

Oracle MOOC: PL/SQL Fundamentals

Session 1

Getting Started Guide

Homework assignments are given at the end of few videos in this course, for your practice. Although they are not mandatory, it's suggested to complete the homework to gain a better understanding of the concepts taught in each video. In order to attempt the homework assignments, the first requirement is to have access to an Oracle Database.

You can gain access to an Oracle Database in **any** of the following ways:

- Download and install a pre-built developer virtual machine (VM) available in OTN
- Get a subscription to Oracle Database Exadata Express Cloud Service or Oracle Database Cloud Service
- Access Oracle Live SQL @ <https://livesql.oracle.com/>

As per your convenience, you are free to choose between any of the above options to access the Oracle Database. However, this document provides instructions to access the Oracle Database through the pre-built developer VM.

Download and Install Pre-built Developer VM

Requirements

To be able to download and install the pre-built developer VM successfully, make sure your system meets the below requirements:

1. At least 2GB RAM. Default VM is 1G RAM, for better performance increase.
2. At least 15GB of free space (Note: virtualization works best with contiguous space so it is a good idea if on Windows to run a defrag program, and make sure you are using NTFS for your file system to handle large files on Windows.)
3. 2GHz Processor (a lesser processor will be acceptable but slower)

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4. Mozilla Firefox 2.0 or higher, Internet Explorer 7 or higher, Safari 3.0 and higher or Google Chrome 1.0 or higher
5. Adobe Acrobat reader
6. Admin privileges on your virtual machine box

Setup

1. Access Oracle Technology Network Developer Day VM at <http://www.oracle.com/technetwork/database/enterprise-edition/databaseappdev-vm-161299.html>
2. Under the **Setup** section, select **Accept License Agreement**
3. Download and install Oracle VM VirtualBox on your host system (if not installed on your system already)

Hint: Click the download link provided for your platform, under Oracle VM VirtualBox Base Packages

4. Click Oracle DB Developer VM to download the file

Start Oracle Virtual Box Manager and Import the Appliance

1. Launch the Oracle Virtual Box Manager
2. Select **File > Import Appliance**
3. In the Appliance to Import page, select **DeveloperDaysVM2017-06-13_01.ova** appliance file, and click **Next**
4. On the Appliance Settings page, make sure the location of the 2 virtual disks is on the drive with sufficient disk space, and click **Import**
5. The Software License Agreement dialog displays. Click **Agree**
6. After the import, the **DeveloperDaysVM2017-06-13_01** virtual machine is ready to be powered on
7. Double-click **Oracle DB Developer VM** to launch it

Connect to the database as sys

1. Start Oracle SQL Developer.

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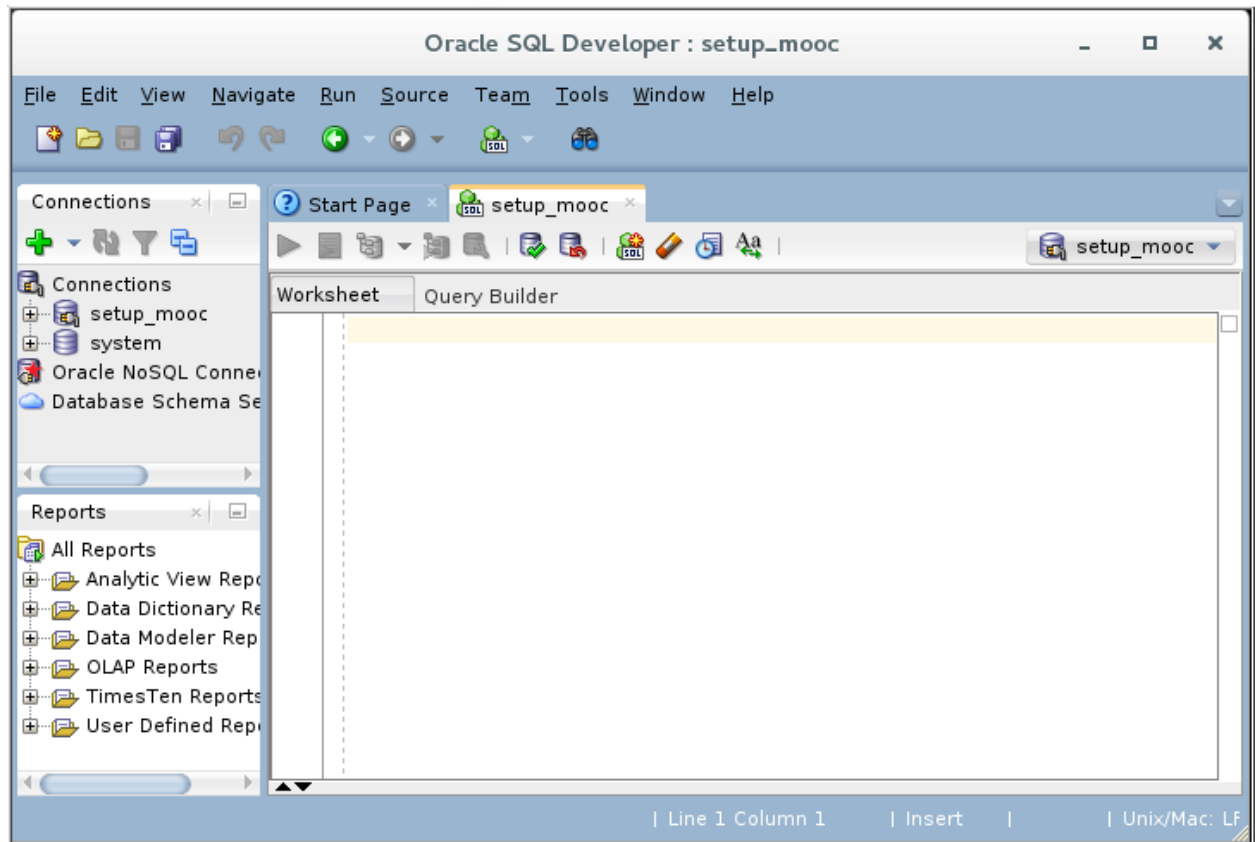
2. Create a New Oracle SQL Developer Database Connection
 - a. In the Connections navigator, right-click **Connections** and select **New Connection** from the context menu.
 - b. The **New / Select Database Connection** dialog box appears
 - c. Enter the following details for the new connection:
 - i. Connection Name: *setup_mooc*
 - ii. Username: *SYS*
 - iii. Password: *oracle*
 - iv. Role: **SYSDBA**
 - v. Hostname: *localhost*
 - vi. Port: *1521*
 - vii. Service Name: *orcl*

Ensure that you select the **Save Password** check-box.

The screenshot shows the 'New / Select Database Connection' dialog box. The 'Connection Name' is 'setup_mooc', 'Username' is 'sys', and 'Password' is masked with dots. The 'Save Password' checkbox is checked. Under the 'Oracle' tab, 'Connection Type' is 'Basic', 'Role' is 'SYSDBA', 'Hostname' is 'localhost', 'Port' is '1521', 'SID' is 'xe', and 'Service name' is 'orcl'. There are also checkboxes for 'OS Authentication' and 'Kerberos Authentication', and an 'Advanced...' button. At the bottom, there is a 'Status' field and buttons for 'Help', 'Save', 'Clear', 'Test', 'Connect', and 'Cancel'.

- d. Click **Test** to test the new connection
- e. If the Status shows Success, click **Connect** to make the connection
- f. Once the connection is made, a SQL worksheet opens up automatically

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Run the setup scripts to create the required schemas

All the code examples used for demonstrating PL/SQL concepts in the videos use HR (Human Resources) schema. All the homework assignments are based on the AD (Academic) schema.

To install the required schemas into the database:

1. Download the [setup.zip](#) file into your VM, and extract the zip folder
2. Locate `setup.sql` from the extracted zip files, run it from the SQL Developer worksheet

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Review User Accounts

As a best practice, it is suggested that you don't use the `SYS` connection to execute code examples or homework. Alternatively, you can use **any one** of the below user accounts to create a new connection for practicing code examples or homework:

USERNAME	PASSWORD
ora1	ora1
ora2	ora2
ora3	ora3
ora4	ora4

Validate Setup

After connecting as a user (ora1 / ora2 / ora3 / ora4), validate the setup as:

1. Verify the HR schema by executing the following queries in the SQL worksheet:

```
SELECT count(*) FROM employees;
```

Expected result: 107 rows

```
SELECT count(*) FROM tab;
```

Expected result: 22 rows

```
SELECT count(*) FROM departments;
```

Expected result: 27 rows

NOTE: All the videos use HR schema to demonstrate the code examples.

2. Verify the AD schema by executing the following queries in the SQL worksheet:

```
SELECT count(*) FROM ad_course_details;
```

Expected result: 15 rows

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```
SELECT count(*) FROM ad_departments;
```

Expected result: 4 rows

NOTE: All the homework assignments are based on the Academic (AD) schema.

Using LiveSQL

If you can't install and launch the VM for any specific reasons, you can use LiveSQL for trying the code examples and homework. This section provides the reference information for using LiveSQL for this course.

Code Examples and HR schema:

LiveSQL comes with HR database pre created. So, you can execute all the code examples in the SQL Worksheet area directly and view the results.

Homework Assignments and AD schema:

AD schema is not setup in LiveSQL by default. Therefore, you have to run the [ad_setup.sql](#) to create the required tables before solving the homework.

To setup AD schema objects:

- Go to <https://livesql.oracle.com>
- Click **Start coding Now**
- Click **My Scripts**
- Click **Upload Script**
- Browse the `ad_setup.sql` from your local folder, provide a name and description, and click **Upload Script**
- Click the uploaded script and click **Run Script**
- Click **Schema** in the left navigation bar to see the tables created

To solve the homework assignments:

- Open the **SQL Worksheet** from the left navigation bar, write your PL/SQL code in it and run it. You can save your solutions in the form of a script by clicking **Save**.
- All such saved scripts can be found in **My Scripts**.

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NOTE:

LiveSQL doesn't save the database objects created by users across the sessions. Therefore, you have to re-run the setup script again to create the database objects every time you open a new session.

Subsequent login to LiveSQL:

- Go to <https://livesql.oracle.com>
- Click **Start coding Now**
- Click **My Session -> Previous Sessions**
- Re-run the **ad_setup** script so that the AD database objects are created again.
- Continue writing PL/SQL code in **SQL Worksheet**.

Congratulations! You have successfully completed the setup required to practice the code examples or homework assignments created for this MOOC.