Install Oracle 11g R2 Express Edition on Ubuntu 64-bit
--http://www.51any.com/2014/03/01/install-oracle-11g-r2-express-edition-on-ubuntu-64-bit/
http://blog.whitehorses.nl/2014/03/18/installing-java-oracle-11g-r2-express-edition-and-sql-developer-on-ubuntu-64-bit/

1. Download the Oracle 11gR2 from www.oracle.com website.
2. Unzip it : $ unzip oracle-xe-11.2.0-1.0.x86_64.rpm.zip
3. Install the following dependencies on Ubuntu:
   $ sudo apt-get install alien libaio1 unixodbc

4. Convert the RPM package to Ubuntu package:
   $ sudo alien --scripts -d oracle-xe-11.2.0-1.0.x86_64.rpm

5. Do the following pre-requisite settings:
a) Create a special chkconfig script :

The Red Hat based installer of Oracle XE 11gR2 relies on /sbin/chkconfig, which is not used in Ubuntu. The chkconfig package available for the current version of Ubuntu produces errors and my not be safe to use. Below is a simple trick to get around the problem and install Oracle XE successfully:
   $ sudo vim /sbin/chkconfig

```
#!/bin/bash
# Oracle 11gR2 XE installer chkconfig hack for Ubuntu
file=/etc/init.d/oracle-xe
if [[ ! `tail -n1 $file | grep INIT` ]]; then
echo >> $file
echo '### BEGIN INIT INFO' >> $file
echo '# Provides: OracleXE' >> $file
echo '# Required-Start: $remote_fs $syslog' >> $file
echo '# Required-Stop: $remote_fs $syslog' >> $file
echo '# Default-Start: 2 3 4 5' >> $file
echo '# Default-Stop: 0 1 6' >> $file
echo '# Short-Description: Oracle 11g Express Edition' >> $file
echo '### END INIT INFO' >> $file
fi
update-rc.d oracle-xe defaults 80 01
```

Save the above file and provide appropriate execute privilege :
$ sudo chmod 755 /sbin/chkconfig

b) Set the Kernel parameters :
Oracle 11gR2 XE requires to set the following additional kernel parameters:
  $ sudo vim /etc/sysctl.d/60-oracle.conf

```
# Oracle 11g XE kernel parameters
```

```
fs.file-max=6815744
net.ipv4.ip_local_port_range=9000 65000
kernel.sem=250 32000 100 128
kernel.shmmax=536870912
----------------------------------------

Note: kernel.shmmax = max possible value , e.g. size of physical RAM ( in bytes e.g. 512MB RAM == 512*1024*1024 == 536870912 bytes )

Verify the change :
  $ sudo cat /etc/sysctl.d/60-oracle.conf

Load new kernel parameters:
  $ sudo service procps start
  $ sudo sysctl -q fs.file-max
      -> fs.file-max = 6815744 <--다를 수 있음.

c) Increase the system swap space : Analyze your current swap space by following command :
free -m
Minimum swap space requirement of Oracle 11gR2 XE is 2 GB . In case, your is lesser , you can increase it by following steps in my one of previous post .

d) make some more required changes :
i) $ sudo ln -s /usr/bin/awk /bin/awk
ii) $ sudo touch /var/lock/subsys/listener

6) $ sudo dpkg --install oracle-xe_11.2.0-2_amd64.deb
  Selecting previously unselected package oracle-xe.
  (Reading database ... 287441 files and directories currently installed.)
  Preparing to unpack oracle-xe_11.2.0-2_amd64.deb ...
  Unpacking oracle-xe (11.2.0-2) ...
  Setting up oracle-xe (11.2.0-2) ...
  Executing post-install steps...
  insserv: warning: script 'oracle-xe' missing LSB tags and overrides
  You must run '/etc/init.d/oracle-xe configure' as the root user to
  configure the database.

  Processing triggers for libc-bin (2.23-0ubuntu10) ...
  Processing triggers for systemd (229-4ubuntu21.1) ...
  Processing triggers for ureadahead (0.100.0-19) ...
  Processing triggers for gnome-menus (3.13.3-6ubuntu3.1) ...
  Processing triggers for desktop-file-utils (0.22-1ubuntu5.1) ...
  Processing triggers for bamfdaemon (0.5.3~bzr0+16.04.20160824-0ubuntu1) ...
  Rebuilding /usr/share/applications/bamf-2.index...
  Processing triggers for mime-support (3.59ubuntu1) ...

```

```
7) Update /dev/shm:
  $ sudo rm -rf /dev/shm
  $ sudo mkdir /dev/shm
  $ sudo mount -t tmpfs shmfs -o size=4096m /dev/shm <--실제 메모리 사이즈

8) Create the file /etc/rc2.d/S01shm_load
  $ sudo gedit /etc/rc2.d/S01shm_load
-----------------------------------------------------
#!/bin/sh
case "$1" in
start) mkdir /var/lock/subsys 2>/dev/null
touch /var/lock/subsys/listener
rm /dev/shm 2>/dev/null
mkdir /dev/shm 2>/dev/null
mount -t tmpfs shmfs -o size=4096m /dev/shm ;;  <--실제 메모리 사이즈
*) echo error
exit 1 ;;
esac
-----------------------------------------------------
Save the file, close the editor and provide the appropriate execution
privileges.
  $ sudo chmod 755 /etc/rc2.d/S01shm_load

Configuring Oracle 11g R2 Express Edition

If you have successfully installed to Oracle 11g R2 Express Edition server,
it’s time to configure the server.
To start the configuration of the server,
execute the following command and follow the “wizard” in the terminal.
Default values are shown between brackets for each question.
  $ sudo /etc/init.d/oracle-xe configure

A valid HTTP port for the Oracle Application Express (the default is 8080)
A valid port for the Oracle database listener (the default is 1521)
A password for the SYS and SYSTEM administrative user accounts
Confirm password for SYS and SYSTEM administrative user accounts
Whether you want the database to start automatically when the computer starts
(next reboot).

Starting Oracle Net Listener...Done
Configuring database...Done
Starting Oracle Database 11g Express Edition instance...Done
Installation completed successfully.


Now it is time to set-up some environmental variables.
Open the /etc/bash.bashrc file by executing the following statement:
```

```
  $ sudo gedit /etc/bash.bashrc
-----------------------------------------------------------------
export ORACLE_HOME=/u01/app/oracle/product/11.2.0/xe
export ORACLE_SID=XE
export ORACLE_BASE=/u01/app/oracle
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
export PATH=$ORACLE_HOME/bin:$PATH

$ source /etc/bash.bashrc

After this step it is recommended to reboot the machine.
After the reboot is completed, you should be able to start the Oracle server using the following command:

$ sudo service oracle-xe start

A file named oraclexe-gettingstarted.desktop is placed on your desktop.
To make this file executable, navigate to you desktop.
$ cd ~/Desktop

To make the file executable, execute the following statement.
 $ sudo chmod a+x oraclexe-getttingstarted.desktop

Configure remote login.

By default, the Oracle Database XE graphical user interface is only available at the local server, but not remotely.
The following will enable remote logins:

Login as the Oracle user, then login as SYSDBA and run the following commands:

$ sudo passwd oracle
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully

$ sqlplus /nolog
SQL> conn sys as sysdba
Enter password:
Connected.
SQL> EXEC DBMS_XDB.SETLISTENERLOCALACCESS(FALSE);
PL/SQL procedure successfully completed.
SQL> exit

```