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Section 1. Important Notes about Oracle Installations

We have to use Oracle as DBMS since this is one of the requirements by the department. Oracle is a large DBMS and students usually struggle with the Oracle installations. Many students spent several weeks to successfully install it and they may have to try multiple times, which indicates the installation is a tedious and time-consuming process. In this case, I suggest you to follow this guide step by step so that you can save time and efforts.

The solutions to Oracle Installation:

1) **If you are a Windows users,** you can follow Section 2 to install the Oracle 12(c) Standard Edition. Make sure that you download the standard edition! http://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html

2) **If you are a Mac user**, you have the following options (Anyone is OKay):
   i). You can install Oracle 11g on Mac system, there is an installation file online for Oracle 11g. But I have to tell you this is a very complicated process and it may eat your disk if you do not have enough disk space.
   ii). You can install Oracle Virtual Box/Machines,
   http://www.oracle.com/technetwork/community/developer-vm/index.html ,
   Once you installed such a copy, you are able to use the Oracle included in this virtual machine.
   iii). Use the machine in the Lab. The tech support already installed a copy of the Oracle virtual box. You can directly use the virtual box from the computers in the lab. The Lab TS2033 (Tech South Building) Schedule is as follows:
   https://calendar.google.com/calendar/embed?src=iit.edu_aofub65ds3v42m1bsd m0cu85s0%40group.calendar.google.com&ctz=America/Chicago , You can go and visit the Lab when there are no classes. The instructions about how to get started using the virtual box at computer Lab is as follows:
   https://docs.google.com/a/iit.edu/document/d/1Tb9fCvwlgWdk0Xx1KyThb4KA 8Nyhykskl0Ozdr6-9os/edit?usp=sharing , If you have problems using the virtual box in the lab, you can seek helps from the lab assistant there.

3) If you still fail to install the Oracle, you can use the computers in the Lab, as mentioned above. Or, you can borrow computers/laptops from others for the purpose of in-class practice, assignments or final projects.

Below is the instruction of installing and configuring the Oracle 12c Standard Edition by using Windows as platform.

➢ **Please use the same password during the installation process, so that you may NOT have a problem of invalid user/pwd after the installation.**
➢ **By default, you should already install the SQL Developer if you successfully installed the Oracle 12(c). Double check that in your system whether you can find SQL Developer. You do NOT need to install it again if it already exists in your system. Otherwise, you can follow the steps below to download and install SQL Developer.**
➢ **Completion of the Oracle installation is NOT necessary to indicate that you have successfully installed the Oracle. The only way to validate whether it is**

successful is to run the SQL Developer and try to connect to the databases. Once you can use your username/password to successfully connect to your database, you can say a successful installation for sure.

➤ **If you failed to install Oracle, you may have to re-install it for multiple times until you succeed. You may have to shut down any antivirus or tune up software on your computers/laptops. And make sure your system firewall gives the network access to Oracle or Oracle Installations.**

Section 2. Installing & configuring– Oracle 12c Standard Edition & SQL Developer

Step 1. Installing & configuring 12c Standard Edition

Brief Introduction:

Installing 12c **Standard Edition** will ultimately allow you to connect to an Oracle Server or run a localized database on your system. You will use the 12c installed primarily for SQLPlus, which is a command line tool to run your SQL commands to create tables as well as perform basic SQL functions such as insert, delete, update and select on your database tables.

a. Downloading Oracle 12c

Go to the following link and download Oracle's 12c Standard Edition for your desired operating system located towards the top of the page – see snapshot that follows.

http://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html

*Mac people should install a VM, such as the freeware version of Oracle's VM Virtual Box, to allow for an OS such as Windows or Linux to be installed onto the VM to allow for a proper install of Oracle via a Mac machine.

Make sure to accept the OTN License Agreement at the top of the website then click on the desired downloadable files (there will be two). Under the **12.1.0.1.0 Standard Division...** area, choose **File 1** at this point for your desired OS, to start the download process.

> Note there will be two zip or compressed files to download, i.e., **File 1** and **File 2.**
> For Windows File 1, is really named (winx64_12c_database_1of2.zip) and File 2 is appropriately named (winx64_12c_database_2of2.zip).
> For Linux users would have the files named (linuxamd64_12c_database_1of2.zip) and (linuxamd64_12c_database_2of2.zip) that will be downloaded respectively.

At this point you will be taken to a **Sign In** page (see snapshot below) where Oracle will allow you to download the files if you have an Oracle account established. If you have an Oracle account already, merely log into your Oracle account with your established credentials to start downloading, otherwise create an account with a desired email.

When creating an account, you will be required to enter information for a company name and address. Choose something as follows for entries:

IIT -for a company name
IIT for an address -3300 S Federal St, Chicago, IL 60616

Once that is complete log in with your credentials and your download should commence immediately.

b. Installing Oracle 12c

Once <u>all</u> your files have been downloaded, you will extract your first downloaded file (i.e., your File 1) to a desired directory, then extract File 2 to the <u>same</u> directory you extracted File 1 to, on your computer. You can name the folder you're extracting as anything really, but probably the default name will be **<u>database</u>** and you can leave it as that to keep things simple.

Once that is completed, open the folder you extracted your files to, and run the setup installer in that folder. For Windows the installer file will be called **setup.exe**, for Linux it's called **runInstaller**.
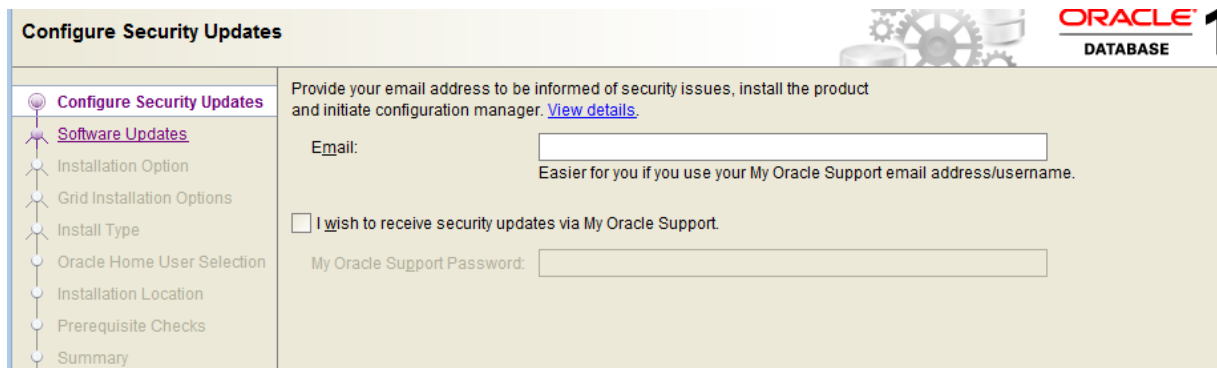
c. Configuring an Oracle 12c database

At this point, follow the instructions below to setup a 12c database onto your Windows system.

> **For further installation & configuration help, especially for Linux, plus for other helpful information, please visit the Oracle docs web page located at**
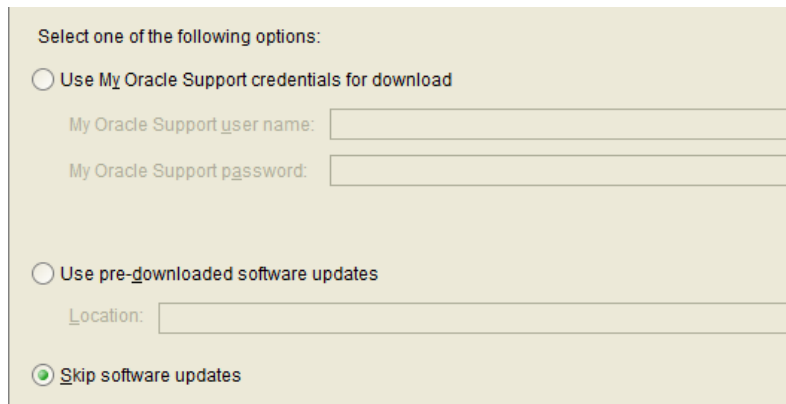>
> http://docs.oracle.com/database/121/index.htm

When you run the installer you will be taken through some steps that are pretty basic. The following screen snapshots are pretty self-explanatory for the install so follow along with the snapshots below in order:
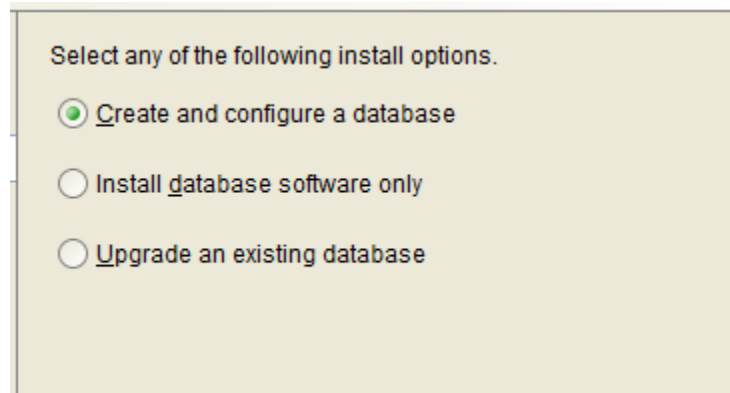
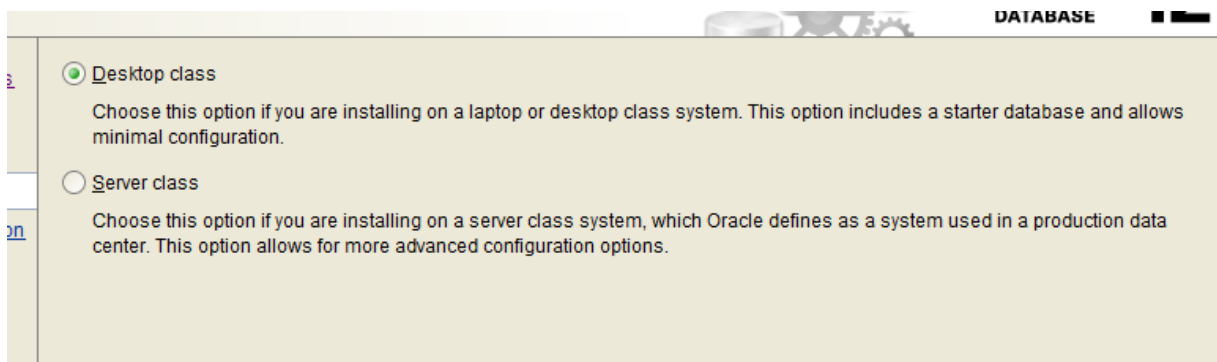1. No need to add an email or choose any support so just click Next.

2. Just choose Next with Skip updates chosen

3. Keep option 1 and choose Next .

Select any of the following install options.

- ◉ Create and configure a database
- ○ Install database software only
- ○ Upgrade an existing database

4. Keep Desktop class to continue

DATABASE

- ◉ Desktop class
  Choose this option if you are installing on a laptop or desktop class system. This option includes a starter database and allows minimal configuration.
- ○ Server class
  Choose this option if you are installing on a server class system, which Oracle defines as a system used in a production data center. This option allows for more advanced configuration options.

5. Use Windows Built in Account choice

Oracle recommends that you specify a standard Windows User Account (not an Adminis
Oracle Home for enhanced security. This account is used for running the Windows Serv
this account to perform administrative tasks.

○ Use Existing Windows User

    User Name: [   ]

    Password: [   ]

○ Create New Windows User

    User Name: [   ]

    Password: [   ]

    Confirm Password: [   ]

    The newly created user is denied Windows logon privileges.

● Use Windows Built-in Account

At the pop up warning just choose Yes to continue.

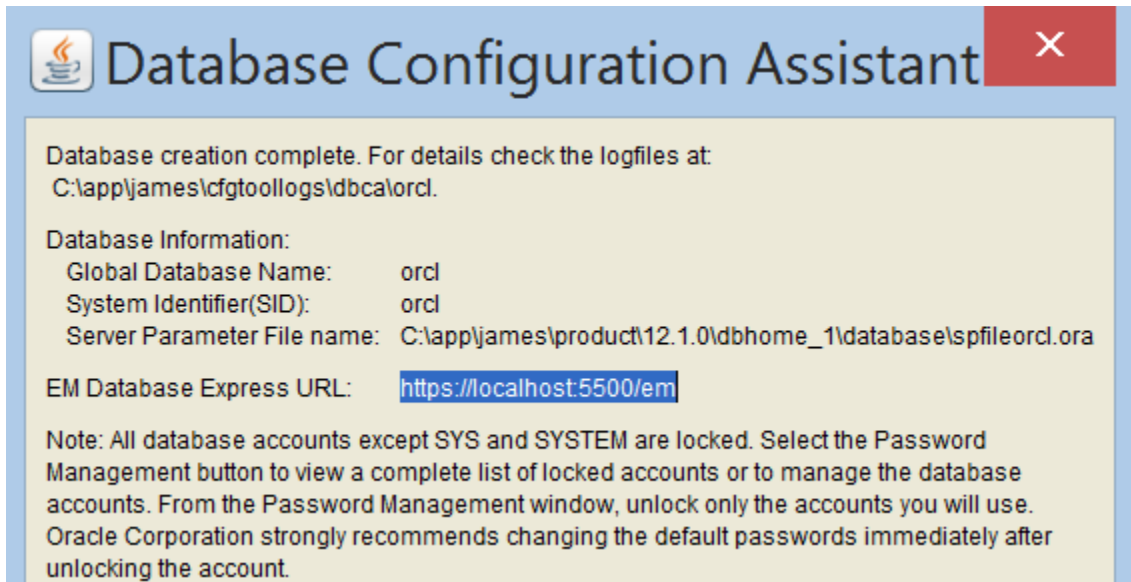6. At the next screen include the following configuration details:

✓ Oracle base: leave default entry

✓ Software location: **leave default location! (please jot this down). You'll need this path later to tweak file(s).**

✓ Global Database Name: enter- **orcl** **(IN CAPS THAT WOULD BE ORCL)**

✓ Administrative password: - **choose something _easy_ for yourself (write it down on the side for later retrieval if necessary; try to set the same password if the following steps will ask you to setup a pwd)**

✓ Uncheck where it says Create As Container Database

Press Next to continue.

If there is a pop up that says your password does not confirm to the Oracle recommended standards – just press Yes to continue.

A Summary screen should now show up where you will see all your database set up information. Click the Install button to finish up the installation.

The last pop up will eventually appear showing that the Configuration Assistant has completed the installation. Click OK to close out of the pop up, then click Close to close out of the Installer screen.

Step 2. Installing SQL Developer (Windows/Mac users)

Brief Introduction:

Installing SQL Developer helps simplify the development and management of the Oracle Database. It offers complete end-to-end development of your PL/SQL applications, a worksheet for running queries and scripts, a DBA console for managing the database, a reports interface, a complete data modeling solution, etc.

Note you do not have to have Oracle loaded (that you may have done starting with in Step 1) to run SQL Developer!

a. Downloading the Developer

Important Note: By default, you should already install the SQL Developer if you successfully installed the Oracle 12(c). Double check that in your system whether you can find SQL Developer. You do NOT need to install it again if it already exists in your system. Otherwise, you can follow the steps below to download and install SQL Developer. In windows platform, you can click Windows – Program – All Programs to find the Oracle folder, in order to double check whether you have installed SQL Developer.

Go to the following link to download the Developer.

http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/sqldev-downloads-v4-2137727.html

Make sure to establish an Oracle account in case you need to log in to download the file. See Step 1 part a. above if you have not established an Oracle account yet.

Next accept the user license and select your desired OS again to allow the download to commence.

You will notice that the Windows download version includes the needed JDK 7 version to install the Developer seamlessly on your machine. Mac and Linux will undoubtedly need JDK installed into the OS as well. You'll notice that if your have JDK 7.x or 8.x installed you should be fine to install Developer. If on setup in part (b.) next, you are prompted at some point as you may on a Mac machine for instance to pick the appropriate JDK to install Developer, you can choose version 7 or 8 and it should be fine. If you install with version 8 for instance on a MAC, there will be a message stating their may be some instability with the install as version 8 is not yet supported. Again that's fine if you go with JDK 8 as it will still work fine!
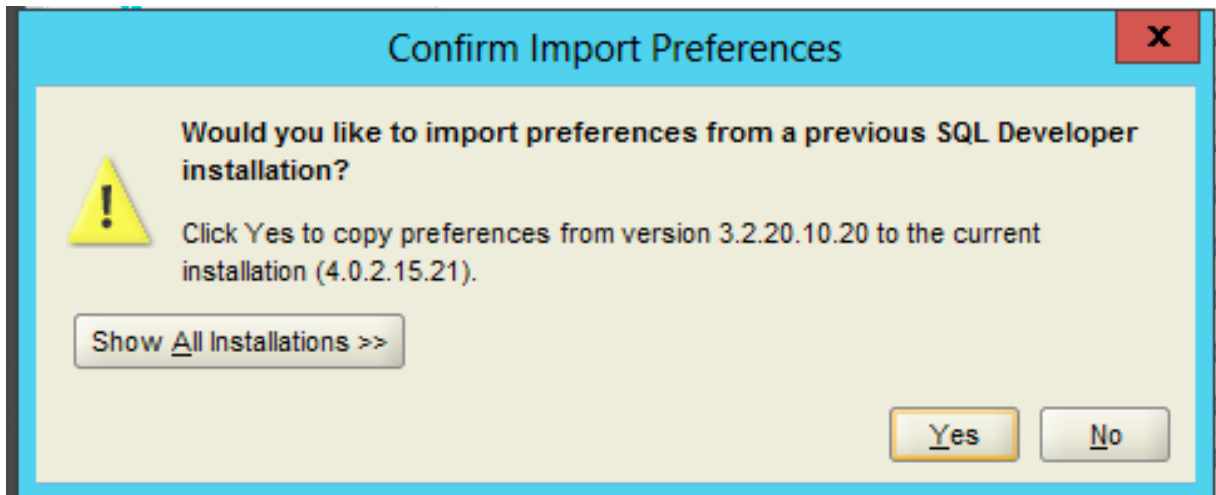
b. Installing the Developer

To install the SQL Developer simply go to the directory where you downloaded your file and extract the zipped file to an appropriate directory. No need to create a new folder when you extract your files as the default directory will be called **sqldeveloper** appropriately.

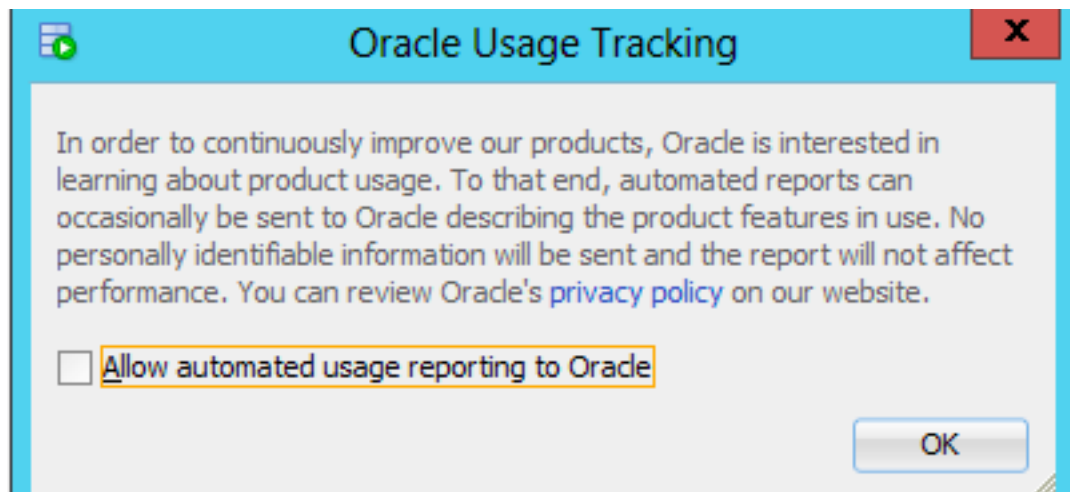Step 3. Running the Developer and Validate Your Installation
Important Notes: Completion of the Oracle installation is NOT necessary to indicate that you have successfully installed the Oracle. The only way to validate whether it is successful is to run the SQL Developer and try to connect to the databases. Once you can use your username/password to successfully connect to your database, you can say a successful installation for sure.

To run the Developer, click on the sqldeveloper.exe or sqldeveloperW.exe file in your sqldeveloper folder. Or, you can find it from Windows – Programs – All Programs. When the program first runs there will be a prompt as follows in Windows for example:
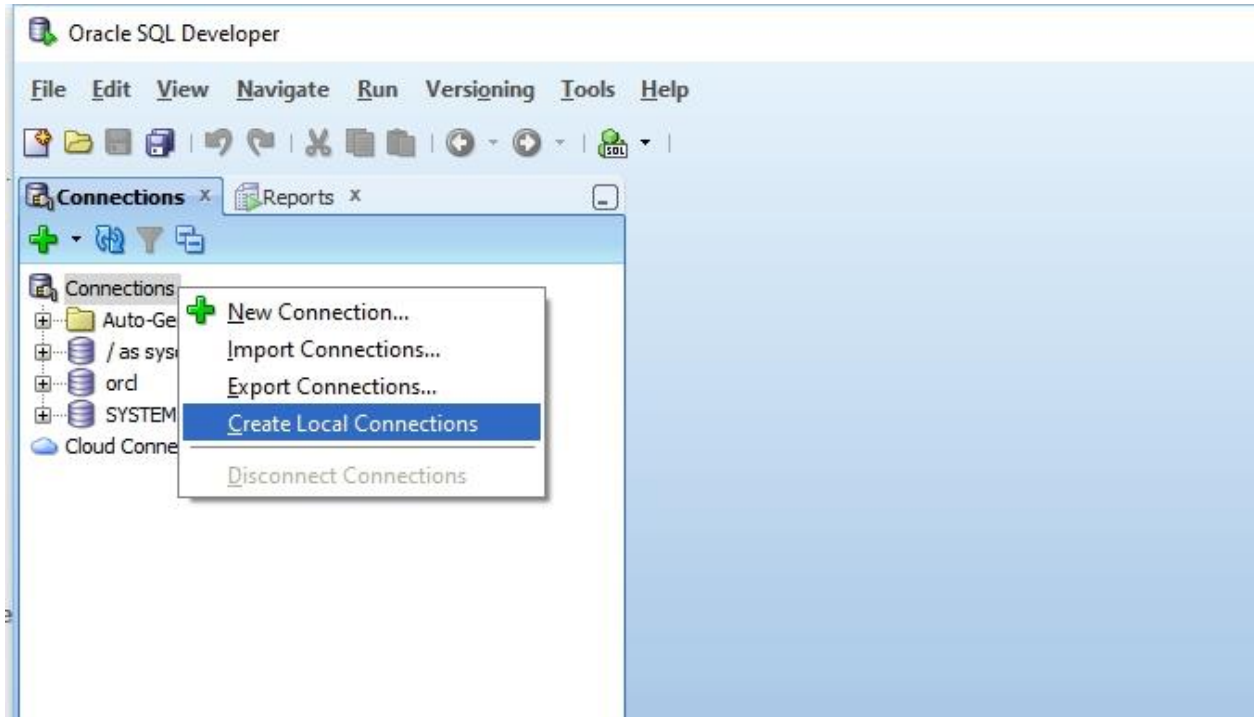
Here because it's your first time choose No.

For the next pop up shown below, uncheck Allow automated usage... then click OK.
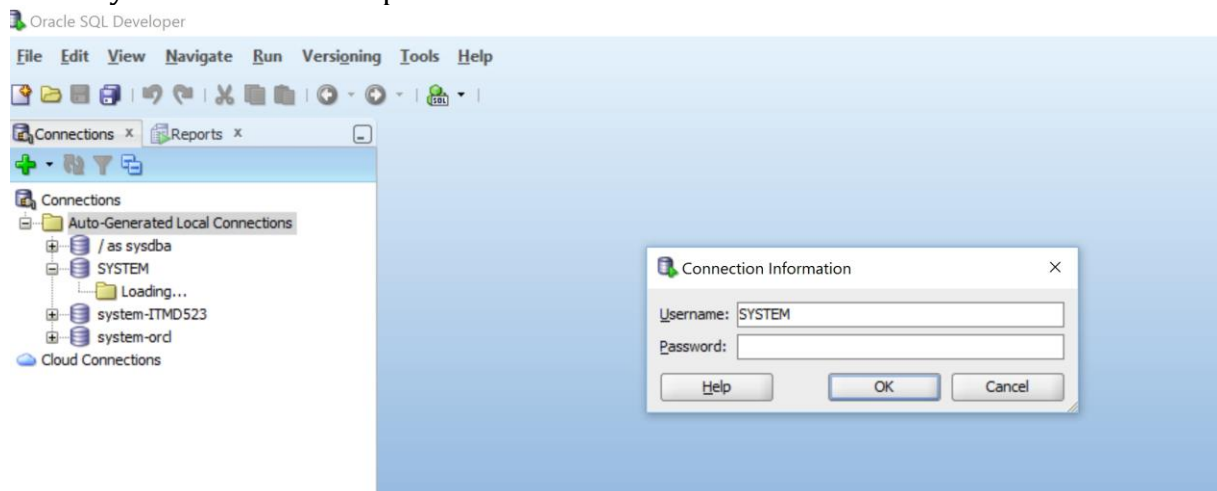
Next, right-click the "Connections", and choose "Create Local Connections"

Then the interface can obtain a list of the databases as shown in the figure above.

You can simply try to expand the orcl or the SYSTEM database, so the SQL developer will ask for your username and password as follows:

You should input your password, or your username/password to validate whether the combination is correct or not. Simply you can use the default user SYSTEM, and input the password you set during the installation process. Or, you can input the username/pwd combinations you set during the installation process. **You are done if you can successful login!!**

Section 3. Oracle Repairs, Reinstall, Uninstall and Password Recovery

Option 1. Password Recovery

If you forget the password, the best way is to perform password recovery. Let's take Windows platform for example:

Run cmd in your windows, then type sqlplus/nolog

Then you will enter the sqlplus environment without login.

After that, you just type: CONN SYS/PASS_WORD AS SYSDBA;

If this step failed, you have repair or reinstall Oracle; otherwise, you successfully get the connections. Then you can update the password for user system by type: ALTER USER system IDENTIFIED BY "newpass123";

Option 2. Oracle Repairs, Reinstall or Uninstall

Windows – Program – All Programs, find the Universal Installer, as shown as the figure below. Then you can perform repairs, reinstall or uninstall based on this tool