Oracle Database 18c (18.0.0.0) 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 18c on SUSE Linux Enterprise Server 15. This document covers x86_64 version but installation steps are same for other platforms. We will use latest versions of Oracle Database Enterprise version 18c.

Oracle Database Software

Oracle Database Enterprise Edition 18c is available for public download at: https://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.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:~                              ✕

 File  Edit  View  Search  Terminal  Help
 oracle@sles15:~> uname -a
 Linux sles15 4.12.14-23-default #1 SMP Tue May 29 21:04:44 UTC 2018 (cd0437b) x8
 6_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/18c/db
 oracle@sles15:~> ▮
```

Installing Oracle Database 18c

Installing Oracle Database18c on SLES15 is easy, please follow:

1. Download Oracle SW (LINUX.X64_180000_db_home.zip)
   a. unzip in $**ORACLE_HOME** directory.
   b. cd $ORACLE_HOME
   c. ./runInstaller

   Note: There is a change in Oracle Database 18c Installation process. Now runInstaller is a script, please check Oracle Official document for explanation.

2. Watch for following minor error/warning messages (**Fix before starting Installer**):

   1. Make sure Server is assigned static IP address.

   2. Make sure you have enabled oracle user & logged-in as oracle

   3. Prerequisite Checks – Edit "**cv/admin/cvu_config**" file & execute runInstaller again

      i.e. add CV_ASSUME_DISTID=SUSE12

   4. Install any missing packages:

      zypper in libcap1 libcap1-32bit libcap-ng-utils libcap-ng0-32bit libXtst6-32bit nfs-kernel-server

   5. **DBCA Error:** ORA-27104: system-defined limits for shared memory was misconfigured
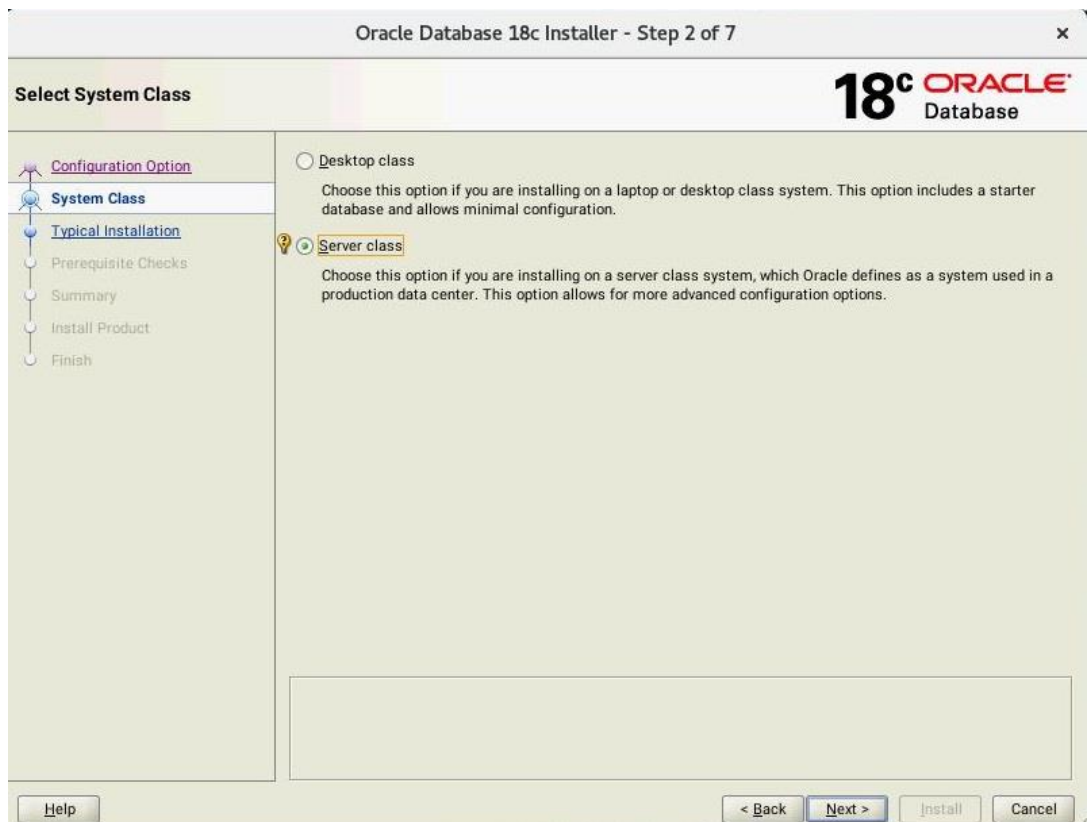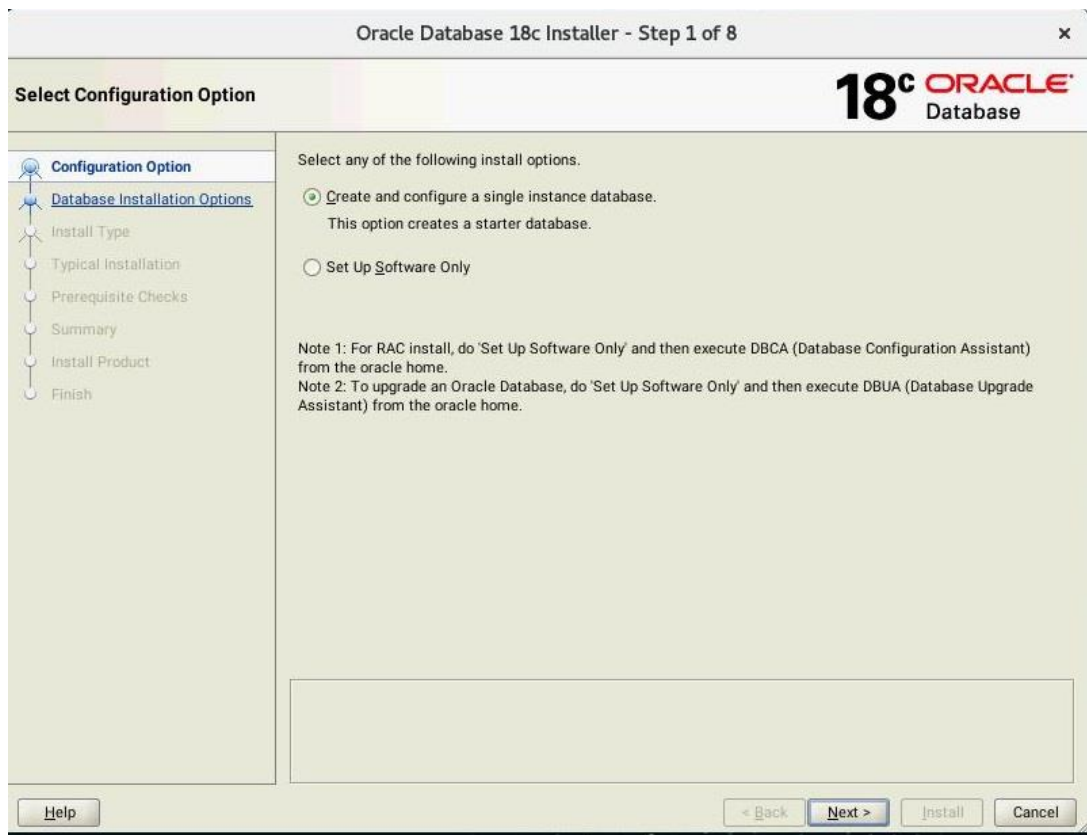
   Fix: Increase kernel.shmmax & kernel.shmall based on your Server RAM in **/etc/sysconfig/oracle** & run "**systemctl restart oracle-setup**".
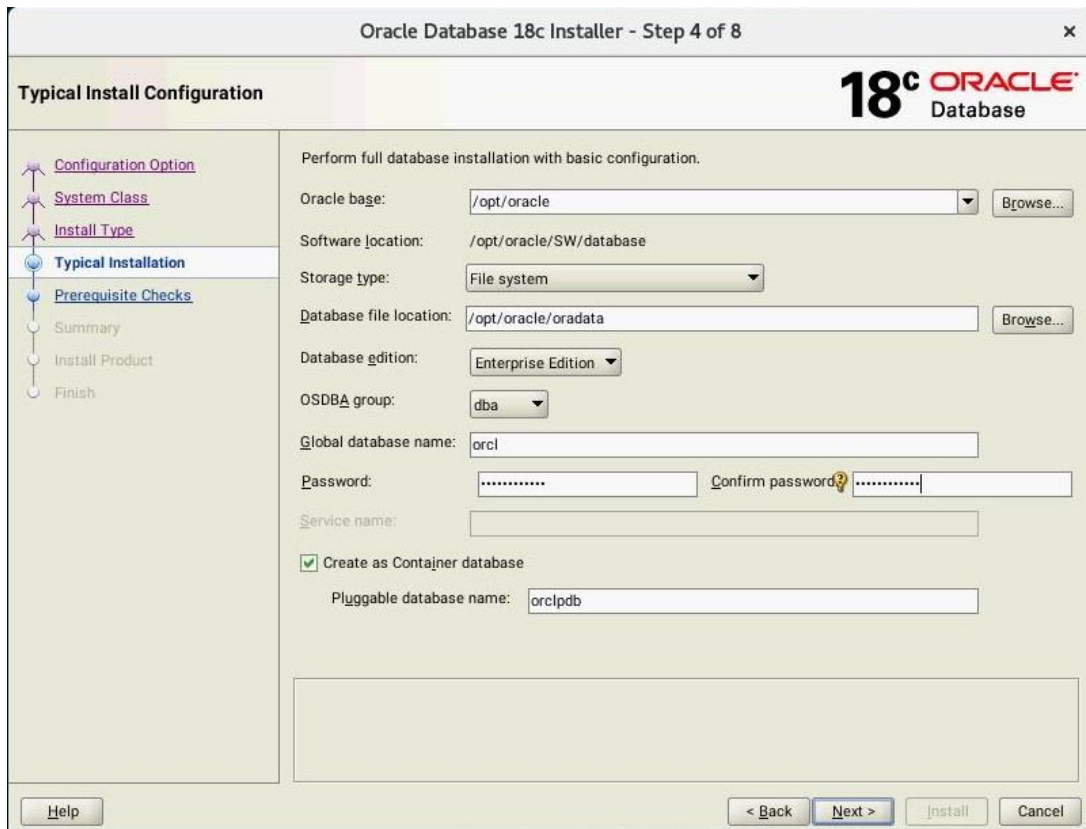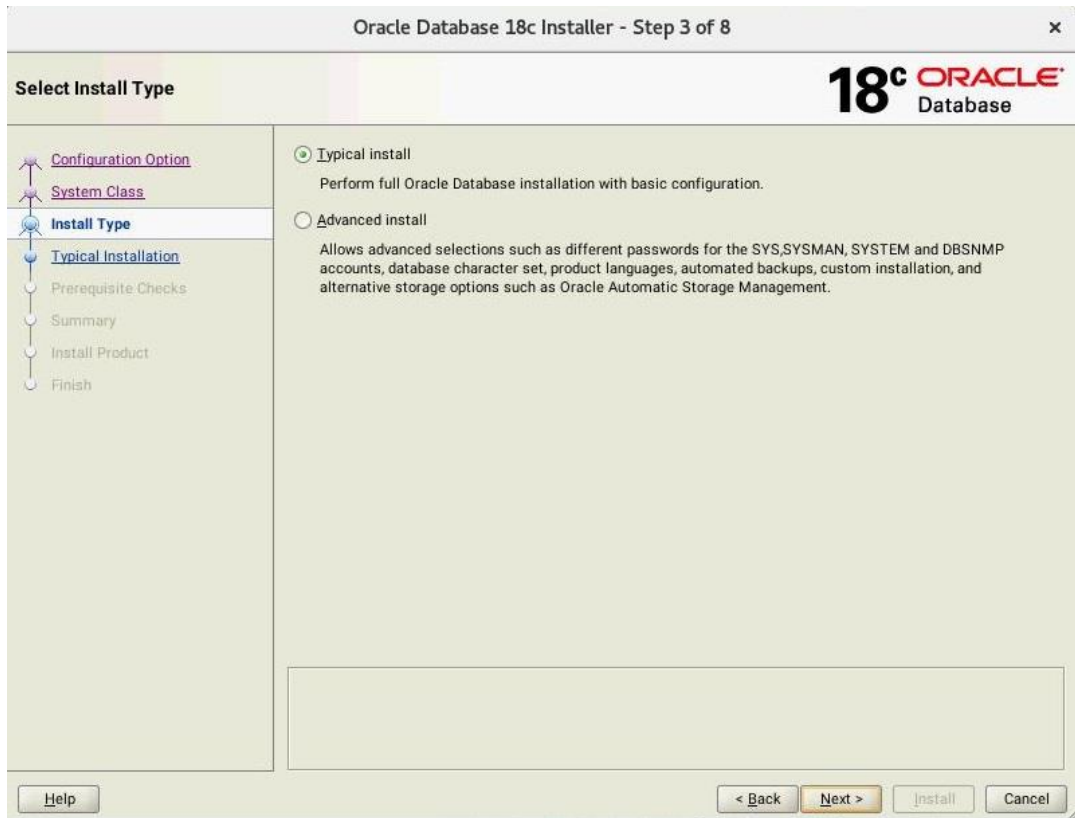
   Please refer Oracle Metalink Note [ID 567506.1] - Maximum SHMMAX values for Linux x86 and x86-64

   Example values for x86_64 Server with 32GB RAM:

   shmmax=16833714176, shmall=3287834

3. Start Oracle Universal Installer (OUI): **$ORACLE_HOME/runInstaller**

Select Install Type

18^c **ORACLE** Database

- Configuration Option
- System Class
- **Install Type**
- Typical Installation
- Prerequisite Checks
- Summary
- Install Product
- Finish

(●) T̲ypical install

Perform full Oracle Database installation with basic configuration.

(○) A̲dvanced install

Allows advanced selections such as different passwords for the SYS,SYSMAN, SYSTEM and DBSNMP accounts, database character set, product languages, automated backups, custom installation, and alternative storage options such as Oracle Automatic Storage Management.

Help   < B̲ack   N̲ext >   I̲nstall   Cancel

Typical Install Configuration

18^c **ORACLE** Database

- Configuration Option
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- Finish

Perform full database installation with basic configuration.

Oracle ba̲se: /opt/oracle   Br̲owse...

Software location: /opt/oracle/SW/database

Storage t̲ype: File system

Database file location: /opt/oracle/oradata   Br̲owse...

Database e̲dition: Enterprise Edition

OSDB̲A group: dba

G̲lobal database name: orcl

P̲assword: ············   C̲onfirm password: ············

S̲ervice name:

(✔) Create as Conta̲iner database

Pl̲uggable database name: orclpdb

Help   < B̲ack   N̲ext >   I̲nstall   Cancel

Create Inventory

18^c **ORACLE** Database

- Configuration Option
- System Class
- Install Type
- Typical Installation
- **Create Inventory**
- Prerequisite Checks
- Summary
- Install Product
- Finish

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: `/opt/oraInventory`   Browse...

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

oraInventory Group Name: `oinstall ▼`

Help   < Back   Next >   Install   Cancel

Perform Prerequisite Checks

18^c **ORACLE** Database

- Configuration Option
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- Install Type
- Typical Installation
- Create Inventory
- **Prerequisite Checks**
- Summary
- Install Product
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Verification Result

Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system.
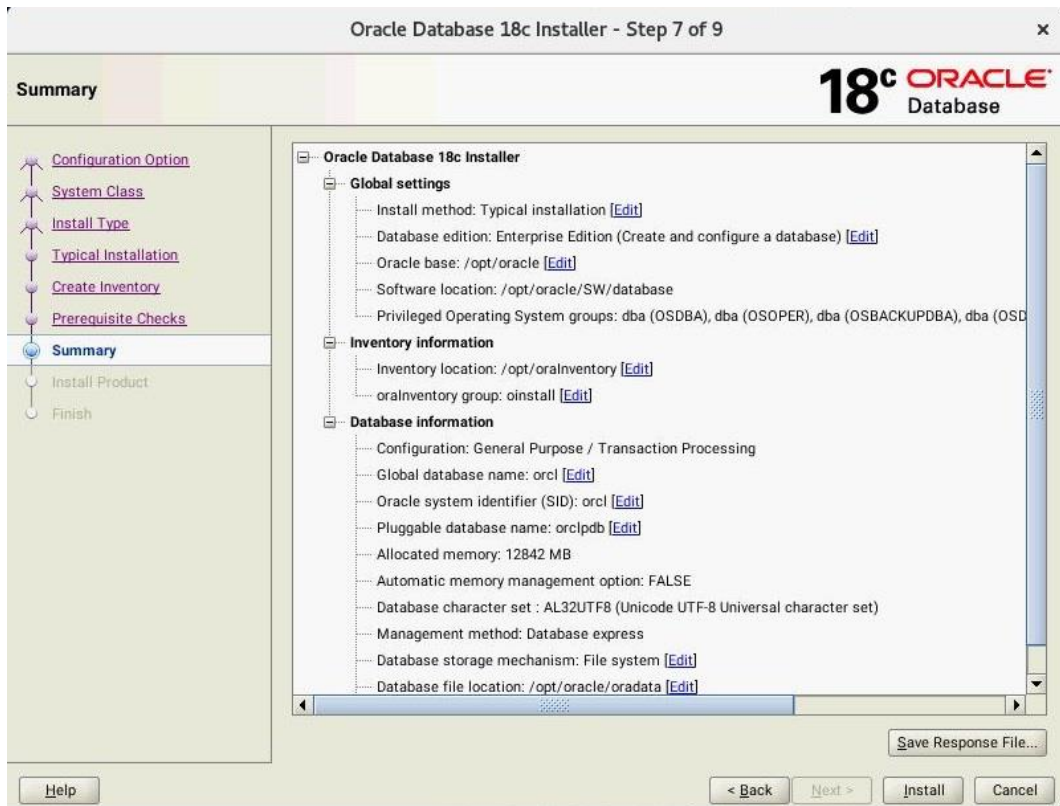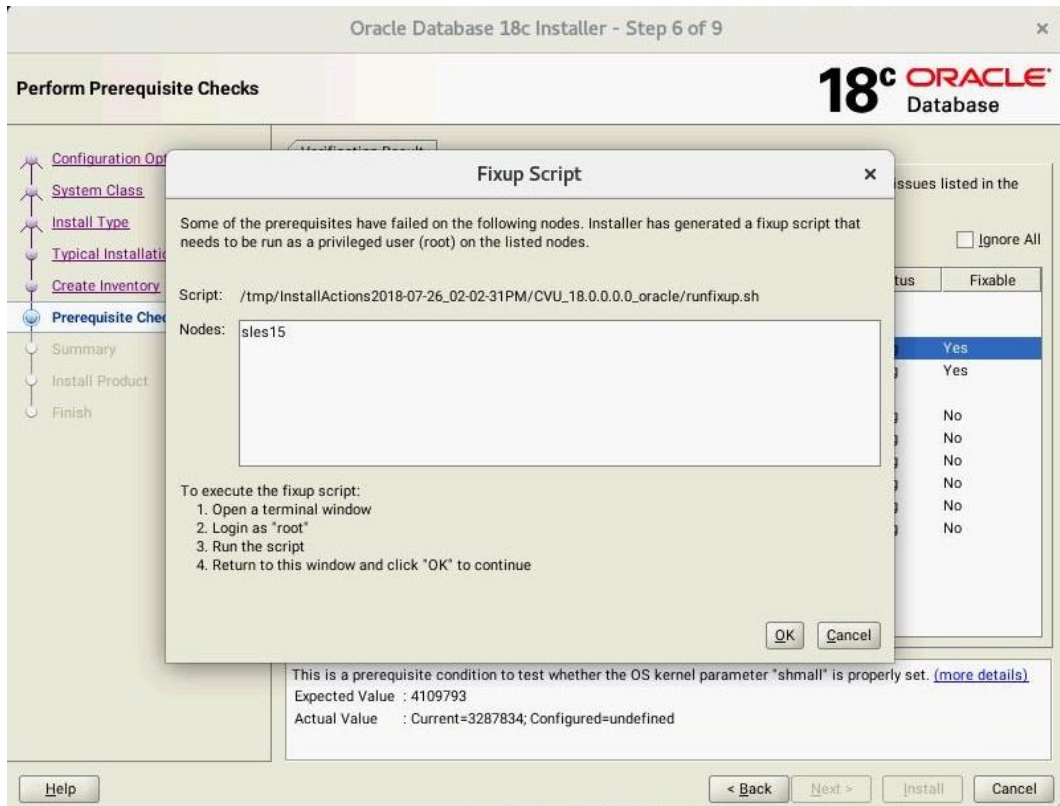
Check Again   Fix & Check Again   Show Failed ▼   ☐ Ignore All

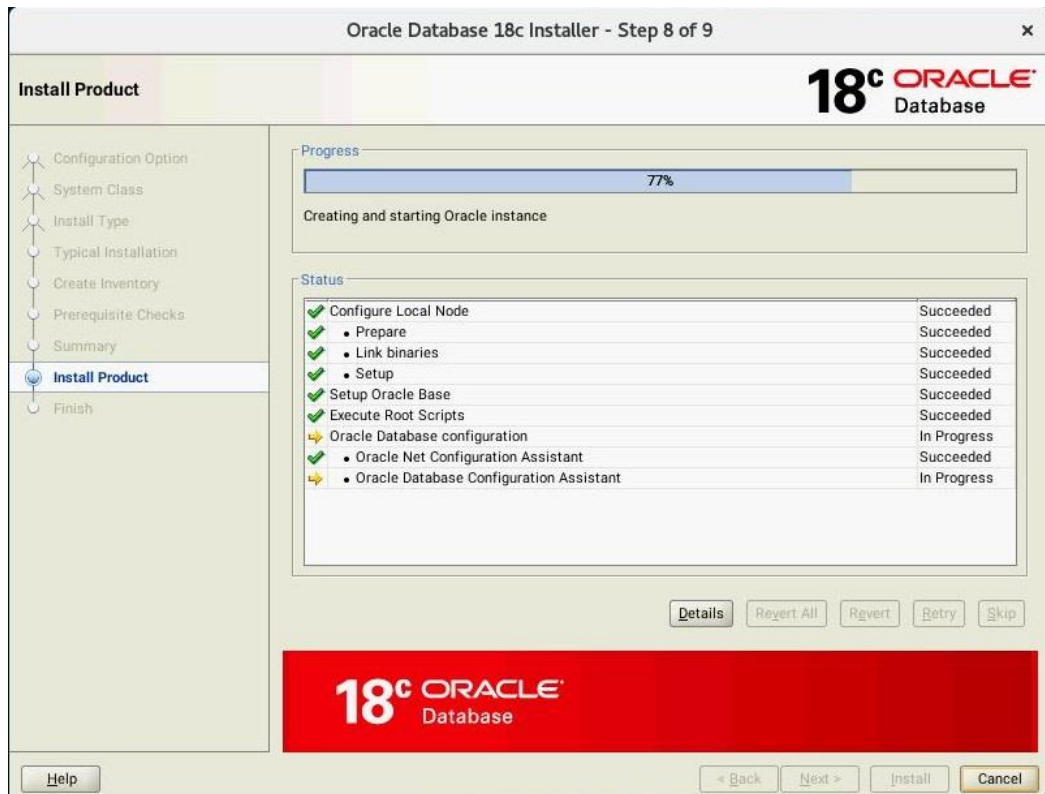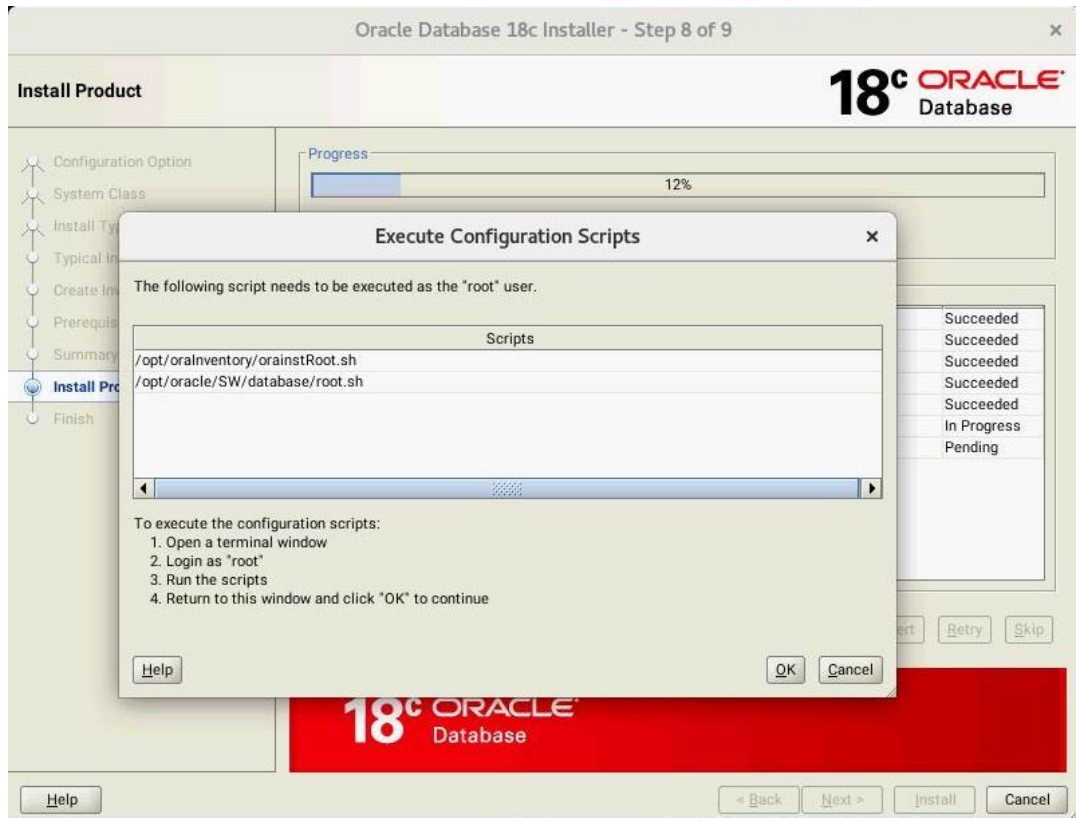| Checks	Status	Fixable
📁 Checks		
⊟ 📁 [OS Kernel Parameters]		
OS Kernel Parameter: shmall	Warning	Yes
OS Kernel Parameter: panic_on_oops	Warning	Yes
⊟ 📁 [Packages]		
Package: libcap-ng-utils-0.7.3-4.125 (x86_64)	Warning	No
Package: libcap-ng0-32bit-0.7.3-4.125 (x86_64)	Warning	No
Package: libcap1-1.10-59.61 (x86_64)	Warning	No
Package: libcap1-32bit-1.10-59.61 (x86_64)	Warning	No
Package: libXtst6-32bit-1.2.1 (x86_64)	Warning	No
Package: nfs-kernel-server-1.3.0-6.9 (x86_64)	Warning	No

This is a prerequisite condition to test whether the OS kernel parameter "shmall" is properly set. (more details)
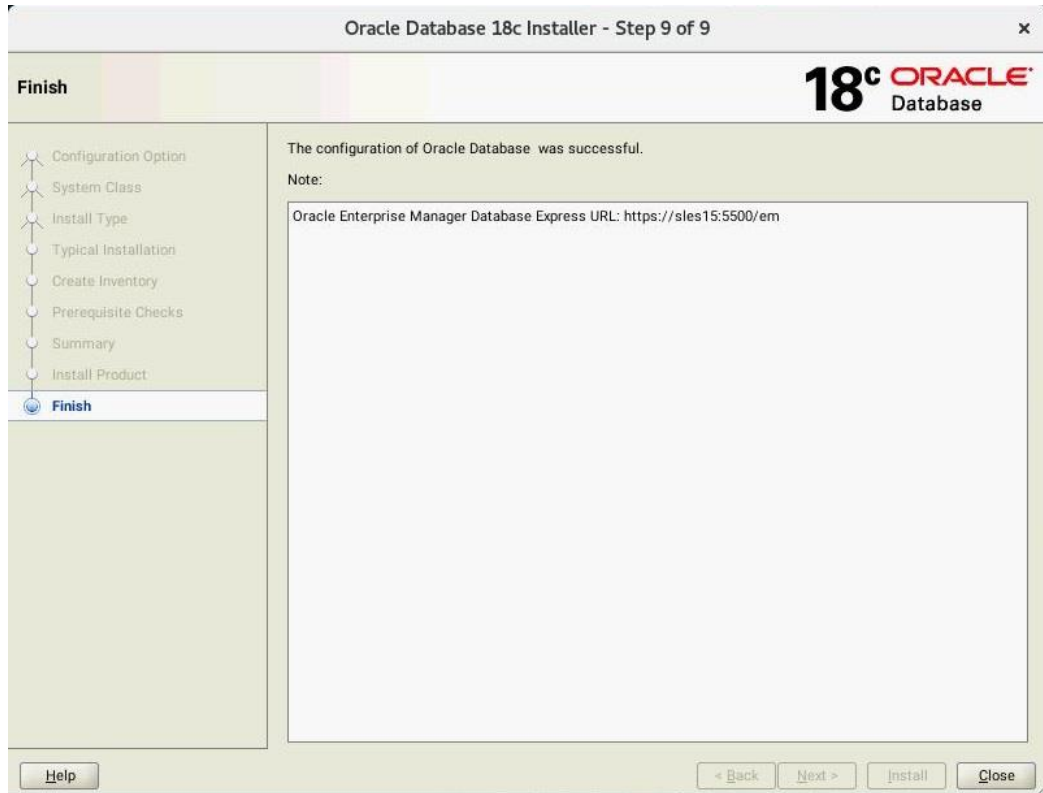Expected Value : 4109793
Actual Value   : Current=3287834; Configured=undefined

Help   < Back   Next >   Install   Cancel

Perform Prerequisite Checks

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Database

Configuration Opt...
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Finish

Fixup Script

Some of the prerequisites have failed on the following nodes. Installer has generated a fixup script that needs to be run as a privileged user (root) on the listed nodes.

Script: /tmp/InstallActions2018-07-26_02-02-31PM/CVU_18.0.0.0.0_oracle/runfixup.sh

Nodes: sles15

To execute the fixup script:
1. Open a terminal window
2. Login as "root"
3. Run the script
4. Return to this window and click "OK" to continue

OK   Cancel

issues listed in the

☐ Ignore All

tus   Fixable

Yes
Yes
No
No
No
No
No
No

This is a prerequisite condition to test whether the OS kernel parameter "shmall" is properly set. (more details)
Expected Value : 4109793
Actual Value   : Current=3287834; Configured=undefined

Help   < Back   Next >   Install   Cancel

Summary

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Database

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- Oracle Database 18c Installer
  - Global settings
    - Install method: Typical installation [Edit]
    - Database edition: Enterprise Edition (Create and configure a database) [Edit]
    - Oracle base: /opt/oracle [Edit]
    - Software location: /opt/oracle/SW/database
    - Privileged Operating System groups: dba (OSDBA), dba (OSOPER), dba (OSBACKUPDBA), dba (OSD
  - 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
    - Database storage mechanism: File system [Edit]
    - Database file location: /opt/oracle/oradata [Edit]

Save Response File...

Help   < Back   Next >   Install   Cancel

Install Product

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Progress

12%

Execute Configuration Scripts

The following script needs to be executed as the "root" user.

Scripts
/opt/oraInventory/orainstRoot.sh
/opt/oracle/SW/database/root.sh

To execute the configuration scripts:
1. Open a terminal window
2. Login as "root"
3. Run the scripts
4. Return to this window and click "OK" to continue

Help   OK   Cancel

	Succeeded
	Succeeded
	Succeeded
	Succeeded
	Succeeded
	In Progress
	Pending

ert   Retry   Skip

18c ORACLE
Database

Help   « Back   Next >   Install   Cancel

Install Product

18c ORACLE
Database

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Install Product
Finish

Progress

77%

Creating and starting Oracle instance

Status

✔	Configure Local Node	Succeeded
✔	• Prepare	Succeeded
✔	• Link binaries	Succeeded
✔	• Setup	Succeeded
✔	Setup Oracle Base	Succeeded
✔	Execute Root Scripts	Succeeded
➡	Oracle Database configuration	In Progress
✔	• Oracle Net Configuration Assistant	Succeeded
➡	• Oracle Database Configuration Assistant	In Progress

Details   Revert All   Revert   Retry   Skip

18c ORACLE
Database

Help   « Back   Next >   Install   Cancel

Verify successful Database Installation using sqlplus:

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/SW/database: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:

Oracle Enterprise Manager Screen:

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