openSAP Evolved Web Apps with SAPUI5

Week 3 Unit 3: Increasing Developer Productivity with SAP Web IDE

Exercises

PUBLIC

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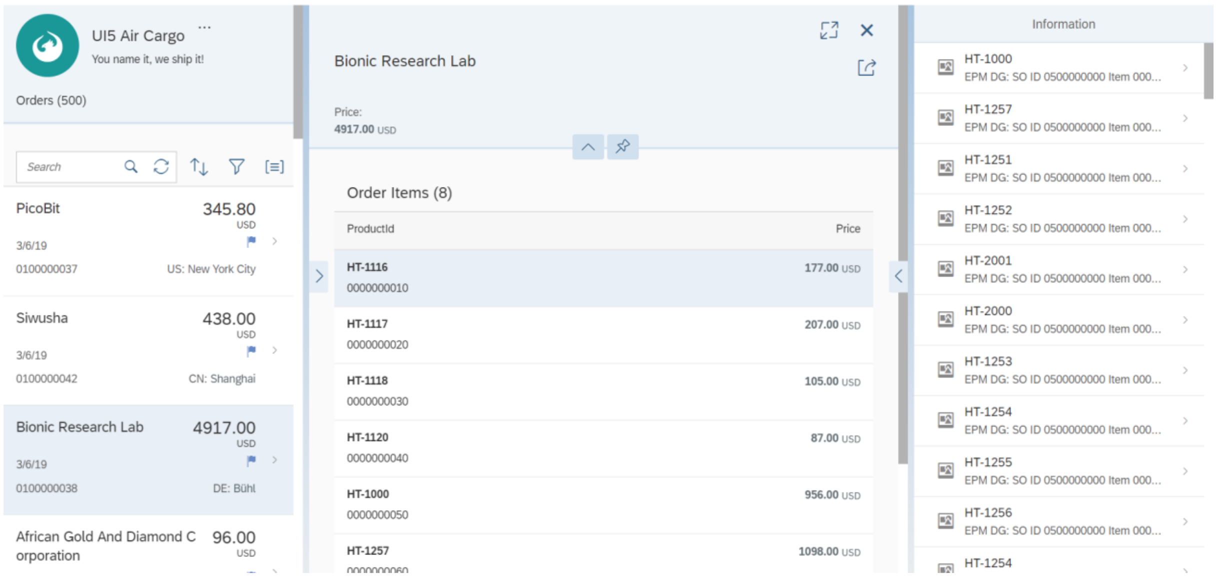
INCREASING DEVELOPER PRODUCTIVITY WITH SAP WEB IDE

Summary

SAP Web IDE offers many tools to increase our developer productivity. We use the Storyboard Editor perspective to add a third column to our application in the flexible column layout. Then, we customize the app with the Layout Editor.

Preview



UI5 Air Cargo
You name it, we ship it!
Orders (500)

PicoBit	345.80 USD	3/6/19	0100000037	US: New York City
Siwusha	438.00 USD	3/6/19	0100000042	CN: Shanghai
Bionic Research Lab	4917.00 USD	3/6/19	0100000038	DE: Bühl
African Gold And Diamond Corporation	96.00 USD			

Bionic Research Lab
Price:
4917.00 USD

Order Items (8)

ProductId	Price
HT-1116 0000000010	177.00 USD
HT-1117 0000000020	207.00 USD
HT-1118 0000000030	105.00 USD
HT-1120 0000000040	87.00 USD
HT-1000 0000000050	956.00 USD
HT-1257 0000000060	1098.00 USD

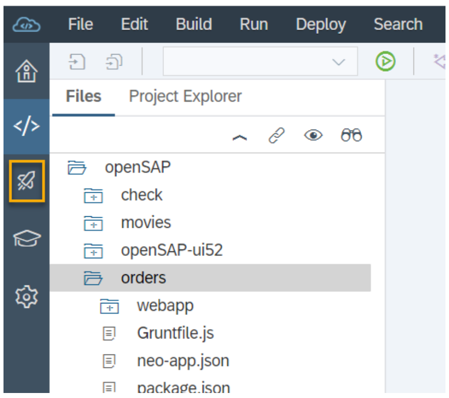
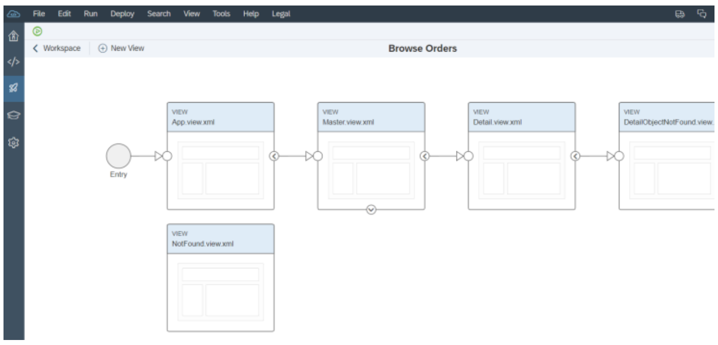
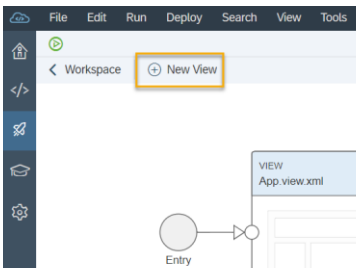
Information

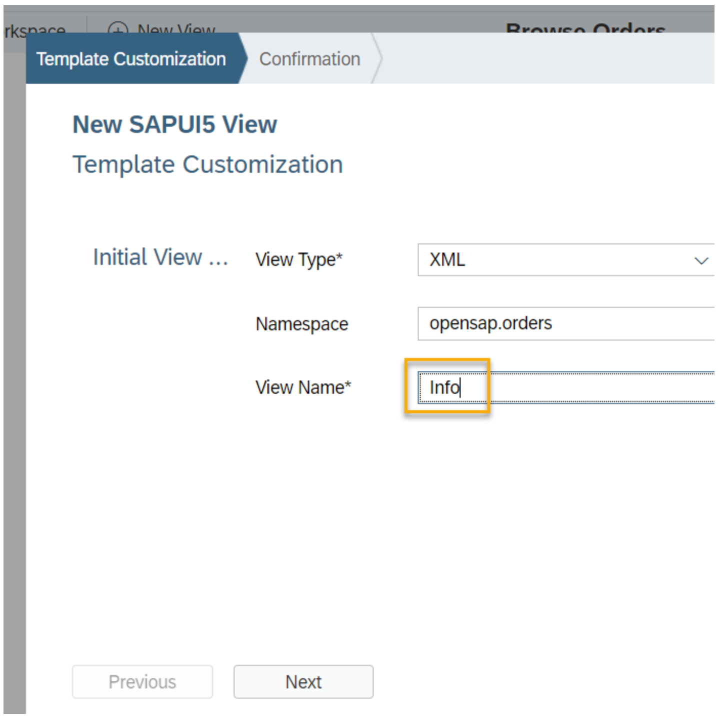
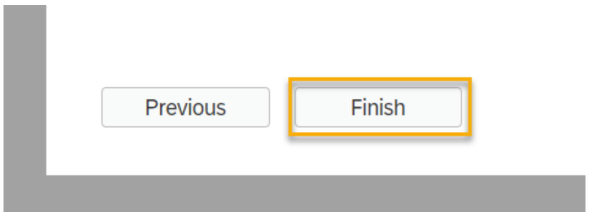
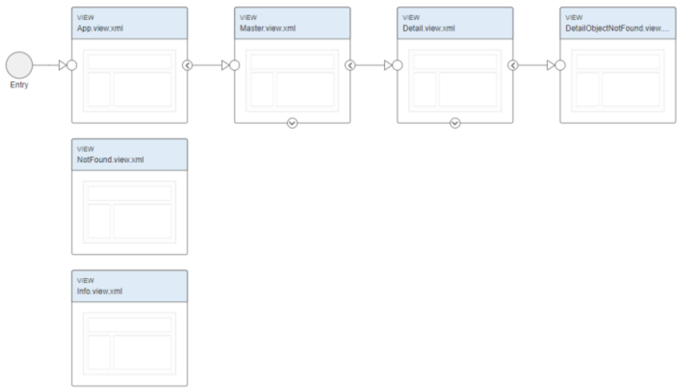
HT-1000
EPM DG: SO ID 0500000000 Item 000...
HT-1257
EPM DG: SO ID 0500000000 Item 000...
HT-1251
EPM DG: SO ID 0500000000 Item 000...
HT-1252
EPM DG: SO ID 0500000000 Item 000...
HT-2001
EPM DG: SO ID 0500000000 Item 000...
HT-2000
EPM DG: SO ID 0500000000 Item 000...
HT-1253
EPM DG: SO ID 0500000000 Item 000...
HT-1254
EPM DG: SO ID 0500000000 Item 000...
HT-1255
EPM DG: SO ID 0500000000 Item 000...
HT-1256
EPM DG: SO ID 0500000000 Item 000...
HT-1254

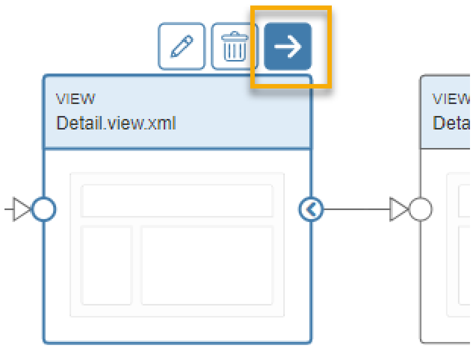
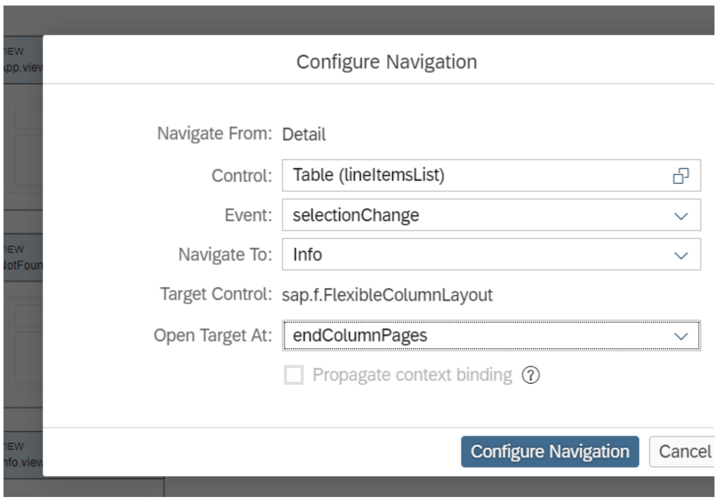
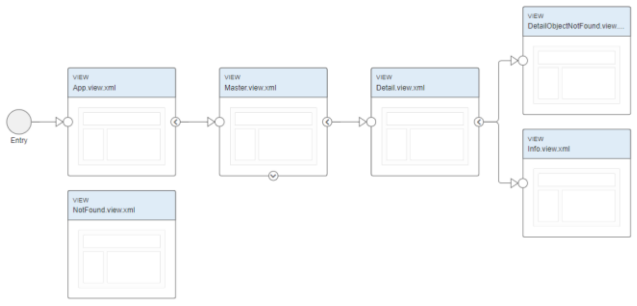
Figure 1 – Our app with 3 columns

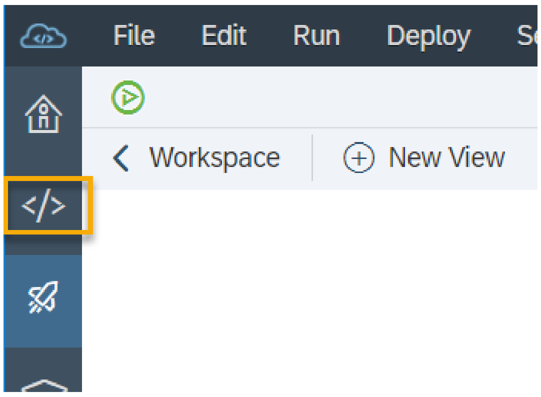
Add a new view and configure navigation

We will extend our app with a third column and create a new view to be displayed in that column. Then we will configure our app to navigate to the new view.

Explanation	Screenshot
1. Choose the Storyboard perspective by clicking on the rocket icon in the left menu bar.	 File Edit Build Run Deploy Search Files Project Explorer openSAP check movies openSAP-ui52 orders webapp Gruntfile.js neo-app.json package.json
2. A schematic view of our app is shown. We can see that the app consists of multiple views.	 File Edit Run Deploy Search View Tools Help Legal Workspace New View Browse Orders VIEW App.view.xml VIEW Master.view.xml VIEW Detail.view.xml VIEW DetailObjectNotFound.view Entry VIEW NotFound.view.xml
3. Choose *New View*.	 File Edit Run Deploy Search View Tools Workspace New View VIEW App.view.xml Entry

Explanation	Screenshot
4. In the dialog, keep the defaults and give the new view the name **Info**.	 Template Customization · Confirmation New SAPUI5 View Template Customization Initial View ... View Type* XML Namespace opensap.orders View Name* Info Previous · Next
5. Choose *Next* and *Finish* to create the view.	 Previous · Finish Result:  Entry VIEW App.view.xml VIEW Master.view.xml VIEW Detail.view.xml VIEW DetailObjectNotFound.view... VIEW NotFound.view.xml VIEW Info.view.xml

Explanation	Screenshot
6. Move the mouse pointer onto the *Detail* view. 7. Choose *Configure Navigation* for the Detail view.	
8. In the dialog, select the following values: *Control*: **Table** *Event*: **selectionChange** *Navigate To*: **Info** *Open Target At*: **endColumnPages** 9. Choose *Configure Navigation* to continue.	 Configure Navigation Navigate From: Detail Control: Table (lineItemsList) Event: selectionChange Navigate To: Info Target Control: sap.f.FlexibleColumnLayout Open Target At: endColumnPages ☐ Propagate context binding Result  Entry App.view.xml Master.view.xml Detail.view.xml DetailObjectNotFound.view... Info.view.xml NotFound.view.xml

Explanation	Screenshot
10. Switch back to the SAP Web IDE development perspective by clicking on </>, and select the project in the workspace.	

Fine-tuning the UI for three columns

Open the `manifest.json` file.

webapp/manifest.json

```
…
   {
      "name": "Info",
      "pattern": "Info",
      "target": [
         "master",
         "object",
         "Info"
      ]
   }
}, …
```

Scroll down to the routes and add the two additional targets.

Then open the `Info.controller.js` file.

webapp/controller/Info.controller.js

```
sap.ui.define([
   "./BaseController"
], function (BaseController) {
   "use strict";

   return BaseController.extend("opensap.orders.controller.Info", {

      onInit: function () {

   this.getRouter().getRoute("Info").attachPatternMatched(this._onInfoMatched,
this);
      },

      _onInfoMatched : function (oEvent) {
         this.getModel("appView").setProperty("/layout",
"ThreeColumnsMidExpanded");
      }

   });
});
```

Open the `Detail.controller.js` file.
Exchange all references to `Controller` with `BaseController`. Attach to the `patternMatched` event of the info route and create a callback function `_onInfoMatched.` Display the third column when the info route has been matched.

webapp/controller/Detail.controller.js

```
     onInit : function () {
        …

   this.getRouter().getRoute("object").attachPatternMatched(this._onObjectMatched,
this);

   this.getRouter().getRoute("Info").attachPatternMatched(this._onObjectMatched,
this);

this.setModel(oViewModel, "detailView");
…

…
     _onObjectMatched : function (oEvent) {
        var sObjectId =  oEvent.getParameter("arguments").objectId;
        if (!sObjectId) {
           return;
        }
        if (oEvent.getParameter("name") === "object") {
           this.getModel("appView").setProperty("/layout",
"TwoColumnsMidExpanded");
   }
…
```

Also add the `attachPatternMatched` event for the info route to the Detail controller. This way, the detail page will also be refreshed when the third column is displayed.
Only if the `objectId` is valid and object route was matched, we set the layout property for the flexible column layout to *TwoColumnsMidExpanded*.

Open the `Detail.view.xml` file.

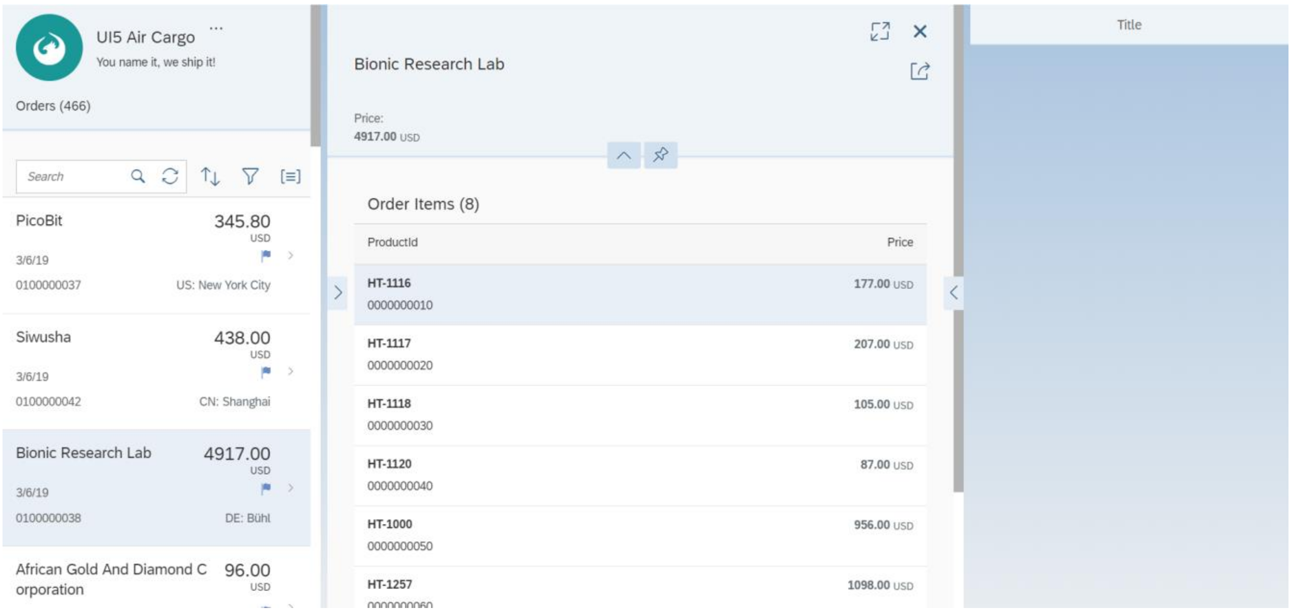
webapp/view/Detail.view.xml

```
…
<semantic:content>
    <Table
       id="lineItemsList"
       width="auto"
       items="{ToLineItems}"
       mode="SingleSelectMaster"
       updateFinished=".onListUpdateFinished"
       noDataText="{i18n>detailLineItemTableNoDataText}"
       busyIndicatorDelay="{detailView>/lineItemTableDelay}"
       selectionChange="action"
       xmlns:action="http://schemas.sap.com/sapui5/extension/sap.ui.core.
       CustomData/1"
       action:wiring="\{'selectionChange':\{'navigation':\{'routeName':'info'\}\}
       \}">
      <headerToolbar>
        <Toolbar>
          <Title
            id="lineItemsTitle"
```

```
                text="{detailView&gt;/lineItemListTitle}"
                titleStyle="H3"/>
            </Toolbar>
        </headerToolbar>
…
```

The `action` method should be called whenever an item of the table is selected. So, we have to activate the selection mode.

Now try out the new view by right-clicking the `index.html` file and choosing *Run → Run as Web Application*. This should start our app.

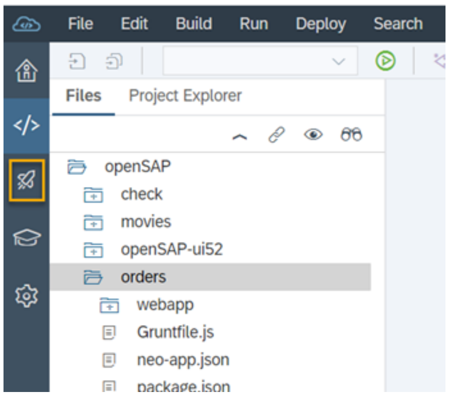


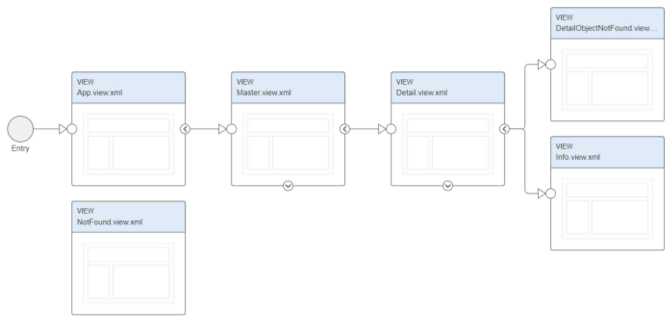
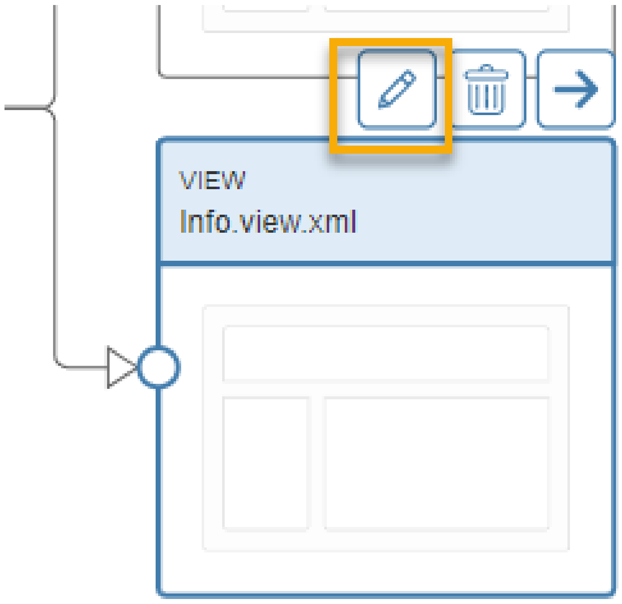
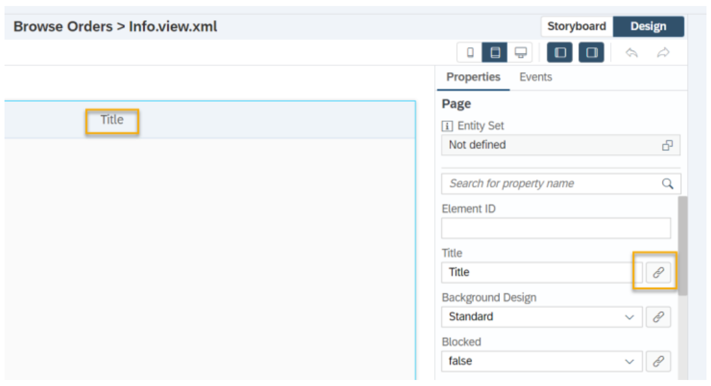
UI5 Air Cargo
You name it, we ship it!
Orders (466)
Search
PicoBit 345.80 USD 3/6/19 0100000037 US: New York City
Siwusha 438.00 USD 3/6/19 0100000042 CN: Shanghai
Bionic Research Lab 4917.00 USD 3/6/19 0100000038 DE: Bühl
African Gold And Diamond Corporation 96.00 USD
Bionic Research Lab
Price: 4917.00 USD
Order Items (8)
ProductId
Price
HT-1116 0000000010 177.00 USD
HT-1117 0000000020 207.00 USD
HT-1118 0000000030 105.00 USD
HT-1120 0000000040 87.00 USD
HT-1000 0000000050 956.00 USD
HT-1257 1098.00 USD
Title

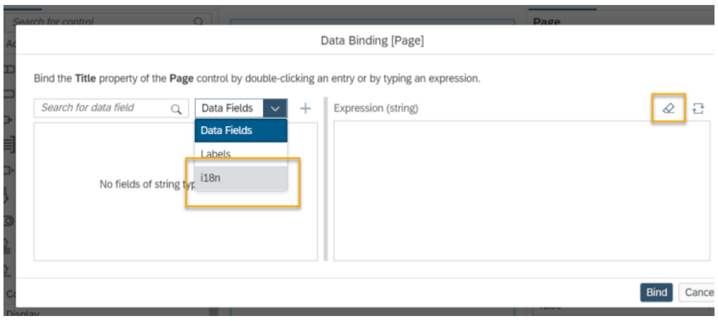
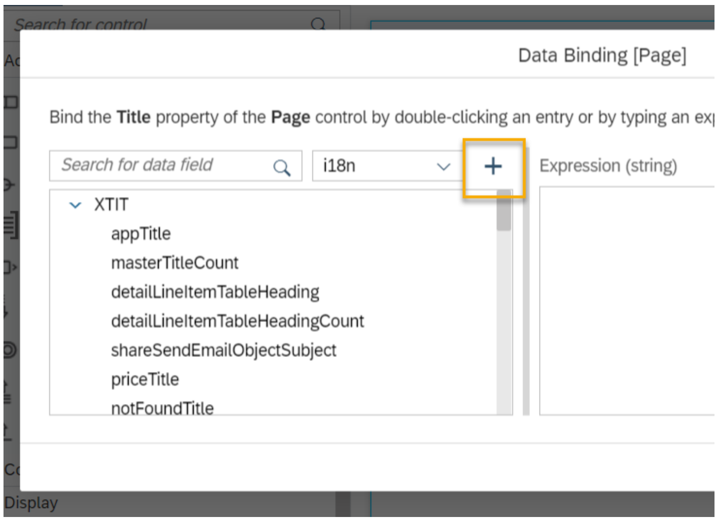
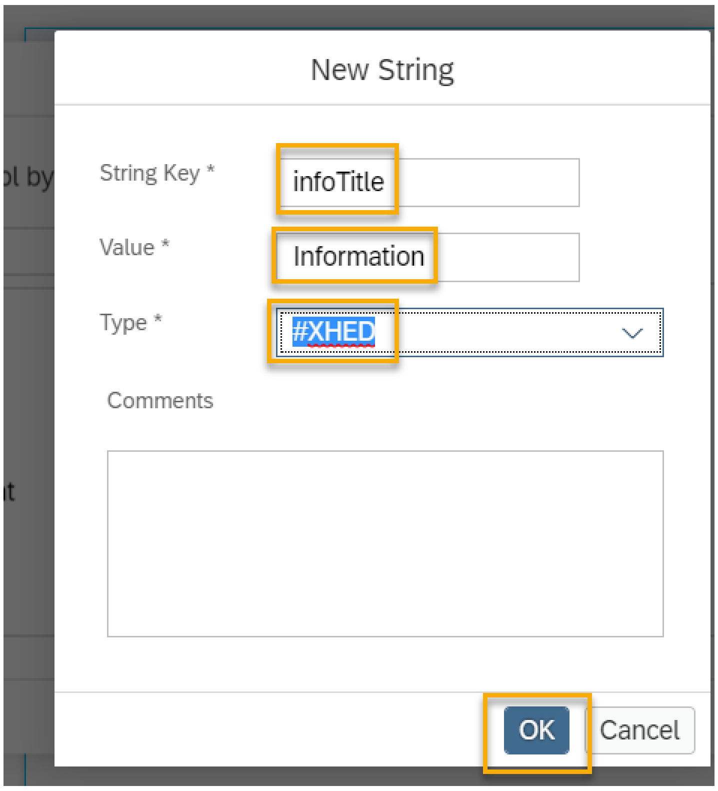
Figure 2 – Our app with 3 columns

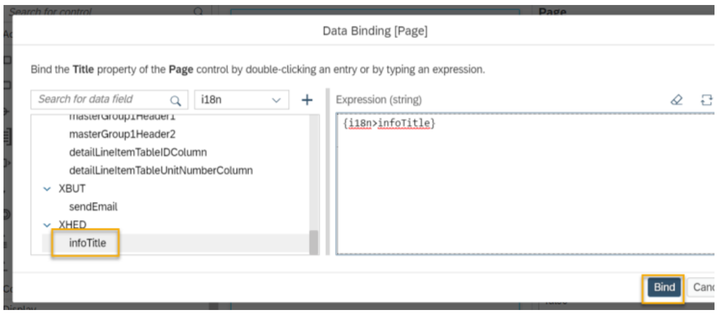
Edit the Info view in the Layout Editor

We want to add some controls to the new view using the SAP Web IDE Layout Editor

Explanation	Screenshot
11. Choose the Storyboard perspective by clicking on the rocket icon in the left menu bar.	

Explanation	Screenshot
12. A schematic view of our app is shown.	 Entry VIEW App.view.xml VIEW Master.view.xml VIEW Detail.view.xml VIEW DetailObjectNotFound.view... VIEW Info.view.xml VIEW NotFound.view.xml
13. Select the *Info.view* and choose *Edit view in layout editor*, or double click the title.	
14. Choose *Title* in the application. Search for the *Title* property in the right-side pane and then choose *bind this property*.	 Browse Orders > Info.view.xml Storyboard Design Properties Events Title Page Entity Set: Not defined Search for property name Element ID: Title: Title Background Design: Standard Blocked: false

Explanation	Screenshot
15. Delete the default *Title* expression from the box with a click on the eraser icon, choose *Data Fields*, and select *i18n* from the dropdown box.	 Data Binding [Page] Search for data field Data Fields Data Fields Labels i18n Expression (string) Bind Cance Bind the **Title** property of the **Page** control by double-clicking an entry or by typing an expression. No fields of string typ
16. Create a new i18n property by clicking on + *(Add entry)*	 Search for control Data Binding [Page] Search for data field i18n Expression (string) XTIT appTitle masterTitleCount detailLineItemTableHeading detailLineItemTableHeadingCount shareSendEmailObjectSubject priceTitle notFoundTitle Display Bind the **Title** property of the **Page** control by double-clicking an entry or by typing an ex
17. Provide **infoTitle** as *String Key*, **Information** as *Value,* and select *#XHED Heading* as *Type*. Then click *OK.*	 String Key * infoTitle Value * Information Type * #XHED Comments

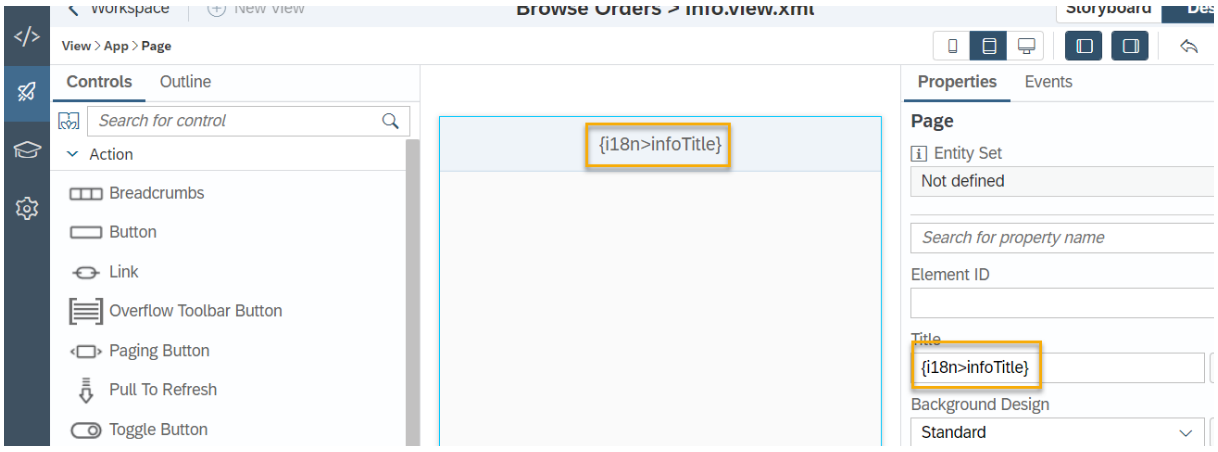
Explanation	Screenshot
18. Double-click on the created label *infoTitle* for the title and choose *Bind*	

Data Binding [Page]

Bind the **Title** property of the **Page** control by double-clicking an entry or by typing an expression.

Expression (string): {i18n>infoTitle}

Our workspace should now look like this:



Page

Entity Set: Not defined

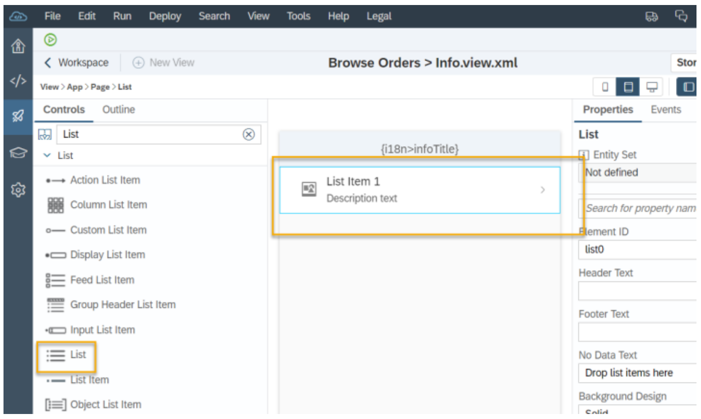
Element ID:

Title: {i18n>infoTitle}

Background Design: Standard

Add a list to the view using the Layout Editor

We want to add a list of products to the new view.

Explanation	Screenshot
19. Enter **List** in the *Search* field, and drag a *List* control from the left column onto the page.	

List

Entity Set: Not defined

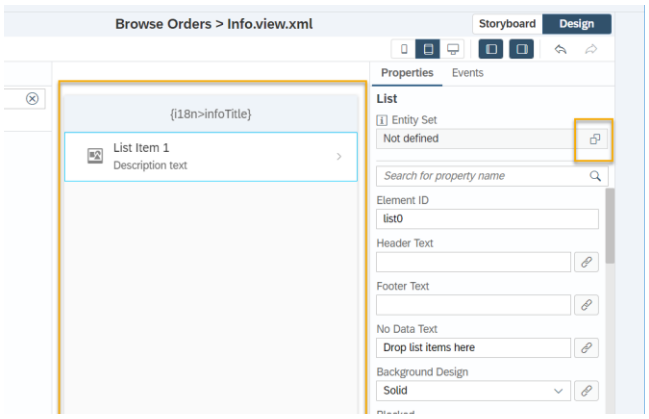
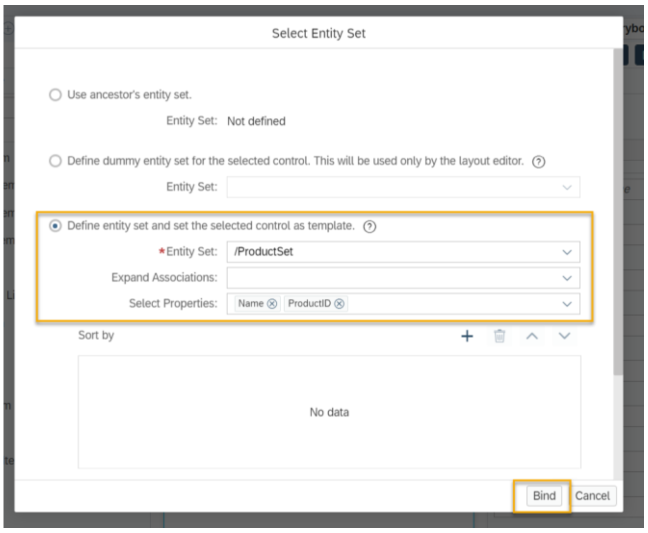
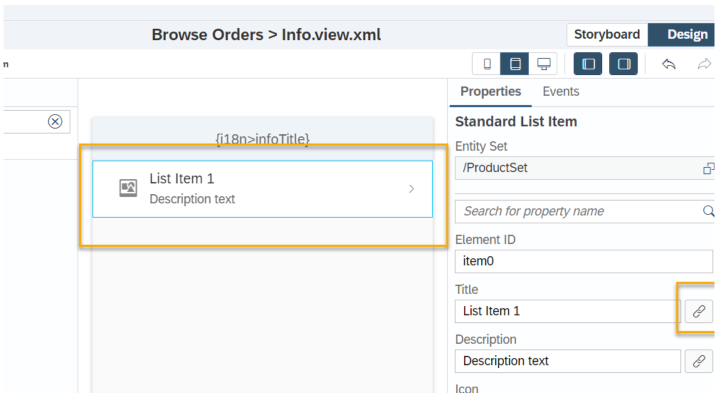
Element ID: list0

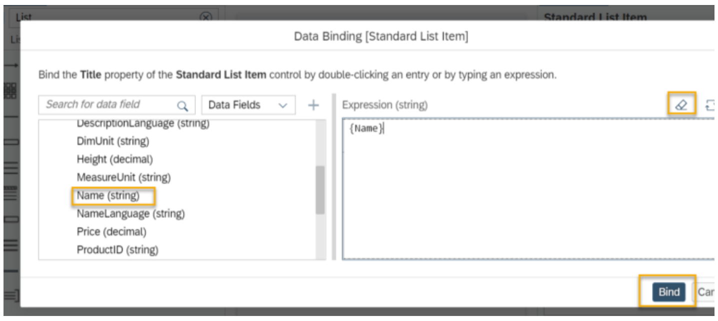
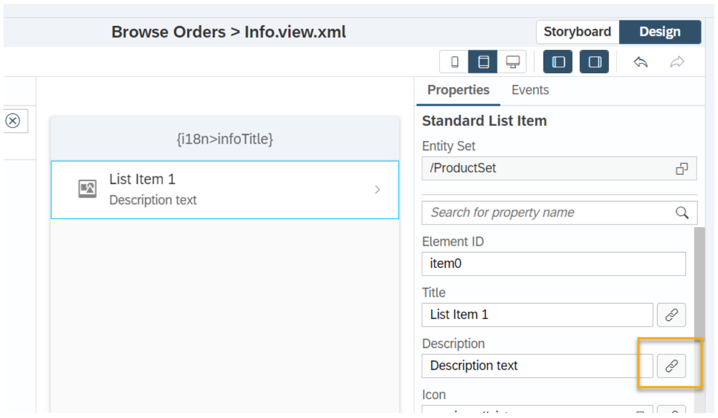
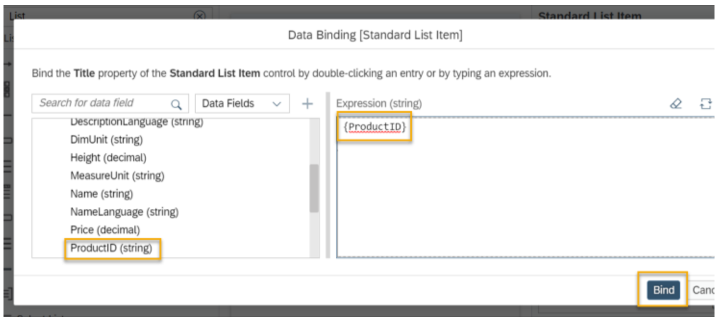
Header Text:

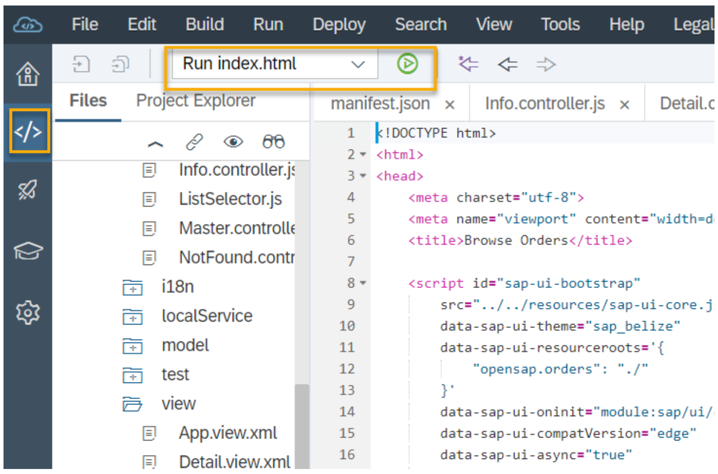
Footer Text:

No Data Text: Drop list items here

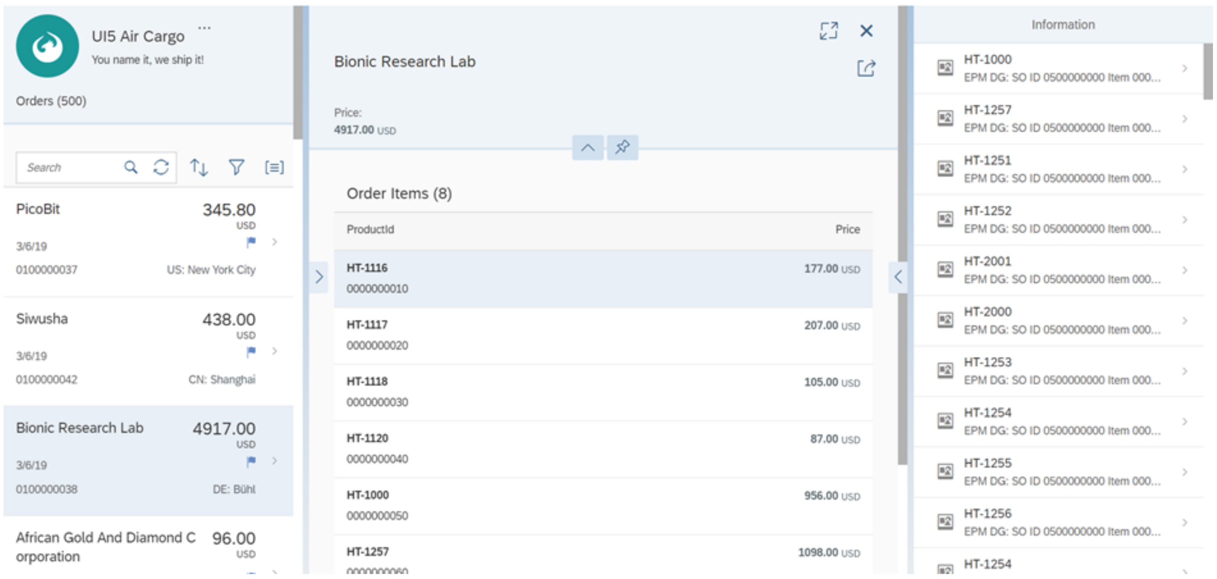
Background Design: Solid

Explanation	Screenshot
20. Click on the *Page* to select it and then click on the *bind this property* icon of the *EntitySet*.	 Browse Orders > Info.view.xml Storyboard Design {i18n>infoTitle} List Item 1 Description text Properties Events List Entity Set: Not defined Search for property name Element ID: list0 Header Text Footer Text No Data Text: Drop list items here Background Design: Solid
21. In the *Select Entity Set* dialog, select the third option, and enter **/ProductSet** as *Entity Set*. As the *Select Properties*, add *ProductId* and *Name*. Confirm the dialog with *Bind*.	 Select Entity Set Use ancestor's entity set. Entity Set: Not defined Define dummy entity set for the selected control. This will be used only by the layout editor. Entity Set: Define entity set and set the selected control as template. *Entity Set: /ProductSet Expand Associations: Select Properties: Name ProductID Sort by No data Bind Cancel
22. Select the *List Control* and change the *Title* by clicking on the *bind this property* icon.	 Browse Orders > Info.view.xml Storyboard Design {i18n>infoTitle} List Item 1 Description text Properties Events Standard List Item Entity Set: /ProductSet Search for property name Element ID: item0 Title: List Item 1 Description: Description text Icon

Explanation	Screenshot
23. Remove the Default Text with the rubber icon and add *{Name}* by double-clicking the data field. Confirm the dialog with *Bind*.	 Data Binding [Standard List Item] Bind the **Title** property of the **Standard List Item** control by double-clicking an entry or by typing an expression. Expression (string): `{Name}` DescriptionLanguage (string), DimUnit (string), Height (decimal), MeasureUnit (string), Name (string), NameLanguage (string), Price (decimal), ProductID (string)
24. Change the *Description* by clicking on the *bind this property* icon.	 Browse Orders > Info.view.xml {i18n>infoTitle} List Item 1 Description text Standard List Item Entity Set: /ProductSet Element ID: item0 Title: List Item 1 Description: Description text Icon
25. Remove the Default Text with the *rubber icon* and add *{ProductID}* by double clicking the data field. Confirm the dialog with *Bind*.	 Data Binding [Standard List Item] Bind the **Title** property of the **Standard List Item** control by double-clicking an entry or by typing an expression. Expression (string): `{ProductID}` DescriptionLanguage (string), DimUnit (string), Height (decimal), MeasureUnit (string), Name (string), NameLanguage (string), Price (decimal), ProductID (string)

26. Switch back to the developing perspective by clicking </> and select *Run index.html*" to start the app.	 Run index.html
	`<!DOCTYPE html>`
	`<html>`
	`<head>`
	`<meta charset="utf-8">`
	`<meta name="viewport" content="width=d`
	`<title>Browse Orders</title>`
	`<script id="sap-ui-bootstrap"`
	`src="../../resources/sap-ui-core.j`
	`data-sap-ui-theme="sap_belize"`
	`data-sap-ui-resourceroots='{`
	`"opensap.orders": "./"`
	`}'`
	`data-sap-ui-oninit="module:sap/ui/`
	`data-sap-ui-compatVersion="edge"`
	`data-sap-ui-async="true"`

Our running app now shows a list of products when an item in the first and second columns is selected.s


UI5 Air Cargo
You name it, we ship it!
Orders (500)

PicoBit	345.80 USD	
3/6/19		
0100000037	US: New York City	
Siwusha	438.00 USD	
3/6/19		
0100000042	CN: Shanghai	
Bionic Research Lab	4917.00 USD	
3/6/19		
0100000038	DE: Bühl	
African Gold And Diamond Corporation	96.00 USD	

Bionic Research Lab
Price:
4917.00 USD

Order Items (8)

ProductId	Price
HT-1116 0000000010	177.00 USD
HT-1117 0000000020	207.00 USD
HT-1118 0000000030	105.00 USD
HT-1120 0000000040	87.00 USD
HT-1000 0000000050	956.00 USD
HT-1257	1098.00 USD

Information

- HT-1000 EPM DG: SO ID 0500000000 Item 000...
- HT-1257 EPM DG: SO ID 0500000000 Item 000...
- HT-1251 EPM DG: SO ID 0500000000 Item 000...
- HT-1252 EPM DG: SO ID 0500000000 Item 000...
- HT-2001 EPM DG: SO ID 0500000000 Item 000...
- HT-2000 EPM DG: SO ID 0500000000 Item 000...
- HT-1253 EPM DG: SO ID 0500000000 Item 000...
- HT-1254 EPM DG: SO ID 0500000000 Item 000...
- HT-1255 EPM DG: SO ID 0500000000 Item 000...
- HT-1256 EPM DG: SO ID 0500000000 Item 000...
- HT-1254

Figure 3 – Our app with a list in the third column

RELATED MATERIAL

- Demo Kit: Building an App with the Flexible Column Layout and Related Classes
- SAP Fiori Design Guidelines: Flexible Column Layout
- SAP Web IDE Developer Guide: Layout Editor

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THE BEST RUN