ADF Code Corner

Oracle JDeveloper OTN Harvest 12 / 2010

twitter.com/adfcodecorner

Abstract:

The Oracle JDeveloper forum is in the Top 5 of the most active forums on the Oracle Technology Network (OTN). The number of questions and answers published on the forum is steadily increasing with the growing interest in and adoption of the Oracle Application Development Framework (ADF).

The ADF Code Corner "Oracle JDeveloper OTN Harvest" series is a monthly summary of selected topics posted on the OTN Oracle JDeveloper forum. It is an effort to turn knowledge exchange into an interesting read for developers who enjoy harvesting little nuggets of wisdom.

http://blogs.oracle.com/jdevotnharvest/

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30-DEC-2010

Oracle ADF Code Corner OTN Harvest is a monthly blog series that publishes how-to tips and information around Oracle JDeveloper and Oracle ADF.

Disclaimer: ADF Code Corner OTN Harvest is a blogging effort according to the Oracle blogging policies. It is not an official Oracle publication. All samples and code snippets are provided "as is" with no guarantee for future upgrades or error correction. No support can be given through Oracle customer support.

If you have questions, please post them to the Oracle OTN JDeveloper forum:
http://forums.oracle.com/forums/forum.jspa?forumID=83

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OTN Harvest – The Blog

The content of this OTN Oracle JDeveloper Harvest summary is also available as a blog:

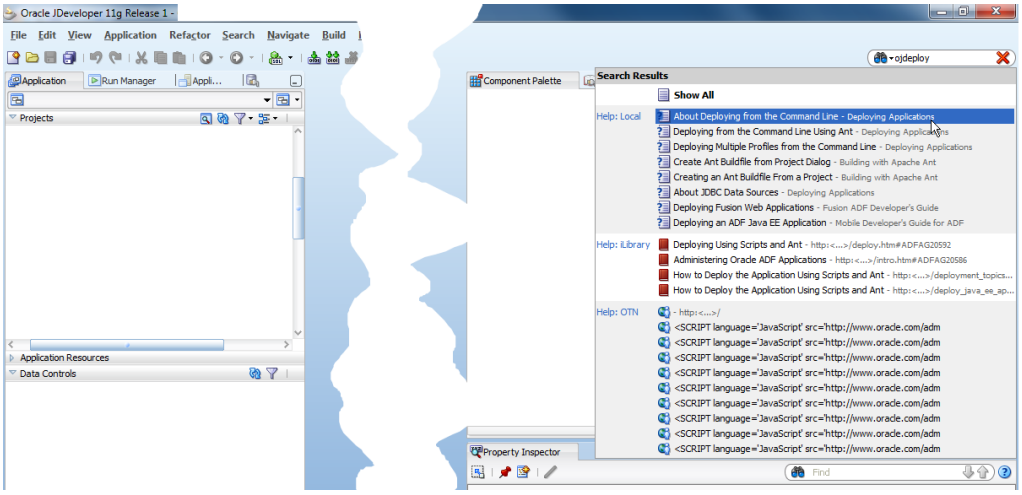
http://blogs.oracle.com/jdevotnharvest/

The Oracle "ADF Code Corner Oracle JDeveloper OTN Harvest" blog publishes information as close as possible to their related question on the OTN forum. An extended version of the blog entries, containing screen shots and images, is provided in this OTN Harvest Summary document.

How-to find out about ADF application deployment with *ojdeploy*

Using the *ojdeploy*, applications or modules can be deployed from a command line window or ANT. To learn about how to use this utility, use the Oracle JDeveloper help

1 - In the search field you see in Oracle JDeveloper (right upper corner), type *ojdeploy*
2 - click "About Deploying from the Command Line"



Grid Layouts in ADF Faces using Trinidad

ADF Faces does provide a data table component but none to define grid layouts. Grids are common in web design and developers often try HTML table markup wrapped in an f:verbatim tag or directly added the page to build a desired layout. Usually these attempts fail, showing unpredictable results,

However, ADF Faces does not provide a table layout component, but Apache MyFaces Trinidad does. The Trinidad trh:tableLayout component is a thin wrapper around the HTML table element and contains a series of row layout elements, trh:rowLayout. Each trh:rowLayout component may contain one or many trh:cellLayout components to format cells content.

```
<trh:tableLayout id="tl1" halign="left">
  <trh:rowLayout id="rl1" valign="top" halign="left">
    <trh:cellFormat id="cf1" width="100" header="true">
      <af:outputLabel value="Label 1" id="ol1"/>
    </trh:cellFormat>
    <trh:cellFormat id="cf2" header="true"
```

```
                    width="300">
    <af:outputLabel value="Label 2" id="outputLabel1"/>
    </trh:cellFormat>
  </trh:rowLayout>
  <trh:rowLayout id="rowLayout1" valign="top" halign="left">
    <trh:cellFormat id="cellFormat1" width="100" header="false">
      <af:outputLabel value="Label 3" id="outputLabel2"/>

    </trh:cellFormat>
  </trh:rowLayout>
    ...
</trh:tableLayout>
```

To add the Trinidad tag library to your ADF Faces projects …

- Open the Component Palette and right mouse click into it
- Choose "Edit Tag Libraries" and select the Trinidad components. Move them to the "Selected Libraries" section and Ok the dialog.
- The first time you drag a Trinidad component to a page, the web.xml file is updated with the required filters

Note: The Trinidad tags don't participate in the ADF Faces RC geometry management. However, they are JSF components that are part of the JSF request lifecycle.

ADF Faces RC components work well with Trinidad layout components that don't use PPR. The PPR implementation of Trinidad is different from the one in ADF Faces. However, when you mix ADF Faces components with Trinidad components, avoid Trinidad components that have integrated PPR behavior. Only use passive Trinidad components.

Links:

http://myfaces.apache.org/trinidad/trinidad-api/tagdoc/trh_tableLayout.html

http://myfaces.apache.org/trinidad/trinidad-api/tagdoc/trh_rowLayout.html

http://myfaces.apache.org/trinidad/trinidad-api/tagdoc/trh_cellFormat.html

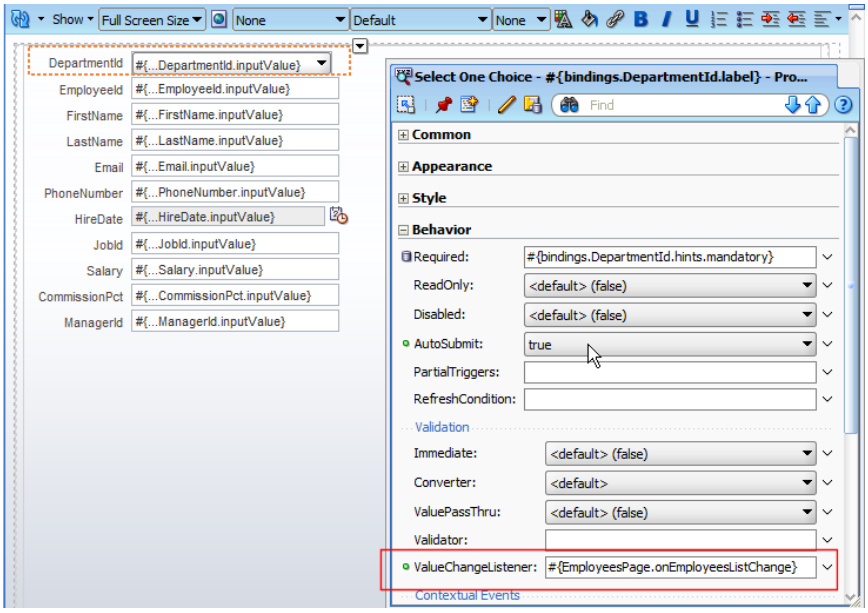
Panel Collection Confusion

A command button added to the toolbar of a Panel Collection component does not cause field validation in a form when pressed. While this appears confusing it works as designed.

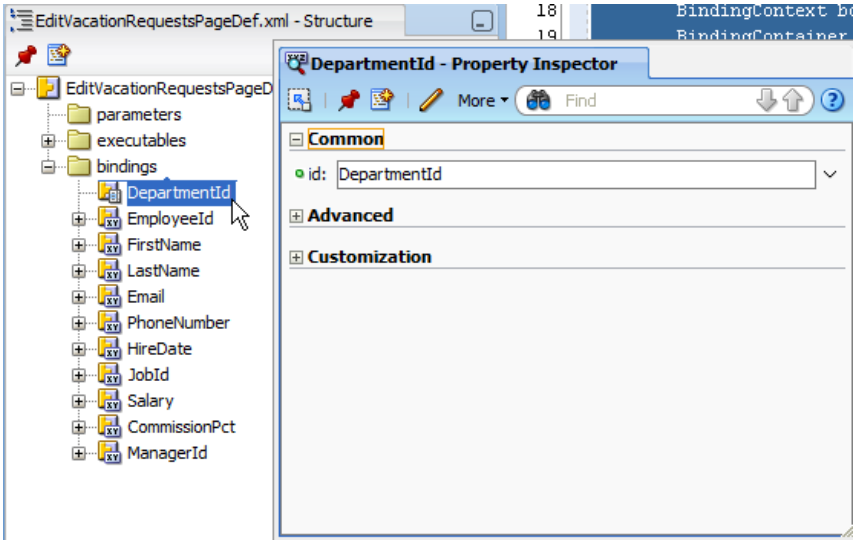
Instead of a full page re-rendering, ADF Faces events and components can trigger partial page refresh, in which only portions of a page are refresh upon a request. In addition, some components – including the af:popup and af:subForm - represent event roots. Event roots don't propagated event notification outside of the component tag boundary, which means that the ADF Faces lifecycle only executed on components that are children of the event root component. The PanelCollection component is an event root and therefore only validates and refreshes data of its child components.

Reading the selected value of an ADF bound Select List in Java

Model driven and dynamic select lists are bound to the `JUCtrlListBinding` in the associated binding container. To read the user selected list value in a managed bean, the list component **AutoSubmit** property must be set to "true". The **ValueCangeListener** property then references a managed bean method to read the selected value.



At design time, the select list is defined in the PageDef file of the page or page fragment containing the list component. The name of the list binding is referenced in the managed bean method shown below.



The managed bean method shown below accesses

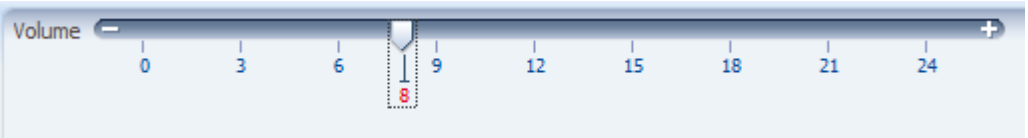
- the selected list index
- the selected list value

- the selected list row

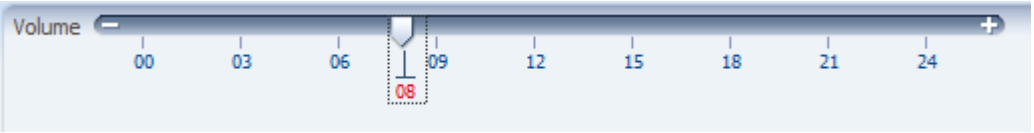
```
public void onEmployeesListChange(ValueChangeEvent valueChangeEvent) {
  BindingContext bctx = BindingContext.getCurrent();
  BindingContainer bindings = bctx.getCurrentBindingsEntry();
  JUCtrlListBinding list =
                    (JUCtrlListBinding) bindings.get("DepartmentId");
  //get the selected Row. This allows you to access row attributes that
  //are not displayed in the list
  Row selectedRow = (Row)list.getSelectedValue();
  //get selected list value. This is the value used to update the
  //Select List value attribute
  Number selectedValue = (Number) list.getAttributeValue();
  //get the selected list index
  Integer selectedIndx = (Integer) valueChangeEvent.getNewValue();


  // ... do more work here

}
```

Formatting the af:inputSpinNumber tick labels

To change the display format of the Input Spin Number tick labels from



to



,add an af:convertNumber tag as shown below

```
<af:convertNumber integerOnly="true" minIntegerDigits="2"/>
```

Beginner Mistake: Adding a String to a value property

A common beginner mistake, e.g. when working with the af:selectOneChoice component or the af:inputText component, is to provide a static value to the component value property. For example:

```
<af:selectOneChoice id="soc1" value="Value One" autoSubmit="true">
  <af:selectItem label="…" value="…" />
```

```
  ...
</af:selectOneChoice>

Or

<af:inputText id="it1" value="Hello World"/>
```

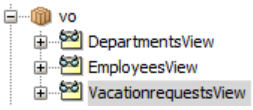
Assigning a non-updateable value to an UI input component however renders this component read-only, which come by surprise for developers that are new to JavaServer Faces.

If you experience a problem like this, keep in mind that JSF components expect a value expression to be provided in its value property. If you want to define a default value for a component, define a value for the JavaBean variable which setter/getter method is referenced in the JSF component value property.

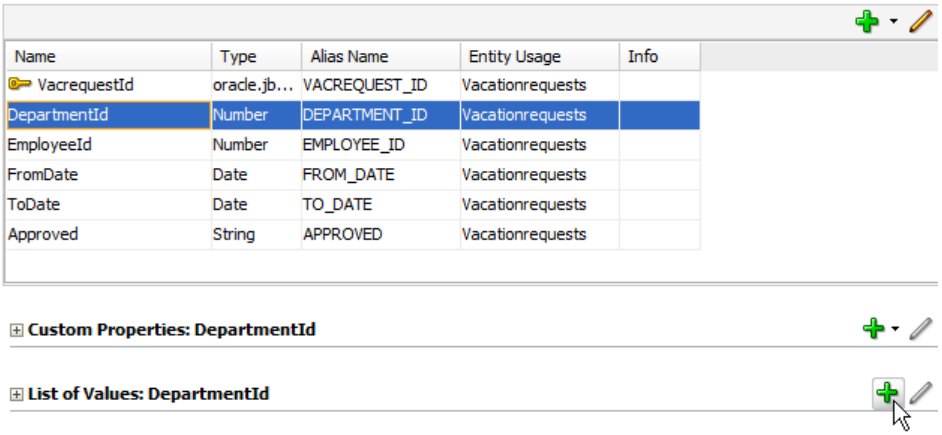
How-to create dependent model-driven LOV

Dependent list-of-values can be based on View Objects that have a parent-detail relationship or independent View Objects, as explained in the following.

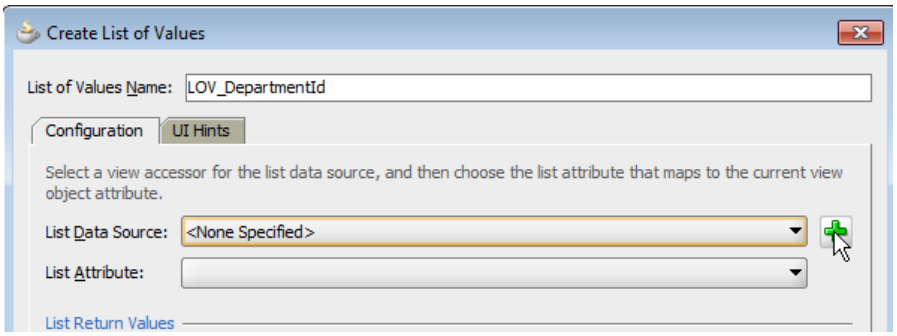
In the example, a View Object "VacationrequestsView" has two attributes, "DepartmentId" and "EmployeeId" that reference values of the "DepartmentsView" and the "EmployeesView" objects.



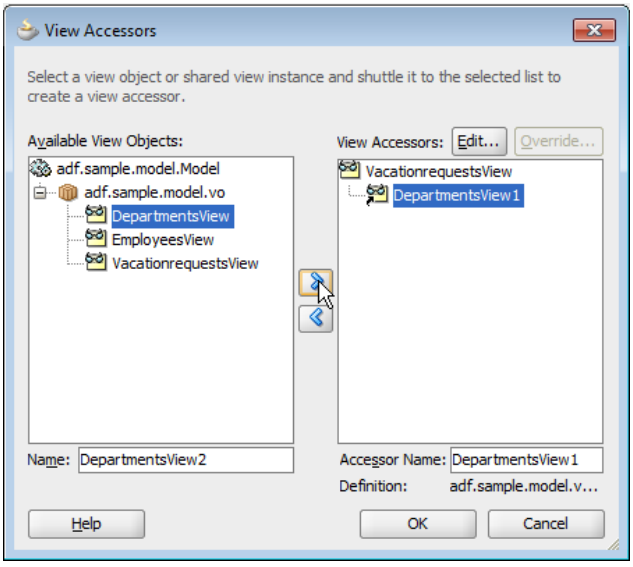
To build a dependent model driven list-of-value, open the "VacationrequestsView" view object in the View Object editor. Select the "DepartmentId" attribute and click the green plus icon next to the **List of Values: DepartmentId** header.



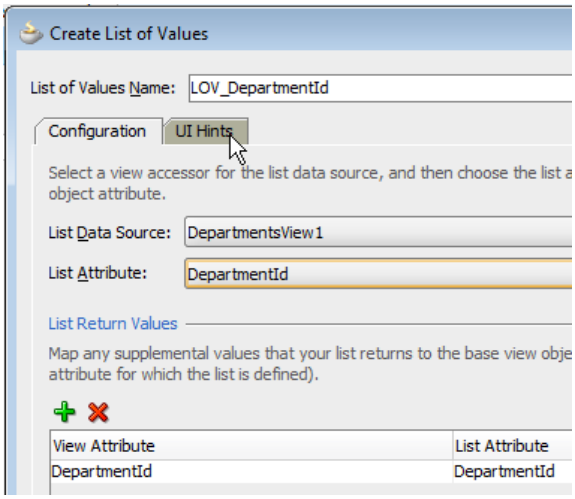
In the opened **Create List of Values"** editor, press the green plus icon at the end of the **List Data Source** field.



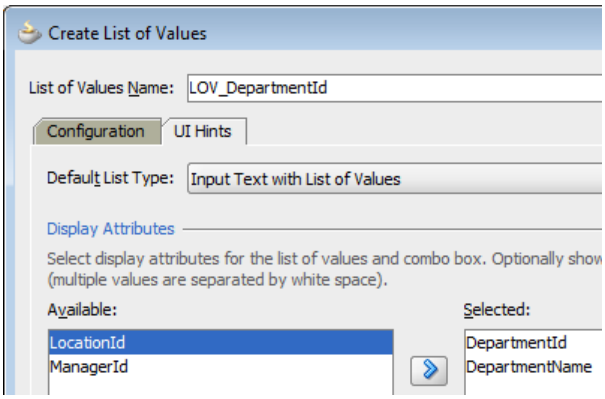
Select the "DepartmentView" View Object and press the first arrow icon to create a View Accessor instance of it.



Press **OK** to close the dialog. In the **Create List of Values** dialog, select **DepartmentId** as the **List Attribute.**

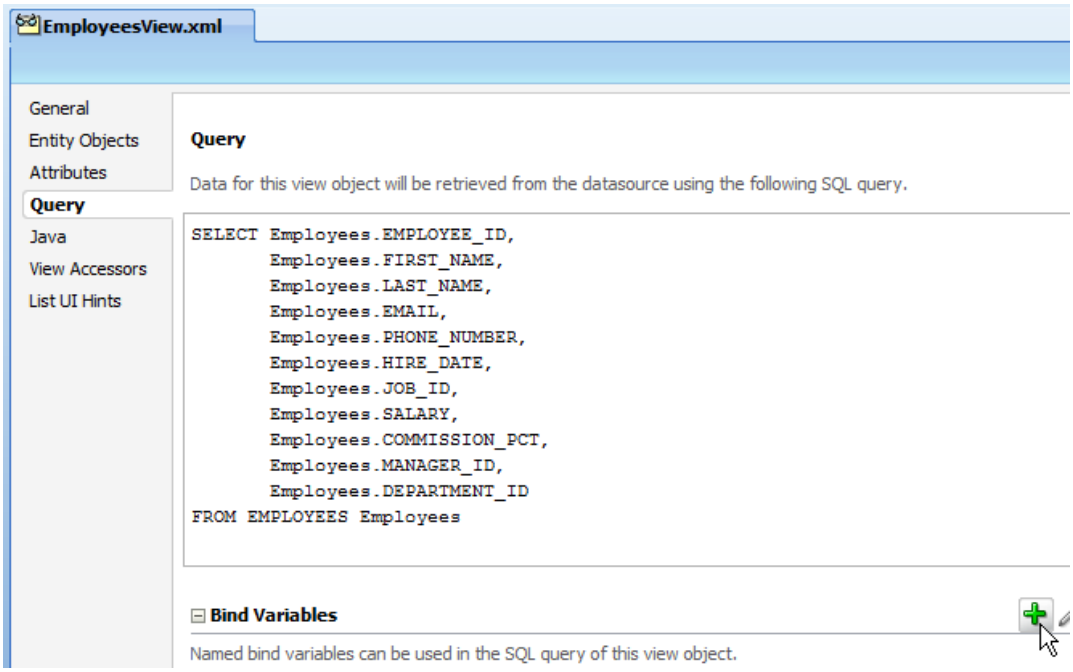


Select the **UI Hints** tab to define the list as a list-of-value. Choose **Input Text with List of Values** as the **Default List Type**.

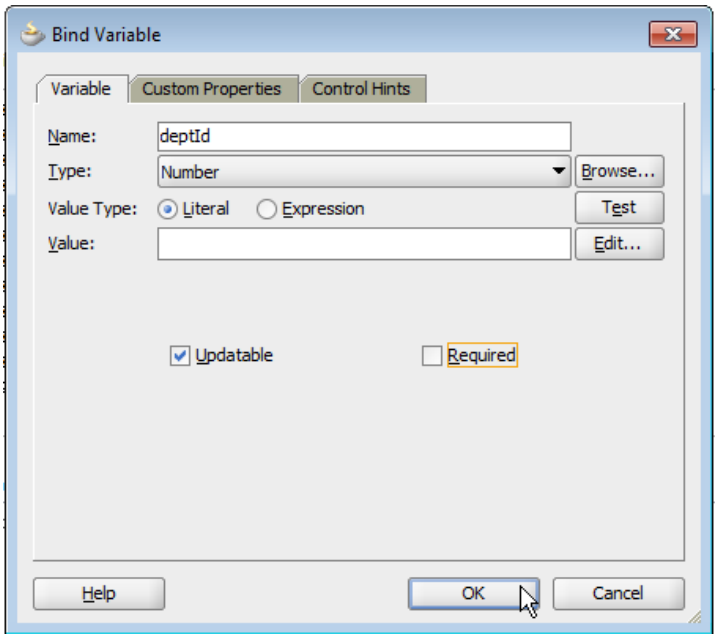


Select the attributes that should be shown in the LOV result table.

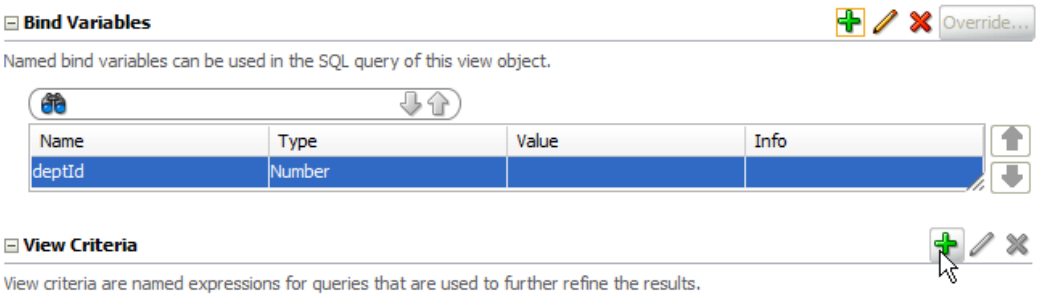
Next, double click the "EmployeesView" view object that provides the dependent list values. In the View Object editor, click the green plus icon next to the **Bind Variables** header.



In the **Bind Variable** editor, create a bind variable with the data type of the data passed in from the first LOV selection. In this example, the data type is `oracle.jbo.domain.Number`. The bind variable should be configured as **updatable** and **not required**. Specifying the bind variable as **not required** allows you to run the View Object also when the bind variable does not have a value. This allows the variable to be used in a View Criteria, which is what is used in this sample to filter the LOV query based on the user selection in the first LOV.

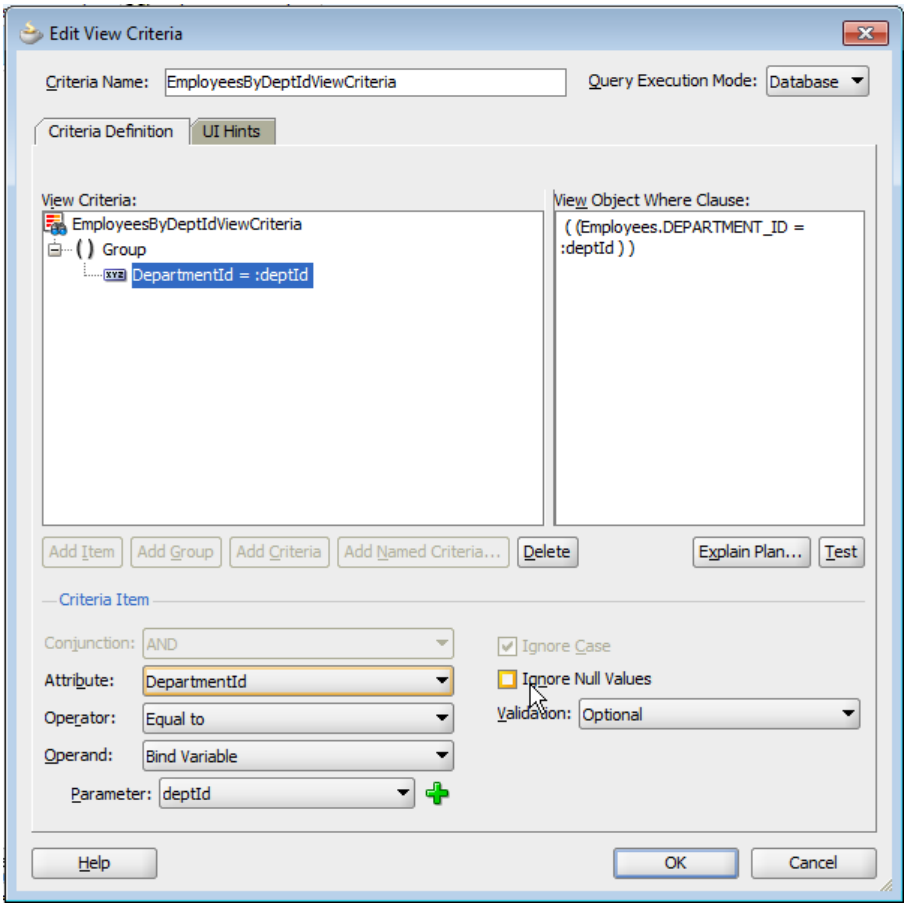


OK the dialog. After creating the bind variable, press the green plus icon next to the **View Criteria** header of the "EmployeesView" View Object editor.

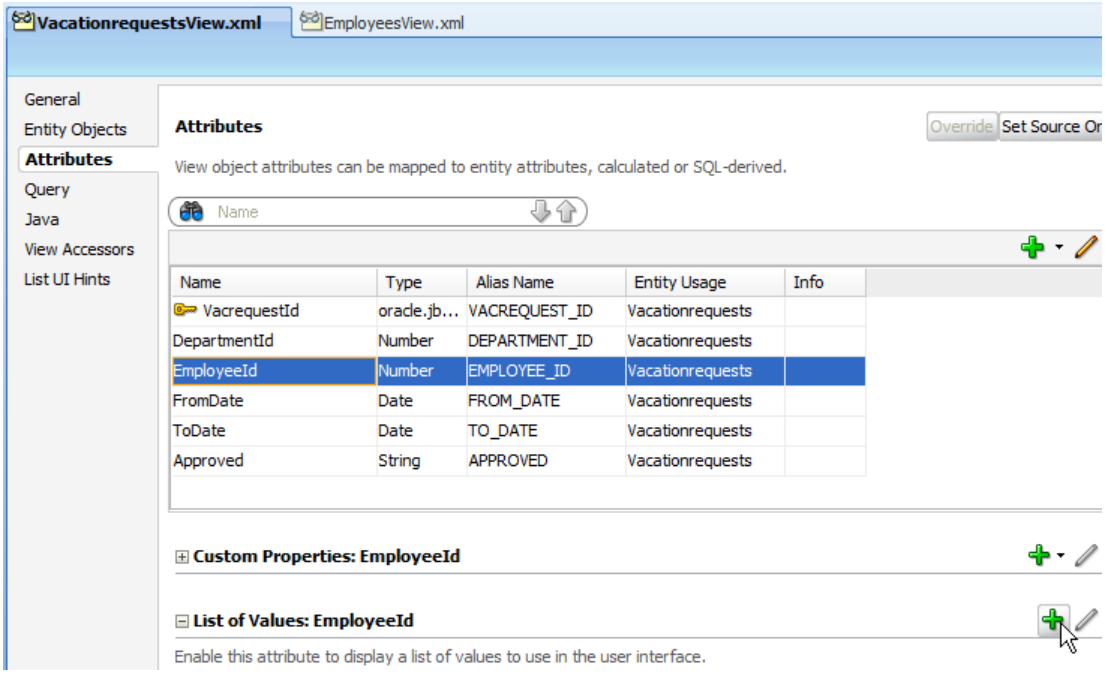


In the **Edit View Criteria** editor, provide a meaningful name for the new criteria and press the **Add Item** button. Select **DepatrtmentId** as the attribute to apply the named where clause (the view criteria) to.

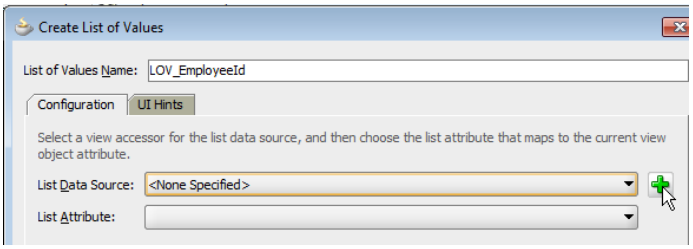
Choose **Bind Variable** as the **Operand**, and select the bind variable created earlier. This step defines a where clause that filters employee data to only match employees of a department Id defined by the bind variable.



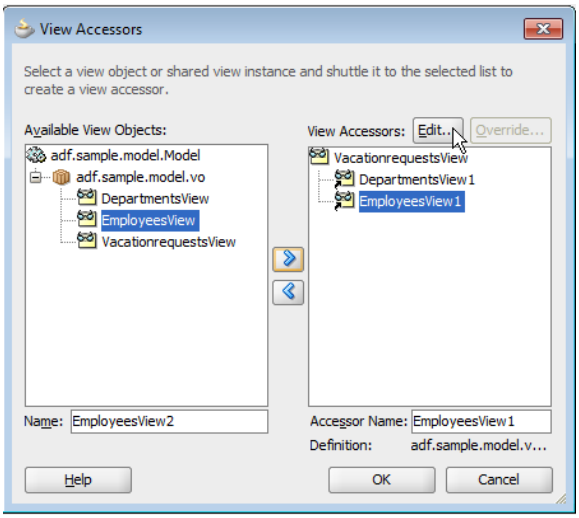
Still in the **Edit View Criteria**dialog, uncheck the **Ignore Null Valueschckbox** before pressing **OK**.



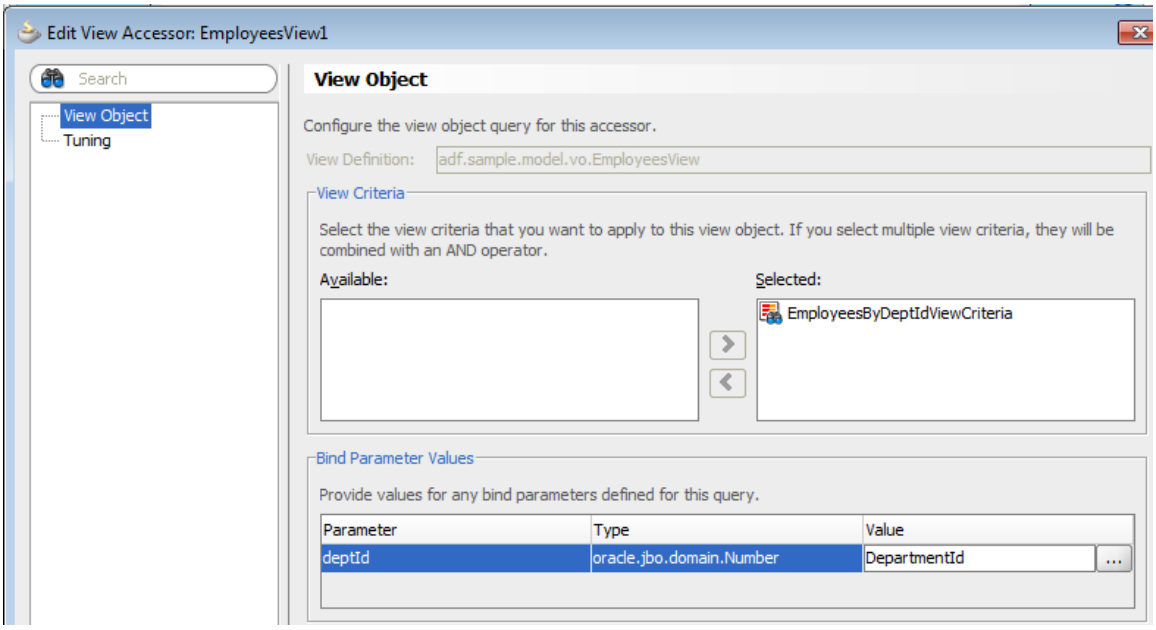
Open the View Object editor for the "VacationsrequestsView" object and select the **EmployeeId** attribute. Press the plus icon next to the **List of Values: EmployeeId** header.



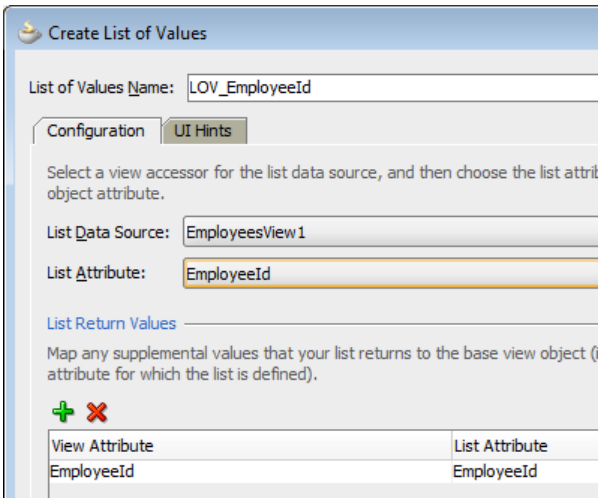
In the opened **Create List of Values** dialog, press the green plus icon next to the **List Data Source** field. In the opened **View Accessors** dialog, select the "EmployeesView" entry and press the first shuttle button.



Before closing the dialog, press the **Edit** button next to the **View Accessors** label.

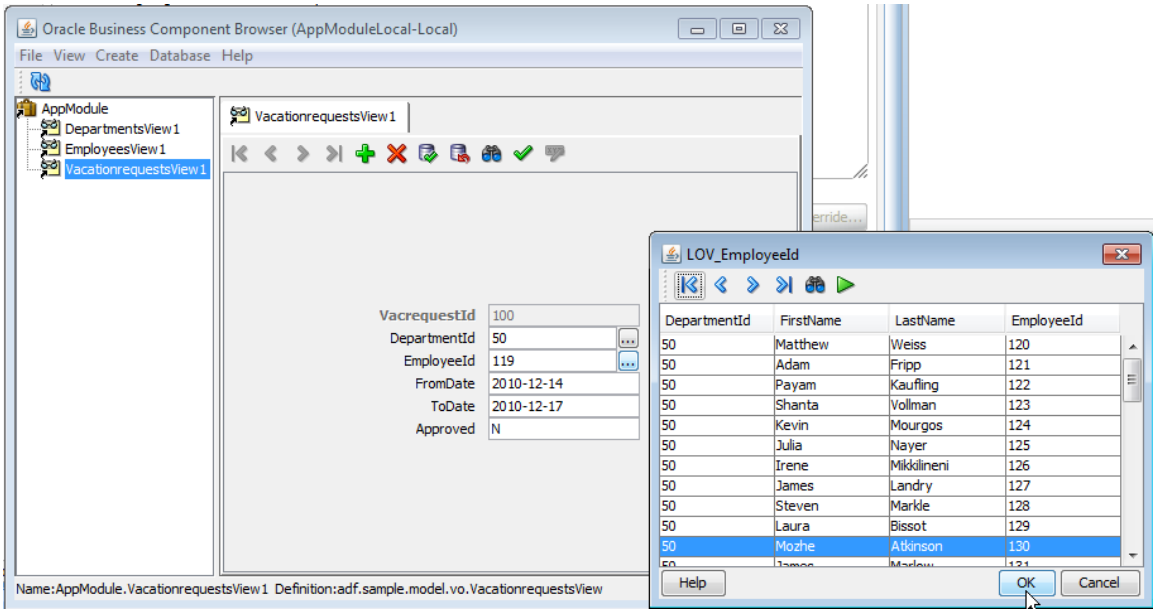


In the **Edit View Accessor: EmployeesView1** editor, select the View criteria name in the **Available** list field and shuttle it to the **Selected** list. This applies the View criteria to the EmployeesView LOV query. Point the View Criteria bind variable – **deptId** in the example – to the attribute in the View Object that holds the value for the first LOV selection.

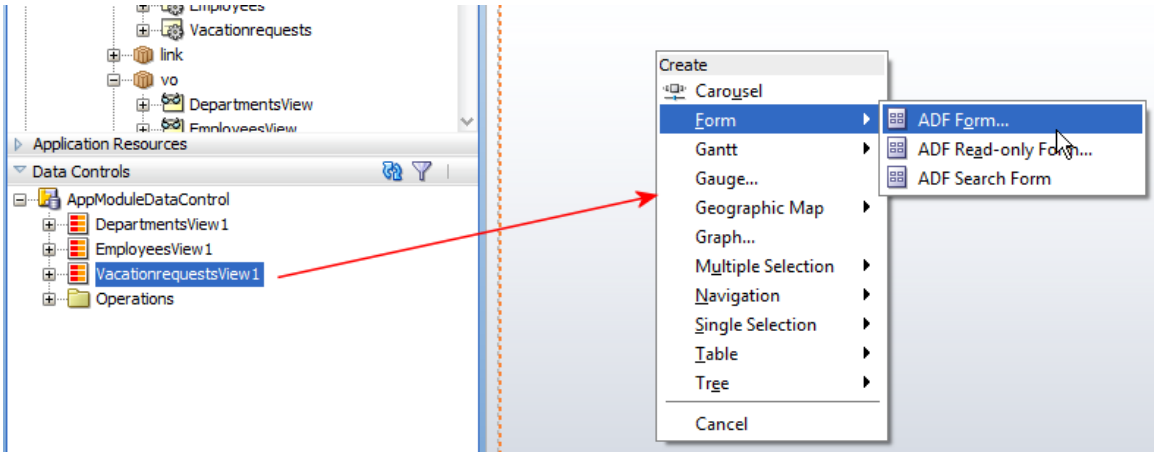


Select **EmployeeId** as the list attribute that updates the "VacationsrequestView" attribute and press the **UI Hints** tab to define the list as a list-of-value at runtime.

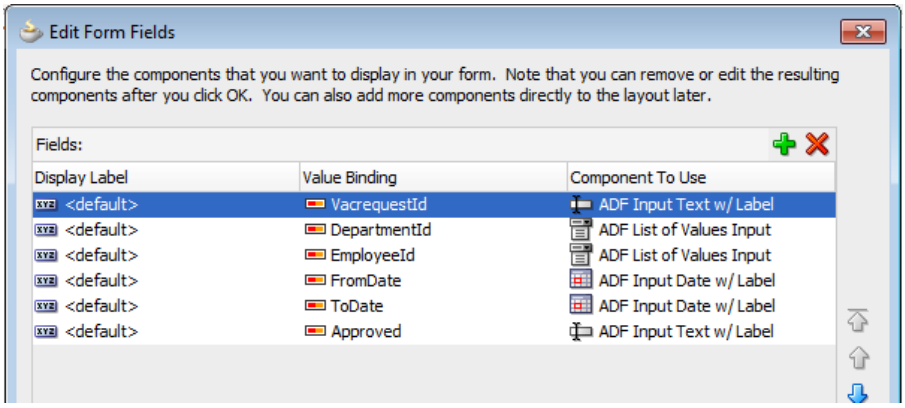
After this, you can run the ADF Business Components tester from the Application Module context menu to try the dependent list-of-values.



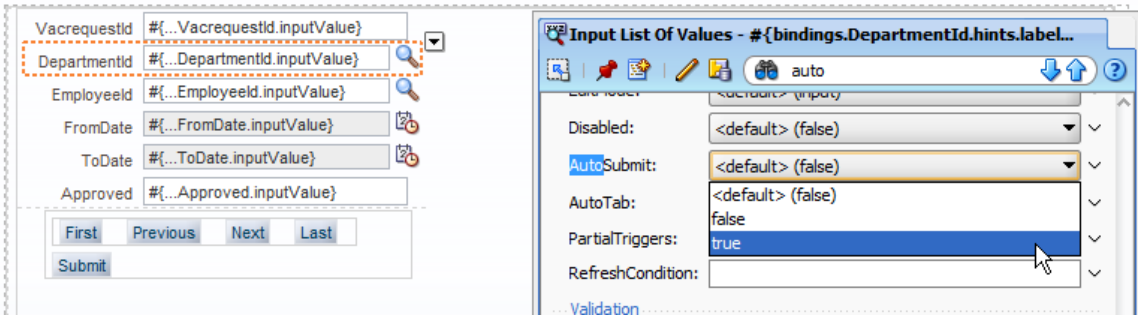
Id the dependent list-of-values work in the ADF Business Components tester, create an ADF Faces page and drag the **VacationsrequestsView** instance as an input form.



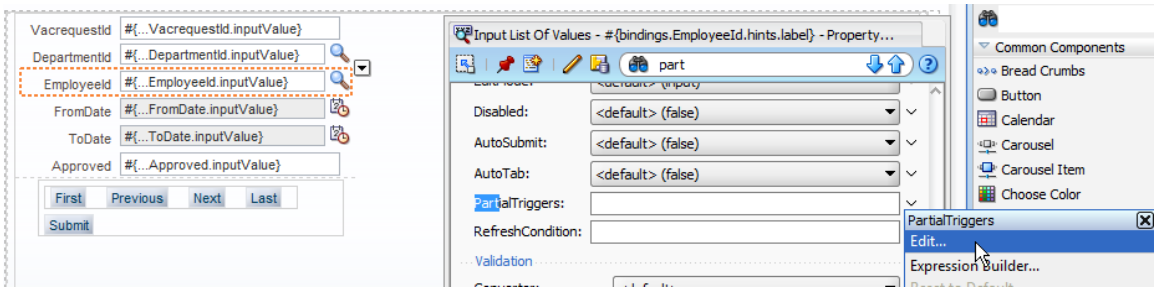
Because of the model side settings, the DepartmentId and EmployeeId attributes are represented by LOV components.



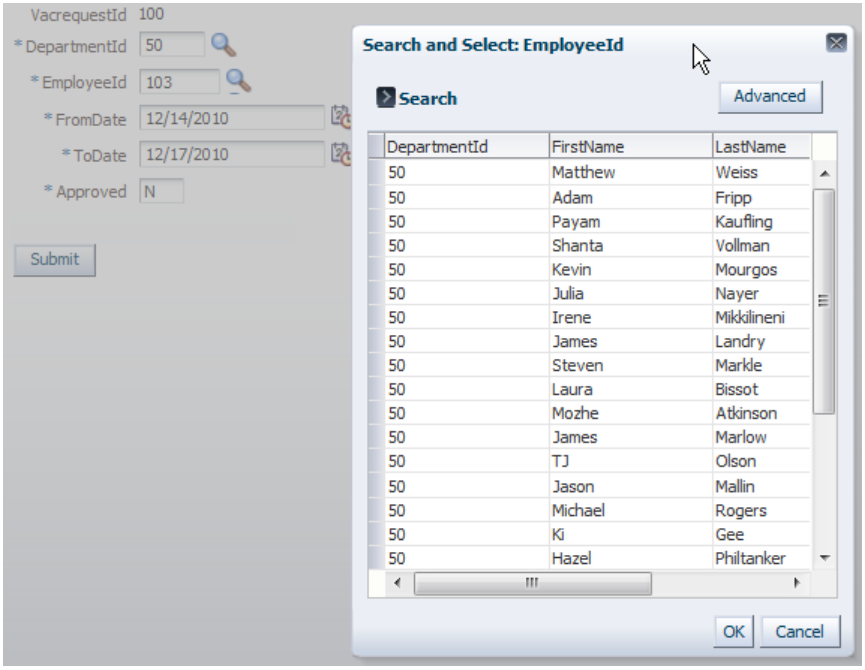
Select the first list-of-value component – DepartmentId in the sample – and open the Property Inspector. Set the **AutoSubmit** property to **true.**



Then select the second list-of-values – EmployeeId in the sample – and point its **PartialTriggers** property to the Id of the first-list-of value component. For this, you can use the **Edit** option of the **PartialTriggers** context menu.



When you run the page, then the dependent list-of-values behave exactly as when using the ADF Business Components tester



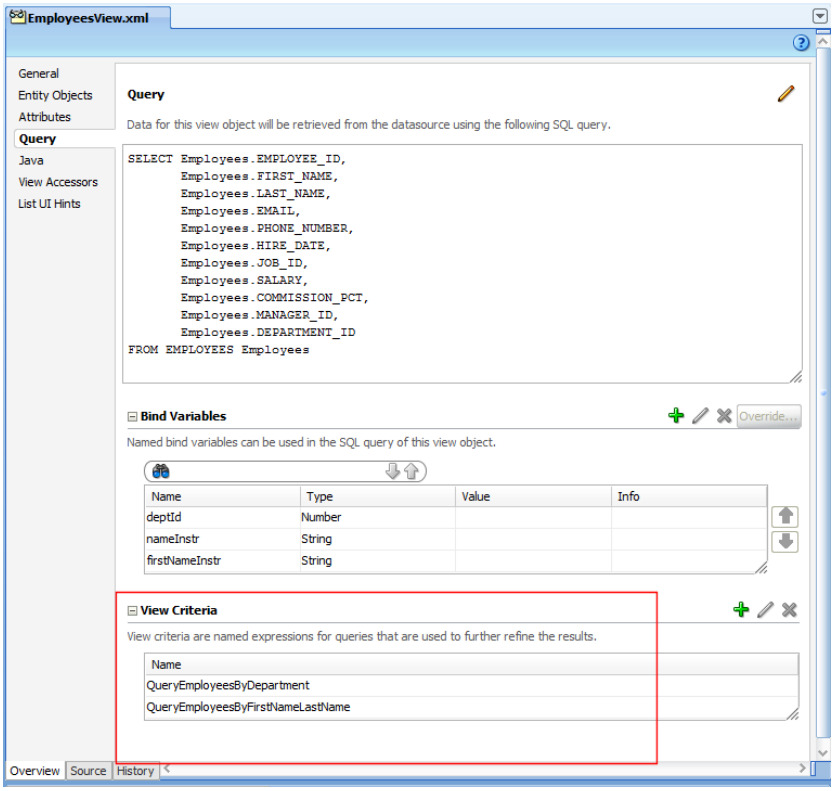
Note: The LOV initial query and search field can be configured on the model side LOV definition.

Note: The Vacationrequests table is not part of the Oracle HR schema. To reproduce the sample documented in this section, you need to first create the table with a foreign key reference to the "DepartmentId" attribute in the "Departments" table and an "EmployeeId" reference in the "Employees" table.

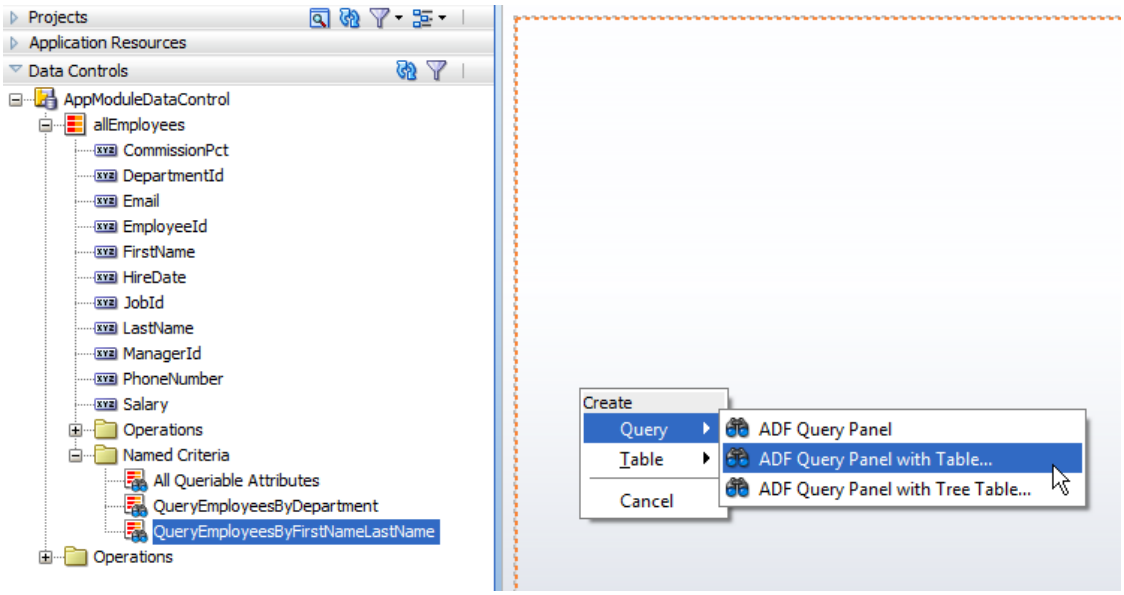
How-to tell the ViewCriteria a user chose in an af:query component

The `af:query` component defines a search form for application users to enter search conditions for a selected View Criteria. A View Criteria is a named where clauses that you can create declaratively on the ADF Business Component View Object.

A default View Criteria that allows users to search in all attributes exists by default and exposed in the Data Controls panel.

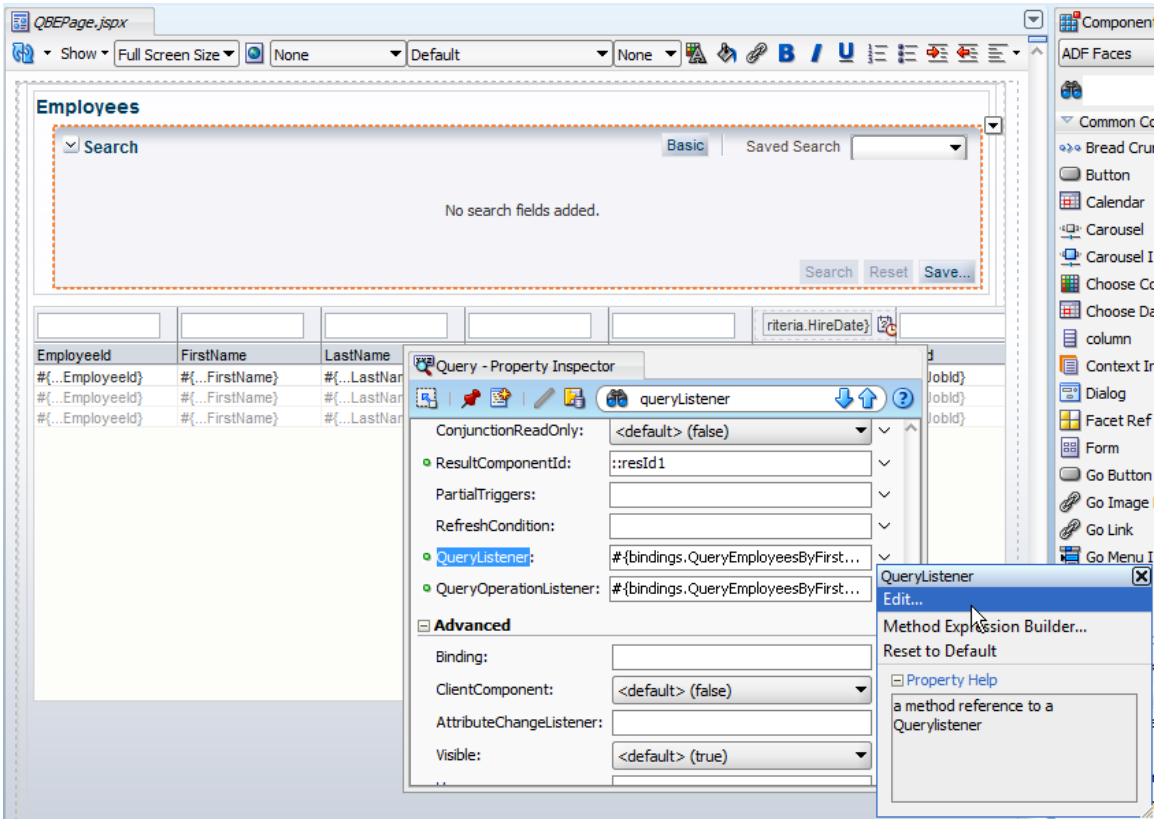


To create an ADF Faces search form, expand the View Object node that contains the View Criteria definition in the Data Controls panel. Drag the View Criteria that should be displayed as the default criteria onto the page and choose **Query** in the opened context menu. One of the options within the **Query** option is to create an **ADF Query Panel with Table**, which displays the result set in a table view, which can have additional column filters defined.



To intercept the user query for modification, or just to know about the selected View Criteria, you override the **QueryListener** property on the `af:query` component of the `af:table` component.

Overriding the **QueryListener** on the table makes sense if the table allows users to further filter the result set using column filters.



To override the default **QueryListener**, copy the existing string referencing the binding layer to the clipboard and then select **Edit** from the field context menu (press the arrow icon to open it) to selecte or create a new managed bean and method to handle the query event.

The code below is from a managed bean with custom query listener handlers defined for the `af:query` component and the `af:table` component. The default listener entry copied to the clipboard was "#{bindings.ImplicitViewCriteriaQuery.processQuery}"

```
public void onQueryList(QueryEvent queryEvent) {
  // The generated QueryListener replaced by this method
  //#{bindings.ImplicitViewCriteriaQuery.processQuery}
  QueryDescriptor qdes = queryEvent.getDescriptor();

  //print or log selected View Criteria
  System.out.println("NAME "+qdes.getName());

  //call default Query Event
  invokeQueryEventMethodExpression("
     #{bindings.ImplicitViewCriteriaQuery.processQuery}",queryEvent);
```

```
 }
public void onQueryTable(QueryEvent queryEvent) {
  // The generated QueryListener replaced by this method
  //#{bindings.ImplicitViewCriteriaQuery.processQuery}
  QueryDescriptor qdes = queryEvent.getDescriptor();

  //print or log selected View Criteria
  System.out.println("NAME "+qdes.getName());

  invokeQueryEventMethodExpression(
    "#{bindings.ImplicitViewCriteriaQuery.processQuery}",queryEvent);
}


private void invokeQueryEventMethodExpression(
                        String expression, QueryEvent queryEvent){
  FacesContext fctx = FacesContext.getCurrentInstance();
  ELContext elctx = fctx.getELContext();
  ExpressionFactory efactory
  fctx.getApplication().getExpressionFactory();

  MethodExpression me =
    efactory.createMethodExpression(elctx,expression,
                                    Object.class,
                                    new Class[]{QueryEvent.class});
    me.invoke(elctx, new Object[]{queryEvent});
}
```

Of course, this code also can be used as a starting point for other query manipulations and also works with saved custom criterias.

To read more about the af:query component, see:

http://download.oracle.com/docs/cd/E15523_01/apirefs.1111/e12419/tagdoc/af_query.html

How-to restrict file upload sizes in ADF Faces

Many of the ADF Faces configuration settings use Apache Trinidad files or context parameters. This is also true when configuring the `web.xml` file for file upload settings used by the af:inputFile component.

```
<context-param>
 <!--  Maximum memory per request (in bytes) -->
  <param-name>
     org.apache.myfaces.trinidad.UPLOAD_MAX_MEMORY
  </param-name>
- <!--  Use 500K -->
  <param-value>512000</param-value>
</context-param>
<context-param>
```

```
<!--  Maximum disk space per request (in bytes) -->
  <param-name>
     org.apache.myfaces.trinidad.UPLOAD_MAX_DISK_SPACE
  </param-name>
<!--  Use 20,000K -->
  <param-value>20480000</param-value>
</context-param>
```

For more information about file upload in ADF Faces, see:
http://download.oracle.com/docs/cd/E15523_01/apirefs.1111/e12419/tagdoc/af_inputFile.html

Map Viewer doesn't show maps for large parts of the globe

"The Map component provides the ablity to display different maps and enables high performance panning, zooming and display of different layers (aka Themes) of data. Unlike other ADF Faces component, the Map component itself doesn't take a data model via the 'value' attribute. Instead, it only needs a configuration that contains a URL to a Map Viewerer service and optionally a Geo-Coder service if address data will have to be converted to longitutde and latitude."[1]

However, large parts of the globe are not displayed when testing the ADF Faces DVT map viewer component using the Oracle map server accessible from http://elocation.oracle.com/mapviewer. The reason for this is that the exposed map server is for demo purpose only and does not have all the maps installed that exist. There also is no guarantee that the service is up. If you want to try the Oracle map viewer and the ADF Faces DVT map viewer component then the http://elocation.oracle.com/mapviewer is good to use. If you want to integrate maps in your business applications then you need a license and local installation of the map server. If the demo server is accessible from a browser but not from Oracle JDeveloper, check your proxy settings in Tools | Preferences | Web Browser and Proxy

[1]: http://download.oracle.com/docs/cd/E15523_01/apirefs.1111/e12418/tagdoc/dvt_map.html

How-to control user input based on RegEx pattern

ADF Faces provides Regular Expression validation component that allow developers to test user input for a specific input pattern like numbers or characters only, value ranges and more. Validation however works after the fact, which means the user already provided a wrong entry. To prevent wrong user entry to an input field, JavaScript can be used to ignore the key press when it doesn't fit a specific pattern.

```
 <af:inputText label="RegEx Sample - Values between 1 - 50" id="it2">
    <af:clientListener method="applyRegExPatternFilter('^[1-9]{1}$|^[1-4]{1}[0-9]{1}$|^50$')"
                       type="keyDown"/>
</af:inputText>
```

The Regular expression in the sample code above allows values between 1 and 50 to be entered in a text input field. Any value lower or bigger than this is suppressed and the keyboard entry is not accepted. The JavaScript function for this is shown below:

```
// JavaScript filter that suppresses user input if the defined regular
// expression pattern is not met. Use this pattern if you want to
// enforce specific user input patterns.
```

```
function applyRegExPatternFilter(pattern){
  return function(evt){
       var inputField  = evt.getCurrentTarget();
       var keyCode     = evt.getKeyCode();
       var oldValue    = inputField.getSubmittedValue();
       //allowed keys to navigate, delete and tab out
       var controlKeys = new Array(AdfKeyStroke.ARROWRIGHT_KEY,
                         AdfKeyStroke.ARROWLEFT_KEY,
                         AdfKeyStroke.BACKSPACE_KEY,
                         AdfKeyStroke.DELETE_KEY,
                         AdfKeyStroke.END_KEY,
                         AdfKeyStroke.ESC_KEY,
                         AdfKeyStroke.TAB_KEY);
       var isControlKey = false;
       //check if the pressed key is a control key
       for (var i=0; i < controlKeys.length; ++i){
          if (controlKeys[i] == keyCode) {
               isControlKey = true;
               break;
          }
       }

       if (isControlKey == false)

      {
        var regExp = new RegExp(pattern,"i");
        var hasMatch = false;
        var keyChar =
            AdfKeyStroke.getKeyStroke(keyCode).toMarshalledString();
        hasMatch = regExp.test(oldValue.concat(keyChar));
        if(!hasMatch)
           inputField.setValue(oldValue);
           evt.cancel();
      }
    }
  }
}
```

You add the JavaScript to a page by either adding it to the body area of an af:resource tag, or referencing it in an external JS file from the **source** property of the af:resource tag.

The JavaScript function uses a callback to allow developers to pass additional arguments into it. Using a JavaScript callback like this allows writing generic code that can easily go into external JavaScript files. To change the JavaScript sample to only allow numeric entries, use the following configuration

```
<af:inputText label="RegEx Sample - Values between 1 - 50" id="it2">
   <af:clientListener method="applyRegExPatternFilter('^[0-9]*$')"
```

```
                type="keyDown"/>
</af:inputText>
```

Using the same JavaScript function with the ^[0-9]*$ expression blocks all user entry of characters.

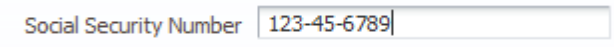
Note: The Regular Expression used with this JavaScript function must return true for all user entry until the user attempts to add a wrong character. E.g. a RegEx expression to verify mail addresses will not work with this code as it requires a complete mail address to be provided to work.

Note: Using JavaScript like this with af:inputDate doesn't work. The getSubmittedValue does not return a date object but a string, which fails when setting it as a value on the inputDate field.

Get social security numbers right

A common development use case is to guide users when working with input fields that require a specific input format. For example, credit card and social security number fields use character delimiters that you may want to enforce on a field. The following sample uses JavaScript to add a defined delimiter character according to a defined character.

The American social security pattern is defined as xxx-xx-xxxx. Users that type 123456789 should have the input automatically corrected to 123-45-6789 while they type. Also, the field should be protected from character input and input length larger than the provided pattern.




```
<af:inputText label="Social Security Number" id="it1"
              rendered="true">
  <af:clientListener
        method="handleNumberFormatConversion('xxx-xx-xxxx','-')"
        type="keyDown"/>
</af:inputText>
```

With the above configuration, the **handleNumberFormatConversion** method is called for each key stroke in the input field. Additional arguments provided to the function are the input pattern and the character delimiter.

The JavaScript code that is addressed by the clientListener on the InputText is shown below:

```
// JavaScript function that applies a specific format to numeric input.
// The pattern argument defines the input mask, e.g. xxx-xx-xxxx. The
// delimiter defines the delimiter character to add to the user input
// based on the pattern

function handleNumberFormatConversion(pattern, delimiter){
  return function(evt){
       var inputField  = evt.getCurrentTarget();
       var keyPressed = evt.getKeyCode();
       var oldValue   = inputField.getSubmittedValue();
       //keycode 48-57  are keys 0-9
       //keycode 96-105 are numbpad keys 0-9
```

```
var validKeys = new Array(48,49,50,51,52,53,54,55,
                          56,57,96,97,98,99,100,
                          101,102,103,104,105,
                          AdfKeyStroke.ARROWRIGHT_KEY,
                          AdfKeyStroke.ARROWLEFT_KEY,
                          AdfKeyStroke.BACKSPACE_KEY,
                          AdfKeyStroke.DELETE_KEY,
                          AdfKeyStroke.END_KEY,
                          AdfKeyStroke.ESC_KEY,
                          AdfKeyStroke.TAB_KEY);
  var numberKeys = new Array(48,49,50,51,52,53,54,55,
                             56,57,96,97,98,99,100,
                             101,102,103,104,105);
var isValidKey = false;
for (var i=0; i < validKeys.length; ++i){
   if (validKeys[i] == keyPressed) {
        isValidKey = true;
        break;
   }
}
if(isValidKey){
  //key is valid, ensure formatting is correct
  var isNumberKey = false;
  for (var n=0; n < numberKeys.length; ++n){
    if(numberKeys[n] == keyPressed){
      isNumberKey = true;
      break;
    }
  }
  if(isNumberKey){
    //if the user provided enough data, cancel
    //the input
    var formatLength = pattern.length;
    if(formatLength == oldValue.length){
    inputField.setValue(oldValue);
      evt.cancel();
    }
    //more values allowed. Check if delimiter needs to be set
    else{
      //if the date format has a delimiter as the next
      //character, add it
      if(pattern.charAt(oldValue.length)== delimiter){
        oldValue = oldValue+delimiter;
```

```
                inputField.setValue(oldValue);
              }
            }
          }
        }
        else{
          //key is not valid, so undo entry
          inputField.setValue(oldValue);
          evt.cancel();
        }
    }
}
```

The sample is for number only input. However, changing it for character or mixed input is not difficult to do. Note however that you can't use this with af:inputDate component because this component doesn't work well when setting String formatted values as the value property.

How-to call server side Java from JavaScript

The `af:serverListener` tag in Oracle ADF Faces allows JavaScript to call into server side Java. The example shown below uses an `af:clientListener` tag to invoke client side JavaScript in response to a key stroke in an Input Text field. The script then call a defined `af:serverListener` by its name defined in the **type** attribute. The server listener can be defined anywhere on the page, though from a code readability perspective it sounds like a good idea to put it close to from where it is invoked.

```
<af:inputText id="it1" label="...">
  <af:clientListener method="handleKeyUp" type="keyUp"/>
  <af:serverListener type="MyCustomServerEvent"
                      method="#{mybean.handleServerEvent}"/>
</af:inputText>
```

The JavaScript function below reads the event source from the event object that gets passed into the called JavaScript function. The call to the server side Java method, which is defined on a managed bean, is issued by a JavaScript call to `AdfCustomEvent`. The arguments passed to the custom event are the event source, the name of the server listener, a message payload formatted as an array of key:value pairs, and true/false indicating whether or not to make the call immediate in the request lifecycle.

```
<af:resource type="javascript">
  function handleKeyUp (evt) {
   var inputTextComponen = event.getSource();
   AdfCustomEvent.queue(inputTextComponent,
                        "MyCustomServerEvent ",
                        {fvalue:component.getSubmittedValue()},
                        false);
   event.cancel();}
 </af:resource>
```

The server side managed bean method uses a single argument signature with the argument type being `ClientEvent`. The client event provides information about the event source object – as provided in the call to `AdfCustomEvent`, as well as the payload keys and values. The payload is accessible from a call to `getParameters`, which returns a HashMap to get the values by its key identifiers.

```
public void handleServerEvent(ClientEvent ce){
  String message = (String) ce.getParameters().get("fvalue");
 …
}
```

Find the tag library at:
http://download.oracle.com/docs/cd/E15523_01/apirefs.1111/e12419/tagdoc/af_serverListener.html

How to expose an ADF application in a Portlet?

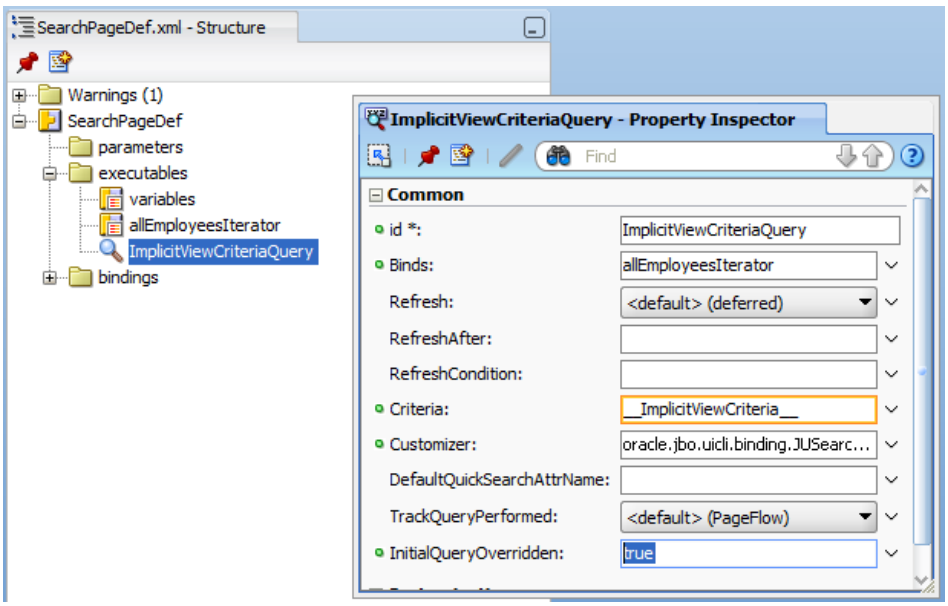
The Oracle JSF Portlet Bridge allows developers to declaratively expose Oracle ADF applications and task flows as JSR 168 portlets. The configuration requires the definition of the initial view which then becomes the starting point for navigation within the application. Note that applications exposed in a Portlet must be able to run stand alone. This excludes applications that only consist of a bounded task flow using page fragments.

http://download.oracle.com/docs/cd/E14571_01/webcenter.1111/e10148/jpsdg_bridge.htm#CACBAIJD

How-to query af:quickQuery on page load ?

A quick query component doesn't execute the query on page load. Check the "Query Automatically" checkbox in the ViewCriteria definition does not work as it does for the af:query component or list of values. To automatically query the af:quickQuery component, select the page's PageDef.xml file and expand the **Executables** node.

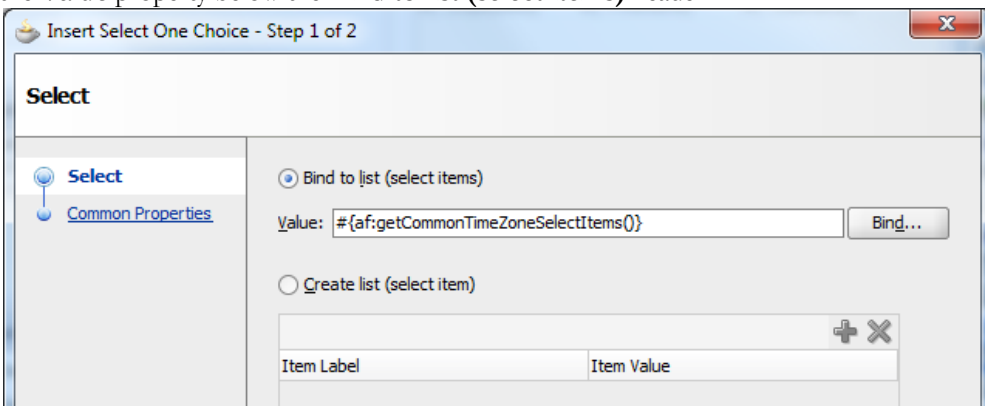
Select the **ImplicitViewCriteriaQuery** entry and set the **InitialQueryOverriden** property to true.



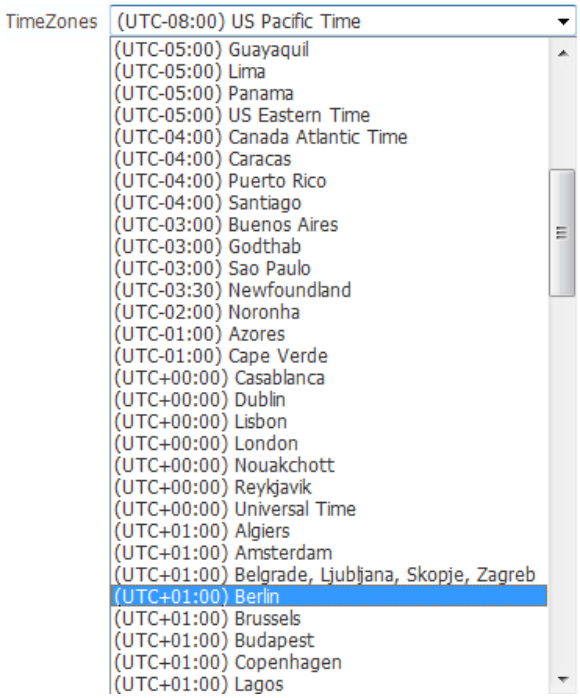
How-to create a select one choice list of common time zones

ADF Faces provides an option to query a list of common timezones for display in a Select One Choice component. The EL expression for this is #{af:getCommonTimeZoneSelectItems()}.

To use this expression in a Single Select One Choice component, drag and drop the component from the Oracle JDeveloper Component Palette into a JSF page. In the opened dialog, copy the expression into the **Value** property below the **Bind to list (select items)** header.



Complete the dialog and run the page to see all time zones.



The page source is shown below

```
<af:selectOneChoice label="TimeZones" id="soc1">
  <f:selectItems value="#{af:getCommonTimeZoneSelectItems()}"
                 id="si1"/>
</af:selectOneChoice>
```

For more information about using time zones with the af:inputDate component, please read section **9.5.3 What You May Need to Know About Selecting Time Zones without the inputDate Component** of "Oracle Fusion Middleware Web User Interface Developer's Guide for Oracle Application Development Framework 11g" :
http://docs.tpu.ru/docs/oracle/en/owl/E14571_01/web.1111/b31973/af_input.htm#BABBJECD

How-to hide the close icon for task flows opened in dialogs

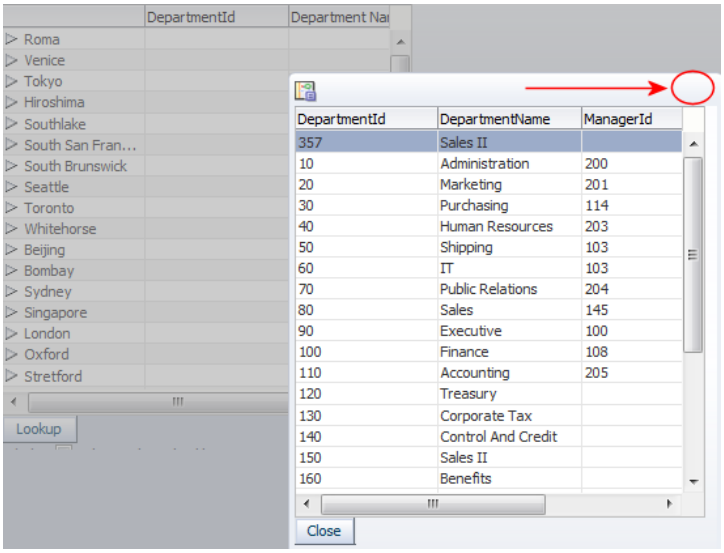
ADF bounded task flows can be opened in an external dialog and return values to the calling application as documented in chapter 19 of *Oracle Fusion Middleware Fusion Developer's Guide for Oracle Application Development Framework11g*:
http://download.oracle.com/docs/cd/E15523_01/web.1111/b31974/taskflows_dialogs.htm#BABBAFJB

Setting the task flow call activity property **Run as Dialog** to **true** and the **Display Type** property to **inline-popup** opens the bounded task flow in an inline popup. To launch the dialog, a command item is used that references the control flow case to the task flow call activity

```
<af:commandButton text="Lookup" id="cb6"
      windowEmbedStyle="inlineDocument" useWindow="true"
      windowHeight="300" windowWidth="300"
      action="lookup" partialSubmit="true"/>
```

By default, the dialog that contains the task flow has a close icon defined that if pressed closes the dialog and returns to the calling page. However, no event is sent to the calling page to handle the close case.

To avoid users closing the dialog without the calling application to be notified in a return listener, the close icon shown in the opened dialog can be hidden using ADF Faces skinning.



The following skin selector hides the close icon in the dialog

af|panelWindow::close-icon-style{ display:none; }

To learn about skinning, see chapter 20 of Oracle Fusion Middleware Web User Interface Developer's Guide for Oracle Application Development Framework

http://download.oracle.com/docs/cd/E15523_01/web.1111/b31973/af_skin.htm#BAJFEFCJ

However, the skin selector that is shown above hides the close icon from all `af:panelWindow` usages, which may not be intended. To only hide the close icon from dialogs opened by a bounded task flow call activity, the ADF Faces component **styleClass** property can be used.

The `af:panelWindow` component shown below has a "withCloseWindow" style class property name defined. This name is referenced in the following skin selector, ensuring that the close icon is displayed

af|panelWindow.withCloseIcon::close-icon-style{ display:block; }

In summary, to hide the close icon shown for bounded task flows that are launched in inline popup dialogs, the default display behavior of the close icon of the `af:panelWindow` needs to be reversed. Instead to always display the close icon, the close icon is always hidden, using the first skin selector. To show the disclosed icon in other usages of the `af:panelWindow` component, the component is flagged with a **styleClass** property value as shown below

```
<af:popup id="p1">
  <af:panelWindow id="pw1" contentWidth="300" contentHeight="300"
                  styleClass="withCloseIcon"/>
</af:popup>
```

The "withCloseIcon" value is referenced in the second skin definition

af|panelWindow.**withCloseIcon**::close-icon-style{ display:block; }

The complete entry of the skin CSS file looks as shown below:

```
af|panelWindow::close-icon-style{ display:none; }
af|panelWindow.withCloseIcon::close-icon-style{ display:block; }
```

How-to populate different select list content per table row

A frequent requirement posted on the OTN forum is to render cells of a table column using instances of `af:selectOneChoices` with each `af:selectOneChoice` instance showing different list values.

To implement this use case, the select list of the table column is populated dynamically from a managed bean for each row. The table's current rendered row object is accessible in the managed bean using the **#{row}** expression, where "row" is the value added to the table's **var** property.

```
<af:table var="row">
  …
  <af:column …>
    <af:selectOneChoice ...>
      <f:selectItems value="#{browseBean.items}"/>
    </af:selectOneChoice>
  </af:column
</af:table>
```

The **browseBean** managed bean referenced in the code snippet above has a **setItems** and **getItems** method defined that is accessible from EL using the **#{browseBean.items}** expression.

When the table renders, then the **var** property variable – the #{row} reference – is filled with the data object displayed in the current rendered table row.

The managed bean `getItems` method returns a `List<SelectItem>`, which is the model format expected by the `f:selectItems` tag to populate the `af:selectOneChoice` list.

```
public void setItems(ArrayList<SelectItem> items) {}

//this method is executed for each table row
public ArrayList<SelectItem> getItems() {
  FacesContext fctx = FacesContext.getCurrentInstance();
  ELContext elctx = fctx.getELContext();
  ExpressionFactory efactory =
         fctx.getApplication().getExpressionFactory();

  ValueExpression ve =
         efactory.createValueExpression(elctx, "#{row}", Object.class);

  Row rw = (Row) ve.getValue(elctx);
  //use one of the row attributes to determine which list to query and
  //show in the current af:selectOneChoice list
  // …
  ArrayList<SelectItem> alsi = new ArrayList<SelectItem>();
  for( ... ){
      SelectItem item = new SelectItem();
        item.setLabel(...);
        item.setValue(...);
        alsi.add(item);
   }
   return alsi;
}
```

For better performance, the ADF Faces table stamps it data rows. Stamping means that the cell renderer component – `af:selectOneChoice` in this example – is instantiated once for the column and then repeatedly used to display the cell data for individual table rows. This however means that you cannot refresh a single select one choice component in a table to change its list values. Instead the whole table needs to be refreshed, rerunning the managed bean list query.

Be aware that having individual list values per table row is an expensive operation that should be used only on small tables for Business Services with low latency data fetching (e.g. ADF Business Components and EJB) and with server side caching strategies for the queried data (e.g. storing queried list data in a managed bean in session scope).

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