Installing Oracle™ Express DB® 11g r2

Before beginning with this DBMS, we should state that this is a restricted version (in both functionality and capability). It is set for learning and small scale test purposes. But at the same time, it won't be 'hogging' your computer (it won't be controlling all your computer's resources, as other releases). And though it is reduced, it is enough for most of the course. Specifically, it will take up to 11 GB of user data and 1 GB RAM, and a single CPU at most.

We recommend you to be installing the release 2 of the Oracle XE (Express) 11g (prior versions limit user data to 4 GB, yet there is another edition even lighter which name is Oracle DB Personal Edition that could be a good choice for laptops or computers with reduced capabilities).

You can find the official full description of Oracle XE 11g r2 here:

Windows: https://docs.oracle.com/cd/E17781_01/install.112/e18803.pdf

Linux: https://docs.oracle.com/cd/E17781_01/install.112/e18802.pdf

1. – Installing a Virtual Machine

Often, it is advisable to be installing a VM before installing Oracle. Thus, you can control the resources to be taken by the DB server (especially useful when you have another edition, different from Express, that could be taking control of everything). However, this is not necessary with the reduced Express edition.

In the following link, you can find one of these, along with full instructions and documentation:
https://www.virtualbox.org/wiki/Downloads

Notice the mínimum requirements for installing Oracle Express (1.5 GB disk space, 256 MB RAM). However, you should set dynamic storage (because it will grow) and at least 0.5 GB RAM.

Once you have the VM, you need to install an Operating System (either Windows 32/64, or Linux 64).

2. – Installing and setting up the server

Download the software directly from the official site (reject any Oracle software coming from elsewhere). There, you have to register (filling a form and providing an email), but it is free. Then, the steps are:

Step 1:

Download the proper version from:
http://www.oracle.com/technetwork/database/database-technologies/express-edition/downloads/index.html

Step 2:

Unzip and run the setup. Pay special attention to your password (invent a good one, and don't forget it!). It is recommended to be restarting after installation.

Step 3:

Once finished, you can find the 'SQL command line' (sqlplus) installed in your computer. It is the basic client for interacting with the server. You can open it, and provide your credentials (user SYS and the password you have set for it). Since you have the basic command line, you won't be prompted for connection, so enter `conn`, and then your username `SYS` and the password (you have provided in the 2nd

step). It won't be able of connecting, because user SYS has two roles. So repeat the connection, and when typing the password add **AS SYSDBA** before entering. Now you are connected as administrator.

However, this user has the administrator role and is supposed to be operating main table-space of the DB instance (SYS). We should be operating in a regular manner, so we should be creating another tablespace and a regular user (as you have here, in the University account).

To do this, (choose a *username* and a *password*, and then) enter these sentences:

```
CREATE TABLESPACE regular DATAFILE 'regular.dbf' SIZE 100M BLOCKSIZE 8192;
CREATE USER username IDENTIFIED BY password DEFAULT TABLESPACE regular;
GRANT connect TO username;
GRANT resource TO username;
GRANT create view TO username;
GRANT create session TO username;
GRANT select ON v_$session TO username;
GRANT select ON v_$sesstat TO username;
GRANT select ON v_$statname TO username;
GRANT select ON v_$mystat TO username;
```

Now, you can disconnect (disconn) the administrator session, and open a new regular session by connecting again (conn), this time with the newly created username and password. Notice that your datafile is created under *<oraclepath>*\app\oracle\product\11.2.0\server\database. For any other location/filename, just specify it when setting the filename 'regular.dbf'.

3. – Installing and setting up the development environment SQL Developer

For this course, it is obliged to be able of interacting with the server via the basic shell (**SQL*plus**, or *SQL command shell*). However, you could be taking advantage of advanced features provided by the development environment. To install it, follow next steps:

Step 1:

Download (and install) the software from
http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html

Step 2:

Check the default path (should include Oracle's bin directory). Type the proper command (in Windows, open a cmd window and enter *set* ; in Linux, echo $classpath) and check it contains..
<oraclepath>\app\oracle\product\11.2.0\server\bin

Step 3:

Finally, open SQL Developer and create two connections: one for SYS, and another for your regular user.

Connection name: *choose*	Connection name: *choose*
User: SYS Password: (that one you have provided) Connection type: basic Role: sysdba Host: localhost Port: 1521 SID: xe (or ORCL in case)	User: regular (or that one you have choosen) Password: the provided when creating user regular Connection type: basic Role: default Host: localhost Port: 1521 SID: xe (or ORCL in case)