

Oracle Database 12cR2 (12.2.0.1) on SUSE Linux Enterprise Server 15

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Introduction

This document is not a replacement for official Oracle install document, but to help you understand minor difference you may encounter while installing Oracle Database 12cR2 on SUSE Linux Enterprise Server 15. This document covers x86_64 version but installation steps are same for other platforms. We will use Oracle Database Enterprise version 12cR2 (12.2.0.1), which is certified for SLES15.

Oracle Database Software

Oracle Database Enterprise Edition 12.2.0.1 is available for public download at:
<http://www.oracle.com/technetwork/database/enterprise-edition/downloads/oracle12c-linux-12201-3608234.html>

SUSE Linux Software

SUSE Linux Enterprise Server 15: <https://www.suse.com/products/server/download/>

Installation

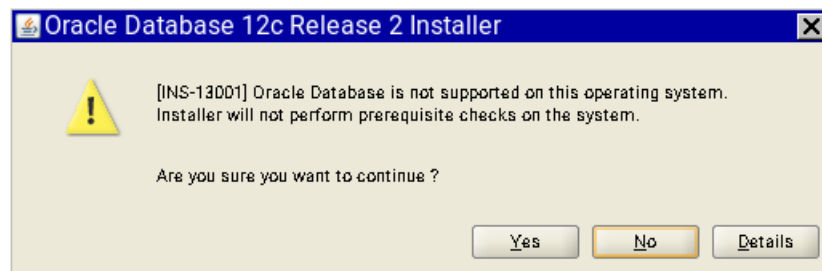
Install SUSE Linux Enterprise Server 15 with “**Enhanced Base System, Software Management, X Window System, Oracle Server Base**” pattern. Please note that SLES15 comes with SLE-15-Installer-DVD and SLE-15-Packages DVD. You can follow official Oracle Installation manual for selective required rpms, however **Oracle Server Base** pattern from SUSE will fulfil minimum setup required for Oracle Database Installation.

```
oracle@sles15:~
oracle@sles15:~$ uname -a
Linux sles15 4.12.14-23-default #1 SMP Tue May 29 21:04:44 UTC 2018 (cd0437b) x86_64 x86_64 x86_64 GNU/Linux
oracle@sles15:~$ cat /etc/os-release
NAME="SLES"
VERSION="15"
VERSION_ID="15"
PRETTY_NAME="SUSE Linux Enterprise Server 15"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0:32"
CPE_NAME="cpe:/o:suse:sles:15"
oracle@sles15:~$ env |grep ORA
ORACLE_SID=orcl
ORACLE_BASE=/opt/oracle
ORACLE_HOME=/opt/oracle/product/12cR2/db
oracle@sles15:~$
```

Installing Oracle Database 12.2.0.1

Installing Oracle Database 12c on SLES15 is easy, please follow:

1. Download 12.2.0.1 SW (linuxx64_12201_database.zip) & unzip locally.
2. Watch for following minor error/warning messages (**Fix before starting Installer**):
 1. Make sure Server is assigned static IP address.
 2. Prerequisite Checks – Edit “**stage/cvu/cv/admin/cvu_config**” file & execute runInstaller again i.e. add CV_ASSUME_DISTID=SUSE12



3. **DBCA Error:** ORA-27104: system-defined limits for shared memory was misconfigured

Fix: Increase kernel.shmmax & kernel.shmall based on your Server RAM in **/etc/sysconfig/oracle** & run “**systemctl restart oracle-setup**”.

Please refer Oracle Metalink Note [ID 567506.1] - Maximum SHMMAX values for Linux x86 and x86-64

Example values for x86_64 Server with 32GB RAM:

```
shmmax=16833714176,
```

```
shmall=3287834
```

3. Start Oracle Universal Installer (OUI): database/runInstaller

Oracle Database 12c Release 2 Installer - Step 1 of 9

Configure Security Updates

ORACLE DATABASE 12^c

Provide your email address to be informed of security issues, install the product and initiate configuration manager. [View details.](#)

Email:
Easier for you if you use your My Oracle Support email address/username.

I wish to receive security updates via My Oracle Support.

My Oracle Support Password:

Help < Back Next > Install Cancel

Oracle Database 12c Release 2 Installer - Step 2 of 9

Select Installation Option

ORACLE DATABASE 12^c

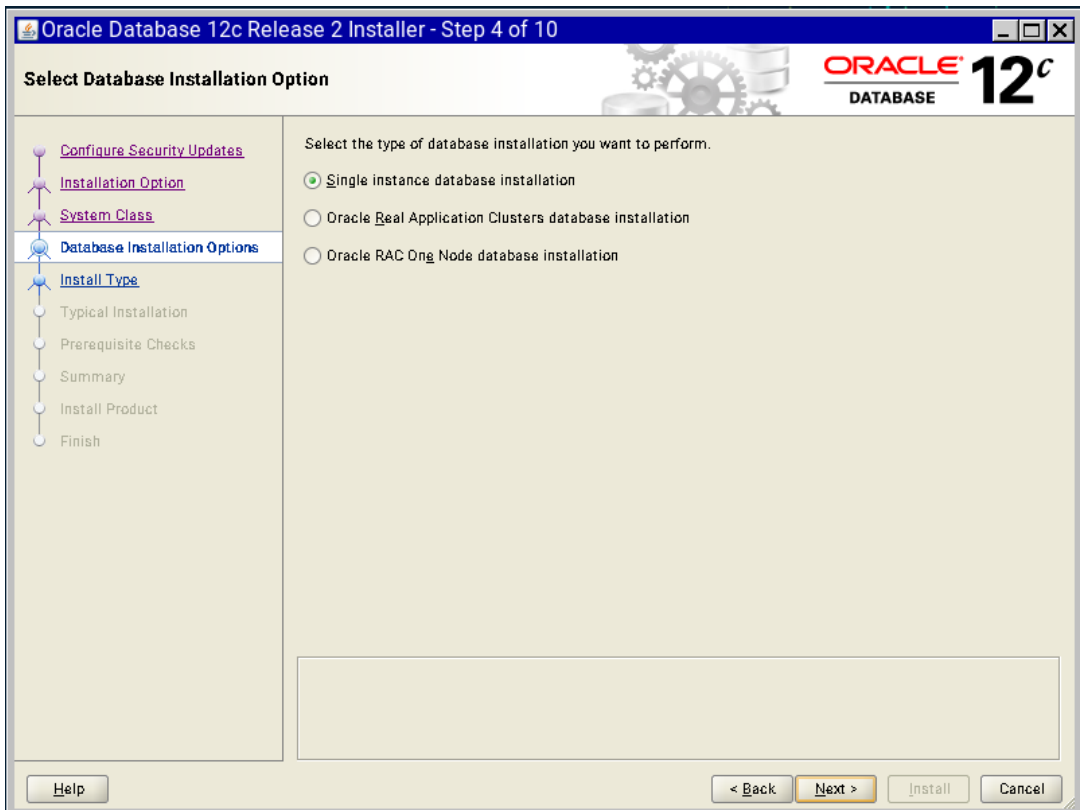
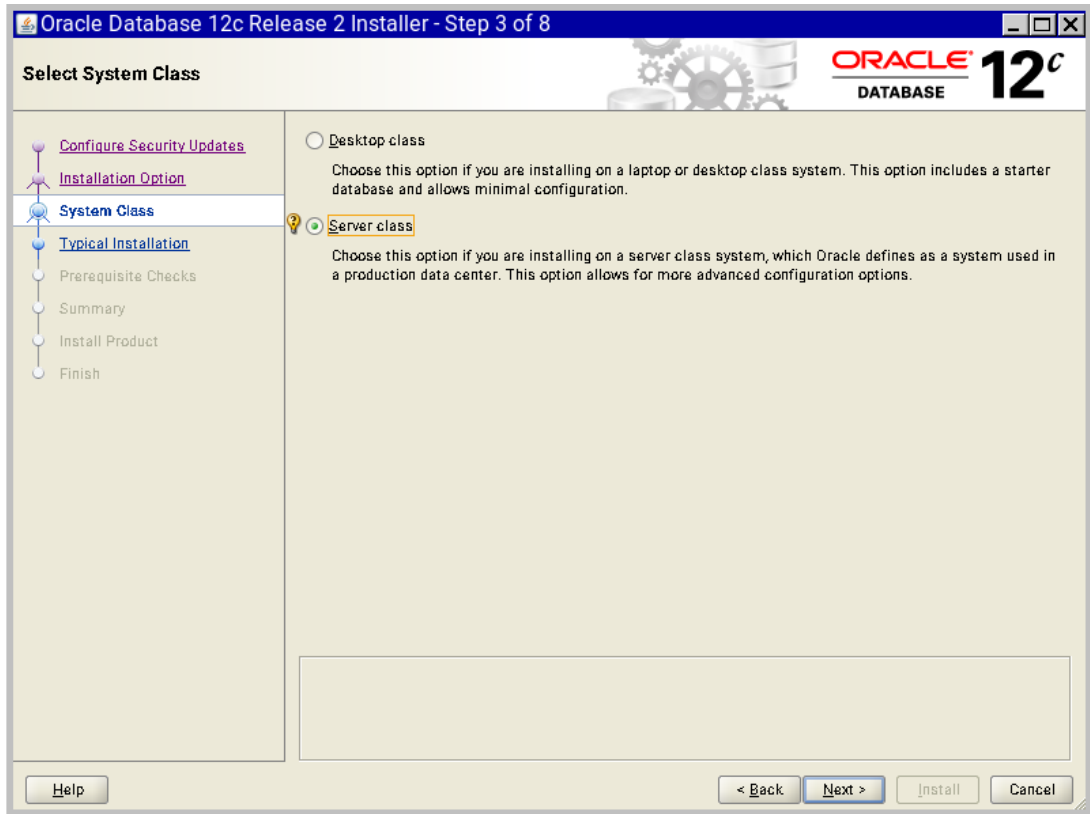
Select any of the following install options.

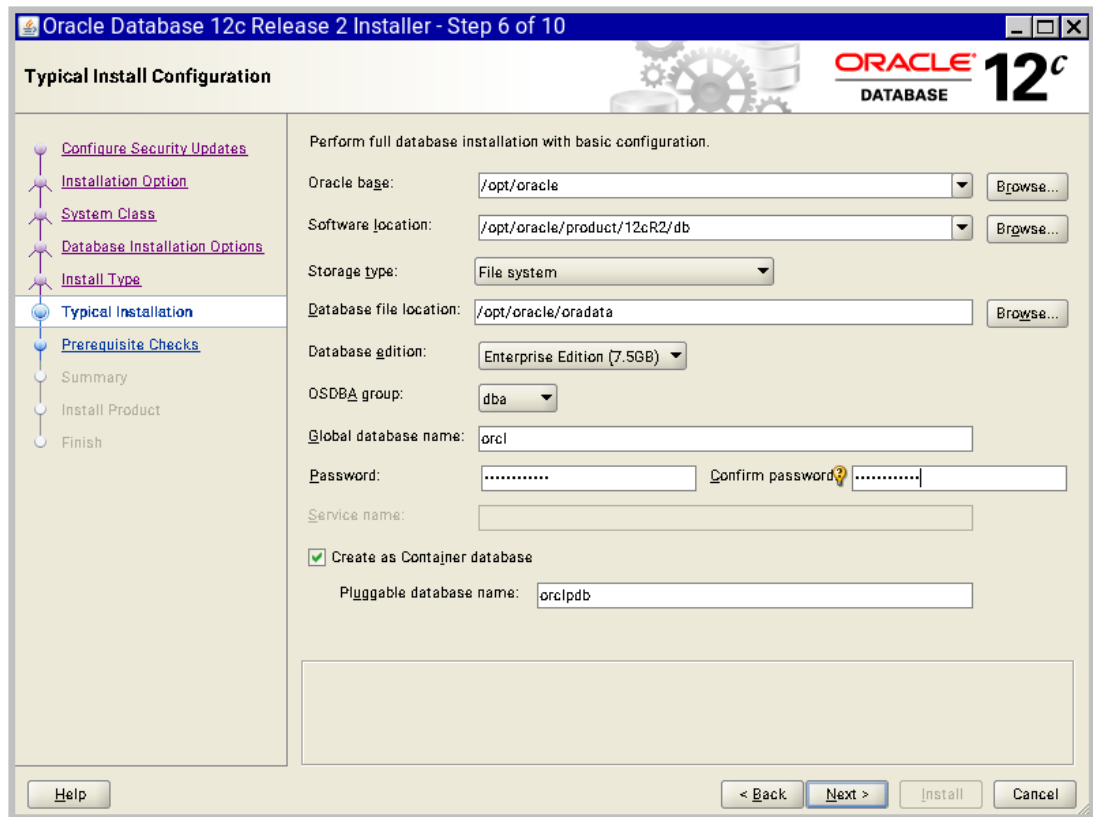
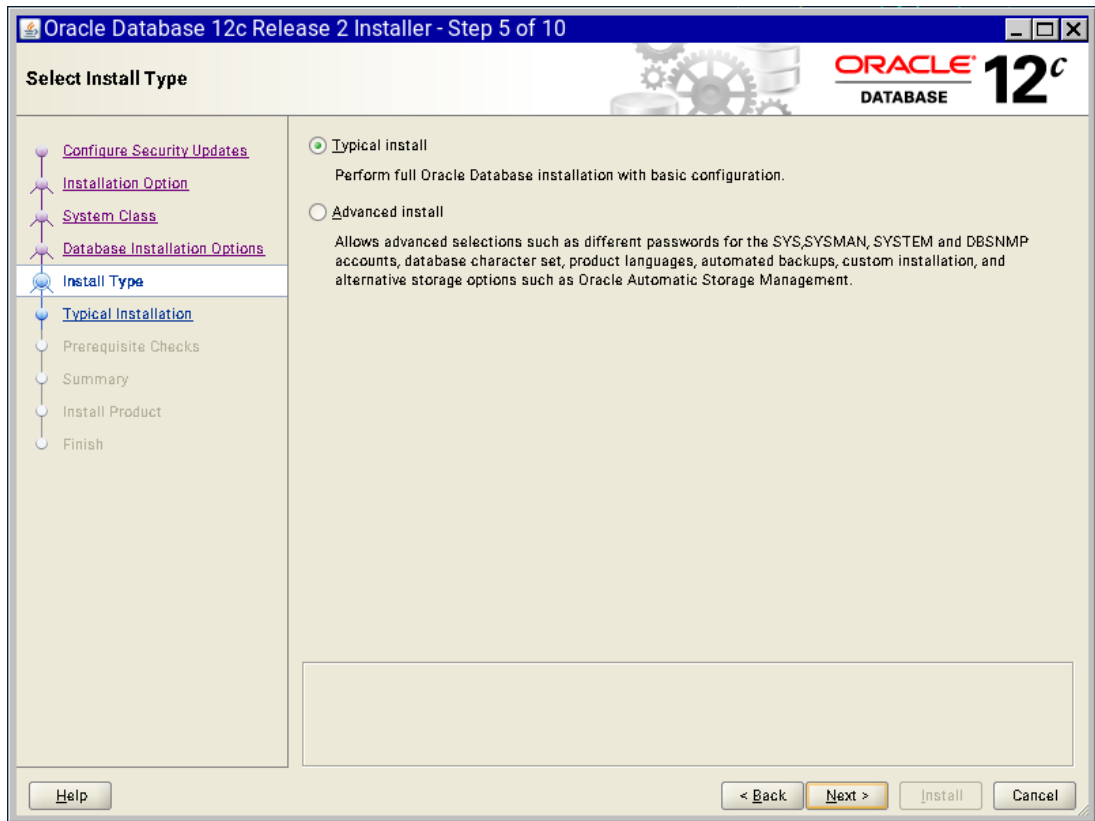
Create and configure a database

Install database software only

Upgrade an existing database

Help < Back Next > Install Cancel





Oracle Database 12c Release 2 Installer - Step 7 of 11

Create Inventory

ORACLE 12c DATABASE

You are starting your first installation on this host. Specify a directory for installation metadata files (for example, install log files). This directory is called the "inventory directory". The installer automatically sets up subdirectories for each product to contain inventory data. The subdirectory for each product typically requires 150 kilobytes of disk space.

Inventory Directory:

Specify an operating system group whose members have write permission to the inventory directory (orainventory).

orainventory_group Name:

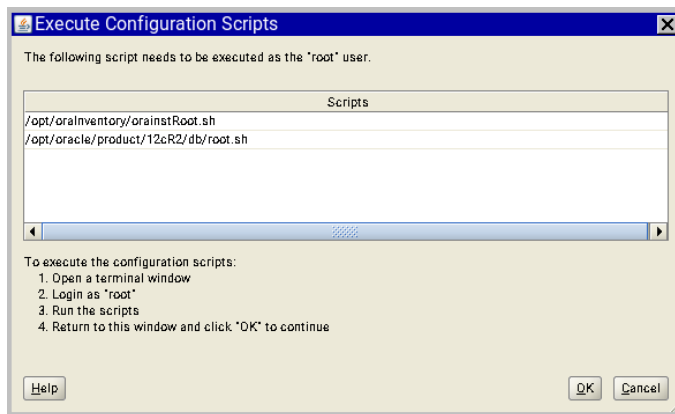
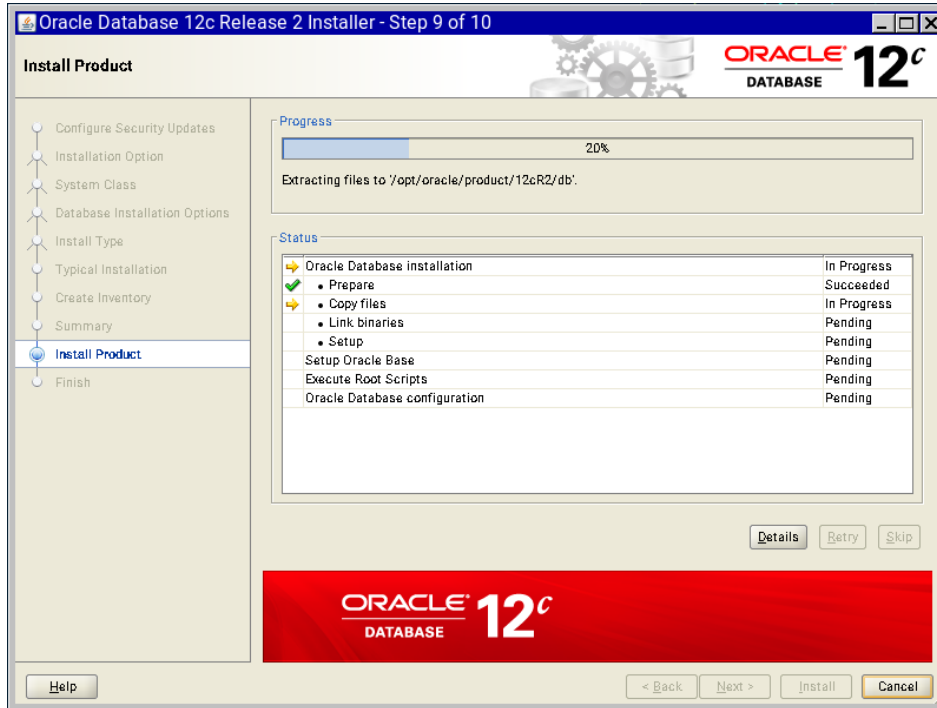
Oracle Database 12c Release 2 Installer - Step 8 of 10

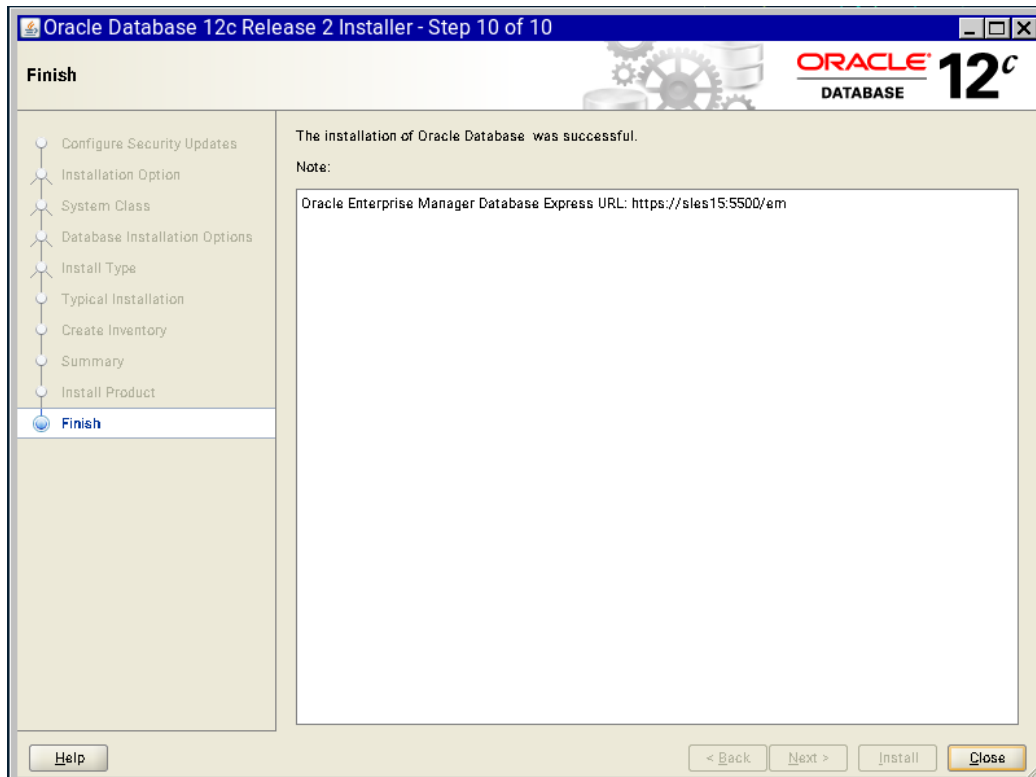
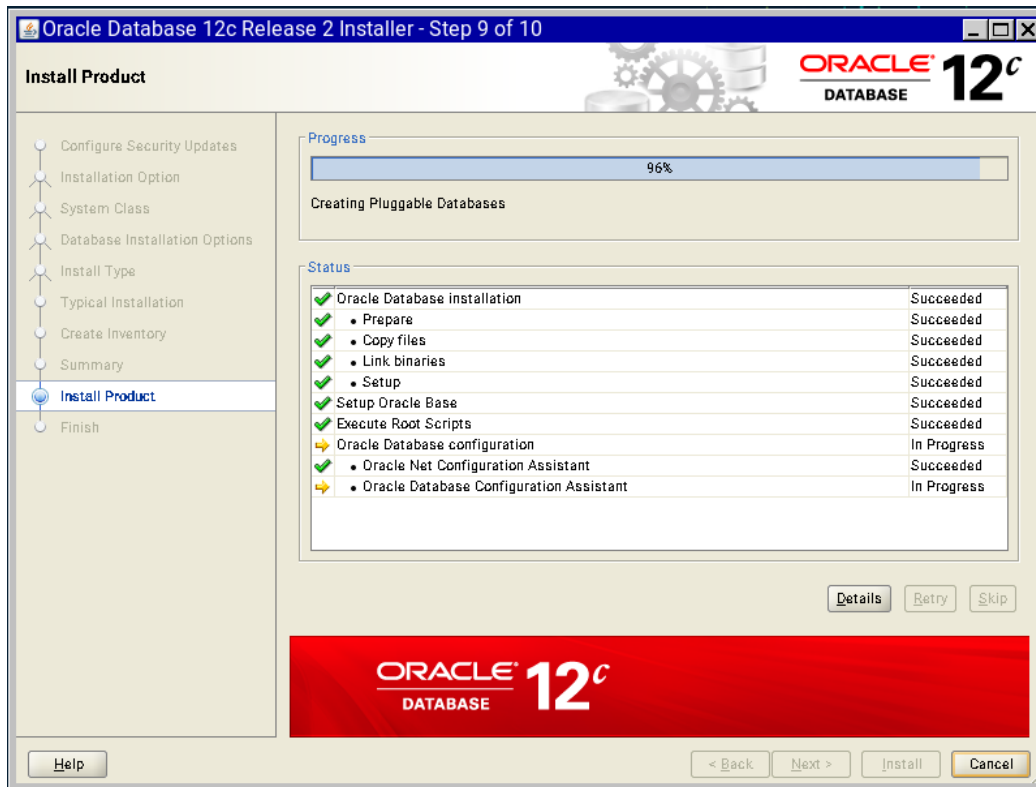
Summary

ORACLE 12c DATABASE

Oracle Database 12c Release 2 Installer

- Global settings**
 - Disk space: required 7.5 GB available 292.72 GB [\[Edit\]](#)
 - Source location: /opt/oracle/SW/database/install/./stage/products.xml
 - Install method: Typical installation [\[Edit\]](#)
 - Database edition: Enterprise Edition (Create and configure a database) [\[Edit\]](#)
 - Oracle base: /opt/oracle [\[Edit\]](#)
 - Software location: /opt/oracle/product/12cR2/db [\[Edit\]](#)
 - Privileged Operating System groups: dba (OSDBA), dba (OSOPER), dba (OSBACKUPDBA), dba (OS...
- Inventory information**
 - Inventory location: /opt/orainventory [\[Edit\]](#)
 - orainventory group: oinstall [\[Edit\]](#)
- Database information**
 - Configuration: General Purpose / Transaction Processing
 - Global database name: orcl [\[Edit\]](#)
 - Oracle system identifier (SID): orcl [\[Edit\]](#)
 - Pluggable database name: orclpdb [\[Edit\]](#)
 - Allocated memory: 12842 MB
 - Automatic memory management option: FALSE
 - Database character set : AL32UTF8 (Unicode UTF-8 Universal character set)
 - Management method: Database express





Verify successful Database Installation using sqlplus:

```
oracle@sles15:~  
oracle@sles15:~$ sqlplus / as sysdba  
SQL*Plus: Release 12.2.0.1.0 Production on Thu Jun 21 11:38:01 2018  
Copyright (c) 1982, 2016, Oracle. All rights reserved.  
  
Connected to:  
Oracle Database 12c Enterprise Edition Release 12.2.0.1.0 - 64bit Production  
SQL> show sga  
Total System Global Area 1.0100E+10 bytes  
Fixed Size 12342112 bytes  
Variable Size 1677724832 bytes  
Database Buffers 8388608000 bytes  
Redo Buffers 21209088 bytes  
SQL> exit  
Disconnected from Oracle Database 12c Enterprise Edition Release 12.2.0.1.0 - 64bit Production  
oracle@sles15:~$
```

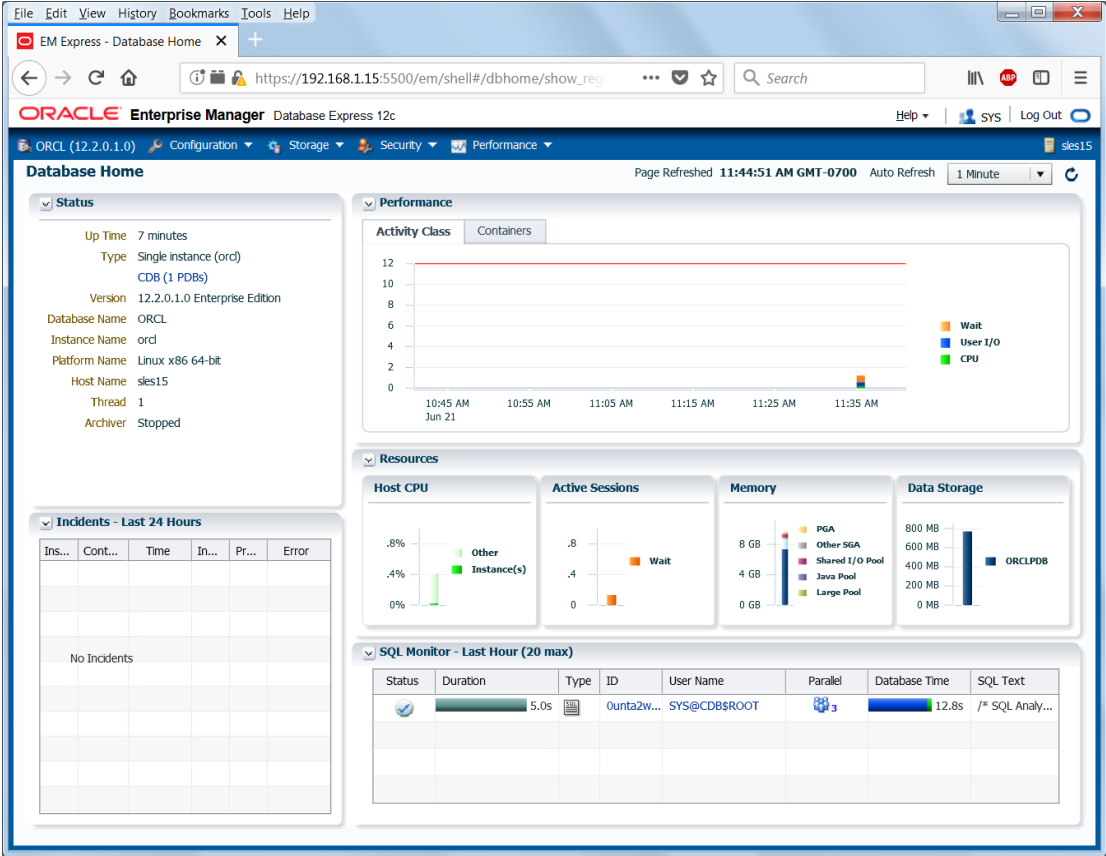
System setup (for correct Oracle start after reboot):

Please do following changes for successful Oracle Database start (after reboot):

1. edit “orcl:/opt/oracle/product/12cR2/db:Y” in /etc/oractab
2. Set START_ORACLE_DB & START_ORACLE_DB_LISTENER to “yes” in /etc/sysconfig/oracle setup file.
3. Check status using systemctl commands:

```
192.168.1.15 - PuTTY  
sles15:~ # systemctl status oracle-setup  
● oracle-setup.service - Setup environment for the Oracle database  
Loaded: loaded (/usr/lib/systemd/system/oracle-setup.service; static; vendor preset: disabled)  
Active: active (exited) since Thu 2018-06-21 09:57:48 PDT; 2h 38min ago  
Main PID: 1772 (code=exited, status=0/SUCCESS)  
Tasks: 0 (limit: 7372)  
CGroup: /system.slice/oracle-setup.service  
  
Jun 21 09:57:48 sles15 oracle-setup[1772]: Shared memory: SHMMAX=16833714176 SHMMNI=4096 SHMALL=3287834  
Jun 21 09:57:48 sles15 oracle-setup[1772]: Semaphore values: SEMMSL=1250 SEMMNS=32000 SEMOPM=100 SEMMNI=256  
Jun 21 09:57:48 sles15 oracle-setup[1772]: Other values: FILE_MAX_KERNEL=6815744 IP_LOCAL_PORT_RANGE=9000 65500  
Jun 21 09:57:48 sles15 oracle-setup[1772]: RMEM_DEFAULT=262144 WMEM_DEFAULT=262144 RMEM_MAX=4194304 WMEM_MAX=1048576 AIO_MAX_SIZE=1048576  
Jun 21 09:57:48 sles15 oracle-setup[1772]: Huge Pages: SHM_GROUP=dba NR_HUGE_PAGES=0  
Jun 21 09:57:48 sles15 oracle-setup[1772]: ULIMIT values: MAX_CORE_FILE_SIZE_SHELL=unlimited  
Jun 21 09:57:48 sles15 oracle-setup[1772]: FILE_MAX_SHELL=65536 PROCESSES_MAX_SHELL=16384  
Jun 21 09:57:48 sles15 oracle-setup[1772]: Checking sysctl.conf to overwrite previous kernel settings...  
Jun 21 09:57:48 sles15 oracle-setup[1772]: Kernel parameters set for Oracle:  
Jun 21 09:57:48 sles15 systemd[1]: Started Setup environment for the Oracle database.  
sles15:~ # systemctl status oracle  
● oracle.service - Start the Oracle database  
Loaded: loaded (/usr/lib/systemd/system/oracle.service; enabled; vendor preset: enabled)  
Active: inactive (dead) since Thu 2018-06-21 09:57:48 PDT; 2h 38min ago  
  
Jun 21 09:57:48 sles15 oracle[1945]: #####  
Jun 21 09:57:48 sles15 oracle[1958]: #####  
Jun 21 09:57:48 sles15 oracle[1958]: # Begin of O R A C L E shutdown section #  
Jun 21 09:57:48 sles15 oracle[1958]: #####  
Jun 21 09:57:48 sles15 oracle[1958]: Oracle Database Software not yet installed!  
Jun 21 09:57:48 sles15 oracle[1958]: Shutting down Oracle services (only those running)  
Jun 21 09:57:48 sles15 oracle[1958]: #####  
Jun 21 09:57:48 sles15 oracle[1958]: # End of O R A C L E section #  
Jun 21 09:57:48 sles15 oracle[1958]: #####  
Jun 21 09:57:48 sles15 systemd[1]: Started Start the Oracle database.  
sles15:~ #
```

Oracle Enterprise Manager Screen:



Thanks for selecting **SUSE Linux Enterprise Server** as your Linux platform of choice!