Prerequisites:
1. Have JDeveloper 10g loaded on your computer and you get JDeveloper from the Oracle website. [Http://www.oracle.com](http://www.oracle.com)
2. Have the Student and Course tables from chapter 6.
3. You have logged in to your oracle server.

Let’s Get Started

Step 1:
Start up JDeveloper. Make a new application work space call StudentCourseADF and a project called ADF. Also set the application template to Web Applications [Default].

Step 2:
Now right click on Model in the Application Navigator and choose New. New Gallery window pops up and you want to choose Business Tier ->Business Components ->Business Components from Table. You should see a wizard box pop up on the screen.

Step 3:
First, click on next on the start up screen and you should get a window that looks like this:

Here is where you choose what items you want in your ADF application. For this Tutorial, you click on query to get a list of the tables and click on Student and use the right arrow to select this table. Do the same thing for the Course table. Click on Next button. Now you need to move the Student and Course over to the selected box. You click on the table and use the right arrow to move it over. Click on Next button.
Step three of the tutorial you do not have to do anything to, so just click next. Now in step four, you need to make sure the Application Module box is checked. Then go name the module AppModule, as seen below. Then click on next.

Now step five, here is where you can make the Business Components diagram. Make sure everything is check and you have given it the name StudCour BusinessComponentsDiagram as seen below.

If this does not work for you, you can also make the Diagram separately. I will show how to do this now. First you need to click on Finish on the tutorial and then right click Model and select new. Here
you need to choose Business Tier -> Business Components -> Business Components Diagram. Now you should see a box pop up on the screen like this:

![Create Business Components Diagram](image)

Now you need to name the diagram StudCour Business Components Diagram1 and make sure the package name is the same name as you named the package. Then Click on OK.

After all that work, your screen should look like this:
Step 4:

Now you need to create some new business components. There are two ways you can do this: one is using the components palette and two you can drag and drop the tables into the diagram. I am going to show you how to do the drag and drop. Alright, you need to click on the connections tab and choose the database which the tables are on. Then click on the table and drag it to diagram. You should see a box on the screen and you need to highlight Business Components Entity object and click Ok. This box should look like this.

After you have done this for both tables your diagram should look like this:
Step 5:
Drag the view objects from the application navigator on to the diagram. Now your diagram should look like this:

![Diagram Image]

Step 6:
Next on the list is to make CourseID check to see whether to that the id is between 10 – 1000. To do this you can either double click on the course entity object on the diagram or double click on the course entity object in the navigator window. The screen should a window pop up that looks like this:
In this window, you need to click on Validation, select Course from the box and click on the new button on the bottom of the window. This is what your Validation window should look like minus click on the new button.

This is what should come up when you click on the new button.
In this window, you need to select Range Validator for the rule, Between for the operator. The Minimum and Maximum Values is where the 10 and 1000 go. In the Error Message box you type in this message, “The CourseId has to be between 10 and 1000. Then click OK to return to the Validation screen. In the picture above shows were all information needs to go, if my description does not make sense.

**Step 7:**

Also in the Validation, you need to define a uniqueKey Validator. On the Validation screen, you need to click on Course and then click on new. The Add Validation Rule window pops up and you need to select UniqueKey Validator for the Rule. Once you do that set the error message to say “CourseId is not unique” and click on OK. Now your Validation screen should look like this:
Step 8:

Now we will make a new view object for this ADF. First off you need to right-click on ADF Model in the Application Navigator. Select New View Object. Now you should see a wizard pop up on the screen. In step one of the wizard, change the name of the view to JavaCourseView. Step two; select the Course and Student entity objects. Step 3 select CourseId and CourseName from Course and StudentId and StudentName from Student. Your screen should look like this:
Step four just click on next. Step five you will modify your query. To do this you need to add this, “AND Course.COURSE_NAME LIKE ‘Java%’ “ to the end of the statement in Where box in the Query Clause section. This is what the where box should look like.

Now you need to see if you query is Valid. Just click on the Test button that is under the Query clause section. If it is valid or not, a box will pop up and tell you. If it is not valid, click on the Explain Plan button to see what happened to the query.

For steps six and seven just next or finish button to exit the wizard.

Step 9:
Now we need to add this new view to the Application Module. For this double click on AppModule in the Application Navigator. Now Editor Window pops up. In editor, make sure the Data Model is highlighted. Once you do that you click on JavaCourseView and use the right arrow to move it to the AppModule.
Your screen should look like this:
Now you need to test the Application Module to make sure it works!

Step 10:
Right click on AppModule and choose test. The screen should now look like the picture below. Make sure the Application Module is the correct one (it should be, but it can't hurt to look.) Then click Connect!
Step 11:

After you clicked connect, a screen should have popped up that looks like this (minus the tabs on right).

Okay now it is time to populate the table. First will start with CourseView, double-click on CourseView and CourseView window will pop up on the right (like in the picture above.) To add information, you need to click on the plus (+) sign. Now the CourseId and CourseName Fields become white and cursor blinks in the CourseID text box. Here you need to add 11 to CourseId and J2EE to Course name. Now you need to add another record to the database of (12, Java with JDeveloper.) Now, click on the green arrow that is above the Navigator window or click on Database -> Commit, to commit the changes to the database. If you do not do this you have error message when you test your application.

To add students to the StudentView, follow the instructions I wrote for CourseView. The students you need to add are:

- 444 Pete Sampras 12
- 555 Andre’ Agassi 11

Below is what the screen should look like when you are entering in students in the StudentView.
Step 12:
Lastly, Double-click on the JavaCourseView. In this tab, you will have four text boxes (CourseName, CourseId, StudentName and StudentId) and two of them will be grayed out (StudentName and StudentId). In the two that are not grayed out, type in “Java with JDeveloper” and “12.” In the grayed out boxes, you should see “Pete Sampras” and “444.” Below is a picture of what your screen should look like.
If your screen looks like this than, you are finished! You’re ADF with Business Components works!

Congratulations!! You did it! WOO HOO!