3.1 System Requirements

Table 3-1 provides system requirements for Oracle Database XE.

Table 3-1 Oracle Database XE Requirements

Requirement	Value
Operating system	*Oracle Database Installation Guide* , "Operating System Checklist for Oracle Database Installation on Linux" for the list of supported Linux distributions and the set of minimum requirements for each x86–64 Linux platforms
Network protocol	The following protocols are supported: • IPC • Named Pipes • UDP • TCP/IP • TCP/IP with SSL
RAM	1 gigabyte minimum, 2 gigabytes recommended
Disk space	10 gigabytes minimum Seleccionada

Installing Oracle Database XE RPM

1. Execute as user `root` using `sudo`.

```
Copy

$ sudo -s
```

Installing libraries

```
yum update -y
```

yum install -y gcc-c++ make

yum install -y ksh

yum install -y sysstat

yum install -y xorg-x11-utils

yum install java-11-openjdk-devel -y

```
yum install dnf -y
sudo dnf install libnsl [DA error-ignorar]
```

```
dnf install libaio-devel
yum install compat-libstdc++-33
yum install compat-libcap1
```

Installing database

For Red Hat Enterprise Linux 7, run these commands:

curl -o oracle-database-preinstall-18c-1.0-1.el7.x86_64.rpm https://yum.oracle.com/repo/OracleLinux/OL7/latest/x86_64/getPackage/oracle-database-preinstall-18c-1.0-1.el7.x86_64.rpm

yum -y localinstall oracle-database-preinstall-18c-1.0-1.el7.x86_64.rpm

```
yum install wget
```

Download the `oracle-database-xe-18c-1.0-1.x86_64.rpm` file required for performing an RPM-based installation to a directory of your choice.

wget https://download.oracle.com/otn-pub/otn_software/db-express/oracle-database-xe-18c-1.0-1.x86_64.rpm

Install the database software using the `yum localinstall` command.

yum -y localinstall oracle-database-xe-18c-1.0-1.x86_64.rpm

The Database Preinstallation RPM automatically creates Oracle installation owner and groups and sets up other kernel configuration settings as required for Oracle installations. If you plan to use job-role separation, then create the extended set of database users and groups depending on your requirements. **Check the RPM log file to review the system configuration changes.**

Creating and Configuring an Oracle Database

Set default port

Ejecutar

vi /etc/sysconfig/oracle-xe-18c.conf


```
[root@oratopg nahun_loya]# cat /etc/sysconfig/oracle-xe-18c.conf
#This is a configuration file to setup the Oracle Database.
#It is used when running '/etc/init.d/oracle-xe-18c configure'.

# LISTENER PORT used Database listener, Leave empty for automatic port assignment
LISTENER_PORT=

# EM_EXPRESS_PORT Oracle EM Express URL port
EM_EXPRESS_PORT=5500

# Character set of the database
CHARSET=AL32UTF8

# Database file directory
# If not specified, database files are stored under Oracle base/oradata
DBFILE_DEST=

# SKIP Validations, memory, space
SKIP_VALIDATIONS=false
[root@oratopg nahun_loya]#
```

The configuration script creates a container database (`XE`) with one pluggable database (`XEPDB1`) and configures the listener at the default port (1521) and Enterprise Manager Express on port 5500.

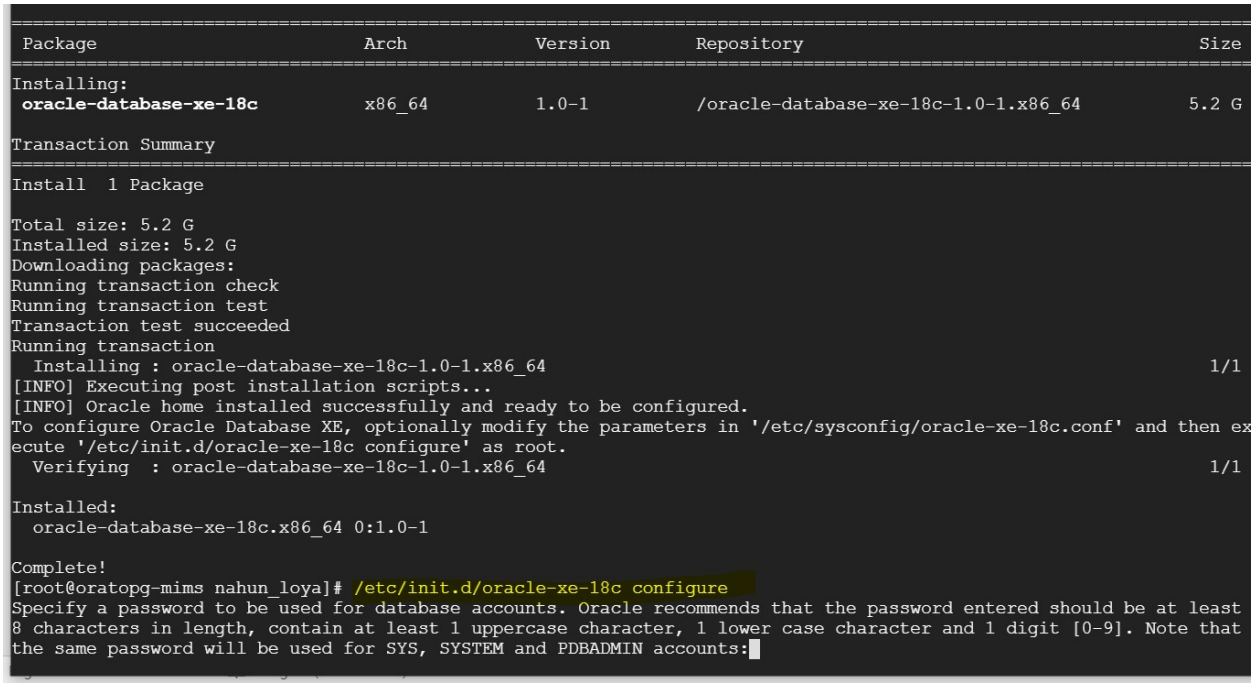
You can modify the configuration parameters by editing the `/etc/sysconfig/oracle-xe-18c.conf` file.

The parameters set in this file are explained in more details in the silent mode installation procedure: Performing a Silent Installation.

To create the Oracle XE database with the default settings, perform the following steps:

$ sudo –s

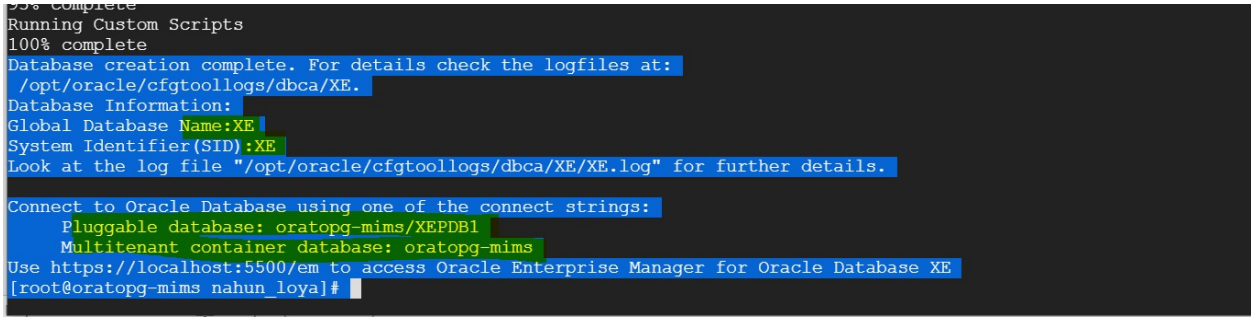
/etc/init.d/oracle-xe-18c configure



Users: SYS, SYSTEM, PDBADMIN

Mi pass = password123

---confg listerner



Database creation complete. For details check the logfiles at: /opt/oracle/cfgtoollogs/dbca/XE.Database Information:Global Database Name:XESystem Identifier(SID):XELook at the log file "/opt/oracle/cfgtoollogs/dbca/XE/XE.log" for further details.Connect to Oracle Database using one of the connect strings: Pluggable database: oratopg-mims/XEPDB1 Multitenant container database: oratopg-mimsUse https://localhost:5500/em to access Oracle Enterprise Manager for Oracle Database XE[root@oratopg-mims nahun_loya]#

5.3 Setting the Oracle Database XE Environment Variables

After you have installed and configured Oracle Database XE, you must set the environment before using Oracle Database XE.

The oraenv and coraenv scripts can be used to set your environment variables.

For example, to set your environment variables in Bourne, Bash, or Korn shell without being prompted by the script:

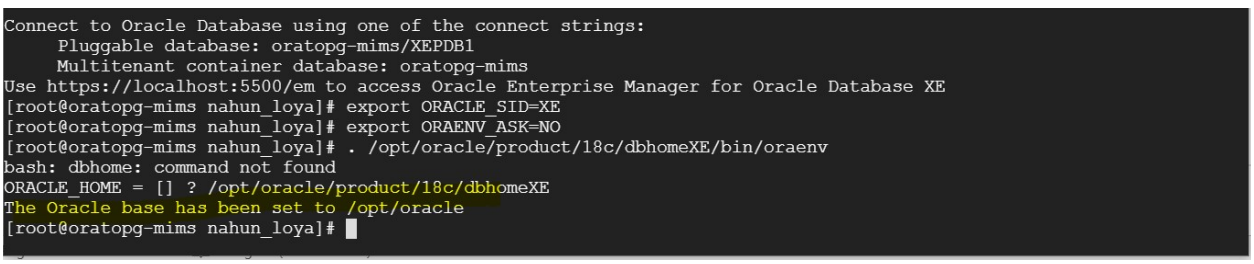
$ export ORACLE_SID=XE

$ export ORAENV_ASK=NO

$. /opt/oracle/product/18c/dbhomeXE/bin/oraenv

ORACLE_HOME = [] ? /opt/oracle/product/18c/dbhomeXE

The Oracle base has been set to /opt/oracle



6 Connecting to Oracle Database XE

Connecting using `SQL*Net`

The database listener for your XE database is started with a configuration that can be viewed using the command :

```
Copy

lsnrctl status
```

```
[root@oratopg-mims nahun_loya]# lsnrctl status

LSNRCTL for Linux: Version 18.0.0.0.0 - Production on 06-SEP-2021 21:54:26

Copyright (c) 1991, 2018, Oracle.  All rights reserved.

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=oratopg-mims.us-west4-b.c.neat-height-
1521)))
STATUS of the LISTENER
------------------------
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 18.0.0.0.0 - Production
Start Date                06-SEP-2021 21:37:15
Uptime                    0 days 0 hr. 17 min. 10 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Default Service           XE
Listener Parameter File   /opt/oracle/product/18c/dbhomeXE/network/admin/listener.ora
Listener Log File         /opt/oracle/diag/tnslsnr/oratopg-mims/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=oratopg-mims.us-west4-b.c.neat-height-323320.inte
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(KEY=EXTPROC1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcps)(HOST=127.0.0.1)(PORT=5500))(Security=(my_wallet_direc
XE/xdb_wallet))(Presentation=HTTP)(Session=RAW))
Services Summary...
Service "XE" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
Service "XEXDB" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
Service "cb5b9aa3fa27250ce0530500b60a179e" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
Service "xepdb1" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
The command completed successfully
[root@oratopg-mims nahun_loya]#
```

Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost.example.com)(PORT=1521)))

STATUS of the LISTENER

Alias LISTENER

Version TNSLSNR for Linux: Version 18.0.0.0.0 - Production

Trace Level off

Security ON: Local OS Authentication

SNMP OFF

Default Service XE

Listener Parameter File /opt/oracle/product/18c/dbhomeXE/network/admin/listener.ora

Listener Log File /opt/oracle/diag/tnslsnr/dbhost/listener/alert/log.xml

Listening Endpoints Summary...

(DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=dbhost.example.com)(PORT=1521)))

(DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(KEY=EXTPROC1521)))

(DESCRIPTION=(ADDRESS=(PROTOCOL=tcps)(HOST=dbhost.example.com)(PORT=5500))(Security=(my_wallet_directory=/opt/oracle/admin/XE/xdb_wallet))(Presentation=HTTP)(Session=RAW))

Services Summary...

Service "77f81bd10c818208e053410cc40aef5a" has 1 instance(s).

Instance "XE", status READY, has 1 handler(s) for this service...

Service "XE" has 1 instance(s).

Instance "XE", status READY, has 1 handler(s) for this service...

Service "XEXDB" has 1 instance(s).

Instance "XE", status READY, has 1 handler(s) for this service...

Service "xepdb1" has 1 instance(s).

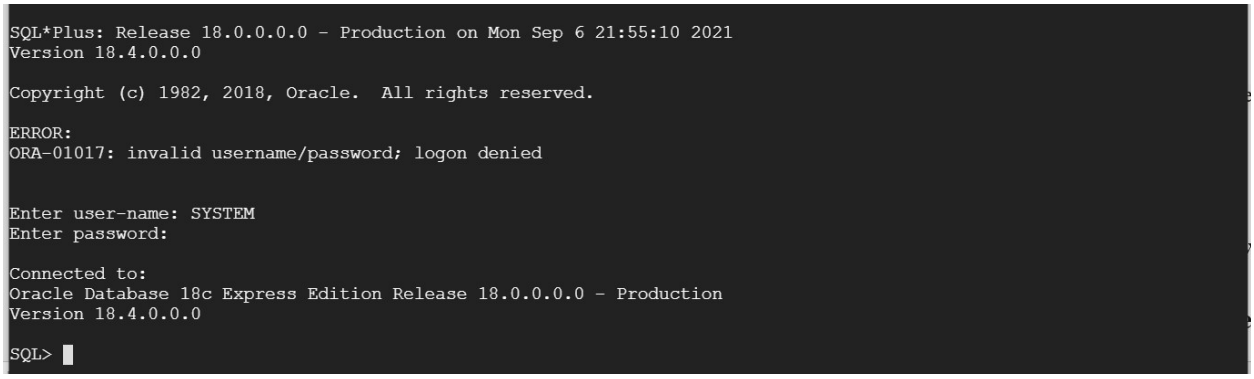
Instance "XE", status READY, has 1 handler(s) for this service...

The command completed successfully

For example, you can connect to the database from a client computer with `SQL*plus` using the connect identifier:

sqlplus system@"localhost/XE"

The `XE` services are defined in the configuration in `/opt/oracle/product/18c/dbhomeXE/network/admin/tnsnames.ora` file.



7 Starting and Stopping Oracle Database

You can start and stop the database manually, set it to automatically after the system shuts down and starts, or using Enterprise Manager.

Shutting Down and Starting Up Using the Configuration Services Script

Execute these commands as `root` using `sudo`.

```
Copy

$ sudo -s
```

Oracle Linux 7:

Run the following command to start the listener and database:

```
Copy

# systemctl start oracle-xe-18c
```

Run the following command to stop the database and the listener:

```
Copy

# systemctl stop oracle-xe-18c
```

Run the following command to stop and start the listener and database:

```
Copy

# systemctl restart oracle-xe-18c
```

Shutting Down and Starting Up Using SQL*Plus

You can shut down and start the database using SQL*Plus.

To shutdown the database, login to the oracle user with its environment variables set for access to the XE database, and issue the following SQL*Plus command:

```
Copy

$ sqlplus / as sysdba

SQL> SHUTDOWN IMMEDIATE
```

To start the database, issue the commands:

```
Copy

SQL> STARTUP

SQL> ALTER PLUGGABLE DATABASE ALL OPEN;
```

See Also

```
select username as schema_name from sys.all_users order by username;
```

Nuevo Ora to pg

You will need to include the below in your ~/.bash_profile:

```
# InstantClient
export ORACLE_HOME=/opt/oracle/product/18c/dbhomeXE
export LD_LIBRARY_PATH=$OHRACLE_HOME/lib:$LD_LIBRARY_PATH
export PATH=$ORACLE_HOME/bin:$PATH
```

```
source ~/.bash_profile
```

Prerequisites for Building

Before getting started there were some prerequisites my environment needed in order to build DBD::Oracle and ora2pg. I needed to install a couple of perl modules in order to get everything up and running. I did so by running:

```
sudo yum install perl-devel
sudo yum install perl-DBI.x86_64
```

Build/Install DBD::Oracle

```
wget https://cpan.metacpan.org/authors/id/Z/ZA/ZARQUON/DBD-Oracle-1.76.tar.gz
tar -xvzf DBD-Oracle-1.76.tar.gz
cd DBD-Oracle-1.76
perl Makefile.PL
make && make test (fail)
sudo make install
```

As mentioned previously, if you don't want to do the above steps, you can simply do the below two steps to build/install DBD::Oracle.

```
sudo yum install perl-CPAN
perl -MCPAN -e 'install DBD::Oracle' # configure for sudo
```

```
nstalled:
 perl-CPAN.noarch 0:1.9800-299.el7_9

ependency Installed:
 perl-Digest.noarch 0:1.17-245.el7   perl-Digest-SHA.x86_64 1:5.85-4.el7   perl-local-lib.noarch 0:1.008010-4.el7

omplete!
root@oratopg-mims DBD-Oracle-1.76]# perl -MCPAN -e 'install DBD::Oracle' # configure for sudo

PAN.pm requires configuration, but most of it can be done automatically.
f you answer 'no' below, you will enter an interactive dialog for each
onfiguration option instead.

ould you like to configure as much as possible automatically? [yes]
```

Yes

```
Warning: You do not have write permission for Perl library directories.

To install modules, you need to configure a local Perl library directory or
escalate your privileges.  CPAN can help you by bootstrapping the local::lib
module or by configuring itself to use 'sudo' (if available).  You may also
resolve this problem manually if you need to customize your setup.

What approach do you want?  (Choose 'local::lib', 'sudo' or 'manual')
 [local::lib]
```

[enter]

```
What approach do you want?  (Choose 'local::lib', 'sudo' or 'manual')
 [local::lib]

Autoconfigured everything but 'urllist'.

Now you need to choose your CPAN mirror sites.  You can let me
pick mirrors for you, you can select them from a list or you
can enter them by hand.

Would you like me to automatically choose some CPAN mirror
sites for you? (This means connecting to the Internet) [yes]
```

Yes

```
local::lib is installed. You must now add the following environment variables
to your shell configuration files (or registry, if you are on Windows) and
then restart your command line shell and CPAN before installing modules:

Use of uninitialized value $deactivating in numeric eq (==) at /usr/share/perl5/vendor_perl/local/lib.pm line 381.
Use of uninitialized value $deactivating in numeric eq (==) at /usr/share/perl5/vendor_perl/local/lib.pm line 383.
Use of uninitialized value $options{"interpolate"} in numeric eq (==) at /usr/share/perl5/vendor_perl/local/lib.pm l
ine 424.
Use of uninitialized value $options{"interpolate"} in numeric eq (==) at /usr/share/perl5/vendor_perl/local/lib.pm l
ine 424.
Use of uninitialized value $options{"interpolate"} in numeric eq (==) at /usr/share/perl5/vendor_perl/local/lib.pm l
ine 424.
export PERL_LOCAL_LIB_ROOT="$PERL_LOCAL_LIB_ROOT:/root/perl5";
export PERL_MB_OPT="--install_base /root/perl5";
export PERL_MM_OPT="INSTALL_BASE=/root/perl5";
export PERL5LIB="/root/perl5/lib/perl5:$PERL5LIB";
export PATH="/root/perl5/bin:$PATH";

Would you like me to append that to /root/.bashrc now? [yes]
```

[enter]

Build/Install ora2pg (2 veces si no aparece el ejecutable)

After you have installed DBD::Oracle, you will then need to build/install ora2pg. The steps below are similar to the steps in the documentation of ora2pg which you can find

in this link http://ora2pg.darold.net/. The only difference is the first step, where you need to wget the tar file from ora2pg Github archive.

```
wget https://github.com/darold/ora2pg/archive/v20.0.tar.gz
tar -xvzf v20.0.tar.gz
cd ora2pg-20.0
perl Makefile.PL
make
sudo make install
```

Configure ora2pg

After you have ora2pg built and installed you can now configure the ora2pg.conf to work with your Oracle server. The settings that you see below are the settings in my environment. The ora2pg.conf file has many configuration settings that you can change. Below are the configuration changes that you will need to apply to your ora2pg.conf in order to be able to use ora2pg. Please keep in mind that you will need to change the settings to match your environment. If you would like to learn more about the other configurations please look at the documentation: http://ora2pg.darold.net/documentation.html#CONFIGURATION.

```
In ora2pg-20.0/ora2pg.conf:
PG_VERSION      11
ORACLE_DSN      dbi:Oracle:host=192.168.99.21;port=1521;service_name=ORCLPDB1
ORACLE_USER     hr
ORACLE_PWD      hr1234
USER_GRANTS          1


EXPORT_SCHEMA   1
SCHEMA          hr
TRANSACTION     READONLY


# This is needed for Oracle XE 11 with ora2pg <= v20, but safe
# to add for any version
SYSUSERS        APEX_040000
```

```
Installing default configuration file (ora2pg.conf.dist) to /etc/ora2pg
Appending installation info to /usr/lib64/perl5/perllocal.pod
[root@oratopg-mims ora2pg-20.0]# ls
blib       doc      lib      Makefile     MANIFEST          packaging   README
changelog  INSTALL  LICENSE  Makefile.PL  ora2pg.conf.dist  pm_to_blib  scripts
[root@oratopg-mims ora2pg-20.0]# vi ora2pg.conf.dist
```

No funciona, hacer 2 veces

You will need to include the below in your ~/.bash_profile:

```
# InstantClient
export ORACLE_HOME=/opt/oracle/product/18c/dbhomeXE
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PAT
export PATH=$ORACLE_HOME/bin:$PATH
```

```
source ~/.bash_profile
```

```
changelog  INSTALL  LICENSE  Makefile.PL  MYMETA.json  ora2pg.conf  ora2pg.conf.dist    pm_to_blib  scripts
[root@instance-1-ora11am ora2pg-20.0]# pwd
/home/nahun_loya/ora2pg-20.0
[root@instance-1-ora11am ora2pg-20.0]#
```

Start Database

$ export ORACLE_SID=XE

$ export ORAENV_ASK=NO

$. /opt/oracle/product/18c/dbhomeXE/bin/oraenv

ORACLE_HOME = [] ? /opt/oracle/product/18c/dbhomeXE

```
Copy

# systemctl start oracle-xe-18c
```

Run the following command to stop the database and the listener:

```
Copy

# systemctl stop oracle-xe-18c
```

Run the following command to stop and start the listener and database:

```
Copy
# systemctl restart oracle-xe-18c
Copy
lsnrctl status
```