Using the New IMS Explorer to Access Your IMS Data Hands-on Lab,   Part 2 of 2

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This is Part 2 of the IMS Enterprise Suite for Explorer Hands-on-lab. You will create
the metadata required to access an IMS database and see how this can maintained in
a centralized area called the IMS Catalog. The IMS Catalog was introduced as part of
IMS version 12. Once the metadata is available in the IMS Catalog, the IMS universal
drivers can be configured with a connection to access the database.

If you did not participate in the Part 1 hands-on-lab then please reference pages 2 to 3 of this
document to understand the environment.

IMS Enterprise Suite Explorer for Development
In this part of the lab, the IMS Explorer is used to create the PSB ***extended source*** by
parsing the IMS PART Database PSB and DBD sources.

Note that in your workstation environments, the IMS Explorer is a plug-in to Rational
Developer for System z.

1. **Start Rational Developer for System z**
    Click on Start **>** All Programs **>** IBM Software Delivery Platform **>** IBM Rational
       Developer for System z with Java V8.0.3 **>** IBM Rational Developer For System z
        with Java
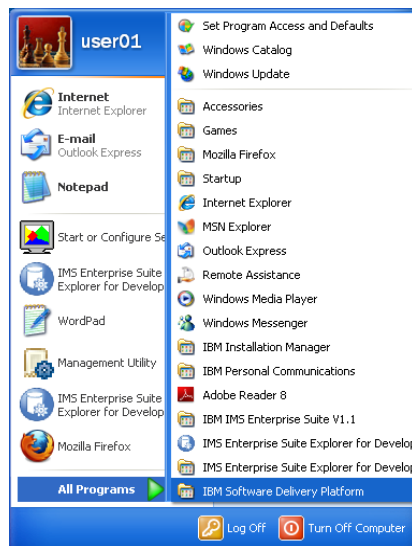
You may be prompted to select a workspace. A workspace is a directory that stores all of
the files for the projects. You can select your own directory, e.g., C:share\explorerlab\work
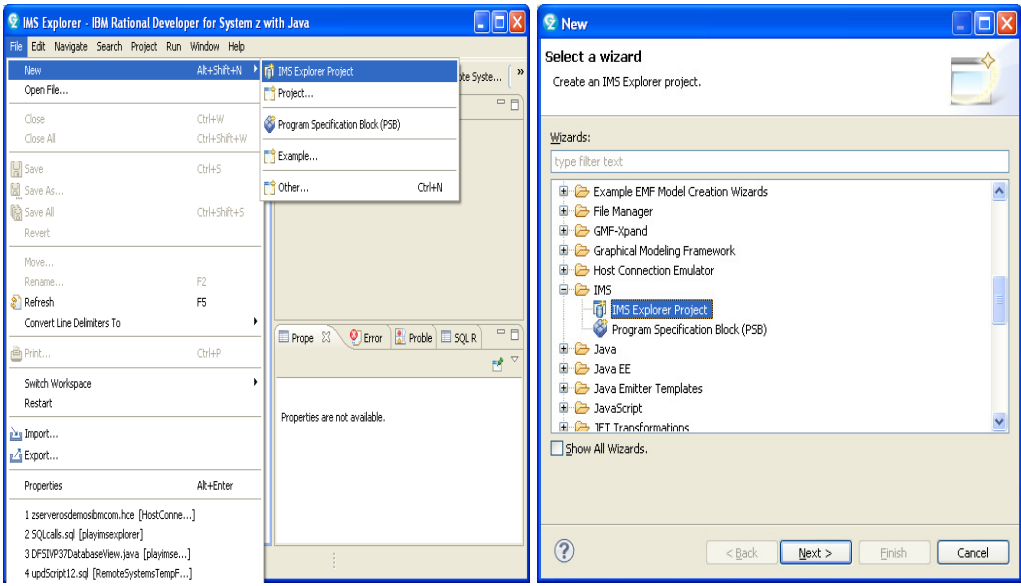or take the default directory.
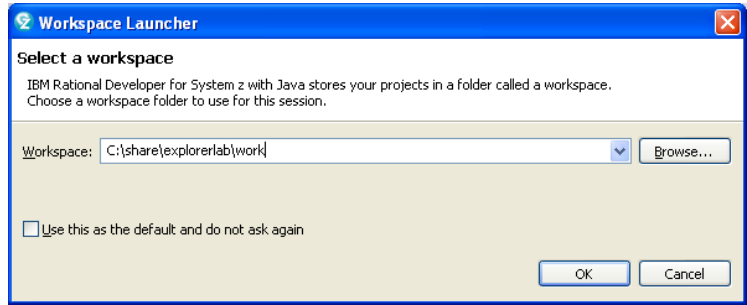
When Explorer startup is complete, you may be shown the Welcome Screen.
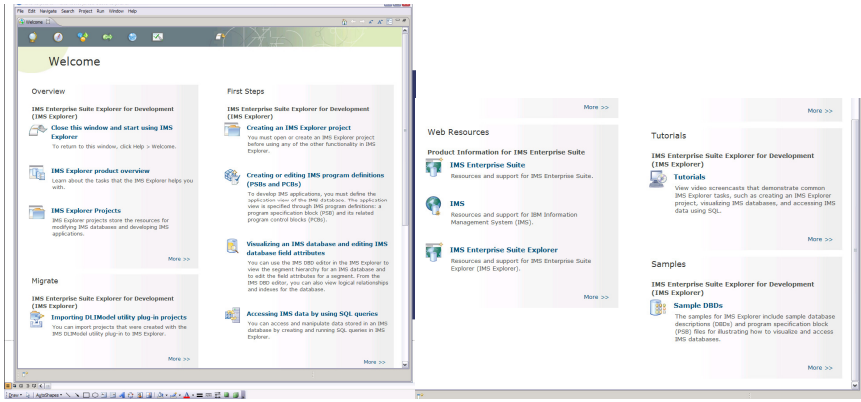
If so, close the Welcome page (x the tab at the top of the screen on the left).
Close the Welcome page.

2. Click on File > New > IMS Explorer Project. **(**If you don't see "IMS Explorer Project" as a choice then click on File > New > Other and open the IMS folder).

Enter a Project Name, e.g., Lab2PnnSAM09 where nn is your team number
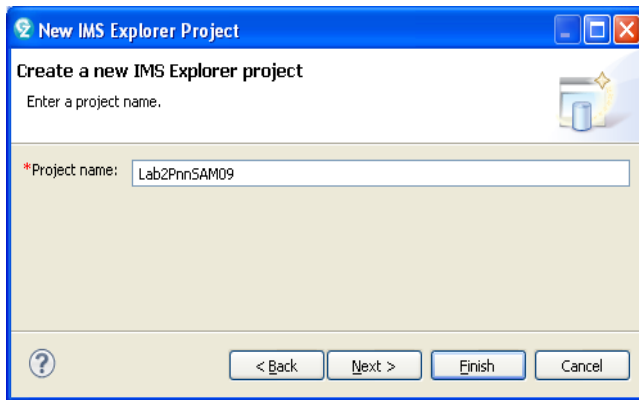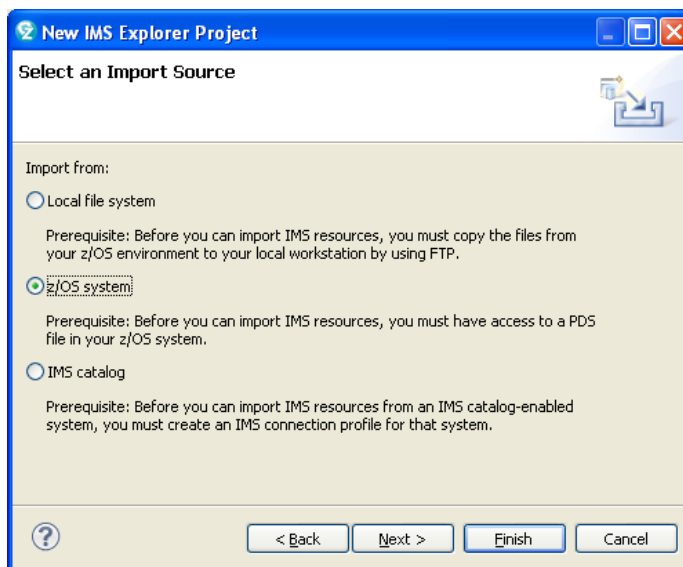

Click **Next.**

On the Import IMS Resources (DBDs and PSBs) you can use Local file systems when the source files have been downloaded to your workstation. You can select z/OS system and connect to your z/OS system where your DBD/PSB is stored. For IMS 12 with Catalog function enabled you can obtain the Metadata. If you participated in Part 1 of the hands-on-lab then this set of instructions are similar to what you did earlier.

For this initial part of the lab we will assume that the metadata to access the IMS database does not yet exist in the IMS Catalog. To begin, use a connection to the z/OS system and download source from z/OS to create the Metadata.

Select **z/OS system** to obtain the source


Click **Next.**
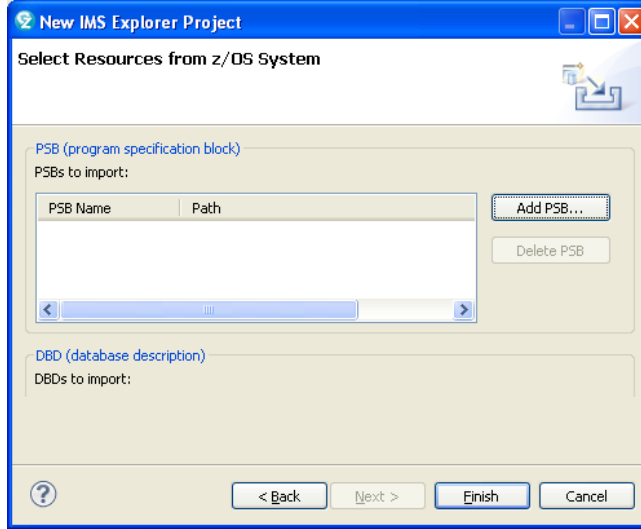
Select the **Add PSB** button.

3. You will be asked to provide the z/OS connection information. If you did not attend the previous lab, you will see a "No z/OS connection." If you attended the previous lab and used this same workspace then you may see an existing connection and you may proceed to instruction 4.
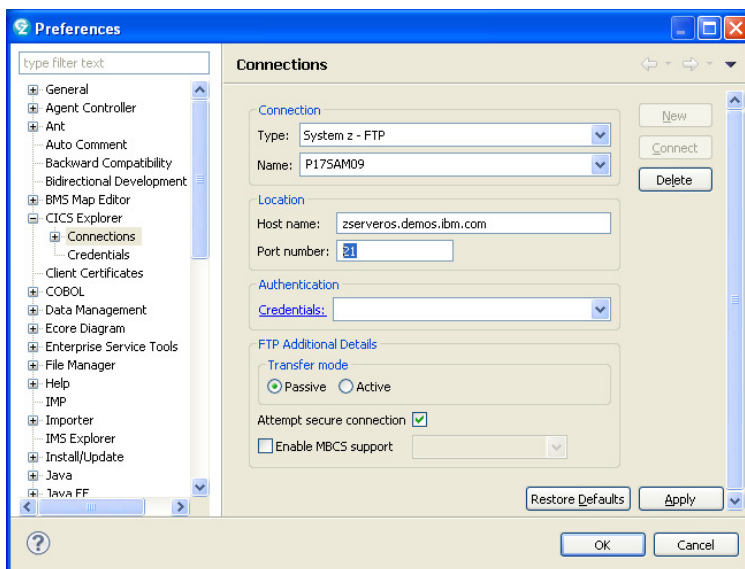
If you do not already have a connection then click on the "No z/OS connection" to open the Connections box.
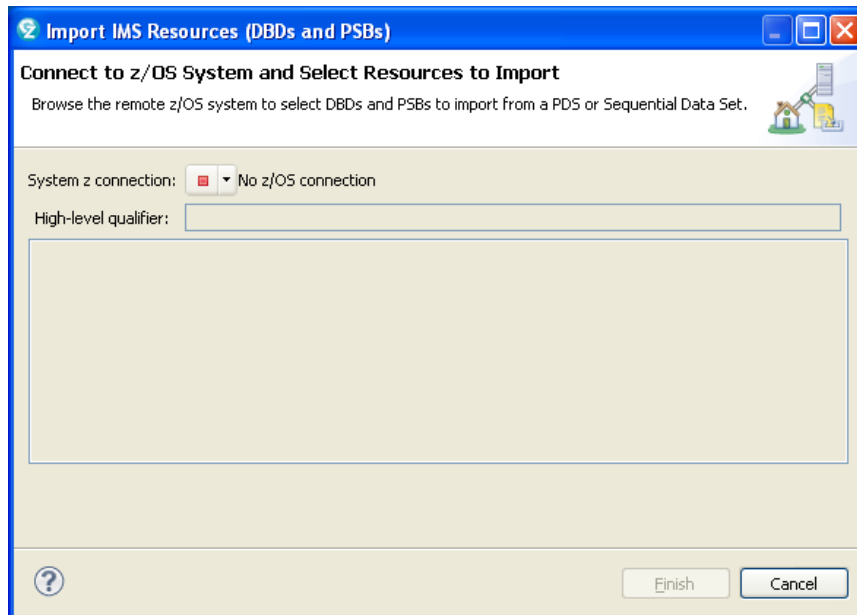
select **New.**
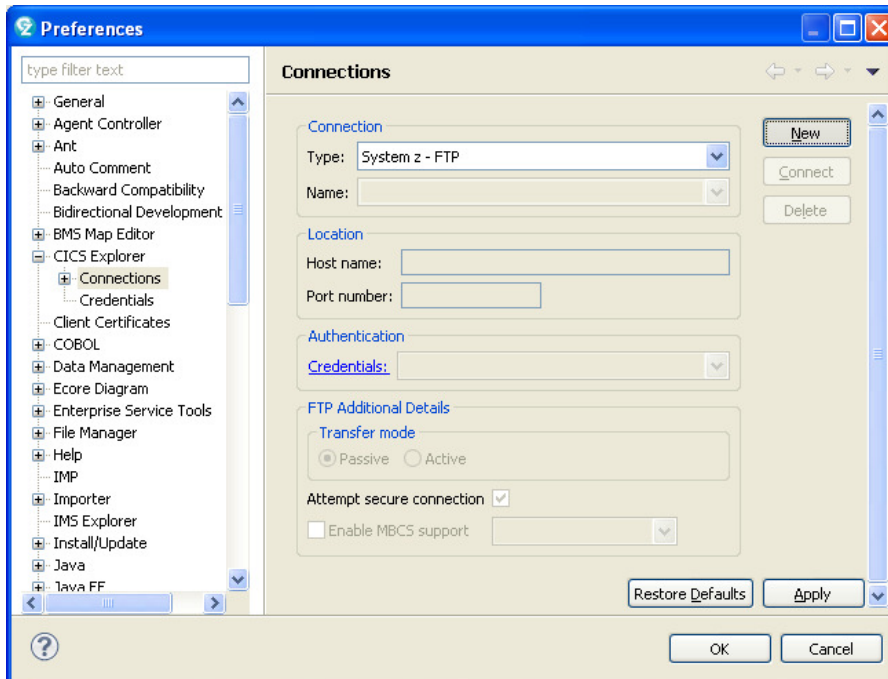
In the Name field enter PnnSAM09 where nn is your team number

In the Host name field enter zserveros.demos.ibm.com

Click Apply and then OK to return to the Connect to z/OS System and Select Re-source to Import box which now has your connection name.

4. To establish a connection click the orange box ▮ and choose the connection you created to open the System z –FTP New Credentials box
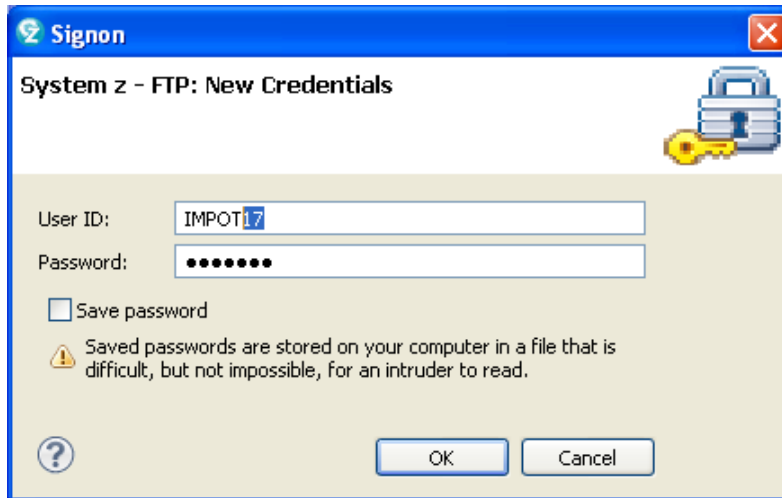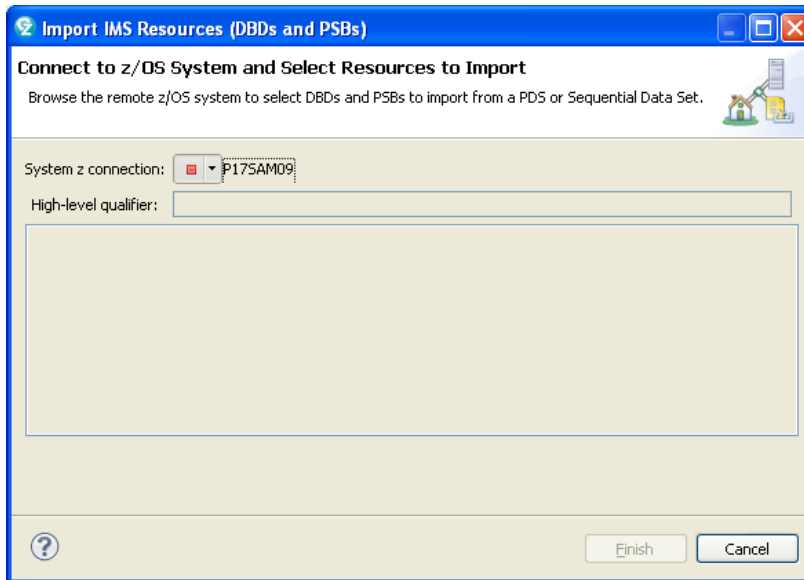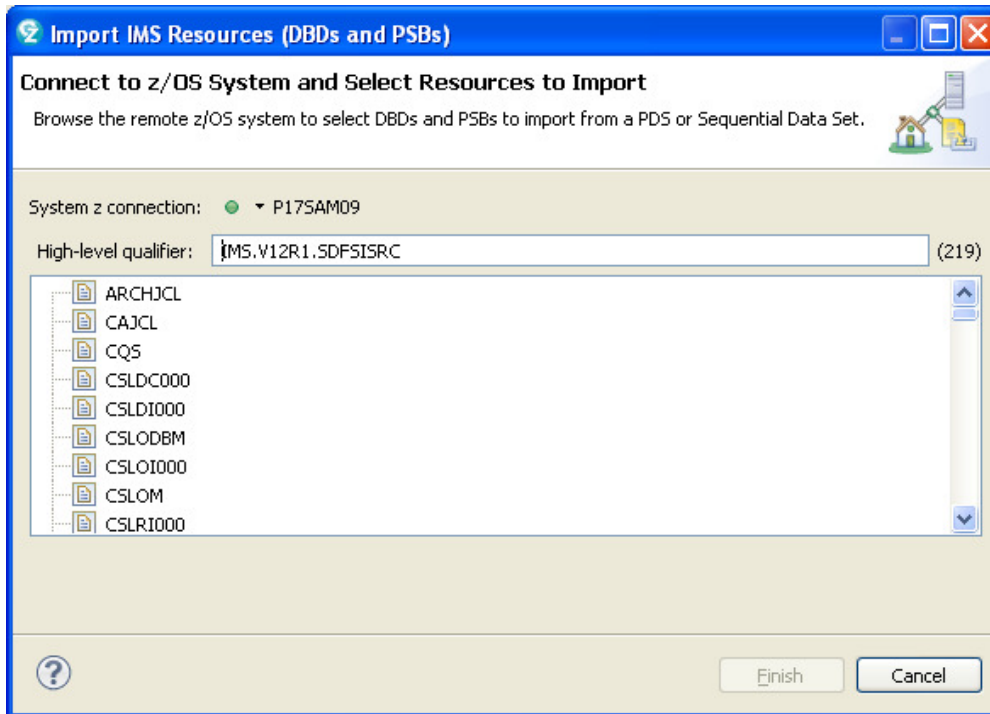

In the userid field enter IMPOTxx where xx is your team number.

In the password field enter IBM07POT.

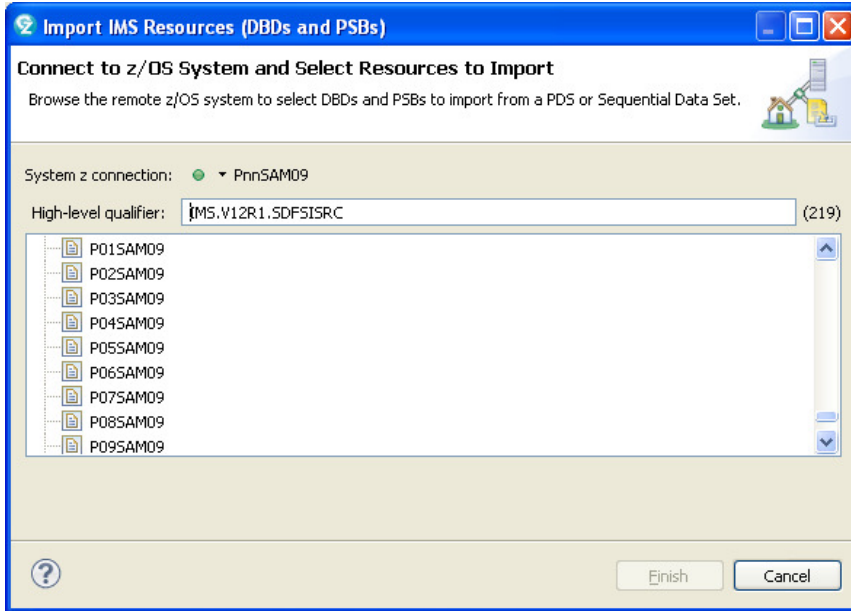Click **OK** to establish the connection.

5. You are now ready to retrieve your IMS resources.
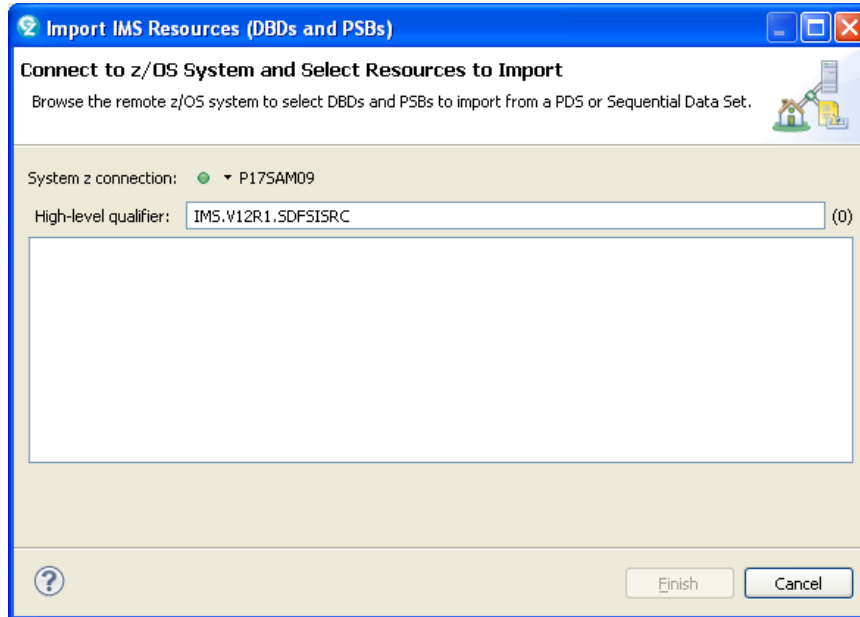
Change the **High-Level qualifier** field to **IMS.V12R1.SDFSISRC** and hit **Enter** on your
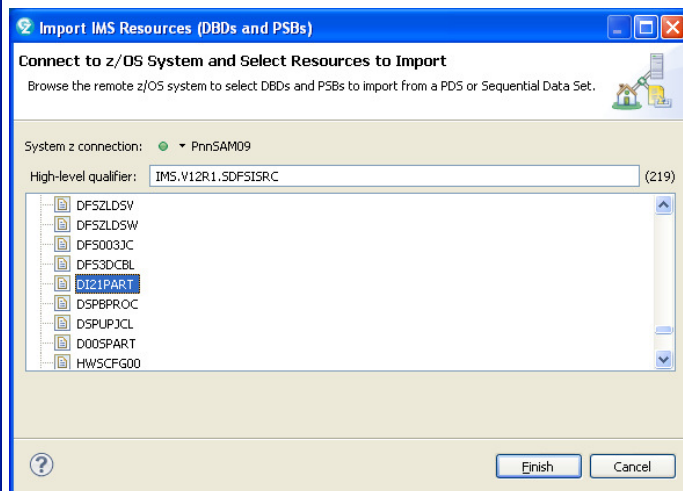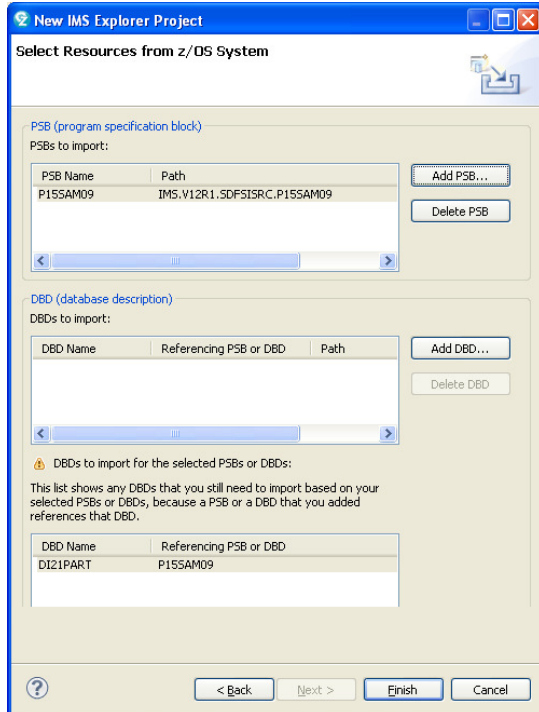PC keyboard.

Scroll down the list and select your P*nn*SAM09 PSB where *nn* is your team number.

Click **Finish** to activate the parsing of the PSB and DBD.

Note you will be prompted to add the DBD DI21PART. Select the **ADD DBD** button.
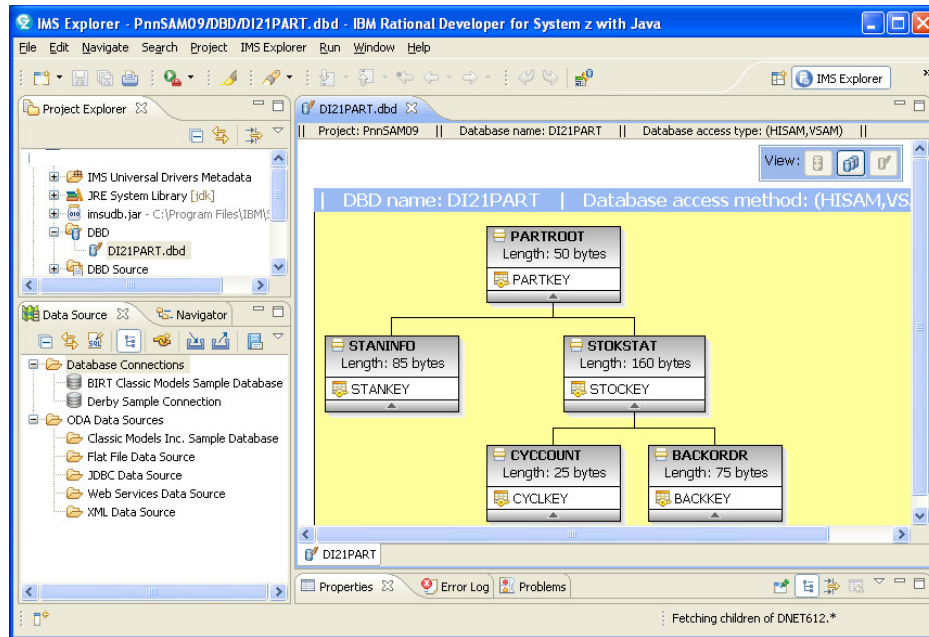Scroll through the list and select **DI21PART**.


Click **FINISH**.

After parsing completes your project is created.

6. In the **Project Explorer** box, click the **+** to open your Lab2PnnSAM09 project and navigate to the DBD folder.

To open the basic view double click on DI21PART. You will see a view of DI21PART.

The Manage Fields function is used to add more fields to the segment since only the key fields are defined. Right click on PARTROOT and select **Import COBOL or PL/I Structures.**
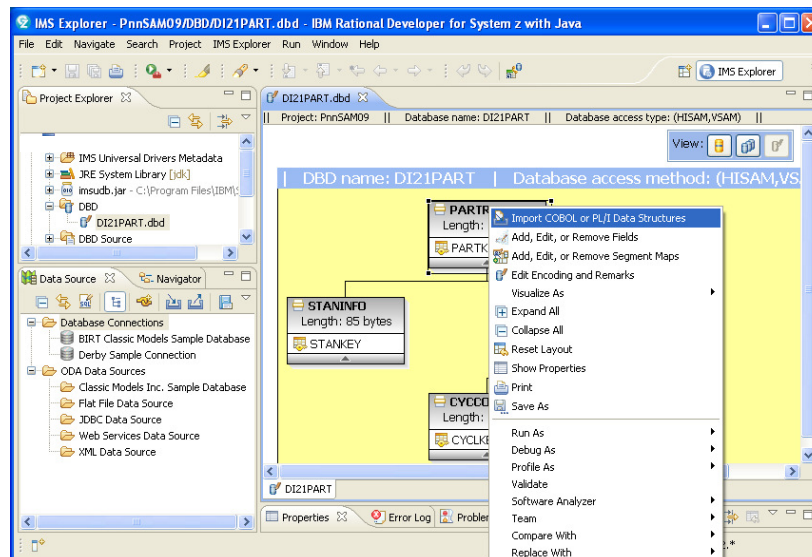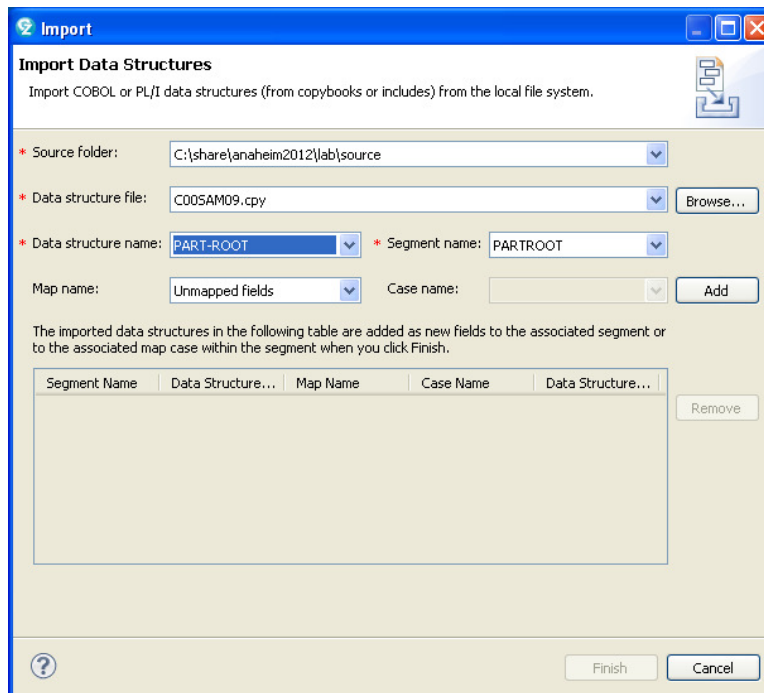
The **Import Data Structures** box opens. You will need to import the COBOL structures. The copybook was previously downloaded to your workstation.   Select the **Browse** button and look for the following directory **C\share\anaheim2012\lab\source.**

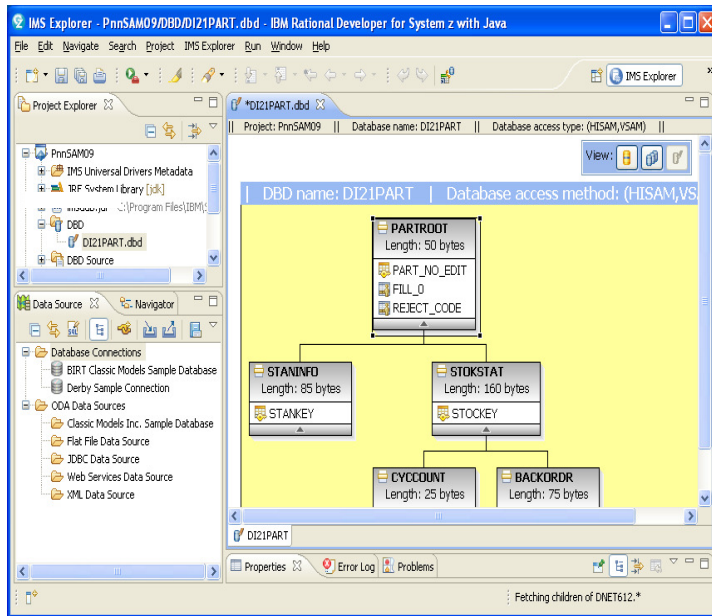Select **C00SAM09** and click **Open.**
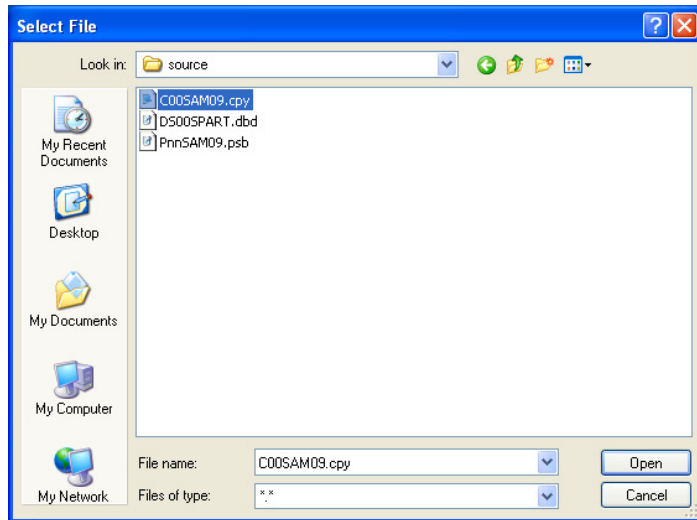
Use the Drop down list to specify the structure for the PARTROOT segment.


Select **Add** button.

Click **Finish** to complete the import process.

The PARTROOT segment (table) will now have all the fields (columns).

Repeat the above process for the other segments.

This completes the field definitions. Use Ctrl-S to save the changes or just use the x tab to close the view. Follow the path Lab2PnnSAM09> DBD Source >Generated Source> IMS Catalog-enabled DBD source > DI21PART and double-click to view the updates to the DBD source.
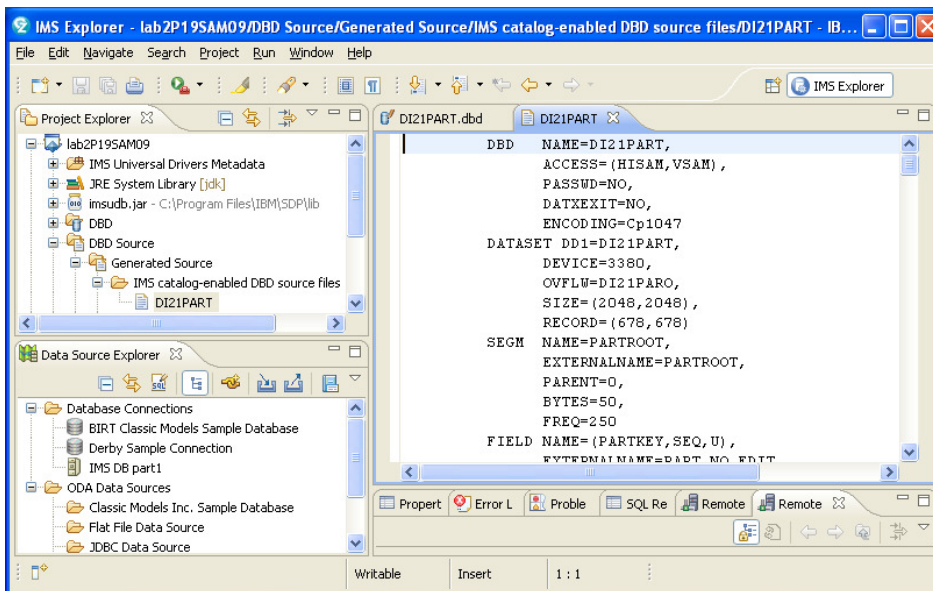
Notice the extension information such as ENCODING, EXTERNALNAME, etc.

This completes the building of the DBD macros source definitions for creating the Catalog metadata.

Once the metadata has been created, the next step is to send the source back up to the System z environment so that the PSB/DBD and ACB gen jobs can be run. For IMS V12 Catalog environments, a new ACBGEN utility (ACB Generation and Catalog Populate utility DFS3UACB) is used to generate the ACB member and corresponding metadata records in the IMS Catalog.
NOTE: For this lab these jobs have already been submitted. The IMS Catalog for IMSB on zserveros.demos.ibm.com has been updated so that you can use it in the next section.

7.   You will now use the Data Store Explorer (DSE) in IMS Explorer to access the IMS PART database using the metadata from the IMS Catalog.
   If you already have the **Data Source Explorer** box open at the bottom of your RDz window then you can skip the following instructions.
   If you do not have the **Data Source Explorer** box then click on the **Window** tab at the top of the RDz tool and follow the following: **Show View > Other.** In the **Show View** box, click **+ Data Management,** select **Data Source Explorer** and click **OK.**
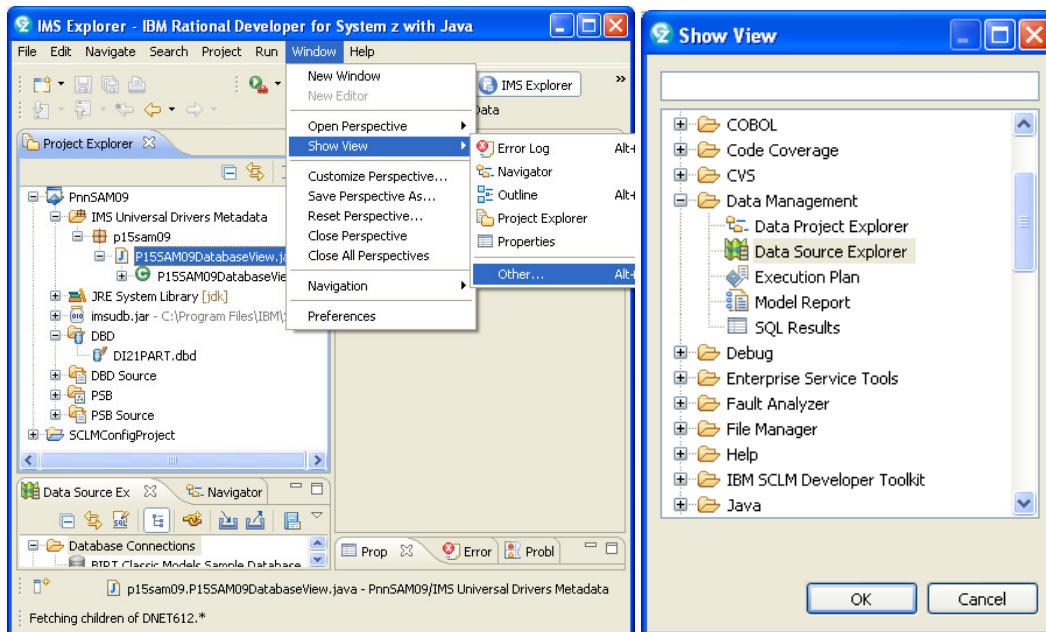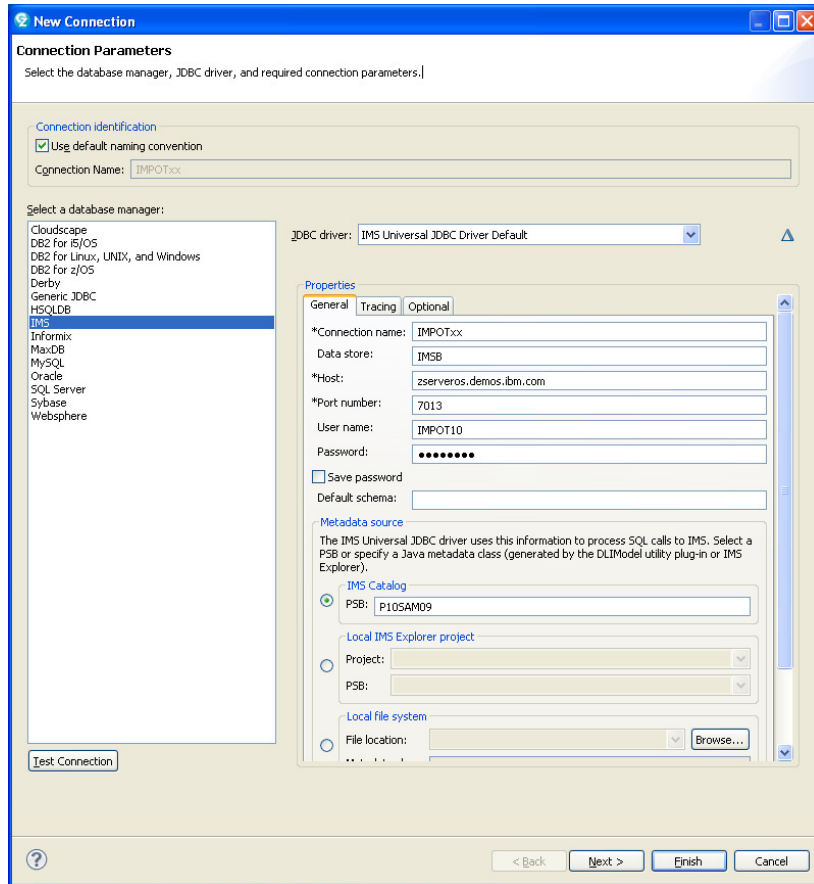
In the **Data Source Explorer** window, right-click the **Database Connections** folder, and click **New**.
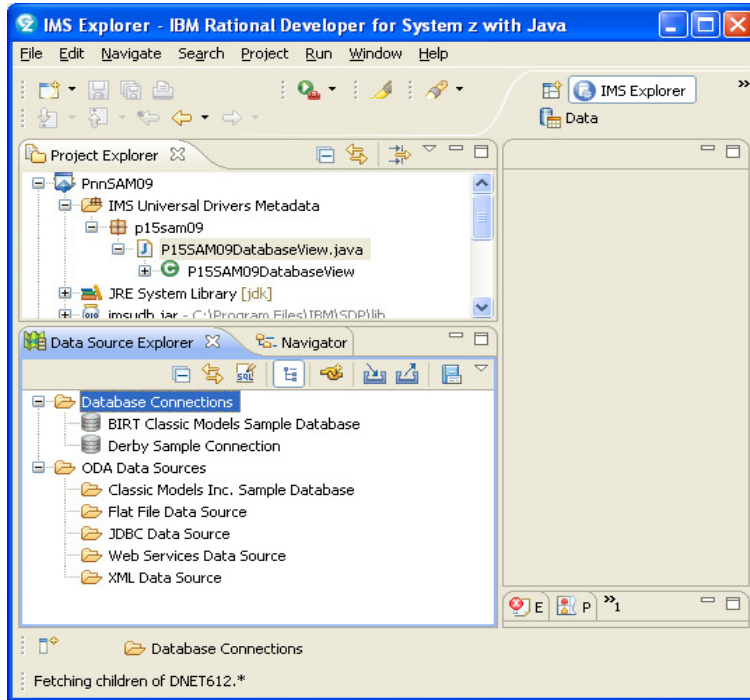
The **New Connections** box opens up. Select **IMS** as the database manager and the driver name **IMS Universal JDBC Drive**r as the JDBC driver.
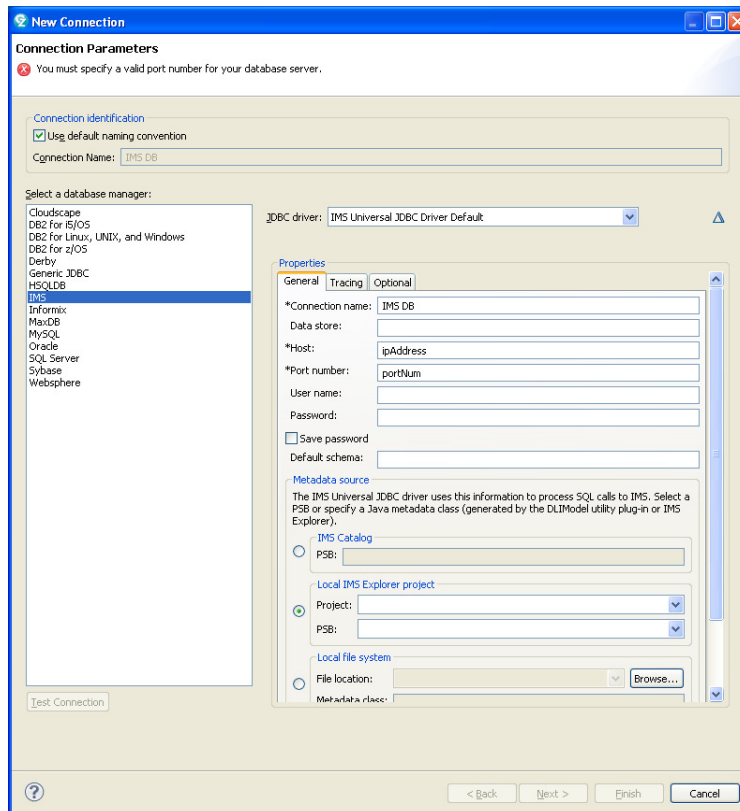
In the Connection Name field enter IMPOTxx where xx is your team number

In the Data Store field enter IMSB

In the HOST field enter zserveros.demos.ibm.com

In the Port number field enter 7013

In the userid field enter IMPOTxx where xx is your team number

In the password field enter IBM07POT

Scroll down to IMS Catalog and select the radio button

Then enter PnnSAM09 for your PSB value

Click **Finish.**

The connection is displayed in the Data Source Explorer.

To test the connection in the Data Source Explorer section under Database Connections, right click on your IMPOTxx connection.

Expand the path to tables and select PARTROOT.
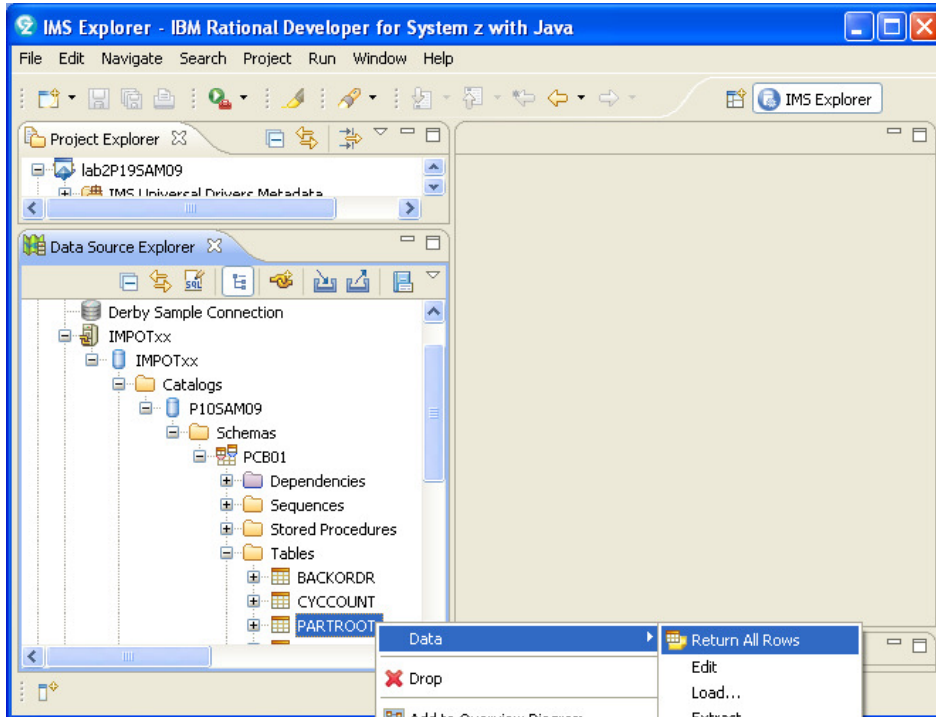
Right click, select **Data** then click on **return all rows** to return data.

7. The next exercise is to access the IMS Catalog to obtain the metadata that was generated earlier.
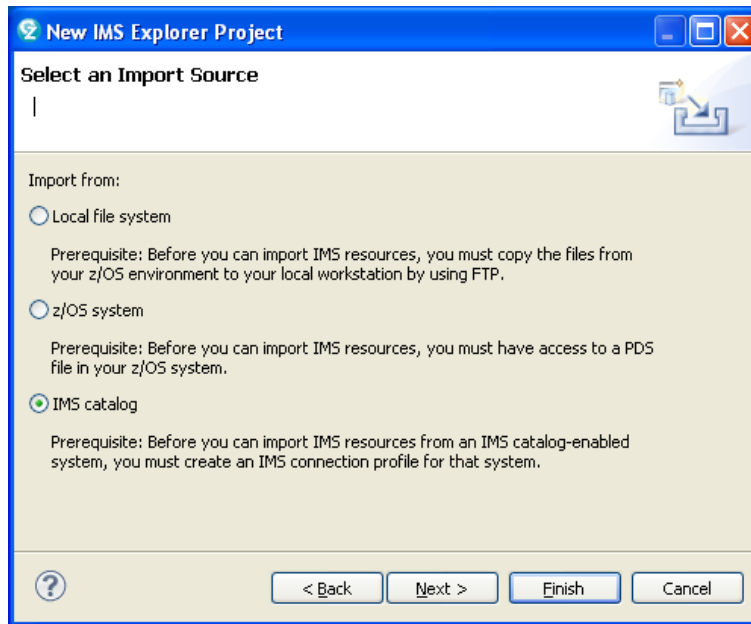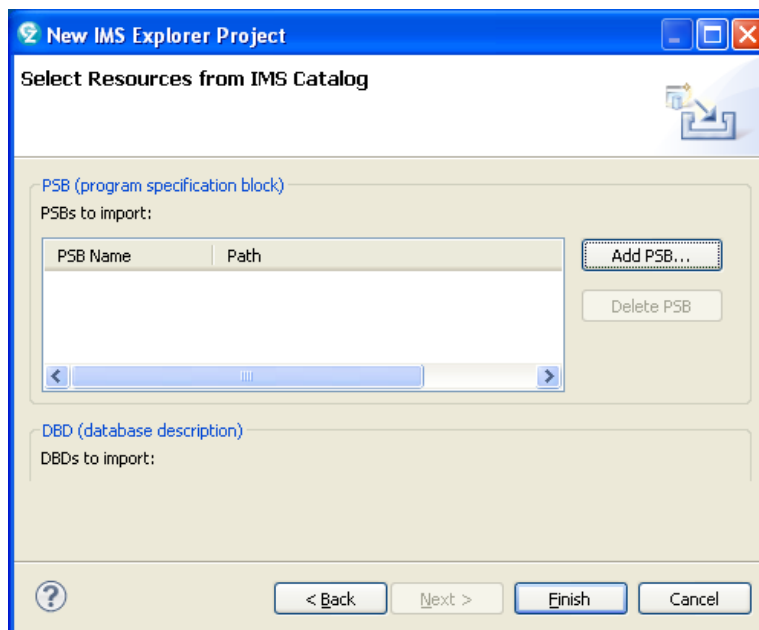
Click on **File > New > IMS Explorer Project**
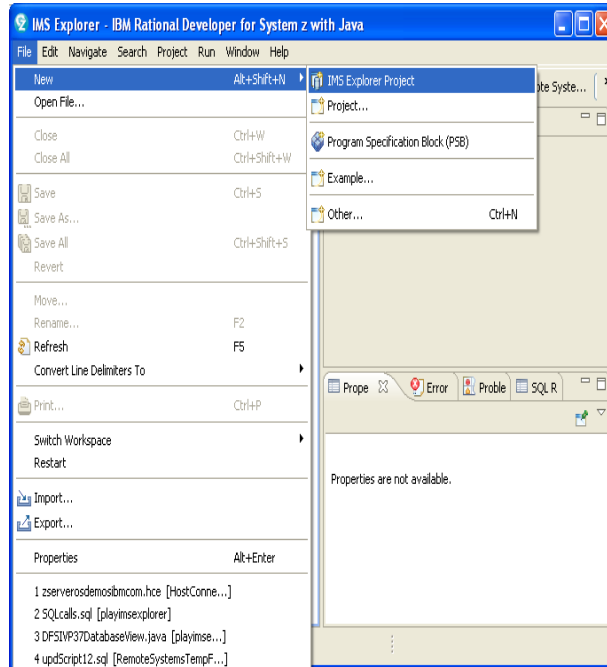
Enter a new Project Name, e.g., **Lab2DFSSAM09**.
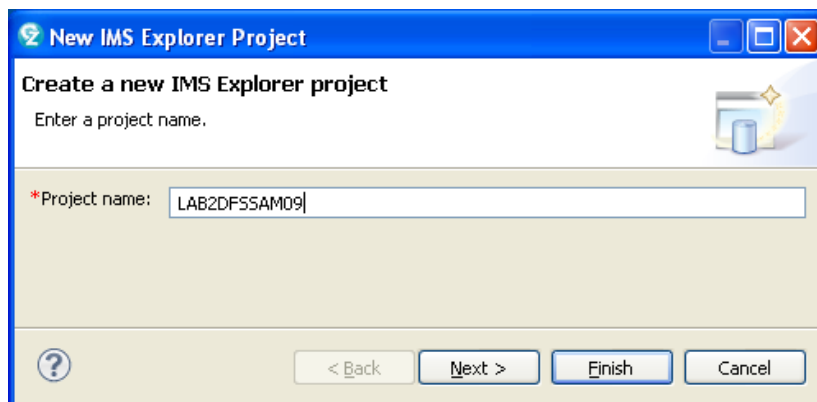
Select **Next** to specify the IMS Catalog as the import source.

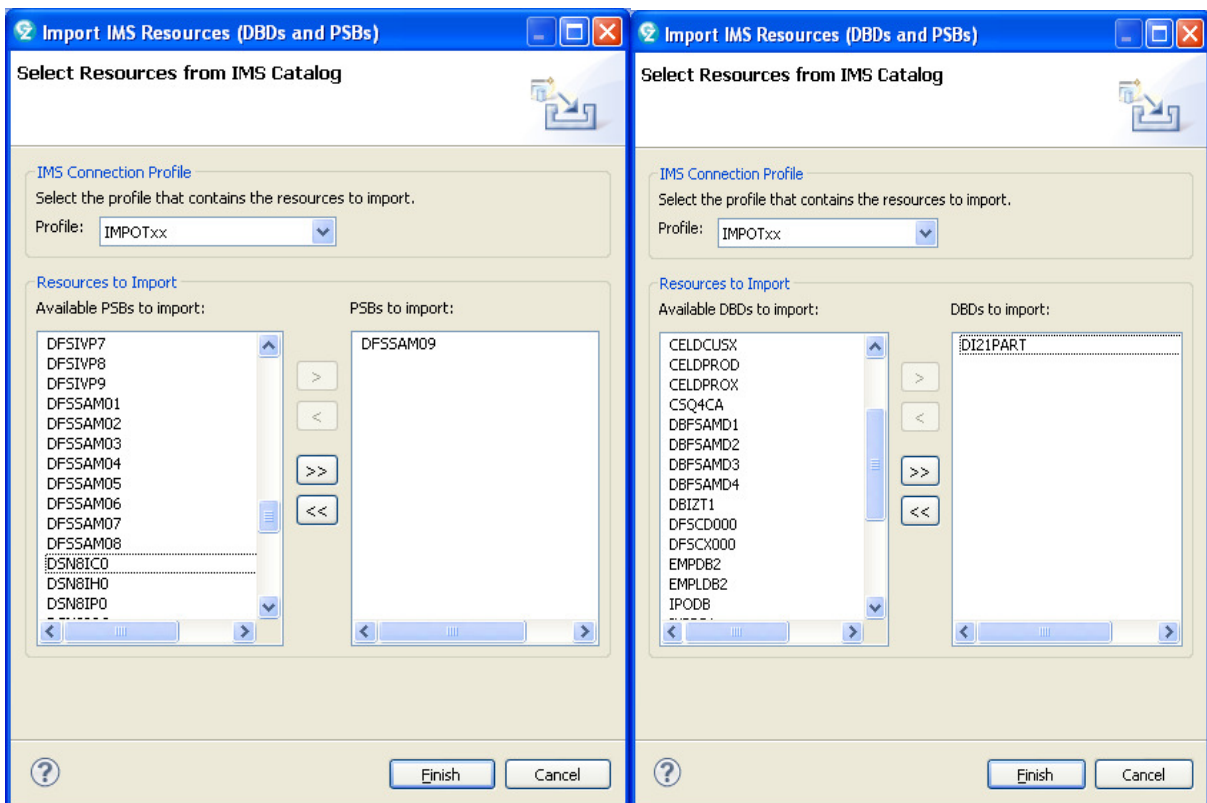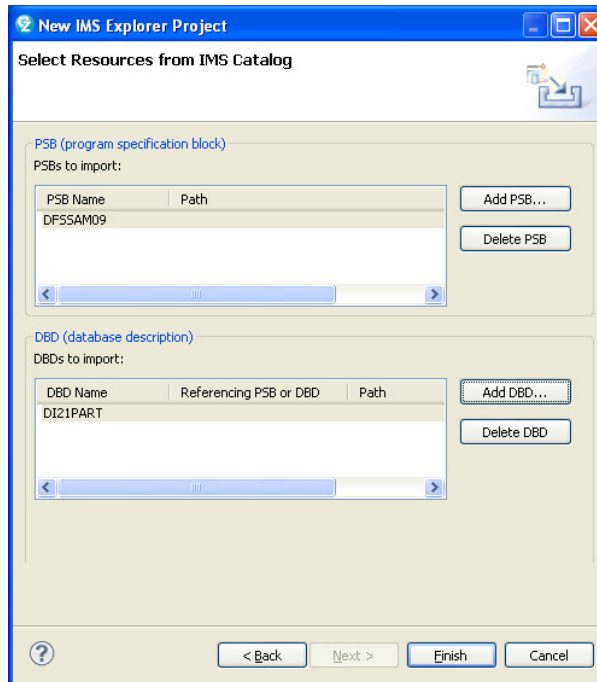Select **Next** to import the PSB metadata.

Click **Add PSB.**

You will be asked to specify your connection profile. Specify IMPOTxx where xx is your team number.
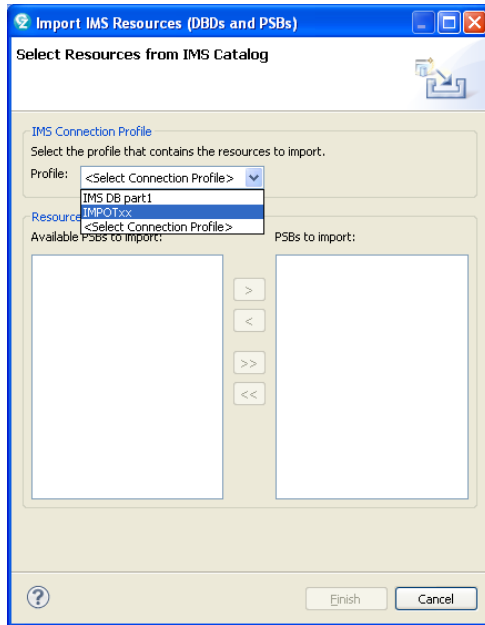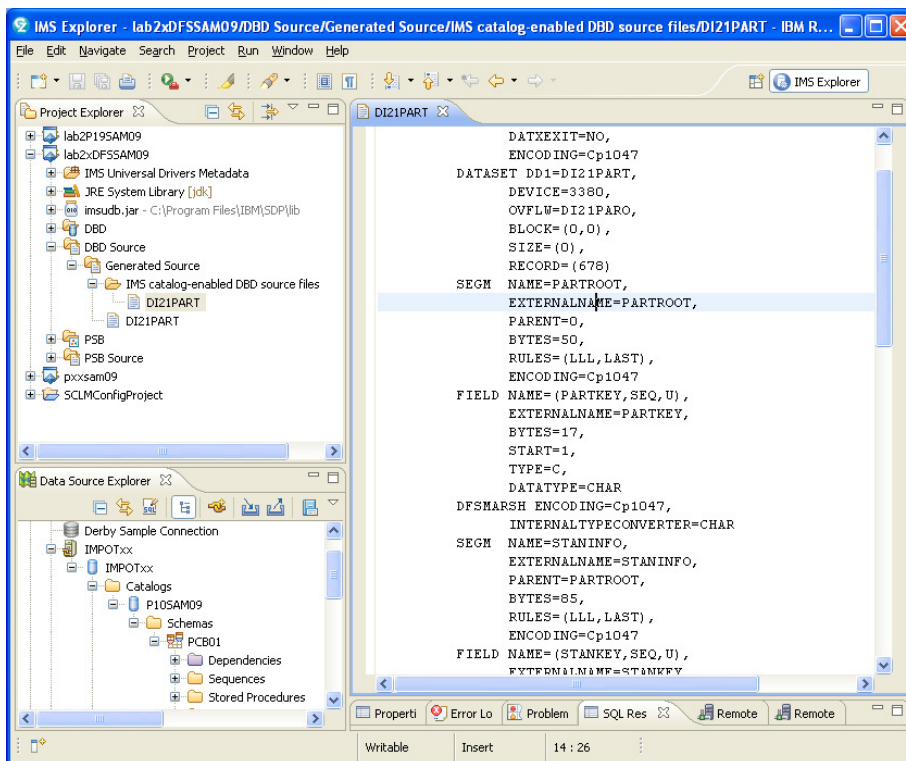

A list of resources from the IMS Catalog will appear. Use PSB **DFSSAM09** and DBD **DI21PART.**
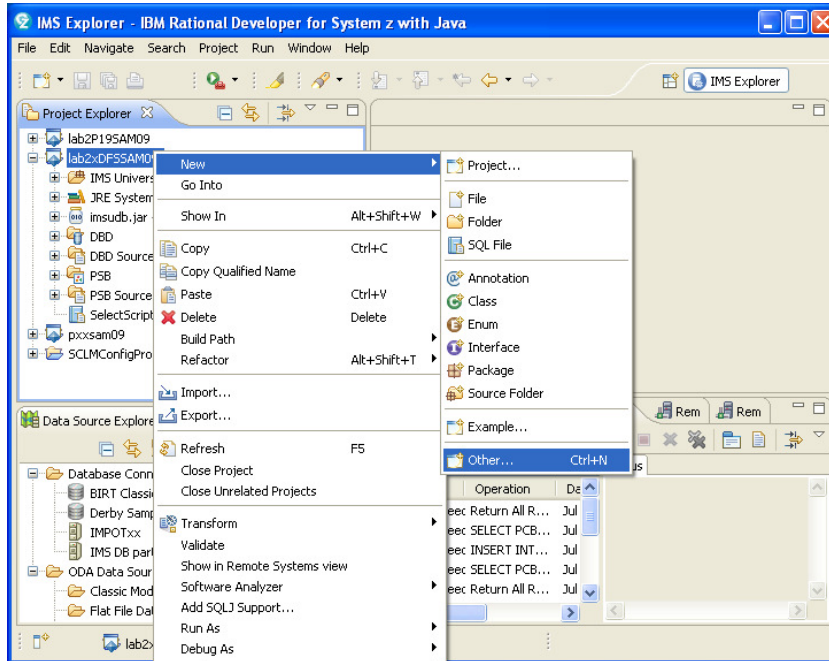
Select **Finish**.

Follow the path lab2DFSSAM09> DBD Source >Generated Source> IMS Catalog-enabled DBD source > DI21PART and double-click to view the extended the DBD source.
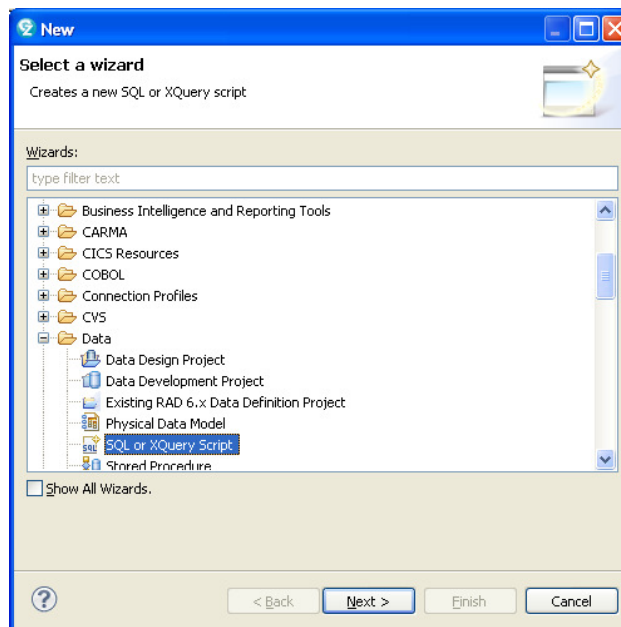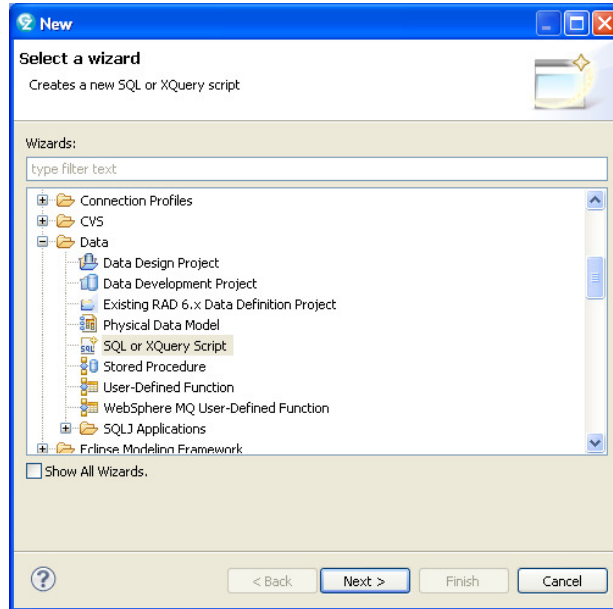
You can now also create SQL scripts in this project.

> In the **Project Explorer** box, select your project e.g., lab2DFSSAM09
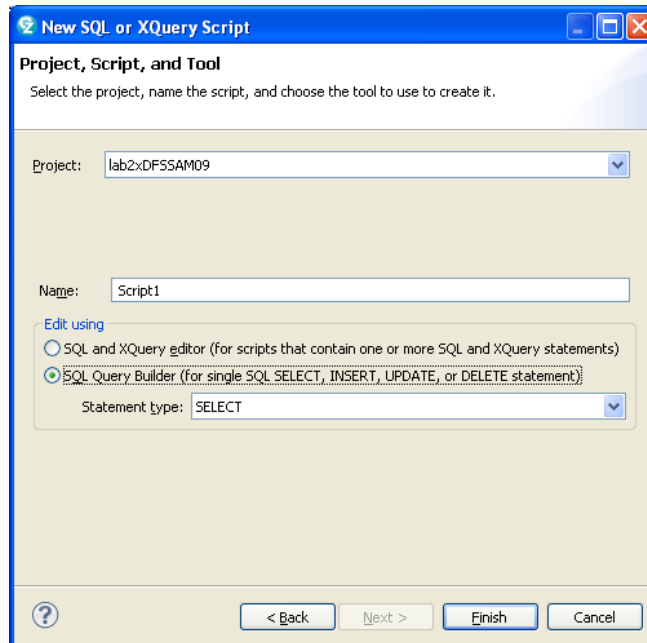> Right click **New > Other**

> In the **Select a Wizard** box expand the **Data** folder and select **SQL or XQuery**
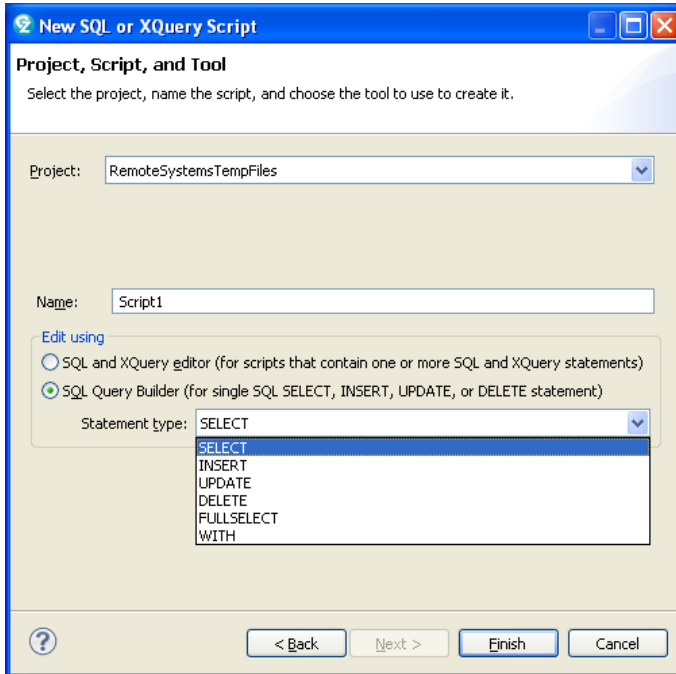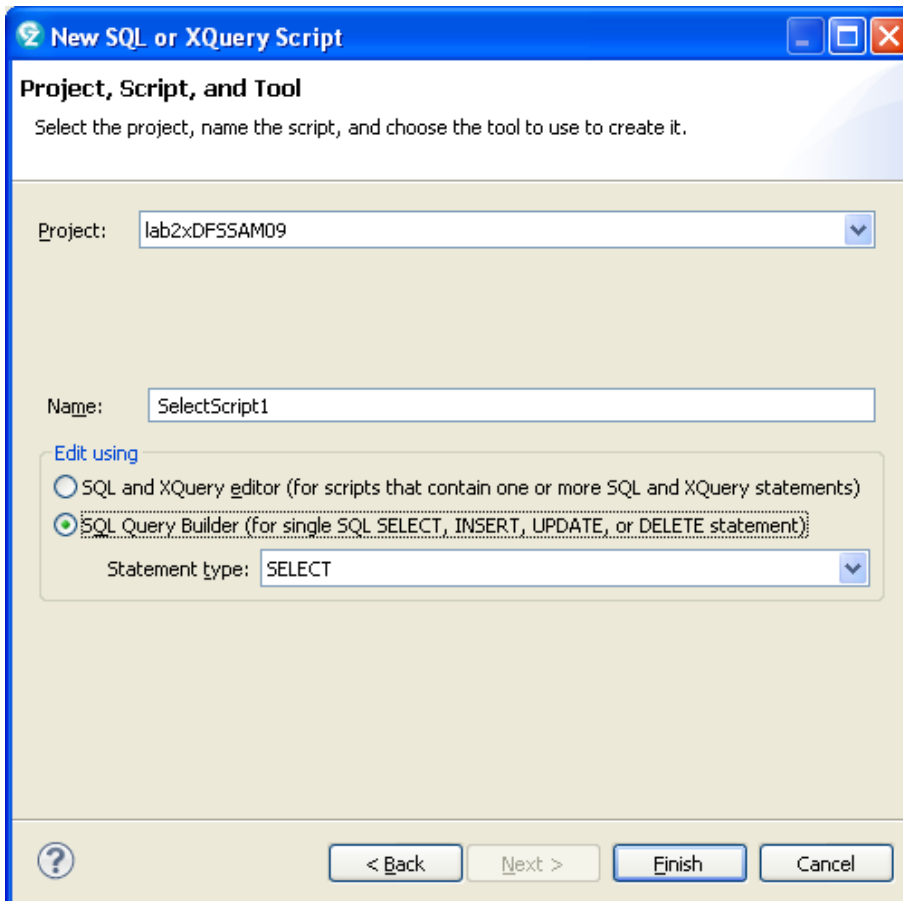> **Script** then click **Next**.

You will see the **New SQL or Xquery Script** box change **Name** to **SelectScript1.**
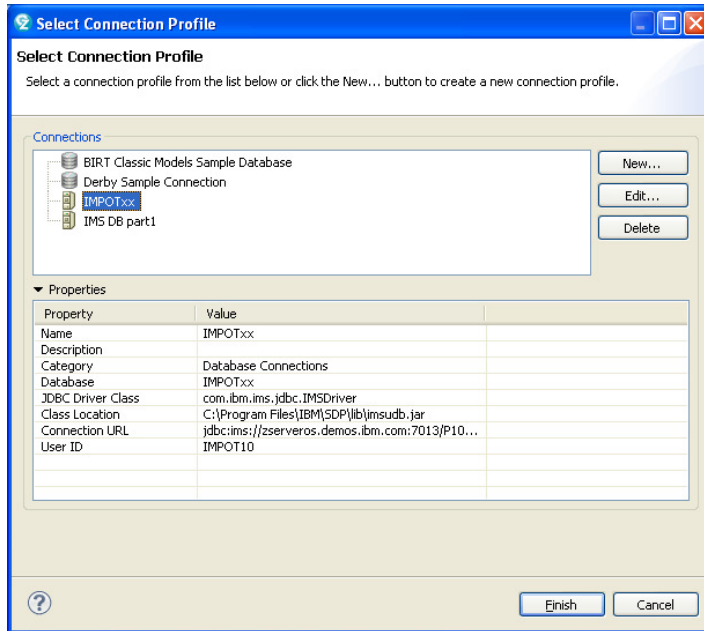

Choose your **Project** lab2nnDFSSAM09 from the dropdown list. Under the radio button **SQL Query Builder** note that you can choose your Statement type. The default is **Select.**

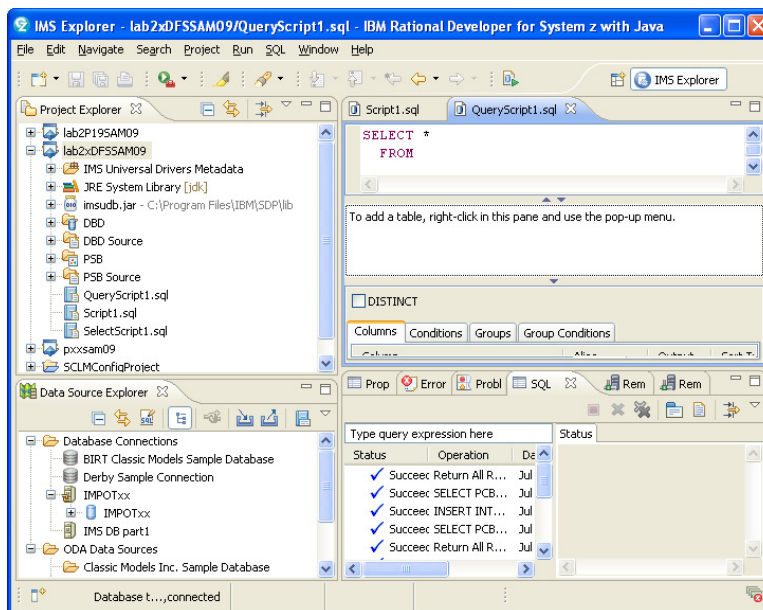When you have changed the values, click **Finish.**

When you have chosen your Statement type, e.g. SELECT for a query, click **Finish.**
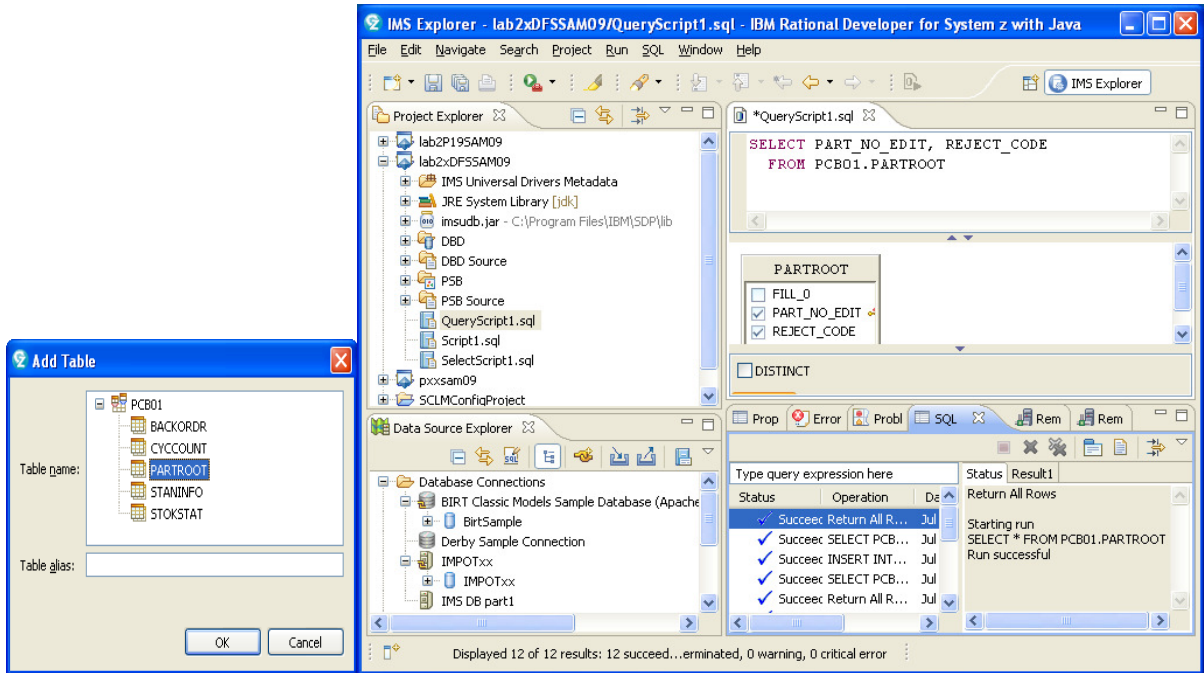

You will need to select a connection profile for the database you want to access. Choose the one you created earlier, e.g., **IMPOT***xx.* Click **Finish.**

The SQL Query Builder Box opens up.
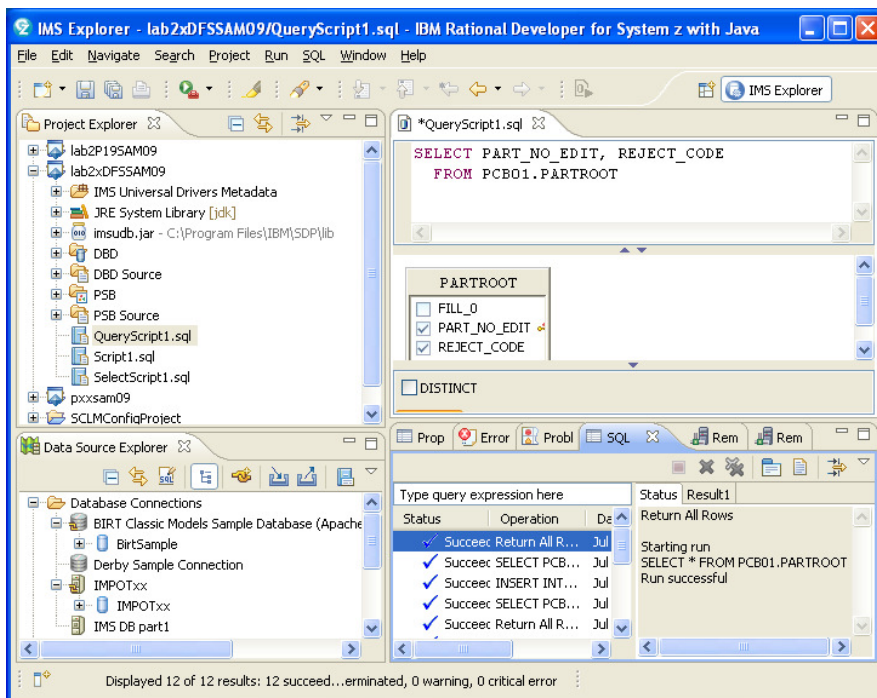In the **Add a table** window right click and select **Add Table.**

You will be able to choose which tables to add, and check which columns to include.
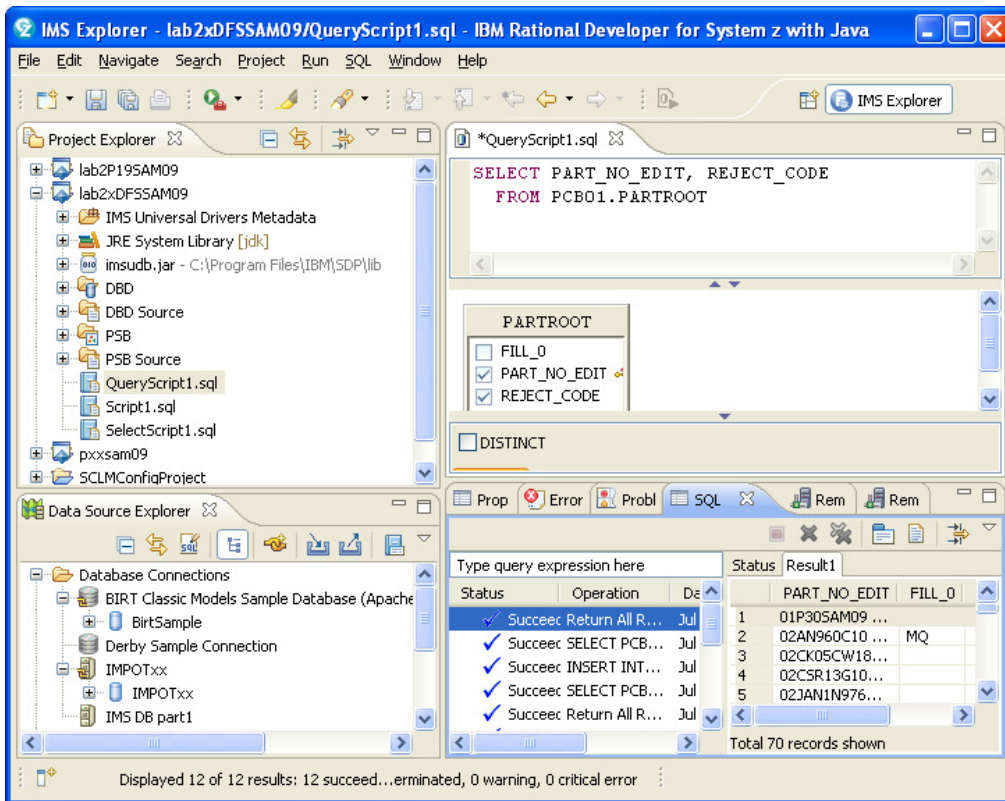

Note how the script is built. When you are done, position your cursor to the upper box, right click on the **Select** statement that was built and choose the **Run SQL** option.

The results can be viewed in the bottom box.

Note that there are two tabs. One for **Status** and one for **Results.**

Other examples of how to use the SQL Query Builder can be found on pages 24 -32.

This completes the lab.