

Oracle Database 19c on RHEL9(x86-64),utilizing repositories provided by SUSE Multi-Linux Support 9

SUSE ISV Engineering Team



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Summary

Special PoC project to evaluate whether Oracle DB will install and run on SUSE MLS (Multi-Linux Support), and identify any obstacles or issues with getting it operational. This project is to help SUSE/Oracle customers, to utilize SUSE Multi-Linux Support feature. This is to evaluate whether the products can work together with the software repositories provided by SUSE MLS.

This project is limited in scope to a single version of MLS (MLS 9) and a single version of Oracle DB (19c). However finding here is applicable to older versions.

Target Products

- Oracle Database 19c
- SUSE Multi-Linux Support 9

Test Scenarios

1. Install "Oracle DB 19c on RHEL9" then migrate to SUSE MLS 9
2. Migrate RHEL 9 to SUSE MLS 9 & then Install Oracle DB 19c

System Requirements and Specifications

Hardware Requirements

- 2 servers configured for RMT/RHEL9(which Oracle DB 19c installation)
- 1 TB storage per server

Software Requirements

SUSE

- SUSE Multi-Linux Support 9 and License key
(<https://scc.suse.com/admin/products/2538>)
- SUSE Linux Enterprise Server 15 SP6 (x86_64)
- SUSE Linux Enterprise Server 15 SP6 Minimal VM to host the RMT, and then mirror the SUSE Multi-Linux Support repositories using RMT
(SLES15-SP6-Minimal-VM.x86_64-kvm-and-xen-GM.qcow2)
(<https://www.suse.com/download/sles/>)

Oracle

- Oracle Database 19c(19.3) (x86_64) - (LINUX.X64_193000_db_home.zip)
(<https://www.oracle.com/database/technologies/oracle19c-linux-downloads.html>)
- Patch 37260974: DATABASE RELEASE UPDATE 19.26.0.0.0
- Patch 37268031: OCW RELEASE UPDATE 19.26.0.0.0
- Patch 37102264: OJVM RELEASE UPDATE 19.26.0.0.0
- Patch 6880880: OPatch utility 12.2.0.1.44 for DB 23.0.0.0.0(Oct 2024)
(<https://support.oracle.com>)

RHEL

- Red Hat Enterprise Linux 9.5(x86_64)
(https://developers.redhat.com/content-gateway/file/rhel/Red_Hat_Enterprise_Linux_9.5/rhel-9.5-x86_64-boot.iso)

Testing Machine Information

HP DL388 Gen9 Server * 2

- hpgen9-01 - Physical host for the RMT server
- hpgen9-02 - Physical host for the RHEL(9.5)

CPU: 2 * Intel(R) Xeon(R) CPU E5-2630 v3 @ 2.40GHz

RAM: 64 GB

NIC: 8

Local HDD: 1TB

OS: SUSE Linux Enterprise Server 15 SP6 (x86-64) - Kernel version: 6.4.0-150600.21-default



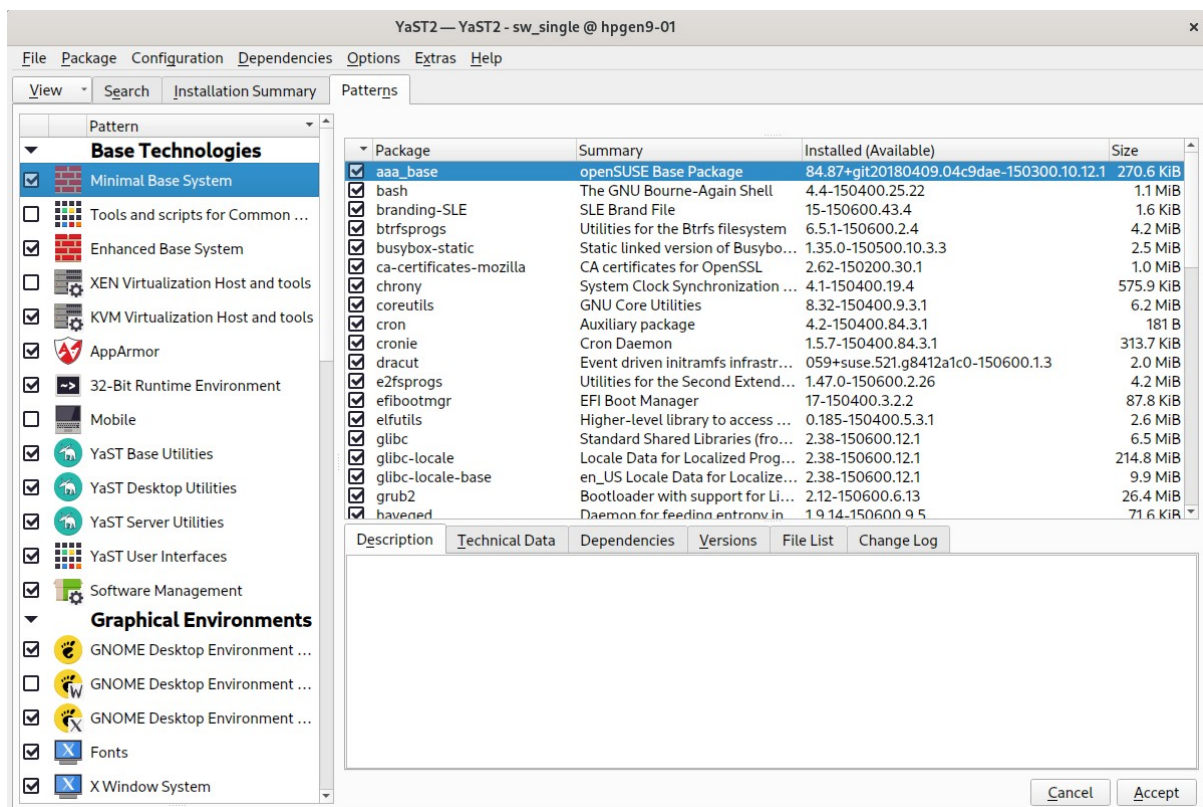
Prerequisites

1. Installing SUSE Linux Enterprise Server 15 SP6

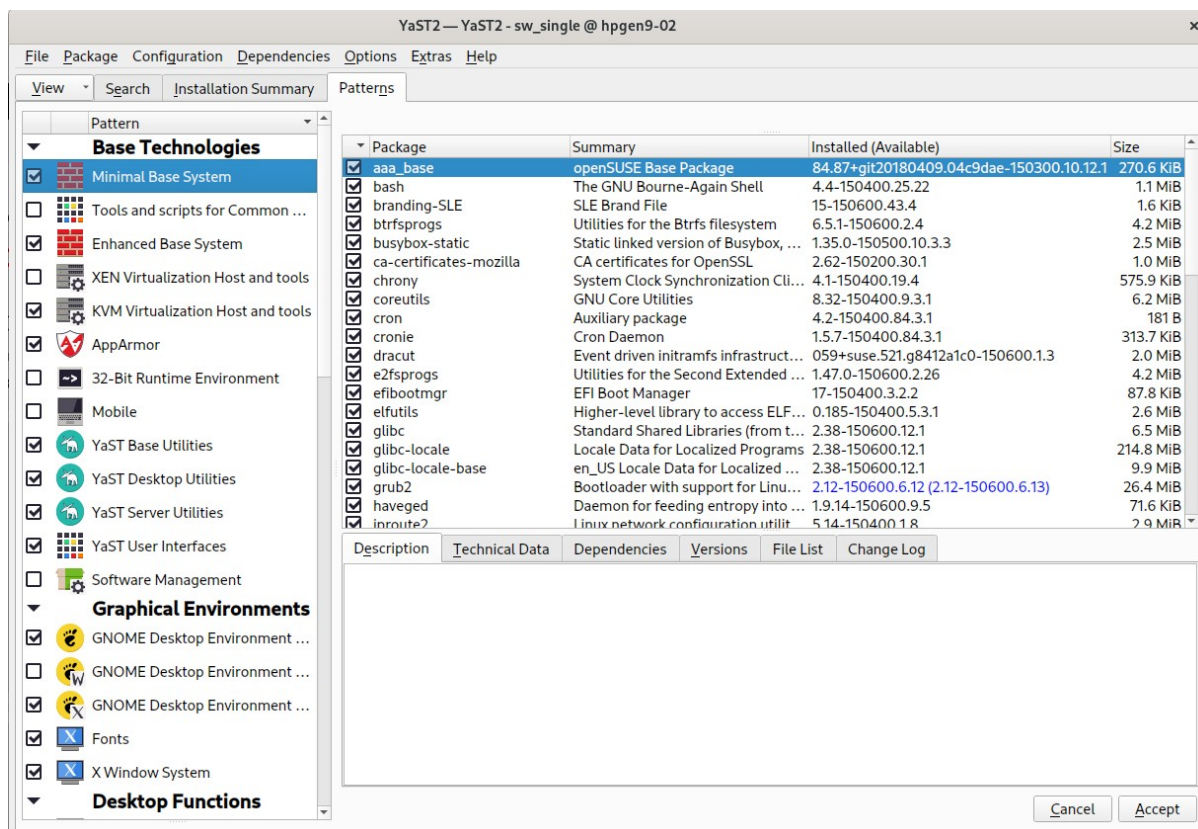
1-1. Install SUSE Linux Enterprise Server 15 SP6 on the testing machine. To do so, follow the instructions in the official SUSE Linux Enterprise Server documentation at <https://www.suse.com/documentation/>.

Figure 1-1 Software Installed and OS information as shown below

hpgen9-01 - Physical host for the RMT server



```
hpgen9-01:~ # more /etc/os-release
NAME="SLES"
VERSION="15-SP6"
VERSION_ID="15.6"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP6"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp6"
DOCUMENTATION_URL="https://documentation.suse.com/"
hpgen9-01:~ # uname -a
Linux hpgen9-01 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36cle09/lp) x86_64 x86_64 x86_64 GNU/Linux
hpgen9-01:~ #
```

hpgen9-02 - Physical host for the RHEL(9.5)

```

hpgen9-02:/opt/oracle # more /etc/os-release
NAME="SLES"
VERSION="15-SP6"
VERSION_ID="15.6"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP6"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp6"
DOCUMENTATION_URL="https://documentation.suse.com/"
hpgen9-02:/opt/oracle # uname -a
Linux hpgen9-02 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36cle09/lp) x86_64 x86_64 x86_64 GNU/Linux
hpgen9-02:/opt/oracle #

```

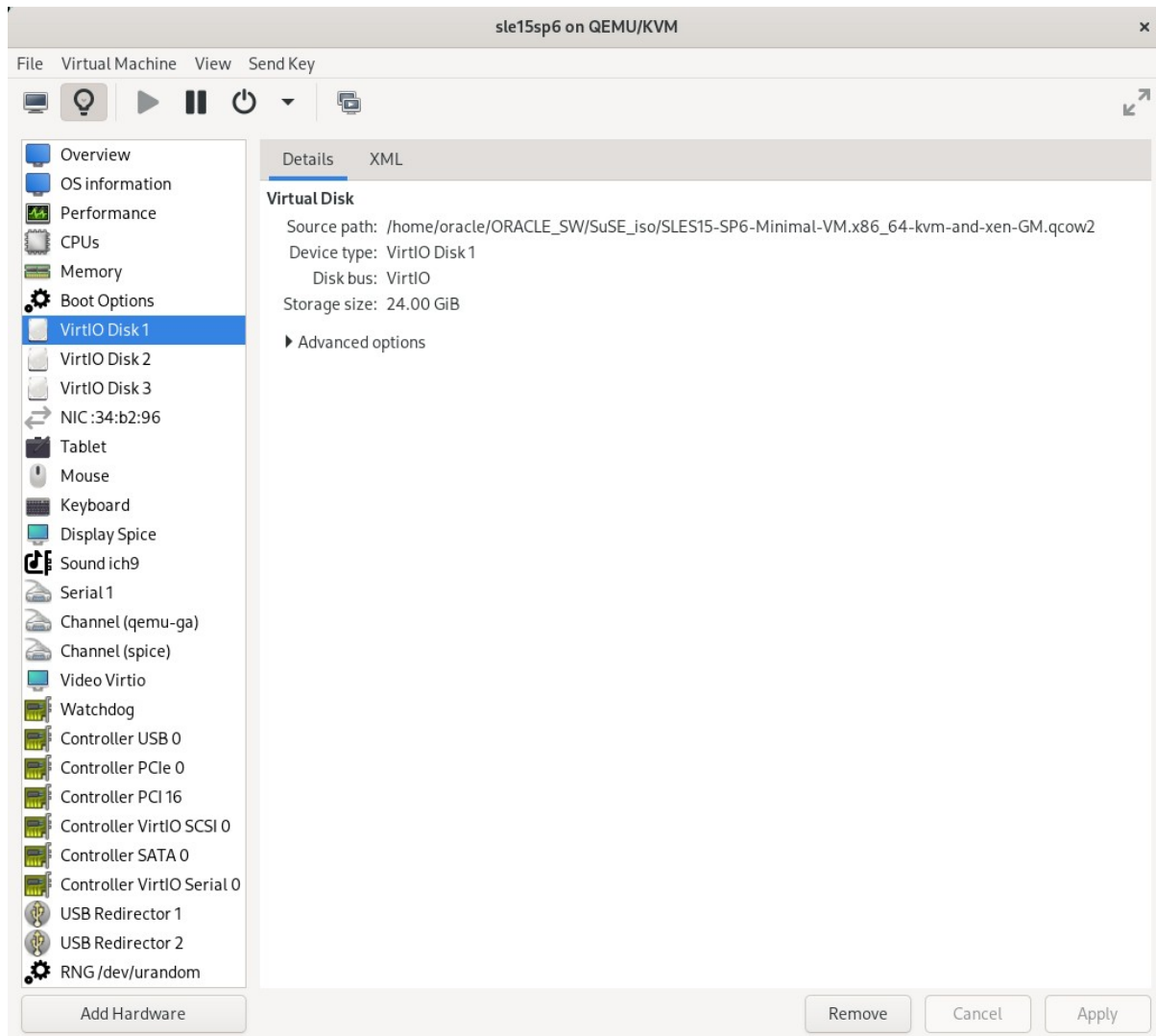
2. Configuring the RMT Server

2-1. Log in to the **hpgen9-01**(SLES 15 SP6 64-bit OS) as root user.

Download SUSE Linux Enterprise Server 15 SP6 Minimal VM(SLES15-SP6-Minimal-VM.x86_64-kvm-and-xen-GM.qcow2) from:

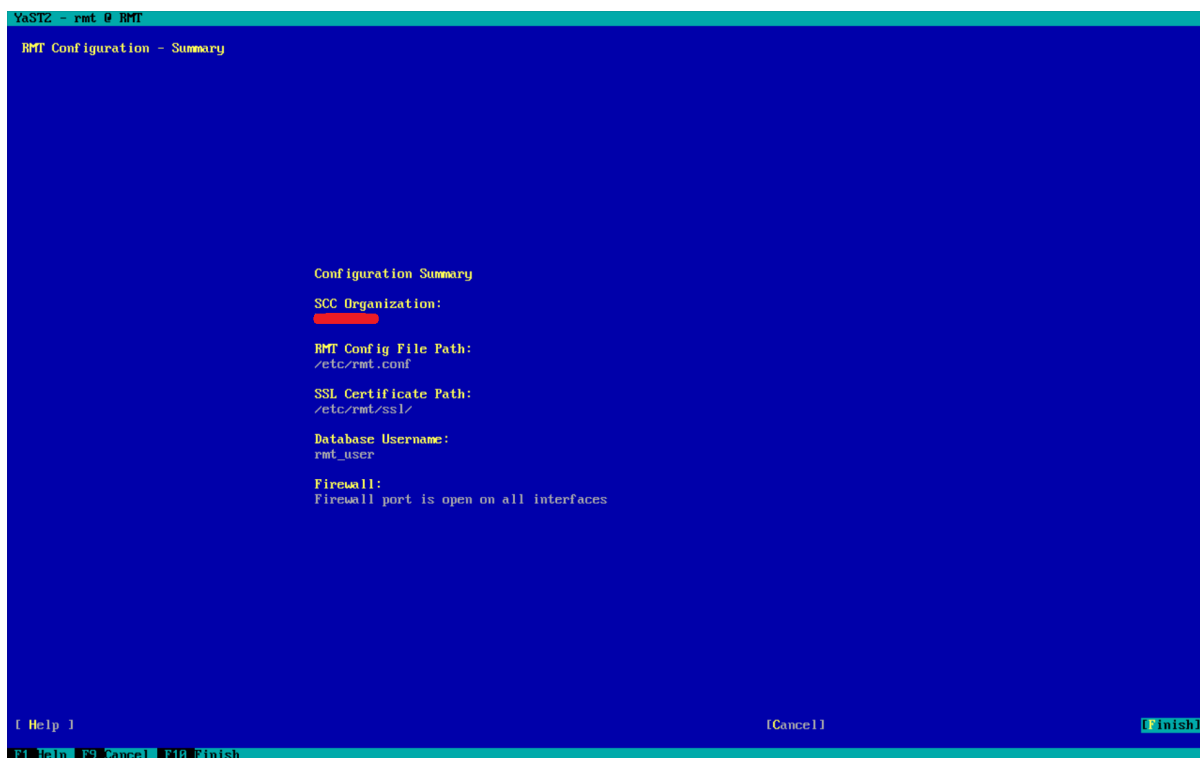
(<https://www.suse.com/download/sles/>)

Creating a VM and use the Minimal VM image(SLES15-SP6-Minimal-VM.x86_64-kvm-and-xen-GM.qcow2) to start the virtual machine.



(**Note:** The VM must have enough space to mirror the SUSE Multi-Linux Support 9 repositories.)

2-2. On the VM(SLES15 SP6 Minimal 64-bit OS), installing and configuring the RMT server.



For details, please see:

(<https://documentation.suse.com/liberty/9/html/quickstart/index.html#configure-rmt-server>).



2-3. Mirroring SUSE Multi-Linux Support repositories with RMT.

Before getting started, please ensure that the following prerequisites have been met:

- The RMT server has been installed and is up to date.
- The amount of storage required depends on the number of repositories you mirror. We recommend at least 1.5 times the total size of all enabled repositories. Be aware that the SUSE Multi-Linux Support repositories will grow substantially over time.
- Your organization credentials appear correctly in `/etc/rmt.conf`.
- You have a SUSE Multi-Linux Support subscription activated in SUSE Customer Center.

1) On the RMT server, update the available product and repository metadata.

rmt-cli sync

2) Enable SUSE Multi-Linux Support 9 using the product ID 2538

rmt-cli products enable 2538

3) Start package mirroring for the enabled repositories

rmt-cli mirror

Please ensure that all packages are downloaded and the mirroring process is completed without errors.

```
RMT:~ # rmt-cli version
2.21
RMT:~ # rmt-cli products list
```

ID	Product	Version	Arch	Mirror?	Last mirrored
2538	SUSE Liberty Linux SLL/9/x86_64	9	x86_64	Mirror	2025-04-24 08:21:56 UTC

```
Only enabled products are shown by default. Use the '--all' option to see all products.
RMT:~ # rmt-cli repos list
```

ID	Product	Mandatory?	Mirror?	Last mirrored
5963	SLL-9-Updates for x86_64	Mandatory	Mirror	2025-04-23 11:53:52 UTC
5966	SLL-AS-9-Updates for x86_64	Mandatory	Mirror	2025-04-23 18:21:53 UTC
5969	SLL-CB-9-Updates for x86_64	Mandatory	Mirror	2025-04-24 08:21:56 UTC

```
Only enabled repositories are shown by default. Use the '--all' option to see all repositories.
RMT:~ #
```

Packages are downloaded to the RMT server once per day by *rmt-server-mirror.timer*. You can check the status and the next scheduled download time with the following command:

systemctl status rmt-server-mirror.timer

Test Scenario 1 (Install “Oracle DB 19c on RHEL9” then migrate to SUSE MLS 9)

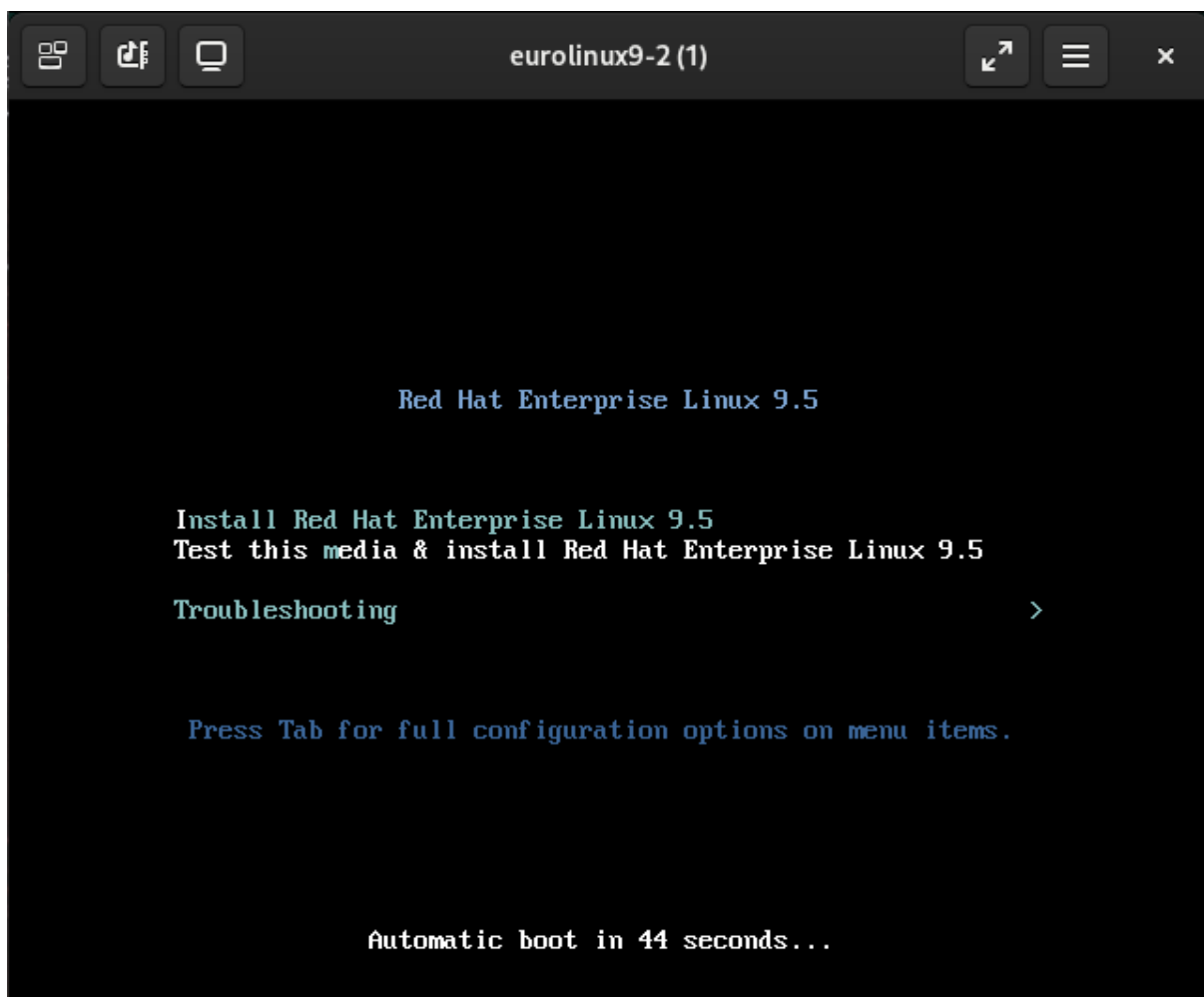
1. Installing RHEL9.5 (x86_64) on SLES 15 SP6 KVM

1-1. Log in to the **hpgen9-02**(SLES 15 SP6 64-bit OS) as root user.

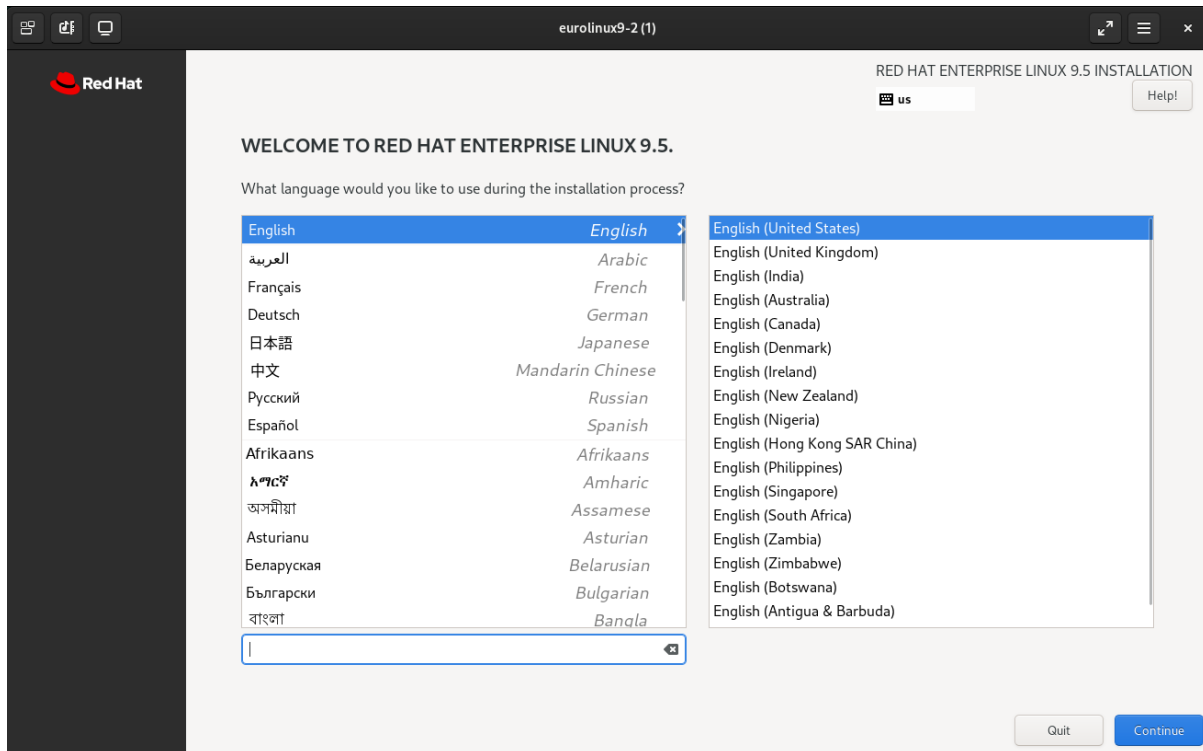
Download Red Hat Enterprise Linux 9.5(x86_64) from:

(https://developers.redhat.com/content-gateway/file/rhel/Red_Hat_Enterprise_Linux_9.5/rhel-9.5-x86_64-boot.iso)

1-2. Creating a VM and using the RHEL9.5 iso(rhel-9.5-x86_64-boot.iso) to start installation.

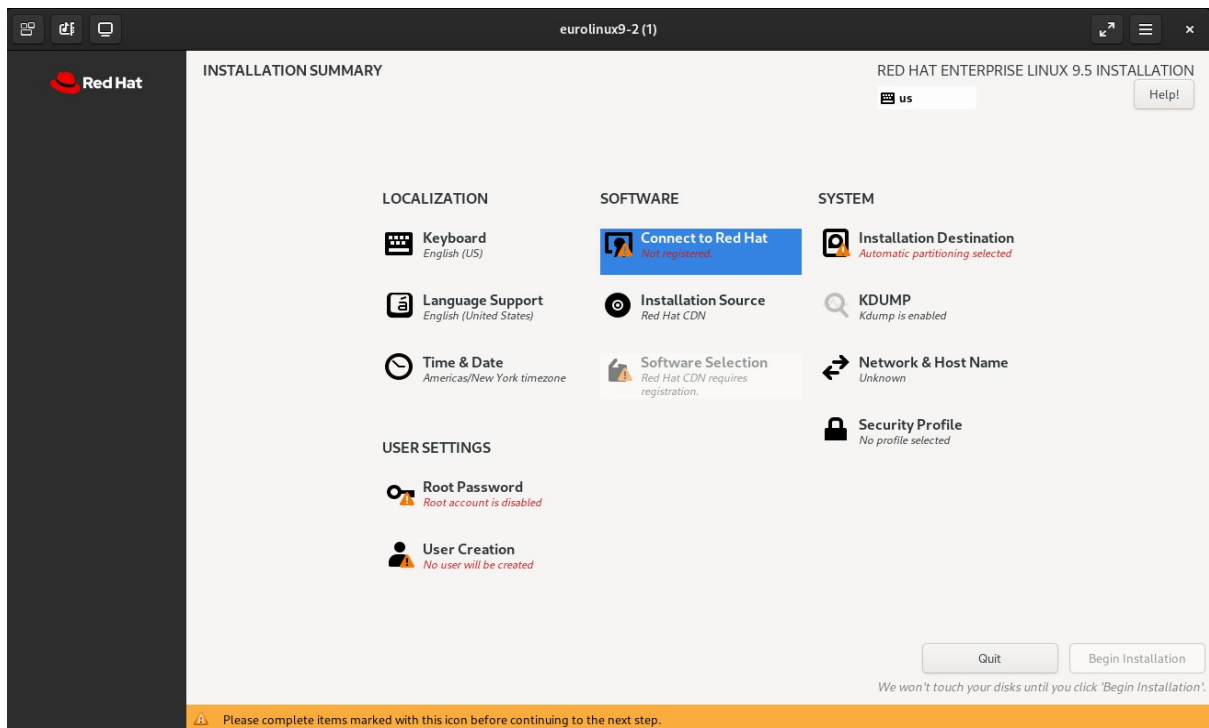


1). Installing RHEL9.5 as guest os – Welcome Screen.

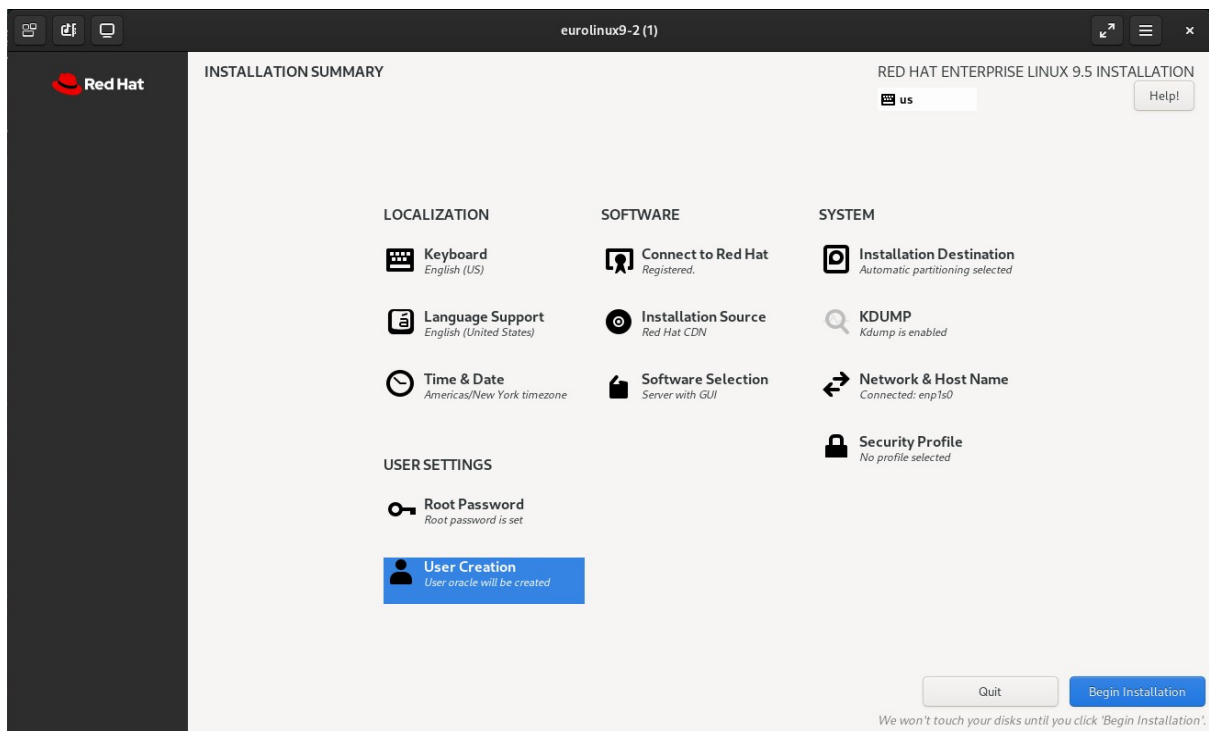


Select the language and click **Continue**.

2). Installation summary.

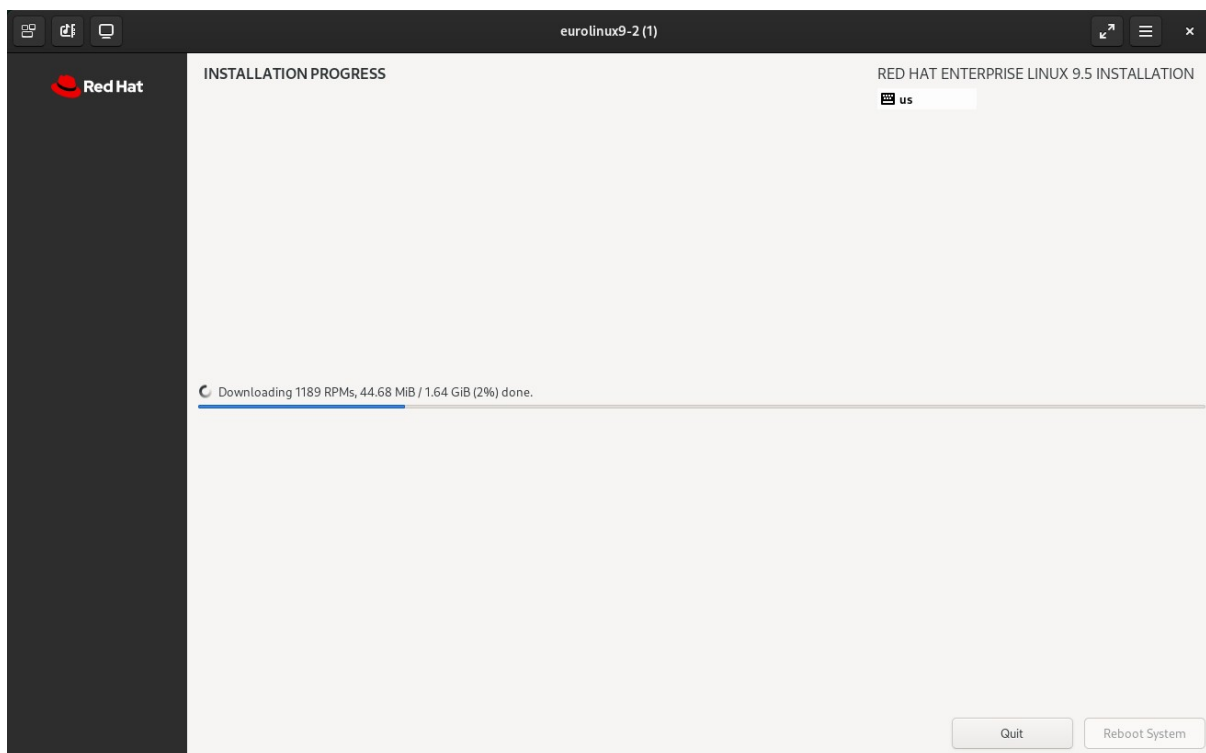


Selecting any of the menu options opens additional screens for configuring the options. As a minimum, please visit the options with a warning icon next to them. Change the installation configuration options as much as you like.

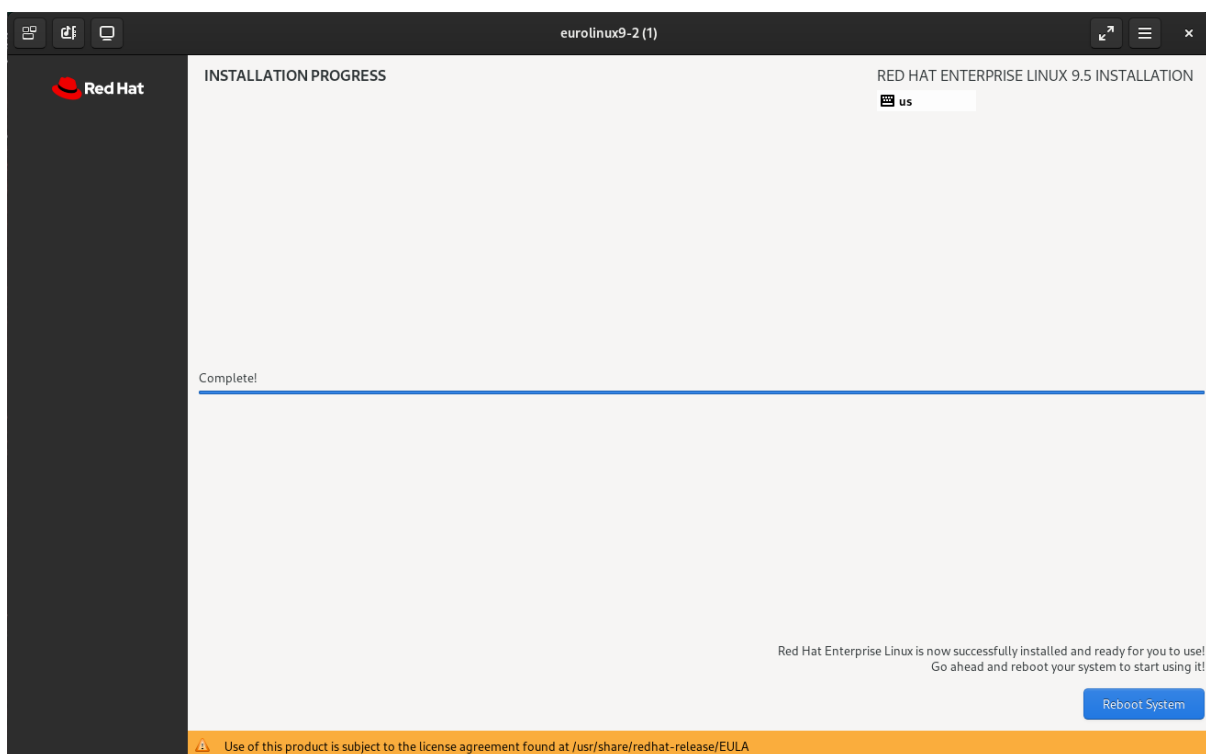


Click **Begin Installation** after all configurations are completed.

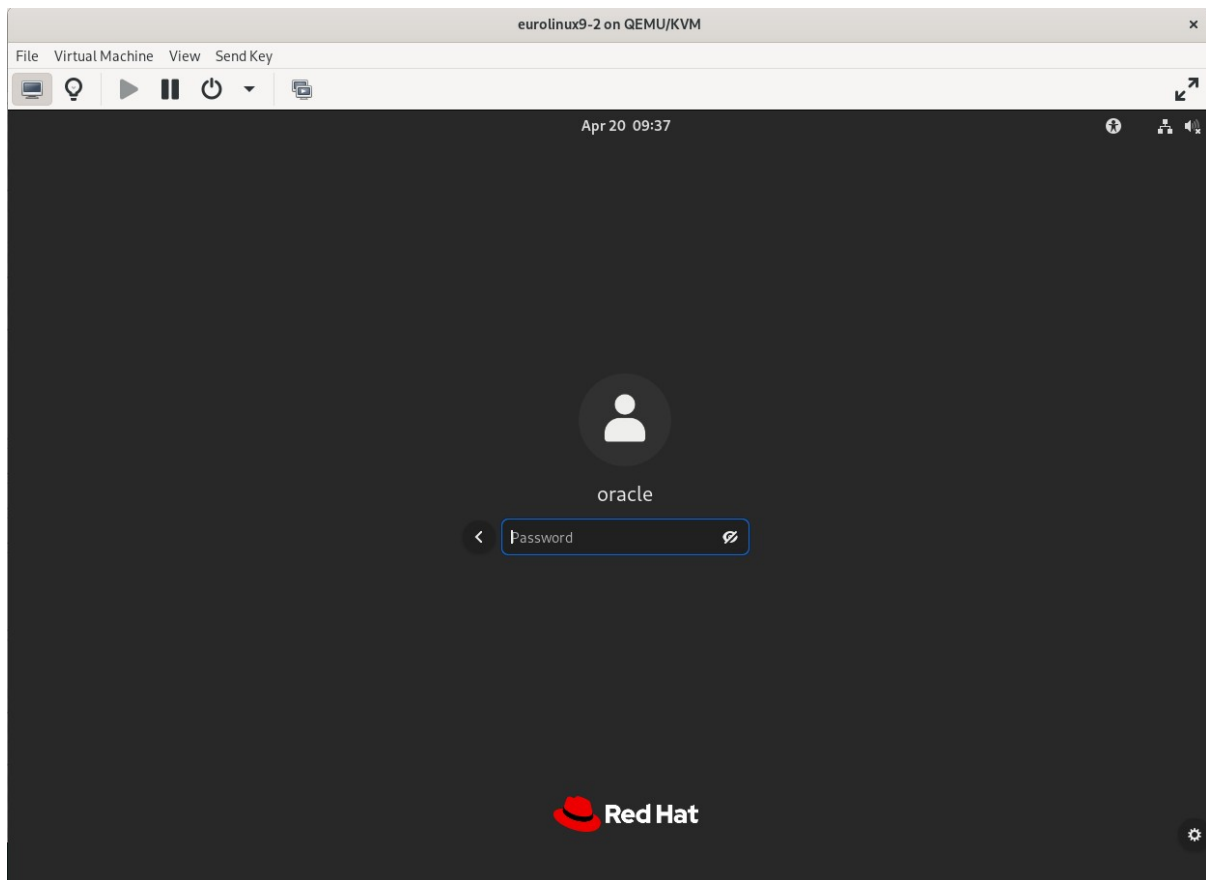
3). Installation Progress.



Wait for the installation to complete and click **Reboot System**.



4). Log in to RHEL9.5, then check the OS release information and kernel version.



```
oracle@localhost:~  
[oracle@localhost ~]$ more /etc/os-release  
NAME="Red Hat Enterprise Linux"  
VERSION="9.5 (Plow)"  
ID="rhel"  
ID_LIKE="fedora"  
VERSION_ID="9.5"  
PLATFORM_ID="platform:el9"  
PRETTY_NAME="Red Hat Enterprise Linux 9.5 (Plow)"  
ANSI_COLOR="0;31"  
LOGO="fedora-logo-icon"  
CPE_NAME="cpe:/o:redhat:enterprise_linux:9::baseos"  
HOME_URL="https://www.redhat.com/"  
DOCUMENTATION_URL="https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9"  
BUG_REPORT_URL="https://issues.redhat.com/"  
  
REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"  
REDHAT_BUGZILLA_PRODUCT_VERSION=9.5  
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"  
REDHAT_SUPPORT_PRODUCT_VERSION="9.5"  
[oracle@localhost ~]$ uname -a  
Linux localhost.localdomain 5.14.0-503.38.1.el9_5.x86_64 #1 SMP PREEMPT_DYNAMIC Sun Apr 13 22:01:49 EDT 2025 x86_64 x86_64 x86_64 GNU/Linux  
[oracle@localhost ~]$
```

2. Installing Oracle Database 19c(19.26.0.0.0) on RHEL9.5 (x86_64)

2-1. Log in to the RHEL9.5 as oracle user.

Download Oracle Database 19c(19.3 zip version) for Linux x86-64 (LINUX.X64_193000_db_home.zip) from:

<https://www.oracle.com/database/technologies/oracle19c-linux-downloads.html>.

Download following patches from Oracle Support (MOS): <https://support.oracle.com>.

DATABASE RELEASE UPDATE 19.26.0.0.0 (Patch 37260974)

OCW RELEASE UPDATE 19.26.0.0.0 (Patch 37268031)

OJVM RELEASE UPDATE 19.26.0.0.0 (Patch 37102264)

OPatch utility 12.2.0.1.44 for DB 23.0.0.0.0(Oct 2024) (Patch 6880880)

2-2. Please make sure that the following packages are installed with RHEL9.5.

bc
binutils
glibc
glibc-devel
libaio-devel
libaio
libX11
libXau
libXext-devel
libXext
libXi-devel
libXi
libXrender-devel
libXrender
libXtst6
libcap-ng-utils
libcap-ng
libcap
elfutils-libelf
libgcc
libjpeg-turbo
libpcap
libpng
libstdc++
libtiff
libgfortran
mksh
make
rdma-core
rdma-core-devel
smartmontools
sysstat
xz
libnsl

2-3. Installing Oracle Database 19c.

Extract LINUX.X64_193000_db_home.zip and replace the OPatch directory located in the Database 19.3 ShipHome with OPatch version 12.2.0.1.44.

```
# mv $ORACLE_HOME/OPatch $ORACLE_HOME/OPatch.bak
# unzip p6880880_230000_Linux-x86-64.zip -d $ORACLE_HOME/
```

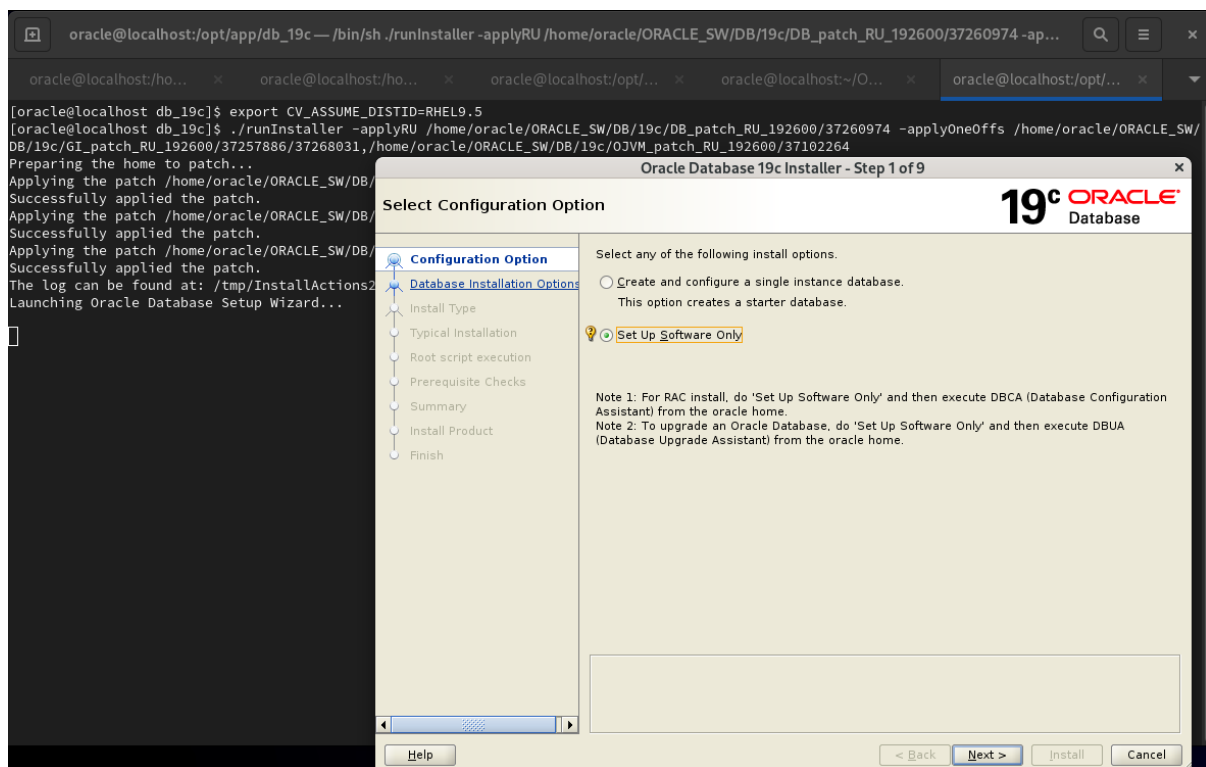
Export CV_ASSUME_DISTID=RHEL9.5, then launch the Oracle Universal Installer(runInstaller) from the Database ShipHome with the parameters to apply the required patches:

```
-applyRU $STAGE/37260974
-applyOneOffs $STAGE/37257886/37268031,$STAGE/37102264
```

These parameters will apply the recommended 19.26.0.0.0 release updates (RUs) and one-off patches to the database.

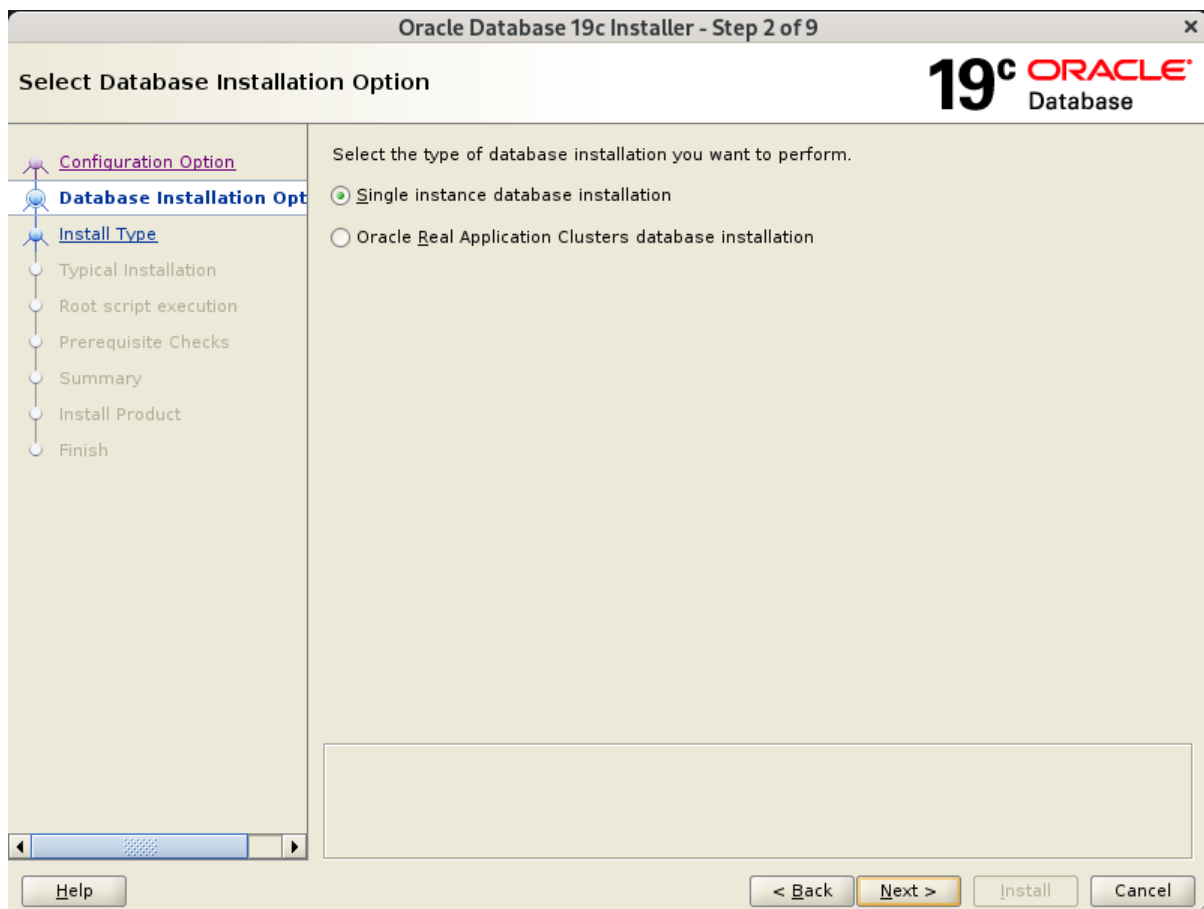
Install Flow:

1). Select Configuration Option.



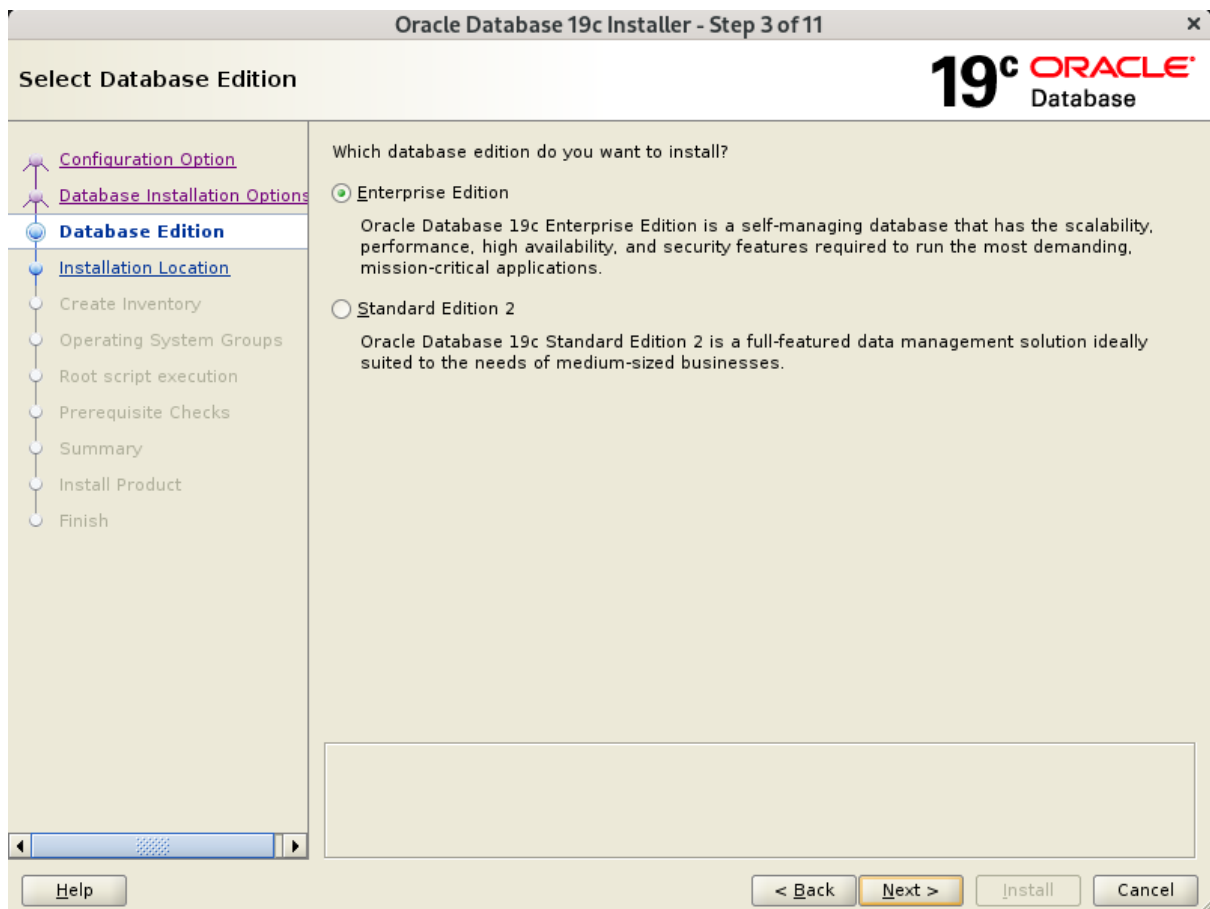
Select option **"Set Up Software Only"**, then click **Next** to continue.

2). Select Database Installation Option.



Choose option "**Single instance database installation**", then click **Next** to continue.

3). Select Database Edition.



Choose option "**Enterprise Edition**", then click **Next** to continue.

4). Specify Installation Location.

Oracle Database 19c Installer - Step 4 of 11

Specify Installation Location

19^c ORACLE[®] Database

Specify a path to place all Oracle software and configuration-related files installed by this installation owner. This location is the Oracle base directory for the installation owner.

Oracle base:

This software directory is the Oracle Database home directory.

Software location: /opt/app/db_19c

Fill in **Oracle base** as shown above, then click **Next** to continue.

5). Create Inventory.

Oracle Database 19c Installer - Step 5 of 11

Create Inventory

19^c ORACLE 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 (oralInventory).

oralInventory Group Name:

Select the location of the **oralInventory** directory, then click **Next** to continue.

6). Privileged Operating System groups.

Oracle Database 19c Installer - Step 6 of 11

Privileged Operating System groups

19c ORACLE Database

Configuration Option
Database Installation Options
Database Edition
Installation Location
Create Inventory
Operating System Groups
Root script execution
Prerequisite Checks
Summary
Install Product
Finish

SYS privileges are required to create a database using operating system (OS) authentication. Membership in OS Groups grants the corresponding SYS privilege, eg. membership in OSDBA grants the SYSDBA privilege.

Database Administrator (OSDBA) group: oracle

Database Operator (OSOPER) group (Optional):

Database Backup and Recovery (OSBACKUPDBA) group: oracle

Data Guard administrative (OSDGDBA) group: oracle

Encryption Key Management administrative (OSKMDBA) group: oracle

Real Application Cluster administrative (OSRACDBA) group: oracle

Help < Back Next > Install Cancel

Selected by default, then click **Next** to continue.

7). Root script execution configuration.

The screenshot shows the 'Oracle Database 19c Installer - Step 7 of 11' window. The title bar includes the Oracle 19c Database logo. The main window is titled 'Root script execution configuration'. On the left is a navigation pane with links: Configuration Option, Database Installation Options, Database Edition, Installation Location, Create Inventory, Operating System Groups, Root script execution (highlighted), Prerequisite Checks, Summary, Install Product, and Finish. The main area contains a text block explaining that certain operations must be performed as 'root' user and that the installer can perform these automatically. Below this is a checkbox labeled 'Automatically run configuration scripts' which is checked. There are two radio button options: 'Use "root" user credential' (selected) and 'Use sudo'. The 'Use "root" user credential' option has a 'Password' field with a masked password '.....'. The 'Use sudo' option has fields for 'Program path' (set to '/usr/bin/sudo' with a 'Browse...' button), 'User name' (set to 'oracle'), and 'Password'. At the bottom are buttons for 'Help', '< Back', 'Next >', 'Install', and 'Cancel'.

Oracle Database 19c Installer - Step 7 of 11

Root script execution configuration

During the software configuration, certain operations have to be performed as "root" user. You can choose to have the installer perform these operations automatically by specifying inputs for one of the options below. The input specified will also be used by the installer to perform additional prerequisite checks.

☒ Automatically run configuration scripts

☒ Use "root" user credential

Password :

☐ Use sudo

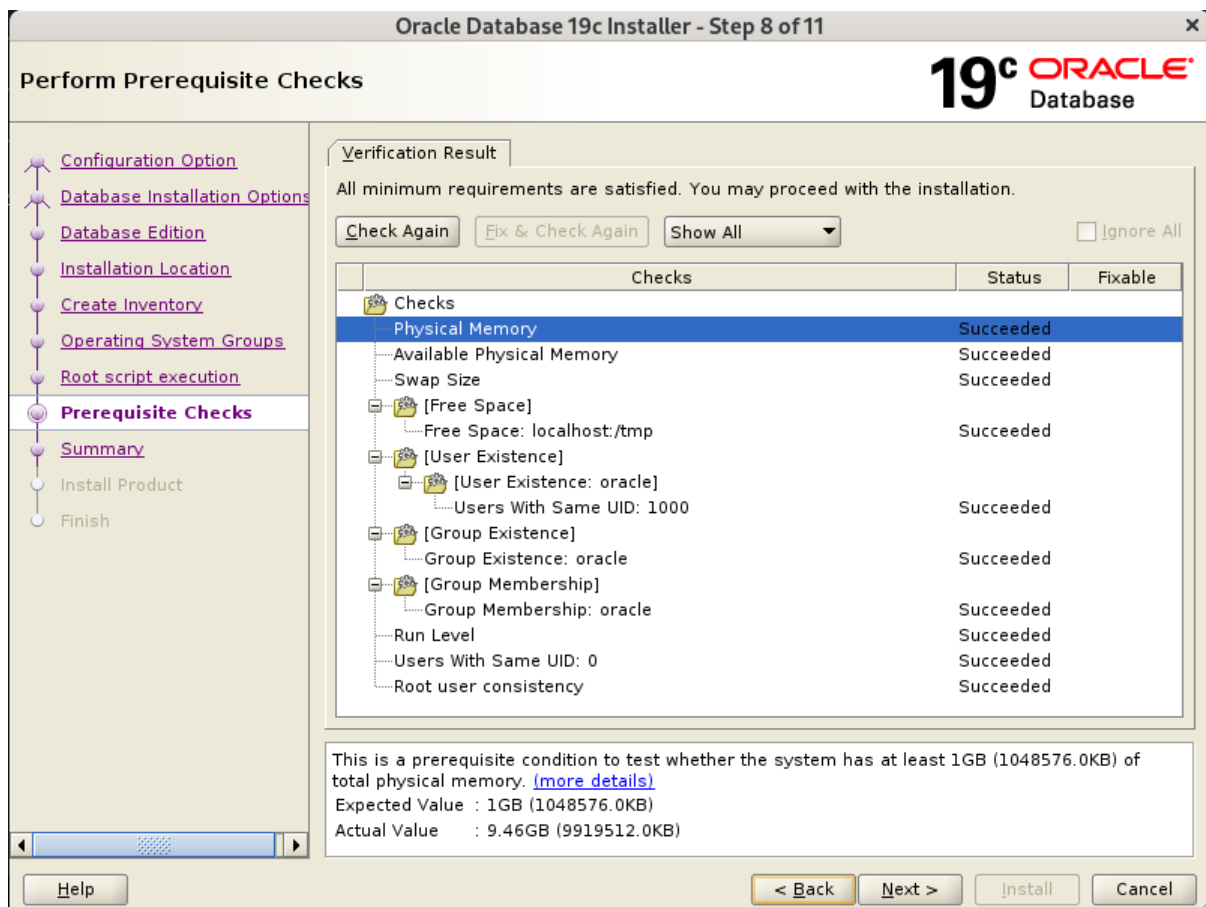
Program path : /usr/bin/sudo

User name : oracle

Password :

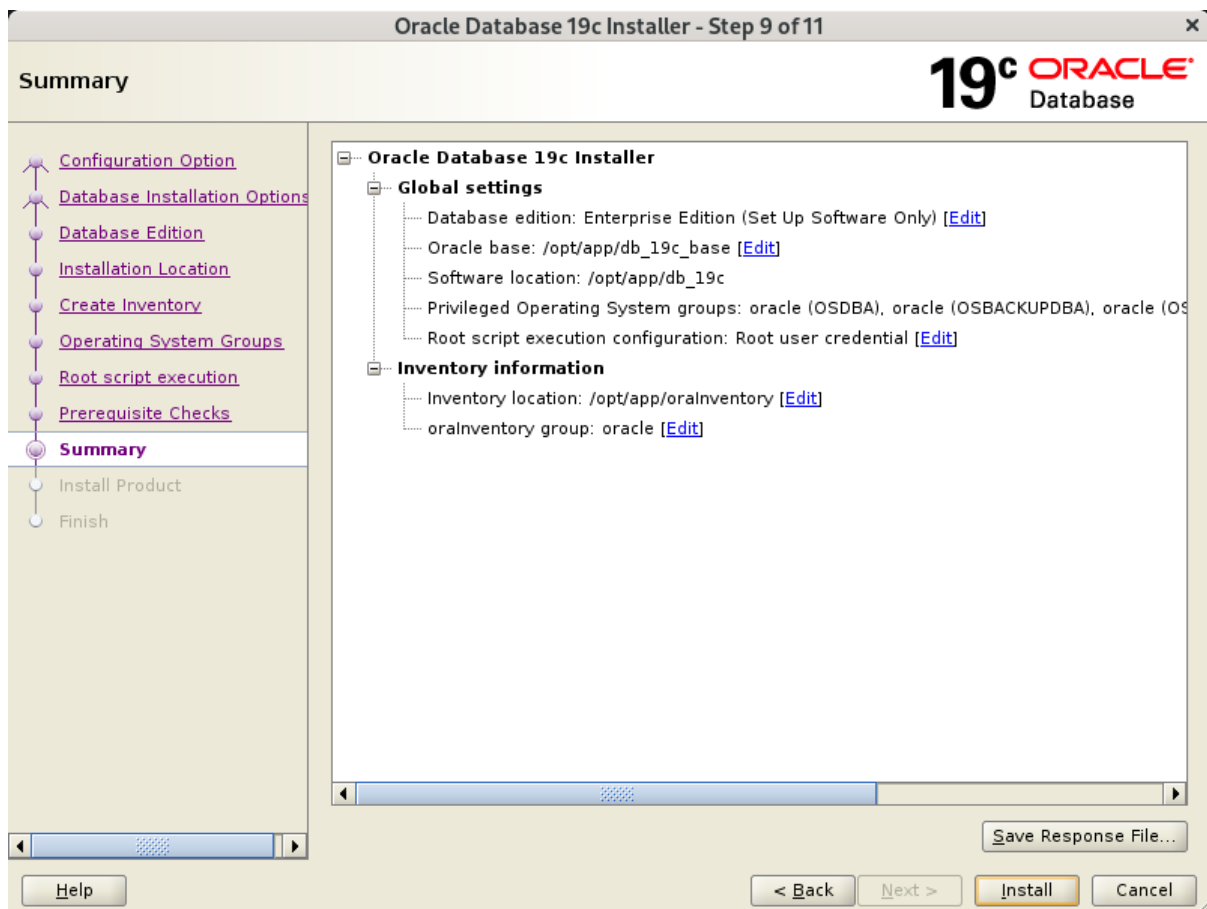
If select the option **Automatically run configuration scripts**, enter the credentials for the root user or a sudo account. Alternatively, run the scripts manually as the root user at the installation process when prompted by the installer. Click **Next** to continue.

8). Perform Prerequisite Checks.



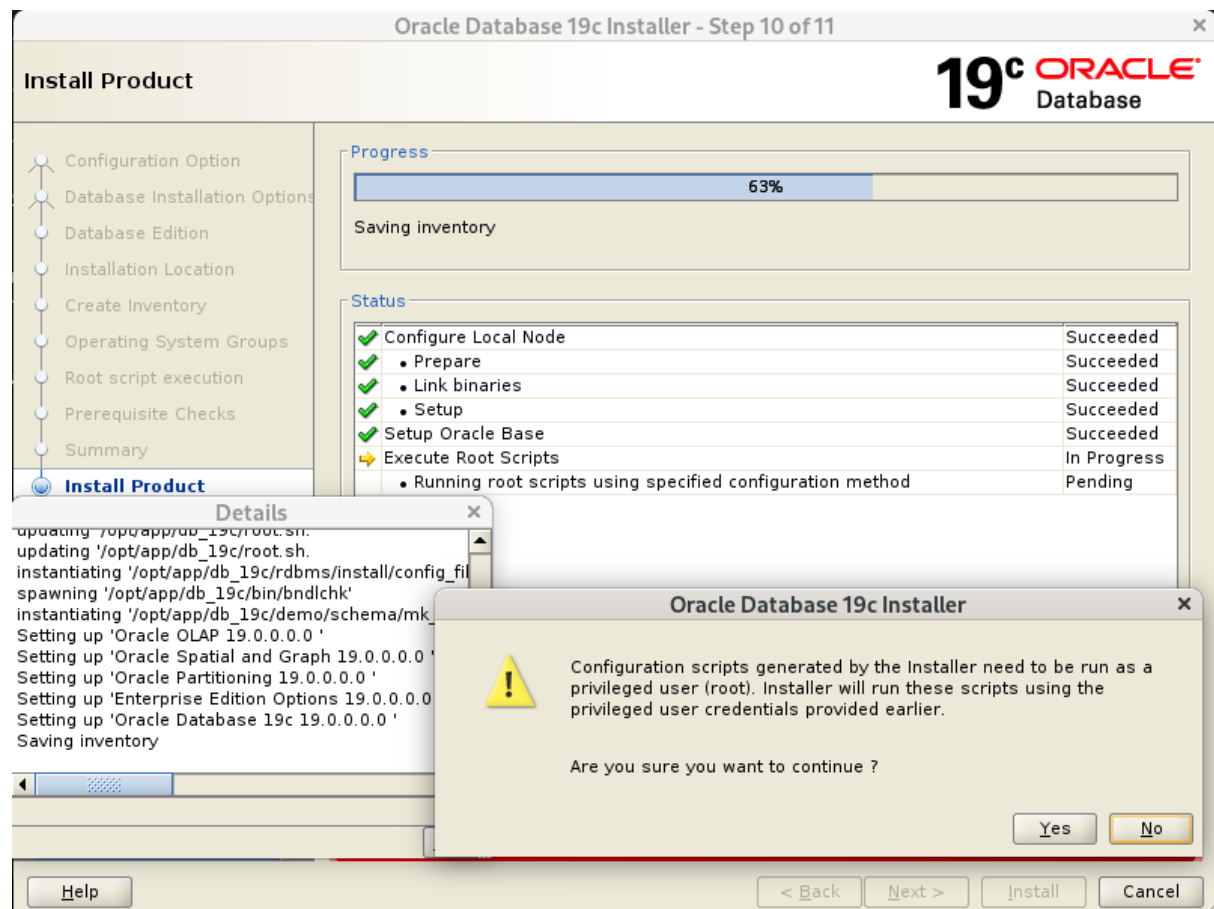
Perform Pre-Check as shown above, make sure all requirements are satisfied. Then click **Next** to continue.

9). Summary.



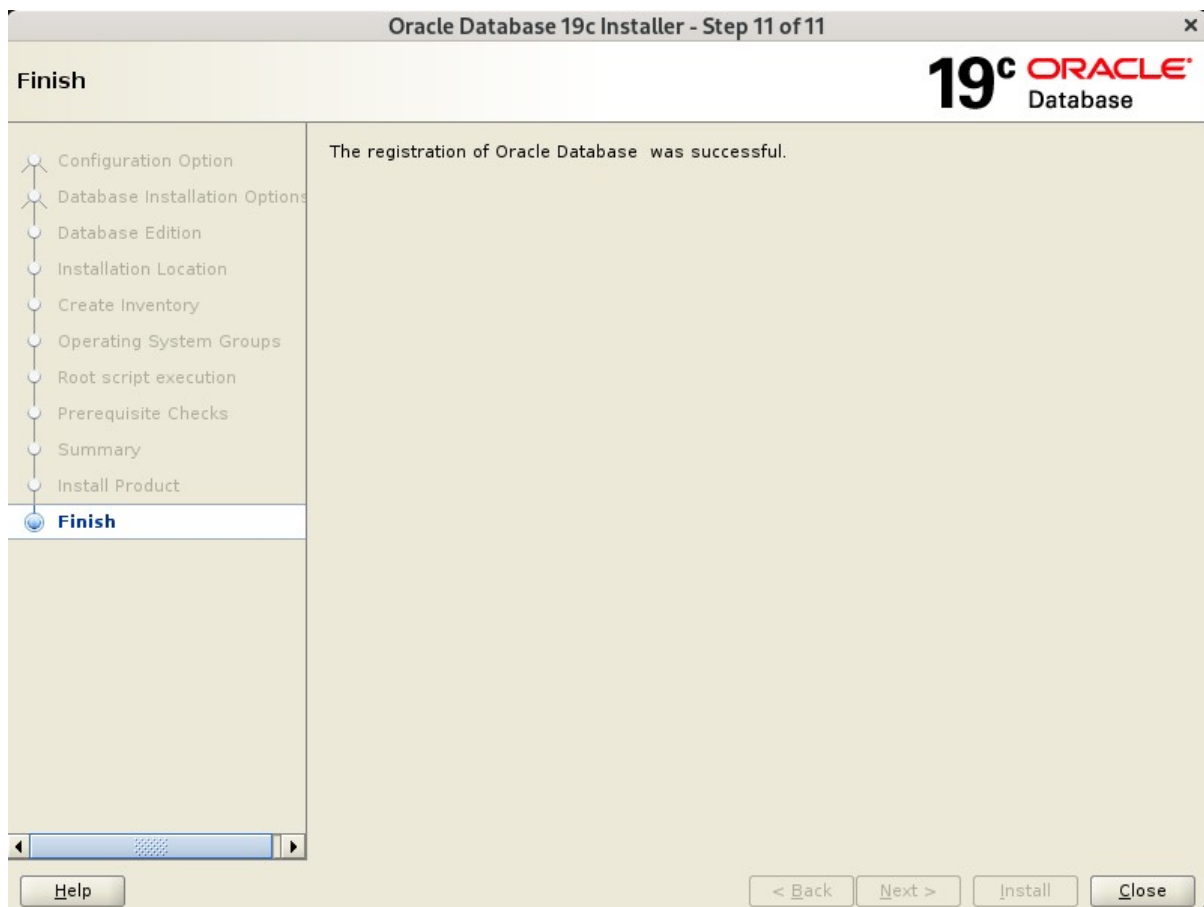
Installation Summary as shown above, click **Install** to continue.

10). Install Product.



Installer prompted you to run the root.sh scripts. Click **Yes** to continue. Monitoring the installation until the Finish window appears.

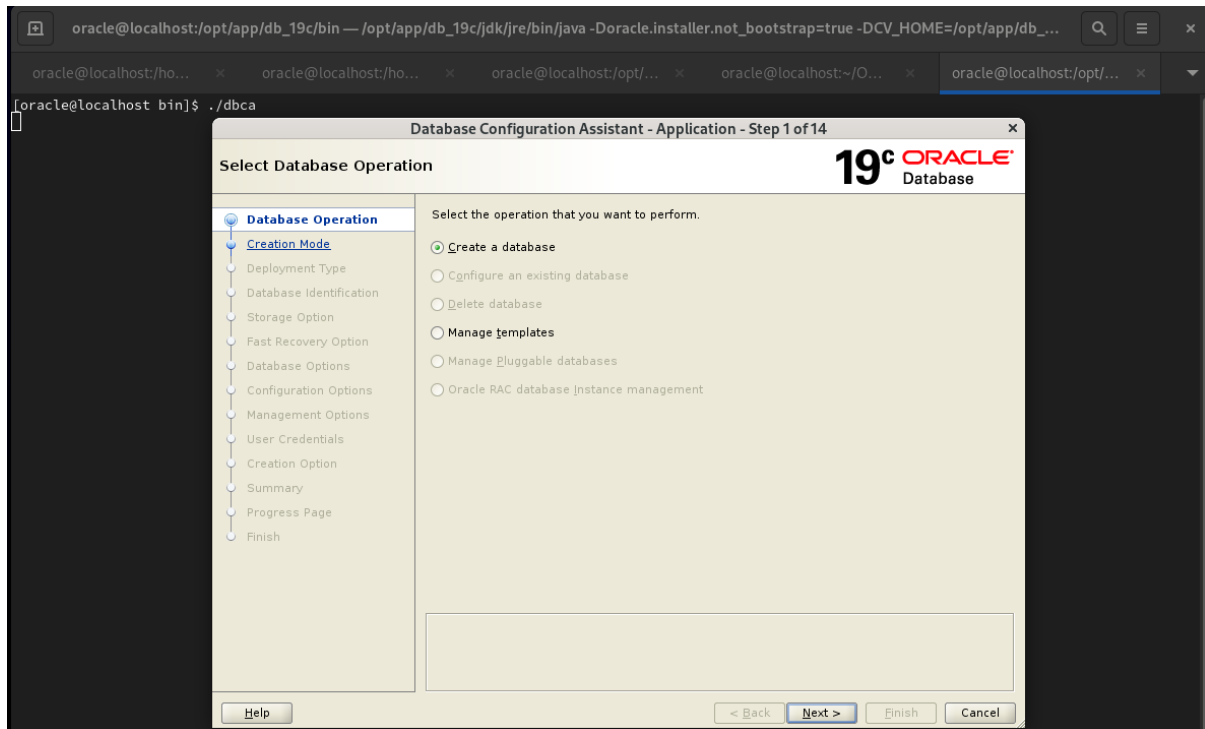
11). Finish



The installation of Oracle Database is finished, click **Close** to dismiss the screen.

2-4. Using DBCA to create a database.

1). Select Database Operation.



Select Create a database, then click **Next** to continue.

2). Select Database Creation Mode.

Database Configuration Assistant - Create a database - Step 2 of 14

Select Database Creation Mode

19c ORACLE Database

Database Operation

Creation Mode

Deployment Type

Database Identification

Storage Option

Fast Recovery Option

Database Options

Configuration Options

Management Options

User Credentials

Creation Option

Summary

Progress Page

Finish

Typical configuration

Global database name: orclpdb

Storage type: File System

Database files location: {ORACLE_BASE}/oradata/{DB_UNIQUE_NAME} Browse...

Fast Recovery Area (FRA): {ORACLE_BASE}/fast_recovery_area/{DB_UNIQUE_NAME} Browse...

Database character set: AL32UTF8 - Unicode UTF-8 Universal character set

Administrative password:

Confirm password:

☒ Create as Container database

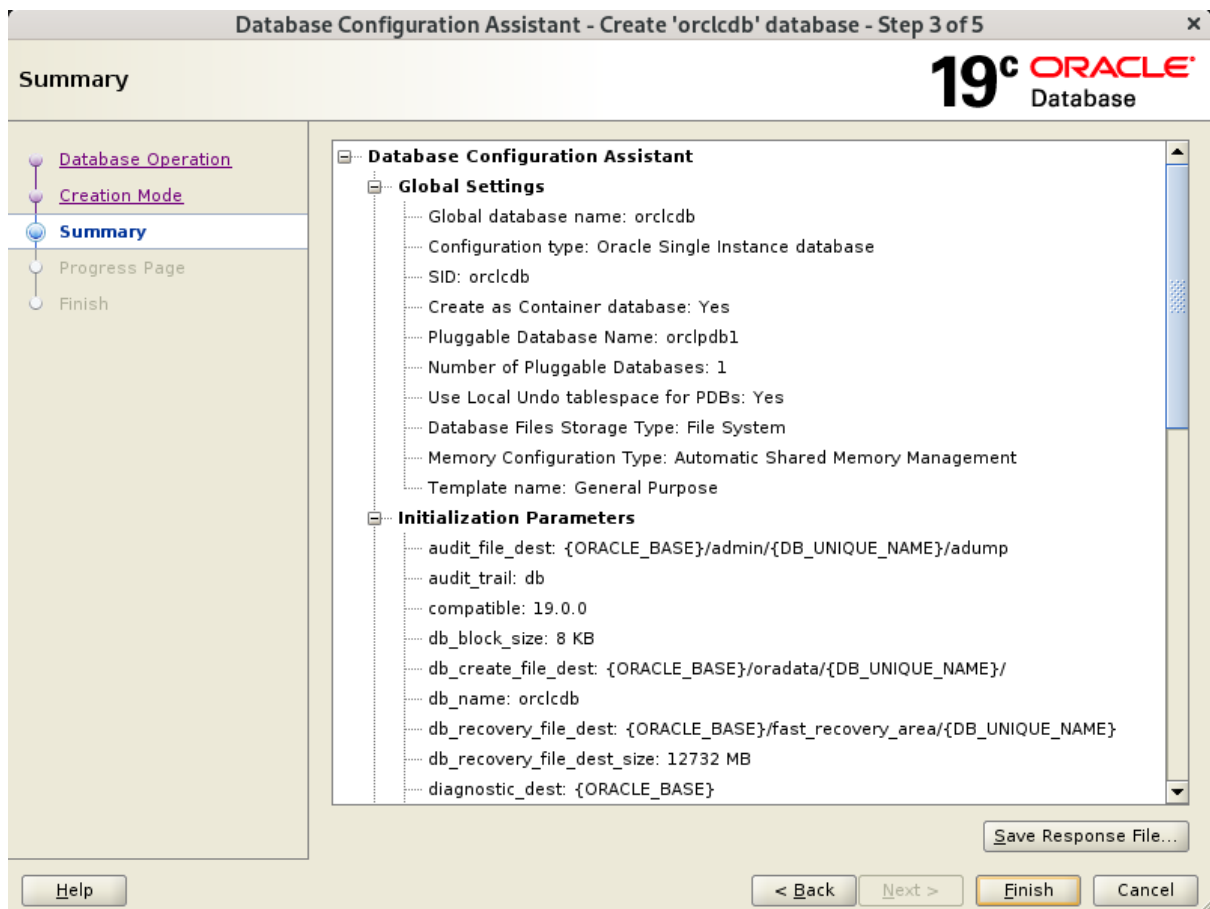
Pluggable database name: orclpdb1

Advanced configuration

Help < Back Next > Finish Cancel

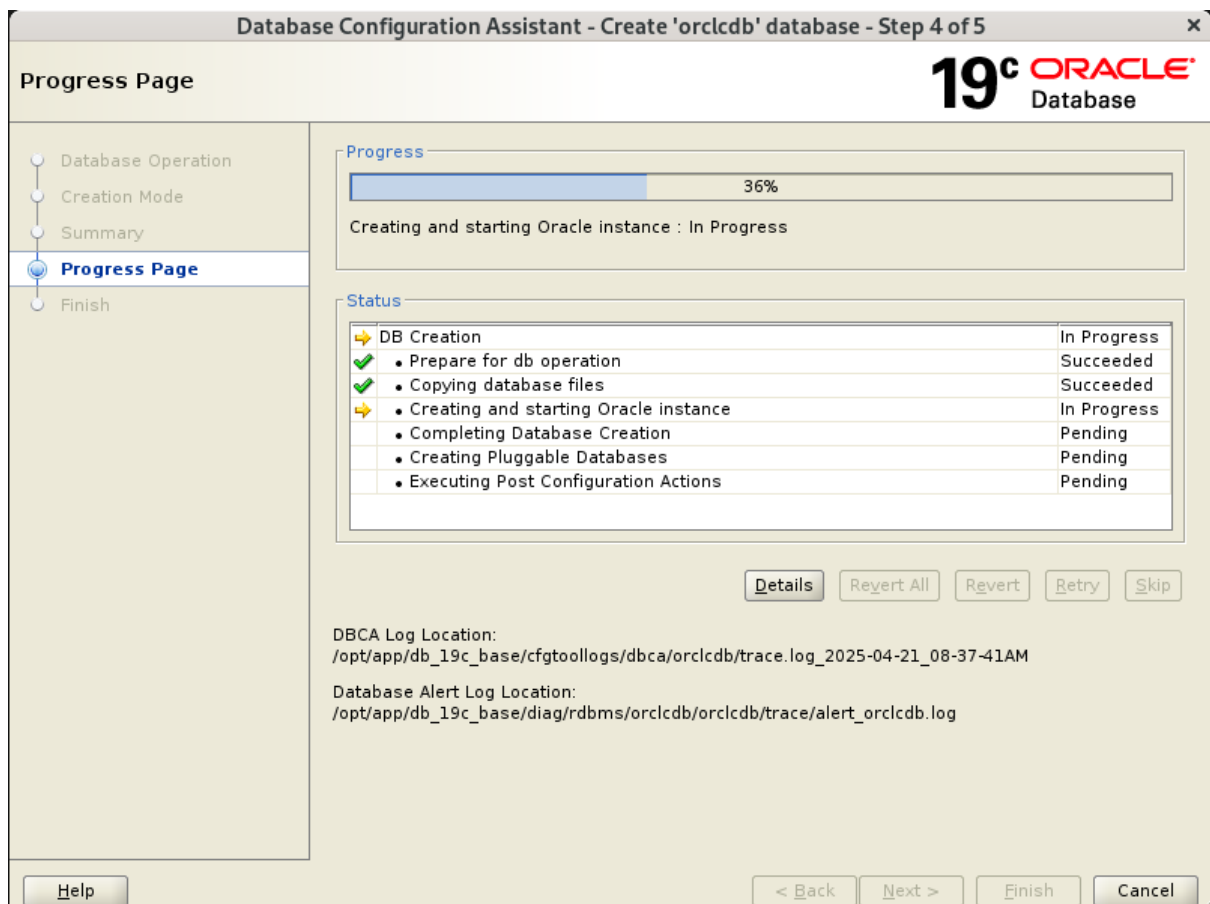
Select option "Typical configuration" and fill in administrator password. Then, click **Next** to continue.

3). Summary.



Database Configuration Summary as shown above, review the information, then click **Finish** to continue.

4). Progress Page.



Database creating progress as shown above, waiting until the creation is complete.

5). Finish.



Database creation complete, some details as shown above. Click **Close** to dismiss the screen.

2-5. Oracle Database 19c(19.26.0.0.0) Post-Install checks.

1). Check database and listener status

```
[oracle@localhost ~]$ export ORACLE_HOME=/opt/app/db_19c
[oracle@localhost ~]$ export ORACLE_SID=orclcdb
[oracle@localhost ~]$ /opt/app/db_19c/bin/sqlplus /nolog

SQL*Plus: Release 19.0.0.0.0 - Production on Mon Apr 21 11:45:49 2025
Version 19.26.0.0.0

Copyright (c) 1982, 2024, Oracle. All rights reserved.

SQL> conn /as sysdba
Connected.
SQL> show sga

Total System Global Area 3053453288 bytes
Fixed Size                  9183208 bytes
Variable Size              671088640 bytes
Database Buffers          2365587456 bytes
Redo Buffers                7593984 bytes
SQL> show pdbs

  CON_ID CON_NAME                                OPEN MODE  RESTRICTED
-----
       2 PDB$SEED                                READ ONLY  NO
       3 ORCLPDB1                                READ WRITE NO
SQL> exec DBMS_XDB_CONFIG.SETHTTPSPORT(5500);

PL/SQL procedure successfully completed.

SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.26.0.0.0
[oracle@localhost ~]$
```

```

[oracle@localhost ~]$ /opt/app/db_19c/bin/lsnrctl start

LSNRCTL for Linux: Version 19.0.0.0.0 - Production on 21-APR-2025 11:49:01

Copyright (c) 1991, 2024, Oracle. All rights reserved.

Starting /opt/app/db_19c/bin/tnslsnr: please wait...

TNSLSNR for Linux: Version 19.0.0.0.0 - Production
Log messages written to /opt/app/db_19c_base/diag/tnslsnr/localhost/listener/alert/log.xml
Listening on: (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=localhost)(PORT=1521)))

Connecting to (ADDRESS=(PROTOCOL=tcp)(HOST=)(PORT=1521))
STATUS of the LISTENER
-----
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 19.0.0.0.0 - Production
Start Date                21-APR-2025 11:49:08
Uptime                    0 days 0 hr. 0 min. 7 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Log File         /opt/app/db_19c_base/diag/tnslsnr/localhost/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=localhost)(PORT=1521)))
The listener supports no services
The command completed successfully
[oracle@localhost ~]$ /opt/app/db_19c/bin/lsnrctl status

LSNRCTL for Linux: Version 19.0.0.0.0 - Production on 21-APR-2025 11:52:41

Copyright (c) 1991, 2024, Oracle. All rights reserved.

Connecting to (ADDRESS=(PROTOCOL=tcp)(HOST=)(PORT=1521))
STATUS of the LISTENER
-----
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 19.0.0.0.0 - Production
Start Date                21-APR-2025 11:49:08
Uptime                    0 days 0 hr. 3 min. 39 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Log File         /opt/app/db_19c_base/diag/tnslsnr/localhost/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=localhost)(PORT=1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcps)(HOST=localhost)(PORT=5500))(Presentation=HTTP)(Session=RAW))
Services Summary...
Service "334c73d644071e31e065000000000001" has 1 instance(s).
  Instance "orclcdb", status READY, has 1 handler(s) for this service...
Service "86b637b62fdf7a65e053f706e80a27ca" has 1 instance(s).
  Instance "orclcdb", status READY, has 1 handler(s) for this service...
Service "orclcdb" has 1 instance(s).
  Instance "orclcdb", status READY, has 1 handler(s) for this service...
Service "orclcdbXDB" has 1 instance(s).
  Instance "orclcdb", status READY, has 1 handler(s) for this service...
Service "orclpdb1" has 1 instance(s).
  Instance "orclcdb", status READY, has 1 handler(s) for this service...
The command completed successfully
[oracle@localhost ~]$ █

```



2). Access to Oracle Database Enterprise Manager.

Username

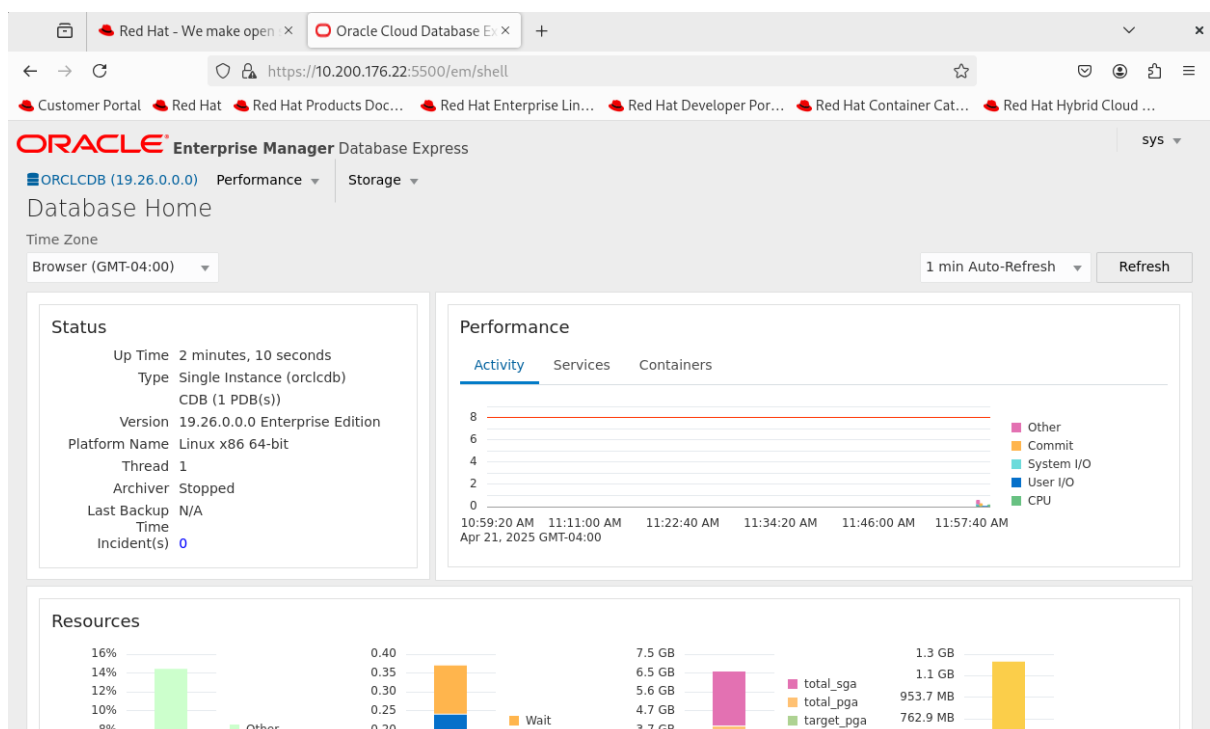
Password

Container Name

[Log in](#)

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3. Registering RHEL9.5 with the RMT server (Migrate RHEL9/Oracle 19c to SUSE MLS 9)

3-1. Log in to the RHEL9.5 as root user. Check the system subscription and repositories.

```
[root@localhost ~]# more /etc/os-release
NAME="Red Hat Enterprise Linux"
VERSION="9.5 (Plow)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="9.5"
PLATFORM_ID="platform:el9"
PRETTY_NAME="Red Hat Enterprise Linux 9.5 (Plow)"
ANSI_COLOR="0;31"
LOGO="fedora-logo-icon"
CPE_NAME="cpe:/o:redhat:enterprise_linux:9::baseos"
HOME_URL="https://www.redhat.com/"
DOCUMENTATION_URL="https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9"
BUG_REPORT_URL="https://issues.redhat.com/"

REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"
REDHAT_BUGZILLA_PRODUCT_VERSION=9.5
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"
REDHAT_SUPPORT_PRODUCT_VERSION="9.5"
[root@localhost ~]# uname -a
Linux localhost.localdomain 5.14.0-503.38.1.el9_5.x86_64 #1 SMP PREEMPT_DYNAMIC Sun Apr 13 22:01:49 EDT 2025 x86_64 x86_64 x86_64 GNU/Linux
[root@localhost ~]# subscription-manager list
+-----+
+ Installed Product Status
+-----+
Product Name: Red Hat Enterprise Linux for x86_64
Product ID: 479
Version: 9.5
Arch: x86_64

[root@localhost ~]# subscription-manager list --consumed
No consumed subscription pools were found.
[root@localhost ~]# dnf repolist
Updating Subscription Management repositories.

repo id                                     repo name
rhel-9-for-x86_64-appstream-rpms           Red Hat Enterprise Linux 9 for x86_64 - AppStream (RPMs)
rhel-9-for-x86_64-baseos-rpms              Red Hat Enterprise Linux 9 for x86_64 - BaseOS (RPMs)
[root@localhost ~]#
```

Disable the "**rhel-9-for-x86_64-appstream-rpms**" and "**rhel-9-for-x86_64-baseos-rpms**" repositories.

```
[root@localhost ~]# dnf repolist
Updating Subscription Management repositories.

repo id                                     repo name
rhel-9-for-x86_64-appstream-rpms           Red Hat Enterprise Linux 9 for x86_64 - AppStream (RPMs)
rhel-9-for-x86_64-baseos-rpms              Red Hat Enterprise Linux 9 for x86_64 - BaseOS (RPMs)
[root@localhost ~]# dnf config-manager --disable rhel-9-for-x86_64-appstream-rpms
Updating Subscription Management repositories.
[root@localhost ~]# dnf config-manager --disable rhel-9-for-x86_64-baseos-rpms
Updating Subscription Management repositories.
[root@localhost ~]# dnf repolist
Updating Subscription Management repositories.
[root@localhost ~]#
```

3-2. On the RHEL9.5 system, download the **rmt-client-setup-res** script, then run the **rmt-client-setup-res** script with the URL of the RMT server as a parameter.

```

oracle@localhost:~
oracle@localhost/... x oracle@localhost/... x oracle@localhost/... x oracle@localhost:~... x oracle@localhost:~ x oracle@localhost:~ x
[root@localhost ~]# curl http://10.200.176.21/tools/rmt-client-setup-res --output rmt-client-setup-res
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 9005 100 9005 0 0 4396k 0 --:--:-- --:--:-- --:--:-- 4396k
[root@localhost ~]# ll -t rmt-client-setup-res
-rw-r--r--. 1 root root 9005 Apr 24 07:34 rmt-client-setup-res
[root@localhost ~]# sh rmt-client-setup-res https://10.200.176.21
Warning: 'enable' is a deprecated argument. Use 'update-ca-trust extract' in future. See 'update-ca-trust --help' for usage.

Proceeding with extraction anyway for backwards compatibility.
Detected SLL version: 9
Importing repomd.xml key
Disabling all repositories
Updating Subscription Management repositories.
Updating Subscription Management repositories.
Adding repo from: https://10.200.176.21/repo/SUSE/Updates/SLL/9/x86_64/update
Updating Subscription Management repositories.
Adding repo from: https://10.200.176.21/repo/SUSE/Updates/SLL-AS/9/x86_64/update
Updating Subscription Management repositories.
created by dnf config-manager from https://10.200.176.21/repo/SUSE/Updates/SLL-AS/9/x86_64/update 22 MB/s | 28 MB 00:01
created by dnf config-manager from https://10.200.176.21/repo/SUSE/Updates/SLL/9/x86_64/update 25 MB/s | 74 MB 00:02
Last metadata expiration check: 0:00:09 ago on Thu 24 Apr 2025 07:38:54 AM EDT.
Dependencies resolved.

=====
Package Architecture Version Repository Size
=====
Installing:
sll-release x86_64 9.5-0.8.el9 10.200.176.21_repo_SUSE_Updates_SLL_9_x86_64_update 96 k
replacing insights-client.noarch 3.2.8-1.el9
replacing redhat-release.x86_64 9.5-0.6.el9
replacing redhat-release-eula.x86_64 9.5-0.6.el9
replacing rhc.x86_64 1:0.2.5-1.el9_5

Transaction Summary

Red Hat
Enterprise Linux

```

You should see **Successfully registered system**.

```

oracle@localhost:~
oracle@localhost/... x oracle@localhost/... x oracle@localhost/... x oracle@localhost:~... x oracle@localhost:~ x oracle@localhost:~ x
86:68:50:B9:55:0C:B5:63:A2:1C:99:F7:EC:B0:C7:B3:47:77:BE:A7
X509v3 Authority Key Identifier:
86:68:50:B9:55:0C:B5:63:A2:1C:99:F7:EC:B0:C7:B3:47:77:BE:A7
Signature Algorithm: sha256WithRSAEncryption
Signature Value:
7f:4b:dd:4d:01:86:e1:71:6b:f1:41:c6:b7:dd:e7:72:01:b5:
95:52:ac:cc:cd:4f:8e:af:67:a3:af:43:ee:60:80:35:39:96:
58:02:0a:e1:5a:b4:1c:db:87:d0:7b:34:b8:a1:e2:fb:67:80:
cd:ef:b9:37:35:ad:ca:dd:e0:3a:b6:b9:8d:d3:7a:9f:fd:a8:
54:34:6f:f6:4b:e6:91:0b:20:2d:ab:2d:4e:27:c8:01:3e:75:
61:9b:d2:21:5a:3f:97:71:53:6f:b6:54:59:88:2c:05:ce:66:
14:bc:08:b1:2c:22:74:98:c4:25:a8:c3:86:47:9c:d7:9d:a6:
5d:4d:03:1f:f9:4f:44:c5:3a:b7:15:db:10:15:38:b2:f9:60:
e8:3d:57:07:dc:ef:cd:15:19:45:52:27:97:4c:58:d6:df:ae:
67:5a:1a:fb:93:fa:f4:34:05:4a:c2:85:7e:d8:66:5d:b4:9c:
82:c0:66:0b:56:c5:ed:da:85:42:6c:f1:20:21:7e:d8:08:e2:
ce:64:2b:2b:20:12:9a:1e:7c:6d:6e:7f:d5:5c:4e:24:6d:d4:
05:61:45:a5:68:9b:1d:e7:76:64:4c:51:61:42:1a:1d:16:d8:
b6:1f:b2:3d:f6:65:8d:66:f1:4f:9b:74:5c:87:da:31:0c:45:
f9:c9:63:13
Do you accept this certificate? [y/n] y
Client setup finished.
Start the registration now? [y/n] y
/usr/sbin/SUSEConnect --write-config --url https://10.200.176.21
Registering system to registration proxy https://10.200.176.21

Announcing system to https://10.200.176.21 ...

Activating SLL 9 x86_64 ...
-> Adding service to system ...

Successfully registered system
Created symlink /etc/systemd/system/timers.target.wants/suseconnect-keepalive.timer -> /usr/lib/systemd/system/suseconnect-keepalive.timer.
[root@localhost ~]#
Red Hat
Enterprise Linux

```

Verify the installed product and enabled repos.

```

oracle@localhost:~
oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x
[oracle@localhost ~]$ SUSEConnect --status-text
Installed Products:
-----
SUSE Liberty Linux release file
(SLL/9/x86_64)

Registered
-----

[oracle@localhost ~]$ dnf repolist
Updating Subscription Management repositories.
repo id                                repo name
SUSE_Liberty_Linux_x86_64:SLL-9-Updates SLL-9-Updates
SUSE_Liberty_Linux_x86_64:SLL-AS-9-Updates SLL-AS-9-Updates
SUSE_Liberty_Linux_x86_64:SLL-CB-9-Updates SLL-CB-9-Updates
[oracle@localhost ~]$

```

Run the update command to keep the RHEL9.5 system up to date from repositories provided by SUSE Multi-Linux Support.

```

oracle@localhost:~
oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x oracle@localh... x
[oracle@localhost ~]$ dnf update
update updateinfo update-minimal update-to
[oracle@localhost ~]$ dnf update
Updating Subscription Management repositories.
SLL-9-Updates 34 MB/s | 74 MB 00:02
SLL-AS-9-Updates 25 MB/s | 28 MB 00:01
SLL-CB-9-Updates 14 MB/s | 9.2 MB 00:00
Last metadata expiration check: 0:00:03 ago on Thu 24 Apr 2025 07:52:34 AM EDT.
Dependencies resolved.
=====
Package Architecture Version Repository Size
=====
Installing:
sll-backgrounds noarch 90.4-3.el9 SUSE_Liberty_Linux_x86_64:SLL-9-Updates 24 M
replacing redhat-backgrounds.noarch 90.4-2.el9
sll-indexhtml noarch 9-4.el9_2 SUSE_Liberty_Linux_x86_64:SLL-9-Updates 7.3 k
replacing redhat-indexhtml.noarch 9-4.el9_2
sll-logos noarch 90.4-3.el9 SUSE_Liberty_Linux_x86_64:SLL-9-Updates 282 k
replacing redhat-logos.x86_64 90.4-2.el9
Upgrading:
libxslt x86_64 1.1.34-9.el9_5.2 SUSE_Liberty_Linux_x86_64:SLL-AS-9-Updates 240 k
python3-distro noarch 1.5.0-7.el9.1 SUSE_Liberty_Linux_x86_64:SLL-AS-9-Updates 35 k
Transaction Summary
-----
Install 3 Packages
Upgrade 2 Packages

Total download size: 24 M
Is this ok [y/N]: y
Downloading Packages:
(1/5): sll-indexhtml-9-4.el9_2.noarch.rpm 38 kB/s | 7.3 kB 00:00
(2/5): sll-logos-90.4-3.el9.noarch.rpm 1.0 MB/s | 282 kB 00:00
(3/5): libxslt-1.1.34-9.el9_5.2.x86_64.rpm 1.4 MB/s | 240 kB 00:00
(4/5): python3-distro-1.5.0-7.el9.1.noarch.rpm 109 kB/s | 35 kB 00:00
(5/5): sll-backgrounds-90.4-3.el9.noarch.rpm 19 MB/s | 24 MB 00:01
-----
Total 19 MB/s | 24 MB 00:01
Running transaction check

```

Make sure there are no errors.

```

oracle@localhost:~
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing :
Installing : sll-logos-90.4-3.el9.noarch 1/1
Running scriptlet: sll-logos-90.4-3.el9.noarch 1/10
Installing : sll-backgrounds-90.4-3.el9.noarch 2/10
Upgrading : python3-distro-1.5.0-7.el9.1.noarch 3/10
Upgrading : libxslt-1.1.34-9.el9_5.2.x86_64 4/10
Installing : sll-indexhtml-9-4.el9_2.noarch 5/10
Obsoleting : redhat-backgrounds-90.4-2.el9.noarch 6/10
Obsoleting : redhat-logos-90.4-2.el9.x86_64 7/10
Running scriptlet: redhat-logos-90.4-2.el9.x86_64 7/10
Cleanup : python3-distro-1.5.0-7.el9.noarch 8/10
Obsoleting : redhat-indexhtml-9-4.el9_2.noarch 9/10
Cleanup : libxslt-1.1.34-9.el9_5.1.x86_64 10/10
Running scriptlet: sll-logos-90.4-3.el9.noarch 10/10
Running scriptlet: libxslt-1.1.34-9.el9_5.1.x86_64 10/10
Verifying : sll-backgrounds-90.4-3.el9.noarch 1/10
Verifying : redhat-backgrounds-90.4-2.el9.noarch 2/10
Verifying : sll-indexhtml-9-4.el9_2.noarch 3/10
Verifying : redhat-indexhtml-9-4.el9_2.noarch 4/10
Verifying : sll-logos-90.4-3.el9.noarch 5/10
Verifying : redhat-logos-90.4-2.el9.x86_64 6/10
Verifying : libxslt-1.1.34-9.el9_5.2.x86_64 7/10
Verifying : libxslt-1.1.34-9.el9_5.1.x86_64 8/10
Verifying : python3-distro-1.5.0-7.el9.1.noarch 9/10
Verifying : python3-distro-1.5.0-7.el9.noarch 10/10
Installed products updated.

Upgraded:
libxslt-1.1.34-9.el9_5.2.x86_64 python3-distro-1.5.0-7.el9.1.noarch
Installed:
sll-backgrounds-90.4-3.el9.noarch sll-indexhtml-9-4.el9_2.noarch sll-logos-90.4-3.el9.noarch
Complete!
[root@localhost ~]#

```

The RHEL9.5 system information is as follows.

```

[root@localhost ~]# more /etc/os-release
NAME="Red Hat Enterprise Linux"
VERSION="9.5 (Plow)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="9.5"
PLATFORM_ID="platform:el9"
PRETTY_NAME="Red Hat Enterprise Linux 9.5 (Plow)"
ANSI_COLOR="0;31"
LOGO="fedora-logo-icon"
CPE_NAME="cpe:/o:redhat:enterprise_linux:9:baseos"
HOME_URL="https://www.redhat.com/"
DOCUMENTATION_URL="https://access.redhat.com/documentation/red_hat_enterprise_linux/9/"
BUG_REPORT_URL="https://bugzilla.redhat.com/"

REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"
REDHAT_BUGZILLA_PRODUCT_VERSION=9.5
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"
REDHAT_SUPPORT_PRODUCT_VERSION="9.5"
# This is "SUSE Liberty Linux 9.5"
# The above strings are preserved only to maintain software compatibility.
[root@localhost ~]# uname -a
Linux localhost.localdomain 5.14.0-503.38.1.el9_5.x86_64 #1 SMP PREEMPT_DYNAMIC Sun Apr 13 22:01:49 EDT 2025 x86_64 x86_64 x86_64 GNU/Linux
[root@localhost ~]# subscription-manager list
No installed products to list
[root@localhost ~]# subscription-manager list --consumed
No consumed subscription pools were found.
[root@localhost ~]# dnf repolist
Updating Subscription Management repositories.
repo id                                repo name
SUSE_Liberty_Linux_x86_64:SLL-9-Updates SLL-9-Updates
SUSE_Liberty_Linux_x86_64:SLL-AS-9-Updates SLL-AS-9-Updates
SUSE_Liberty_Linux_x86_64:SLL-CB-9-Updates SLL-CB-9-Updates
[root@localhost ~]#

```



3-3. Log in to the RHEL9.5 as oracle user, restart the Oracle Database 19c, and then check the status of both the database and the listener.

```
[oracle@localhost ~]$ export ORACLE_HOME=/opt/app/db_19c
[oracle@localhost ~]$ export ORACLE_SID=orclcdb
[oracle@localhost ~]$ /opt/app/db_19c/bin/sqlplus /nolog

SQL*Plus: Release 19.0.0.0.0 - Production on Thu Apr 24 08:08:06 2025
Version 19.26.0.0.0

Copyright (c) 1982, 2024, Oracle. All rights reserved.

SQL> conn /as sysdba
Connected.
SQL> show sga

Total System Global Area 3053453288 bytes
Fixed Size 9183208 bytes
Variable Size 721420288 bytes
Database Buffers 2315255808 bytes
Redo Buffers 7593984 bytes
SQL> show pdbs

  CON_ID CON_NAME                                OPEN MODE RESTRICTED
-----
       2 PDB$SEED                                READ ONLY NO
       3 ORCLPDB1                                READ WRITE NO
SQL> select DBMS_XDB_CONFIG.GETHTTPSPORT from dual;

GETHTTPSPORT
-----
          5500

SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
```

```

SQL> startup
ORACLE instance started.

Total System Global Area 3053453288 bytes
Fixed Size          9183208 bytes
Variable Size       721420288 bytes
Database Buffers    2315255808 bytes
Redo Buffers        7593984 bytes
Database mounted.
Database opened.
SQL> show sga

Total System Global Area 3053453288 bytes
Fixed Size          9183208 bytes
Variable Size       721420288 bytes
Database Buffers    2315255808 bytes
Redo Buffers        7593984 bytes
SQL> show pdbs

  CON_ID CON_NAME              OPEN MODE RESTRICTED
-----
         2 PDB$SEED             READ ONLY NO
         3 ORCLPDB1             MOUNTED

SQL> alter pluggable database all open;

Pluggable database altered.

SQL> show pdbs

  CON_ID CON_NAME              OPEN MODE RESTRICTED
-----
         2 PDB$SEED             READ ONLY NO
         3 ORCLPDB1             READ WRITE NO

SQL> select DBMS_XDB_CONFIG.GETHTTPSPORT from dual;

GETHTTPSPORT
-----
         5500

SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.26.0.0.0
[oracle@localhost ~]$

```

```

[oracle@localhost ~]$ /opt/app/db_19c/bin/lsnrctl status

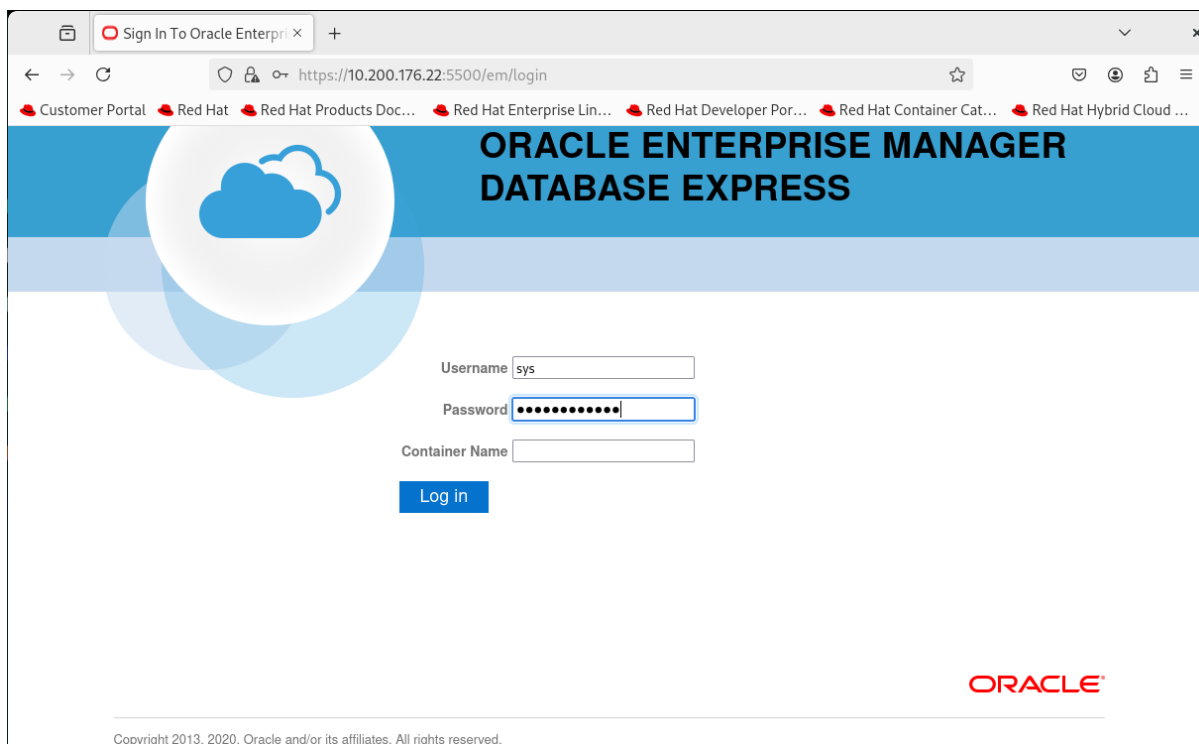
LSNRCTL for Linux: Version 19.0.0.0.0 - Production on 24-APR-2025 08:12:05

Copyright (c) 1991, 2024, Oracle. All rights reserved.

Connecting to (ADDRESS=(PROTOCOL=tcp)(HOST=)(PORT=1521))
STATUS of the LISTENER
-----
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 19.0.0.0.0 - Production
Start Date                21-APR-2025 11:49:08
Uptime                    2 days 20 hr. 23 min. 4 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Log File         /opt/app/db_19c_base/diag/tnslnr/localhost/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=localhost)(PORT=1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=localhost)(PORT=5500))(Security=(my_wallet_directory=/opt/app/db_19c/admin/orclpdb/xdb_wallet))(Presentation=HTTP)(Session=RAW))
Services Summary...
Service "334c73d644071e31e065000000000001" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "86b637b62fdf7a65e053f706e80a27ca" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "orclpdb" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "orclpdbXDB" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "orclpdb1" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
The command completed successfully
[oracle@localhost ~]$

```

Access to Oracle Database Enterprise Manager.



Sign In To Oracle Enterprise Manager

https://10.200.176.22:5500/em/login

Customer Portal Red Hat Red Hat Products Doc... Red Hat Enterprise Lin... Red Hat Developer Por... Red Hat Container Cat... Red Hat Hybrid Cloud ...

ORACLE ENTERPRISE MANAGER DATABASE EXPRESS

Username

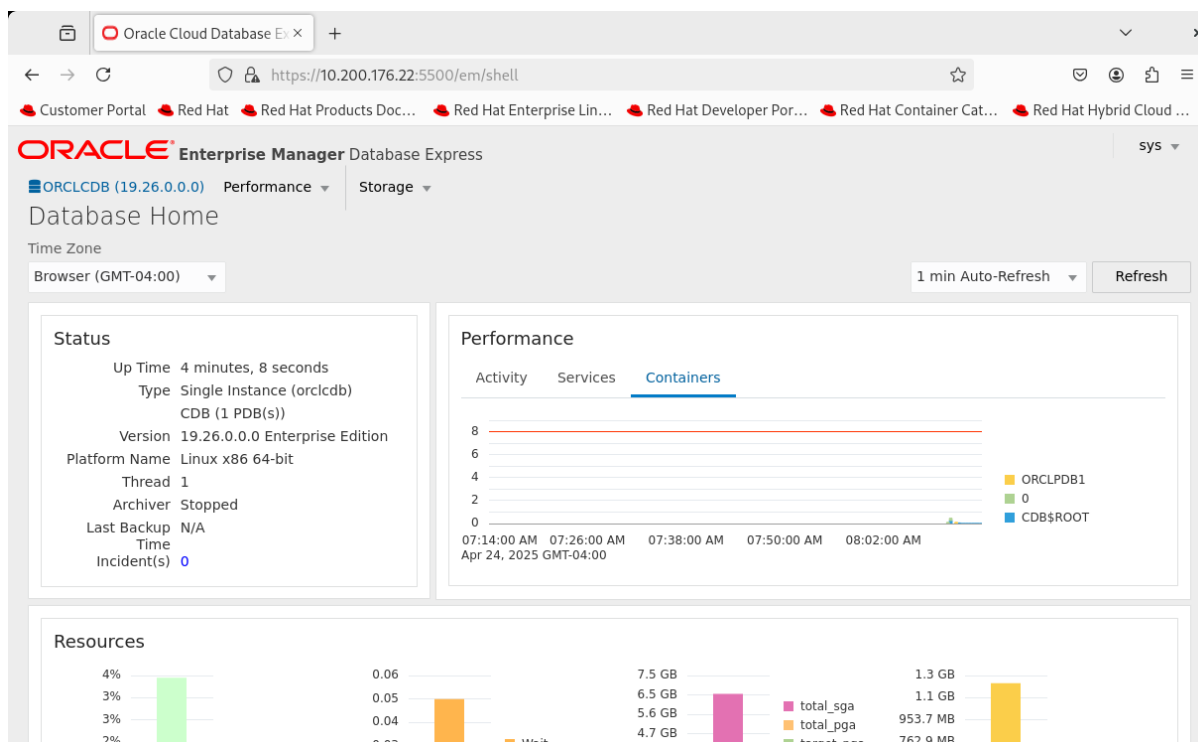
Password

Container Name

[Log in](#)

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Test Scenario 1 done.

Test Scenario 2 (Migrate RHEL 9 to SUSE MLS 9 & then Install Oracle DB 19c)

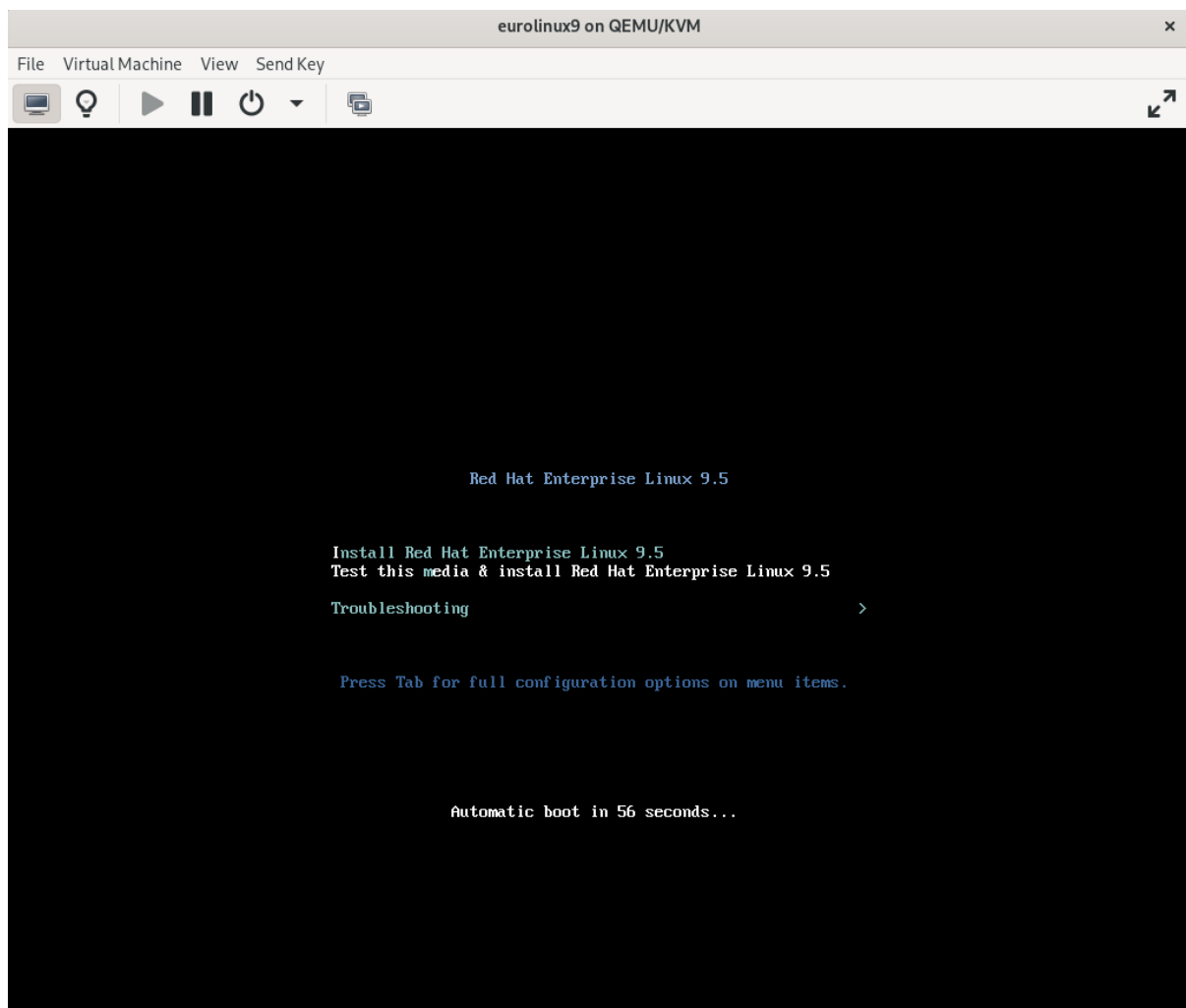
1. Installing RHEL9.5 (x86_64) on SLES 15 SP6 KVM

1-1. Log in to the **hpgen9-02**(SLES 15 SP6 64-bit OS) as root user.

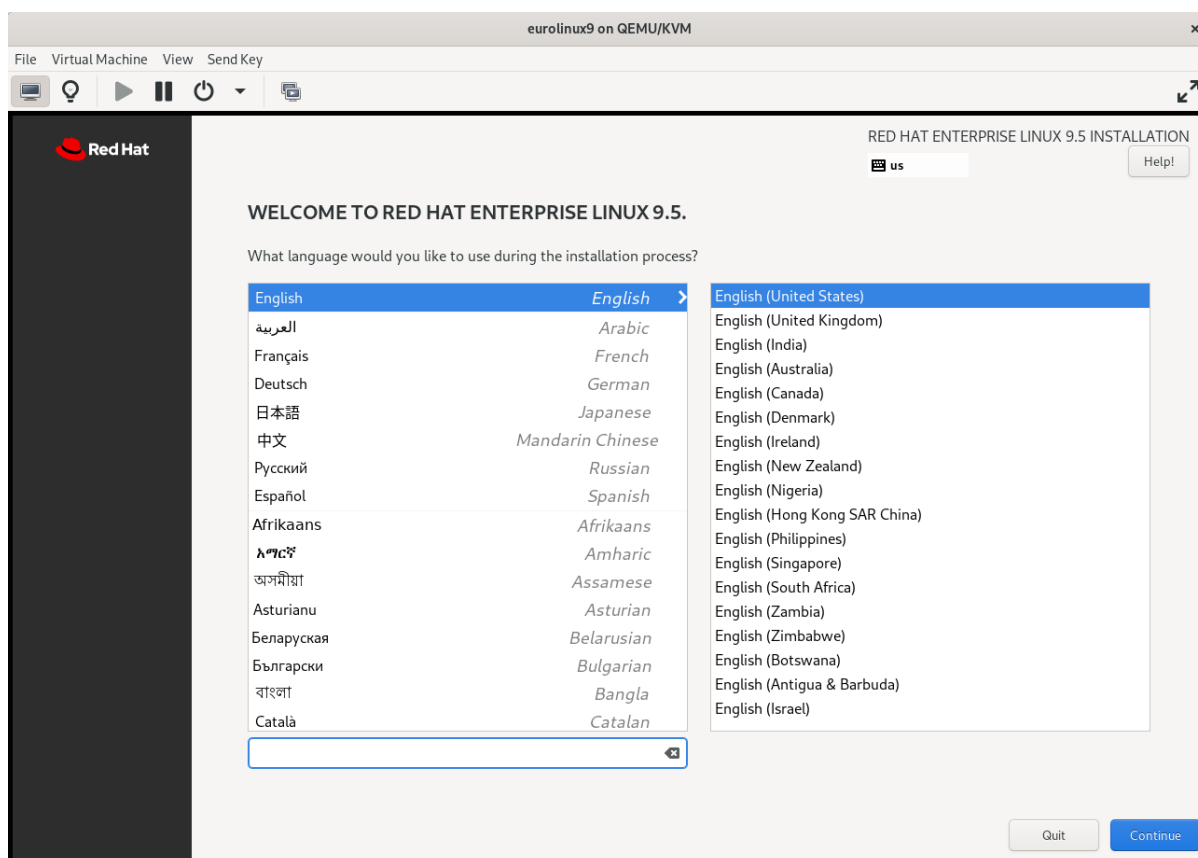
Download Red Hat Enterprise Linux 9.5(x86_64) from:

(https://developers.redhat.com/content-gateway/file/rhel/Red_Hat_Enterprise_Linux_9.5/rhel-9.5-x86_64-boot.iso)

1-2. Creating a VM and using the RHEL9.5 iso(rhel-9.5-x86_64-boot.iso) to start installation.

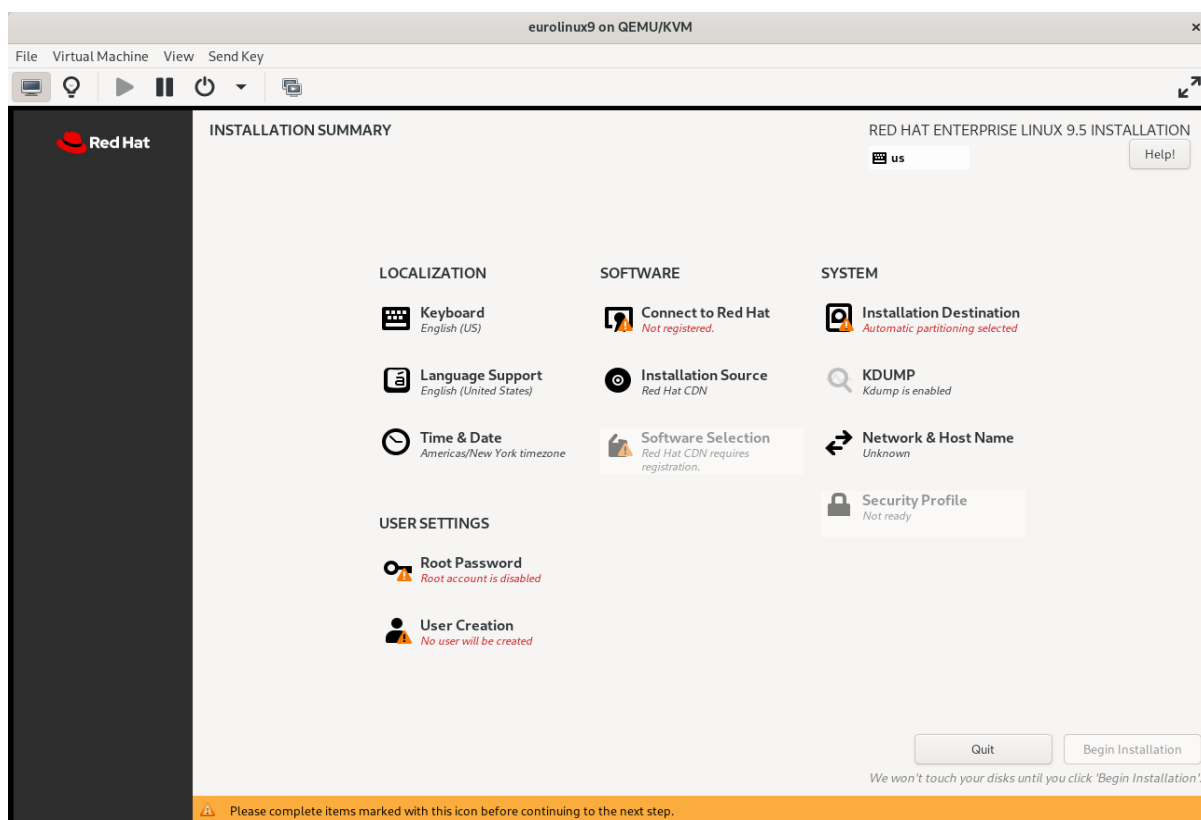


1). Installing RHEL9.5 as guest os – Welcome Screen.

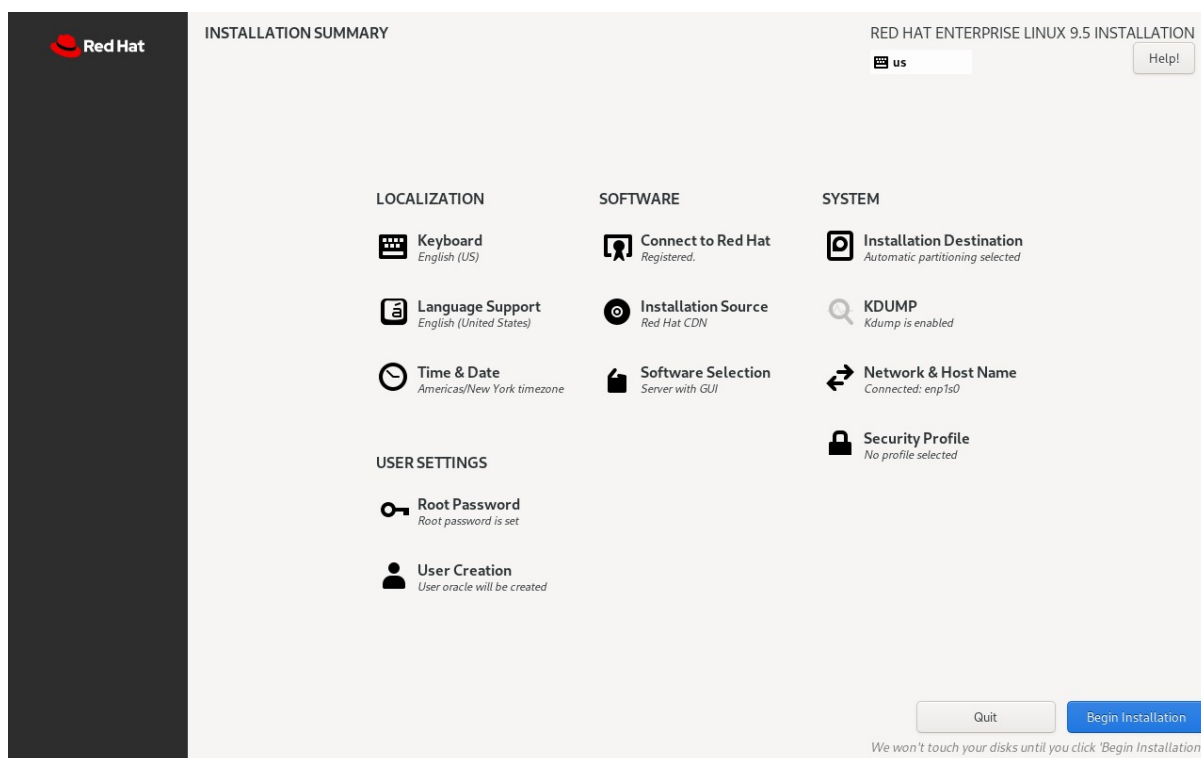


Select the language and click **Continue**.

2). Installation summary.

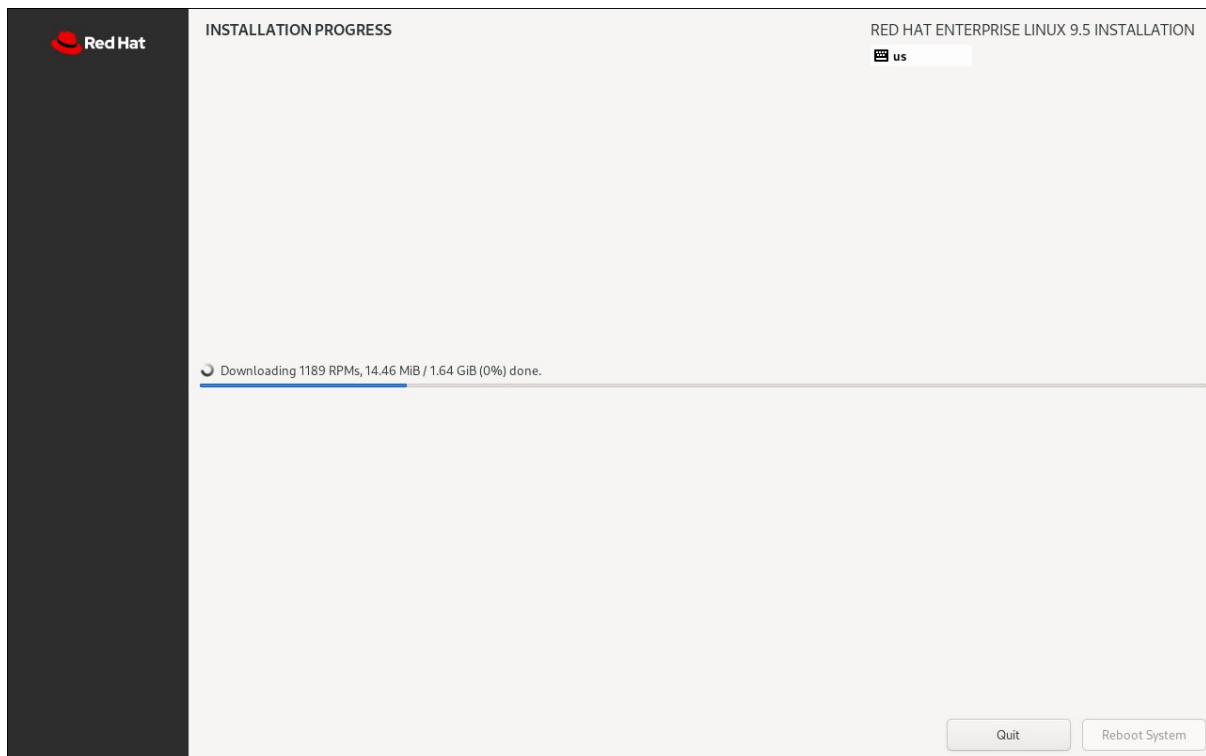


Selecting any of the menu options opens additional screens for configuring the options. As a minimum, please visit the options with a warning icon next to them. Change the installation configuration options as much as you like.



Click **Begin Installation** after all configurations are completed.

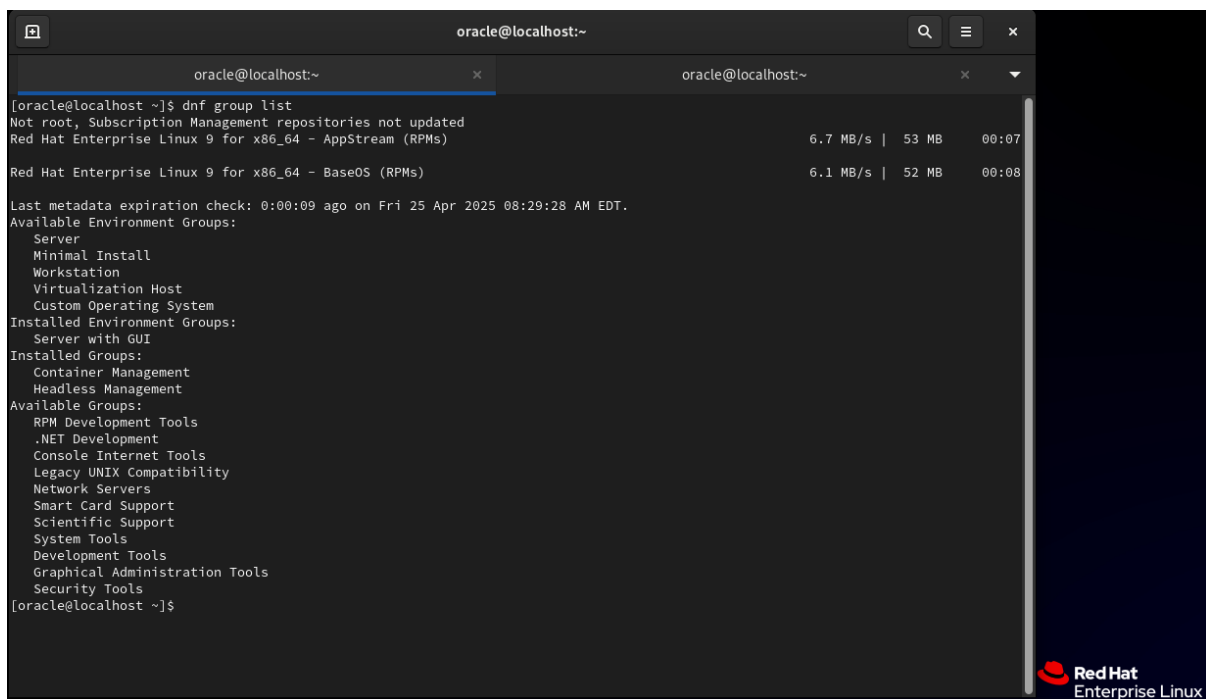
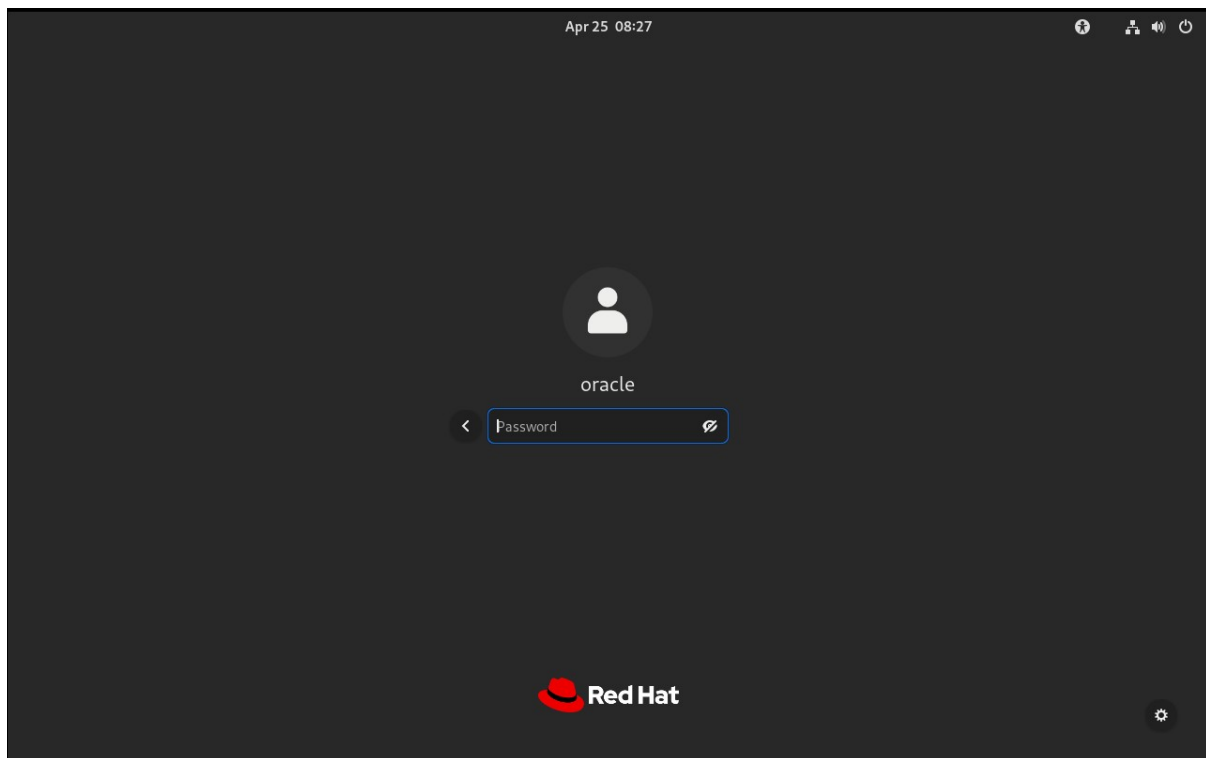
3). Installation Progress.

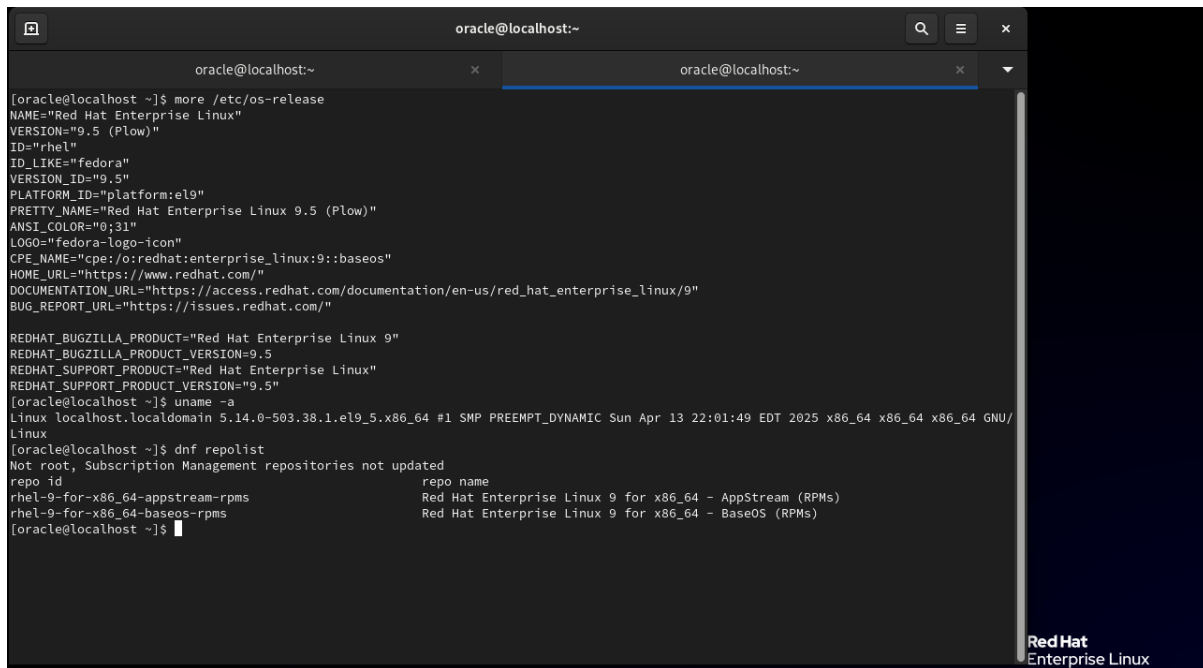


Wait for the installation to complete and click **Reboot System**.



4). Log in to RHEL9.5, then check the system information.





```
oracle@localhost:~  
[oracle@localhost ~]$ more /etc/os-release  
NAME="Red Hat Enterprise Linux"  
VERSION="9.5 (Plow)"  
ID="rhel"  
ID_LIKE="fedora"  
VERSION_ID="9.5"  
PLATFORM_ID="platform:el9"  
PRETTY_NAME="Red Hat Enterprise Linux 9.5 (Plow)"  
ANSI_COLOR="0;31"  
LOGO="fedora-logo-icon"  
CPE_NAME="cpe:/o:redhat:enterprise_linux:9::baseos"  
HOME_URL="https://www.redhat.com/"  
DOCUMENTATION_URL="https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9"  
BUG_REPORT_URL="https://issues.redhat.com/"  
  
REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"  
REDHAT_BUGZILLA_PRODUCT_VERSION=9.5  
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"  
REDHAT_SUPPORT_PRODUCT_VERSION="9.5"  
[oracle@localhost ~]$ uname -a  
Linux localhost.localdomain 5.14.0-503.38.1.el9_5.x86_64 #1 SMP PREEMPT_DYNAMIC Sun Apr 13 22:01:49 EDT 2025 x86_64 x86_64 x86_64 GNU/Linux  
[oracle@localhost ~]$ dnf repolist  
Not root, Subscription Management repositories not updated  
repo id                                repo name  
rhel-9-for-x86_64-appstream-rpms       Red Hat Enterprise Linux 9 for x86_64 - AppStream (RPMs)  
rhel-9-for-x86_64-baseos-rpms         Red Hat Enterprise Linux 9 for x86_64 - BaseOS (RPMs)  
[oracle@localhost ~]$
```

Red Hat
Enterprise Linux

2. Registering RHEL9.5 with the RMT server (Migrate RHEL9 to SUSE MLS 9)

2-1. Log in to the RMT Server to check that the mirror is updated as expected.

```
RMT:~ # rmt-cli version
2.21
RMT:~ # rmt-cli products list
```

ID	Product	Version	Arch	Mirror?	Last mirrored
2538	SUSE Liberty Linux	9	x86_64	Mirror	2025-04-26 19:27:27 UTC
	SLL/9/x86_64				

Only enabled products are shown by default. Use the '--all' option to see all products.

```
RMT:~ # rmt-cli repos list
```

ID	Product	Mandatory?	Mirror?	Last mirrored
5963	SLL-9-Updates for x86_64	Mandatory	Mirror	2025-04-26 19:26:50 UTC
5966	SLL-AS-9-Updates for x86_64	Mandatory	Mirror	2025-04-26 19:27:17 UTC
5969	SLL-CB-9-Updates for x86_64	Mandatory	Mirror	2025-04-26 19:27:27 UTC

Only enabled repositories are shown by default. Use the '--all' option to see all repositories.

```
RMT:~ #
```

2-2. Log in to the RHEL9.5 as root user. Check the system subscription and repositories.

```
[root@localhost oracle]# more /etc/os-release
NAME="Red Hat Enterprise Linux"
VERSION="9.5 (Plow)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="9.5"
PLATFORM_ID="platform:el9"
PRETTY_NAME="Red Hat Enterprise Linux 9.5 (Plow)"
ANSI_COLOR="0;31"
LOGO="fedora-logo-icon"
CPE_NAME="cpe:/o:redhat:enterprise_linux:9::baseos"
HOME_URL="https://www.redhat.com/"
DOCUMENTATION_URL="https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/9"
BUG_REPORT_URL="https://issues.redhat.com/"

REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"
REDHAT_BUGZILLA_PRODUCT_VERSION=9.5
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"
REDHAT_SUPPORT_PRODUCT_VERSION="9.5"
[root@localhost oracle]# uname -a
Linux localhost.localdomain 5.14.0-503.38.1.el9_5.x86_64 #1 SMP PREEMPT_DYNAMIC Sun Apr 13 22:01:49 EDT 2025 x86_64 x86_64 x86_64 GNU/Linux
[root@localhost oracle]# subscription-manager list
```

Installed Product Status	
Product Name:	Red Hat Enterprise Linux for x86_64
Product ID:	479
Version:	9.5
Arch:	x86_64

```
[root@localhost oracle]# subscription-manager list --consumed
No consumed subscription pools were found.
[root@localhost oracle]# dnf repolist
Updating Subscription Management repositories.
repo id                                repo name
rhel-9-for-x86_64-appstream-rpms       Red Hat Enterprise Linux 9 for x86_64 - AppStream (RPMs)
rhel-9-for-x86_64-baseos-rpms          Red Hat Enterprise Linux 9 for x86_64 - BaseOS (RPMs)
[root@localhost oracle]#
```

Disable the "**rhel-9-for-x86_64-appstream-rpms**" and "**rhel-9-for-x86_64-baseos-rpms**" repositories.

```
[root@localhost oracle]# dnf repolist
Updating Subscription Management repositories.
repo id                                repo name
rhel-9-for-x86_64-appstream-rpms       Red Hat Enterprise Linux 9 for x86_64 - AppStream (RPMs)
rhel-9-for-x86_64-baseos-rpms          Red Hat Enterprise Linux 9 for x86_64 - BaseOS (RPMs)
[root@localhost oracle]# dnf config-manager --disable rhel-9-for-x86_64-appstream-rpms
Updating Subscription Management repositories.
[root@localhost oracle]# dnf config-manager --disable rhel-9-for-x86_64-baseos-rpms
Updating Subscription Management repositories.
[root@localhost oracle]# dnf repolist
Updating Subscription Management repositories.
[root@localhost oracle]#
```

2-3. On the RHEL9.5 system, download the **rmt-client-setup-res** script, then run the **rmt-client-setup-res** script with the URL of the RMT server as a parameter.

```

oracle@localhost:~
[oracle@localhost:~]# curl http://10.200.176.21/tools/rmt-client-setup-res --output rmt-client-setup-res
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left     Speed
100 9005 100 9005    0      0 2931k    0 --:--:-- --:--:-- --:--:-- 2931k
[oracle@localhost:~]# ll rmt-client-setup-res
-rw-r--r--. 1 root root 9005 Apr 27 05:21 rmt-client-setup-res
[oracle@localhost:~]# sh rmt-client-setup-res https://10.200.176.21
Warning: 'enable' is a deprecated argument. Use 'update-ca-trust extract' in future. See 'update-ca-trust --help' for usage.

Proceeding with extraction anyway for backwards compatibility.
Detected SLL version: 9
Importing repomd.xml.key
Disabling all repositories
Updating Subscription Management repositories.
Updating Subscription Management repositories.
Adding repo from: https://10.200.176.21/repo/SUSE/Updates/SLL/9/x86_64/update
Updating Subscription Management repositories.
Adding repo from: https://10.200.176.21/repo/SUSE/Updates/SLL-AS/9/x86_64/update
Updating Subscription Management repositories.
created by dnf config-manager from https://10.200.176.21/repo/SUSE/Updates/SLL-AS/9/x86_64/update          24 MB/s | 28 MB    00:01
created by dnf config-manager from https://10.200.176.21/repo/SUSE/Updates/SLL/9/x86_64/update          33 MB/s | 74 MB    00:02
Last metadata expiration check: 0:00:07 ago on Sun 27 Apr 2025 05:22:38 AM EDT.
Dependencies resolved.
=====
Package                Architecture          Version              Repository              Size
=====
Installing:
sll-release             x86_64                9.5-0.8.el9         10.200.176.21_repo_SUSE_Updates_SLL_9_x86_64_update 96 k
replacing insights-client.noarch 3.2.8-1.el9
replacing redhat-release.x86_64 9.5-0.6.el9
replacing redhat-release-eula.x86_64 9.5-0.6.el9
replacing rhc.x86_64 1:0.2.5-1.el9_5

Transaction Summary
=====

```

```

oracle@localhost:~
Verifying : rhc-1:0.2.5-1.el9_5.x86_64
Installed products updated.

Installed:
  sll-release-9.5-0.8.el9.x86_64

Complete!
Downloading SUSEConnect
Updating Subscription Management repositories.
Last metadata expiration check: 0:00:35 ago on Sun 27 Apr 2025 05:22:38 AM EDT.
Package librepo-1.14.5-2.el9.x86_64 is already installed.
Dependencies resolved.

=====
Package                Architecture      Version                               Repository                                     Size
=====
Installing:
suseconnect-ng          x86_64            0.0.10-git2.ee561b8-38.2.el9         10.200.176.21_repo_SUSE_Updates_SLL_9_x86_64_update 2.5 M
Installing dependencies:
augeas-libs             x86_64            1.13.0-6.el9_4                       10.200.176.21_repo_SUSE_Updates_SLL-AS_9_x86_64_update 404 k
libzypp                 x86_64            16.20.5-8.2.el9                      10.200.176.21_repo_SUSE_Updates_SLL_9_x86_64_update 1.4 M
zypper                  x86_64            1.13.56-5.1.el9                      10.200.176.21_repo_SUSE_Updates_SLL_9_x86_64_update 667 k

Transaction Summary
=====
Install 4 Packages

Total download size: 5.0 M
Installed size: 14 M
Is this ok [y/N]: y
Downloading Packages:
(1/4): augeas-libs-1.13.0-6.el9_4.x86_64.rpm 3.3 MB/s | 404 kB 00:00
(2/4): libzypp-16.20.5-8.2.el9.x86_64.rpm 9.0 MB/s | 1.4 MB 00:00
(3/4): suseconnect-ng-0.0.10-git2.ee561b8-38.2.el9.x86_64.rpm 9.8 MB/s | 2.5 MB 00:00
(4/4): zypper-1.13.56-5.1.el9.x86_64.rpm 4.0 MB/s | 667 kB 00:00
=====

```

You should see **Successfully registered system**.

```

oracle@localhost:~
X509v3 Subject Key Identifier:
  86:68:50:B9:55:0C:B5:63:A2:1C:99:F7:EC:B0:C7:B3:47:77:BE:A7
X509v3 Authority Key Identifier:
  86:68:50:B9:55:0C:B5:63:A2:1C:99:F7:EC:B0:C7:B3:47:77:BE:A7
Signature Algorithm: sha256WithRSAEncryption
Signature Value:
  7f:4b:dd:4d:01:86:e1:71:6b:f1:41:c6:b7:dd:e7:72:01:b5:
  95:52:ac:cc:cd:4f:8e:af:67:a3:af:43:ee:60:80:35:39:96:
  58:02:0a:e1:5a:b4:1c:db:87:d0:7b:34:b8:a1:e2:fb:67:80:
  cd:ef:b9:37:35:ad:ca:dd:e0:3a:b6:b9:8d:d3:7a:9f:fd:a8:
  54:34:6f:f6:4b:e6:91:0b:20:2d:ab:2d:4e:27:c8:01:3e:75:
  61:9b:d2:21:5a:3f:97:71:53:6f:b6:54:59:88:2c:05:ce:66:
  14:bc:08:b1:2c:22:74:98:c4:25:a8:c3:86:47:9c:d7:9d:a6:
  5d:4d:03:1f:f9:4f:44:c5:3a:b7:15:db:10:15:38:b2:f9:60:
  e8:3d:57:87:dc:ef:cd:15:19:45:52:27:97:4c:58:d6:df:ae:
  67:5a:1a:fb:93:fa:f4:34:05:4a:c2:85:7e:d8:66:5d:b4:9c:
  82:c0:66:8b:56:c5:ed:da:85:42:6c:f1:20:21:7e:d8:08:e2:
  ce:64:3b:2b:30:12:9a:1e:7c:6d:6e:7f:d5:5c:4e:24:6d:d4:
  05:61:45:a5:68:9b:1d:e7:76:64:4c:51:61:42:1a:1d:16:d8:
  b6:1f:b2:3d:f6:65:8d:66:f1:4f:9b:74:5c:87:da:31:0c:45:
  f9:c9:63:13
Do you accept this certificate? [y/n] y
Client setup finished.
Start the registration now? [y/n] y
/usr/sbin/SUSEConnect --write-config --url https://10.200.176.21
Registering system to registration proxy https://10.200.176.21

Announcing system to https://10.200.176.21 ...

Activating SLL 9 x86_64 ...
-> Adding service to system ...

Successfully registered system
Created symlink /etc/systemd/system/timers.target.wants/suseconnect-keepalive.timer → /usr/lib/systemd/system/suseconnect-keepalive.timer.
[root@localhost ~]#

```

Verify the installed product and enabled repos.

```

oracle@localhost:/home/oracle
[root@localhost oracle]# SUSEConnect --status-text
Installed Products:
-----
SUSE Liberty Linux release file
(SLL/9/x86_64)

Registered
-----

[root@localhost oracle]# dnf repolist
Updating Subscription Management repositories.
repo id                                repo name
SUSE_Liberty_Linux_x86_64:SLL-9-Updates SLL-9-Updates
SUSE_Liberty_Linux_x86_64:SLL-AS-9-Updates SLL-AS-9-Updates
SUSE_Liberty_Linux_x86_64:SLL-CB-9-Updates SLL-CB-9-Updates
[root@localhost oracle]#

```

Run the update command to keep the RHEL9.5 system up to date from repositories provided by SUSE Multi-Linux Support.

```

oracle@localhost:/home/oracle
[oracle@localhost ~]$ dnf update
Updating Subscription Management repositories.
sll-9-Updates                               37 MB/s | 74 MB   00:02
sll-AS-9-Updates                           24 MB/s | 28 MB   00:01
sll-CB-9-Updates                           18 MB/s | 9.3 MB  00:00
Last metadata expiration check: 0:00:03 ago on Sun 27 Apr 2025 05:32:00 AM EDT.
Dependencies resolved.
=====
Package                        Architecture      Version            Repository          Size
=====
Installing:
sll-backgrounds               noarch            90.4-3.el9         SUSE_Liberty_Linux_x86_64:SLL-9-Updates 24 M
replacing redhat-backgrounds.noarch 90.4-2.el9
sll-indexhtml                  noarch            9-4.el9_2           SUSE_Liberty_Linux_x86_64:SLL-9-Updates 7.3 k
replacing redhat-indexhtml.noarch 9-4.el9_2
sll-logos                      noarch            90.4-3.el9         SUSE_Liberty_Linux_x86_64:SLL-9-Updates 282 k
replacing redhat-logos.x86_64 90.4-2.el9
Upgrading:
python3-distro                 noarch            1.5.0-7.el9.1       SUSE_Liberty_Linux_x86_64:SLL-AS-9-Updates 35 k

Transaction Summary
=====
Install 3 Packages
Upgrade 1 Package

Total download size: 24 M
Is this ok [y/N]: y
Downloading Packages:
(1/4): sll-indexhtml-9-4.el9_2.noarch.rpm          99 kB/s | 7.3 kB   00:00
(2/4): sll-logos-90.4-3.el9.noarch.rpm             2.6 MB/s | 282 kB   00:00
(3/4): python3-distro-1.5.0-7.el9.1.noarch.rpm      674 kB/s | 35 kB    00:00
(4/4): sll-backgrounds-90.4-3.el9.noarch.rpm        30 MB/s | 24 MB    00:00
-----
Total                                           30 MB/s | 24 MB    00:00
Running transaction check

```

Make sure there are no errors.

```

oracle@localhost:/home/oracle
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing :
Installing : sll-logos-90.4-3.el9.noarch 1/1
Running scriptlet: sll-logos-90.4-3.el9.noarch 1/8
Installing : sll-backgrounds-90.4-3.el9.noarch 2/8
Upgrading : python3-distro-1.5.0-7.el9.1.noarch 3/8
Installing : sll-indexhtml-9-4.el9_2.noarch 4/8
Obsoleting : redhat-backgrounds-90.4-2.el9.noarch 5/8
Obsoleting : redhat-logos-90.4-2.el9.x86_64 6/8
Running scriptlet: redhat-logos-90.4-2.el9.x86_64 6/8
Cleanup : python3-distro-1.5.0-7.el9.noarch 7/8
Obsoleting : redhat-indexhtml-9-4.el9_2.noarch 8/8
Running scriptlet: sll-logos-90.4-3.el9.noarch 8/8
Running scriptlet: redhat-indexhtml-9-4.el9_2.noarch 8/8
Verifying : sll-backgrounds-90.4-3.el9.noarch 1/8
Verifying : redhat-backgrounds-90.4-2.el9.noarch 2/8
Verifying : sll-indexhtml-9-4.el9_2.noarch 3/8
Verifying : redhat-indexhtml-9-4.el9_2.noarch 4/8
Verifying : sll-logos-90.4-3.el9.noarch 5/8
Verifying : redhat-logos-90.4-2.el9.x86_64 6/8
Verifying : python3-distro-1.5.0-7.el9.1.noarch 7/8
Verifying : python3-distro-1.5.0-7.el9.noarch 8/8
Installed products updated.

Upgraded:
python3-distro-1.5.0-7.el9.1.noarch
Installed:
sll-backgrounds-90.4-3.el9.noarch          sll-indexhtml-9-4.el9_2.noarch          sll-logos-90.4-3.el9.noarch

Complete!
[oracle@localhost ~]$

```

```

oracle@localhost:opt/app/db_19c/bin
[oracle@localhost bin]# more /etc/os-release
NAME="Red Hat Enterprise Linux"
VERSION="9.5 (Plover)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="9.5"
PLATFORM_ID="platform:el9"
PRETTY_NAME="Red Hat Enterprise Linux 9.5 (Plover)"
ANSI_COLOR="0;31"
LOGO="fedora-logo-icon"
CPE_NAME="cpe:/o:redhat:enterprise_linux:9::baseos"
HOME_URL="https://www.redhat.com/"
DOCUMENTATION_URL="https://access.redhat.com/documentation/red_hat_enterprise_linux/9/"
BUG_REPORT_URL="https://bugzilla.redhat.com/"

REDHAT_BUGZILLA_PRODUCT="Red Hat Enterprise Linux 9"
REDHAT_BUGZILLA_PRODUCT_VERSION=9.5
REDHAT_SUPPORT_PRODUCT="Red Hat Enterprise Linux"
REDHAT_SUPPORT_PRODUCT_VERSION="9.5"
# This is "SUSE Liberty Linux 9.5"
# The above strings are preserved only to maintain software compatibility.
[oracle@localhost bin]# uname -a
Linux localhost.localdomain 5.14.0-503.38.1.el9_5.x86_64 #1 SMP PREEMPT_DYNAMIC Sun Apr 13 22:01:49 EDT 2025 x86_64 x86_64 x86_64 GNU/Linux
[oracle@localhost bin]# zypper lr -E
Repository priorities are without effect. All enabled repositories share the same priority.

# | Alias | Name | Enabled | GPG Check | Refresh
+---+
5 | SUSE_Liberty_Linux_x86_64:SLL-9-Updates | SLL-9-Updates | Yes | (r) Yes | Yes
8 | SUSE_Liberty_Linux_x86_64:SLL-AS-9-Updates | SLL-AS-9-Updates | Yes | (r) Yes | Yes
11 | SUSE_Liberty_Linux_x86_64:SLL-CB-9-Updates | SLL-CB-9-Updates | Yes | (r) Yes | Yes
[oracle@localhost bin]#

```

3. Installing Oracle Database 19c(19.26.0.0.0) on RHEL9.5 (x86_64)

3-1. Log in to the RHEL9.5 as oracle user.

Download Oracle Database 19c(19.3 zip version) for Linux x86-64
(LINUX.X64_193000_db_home.zip) from:

<https://www.oracle.com/database/technologies/oracle19c-linux-downloads.html>.

Download following patches from Oracle Support (MOS): <https://support.oracle.com>.

DATABASE RELEASE UPDATE 19.26.0.0.0 (Patch 37260974)

OCW RELEASE UPDATE 19.26.0.0.0 (Patch 37268031)

OJVM RELEASE UPDATE 19.26.0.0.0 (Patch 37102264)

OPatch utility 12.2.0.1.44 for DB 23.0.0.0.0(Oct 2024) (Patch 6880880)

3-2. Please make sure that the following packages are installed with RHEL9.5.

bc
binutils
glibc
glibc-devel
libaio-devel
libaio
libX11
libXau
libXext-devel
libXext
libXi-devel
libXi
libXrender-devel
libXrender
libXtst6
libcap-ng-utils
libcap-ng
libcap
elfutils-libelf
libgcc
libjpeg-turbo
libpcap
libpng
libstdc++
libtiff
libgfortran
mksh
make
rdma-core
rdma-core-devel
smartmontools
sysstat
xz
libnsl

3-3. Installing Oracle Database 19c(19.26.0.0.0).

Extract LINUX.X64_193000_db_home.zip and replace the OPatch directory located in the Database 19.3 ShipHome with OPatch version 12.2.0.1.44.

```
# mv $ORACLE_HOME/OPatch $ORACLE_HOME/OPatch.bak
# unzip p6880880_230000_Linux-x86-64.zip -d $ORACLE_HOME/
```

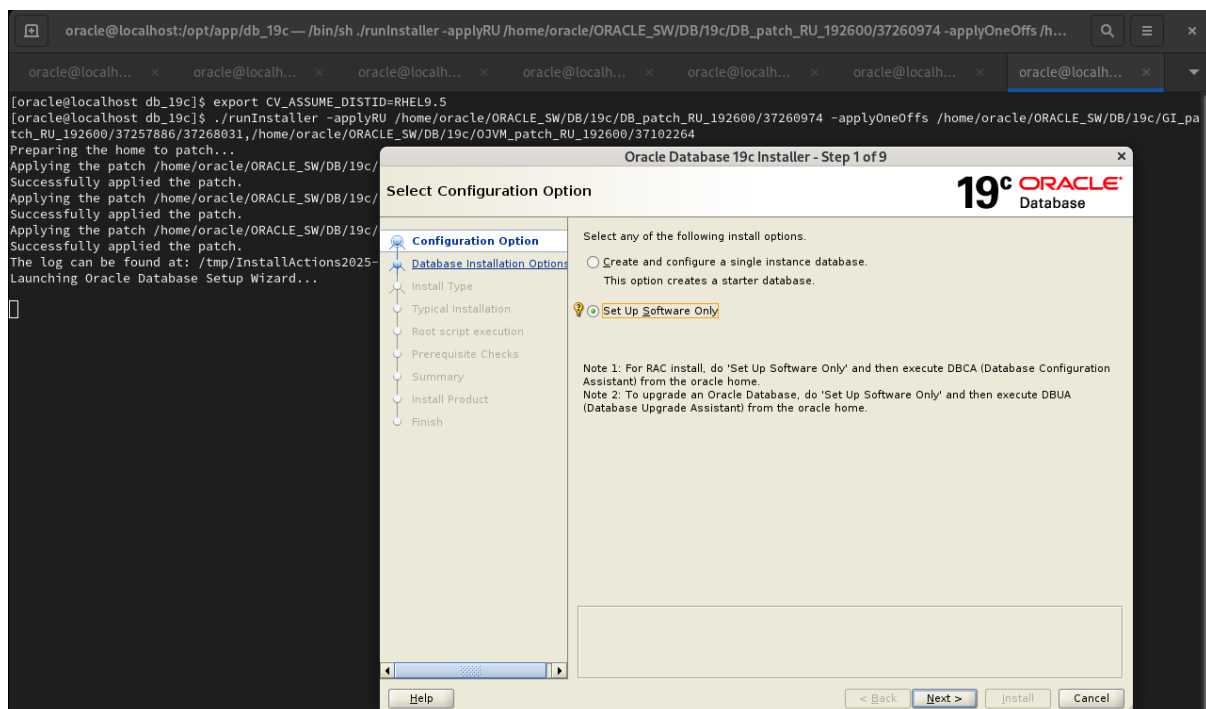
Export CV_ASSUME_DISTID=RHEL9.5, then launch the Oracle Universal Installer(runInstaller) from the Database ShipHome with the parameters to apply the required patches:

```
-applyRU $STAGE/37260974
-applyOneOffs $STAGE/37257886/37268031,$STAGE/37102264
```

These parameters will apply the recommended 19.26.0.0.0 release updates (RUs) and one-off patches to the database.

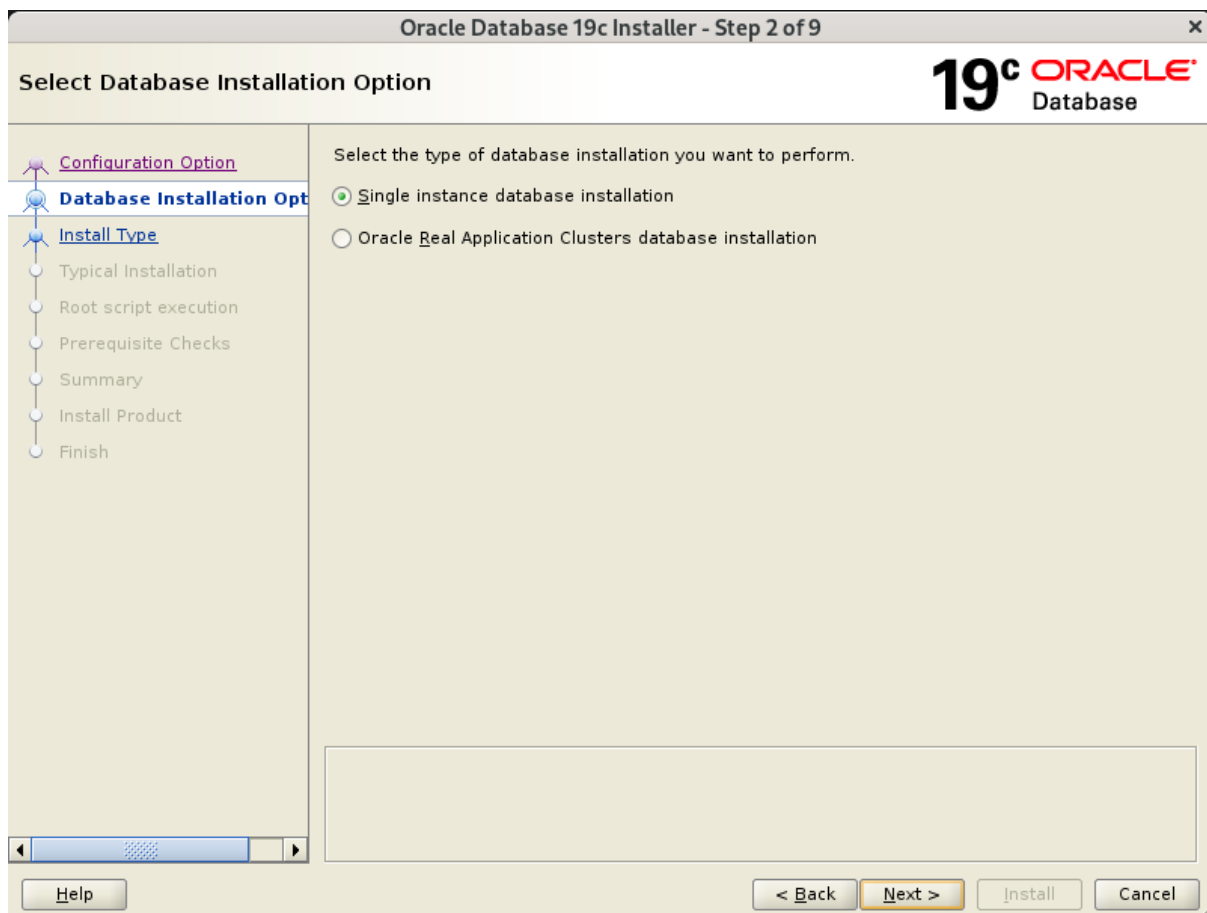
Install Flow:

1). Select Configuration Option.



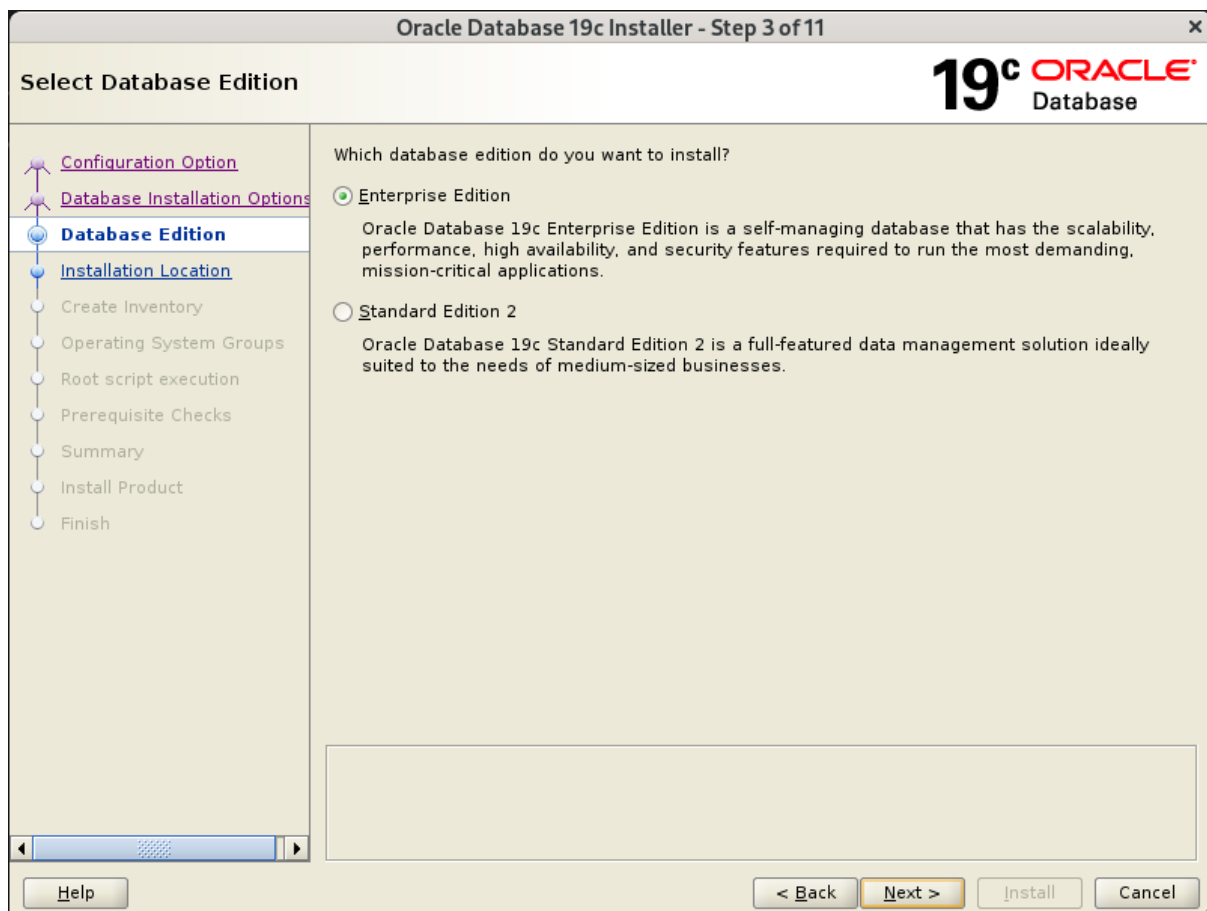
Select option "**Set Up Software Only**", then click **Next** to continue.

2). Select Database Installation Option.



Choose option "**Single instance database installation**", then click **Next** to continue.

3). Select Database Edition.



Choose option "**Enterprise Edition**", then click **Next** to continue.

4). Specify Installation Location.

Oracle Database 19c Installer - Step 4 of 11

Specify Installation Location

19^c ORACLE[®] Database

Specify a path to place all Oracle software and configuration-related files installed by this installation owner. This location is the Oracle base directory for the installation owner.

Oracle base:

This software directory is the Oracle Database home directory.

Software location: /opt/app/db_19c

Fill in **Oracle base** as shown above, then click **Next** to continue.

5). Create Inventory.

Oracle Database 19c Installer - Step 5 of 11

Create Inventory

19c ORACLE 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:

Select the location of the **oraInventory** directory, then click **Next** to continue.

6). Privileged Operating System groups.

Oracle Database 19c Installer - Step 6 of 11

Privileged Operating System groups

19c ORACLE Database

Configuration Option
Database Installation Options
Database Edition
Installation Location
Create Inventory
Operating System Groups
Root script execution
Prerequisite Checks
Summary
Install Product
Finish

SYS privileges are required to create a database using operating system (OS) authentication. Membership in OS Groups grants the corresponding SYS privilege, eg. membership in OSDBA grants the SYSDBA privilege.

Database Administrator (OSDBA) group: oracle

Database Operator (OSOPER) group (Optional):

Database Backup and Recovery (OSBACKUPDBA) group: oracle

Data Guard administrative (OSDGDBA) group: oracle

Encryption Key Management administrative (OSKMDBA) group: oracle

Real Application Cluster administrative (OSRACDBA) group: oracle

Help < Back Next > Install Cancel

Selected by default, then click **Next** to continue.

7). Root script execution configuration.

The screenshot shows the 'Oracle Database 19c Installer - Step 7 of 11' window. The title bar includes the Oracle logo and '19c Database'. The main window is titled 'Root script execution configuration'. On the left is a navigation pane with links: Configuration Option, Database Installation Options, Database Edition, Installation Location, Create Inventory, Operating System Groups, Root script execution (highlighted), Prerequisite Checks, Summary, Install Product, and Finish. The main area contains a text box explaining that certain operations must be performed as the 'root' user and that the installer can perform these automatically. Below this is a checkbox 'Automatically run configuration scripts' which is checked. Two radio buttons follow: 'Use "root" user credential' (selected) and 'Use sudo'. The 'Use "root" user credential' option has a 'Password:' field with a masked password '.....'. The 'Use sudo' option has fields for 'Program path:' (containing '/usr/bin/sudo' with a 'Browse...' button), 'User name:' (containing 'oracle'), and 'Password:'. At the bottom are buttons for 'Help', '< Back', 'Next >', 'Install', and 'Cancel'.

Oracle Database 19c Installer - Step 7 of 11

Root script execution configuration

During the software configuration, certain operations have to be performed as "root" user. You can choose to have the installer perform these operations automatically by specifying inputs for one of the options below. The input specified will also be used by the installer to perform additional prerequisite checks.

☒ Automatically run configuration scripts

☒ Use "root" user credential

Password :

☐ Use sudo

Program path : /usr/bin/sudo Browse...

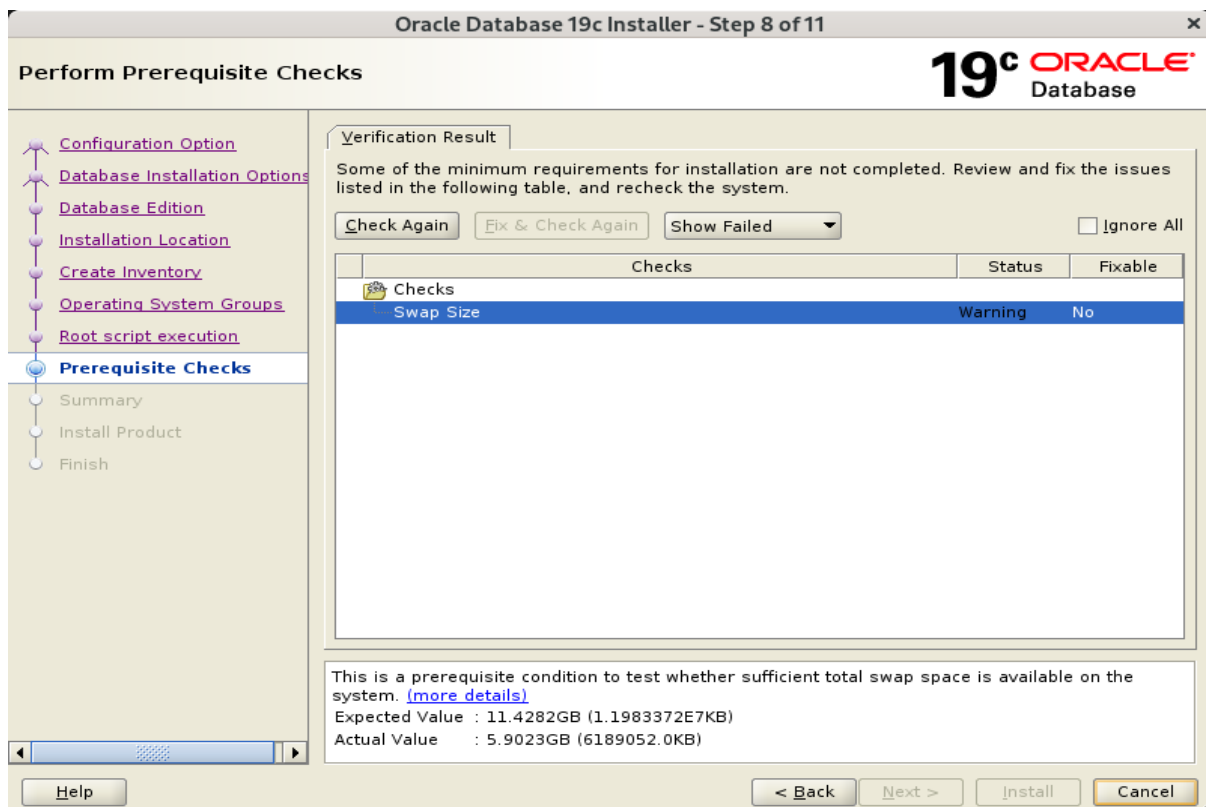
User name : oracle

Password :

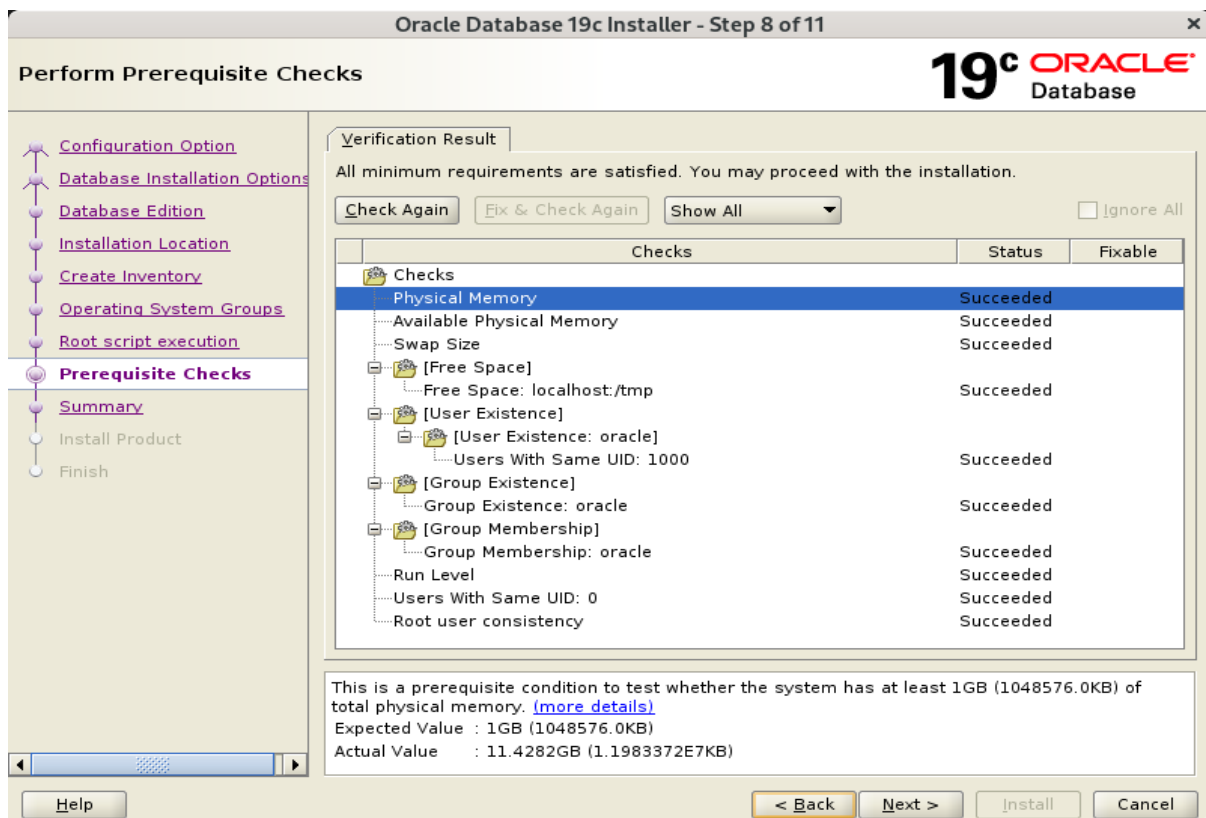
Help < Back Next > Install Cancel

If select the option **Automatically run configuration scripts**, enter the credentials for the root user or a sudo account. Alternatively, run the scripts manually as the root user at the installation process when prompted by the installer. Click **Next** to continue.

8). Perform Prerequisite Checks.

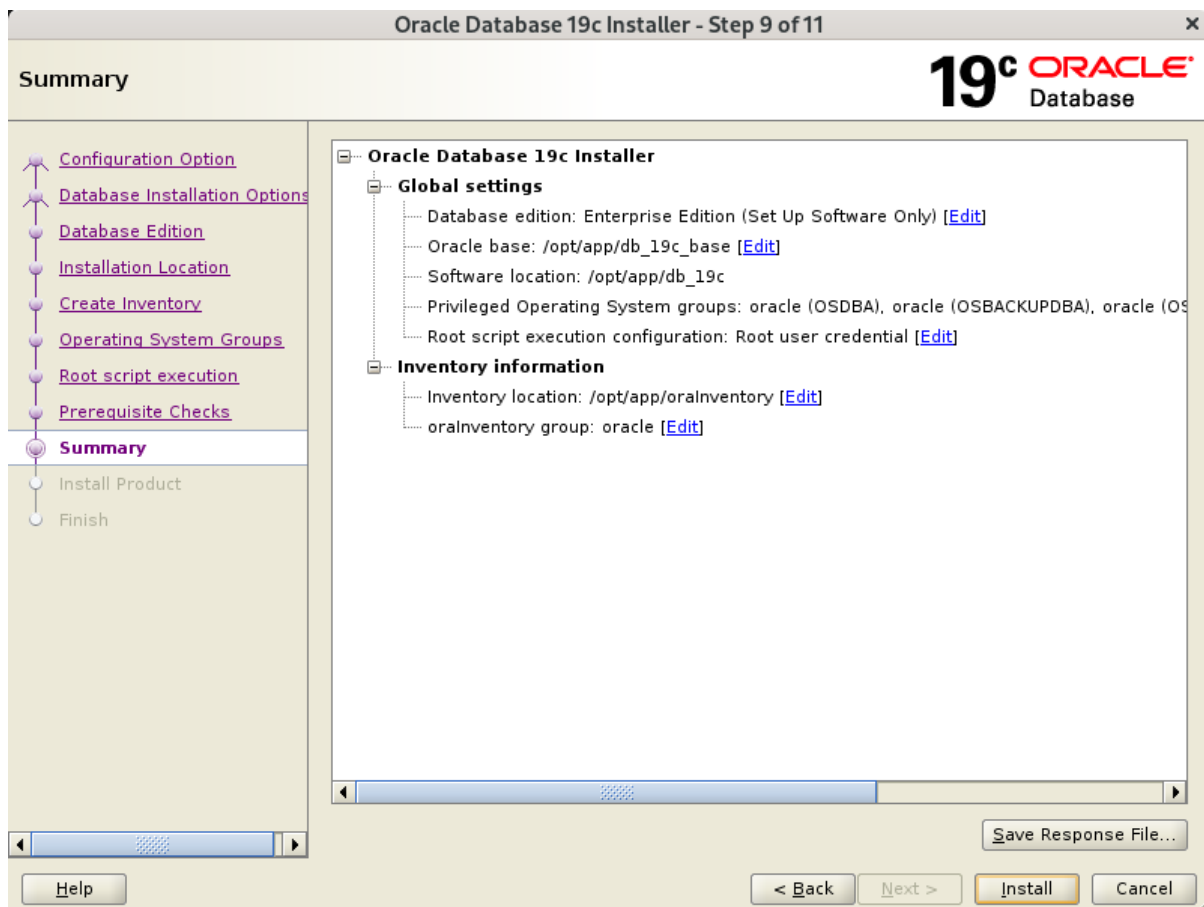


Increase swap size, click **Check Again**.



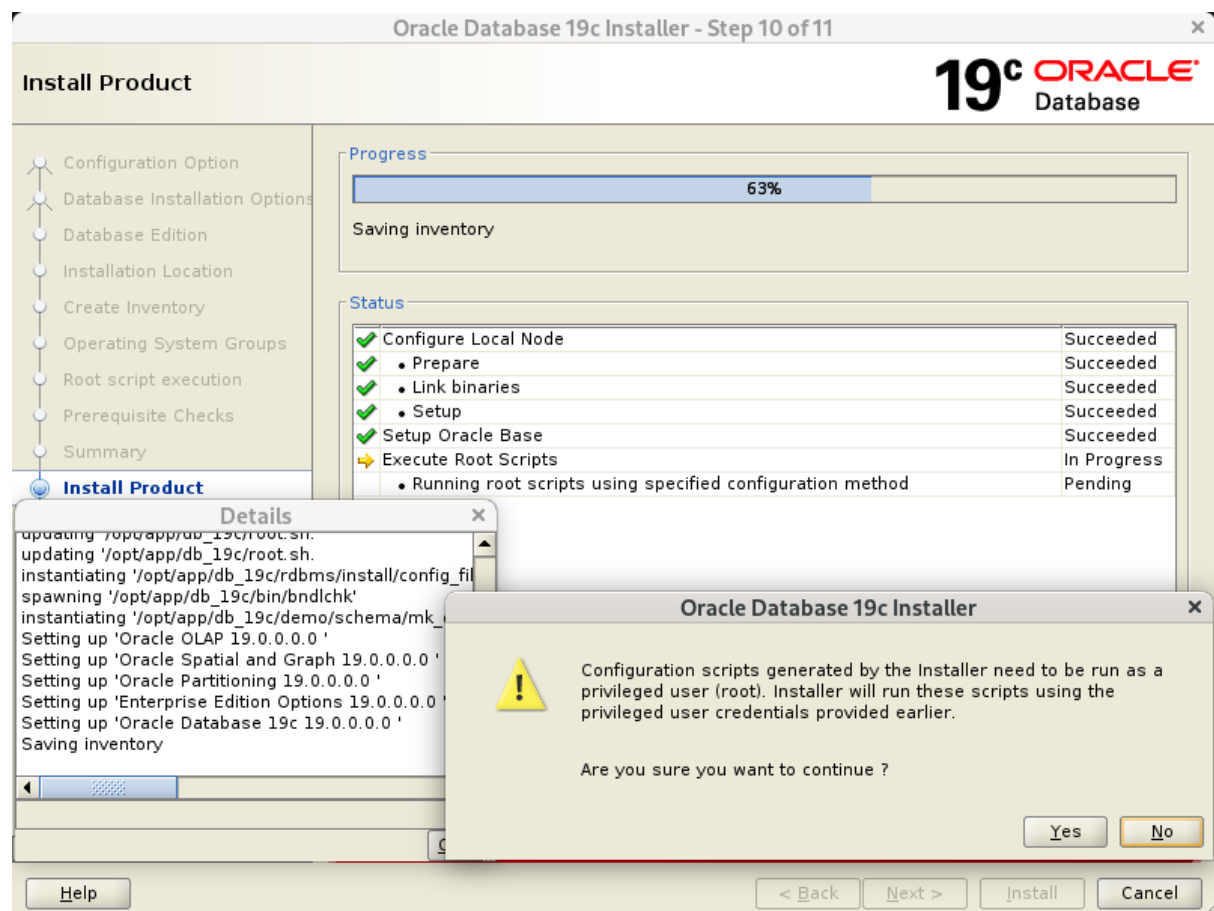
Make sure all requirements are satisfied. Then click **Next** to continue.

9). Summary.



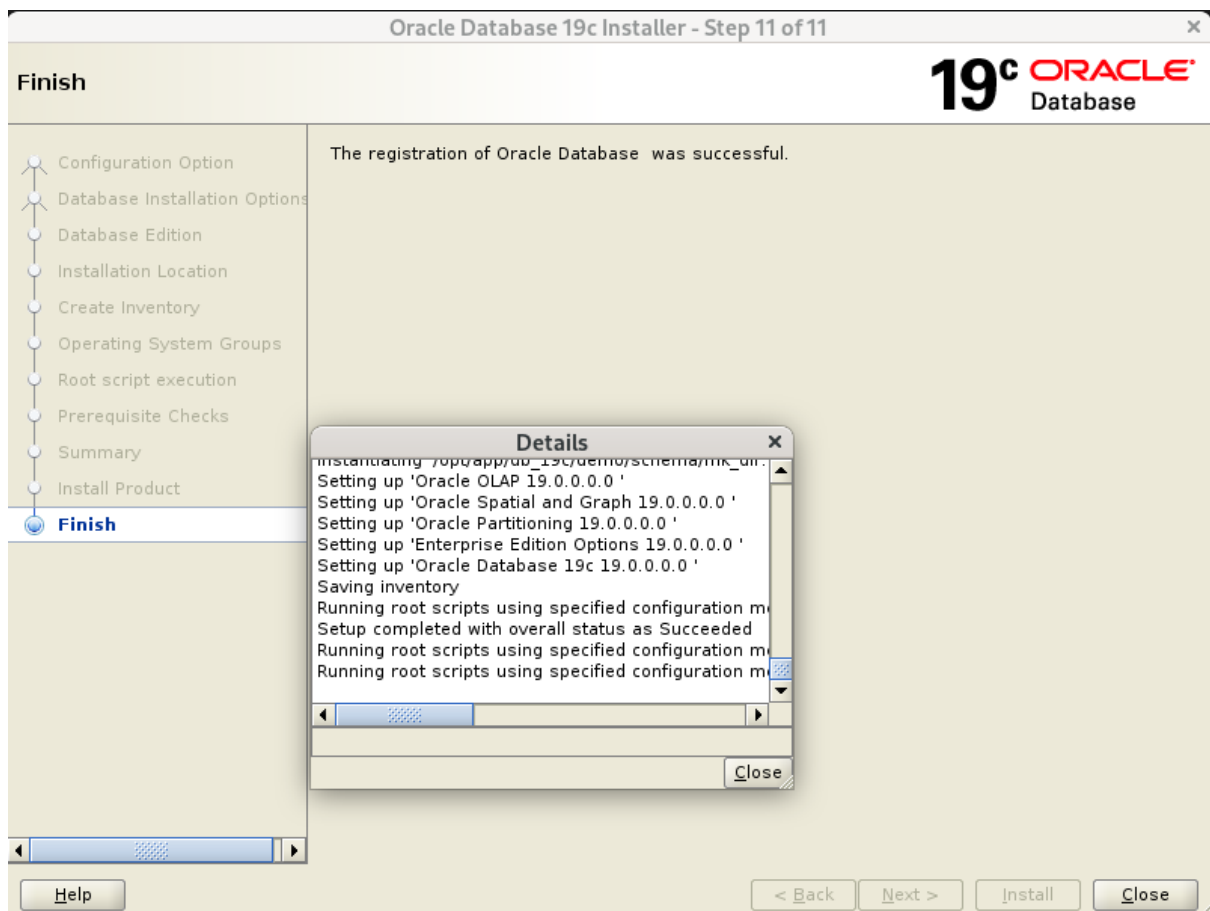
Installation Summary as shown above, click **Install** to continue.

10). Install Product.



Installer prompted you to run the root.sh scripts. Click **Yes** to continue. Monitoring the installation until the Finish window appears.

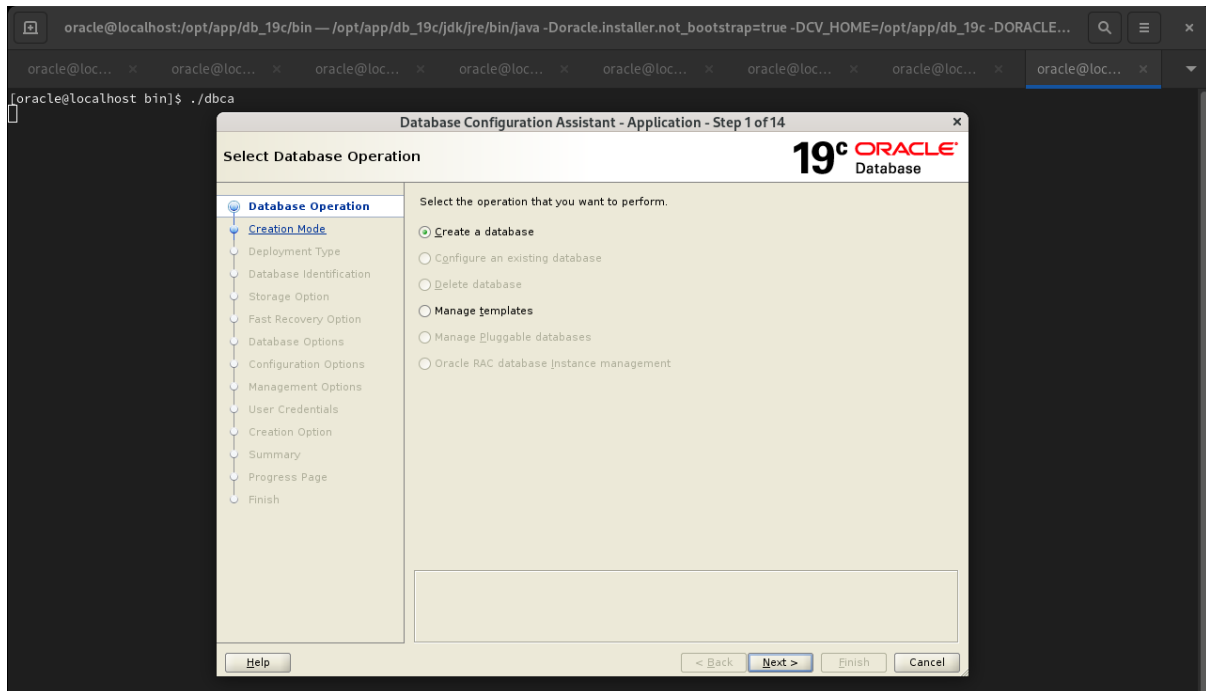
11). Finish



The installation of Oracle Database is finished, click **Close** to dismiss the screen.

3-4. Using DBCA to create a database.

1). Select Database Operation.



Select Create a database, then click **Next** to continue.

2). Select Database Creation Mode.

Database Configuration Assistant - Create a database - Step 2 of 14

19c ORACLE Database

Select Database Creation Mode

Creation Mode

☒ Typical configuration

Global database name: orclpdb

Storage type: File System

Database files location: {ORACLE_BASE}/oradata/{DB_UNIQUE_NAME} Browse...

Fast Recovery Area (FRA): {ORACLE_BASE}/fast_recovery_area/{DB_UNIQUE} Browse...

Database character set: AL32UTF8 - Unicode UTF-8 Universal character set

Administrative password:

Confirm password:

☒ Create as Container database

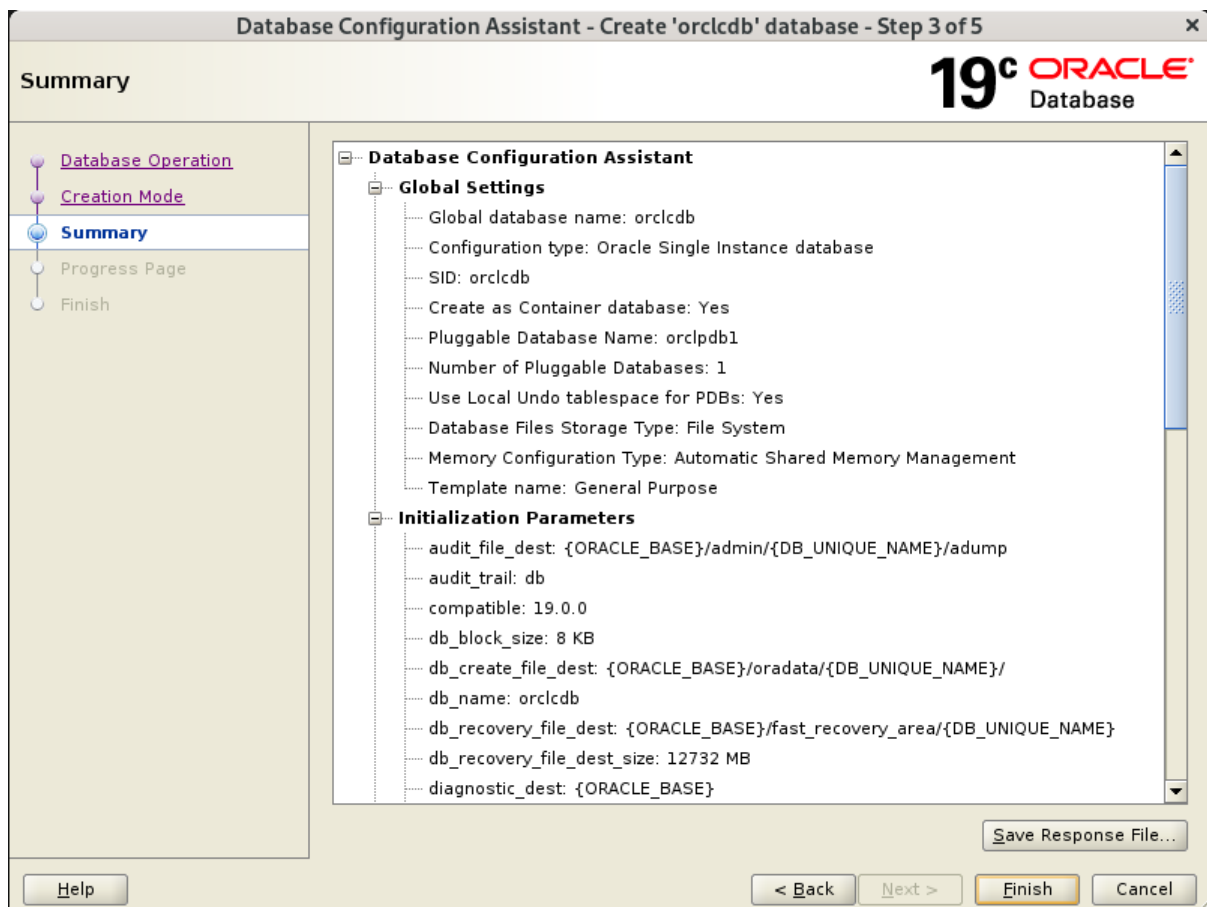
Pluggable database name: orclpdb1

☐ Advanced configuration

Help < Back Next > Finish Cancel

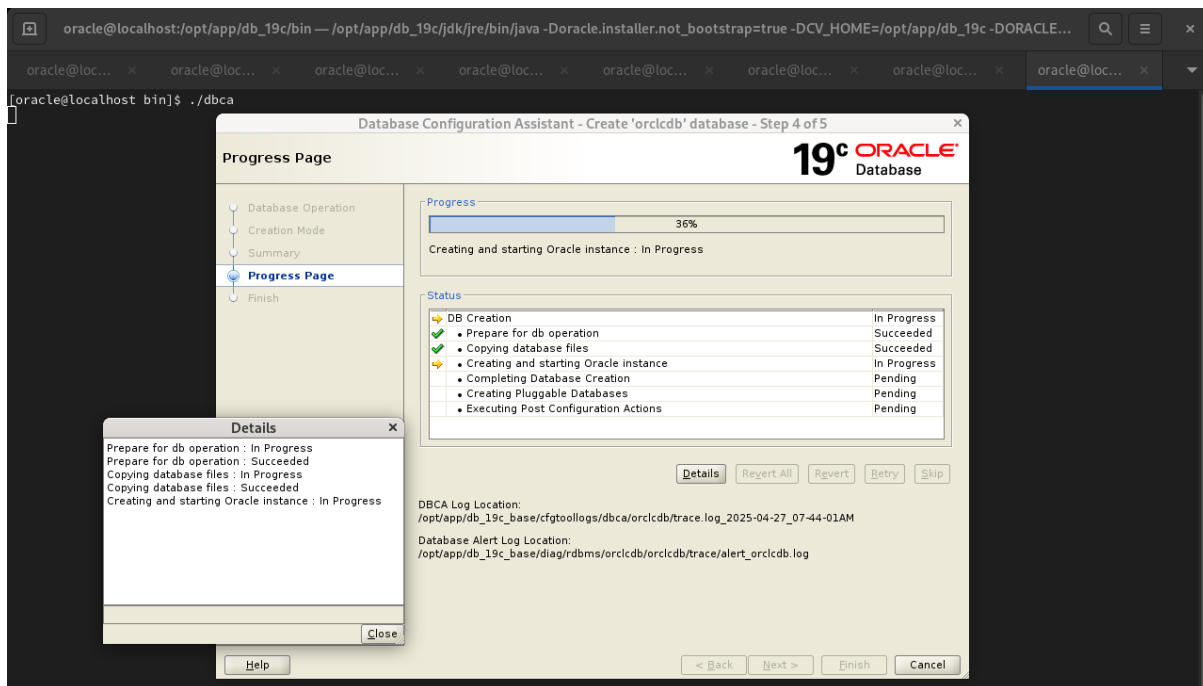
Select option "**Typical configuration**" and fill in administrator password. Then, click **Next** to continue.

3). Summary.



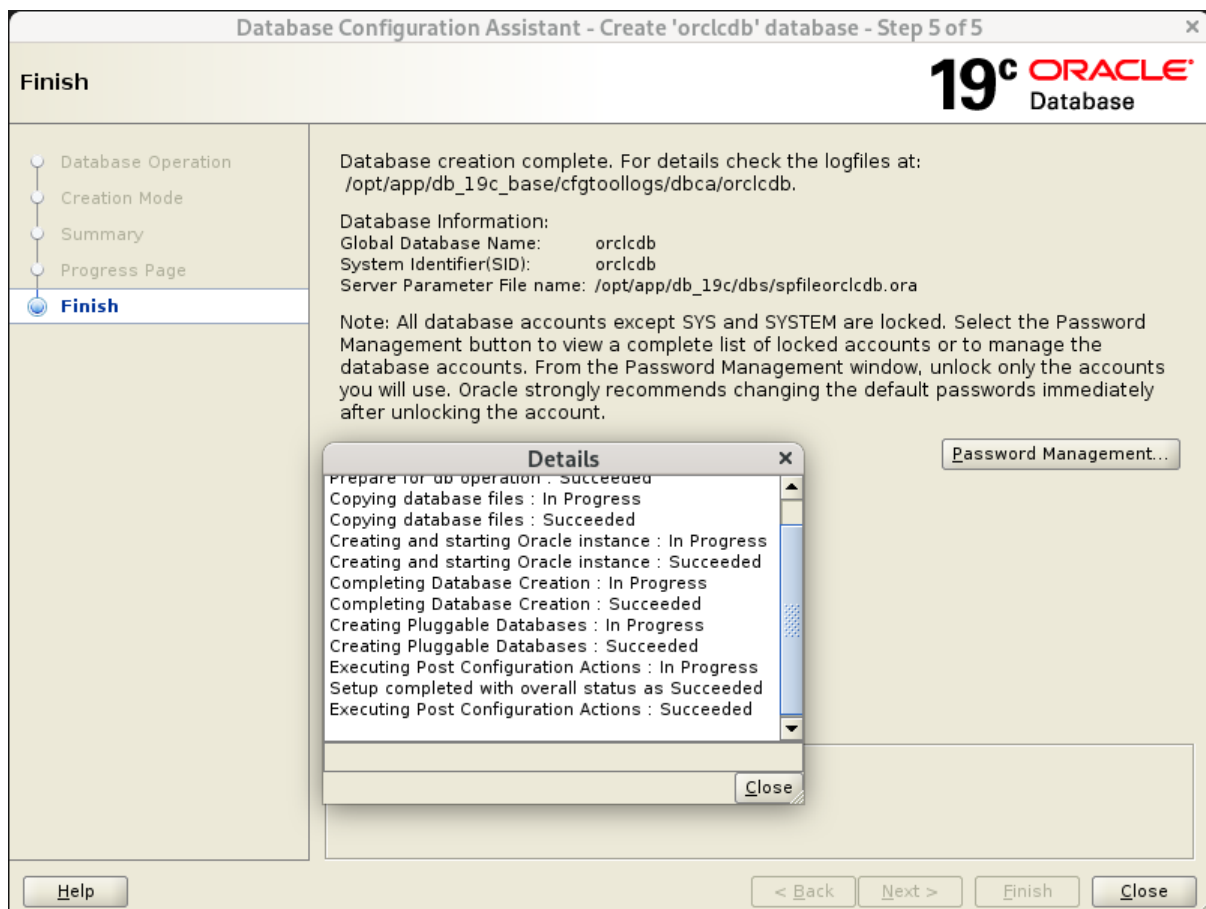
Database Configuration Summary as shown above, review the information, then click **Finish** to continue.

4). Progress Page.



Database creating progress as shown above, waiting until the creation is complete.

5). Finish.



Database creation complete, some details as shown above. Click **Close** to dismiss the screen.

3-5. Oracle Database 19c(19.26.0.0.0) Post-Install checks.

1). Check database and listener status

```
oracle@localhost:/opt/app/db_19c/bin

[oracle@localhost bin]$ export ORACLE_HOME=/opt/app/db_19c
[oracle@localhost bin]$ export ORACLE_SID=orclpdb
[oracle@localhost bin]$ /opt/app/db_19c/bin/sqlplus /nolog

SQL> Plus: Release 19.0.0.0.0 - Production on Sun Apr 27 11:20:05 2025
Version 19.26.0.0.0

Copyright (c) 1982, 2024, Oracle. All rights reserved.

SQL> conn /as sysdba
Connected.
SQL> show sga

Total System Global Area 3690985552 bytes
Fixed Size 9185360 bytes
Variable Size 788529152 bytes
Database Buffers 2885681152 bytes
Redo Buffers 7589888 bytes
SQL> show pdbs

  CON_ID CON_NAME              OPEN MODE RESTRICTED
  -----
        2 PDB$SEED                READ ONLY NO
        3 ORCLPDB1              READ WRITE NO
SQL> exec DBMS_XDB_CONFIG.SETHTTPSPORT(5500);

PL/SQL procedure successfully completed.

SQL> exit
Disconnected from Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.26.0.0.0
[oracle@localhost bin]$
```

```
oracle@localhost:/opt/app/db_19c/bin

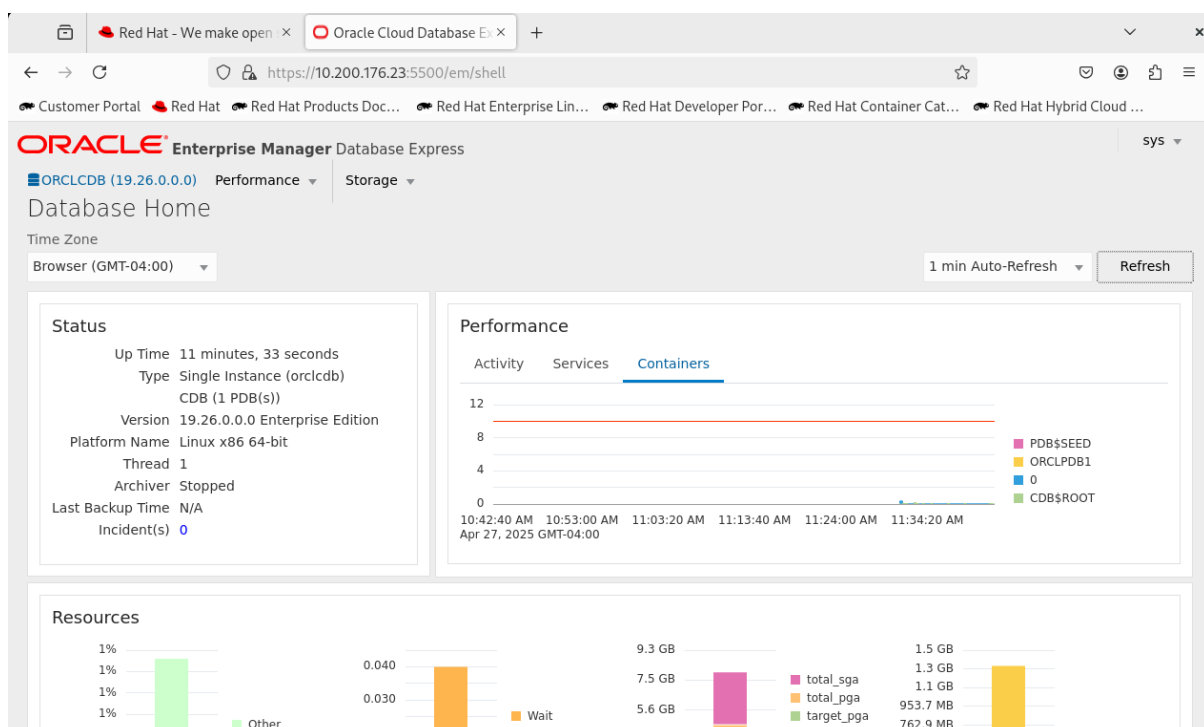
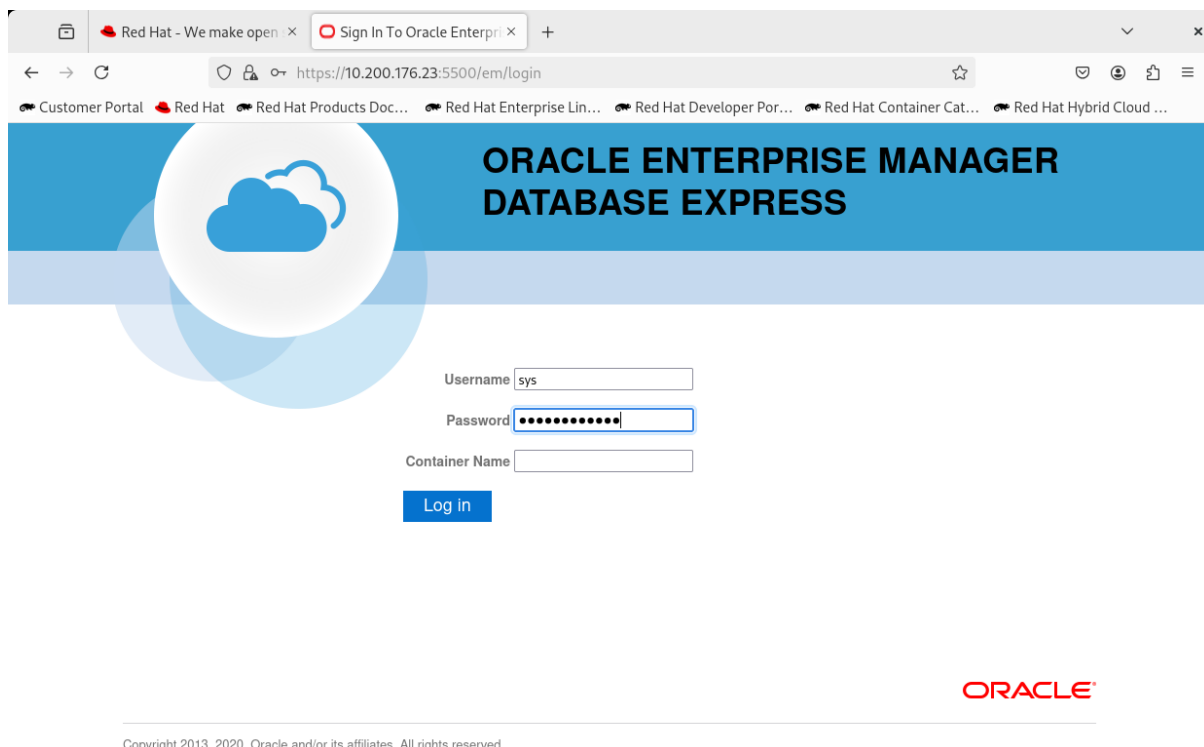
[oracle@localhost bin]$ /opt/app/db_19c/bin/lsnrctl status

LSNRCTL for Linux: Version 19.0.0.0.0 - Production on 27-APR-2025 11:23:01

Copyright (c) 1991, 2024, Oracle. All rights reserved.

Connecting to (ADDRESS=(PROTOCOL=tcp)(HOST=)(PORT=1521))
STATUS of the LISTENER
-----
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 19.0.0.0.0 - Production
Start Date                27-APR-2025 11:21:51
Uptime                    0 days 0 hr. 1 min. 11 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Listener Log File          /opt/app/db_19c_base/diag/tnslsnr/localhost/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=localhost)(PORT=1521)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcps)(HOST=localhost)(PORT=5500))(Presentation=HTTP)(Session=RAW))
Services Summary...
Service "33c2fb38dfcc22ace0650000000000001" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "86b637b62fdf7a65e053f706e80a27ca" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "orclpdb" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "orclpdbXDB" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
Service "orclpdb1" has 1 instance(s).
  Instance "orclpdb", status READY, has 1 handler(s) for this service...
The command completed successfully
[oracle@localhost bin]$
```

2). Access to Oracle Database Enterprise Manager.



Test Scenario 2 done.

Reference Information

- SUSE Multi-Linux Support Document:
<https://documentation.suse.com/liberty/9/>
- Oracle Products on SUSE Linux Enterprise Documents:
<https://www.suse.com/partners/alliance/oracle/documents/>

Additional Comments

This document provides a brief instruction to install Oracle Database 19c on SUSE Multi-Linux Support 9. You can extend this topology to make it highly available and secure so it is suitable for a production system.

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