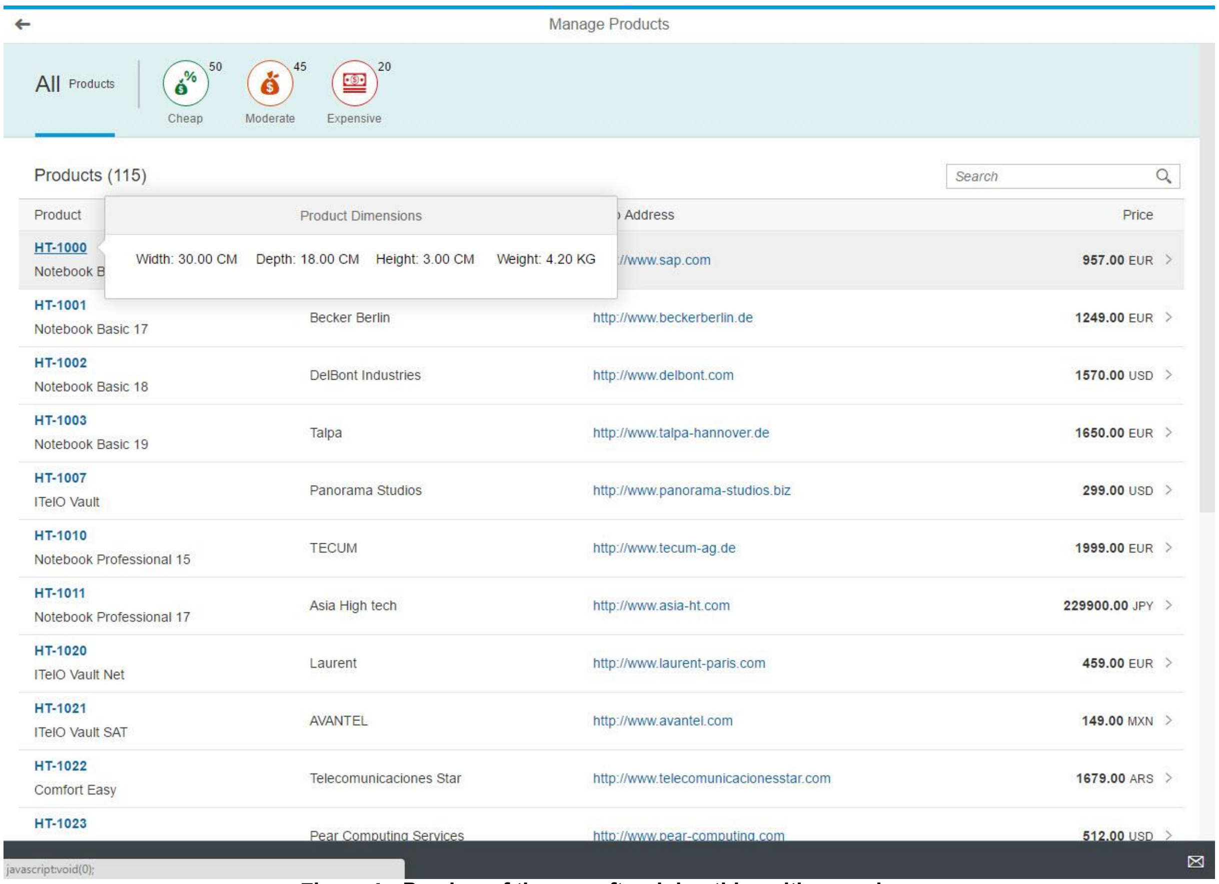
WEEK 3 UNIT 6
IMPLEMENTING DIALOGS

Please perform the exercises below in your app project as shown in the video.

Table of Contents

Preview



Products (115)

Product Dimensions

Width: 30.00 CM Depth: 18.00 CM Height: 3.00 CM Weight: 4.20 KG

Product		Address	Price
HT-1000 Notebook B		//www.sap.com	957.00 EUR
HT-1001 Notebook Basic 17	Becker Berlin	http://www.beckerberlin.de	1249.00 EUR
HT-1002 Notebook Basic 18	DelBont Industries	http://www.delbont.com	1570.00 USD
HT-1003 Notebook Basic 19	Talpa	http://www.talpa-hannover.de	1650.00 EUR
HT-1007 ITelO Vault	Panorama Studios	http://www.panorama-studios.biz	299.00 USD
HT-1010 Notebook Professional 15	TECUM	http://www.tecum-ag.de	1999.00 EUR
HT-1011 Notebook Professional 17	Asia High tech	http://www.asia-ht.com	229900.00 JPY
HT-1020 ITelO Vault Net	Laurent	http://www.laurent-paris.com	459.00 EUR
HT-1021 ITelO Vault SAT	AVANTEL	http://www.avantel.com	149.00 MXN
HT-1022 Comfort Easy	Telecomunicaciones Star	http://www.telecomunicacionesstar.com	1679.00 ARS
HT-1023	Pear Computing Services	http://www.pear-computing.com	512.00 USD

Figure 1 - Preview of the app after doing this unit's exercises

1 PREPARATION: METADATA AND CONTROL

In this exercise, we want to display some additional product data within a dialog. We will be using the dimensions we can find at each product in the service metadata:

```
<Property Name="Width" Type="Edm.Decimal" Precision="13" Scale="3" sap:unit="DimUnit" sap:label="Dimensions"/>
<Property Name="Depth" Type="Edm.Decimal" Precision="13" Scale="3" sap:unit="DimUnit" sap:label="Dimensions"/>
<Property Name="Height" Type="Edm.Decimal" Precision="13" Scale="3" sap:unit="DimUnit" sap:label="Dimensions"/>
<Property Name="DimUnit" Type="Edm.String" MaxLength="3" sap:label="Dimension Unit" sap:semantics="unit-of-measure"/>
```

Inspect the service metadata by looking at the `Product` entity:
https://sapes4.sapdevcenter.com/sap/opu/odata/IWBEP/GWSAMPLE_BASIC/$metadata

As we want our app to be as responsive as possible, we will use a `sap.m.ResponsivePopover` as dialog. (See Responsive Popover Explored Sample)

2 CREATE THE DIALOG

We will start with a dialog created from within a single view. Dialogs can be added to views similarly to other controls. However, as they do not get part of the view's own control tree, we have to add them to a particular aggregation called dependents. In this case, we are adding the dialog to the dependents of the semantic page control. As we will be using a `sap.ui.layout.Grid` within the popup, we also need to add the namespace for at the top of the view:

webapp/view/Worklist.view.xml

```
<mvc:View
 controllerName="opensap.manageproducts.controller.WorklistWithDependent"
 xmlns="sap.m"
 xmlns:core="sap.ui.core"
 xmlns:mvc="sap.ui.core.mvc"
 xmlns:semantic="sap.m.semantic"
 xmlns:l="sap.ui.layout">
 <semantic:FullscreenPage
   id="page"
   navButtonPress="onNavBack"
   showNavButton="true"
   title="{i18n>worklistViewTitle}">
…
</semantic:content>
<semantic:dependents>
      <ResponsivePopover title="{i18n>dimensionsTitle}"
         class="sapUiPopupWithPadding"
         id="dimensionsPopover">
         <content>
            <l:Grid>
               <l:content>
                  <Text text="{i18n>productWidth}: {
                        path: 'Width',
                        formatter: '.formatter.numberUnit'
                     } {DimUnit}" />
                  <Text text="{i18n>productDepth}: {
                        path: 'Depth',
                        formatter: '. formatter.numberUnit'
                     } {DimUnit}" />
                  <Text text="{i18n>productHeight}: {
                        path: 'Height',
                        formatter: '. formatter.numberUnit'
                     } {DimUnit}" />
                  <Text text="{i18n>productWeight}: {
                        path: 'WeightMeasure',
                        formatter: '. formatter.numberUnit'
                     } {WeightUnit}" />
               </l:content>
            </l:Grid>
         </content>
      </ResponsivePopover>
</semantic:dependents>
 </semantic:FullscreenPage>
</mvc:View>
```

In this dialog, we use new texts from the resource model. We will add the actual texts to the resource model later. The actual values and the number unit come from the model and are displayed in a `sap.m.Text` control each. We will also reuse the formatter function `numberUnit` from one of the previous units. Remember that the formatter is available in the controller at the formatter object.

Note that the binding paths for the Text controls showing the dimensions are relative, so they will resolve relatively to the currently picked product later on.

3 CALL THE DIALOG

We also need to adapt the List in the view in order to open our `Popover` from somewhere. For this, we will set the `ObjectIdentifier` title into an active state, so it can be clicked, and assign an event handler which shall open the `Popover` for us:

webapp/view/Worklist.view.xml

```
<items>
 <ColumnListItem
   type="Navigation"
   press="onPress">
   <cells>
     <ObjectIdentifier
       title="{ProductID}"
       text="{Name}"
       titleActive="true"
       titlePress="onShowDetailPopover"/>
     <Text text="{SupplierName}"/>
     <Link
       text="{ToSupplier/WebAddress}"
       href="{ToSupplier/WebAddress}"
       target="_blank"/>
     <ObjectNumber
       number="{
         path: 'Price',
         formatter: '.formatter.numberUnit'
       }"
       unit="{CurrencyCode}"/>
   </cells>
 </ColumnListItem>
</items>
```

Now, we need to implement this event handler. Let us go to the Worklist controller and add the corresponding function, right above the section where the private methods begin:

webapp/controller/Worklist.controller.js

```
…
onRefresh : function () {
 this._oTable.getBinding("items").refresh();
},

/**
 * Event handler for press event on object identifier.
 * opens detail popover to show product dimensions.
 * @public
 */
onShowDetailPopover : function (oEvent) {
 var oPopover = this.byId("dimensionsPopover");
 var oSource = oEvent.getSource();
 oPopover.bindElement(oSource.getBindingContext().getPath());
 // open dialog
 oPopover.openBy(oEvent.getParameter("domRef"));
},

/* =========================================================== */
/* internal methods                                            */
/* =========================================================== */
```

```
...
```

Here, we retrieve the `Popover` by its id from the view. Next, we ask the event object `oEvent`, which automatically gets passed into our event handler, for the event source. The source is the particular control which triggered the event when clicked.
We get the instance of the `ObjectIdentifier` back, and can ask for its binding context to get information about which product was picked. We can then ask for the path at this binding context, and use it to bind the Popover to the correct entity in the model. We use an element binding at the `Popover` here, so the binding paths in the `Popover` will be resolved relatively to the correct product.
To open the `Popover` here, we call its `openBy` method and pass the event parameter `domRef`, so that the `Popover` is positioned very close to the right border of the actual link that was clicked. If we passed only the `ObjectIdentifier` instance directly, the `Popover` would have been opened at the right border of the whole `ObjectIdentifier`, which is quite far away from the link.

4 ADD THE NECESSARY TEXTS TO THE PROPERTIES FILE.

All that is left to do now is to create the new texts in the properties files of the application.
Add the texts below:

webapp/i18n/i18n.properties

```
#~~~ Worklist Popover Fragment ~~~~~~~~~~~~
#XTIT: The title of the popover for product dimensions
dimensionsTitle=Product Dimensions

#XTIT: The label for the product width dimension
productWidth=Width

#XTIT: The label for the product height dimension
productHeight=Height

#XTIT: The label for the product depth dimension
productDepth=Depth

#XTIT: The label for the product weight
productWeight=Weight
```

When you now run the app, you should see the `ResponsivePopover` with the corresponding dimensions appear when you click on an object ID in the Worklist view.

5 CREATE A FRAGMENT

webapp/view/ResponsivePopover.fragment.xml (NEW)

```
<core:FragmentDefinition
    xmlns="sap.m"
    xmlns:l="sap.ui.layout"
    xmlns:core="sap.ui.core">
  <ResponsivePopover title="{i18n>dimensionsTitle}"
    class="sapUiPopupWithPadding">
    <content>
      <l:Grid>
        <l:content>
          <Text text="{i18n>productWidth}: {
                path: 'Width',
                formatter: '.formatter.numberUnit'
              } {DimUnit}" />
          <Text text="{i18n>productDepth}: {
                path: 'Depth',
                formatter: '.formatter.numberUnit'
              } {DimUnit}" />
          <Text text="{i18n>productHeight}: {
                path: 'Height',
                formatter: '.formatter.numberUnit'
              } {DimUnit}" />
          <Text text="{i18n>productWeight}: {
                path: 'WeightMeasure',
                formatter: '.formatter.numberUnit'
              } {WeightUnit}" />
        </l:content>
      </l:Grid>
    </content>
  </ResponsivePopover>
</core:FragmentDefinition>
```

We now want to make our `ResponsivePopover` better reusable. To achieve this, we will create a fragment containing the code from the Popover.

We can simply **cut** and paste the `ResponsivePopover` code from the Worklist view into our new fragment. Just don't forget to wrap it in the fragment definition and **do not forget to remove the code from the Worklist view!**

webapp/view/Worklist.view.xml

```
…
      </IconTabBar>
    </semantic:content>


    <semantic:sendEmailAction>
      <semantic:SendEmailAction id="shareEmail"
press="onShareEmailPress"/>
    </semantic:sendEmailAction>

~~<semantic:dependents>~~
~~<ResponsivePopover title="{i18n>dimensionsTitle}"~~
    ~~class="sapUiPopupWithPadding"~~
    ~~id="dimensionsPopover">~~
    ~~<content>~~
```

```
      ~~<l:Grid>~~
        ~~<l:content>~~
           ~~<Text text="{i18n>productWidth}: {~~
               ~~path: 'Width',~~
               ~~formatter: '.formatter.numberUnit'~~
             ~~} {DimUnit}" />~~
           ~~<Text text="{i18n>productDepth}: {~~
               ~~path: 'Depth',~~
               ~~formatter: '.formatter.numberUnit'~~
             ~~} {DimUnit}" />~~
           ~~<Text text="{i18n>productHeight}: {~~
               ~~path: 'Height',~~
               ~~formatter: '.formatter.numberUnit'~~
             ~~} {DimUnit}" />~~
           ~~<Text text="{i18n>productWeight}: {~~
               ~~path: 'WeightMeasure',~~
               ~~formatter: '.formatter.numberUnit'~~
             ~~} {WeightUnit}" />~~
        ~~</l:content>~~
      ~~</l:Grid>~~
    ~~</content>~~
 ~~</ResponsivePopover>~~
~~</semantic:dependents>~~
</semantic:FullscreenPage>
```

6 ADAPT THE WORKLIST VIEW AND CONTROLLER

In the Worklist view, you should now have no code left that belongs to the `ResponsivePopover`. Don't forget to also remove the unused namespace declaration for the `sap.ui.layout` library, as it is not required in this view anymore.

webapp/controller/Worklist.controller.js

```
/**
 * Event handler for press event on object identifier.
 * opens detail popup from component to show product dimensions.
 * @public
 */
onShowDetailPopover : function (oEvent) {
 var oPopover = this._getPopover();
 var oSource = oEvent.getSource();
 oPopover.bindElement(oSource.getBindingContext().getPath());

 // open dialog
 oPopover.openBy(oEvent.getParameter("domRef"));
},

/* ========================================================== */
/* internal methods                                           */
/* ========================================================== */

_getPopover : function () {
// create dialog lazily
 if (!this._oPopover) {
   // create popover via fragment factory
   this._oPopover = sap.ui.xmlfragment(
   "opensap.manageproducts.view.ResponsivePopover", this);
   this.getView().addDependent(this._oPopover);
 }
 return this._oPopover;
},
```

In the controller of the Worklist view, we now have to slightly adapt the function opening the popover. We need to create an instance of the `ResponsivePopover` before we can bind and open it, as it is now not automatically instantiated when the view gets parsed. In order to only instantiate the popover when it is needed, and to avoid instantiating it multiple times, we create a new private function `_getPopover`. This function will create an instance of the popover from the fragment and assign it to a private property of the controller, but only if this instance is not already there.

In our event handler, we now replace the line retrieving the popover by its id with the call to the `_getPopover` method.

One more adaptation we need now is to add the `ResponsivePopover` instance to the view by using `addDependent`. This will allow the popover to get access to the model the view has inherited from the component, and it will also make it take part in the view's lifecycle.

7 ADAPT THE OBJECT VIEW AND CONTROLLER

We can now reuse the `ResponsivePopover` easily in our Object view. Let us make the Object ID here clickable as well. We will adapt the `ObjectHeader` in this view a little:

webapp/view/Object.view.xml

```
<semantic:content>
 <ObjectHeader
    id="objectHeader"
    title="{ProductID}"
    titleActive="true"
    titlePress="onShowDetailPopover"
    responsive="true"
    number="{
           path: 'Price',
           formatter: '.formatter.numberUnit'
    }"
    numberUnit="{CurrencyCode}">
 </ObjectHeader>
</semantic:content>

 </semantic:FullscreenPage>
```

webapp/controller/Object.controller.js

```
…
onNavBack : function() {
 var sPreviousHash = History.getInstance().getPreviousHash();

 if (sPreviousHash !== undefined) {
    history.go(-1);
 } else {
    this.getRouter().navTo("worklist", {}, true);
 }
},

/**
 * Event handler for press event on object identifier.
 * opens detail popup from component to show product dimensions.
 * @public
 */
 onShowDetailPopover : function (oEvent) {

 var oPopover = this._getPopover();
 var oSource = oEvent.getSource();
 oPopover.bindElement(oSource.getBindingContext().getPath());

 // open dialog
 oPopover.openBy(oEvent.getParameter("domRef"));
},


/* =========================================================== */
/* internal methods                                            */
/* =========================================================== */

_getPopover : function () {
// create dialog lazily
 if (!this._oPopover) {
    // create popover via fragment factory
    this._oPopover = sap.ui.xmlfragment(
    "opensap.manageproducts.view.ResponsivePopover", this);
    this.getView().addDependent(this._oPopover);
 }
 return this._oPopover;
},
```

Last, we simply copy over the two methods `_getPopover` and `onShowDetailPopover` from the Worklist.controller.js to the Object.controller.js.
When you now re-run the app and switch to the Object view for one product, you should be able to click on the product Id to make the Popover also appear in this view.