How-to declaratively build a master-detail behavior with DVT components

Abstract:

A widely unknown feature in ADF bound ADF Faces DVT components is the ability to act as a master in a master-detail relationship. This feature wasn't always in and in the past developers had to listen for the click event to perform this functionality using Java.

This article explains how to declarative build a master-detail behavior using ADF Faces DVT components.

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Introduction

ADF bound DVT components can be used as a master component in a master-detail relationship. This is not widely known, a good reason to write about it. The outcome of the steps explained in this sample tutorial is shown in the image below.

Figure 1: master-detail with DVT component as master
Clicking on a bar in the graph, the table is refreshed showing the details of the employees working in the selected department.

Building the ADF BC model

The ADF BC model is built based on the Departments and Employees table of the Oracle HR schema. You can select the View Object instances in the model view and use the right mouse button to give it a better name, as I did in the sample shown below.

![ADF BC data model with master-detail relationship](image)

In the Departments View Object, create a transient attribute "allSalary", set its type to "Number" and the value type "Expression". Then add the following Groovy Expression into the value field

```groovy
EmployeesView.sum('Salary')
```

Note that if you used a different database schema, the accessor name "EmployeesView" would be different from the one used in the sample above.

Building the Graph

To build the graph, drag the Department View Object from the DataControl panel to the JSF page
From the opened ADF binding menu, choose the Graph option …

… and select the graph type of your choice. In this example, the graph type is chosen to be a bar graph.
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In the Graph edit dialog, drag the allSalaries transient attribute to the "Bars" field and the "DepartmentName" attribute to the x-Axis.

Figure 6: Make sure you select the "Set current row for master ..." option
Make sure you select the "Set current row for master-detail" checkbox, which will configure the graph for the master-detail behavior.

Figure 7: Listener that handles the bar selection

Selecting the "Set current row for master-detail" option adds a click listener configuration to the ClickListener property. The EL string referenced the DVT binding, a FacesCtrl binding class that has a processClick event handler. The processClick handler takes the clicked graph rowKey to set this as the selected row on the binding. This then changes the row currency of the dependent Employees iterator.

To create the dependent Employees iterator, drag the "allEmployeesInDepartment" View Object as a table to the page.
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Figure 8: Add a table based on the dependent employee View Object

Select the table component and open the Property Inspector. Select the "PartialTriggers" property and choose the "Edit" option from the context menu.

Figure 9: Configure the PartialTrigger property for the table

In the opened dialog, select the graph component and press okay after shuttling it to the "Selected" list. The partial trigger setting ensures that a change on the graph always leads to a refresh of the dependent employees table.
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Figure 10: Select the graph component to trigger a table refresh

Note: Of course, you can implement your own click listener in a managed bean and programmatically set the current row on the detail iterator. This is what developers did before the "Set current row for master-detail" was added to the dialog.

Note: If you forgot to set the "Set current row for master-detail" select box, select the graph component in the visual editor, open the Property Inspector and press the "Edit Component Definition" pencil icon.

Download

The Oracle JDeveloper 11.1.1.3 sample workspace of this article is available on ADF Code Corner: http://www.oracle.com/technetwork/developer-tools/adf/learnmore/index-101235.html

Just make sure you change the database connection of the model to point to a local database of yours that has the HR schema installed.

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