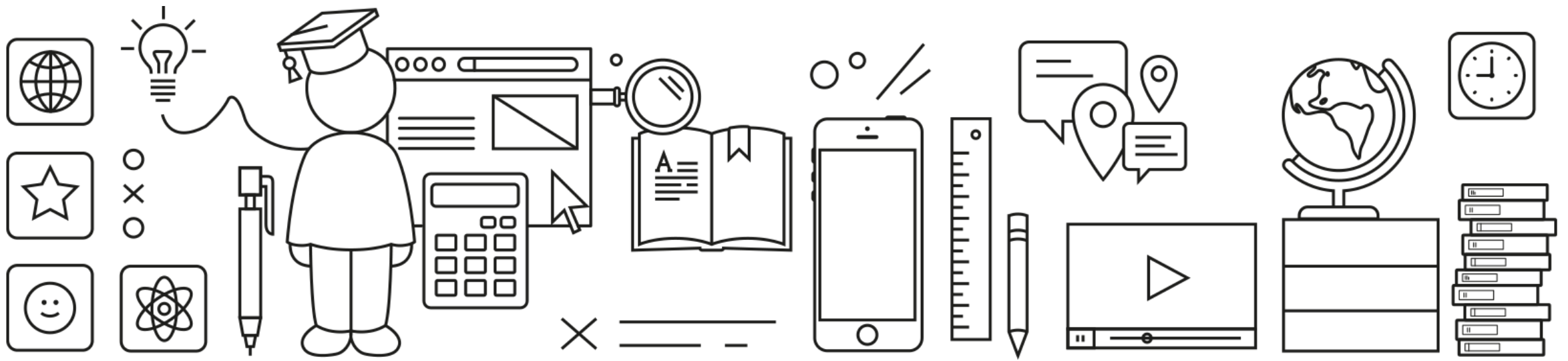




SAP Customer Experience

SAP Commerce Cloud Backoffice Framework Developer Training

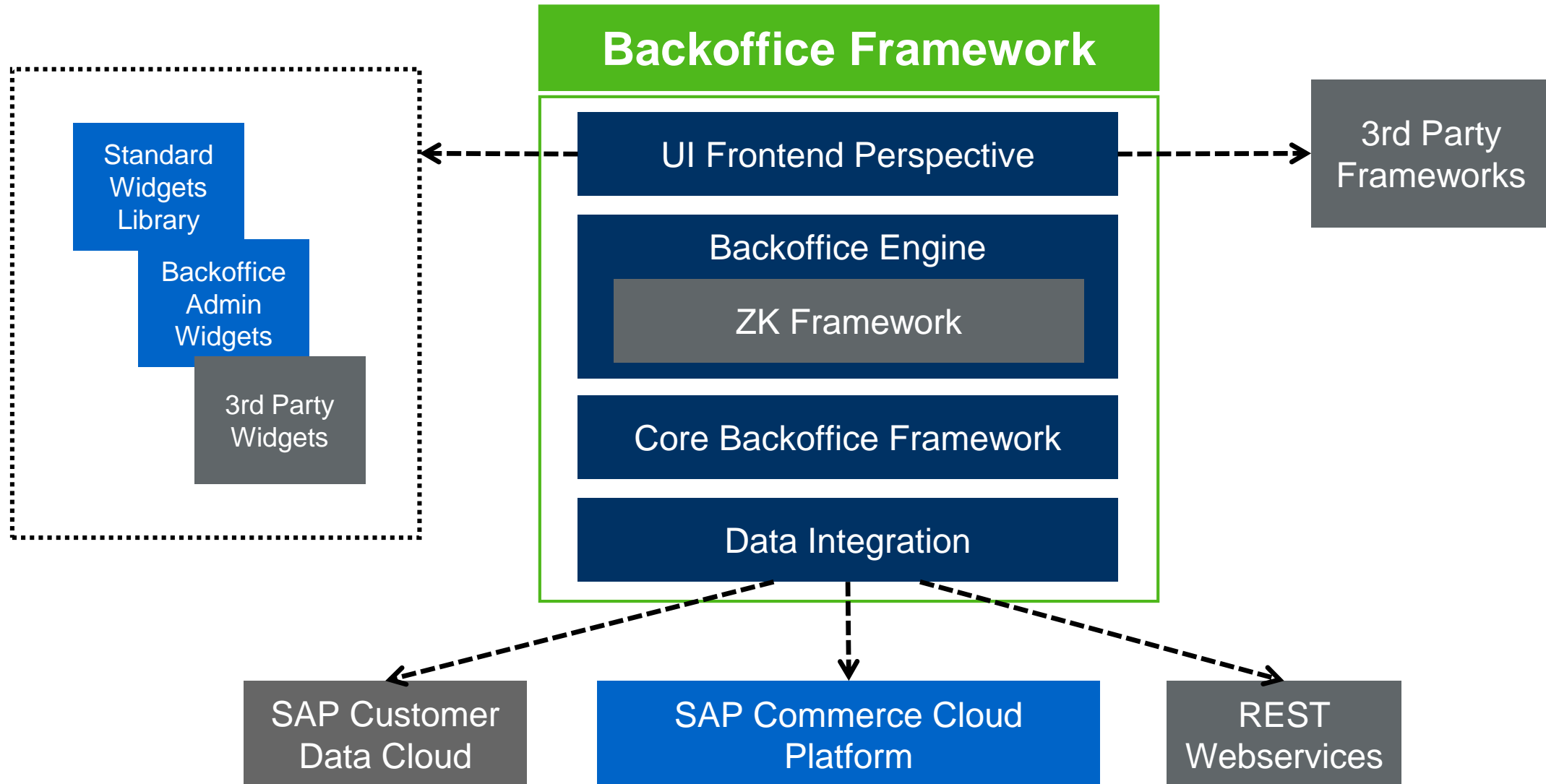
Backoffice Fundamentals Recap



Backoffice Framework Architecture

Backoffice Framework Architecture
Backoffice Configuration
Widgets
Cockpits
Application Orchestrator
Backoffice Framework Documentation
Exercise

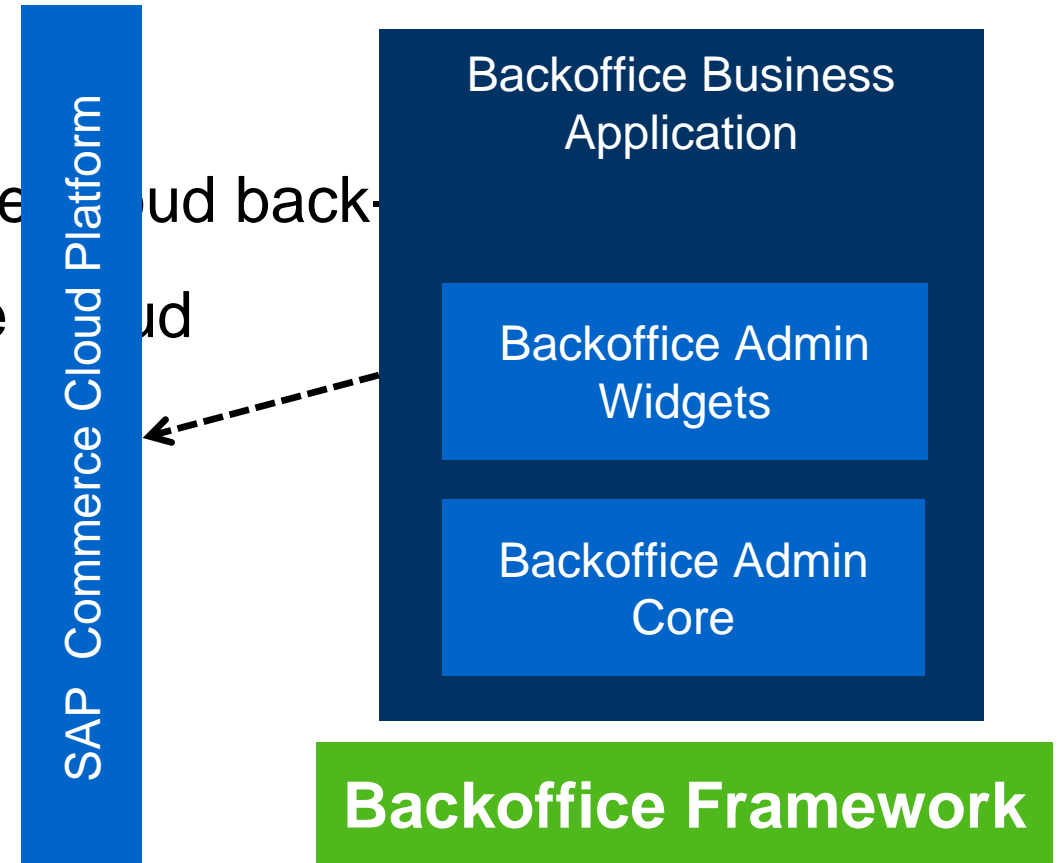
Backoffice Fundamentals Refresher - Architecture



Backoffice Fundamentals Refresher - Architecture

■ Backoffice Administrator Cockpit

- Single user interface for all SAP Commerce Cloud back-
- Provided out-of-the box in SAP Commerce Cloud
- For administrators and business users

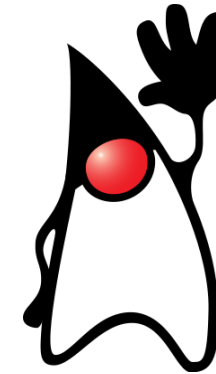


Backoffice Fundamentals Refresher - Technologies

Technologies used



JAXB





Backoffice Configuration

Backoffice Framework Architecture
Backoffice Configuration
Widgets
Cockpits
Application Orchestrator
Backoffice Framework Documentation
Exercise

Backoffice Configuration

Two types of Configuration: ***1)Application Structure***
 2)UI Context

1. Application Structure: via `*-backoffice-widgets.xml` files

- Declarations of ALL widget instances that make up the Backoffice-Framework application – **merged into `widgets.xml`**
- Each widget's initial "widget settings" (e.g., visibility of its slots)
- How each widget is nested within another widget's "slot" (i.e., the hierarchal composition of widget instances)
- Wiring of widgets (i.e., interconnections via widget sockets)

Backoffice Configuration

Two types of Configuration: *1)Application Structure*
 2)UI Context

2. UI Context Config. – via *-backoffice-config.xml files

- Context-sensitive component-specific configs
merged into cockpit-config.xml
 - Each widget *type* has its own special XML *configuration format* (within `<context>` bodies) to affect how each widget *instance* view is generated by the widget controller
 - Allows each instance of the same widget *type* (definition) to adapt what it displays or how it functions to its *contextual* circumstances (e.g., type of data being displayed; privileges of user / role logged in)

Precedence of UI Configuration (*-config.xml)

- 3 different sources of UI configuration info:

- cockpit-config.xml: Merged configuration of the **whole** Backoffice application including any extensions based on the *ybackoffice* template
 - Can be modified it at runtime via **Application Orchestrator** --> **Show cockpit-config.xml**.
- mybackofficeextension/resources/mybackoffice-backoffice-config.xml: Configuration of components defined in, e.g., the *mybackofficeextension* extension. It can also be loaded at runtime by doing a reset in Application Orchestrator
- mybackofficeextension/backoffice/resources/widgets/mywidget/cockpit-config.xml (optional): Configuration supplied as part of the definition of a specific widget. Think of it as the widget's default configuration.

UI Configuration

The screenshot shows a web application for book management. It features a top navigation bar with a 'Book Management' dropdown. On the left is an 'EXPLORER' sidebar with a 'Filter Tree entries' input and a 'Book Management Tree' containing a 'Book' entry. The main area has a search bar and a table of books. The table has columns: Book, Identifier, Authors, and Catalog version. The book 'Hybris All in One' is selected. Below the table is a form for editing the selected book, with fields for Identifier, Catalog version, Approval, Image, and Description. The form is currently displaying the details for 'Hybris All in One'.

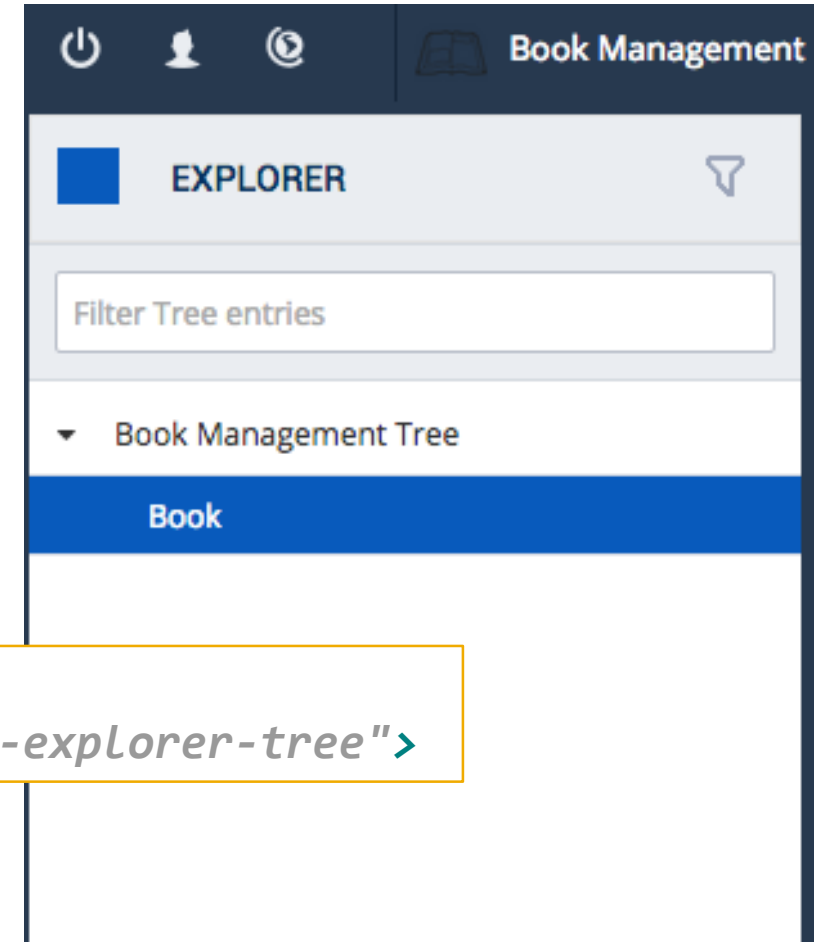
Book	Identifier	Authors	Catalog version
	World around me	Stefan Martin [Stefan Martin]	Bookstore Product Catalog : Staged
	How My Elves Adapted to e-Commerce	Spasoje Clause [Spasoje Clause]	Bookstore Product Catalog : Staged
	First Step to Writing a Book	Jacek Konopelski [Jacek Konopelski]	Bo
	How to Be a Totally Awesome Starship Captain	James T. Kirk [James T. Kirk]	Bo
	Rudolph the e-Commerce Reindeer	Rudolph R. Nose [Rudolph R. Nose]	Bo
	Hybris for Dummies	Jacek Konopelski [Jacek Konopelski]	Bookstore Product Catalog : Staged
	Hybris All in One	Jacek Konopelski [Jacek Konopelski]	Bookstore Product Catalog : Staged
	OMS Expert in 24 Hours	Jacek Konopelski [Jacek Konopelski]	Bookstore Product Catalog : Staged
	The eCommerce Murderess	Radisa Pantic [Radisa Pantic]	Bookstore Product Catalog : Staged
	The Programmer	Nevena Antesevic [Nevena Antesevic]	Bookstore Product Catalog : Staged
	The Trainer's Secret	David Scheffel [David Scheffel]	Bookstore Product Catalog : Staged
	History: India	Charles Barton [Charles Barton]	Bookstore Product Catalog : Staged

Annotations:

- `<context type="Book" component="bb-advanced-search">` (yellow box)
- `<context type="Book" component="bb-listview">` (orange box)
- `<context type="Book" component="base">` (pink box)
- `<context type="Book" component="bb-editor-area">` (green box)
- `<context type="Book" component="bb-explorer-tree">` (orange box)

Backoffice Configuration

```
<context component="bb-explorer-tree" perspective="bookstorebackoffice-perspective">  
  <n:explorer-tree xmlns:n="http://www.hybris.com/cockpitng/config/explorertree">  
    <n:navigation-node id="Book Management Tree">  
      <n:type-node id="Books" code="Book" />  
    </n:navigation-node>  
  </n:explorer-tree>  
</context>
```



UI Configuration • Advanced Search

```
<context type="Book" component="bb-advanced-search" >
  <advanced-search:advanced-search
    xmlns:advanced-search="http://www.hybris.com/cockpitng/config/advancedsearch">
    <advanced-search:field-list>
      <advanced-search:field name="code" selected="true" operator="equals"/>
      <advanced-search:field name="name" selected="true" operator="equals"/>
      <advanced-search:field name="catalogVersion" selected="true" operator="equals"/>
      <advanced-search:field name="approvalStatus" selected="true" operator="equals"/>
      <advanced-search:field name="variantT
      <advanced-search:field name="articleSt
      <advanced-search:field name="descript
      <advanced-search:field name="ean" sel
      <advanced-search:field name="keyword
      <advanced-search:field name="manufac
      <advanced-search:field name="manufac
      ...
    </advanced-search:field-list>
  </advanced-search:advanced-search>
</context>
```

The screenshot shows the Advanced Search configuration interface. At the top, there is a search bar with the text "Book" and a magnifying glass icon. To the right of the search bar is a "Global Operator" dropdown menu set to "And". Further right is a checkbox labeled "Include subtypes" which is checked. To the right of the checkbox is a yellow "SEARCH" button and a dark blue button with a save icon. Below the search bar is a table with four columns: "Attribute", "Comparator", "Value", and "Sort Order". The table contains five rows of configuration:

Attribute	Comparator	Value	Sort Order
Article Number	Equals		Up/Down arrows
Identifier	Equals	en	Up/Down arrows
Catalog version	Equals		Up/Down arrows
Approval	Equals		Up/Down arrows
Approval	Equals		Up/Down arrows

Backoffice Configuration

```
<context type="Book" component="bb-listview">
```

```
  <list:list-view xmlns:list="http://www.hybris.com/cockpitng/component/listView">
```

```
    <list:column qualifier="" spring-bean="previewListCellRenderer" width="26px" />
```

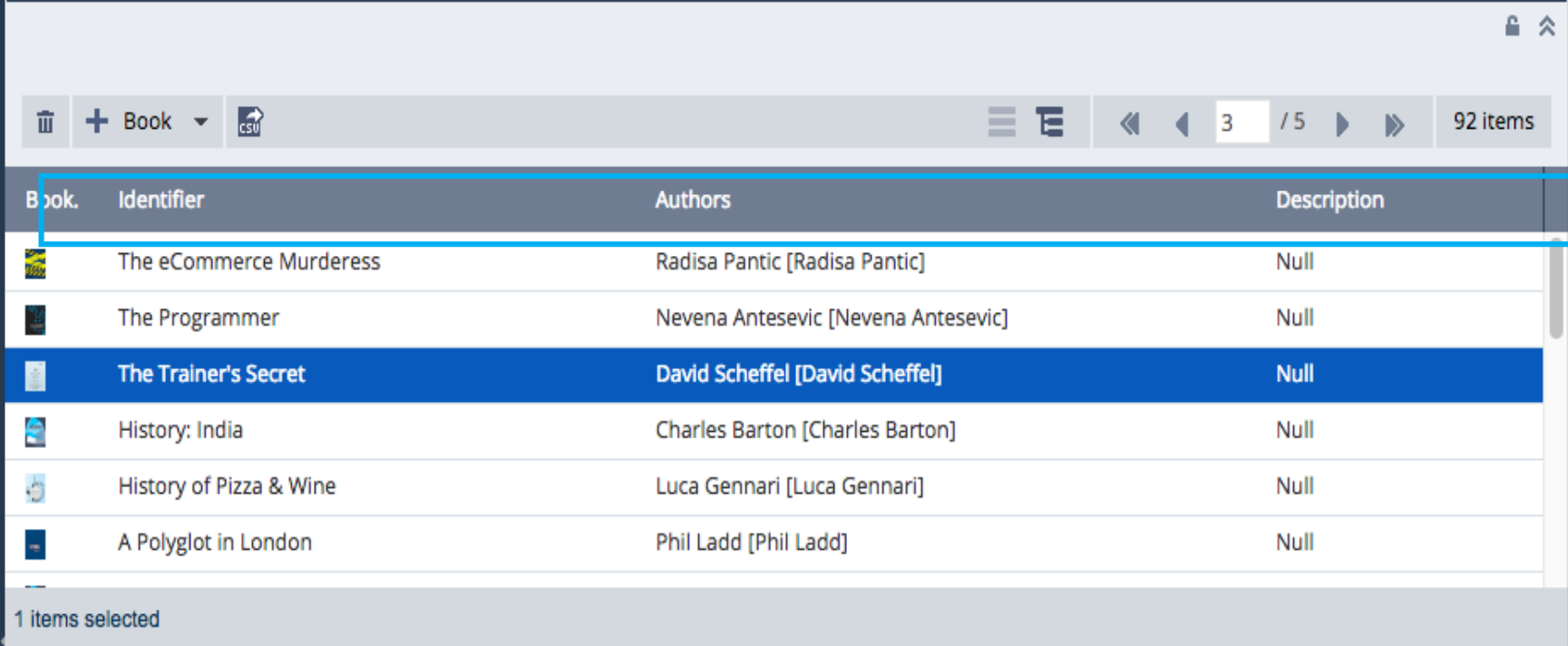
```
    <list:column qualifier="name" />
```







```
    <list:column qualifier="authors" />
```

```
    <list:column qualifier="description" />
```

```
  </list:list-view>
```

```
</context>
```



Book	Identifier	Authors	Description
	The eCommerce Murderess	Radisa Pantic [Radisa Pantic]	Null
	The Programmer	Nevena Antesevic [Nevena Antesevic]	Null
	The Trainer's Secret	David Scheffel [David Scheffel]	Null
	History: India	Charles Barton [Charles Barton]	Null
	History of Pizza & Wine	Luca Gennari [Luca Gennari]	Null
	A Polyglot in London	Phil Ladd [Phil Ladd]	Null

1 items selected

```
<context type="Book"  
  component="bb-listview">
```

Backoffice Configuration

```
<context merge-by="type" parent="Product" type="Book" component="base">
  <y:base xmlns:y="http://www.hybris.com/cockpit/config/hybris">
    <y:labels>
      <y:label>'Title: "' + (name?:code) + "' - ' +
        @labelService.getObjectLabel(catalogVersion)</y:label>
    </y:labels>
  </y:base>
</context>
```

```
<context type="Book"
  component="base">
```

Title: "Hybris All in One" - Bookstore Product Catalog : Staged



Refresh

Save

[books.essential]



Article Number

Identifier



5536152009

Hybris All in One

Backoffice Configuration

```
<context type="Book" component="editor-area">
  <editorArea:editorArea
    xmlns:editorArea="http://www.hybris.com/cockpitng/component/editorArea">
    <editorArea:essentials>
      <editorArea:essentialSection name="books.essential">
        <editorArea:attribute qualifier="code"/>
        <editorArea:attribute qualifier="name"/>
        <editorArea:attribute qualifier="catalogVersion"/>
        <editorArea:attribute qualifier="approvalStatus"/>
        <editorArea:attribute qualifier="picture"/>
        <editorArea:attribute qualifier="description"/>
      </editorArea:essentialSection>
    </editorArea:essentials>
  </editorArea:editorArea>
</context>
```

Article Number	Identifier
5536152009	Hybris All in One
Catalog version	Approval
Bookstore Product Catalog : Staged	approved
Image	Description
300Wx300H/hybris-all-in-one.jpg - Bookstore Product...	

```
<context type="Book"
  component="editor-area">
```

Application Configuration (*-widgets.xml)

- Holds information about all widget instances in the Backoffice interface, including viewing restrictions and socket connections. 2 sources of this configuration:
 - `widgets.xml`: Merged configuration of the whole Backoffice application including any extensions based on the ybackoffice template.
 - Not to be modified directly, it is generated automatically when you add/remove widgets and create widget connections using Application Orchestrator.
 - `mybackoffice/backoffice/resources/mybackoffice-backoffice-widgets.xml`: Default configuration of components defined in the mybackoffice extension.
- Performing a reset of `widgets.xml` in the Application Orchestrator will result in a loss of the dynamic configuration. Default configuration from all Backoffice module extensions will be re-loaded.

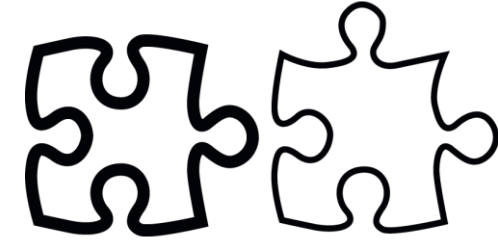


Widgets

- Backoffice Framework Architecture
- Backoffice Configuration
- Widgets**
- Cockpits
- Application Orchestrator
- Backoffice Framework Documentation
- Exercise

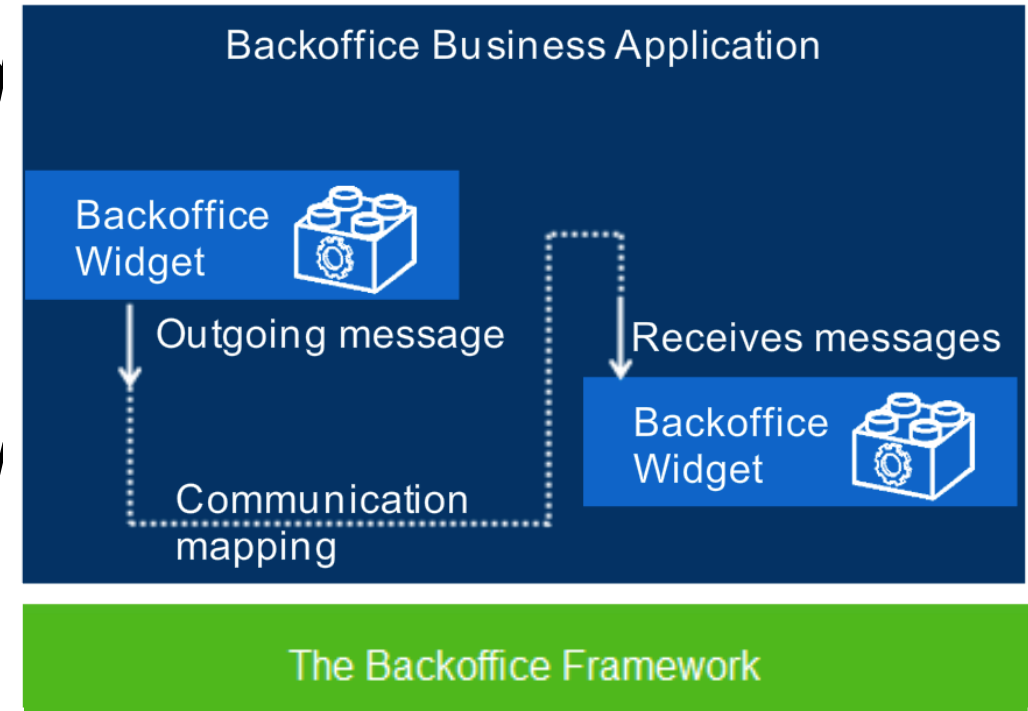
Widgets

- Stand-alone, deployable components
- MVC-based
- Clearly defined interface
- Specific purpose
- Highly composable
- Highly connectable






Widgets

- Widgets talk to each other via *messages* through the Backoffice Framework
- You can add, remove, and exchange widgets without breaking the application
- [List of Available Widgets on SAP Commerce Help](#)



Actions & Editors

■ Actions

- Used to trigger CRUD operations on objects or to trigger method calls in widget controllers
- Some default actions available in the framework are:
 -  Create action: Create an object of a Type
 -  Permission settings: Manage type- and attribute-based permissions per *Principal*
 -  Delete action: Delete an object of a Type

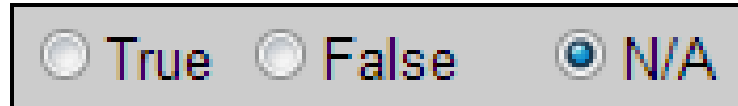
■ [List of Available Actions on SAP Commerce Help](#)

Actions & Editors

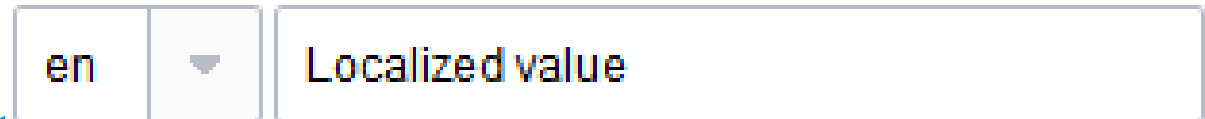
■ Editors

- Used to properly display and capture input for different types of data for editing. For example, special editors might be required for editing dates and ranges.
- Some available editors:

- Default Boolean editor:

A horizontal UI element for a boolean editor. It contains three radio buttons. The first is labeled 'True', the second 'False', and the third 'N/A'. The 'N/A' radio button is selected, indicated by a blue dot in its center.

- Localized simple editor:

A horizontal UI element for a localized simple editor. It consists of a small box on the left containing the text 'en' and a downward-pointing arrow, followed by a larger text input field containing the text 'Localized value'.

- [List of Available Editors on SAP Commerce Help](#)



Cockpits

Backoffice Framework Architecture
Backoffice Configuration
Widgets
Cockpits
Application Orchestrator
Backoffice Framework Documentation
Exercise

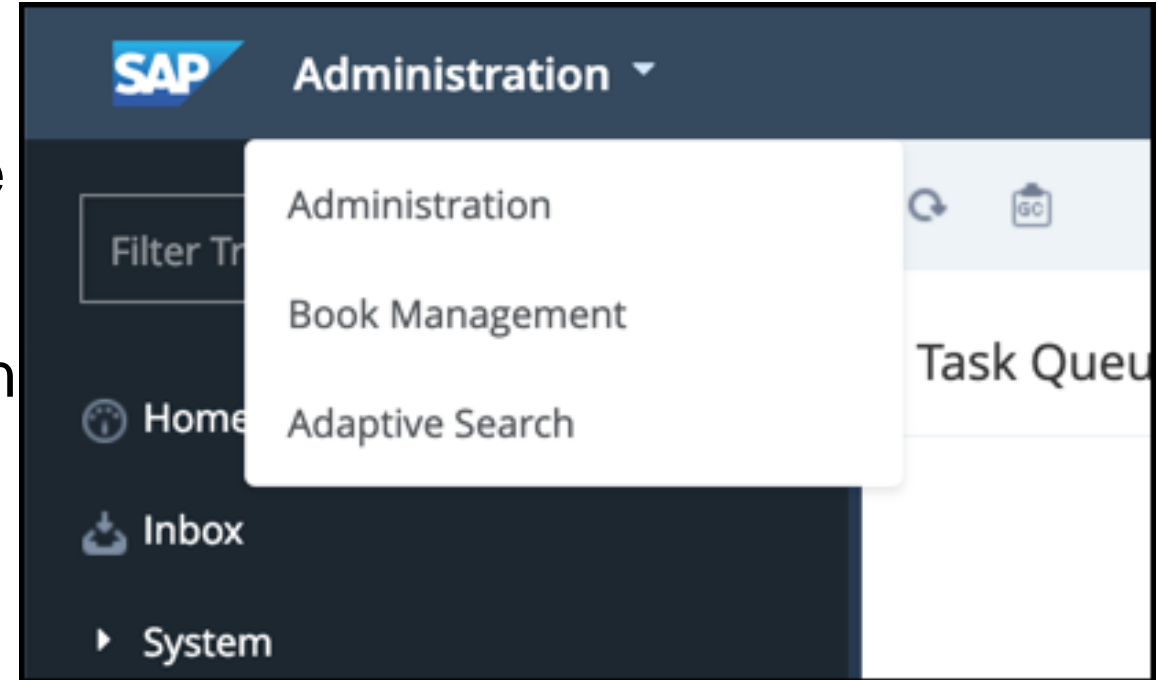
Cockpit Concept

■ What is a cockpit?

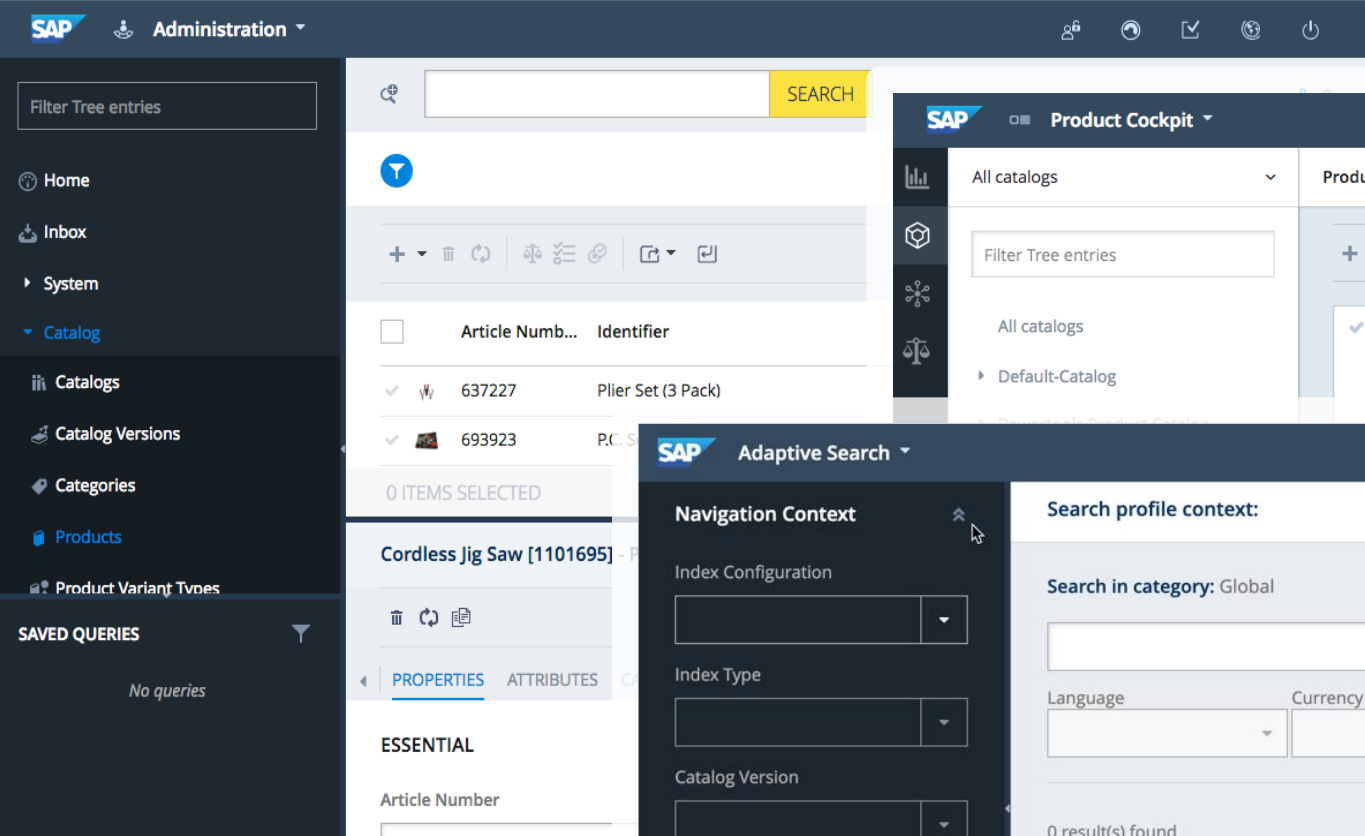
- A distinct sub-application within Backoffice
- Only one cockpit can be viewed at a time
- Represents the functionality of a standalone application
- Permissions at the cockpit level allow only one cockpit

■ When to create a new cockpit?

- When you have a need for a new standalone back office application
- When enabling a new business user role

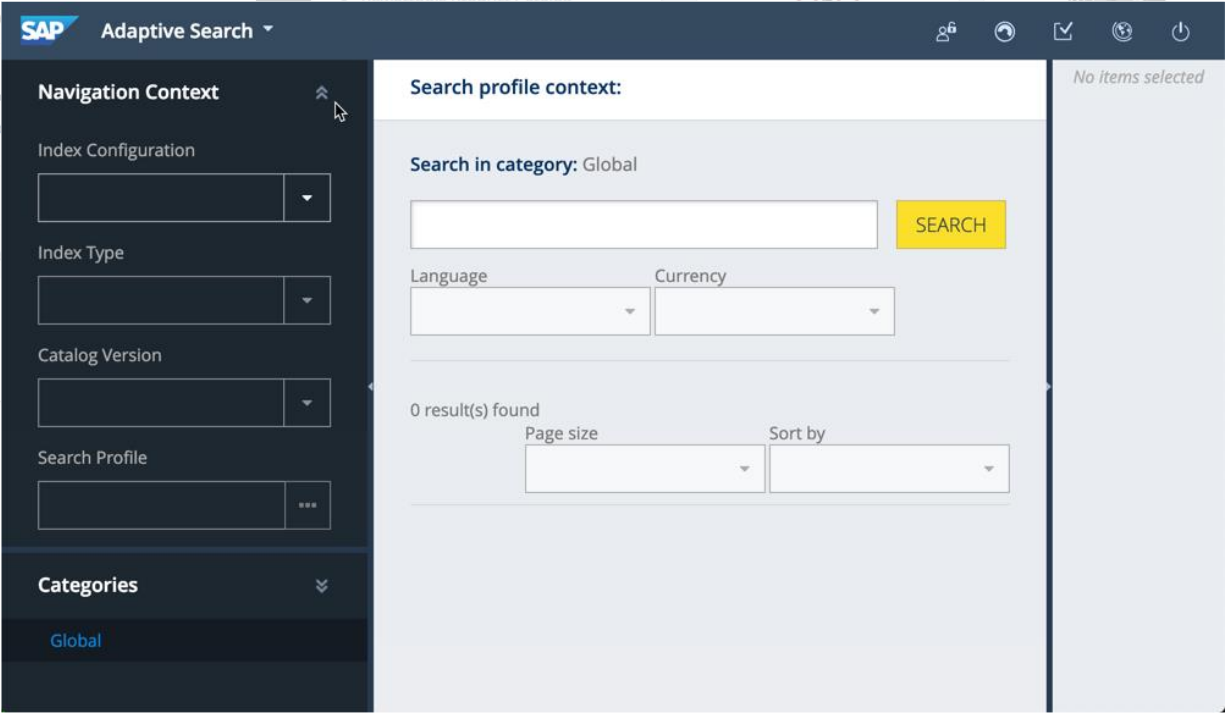


Example Backoffice Cockpits



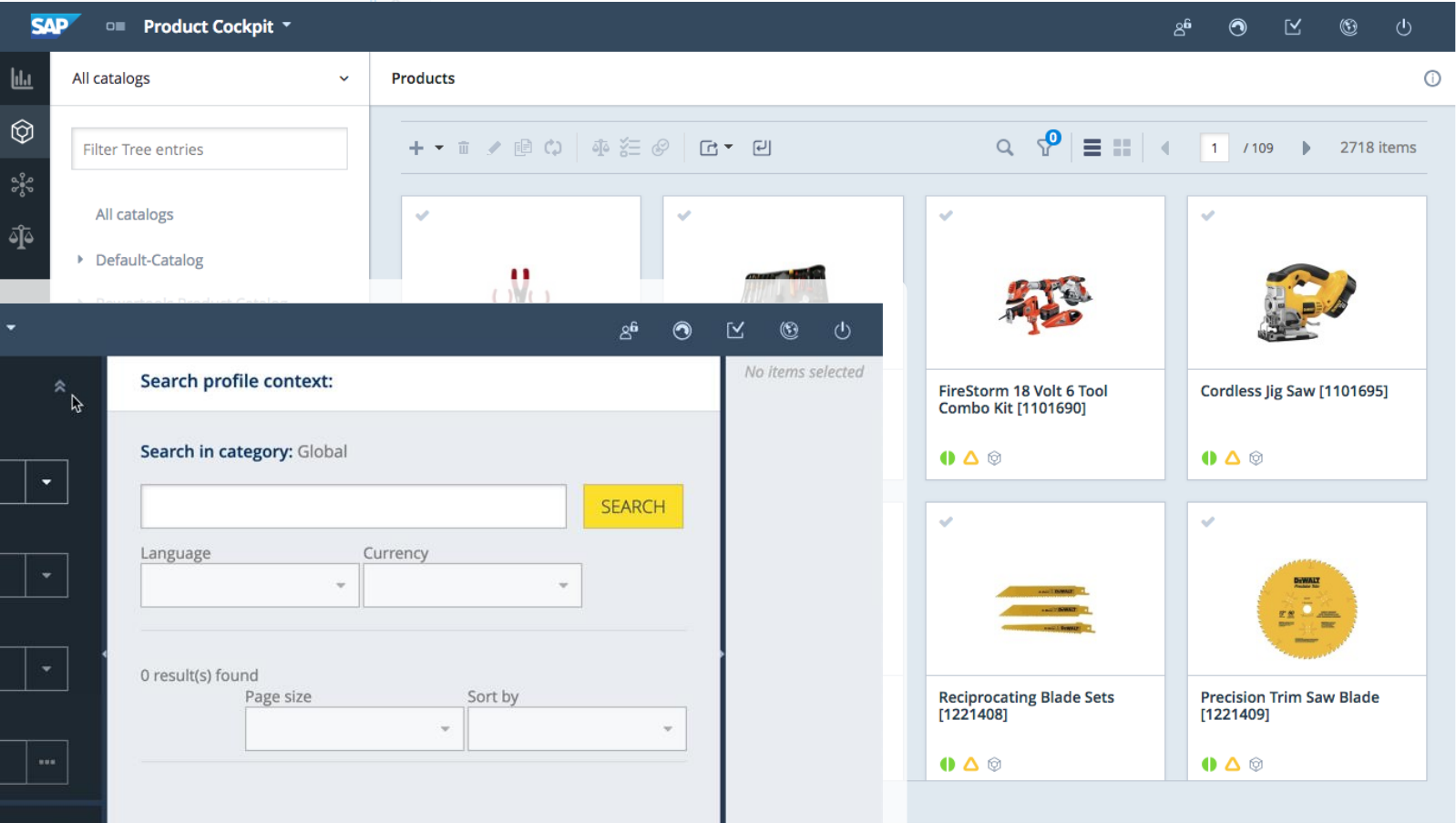
The SAP Administration Cockpit interface features a dark sidebar with navigation options: Home, Inbox, System, Catalog, Catalogs, Catalog Versions, Categories, Products, and Product Variant Types. The main area displays a table of catalog entries with columns for Article Number and Identifier. A search bar and a 'SEARCH' button are at the top. The 'SAVED QUERIES' section shows 'No queries'.

Administration



The SAP Adaptive Search Cockpit interface shows a 'Navigation Context' sidebar with options like Index Configuration, Index Type, Catalog Version, Search Profile, and Categories. The main area is titled 'Search profile context:' and includes a search bar, a 'SEARCH' button, and filters for Language and Currency. It also displays '0 result(s) found' and options for Page size and Sort by.

Adaptive Search



The SAP Product Cockpit interface displays a grid of product cards. Each card includes an image, a title, and a status indicator. The products shown are: FireStorm 18 Volt 6 Tool Combo Kit [1101690], Cordless Jig Saw [1101695], Reciprocating Blade Sets [1221408], and Precision Trim Saw Blade [1221409]. The top right shows '1 / 109' and '2718 items'.

Product Cockpit

Example Backoffice Cockpits

The screenshot displays the SAP Order Fulfillment backoffice cockpit. The left sidebar contains navigation links for 'Inbox', 'Consignments', 'Fulfillment Locations', 'Inventory', and 'Returns'. Below these are filter sections for 'Status' (To Be Processed, Completed, Cancelled) and 'Delivery mode' (Shipping, Pick up). A 'SAVED QUERIES' section at the bottom indicates 'No queries'.

The main area features a search bar and a table of consignments. The table has columns for Consignment #, Order #, Expected to Ship, Warehouse, Pickup Location, Delivery Mode, Status, and Assignee. The second row is highlighted.

Consignment #	Order #	Expected to Ship	Warehouse	Pickup Location	Delivery Mode	Status	Assignee
cons00000021_2	00000021	Apr 28, 2017 12:02:21 PM	warehouse_w		Standard Delivery[standard-gross]	Ready	Secondary Nakano Warehouse Agent
cons00000021_1	00000021	Apr 28, 2017 12:02:20 PM	warehouse_n		Standard Delivery[standard-gross]	Ready to be Shipped	Nakano Warehouse Agent
cons00000021_0	00000021	Apr 28, 2017 12:02:20 PM	warehouse_e		Standard Delivery[standard-gross]	Ready	Secondary Nakano Warehouse Agent
cons00000019_0	00000019	Apr 28, 2017 12:01:04 PM	warehouse_e		Standard Delivery[standard-gross]	Ready	Nakano Warehouse Agent

Below the table, the 'Consignment#: cons00000021_1' details are shown. It includes action buttons like 'Pick Slip', 'Pack Slip', 'Shipping Label', 'Export Form', 'Confirm Ship', and 'Reallocate'. A 'DASHBOARD' section contains input fields for 'Order #', 'Delivery Mode', 'Expected Delivery Date', 'Assignee', 'Carrier', and 'Tracking #'. The 'Order #' field is populated with '00000021', 'Delivery Mode' with 'Standard Delivery[standard-gross]', and 'Expected Delivery Date' with 'Apr 28, 2017 12:02:20 PM'. The 'Assignee' field is populated with 'Nakano Warehouse Agent'.

Customer Service

Example Backoffice Cockpits

Tickets

Product Reviews

Customers

Personal Data Reports

Orders

Returns

SESSION CONTEXT

Customer

Linda Wolf

Ticket

00000000

Order

Not Specified

SAVED QUERIES

My Assigned Tickets

Customer Support

SEARCH

1 items

ID	Customer	Created	Modified	Website	Status	Priori...	Catego...	Subject
00000000	Linda Wolf	Oct 22, 2018 1:19:22 PM	Oct 22, 2018 1:19:23 PM	Powertools Site	In Process	Low	Enquiry	Ticket 1

00000000 - Ticket 1

Order Fulfillment

Data Hub

Data Hub

CURRENT DATAHUB INSTANCE:

Filter Tree entries

Dashboard

Quick Upload

Errors & Failures

Load

Composition

Publication

Manage Pools

Manage Feeds

QUICK UPLOAD

URL:

Load

Please select Feed

Please select type

isoCode,sourceld,name,parent
en,hoodies,Hoodies,
de,hoodies,Kapuzenpullis,
,hoodies,,collections

Compose

Please select Pool

Publish

Please select Pool

Please select Target Systems

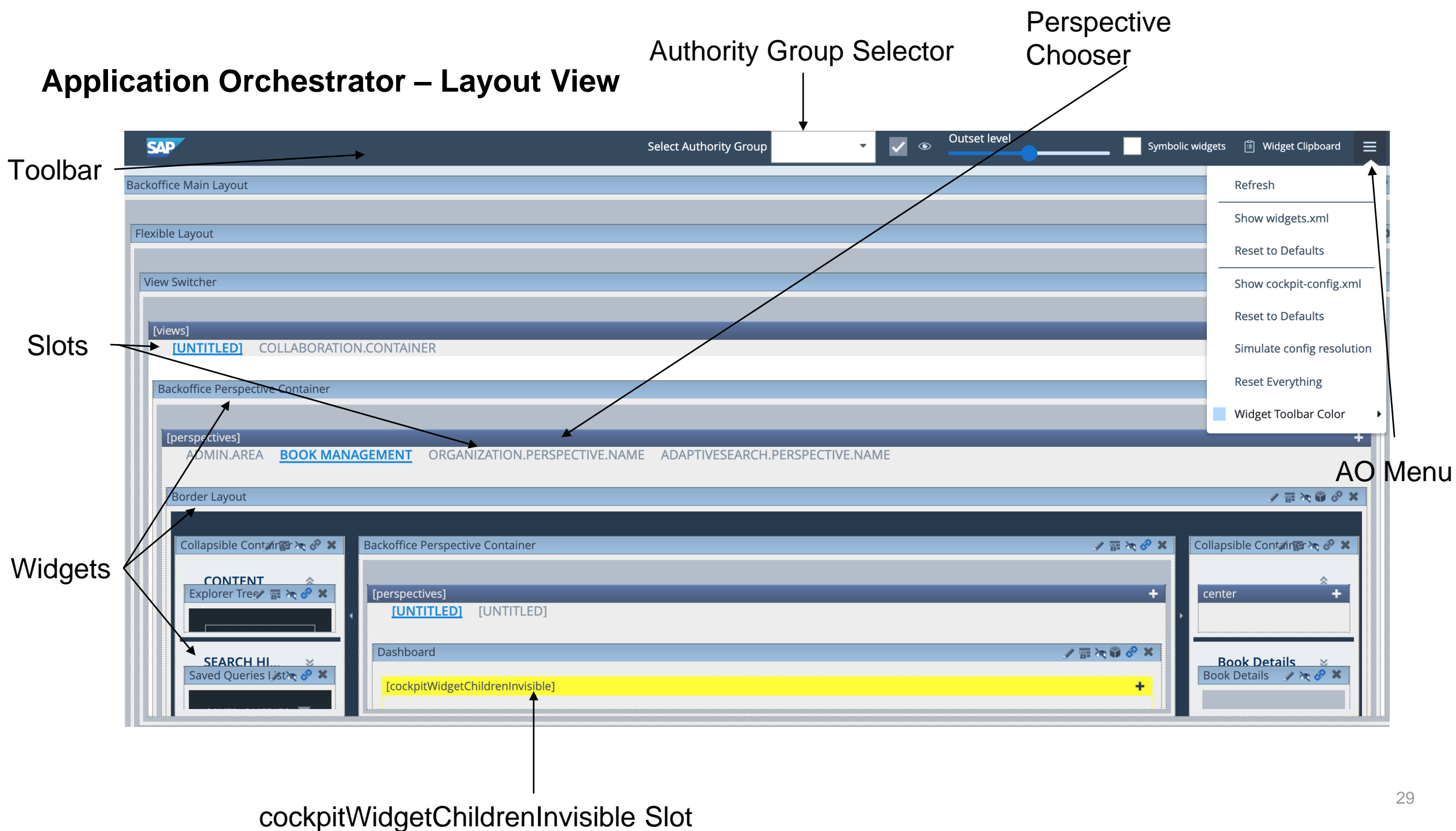
PROCESS



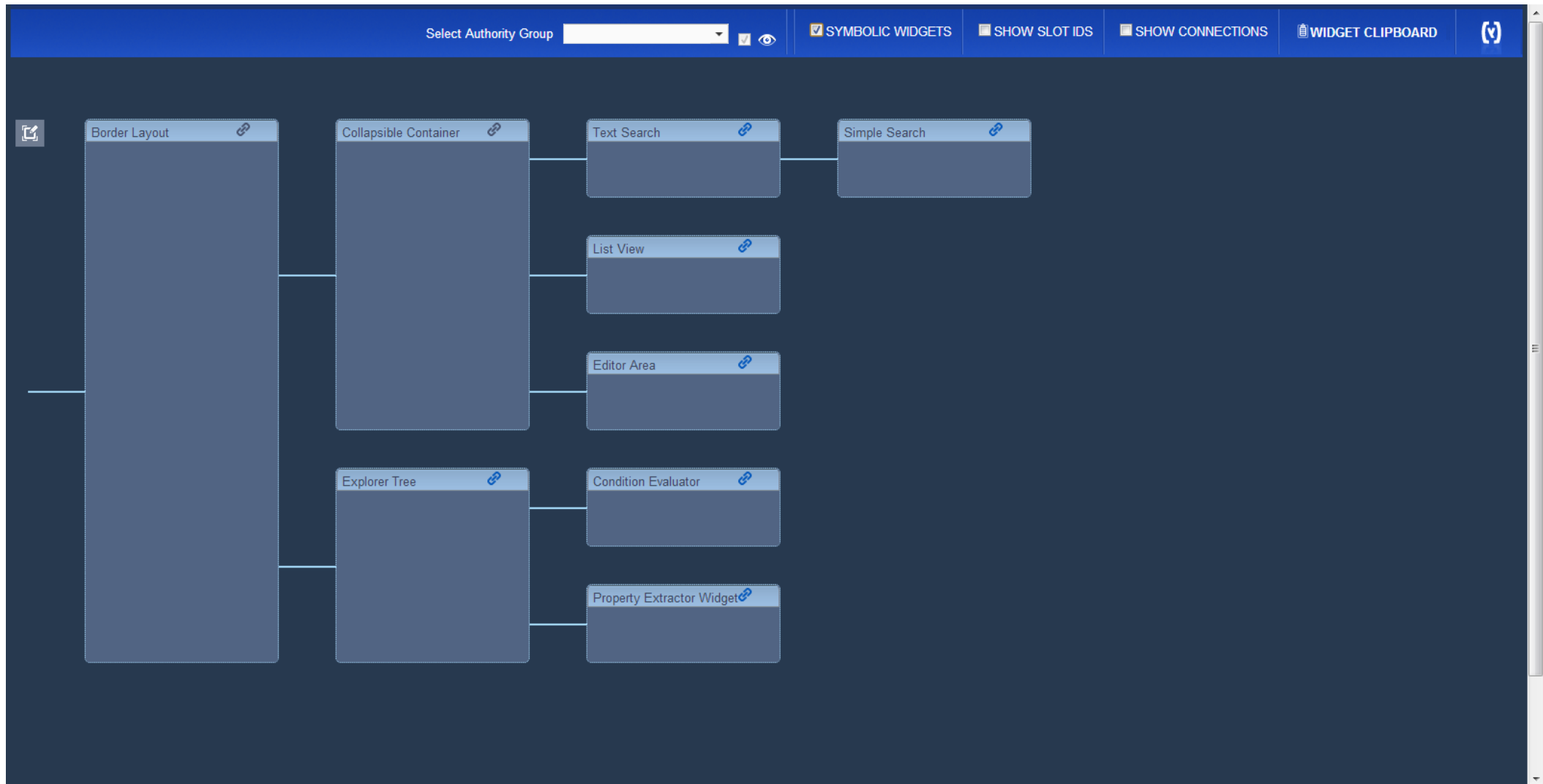
Application Orchestrator

- Backoffice Framework Architecture
- Backoffice Configuration
- Widgets
- Cockpits
- Application Orchestrator**
- Backoffice Framework Documentation
- Exercise

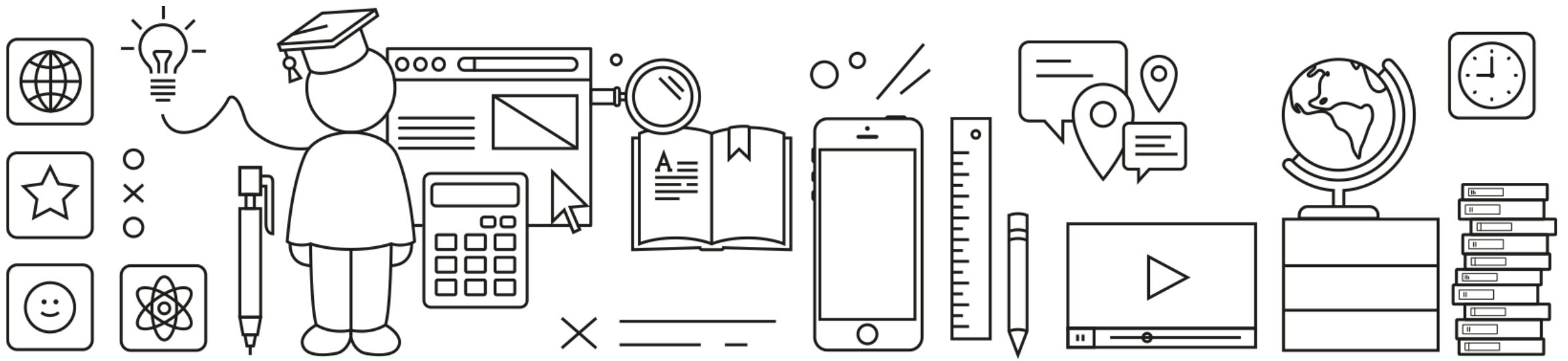
Application Orchestrator – Layout View



Application Orchestrator – Symbolic Widgets View







Backoffice Framework Documentation

Backoffice Framework Architecture
Backoffice Configuration
Widgets
Cockpits
Application Orchestrator
Backoffice Framework Documentation
Exercise

Where to find help?

First place to go is the SAP Commerce Help page of the Backoffice Framework:

[Backoffice Framework](#)

To find out more about the API of the Backoffice Framework you can visit:

[Backoffice Framework's API](#)

To ask questions and get answers from the experts go to:

[SAP Customer Experience Experts](#)

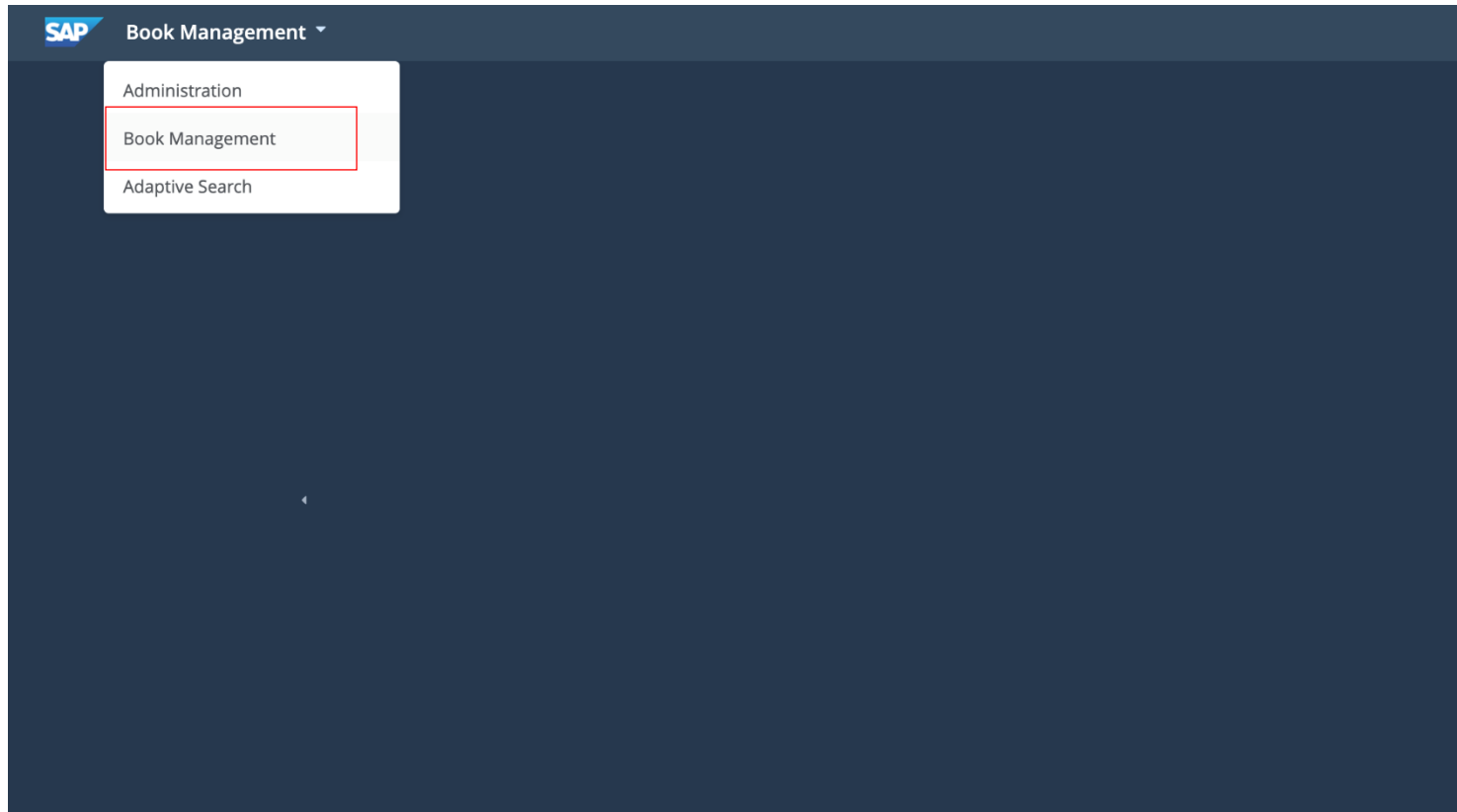
Exercise 2



Exercise 2 – Create a New Cockpit

Book Management Cockpit

A simple cockpit now, but you will build on top of it in the next exercises.



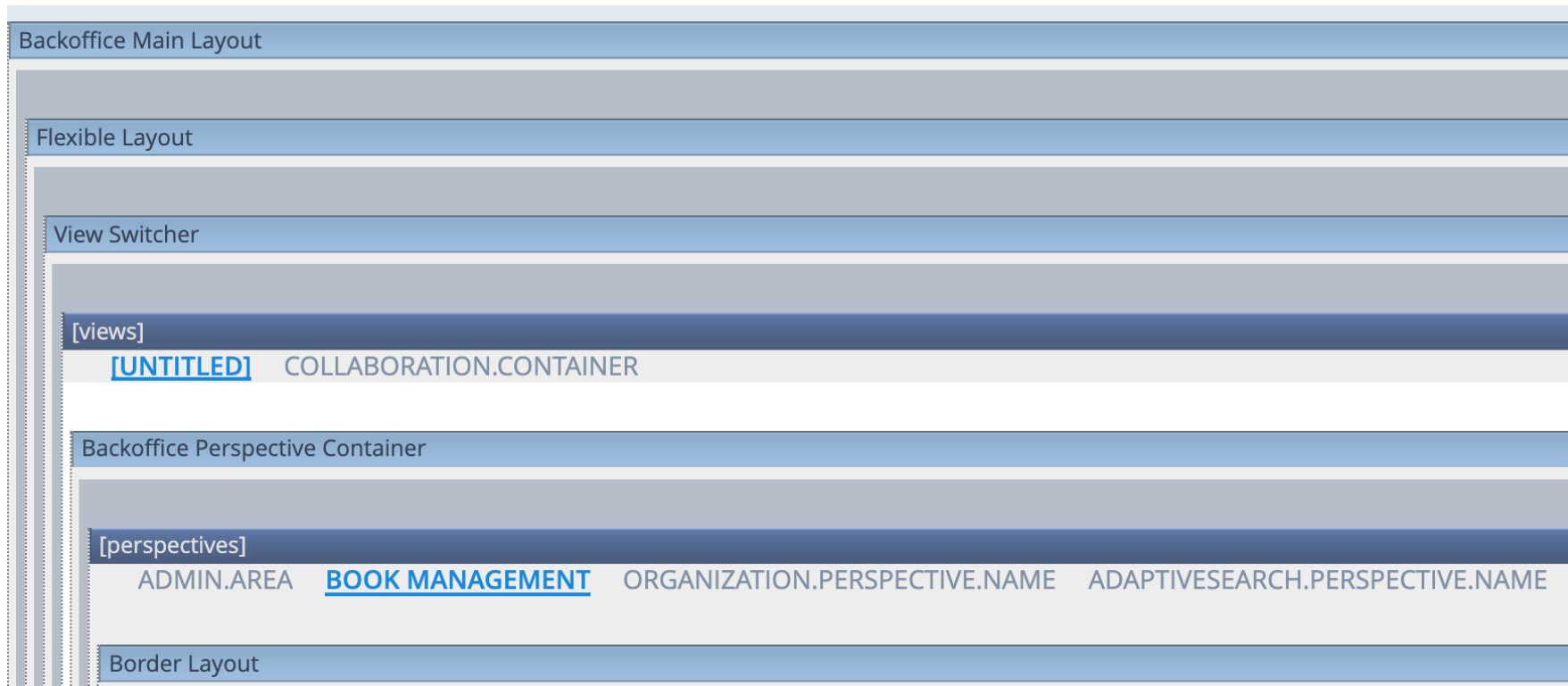
I. Create a New Extension

Create a new Backoffice extension

```
$ ant extgen
```

II. Create a New Cockpit • 1

Create a new cockpit using the Application Orchestrator



II. Create a New Cockpit • 2

Create a new cockpit
using the `*-widgets.xml`

By editing `bookstorecustombackoffice-backoffice-widgets.xml`

Thank you.

