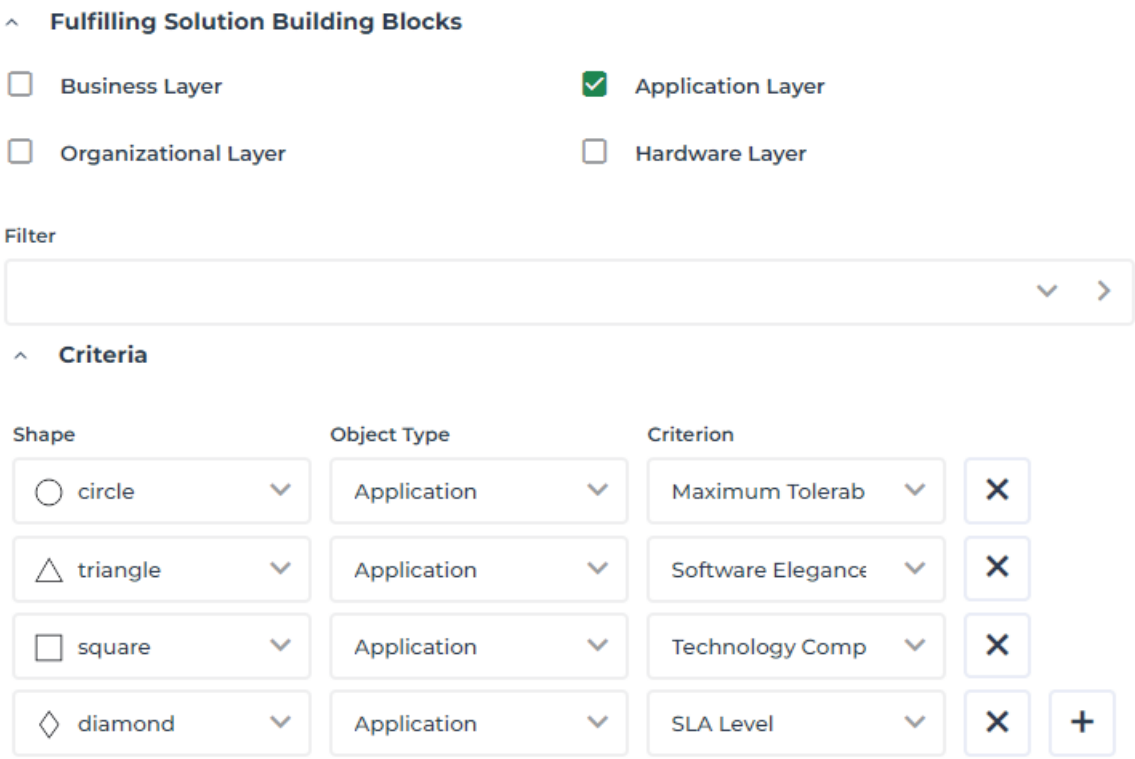
  Examples:

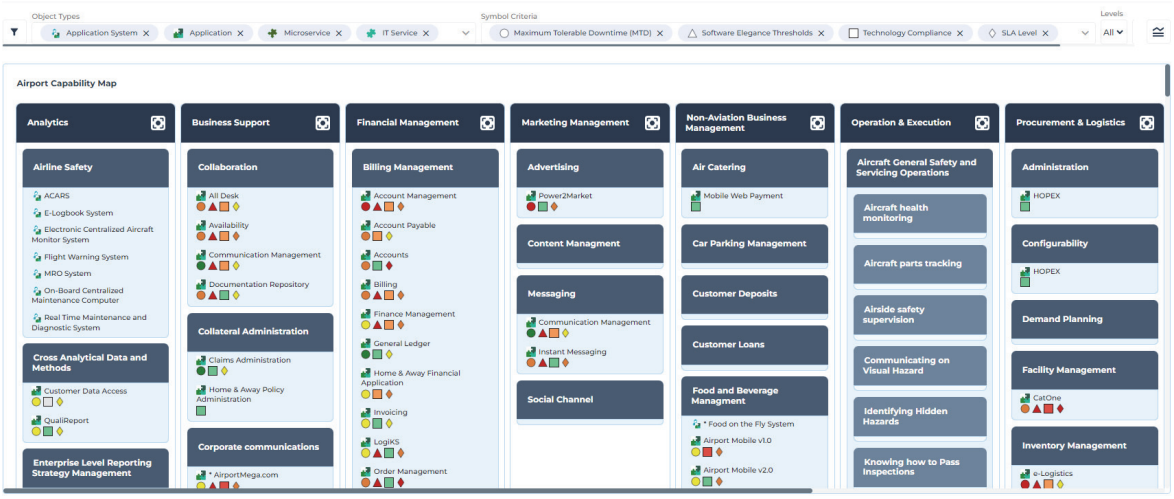
  The ***circle*** shows the "Maximum tolerable downtime" of an Application.

  The ***triangle*** shows the "Software Elegance Thresholds" of an Application.

  The ***square*** shows the "Technology Compliance" of an Application.

  The ***diamond*** shows the "SLA level" of an Application Service.

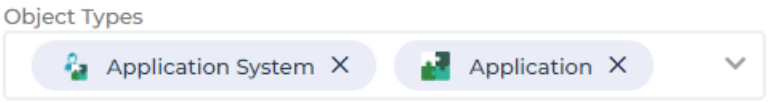



Object Types
Application System
Application
Microservice
IT Service
Symbol Criteria
Maximum Tolerable Downtime (MTD)
Software Elegance Thresholds
Technology Compliance
SLA Level
Levels
All
Airport Capability Map
Analytics
Airline Safety
ACARS
E-Logbook System
Electronic Centralized Aircraft Monitor System
Flight Warning System
MRO System
On-Board Centralized Maintenance Computer
Real Time Maintenance and Diagnostic System
Cross Analytical Data and Methods
Customer Data Access
QualiReport
Enterprise Level Reporting Strategy Management
Business Support
Collaboration
All Desk
Availability
Communication Management
Documentation Repository
Collateral Administration
Claims Administration
Home & Away Policy Administration
Corporate communications
* AirportMega.com
Financial Management
Billing Management
Account Management
Account Payable
Accounts
Billing
Finance Management
General Ledger
Home & Away Financial Application
Invoicing
LogiKS
Order Management
Marketing Management
Advertising
Power2Market
Content Managment
Messaging
Communication Management
Instant Messaging
Social Channel
Non-Aviation Business Management
Air Catering
Mobile Web Payment
Car Parking Management
Customer Deposits
Customer Loans
Food and Beverage Managment
* Food on the Fly System
Airport Mobile v1.0
Airport Mobile v2.0
Operation & Execution
Aircraft General Safety and Servicing Operations
Aircraft health monitoring
Aircraft parts tracking
Airside safety supervision
Communicating on Visual Hazard
Identifying Hidden Hazards
Knowing how to Pass Inspections
Procurement & Logistics
Administration
HOPEX
Configurability
HOPEX
Demand Planning
Facility Management
CatOne
Inventory Management
e-Logistics

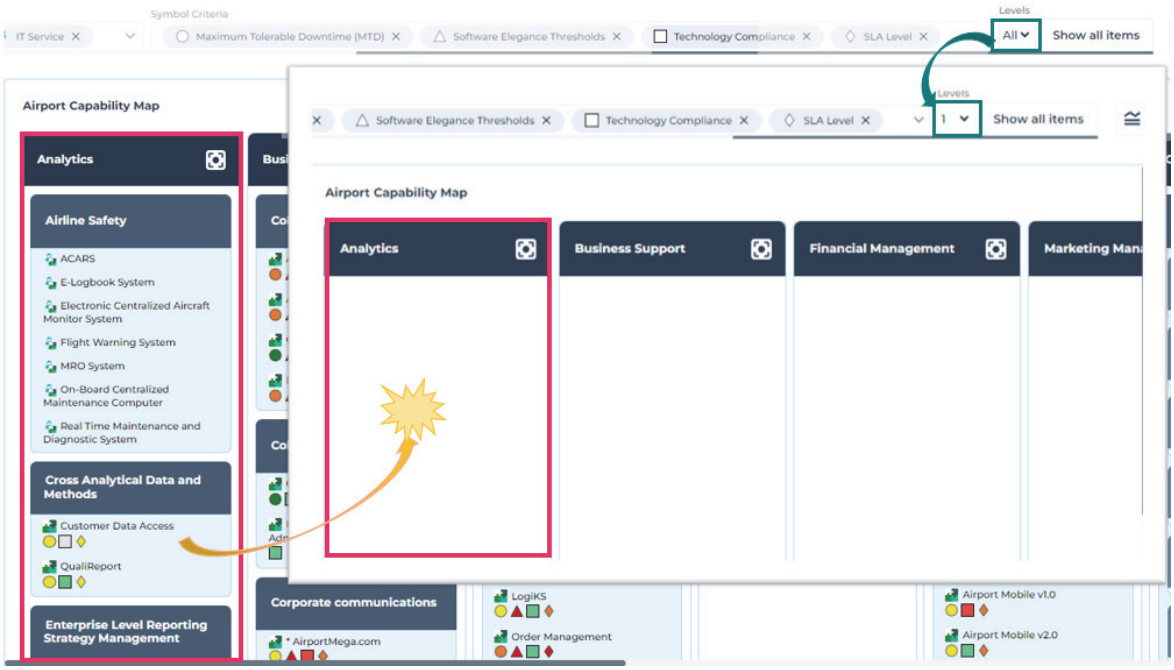
To configure a breakdown map display:

- To modify the object types for which to display analysis criteria, in the **Object Types** field:
  - click the cross ✕ of the object types you do not want to display.
  - click the drop-down arrow and select the object types to display.

    E.g.: you can display only the **Applications** and **Application Systems**.

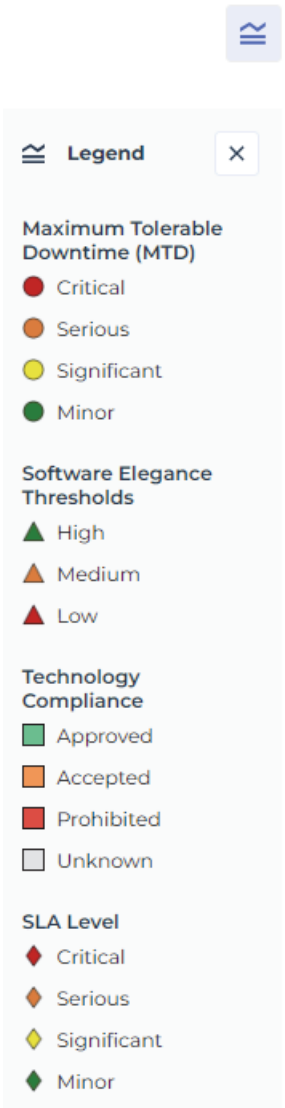


- To lighten a breakdown map display, in the **Levels** field, select an upper level.
  Lower levels are hidden.



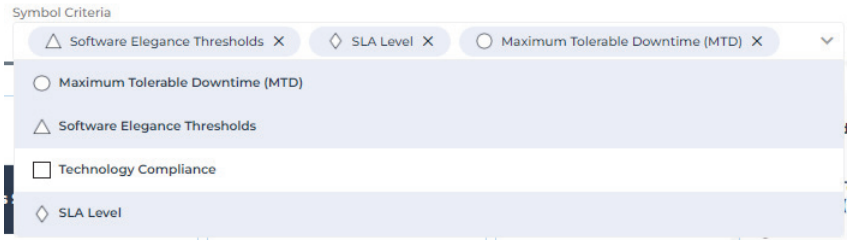
- To view the values of the analysis criteria, click **Show/Hide Legend** ≅.

☺ *To hide the legend, click* ≅ *again.*

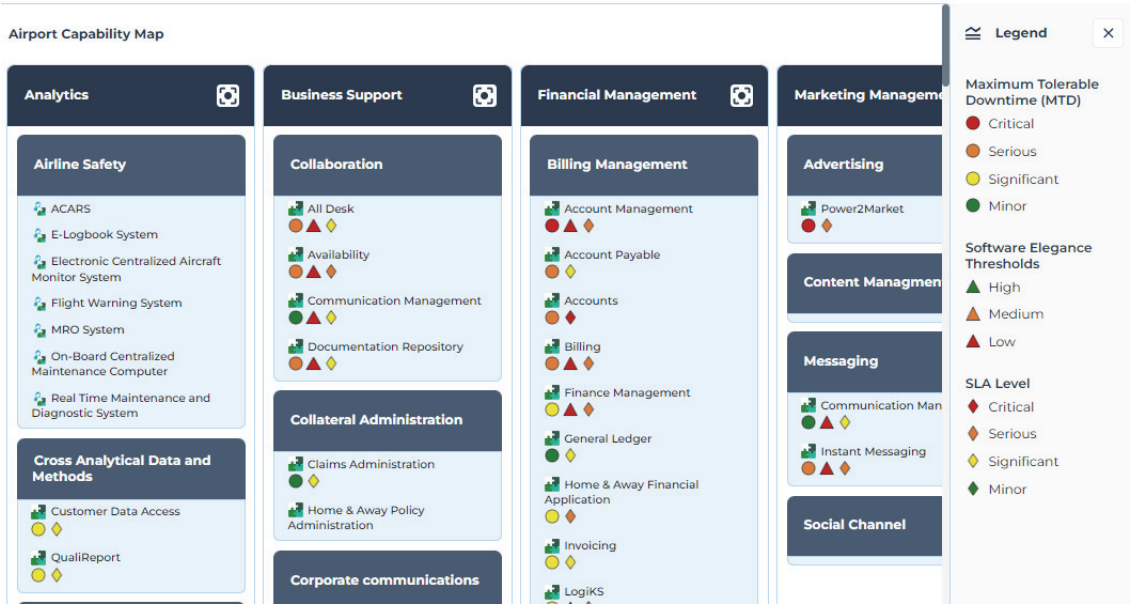


- To modify the analysis criteria displayed in the report, in the **Symbol Criteria** field:
  - click the cross ✕ of the criterion to hide

    `E.g.: "Technology Compliance".`
  - click the drop-down arrow and select the criterion to display.



The legend details only the criteria displayed.

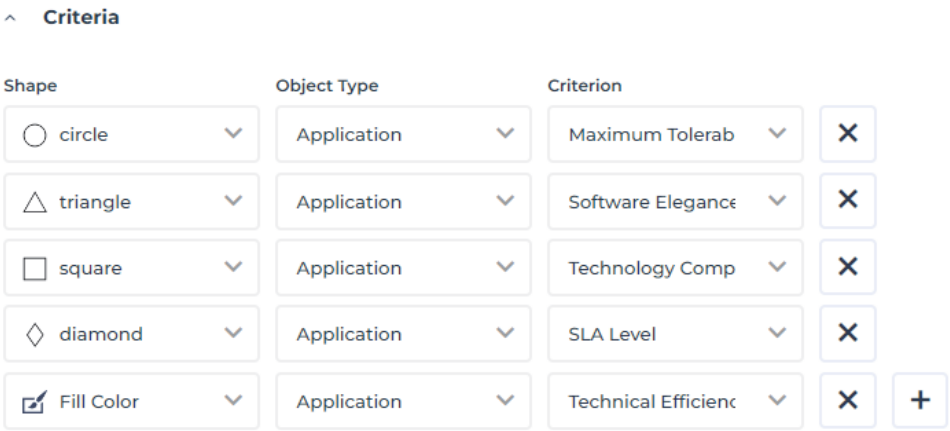


- To add an analysis criterion, click **Edit Parameters** and in the **Criteria** section:
  - Click **Add Criterion** +.
  - In the **Shape** column, select the symbol associated with the criterion, or select "Fill Color" to highlight this criterion (adding background color to the name of the object).

    `E.g.: Fill Color.`
  - In the **Object Type** column, select the type of object bearing the analysis criterion.

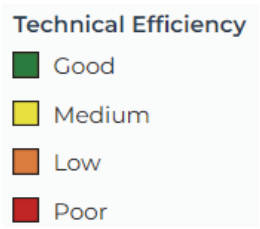
    `E.g.: Application.`
  - In the **Criterion** column, select the object parameter. The values of this parameter are represented by colors.

    `E.g.: Application technical efficiency.`



- Click **Apply**.

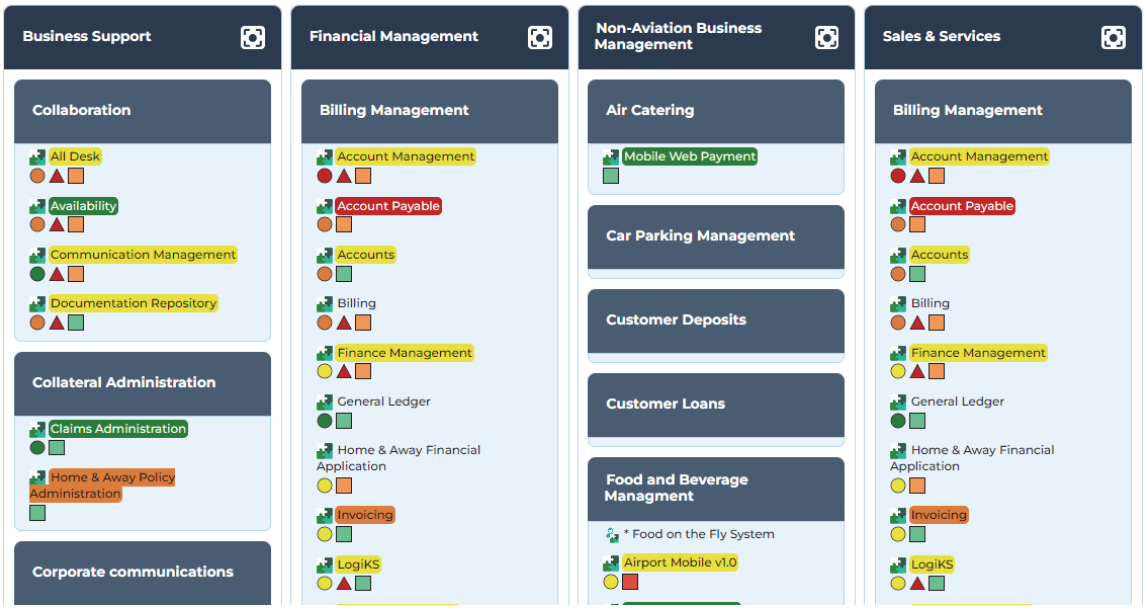
The parameter is added to the legend.



If you chose the "Fill color" criteria, object names have as background color the color that represents the value of the criterion selected.

E.g.: The application name has as background color its technical efficiency level value.

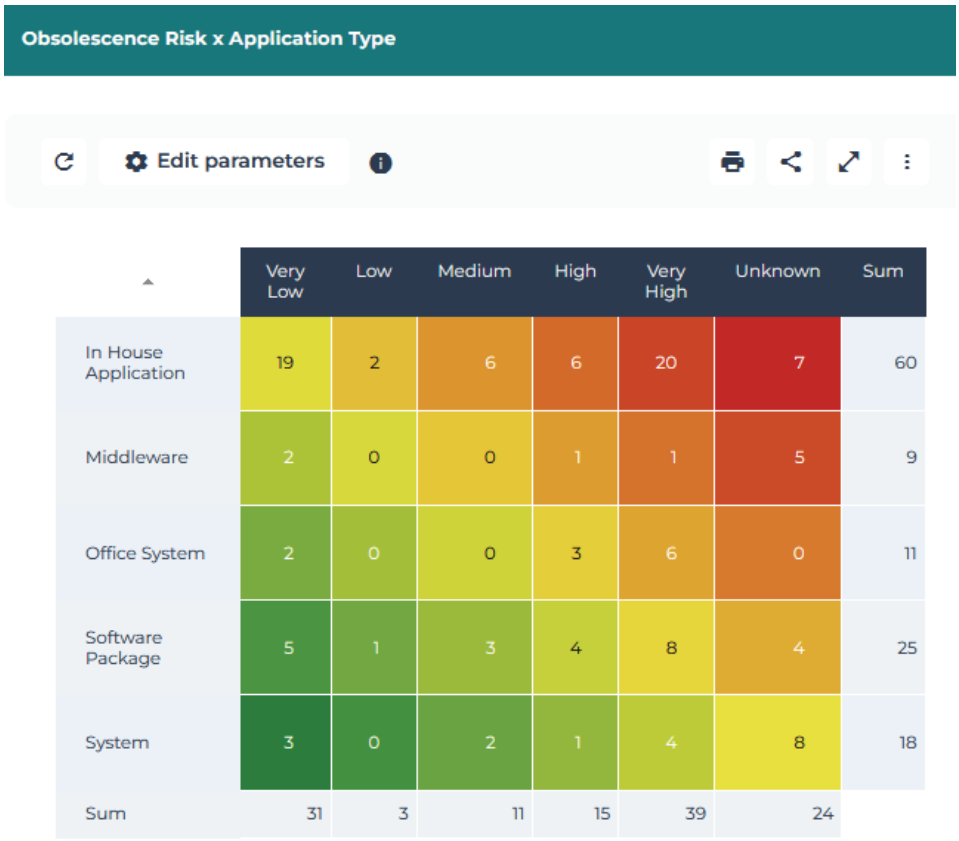
Airport Capability Map (4/10 selected)



Handling a Heatmap

You can create heatmap charts through the use of two qualitative criteria.

The following heatmap shows the risk of obsolescence (Very Low, Low, etc.) of a list of applications according to their type (Office System, System, etc.).



	Very Low	Low	Medium	High	Very High	Unknown	Sum
In House Application	19	2	6	6	20	7	60
Middleware	2	0	0	1	1	5	9
Office System	2	0	0	3	6	0	11
Software Package	5	1	3	4	8	4	25
System	3	0	2	1	4	8	18
Sum	31	3	11	15	39	24	

In a heatmap, you can:

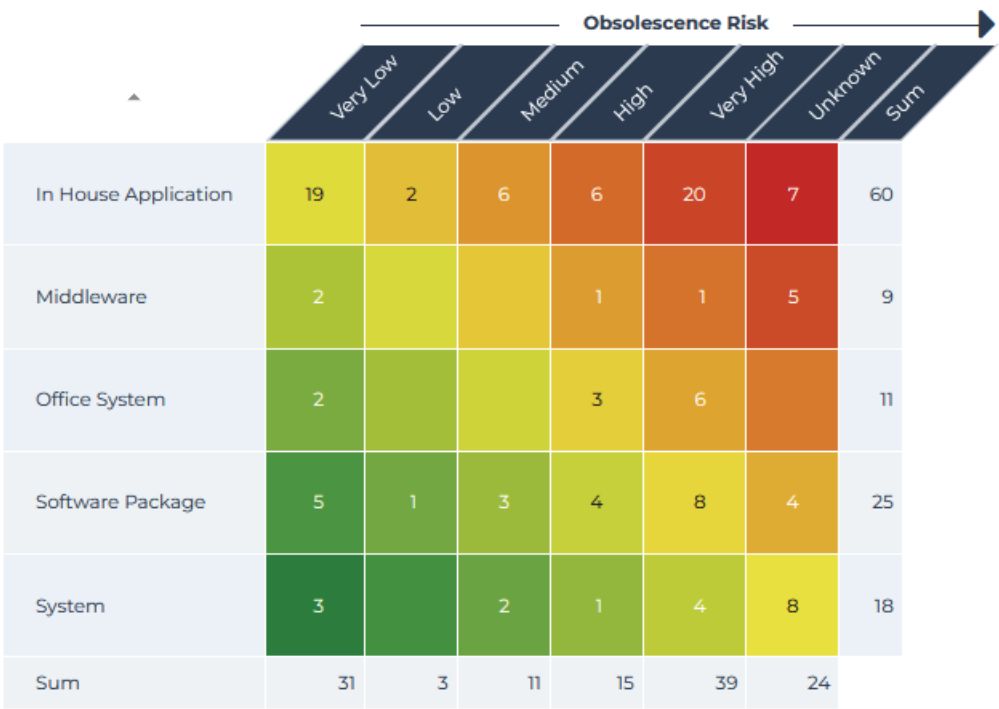
- improve its readability
  - modify the text orientation of the header

    E.g.: Diagonal.
  - display blank for zero value cells
- modify its display
  - delete the "total" row at the bottom, or modify its value

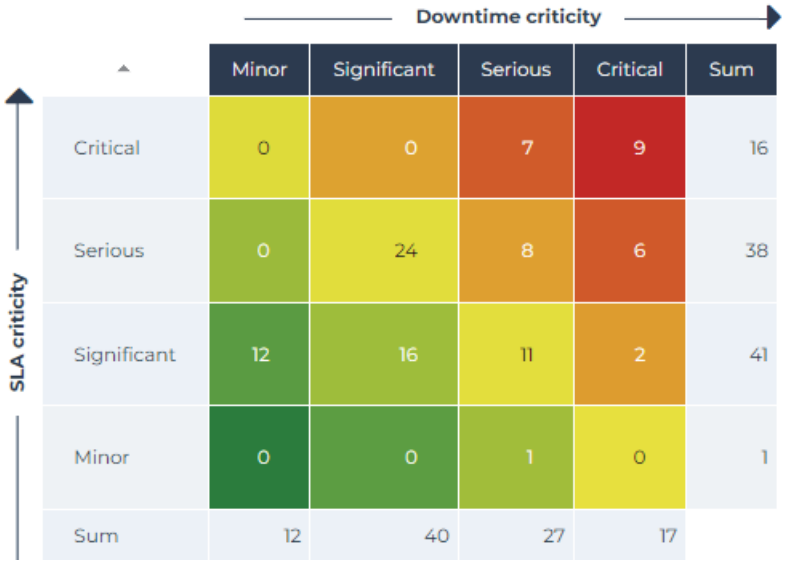
    E.g.: Maximum.
  - delete the "total" column to the right, or modify its value
  - add a border to the heatmap and modify its style
  - reverse the display of the series
  - reverse the row order
  - add a title and a direction (arrow) to columns
  - add a title and a direction (arrow) to rows
  - sort a column content
- get the list of objects contained in a cell.

  ☛ *See Getting the list of objects contained in a report part.*

  E.g.: you can add a title and a direction to columns, modify the header orientation, hide null values from cells.



E.g.: you can invert the row order, add a title and a direction to rows and columns.

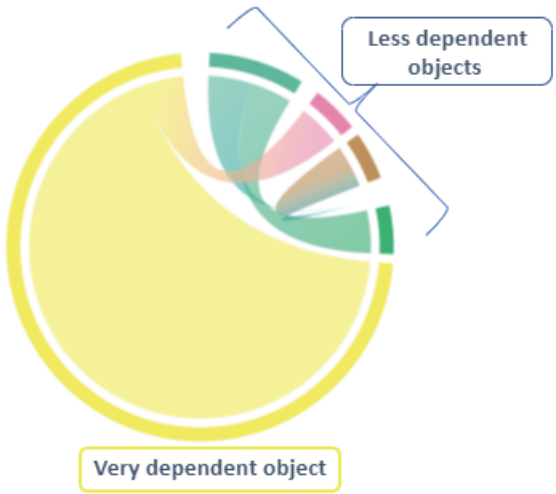


	Minor	Significant	Serious	Critical	Sum
Critical	0	0	7	9	16
Serious	0	24	8	6	38
Significant	12	16	11	2	41
Minor	0	0	1	0	1
Sum	12	40	27	17	

Handling a Chord Diagram

A chord diagram enables to quickly visualize the connections (dependencies or transfers) between objects:

- Each object is represented by a fragment of the outer part of the circle. The greater its dependency on the other concerned objects, the wider its fragment size.



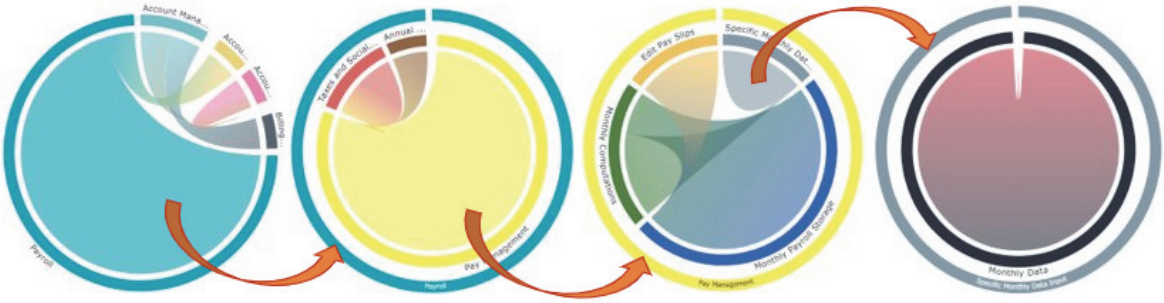
- A chord expresses relations between two objects.



- The size of each chord end is proportional to the importance of its dependency. The wider is the chord end, the more the object concerned is dependent on the opposite object.



- Hovering over a chord, you can get the detail of dependencies between objects.
- If an object has components, you can navigate between its breakdown levels and display, for each level, the connections of its objects.
  The chord diagram enables to focus on a chord to analyze the connections of its lower level.



You can:

- restrict the analysis to a single dependency type only (i.e. a chord).
  By default all the dependencies are shown (those from the current level and those aggregated)
- navigate between levels: go one level down or up
- display the total dependencies of an object of the outer part of the circle (current node weight, opposite node weight)
- display the dependency weights of both chord ends
- get the detail of the elements held by a chord

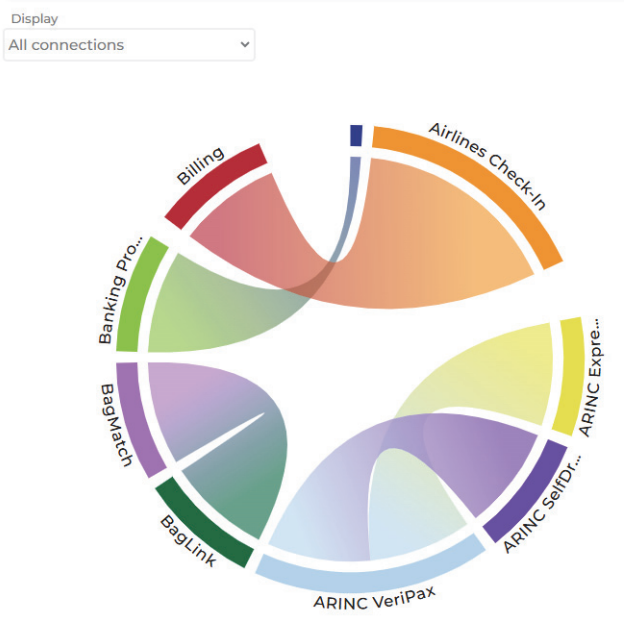
Example of a Report Template showing a chord diagram

The "**Agent Dependencies**" report template highlights the dependencies between agents through the application flows exchanged between them or their components.

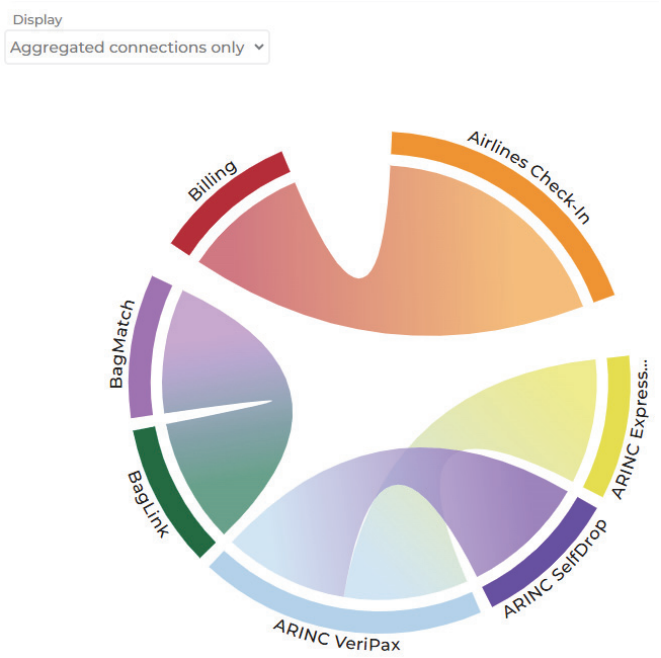
The chord diagram represents the volume of the flows received between applications. The more an application receives flows from other applications, the more it is dependent on these applications and wider is the chord end.

To handle a chord diagram:

1. Create a report based on the "Agent Dependencies" report template. By default, all the connections are displayed.



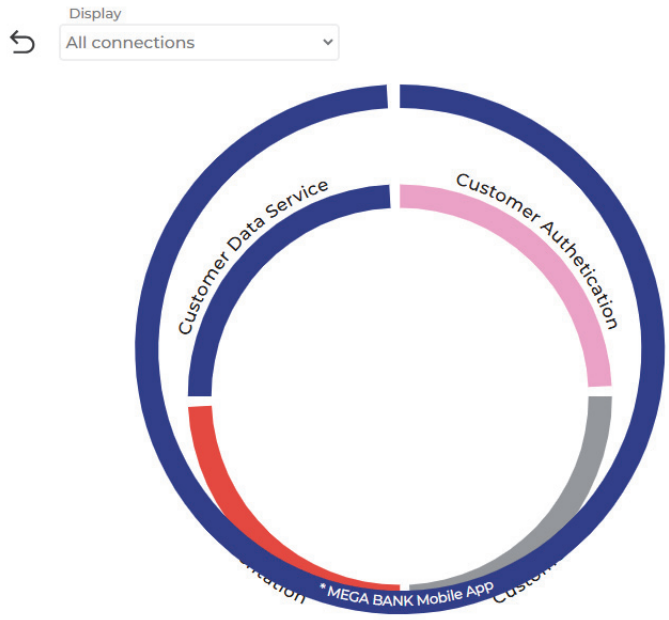
2. When appropriate, to restrict the connection display, in the **Display** field, select:
   - aggregated connections only (dependencies between the components, application services)



   - current connections only (dependencies between applications)

3. To display the connections of the first lower level, click the chord.

   E.g.: click the "Airlines Check-in" application chord: the diagram displays the connections between the application services of the "Airlines Check-In" application.

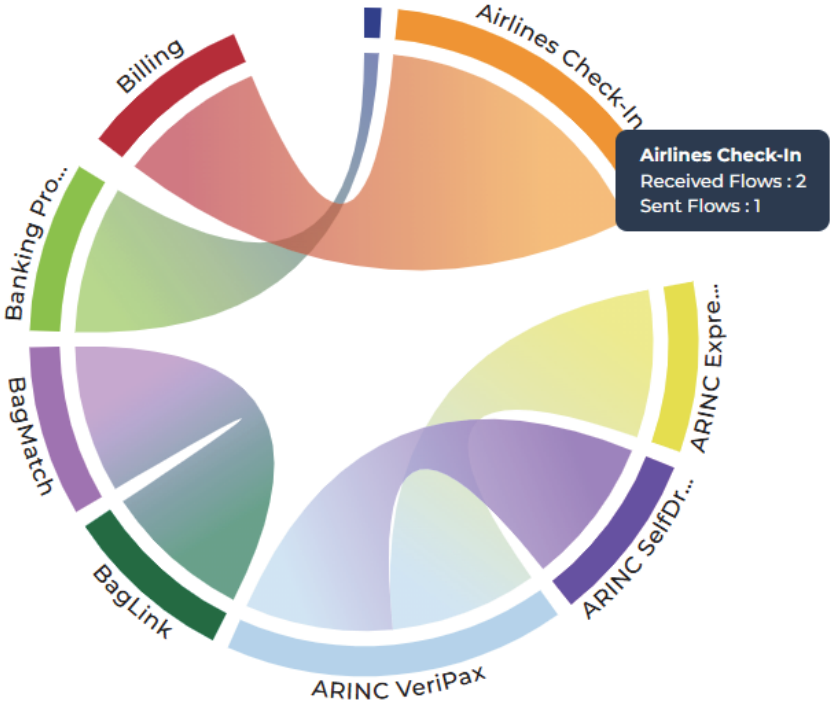


4. Click a chord to go down one more level, or click **One level up** to go back to the upper level.

   E.g.: there is no lower level in this example.

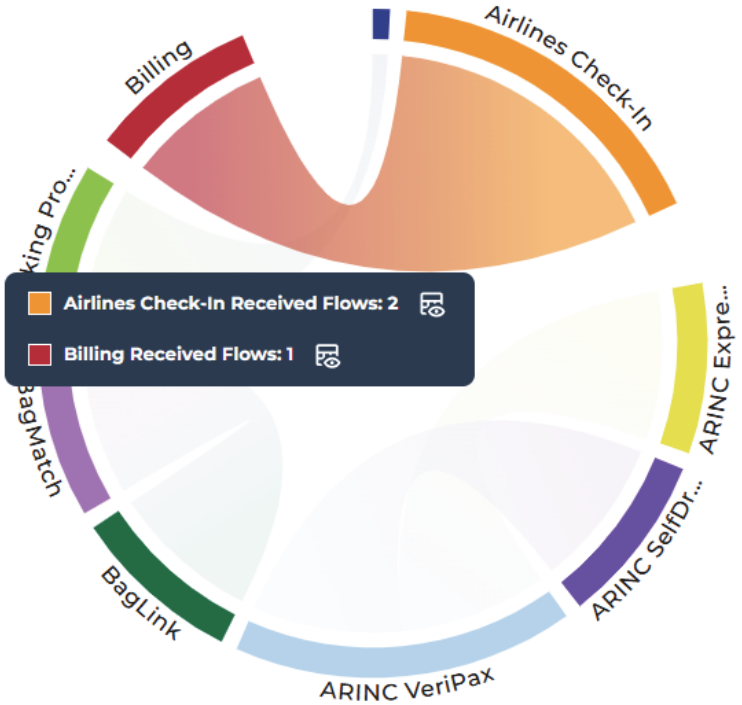
5. Hover the mouse over an object of the outer part of the circle (fragment) to display its total dependencies on the other objects of the current level.

E.g.: "Airlines Check-In" has one application flow, its opposite node flows are of 2 (from "Billing").



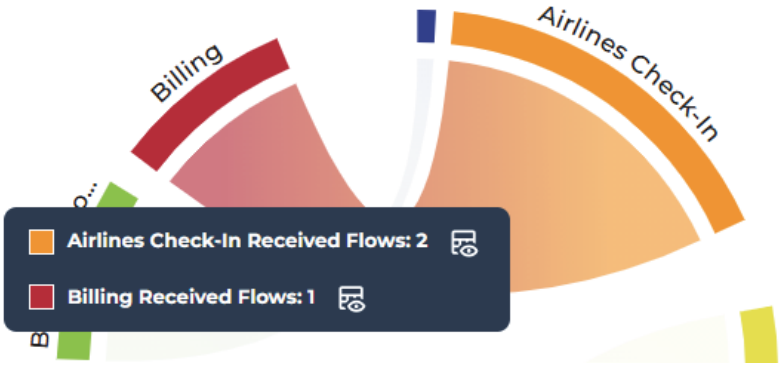
6. Hover the mouse over a chord to display the dependencies it represents between two nodes.

E.g.: the chord between applications "Airlines Check-In" (received flows: 2) and "Billing" (received flow: 1).



7. Hover the mouse over a chord and click **Click to view details** to get the list of the contents exchanged.

   E.g.: click **Click to view details** of "Airlines Check-In" (received flows: 2).



Contents display beneath the graphic.



MANAGING REPORT OPTIONS

To modify report options:

1. Access the options (select **Main Menu > Settings > Options**).
2. In the options tree, select **Tools > Documentation > Reports**.
3. In the right pane, modify the options of interest:
   - Hiding/Displaying Information in your Reports
   - Deactivating the Display Limit in Reports
   - Defining your Report Formats
4. Click **OK**.

Hiding/Displaying Information in your Reports

You can hide the following information in your reports:

- the export buttons on report chapters
- the chapter descriptions

  ☛ *To add a report chapter description, see Adding a Description to a Report or to a Report Chapter.*
- help buttons
- (table), the object icons

You can display the icons of objects in tables.

Deactivating the Display Limit in Reports

By default, a report does not necessarily display in its entirety. It is limited in the amount of data it is able to display correctly:

- for a table: 50,000 cells
- for a bar chart: 500 bars
- for a bubble chart: 250 bubbles
- for a linear chart: 7,000 lines
- for a pie chart: 500 slices
- for a radar: 2,200 items
- for a dendrogram: 30,000 objects

Beyond this limit, report processing may fail.

The **Deactivate the display limit in reports** option allows to not take into account the limits set for each report type, but the complete execution of the report is no longer ensured.

Defining your Report Formats

You can ***define the formats***:

- Excel export format (XLSX, XLS)
  - ☛ *By default: XLSX.*
- paper format
  - ☛ *By default: A4.*

Activating Dashboard Option

You can add reports to your dashboard. If the **Dashboard** navigation menu is not available in your desktop, you can add it.

To activate the Dashboard option:

1. Access the options (select **Main Menu > Settings > Options**).
2. In the Options tree, select **Workspace > Dashboards**.
3. In the right pane, select the **Activate Dashboard** option.
4. Click **OK**.

MANAGING REPORTS MS WORD

Thanks to its repository, **Hopex** automates production of these documents in MS Word format to share information with the teams concerned.

These document models - called report templates (MS Word) - are provided as standard.

See:

- Reports MS Word
- Creating a Report MS Word in Hopex
- Accessing the Reports MS Word Related to an Object
- Opening a Report MS Word Related to an Object
- Revising Reports MS Word
- Approving the report MS Word revision
- Creating a distribution list

Reports MS Word

Content

Reports MS Word provide a view of the state of repository objects at the time of creation of the report.

The reports MS Word:

- include a diagram drawing
- show all the objects featured in or linked to the diagram, with their properties and the descriptions that the designer entered during the design process.

☛ *Unlike analysis reports, which present data according to a particular study viewpoint, reports MS Word present raw data.*

Specificities

Reports MS Word available in **Hopex** are .rtf reports packaged as .docx format.

They are automatically detached from **Hopex**.

Styles, contents and index are not refreshed. You must do this manually.

Creating a Report MS Word in Hopex

HOPEX enables you to create documentation about repository objects: the reports MS Word.

> ☛ *These reports MS Word are available in .docx format. They are generated in .rtf format then packaged in .docx format so as to reduce size. For more details, see Specificities.*

To create a report MS Word you must:

- select the report template (MS Word) you want to base your report on.

  > ☛ *Hopex includes predefined report templates specific to each Solution.*

- (Optional) define the report distribution list, recipients can be:
  - org-units
  - persons

You can create reports MS Word from the **Reporting** property page of a repository object.

> ☛ *You can also export a report in RTF format and open it in MS Word, see Exporting a Report.*

To create a report MS Word:

1. Access the object properties.

   > ☛ *See Accessing Object Properties.*

2. In the **Reporting** page, click the drop-down menu and select **Related Reports**.
3. In the **Reports MS Word** section, click **New** .
4. (Optional) In the **Name** field, modify the name given by default to your report MS Word.
5. In the **Report Template (MS Word)**, select the report template (MS Word) on which you want your report to be based.

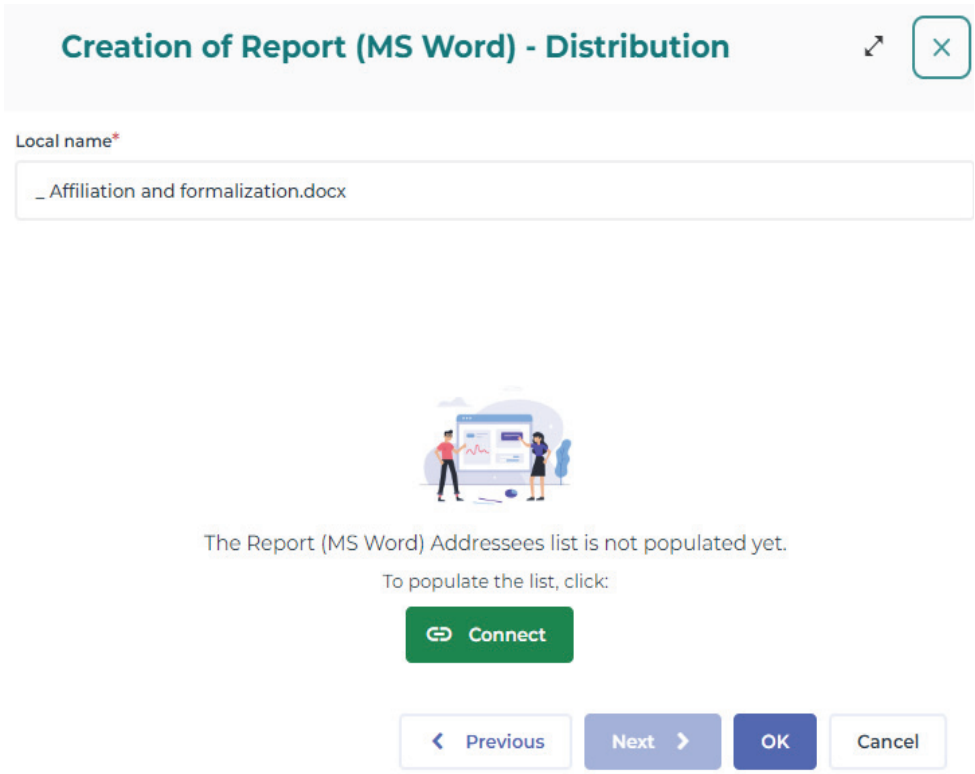
   > ☛ *Only those report templates (MS Word) corresponding to the documented object type are proposed.*



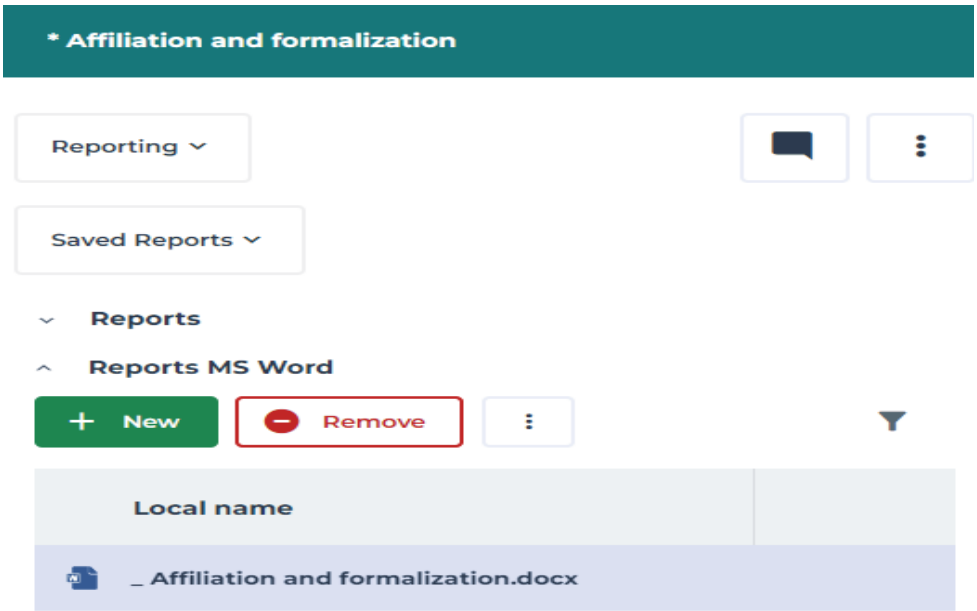
6. Click **Next**.

7. Populate the recipients of the report MS Word: click **Connect** and select Org-units and/or Persons.

   ☛ *These can be populated later, see Creating a distribution list.*



8. Click **OK**.
   The report MS Word is added to the report MS Word list of the object.



Accessing the Reports MS Word Related to an Object

To access the report MS Word related to an object:

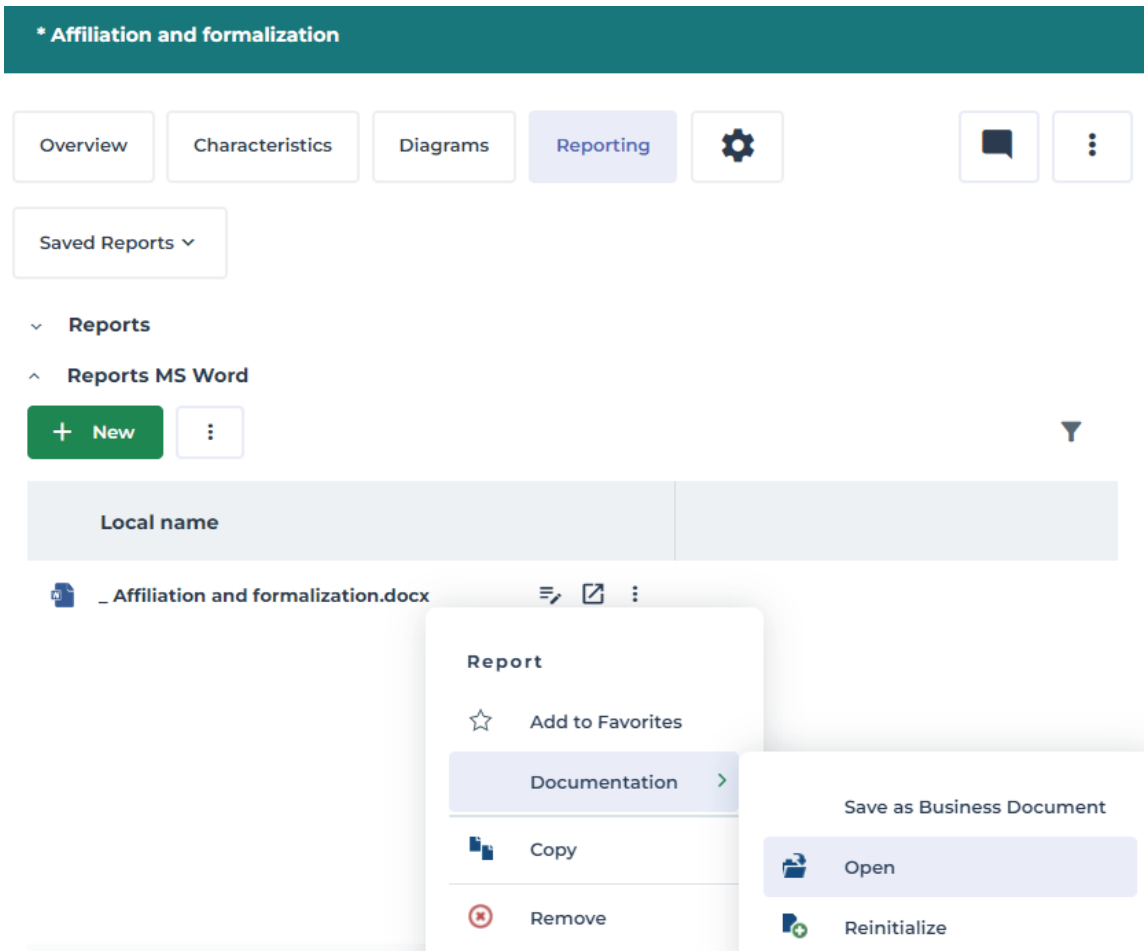
1. Access the object properties.
   ☛ *See Accessing Object Properties.*
2. In the **Reporting** page, click the drop-down menu and select **Related Reports**.
   The **Reports MS Word** section lists the reports MS Word related to the object.

Opening a Report MS Word Related to an Object

To open a report MS Word:

1. Access the reports MS Word related to the object.

2. In the report MS Word list, right-click the report MS Word and select **Documentation > Open**.



The report opens in MS Word.

☛ *The first time you open a separate window, your web browser may request authorization to open unexpected windows. If so, accept.*

Revising Reports MS Word

In the report MS Word properties, the **Revisions** page enables to indicates the date and sender of the revision request as well as the version number.

You can create revision notes to keep trace of the various report MS Word revision phases. Usually, the user creates a revision note when it has been decided to modify the report MS Word or the corresponding object. It is however possible to create a revision note at any time, for example when incorporating an existing procedure in **Hopex**.

To create a revision note:

1. Access the reports MS Word related to the object.

   ☛ *See Accessing the Reports MS Word Related to an Object.*

2. Access the report MS Word properties and display its **Revisions** page.
3. In the **Document Version** field, enter the current version of the report MS Word.

   ☛ *When you create a revision note, this number is used in the **Revision Version**. This is the report MS Word version at the time the revision note is created.*

4. Click **New**  .
5. Create the note:

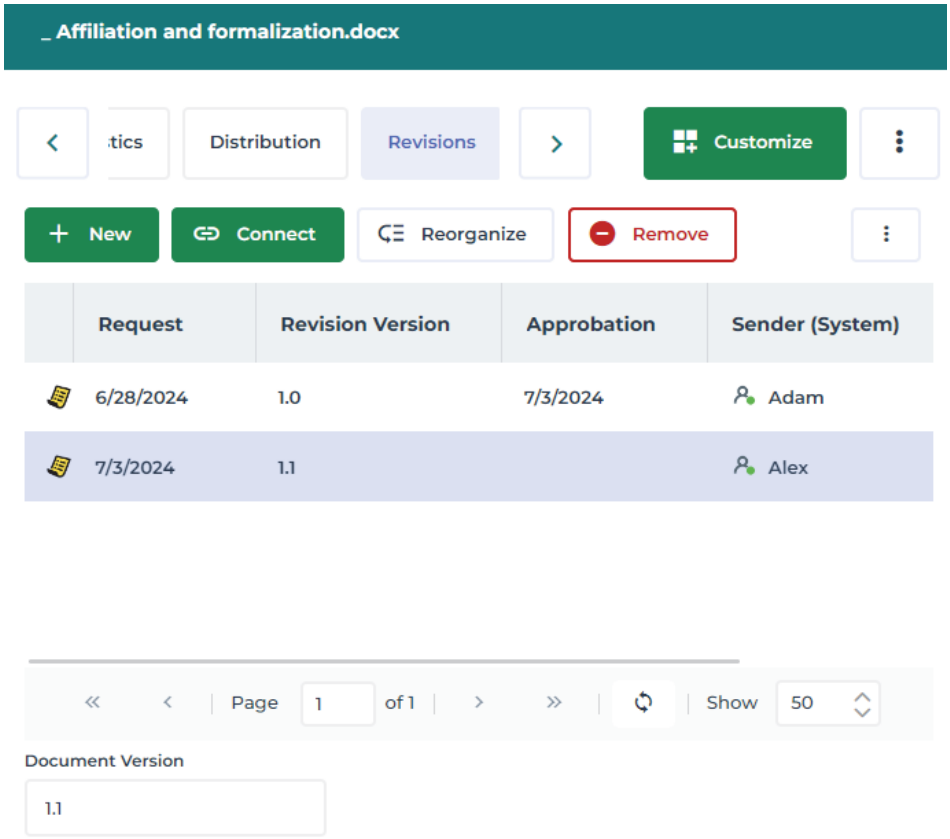
   ☛ *To reuse a note already created, in the **Note** field, click the arrow and select the note. The **Type** and **Description** parameters of the note are automatically specified.*

   - In the **Note** field, enter the name of the note.
   - in the **Type** drop-down list, select the note type.
   - In the **Description** field, enter the description of the note.
   - Click **OK**.

   In the **Revision Request Date**, the current date is automatically specified.

   In the document **Revision Version**, the document version (if specified step 3) is automatically specified.
6. (Optional) If needed, modify the **Revision Request Date**.
7. (Optional) If needed, modify the **Revision Version**.

8. Click in the **Sender** field, then the arrow and use the query tool to select the note sender.
   The note sender name appears in the corresponding field.



Example of a series of revision notes

Approving the report MS Word revision

You can approve the report MS Word revision.

```
E.g.: after approving the report MS Word currently under
revision.
```

To specify the approval date of a report MS Word:

1. Access the reports MS Word related to the object.
   ☛ *See Accessing the Reports MS Word Related to an Object.*
2. Access the report MS Word properties and display its **Revisions** page.
3. Click in the corresponding **Approbation** field and select the date with the calendar.

Creating a distribution list

In the report MS Word properties, the **Distribution** page enables to:

- define the persons or org-units of the enterprise
- indicate the role of these persons/org-units:

  A person holds a position in an organization. It is designated by its name. Example: Mr. Smith.

  An org-unit is an element of the enterprise structure such as a department, a service, or a workstation. An internal organization unit is defined based on how detailed you require your view of the enterprise to be. Example: financial management, sales management, marketing department, account manager. An external org-unit is an external entity that exchanges flows with the enterprise. Example: customer, supplier, government office.

  - The writer is responsible for originating the report MS Word.
  - The checker is responsible for reviewing the report MS Word to check accuracy.
  - The approver decides on validity of the report MS Word, for example that it may be implemented if it is a process.

    ☛ *A person may have several roles:*

    - *"writer/approver"*
    - *"approver/checker" or*
    - *"writer/checker"*

To create the distribution list of a report MS Word:

1. In the report MS Word properties, display the **Distribution** page.

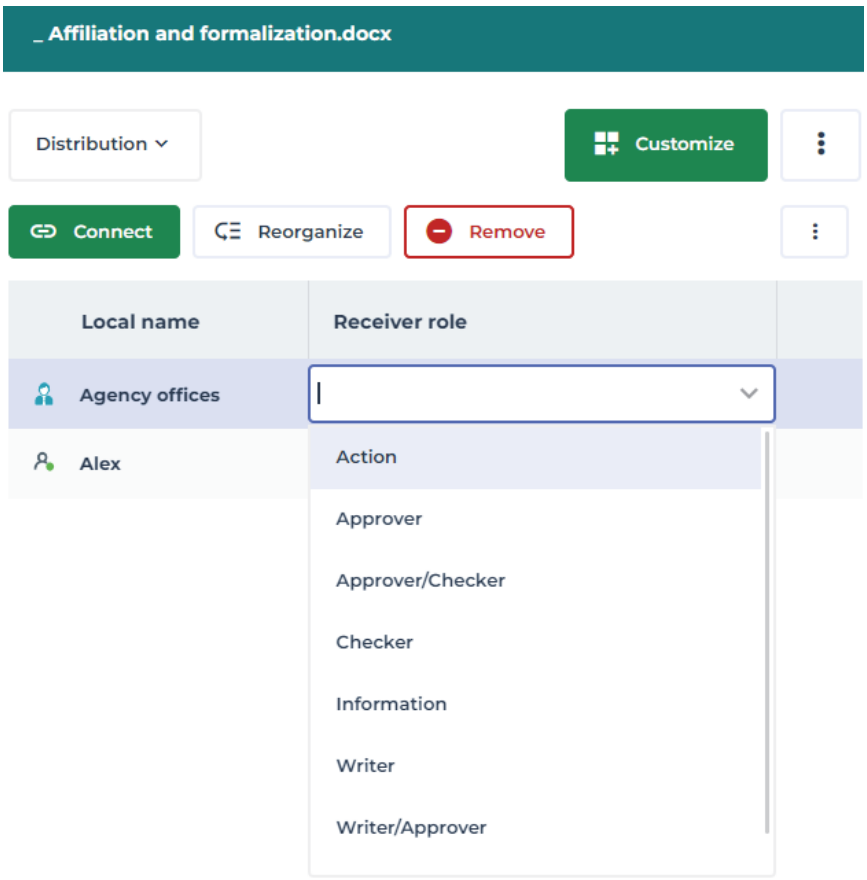
   ☛ *See Accessing the Reports MS Word Related to an Object.*

2. Click **Connect**  .
   Your distribution list can include org-units or persons.
3. Select the recipient type you want to add in your distribution list:
   - "Org-unit"
   - "Person (System)"
4. In the list that appears, select the recipient.

   ☛ *To select more than one recipient, use the [Ctrl] key.*

5. Add other persons or org-units to the distribution list in the same way.

6. (According to your profile) Click in the **Recipient Role** field and use the drop-down list to select the role that each recipient plays.



☛ *To remove persons and/or org-units from the distribution list, select these in the list and click **Remove**.*

GENERATING A WEB SITE

Objective

A static Web site makes it easy to share content from the **HOPEX** repository via an intranet with people who do not have access to **HOPEX**. Hence, they can view the objects of a project as read-only HTML pages.

Generating a Web site on a regular basis ensures continuous synchronization with the most up-to-date data from the repository.

With this feature, you can:

- Generate a Web site immediately
- Schedule a one-time generation
- Schedule a recurring generation

Prerequisites

Profile

To generate or schedule the generation of a Web site, you must have one of the following profiles:

- **HOPEX Administrator - SaaS**
- **HOPEX Administrator**

Web Site

A valid Web site, ready for generation, is required.

- For SaaS solutions: it is mandatory to use a Web site configured through the Enterprise Portal by Mega Cloud Services (MCS).
- For on-premises solutions: it is recommended to use a Web site configured through the Enterprise Portal.

☛ *See Creating a Web Site et Enterprise Portal for more details.*

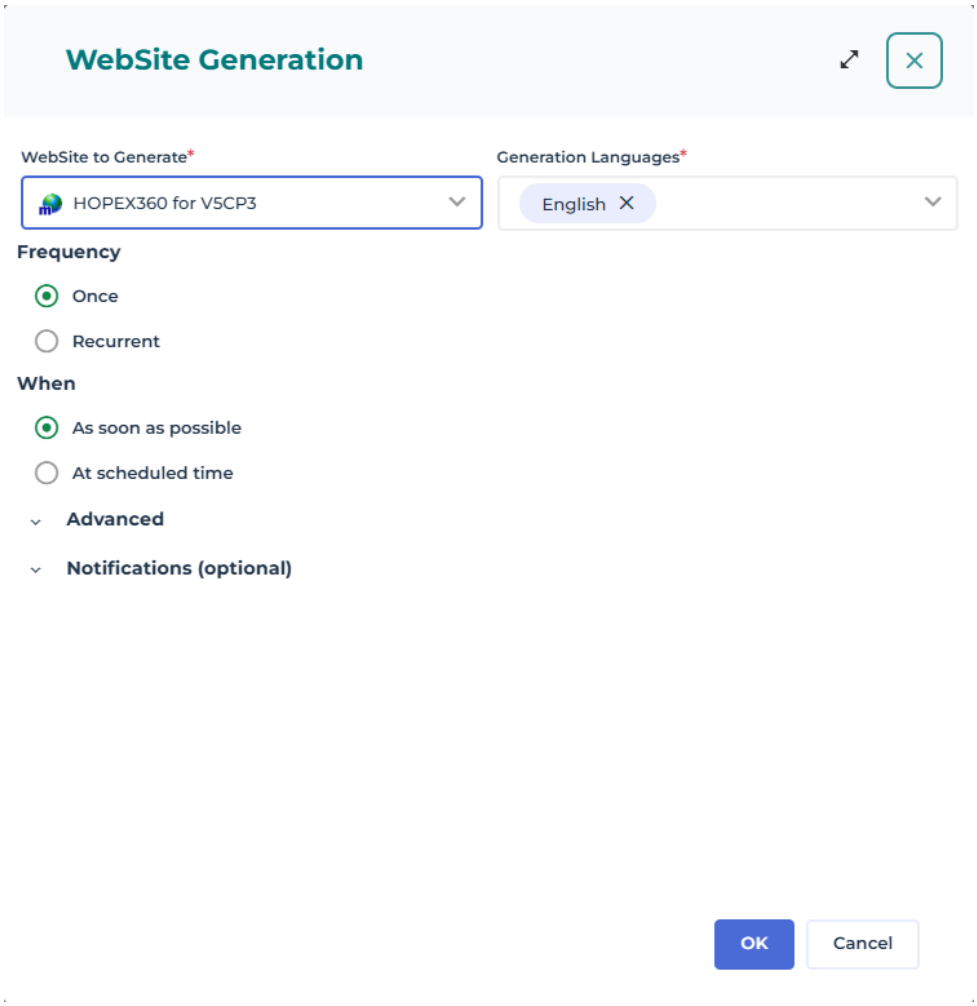
Generating or Scheduling the Generation of a Web Site

To generate or schedule the generation of a Web site:

1. Open **HOPEX Administration**.

   ☛ *See Accessing Web Administration Desktop.*

2. In the navigation bar, select **Scheduling** > **Website Generation Triggers**.
3. Click **New**.
   The WebSite Generation wizard opens.



4. Enter the following information:
   - **WebSite to Generate**
   - **Generation Languages**: select the languages that match those used in your website configuration.
   - **Publish generated website**: this option is displayed and checked by default if you have the **Enterprise Portal** module. For SaaS solutions: keep the default selection.
   - **Frequency**: select the frequency and start time for the generation.

     ☛ *For more details, see Configuring a recurrence.*
   - (Optional) In the **Advanced** panel, select another time zone if needed.
   - (Optional) In the **Notifications** panel, enter the names of **HOPEX** users or other recipients to be notified once the generation is complete.
5. Click **OK**.
   A new WebSite Generation Trigger appears in the edit area.

Configuring a recurrence

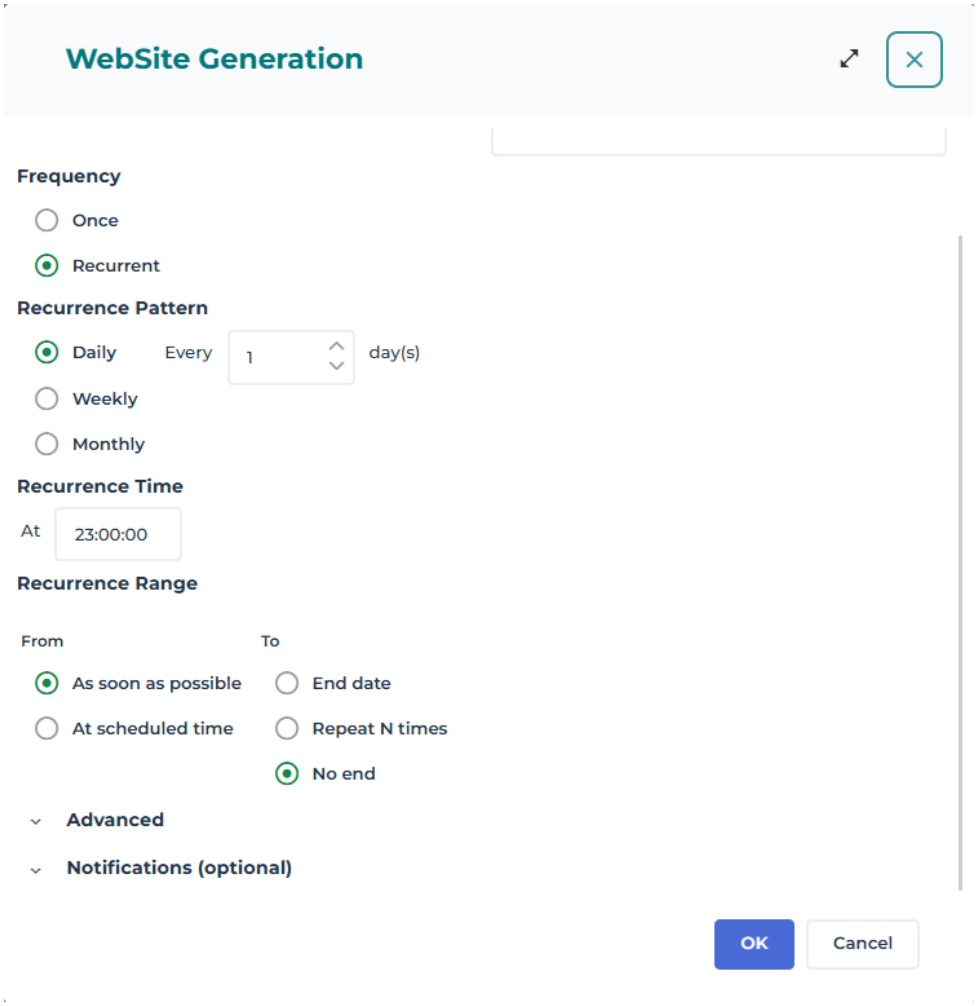
To configure a recurrence from the WebSite Generation wizard:

1. In the **Frequency** section, select **Recurrent**.
2. In the **Recurrence Pattern** section, specify the interval between each generation.

   `For example, one generation per day.`
3. In the **Recurrence Time** section, specify the time of the generation.

   `For example, a generation at 11:00 PM.`

4. In the **Recurrence Range**, define the start and end dates of the recurrence.



USING EXTERNAL REFERENCES

Hopex allows you to create references to text outside the repository. For example, you can create references to regulations concerning security measures, the environment, legal issues, and so on.

External references are URL addresses.

- ✓ Creating an External Reference
- ✓ Predefining a URL address
- ✓ Using External References

CREATING AN EXTERNAL REFERENCE

☛ *To insert and create an external reference in a diagram, see Adding an External Reference to a Diagram.*

To create an external reference connected to an object:

1. Open the properties page of the object.
2. Select **General > Documents**.
3. In the **References** section, click  .

   ☛ *Alternatively, to create an external reference from the diagram, click the **External Reference** icon in the **Insert** toolbar. In the **Add External Reference** dialog box, enter a **Name** for the external reference and click **Create**.*

   The **Creation of External Reference** dialog box appears.
4. (Optional) Enter the **Name** of the external reference.
5. (Optional) In the **Predefined address** field, click:
   - the drop-down menu arrow  to select a predefined address.

     ☺ *If the URL address of the page that you want to access has been predefined, it is recommended that you select this folder when creating the external reference*
   - arrow  to create a predefined address.

     ☛ *To create a predefined address, see Predefining a URL address.*
   - indicate complements of the URL address that will obtain the desired page.
6. Click **Finish**.

PREDEFINING A URL ADDRESS

To simplify administration of external references, you can predefine addresses:

A **Predefined address** avoids having to browse the complete path when you create an external reference stored at this address. You need only enter the rest of the basic URL address in the **URL** text box to create an external reference:

You can create predefined URL addresses for the most frequently accessed URL addresses.

To predefine a URL type address:

1. In the **Creation of External Reference** (see Creating an External Reference), in the **Predefined Address** box, click arrow and select **Create Predefined Address**.
2. In the **Creation of Predefined Address** box, enter the **Name** of the URL address to be predefined.
3. In the **URL** box, enter the complete URL of the page you wish to reference.

   ☛ *A URL address often begins with "http://www."*
4. Click **OK**.
   In the **Creation of External Reference** dialog box, the URL address you have created is automatically selected in the list of predefined URL addresses.

USING EXTERNAL REFERENCES

You can disconnect, delete and open external references:

Deleting a Predefined Address

To delete a predefined address:

1. In the toolbar, open the query tool.
2. In the query wizard, select **Predefined Address**.
   The list of predefined addresses appears.
3. Right-click the predefined address you wish to delete and select **Delete**.

   ☛ *You cannot delete a predefined address when it is used to create an external reference.*
4. In the delete objects dialog box, click **Delete**.
   The predefined address is deleted from the repository.

Accessing External References

You can access an external reference from:

- a diagram
- the properties dialog box of an object
- query tool

Opening an external reference from a diagram

To open an external reference inserted in a diagram, you can:

- Right-click the external reference and select **Open**.
- Double-click the external reference.

Accessing an external reference from an object property dialog box

To open an external reference from the properties dialog box of an object:

1. In the properties dialog box of the object, select **General > Attachments**.
2. Select an external reference and click button **Open** 
   The external reference opens.

Accessing external references from the query tool

To open an external reference from the query tool:

1. In the **Hopex** toolbar, open the query tool.

2. In the query wizard, select **External Reference** and click **Find**.
   The list of external references appears.
3. Double-click the desired external reference to open it.

External references relative to the environment or site

You can locate your external references in a sub-folder of the environment or site.

This folder relates to the environment or site. This allows you to move the environment or site without having to worry about path validity.

If the environment is moved to another network resource, the path (relative and not absolute) remains valid.

USING BUSINESS DOCUMENTS

Business Documents are used to manage several versions of a specific document in an **Hopex** repository. These can be, for example, legal or financial documents updated by org-units outside the enterprise.

A Business Document is connected to an object of the repository. Unlike an external reference, a Business Document content, evolutions and versions are managed by an **Hopex** end user.

- ✓ Business Documents Overview
- ✓ Creating Business Documents
- ✓ Managing Business Document Content
- ✓ Deleting Business Documents

Business Documents Overview

A business document is a **Hopex** object created from a file downloaded in **Hopex**. The business document is independent of the initial file.

The business document is attached to an object, it is based on a model and category.

Accessing Business Documents

☛ *Access to business documents can vary depending on the solution used. Please refer to the Solution Documentation*

Accessing business documents referenced from an object repository

To access business documents referenced from an object of the repository:

1. Open the properties dialog box of the object concerned.
2. Click **Characteristics**.
3. Expand the **Attachments** section.
   The business documents attached to the object are displayed in the **Business Document** tab.

☛ *Some object types can not be attached to Business Documents. For more details, see Customizing Business Documents in the **Hopex Power Studio** documentation.*

Accessing the list of Business Documents

To access all repository business documents, use the **Search** function.

☛ *For more details on the **Search** function, see Search in the **Hopex Common Features** documentation.*

Creating Business Documents

Business Documents can be attached to some object types.

☛ *This tab is available only if your profile authorizes you to create document versions.*

To create a business documents from an object of the repository:

1. See Accessing business documents referenced from an object repository.
2. Click **New**.
3. Indicate the **File Location**.
4. (Optional) Define the **Document category**.

☛ *See Business Document Category.*

5. Click **OK**.

The business document is connected to the object and stored by **Hopex**.

☛ *The maximum size of the uploaded file is 100Mio or 105Mo.*

☛ *You can upload a maximum number of business documents within a fixed period of time. Beyond, you must wait before repeating the operation. Default parameters can be modified in the environment options: **Installation > Security > File Upload**. For more information on the update of the environment options, see Modifying options at environment level in **Hopex Administration - Supervisor** guide.*

Business Document Category

The document repository can be extensive, it is therefore important to classify business documents in categories.

A category enables classification of documents according to standard subjects such as, for example:

- Audit
- Internal Control
- Assessment
- Notification letter
- etc.

MANAGING BUSINESS DOCUMENT CONTENT

On creation of a business document, a business document version is created automatically. A business document therefore comprises at least two objects:

- a business document
- a business document version

> ☛ *The business document version name is calculated from the business document name.*

If document content evolves, following a new regulation for example, you must create a new version of your business document and download the new updated file in **Hopex** .

To modify the business document, **Hopex** offers two possibilities:

- ***Update business document***: replaces the old version

  > ☛ *This functionality should be used when:*
  >
  > - *you want to carry out minor corrections.*
  > - *you are debugging the business document.*

- ***Create now business document version***: keeps the old version and creates a new version

  > ☛ *This functionality should be used when business document content evolves and you want to keep the different versions.*

Updating the current version of a business document

> ☛ *See Accessing Business Documents.*

To update a business document:

1. (Optional) Open the business document and save it locally to modify it.

   > **You can open a business document to consult its content, but you cannot modify it directly from the editor proposed by Hopex.**

2. In **Hopex**, right-click the business document and select **Update**.

   > ☛ *You can also update the current version of the business document from the business document properties (**Version history** tab , select Update current version.*

3. In the dialog box that appears, select the modified document and click **OK**.
   The current version of the business document is updated in the repository.

   > ☛ *Updating a business document does not create a new version. To do this, see Managing business document versions.*

Managing business document versions

> 🕮 *The version of a document enables access and referencing of the different valid versions of the same document. For example, legal regulations evolve from one year to another. A business document version is a business document.*
>
> ☛ *See Accessing Business Documents.*

To create a new business document version:

1. Right-click the business document and select **New Version**.
2. Select the file in the desired location and click **OK**.
   A new business document version is created. The modified document is downloaded in this new version.

   The document version number is incremented.

   ☛ *The old business document version is kept.*

To access business document history:

1. Open the properties dialog box of the business document.
2. Click **Version History**

   ☛ *This tab is available only if your profile authorizes you to create document versions.*

DELETING BUSINESS DOCUMENTS

You can however delete:

- a business document
- a business document version

> ☛ *Note that a business document must have at least one version to function, and that a version cannot exist independently of a business document.*

To delete a business document:

> ☛ *See Accessing Business Documents.*

1. Right-click the business document and select **Delete**.
   A window appears listing the document versions you are authorized to delete.
2. Select the business documents and/or business document versions you wish to delete and click **Delete**.
   The business documents disappear from the object lists to which they were connected.



Collaboration Tools

COMMUNICATING IN HOPEX

Hopex simplifies team working and makes available different means of communication in your Web Front-End desktop. You can:

- ✓ create and participate to review notes on objects
  - ☛ *See Review Notes.*
- ✓ add tags to objects
  - ☛ *See Tags.*
- ✓ view the activity on objects
  - ☛ *See Activity on Objects.*
- ✓ share with other **Hopex** users: add tags or share an object, for example
  - ☛ *See Sharing with Other Users.*
- ✓ follow objects and receive notifications about ongoing modifications
  - ☛ *See Notifications.*
- ✓ (in a private workspace) work on objects with certain users without other users seeing your work.
  - ☛ *See .*

Access to Collaboration in Hopex

In **Hopex**, you can access collaboration features:

- for all objects
  - ☛ *See Accessing a Collaboration Feature.*
- for a specific object
  - ☛ *See Accessing collaboration features on an object.*

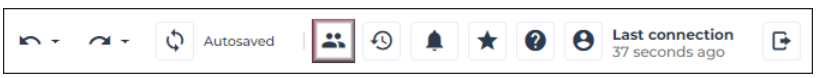
Accessing a Collaboration Feature

You can access collaboration features permanently from the toolbar of your **Hopex** interface.

Depending on the desktop on which you work, you can access:

- your workflows
- your notifications
  - ☛ *See Notifications.*
- your review notes
- tags
- activities of all the repository objects
- activities of the objects that you follow
- objects that you are following
- your tasks
  - ☛ *See Using the Unlocking Request Workflow.*
- your questionnaires

Access collaboration features from the **Collaboration** menu in the toolbar of your **HOPEX** desktop.



This menu gives access to two submenus:

- your **To Do List**
- your **Notifications and Activities**

The **To Do List** menu gives access to the following features:

Questionnaires	See Managing Questionnaires.
Review Notes	See Review Notes.
Workflows	See Using Workflows.

The **Notifications and Activities** submenu gives access to the following features:

Followed Objects	See Accessing the list of objects you are following.
Activities	See Activity on Objects.
Activity of Followed Objects	See Activity on Objects.
Tags	See Tags.

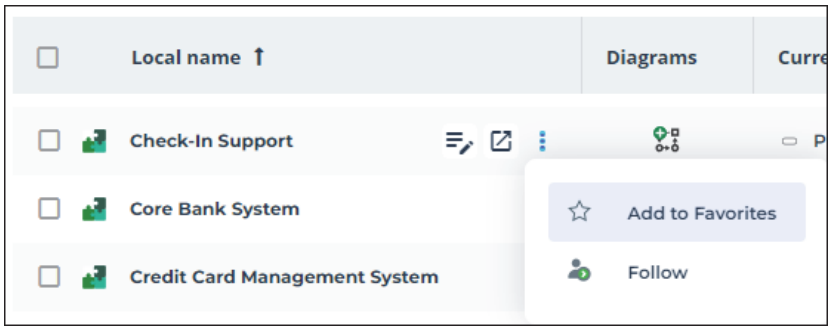
Accessing collaboration features on an object

You can perform collaboration actions on an object contained in a list or a tree.

☛ *See Common Actions on Objects.*

To access a collaboration information on an object in a list:

1. In your **Hopex** desktop, access the object of interest.
2. Hover the cursor over the object and click **More** .

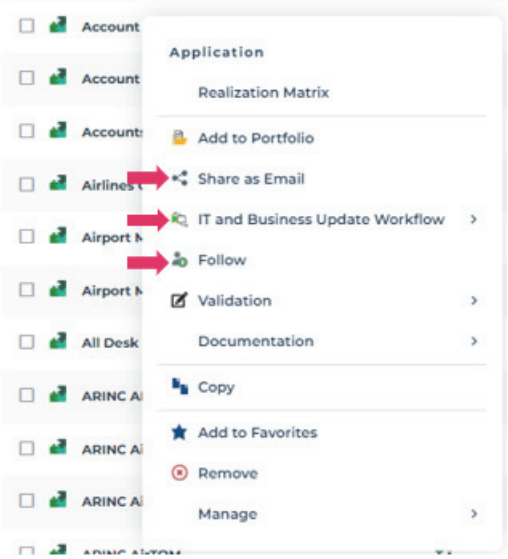


3. Click **Follow** to follow the object and get notified about changes occurring on the object.

To access other collaboration features on an object in a list or a tree, right-click the object of interest.

You can then:

- share the object by email
- access the workflows related to it
- follow the object



From an object property pages, you can access other collaboration features:

- **Review Notes**
  - ☛ *See Accessing Review Notes.*
- the **Activity Feed** on an object
  - ☛ *See Activity on Objects.*
- **Workflows** related to the object



Tags added to an object sit in the object card, that is to say the **Overview** property page.

- ☛ *See Card of an Object.*

REVIEW NOTES

In **Hopex**, review notes enable you to communicate with other users on objects. Review notes are public and independent of the desktop on which you work. They apply to a specific object.

See:

- Actions Linked to the States of a Review Note
- Adding a Review Note to an Object
- Modifying a Review Note
- Modifying a Review Note
- Answering a Review Note
- Modifying your answer to a Review Note
- Validating a Review Note
- Canceling the Validation of a Review Note
- Closing a Review Note
- Reopening a closed review note
- Tags

Actions Linked to the States of a Review Note

The actions that you can perform on a review note are linked to its state:

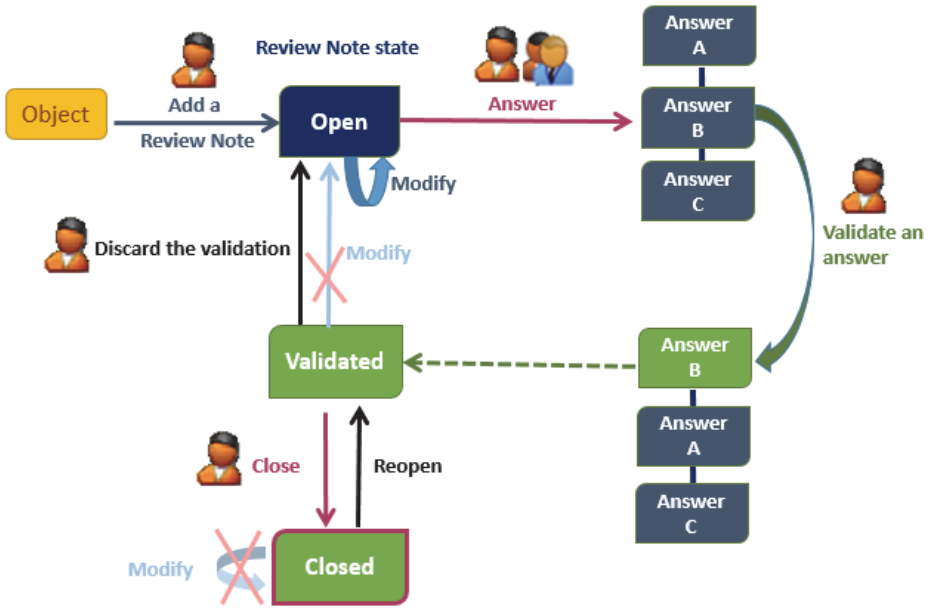
- ***opened***
  - answer
  - modify (if you are the author)
- ***validated***
  - closed
  - cancel the validation
- ***closed***
  - reopen

The elements that participate in review notes are:

- the author of the review note: all persons with access to the object
- the annotated object
  - the object itself
  - one of the object attributes
- the review note
- the answers to the review note
- persons answering the review note: all persons who have access to the object, including the author of the review
- the person validating the answer: any person who has access to the object, including the author of the review note or the author of the answer
- the person closing the review note: any person with access to the object

The diagram below presents the actions linked to the states of a review note and the elements that participate in the review note.

☛ *These actions are not configurable.*



You can:

- add a review note to an object or an object attribute
  ☛ *See Adding a Review Note to an Object.*
- access your review notes
  ☛ *See Modifying a Review Note.*
- modify a review note if you are the author
  ☛ *See Modifying a Review Note.*
- answer to a review note
  ☛ *See Answering a Review Note.*
- modify your answer to a review note.
  ☛ *See Modifying your answer to a Review Note.*
- validate a review note
  ☛ *See Validating a Review Note.*
- cancel the validation of a review note
  ☛ *See Canceling the Validation of a Review Note.*
- close a review note
  ☛ *See Closing a Review Note.*
- reopen a closed review note
  ☛ *See Reopening a closed review note.*

Accessing Review Notes

You can access:

- all your review notes classified by type
- the review notes of an object

Accessing all your review notes

Your review notes are classified by type:

- opened or validated review notes of which you are the author
- opened or validated review notes to which you participate
- closed review notes

To access all your review notes:

1. In your **Hopex** desktop toolbar, click the **Collaboration** menu.
2. Select **To Do List** > **Review Notes** .

   ☛ *See Accessing a Collaboration Feature.*

   All the opened or validated review notes of which you are the author appear.
3. To display other types of review notes, select the tab:
   - **Open/Validated (participant)**
   - **Closed**

Accessing the review notes of an object

Review notes are classified by type:

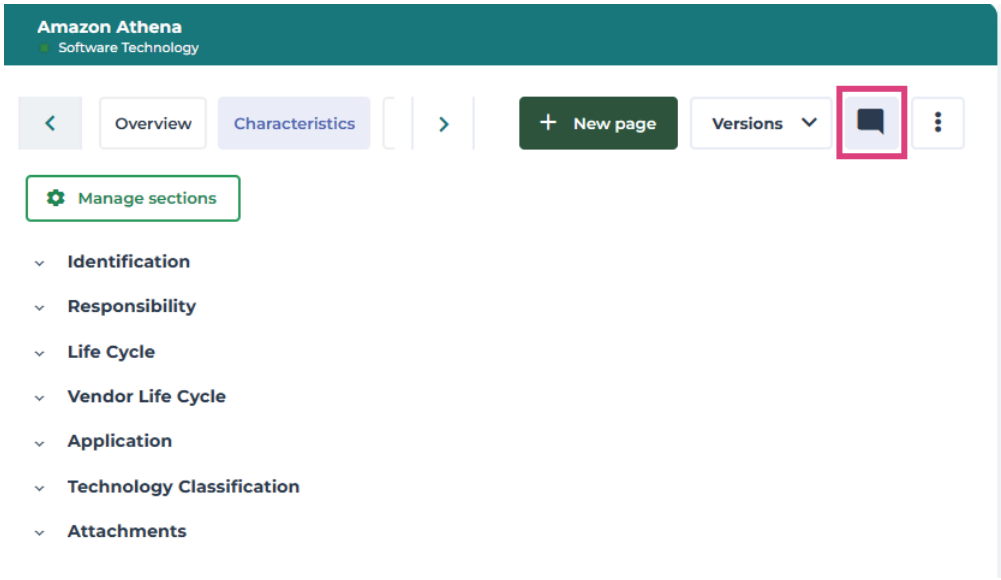
- opened or validated review notes
- closed review notes
- all review notes

To access the review notes of an object:

1. Access the object properties.

   ☛ *See Accessing Object Properties.*

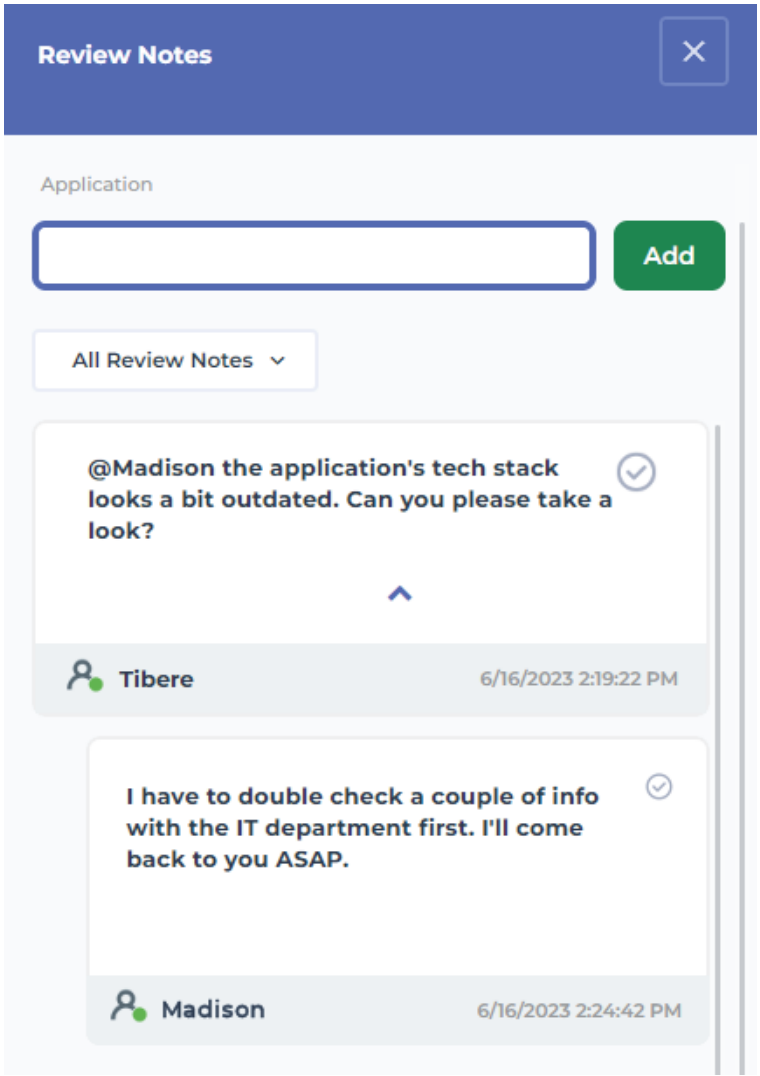
2. In the menu bar of the property pages, click **Review Notes** .



The **Review Notes** window open on the right of the desktop.

3. Select the type of review note to which you want access.
The review notes (of the type chosen) added to the object appear.

E.g.: All Review Notes.



Adding a Review Note to an Object

You can add a review note to an object from its properties. When you add a review note to an object, you automatically subscribe to the alerts on object modifications.

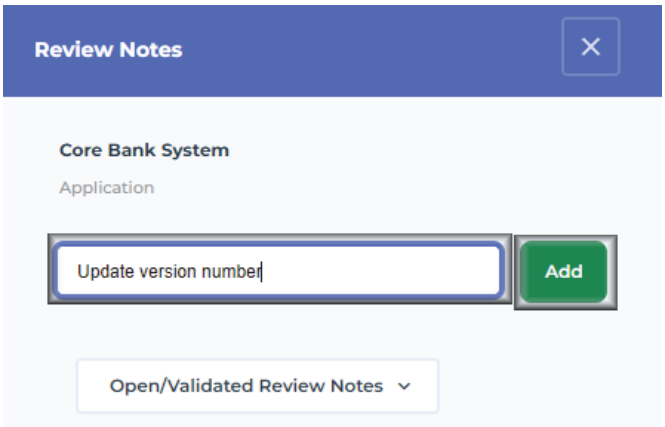
> ☛ *See Accessing the list of objects you are following.*
>
> ☺ *You can use the @ character followed by at least the first letter of the name of the person that you want to mention in your text. Then, select the person in the list that appears.*
>
> ☛ *The persons mentioned in a review note are automatically added to the list of persons that follow the object.*

To add a review note to an object:

1. From your **Hopex** desktop, access the review notes of the object of interest.

   > ☛ *See Accessing the review notes of an object.*

   The **Review Notes** window opens on the right of the desktop.
2. Enter the note that you want to share.
3. Click **Add**.
   Your object review note is created.



> ☛ *To modify your review note, see Modifying a Review Note.*
>
> ☛ *To view all the review notes created on the object (on the object itself and on its attributes), see Accessing the review notes of an object.*
>
> ☛ *To answer (yourself or other users) to this review note, see Answering a Review Note.*

You automatically subscribe to the alerts on the object modifications.

Users subscribing to alerts on object modifications get notified.

> ☛ *See Managing Your Alerts on Object Modification.*

Modifying a Review Note

You can modify a review note whose status is "open".

☛ *See Actions Linked to the States of a Review Note.*

You can write a review note:

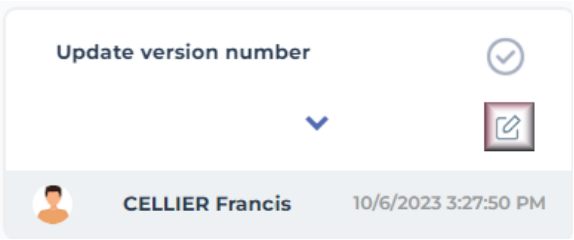
- from an object property pages
- from the **Review Notes** page available in the **Collaboration** menu.

To modify a review note:

1. Access the review notes you are the author of.

   ☛ *See Modifying a Review Note.*

2. Hover the cursor over the review note you want to modify and click **Edit** .



3. In the edition field, modify your note text and click **OK**.
   The review note is modified.
   Users who subscribed to alerts on this object modifications are notified.

   ☛ *See Managing Your Alerts on Object Modification.*

Answering a Review Note

Any person having access to the object concerned (including the review note creator) can answer to an open review note.

☛ *See Actions Linked to the States of a Review Note.*

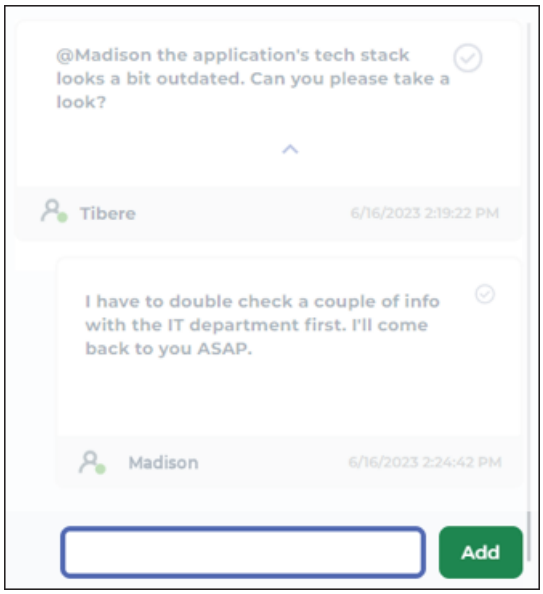
To answer to a review note:

1. Access the review note of interest.

   ☛ *See Modifying a Review Note.*

2. At the bottom of the review note, click **Expand** .
   Replies (if any) to the review note appear.
   An edit field appears.

3. In the text edit field, enter your answer.



4. Click **Add**.
   Your answer is added to the review note. If other replies already exist, it is added to the end of the list.

   ☛ *To modify your answer, see Modifying your answer to a Review Note*

   Users subscribing to alerts on object modifications get notified.

   ☛ *See Managing Your Alerts on Object Modification.*

Modifying your answer to a Review Note

You can modify your answer to an open review note.

☛ *See Actions Linked to the States of a Review Note.*

To modify your answerto a review note:

1. Access your answer

   ☛ *See Modifying a Review Note.*

2. Hover the cursor on the reply and click **Edit** .
3. In the text edit field, modify the text of your note and click **Add**.
   Your answer is modified.
   Users subscribing to alerts on object modifications get notified.

   ☛ *See Notifications.*

Validating a Review Note

A review note must have received at least one answer to be validated.

To validate a review note:

1. Access the answer to the review note that you want to validate.

   ☛ *See Answering a Review Note.*

2. Select **Click to validate this answer** .
   The answer is validated:
   - the answer comes first in the answer list
   - the icon alongside the answer appears
   The review note is validated:
   - the icon alongside the review note appears .

Canceling the Validation of a Review Note

You can cancel the validation of a review note.

☛ *See Actions Linked to the States of a Review Note.*

To cancel the validation of a review note:

1. Access the answer that validates the review note.

   ☛ *See Modifying a Review Note.*

   The answer that validates the review note is at the top of the answer list.

2. Click **Click to invalidate this answer** .
   The answer validation is invalidated and the review note switches to opened status. Its answers are kept.

Closing a Review Note

You can close a review note that has been validated.

☛ *See Actions Linked to the States of a Review Note.*

To close a review note:

1. Access the validated review note that you want to close.

   ☛ *See Modifying a Review Note.*

2. Click **Validated by <Name of the Person> on <date> <time>** .
   A message prompts you to confirm the closure of the review note.
3. Select **Yes**.

   ☛ *Click **No** if you do not want to close the review note.*

   The review note is moved to **Closed Review Notes**.

Reopening a closed review note

You can reopen a review note that has been closed.

☛ *See Actions Linked to the States of a Review Note.*

To reopen a review note:

1. Access the closed review note that you want to reopen.

   ☛ *See Modifying a Review Note.*

2. Click **Close by <Name of the Person> on <date> <time>**  .
   A message prompts you to confirm the reopening of the review note.
3. Select **Yes**.

   ☛ *Click **No** if you do not want to reopen the review note.*

   The review note is moved to **Opened/Validated Review Notes**, and keeps its validated status.

TAGS

In **Hopex**, you can add tags to objects. These tags are used as #tags (hashtags) in the search tool.

A tag is a classifying description used to characterize objects.

See:

- Accessing the Repository Tags
- Classifying the Tags
- Creating a Tag or Creating Mass Tags
- Mass Addition of a Tag to Objects
- Displaying all the Objects Tagged by a Given Tag
- Deleting a Tag from the Hopex Repository
- Managing Tags on an Object

Accessing the Repository Tags

You can access all the tags defined in the **Hopex** repository.

☛ *To access all the tags added to an object, see Card of an object (property pages).*

To access the repository tags:

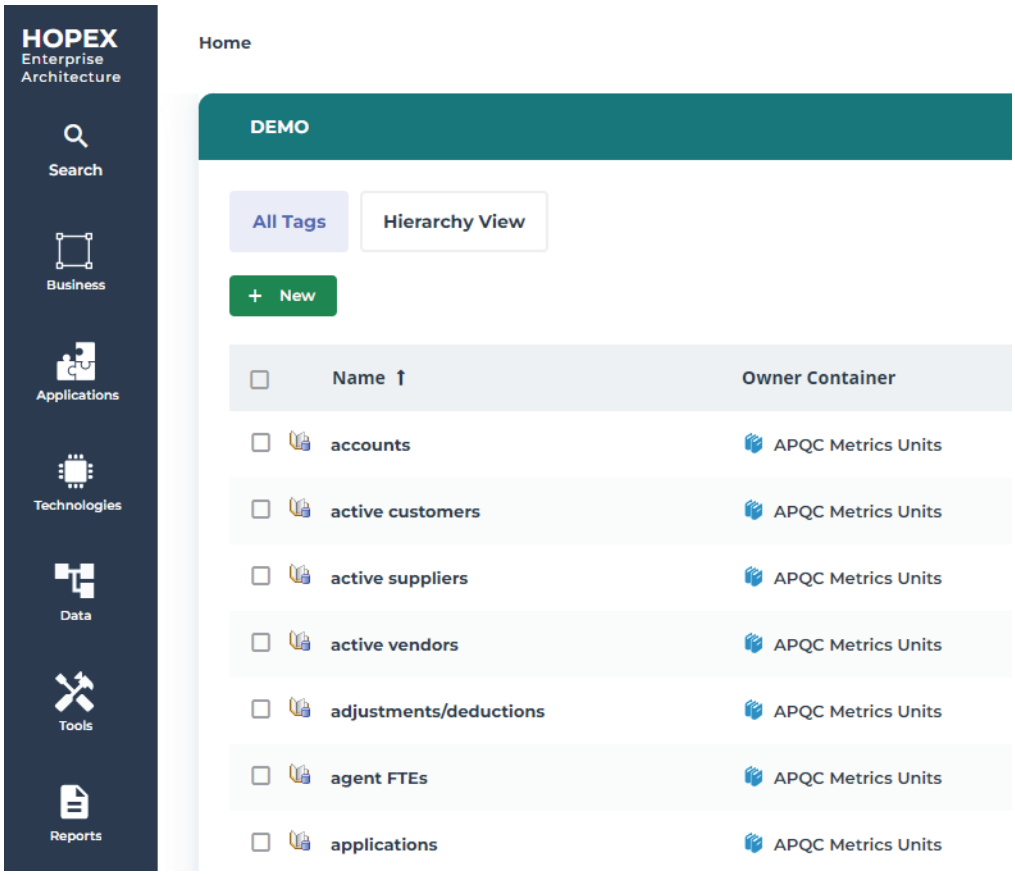
1. In your **Hopex** desktop toolbar, click the **Collaboration** menu.

   ☛ *See Accessing a Collaboration Feature.*

2. Select **Notifications and Activities** > **Tags** .

   ☛ *See Accessing a Collaboration Feature.*

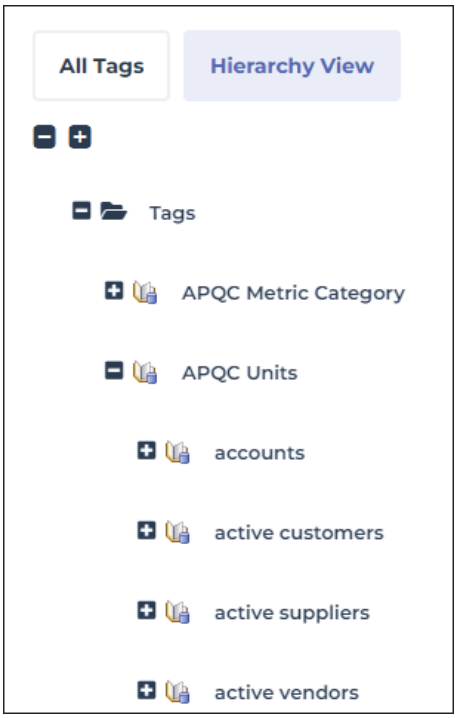
   The list of **Tags** is displayed.



To display tags as a tree, click **Hierarchy View**, then:

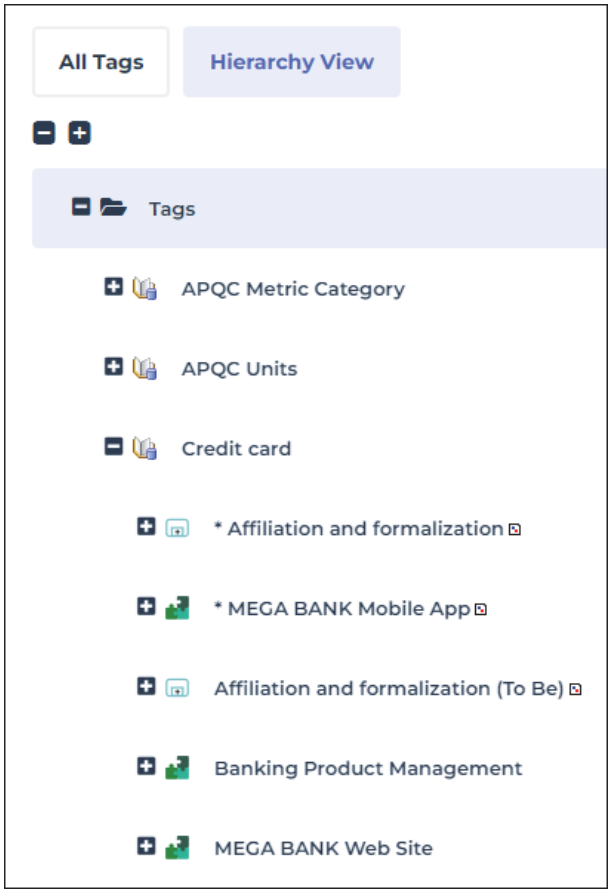
1. Expand the **Tags** folder.
   The **Tags** tree displays the tags and/or tag classifying folders.

   ☛ *To create tag classifying folders, see Classifying the Tags.*



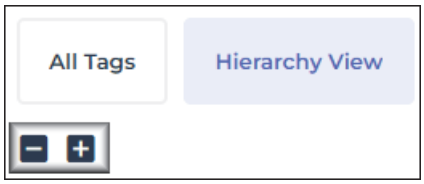
2. Display the tagged objects:
   - To display the objects tagged with a specific tag, expand the tag folder concerned.

     E.g.: unfold the folder of the "Credit card" tag.



   - To expand all the folders and display their content (tagged objects and/or tag sub-folders), click **Expand by one level** .

     ☛ *If needed, click **Expand by one level** again to display one more level.*



Classifying the Tags

You can classify the tags in folders and sub-folders.

To classify the tags:

1. Access the tags.

   ☛ *See Accessing the Repository Tags.*

2. In the **Hierarchy view** tab, right-click a folder and select **New > Tag Folder**.
3. In the **Local Name** field, enter a tag classification name.

   `Example: "Travel".`
4. Click **OK**.
   The folder is added to the **Tags** folder.



5. In the tree, select a tag and drag and drop it to the tag classification folder.

Creating a Tag or Creating Mass Tags

To standardize tags, instead of creating a tag by adding the tag to the object, you can create tags.

These tags are then available in the list of tags to be added to the objects.

☛ *See Adding a tag to an object.*

To create a tag:

1. Access the repository tags.

   ☛ *See Accessing the Repository Tags.*

2. In the **All Tags** tab, click **New** .

   ☛ *Alternative: if you want to create a tag while classifying it in a folder, in the **Hierarchy View** tab, right-click the classification folder and select **New > Tag**.*

   ☛ *See Classifying the Tags.*

3. In the **Name** field, enter a tag.

   ```
   Example: location.
   ```

4. Click **OK**.
   The tag is created.

Mass Addition of a Tag to Objects

You can add a tag to one object or add a tag to more than one object at a time.

☛ *To add a tag to one object, see Adding a tag to an object.*

To add a tag to more than one object at a time:

1. Access the repository tags.

   ☛ *See Accessing the Repository Tags.*

2. In the **Hierarchy View** tab, right-click the tag concerned and select **Connect > Element with tags**.

   ```
   Example: the "rental" tag.
   ```

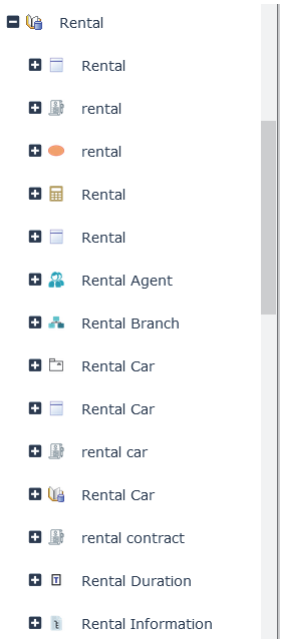
3. (if needed) In the first selection field, select a specific object type to restrict the search.
4. In the second field of the search tool, enter the search characters.

   ```
   Example: "rental".
   ```

   All objects that contain the searched characters are listed.
5. In search results, select all the objects to which you want to add the tag.

6. Click **OK**.
The tag is added to all the selected objects.

```
Example: The "rental" tag is added to all objects whose name
contains "rental".
```



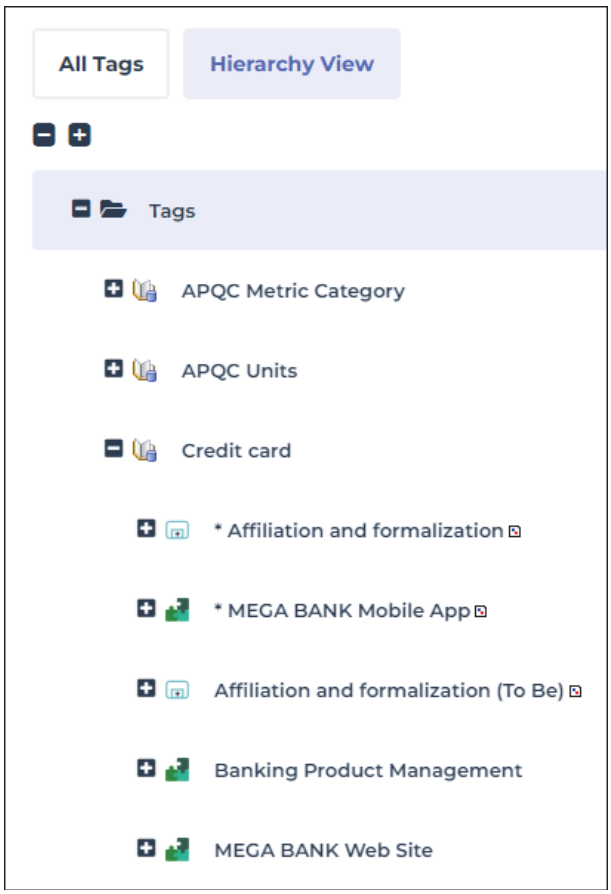
Displaying all the Objects Tagged by a Given Tag

To display all the objects to which a specific tag has been added:

1. Access the repository tags.

☛ *See Accessing the Repository Tags.*

2. In the **Hierarchy View** tab, expand the tag concerned.
The objects tagged by the given tag are listed.



Deleting a Tag from the Hopex Repository

To delete a tag from the **Hopex** repository:

1. Access the tags.
   ☛ *See Accessing the Repository Tags.*
2. In the **All Tags** tab, select the tag .
3. Click **Remove** ⛔.
4. In the deleting tag window, click **Delete**.
The tag is deleted from the **Hopex** repository.

Managing Tags on an Object

You can add as many tags as you want to an object.

☛ *When an object has a large number of tags, you can create a quantitative instant report (word cloud) on this object, see Word cloud.*

Adding a tag to an object

To add a tag to an object, you can enter the tag when adding it or choose it from the list of tags created.

☛ *To create a tag, see Creating a Tag or Creating Mass Tags.*

To add a tag to an object:

1. Access the Properties pages of the object concerned.

   ☛ *See Accessing Object Properties.*

2. Display the **Characteristics** page, **Identification** section.
3. In the **#Tags** field, enter a tag.

   `E.g.: "important"`

   If your tag already exists, it is suggested to you in a drop-down list.

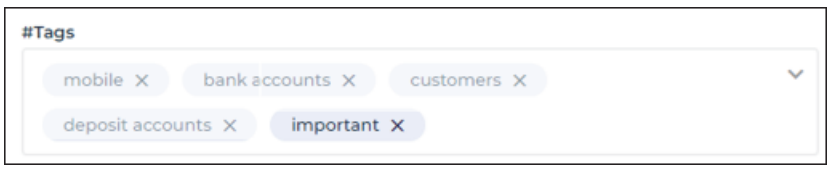
   ☛ *You can also click the arrow in the field and in the drop-down list, select an already-defined tag.*

   When you enter letters, tags that exist and contain these letters are automatically suggested.

   ☛ *In the drop-down list, select the tag already defined.*



4. Press <Enter>.
   Your tag is added to the object.
   Your tag is also added to the list of tags available for use on another object.



5. (if needed) In the field, enter another tag.

6. Press [Enter].
   The other tag is added.

   ☛ *You can add as many tags as you want to an object.*

Removing a tag from an object

You can remove a tag added to an object.

☛ *To delete a tag from the repository, see Deleting a Tag from the Hopex Repository.*

To remove a tag from an object:

1. Access the object properties.

   ☛ *See Accessing Object Properties.*

2. Display the **Characteristics** page, **Identification** section.
3. In the **#Tags** field, click × to the right of the tag.
   The tag is removed from the object.
   The tag remains in the list of repository tags.

Removing a tag from several objects

To remove a tag from several objects:

1. Access the tags.

   ☛ *See Accessing the Repository Tags.*

2. In the **Hierarchy View** tab, expand the tag concerned.
3. Hover the cursor over the object from which you want to remove the tag.
4. Click **Remove** ⊖.
5. In the removing tag window, keep the selection and click **Remove**.
   The tag is removed from the object.
6. Repeat these steps on the objects from which you want to remove the tag.

ACTIVITY ON OBJECTS

See:

- Managing Activity on Objects (Macro Level)
- Managing Activity on an Object (Micro Level)

Managing Activity on Objects (Macro Level)

☛ *To view the detailed activity on an object, see Managing Activity on an Object (Micro Level)*

You can view the activity at modeling block level:

- on all objects in the repository (**All activities** menu)
  - your activity only
  - activity of all users

    ☛ *See Accessing the activity on objects.*
- on all the repository objects that you follow (**Followed Objects** menu)

  ☛ *See Accessing the activity on the objects that you are following.*

To manage activity on objects:

1. Access the activity on objects.

   ☛ *See Accessing the activity on objects or Accessing the activity on the objects that you are following.*
2. If needed, refine the result:
   - Filter the result according to specific users and/or specific object types and/or specific tags.

     ☛ *See Filtering the activity.*
   - Modify the activity display period.

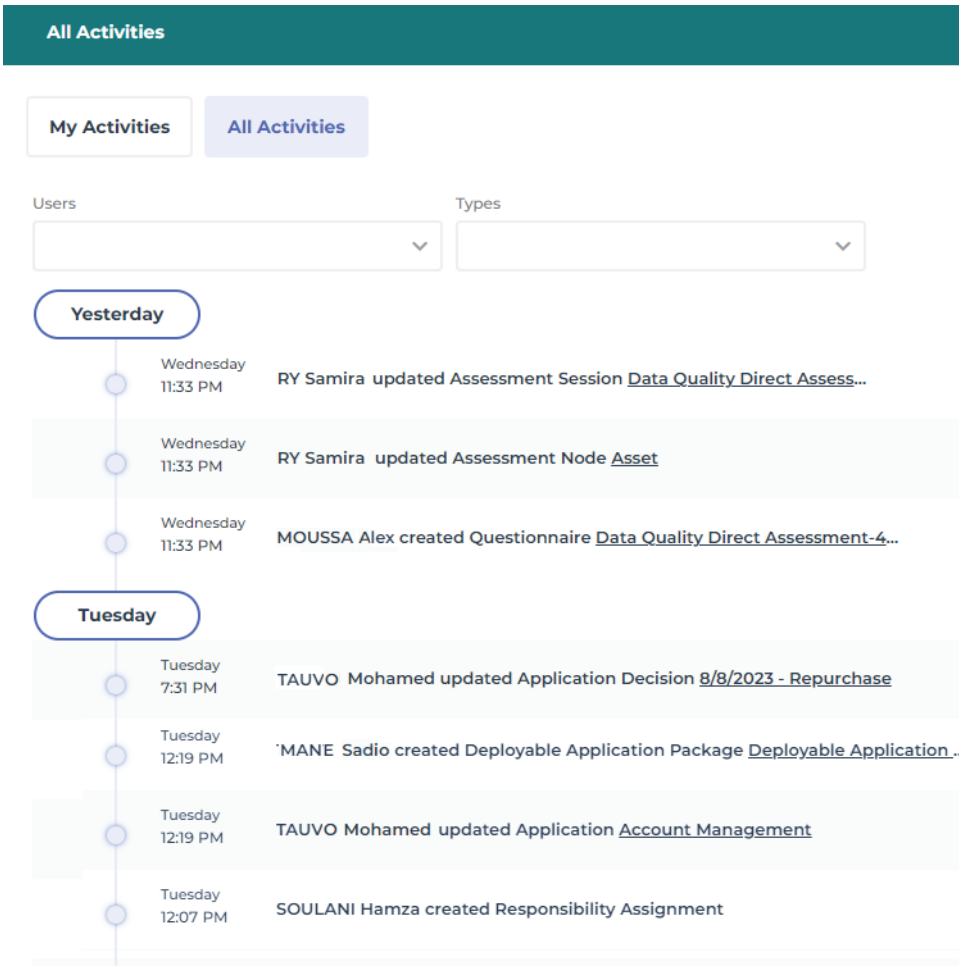
     ☛ *See Modifying the display period for the activity.*
3. View an activity: click the name of the object updated.
   The object properties are displayed in the **Properties** page of the edit area.

Accessing the activity on objects

To access the activity on objects:

1. In your **Hopex** desktop toolbar, click the **Collaboration** menu.
2. Select **Notifications and Activities** > **Activities** .
   The **My Activities** page displays your activity on all objects.

3. To display all the activities on all the objects, click **All Activities**.



The modifications dispatched on all the objects to which you have access appear in chronological order with the most recent at the top.

☛ *See Managing Activity on Objects (Macro Level).*

Each modification indicates:

- the name of the person who performed the update
- the name and type of object concerned by the update
- if you follow the object concerned or not

☛ *To display only the objects that you are following, see Accessing the activity on the objects that you are following.*

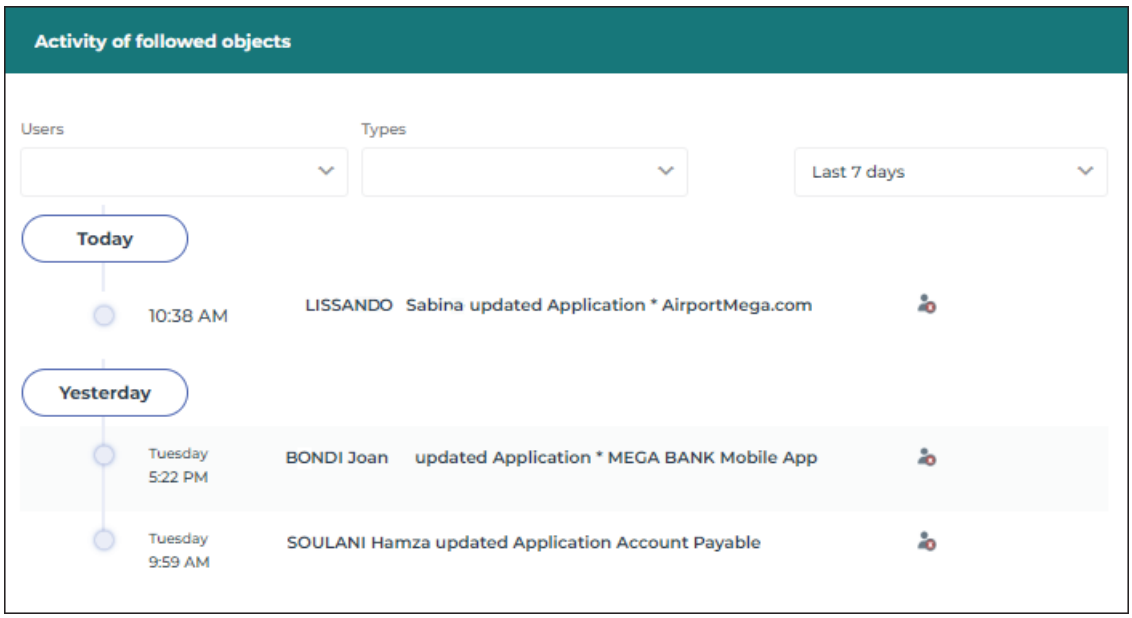
4. If needed:
   - Filter the display, see Filtering the activity.
   - Modify the display period, see Modifying the display period for the activity.

Accessing the activity on the objects that you are following

To access the activity on the objects that you are following:

1. In your **Hopex** desktop toolbar, click the **Collaboration** menu.
2. Select **Notifications and Activities** > **Activity of Followed Objects**

   The activity on the repository objects you are following is displayed.



The modifications dispatched on the objects that you are following appear in chronological order with the most recent at the top.

☛ *See Managing Activity on Objects (Macro Level).*

Each modification details:

- the name of the person who performed the update
- the name and the type of object concerned by the update

☛ *To access the activity on all the objects, see Accessing the activity on objects.*

3. If needed:
   - Filter the display, see Filtering the activity.
   - Modify the display period, see Modifying the display period for the activity.

Filtering the activity

You can filter the activity display according to:

- **Users**, one or several users, to see the activity of one or several specific persons
- **Types**, to see the activity on one or several object types

You can use several filters at the same time.

To filter the activity display:

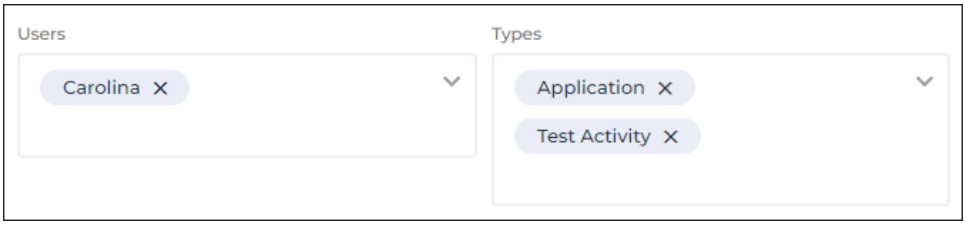
1. Access the activity on objects.

   ☛ *See Accessing the activity on objects or Accessing the activity on the objects that you are following.*

2. In one of the filtering fields, enter the first letter (or several) of your filter.
   All of the users/object types whose name contains these letters are displayed.
3. Select one or several items in the list.

   Example: to filter with "Carolina" user, in the **Users** field enter C, then select the user.

4. Click outside the field to take this filtering into account.
   The activity display is automatically filtered according to this field.
5. Add as many filtering items as you want.



The activity display is automatically filtered at each filtering addition.

Modifying the display period for the activity

By default, the activity feed displays the modifications made to the objects over the last 7 days.

To modify the display period for the activity:

1. Access the activity on objects.

   ☛ *See Accessing the activity on objects or Accessing the activity on the objects that you are following.*

2. Use the period filtering drop-down menu to select another value.

   E.g.: the last 24 hours, the last 30 days, the last year, or customized with the start and end date calendars.

   The list of modifications is updated accordingly.

Managing Activity on an Object (Micro Level)

You can view the details of the modifications performed on an object.

☛ *To view the activity on objects at macro level, see Managing Activity on Objects (Macro Level) see.*

In the activity feed of an object you can:

- view the activity on the object

  Deleting an object from the repository is not tracked on the activity feed of an object to which it is connected.
  Only disconnecting (removing without deleting from the repository) is tracked on this object.
  Examples of deleted objects: object, tag, external reference, diagram.

- modify the activity feed display granularity

  E.g.: the last 24 hours, the last 7 days (by default), the last 30 days, the last year, or a specific period defined by two dates.

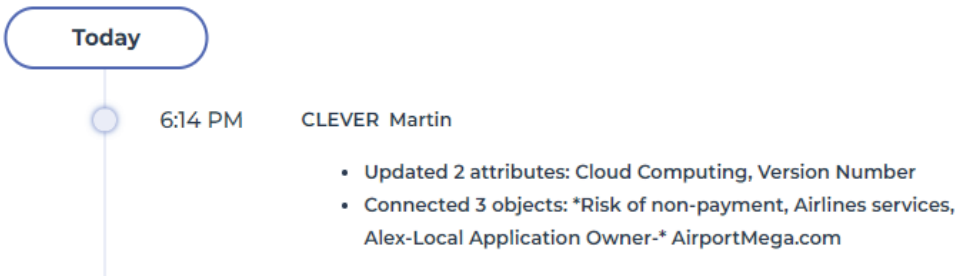
- compare the modifications performed (before/after) on the attributes or on the links

Accessing the activity on an object

In the **Activity feed** on an object, modifications appear in chronological order (with the most recent at the top) and by user, and according to the defined granularity (the last 7 days by default).

The modifications of a user are grouped together over one hour. The time indicated is the time of the last modification performed within this hour.

E.g.: a user performed several modifications on an object between 6 pm and 7 pm. These modifications are grouped together into the same activity item at 6:14 pm (last modification time).



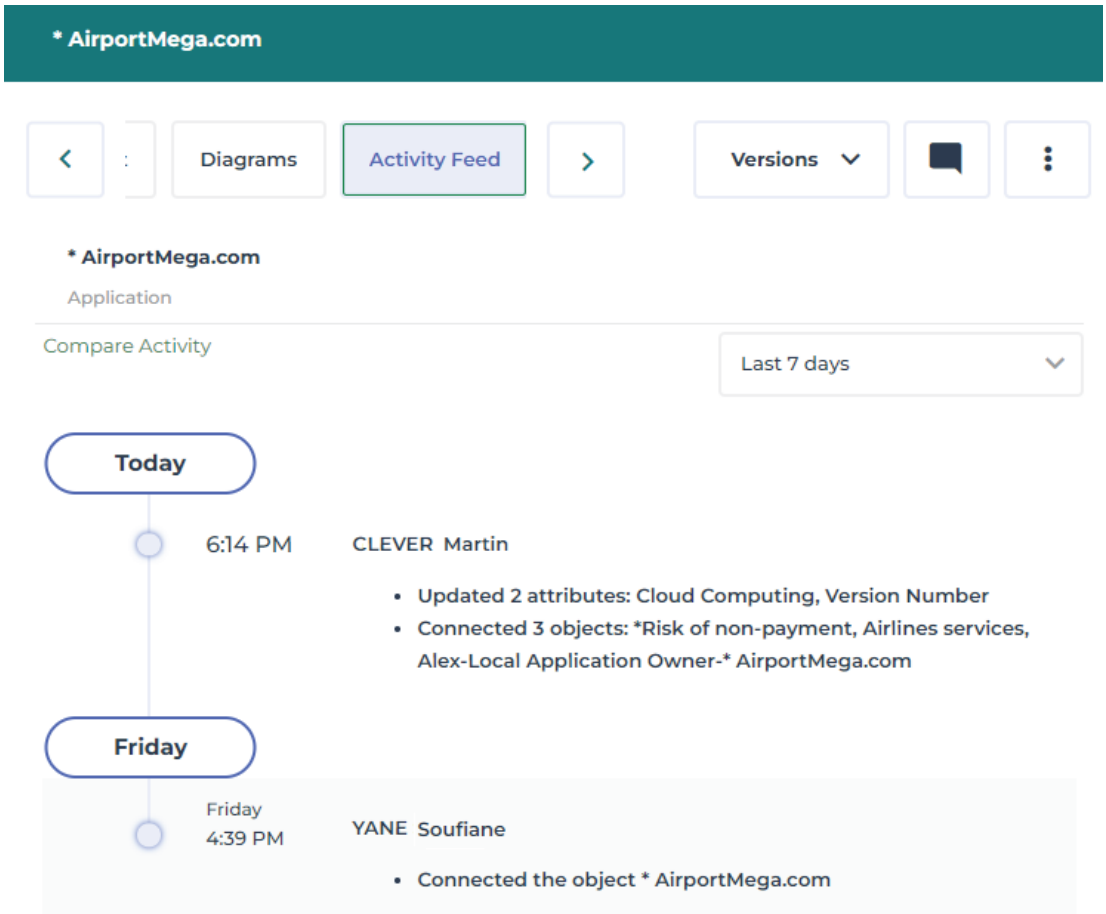
Each modification details:

- the name of the person who performed the update(s)
- the type of action carried out on the object
- the number of actions per action type
- the attributes or links concerned by each modification

To access the activity on an object:

1. Access the object properties.

2. Display its **Activity Feed** page.
   Modifications performed on the object are displayed chronologically, by user, over the "Last 7 days" (by default) period.



3. (If needed) In the granularity drop-down menu, select another granularity for the object activity feed display.

   ☛ *To define a customized granularity, , select the "Custom" value and use the calendars to define the **Start Date** and **End Date**, then click **Find** .*

   The modification display is automatically updated according to the new granularity.
4. (optional) Compare the attribute/link values modified on the object.

   ☛ *See Comparing the attribute/link values modified on an object.*

Comparing the attribute/link values modified on an object

To compare the modified attribute/link values on an object:

1. In the **Activity Feed** of the object concerned, click **Compare Activity**.

   ☛ *See Accessing the activity on an object.*

2. (If needed) Use the (**On** and **Compared to**) calendars to modify the comparison dates, then click **Compare** .

   ☛ *By default the compared values match the granularity defined in the **Activity Feed** tab.*

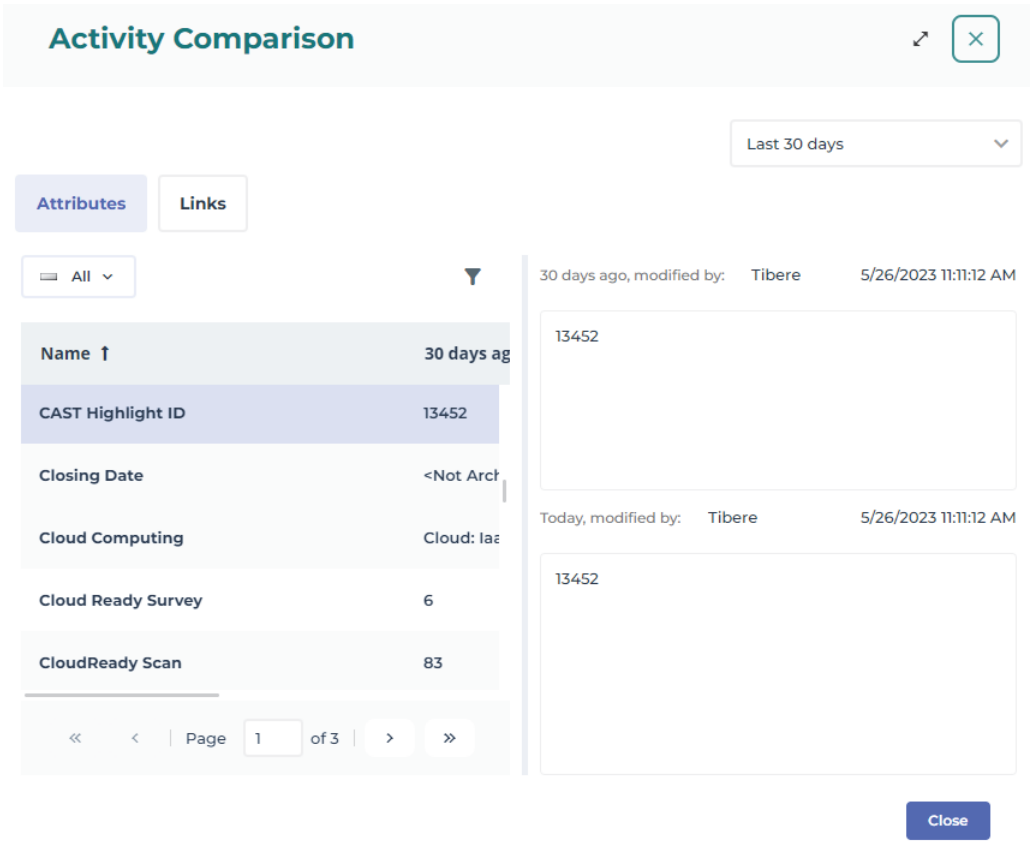
   By default the **Attributes** tab displays modified attributes only.

   ☛ *To display all of the attributes, in the drop-down menu select **All**.*

3. (If needed) Use the filter to display one or several specific attributes.

   ☛ *See Filtering a list data.*

4. Select an attribute.
   For each comparison date, the right pane details the corresponding values and the author of the modifications.



5. To display the modified links, click the **Links** tab.

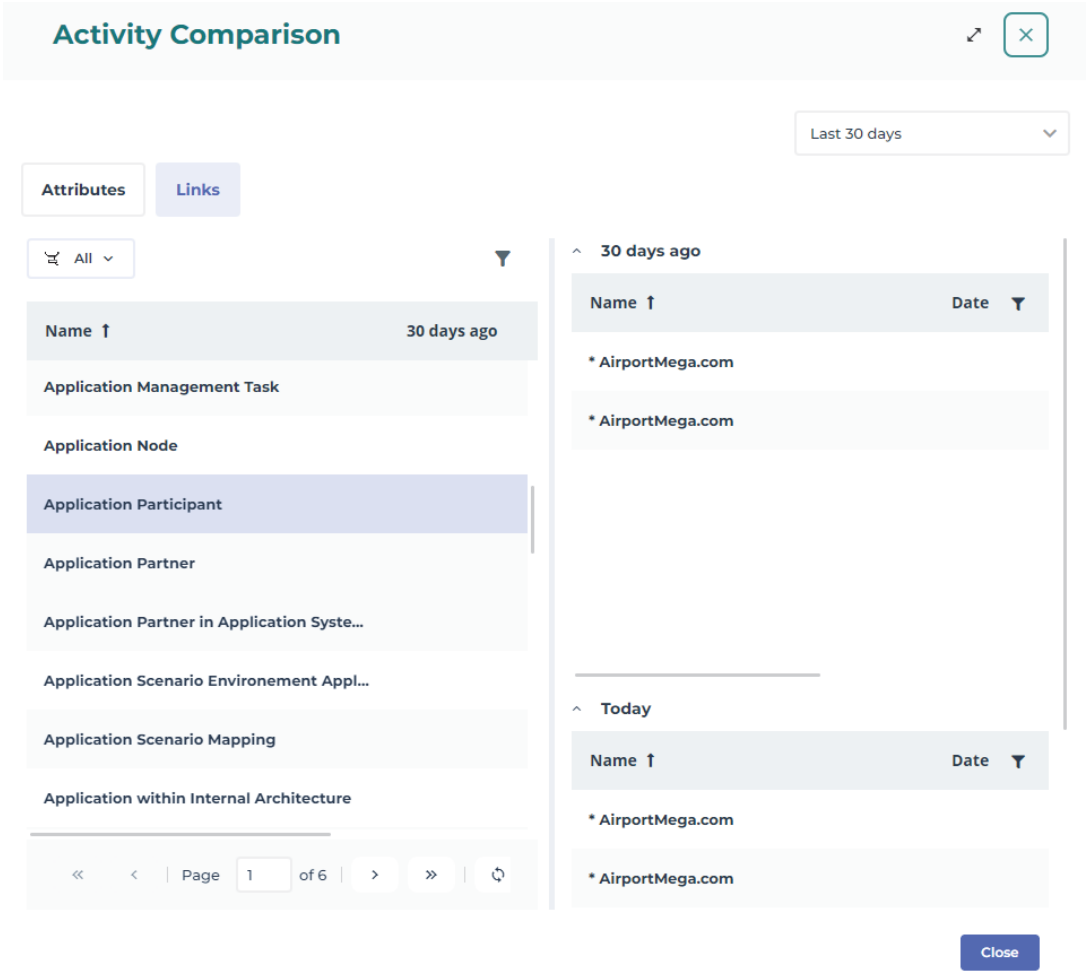
   ☛ *To display all of the links, in the drop-down menu select **All**.*

   The left pane displays the modified links and indicates the number of modifications for both comparison dates.

6. (If needed) Use the filter to display one or several specific links.

   ☛ *See Filtering a list data.*

7. Select a link.
   The right pane displays for each comparison date, the link modifications, the modification date and its author.



Managing options on the activity feed

You can hide the **Activity Feed** feature.

To modify the default value of the activity display on objects:

1. Access options (**Main Menu > Settings > Options**).
2. In the option tree, select **Tools > Collaboration > History management**.
3. In the right pane, clear **Activate Activity Feed feature on an Object**.
   In object properties, the **Activity Feed** page is no longer available.

SHARING WITH OTHER USERS

In **Hopex**, you can share with other users. You can:

- share by email: an object or a diagram
- follow an object
- add review notes to an object
- add tags to an object
- add an idea

See:

- Sharing an Object as Email
- Managing the Object Follow-up

See also:

- Adding a Review Note to an Object
- Managing Tags on an Object
- Submitting and evaluating ideas

Sharing an Object as Email

You can share an object as email, either:

- by entering the names of the recipients
- or by entering the email address of the recipients

☛ *An object can also be a report.*

☛ *Directly in a diagram, you can also share a diagram by email.*

The email recipients receive a link redirecting to **Hopex** and opening the properties of the shared object (the recipient must own the rights to see this object).

To share an object as email:

1. In **Hopex**, right-click the object and in its contextual menu, select **Share as Email**.

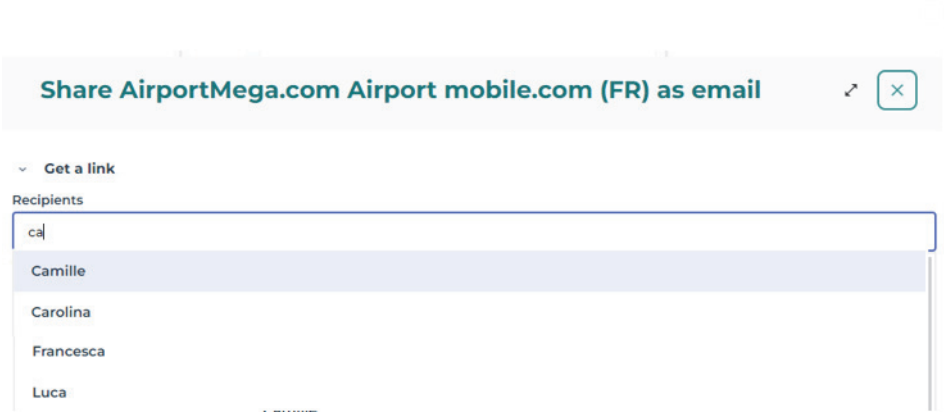
   ☛ *(Diagram) In the diagram toolbar, click **Share this diagram**  .*

   The **Share <Object name> as email** window appears.

   ☛ *The **Get a link** section enables you to copy the link that is inserted in the email.*

2. In the **Recipients** field, enter letters of the name of the person (**Hopex** user) with whom you want to share this object.
The list of persons whose name contains these letters appears.

☛ *If the list is long, enter more letters.*

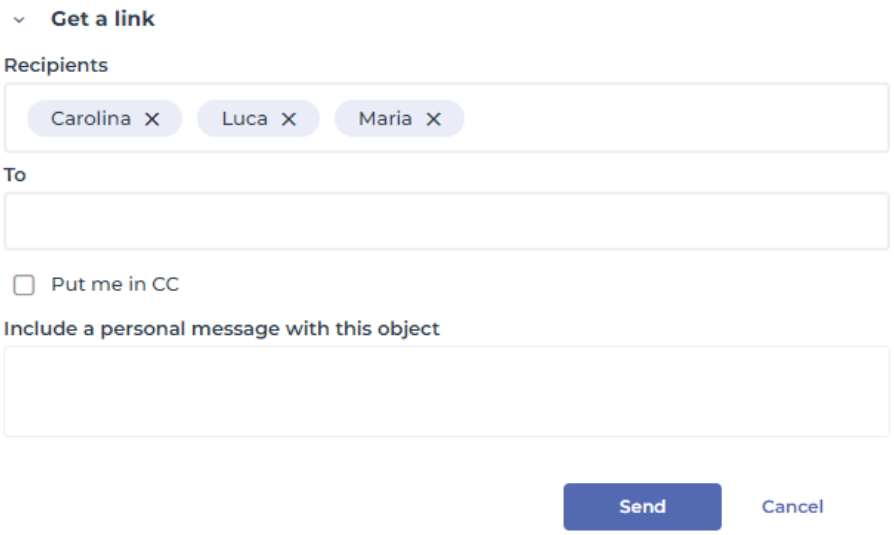


3. Press the down navigation key to select the person's name or select it using your cursor.
4. Press [Enter].

☺ *You can add several persons whose name starts with the same letter without closing the list.*

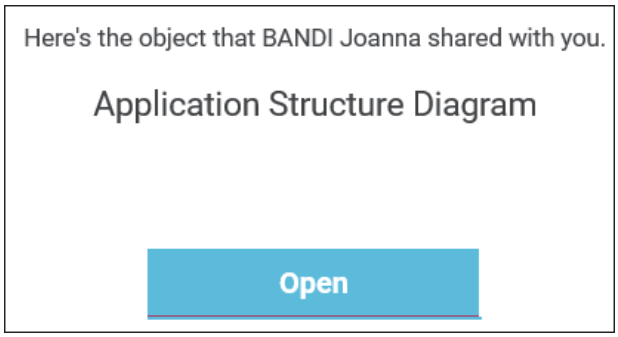
5. Click outside the list to close it.

☛ *You can add several persons to the recipient list.*



☛ *To remove a person from the recipient list, click the cross × beside its name.*

6. (If needed) In the **A** field, enter the email address to which you want to send the object sharing.
7. To receive a copy of the email, select **Put me in CC**.
8. (Optional) In the **Include a personal message with this object** pane, enter the text of the email.
9. Click **Send**.
   An email is sent to the recipients of the message as well as to you if you have selected the option.



10. When the recipient clicks **Open**, a **Hopex** desktop opens (a second desktop if the user is already connected, otherwise the **Hopex** connection window opens) and displays the object characteristics.

    ☛ *The user must connect with a profile that has access to the object to see it.*

    ☛ *In the case of a "visual" object (e.g. a diagram or a capability map), the link redirects to the object itself.*

NOTIFICATIONS

With the notification feature in **Hopex**, you can follow the modifications made to certain objects. When you follow an object, you receive notifications when this object is modified.

In the main toolbar of your **Hopex** desktop, a red dot indicates that you have unread notifications  .

All users subscribing to alerts on modifications to the object receive a notification and/or email as soon as you dispatch your modifications, and according to their alert management.

☛ *See Managing Your Alerts on Object Modification.*

Managing the Object Follow-up

You can receive a notification and/or an email when an object is modified. To do this, you must follow the object.

☛ *To view the activity on the objects that you are following:Accessing the activity on the objects that you are following see*

You can follow:

- all objects to which you have access in **Hopex**

  ☛ *See Following an object.*

- all objects for which you participate to a review note

  ☛ *See Stop receiving notifications on review notes concerning you.*

Following an object

☛ *You can stop following an object at any time.*

When modifications are performed on an object that you follow:

- you are notified by email,

  ☛ *See Accessing your notifications.*

- in the main toolbar of your **Hopex** desktop, a red dot indicates that you have unread notifications  .

When a user dispatches modifications on the object, you receive a notification according to your notification configuration.

☛ *By default, notifications are sent once a day (at midnight), to modify this setting see Configuring management of your alerts.*

To follow-up on an object:

1. In your **Hopex** desktop, access the object you want to follow.
2. Right-click the object and select **Follow**  .
   The object is added to the list of objects you are following.

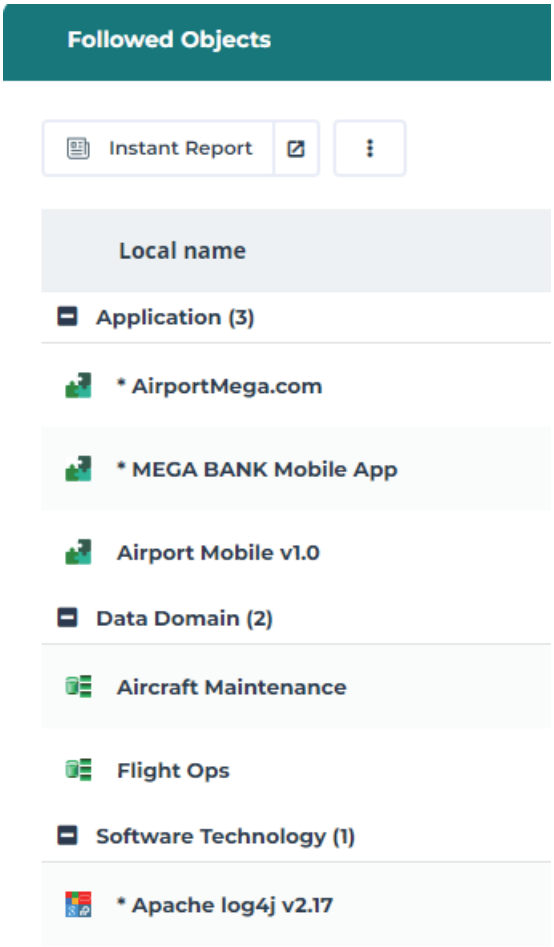
Accessing the list of objects you are following

To access the list of objects you are following:

1. On your **Hopex** desktop, click the **Collaboration** menu .

   ☛ *See Accessing a Collaboration Feature.*

2. Select **Notifications and Activities** > **Followed Objects**
   The object you are following are listed by type.



You can perform actions on these objects.

☛ *See Actions on an object from the Local Name of a list.*

Managing your Notifications

In your **Hopex** desktop toolbar, a red dot indicates that you have unread notifications  .

Your notifications are sorted by state:

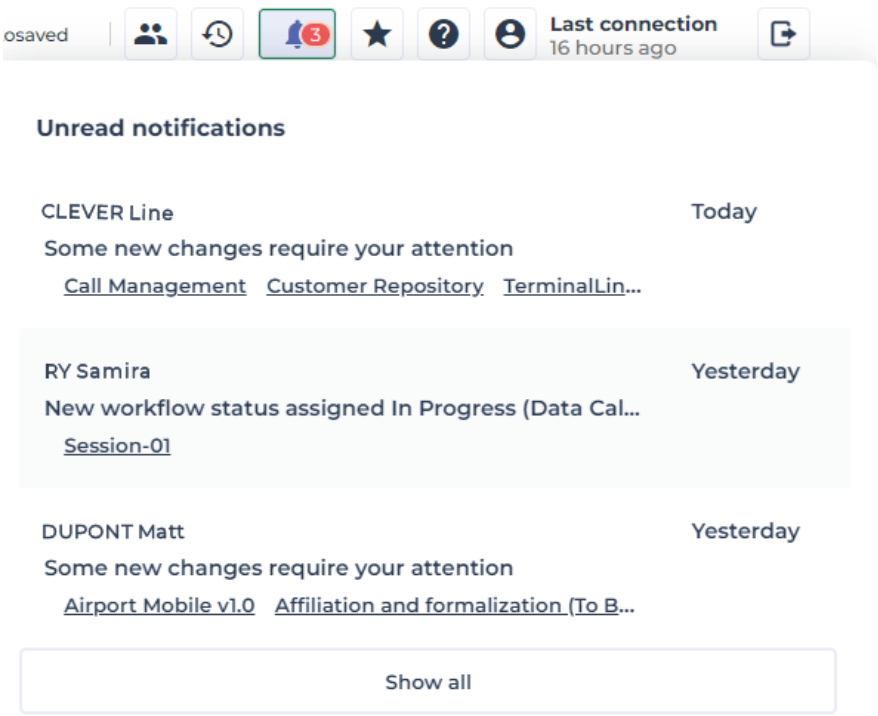
- the notifications that you have not read
- the notifications that you have read

> ☛ *To modify the state of a notification, see Modifying the state of a notification.*

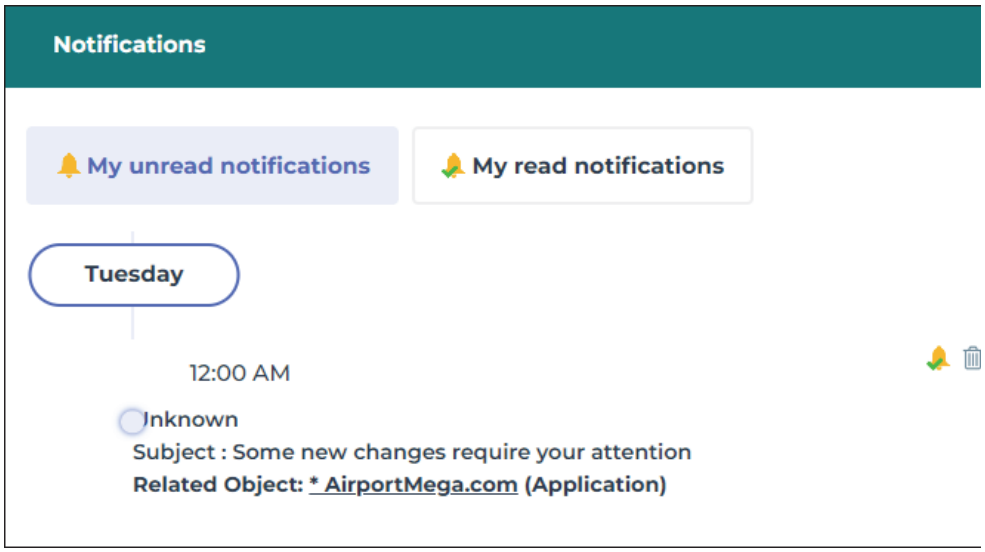
Accessing your notifications

To access your notifications:

1. In the **Hopex** toolbar, click  .
   Your last 10 unread notifications appear in order of creation date (the newest first).
   Each notification specifies:
   - the person at the origin of the notification
   - the subject of the notification
   - the **Hopex** object associated to the notification



2. Use the mouse wheel or the scroll bar to show the previous/next notifications.
3. To access the properties of a modified object, click its name.
   The modified object property pages are displayed in the edit area (in full page).
4. To show all your notifications, click **See all**.
   Each notification specifies:
   - the person at the origin of the notification
   - the **Hopex** object associated to the notification
   - the subject of the notification
   - the date and time of transmission (GMT) of the notification



5. To access the properties of the modified object, click the name of the object.
   Its **properties** appear in the edit area, in full page.
6. To display your read notifications, click **My read notifications**.

Modifying the state of a notification

When you have read a notification or when you no longer want to keep it in your list of unread notifications, you can change its state to "Notification read".

To modify the state of a notification:

1. Access your unread notifications.

   ☛ *See Accessing your notifications.*

2. In the notification concerned, click **Mark as read** .
   The notification is moved to **My read notifications**.

   ☛ *In the same way, click **Mark as unread** to move the notification to **My unread notifications**.*

Deleting a notification

To delete a notification:

1. Access your notifications.
   ☛ *See Accessing your notifications.*
2. In the notification concerned, click **Delete** .
   The notification is deleted directly.
   You are not prompted to confirm the deletion.

Managing your notification and object follow-up options

You can modify the notification and object follow-up options:

- **Activate Alerts**: activates the receipt of alerts (notifications and emails) on followed objects.
- **Activate notification pop-up window**: additionally activates a pop-up window (at the bottom right corner of your Desktop) that indicates - at Desktop opening - that you have unread notifications.
- **Period by default for updates of followed objects**: defines the display period regarding the updates of followed objects: week, quarter, or year (monthly by default).

The email address of the notification sender can only be modified by a **Hopex** administrator. This email address remains the same for all users.

To modify the notification and object follow-up options:

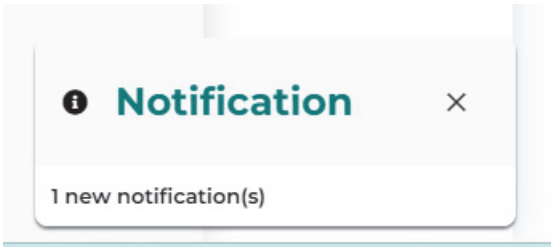
1. Access your options (**Main Menu > Settings > Options**).
2. In the option tree, select **Tools > Collaboration > Notification management and object follow-up**.
3. In the right pane, modify the options of interest.

Receiving your alerts in pop-up mode

Your alerts appear in the toolbar of your **Hopex** desktop. A red dot indicates that you have unread notifications .

In addition, you can get at Desktop opening a notification in pop-up mode (at the bottom right corner of your Desktop).

☛ *This option is selected by default for certain profiles.*



To receive your alerts in pop-up mode:

1. Access your options (**Main Menu > Settings > Options**).

2. In the option tree, select **Tools > Collaboration > Notification management and object follow-up**.
3. In the right pane, select the **Activate notification pop-up window** option.

Stop receiving notifications on review notes concerning you

By default, when you participate in review note (creation or answer) on an object, you automatically receive modification alerts about these objects.

☛ *See Adding a Review Note to an Object.*

☛ *See Answering a Review Note.*

To stop receiving notifications on review notes that concern you:

1. Access your alert management feature.

☛ *See Accessing alert management.*

2. Display **My subscriptions** page.
3. Clear **Automatically subscribe to objects for which I create a review note**.
4. Click **OK**.
   You no longer receive notifications that concern review notes.

☛ *See Configuring management of your alerts.*

Managing Your Alerts on Object Modification

To follow the modifications carried out on an object, you must follow this object.

☛ *See Managing the Object Follow-up.*

When you follow an object, this alert also includes the modifications to all its component objects.

Accessing alert management

To access management of your alerts on objects:

1. Connect to your **Hopex** desktop.

☛ *See Logging in to Hopex.*

2. In the **Hopex** toolbar, click **Main Menu** and select **Settings > Alerts Management**.
   The **Alerts management** window opens.

3. You can:
   - view all the alerts you have subscribed to (**My Subscriptions** page)
   - stop receiving automatic alerts on the review notes that concern me
     ☛ *See Stop receiving notifications on review notes concerning you.*
   - configure the management of your alerts
     ☛ *See Configuring management of your alerts.*
   - view your **Notification** type alerts
     ☛ *See Accessing your notifications.*
   - cancel your subscription to an alert
     ☛ *See Canceling Follow-up of an Object.*

Configuring management of your alerts

You can receive information by notification or e-mail on modifications to the objects you are following.

You can define the reception of your notifications:

- notification receipt frequency:
  - none
  - daily summary
  - daily summary with choice of day and time (UTC)
- content of notifications:
  - with or without details

You can define the receipt of your emails:

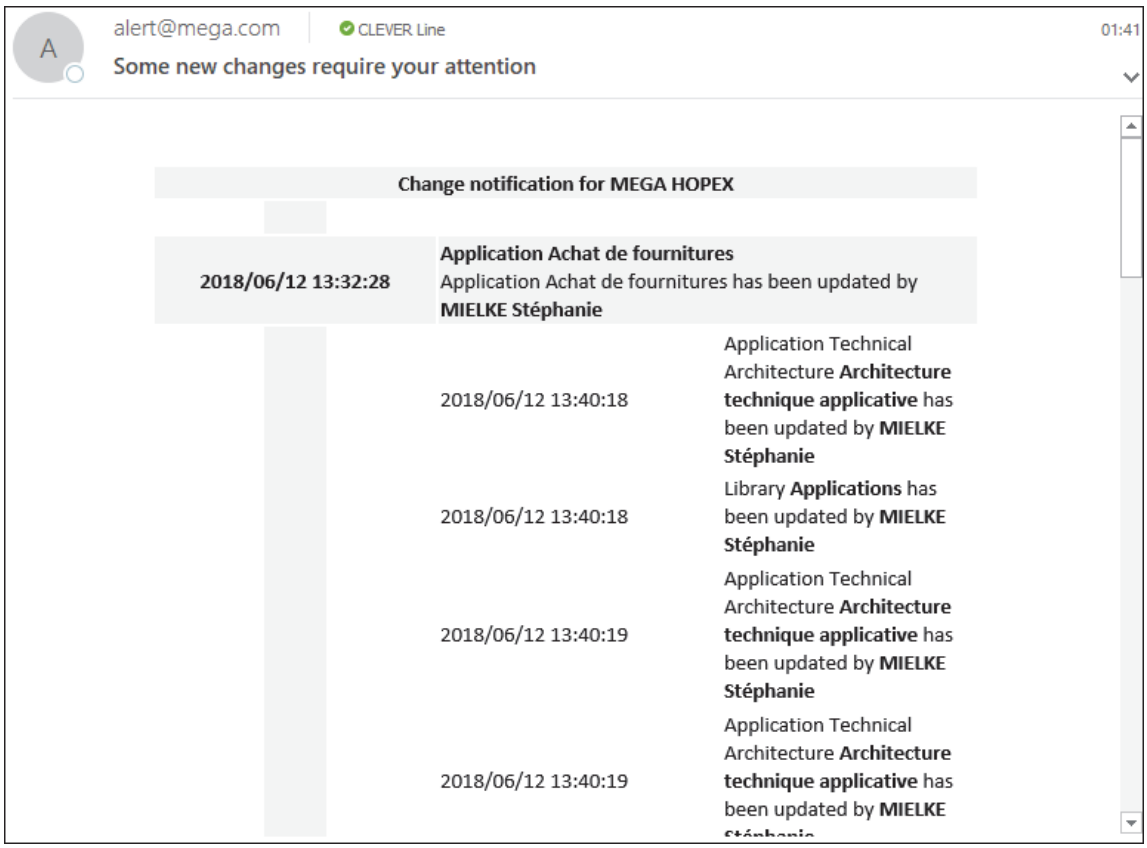
- e-mail receipt frequency:
  - none
  - daily summary
  - daily summary with choice of day and time (UTC)
- content of e-mails:
  - with or without details
- format of e-mails:
  - plain text
  - HTML

To configure management of your alerts:

1. Access your alert management dialog box.
   ☛ *See Accessing alert management.*
2. In the drop-down menu, select **Alerts Settings**.
3. In the **Notification** section, select the receipt frequency and notification content.
   When a user dispatches modifications on an object you are following, you receive a notification according to your configuration.

4. In the **Email** section, select the receipt frequency, the content and format of emails.
   When a user dispatches modifications on an object you are following, you receive an email according to your receipt configuration.

   For example, you can receive a daily notification by email.



Canceling Follow-up of an Object

You can stop following:

- an object
- several objects

Canceling follow-up modifications on an object

To stop following the modifications on an object:

1. In your **Hopex** desktop, access the object you no longer want to follow.
2. Right-click the object and select **Unfollow** .
   You will no longer receive notifications when the object is modified.

Canceling follow-up modifications on several objects

To stop following the modifications on several objects:

1. Access your alert management dialog box.
   ☛ *See Accessing alert management.*
2. Display **My subscriptions** page.
3. Select the object(s) you no longer want to follow.
4. Click **Remove** .
5. Click **OK**.
   You no longer receive notifications when these objects are modified.

USING WORKFLOWS

In **Hopex**, workflows manage expected actions as well as roles of the different participants involved in execution of these actions.

This section describes how to:

- ✓ consult workflows
- ✓ start a workflow
- ✓ participate in a workflow

Examples of standard workflows used across different HOPEX solutions are also included.

☛ *Details of workflows are provided in the corresponding **Hopex** documentation.*

☛ *To create your own workflows, see Configuring Workflows in the **Hopex Power Studio** guide.*

CONSULTING WORKFLOWS

To access the workflows which are of interest to you:

❱ From your desktop toolbar, click **Collaboration** then **To Do List > Workflows**.

You can access:

- your active workflows (in progress, on which you can still perform actions)
- your completed workflows (that you can no longer take forward or backward, on which you can no longer perform actions)

☛ *See also Starting a Workflow.*

As a workflow progresses, the user(s) assigned to the next status can receive a notification warning of the existence of a request needing attention.

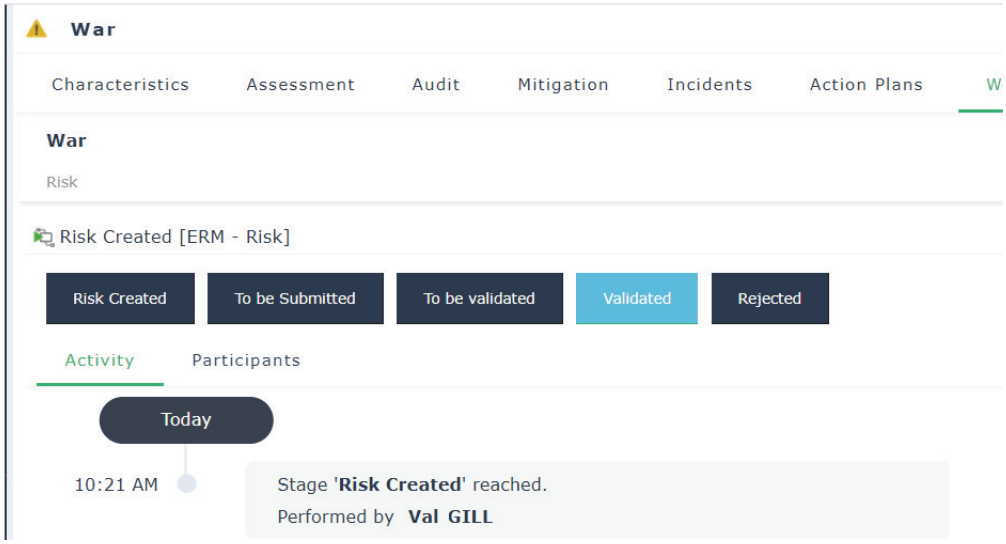
☛ *See Accessing your notifications.*

STARTING A WORKFLOW

You may start a workflow from a list of objects, for example a list of applications.

To start a workflow:

1. From your **Hopex** desktop, access a list of objects that contains the object concerned.
   ☛ *See Common Actions on Objects.*
2. Roll the mouse over the **Local name** column of the object, click **More** and select **Workflows**.
   A panel is displayed on the right.
3. From the drop-down list, select the workflow you wish to use.
4. Click **Start Workflow**.
   After triggering the first workflow transition, you may view the activity of the on-going workflow:



See also Participating in a Workflow.

PARTICIPATING IN A WORKFLOW

After initiation of a workflow, only those users assigned to the next workflow status can intervene in this workflow.

> ☛ *Any **Hopex** user can participate in a workflow, whatever the product used.*

You can trigger a workflow transition:

- From the list of workflows that are of interest to you
- an object list

From the list of workflows that concern you

To take part in a workflow:

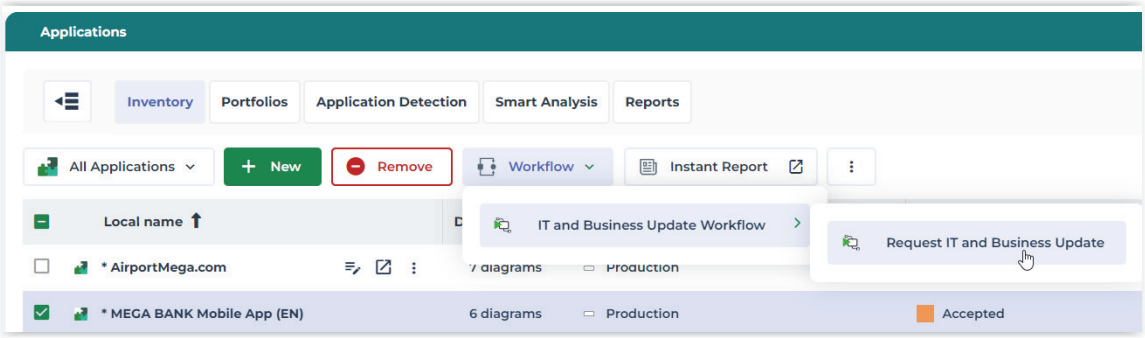
1. Access the workflows which are of interest to you.
   > ☛ *For more details, see Consulting Workflows.*
   >
   > ☛ *See also Starting a Workflow.*
2. If you are assigned to the next workflow status, the workflow appears in the "My Active Workflows" page.
3. Select the workflow of interest.
4. Roll the mouse over the **Local name** column of the object, click **More** and select **Workflows**.
   The workflow window appears to the right.
5. To switch the workflow to the next status, click **Mark the step Completed**.
6. Select the transition that you want to trigger and click **Next**.
7. Enter a comment for this transition and select a user, then click **Finish**.

From a list of objects

To participate in a workflow from a list of objects:

1. Select the object on which you want to perform an action and click the **Workflow** button on the list bar.

2. Select the workflow on which you want to perform an action and the transition to be triggered.



☛ *You can select more than one object and move these objects on to the next workflow step if these objects all have the same status. To do this, click on the workflow button and select* ***Mass Transition****.*

WORKFLOW EXAMPLES

Below are examples of workflows supplied in standard mode.

Other customizable workflows are supplied with solutions. See the corresponding guide for more details.

Using Requests For Change

Change requests allow users to request a modification on one or more repository objects.

Depending on workflow configuration, users receive an e-mail or a notification to inform them of the request for change.

Request For Change Workflow

In this workflow, a requester makes a new request for change. The request then passes to status ***Submitted Request***.

An administrator of requests for change analyzes the request. He/she can:

- accept the request for change, or
- reject the request for change, or
- request investigation from a modeler.
  In this last case, the request for change passes to status ***Request Under Evaluation***. Following evaluation, the modeler submits the outcome to the request for change administrator (the request returns to ***Submitted Request*** status).

When the request has been accepted, the requests for change administrator can decide to complete or abort it. The request for change then passes to final status ***Completed Request*** or ***Aborted Request***.

☛ *You can customize behavior of requests for change. To do this, seek assistance of a **MEGA** product engineer if necessary.*

Accessing Requests for Change

❱ From your desktop tool bar, select the **Collaboration** icon then **To Do List > RFCs**.

Creating a Request For Change

To create a request for change:

1. From an object pop-up menu, select **Manage > Send a Request for Change**.
2. Enter a description of your request and select a user.
3. Click **OK**.

Creation of a request for change also triggers creation of a request for change workflow; this enables sending of a notification and e-mail concerning the request for change.

Using the Unlocking Request Workflow

Context of use of the unlocking request workflow

By default, you cannot unlock protected objects. You must request it using the unlocking request workflow.

The **Authorize unlocking of protected objects** option enables to define the conditions of use of the unlocking request workflow. If the option is set to:

- "Authorize": you can unlock an object yourself.

  ☛ *In this case, a **Manage > Unlock object** menu becomes available in the pop-up menu of the object to be unlocked.*

- "Prohibit" : the workflow must be triggered to perform the request.

  ☛ *In this case, a **Manage > Unlocking request** menu becomes available in the pop-up menu of the object to be unlocked.*

This option is available via the main menu > **Settings > Options > Repository > Authorizations > Authorize unlocking of protected objects**.

Making an unlocking request

To be able to modify the object after its validation, and if you do not have rights to unlock the object, you must make an unlocking request.

To make an unlocking request:

1. Click the object to be modified and select **Manage > Unlocking Request**.
2. In the next dialog box, enter a comment and click **Next**.
3. Select a person to be assigned if your workflow requires this and click **Finish**.
   A notification is sent to the person responsible for object unlocking.

Accepting an unlocking request

To accept an unlocking request:

❱ Click the unlocking request and select **(Object Unlocking Request) > Accept Unlocking Request**.
The object for which you have accepted the request is no longer protected. It is unlocked and you can modify it.

Refusing an unlocking request

To refuse an unlocking request:

- Click the unlocking request and select **(Object Unlocking Request) > Refuse Unlocking Request**.
  The object remains protected. It cannot be modified.

  ☛ *To be able to accept or refuse unlocking requests, you must be authorized to unlock protected objects (see repository option **Authorize unlocking of protected objects** in **Options > Repository > Authorizations**).*

USING ACTION PLANS

The action plan consists in defining, executing and following up specific actions in a project context.

This feature is transverse to solutions such as **Hopex Business Process Analysis**, **Hopex Internal Control**, **Hopex Internal Audit**, **Hopex LDC**, **Hopex Enterprise Risk Management, and Hopex Privacy Management**.

Action plans use the workflow mechanism. The standard execution of an action plan can be configured to adapt to your specific needs.

- ✓ Using Action Plans
- ✓ Managing Actions
- ✓ Action Plan Execution
- ✓ Ensuring Action plan Follow-Up
- ✓ Action Plan Reports

USING ACTION PLANS

An action plan comprises a series of actions, its objective being to reduce risks and events that have a negative impact on company activities.

Accessing Action Plans

The access path to action plans depend on the solution you actually use.

To access action plans in Business Architecture solutions, for example:

1. From the **Projects** navigation pane, select **Corrective Action Plans > Action Plans**.
2. Select **All Action Plans**.

See also the corresponding documentation:

- Managing Action Plans, or
- Creating Action Plans with HOPEX Business Process Analysis, for example.

Standard reports are offered to follow up expected and effective progression of one or more action plans. For more details, see: Action Plan Reports.

Entering Action Plan Information

Before proposing an action plan for approval, the action plan creator may supplement Action Plan information.

To update fields that characterize an action plan:

- Open the **Characteristics** properties pages of the action plan that interests you.
  Several sections appear.

General characteristics

In the **Characteristics** section, you can specify the following:

- **Name**
- **Owner**: is the user responsible for submitting the action plan to the approver and for proposing the action plan closing when all the actions are closed.

  ☛ *For more details on the owner tasks, see Action Plan Execution.*
- **Tags**
- **Owner Entity**: enables restriction of the list of owners.
- **Approver**: is the user responsible for validating the action plan closing.

  ☛ *For more details on the approver tasks, see Action Plan Execution.*
- **Means**: text description of means required/desired for action plan execution.
- **Priority**: enables indication of a priority level of the action plan. Possible values are:
  - "Low",
  - "Medium"
  - "High" or
  - "Critical".
- **Origin**: enables definition of the context of carrying out the action plan:
  - "Audit",
  - "Compliance",
  - "Event",
  - "Risk", "RFC"
  - "Other".
- **Category**: enables specification of the action plan undertaken, for example: "Process Improvement".
- **Nature**: enables definition of the action plan nature "preventive" or "Corrective".
- **Description**: enables to specify additional information on the action plan and its characteristics.
- **Steering Calendar**: enables to connect an existing steering calendar to the action plan.

  📖 *A steering calendar enables performing recurring actions at predefined due dates. It can be used for example for sending recurrent reminders to the action plan responsibles so that they can indicate progress of this element. A steering Calendar can also be used to automatically trigger assessment Assessment Sessions at regular intervals.*

  ☛ *For more details on the use of the steering calendar, see Using Steering Calendars.*
- **Action Plan Status**: automatically updated depending on the action plan progress.

  ☛ *For more details on action plan statuses, see Action Plan Execution.*

Financial assertion

In the **Financial assertion** section, you can enter financial information that facilitate action plan cost monitoring.

- **Forecast Cost**: estimate of action plan cost expressed in current currency.
- **Real Cost**: action plan real cost expressed in currency current.
- **Forecast Cost (Man-Days)**: estimate in man-days of action plan implementation workload.
- **Real Cost (Man-Days)**: cost of action plan implementation expressed in man-days .

Action plan progress

In the **Progression History** section, you can enter progression status to facilitate the progression follow-up.

☛ *For more details on managing action plans progress, see Specifying Action Plan Progress Rate.*

Success factors

In the **Success Factors and Outcome** section, you can specify the success indicators enabling assessment of success of the action plan.

- **Key Success Factor**: text information on action plan success factors.
- **Outcome**: information on action plan result:
  - Unknown
  - Failed
  - Succeeded
- **Comments on Outcome**: text information on action plan results.

Scope

You can associate objects with the action plan to position it in its environment.

Depending on the products you have, you can connect objects of the following types:

- risk
- organizational process
- business processes
- control
- entity
- application
- software technology
- touchpoint
- issue
- data asset

Milestones

Milestones are important dates of the action plan. You can specify these dates later.

- **Planned Begin Date** and **Real Begin Date**.
- **Planned End Date** and **Real End Date**.

Attachments

You can attach business documents to an action plan:

☛ *For more details on the use of business documents, see the **Hopex Common Features** guide.*

MANAGING ACTIONS

An action is included in an action plan and represents a transformation or processing in an organization or system.

Users involved by an action plan can propose actions corresponding to the execution of the action plan. The “Owner”, for example, can create actions and assign these.

Creating an Action

To create an action from an action plan:

1. Open the **Characteristics** properties and select the **Actions** page.
2. Click **New**.
3. Open the action properties.
4. Specify the following fields:
   - **Owner** of the action as specified by the action creator.
   - **Owner Entity**: owner organization unit enabling restriction of the list of action owners.
5. You can specify milestones, which are important dates of the action.
   - **Planned Begin Date**
   - **Planned End Date**

Action Status

The action status is automatically updated during the action execution.

For more details on an action execution and its statuses, see Action Workflow.

The different statuses of an action are:

- **Created**: the action is created.
- **Project**: the created action awaits opening by the "action owner".
- **In Progress**:action is accepted by its owner.
- **To Close**: the action is completed and must be approved by the "action plan owner or approver".
- **Closed**: the action is completed and approved.

ACTION PLAN EXECUTION

During the execution, an action plan takes different states. Passage from one state to another is a step in a procedure executed by an org-unit.

The execution of action plans and their associated action is managed by workflows.

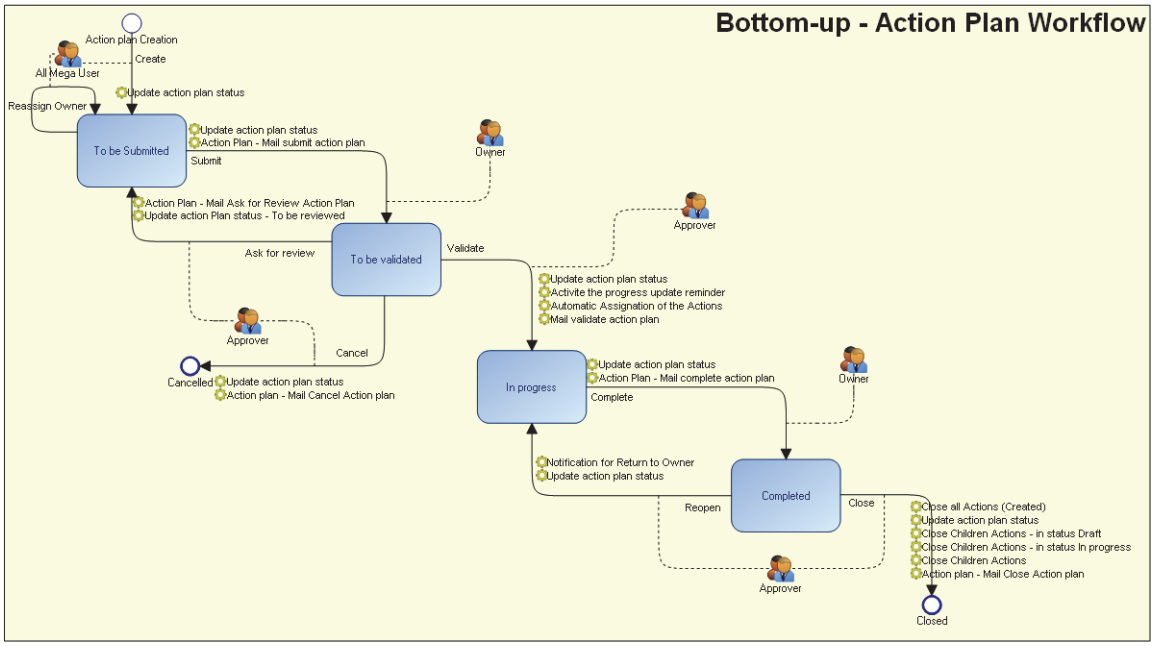
Two workflows are proposed to manage different steps of an action plan:

- A **Bottom-Up** workflow, which corresponds to the case where an action plan is created by any user. The new action plan must be validated by an approver before being implemented.
- A **Top-Down** workflow, which corresponds to the case where an action plan is created by an "action plan manager".

A third workflow is proposed to manage the actions associated to an action plan.

Bottom-up Action Plan Workflow

A **Bottom-Up** workflow corresponds to the case where an action plan is created by any user.



Creating the action plan

When the action plan is created, it is in "To submit" state.

By default, the action plan creator is the action plan **Owner**. Having specified the characteristics of a new action plan, the creator can:

- **Propose** the action plan.
  In this case, the user defined as "Approver" receives a notification mail, and the new action plan appears with status "To Begin" in his/her tasks list.

Preparing the action plan

The action plan "Approver" user can:

- **Validate** the action plan, which then takes status ""In Progress". Actions can be created. For more details, see Managing Actions.
- **Cancel** the action plan which takes status "Canceled".

Executing the action plan

After execution of actions relating to the action plan, the "Owner" can:

- **Terminate** the action plan which takes status "Closed". To do this, all action plan actions must be terminated. For more details, see Managing Actions.
  The "Approver" user is notified of the action plan termination request.

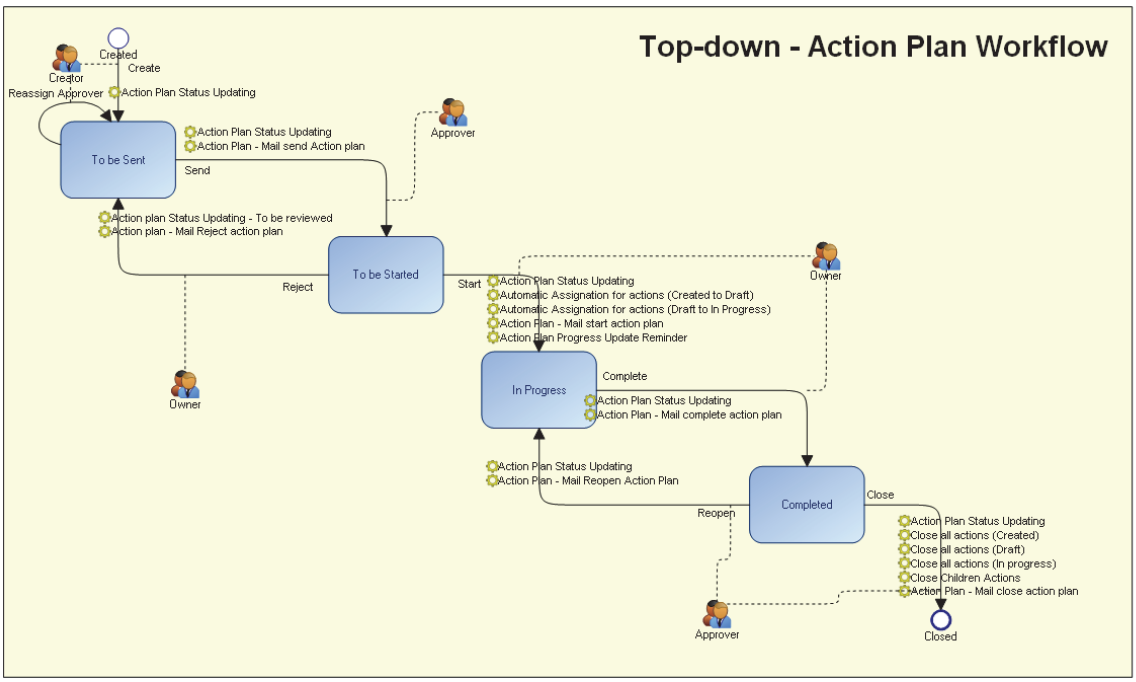
Closing the action plan

After having consulted action plan follow-up reports, the "Approver" user can:

- **Close** the action plan, which retains "Closed" status and disappears from the task lists of creator, approver and owner.
- **Reopen**, for additional actions. The action plan again takes status "In Progress".

Top-down Action Plan Workflow

The **Top-Down** workflow corresponds to the case where an action plan is created by an "action plan manager".



Creating the action plan

When the action plan is created, it is in "To be sent" state.

By default, the action plan creator is the action plan **Accountable** . Having specified the characteristics of a new action plan, the creator can:

- **Send** the action plan.
  In this case, the user defined as "Approver" receives a notification mail, and the new action plan appears with status "To Begin" in his/her tasks list.

Preparing the action plan

The action plan "Approver" user can:

- **Start** the action plan, which then takes status "In Progress". Actions can then be created. For more details, see Managing Actions.
- **Reject** the action plan which takes status "Rejected".

Executing the action plan

After execution of actions relating to the action plan, the "Owner" can:

- **Terminate** the action plan which takes status "Completed". To do this, all action plan actions must be terminated. For more details, see Managing Actions.
  The "Approver" user is notified of the action plan termination request.

Closing the action plan

After having consulted action plan follow-up reports, the "Approver" user can:

- **Close** the action plan, which retains "Closed" status and disappears from the task lists of creator, approver and owner.
- **Reopen**, for additional actions. The action plan again takes status "In Progress".

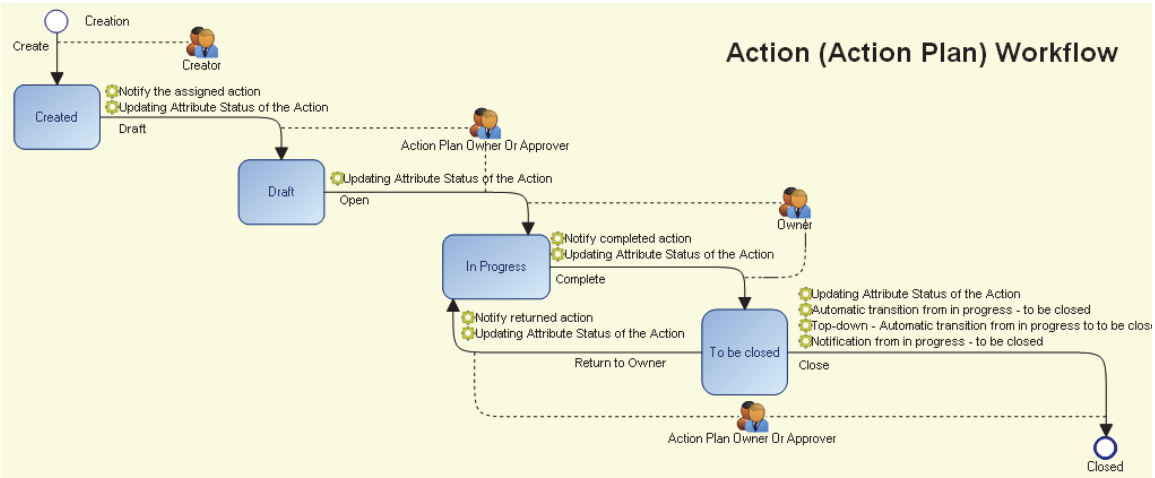
Action Workflow

An action plan is executed when the associated actions are executed.

Actions can then be created as soon as the action plan state is "In Progress".

When all actions of an action plan have been published and accepted, the action plan can be implemented.

The action plan takes status "Completed" only if all its attached actions are closed.



Action Creation

When the action A created, it is in "Created" state.

By default, the action creator is the action owner. Having specified the characteristics of a new action, the creator can declare the action as **Draft**. In this

case, the user defined as "Approver" receives a notification mail, and the new action appears with status "Draft" in his/her tasks list.

Action preparation

When an action has been proposed, the action plan "owner" or "approver", or the action "owner" can:

- **Open** the action, which takes status "In Progress".

Action execution

Having studied action execution possibilities, the "Owner" can:

- **Complete** the action.
  A notification is sent to the user defined as "action plan owner or approver".

Action termination

After studying characteristics of the action, the action plan "owner" or "approver" can:

- **Close** the action.
  In this case the user defined as "Owner" receives a notification and the action takes status "Closed".
- **Return to responsible user**, for supplementary actions.

ENSURING ACTION PLAN FOLLOW-UP

Action Plan Progress Steps

During the execution, an action plan takes different states. Passage from one state to another is submitted to the approval of several org-units associated to business roles.

> ☛ *For more information on action plan execution, see Bottom-up Action Plan Workflow and Top-down Action Plan Workflow.*

Action plan progress is specified at periodic dates by the action plan responsible user. For more details, see Specifying Action Plan Progress Rate.

So that a reminder e-mail can be automatically sent the action plan responsible user, you can connect a **Steering Calendar** to the action plan. For more details, see Using Steering Calendars.

Specifying Action Plan Progress Rate

Reports are offered to follow up expected and effective progression of one or more action plans. See Action Plan Reports.

The action plan progress rate can be specified if the action plan is in the status "In progress", that is it has been validated by the “Approver”.

To indicate progress rate of an action plan:

1. Open the action plan propery pages and expand the **Progress History** section.
2. In the **Progress Update** section, click **New**.
   The **Progress Update** creation page appears.
3. Specify the **Name** of the progress update.
4. Specify the **Progress (Percentage)** and add a **Comment**, if required.
5. Verify the **Progress Date**.
6. Select the **Progress Evaluation**.
   - “In time”
   - “Late”
7. Click **OK**.
   The progress update appears in the list.

Using Steering Calendars

> 🕮 *A steering calendar enables performing recurring actions at predefined due dates. It can be used for example for sending recurrent reminders to the action plan responsibles so that they can indicate progress of this element. A steering Calendar can also be used to*

automatically trigger assessment Assessment Sessions at regular intervals.

You can connect a **Steering Calendar** to the action plan so that the action plan responsible user can indicate a progress percentage at dates defined in this calendar. A message is sent to the user on these dates.

☛ *For more details on managing steering calendars, see **HOPEX Customization (Windows) > Customizing Steering Calendars**.*

To create a steering calendar for an action plan:

1. Open the properties of an action plan.
2. In the **Steering Calendar** field, specify the steering calendar provided as standard or your own customized steering calendar.

ACTION PLAN REPORTS

Action Plan Progress Report

Before proposing an action plan for approval, the action plan creator may supplement Action Plan information.

To access the action plan progress rates:

- Open **Progress Report** property page of the action plan that interests you.
  This report displays the actions Gantt chart and an History progression.

Actions Gantt chart

This diagram lets you see the sequencing of planned and executed actions.

> ☛ *For more details on actions associated to an action plan, see Managing Actions.*

History Progression

This graph is based on progress states to show the progress rate percentage planned on different dates.

> ☛ *For more details on managing action plans progress, see Specifying Action Plan Progress Rate.*

Action Plans Summary Reports

The access path to action plans reports depend on the solution you actually use.

To access action plans in Business Architecture solutions, for example:

1. From the **Projects** navigation pane, select **Corrective Action Plans > Hierarchy View**.
   The action plan tree is displayed.
2. Expand the **Reports** folder.
   The folders containing the possible report types appears.

Action Plan Progress

Report parameters

Parameter	Parameter type	Constraints
Library or action plan	Action plan	At least one action plan mandatory.

This graph is based on progress states of several action Plans (entered as a parameter in the report) to show the progress rate percentage planned on different dates.

☛ *For more details on managing action plans progress, see Specifying Action Plan Progress Rate.*

Action Plan Gantt Chart

Report parameters

Parameter	Parameter type	Constraints
Library or action plan	Action plan	At least one action plan mandatory.

The Gantt diagram lets you see the sequencing of action plans entered as a parameter.

☛ *For more details on action plan start date and end date, see Entering Action Plan Information.*

Action Plan Follow-Up

The report is composed of different graphs (bar charts and pie charts) showing actions plans associated to contexts (processes and entities) defined as parameters.

Report parameters

Parameter	Parameter type	Constraints
Library or action plan	Action plan	At least one action plan mandatory.

Action plans by status

This bar chart presents action plan statuses.

The sum of action plans must be equal to the number of action plans. The number is in the legend.

Action plans by progress

This pie chart presents action plan breakdown according to their progress rate. Possible statuses are the following:

- In time=in progress with due date superior to 30 days
- Late=in progress with due date inferior to 0 days.
- Approaching due date=in progress with due date between 0 and 30 days.
- Canceled
- Closed

The sum of action plans must be equal to the number of action plans. The number is in the legend.

Action Plans By Priority

This bar chart presents action plan breakdown according to priority.

Available priorities are the following: "Critical", “High”, "Medium” or “Low”.

The sum of action plans must be equal to the number of action plans. The number is in the legend.

Action plans by category

This bar chart presents action plan breakdown according to their category.

Possible categories are: Corrective, Preventive.

The sum of action plans must be equal to the number of action plans. The number is in the legend.

Action Plans By Nature

This bar chart presents breakdown action plans by nature.

The sum of action plans must be equal to the number of action plans. The number is in the legend.

Action Plans by Entity

This bar chart presents breakdown action plans for each entity selected.

- X-axis: All entities selected
- Y-axis: number of action linked to each entity and sub-entity.

If no entity is selected, all root entities are presented.

Action plans by process

This bar chart presents breakdown action plans for each process selected.

- X-axis: all root selected
- Y-axis: number of action linked to each process and sub-process

If no process is selected, all root processes (organizational and business processes) are presented.

SUBMITTING AND EVALUATING IDEAS

Hopex offers an organized process for generating ideas, referred to as Ideation.

An idea can be a suggestion for a modification with a view to improving the enterprise capabilities, or more generally any suggestion that impacts the transformation of the resource organization of the enterprise or the change path of its strategic line.

Ideas can be submitted freely or collected within the context of an ideation campaign.

The ideas can give rise to project demands that can then be assessed within the context of the project management process.

☛ *For more information on project management, see Defining Enterprise Projects.*

- ✓ Idea Management Process
- ✓ Submitting an Idea
- ✓ Starting an Ideation Campaign
- ✓ Examining an Idea
- ✓ Validating or Rejecting an Idea

IDEA MANAGEMENT PROCESS

Ideation refers to the management process for ideas that become possible project demands.

The ideation process is broken down into three main parts:

- Creating the idea
- Assessing the idea
- Approving or rejecting the idea

Profiles and Roles Associated with Ideation

Ideation is available in the **HOPEX Business Process** and **Enterprise Architecture** desktops. An idea can be created and validated by the following profiles:

HOPEX Business Process desktop

- Process Manager
- Process Designer
- Process Functional Administrator

Enterprise Architecture desktop

- Enterprise Architect
- EA functional administrator

Two roles are associated by default with ideation:

- The Submitter, who creates the idea
- The Reviewer, who completes or evaluates the idea.

See Assigning an Idea to Persons.

Submitting an idea

There are two ways to submit ideas:

- Ascending: at any time, a user can submit an idea. For more details, see Creating an Idea.
- Descending: a user can organize an ideation campaign, which involves the different stakeholders, on a particular subject (e.g.: a business capability). See also Starting an Ideation Campaign.

Ascending ideation process

At any time, a person can submit an idea. This idea is not necessarily linked to a repository object, because the end user may not have the in-depth knowledge of the content of the repository or access to data (data such the capabilities may be

beyond his/her reach). Thus, for example, the "Submitter" user can submit a new idea by describing the detail in an associated document attached to the idea; this idea can be attached to elements in the architecture at a later stage by a more expert user.

> For example, Ben from the marketing team wants to suggest the possibility for the customer to order customized pizza recipes on the Web and on mobile devices.

It is possible to submit an idea

- for an existing architecture block.

  > For example, Dave from IT wants to submit the idea that the "Online pizza ordering application" is growing old and must be improved.

- for a given capability.

  > For example, Ben wants to suggest that the "pizza delivery" capability be implemented by a fleet of automated drones in certain areas.

- for an architecture block AND one of its capabilities achieved.

  > For example, Dave wants to suggest that the "Pizza Ordering" functionality of the "Online pizza order request" should also be available on Android devices and not only on iOS devices.

Descending ideation process

An innovation manager or a project portfolio innovation manager can start an ideation campaign based on a given capability. This is organized for a certain period of time during which the stakeholders can submit their ideas.

> For example, Veronica, who is an innovation manager, is aware of a candidate project that aims to improve the deadline of the "Pizza delivery" business capability and is looking for innovative ideas to implement this. She wants to start an ideation campaign on the "Pizza delivery" business capability in the marketing and logistics user communities.

Assessing an idea

Once the ideas are submitted (irrespective of the source or the submission mode), the ideas collected can be examined and reviewed:

- Informally through messages exchanged by the various stakeholders;
- More formally via a dedicated approval workflow, through an assessment request.

See Examining an Idea.

Validating an idea

The idea submitter or a reviewer can validate an idea, which can either:

- Give rise to a new project demand, or
- Be associated with an existing project demand or a validated project, or
- Be associated with a similar idea, already validated or rejected and if appropriate declared as a "duplicates".

See Validating or Rejecting an Idea.

SUBMITTING AN IDEA

Ideas are opportunities whose concept has not yet been refined before they become project demands.

Creating an Idea

Everyone, including a business architect, a technician, an application owner, etc., can submit an idea.

To create an idea:

1. In the navigation bar, click **Projects** > **Ideation** > **Ideas**.
2. Click **New**.
   The properties window for the new idea opens.
3. In the **Characteristics** page, enter the name of the idea.
4. Specify the **Idea Submitter**. By default, the name that appears is that of the person who created the idea in the solution, but you can attribute the idea to another person.
5. Select the **Idea Submission Date**.
6. Enter a **Detailed Description** of the idea.

Viewing the Ideas

To view the ideas:

1. In the navigation bar, click **Projects** > **Ideation** > **Ideas**.
2. In the edit area, use the drop-down list to display:
   - all ideas
   - the ideas for which you are creator or with which you have been associated as a stakeholder (directly or as member of a governance body associated with the idea).

In the **Ideation** pane, you can also access idea portfolios.

Accessing the properties of an idea

To define the properties of an idea:

- In the idea list, move the mouse over the idea concerned and click the **Properties** button that appears.
  The properties of the idea appear in the edit area, with the following pages:
  - Characteristics. See Idea Description.
  - Assessment. See Examining an Idea.
  - Assignment. See Assigning an Idea to Persons.

Commands are also associated with the idea, available when you click the icon associated with the idea:

- Workflow: at this first stage of creation, the idea is visible to the author only. See Submitting the Idea for Review (workflow).
- Other common actions (e.g.: Add to Favorites, Remove)

Idea Description

To describe an idea:

1. Open the idea properties.

   ☛ *See Accessing the properties of an idea above.*

2. In the properties window, click the drop-down list and select **Characteristics**.

You can use this to indicate:

- the object **name**
- the **submission date**
- The **inventor**

The **status of the idea** is defined automatically by the worklow:

- New
- Being reviewed
- Approved
- Archived

Idea category

By way of information you can define a category for the idea.

You can create a category or link an existing category, for example:

- Technological breakthrough
- Improvement
- Innovation
- Quick win

Objects concerned by the idea

You can associate idea subjects with an idea.

An idea subject is used to define the scope and the impact of the idea in terms of capabilities and/or architecture blocks.

To create an idea subject:

1. In the **Objects Concerned by the Idea**, click **New**.
2. In the idea subject window, you can specify:
   - the subject name
   - the idea type: improvement, innovation or rationalization
   - the capability with which the object idea
   - deals, for example an application.

3. Click **OK**.

Similar ideas

You can link the idea to similar ideas and specify where appropriate the duplicates.

To link a similar idea:

1. In the **Similar Ideas** section, click **Connect**.
2. In the search window, search and select the idea concerned.
3. Click **Connect**.
   The idea appears in the properties window.

Projects inspired by the idea

In the same way as you can specify similar ideas, you can specify the projects inspired by the idea, by linking the projects concerned to the idea.

Assigning an Idea to Persons

The persons assigned to an idea are persons authorized to complete and assess this idea.

To assign a person or a person group to an idea:

1. Open the idea properties.
   ☛ *See Accessing the properties of an idea above.*
2. In the properties window, click **Assignment**.
3. Click **New**.
4. In the dialog box that appears, select a **Person** or a **Person Group**, as well as their **Business Role**.
5. Click **OK**.

Repeat this procedure to assign other persons to the campaign.

Submitting the Idea for Review (workflow)

To submit an idea for review:

- Click the icon of the idea and select **Idea Validation (New)** > **Sumit For Review**.

When a new idea is submitted for review, a notification is sent automatically to the people to whom the idea has been assigned.

The idea switches from the "New" state to the "Being reviewed" state.

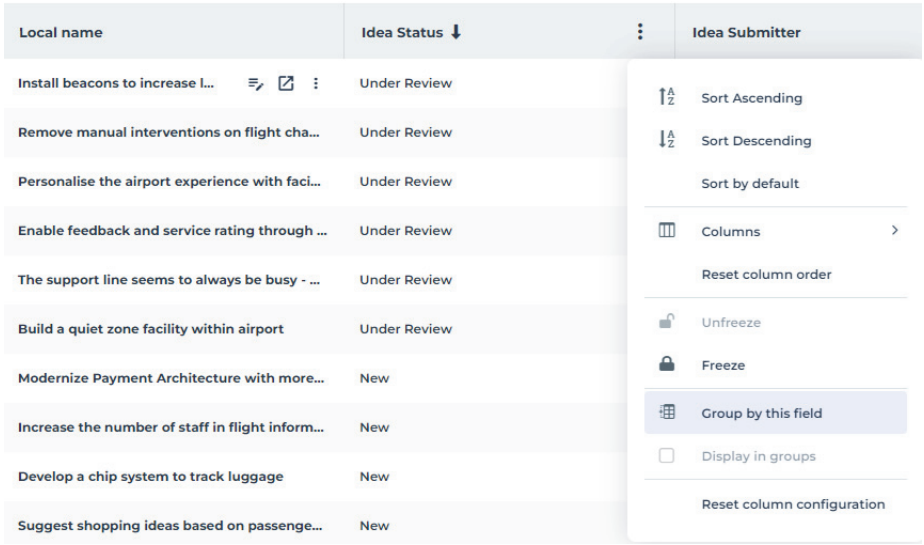
View the ideas submitted for review

Any user whose profile includes the ideation tool can view the list of ideas created under **Projects** > **Ideation** > **Ideas** > **All Ideas**.

The creator and stakeholders of an idea can see the state of that idea under **Projects** > **Ideation** >**Ideas** > **My Ideas**.

To display the ideas according to their status (new, under review, etc.):

- Click the arrow associated with the **Idea Status** column then **Group by this Field**.



The ideas are grouped and displayed according to their status.

STARTING AN IDEATION CAMPAIGN

An ideation campaign is a way of organizing the collection of stakeholder ideas on a particular subject.

The scope of the campaign is defined in terms of capability, and even on the entire capability map.

You can submit an idea on a sub-set of the scope defined for the campaign (sub-capability or capability in the map).

Campaign Workflow

Any user whose profile has access to the ideation tool can launch a campaign.

☛ *See Profiles and Roles Associated with Ideation.*

This involves a number of stakeholders who can be called on to submit ideas on a given theme.

The ideation campaign is organized for a defined period of time.

The stakeholders of the campaign receive a notification on campaign startup. It is up to them to create and comment on the ideas.

Once the campaign ideas are created and the necessary information gathered, the campaign manager closes the campaign. He/she then analyzes the information given and validates or does not validate the ideas.

Once the the campaign is closed, no additional ideas can be submitted within the framework of this campaign.

Creating an Ideation Campaign

To create an ideation campaign:

1. Click the **Projects** > **Ideation** > **Ideation Campaigns** navigation menu.
2. In the edit area, select **All Ideation Campaigns**.
3. Click **New**.
   The creation of an ideation dialog box appears.
4. Enter the name of the campaign.
5. Click **Next**.
6. Specify:
   - the campaign dates
   - the associated capability
7. Click **OK**.

Assigning an Ideation Campaign to Persons

The persons assigned to an ideation campaign are those authorized to create and comment on the ideas in the campaign.

To assign a person or a person group to an ideation campaign:

1. Click the **Ideation** navigation pane then **Ideation Campaigns**.
2. In the edit window, select the campaign in question and click the **Properties** button.
3. In the properties window, click **Assignment**.
4. Click **New**.
5. In the window that appears, select a **Person** or a **Person Group**, as well as their **Business Role**.
   - Campaign manager
   - Campaign participant
6. Click **OK**.

Repeat this procedure to assign other persons to the campaign.

Starting an Ideation Campaign

To start the ideation campaign:

- Click the campaign icon and select **Campaign Workflow (New) > Start**.

The campaign switches to "In Progress" state.

When the campaign is open:

- The stakeholders receive a notification informing them of their participation in the campaign, with a link to the campaign. They can see the ideation campaigns "in progress" in which they are involved in the "My ideation campaigns" list.
- The stakeholders involved can create new ideas within the campaign, and they can also comment on the ideas of others on their wall (collaborative functionality).

Adding Ideas to the Campaign

To add an idea to the campaign:

1. Click the **Ideation** navigation pane then **Ideation Campaigns**.
2. In the edit window, select the campaign in question and click the **Properties** button.
3. In the campaign properties, click the **Characteristics** page.
4. Expand the **Gathered Ideas** section.
5. Click **New**.
   The creation window for an idea appears.

6. Specify the name of the idea and click **OK**.
   The key appears in the properties of the campaign.

You can specify the subject of an idea, for example, a business capability of the capability map associated with the campaign.

For more details, see Objects concerned by the idea.

Assessing the ideas collected

To assess the ideas of a campaign:

1. In the properties of the campaign, select the **Assessment** page.
2. Click **New Assessment**.
3. Select one of the following options:
   - **All**: to assess all the ideas
   - **Some**: to assess some ideas

Evaluation lines appear for each idea selected. Assessment criteria are associated with these assessment criteria. You can select the criteria values in the corresponding columns.

In the properties of an idea, the **Assessment** page displays the results of the latest assessment performed on the idea.

See also Assessing an Idea.

Approving or Rejecting Campaign Ideas

Once the ideas are assessed, they are submitted to the approval of the manager. See Submitting the Idea for Review (workflow).

The latter can validate or reject them. See Validating or Rejecting an Idea.

EXAMINING AN IDEA

When an idea is submitted for review (irrespective of the source):

- It can be assessed and noted by the idea submitter or other stakeholders.
- The idea submitter can complete the idea, for example, by attaching it to the architecture element or the capability concerned, to obtain a more precise project.

See also: Submitting the Idea for Review (workflow).

Assessing an Idea

You can start the assessment on a portfolio or on a particular idea.

The person in charge of the idea can ask for an assessment or proceed his/herself with the assessment.

Assessing a particular idea

To assess an idea:

1. Click the **Projects** navigation menu, then **Ideation** > **Ideas**.
2. Select the idea in question and i click the **Properties** button.
3. In the properties window, click **Assessment**.
4. Expand the **Assessment** section
5. Click **New Assessment**.
6. Select the values for the following fields:
   - **Strategic Alignment Level**: 1 to 10 (the higher the value, the better the level)
   - **Feasibility**: 1 to 10 (the higher the value, the better the feasibility)
   - **Costs (budget)**: 1 to 10 (the higher the value, the higher the cost)
   - **Benefits**: 1 to 10 (the higher the value, the higher the benefits)
   - **Risk**: 1 to 10 (the higher the value, the higher the risk)

Once the assessment is completed, click **Validate Assessment** to transfer the assessment values to the idea properties.

The **Spider chart** section displays the results of the assessment in chart form.

Assessing the ideas in an idea portfolio

To create an assessment for the ideas of a portfolio:

1. Click the **Ideation** navigation pane then **Idea Portfolios**.
   The idea portfolios appear in the edit area.
2. Select the idea portfolio in question and click the **Properties** button.
   The portfolio properties appear.
3. Click the **Assessment** page.

4. Click **New Assessment**.
5. In the window that appears, select the ideas to be assessed:
   - Some
   - All
6. Click **OK**.
   An assessment line is created for each portfolio idea with the different criteria in a column.
7. For each line, select the values of the different criteria.

Once the assessment is completed, click **Validate Assessment** to transfer the assessment results to the idea properties concerned.

VALIDATING OR REJECTING AN IDEA

Validating an Idea

Once validated, an idea can either:

- give rise to a new project demand
- be attached to an existing project
- results in no immediate action

To validate an idea:

1. Click the navigation menu, then the **Ideation** pane.
2. In the edit window, click **All ideas** or **My ideas**.
3. Click the icon of the idea in question and select **Validate the Idea (Under Review)** > **Approve**.
4. Select the type of action to follow.
5. Click **OK**.

Rejecting an Idea

To reject an idea:

- Click the icon of the idea and select **Validate the Idea (Under Review)** > **Reject**.
  The idea status changes to "Rejected".

Displaying the Number of Ideas at the Origin of Projects

On an idea portfolio, use the "Funnel of ideas and projects" report to display the number of ideas that have given rise to projects.

To access this report:

1. Display the idea portfolio properties.
2. Click **Reporting**.
3. In the **Reporting** page, select the "Funnel of ideas and projects" report.
4. Refresh the report if necessary.



Assessments

ASSESSMENT OVERVIEW

Hopex offers a mechanism for managing questionnaires. These questionnaires enable quantification of characteristics of specific objects for a selected population in a specific context.

Several assessment templates are supplied as standard in **Hopex**. You can duplicate these assessment templates to create your own questionnaire and assessment templates.

> ☛ *To go further, **Hopex Power Studio** offers the possibility of creating assessments on other object types.*

- ✓ "Assessment Types and Modes in Hopex"
- ✓ "Data call"
- ✓ "Managing Questionnaires"

Assessment Types and Modes in Hopex

Assessment Types

Hopex offers several assessment types:

- direct assessments
- assessments by campaigns and sessions
- data call

Direct assessment

This is an "expert view" assessment.

Direct assessment can be unitary or multiple.

Assessments by campaigns and assessment sessions

This consists of sending questionnaires to respondents.

Campaigns are used as standard in several **Hopex** solutions. Assessments are performed only via campaigns in **Hopex GRC**.

> ☛ *An assessment campaign may contain different sessions, each with a scope and specific respondents.*

For more details on assessment campaigns, see "Managing Assessment Campaigns".

Assessment through data call

The objective here is to send forms to stakeholders in order to collect answers, enabling to fill in object properties automatically.

Example: You can collect data concerning applications (characteristics values..).

See:

- "Collecting Data for a Set of Applications"
- "Data call"

Assessment Session Launching Modes

Hopex enables starting assessment in different ways:

- ***From an Assessment Campaign***: characteristics of the session can be inherited from the assessment campaign.
- ***From an Existing Template***: assessment is created from an existing assessment template. All information characterizing sessions is described in the template.
- ***Ad-hoc mode***: the assessment is created simply from lists to be completed so as to specify the scope
- ***Expert mode***: this mode is reserved for experts who want to define queries and macros. Assessment is carried out from deployment collections constituting a first step to reuse of object lists defining a scope.

DATA CALL

Data Call Usage Context

Data call is a feature which enables to collect data from end users.

End users are given the possibility to enter object properties by completing questionnaires.

For an example of standard data call implementation, see "Collecting Data for a Set of Applications" in **Hopex IT Portfolio Management**.

Designing Assessment Templates for Data Call

Data call relies on the assessment feature. Questionnaires are sent through sessions.

Specific assessment templates

You need to design specific assessment templates and questionnaire templates for this.

Defining scope for data call

You can define:

- respondents (assessors)
- The objects for which you need to gather data

  Application owners and applications to assess are defined in the scope of the data call assessment templates provided as standard for **Hopex IT Portfolio Management**.

Difference between data call and assessment

Data call	Assessment
Form displaying pre-existing properties	Questionnaire with questions and answers
Does NOT enable to compute assessed values	Enables to compute assessed values

MANAGING QUESTIONNAIRES

After starting a campaign/an assessment session, questionnaire addressees receive a notification.

Accessing Assessment Questionnaires

To access questionnaires (examples):

- (**Hopex GRC**) In the navigation bar, click **Assessment > My Activities > Assessment > Questionnaires to be Answered**.
- (GRC Contributor) In the navigation bar, click **My tasks > Questionnaires**.
  The list of questionnaires to be completed appears.

Filling in Assessment Questionnaires

To complete questionnaires:

1. See "Accessing Assessment Questionnaires".
2. Select the questionnaire that interests you and click **Display Questionnaire**.
3. Select the questions and reply to these in the lower part of the window.
4. Click **Save as Draft** or **Submit** (if you have provided all your answers).

> ☛ *Questionnaires are visible from this menu as long as the assessment session is not closed. If the assessment session is closed, you can consult them in the **Questionnaires** tab of the assessment session.*

Requesting questionnaire Transfer

If you receive a questionnaire by mistake, you can ask the session manager to transfer the questionnaire to another person.

To make a transfer request:

1. See "Accessing Assessment Questionnaires".
2. Click the icon of a questionnaire and select **Assessment Questionnaire (To Be Completed) > Transfer Request**.

The questionnaire switches to the "To Reassign" status.

The manager is informed by e-mail and must reassign the questionnaire to another person.

> ☛ *Transfer requests are exceptional if execution campaign creation preparatory work has been correctly carried out.*

Using Excel to Fill in Questionnaires

Hopex enables to use MS Excel to fill in assessment questionnaires.

You may export or import a questionnaire as described below:

- Export the questionnaire in Excel format
- Answer questions directly in the Excel file

  ☛ *Note that some question types are not supported. See "Question types not supported by Excel".*
- Import the Excel file after having answered the questions

Exporting and re-importing a questionnaire

To answer questions via an Excel file:

1. In the navigation menu, select **My tasks > Assessment > Questionnaires to Answer**.
2. Select the questionnaire et click **Display Questionnaire**.

   ☛ *If a questionnaire had been filled in previously for a specific object and context, answers are displayed by default for your information. You can modify them.*
3. At the bottom of the page, click **Export**.
   Answers are exported to an Excel file.
4. Answer the questions.
5. Save and close the Excel file.
6. In **Hopex**, go back to the questionnaire and click **Import**.
7. Select the file you have just modified and click **Import >**.
8. Click **Validate Import**.
   Answers have been successfully imported. You can view them in **Hopex**.

Question types not supported by Excel

Some question types are included in the Excel file for informational purpose only. The objective is to inform users that the questionnaire contains questions but it is not possible to answer them via Excel.

- **Panel**: the questions contained in the panel appear in the Excel file.
- **HTML** and **Image**: these questions do not require answers. They do not appear in the Excel file.
- **Object**: for information only
- **File**: for information only
- **Checkbox**: for information only

DEFINING ASSESSMENT TEMPLATES

- ✓ Accessing Assessment Templates
- ✓ Creating an Assessment Template
- ✓ Selecting the Object Types to Assess
- ✓ Defining Assessment Template Visibility
- ✓ Managing Assessed Characteristics
- ✓ Specifying Assessment Template Scope
- ✓ Defining Deployment Query Parameters
- ✓ Managing Scoring Rules
- ✓ Defining Aggregation Schemas

Accessing Assessment Templates

To access assessment templates:

- In your solution navigation bar, select **Administration > Assessment > Assessment Templates**.

CREATING AN ASSESSMENT TEMPLATE

When creating an assessment template, you are going to specify:

- the assessment mode
- the way the scope is specified

To create an assessment template:

1. See Accessing Assessment Templates.
2. Click **New** and specify a **Name**.
3. Specifying the **Assessment mode**.

Assessment mode	To be used for...
Expert assessment	single and multiple direct assessment
Session	assessment through campaigns and assessment sessions
Standard	single and multiple direct assessment + assessment by campaigns and sessions (= Expert assessment + Session)
Execution	control execution
Data call	data collection among users to fill in automatically object properties
Disabled	do not display/suggest the assessment template

4. Specifying the **Assessment scope definition**.

By tree	use a tree to select objects to be assessed
by collection	define objects directly, via macros, or queries

SELECTING THE OBJECT TYPES TO ASSESS

A number of object types can be assessed as standard.

> ☛ *All these object types inherit from the "Assessable object" metaclass. To specify that objects of a MetaClass can be assessed, the MetaClass must inherit from the "assessable object" MetaClass.*

To specify other object types to assess within the framework of assessment sessions:

1. See Accessing Assessment Templates.
2. Open the assessment template properties.
3. Select the **Assessed Object Types**page.
4. Click the **Connect** button.
5. Select the MetaClasses of objects to be assessed and click **Connect**.

See also:

- Managing Assessed Characteristics
- Specifying Assessment Template Scope
- Managing Scoring Rules
- Defining Questionnaire Templates

DEFINING ASSESSMENT TEMPLATE VISIBILITY

Assessment Template Visibility Rules

The current profile can view and use the assessment templates:

- which are connected to it
- which are not connected to any profile

If no assessment template is connected to the current profile, the profile can view and use all the assessment templates.

☛ *An assessment template can be considered "Inactive". In this case, it is never displayed to the user.*

Connecting Profiles to an Assessment Template

To connect profiles to an assessment template:

1. In the navigation bar, click **Administration > Assessment > Assessment Templates**.
2. In the properties of the assessment template, expand the **Profiles** section.
3. Connect one or more profiles.

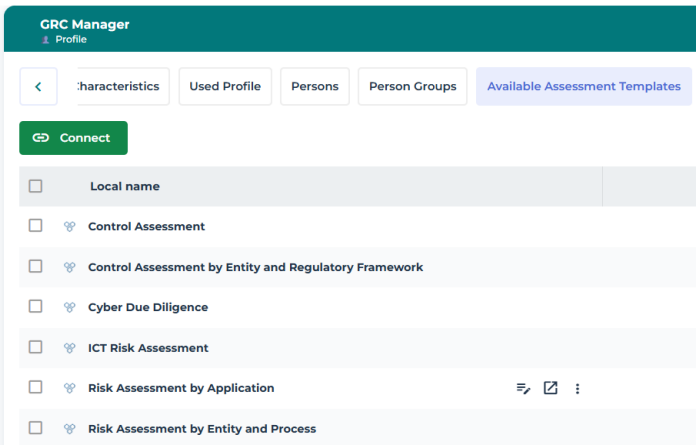
☛ *If an assessment template is not connected to any profile, this template can be viewed and used by all the profiles.*

Connecting Assessment Templates to a Profile

To specifically connect assessment templates to a profile:

1. In the properties of a profile, select **Available Assessment Templates**.

2. Connect one or more assessment templates.



MANAGING ASSESSED CHARACTERISTICS

An assessed characteristic relates to a characteristic of an object type.

```
You can for example create a "Risk Impact" assessed
characteristic relating to the Risk MetaClass and the
Impact MetaAttribute.
```

To create an assessed characteristic you need to specify:

- an object type
- a characteristic
- how to update the object characteristic (via a macro for example)

Creating an Assessed Characteristic

Depending on the solution used, assessed characteristics can be created from different locations.

To create an assessed characteristic:

1. In the navigation bar, select **Assessment > Assessment > Assessed Characteristics**.

   ☛ *This path applies to **Hopex GRC**. In other solutions, you might need to open the assessment template characteristics and select **Assessment Template Definition > Assessed Characteristics.***

2. Specify the object type corresponding to the object you want to assess as well as the characteristic to assess.
3. Specify how the object characteristic shall be updated.

   ☛ *This means how to use questionnaire answers to automatically update the characteristic of your assessed object.*

   See How to Update the Characteristic.

   When the assessment session is closed, notation rules are applied to calculate the value of the assessed characteristic.

   Hopex is used to update the characteristic of the assessed object and to define how to perform this update at the time of deployment or aggregation (if there are more than one context objects).

How to Update the Characteristic

You need to specify how to update the characteristic in the assessed characteristic creation page (see Creating an Assessed Characteristic).

Average if multiple values

Calculates the average of the assessed characteristic values

Copy value from one assessed value

Copies the value of the assessed the characteristic.

This option is valid if only one person answers the questions, for example, within the context of a direct assessment. A single characteristic value is obtained and copied to the MetaAttribute concerned.

Specific macro

Select the macro you want to implement.

The function must include the following parameters:

- Assessment session
- Assessment node
- Assessed object
- Value of the assessed the characteristic
- Metaattribute

> ☛ *An assessed characteristic can be used in several assessment templates. The macro is the same irrespective of the assessment template used.*

See also:

- Creating an Assessment Template
- Selecting the Object Types to Assess
- Specifying Assessment Template Scope
- Managing Scoring Rules
- Defining Questionnaire Templates

SPECIFYING ASSESSMENT TEMPLATE SCOPE

See also:

- Creating an Assessment Template
- Selecting the Object Types to Assess
- Managing Assessed Characteristics
- Managing Scoring Rules
- Defining Questionnaire Templates

The scope of an assessment template is used to specify:

- respondents
- the list of objects to be assessed
- the context(s) in which objects are assessed

To define this scope, you must create assessment deployment collections.

Elements of the assessment scope	Question to which the object type responds
Respondents	***Who?***
Objects to assess	***What?***
Context objects	***Where?***

☛ *A deployment collection can comprise both:*

- *the objects to be assessed*
- *respondents*

To access deployment collections:

1. See Accessing Assessment Templates.
2. In the properties of an assessment template, select **Assessment Template Definition > Deployment Collection**.

A deployment collection identifies objects from:

- a list of objects
- a tree

☛ *The deployment collection defined by a tree is available if the assessment scope definition is set to "By Tree" For more details, see Specifying Assessment Template Scope.*

- a query
- a macro
- a macro with parameter

If a query or macro is called with specific parameters, the mode of obtaining these parameters should be defined in the assessment template properties.

Creating Assessment Deployment CIlections

To create an assessment deployment collection:

1. In the properties of an assessment template, select **Assessment Template Definition**.
2. In the tree displayed, click **New**.
3. In the wizard that appears, select the check boxes corresponding to the type of information concerning the scope:
   - **Objects to Assess** to specify the object collection to be assessed.
   - **Context objects** to specify the object collection defining the assessment context.

     ☛ *It is not mandatory to define context objects.*
   - **Respondents** to specify the object collection identifying respondents.
   - **Filled by User**

     ☛ *If you want the deployment collection to be filled at session creation only, select the **Filled by User** check box.*
4. Select the **Filling Mode** of the assessed objects list.

   ☛ *For more details, see Deployment Collection Filling Mode.*
5. Click **OK**.

Deployment Collection Filling Mode

Filling mode enables indication of the way in which the list of objects connected to the deployment collection is filled. This collection can be defined:

- implicitly (queries, macros)
- explicitly (object list)
- by the user (at session creation)

Proposed filling modes are as follows:

- Tree

  ☛ *This filling mode is not available if the scope of your assessment is defined by a tree. For more details, see Specifying Assessment Template Scope.*
- Object list
- Macro
- Macro with parameters
- Query

Filled by user

To fill the deployment collection at creation of the session:

❱ In the deployment collection creation page, select the **Filled by User** check box.

☛ *This filling mode is not available if the scope of your assessment is defined by a tree.*

Deployment by tree

Deployment collection objects can be selected from a tree.

☛ *This deployment concerns only the object collection to be assessed. This option is available if the scope of your assessment is defined by a tree. For more details, see Specifying Assessment Template Scope.*

You must specify the **MetaTree** to be displayed to select collection objects.

Deployment by object list

You must specifically define deployment collection objects at creation of a session or campaign.

☛ *This deployment concerns only the collection of respondents.*

Deployment by macro

The object list is the result of the execution of a macro.

☛ *This deployment concerns the collections of objects to be assessed and respondents.*

This macro should define a method called 'assessmentCollectionFill' and have the following signature:

```
Sub assessmentCollectionFill(mgobjAssessmentCollection As
MegaObject,mgcolCollection As MegaCollection,)

End  Sub
```

Arguments of the macro:

- mgobjAssessmentCollection: current collection
- mgcolCollection: the MegaCollection obtaining result of the collection

Deployment by macro with parameters

The object list is the result of execution of a macro with parameters.

☛ *This deployment concerns the collections of objects to be assessed and respondents.*

You must create an assessment deployment query to specify these parameters.

☛ *For more details, see Defining Deployment Query Parameters.*

Correspondence should be set between assessment deployment query parameters and parameters of **Hopex** queries.

This macro should define a method called 'assessmentCollectionFill' and have the following signature:

```
Sub assessmentCollectionFill(mgobjAssessmentCollection As
MegaObject,mgcolCollection As MegaCollection,strTreePath As
String,strParameters As String)

End  Sub
```

Deployment by query

The object list is the result of execution of a two types of query:

- **Populating query**

  ☛ *If the **Hopex** query includes parameters, you must create deployment query parameters and set their correspondence with **Hopex** query parameters.*

  ☛ *For more details, see Defining Deployment Query Parameters.*

- **Filtering query**

A filtering query enables reduction in the number of objects in a given collection by selecting certain criteria. It is based on ERQL queries. You can therefore choose to assess objects of a certain type in a session, and objects of a different type in another session.

To access population and filtering queries:

1. In the properties of a deployment collection, select the **Advanced** page.

DEFINING DEPLOYMENT QUERY PARAMETERS

You must specify deployment query parameters if the list of objects of the deployment collection is defined by:

- a macro
- a macro with parameters

> ☛ *See Deployment Collection Filling Mode.*

The deployment query parameter indicates to the **Hopex** query how to find the value so that the query can execute.

You must create a deployment query parameter for each of query parameters used.

If the Hopex query contains several parameters, you must also set correspondence between the deployment query parameter and the Hopex query parameter.

> ☛ *If the **Hopex** query contains only one parameter, it is not necessary to set correspondence. The first deployment query parameter is taken into account.*

Creating a Deployment Query Parameter

To create a query parameter associated with a deployment collection:

1. See Accessing Assessment Templates.
2. From the assessment template definition, open the properties of the deployment collection for which you want to create a parameter and select the **Characteristics** page.
3. In the **Query** field, create or connect a query.

   > ☛ *To connect a query, you can for example use the **List of available queries** menu* at the right end of the field.
4. In the **Assessment Query Parameter** section, click the **New** button.
5. In the **Parameter Value Definition Mode** field, select the mode of assigning one or several values to your parameter.
   - Direct value
   - From deployment collection
   - Direct assessment

Direct value

The parameter value is specified at creation of an assessment session.

In the deployment query parameter creation page, you must define:

- the name of the desired parameter, for example "Org" in the **Deployment Query Parameter** field, or
- the **MetaClass** concerned.

> ☛ *If the query or the name of the query parameter is modified, correspondence between the deployment query parameter and the Hopex query parameter is lost. Specification of a MetaClass is therefore recommended.*

If required you can create a deployment query parameter value. For more details, see Defining a parameter value.

From deployment collection

Parameter values are taken from a list of objects associated with a deployment collection.

You must define the deployment collection in the **Referred Collection** field.

Direct assessment

This value should be used in the context of direct assessment assessment templates.

The deployment query parameter is not displayed.

Managing Parameter Values

If you want to specify candidate objects at assessment template level, you must create a parameter value and specify if this value is:

- user defined
- calculated by a macro

Defining a parameter value

When deployment query parameters have been defined, you can create candidate values for these parameters. These values are proposed by the assessment session creation wizard.

To define a parameter value associated with an assessment query parameter:

1. Open the properties of the assessment query parameter.
2. In the **Characteristics** page, in the **Assessment Query Parameter Values** section, click **New**.
3. Enter the parameter value **Name**.
4. In the **Parameter Value Attribution Mode** field, select:
   - ***Generic Object*** if the value is a repository object.
     The **Generic Object** field allows you to specify a value that will be proposed to the user at creation of an assessment session.

     ☛ *Select **System Generic Object** if the value is a system repository object.*
   - ***Macro*** if the value is calculated by a macro.
     The **Implemented by Macro** field allows you to determine the macro that will be used.
   - ***Value*** to indicate explicitly a **Query Parameter Value**.
5. Click **OK**.
   The new parameter value appears in the list.

   ☛ *You can define several parameter values for the same Assessment Query Parameter.*

MANAGING SCORING RULES

A scoring rule defines the list of answers used to calculate the value of an assessment characteristic. It also provides the macro enabling calculation.

Each assessed characteristic can be connected to several scoring rules.

A scoring rule can be connected to a macro enabling calculation of values of assessed characteristics. In this case, the definition of a scoring rule consists of two steps:

- Creating scoring rules
- Using Macros

Creating Scoring Rules

To create a scoring rule:

1. See Accessing Assessment Templates.
2. Expand the tree and open the questionnaire template properties.
3. Click **New** to create a scoring rule.
4. Specify the **Name** of the scoring rule.
5. Select the ***characteristics*** of the object this rule applies to.
6. (optional) Select the ***questions*** to use in the computation.
7. Specify the ***logic*** of the scoring rule
   - **Answer value**
     This type of scoring rule avoids having to use a macro. It is a kind of generic macro which is used in simple cases.
   - **Macro**
     In the **Select a macro** field, connect the macro calculating the assessed characteristic value.

     ☛ *This field appears only if you selected "Macro".*

     ☛ *For more details on creation of macros defining scoring rules, see Using Macros.*

Using Macros

It is possible to calculate an assessed characteristic value via a macro.

☛ *For more information on how to use **Hopex** macros, see **All about starting with APIs**.*

Creating a macro

To create a macro:

1. Open the properties of the scoring rule.

2. Click the arrow on the extreme right of the **Select a macro** field and click **Create**.
   The macro creation wizard opens.
3. Select the check box corresponding to the type of macro you want to use:
   - **Create a (VB)script macro**
   - **Create a Java macro**
   - **Create a C# Macro**
   - **Use an existing macro**
   - **Create a component-based macro**
4. Click **Next**.
5. If the macro you have created can be reused for another scoring rule, select the **Reusable** box.
6. Click **OK**.

Implementing the macro

This macro should define a method called "compute" and have the following signature:

```
Sub compute(mgobjScoringRule As MegaObject,
mgobjValueContext As MegaObject, mgcolAnswers As
MegaCollection , mgobjAssessedValue As MegaObject)

End  Sub
```

List of arguments:

- mgobjScoringRule: current scoring rule.
- mgobjAssessedValue: assessed characteristic value to be computed.
- mgobjValueContext: assessment node of current assessed characteristic value.
- mgcolAnswers: list of answers used to compute the assessed characteristic value.

DEFINING AGGREGATION SCHEMAS

An aggregation schema is a series of steps enabling consolidation of assessment results according to specified assessment rules.

☛ *Two different aggregation schemas can give different global results from the same assessment.*

An aggregation schema can be applied before effective start of the session. It will be used in reports and dashboards.

Aggregation Schema Principle

After execution of an assessment session, the value of each assessed characteristic is calculated based on a scoring rule defined for the assessment template.

An aggregation schema enables calculation of the value of an assessed characteristic for a root object from calculated values for child objects.

Aggregation Schema Example

Let's take the example of assessment of the impact of risks connected to entities: impact value should be calculated for each assessment node.

The value of the "Impact" of the "Fraud" risk in the context of the "United States" entity is an example of an assessment node.

If the "United States" entity comprises several sub-entities (States or Cities), themselves exposed to the "Fraud" risk, each of these sub-entities is associated with an assessment node with its own impact value.

For example, you can calculate the impact value of the "Fraud" risk for the "United States" entity from assessed characteristics values for each sub-entity (State or City).

Creating an Aggregation Schema

An aggregation schema consists of a series of ***aggregation steps*** enabling consolidation results according to specified ***aggregation rules***.

To create an aggregation schema associated with an assessment template:

1. Accessing Assessment Templates.
2. Open the assessment template properties.
3. Select **Assessment Template Definition > Aggregation Schemas**.
4. Select the **Aggregation Schema** folder and click **New**.

5. Indicate the name of the schema and click **OK**.

A ***weighting factor*** can be defined in the aggregation schema.

Creating an aggregation including aggregation steps

To create an aggregation including aggregation rules:

1. In the properties of an assessment template, select **Assessment Template Definition > Aggregation Schemas**.
2. Expand the folder of the aggregation schema that interests you.
3. Right-click the **Aggregation** folder and select **New**.
4. Select the method for grouping results for this aggregation step.
   - By **substitution**: a set of assessment nodes is replaced by another set

     ☛ *Aggregation by substitution replaces Context objects by other objects.*
   - By **Reduction**: an assessment node is removed from the context collection.

     ☛ *Aggregation by reduction enables elimination of Context objects defined in the assessment session context collection.*
   - By **Distribution**: a set of nodes is redistributed on new nodes

     ☛ *Distribution enables redeployment of the values of another aggregation step on new contexts.*
   - By **Group of Aggregation Steps**: regroups several aggregation steps.
5. Click **Next**.
   You must now create an aggregation rule corresponding to the aggregation step.
6. In the **Aggregation Rule** section, click **New**.
7. Specify the **Aggregation Rule Type**.
   - MIN, MAX, SUM, Average
   - Macro

     ☛ *For more details, see Aggregation rule types.*
8. Select the **Characteristic** that carries the result of aggregation.
9. Connect the **Aggregated Characteristics** corresponding to potential assessed characteristics to which the aggregation step relates.
10. Click **OK**.

Aggregation rule types

In "Macro" type aggregation rules, the macro should have the following signature:

```
Sub aggregationRuleCompute(mgobjAggregationRule As
MegaObject,mgobjOutAssessedValue As MegaObject)

End  Sub
```

where:

- mgobjAggregationRule = the current aggregation
- mgobjAssessedValue: assessed characteristic value to be computed.

Skipping the creation of aggregation nodes

You may specify that the aggregation step should not generate aggregation nodes. This way aggregation computation is lighter and performance is improved. Skipping aggregation nodes may have an impact on the data used in reports.

To avoid generating aggregation steps:

1. In the properties of an assessment template, select **Assessment Template Definition > Aggregation Schemas**.
2. Expand the "Aggregation" folder.
3. Open the properties of the aggregation step of interest.
4. Select the **Skip node creation** check box.

DEFINING QUESTIONNAIRE TEMPLATES

- ✓ "Accessing Questionnaire Templates"
- ✓ "Creating Questionnaire Templates"
- ✓ "Configuring Questionnaire Templates"
- ✓ "Possible Questionnaire Presentations"
- ✓ "Question Types"
- ✓ "Configuring Questions"
- ✓ "Enriching Questions Visually"
- ✓ "Managing Conditions on Questions"
- ✓ "Defining Conditions at Questionnaire Level"
- ✓ "Defining Answer Computing Rules"
- ✓ "FAQs"

ACCESSING QUESTIONNAIRE TEMPLATES

Accessing Questionnaire Templates

To access questionnaire templates:

1. In the GRC solution navigation bar, select **Administration > Assessment > Assessment Templates**.
2. Open the properties of the assessment template of interest and select the **Questionnaire Template** page.

> ☛ *You may also expand the assessment template tree and select **Definition > Questionnaire Template**.*

Accessing a Questionnaire Template Properties

To view questionnaire template properties (before opening the editor):

1. See "Accessing Questionnaire Templates".
2. Hover over the questionnaire template and click the **Properties** icon that appears.

In the questionnaire template properties you can:

- specify whether the questionnaire can be ***delegated*** or not
- choose to display the assessed object ***diagram***
- specify the ***renderer***
  - standard
  - in the form of a table
  - in the form of a heatmap

> ☛ *See "Configuring Questionnaire Templates".*

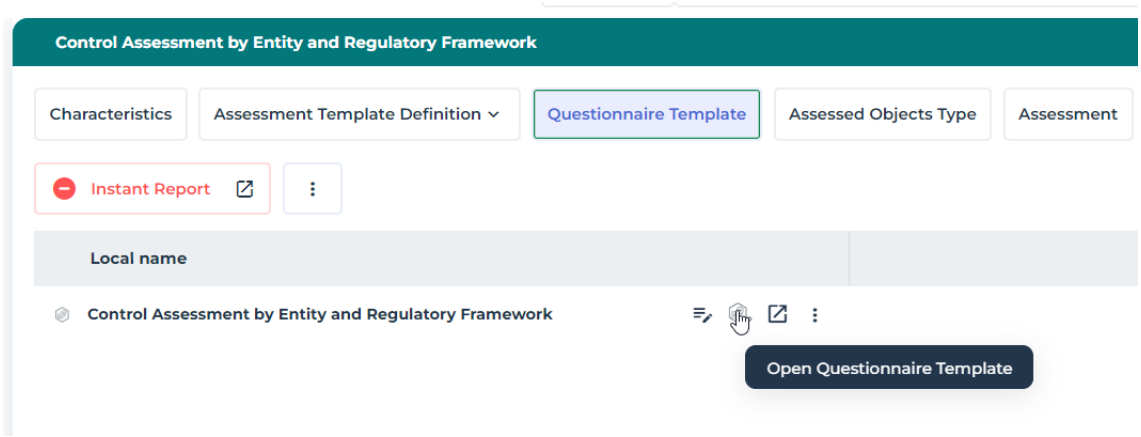
- define ***scoring rules*** (mechanism by which answers are used to automatically populate the assessed object characteristics)

Opening a Questionnaire Template

To open a questionnaire template:

1. See "Accessing Questionnaire Templates".

2. Hover over the questionnaire template and click the **Open Questionnaire Template** icon.



CREATING QUESTIONNAIRE TEMPLATES

To create a questionnaire template:

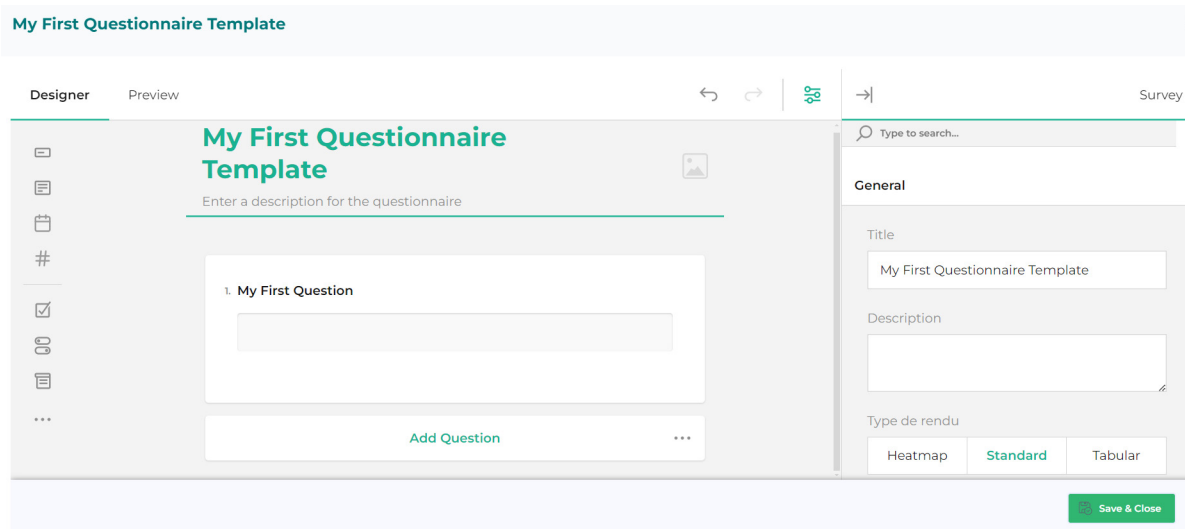
1. See "Accessing Questionnaire Templates".
2. Click **New**.

The workspace designed to create questionnaire templates opens.

Interface for Questionnaire Creation

The workspace consists of three parts, which can be collapsed.

- a left ***toolbox*** offers the different types of questions you can use in your questionnaire template.
- The central pane contains the inserted questions.
- The right pane enables you to access the properties:
  - of the whole questionnaire
  - of each question that has been dropped in the central pane.



Inserting Questions in a Questionnaire Template

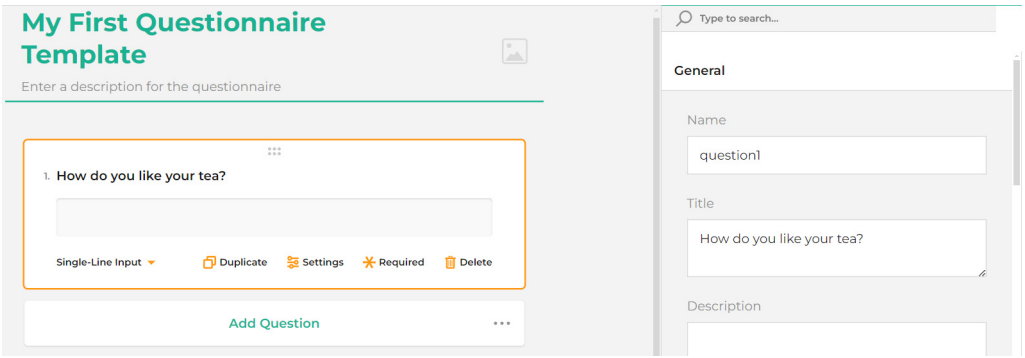
To insert questions into your questionnaire template:

1. In the left pane of the editor, select the a question type.

   For example: Click Comment to insert free text.

2. Click the question you have just created ("Question 1" by default) and enter text.

☛ *This is the title of your question. This is what appears to the users in the questionnaires received. The Name found in the properties of the question is a technical name that appears in the event no title has been entered.*



☛ *For more information about question properties, see "Configuring Questions".*

☛ *See also "Question Types".*

Previewing the Questionnaire Template

Once the questions have been inserted and/or configured, you may preview the questionnaire template.

To preview the questionnaire template:

❱ Click **Preview**.

CONFIGURING QUESTIONNAIRE TEMPLATES

Configuring Questions Layout

You may specify the layout of questions in the questionnaires to be sent. This is the questionnaire "renderer".

- standard
- in the form of a table
- in the form of a heatmap

☛ *See "Possible Questionnaire Presentations".*

Defining Questionnaire Properties

You may configure questionnaire properties from within the questionnaire editor. Those properties apply to all questions.

To specify the properties of a questionnaire:

1. Click the questionnaire title.
   Its characteristics appear in the right pane of the editor.

General properties

You can specify the following properties:

- **Title**
- **Description**
- **Rendering type**
  - standard
  - tabular
  - heatmap
- **Creation mode**
  This enables you to specify how the questionnaire template has to be handled in campaigns, that is to say whether you want to generate one questionnaire:
  - per person
  - per context
  - per assessed object

Question layout

The **Questions** section enables to globally define question layout in the questionnaire.

☛ *You can also modify the layout for each question. See "Modifying Question Layout".*

Title location

Enables to modify the location of the question title (together with its description) and place it:

- at the top
- at the bottom
- on the left

Question description location

Enables to modify the location of the description (only) and place it:

- at the bottom, after possible answers
- under the title

Show question numbers

- display
- hide

Question title pattern

You can specify the location of the "Required" symbol, if any.

For more information, see ""Required" symbols".



"Required" symbols

You can specify the "Required" symbol (by default: *)

This symbol is displayed at the question level when the question is declared mandatory.

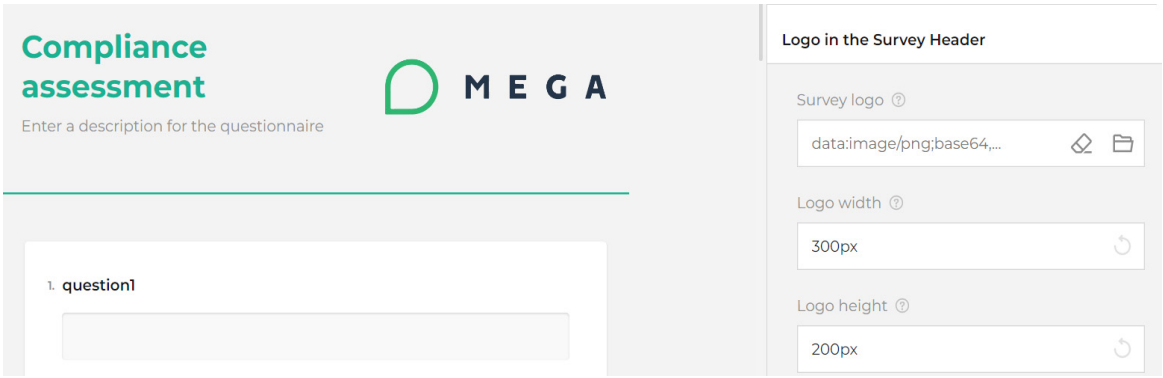
You can modify the location of the "Required" symbol (see "Question title pattern")

Question error location

- top
- bottom

Logo in the survey header

You may insert a logo in the title of the questionnaire:

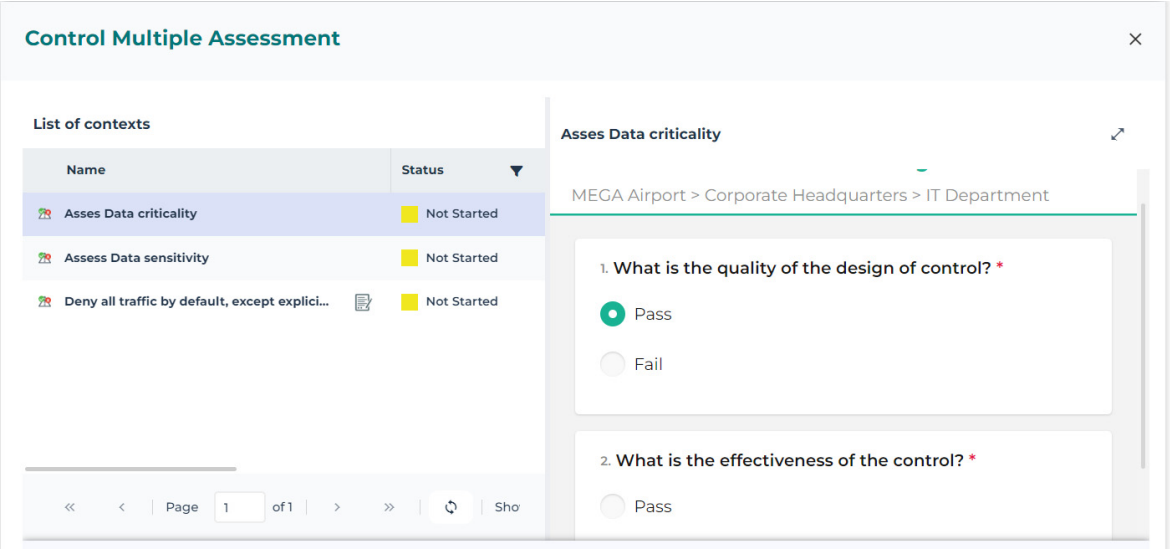


POSSIBLE QUESTIONNAIRE PRESENTATIONS

Presentation types

Here are the three types of questionnaire presentations:

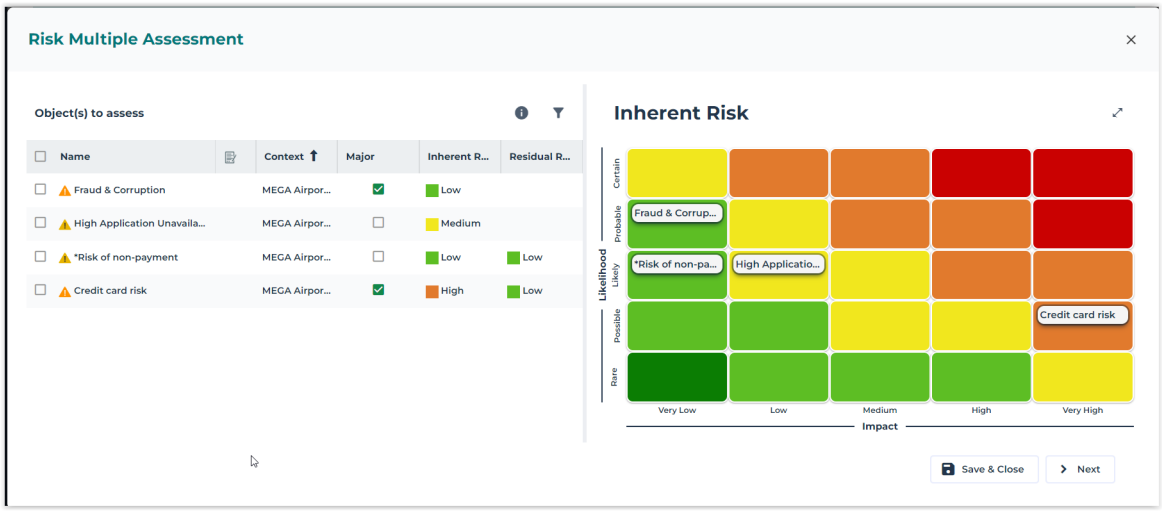
- ***Standard***: objects to be assessed are displayed on the left-hand side and questions on the right-hand side



- ***Tabular***



- interactive ***Heatmap***, which enables to:
  - avoid entering values manually
  - perform a graphical assessment



☛ *This presentation is available by default in **Hopex GRC** to assess risks.*

Specifying Questionnaire Presentation

To specify the questionnaire presentation:

1. See "Accessing a Questionnaire Template Properties".
2. In the **Questionnaire Renderer** field, select the needed value.

Using Heatmap Questionnaires

A Heatmap questionnaire template enables you to present the questionnaires sent in the form of a heatmap (and not in the form of questions in a list or table).

Use case

This type of questionnaire is used in **Hopex GRC** to assess risks (direct multiple assessment and questionnaire campaigns).

When you open the questionnaire, two heatmaps are consecutively displayed:

- 1st heatmap: inherent risk calculation (Impact * Likelihood)

  ☛ *The heatmap displays by default the results of the last assessment.*

- 2nd heatmap: residual risk calculation (Inherent Risk * Control Level)

  ☛ *The second heatmap is linked to the first one: one row only is active for each risk. This row depends on the location of the risk on the first heatmap.*

Prerequisites to heatmaps

Questionnaires in the form of heatmaps can be used in different contexts provided that:

- the questionnaire contains 3 questions, e.g.:
  - Impact
  - Likelihood
  - Control Level
- 2 values are computed, e.g.:
  - Inherent risk

    ☛ *This value is computed from the first 2 questions (Impact and Likelihood)*
  - Residual risk

    ☛ *This value is computed from the Inherent risk (calculated value) and the 3rd question (Control Level).*

Examples of assessment via Interactive Heatmap

Let's take the example of risk assessment within the framework of **Hopex GRC**.

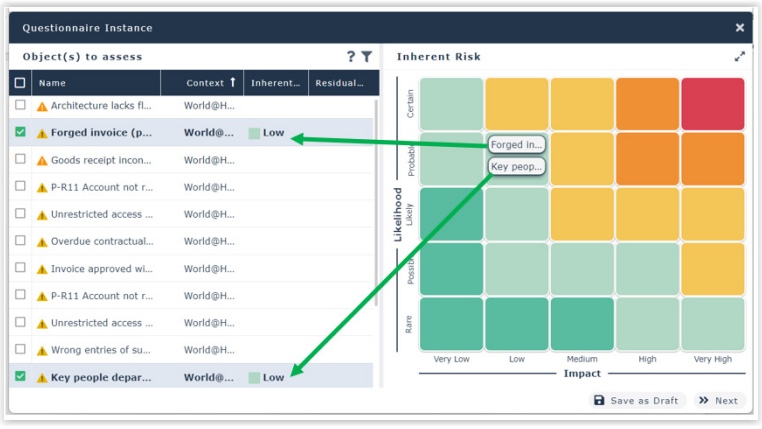
To assess risks in their context via the interactive heatmap:

1. Open the questionnaire from the e-mail you have received.

   ☛ *If you are already logged in, in the navigation bar click **Assessment > My Activities > Assessments > Questionnaires to be Answered**.*
2. Open the questionnaire to complete.
3. In the ***1st heatmap***, position the risks so as to specify:
   - the **Impact** (in columns)
   - the **Likelihood** (in rows)

   The cell color corresponds to the value of the calculated **Inherent Risk**. The inherent risk is displayed in the corresponding column.

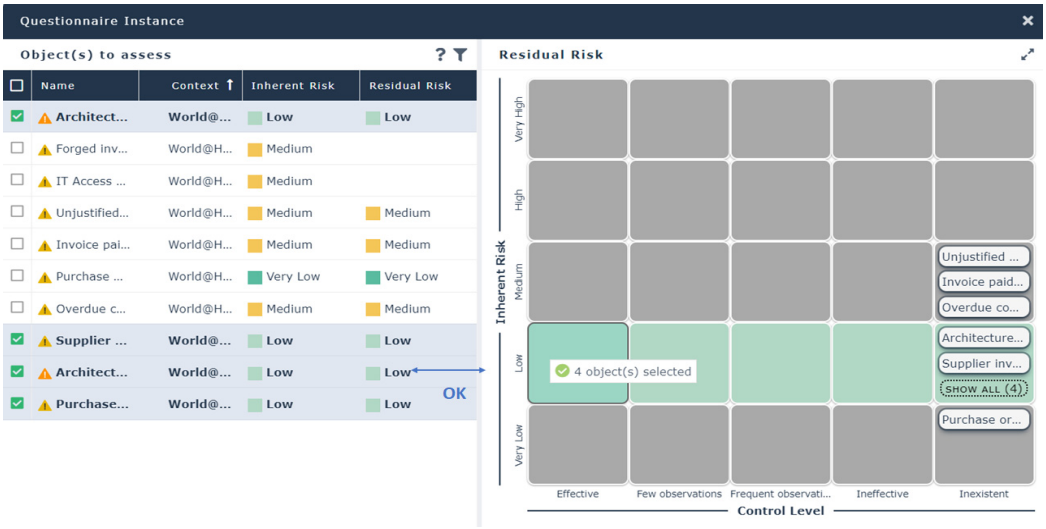
   ☛ *You may select several risks at the same time to position them in the same cell. This speeds up the assessment process.*



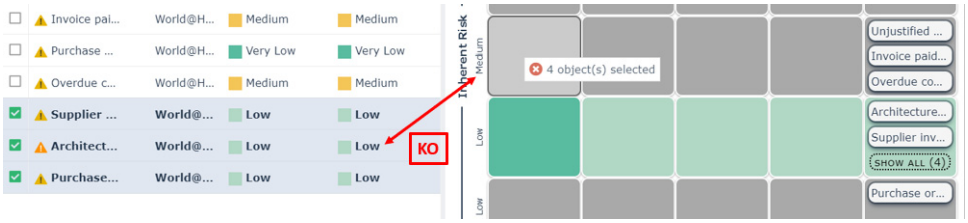
4. Make sure you have positioned all the risks and click **Next**.

   ☛ *To make sure you have positioned all the risks, you may use the **Inherent Risk** column and sort the risks. The risks for which the **Inherent Risk** column is not filled remain to be assessed.*

5. In the ***2nd heatmap***, position the risks so as to specify the **Control Level** (in columns). You are allowed to position the risks only in the row which corresponds to the previously calculated inherent risk.



Hopex does not allow to position the risks in a non-authorized row.



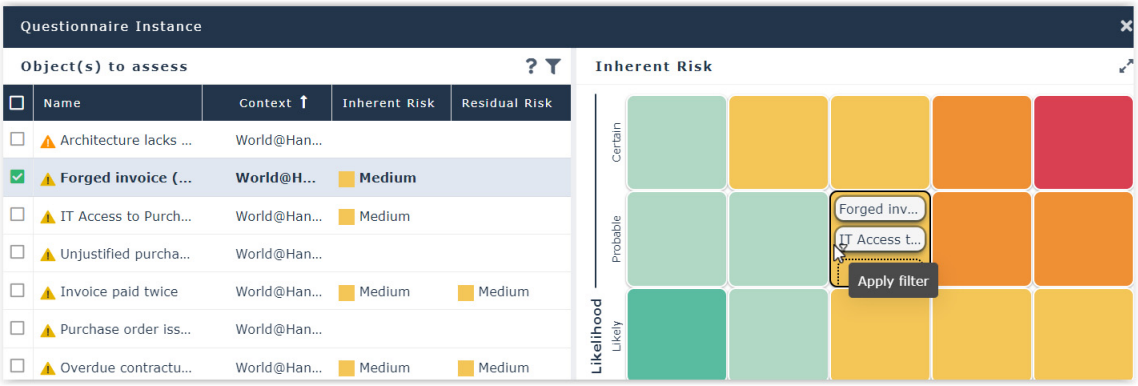
6. Click **Submit** to submit answers.

Filtering risks

You may apply a filter to display only part of the assessed risks in the list.

To display in the list the objects contained in a cell only:

- Hover the mouse over a cell and click when you see **Apply filter**.



Only the risks contained in the cell appear in the list (4 risks in our example):



☛ *In the heatmap the other risks turn semi-transparent.*

To delete the applied filter:

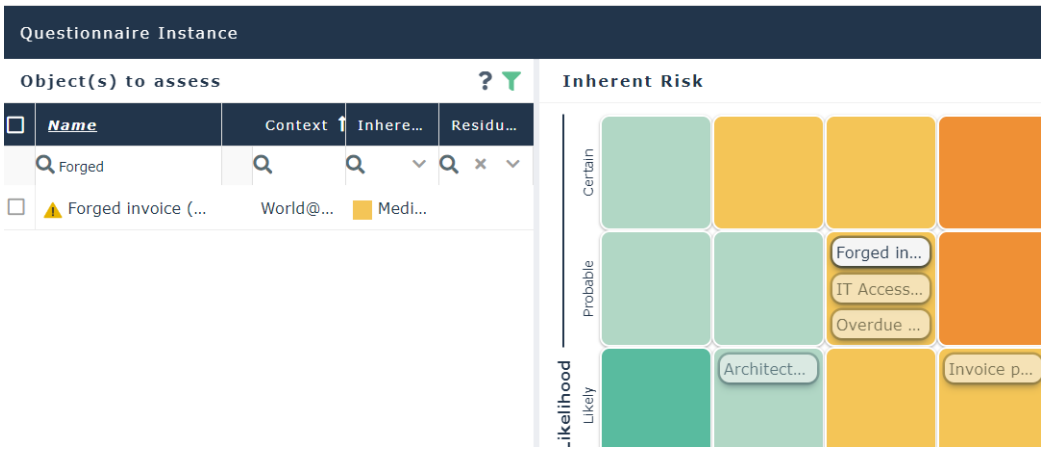
- In the list click **Hide filters**.



All the risks of the heatmap appear in the list.

To filter the objects of the list by name:

1. Click the **Apply filters** icon and enter part of the name of the risk.
2. Risks corresponding to the search are displayed in the list.
   Those that do not correspond to the search turn semi-transparent in the heatmap.

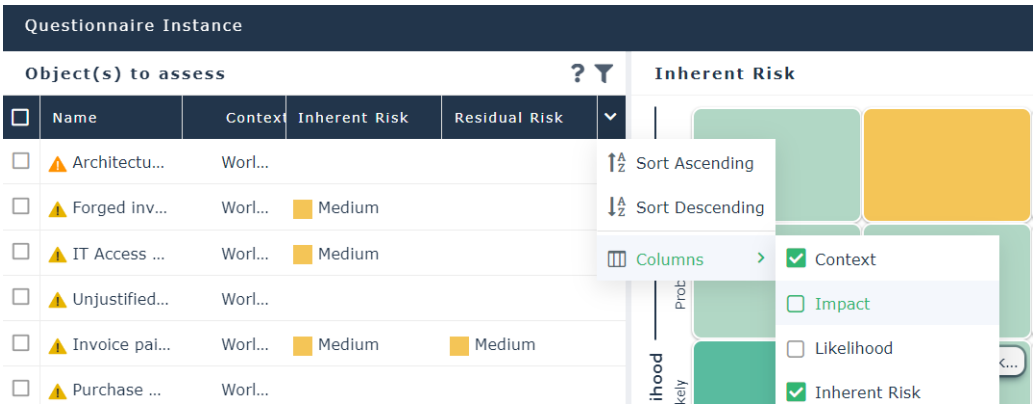


Using heatmap columns to assess risks

You may choose to assess risks via the columns of the list (and not via the cells of the heatmap).

To assess risks via the list:

1. Display the **Impact** and **Likelihood** columns.



☛ *These two columns are not displayed by default.*

2. Fill in the column values for each risk in its context.
   The inherent risk is calculated.

Displaying the heatmap in full screen

To display the heatmap in full screen:

❱ Click **Maximize** at the top right hand corner.



Sorting risks

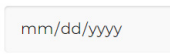
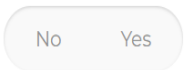
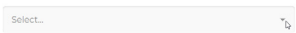
To sort risks in a list:

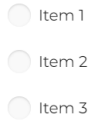
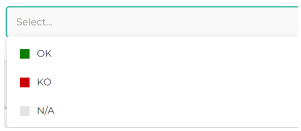
❱ Click the **Name** column.

The order in the list impacts the order of the risks in cells.

QUESTION TYPES

Summary of Question Types

Question Type	Description	
Single-line input	Input text question enabling to display: • Text • Date • Number	
Long text	Multi-line text box	
Date	Used to insert a date ☛ *You can also use the Short Answer question type to insert a date.*	
Number	Used to insert a number ☛ *You can also use the Short Answer question type to insert a number.*	
Check Box	Used for Multiple Choices	
Yes/No (boolean)	Boolean question	
Dropdown	Enables to select an answer from a predefined list.	

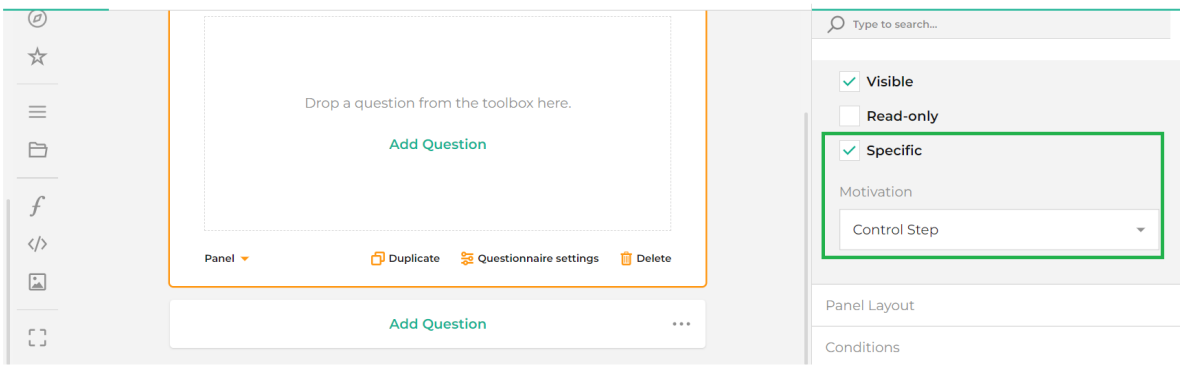
Question Type	Description	
Radio button group	Single Choice Question	
OK/KO	OK/KO/NA answers question type	
Rating scale	Enables to give a score It is possible to give a score via labels, stars or smileys.	
Object	Used to select a set of **HOPEX** objects in a drop-down list. See "Using Questions of "Object" Type".	
File Upload	Used to upload a file in the form of a business document. ☛ *The maximum file size for uploads is 99MB.*	
Expression (read only)	Enables to insert a computed expression (it is not a real question). See	

Question Type	Description	
HTML	Enables to insert HTML code (image, text or URL for example) ☛ *This type of answer does not require any answer. This is a feature that enables to enrich the questionnaire visually.*	
Image	Enables to insert an image in a questionnaire. ☛ *This type of answer does not require any answer. This is a feature that enables to enrich the questionnaire visually.*	
Panel	Container element. Can contain several questions.	

Using Questions of "Panel" Type

The Panel-type question is a question group. It enables you to:

- group questions together
  - ☛ *You may drag & drop questions from the tool box or drop existing questions.*
- create questions based on question motives that are specific to a trade (for example audit or testing).
  - ☛ *The "Motivation" list allows you to select the contexts of use of this panel, i.e. when questions specific to one of these types of objects must be inserted in the questionnaire (e.g. Control or test steps). The **Specific** check box must be selected.*



Using Calculated Expressions

Hopex enables to create expressions to calculated automatically an answer from other answers.

☛ *The answer obtained is in read-only mode.*

Examples of calculated expressions

1) You may compute the total cost by multiplying a unit cost by the quantity.

When assessing risks, you can compute and display the inherent (or gross) risk. To do so you need to take into account the user questions regarding impact and likelihood.

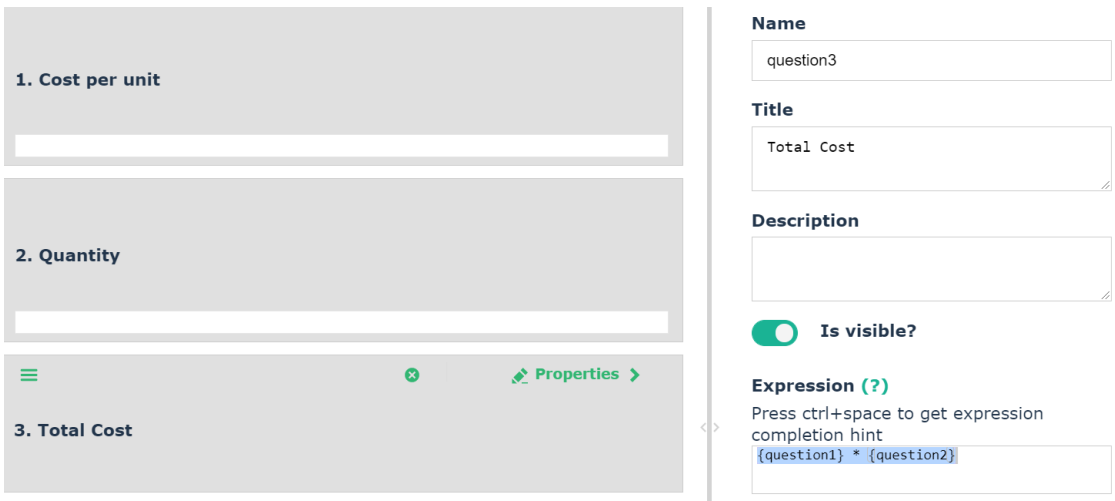
Creating a calculated expression

To create your expression:

- In the **Expression** field corresponding to the calculated answer, use curly brackets to access question values.

```
Example 1: {question1} * {question2}
Example 2: ({price}*{quantity}) * (100 - {discount}
```

☛ *You may use functions such as: if(), today(), age(), min(), max(), count(), avg().*



Managing digits after the decimal separator

If you use the "decimal" display style, you can define the number of digits you want to display after the decimal separator.

To do so, use the following fields:

- Display style (and specify ""Decimal"")
- Maximal fraction digits
- Minimum fraction digits

Using Questions of “Object” Type

You can create questions that allow to select **Hopex** objects from a drop-down list.

To do so, you must create a question of **Object** type.

You may modify the following parameters:

Object type

In the right pane of the questionnaire editor, select an object type from the list of assessable object types.

☛ *To add an object type to the default list, you may:*

- *connect the relevant MetaClass to the “Answered Element” MetaClass.*
- *regenerate the GraphQL Rest API schema applicable to assessments. For more information, see the video “Create custom schema”.*

Collection computing mode

If you selected an object type from the drop-down list, the collection computing mode must be positioned to “Object type”.

It is possible to select to other values:

- Macro
- GraphQL query

Authorize multiple selection

Enables to authorize object multiple selection from the drop-down list of “Object” type questions.

Authorize object creation

Enables to authorize object creation from a drop-down list when entering an answer to the question.

CONFIGURING QUESTIONS

To specify question properties:

1. Click the question title.
   Its characteristics appear in the right pane of the editor.

You can specify whether:

- the question is ***visible***.
  - ☛ *It may be useful to hide a question and display it only if a condition is met.*
- the question is ***required***
  - ☛ *For more information on the "Required" symbol, see "*"Required" symbols"*.*
- question ***delegation*** is permitted
- the question is in ***read-only*** mode (by default, questions of HTML, Image or Expression type are in read-only mode and do not offer this option).

From the question properties you may:

- define execution conditions: see "Managing Conditions on Questions"
- configure display: see "Enriching Questions Visually"

Displaying an Indicative Answer

You may enter an indicative answer (a **placeholder** to pre-fill the answer zone:



Defining a Default Value

Hopex Enables to define a default value at the question level.

Here, “Item 2” is selected by default when the respondent answers the questionnaire.



☛ *To display a default value depending on particular conditions, see "Defining Trigger Actions".*

ENRICHING QUESTIONS VISUALLY

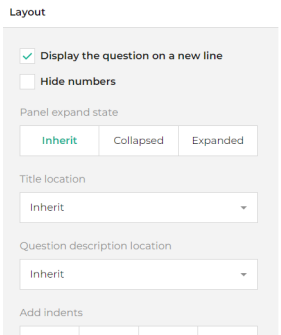
Modifying Question Layout

You can modify the global display of your questions. For more details on possible parameterizations, see "Question layout".

The **Layout** section on each question offers the following additional possibilities:

- display two questions on the same row: to do so, at the second question level, select the **Display the question on a new line** check box.
- **Hide the question number** displayed.
- specify:
  - **Question box collapse state**

    ☛ *Enables to specify whether the question is expanded or not by default.*
  - **Question title alignment**
  - **Question description alignment**
  - **Increase the inner indent**
  - **Inline question width**
  - **Minimal question width**
  - **Maximum question width**
  - **Input field width** (in characters)



Managing Questions of HTML or Image Type

Questions of Image or HTML types are not real questions and do not require an answer. They are read-only questions.

Creating a question of Image type

To add an image to your questionnaire:

1. Open the questionnaire template.
2. Add an “Image” type question.

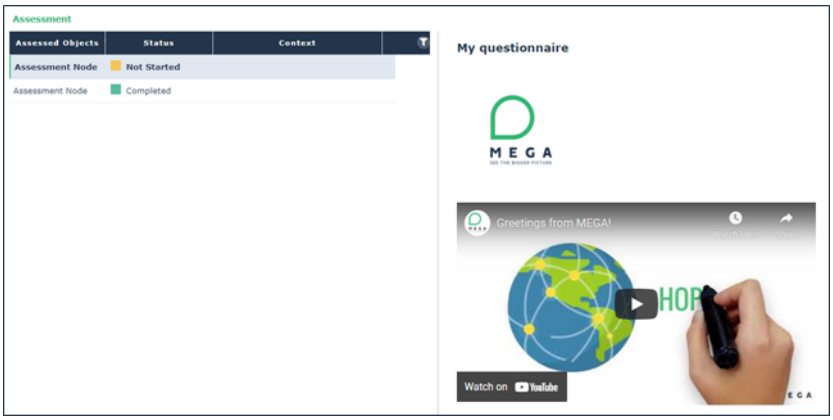
3. In the **Image Link** fields, enter a proper URL

☛ *See "Question Types".*

Creating a question of HTML type

You may, for example, use a question of HTML type to:

- insert an image
- insert a video.



Using Tooltips to Guide Respondents

Hopex enables to display tooltips to help respondents for each possible answer of the following question types:

- Drop-down
- Radio button group
- Checkboxes

To specify the content of a tooltip:

1. In the properties of the question, expand the **Choices** section.
2. In the row corresponding to the possible answer of interest, click the **Edit** button.
3. In the **Tooltip** field that appears, enter the text of the tooltip to display.

MANAGING CONDITIONS ON QUESTIONS

You may want to hide questions or make a question mandatory, which means you want to condition it.

```
You may for example hide a question while a user has not answered the
previous one.
```

☛ *Conditions are not taken into account when the rendering is tabular.*

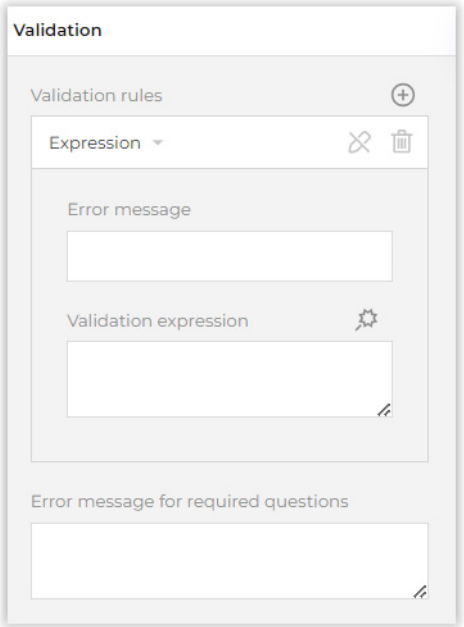
Defining a Condition on a Question

To condition a question:

1. Select the question.
2. Go to the **Conditions** section and complete relevant sections, for example **Make the question visible if**, which enables to create complex conditions to control question visibility.

Defining Validation Criteria

You may define validation expression to ensure that respondents follow a specific business logics.



You may:

- define a **Validation expression** (to specify a condition to be met) ( icon for edition)
- define a **Maximum Length** (for "single-line input" question types)
- enter an **Error message for required questions**

  You may for example specify that the respondent has the right to select up to two check boxes in his/her answer. If the user selected more, the text entered in Required Error Text is displayed.

DEFINING CONDITIONS AT QUESTIONNAIRE LEVEL

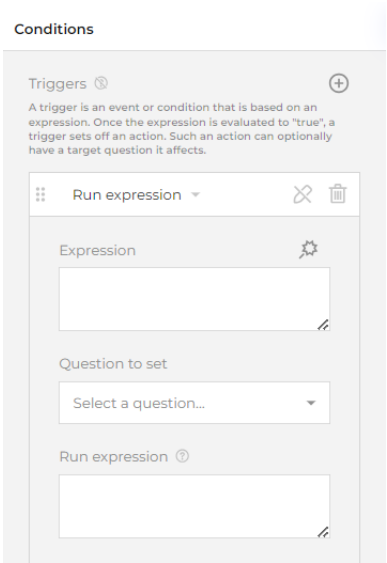
☛ *Conditions are not taken into account when the rendering is tabular.*

To define conditions at the questionnaire template level:

❱ Click the questionnaire title.

The **Conditions** section of the editor right pane enables you do define “triggers”.

🕮 *A trigger is a mechanism that enables you to define conditions and an action, which is triggered if the conditions have been met.*



A trigger consists of:

- conditions: "Defining Trigger Conditions"
- actions: "Defining Answer Computing Rules"

Defining Trigger Actions

An action is triggered if one or more conditions are met.

☛ *See also "Defining Trigger Conditions".*

You may specify the following actions:

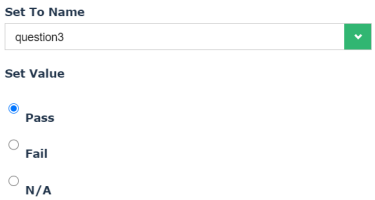
- "Set Value"
- "Copy Value"
- "Run expression"

Set Value

The “Set Value” trigger enables you to initialize an answer.

This way you can suggest a default answer. Yet, the respondent can modify this answer.

In the example below, the answer to Question 3 is by default “Pass”.

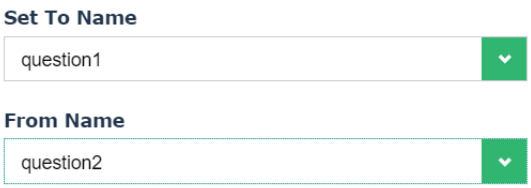


☛ *This feature enables to define a default answer depending on specific conditions. To define a default value (with no specific condition), see "Defining a Default Value".*

Copy Value

“Copy Value” enables to copy the answer to another answer.

In the example below, answer to Question 2 is used to fill in the answer to Question 1.

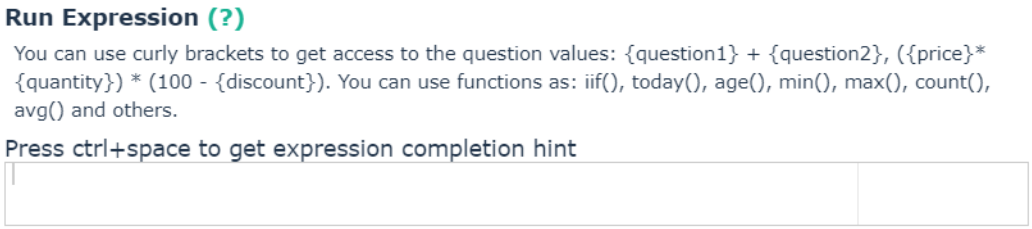


☛ *You can copy values only if source and target answers are compatible (for example, you cannot copy the answer of a short answer to a check box).*

Run expression

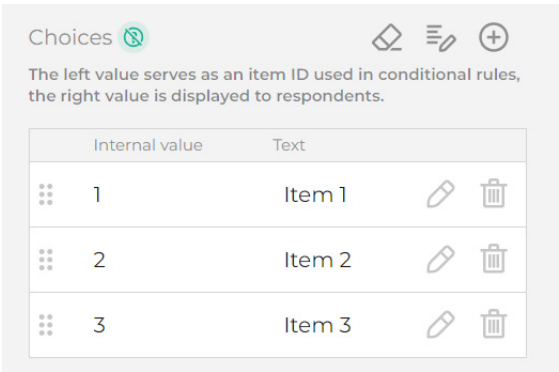
“Run expression” enables to automatically calculate an expression to display the result by default in an answer.

An expression uses possible answers internal values.



To be able to use a mathematical expression, you must:

- use a question type of the following type:
  - Yes/No (boolean)
  - Radio button group
  - Dropdown
- have integers as possible answers internal values



☛ *Questions of boolean type have the following internal values:*

- *0 = false*
- *1 = true*

In an expression, you may:

- combine text and values, for example:

```
'The result is' + ({question1} + {question2})
```

- use functions such as: if(), today(), age(), min(), max(), count(), avg() .

☛ *A "refresh" button next to the answer enables to recompute the value.*

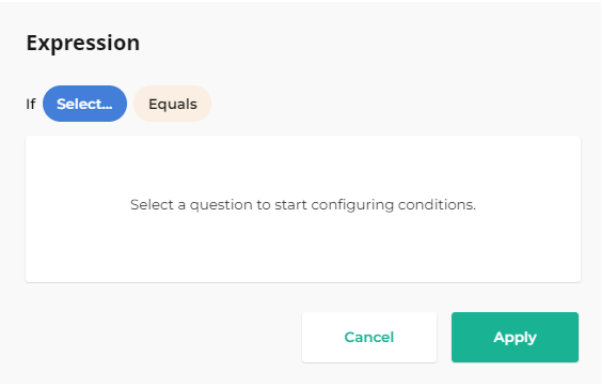
Defining Trigger Conditions

A condition defines the logics that determines whether an action should be triggered or not. This condition is assessed each time a respondent answers a question.

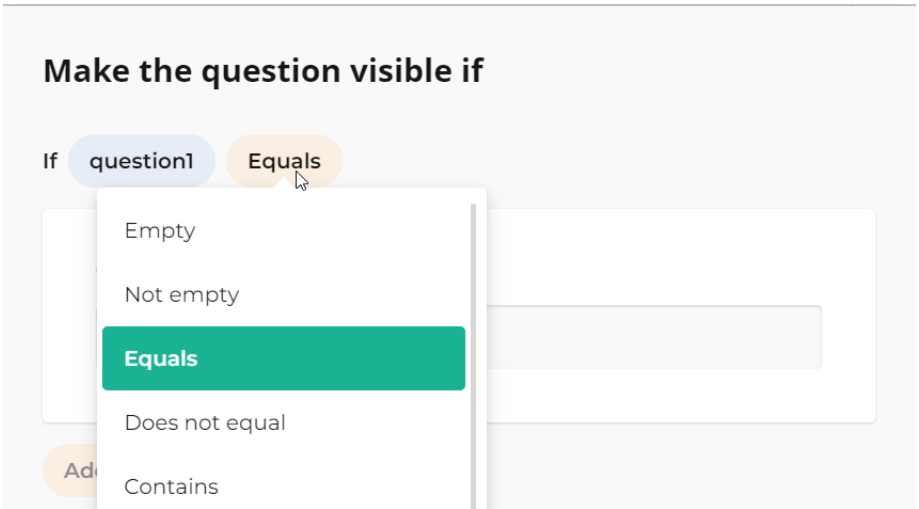
If the condition(s) is (are) met, the action is triggered. For more details on this action, see "Defining Answer Computing Rules".

Trigger conditions consist of expressions. **Hopex** enables you to define conditions:

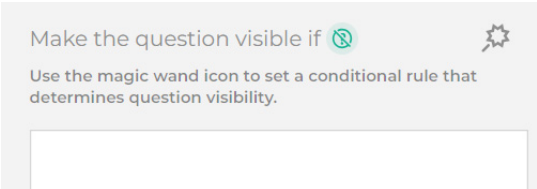
- through a user-friendly GUI (button).



☛ *Depending on the question type, different tests are offered (for example: equals, contains, less, greater):*



- via an expression editor



DEFINING ANSWER COMPUTING RULES

Scoring rules indicate how the answers to a questionnaire populate the characteristics of assessed objects.

A scoring rule enables to select:

- the characteristics the rule applies to
- the question(s) to use for computation
- a computation logic

A characteristic can be connected to several scoring rules.

Creating Scoring Rules

To create a scoring rule:

1. Open a questionnaire template properties.
2. Click **New** in the lower part of the page.
3. Select the ***characteristics*** of the object this rule applies to.
4. Select the ***question(s)*** to use in the computation.
5. Select the rule ***logic***. It can be of two types:
   - **Answer value**
     This logic avoids using a specific macro and can be used in simple cases.
   - **Macro**

☛ *For more information, see "Using Macros", page 773.*

Using Macros

It is possible to use a macro to compute the value of a characteristic.

☛ *For more details on macros, see **All about starting with APIs**.*

Creating a macro

To create a macro:

1. Open the properties of the scoring rule.
2. Click the arrow on the right and select **Create Macro**.
3. Select the Macro type you want to use:
4. Click **Next**.
5. If you want to reuse the macro in another scoring rule, click **Reusable**.
6. Click **OK**.

Examples of macros used in Hopex GRC

Hopex GRC uses the following macro by default: "Compute average among one or more answers"

Other macros are available:

Macro	Explanations
Compute average among one or more answers	This macro aggregates one or more answers of a given question, computing the average of the answer internal values. The result is used to obtain a unique answer, which is the one whose internal value is the closest to the computed average. In case of conflict, the algorithm returns the answer with the smallest internal value.
Compute max among one or more answers	This macro aggregates one or more answers of a given question, returning the answer with the biggest internal value.
Compute min among one or more answers	This macro aggregates one or more answers of a given question, returning the answer with the smallest internal value.
Control Level Scoring Rule	Macro used for questions related to control level
OK/KO Scoring Rule	Macro used for questions of "OK/KO" type.

FAQs

How to display diagrams in a questionnaire?

You can allow respondents to view diagrams when answering questions related to objects described in those diagrams.

To display diagrams in a questionnaire:

1. See "Accessing a Questionnaire Template Properties".
2. Select the **Display diagrams of assessed objects** check box.

How to delegate part of questionnaire or the whole questionnaire?

You can delegate a whole questionnaire or some of the questions only.

To delegate a whole questionnaire:

1. See "Accessing a Questionnaire Template Properties".
2. Select the **Can be delegated** check box.

To delegate a question:

1. See "Opening a Questionnaire Template".
2. In the right panel dedicated to properties, use the drop-down list to select a question.
3. Activate the option **Authorize delegation**?

How to modify the global presentation of a questionnaire?

To modify the global presentation of a questionnaire:

1. See "Accessing a Questionnaire Template Properties".
2. In the **Questionnaire renderer** field, select:
   - standard
   - tabular
   - heatmap

MANAGING ASSESSMENT CAMPAIGNS

Hopex enables you to assess objects through assessment campaigns.

- ✓ Introduction to Assessment by Campaign
- ✓ Accessing Assessment Templates
- ✓ Creating Assessment Campaigns
- ✓ Creating an Assessment Session Manually
- ✓ Following up Assessment Progress
- ✓ Generic Assessment Workflows

☛ *You can also directly assess objects without using questionnaires. This is direct assessment.*

INTRODUCTION TO ASSESSMENT BY CAMPAIGN

Hopex enables assessments using standard questionnaires. Assessment questionnaires are sent by electronic mail to the appropriate addressees using customizable deployment modes.

What is assessment?

Assessment is a mechanism enabling sending of questionnaires to an identified population to obtain assessments (qualitative or quantitative) on identified objects. The assessment is then supplemented by results analysis tools.

Assessment sessions and campaigns

An assessment is based on concepts:

- assessment sessions

  📖 *An assessment session is an assessment carried out over a determined time period. When an assessment session is published, an assessment form containing questions is sent to targeted users.*

- assessment campaigns

  📖 *An assessment campaign enables creation and planning of several assessment sessions over a given time period.*

An assessment session is defined by its ***scope*** and a ***questionnaire template.***

📖 *The scope of an assessment session is defined by the objects to be assessed, the context of the assessment, and the list of respondents.*

Questionnaire templates and questionnaires

Assessment ***questionnaires*** are sent to appropriate ***respondents*** .

📖 *An assessment questionnaire is a list of questions relating to a particular object and addressed to users.*

📖 *A respondent is a person in the enterprise questioned in the context of the assessment. This person should complete the assessment questionnaire and return it.*

Questionnaires of an assessment session are defined in a ***questionnaire template*** , which is defined:

- directly in the assessment session:
- in an ***assessment template***.

📖 *An assessment template is used as a model for creating campaigns and assessment sessions. The assessment template defines the assessment scope, the questionnaire template to be used, and if required, the aggregation schemas to be applied for interpretation of global results.*

Scoring rules

Assessment session unitary results are calculated from respondent answers according to ***Scoring Rules*** defined for the session.

> 🕮 *Scoring rules indicate how the answers to a questionnaire populate the characteristics of assessed objects.*

Aggregation schemas

Assessment results are consolidated according to one or several ***aggregation schemas***.

> 🕮 *An aggregation schema is a series of steps enabling consolidation of assessment results according to specified assessment rules.*

ACCESSING ASSESSMENT TEMPLATES

☛ *An assessment template is used as a model for creating campaigns and assessment sessions. The assessment template defines the assessment scope, the questionnaire template to be used, and if required, the aggregation schemas to be applied for interpretation of global results.*

☛ *For more details on assessment template customization, see **HOPEX Customization Desktop - Assessment**: **Assessment Templates**.*

To access assessment templates:

1. In the navigation bar, click **Administration > Assessment > Assessment Templates**.

   ☛ *The menu may vary depending on the solution used.*

The assessment templates use:

- assessed characteristics

  📖 *An assessed characteristic defines what the assessment seeks to assess. It can be associated with a MetaClass, and more specifically with one of its MetaAttributes, for example: Risk MetaClass, MetaAttribute: Criticality.*

- a questionnaire template

  📖 *A questionnaire template represents definition of questionnaire content.*

From this menu, you can also list the assessed characteristics.

CREATING ASSESSMENT CAMPAIGNS

You can create an assessment campaign:

- ***From a template***
  The creation of a campaign from a template enables to reuse the same template on all assessment sessions.
- ***without a template***
  In the case of creation of a campaign without using a template, a template can be specified at the time of creation of each session. See Assessment session creation mode.

To create a control or risk assessment campaign ***from a template***:

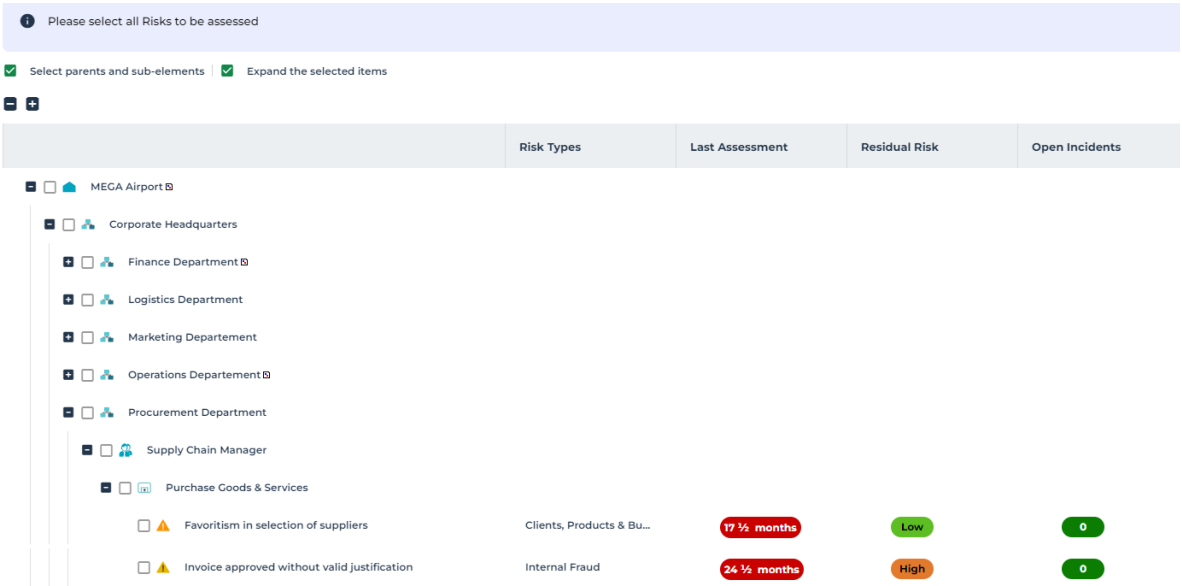
1. In the navigation bar, click **Assessment > Campaigns**.

   ☛ *Access to assessment campaigns may vary depending on the solution used.*
2. Click **New**.
   The campaign creation page appears.
3. Enter the name of the campaign.
4. Select the **Assessment Template**.

   ☛ *See Accessing Assessment Templates.*
5. Modify the **Calendar** if required.

   ☛ *The calendar serves to initialize the begin and end dates of the evaluation campaign.*
6. Specify the **Begin Date** and the **End Date**.
7. Click **Next**.

8. In the **Scope Selection** window, select the objects that define the evaluation context.
   The tree allows you to select controls or risks assessed ***in their context***.
   A control or risk is assessed in the context of the elements of the branch that extends from the object in question up to the root.



☛ *If you deselect a node of a branch, only the child elements of this branch are deselected.*

9. Click **Next**.
   A summary page enables to view:
   - ***assessed characteristics*** (defined in the assessment template)
   - assessed ***objects*** (risks or controls)
   - ***context objects*** (entities, processes, etc.)
   - ***assessment nodes***, which correspond to objects placed in their context objects, associated with respondents.
   - ***respondents***
10. Click **OK**.

Next step: Creating an Assessment Session Manually.

CREATING AN ASSESSMENT SESSION MANUALLY

Previous step: Creating Assessment Campaigns

You need to create one or several assessment session(s) manually:

- if you chose not to base your assessment campaign on an assessment template.
- If you selected the scheduling option "Not now" when creating an assessment campaign.

Assessment session creation mode

To create an assessment session:

1. Open the properties of the campaign and select the **Sessions** page.
2. Click **New** then **Next**.
   The session creation wizard opens.

From a campaign with template

Within the context of a campaign with a template, the session characteristics are automatically inherited from the template defined on the assessment campaign.

To create a session as part of a campaign with a template:

1. In the session creation wizard, enter the session name.
2. Specify when to start the evaluation session. See Session start options.
3. Click **OK**.

From an existing assessment template

If you haven't defined a template on the campaign, you can define the session **from an existing template**: All the information characterizing the session is described in the template.

To apply a model to the session:

1. In the session creation wizard, select the **Assessment** template you want to use for the session.
2. Specify assessment session dates:
   - **Assessment Planned Begin Date** is fixed at today's date
   - **Assessment Planned End Date**.
3. Select the **Questionnaire Template**.
4. Click **Next**.
5. Select the **Perimeter** that corresponds to the object from which the object list to be assessed will be established.
6. Click **Next**.
   A summary report for the session is presented for information.
7. Click **Next**.
8. Specify when to start the session. See Session start options.
9. Click **OK**.

Session start options

You have several possibilities to start a session:

- **Not now**
- **Immediately**
  If you choose this option, you will be able to see the assessment session being launched.
- **Specific Time and Date**: later, specifying the date and time in UTC format

FOLLOWING UP ASSESSMENT PROGRESS

☛ *Questionnaire access may depend on the solution you actually use.*

Validating Assessment Questionnaires

To access the list of assessment questionnaires completed by respondents:

1. In the navigation bar, click **Assessment > My Activities> Questionnaires To Be Validated**.

   ☛ *Questionnaire access may depend on the solution you actually use.*

   Note that workflow status has passed to "To Be Validated".
2. Select the questionnaire that interests you and click **Display Questionnaires**.
   The content of the questionnaire appears and you can view answers.
3. Close the questionnaire display window.
4. If you consider that the questionnaire has been correctly completed, click its icon and select **Assessment Questionnaire (To Be Validated) > Validate**.
   The questionnaire is closed and results are automatically calculated.

Asking a respondent to modify answers

If answers to a questionnaire are not suitable, you can ask the respondent to modify these.

To make a modification request:

1. In the navigation bar, click **Assessment > My Activities> Questionnaires To Be Validated**.

   ☛ *Questionnaire access may depend on the solution you actually use.*
2. Click the icon of a questionnaire and select **Assessment Questionnaire (To Be Validated) > Ask For Modification**.

   ☛ *The respondent can modify his/her answers. See Following up Assessment Progress.*

Reassigning Questionnaires

If a respondent has made a transfer request, you must reassign the questionnaire.

To reassign a questionnaire:

1. In the navigation bar, click **Assessment > My Activities> Questionnaires to be Reassigned**.

2. Open the properties dialog box of the questionnaire concerned and select the **Reassignment** tab.

   ☛ *This tab only appears when the questionnaire has "To Reassign" status.*

3. Select all nodes to be assessed and click the **Reassign** button.
4. Using the search page that opens, select a questionnaire and click **OK**.

   ☛ *If person assignments have been specified (for example, the questionnaire should be sent to a person in the context of a business role in particular), you can reassign the questionnaire in the section provided for this purpose.*

   The new respondent appears in the **Correspondent** column.
5. Select the icon of the questionnaire and select **Assessment Questionnaire (To be Reassigned) > Reassign**.

The new respondent receives an e-mail. He/she can complete the questionnaire, status of which is again "In Progress", then submit answers.

Following up Session Progress

To consult progress of an assessment session:

❱ Open the page properties of the assessment session and select the **Reporting** page.
You can access these two reports:

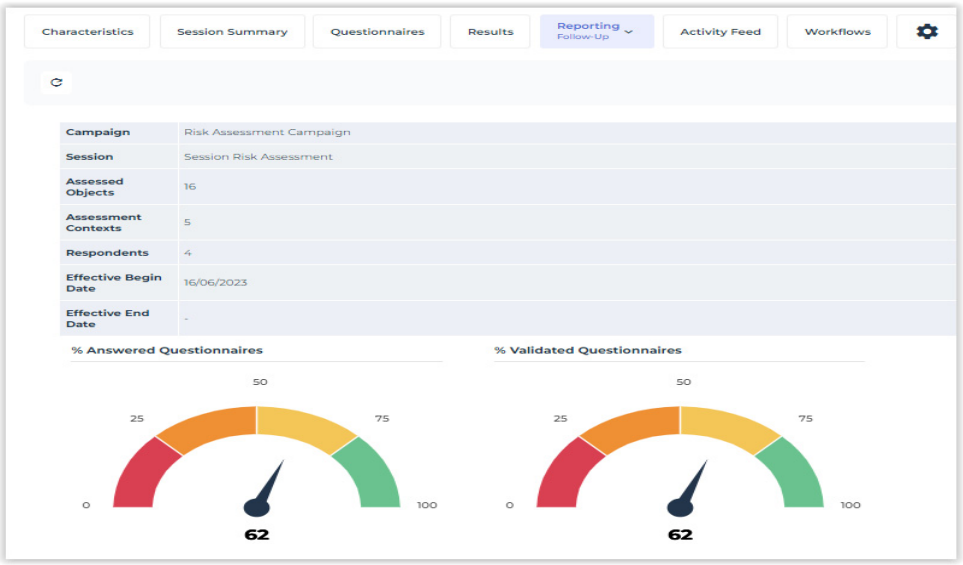
- Session **Follow-up**
- Session **Statistics**

Session follow-up

This report presents an overview of your assessment session.

It contains gauges that display:

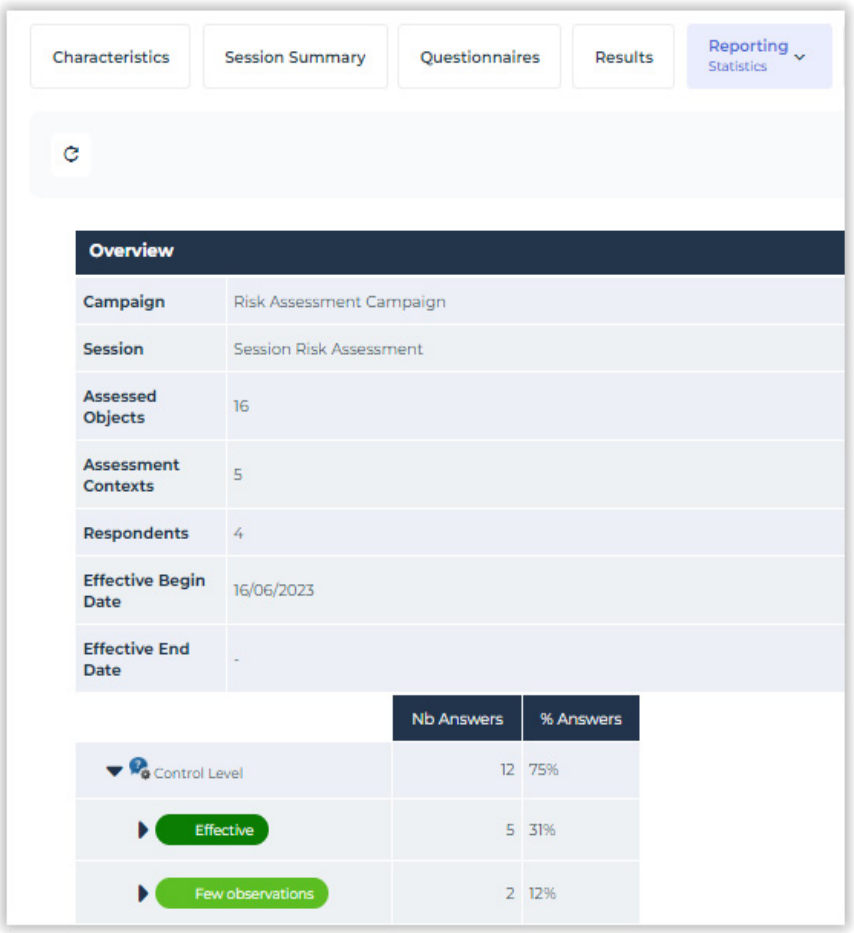
- the % of completed questionnaires
- the % of validated questionnaires
- questionnaires by status



Session statistics

The session statistics report displays:

- the number of assessed objects, contexts and respondents
- for each session, the number of answers and the percentage



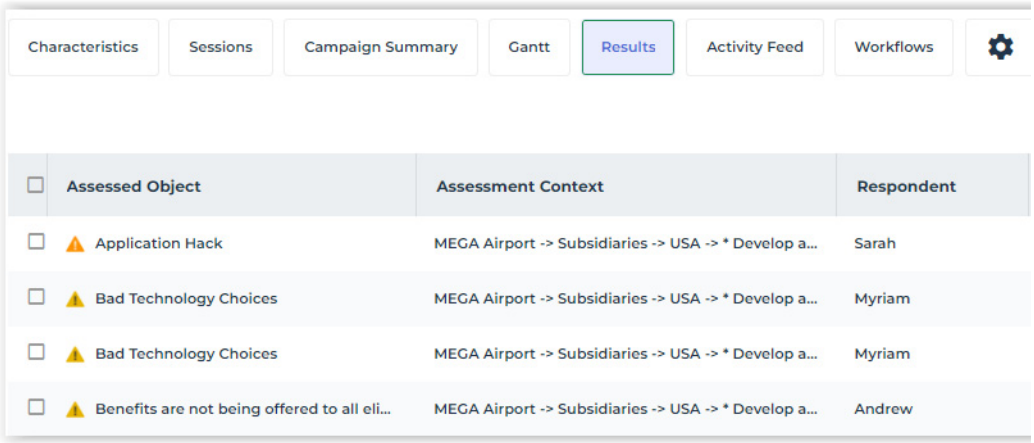
Viewing Session Results

To view the results of an assessment session:

1. Open the properties of an assessment session and select the **Results** page.

In this page, all the session assessment nodes are listed. The following information is given for each of them:

- **Assessed object**
- **Assessment context**
- **Respondent**
- **Answer Date**



☛ *The functional administrator has the appropriate rights to delete theses elements.*

To view the properties of an assessed object:

1. Open the properties of an assessment session and select **Results**.
2. Select an assessment node from the list and click the **Properties** button.

To view the answers related to a particular object:

1. Open the properties of an assessment session and select **Results**.
2. Select an assessment node from the list and click **Display Questionnaires**.

Closing the Assessment Session

You can close the session at any time.

To close an assessment session:

1. Open the properties page of the campaign and select the **Session** page.
2. In the **Assessment Session** section, right-click the session that interests you and select **Close**.
   All questionnaires are automatically closed. This operation can take several minutes.

   ☛ *Results are valid only if the session is closed.*

Viewing Assessment Campaign Results

To view the results (answers) of an assessment campaign:

- Open the properties of an assessment campaign and select the **Results** page.

In this page, all the campaign assessment nodes are listed. The following information is given for each of them:

- Assessed object
- Assessment context
- Respondent
- Answer Date

> ☛ *The functional administrator has the appropriate rights to delete theses elements.*

To view an assessed object properties:

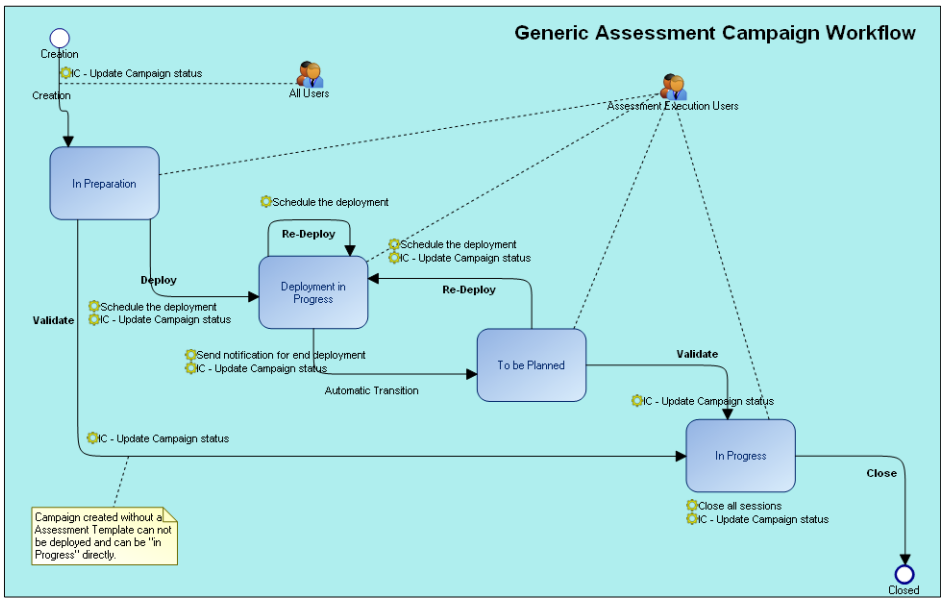
- Select an assessment node from the list and click the **Properties** button that appears.

To view answers to questions related to an assessed object:

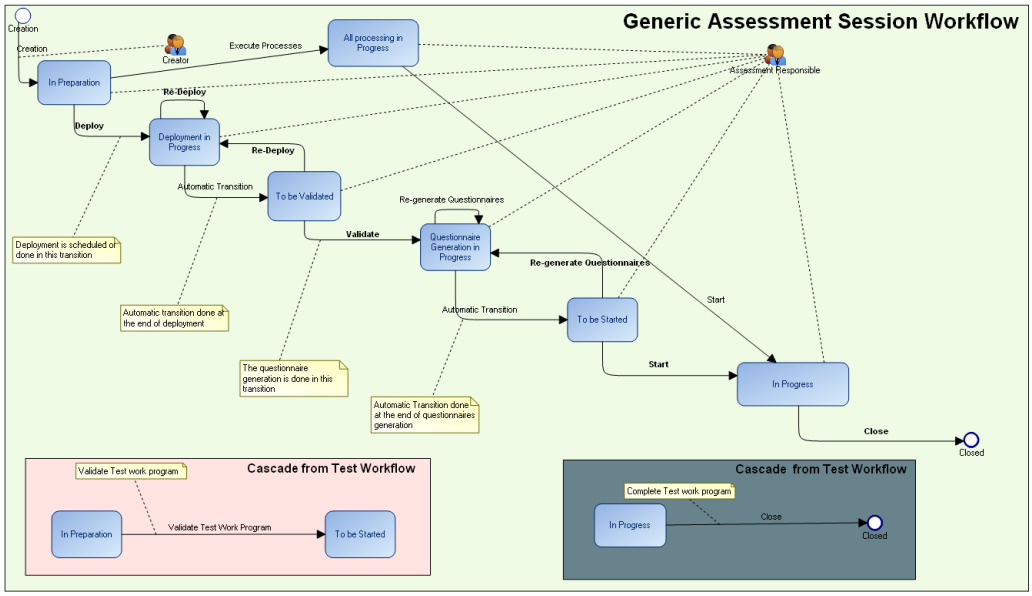
- Select an assessment node from the list and click **Display questionnaires**.

GENERIC ASSESSMENT WORKFLOWS

Assessment Campaign Workflow

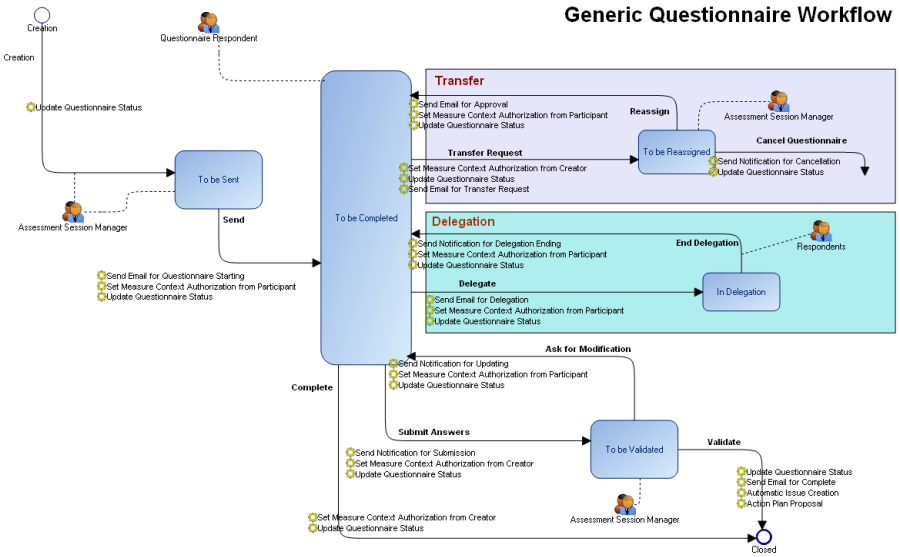


Assessment Session Workflow



☛ ***Deploy + Validate + Start*** *are triggered automatically if you choose to launch the session immediately.*

Questionnaire Workflow





Other Features

ENTERPRISE ARCHITECTURE (EA) PROJECTS IN HOPEX

Hopex is used to define an enterprise architecture project.

> 🕮 *An EA project consists of a set of tasks entrusted to a team, which transforms a system or part of a system with the aim of achieving a given objective.*
>
> ☛ *The EA project is to be distinguished from the enterprise project, which has a wider scope. For more details on enterprise projects, see Defining Enterprise Projects.*

Accessing Enterprise Architecture (EA) projects

An option is used to display the repository EA projects.

To activate this option:

1. Access the **Options**.
2. In the Options tree, select **HOPEX Solutions > Business Process Analysis**.
3. Select the **Activate the menu "Implementation Projects" (Hopex V3.2 and lower)** option.

To access the repository EA projects list with the **Hopex IT Business Management** Solution, for example:

- From the **Governance** navigation menu, select **EA Projects**. The list of EA projects is accessible.

Creating EA Projects

To create an EA project:

1. See Accessing Enterprise Architecture (EA) projects.
2. Click **New**.
   The **Create an EA Project** dialog box appears.

3. Enter the **Name** of the project.
4. Click **OK**.
   The project is created and added to the list of projects in the menu tree.

Describing an Enterprise Architecture (EA) Project

EA Project Characteristics

To specify the characteristics of an EA project:

1. See Accessing Enterprise Architecture (EA) projects.
2. Open the **Characteristics** page.
3. You can update:
   - The project **Name**
   - The **Workload** necessary for execution of the project and its **Progress Percentage**.
   - the **Begin Date** and the **End Date** of the project.

(EA) Project Structure

From **Structure** the property page of a (EA) Project, you can:

- Connecting your current project to another EA Project,
- Creating EA Sub- Projects.

EA Project Objectives and Requirements

Defining the Objectives and Requirements of a (EA) Project

Project objectives are specific to a project, for example: "Project duration must not exceed six months" or "The project must implement an Agile method".

> 🕮 *An objective is a goal that a company or organization wants to achieve, or is the target set by a process or an operation. An objective allows you to highlight the features in a process or operation that require improvement.*
>
> ☛ *For more details on the use of project objectives and requirements, see report Objectives and Requirements.*

Project requirements are the constraints imposed, for example: "Project must be executed using new version of Visual Studio" or "Project must be executed without intervention of external".

> 🕮 *A requirement is a need or expectation explicitly expressed, imposed as a constraint to be met within the context of a project. This project can be a certification project or an organizational project or an information system project.*

The objectives and requirements assigned to a (EA) project are distinct from objectives and requirements assigned to capabilities, processes and applications handled by the project

To specify objectives and requirements assigned to an EA project:

1. Ensure that the **Objectives and requirements modeling** option is selected.

   ☛ *You can access this via: **Main menu > Settings > Options > HOPEX Solutions > Common Features**.*

2. Open the **Objectives & Requirements > Objectives & Requirements** of the EA project you are interested in.
3. An objectives and requirements tree displays.
4. For example, use the **Assigned objectived** and **Mandatory requirements** files to fill out the elements of interest to you.

Creating an Objective and Requirement Diagram

To create a project objective and requirement diagram:

1. Open the **Diagrams** property page of the EA project you are interested in.
2. Select **Objectives and Requirements Diagram**.
   The diagram opens in the edit area.

The object types available by default in an objectives and requirements diagram are: Issue, EA Project, Indicators, Objective and Requirement.

OBJECTIVES AND REQUIREMENTS

Hopex is used to define objectives for each enterprise architecture or modeling project. Indicators grouped in a dashboard enable evaluation of the extent to which these objectives are achieved. Project requirements can also be specified.

☛ *To access the objectives and requirements features, you must ensure that the **Objectives and requirements modeling** option is selected (**Options > HOPEX Solutions > Common Features**).*

✓ Objectives, Indicators and Requirements

✓ Cause-and-Effect Diagram

OBJECTIVES, INDICATORS AND REQUIREMENTS

Reminder: Objective, Indicator and Requirement

An objective is a goal that a company or organization wants to achieve, or is the target set by a process or an operation. An objective allows you to highlight the features in a process or operation that require improvement.

> ☛ *The objective is to be distinguished from the enterprise object, which is a quantifiable result that a company or organization wishes to achieve for a given enterprise phase.*

An indicator is a measure of achievement of an objective, impact of a risk factor, frequency and impact of a risk, effectiveness of a control, etc.

A requirement is a need or expectation explicitly expressed, imposed as a constraint to be met within the context of a project. This project can be a certification project or an organizational project or an information system project.

Objectives

> 🕮 *An objective is a goal that a company or organization wants to achieve, or is the target set by a process or an operation. An objective allows you to highlight the features in a process or operation that require improvement.*

An objective can be quantitative (directly measurable), or it can be qualitative.

- Reduce order delivery time (quantitative objective)
- Improve product quality (qualitative objective)
- Improve customer satisfaction (qualitative objective)

To specify the objective(s) of the **EA project**:

> 🕮 *An EA project consists of a set of tasks entrusted to a team, which transforms a system or part of a system with the aim of achieving a given objective.*
>
> ☛ *For more details about EA projects, see Enterprise Architecture (EA) projects in Hopex.*

1. In the project properties window, click the **Objectives and Requirements** tab and select the **Objectives and Requirements** sub-tab.
   You can define:
   - **Achieved Objective**: objective(s) achieved by the project, without necessarily having been initially assigned. Can be owned by another object, for example a process improvement objective.
   - **Assigned Objective**: objective to which the project must respond, specific to the project.

Indicators

☛ *An indicator is a measure of achievement of an objective, impact of a risk factor, frequency and impact of a risk, effectiveness of a control, etc.*

For the quantitative objectives, the indicator(s) are generally easy to find.

To assess to what extent qualitative objectives are achieved, specific indicators may need to be created.

Indicators are used to ensure that the solution proposed meets set objectives and is viable in the long term.

Examples of indicators

Objective	Type	Indicators
Reduce order delivery time	Quantitative	Order delivery time
Improve quality of the product	Qualitative	Number of anomalies indicated by customers
Improve customer satisfaction	Qualitative	Percentage renewal of maintenance associated with products Return rate of products on loan

Accessing indicators

☛ *To display the indicators in an objective property page: open the **Hopex** options window, select the **HOPEX Solutions > Common Features** folder, to the right of the window, select **Supervision** and **Objectives and requirements modeling**.*

To access the indicators associated with an objective:

- Open the **Indicators** property page of the objective.

Requirements

☛ *A requirement is a need or expectation explicitly expressed, imposed as a constraint to be met within the context of a project. This project can be a certification project or an organizational project or an information system project.*

Requirement management is the set of activities enabling confirmation that the specifications and therefore the requirements of the client are satisfied.

Requirements are constraints that significantly influence the EA project. Any solution proposed to achieve the objective must satisfy the imposed requirements.

Creating a requirement from an EA project

To create a requirement:

1. Open the **Objectives & Requirements > Objectives & Requirements** of an EA project.
2. Right-click the **Imposed requirement** folder and select **New**.
3. In the creation of requirement dialog box, enter the name of the requirement and click **OK**.

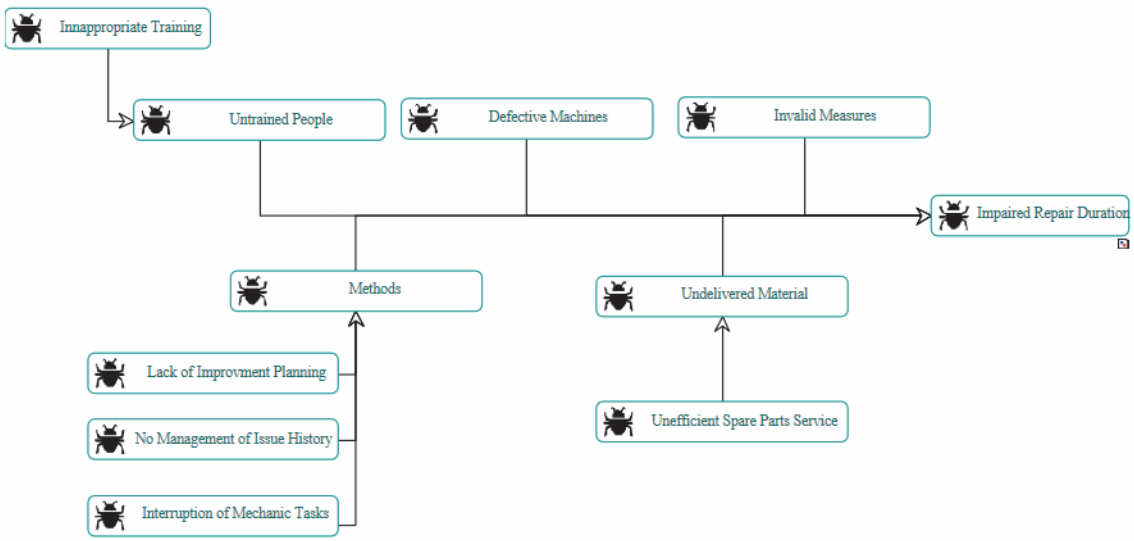
CAUSE-AND-EFFECT DIAGRAM

To facilitate decisions in a strategic analysis context or in the case of business process improvement, it is necessary to go back to the source of the issues we are seeking to solve.

The cause-and-effect diagram (also called Ishikawa diagram or fishbone diagram) is a tool that enables identification of the possible causes of an observed effect and therefore determination of a means of solving the issues.

The cause-and-effect diagram is particularly useful for displaying the results of brainstorming sessions.

Having drawn a cause-and-effect diagram, it is possible to determine objectives and to carry out projects to solve the identified issues.



Example of cause-and-effect diagram

Creating an Issue From an EA Project

The objectives can be connected to issues to indicate the reason for which they are implemented in the organization strategy.

> *An issue is an event or a difficulty encountered within the context of a process, an application or an enterprise strategy. Issues are dealt with in the framework of projects according to objectives aimed at resolving them.*

To create an issue from an enterprise architecture project:

> *An EA project consists of a set of tasks entrusted to a team, which transforms a system or part of a system with the aim of achieving a given objective.*
>
> ☛ *For more details about EA projects, see Enterprise Architecture (EA) projects in Hopex.*

1. Open the **Objectives & Requirements> Strategic axes and issues**.
2. From the contextual menu of the "Resolved issue" file, select **New**.
   The issue creation page appears.
3. Enter the issue **Name** and its **Score**.
4. Click **OK**.

Properties of an Issue

❱ Open the **Characteristics** page of an issue.

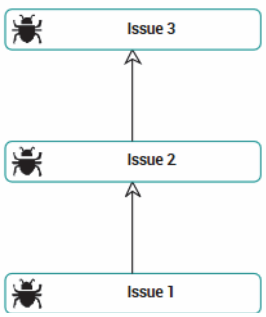
Issue type

Issue can be classified by **Issue type**:

- Machine
- Material
- Measurement
- Method
- Person

Issue causes and effects

Consider the sequencing of the following issue:



"Issue 2" has "Issue 1" as its cause and "Issue 3" as its effect.

Creating a Cause-Effect Diagram from a Problem

To create a cause-effect diagram from an issue:

1. In the **Diagrams** property page of the issue, click **Create a diagram**.

2. Select **Cause-effect diagram**.
   The diagram opens in the edit area.

Three object types are available by default in a cause-and-effect diagram: Issue, Objective and Requirement.

In this type of diagram, the issues are sequenced by cause-to-effect links.

EXPLORING THE REPOSITORY

When you modify an object (eg., Processes, operation), it is useful to know the impact of this action on the other objects in the repository.

It can be of interest to display the contents of the repository at a given moment in time and to study the links between different objects, or check consistency between objects.

- ✓ The Explorer, which enables you to easily browse the entire repository.
- ✓ Matrices, which provide you with a better view of the links between objects.
- ✓ Tools for Checking Objects, which enable you to view the consistency of modeled objects.

THE EXPLORER

The explorer allows you to view repository objects and links and to carry out impact analyses. Its use is similar to that of the Windows explorer: objects are represented in the form of a menu tree, which allows you to navigate easily and to have an overview of all the diagrams, objects and links specified in the repository.

Activating the Explorer

To activate the Explorer:

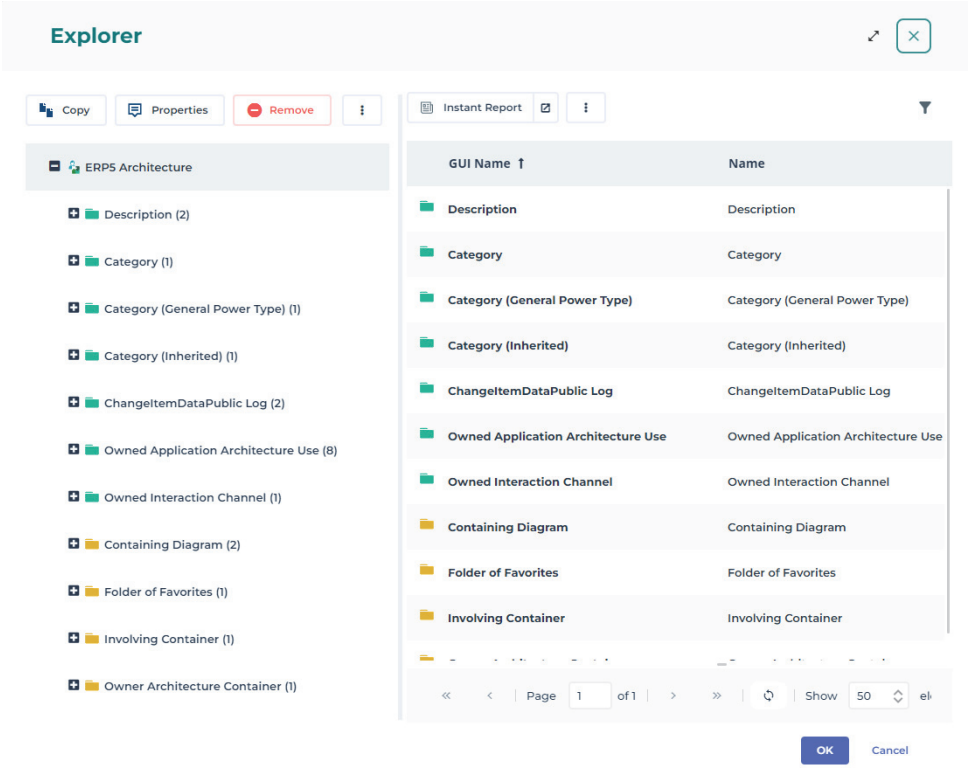
1. Click the main menu and select **Settings > Options**.
2. In the Options tree, expand **Tools > Explorer**.
3. In the right pane, select the **Activate Explorer** option.

☛ *This option is activated by default for functional administrators and the HOPEX Customizer profile.*

Exploring an Object

To run the explorer on an object :

- Right-click the icon of the object you want to explore and select **Explore**.



The explorer details:

- the object **descriptions** (green file)
- the object **impacts** (yellow file) on other objects

The number in brackets indicates the number of elements for this object type.

By default, only the files containing elements are displayed.

Viewing repository objects

The **Description** icon (green folder) allows to display the object description. When you run the explorer from an object, the links that describe this object are displayed.

> *The description of an object includes the more basic objects that define it. For example, the operations of an organizational process are part of the description of the organizational process.*

To view the objects connected to the object you are exploring:

- In the tree, click an type of object or link, preceded by a green folder.
  Objects connected to the selected object are displayed on the right.

View the object impacts on other objects

The **Impact Analysis** icon (yellow folder) allows to view whether the object you want to explore has an impact on others.

> 🕮 *Objects included in the impact analysis are the objects that will impact the object being analyzed if they are modified. For example, an organizational process is modified if one of the operations it contains is modified or deleted.*

To view the objects impacted by the object you are exploring:

- In the tree, click an object type preceded by a yellow folder:

  E.g.: click "Diagram" to view the other diagrams featuring the object.

Show unused links

Empty Collections shows the unused links around an object. It applies to description folders (green folders) and impact analyses (yellow folders).

To view unused links around the object:

- In the toolbar, click **Empty Collections** .

> ☛ *You can create objects for these unused links or connect them to already existing objects. For more details, see Creating objects, and Connecting, disconnecting and deleting objects.*

Exploring an other object

To quickly open a second explorer on an object:

- Right-click the object you want to explore and select **Explore**.
  A second explorer window opens.

Modifying the Repository with the Explorer

Creating objects

To create an object:

1. Click the folder corresopnding to the object type you want to create and select **New**.
   The object creation dialog box appears.
2. Name the object and click **OK**.

Copying and pasting objects

To copy an object or a group of objects:

1. Select the object(s) to be copied.
2. Right-click and select **Copy**.

To paste the object or group of objects you have just copied:

- Right-click in the tree on the left where you wish to place the objects and select **Paste**.

> **When you paste objects in the explorer, the explorer automatically creates links between the objects you paste and the next object up in the hierarchy. This explains why you cannot paste certain objects in certain positions.**

Connecting, disconnecting and deleting objects

To connect objects using the explorer:

1. Click the folder corresponding to an object type in the left pane of the window.
2. In the right part of the window select **Connect**.
   The **Query** dialog box opens.
3. In the **Query** dialog box, specify the selection to be applied and click **Find**.
4. In the results window, select the objects to be connected.
5. Click **OK**.
   The objects to be connected appear in the explorer window and are connected to the object.

You can also:

- disconnect two objects.
- delete repository objects
  A deletion confirmation message appears. Use the delete command with caution.

> *It is possible that your authorization, defined by the administrator, limits deletion to those objects that you yourself have recently created.*

MATRICES

Matrices allow you to view the links between objects in the repository. The interest is to see how the two object types interact and to analyze impacts of a modification between two concepts.

☺ *Matrices generated by **Hopex** can be exported to Excel.*

Accessing Matrices

To access matrices, you must sign in with the **Enterprise Architect - ARC** profile.

To access matrices:

- Click the navigation menu, then **Repository > Documentation**.
  The list of matrices appears in the **Matrices** folder.

The **Hopex** solutions offer in standard mode matrices to help you view and modify links between objects in the repository.

☛ *To access these matrices please refer to the relevant documentation.*

Specifying Matrix Content

To specify the content (called rows and columns) of a matrix:

1. See Accessing Matrices.
2. Select the matrix that interests you and from its contextual menu, click **Open**.
   The matrix opens in the edit zone.
3. In the matrix window, select **Add a row**.
   The **Query** dialog box opens for selection of a target object.
4. Select the target and click **Find**.
5. Select all the objects displayed and click **OK**.
   The rows of the matrix are entered.
6. Repeat the procedure for columns (**Add Column**).
   The titles of rows and columns are defined in the matrix.

TOOLS FOR CHECKING OBJECTS

Building a consistent repository requires compliance with modeling rules. These can be rules defined by **Hopex**, by a standards organization, or by administrators of your enterprise.

Hopex provides you with tools that enable you to:

- Select rules to be met
- Check that your modeling objects meet these rules

Definition of concepts

Consistency Rules

A rule applies to a **Hopex** repository object and defines a check on this object.

There are several levels of rule:

- **Suggestion**: rule it is advisable to observe, but not a requirement.
  Non-respect of the rule is indicated in the rules application report but does not produce a warning.
- **Recommendation**: important rule.
  Non-respect of the rule produces a warning.
- **Requirement**: mandatory rule.
  Non-respect of this rule produces an error and is a source of blocking.

☛ *For more details on rules, see **Hopex Power Studio -Publisher**, chapter "Creating Consistency Checks".*

Regulations

A regulation enables classification of rules according to a specific context or domain. It can contain not only a set of rules but also sub-regulations.

You can define an active regulation, permanently visible on objects concerned.

```
For example, if you activate the "Process Modeling
Regulation" regulation, there is an automatic check on the
business processes, organizational processes, activities,
org-units, operations and conditions that you create and
handle.
```

You can also apply another regulation temporarily on an object.

Active Regulation Permanent Check

An active regulation is a reference regulation, defined as such so that you can permanently check the conformity of objects that you create with rules to be respected.

Defining an active regulation

To define an active regulation:

1. In the main menu, click **Settings > Options**.
2. Select **Workspace > Modeling and Methods Regulations**.
3. From the **Active modeling regulation**field, select a regulation and click **OK**.

Consulting check results on an object

To consult check results on an object:

1. Open the object properties.
2. Select the **Rules application** page.
   You obtain the name of the regulation, followed by a table containing the names of rules in the regulation, their result for the checked object and the diagnostic.
   Check results appear in the form of an icon.
   Each icon relates to a regulation rule:



Rule is respected.



Rule is "Suggestion" type and is not respected.



Rule is "Recommendation" type and is not respected.



Rule is "Error" type and is not respected.

If the “Error on execution” message appears, it means the rule was not correctly implemented. In this case, consult your administrator.

Viewing state indicators in diagrams

In diagrams as well as in the diagram preview tool, you can display state indicators under the objects which are not considered valid with respect to the rule selected. Errors can be pointed out.



The diagram does not display any result by default. You must have activated the rule, selected the result display options and chosen to display state indicators in diagrams.

To display rule results in a diagram:

1. In the main menu, click **Settings > Options**.
2. Select **Workspace > Modeling and Methods Regulations**.
3. Select the option "Apply active regulation in diagrams".
4. In diagrams, select the **State Indicators** view.

Regulation Specific Check

When you run a check on an object, a dialog box asks you to select which regulation you wish to apply. This is a temporary check, independent of any which may be active on the object from another source The specific check relates not only to the selected object but also to objects connected to it.

To apply a specific regulation to an object:

1. Right-click the object and select **Manage > Check > Regulation with propagation**.

   The effect of this command is to check the object and its connected objects. So in the case of an organizational process, you obtain results not only on the process itself but also on objects contained in this process, such as org-units, operations and messages.

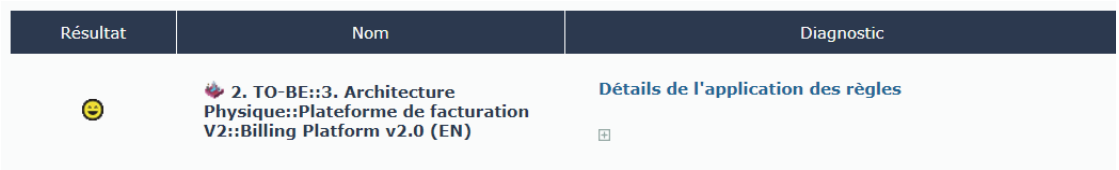
   The list of regulations appears: This list comprises regulations that can be applied to the object concerned.

   The regulations administrator can apply a regulation to the object other than one of those defined by default.

   If an active regulation is defined and applies to the object in question, it appears in the list and is selected by default.
2. Select the regulation you wish to apply and click **OK**.
   A report in the form of an HTML page appears.

This report indicates the regulation applied and lists the objects concerned.

The icon that appears before an object corresponds to the result not of a rule but of all rules applied to the object.



The result icon that will appear depends on the level of rules that have not been respected:



All rules respected.



At least one "Suggestion" type rule is not respected. No "Recommendation" or "Error" type rule to be reported.



At least one "Recommendation" type rule is not respected. No "Error" type rule to be reported.



At least one "Error" type rule is not respected.

The link **Rules Application Detail** allows you to consult detail of these rules.

REPOSITORY SNAPSHOTS

A repository snapshot identifies an archived state of the repository. The repository administrator may need to create snapshots to record important states in the repository life cycle.

- ✓ Creating Repository Snapshots
- ✓ Compare-Align and Repository Snapshots

CREATING REPOSITORY SNAPSHOTS

To be able to use repository snapshots, you must:

- have the repository log activated (default case).

  ☛ *For more details on repository log activation, see Repository log.*

- set up a procedure for taking account of repository snapshots before deletion of historical data.
  A repository snapshot identifies an archived state of the repository. When an archived state of the repository has been deleted, it is no longer possible to create a repository snapshot corresponding to this state. It is therefore important to take management of repository snapshots into account when deleting historical data (in Administration.exe, via the repository pop-up menu, **RDBMS Administration > Shrink unused repository historical data**).

  ☛ *For more details, see "Repository - RDBMS Installation Guide", "HOPEX Historical Data Cleanup".*

To create a repository snapshot from the **Hopex** Administration desktop:

1. Connect to the **Hopex Administration** desktop.

   ☛ *See Accessing Web Administration Desktop.*

2. Select **Repository > Repository Snapshots**.
3. In the edit area, click **New**  .
   A creation wizard appears.
4. (Optional) In the **Name** field, modify the default repository snapshot name.
5. Select the criterion to be used to find the state of the repository to be captured:
   - design tasks
   - Dispatches
6. Click **Next**.
7. Select the task/dispatch
8. Click **OK**.

   ☛ *You can automate snapshot creation through the scheduler. For more information see Scheduling (Scheduler).*

COMPARE-ALIGN AND REPOSITORY SNAPSHOTS

Repository snapshots are used in The Compare-Align function of two object states over time.

They enable determination of what has changed on an object, other than a diagram, related to an earlier state of the same object.

> ☛ *The compare and align functionality allows you to reverse certain object modifications.*

To compare and align two versions of the same object:

1. Right-click the object and select **Manage > Compare and Align**.
2. In the **Select the comparison method** dialog box, select **Two archived states from the current repository**.
3. Click **Next**.
4. In the **Source Repository Archived State** field, click the arrow and select **Archived State**.

   > ☛ *The source repository serves as reference for comparison and alignment.*
5. Using the archived state selection mode wizard, select a repository state associated with an object of the following type:
   - repository snapshot
   - dispatch
   - design task
6. In the **Target Repository Archived State** field, select **Current State**.

   > ☛ *You can also select **Current Transaction Initial Archived State** to select the repository state at the moment you opened the transaction.*

   > ☛ *To compare all objects of a repository, select the **Compare All Repository Objects** check box.*
7. Click **Next** until reaching **Finish**.

The destination state is aligned with the archived origin state: the object has returned to its earlier state.



Import and Export (EN)

VISIO IMPORT TOOL

Microsoft Visio® is a diagramming application used to describe a broad scope of projects and concepts, including those related to Enterprise Architecture.

The Visio import tool allows you to import and customize in **HOPEX** diagrams created in Visio®.

Importing a Visio diagram is guided by a wizard to help you define the objects to be imported and their mappings in **HOPEX**. Mappings can be saved for subsequent use.

If you want to import a Visio BPMN diagram in HOPEX, you must use the Visio template "BPMN Diagram" to get sure that links between lanes and operations are correct.For more details, see Visio Template pre-requisite for BPMN diagrams.

- ✓ Visio Import Principles
- ✓ Running Visio Import
- ✓ Visio Import Options
- ✓ Visio Import Example

VISIO IMPORT PRINCIPLES

Visio diagrams are drawings on one or several pages that offer a static view of a business process or a technical diagram.

Each type of Visio diagram has associated predefined shapes that you can use to build your diagram. Importing a Visio drawing consists of matching its shapes with **HOPEX** objects. The objects created can be MetaClasses, links or paths.

Compatibility

The Visio import tool is compatible:

- with versions 2010 and 2015 of Visio
- with .VSD and .VSDX Format.

Importing a Visio file does not require installation of Visio on your machine.

Application Scope

The Visio import tool reproduces diagrams describing the processes of an organization in **HOPEX**. It is therefore optimized for the **HOPEX Business Process Analysis** product.

The Visio import tool is a generic import assistant; it is not suitable for the restitution of interactive creations made by the users. For example, initialization macros for diagrams are not executed. A data check and an update of the diagram drawings may be necessary.

In diagrams linked to **HOPEX IT Architecture**, a number of Visio shapes such as servers, firewalls and printers are represented by nodes in **HOPEX**. Their type must be redefined once they are imported in **HOPEX**.

In the case of a database model, **HOPEX** retrieves the names of entities, their attributes and primary keys, but characteristics such as cardinality, datatypes and foreign keys cannot be imported.

Visio import is not suitable for UML modeling.

Visio Concepts

The main Visio concepts are:

- **Page**: A page contains the description of a diagram. A Visio file can contain one or more description pages.
- **Template**: This is the default model provided when you initialize a diagram. Templates guide users in describing a diagram by identifying

the purpose of the diagram and displaying the stencils necessary for creating diagrams.

- **Stencil**: These zones contain the shapes available to create a diagram. A stencil is made up of masters.
- **Master**: This is a shape representing a concept that can be created in a diagram. In HOPEX, a master gives rise to a MetaClass.
- **Shape**: A shape represents the use of a master class in a page. In HOPEX, this corresponds to the instance of a MetaClass.
- **Connector**: This represents a link in a diagram used to connect two shapes graphically.
- **Property**: A property attached to a shape in a diagram is used to provide additional information to a diagram description. Properties entered by the user in Visio are imported as comments in **HOPEX**.

Mapping Visio and HOPEX concepts

Importing Visio diagrams consists of mapping Visio diagrams, shapes, connectors and properties with **HOPEX** objects (Metaclasses, links, paths, etc.), and creating the diagrams in the **HOPEX** repository.

When a Visio diagram is imported, a mapping is established between the Visio concepts and **HOPEX** objects. This mapping can be saved as **Configuration files** for subsequent use.

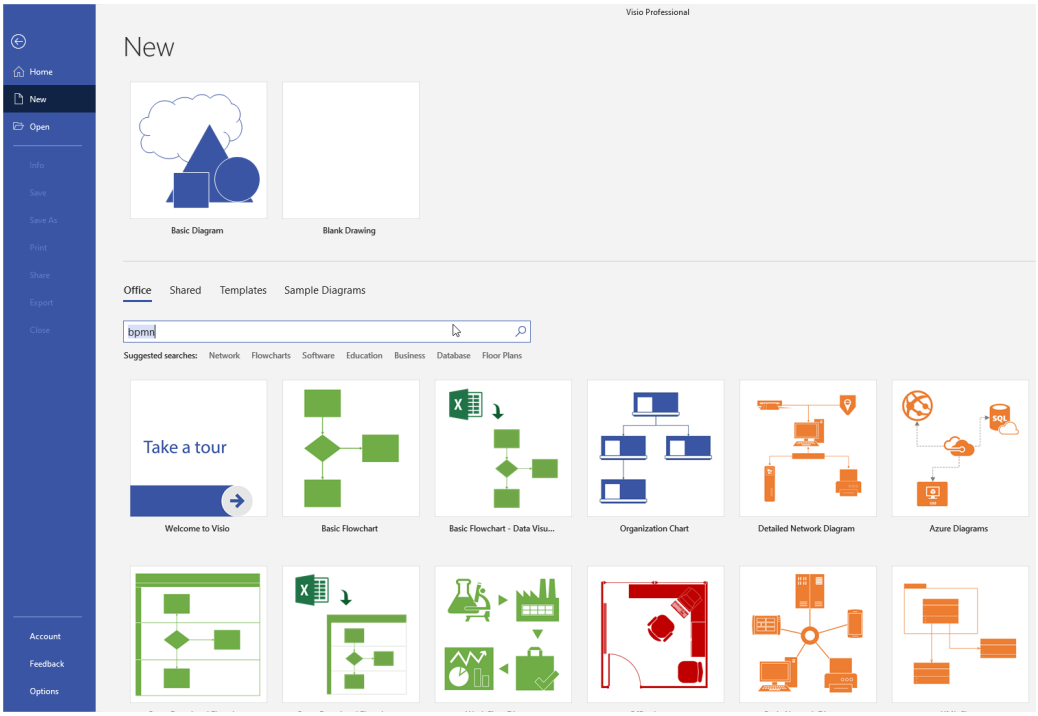
Visio Template pre-requisite for BPMN diagrams

To import a Visio BPMN diagram in **HOPEX**, the Visio template "BPMN Diagram" must be used especially to establish links between lanes and operations in **HOPEX**.

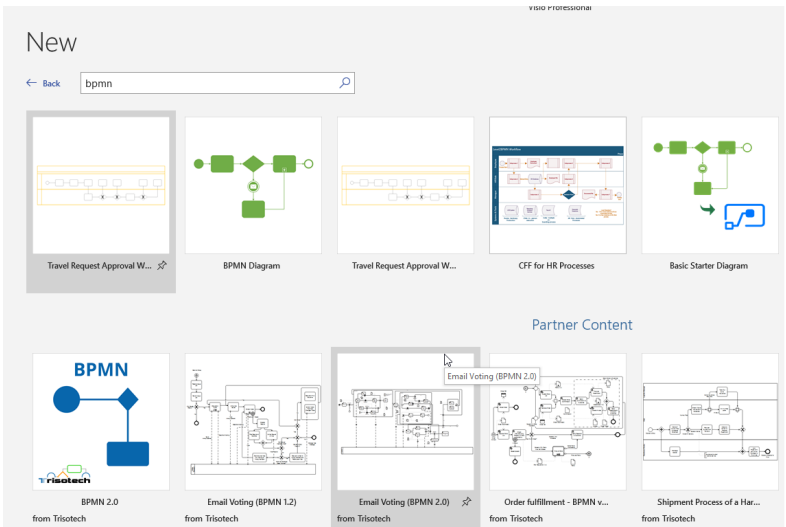
To create a Visio Drawing from "BPMN Diagram" template:

1. In the **New** window, select the **Office** tab and enter "BPMN".

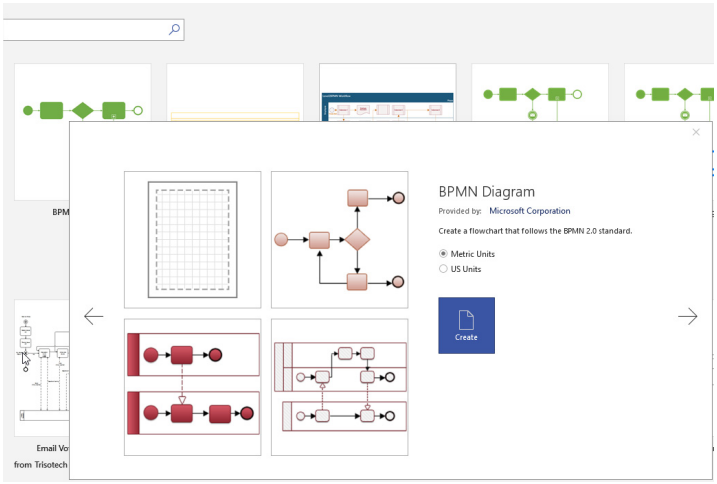
.



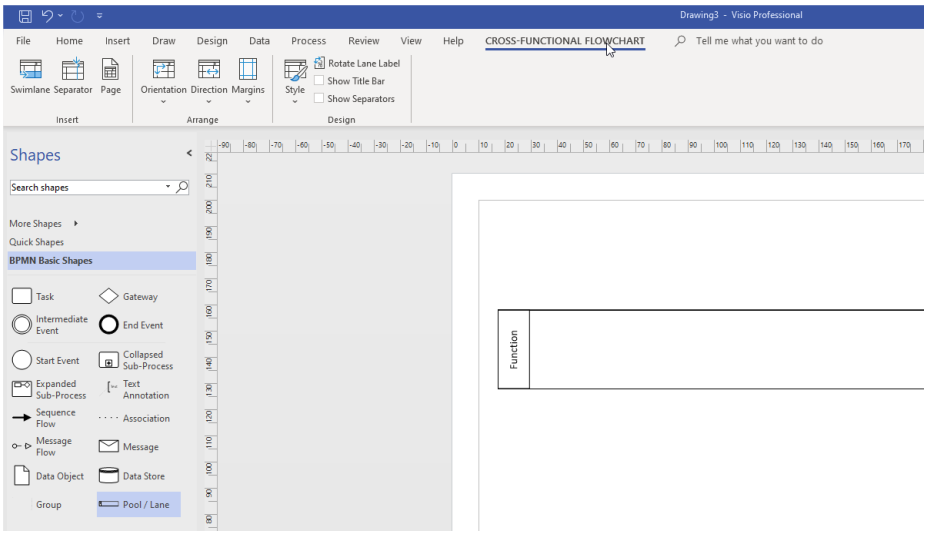
2. In the list of proposed templates, select BPMN Diagram" template.



3. Select the Units and click **Create**.



In the new Visio Drawing, if the **Pool/Lane** button is selected, the **CROSS-FUNCTIONAL FLOWCHART** menu must be proposed.



RUNNING VISIO IMPORT

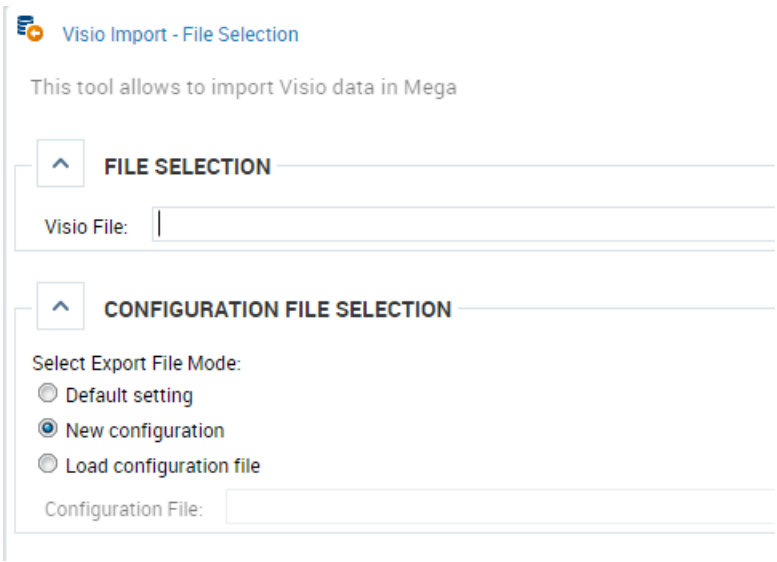
To import a Visio diagram, follow this procedure:

1. Select the Visio file and the configuration file
2. View and select the pages to be imported
3. For each page, define the mapping between Visio and **HOPEX** objects.

Step 1: Select a Visio file and a configuration file

To import a diagram created in Visio into **HOPEX**:

1. From the **Tools** menu bar, select **Import** > **Visio (*.vsd)**.
   The file import wizard window opens.



2. In the **File Selection** frame, select the Visio file to be converted.
3. In the **Configuration File Selection** frame, select the export file mode:
   - **Default settings**: this option applies the mapping file that has been defined in the environment options. See Defining a Default Configuration File.
   - **New configuration**: does not load a predefined map file.
   - **Load configuration**: this option is used to select a mapping file on a computer or network.
4. Click **Next**.

Step 2: View and select pages to be imported

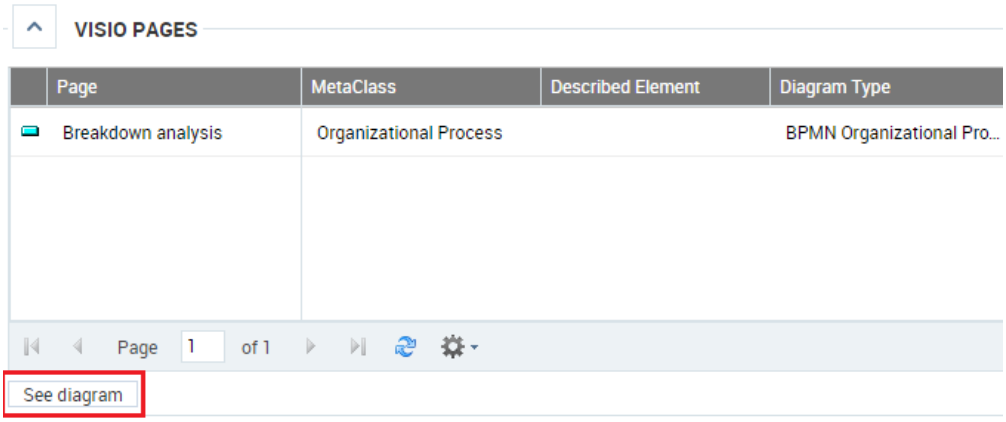
This step displays the contents of the Visio pages so you can select the pages to be imported.

For each page to import you must define:

- the **MetaClass** to which the diagram created in HOPEX will be attached
- the **Described Element** (instance of the MetaClass)
- the **Diagram Type** to create

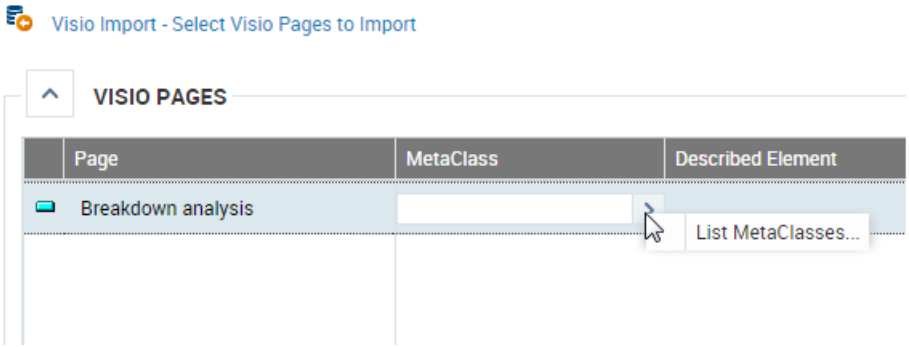
> ☛ *If a configuration file has been defined, the values of the **MetaClass** and **Diagram Type** columns may appear automatically.*

When selecting a page, press **See Diagram** to view the corresponding drawing.



To define the object and diagram to create from a Visio page:

1. Under **Visio Pages**, select the relevant page.
2. Click in the **MetaClass** column and click **List MetaClasses**.



3. Search and select the HOPEX MetaClass.

   `For example Organizational Process.`
4. Indicate the **Described Element**.

   `For example the "Breakdown analysis" Organizational Process.`
5. You can select an existing object in HOPEX or enter the name of the object to create.
6. Select the **Diagram Type** to create.

   `For example BPMN Organizational Process.`

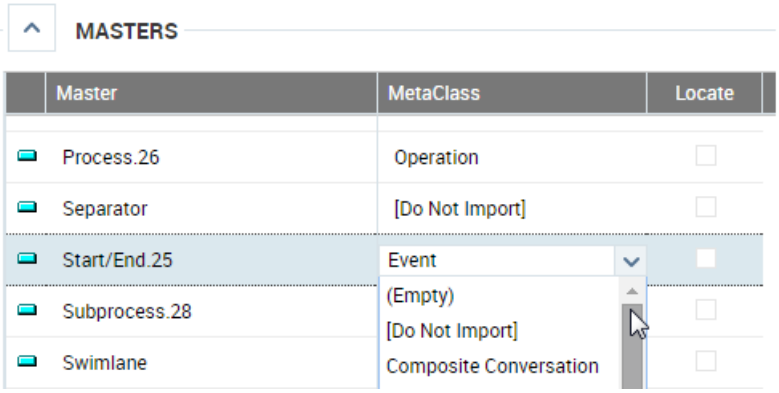
7. In the **Import** column, select the box to import the page.
8. Do the same with the other pages.
9. Click **Next**.

Step 3: Define the mapping of objects of each Visio page

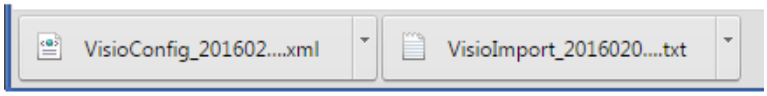
In this step you specify the mapping to be done for each item of the Visio pages selected in the previous step. See also "Mapping Visio and HOPEX concepts", page 3.

To create mappings between Visio et HOPEX concepts:

1. Under **Visio Pages**, select the appropriate page.
   The list of **Masters** and **Shapes** for the page appears.
   You can view objects of this list in the diagram by checking the **Locate** box associated with the objects in question. Selected objects are highlighted in red in the diagram.
2. For each Visio master, indicate the corresponding HOPEX MetaClass.



   When selecting a master, the list of associated shapes appear.
   In the **Attribute/Link** column of each shape, you can specify the shape properties. See also Visio Import Example.
3. When mappings are defined, click **Next**.
   The report of created objects appears. You can save the report in one of the available formats.
4. Click **OK** to validate and finish the import.
   At the end of the import, the configuration file of the mappings you created is downloaded automatically (.xml file). You can back up this configuration file in order to retrieve mappings for subsequent imports.



VISIO IMPORT OPTIONS

Accessing Visio Import Options

To access options related to Visio Import:

1. In the **HOPEX** desktop, click **My Account** > **Options**.
2. Click **Data Exchange** > **Import/Export Synchronization** > **Tools/ Third Party Formats**.
   The right pane displays the options related to Visio import.

Defining a Default Configuration File

Mappings between Visio and **HOPEX** objects can be saved in a configuration file.

You can define a configuration file to apply by default when importing a Visio file.

To define a default configuration file:

1. Access the Visio import options.
2. In **Visio Import: Configuration file path**, specify the file path.

Defining the Shape Size of Imported Items

You can apply to imported items the size of the shapes defined in Visio or the default size of standard elements in **HOPEX**.

To define the option regarding shape size:

1. Access the Visio import options.
2. Select the value of **Visio Import: shape size** via the drop-down menu.
   By default, the Visio shape size is applied.

Replacing existing diagrams

An imported element can have different diagrams.

When the option is unchecked, **HOPEX** creates a new diagram.

When the option **Visio import: Replace existing diagrams** is selected, **HOPEX** replaces the existing diagram by the imported diagram. If there is more than one diagram, use the import wizard to choose which diagram to replace.

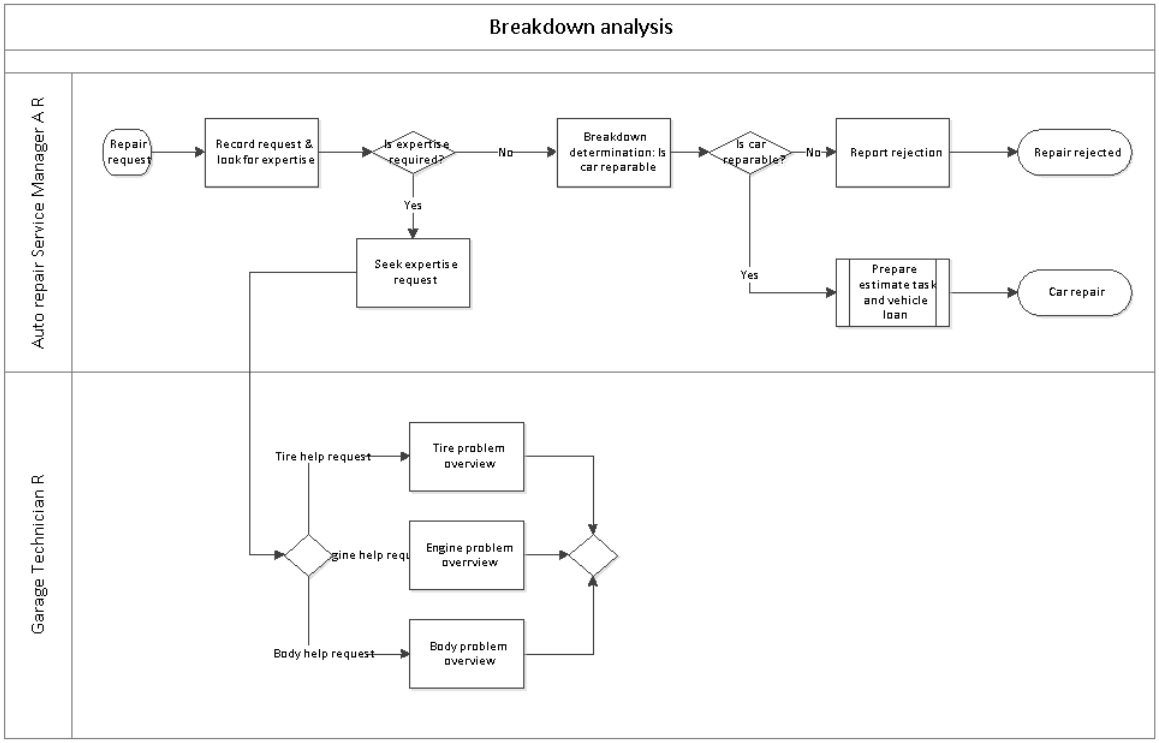
Importing Elements in the Current Library

When the option **Visio Import: Import to the current library** is selected, elements imported are automatically linked to the current library.

VISIO IMPORT EXAMPLE

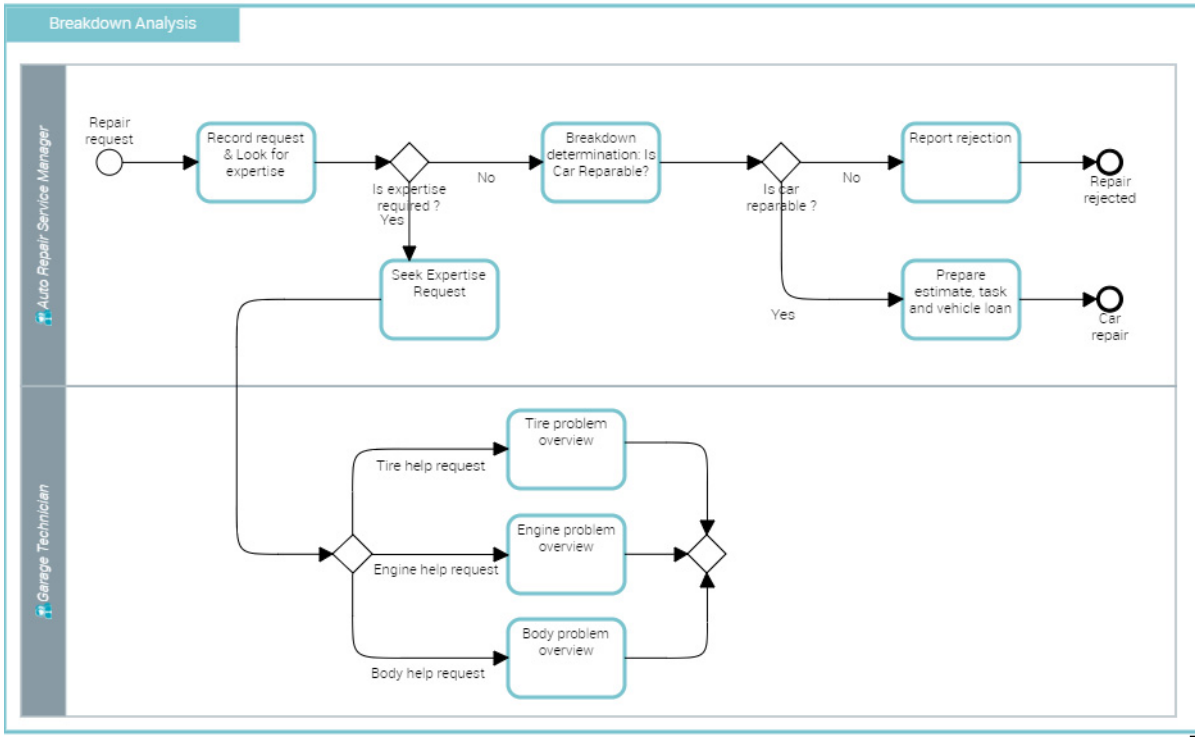
As an example of a drawing to be imported, take the simple flow diagram "Vehicle Breakdown Analysis", which describes steps in vehicle repair.

Visio Diagram



This diagram can be reproduced as the diagram of an organization process in **HOPEX**.

Result in HOPEX



Example of Masters and corresponding MetaClasses

Master (VISIO)	MetaClass (HOPEX)
Page	Organizational Process
Decision	Gateway
Dynamic Connector	Sequence flow
Process	Operation
Start/End	Event
Subprocess	Organizational Process
Swimlane	Participant

Once you have mapped the Visio Masters with the HOPEX MetaClasses, you can define the properties of the related shapes (MetaClass instances).

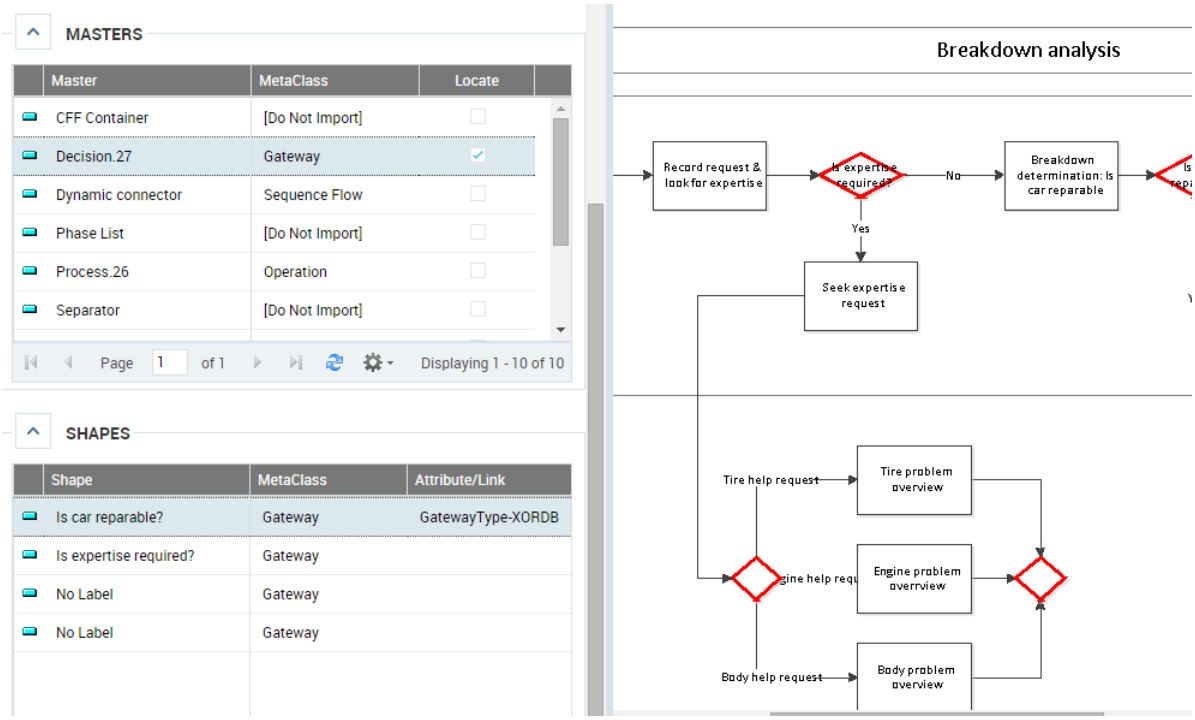
See Step 3: Define the mapping of objects of each Visio page.

Example of Shape Properties

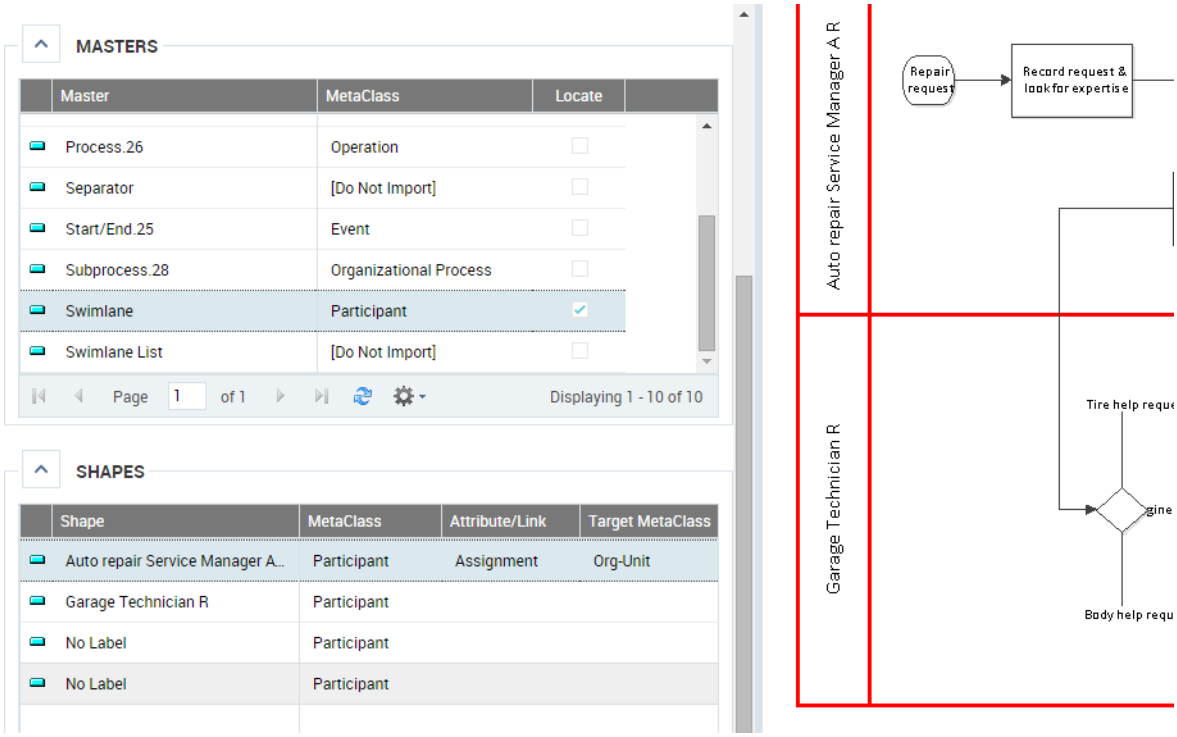
Visio Shape and corresponding HOPEX MetaClass	Property
If Decision = Gateway	Gateway type: exclusive, inclusive, parallel, etc.
If Start/End = Event	Event category: end, start, timer, etc.
If Swimlane = Participant	Participant assignment (target MetaClass)

In the example, the "Decision" master, which corresponds to the "Gateway" MetaClass in **HOPEX**, has four occurrences in the diagram.

In the **Attribute/Link** column associated with each occurrence, you can define the type of gateway to create in HOPEX (exclusive, inclusive, parallel, etc.).



As for the "Swimlane" master which correspond to participants, you can define the type of object to connect to each participant (Application, Org-Unit, etc.) and even connect a HOPEX object to a participant.



To connect an Org-Unit to a participant:

- In the Visio import wizard, select the shape corresponding to the participant, for example "Garage Technician".
- In the **Attribute/Link** column, select "Assignment".
- In the TargetMetaClass, select "Org-Unit".

If the "Garage Technician" Org-Unit already exists in HOPEX, the import wizard does not recreate it but connects it to the participant. If it does not exist in HOPEX, the import wizard creates the corresponding Org-Unit while connecting it to the participant.

OPTIMIZING VISIO IMPORT RESULTS

Import results mainly depend on the source file. For optimum results, check that the Visio drawing meets the following conditions:

- Use model shapes to represent diagram objects

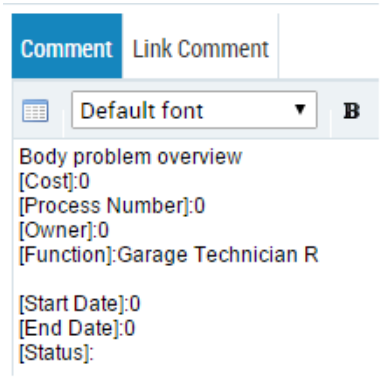
  For example, use the **Business Process** type shape and not the **Rectangle** drawing object.

- Customized shapes and properties are ignored at import. Do not use customized properties to name drawing objects.

Object Names and Properties

Object names are limited to 255 characters in **HOPEX**. If the Visio object name contains more than 255 characters, the full name appears in the **HOPEX** object comment, under the **Texts** Tab.

The **HOPEX** object comment also contains the properties specified on the Visio shape. Shape properties are listed in brackets.



☛ *Properties specific to the corresponding HOPEX Objects may be defined directly in the import wizard. See Step 3: Define the mapping of objects of each Visio page.*

BPMN Import Specification

BPMN Import Overview

The Business Process Modeling and Notation (BPMN) is a graphical representation used for specifying processes. BPMN designs can be serialized into XML files that capture BPMN objects and diagrams. Each process is saved as a ".bpmn" file.

The HOPEX BPMN import feature enables the import of process definitions from BPMN files, allowing processes modeled in other BPMN modeling tools or execution engines to be used within HOPEX.

Additionally, bulk imports of several BPMN files can be performed in batch mode, and processes can be merged with existing diagram-less processes in the inventory. This enables the repository to be initialized using an Excel import of a process inventory, complemented by BPMN files.

Prerequisites

The BPMN import feature is available with **HOPEX Business Process Analysis** and supports BPMN version 2.0.

Source BPMN Tools

It should be possible to import BPMN data and diagrams from Camunda, Tibco, Bonita, Yaoqiang BPMN, Joinwork Process, IBM BlueWorks, or any tool complying with the BPMN standard.

Activate/Deactivate BPMN Import

The BPMN import feature can be activated or deactivated for a user, a profile, an environment, or a site via the option **BPMN 2.0**, available in Main Menu > Settings > Options > Tools > Data Exchange > Import.

Scope of BPMN Import

The tool handles translation of BPMN processes into one of the following process types in HOPEX:

- Processes
- System Processes
- Value Streams

The list of supported mappings is detailed below. See Object Correspondences.

Importing BPMN Files

To import BPMN files in HOPEX:

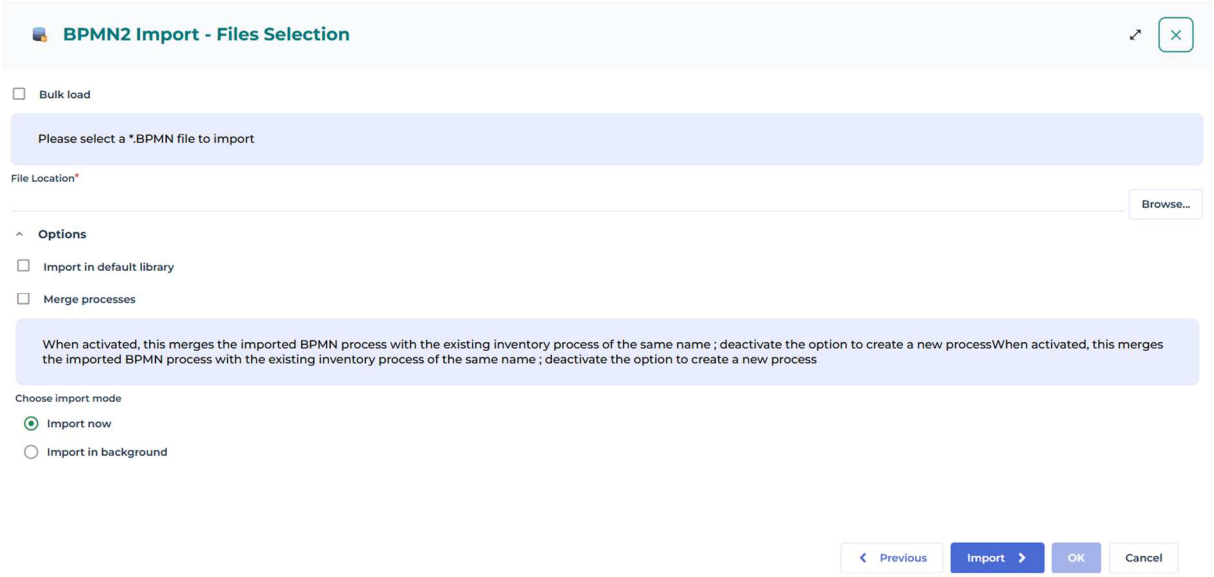
1. Select **Main Menu > Import > BPMN 2.0 (*.bpmn, *.xml).**

2. Select the process type to import:
    - Process
    - System Process
    - Value Stream

Note: If needed, you can display System Processes and Value Streams via the options **System Process modeling** and **Value Streams modeling**, available in Main Menu > Setings > Options > HOPEX Solutions > Business Process Analysis.

3. Click **Import**.

    The BPMN2 Import wizard opens.



4. (Optional) Select **Bulk load** to import several bpmn files at once, using a container zip archive.
5. Upload the file from your device.
6. (Optional) Select:
    - **Import in default library** to add the imported processes directly to the default library.
    - **Merge processes** to maximize the reuse of existing processes. This option enables merging processes with identical names if the existing process in the repository does not have a diagram. However, if the existing process already has a diagram, processes with the same name are not merged, and a new process is created instead.
7. Choose import mode:
        - **Import now** to launch the import immediately.
        - **Import in background** to perform the import in the background, allowing you to continue working in HOPEX, or even log off. Upon completion, you will receive an email with an Import Log Report.
            - (Optional) **At scheduled time**: select this option to specify a BPMN2 Import Scheduled Date and Time for the import to run.

- (Optional) In the **Notifications** pane, enter the names of additional HOPEX users or email addresses of individuals to notify upon import completion.

8. Confirm Import Settings:
    - Click **Import** to begin the operation. An import progress window will appear.
    - Click **Import in background** to confirm this option. An email with the Import Log Report will be sent to you and any configured recipients upon completion.

BPMN/HOPEX OBJECT CORRESPONDENCE

The BPMN import feature translates a BPMN-compliant output file into a BPMN element specification in HOPEX. It is based on a set of mappings between BPMN version 2.0 and the HOPEX BPMN Process metamodel (including diagrams).

Conventions

BPMN concepts relate to the following OMG Specification document: “Business Process Model and Notation (BPMN), formal/2011-01-03”.

BPMN elements are delimited by <..>.

BPMN attributes are prefixed by ::.

HOPEX concept names start with uppercase. Example: Task.

Object Correspondences

The following table indicates concepts managed by the import tool:

The mapping of BPMN Processes and Tasks depends on the type of process selected in BPMN import wizard (Value Stream, Process or System Process).

Nb: Process Categories are not proposed as a target.

BPMN Concepts	HOPEX Concepts
<process>	**Process**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
<task>	Owned Operation
<dataStore> and <dataStoreReference>	Owned Data Store
	Owned Element
<gateway>	Gateway
< event>	Event
< sequenceFlow>	Sequence Flow
< dataObject> and <dataObjectReference>	Data Object
< messageFlow>	Message Flow
< participant> or <lane>	Participant
< laneSet> and <lane>	Internal Participant
<callActivity> or <subProcess>	Owned Process
<dataStoreReference> and <dataStoreRef>	Owned Update Association

BPMN Concepts	HOPEX Concepts
<dataStoreReference> and <dataStoreRef>	Owned Read Association
< textAnnotation> and <text>	Note
<BPMNDiagram>	Description
<task> (*See Table 1)*	**Operation**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
isForCompensation	Compensation
<standardLoopCharacteristics>	Loop
< loopCondition>	Loop Condition
< multiInstanceLoopCharacteristics >	Multiple
calledElement	Called Process
<dataInput> and <dataInputAssociation>	Data Object Used or BPMN Data Store Read Association
< dataOutput> and <dataOutAssociation>	Data Object Used or BPMN Data Store Read Association
< textAnnotation> and <text>	Note
<gateway> (*See Table 2)*	**Gateway**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
< textAnnotation> and <text>	Note
<event> (*See Table 3)*	**Event**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
isInterrupting or cancelActivity	Interrupting
attachedToRef	Bounded Activity
< textAnnotation> and <text>	Note
<SequenceFlow>	**Sequence Flow**
id	_Hexaidabs
<documentation>	Comment
<conditionExpression>	Predicate
sourceRef	Predecessor

BPMN Concepts	HOPEX Concepts
targetRef	Successor
<dataObject> and <dataObjectReference> name id isCollection <dataObjectReference> and <documentation> < dataObjectReference::name>	**Data Object** Short Name _Hexaidabs Collection Comment Data Object Status
<dataStore> and <dataStoreReference> name id Link Input and Output to DataStore	**Data Store** Short Name _Hexaidabs Access into the Data Store or out of the data store
<messageFlow> id < documentation> sourceRef targetRef	**Message Flow** _Hexaidabs Comment Source Element Target Element
<lane> name id name <flowNodeRef>	**Internal Participant** Assignment BPMN Element Assignment BPMN Element
<participant> name id name <textAnnotation> and <text>	**External Participant** Short Name _Hexaidabs Assignment Note
<textAnnotation> and <association> id < documentation>	**Note** _Hexaidabs Comment

BPMN Concepts	HOPEX Concepts
<process>	**System Process**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
<task>	Owned Task
<dataStore> and <dataStoreReference>	Owned Data Store
	Owned Element
<gateway>	Gateway
< event>	Event
< sequenceFlow>	Sequence Flow
< dataObject> and <dataObjectReference>	Data Object
< messageFlow>	Message Flow
< participant> or <lane>	Participant
< laneSet> and <lane>	Internal Participant
<callActivity> or <subProcess>	Owned System Process
<dataStoreReference> and <dataStoreRef>	Owned Update Association
<dataStoreReference> and <dataStoreRef>	Owned Read Association
< textAnnotation> and <text>	Note
<BPMNDiagram>	Description
<task> (*See Table 1)*	**Task**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
isForCompensation	Compensation
<standardLoopCharacteristics>	Loop
< loopCondition>	Loop Condition
< multiInstanceLoopCharacteristics >	Multiple
calledElement	Called Process
<dataInput> and <dataInputAssociation>	Data Object Used or BPMN Data Store Read Association
< dataOutput> and <dataOutAssociation>	Data Object Used or BPMN Data Store Read Association
< textAnnotation> and <text>	Note

BPMN Concepts	HOPEX Concepts
<process>	**Value Stream**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
<task>	Owned Value Stage
<dataStore> and <dataStoreReference>	Owned Data Store
	Owned Element
<gateway>	Gateway
< event>	Event
< sequenceFlow>	Sequence Flow
< dataObject> and <dataObjectReference>	Data Object
< messageFlow>	Message Flow
< participant> or <lane>	Participant
< laneSet> and <lane>	Internal Participant
<callActivity> or <subProcess>	Owned Value Stream
<dataStoreReference> and <dataStoreRef>	Owned Update Association
<dataStoreReference> and <dataStoreRef>	Owned Read Association
< textAnnotation> and <text>	Note
<BPMNDiagram>	Description
<task> (*See Table 1)*	**Value Stage**
name	Short Name
id	_Hexaidabs
<documentation>	Comment
isForCompensation	Compensation
<standardLoopCharacteristics>	Loop
< loopCondition>	Loop Condition
< multiInstanceLoopCharacteristics >	Multiple
calledElement	Called Value Stream
<dataInput> and <dataInputAssociation>	Data Object Used or BPMN Data Store Read Association
< dataOutput> and <dataOutAssociation>	Data Object Used or BPMN Data Store Read Association
< textAnnotation> and <text>	Note

Table 1:

BPMN	Task Type
<task>	**Task Type**
< userTask>	User
< serviceTask>	IT-Service Call
< callActivity>	System Process Call
< scriptTask >	Script
< receiveTask>	Send
< manualTask>	Receive
< businessRuleTask>	Manual

Table 2:

BPMN	Gateway Type
Gateway Type	**Gateway Type**
<inclusiveGateway>	Inclusive
<complexGateway>	Complex
<parallelGateway>	Parallel
<exclusiveGateway>	Exclusive (Data)
<eventBasedGateway> and ::eventGatewayType=Exclusive and ::instantiate=false	Exclusive (Event)
<eventBasedGateway> and ::eventGatewayType=Exclusive and ::instantiate=true	Exclusive (Instantiate)
<eventBasedGateway> and ::eventGatewayType= Parallel and ::instantiate=true	Parallel (Instantiate)

Table 3:

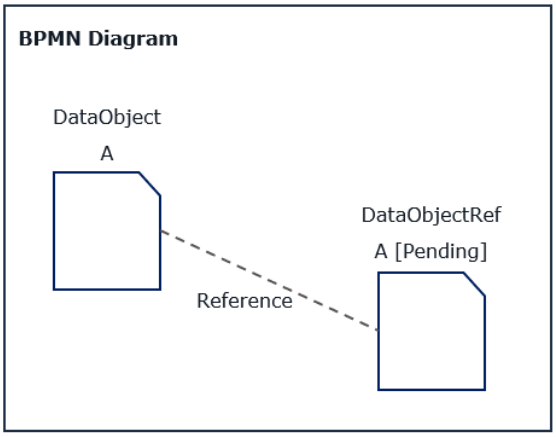
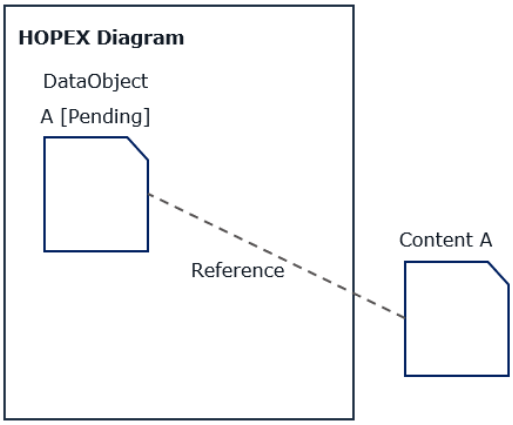
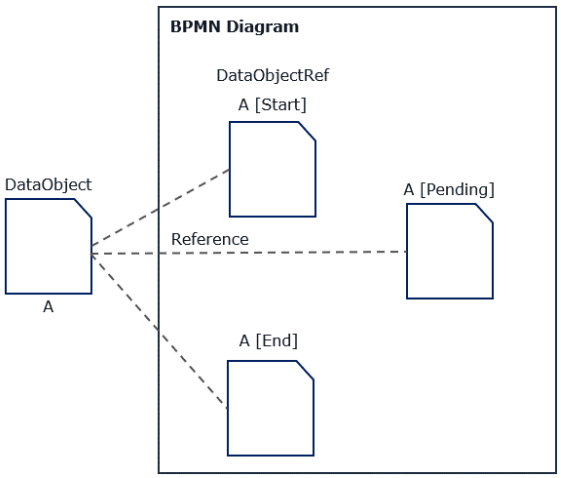
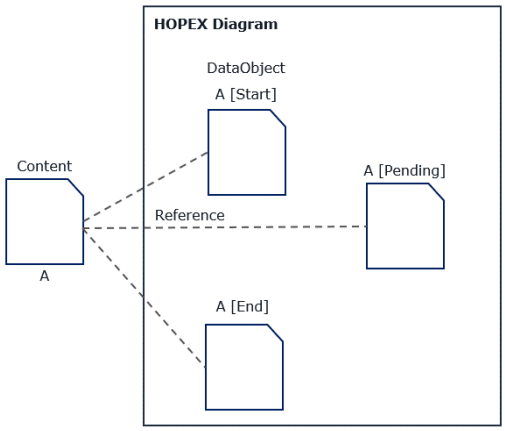
		Event Nature				Bounded Activity
		Start	End	Throw	Catch	
		<startEvent>	*<endEvent>*	*<intermediateThrowEvent>*	*<intermediateCatchEvent>*	*<boundaryEvent>*
Event Type	Generic					
	Message	<messageEventDefinition>	<messageEventDefinition>	<messageEventDefinition>	<messageEventDefinition>	<messageEventDefinition>
	Timer	<timerEventDefinition>	*	*	<timerEventDefinition>	<timerEventDefinition>
	Error	<errorEventDefinition>	<errorEventDefinition>	*	*	<errorEventDefinition>
	Cancel	*	<cancelEventDefinition>	*	*	<cancelEventDefinition>
	Compensation	<compensateEventDefinition>	<compensateEventDefinition> and ::waitForCompletion=true	<compensateEventDefinition> and ::waitForCompletion=true	*	<compensateEventDefinition> and ::waitForCompletion=true
	Conditional	<conditionalEventDefinition> and <condition>	*	*	<conditionalEventDefinition> and <condition>	<conditionalEventDefinition> and <condition>
	Link	*	*	<linkEventDefinition>	<linkEventDefinition>	*
	Signal	<signalEventDefinition>	<signalEventDefinition>	<signalEventDefinition>	<signalEventDefinition>	<signalEventDefinition>
	Terminate	*	<terminateEventDefinition>	*	*	*
	Escalation	<escalationEventDefinition>	<escalationEventDefinition>	<escalationEventDefinition>	*	<escalationEventDefinition>
	Parallel Multiple	::parallelMultiple=true	*	*	::parallelMultiple=true	::parallelMultiple=true

		Event Nature				Bounded Activity
		Start	End	Throw	Catch	
		<startEvent>	*<endEvent>*	*<intermediateThrowEvent>*	*<intermediateCatchEvent>*	*<boundaryEvent>*
	Multiple					

* = Combination not possible

Specific Mapping Cases

BPMN Concepts imported	Result in HOPEX
Process	
One process per file	The process is described in the resulting diagram.
One process with external participants (that do not refer to processes)	The process is described in the resulting diagram.
Several processes per file	A new “container” process is created in MEGA. It is the object of the resulting diagram and it contains the different processes imported.
DataStore/DataStorereference (Datainput/Dataoutput)	
(Reminder) DataStore DataStoreReference	 Business Information Area Process Data Store
DataStore without Reference	As a Business Information Area can not be represented graphically on its own in HOPEX, a Process Data Store is created without Business Information Area.
DataStoreReference + DataStore	References resulting in DataStores are represented in the diagram. The Business Information Area is referenced if it already exists. Otherwise, it is not created.

Dataobject/Dataobjectreference (Datainput/Dataoutput)	
(Reminder) DataObject DataObjectReference	Content DataObject
DataObject without Reference	As a content can not be represented graphically on its own in HOPEX, a DataObject is created with a content.
DataObjectReference + DataObject in the diagram 	References resulting in DataObjects are represented in the diagram. The content is also created but not represented in the diagram. 
DataObjectReferences in the diagram + DataObject outside the diagram 	References resulting in DataObjects are represented in the diagram, with their status. A content is also created, not represented in the diagram. 

Cases of DataInput/DataOutput	Links between DataInput/DataOutput and Events are not handled. Indeed, in HOPEX you can not create links between DataObject and Event.

Comments on TextAnnotations

If the “textAnnotation” tag contains a “text” tag, and if the latter contains a chain, this chain is included in the comment of the Note object. If the chain contained in the “text” tag is empty or if the “text” tag does not exist, the chain contained in the “documentation” tag, under the “textAnnotation” tag, is taken.

BPMN Export

BPMN EXPORT OVERVIEW

The Business Process Modeling and Notation (BPMN) is a graphical representation for specifying processes. This design can be serialized into an xml file that supports the BPMN objects and diagrams. Each process is serialized into a bpmn file.

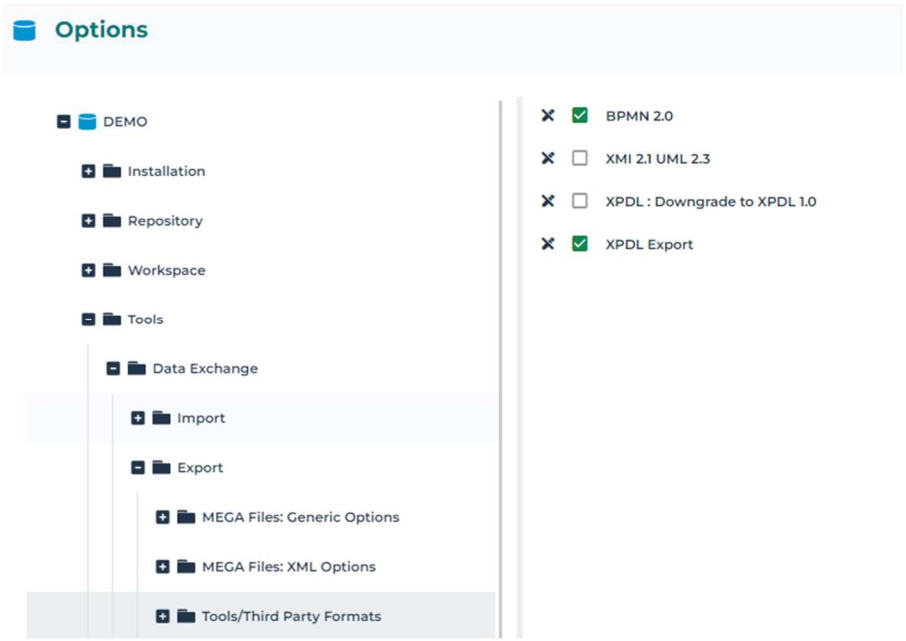
The HOPEX BPMN export project aims at exporting workflow definitions as BPMN files so that workflows modeled in HOPEX can be used by other BPMN modeling tools or workflow engines.

Prerequisites

The BPMN export feature is available with with **HOPEX Buisiness Process Analysis** and supports BPMN version 2.0.

Activate/Deactivate BPMN export

The BPMN export feature can be activated or deactivated for a user, a profile, an environment, or a site. This can be done using the corresponding option:



Scope of BPMN export

The purpose of BPMN export is to export an HOPEX Process into a BPMN file.

The tool handles translation of the following processes:

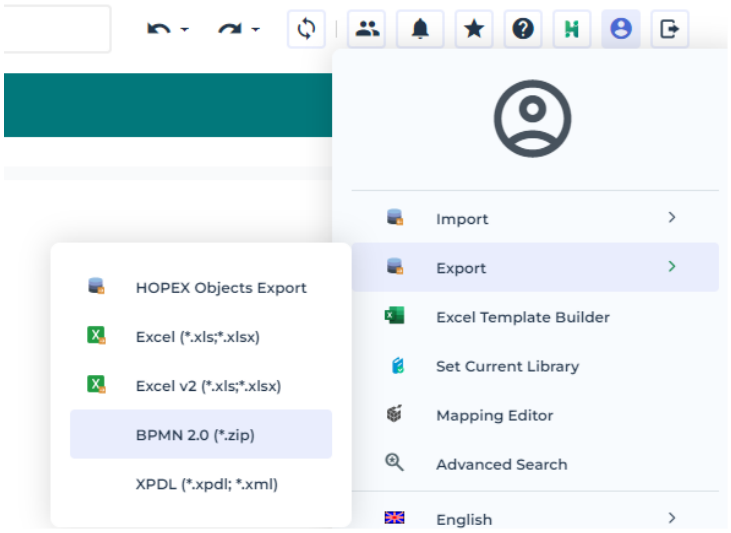
- System Processes
- Processes
- Process Categories
- Value Streams

The list of supported mappings is detailed below. See Object correspondences.

Exporting BPMN Files

To export a BPMN file from HOPEX:

1. In HOPEX, select **Main Menu > Export > BPMN 2.0 (*.zip).**



The export dialog box appears.

2. Select the type of object you want to export, for example Process, and click **Next**.

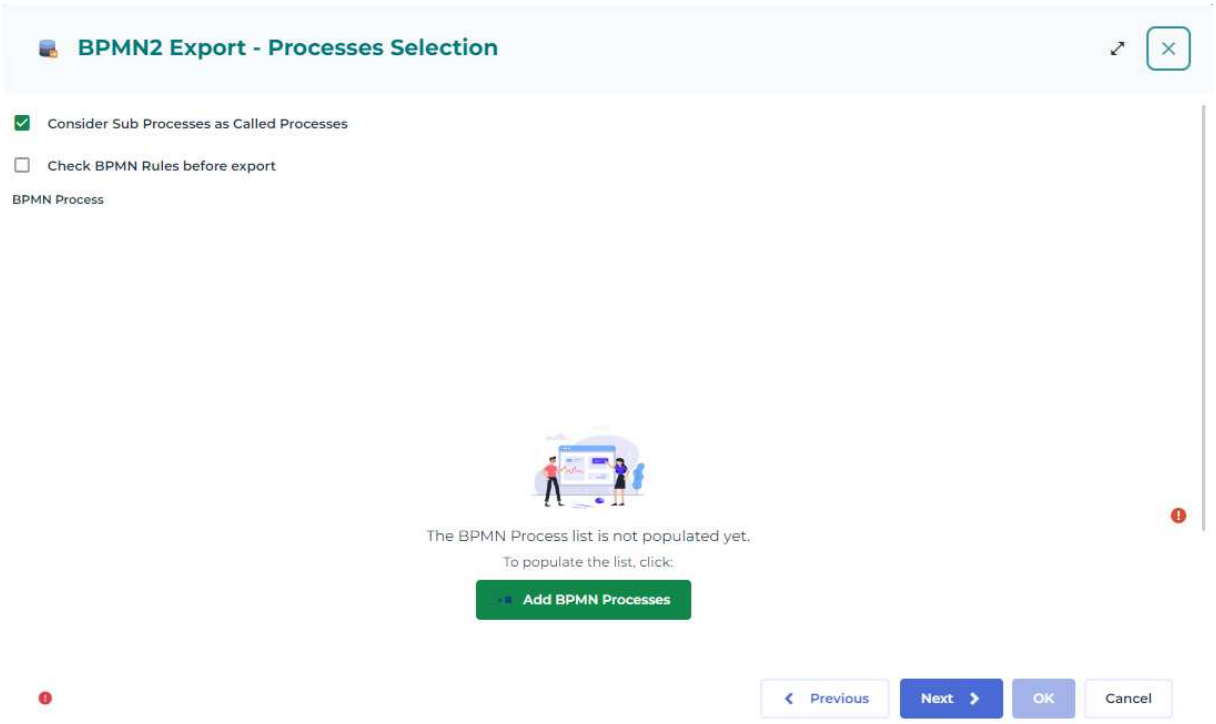


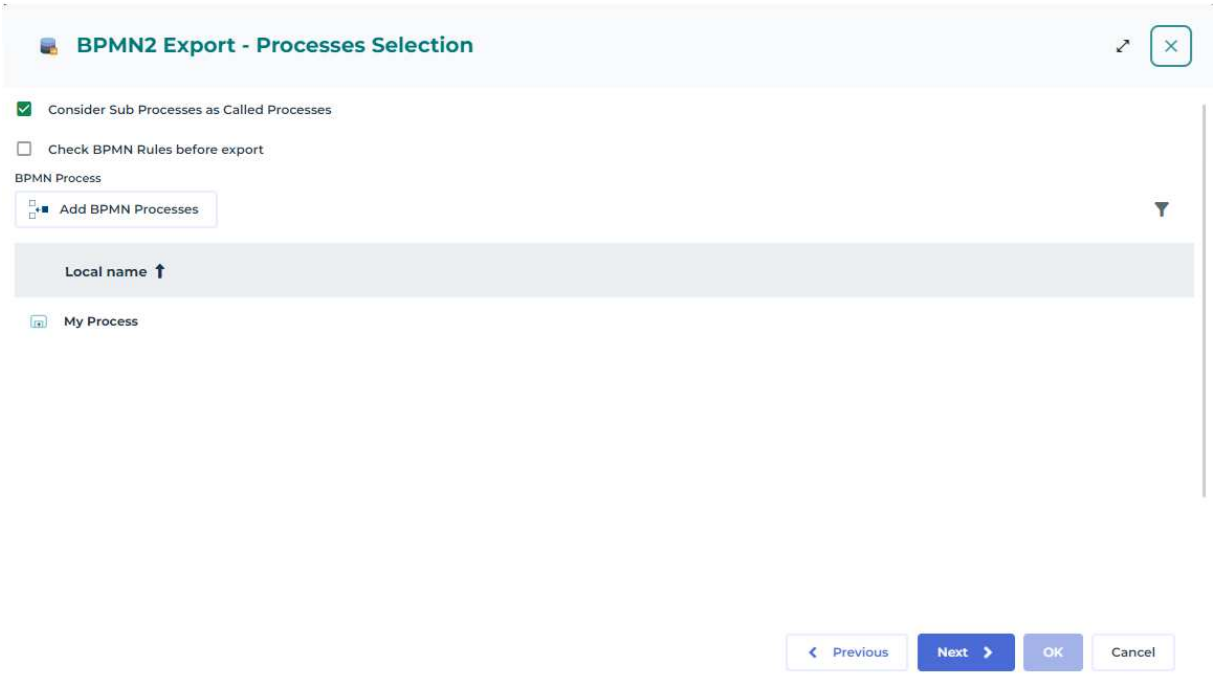
3. Specify the processes to be exported.

   Two options are available:

   - **Consider Sub Processes as Called Processes**: In BPMN a sub process is embedded into the parent process, so when exporting the parent process the sub processes will be exported in the same file as embedded processes. This option allows to consider these sub processes as called process tasks.
   - **Check BPMN Rules before export**: this option checks whether processes you want to export conform to BPMN modeling rules. If not, a message asks if you want to continue with the export. Click **Yes** to continue or **No** to stop the export.

   Click **Add BPMN Processes** to specify the list of processes you want to export.





4. Select one or several processes to be exported.
5. Click **Next**.

   A progression window opens. Another window prompts you to open or to save the xml result file. A report of the export is displayed.



6. Click **Ok** to finish.

HOPEX/BPMN OBJECT CORRESPONDENCE

The BPMN export feature translates a BPMN element specification in HOPEX into a BPMN-compliant output file. It is based on a set of mappings between the HOPEX BPMN Process metamodel (including diagrams) and BPMN version 2.0.

Conventions

HOPEX concept names start with an uppercase. Example: Task.

BPMN elements are delimited by <..>.

BPMN attributes are prefixed by ::.

BPMN concepts relate to the following OMG Specification document: “Business Process Model and Notation (BPMN), formal/2011-01-03”.

Object correspondences

The following table indicates concepts managed by the export tool:

HOPEX Concepts	BPMN Concepts
Process	**<process>**
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Owned Operation	<task>
Owned Data Store	<dataStore> and <dataStoreReference>
Owned Element	
Gateway	<gateway>
Event	< event>
Sequence Flow	< sequenceFlow>
Data Object	< dataObject> and <dataObjectReference>
Message Flow	< messageFlow>
Participant	< participant> or <lane>
Internal Participant	< laneSet> and <lane>
Owned Process	<callActivity> or <subProcess>
Owned Update Association	<dataStoreReference> and <dataStoreRef>
Owned Read Association	<dataStoreReference> and <dataStoreRef>
Note	< textAnnotation> and <text>
Description	<BPMNDiagram>

HOPEX Concepts	BPMN Concepts
Operation	**<task>** (*See Table 1)*
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Compensation	isForCompensation
Loop	<standardLoopCharacteristics>
Loop Condition	< loopCondition>
Multiple	< multiInstanceLoopCharacteristics >
Called Process	calledElement
Data Object Used	<dataInput> and <dataInputAssociation>
Produced Data Object	<dataOutput> and <dataOutAssociation>
BPMN Data Store Read Association	<dataInput> and <dataInputAssociation>
BPMN Data Store Update Association	<dataOutput> and <dataOutAssociation>
Note	< textAnnotation> and <text>
Gateway	**<gateway>** (*See Table 2)*
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Note	< textAnnotation> and <text>
Event	**<event>** (*See Table 3)*
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Interrupting	isInterrupting or cancelActivity
Bounded Activity	attachedToRef
Note	< textAnnotation> and <text>
Sequence Flow	**<SequenceFlow>**
_Hexaidabs	id
Comment	<documentation>
Predicate	<conditionExpression>
Predecessor	sourceRef
Successor	targetRef

HOPEX Concepts	BPMN Concepts
Data Object	**<dataObject> and <dataObjectReference>**
Short Name	name
_Hexaidabs	id
Collection	isCollection
Comment	<dataObjectReference> and <documentation>
Data Object Status	< dataObjectReference::name>
Process Data Object	**<dataStore> and <dataStoreReference>**
Short Name	name
_Hexaidabs	id
Process Data Object	**<dataStore> and <dataStoreReference>**
Short Name	name
Predicate	<conditionExpression>
Predecessor	sourceRef
Successor	targetRef
Message Flow	**<messageFlow>**
_Hexaidabs	id
Comment	< documentation>
Source Element	sourceRef
Target Element	targetRef
Internal Participant	**<lane>**
Short Name	name
_Hexaidabs	id
Assignment	name
BPMN Element	<flowNodeRef>
External Participant	**<participant>**
Short Name	name
_Hexaidabs	id
Assignment	name
Note	<textAnnotation> and <text>
Note	**<textAnnotation> and <association>**
_Hexaidabs	id
Comment	< documentation>

HOPEX Concepts	BPMN Concepts
System Process	**<process>**
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Owned Task	<task>
Owned Data Store	<dataStore> and <dataStoreReference>
Owned Element	
Gateway	<gateway>
Event	< event>
Sequence Flow	< sequenceFlow>
Data Object	< dataObject> and <dataObjectReference>
Message Flow	< messageFlow>
Participant	< participant> or <lane>
Internal Participant	< laneSet> and <lane>
Owned System Process	<callActivity> or <subProcess>
Owned Read Association	<dataStoreReference> and <dataStoreRef>
Owned Update Association	<dataStoreReference> and <dataStoreRef>
Note	< textAnnotation> and <text>
Description	<BPMNDiagram>
Task	**<task>** (*See Table 1)*
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Compensation	isForCompensation
Loop	<standardLoopCharacteristics>
Loop Condition	< loopCondition>
Multiple	< multiInstanceLoopCharacteristics >
Called System Process	calledElement
Data Object Used	<dataInput> and <dataInputAssociation>
Produced Data Object	<dataOutput> and <dataOutAssociation>
BPMN Data Store Read Association	<dataInput> and <dataInputAssociation>
BPMN Data Store Update Association	<dataOutput> and <dataOutAssociation>
Note	< textAnnotation> and <text>

HOPEX Concepts	BPMN Concepts
Value Stream	**<process>**
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Owned Value Stage	<task>
Owned Data Store	<dataStore> and <dataStoreReference>
Owned Element	
Gateway	<gateway>
Event	< event>
Sequence Flow	< sequenceFlow>
Data Object	< dataObject> and <dataObjectReference>
Message Flow	< messageFlow>
Participant	< participant> or <lane>
Internal Participant	< laneSet> and <lane>
Owned Value Stream	<callActivity> or <subProcess>
Owned Read Association	<dataStoreReference> and <dataStoreRef>
Owned Update Association	<dataStoreReference> and <dataStoreRef>
Note	< textAnnotation> and <text>
Description	<BPMNDiagram>
Value Stage	**<task>** (*See Table 1)*
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Compensation	isForCompensation
Loop	<standardLoopCharacteristics>
Loop Condition	< loopCondition>
Multiple	< multiInstanceLoopCharacteristics >
Called Value Stream	calledElement
Data Object Used	<dataInput> and <dataInputAssociation>
Produced Data Object	<dataOutput> and <dataOutAssociation>
BPMN Data Store Read Association	<dataInput> and <dataInputAssociation>
BPMN Data Store Update Association	<dataOutput> and <dataOutAssociation>
Note	< textAnnotation> and <text>

HOPEX Concepts	BPMN Concepts
Process Category	**<process>**
Short Name	name
_Hexaidabs	id
Comment	<documentation>
Owned Task	<task>
Owned Data Store	<dataStore> and <dataStoreReference>
Owned Element	
Gateway	<gateway>
Event	< event>
Sequence Flow	< sequenceFlow>
Data Object	< dataObject> and <dataObjectReference>
Message Flow	< messageFlow>
Participant	< participant> or <lane>
Internal Participant	< laneSet> and <lane>
Owned System Process	<callActivity> or <subProcess>
Owned Read Association	<dataStoreReference> and <dataStoreRef>
Owned Update Association	<dataStoreReference> and <dataStoreRef>
Note	< textAnnotation> and <text>
Description	<BPMNDiagram>

Table 1:

Task Type	BPMN
Task Type	**<task>**
User	< userTask>
IT-Service Call	< serviceTask>
System Process Call	< callActivity>
Script	< scriptTask >
Send	< receiveTask>
Receive	< manualTask>
Manual	< businessRuleTask>

Table 2:

Gateway Type	BPMN
Gateway Type	**< gateway>**
Inclusive	<inclusiveGateway>
Complex	<complexGateway>
Parallel	<parallelGateway>
Exclusive (Data)	<exclusiveGateway>
Exclusive (Event)	<eventBasedGateway> and ::eventGatewayType=Exclusive and ::instantiate=false
Exclusive (Instantiate)	<eventBasedGateway> and ::eventGatewayType=Exclusive and ::instantiate=true
Parallel (Instantiate)	<eventBasedGateway> and ::eventGatewayType= Parallel and ::instantiate=true

Table 3:

		Event Nature				Bounded Activity
		Start	End	Throw	Catch	
		<startEvent>	*<endEvent>*	*<intermediateThrowEvent>*	*<intermediateCatchEvent>*	*<boundaryEvent>*
Event Type	Generic					
	Message	<messageEventDefinition>	<messageEventDefinition>	<messageEventDefinition>	<messageEventDefinition>	<messageEventDefinition>
	Timer	<timerEventDefinition>	*	*	<timerEventDefinition>	<timerEventDefinition>
	Error	<errorEventDefinition>	<errorEventDefinition>	*	*	<errorEventDefinition>
	Cancel	*	<cancelEventDefinition>	*	*	<cancelEventDefinition>
	Compensation	<compensateEventDefinition>	<compensateEventDefinition> and ::waitForCompletion=true	<compensateEventDefinition> and ::waitForCompletion=true	*	<compensateEventDefinition> and ::waitForCompletion=true
	Conditional	<conditionalEventDefinition> and <condition>	*	*	<conditionalEventDefinition> and <condition>	<conditionalEventDefinition> and <condition>
	Link	*	*	<linkEventDefinition>	<linkEventDefinition>	*
	Signal	<signalEventDefinition>	<signalEventDefinition>	<signalEventDefinition>	<signalEventDefinition>	<signalEventDefinition>
	Terminate	*	<terminateEventDefinition>	*	*	*
	Escalation	<escalationEventDefinition>	<escalationEventDefinition>	<escalationEventDefinition>	*	<escalationEventDefinition>
	Parallel Multiple	::parallelMultiple=true	*	*	::parallelMultiple=true	::parallelMultiple=true

		Event Nature				Bounded Activity
		Start	End	Throw	Catch	
		<startEvent>	*<endEvent>*	*<intermediateThrowEvent>*	*<intermediateCatchEvent>*	*<boundaryEvent>*
	Multiple					

* = Combination not possible

XPDL Export

XPDL EXPORT OVERVIEW

The XML Process Definition Language (XPDL) is a standard format to interchange Business Process definitions between different workflow products such as modeling tools and workflow engines.

The MEGA XPDL export project aims at exporting workflow definitions as XPDL files so that workflows modeled in MEGA can be executed by workflow engines such as FileNet and TIBCO.

Prerequisites

The XPDL export feature is available with **MEGA Designer, MEGA Process BPMN and MEGA System BluePrint**, and supports XPDL version 2.1.

Scope of XPDL export

The purpose of XPDL export is to translate MEGA Processes into XPDL.

The tool handles translation of the following processes:

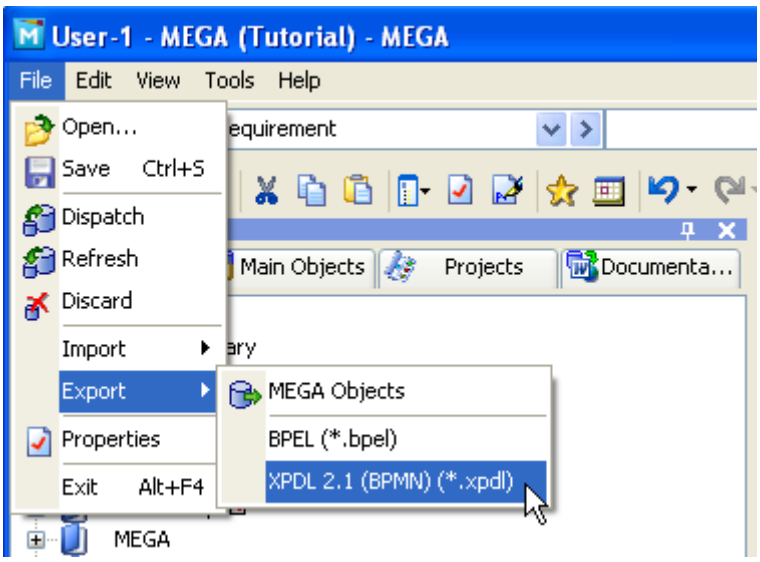
- System Processes
- Organizational Processes
- Business Processes
- Functional Processes

The list of supported mappings is detailed below. See Object correspondences.

Exporting XPDL Files

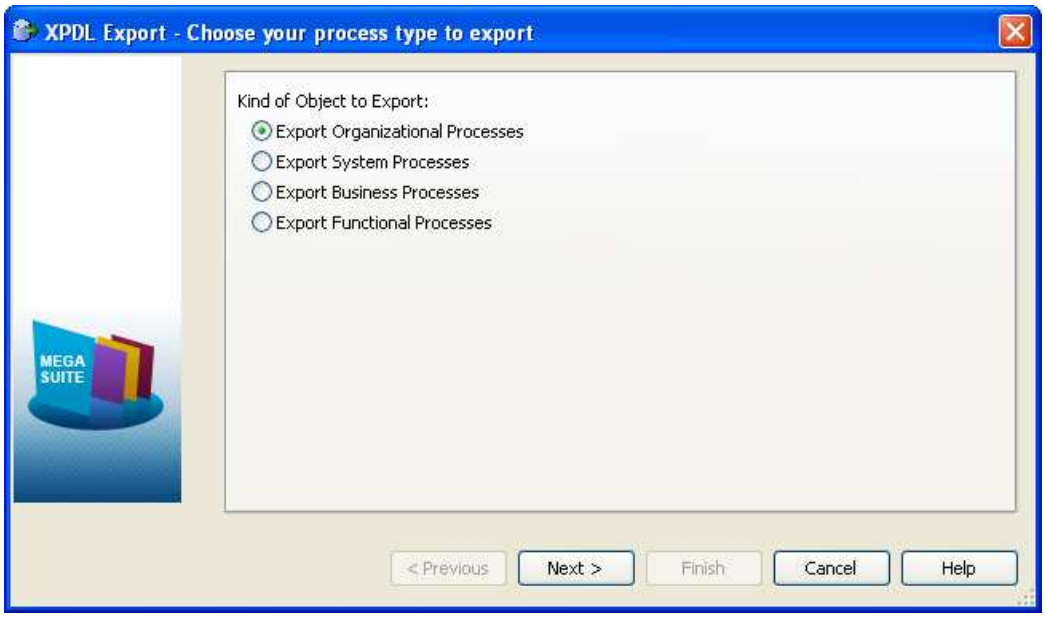
To export an XPDL file from MEGA:

1. In MEGA, select **File > Export > XPDL 2.1 (*.xpdl).**

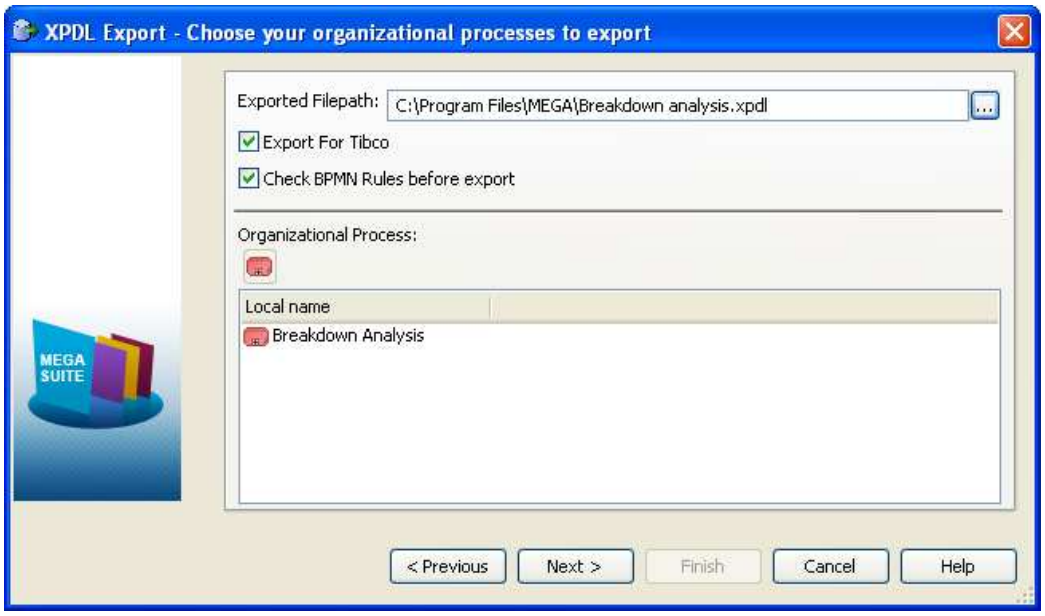


The export dialog box appears.

2. Select the type of object you want to export, for example Organizational Process, and click **Next**.



3. Specify the name and path of the file to create, and select the Object to export.



Two options are available:

- **Export for Tibco**. See Export To TIBCO Business Studio.
- **Check BPMN Rules before export**: this option checks whether processes you want to export conform to BPMN modeling rules. If not, a message asks if you want to continue with the export. Click **Yes** to continue or **No** to stop the export.

4. Click **Next**.

   The window that follows shows progression of the export.

5. Click **Finish**.

MEGA/XPDL OBJECT CORRESPONDENCE

The XPDL export feature translates a Workflow specification in MEGA into a XPDL-compliant output file. It is based on a set of mappings between the MEGA System Process and Organizational Process metamodel and XPDL version 2.1.

Conventions

MEGA concept names start with uppercase. Example: Task.

XPDL elements are delimited by <..>.

XPDL attributes are prefixed by ::.

XPDL concepts relate to the following WfMC Specification document: “Process Definition Interface – XML Process Definition Language, WFMC-TC-1025, Version 2.1a”.

Special Behaviors

Each exported Workflow will generate a default <Pool> and a default <Lane>.

The internal participants will be exported as <Artifact> typed Group for graphical layout purpose and as <Participant> which will perform the tasks.

The external participants will be exported as <Pool>and as <Participant>.

Only graphical Sequence Flows, Message Flows and Notes are exported.

Application, IT Service and User Interface objects are exported as Extended Attributes. Its name, id and comment are concerned.

The export tool considers objects and links using the rules detailed in the object correspondence table. The diagrams are only used to retrieve graphical information of exported objects. One possible consequence is that in the result you can have, after import in another tool, more objects appearing in the result diagram.

Object correspondences

The following table indicates concepts managed by the export tool:

MEGA Concepts	XPDL Concepts
Organizational Process	**<WorkflowProcess>**
Name	Name
_Hexaidabs	Id
Comment	Description
Owned Operation	<Activities>
Owned Element	

MEGA Concepts	XPDL Concepts
Gateway	
Event	<Activities>
Sequence Flow (*)	<Activities>
Data Object	<Transitions>
Message Flow (*)	<Artifacts>
Participant	<MessageFlows>
Content	<Participants>
Internal Participant	<DataFields>
Owned Organizational Process	<Participants>
Organizational Process Used	<WorkflowProcess>
	<WorkflowProcess>
Operation	**<Activity>**
Name	Name
_Hexaidabs	Id
Comment	Description
Compensation	IsForCompensation
Transaction	IsATransaction
Loop	<Loop>
Multiple	<Loop :: LoopType>
Loop Condition	<LoopCondition>
User Interface	<Task::TaskUser>
Name	<ExtendedAttribute :: GuiName>
_Hexaidabs	<ExtendedAttribute :: GuiId>
Comment	<ExtendedAttribute :: GuiDescription>
IT Service	<Task::TaskService>
Name	<ExtendedAttribute :: ServiceName>
_Hexaidabs	<ExtendedAttribute :: ServiceId>
Comment	<ExtendedAttribute :: ServiceDescription>
Application	<Task::TaskService>
Name	<ExtendedAttribute :: ServiceName>
_Hexaidabs	<ExtendedAttribute :: ServiceId>
Comment	<ExtendedAttribute :: ServiceDescription>

MEGA Concepts	XPDL Concepts
System Used	
System Specification	
IT Service	<Task::TaskService>
Application	<Task::TaskService>
Name	<ExtendedAttribute :: ServiceName>
_Hexaidabs	<ExtendedAttribute :: ServiceId>
Comment	<ExtendedAttribute :: ServiceDescription>
Participant	<Performer>
Called Organizational Process	<Implementation :: SubFlow>
Note (*)	<Artifact :: Annotation>
Content	**<DataField>**
Name	Name
_Hexaidabs	Id
Gateway	**<Activity :: Route>**
Name	Name
_Hexaidabs	Id
Comment	Description
Gateway Type	*See Table 1*
Note (*)	<Artifact :: Annotation>
Event	**<Activity :: Event>**
Name	Name
_Hexaidabs	Id
Comment	Description
Event Nature	*See Table 2*
Event Type	*See Table 2*
Triggered Sequence Flow	<Transition>
Bounded Activity	Target
Note (*)	<Artifact :: Annotation>
Sequence Flow	**<SequenceFlow>**
Predicate	Name
_Hexaidabs	Id

MEGA Concepts	XPDL Concepts
Comment	Description
Sequence Type	*See Table 3*
Predecessor	<Transition :: From>
Successor	<Transition :: To>
Data Object	<Artifact :: DataObject>
Note (*)	<Artifact :: Annotation>
Data Object	**<Artifact :: DataObject>**
Name	Name
_Hexaidabs	Id
Data Object Status	State
Producer of Data Object	<Association :: Source>
Consumer of Data Object	<Association :: Target>
Sequence Flow	<Association :: Object>
Message Flow	**<MessageFlow>**
_Hexaidabs	Id
Content	
Name	Name
Source Element	<MessageFlow :: Source>
Target Element	<MessageFlow :: Target>
Note (*)	<Artifact :: Annotation>
Participant	**<Participant> & <Artifact :: Group>**
Name	Name
_Hexaidabs	Id
Comment	Description
Assignment	
Name	<Artifact :: Description>
MetaClass Name	*See Table 4*
Note	**<Artifact :: Annotation>**
Name	Name
_Hexaidabs	Id
Comment	TextAnnotation

MEGA Concepts	XPDL Concepts
System Process Name _Hexaidabs Comment Owned Task Owned Element Gateway Event Sequence Flow (*) Data Object Message Flow (*) Participant Content Internal Participant Owned System Process Organizational Process within Model	**<WorkflowProcess>** Name Id Description <Activities> <Activities> <Activities> <Transitions> <Artifacts> <MessageFlows> <Participants> <DataFields> <Participants> <WorkflowProcess> <WorkflowProcess>
Task Name _Hexaidabs Comment Compensation Transaction Loop Multiple Loop Condition Task Type User Interface Name _Hexaidabs Comment IT Service Name	**<Activity>** Name Id Description IsForCompensation IsATransaction <Loop> <Loop :: LoopType> <LoopCondition> *See Table 5* <Task::TaskUser> <ExtendedAttribute :: GuiName> <ExtendedAttribute :: GuiId> <ExtendedAttribute :: GuiDescription> <Task::TaskService> <ExtendedAttribute :: ServiceName>

MEGA Concepts	XPDL Concepts
_Hexaidabs	<ExtendedAttribute :: ServiceId>
Comment	<ExtendedAttribute :: ServiceDescription>
Participant	<Performer>
Called System Process	<Implementation :: SubFlow>
Note (*)	<Artifact :: Annotation>
Functional Process	**<WorkflowProcess>**
Name	Name
_Hexaidabs	Id
Comment	Description
Owned Functional Activity	<Activities>
Owned Element	
Gateway	<Activities>
Event	<Activities>
Sequence Flow (*)	<Transitions>
Data Object	<Artifacts>
Message Flow (*)	<MessageFlows>
Participant	<Participants>
Internal Participant	<Participants>
Owned Functional Process	<WorkflowProcess>
Functional Process Used	<WorkflowProcess>
Functional Activity	**<Activity>**
Name	Name
_Hexaidabs	Id
Comment	Description
Compensation	IsForCompensation
Transaction	IsATransaction
Loop	<Loop>
Multiple	<Loop :: LoopType>
Loop Condition	<LoopCondition>
Application	<Task::TaskService>
Name	<ExtendedAttribute :: ServiceName>
_Hexaidabs	<ExtendedAttribute :: ServiceId>

MEGA Concepts	XPDL Concepts
Comment	<ExtendedAttribute :: ServiceDescription>
IT Service	<Task::TaskService>
Name	<ExtendedAttribute :: ServiceName>
_Hexaidabs	<ExtendedAttribute :: ServiceId>
Comment	<ExtendedAttribute :: ServiceDescription>
Participant	<Performer>
Called Functional Process	<Implementation :: SubFlow>
Note (*)	<Artifact :: Annotation>
Business Process	**<WorkflowProcess>**
Name	Name
_Hexaidabs	Id
Comment	Description
Owned Element	
Gateway	<Activities>
Event	<Activities>
Sequence Flow (*)	<Transitions>
Data Object	<Artifacts>
Message Flow (*)	<MessageFlows>
Participant	<Participants>
Internal Participant	<Participants>
Owned Business Process	<WorkflowProcess>
Organizational Process	<WorkflowProcess>
System Process	<WorkflowProcess>
Functional Process	<WorkflowProcess>

(*) Only if the object is represented on a diagram

Table 1:

MEGA Gateway Type	XPDL
Gateway Type	**<Route>**
Exclusive Event	:: GatewayType = Exclusive & :: ExclusiveType = Event
Exclusive Data	:: GatewayType = Exclusive & :: ExclusiveType = Data

MEGA Gateway Type	XPDL
Parallel	:: GatewayType = Parallel
Inclusive	:: GatewayType = Inclusive
Complex	:: GatewayType = Complex

Table 2:

		MEGA Event Nature			
		Start	**End**	**Throw**	**Catch**
		<StartEvent>	***<EndEvent>***	***<IntermediateEvent>*** ***CatchThrow = Throw***	***<IntermediateEvent>*** ***CatchThrow = Catch***
MEGA Event Type	**Generic**	:: Trigger = None	:: Result = None	:: Trigger = None	:: Trigger = None
	Message	:: Trigger = Message	:: Result = Message	:: Trigger = Message	:: Trigger = Message
	Timer	:: Trigger = Timer	:: Result = None *	:: Trigger = None *	:: Trigger = Timer
	Error	:: Trigger = None *	:: Result = Error	:: Trigger = None *	:: Trigger = Error
	Cancel	:: Trigger = None *	:: Result = Cancel	:: Trigger = None *	:: Trigger = Cancel
	Compensation	:: Trigger = None *	:: Result = Compensation	:: Trigger = Compensation	:: Trigger = Compensation
	Conditional	:: Trigger = Conditional	:: Result = None *	:: Trigger = None *	:: Trigger = Conditional
	Link	:: Trigger = None *	:: Result = None *	:: Trigger = Link	:: Trigger = Link
	Signal	:: Trigger = Signal	:: Result = Signal	:: Trigger = Signal	:: Trigger = Signal
	Terminate	:: Trigger = None *	:: Result = None *	:: Trigger = None *	:: Trigger = None *
	Multiple	:: Trigger = Multiple	:: Result = Multiple	:: Trigger = Multiple	:: Trigger = Multiple

* = Default behavior because the combination is not possible

Table 3:

MEGA Sequence Type	XPDL
Sequence Type	**<Condition>**
Conditioned	:: Type = CONDITION & :: <Expression>
Standard	-
Default	:: Type = OTHERWISE

Table 4:

MEGA Assignment	XPDL
Assignment	**<ParticipantType>**
Org-Unit	:: Type = ORGANIZATIONAL_UNIT
Application	:: Type = SYSTEM
IT Service	:: Type = SYSTEM
System Process	:: Type = SYSTEM
Others	:: Type = ROLE

Table 5:

MEGA Task Type	XPDL
Task Type Task With GUI IT Service Call System Process Call Manual Task Script Task Send Task Receive Task	**<Task>** <TaskUser> <TaskService> <SubFlow> <TaskManual> <TaskScript> <TaskSend> <TaskReceive>

EXPORT TO TIBCO BUSINESS STUDIO

The XPDL export tool of MEGA enables the export of workflows modeled in MEGA and their import into TIBCO Business Studio®.

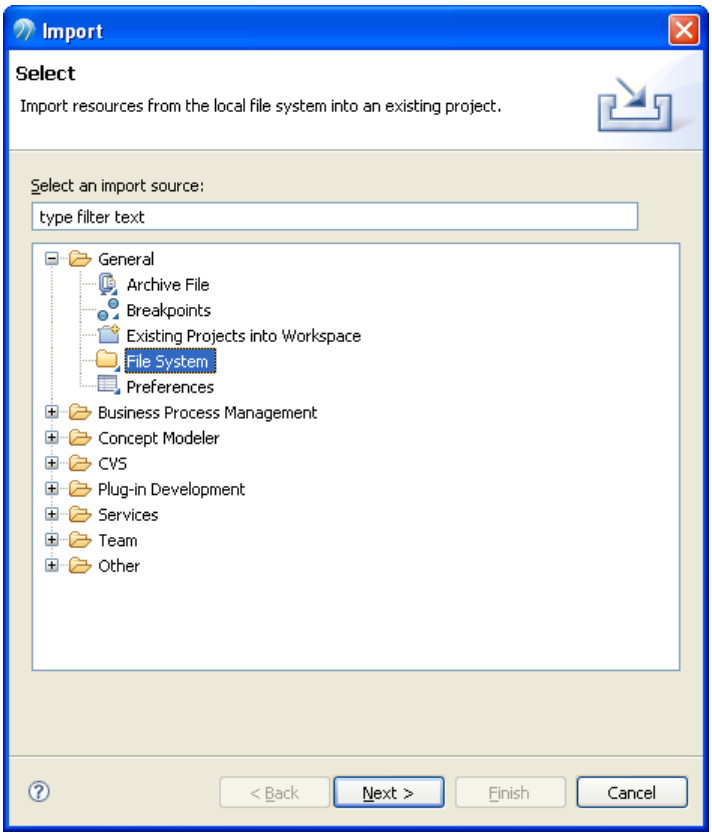
To obtain workflow that can be used in TIBCO Business Studio, simply export the description of this workflow in XPDL format.

To do this:

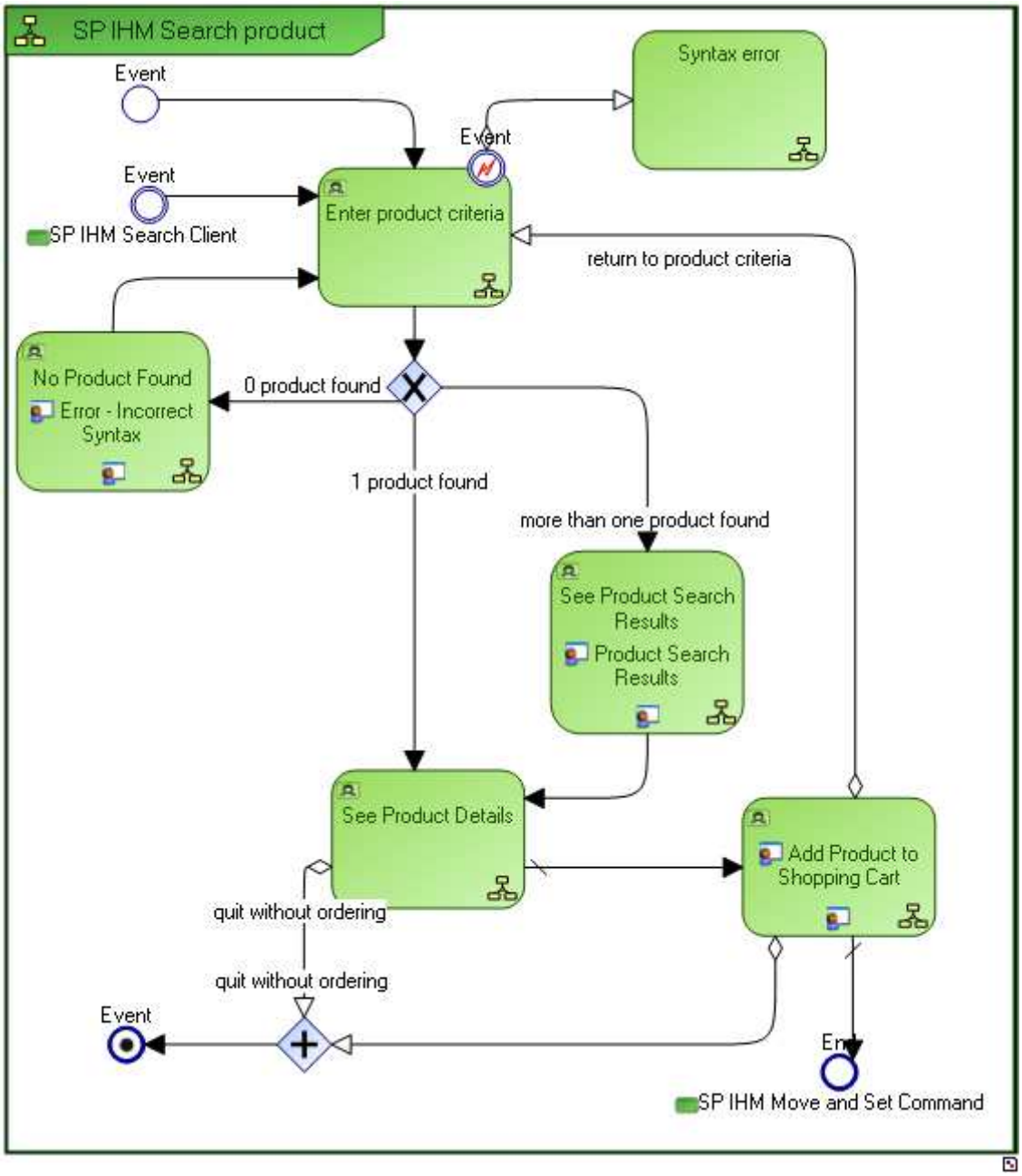
1. In MEGA, select **File** > **Export** > XPDL **2.1 (*.xpdl)**.

   The export dialog box appears.

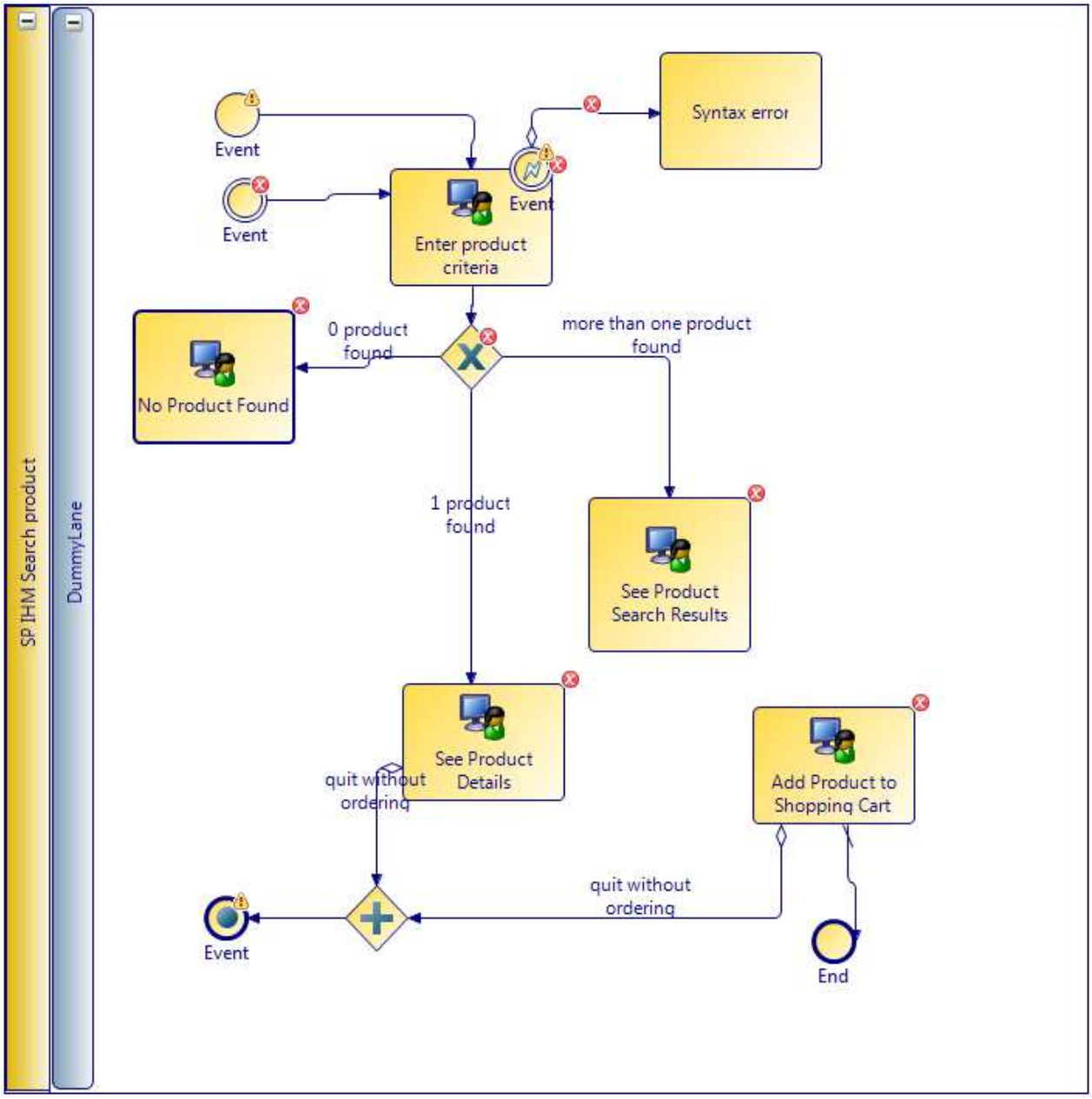
2. Select the system processes or the organization processes to be exported.
3. Specify the name of the file to be exported.
4. Check the option “Export for Tibco” (if available)
5. Click **Next**.
6. Click the **Export** button.
7. In TIBCO Business Studio, import the XPDL file in a “Process Packages Folder” by using the “File System” import source:



Example of workflow in MEGA:



Example of the workflow imported into TIBCO Business Studio:



W

USING HOPEX FOR CONFLUENCE

HOPEX for Confluence module is provided by MEGA in the Atlassian Store, enabling **Confluence** users to access, upload and save **Hopex** objects in Confluence pages.

This documentation explains how to:

- ✓ Prepare **Confluence** and **HOPEX** tools;
- ✓ Access **HOPEX** diagrams from **Confluence.**

BEFORE STARTING WITH HOPEX AND CONFLUENCE

HOPEX Prerequisites

Prequesites

Minimum version

HOPEX for Confluence module can be used from **HOPEX** Version 5 onwards

Hopex installation

HOPEX server must be reachable from internet.

Module installation

HOPEX for Confluence module must have been installed from the **Confluence** Store in the **Confluence** working space.

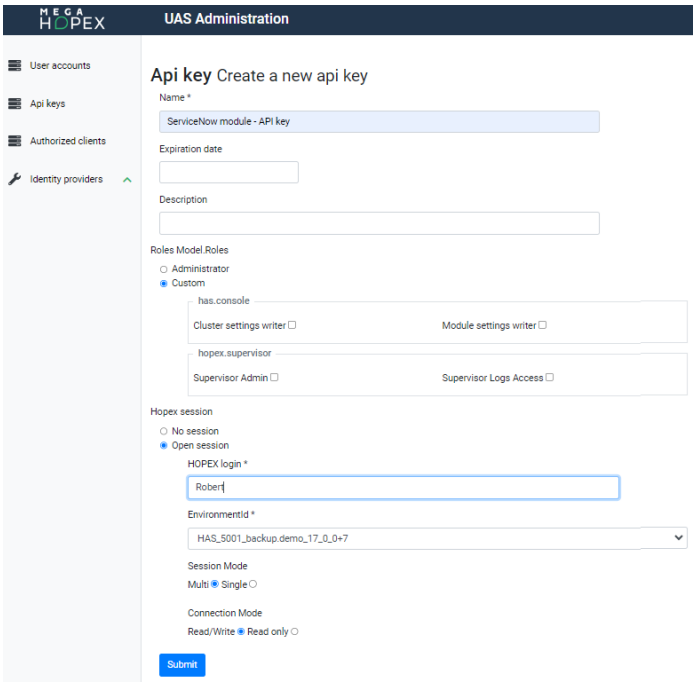
API key

An API key must be created to set up the connection between **HOPEX** and **Confluence**.

To create an API key:

1. Connect to **HOPEX Application Server - Console**.
2. Select **Modules** > **Authentication**.

3. Select **Api keys**, then click **Create**.
   - Enter a key **Name**.



4. Configure the Roles:
   - Select **Custom**
   - Leave the fields below blank
5. Configure HOPEX session:
   - Select **Open session**
   - Enter a valid **HOPEX login**
   - Select the **EnvironmentId**
   - Select the **Repository** if applicable

     ☛ *You need to create one API key per repository.*
   - Select the **Profile** if applicable

     ☛ *Bear in mind that the profile you use must have sufficient CRUD rights on the objects that will be synched.*
6. Configure Session mode:
   - **Multi** (recommanded)
   - **Single** (slower and requires more memory)
7. Configure Connection Mode field:
   - **Read/write** (useless)
   - **Read only** (recommanded)
8. Click **Submit**.
9. Copy the key.

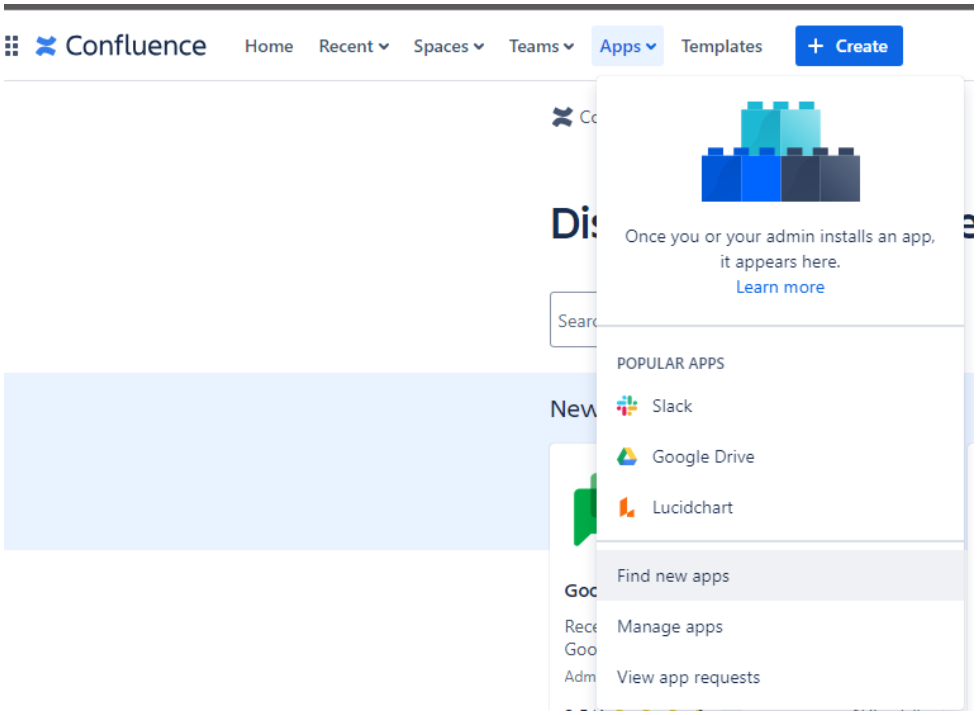
   ☺ *Save the key somewhere, you won't be able to access it again.*

Installing Hopex for Confluence

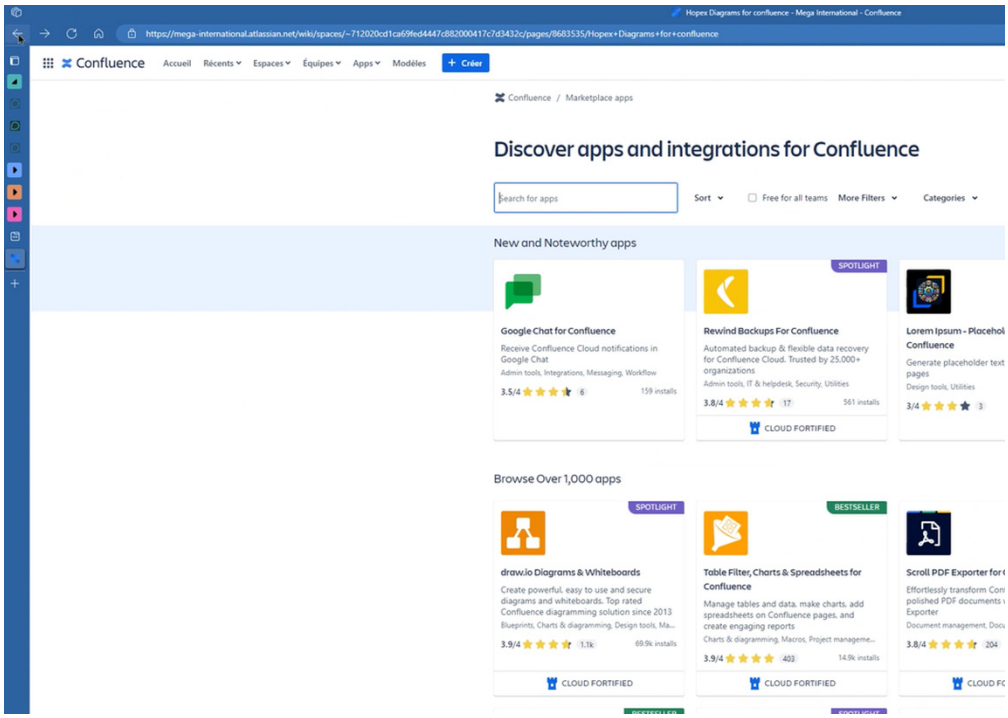
Confluence Administrator must install the "HOPEX for Confluence".

To do so:

1. From **Confluence** space, select the navigation menu **Apps**,click on **Find New Apps**.



2. Search "Hopex for Confluence" App.



3. Select "HOPEX for Confluence" and click **Get App**.

Setting Up the Connection

Confluence Administrator must set up the **HOPEX for Confluence** module.

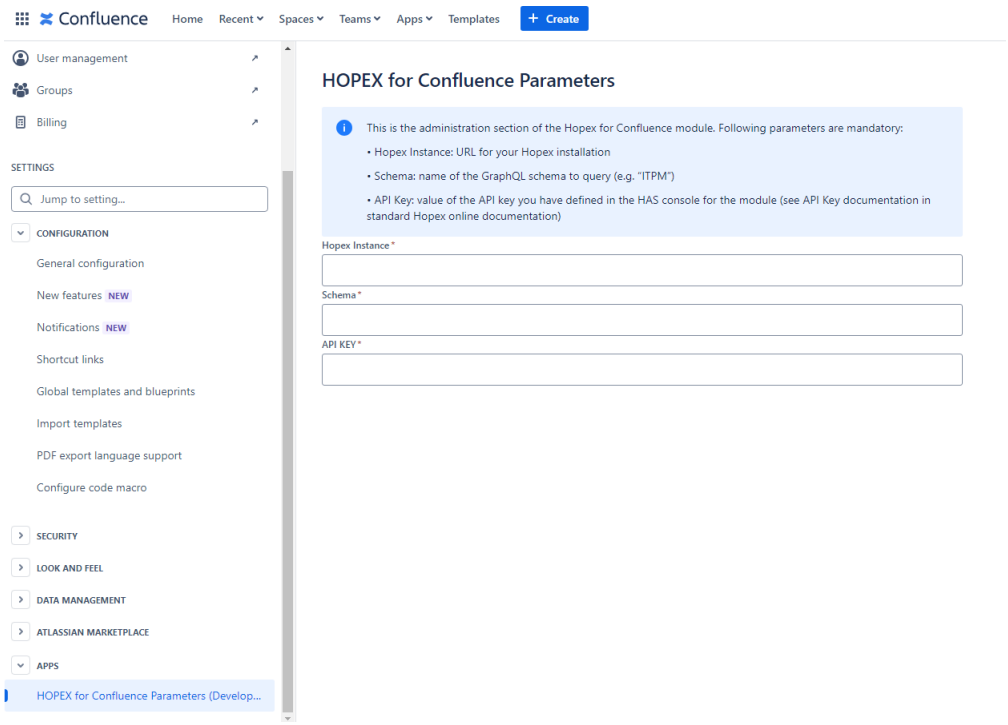
To set up the connection between **HOPEX** and **Confluence**:

1. Click the Cogwheel button and select **Confluence administration**.



The **Confluence administration** page opens.

2. In the navigation menu, select **Settings > APPS > HOPEX for Confluence**.
   A specific page opens.



3. Enter your **Hopex** Instance provided by ***MEGA***.
4. Enter the name of the GraphQL schema to query (e.g. "ITPM")
5. Enter your API Key

   ☛ *For more details, see API key section*.

6. Click **Save Parameters**.

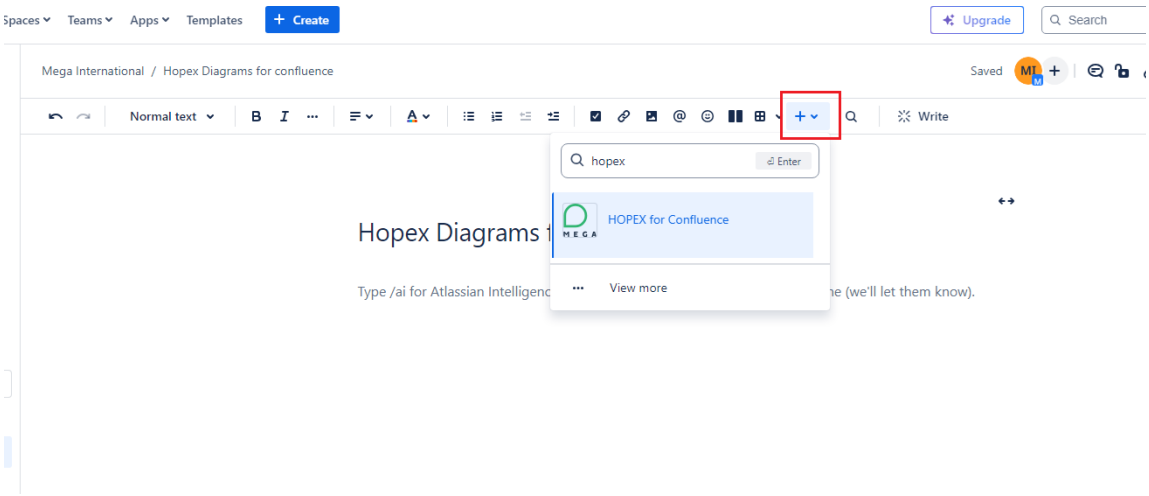
Using Hopex for Confluence

USING HOPEX FOR CONFLUENCE

Adding an Hopex diagram in a Confluence page

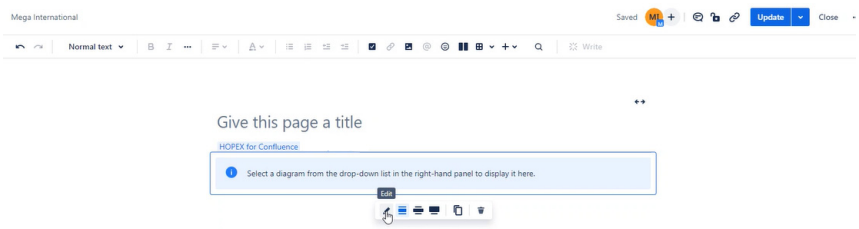
To add an **Hopex** diagram in a **Confluence** page:

1. In a **Confluence** page, click "+" button and search for "Hopex for Confluence" macro.

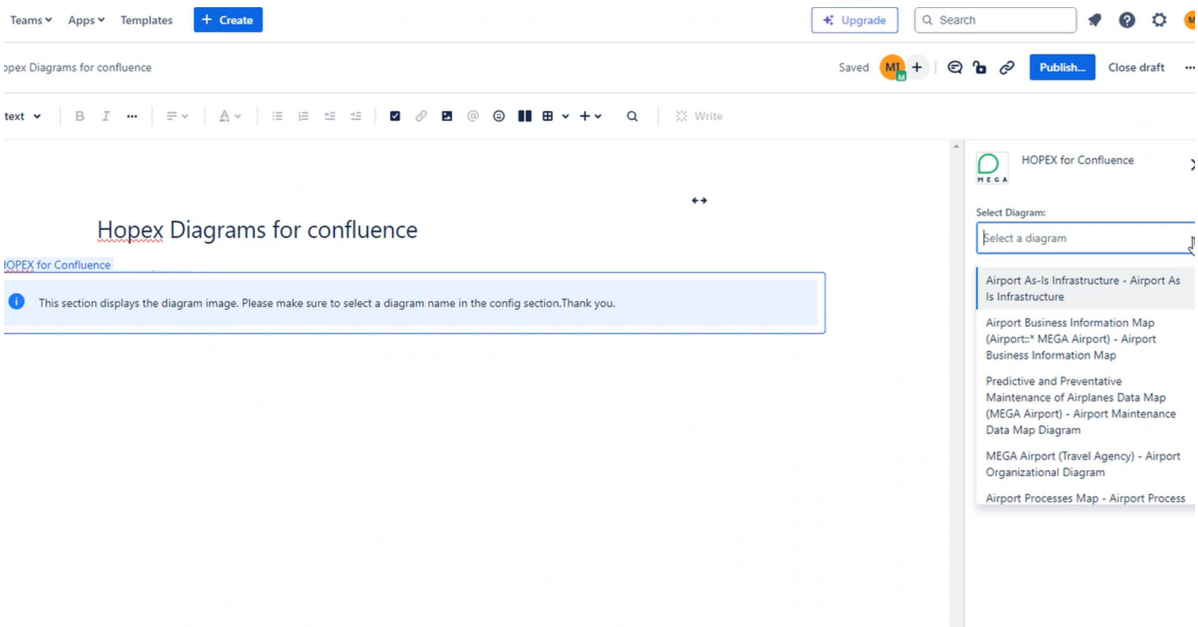


2. Select "HOPEX for Confluence".

3. From the new page, click **Edit** button.



A list of HOPEX diagrams is proposed.



4. Select the diagram that interests you.
   The diagram is added in the page.

   ☛ *To add another diagram, repeat to step 1.*

5. Save the page.