ADF Code Corner

109. How-to further filter detail queries based on a condition in the parent view using ADF BC



Abstract:

In Oracle ADF BC, parent – child behavior between view objects is configured through view links you declaratively create between dependent view objects. But what if you need to further filter a detail view object, for example to only show employees of a department with a specific salary. Again, the solution can be conigured on a view link and this article will show you how.

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Oracle ADF Code Corner is a loose blog-style series of how-to documents that provide solutions to real world coding problems.

Disclaimer: All samples are provided as is with no guarantee for future upgrades or error correction. No support can be given through Oracle customer support.

Please post questions or report problems related to the samples in this series on the OTN forum for Oracle JDeveloper: <u>http://forums.oracle.com/forums/forum.jspa?forumID=83</u>

Introduction

The images below show the running sample that shows two instances of the EmployeesView connected with different view links to the DepartmentsView.



The image above uses the by-default generated view link that filters employee records based on a selected parent department. For the "Purchasing" department the employee count for this link is six (using the Oracle HR sample schema)

The image belo shows an instance of EmployeesView that is based on a view link that filters the returned employee rows by the salary in addition to the parent/detail link. A the delimter for the filtering, the DepartentsView contains an average salary transient attribute. Employees are shown in the sample if the salary is above or equal the average. For the "Purchasing" department this leaves it with a single employee record being returned.

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🕜 Oracle ADF Model Tester (AppModuleLocal-Local)					
<u>File V</u> iew Crea <u>t</u> e D <u>a</u> tabase I	<u>H</u> elp				
62					
AppModule 교 책 allDepartments	彩 EmpDeptFkLink1 彩 EmpDeptSalFilteredLink1				
EmpDeptFkLink1					
EmpDeptSalFilteredLink1					
filteredEmployees	Departmentid 30				
	DepartmentName Purchasing				
	Managerid 114				
	Locationid 1700				
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	K K X X 🕂 🛠 🕼 🤀 🕫 🖌 🦻				
	Employeeld FirstName LastName Email PhoneNumber HireDate JobId Salary CommissionPct Managerid Depa				
	114 Den Raphaety DRAPHEAL 515.127.4561 07-Dec-1994 PU_MAN 11000 0 100				
Name:AppModule.EmpDeptSalFilteredLi	ink1 Definition:adf.sample.model.EmpDeptSalFilteredLink				

How the sample is built

The image below shows the definition of the **avgSal** transient attribute added to the DepartmentsView. As you can see, the value is derived from a Groovy expression accessing the default link to employees.

📋 AppModule.xn	nl × 🚰 DepartmentsView.xml 🐣	
General Entity Objects	Attributes	Set Source Ord
Attributes	View object attributes can be mapped to entity attr	ibutes, calculated or SQL-derived.
Business Rules	Q- Name	🛖 - 💥 Overric
Query View Criteria	Name	Type Alias Name
View Criteria Row Findors	🖙 DepartmentId	Integer DEPARTMENT_ID
lava	DepartmentName	String DEPARTMENT_NAME
Accessors	Managerid	Integer MANAGER_ID
List UI Hints	LocationId	Integer LOCATION_ID
UI Categories		
-	Dependencies Custom Properties List of J	Aluna Malidation Bulas
	Details UI Hints	Fntity Attribute
	Name : avgSal	Updatable: Never
	Description:	Persistent 💿 Transient —————
	Type : 🛛 Integer 🔷 🧹	Mandatory Key Attribute
	Property Set:	Selected in Query Queryable
		✓ Passivate
	Polymorphic Discriminator	
	View Entity	Alias: VIEW_ATTR
	Subtype Value:	Type: INTEGER
	Effective Date	Default Value
	O Start Date O End Date	C Literal () Expression C SQL
	Service	EmployeesView.avg('Sal')

Instead of modifying the existing view link that is created by default, which would have been an option, I created an extra view link. For this, a right mouse click onto the Model project brings up a context menu to access the **New** gallery to create a new ADF Business Components View Link. The image below shows JDeveloper 12c, which is context sensitive in its popup menus.

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🛅 Model							
🚊 🛅 Application Sources							
🖮 🍈 adf.sample.mod	al						
🛓 🗎 AppModule		<u>N</u> ew	•	1		Application <u>M</u> odule	
🛓 🐻 Departments	×	<u>D</u> elete		1	2	<u>A</u> ssociation	
🗄 🖄 Departments		Exclude Project Content			8	<u>B</u> usiness Components Diagram	
🗄 📲 DeptMgrFkA		Create Database Objects		10	-	Business Components from Tables	
🗄 📆 DeptMgrFkLi		Synchronize with Database			-	Entity Object	
🕀 📑 EmpDeptFkA		synchronize with Database			刁	<u>V</u> iew Link	
🗄 📆 EmpDeptFkL		Find <u>U</u> sages	Meta+Shift-U	1	SZ)	View <u>O</u> bject	
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🗄 🚵 EmployeesVi	99	Rebuild	Meta+Alt+Shift_R	Ч	_	From <u>G</u> allery	Meta-N
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🗄 📆 EmpManager	5	<u>R</u> eformat	Meta+Shift-L				
🍪 Model.jpx		Organ <u>i</u> ze Imports					
🛅 ViewController		Refa <u>c</u> tor	•				
		Compare With	•	-			
		Replace <u>W</u> ith	•				
		Restore from <u>L</u> ocal History		-			

The link is named with the relationship it provides and the additional salary filter.

0	00		Create View Link – Step 1 of 7	
Na	ame		01010101010101010101010101010101010101	è r s
6	Name	Packa <u>q</u> e:	adf.sample.model	Bro <u>w</u> se
	View Objects	Na <u>m</u> e:	EmpDeptSalFilteredLink	
ļ	View Link Properties	D <u>i</u> splay Name:	Emp Dept Sal Filtered Link	Q
9	Edit Source Query	E <u>x</u> tends:		Browse

In the second dialog of the **Create View Link** dialog, there are two configuration required: a definition that queries the EmployeesView based on a selected row in the DepartmentsView. The definition uses the DepartmentId FK constraint. The second configuration is to create a relationship between the **avgSal** in the DepartmentsView and the **Salary** attribute in the EmployeesView.



The query that is created based on the setting in the image above is shown below.

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000	Create View Link -	Step 4 of 7
Edit Source Query		
Name View Objects View Link Properties Edit Source Query Edit Destination Quer Application Module Summary	Source Attributes Departments.DEPARTMENT_ID VIEW_ATTR Pick a view criteria from the source view to further View Object: adf.sample.model.Deg Generate SQL at Runtime: Yes View Criteria: None Where clause for Source to Destination (:Bind_DepartmentId = Employees.DEPARTMENT	Bind Variables Bind_DepartmentId Bind_avgSal er refine the query when navigating to this view. DeartmentsView
<mark>▲ Ⅲelp</mark>		< <u>Back</u> <u>N</u> ext > <u>F</u> inish Cancel

Note that, by the time of writing, Oracle JDeveloper 12c doesn't allow you to customize the where clause directly in the **Create View Link** dialog window. Therefore manual correction is required after view link creation as described below.

If you are on **JDeveloper 11g**, you can directly change the **:Bind_avgSal = Employees.Salary** part of the where clause to **:Bind_avgSal <= Employees.Salary**

To change the where clause manually in Oracle JDeveloper 12c, double click on the view link file entry in the JDeveloper Application Navigator to open the view link editor. Switch to the Source view (see tab at the bottom of the ViewLink editor) to edit the XML. Edit the XML as shown below and save your work.



To define an EmployeeView instance based on the newly created view link, **double click** on the Application Module and select the **Data Model** menu option.

In the **Data Model** list, select the department view instance and expand the DepartmentsView object in the **View Object Instances** list. Select the EmployeesView object referenced by the view link that you just created (the one that filters by Salary) and use the arrow right icon to shuttle the employee view object to the data model.

A				
AppModule.xn				
General				
Data Model	Data Model Components			
lava	Select a view object from the Available tree, select the desired parent instance or application module from the Data Model tree,	and us	e the shuttle control t	o create a named view instance in the data mod-
Java Web Comise				
Ganfierrations	View Object Instances			
Configurations	The data model contains a list of view object and view link instances, displaying master-detail relationships.			
	Available View Objects:		Data Model:	
	adf.sample.model.Model		AppModule	
	🖆 - 🍈 adf.sample.model		allDepartmer	nts
	Departments View		- 🚰 filteredEr	mployees
	Employees View via Emplopett kLink		unfiltered	dEmployees
	Employees view via emplopisar interedents	>		
	Generation and the second	8		
	Employees View			
	🔤 EmpManagerFkLink			
			View Instance:	filteredEmployees
			View Link Instance:	EmpDeptSalFilteredLink1
			View Definition:	adf.sample.model.EmployeesView
			View Link Definition:	adf cample model EmpDentSalEilteredLink
			view Link Definition:	adr.sample.model.EmpDeptSalFilteredLink

Run the application module tester by selecting the application module and choosing **Run** from the context menu.



👌 Oracle ADF Model Tester (Ap)	pModuleLocal-Local)	
<u>File V</u> iew Crea <u>t</u> e D <u>a</u> tabase	<u>H</u> elp	
AppModule		
EmpDeptFkLink1		
un filteredEmployees		
filteredEmployees		
		75
Name:AppModule Definition:adf.sam	ple.model.AppModule	

Summary

In this article I demonstrated how you can modify a view link to filter detail records based on a condition. The sample application is built with JDeveloper 12.1.2. The solution however should work for all version of JDeveloper 11g and 12c.

You can download the sample application in a ZIP file from the ADF Code Corner website. Just look out for sample #109. Before you can run the sample, ensure you configured he database connect to point to a HR schema in a local database.

RELATED DOCOMENTATION