ADF Code Corner

77. Handling the af:dialog Ok and CANCEL buttons

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Abstract:

The `af:dialog` component provides configurable button options for Ok, Yes, No and Cancel buttons to close the popup and return to the parent page. To handle the return event, developers can setup a dialog listener in a managed bean. This dialog listener however does not handle the cancel event, as this is a client side event only that you can handle in JavaScript only. But what is there is server side code that you need to execute in response to the cancel event fired on the client? This article explains how to call the and execute server side logic in response to the cancel dialog client-side event .

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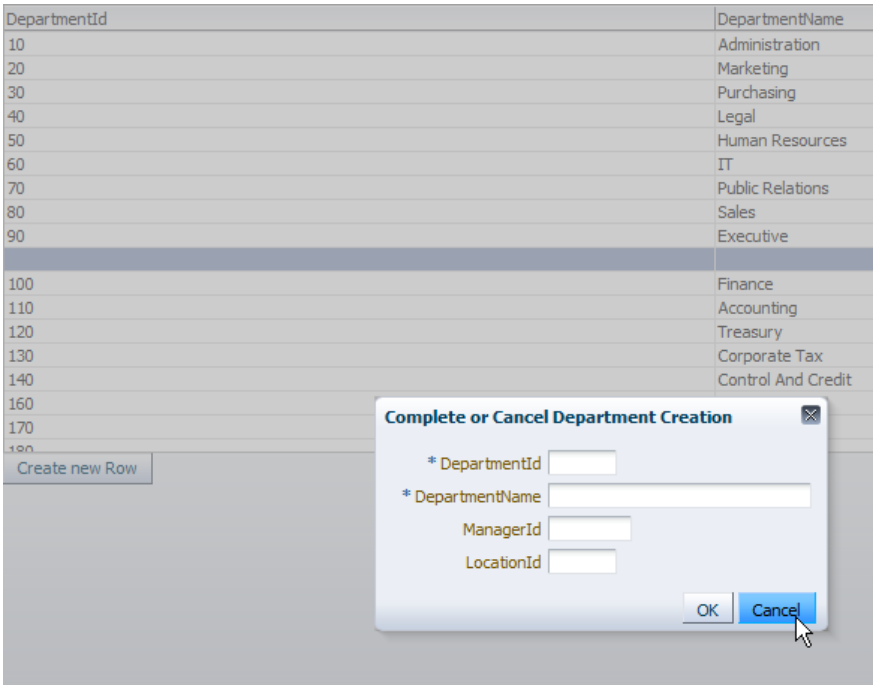
Introduction

The use case in this sample is a create-new row situation that is handled by a dialog. Users can either create an commit a newly created row or cancel it, in which case the new row changes need to be undone and removed. Another popular use case is a cofirmation dialog in which users press the *Ok* button to commit a previous change or use the *Cancel* button to roll it back.

Running the Oracle JDeveloper 11.1.1.4 workspace that you can download as sample #77 from the ADF Code Corner website, an ADF Faces page shows that allows you to create a new row for the HR Departments table. In the opened `af:dialog` instance, you can edit the new row and commit changes by pressing *Ok* or closing the dialog and undoing the row creation by pressing the *Cancel* button.



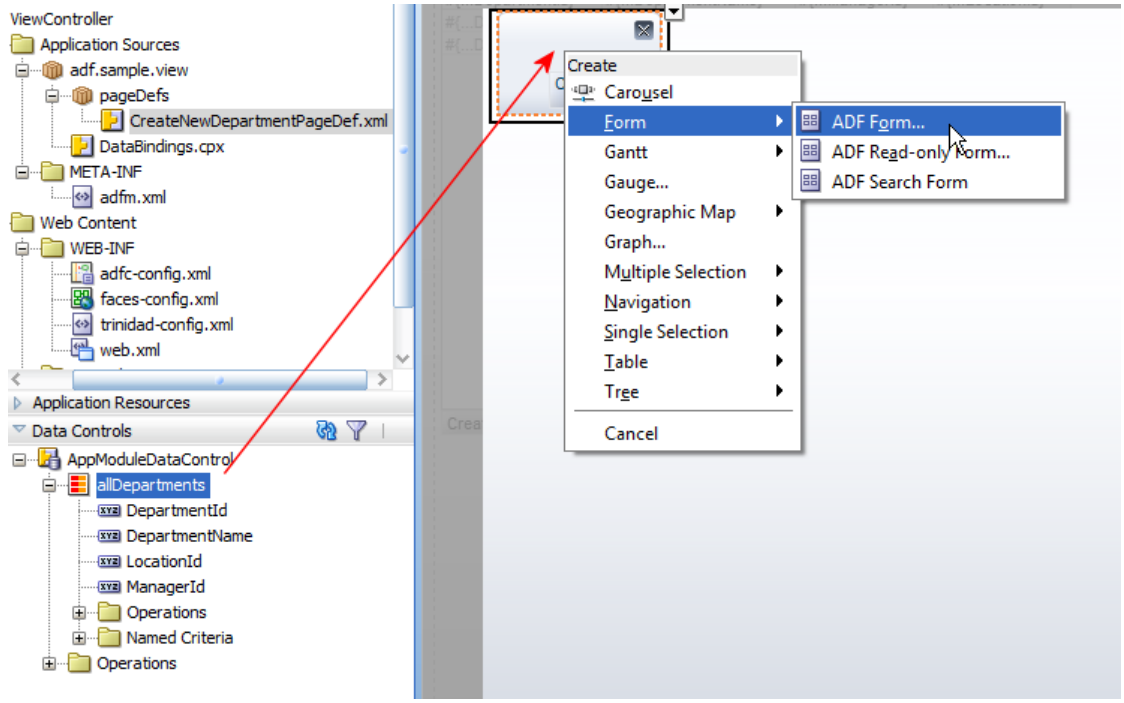
Set-up

The sample is based on the Oracle HR database schema and uses Oracle ADF Business Components as the business service. Note that – except for how to perform the commit action – there is no difference between using ADF Business Components, Enterprise JavaBeans, Web Services or JavaBeans as business services. ADF Business Components was chosen as a business service only because it is "quick and easy" to use.

The **DepartmentsView** view object, renamed to **allDepartments**, is added as a table to the page. A command button is added to create a new table row and launch the dialog.

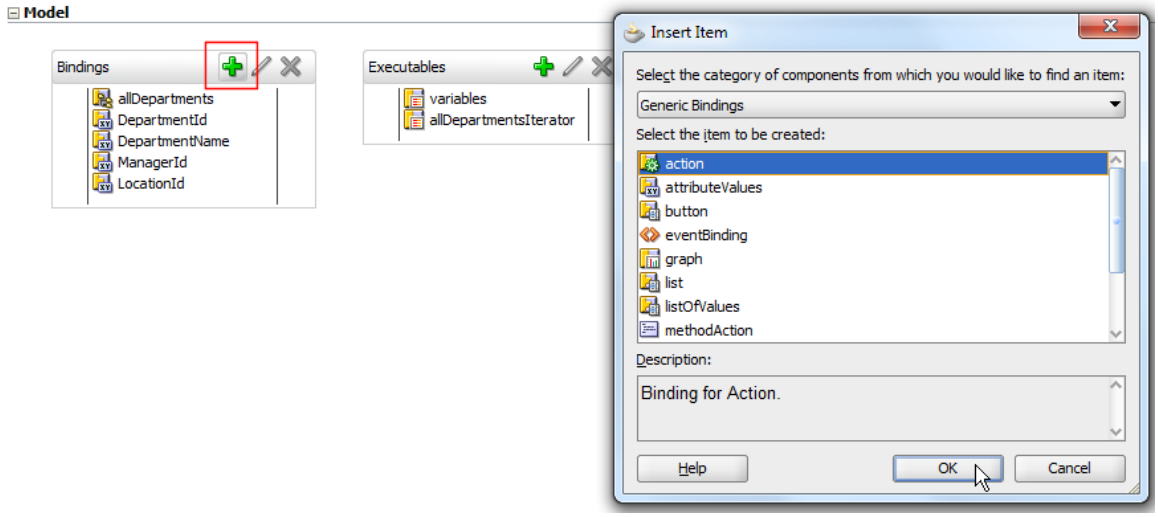
Building the sample

To edit new department rows, drag and drop the `af:popup` component from the Oracle JDeveloper Component Palette and add the af:dialog tag as a child component. Ensure the dialog is configured to show the Ok/Cancel button pair, which you do using the Property Inspector (ctrl+shift+I). Drag the DepartmentsView view object instance from the Data Controls panel to the dialog and choose **ADF Form** from the context menu. Confirm the form creation dialog **without** creating navigation buttons or a submit button. The functionality of a submit button is handled by the `af:dialog` OK button.



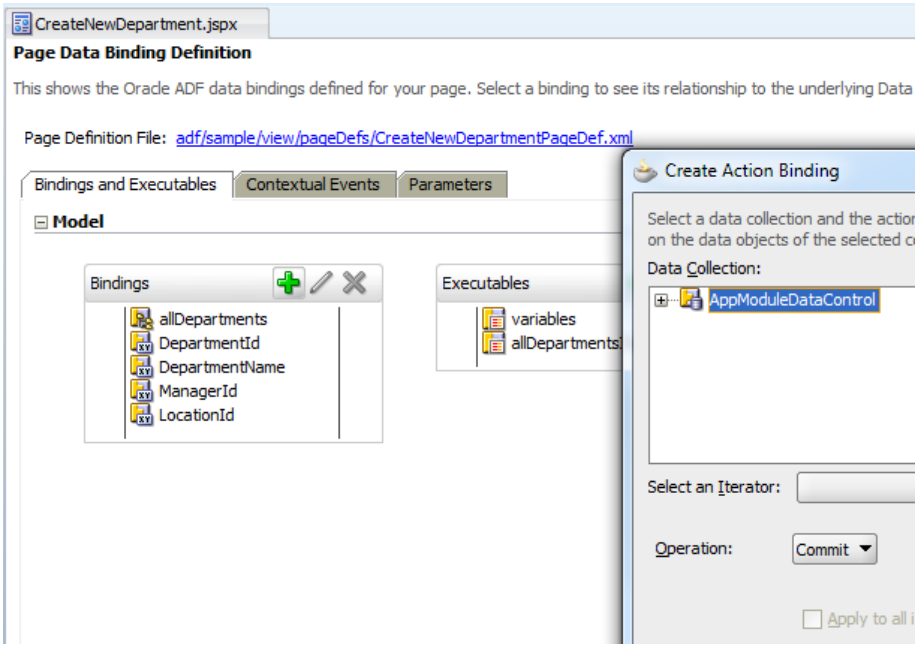
To create the Commit functionality, which is called from the `af:dialog` listener in response to users pressing the OK button, you click the **Bindings** tab at the bottom of the visual page editor in Oracle JDeveloper. This opens the binding dialog shown in the image below.

In the binding editor, **press** the green plus icon and choose the **action** option in the opened **Insert Item** dialog to create a new action binding.

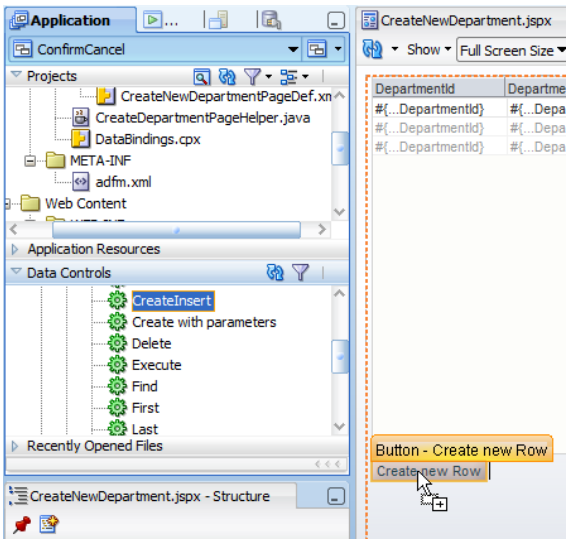


In the **Create Action Binding** dialog, select the Data Control node and choose **Commit** from the list of actions.

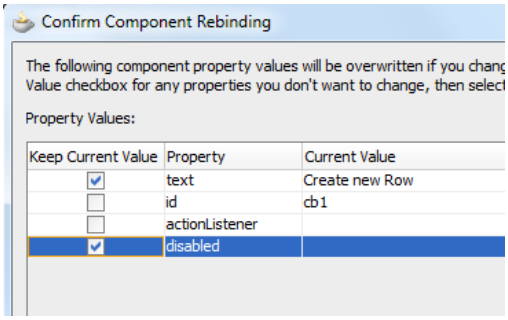
Note: If your Data Control is not ADF Business Components, then, in this step, you create a method binding instead of an action binding and choose the method that performs the persist operation. For example, in the EJB case this would be the *merge* method.



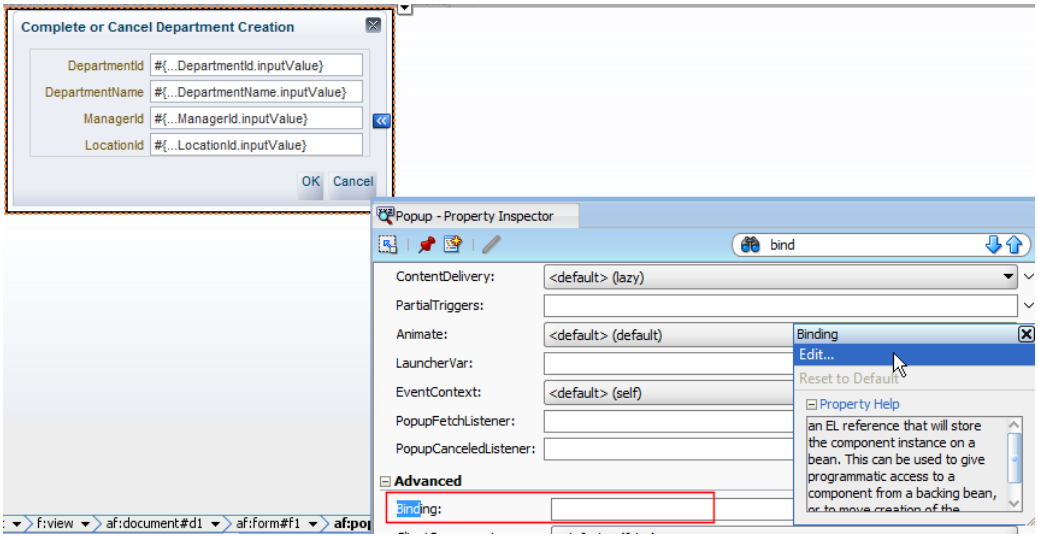
Switch back to the page **Design** view. From the Data Controls panel, drag the **CreateInsert** operation to the page and drop it onto the existing command button. This configures the command button's **Action Listener** property to reference an action in the ADF binding layer when the button is pressed.



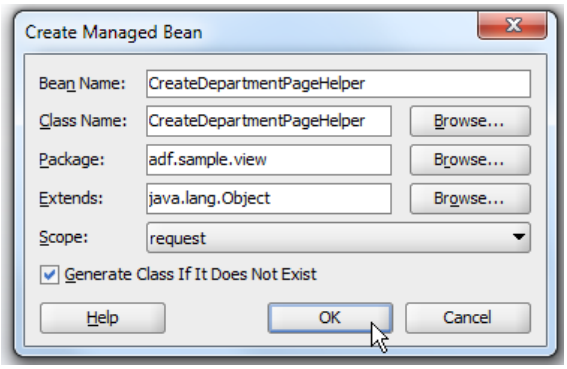
In the opened dialog, keep the current values for the button **text** and the **disabled** state.



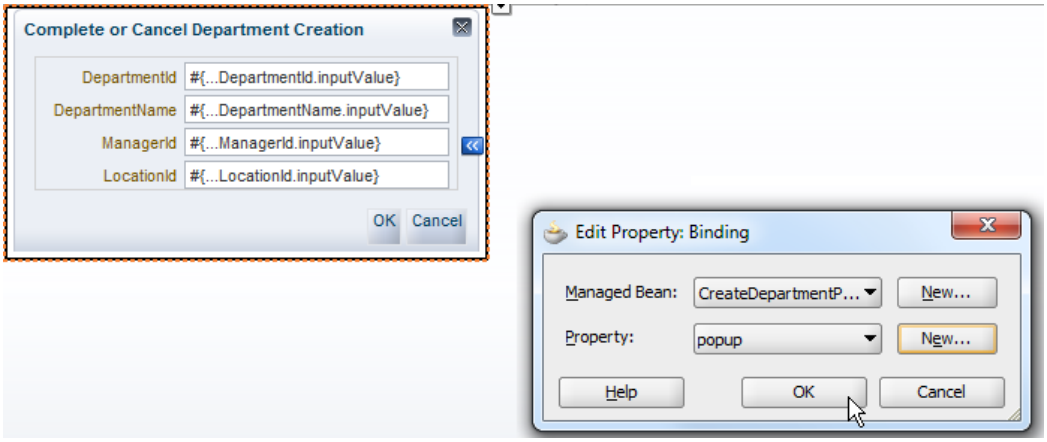
To make the `af:dialog` instance in the managed bean that handles the dialog action, you create a JSF component binding. In the visual editor, **select** the dialog component and open the Property Inspector. In the Property Inspector, choose the **Binding** property and use the **down arrow** icon to open the **Binding** context menu. Press the **Edit** option to create or choose a managed bean to hold the dialog instance reference.



When you create a new managed bean, ensure the **Create Class If It Does Not Exist** check box is selected.

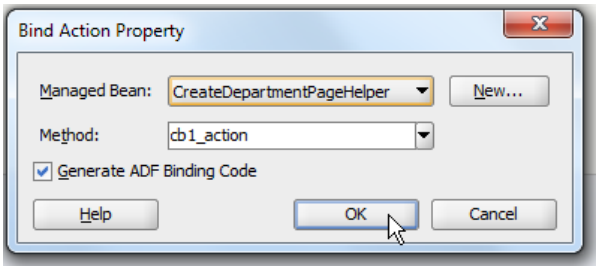


In the second dialog **Edit Property: Binding**, define a name for the `af:dialog` reference. In this example, the property name is chosen as "popup".

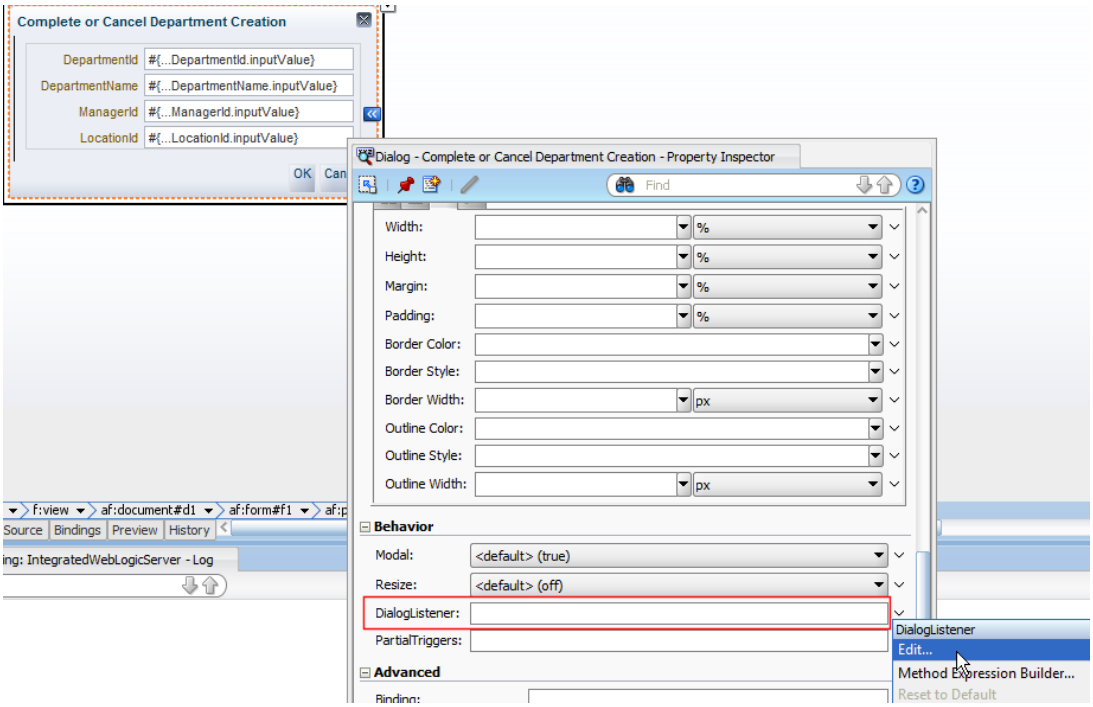


Note: To partially refresh the table in response to the dialog outcome, you should also create a JSF component binding for the table. In this example, the JSF component binding for the table is created in the same managed bean that handles the dialog event.

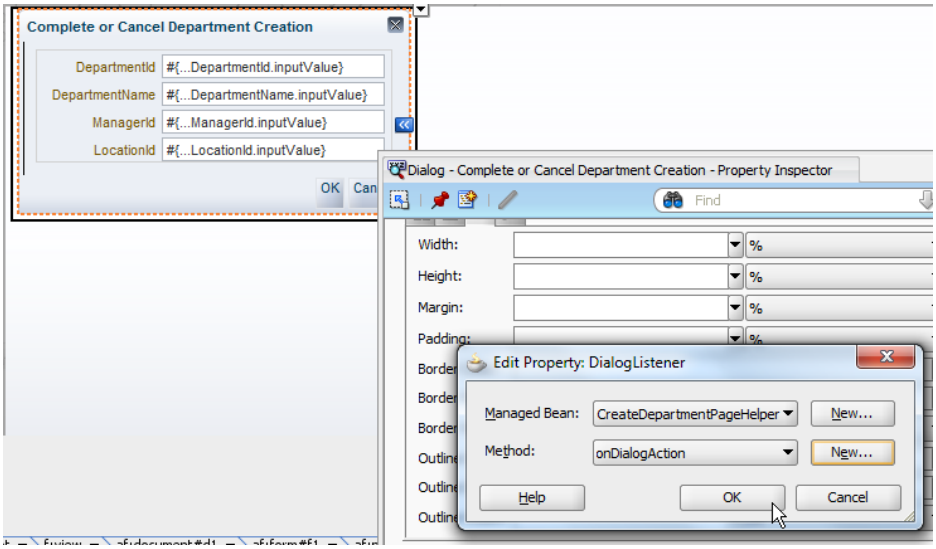
Next, select the **Create New Row** button on the page and double click it to create a method action binding in the managed bean you created before. Because the command button has an ADF action binding reference, it is required to select the **Generate ADF Binding Code**, which ensures that the current functionality of the button doesn't change. The nice side-effect of this step is that it auto-generates helper methods that we use to access the binding layer and perform actions on it.



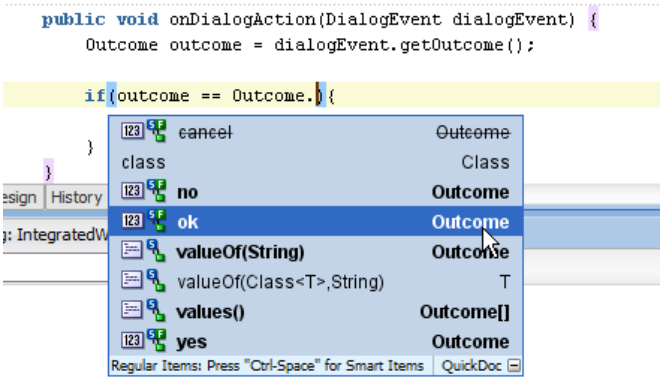
Select the `af:dialog` and use the **down arrow** icon on the **DialogListener** property to add the logic that is executed when the user presses the Ok button in the dialog.



Provide a meaningful name for the **Method** and make sure it is created in the same managed bean that you created to hold the `af:dialog` component binding reference.



As shown below, the dialog handler method has access to the `DialogEvent` object, from which you determine the `Outcome`. The `Outcome` that can be handled on the server includes **ok**, **no** and **yes**.



To quote the ADF Faces tag documentation for the `af:dialog` component::

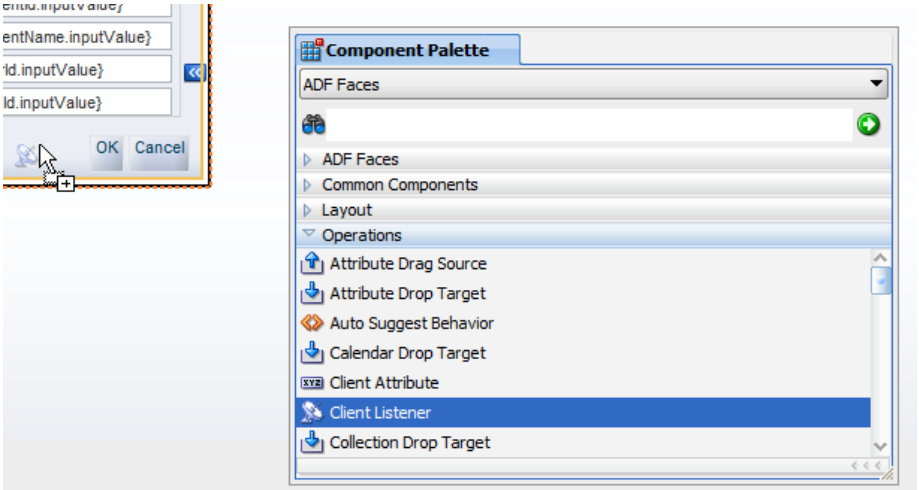
When using the dialog `type` button configurations, action outcomes of type "ok", "yes", "no" and "cancel" can be intercepted on the client with a "dialog" type listener.

Only "ok", "yes" and "no" events will be propagated to the server. The ESC key, "cancel" button and close icon queues a client dialog event with a "cancel" outcome. Dialog events with a "cancel" outcome will not be sent to the server. Propagation of dialog events to the server can be blocked, as with any RCF event, by calling `cancel()` on the JS event object. Use the af:clientListener with a type of `dialog` to listen for a dialog client event.

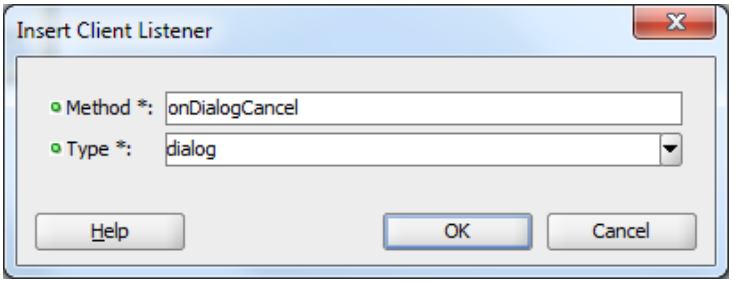
This means that though the dialog Ok action can be handled on the server, the **Cancel** action cannot. However, for the use case demoed in the sample, we need to get the cancel event notification in a managed bean on the server.

The solution to this requirement is to listen for the cancel event using the `af:clientListener` component and JavaScript on the client.

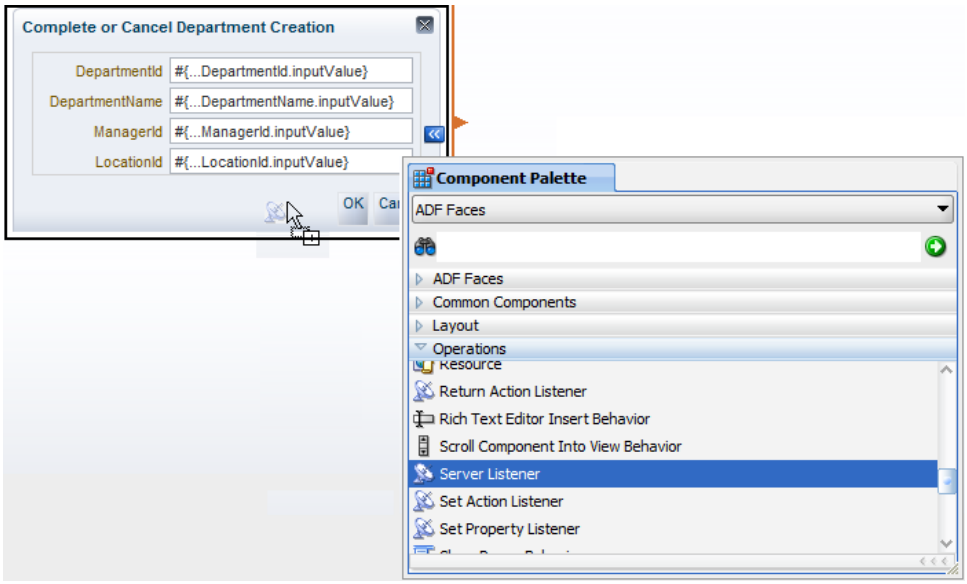
The server notification then is handled by the `af:serverListener` component, which invokes a managed bean method on the server.



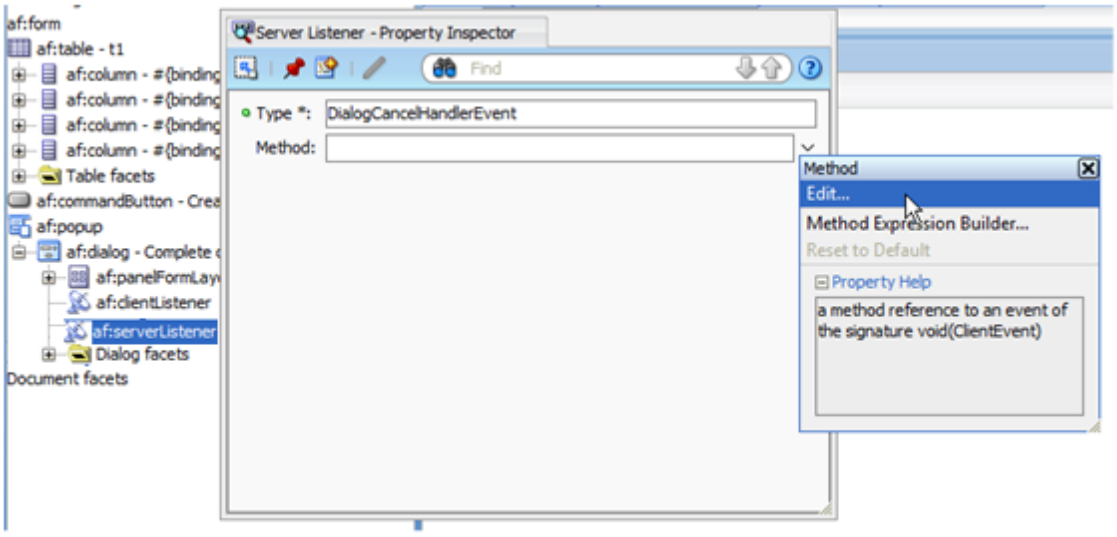
Drag the **ClientListener** component from the Oracle JDeveloper Component palette into the dialog. In the opened **Insert Client Listener** dialog, set the **Method** attribute to the name of the JavaScript method to call when the dialog cancel action is invoked. The **Type** attribute must be set to **dialog**.



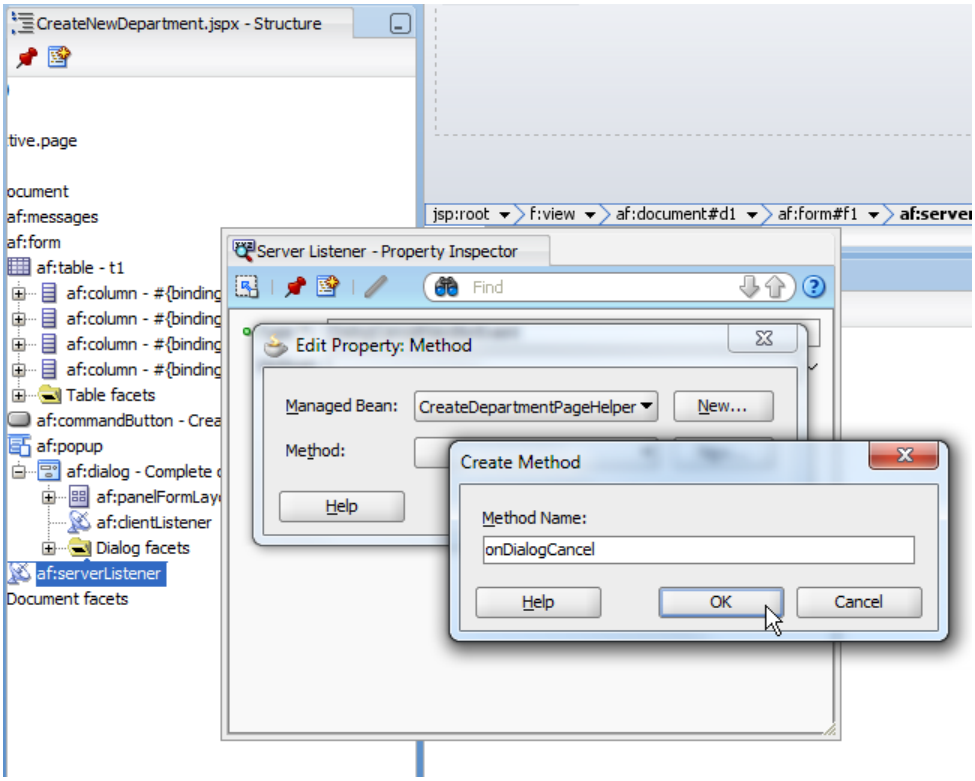
The JavaScript function determines the type of dialog action. If the dialog event is **Cancel**, then a server listener is used to queue a custom event that gets propagated to the server. To add the server listener, drag and drop the **Server Listener** component entry from the Component Palette to the `af:dialog`.



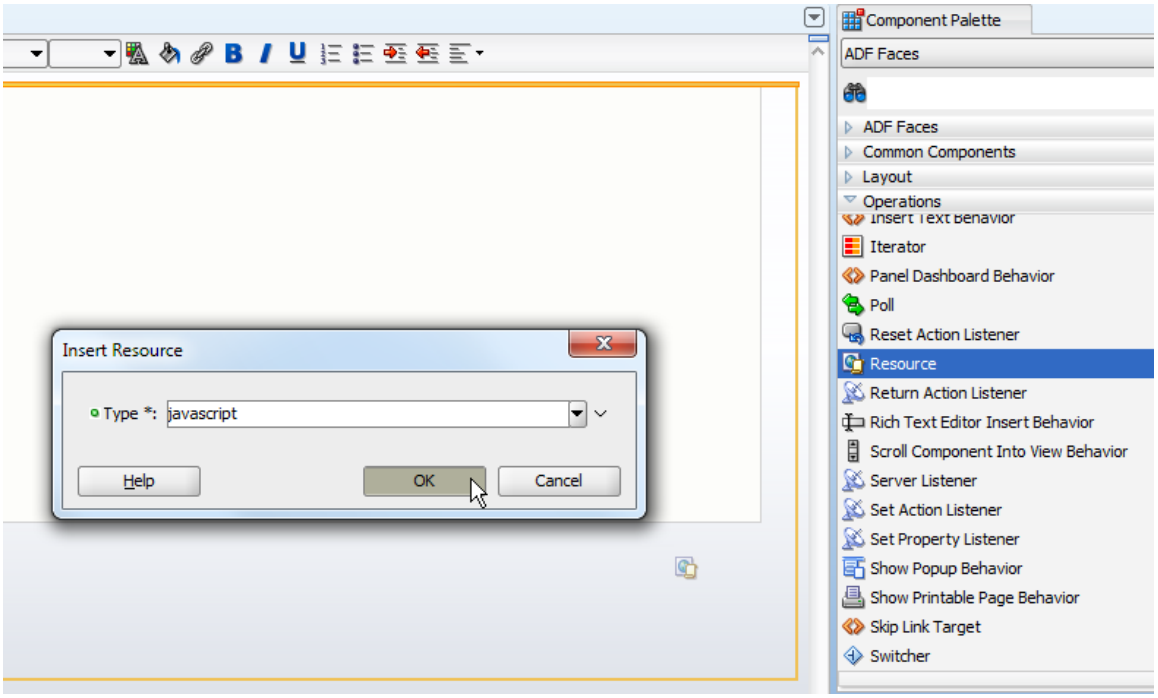
Select the `af:serverListener` entry in the Oracle JDeveloper Structure window and open the Property Inspector. Set the **Type** property to a name that later is used to identify this server listener instance. In the example, we called it *DialogCancelHandlerEvent*. The **Method** property is bound to a managed bean that accepts a single argument of type `ClientEvent`.



You can create the managed bean method using the **Edit** option in the context menu that opens when pressing the down arrow icon next to the **Method** property field.



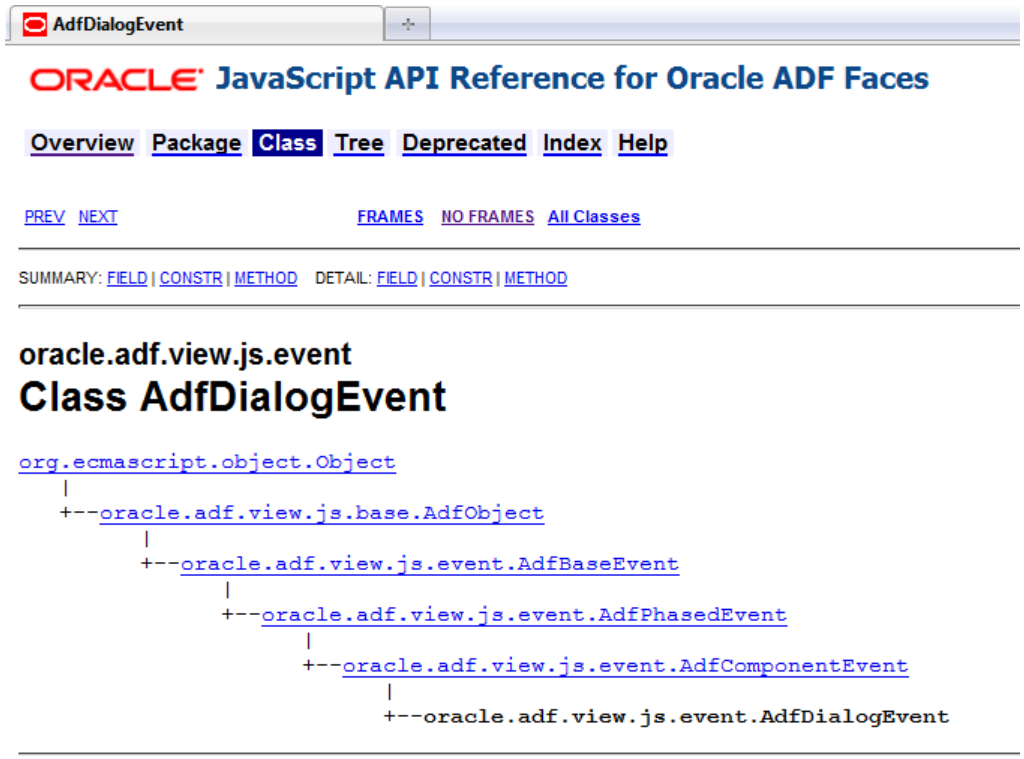
To add the JavaScript function to the page, drag the **Resource** component from the Component palette onto the page and ensure it becomes a direct child of the `af:document` component.



```
<af:document>
  <af:resource type="javascript">
    function onDialogCancel(evt){
      var outcome = evt.getOutcome();
      if(outcome == AdfDialogEvent.OUTCOME_CANCEL){
        //call server
        var eventSource = evt.getSource();
        var immediate = true;
        AdfCustomEvent.queue(
              eventSource,
              "DialogCancelHandlerEvent",
              {},immediate);
              evt.cancel();
        }
     }
   </af:resource>
   …
```

Note that the custom event that is queues on the server listener instance is set to be immediate to bypass any form update for the cancel action.

The event object that is passed into the JavaScript function is `AdfDialogEvent`. The JavaScript documentation is accessible online from otn.oracle.com. The image below shows an example for the `AdfDialogEvent` event.



Managed Bean code

All sample code used by this example is saved in the same managed bean. The commented code listing is shown below.

```
import javax.faces.context.FacesContext;

import oracle.adf.model.BindingContext;
import oracle.adf.model.binding.DCIteratorBinding;
import oracle.adf.share.ADFContext;
import oracle.adf.view.rich.component.rich.RichPopup;
import oracle.adf.view.rich.component.rich.data.RichTable;
import oracle.adf.view.rich.context.AdfFacesContext;
import oracle.adf.view.rich.event.DialogEvent;
import oracle.adf.view.rich.event.DialogEvent.Outcome;
import oracle.adf.view.rich.render.ClientEvent;

import oracle.binding.BindingContainer;
import oracle.binding.OperationBinding;

import oracle.jbo.Row;
import oracle.jbo.server.ViewRowImpl;


public class CreateDepartmentPageHelper {

 //old "current row" value is saved in view scope in case the row
 //creation is cancelled, in which case this row needs to become
 //current again
 final String OLD_CURR_KEY_VIEWSCOPE_ATTR = "__oldCurrentRowKey__";

 private RichPopup popup;
 private RichTable departmentsTable;
 public CreateDepartmentPageHelper() {}

 public void setPopup(RichPopup popup) {
   this.popup = popup;
 }

 public RichPopup getPopup() {
  return popup;
 }

 //system generated method when you create a managed bean method for
 //a component that has an ADF binding referenced in its action
 //listener
 public BindingContainer getBindings() {
   return BindingContext.getCurrent().getCurrentBindingsEntry();
 }


  //command action that create a new row in the departments table and
```

```
 //then opens an edit dialog for commit/cancel
 public String cb1_action() {
  BindingContainer bindings = getBindings();
  //get current row and save its rowKey in view scope for later use
  DCIteratorBinding dciter =
          (DCIteratorBinding) bindings.get("allDepartmentsIterator");
  Row oldCcurrentRow = dciter.getCurrentRow();
  //ADFContext is a convenient way to access all kinds of memory
  //scopes. If you like to be persistent in your ADF coding then this
  //is what you want to use
  ADFContext adfCtx = ADFContext.getCurrent();
  adfCtx.getViewScope().put(OLD_CURR_KEY_VIEWSCOPE_ATTR,
                        oldCcurrentRow.getKey().toStringFormat(true));
  //perform row create
  OperationBinding operationBinding =
                         bindings.getOperationBinding("CreateInsert");
  Object result = operationBinding.execute();
  if (!operationBinding.getErrors().isEmpty()) {
     return null;
  }
  //access the popup dialog and bring it up. The reference is
  //through a JSF component binding reference using the popup
  //"binding" property
  RichPopup popup = this.getPopup();
  RichPopup.PopupHints hints = new RichPopup.PopupHints();
  //empty hints renders dialog in center of screen
  popup.show(hints);
  return null;
}
public void onDialogAction(DialogEvent dialogEvent) {
  Outcome outcome = dialogEvent.getOutcome();
  //the dialog event only propagates yes, no, ok actions to the
  //server. The cancel outcome is only available on the browser
  //client. If there is a need to handle the cancel even then you
  //need to use a clientListener and JavaScript as we do on this
  //example
 if(outcome == Outcome.ok){
    //commit
    BindingContainer bindings = getBindings();
    OperationBinding operationBinding =
                   bindings.getOperationBinding("Commit");
    Object result = operationBinding.execute();
       if (!operationBinding.getErrors().isEmpty()) {
          //handle errors if any
          //...
       return;
```

```
        }
        AdfFacesContext.getCurrentInstance().addPartialTarget(
                                        this.getDepartmentsTable());
      }
    }

  public void setDepartmentsTable(RichTable departmentsTable) {
      this.departmentsTable = departmentsTable;
  }
  public RichTable getDepartmentsTable() {
    return departmentsTable;
  }

//method that is called from the serverListener on the client. The
//server listener is used to queue a custom event and pass information
//from the client to the server using JavaScript. It's actually doing
//this Ajax thing that everyone wants to do using the XmlHTTPRequest
//object
 public void onDialogCancel(ClientEvent clientEvent) {
   BindingContainer bindings = getBindings();
   RichPopup popup = this.getPopup();
   popup.hide();

   //the cancel operation is executed with immediate=true to bypass the
   //model update. Therefore we manually delete the new row from the
   //iterator
   DCIteratorBinding dciter =
           (DCIteratorBinding) bindings.get("allDepartmentsIterator");
   Row currentRow = dciter.getCurrentRow();
   dciter.removeCurrentRow();
   //set current row back to original row
   ADFContext adfCtx = ADFContext.getCurrent();
   String oldCurrentRowKey =
       (String) adfCtx.getViewScope().get(OLD_CURR_KEY_VIEWSCOPE_ATTR);
   dciter.setCurrentRowWithKey(oldCurrentRowKey);
   AdfFacesContext.getCurrentInstance().addPartialTarget(
                                        this.getDepartmentsTable());
   FacesContext  fctx = FacesContext.getCurrentInstance();
   //we don't want to continue with the remainder of the lifecycle and
   //thus skip the rest
   fctx.renderResponse();
  }
}
```

Download

You can download the sample workspace explained in this article as sample #77 from the ADF Code Corner website

http://www.oracle.com/technetwork/developer-tools/adf/learnmore/index-101235.html

To run it, ensure you have a database with the HR schema available. Change the database configuration to access your database and run the contained JSPX page. You can edit and Ok the dialog or directly press Cancel. Pressing **Ok** will commit the change to your database. Cancel will undo the changes and remove the row.

RELATED DOCOMENTATION

⊠	af:dialog tag documentation http://download.oracle.com/docs/cd/E17904_01/apirefs.1111/e12419/tagdoc/af_dialog.html
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