Installation

Oracle 12c Release 1

Table des matières

1. Install SUSE Linux Server for SAP Applications 12 SP2

1.1 SUSE Customer Center

https://scc.suse.com/dashboard

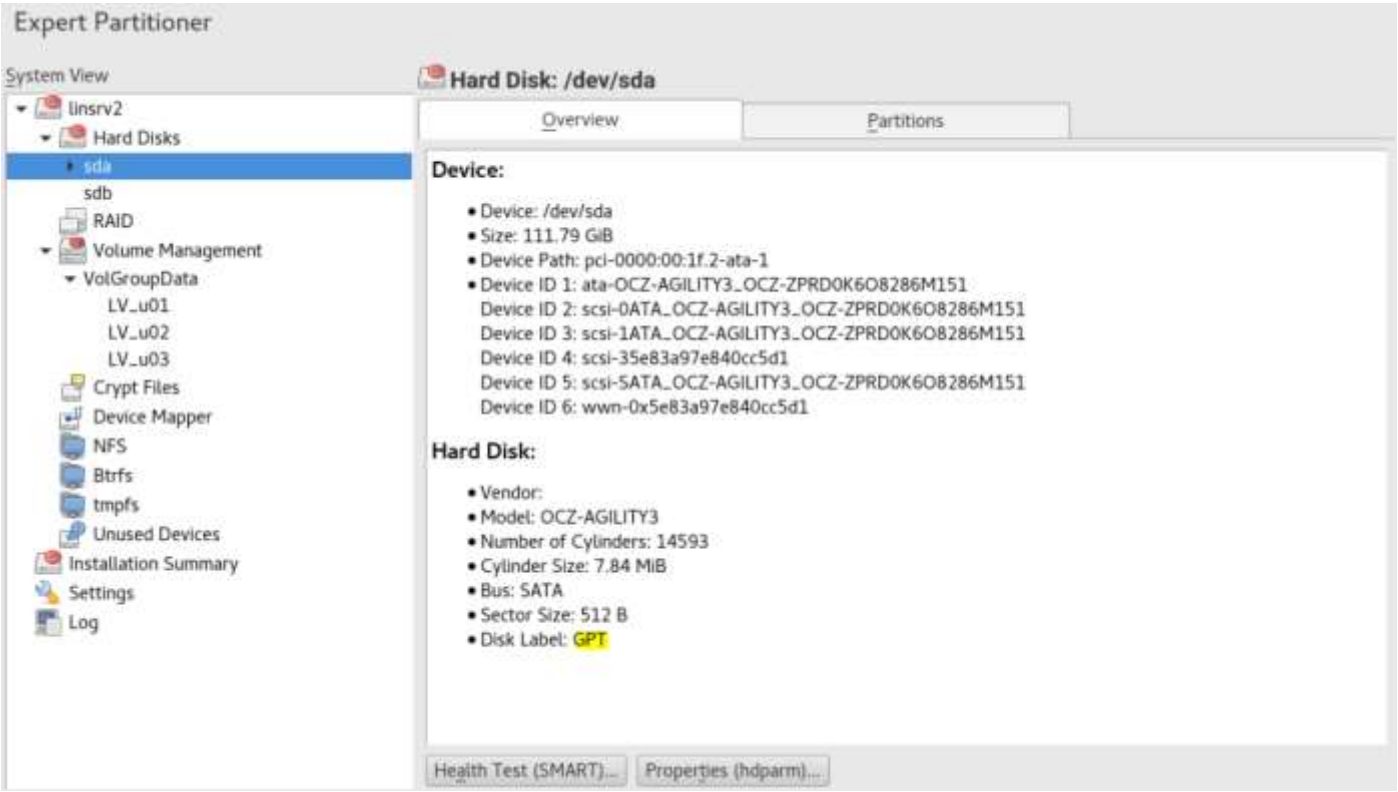
1.2 SSD for the Operating System

OCZ AGILITY3
/dev/sda 120 GiB

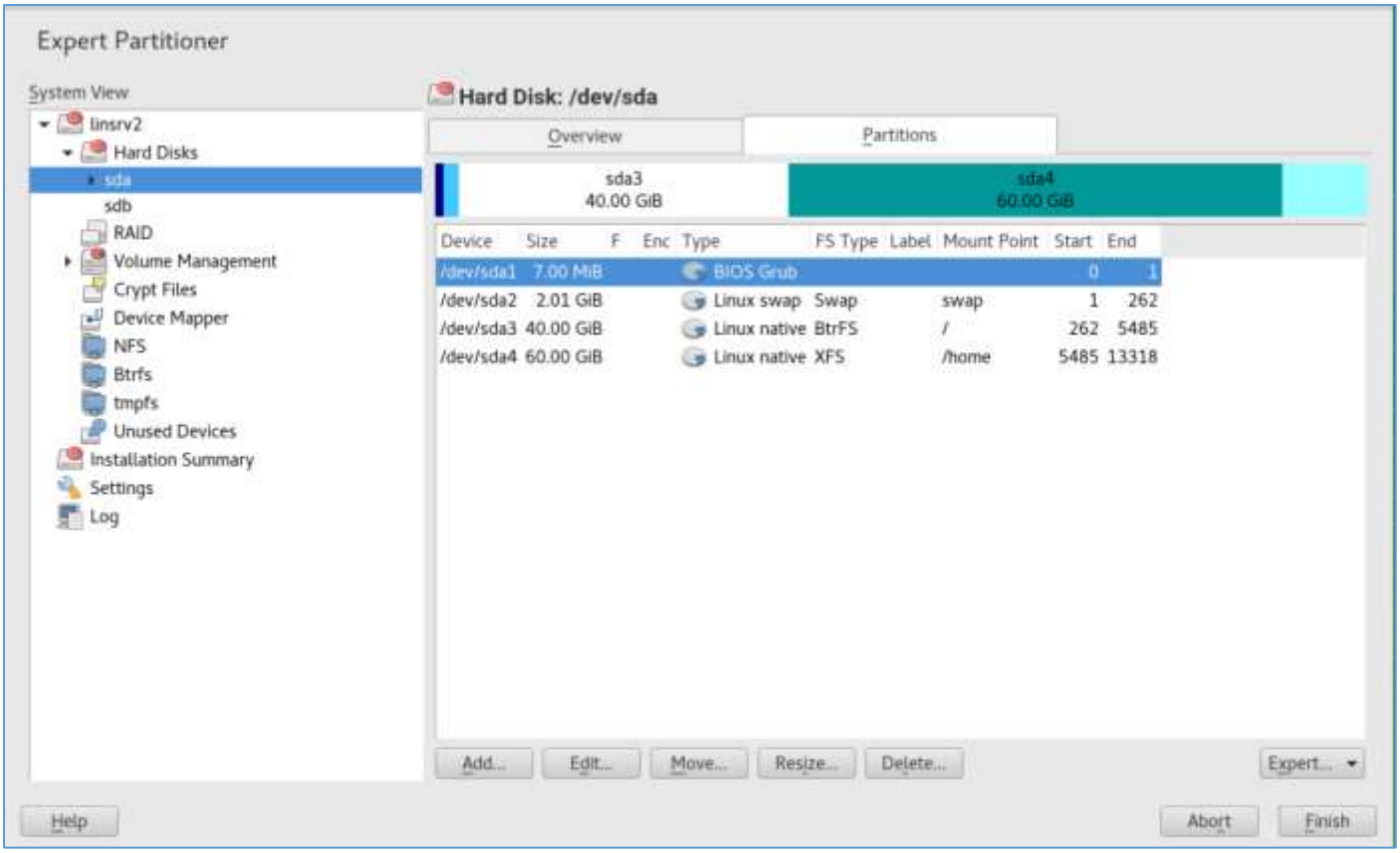
1.3 Partitioning for the Operating System (stage 1)

During the installation of the operating system, partitions for the operating system are created by default, but we use YaST > Expert Partitioner.

Disk Label : GPT



Using YaST and Expert Partitioner



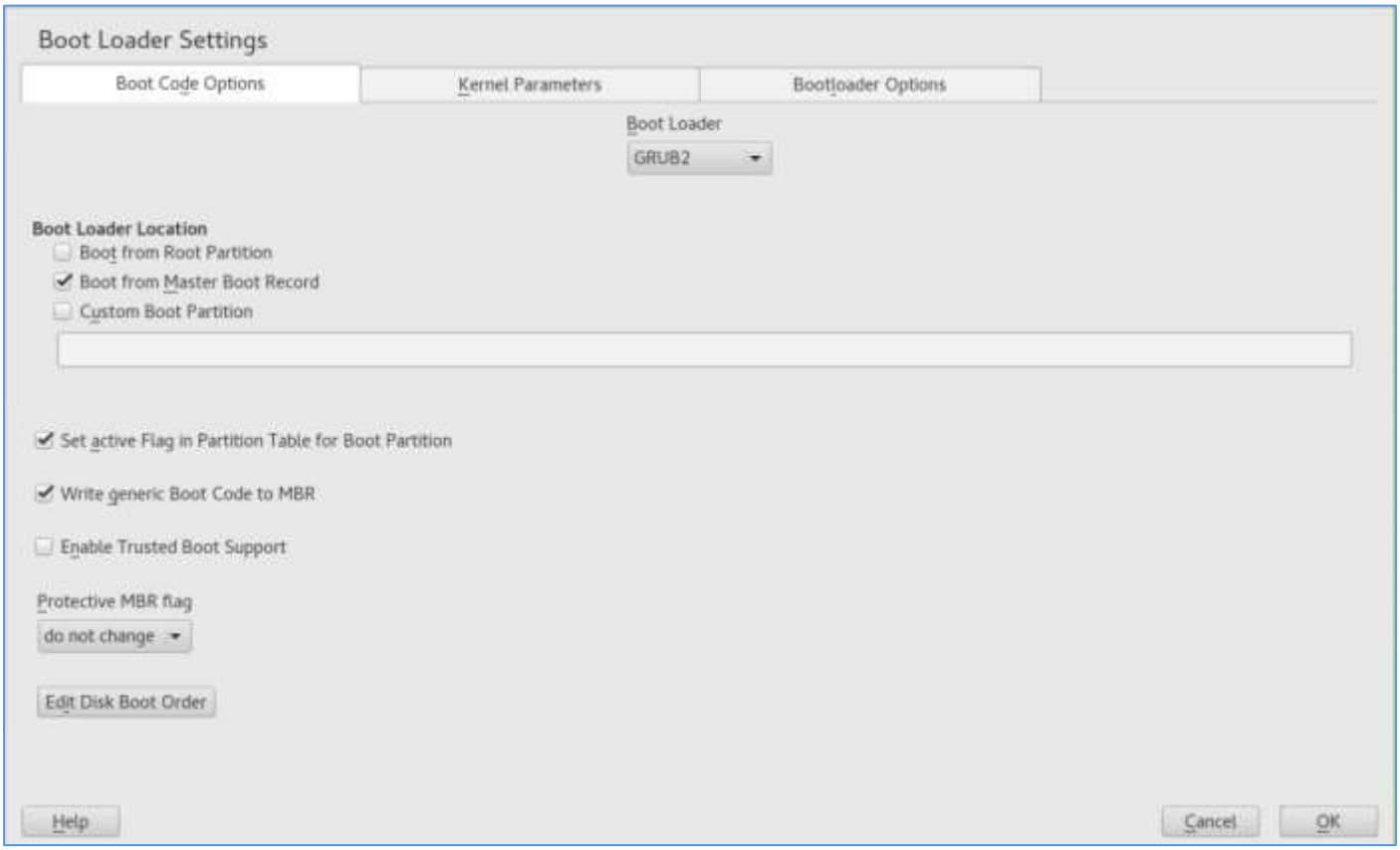
Check with parted

```
linsrv2:~ # parted
GNU Parted 3.1
Using /dev/sda
Welcome to GNU Parted! Type 'help' to view a list of commands.
(parted) unit GB
(parted) print
Model: ATA OCZ-AGILITY3 (scsi)
Disk /dev/sda: 120GB
Sector size (logical/physical): 512B/512B
Partition Table: gpt
Disk Flags: pmbr_boot

Number  Start   End     Size    File system     Name     Flags
 1      0.00GB  0.01GB  0.01GB                  primary  bios_grub
 2      0.01GB  2.16GB  2.15GB  linux-swap(v1)  primary
 3      2.16GB  45.1GB  43.0GB  btrfs           primary  legacy_boot
 4      45.1GB  110GB   64.4GB  xfs             primary
```

Check with lsscsi

```
linsrv2:~ # lsscsi
[0:0:0:0]    disk    ATA      OCZ-AGILITY3     2.15  /dev/sda
[1:0:0:0]    disk    ATA      ST31000524NS     SN12  /dev/sdb
[2:0:0:0]    cd/dvd  TSSTcorp CDDVDW TS-H653J  FT01  /dev/sr0
```

1.4 Boot Loader Settings

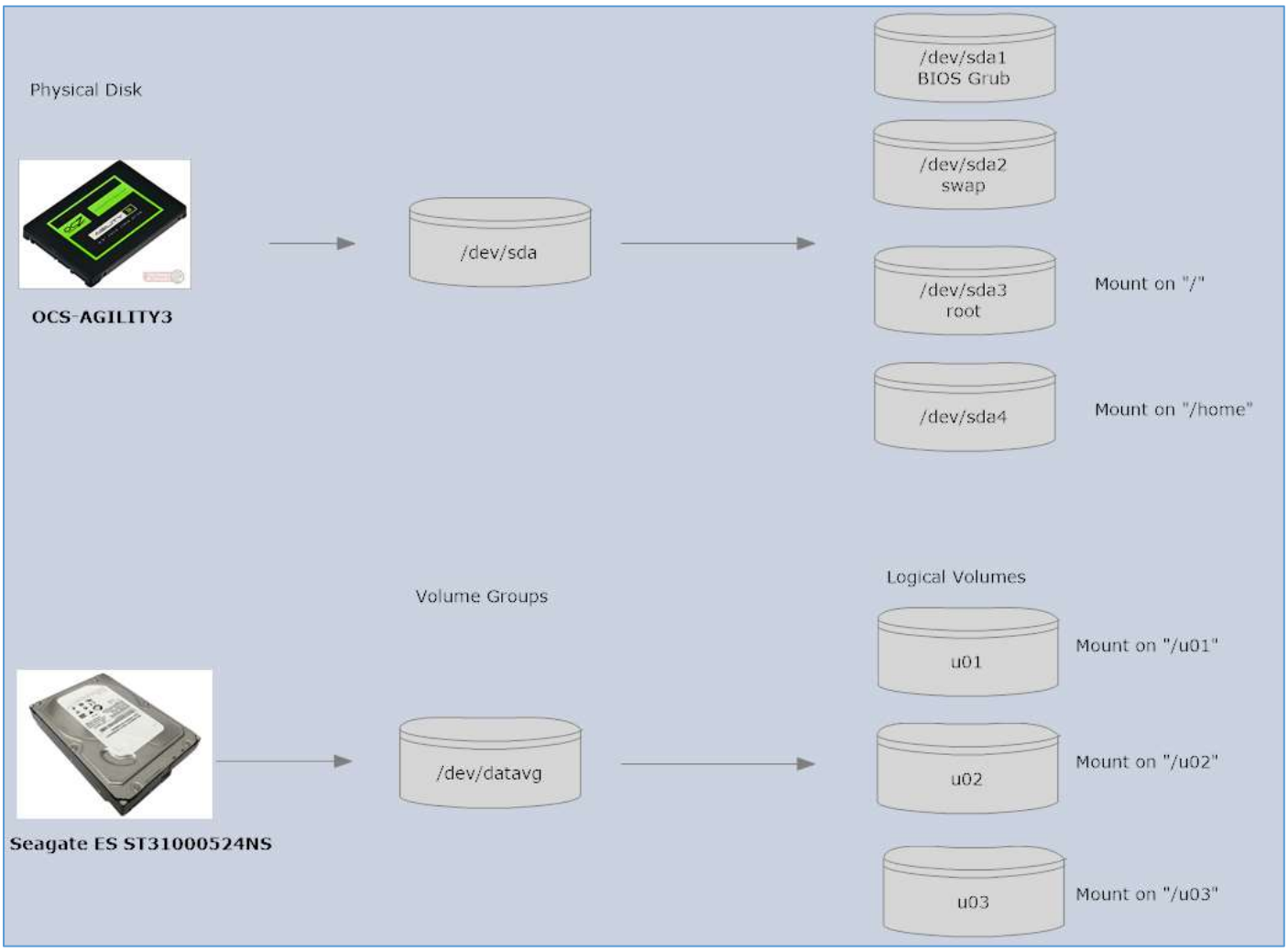


1.5 Hard Disk for the Database

IBM Seagate Constellation ES ST31000524NS

1TB 32MB Cache 7200RPM
3.0Gb/s 3.5”

1.6 Partitioning for the Database (stage 2)

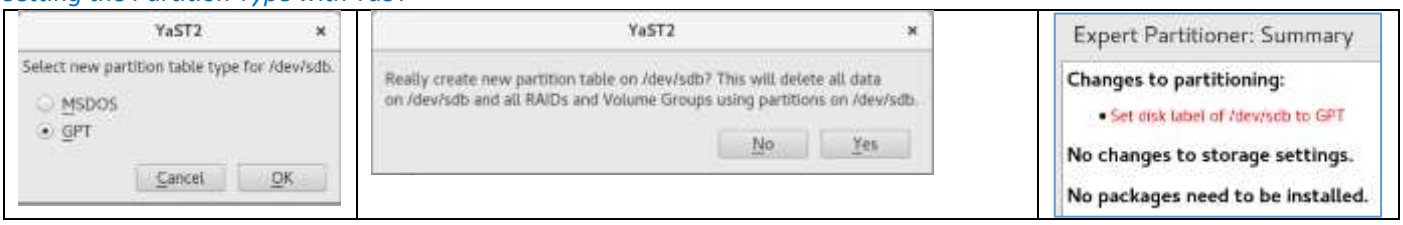


Get the Partitioning Schema (MBR or GPT) with parted or gdisk

```
linsrv2:~ # parted /dev/sdb print
Error: /dev/sdb: unrecognised disk label
Model: ATA ST31000524NS (scsi)
Disk /dev/sdb: 1000GB
Sector size (logical/physical): 512B/512B
Partition Table: unknown
Disk Flags:
```

```
linsrv2:~ # gdisk -l /dev/sdb
GPT fdisk (gdisk) version 0.8.8

Partition table scan:
  MBR: not present
  BSD: not present
  APM: not present
  GPT: not present

Creating new GPT entries.
Disk /dev/sdb: 1953525168 sectors, 931.5 GiB
Logical sector size: 512 bytes
Disk identifier (GUID): 51CE6132-8349-40D6-97EC-6D0539066386
Partition table holds up to 128 entries
First usable sector is 34, last usable sector is 1953525134
Partitions will be aligned on 2048-sector boundaries
Total free space is 1953525101 sectors (931.5 GiB)

Number  Start (sector)    End (sector)  Size       Code  Name
```

Setting the Partition Type with YaST



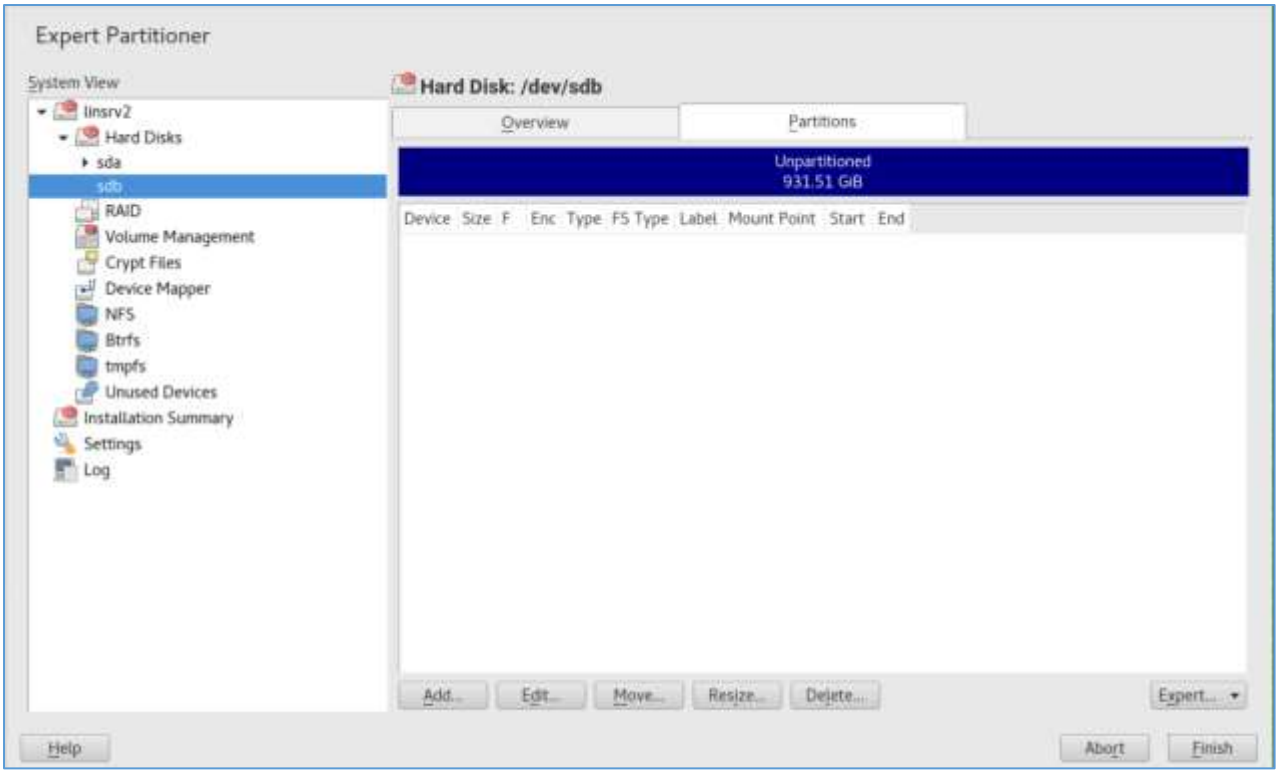
1.6.1 Setting the Partition Type (MBR or GPT)

```
linsrv2:~ # parted /dev/sdb print
Model: ATA ST31000524NS (scsi)
Disk /dev/sdb: 1000GB
Sector size (logical/physical): 512B/512B
Partition Table: gpt
Disk Flags:

Number  Start  End  Size  File system  Name  Flags
```

```
linsrv2:~ # gdisk -l /dev/sdb
GPT fdisk (gdisk) version 0.8.8

Partition table scan:
  MBR: protective
  BSD: not present
  APM: not present
  GPT: present

Found valid GPT with protective MBR; using GPT.
Disk /dev/sdb: 1953525168 sectors, 931.5 GiB
Logical sector size: 512 bytes
Disk identifier (GUID): 98C844D1-308D-4F12-880A-8F91829EC803
Partition table holds up to 128 entries
First usable sector is 34, last usable sector is 1953525134
Partitions will be aligned on 2048-sector boundaries
Total free space is 1953525101 sectors (931.5 GiB)

Number  Start (sector)    End (sector)  Size       Code  Name
```

Remarks : How to partition a GPT disk without a Protective MBR. The answer to that question is you cannot - because the GPT is a disk partition table format standard, and that standard specifies a protective MBR positioned at the head of the disk.

1.6.2 Adding the Partitions of Type Linux LVM



Add the first Partition of Type Linux LVM : 8e00

```
linsrv2:~ # gdisk /dev/sdb
GPT fdisk (gdisk) version 0.8.8

Partition table scan:
  MBR: protective
  BSD: not present
  APM: not present
  GPT: present

Found valid GPT with protective MBR; using GPT.

Command (? for help): n
Partition number (1-128, default 1):
First sector (34-1953525134, default = 2048) or {+-}size{KMGTP}:
Last sector (2048-1953525134, default = 1953525134) or {+-}size{KMGTP}: +200G
Current type is 'Linux filesystem'
Hex code or GUID (L to show codes, Enter = 8300): 8e00
Changed type of partition to 'Linux LVM'

Command (? for help): w

Final checks complete. About to write GPT data. THIS WILL OVERWRITE EXISTING
PARTITIONS!!

Do you want to proceed? (Y/N): Y
OK; writing new GUID partition table (GPT) to /dev/sdb.
The operation has completed successfully.
linsrv2:~ #
```

Add the second Partition of Type Linux LVM : 8e00

```
Command (? for help): n
Partition number (2-128, default 2):
First sector (34-1953525134, default = 419432448) or {+-}size{KMGTP}:
Last sector (419432448-1953525134, default = 1953525134) or {+-}size{KMGTP}: +20
0G
Current type is 'Linux filesystem'
Hex code or GUID (L to show codes, Enter = 8300): 8e00
Changed type of partition to 'Linux LVM'
```

Add the third Partition of Type Linux LVM : 8e00

```
Command (? for help): n
Partition number (3-128, default 3):
First sector (34-1953525134, default = 838862848) or {+-}size{KMGTP}:
Last sector (838862848-1953525134, default = 1953525134) or {+-}size{KMGTP}: +20
0G
Current type is 'Linux filesystem'
Hex code or GUID (L to show codes, Enter = 8300): 8e00
Changed type of partition to 'Linux LVM'
```

Add the fourth Partition of Type Linux LVM : 8e00

```
Command (? for help): n
Partition number (4-128, default 4):
First sector (34-1953525134, default = 1258293248) or {+-}size{KMGTP}:
Last sector (1258293248-1953525134, default = 1953525134) or {+-}size{KMGTP}: +3
00G
Current type is 'Linux filesystem'
Hex code or GUID (L to show codes, Enter = 8300): 8e00
Changed type of partition to 'Linux LVM'
```

Writing the new GUID partition table (GPT) to /dev/sdb

```
Command (? for help): w

Final checks complete. About to write GPT data. THIS WILL OVERWRITE EXISTING
PARTITIONS!!

Do you want to proceed? (Y/N): Y
OK; writing new GUID partition table (GPT) to /dev/sdb.
The operation has completed successfully.
```

1.6.3 Initializing Physical Volumes

Use the pvcreate command to initialize a block device to be used as a physical volume. Initialization is analogous to formatting a file system. To initialize partitions rather than whole disks: run the pvcreate command on the partition. The following example initializes /dev/sdb1 as an LVM physical volume for later use as part of an LVM logical volume.

```
linsrv2:~ # pvcreate /dev/sdb1
WARNING: ext4 signature detected on /dev/sdb1 at offset 1080. Wipe it? [y/n]: y
  Wiping ext4 signature on /dev/sdb1.
  Physical volume "/dev/sdb1" successfully created
```

```
linsrv2:~ # pvcreate /dev/sdb2
WARNING: ext4 signature detected on /dev/sdb2 at offset 1080. Wipe it? [y/n]: y
  Wiping ext4 signature on /dev/sdb2.
  Physical volume "/dev/sdb2" successfully created
```

```
linsrv2:~ # pvcreate /dev/sdb3
WARNING: ext4 signature detected on /dev/sdb3 at offset 1080. Wipe it? [y/n]: y
  Wiping ext4 signature on /dev/sdb3.
  Physical volume "/dev/sdb3" successfully created
```

```
linsrv2:~ # pvcreate /dev/sdb4
  Physical volume "/dev/sdb4" successfully created
```

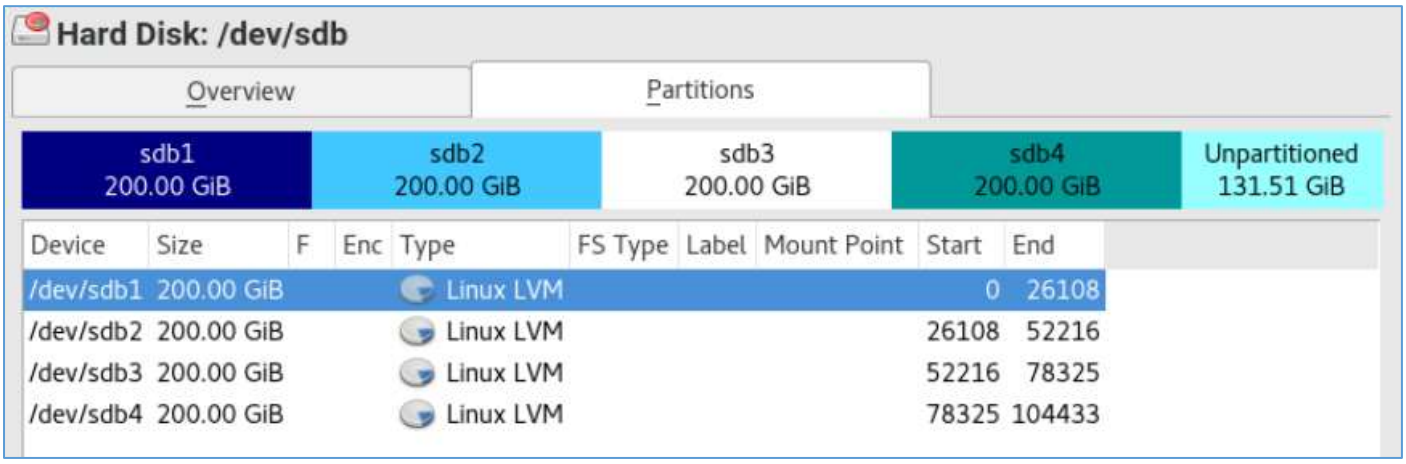
To remove a Physical Volume (Only if necessary)

```
linsrv2:~ # pvremove /dev/sdb4
  Labels on physical volume "/dev/sdb4" successfully wiped
```

Check with pvscan

```
linsrv2:~ # pvscan
  PV /dev/sdb3          lvm2 [200.00 GiB]
  PV /dev/sdb1          lvm2 [200.00 GiB]
  PV /dev/sdb4          lvm2 [200.00 GiB]
  PV /dev/sdb2          lvm2 [200.00 GiB]
  Total: 4 [800.00 GiB] / in use: 0 [0   ] / in no VG: 4 [800.00 GiB]
```

YaST > Expert Partitioner



1.6.4 Creating Volume Groups

To create a volume group from one or more physical volumes, use the vgcreate command. The vgcreate command creates a new volume group by name and adds at least one physical volume to it. The following command creates a volume group named vgdatabase that contains physical volumes /dev/sdb1 and /dev/sdb2 and /dev/sdb3.

Add a Volume Group : vgdatabase

```
linsrv2:~ # vgcreate vgdatabase /dev/sdb1 /dev/sdb2 /dev/sdb3
  Volume group "vgdatabase" successfully created
```

Add a Volume Group : vgbackup

```
linsrv2:~ # vgcreate vgbackup /dev/sdb4
  Volume group "vgbackup" successfully created
```

1.6.5 Creating Logical Volumes

In vgdatabase

```
linsrv2:~ # lvcreate -L 200G -n lv01 vgdatabase
  Logical volume "lv01" created.
linsrv2:~ # lvcreate -L 200G -n lv02 vgdatabase
  Logical volume "lv02" created.
linsrv2:~ # lvcreate -L 200G -n lv03 vgdatabase
  Volume group "vgdatabase" has insufficient free space (51197 extents): 51200 r
equired.
linsrv2:~ # lvcreate -l 100%FREE -n lv03 vgdatabase
  Logical volume "lv03" created.
```

In vgbackup

```
linsrv2:~ # lvcreate -L 200G -n lv04 vgbackup
  Volume group "vgbackup" has insufficient free space (51199 extents): 51200 req
uired.
linsrv2:~ # lvcreate -l 100%FREE -n lv04 vgbackup
  Logical volume "lv04" created.
linsrv2:~ #
```

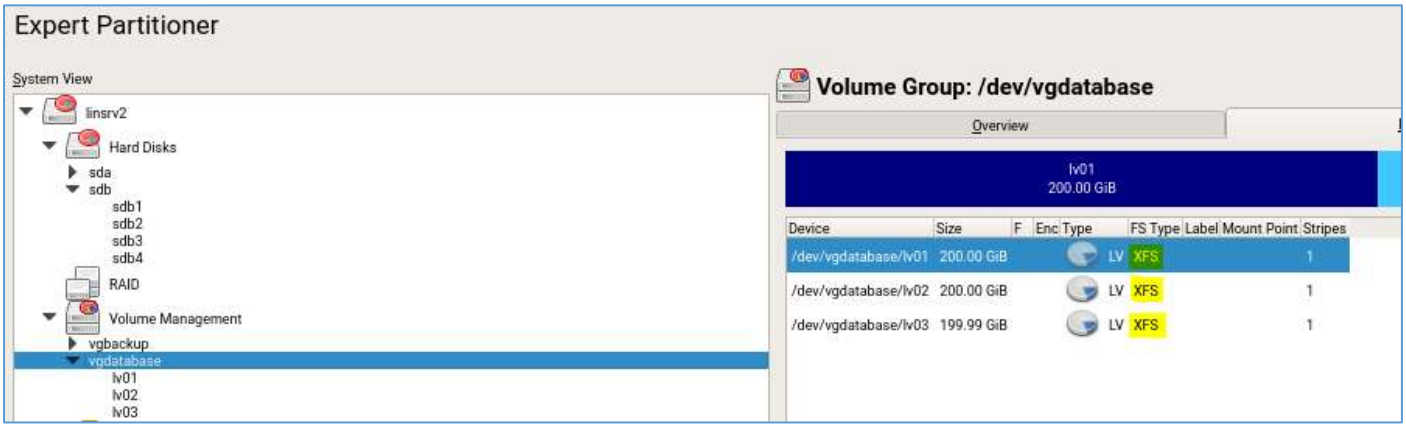
1.6.6 Creating File System and mount as normal partition

```
linsrv2:~ # mkfs.xfs /dev/vgdatabase/lv01
meta-data=/dev/vgdatabase/lv01   isize=256    agcount=4, agsize=13107200 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=0        finobt=0, sparse=0
data     =                       bsize=4096   blocks=52428800, imaxpct=25
         =                       sunit=0      swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0 ftype=1
log      =internal log           bsize=4096   blocks=25600, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none                   extsz=4096   blocks=0, rtextents=0
```

```
linsrv2:~ # mkfs.xfs /dev/vgdatabase/lv02
meta-data=/dev/vgdatabase/lv02   isize=256    agcount=4, agsize=13107200 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=0        finobt=0, sparse=0
data     =                       bsize=4096   blocks=52428800, imaxpct=25
         =                       sunit=0      swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0 ftype=1
log      =internal log           bsize=4096   blocks=25600, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none                   extsz=4096   blocks=0, rtextents=0
```

```
linsrv2:~ # mkfs.xfs /dev/vgdatabase/lv03
meta-data=/dev/vgdatabase/lv03   isize=256    agcount=4, agsize=13106432 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=0        finobt=0, sparse=0
data     =                       bsize=4096   blocks=52425728, imaxpct=25
         =                       sunit=0      swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0 ftype=1
log      =internal log           bsize=4096   blocks=25598, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none                   extsz=4096   blocks=0, rtextents=0
```

```
linsrv2:~ # mkfs.xfs /dev/vgbackup/lv04
meta-data=/dev/vgbackup/lv04     isize=256    agcount=4, agsize=13106944 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=0        finobt=0, sparse=0
data     =                       bsize=4096   blocks=52427776, imaxpct=25
         =                       sunit=0      swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0 ftype=1
log      =internal log           bsize=4096   blocks=25599, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none                   extsz=4096   blocks=0, rtextents=0
```



We have created file system on logical volumes by formatting them. Now we need to create mount points for them.

1.6.7 Mounting the File System

```
linsrv2:~ # mkdir -p /u01
linsrv2:~ # mkdir -p /u02
linsrv2:~ # mkdir -p /u03
linsrv2:~ # mkdir -p /backup
```

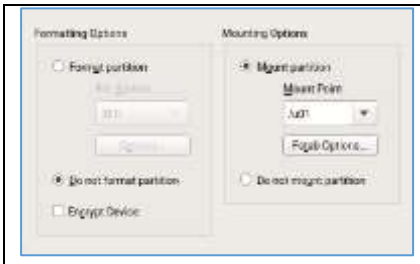
```
linsrv2:~ # mount /dev/vgdatabase/lv01 /u01
linsrv2:~ # mount /dev/vgdatabase/lv02 /u02
linsrv2:~ # mount /dev/vgdatabase/lv03 /u03
```

```
linsrv2:~ # mount /dev/vgbackup/lv04 /backup
```

df -aTh

```
/dev/mapper/vgdatabase-lv01 xfs          200G   33M  200G   1% /u01
/dev/mapper/vgdatabase-lv02 xfs          200G   33M  200G   1% /u02
/dev/mapper/vgdatabase-lv03 xfs          200G   33M  200G   1% /u03
/dev/mapper/vgbackup-lv04   xfs          200G   33M  200G   1% /backup
```

YaST > Partitioner



Check in /etc/fstab

```
UUID=f24cfa44-c56f-4283-875e-043102b02029 /u01                xfs        defaults              1 2
UUID=78c71f2f-c1f0-4140-8fb9-1211eaf37a97 /u02                xfs        defaults              1 2
UUID=83ff4b47-982e-453e-87b9-de24c947925c /u03                xfs        defaults              1 2
```

2. Oracle Database Preinstallation Tasks

Reference => https://docs.oracle.com/database/121/LADBI/toc.htm

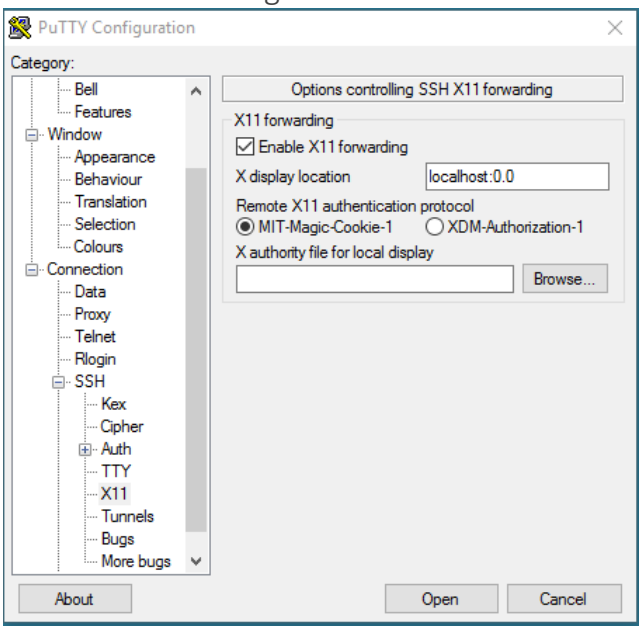
2.1.Stopping the Firewall


```
# systemctl stop SuSEfirewall2
# systemctl start SuSEfirewall2
# systemctl disable SuSEfirewall2          Disable Firewall Automatic Starting
# systemctl enable SuSEfirewall2           Enable Firewall Automatic Starting
```

```
linsrv2:~ # systemctl status SuSEfirewall2
● SuSEfirewall2.service - SuSEfirewall2 phase 2
   Loaded: loaded (/usr/lib/systemd/system/SuSEfirewall2.service; enabled; vendo
r preset: disabled)
   Active: inactive (dead) since Thu 2016-12-22 11:16:40 CET; 2min 33s ago
  Process: 9169 ExecStop=/usr/sbin/SuSEfirewall2 systemd_stop (code=exited, stat
us=0/SUCCESS)
  Process: 8829 ExecStart=/usr/sbin/SuSEfirewall2 boot_setup (code=exited, statu
s=0/SUCCESS)
 Main PID: 8829 (code=exited, status=0/SUCCESS)

Dec 22 11:12:55 linsrv2 systemd[1]: Starting SuSEfirewall2 phase 2...
Dec 22 11:12:55 linsrv2 systemd[1]: Started SuSEfirewall2 phase 2.
Dec 22 11:16:40 linsrv2 systemd[1]: Stopping SuSEfirewall2 phase 2...
Dec 22 11:16:40 linsrv2 systemd[1]: Stopped SuSEfirewall2 phase 2.
```

2.2.Setting Remote Display and X11 Forwarding Configuration

2.2.1. Configure PuTTY



2.2.2. Check the DISPLAY variable

```
linsrv2:~ # echo $DISPLAY
localhost:10.0
```

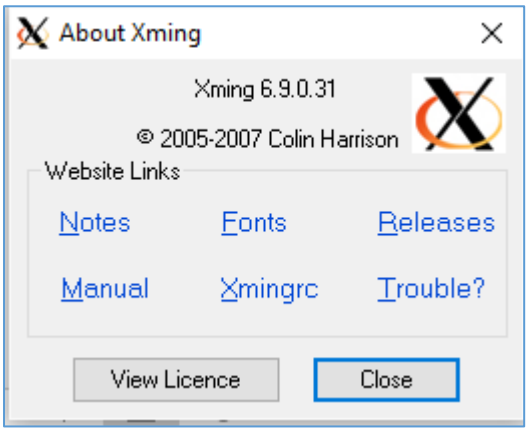
```
linsrv2:~ # export DISPLAY=192.168.0.20:0.0
linsrv2:~ # echo $DISPLAY
192.168.0.20:0.0
```

2.2.3. Configure openSSH

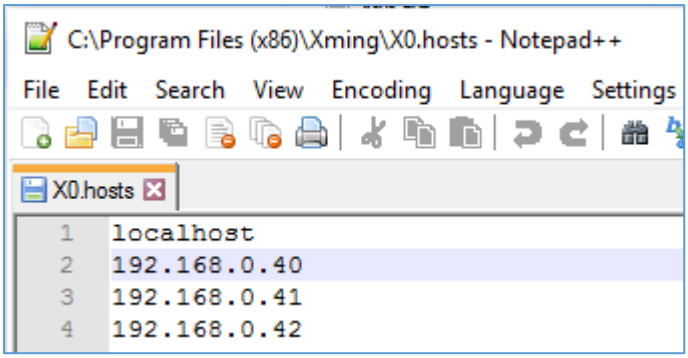
Config File

```
#AllowAgentForwarding yes
#AllowTcpForwarding yes
#GatewayPorts no
X11Forwarding yes
```

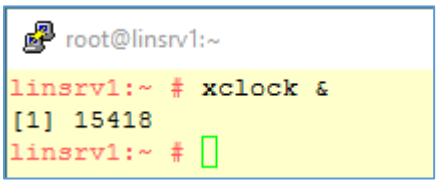
2.2.4. Start Xming

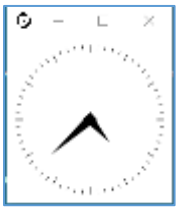


Check in C:\Program Files (x86)\Xming the file X0.hosts



Check with xclock &





Check the locale

```
linsrv1:~ # locale
LANG=POSIX
LC_CTYPE=en_US.UTF-8
LC_NUMERIC="POSIX"
LC_TIME="POSIX"
LC_COLLATE="POSIX"
LC_MONETARY="POSIX"
LC_MESSAGES="POSIX"
LC_PAPER="POSIX"
LC_NAME="POSIX"
LC_ADDRESS="POSIX"
LC_TELEPHONE="POSIX"
LC_MEASUREMENT="POSIX"
LC_IDENTIFICATION="POSIX"
LC_ALL=
```

Warning: Missing charset in String to FontSet conversion

export LC_ALL=C

To make this setting permanent for user, add it to the .bash_profile /home/user/.bash_profile

2.2.5. Login later with the user oracle

Check if file /home/oracle/**.Xauthority**

```
linsrv2:~ # su - oracle
oracle@linsrv2:~> xauth
xauth:  file /home/oracle/.Xauthority does not exist
Using authority file /home/oracle/.Xauthority
xauth>
```

1.7 Configuring Servers for Oracle Database

1.7.1 Checking Server Hardware and Memory Configuration

1. Determine the physical RAM size

```
linsrv2:~ # grep MemTotal /proc/meminfo
MemTotal:       16117384 kB
```

2. Determine the size of the configured swap space

```
linsrv2:~ # grep SwapTotal /proc/meminfo
SwapTotal:       2104316 kB
```

3. Determine the amount of space available in the /tmp directory

```
linsrv2:~ # df -h /tmp
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda3        41G  3.3G   37G   9% /tmp
```

4. Determine the amount of free disk space on the system

```
linsrv2:~ # df -h
Filesystem                  Size  Used Avail Use% Mounted on
devtmpfs                    7.7G  8.0K  7.7G   1% /dev
tmpfs                       7.7G  412K  7.7G   1% /dev/shm
tmpfs                       7.7G   11M  7.7G   1% /run
tmpfs                       7.7G     0  7.7G   0% /sys/fs/cgroup
/dev/sda3                    41G  3.3G   37G   9% /
/dev/sda4                    60G   33M   60G   1% /home
/dev/sda3                    41G  3.3G   37G   9% /var/lib/named
/dev/sda3                    41G  3.3G   37G   9% /.snapshots
/dev/sda3                    41G  3.3G   37G   9% /boot/grub2/x86_64-efi
/dev/sda3                    41G  3.3G   37G   9% /var/cache
/dev/sda3                    41G  3.3G   37G   9% /opt
/dev/sda3                    41G  3.3G   37G   9% /var/lib/machines
/dev/sda3                    41G  3.3G   37G   9% /var/lib/mariadb
/dev/sda3                    41G  3.3G   37G   9% /usr/local
/dev/sda3                    41G  3.3G   37G   9% /var/lib/libvirt/images
/dev/sda3                    41G  3.3G   37G   9% /var/opt
/dev/sda3                    41G  3.3G   37G   9% /var/lib/pgsql
/dev/sda3                    41G  3.3G   37G   9% /var/lib/mysql
/dev/sda3                    41G  3.3G   37G   9% /var/spool
/dev/sda3                    41G  3.3G   37G   9% /var/tmp
/dev/sda3                    41G  3.3G   37G   9% /boot/grub2/i386-pc
/dev/sda3                    41G  3.3G   37G   9% /var/crash
```

5. Determine the amount of free RAM and disk swap space on the systemclear

```
linsrv2:~ # free
             total       used       free     shared    buffers     cached
Mem:      16117384    1148444   14968940     218976       6052     760616
-/+ buffers/cache:     381776   15735608
Swap:      2104316          0    2104316
```

6. Determine if the system architecture can run the system

```
linsrv2:~ # uname
Linux
linsrv2:~ # uname -m
x86_64
```

1.7.2 General Server Minimum Requirements

Ensure that the system is started with runlevel 3 or runlevel 5

(Runlevel 5 is the default in all SUSE LINUX standard installations)

Runlevel	Description
0	Poweroff.target
1	Rescue.target
2,3,4	Multi-user.target
5	Graphical.target
6	Reboot.target

Systemd is the new system startup and service manager for Linux replacing the old System V init (SysV init)

```
linsrv2:~ # systemctl get-default
graphical.target
```

1.8 Operating System Requirements for x86-64 Linux Platforms

1.8.1 Supported SUSE Distributions for x86-64

Starting with Oracle Database 12c Release 1 (12.1.0.2), SUSE Linux Enterprise Server 12 is certified on Linux x86-64 systems.

SSH Requirement

OpenSSH is the required SSH software. To confirm that SSH packages are installed, enter the following command:

```
linsrv2:~ # rpm -qa | grep ssh
libnsssharedhelper0-1.0.10-7.46.x86_64
libssh2-1-32bit-1.4.3-19.1.x86_64
openssh-7.2p2-55.1.x86_64
libssh2-1-1.4.3-19.1.x86_64
openssh-helpers-7.2p2-55.1.x86_64
fd0ssh-20140325-1.13.x86_64
openssh-askpass-1.2.4.1-7.5.x86_64
```

SUSE 12 The following packages (or later versions) must be installed

1	binutils-2.25.0-13.1	binutils-2.26.1-9.12.1.x86_64	GNU Binutils

2	gcc-4.8-6.189	gcc-4.8-6.189.x86_64	The system GNU C Compiler
3	gcc48-4.8.5-24.1	gcc48-4.8.5-30.1.x86_64	The GNU C Compiler and Support Files

4	glibc-2.19-31.9	glibc-2.22-49.16.x86_64	Standard Shared Libraries (from the GNU C Library)
5	glibc-32bit-2.19-31.9	glibc-32bit-2.22-49.16.x86_64	Standard Shared Libraries (from the GNU C Library)
6	glibc-devel-2.19-31.9.x86_64	glibc-devel-2.22-49.16.x86_64	Include Files and Libraries Mandatory for Development
7	glibc-devel-32bit-2.19-31.9.x86_64	glibc-devel-32bit-2.22-49.16.x86_64	Include Files and Libraries Mandatory for Development

8	mksh-50-2.13	mksh-50-2.13.x86_64	MirBSD Korn Shell

9	libaio1-0.3.109-17.15	libaio1-0.3.109-17.15.x86_64	Linux-Native Asynchronous I/O Access Library
10	libaio-devel-0.3.109-17.15	libaio-devel-0.3.109-17.15.x86_64	Development Files for Linux-native Asynchronous I/O Access

11	libcap1-1.10-59.61	libcap1-1.10-61.1.x86_64	Library for Capabilities (linux-privs) Support

12	libstdc++48-devel-4.8.5-24.1.x86_64	libstdc++48-devel-4.8.5-30.1.x86_64	Includes Files and Libraries mandatory for Development
13	libstdc++48-devel-32bit-4.8.5-24.1.x86_64	libstdc++48-devel-32bit-4.8.5-30.1.x86_64	Includes Files and Libraries mandatory for Development
14	libstdc++6-5.2.1+r226025-4.1.x86_64	libstdc++6-6.2.1+r239768-2.4.x86_64	The standard C++ shared library
15	libstdc++6-32bit-5.2.1+r226025-4.1.x86_64	libstdc++6-32bit-6.2.1+r239768-2.4.x86_64	The standard C++ shared library
16	libstdc++-devel-4.8-6.189.x86_64	libstdc++-devel-4.8-6.189.x86_64	The system GNU C++ development files
17	libstdc++-devel-32bit-4.8-6.189.x86_64	libstdc++-devel-32bit-4.8-6.189.x86_64	The system GNU C++ development files

18	libgcc_s1-5.2.1+r226025-4.1.x86_64	libgcc_s1-6.2.1+r239768-2.4.x86_64	C compiler runtime library
19	libgcc_s1-32bit-5.2.1+r226025-4.1.x86_64	libgcc_s1-32bit-6.2.1+r239768-2.4.x86_64	C compiler runtime library

20	make-4.0-4.1.x86_64	make-4.0-4.1.x86_64	GNU make

21	sysstat-10.2.1-3.1.x86_64	sysstat-10.2.1-6.1.x86_64	Sar and lostat Command for Linux

22	xorg-x11-driver-video-7.6_1-14.30.x86_64	xorg-x11-driver-video-7.6_1-14.30.x86_64	Compatibility metapackage for X.Org video drivers
23	xorg-x11-server-7.6_1.15.2-36.21.x86_64	xorg-x11-server-7.6_1.18.3-57.34.x86_64	Compatibility metapackage for X.Org core applications
24	xorg-x11-essentials-7.6_1-14.17.noarch	xorg-x11-essentials-7.6_1-14.17.noarch	OK!
25	xorg-x11-Xvnc-1.4.3-7.2.x86_64	xorg-x11-Xvnc-1.6.0-12.6.x86_64	TigerVNC implementation of Xvnc
26	xorg-x11-fonts-core-7.6-29.45.noarch	xorg-x11-fonts-core-7.6-29.45.noarch	Core Fonts for X.Org
27	xorg-x11-7.6_1-14.17.noarch	xorg-x11-7.6_1-14.17.noarch	Compatibility metapackage for X.Org sample applications
28	xorg-x11-server-extra-7.6_1.15.2-36.21.x86_64	xorg-x11-server-extra-7.6_1.18.3-57.34.x86_64	Additional Xservers (Xdmx, Xephyr, Xnest
29	xorg-x11-libs-7.6-45.14.noarch	xorg-x11-libs-7.6-45.14.noarch	Compatibility metapackage for X.Org libraries

30	xorg-x11-fonts-7.6-29.45.noarch	xorg-x11-fonts-7.6-29.45.noarch	X.Org fonts

Determine whether the required packages are installed

```
linsrv2:~ # rpm -q binutils
binutils-2.26.1-9.12.1.x86_64
```

1.9 Checking the Software Requirements

Determine the distribution and version of linux installed

```
linsrv2:~ # cat /etc/SuSE-release
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 2
# This file is deprecated and will be removed in a future service pack or release.
# Please check /etc/os-release for details about this release.
linsrv2:~ # lsb_release -id
Distributor ID: SUSE
Description:    SUSE Linux Enterprise Server for SAP Applications 12 SP2
```

Determine whether the required kernel errata is installed

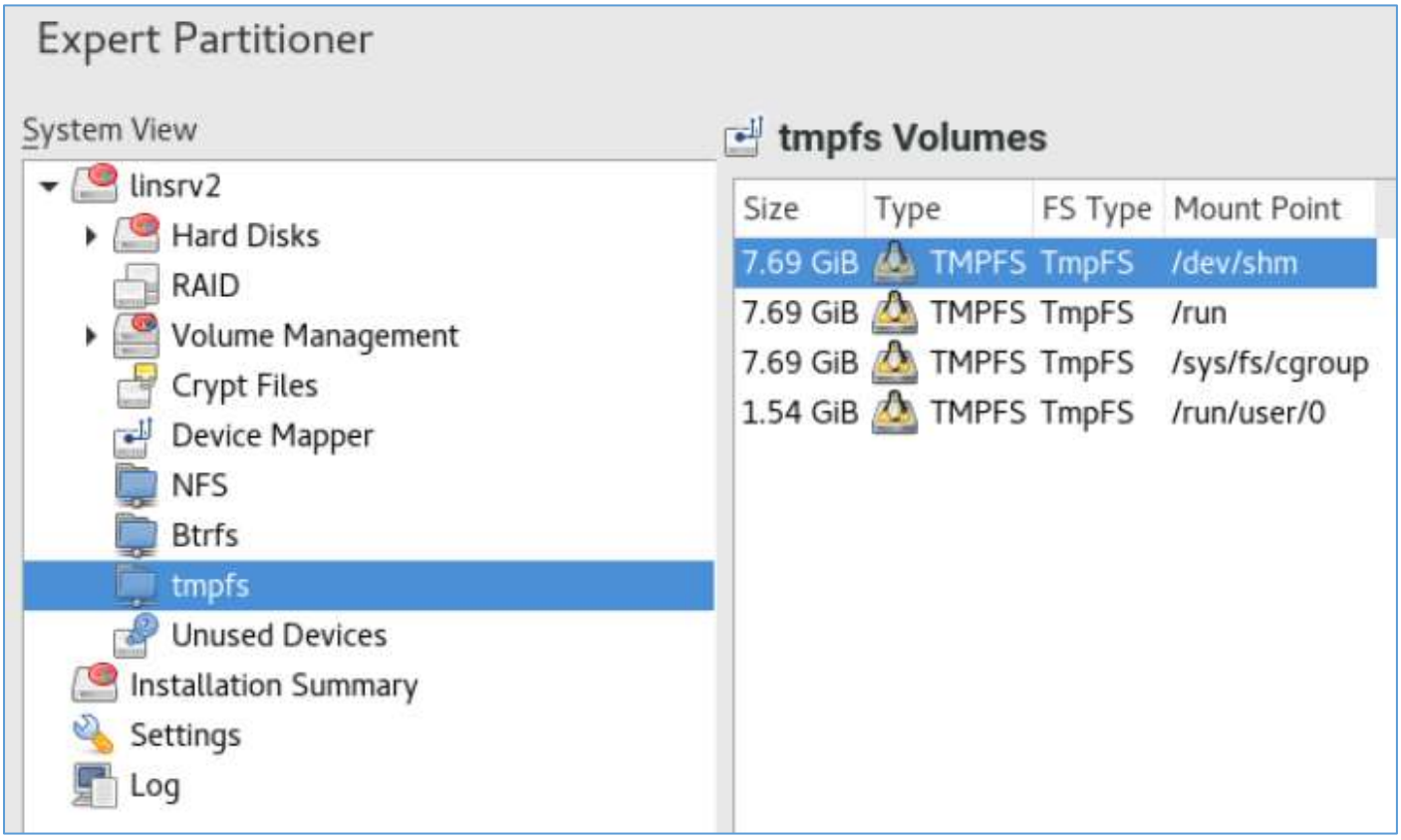
```
linsrv2:~ # uname -r
4.4.21-90-default
```

1.10 Checking Shared Memory File System Mount on Linux

Ensure that the /dev/shm mount area is of type tmpfs and is mounted with the following options:

- With rw and execute permissions set on it
- With noexec or nosuid set on it

```
linsrv2:~ # more /etc/fstab | grep "tmpfs"
```



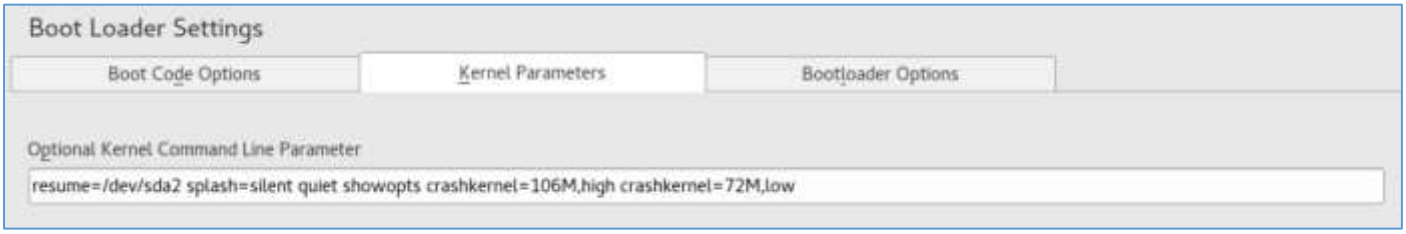
1.11 Confirming Host Name Resolution

```
linsrv2:~ # ping linsrv2
PING linsrv2.terwal.local (192.168.0.41) 56(84) bytes of data.
64 bytes from linsrv2.terwal.local (192.168.0.41): icmp_seq=1 ttl=64 time=0.033 ms
64 bytes from linsrv2.terwal.local (192.168.0.41): icmp_seq=2 ttl=64 time=0.024 ms
64 bytes from linsrv2.terwal.local (192.168.0.41): icmp_seq=3 ttl=64 time=0.019 ms
```

1.12 Disabling Transparent HugePages

```
linsrv2:~ # cat /sys/kernel/mm/transparent_hugepage/enabled
[always] madvise never
```

Transparent_hugepage=never



1.13 Identifying Required Software Directories

1.13.1 Oracle Base Directory

The Oracle base directory is a top-level directory for Oracle software installations. The Optimal Flexible Architecture (OFA) guidelines recommend that you use a path similar to the following for the Oracle base directory:
/mount_point/app/software_owner

ORACLE_BASE = /u01/app/oracle

1.13.2 Creating an Oracle Base Directory

```
# mkdir -p /u01/app/oracle

# chown -R oracle:oinstall /u01/app/oracle

# chmod -R 775 /u01/app/oracle
```

1.13.3 Oracle Inventory Directory

The Oracle Inventory directory (oraInventory) stores an inventory of all software installed on the system. It is required and shared by all Oracle software installations on a single system. If you have an existing Oracle Inventory path, then Oracle Universal Installer continues to use that Oracle Inventory.

The first time you install Oracle software on a system, Oracle Universal Installer provides an Optimal Flexible Architecture-compliant path in the format /u[01-09]/app, such as /u01/app. The user running the installation has permissions to write to that path. If this is true, then Oracle Universal Installer creates the Oracle Inventory directory in the path /u[01-09]/app/oraInventory.
For example:
/u01/app/oraInventory
Oracle Universal Installer creates the directory that you specify and sets the correct owner, group, and permissions for it. You do not have to create it.

1.13.4 Oracle Home Directory

The Oracle home directory is the directory where you install the software for a particular Oracle product. You must install different Oracle products or different releases of the same Oracle product in separate Oracle home directories. When you run Oracle Universal Installer, it prompts you to specify the path to this directory and a name that identifies it. In accordance with the OFA guidelines, Oracle strongly recommends that the Oracle home directory you specify is a subdirectory of the Oracle base directory for the user account performing the installation. Oracle recommends that you specify a path similar to the following for the Oracle home directory:

```
oracle_base/product/11.2.0/db_home_1

oracle_base/product/12.1.0/dbhome_1

oracle_base/product/12.1.0/grid
```

1.13.5 Creating Directories for Oracle Database or Recovery Files

Database File Directory

```
# mkdir /mount_point/oradata

# chown oracle:oinstall /mount_point/oradata

# chmod 775 /mount_point/oradata
```

Recovery file directory (Fast Recovery Area)

```
# mkdir /mount_point/fast_recovery_area

# chown oracle:oinstall /mount_point/fast_recovery_area

# chmod 775 /mount_point/fast_recovery_area
```

3. Configuring Users, Groups and Environments for Oracle Database

3.1. Creating Required Operating System Groups and Users

3.1.1 Creating the Oracle Inventory Group if an Oracle Inventory does not exist

Creating the Oracle Inventory Group

```
# /usr/sbin/groupadd -g 54321 oinstall
```

3.1.2 Standard Oracle Database Groups for Job Role Separation

Creating the OSDBA Group for Database Installations

```
# /usr/sbin/groupadd -g 54322 dba
```

Creating an OSOPER Group for Database Installations

```
# /usr/sbin/groupadd -g 54323 oper
```

Extended Oracle Database Groups for Job Role Separation

Creating the OSBACKUPDBA Group for Database Installations

```
# /usr/sbin/groupadd -g 54324 backupdba
```

Creating the OSDGDBA Group for Database Installations

```
# /usr/sbin/groupadd -g 54325 dgdba
```

Creating the OSKMDBA Group for Database Installations

```
# /usr/sbin/groupadd -g 54326 kmdba
```

Creating an **Oracle Software Owner User**

```
# /usr/sbin/useradd -u 54321 -g oinstall -G dba, oper, backupdba, dgdba, kmdba oracle
```

3.2 Checking Resource Limits for Oracle Software Installation User : oracle

If necessary, update the resource limits in the /etc/security/limits.conf configuration file for the installation owner. However, note that the configuration file is distribution specific. Contact your system administrator for distribution specific configuration file information.

Resource Shell Limit	Resource	Soft Limit	Hard Limit
Open file descriptors	nofile	at least 1024	at least 65536
Number of processes available to a single user	nproc	at least 2047	at least 16384
Size of the stack segment of the process	stack	at least 10240 KB	at least 10240 KB, and at most 32768 KB
Maximum Locked Memory Limit	memlock	at least 90 percent of the current RAM when HugePages memory is enabled and at least 3145728 KB (3 GB) when HugePages memory is disabled	at least 90 percent of the current RAM when HugePages memory is enabled and at least 3145728 KB (3 GB) when HugePages memory is disabled

```
oracle           soft    nofile  1024
oracle           hard    nofile  65536
oracle           soft    nproc   2047
oracle           hard    nproc   16384
oracle           soft    stack   10240
oracle           hard    stack   32768

# End of file
linsrv1:/etc/init.d # cat /etc/security/limits.conf
```

3.3 Creating Required Directories

```
linsrv2:/ # mkdir -p /u01/app/
linsrv2:/ # chown -R oracle:oinstall /u01/app/
linsrv2:/ # chmod -R 775 /u01/app/
```

```
linsrv2:/ # mkdir -p /u01/oraInventory/
linsrv2:/ # chown -R oracle:oinstall /u01/oraInventory/
linsrv2:/ # chmod -R 775 /u01/oraInventory/
```

```
linsrv2:/ # mkdir -p /u02/oradata/
linsrv2:/ # chown -R oracle:oinstall /u02/oradata/
linsrv2:/ # chmod -R 775 /u02/oradata
```

4. Configuring Oracle Software Owner Environment

We run Oracle Universal Installer from the oracle account.

Check the oracle user environment

```
linsrv2:/ # su - oracle
su: warning: cannot change directory to /home/oracle: No such file or directory
oracle@linsrv2:/> exit
logout
linsrv2:/ # mkdir /home/oracle
linsrv2:/ # chown oracle:oinstall /home/oracle
linsrv2:/ # chmod 700 /home/oracle
linsrv2:/ # su - oracle
oracle@linsrv2:~> pwd
/home/oracle
```

Set the default file mode creation mask (umask) to 022 in the shell startup file

Yast > User and Group Administration > Defaults for New Users > Umask for Home Directory = 022

```
oracle@linsrv2:~> umask
0022
```

Determine the default shell for the oracle user

```
oracle@linsrv2:~> echo $SHELL
/bin/bash
```

Ensure that the Oracle environment variables are not set

```
oracle@linsrv2:~> unset ORACLE_HOME
oracle@linsrv2:~> unset ORACLE_BASE
oracle@linsrv2:~> unset ORACLE_SID
oracle@linsrv2:~> unset TNS_ADMIN
```

5. Installing Oracle Database

```
linsrv2:/ # df -k
Filesystem                   1K-blocks    Used Available Use% Mounted on
devtmpfs                       8045080       0   8045080   0% /dev
tmpfs                          8058692      76   8058616   1% /dev/shm
tmpfs                          8058692   10232   8048460   1% /run
tmpfs                          8058692       0   8058692   0% /sys/fs/cgroup
/dev/sda3                     41946112 3659036  38020484   9% /
/dev/sda3                     41946112 3659036  38020484   9% /var/tmp
/dev/sda4                     62887936   33228  62854708   1% /home
/dev/sda3                     41946112 3659036  38020484   9% /var/lib/pgsql
/dev/sda3                     41946112 3659036  38020484   9% /srv
/dev/sda3                     41946112 3659036  38020484   9% /var/log
/dev/sda3                     41946112 3659036  38020484   9% /var/lib/machines
/dev/sda3                     41946112 3659036  38020484   9% /var/lib/named
/dev/sda3                     41946112 3659036  38020484   9% /var/cache
/dev/sda3                     41946112 3659036  38020484   9% /boot/grub2/x86_64-efi
/dev/sda3                     41946112 3659036  38020484   9% /var/lib/libvirt/images
/dev/sda3                     41946112 3659036  38020484   9% /usr/local
/dev/sda3                     41946112 3659036  38020484   9% /var/lib/mariadb
/dev/sda3                     41946112 3659036  38020484   9% /var/lib/mysql
/dev/sda3                     41946112 3659036  38020484   9% /var/lib/mailman
/dev/sda3                     41946112 3659036  38020484   9% /opt
/dev/sda3                     41946112 3659036  38020484   9% /.snapshots
/dev/sda3                     41946112 3659036  38020484   9% /tmp
/dev/sda3                     41946112 3659036  38020484   9% /var/opt
/dev/sda3                     41946112 3659036  38020484   9% /var/crash
/dev/sda3                     41946112 3659036  38020484   9% /boot/grub2/i386-pc
/dev/sda3                     41946112 3659036  38020484   9% /var/spool
/dev/mapper/vgdatabase-lv03 209600520   32928 209567592   1% /u03
/dev/mapper/vgdatabase-lv02 209612800   32944 209579856   1% /u02
/dev/mapper/vgdatabase-lv01 209612800   32944 209579856   1% /u01
tmpfs                          1611740      20   1611720   1% /run/user/0
/dev/sr0                       3326568 3326568         0 100% /run/media/root/SLE-12-SP2-SAP-DVD-x86_6407581
```

ORACLE_BASE=/u01/app

ORACLE_HOME=/u01/app/product/12102/db1

Download from http://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html

Oracle Database 12c Release 1

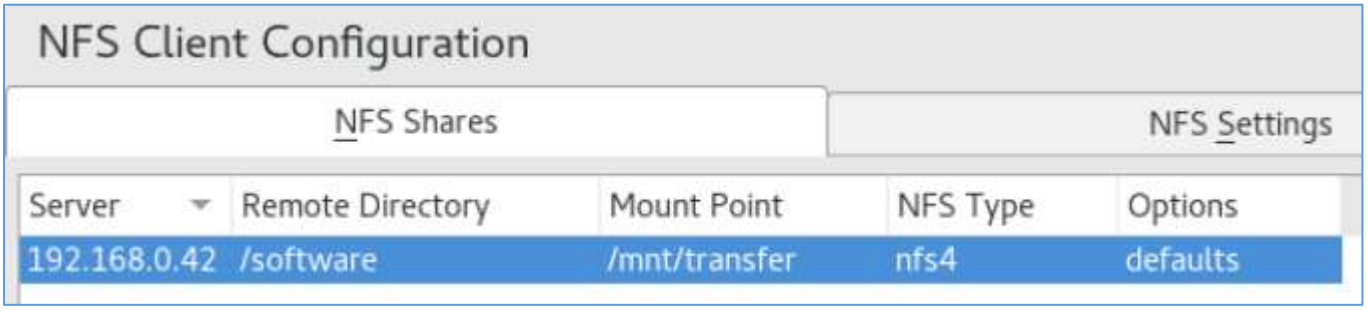
(12.1.0.2.0) - Enterprise Edition

Microsoft Windows x64 (64-bit)	File 1, File 2	(2.5 GB)	See All
Linux x86-64	File 1, File 2	(2.5 GB)	See All
Oracle Solaris (SPARC systems, 64-bit)	File 1, File 2	(2.6 GB)	See All
Oracle Solaris (x86 systems, 64-bit)	File 1, File 2	(2.3 GB)	See All
HP-UX Itanium	File 1, File 2	(3.1 GB)	See All
AIX (PPC64)	File 1, File 2	(2.7 GB)	See All
zLinux64	File 1, File 2	(2.3 GB)	See All

The software has been download to the NFS Server and moved to /software/oracle/oracle12c

```
oracle@linsrv1:/home/yves/Downloads> ls -la
total 2666520
drwxr-xr-x  2 yves users        137 Sep 18 22:52 .
drwxr-xr-x 18 yves users       4096 Sep 18 12:18 ..
-rw-r--r--  1 yves users 1673544724 Sep 18 22:40 linuxamd64_12102_database_1of2.zip
-rw-r--r--  1 yves users          0 Sep 18 22:52 linuxamd64_12102_database_2of2.zip
-rw-------  1 yves users  762281984 Sep 18 22:56 linuxamd64_12102_database_2of2.zip.part
oracle@linsrv1:/home/yves/Downloads> cp linuxamd64_12102_database_1of2.zip /u01/temp/
oracle@linsrv1:/home/yves/Downloads> cp linuxamd64_12102_database_2of2.zip /u01/temp/
oracle@linsrv1:/home/yves/Downloads> cd /u01/temp
oracle@linsrv1:/u01/temp> ls -la
total 2625096
drwxrwxr-x 2 oracle oinstall       4096 Sep 18 22:58 .
drwxr-xr-x 5 root   root           4096 Sep 18 22:25 ..
-rw-r--r-- 1 oracle oinstall 1673544724 Sep 18 22:57 linuxamd64_12102_database_1of2.zip
-rw-r--r-- 1 oracle oinstall 1014530602 Sep 18 22:58 linuxamd64_12102_database_2of2.zip
oracle@linsrv1:/u01/temp>
```

Get a NFS Client connection to the NFS Server and copy the file to /mnt/transfer




```
linsrv2:~ # mkdir -p /u01/temp/
linsrv2:~ # chown -R oracle:oinstall /u01/temp/
linsrv2:~ # chmod -R 775 /u01/temp
```

```
linsrv2:/mnt/transfer/oracle/Oracle12c # su - oracle
oracle@linsrv2:~> cd /mnt/transfer/oracle/Oracle12c
oracle@linsrv2:/mnt/transfer/oracle/Oracle12c> ls -la
total 2625080
drwxr-xr-x 2 root root         88 Dec 22 17:31 .
drwxr-xr-x 3 root root         22 Dec 20 23:33 ..
-rw-r--r-- 1 root root 1673544724 Sep 18 22:57 linuxamd64_12102_database_1of2.zip
-rw-r--r-- 1 root root 1014530602 Sep 18 22:58 linuxamd64_12102_database_2of2.zip
oracle@linsrv2:/mnt/transfer/oracle/Oracle12c> cp linuxamd64_12102_database_1of2.zip /u01/temp/
oracle@linsrv2:/mnt/transfer/oracle/Oracle12c> cp linuxamd64_12102_database_2of2.zip /u01/temp/
```

Extract Installation Files

oracle@linsrv2:/u01/temp> unzip linuxamd64_12102_database_1of2.zip

oracle@linsrv2:/u01/temp> unzip linuxamd64_12102_database_2of2.zip

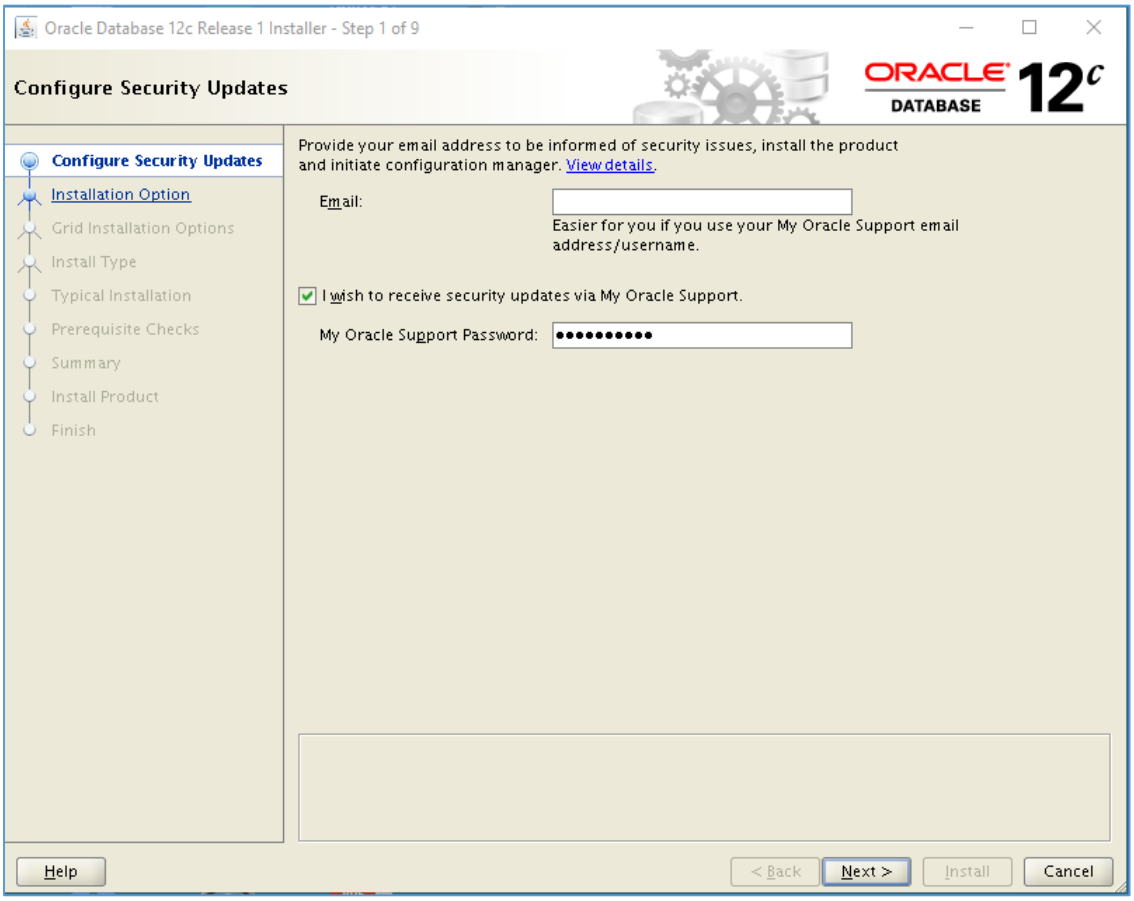
```
oracle@linsrv2:/u01/temp> ls -la
total 2625080
drwxrwxr-x 3 oracle oinstall        106 Dec 22 17:46 .
drwxr-xr-x 5 root   root             49 Dec 22 17:38 ..
drwxr-xr-x 7 oracle oinstall        117 Jul  7  2014 database
-rw-r--r-- 1 oracle oinstall 1673544724 Dec 22 17:42 linuxamd64_12102_database_1of2.zip
-rw-r--r-- 1 oracle oinstall 1014530602 Dec 22 17:43 linuxamd64_12102_database_2of2.zip
```

```
oracle@linsrv2:/u01/temp/database> ls -la
total 24
drwxr-xr-x  7 oracle oinstall  117 Jul  7  2014 .
drwxrwxr-x  3 oracle oinstall  106 Dec 22 17:46 ..
drwxr-xr-x  4 oracle oinstall 4096 Dec 22 17:49 install
drwxrwxr-x  2 oracle oinstall   61 Jul  7  2014 response
drwxr-xr-x  2 oracle oinstall   34 Jul  7  2014 rpm
-rwxr-xr-x  1 oracle oinstall 8533 Jul  7  2014 runInstaller
drwxrwxr-x  2 oracle oinstall   29 Jul  7  2014 sshsetup
drwxr-xr-x 14 oracle oinstall 4096 Jul  7  2014 stage
-rwxr-xr-x  1 oracle oinstall  500 Feb  6  2013 welcome.html
```

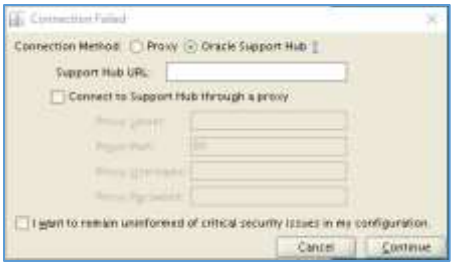
Start the Installer

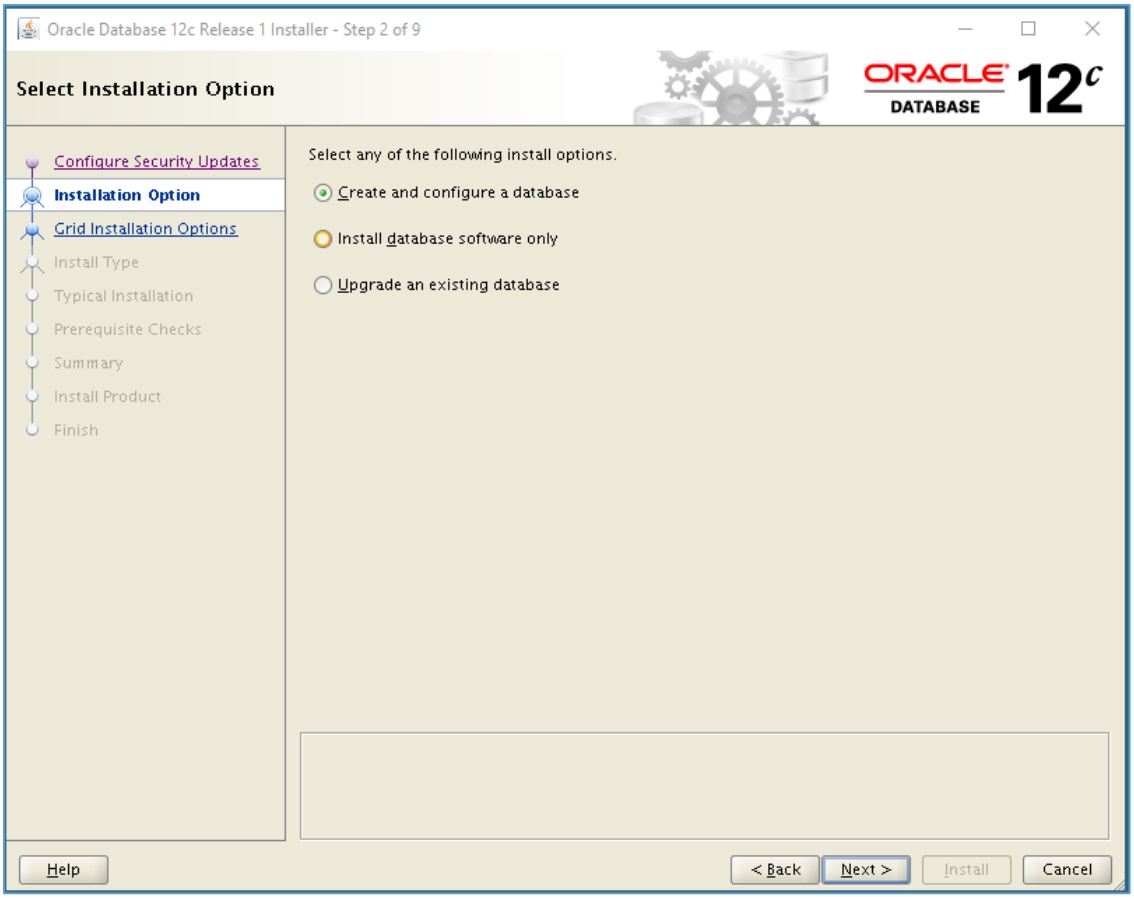
```
oracle@linsrv2:/u01/temp/database> ./runInstaller
Starting Oracle Universal Installer...

Checking Temp space: must be greater than 500 MB.   Actual 37127 MB    Passed
Checking swap space: must be greater than 150 MB.   Actual 2054 MB    Passed
Checking monitor: must be configured to display at least 256 colors.    Actual 1
6777216    Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2016-12-22_09
-28-52PM. Please wait ...oracle@linsrv2:/u01/temp/database>
```

6. Start the Oracle Database 12c Release 1 Installer



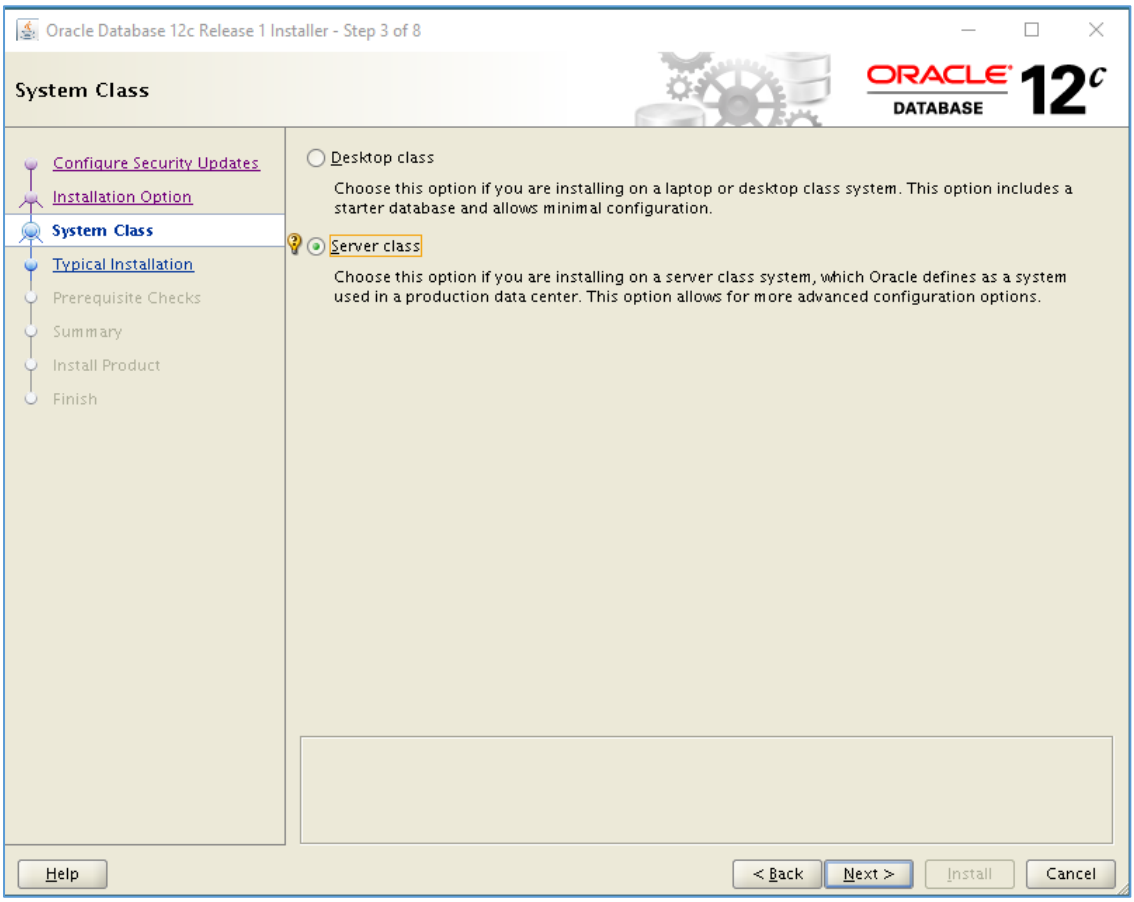
⇨ Not necessary to provide an email address !



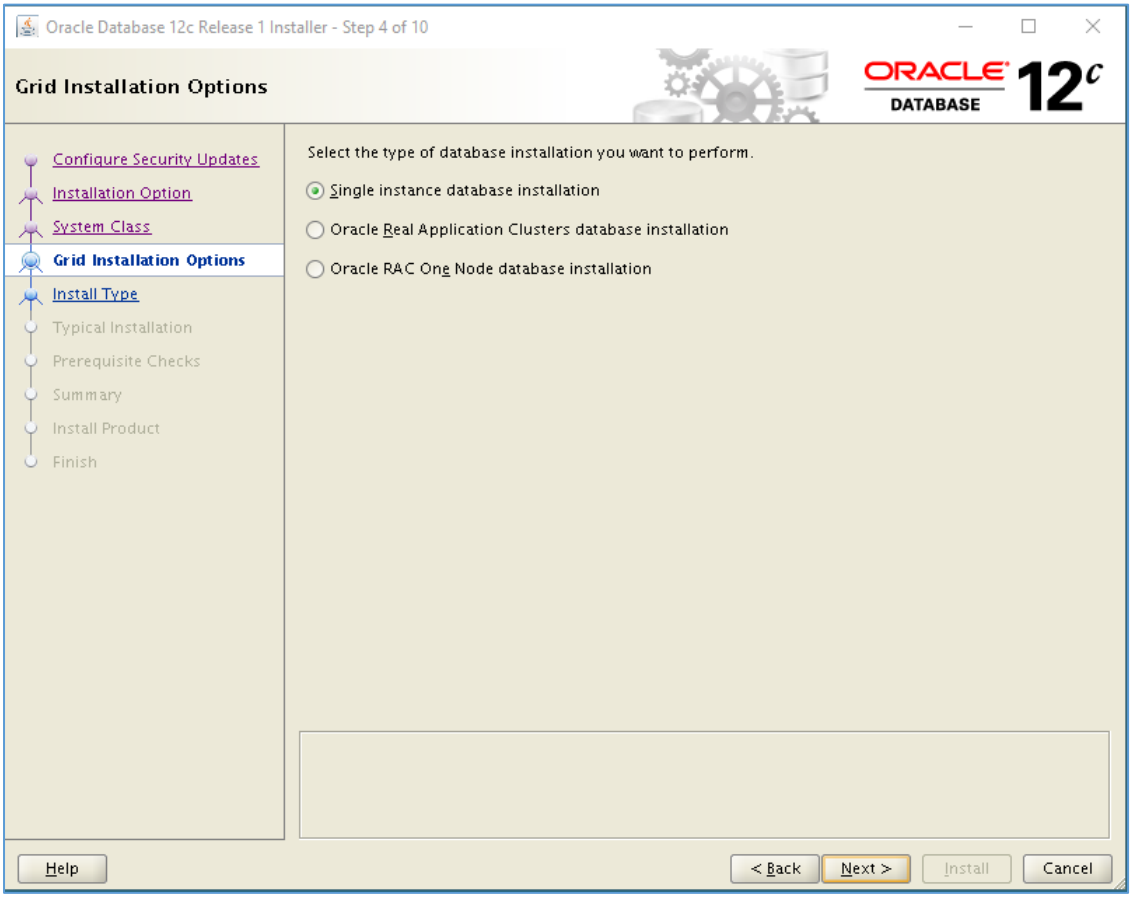


System Class => Server Class

I'm going to choose Server Class here. If we need to install in any Desktop machines we can chosse the above Option as Desktop Class

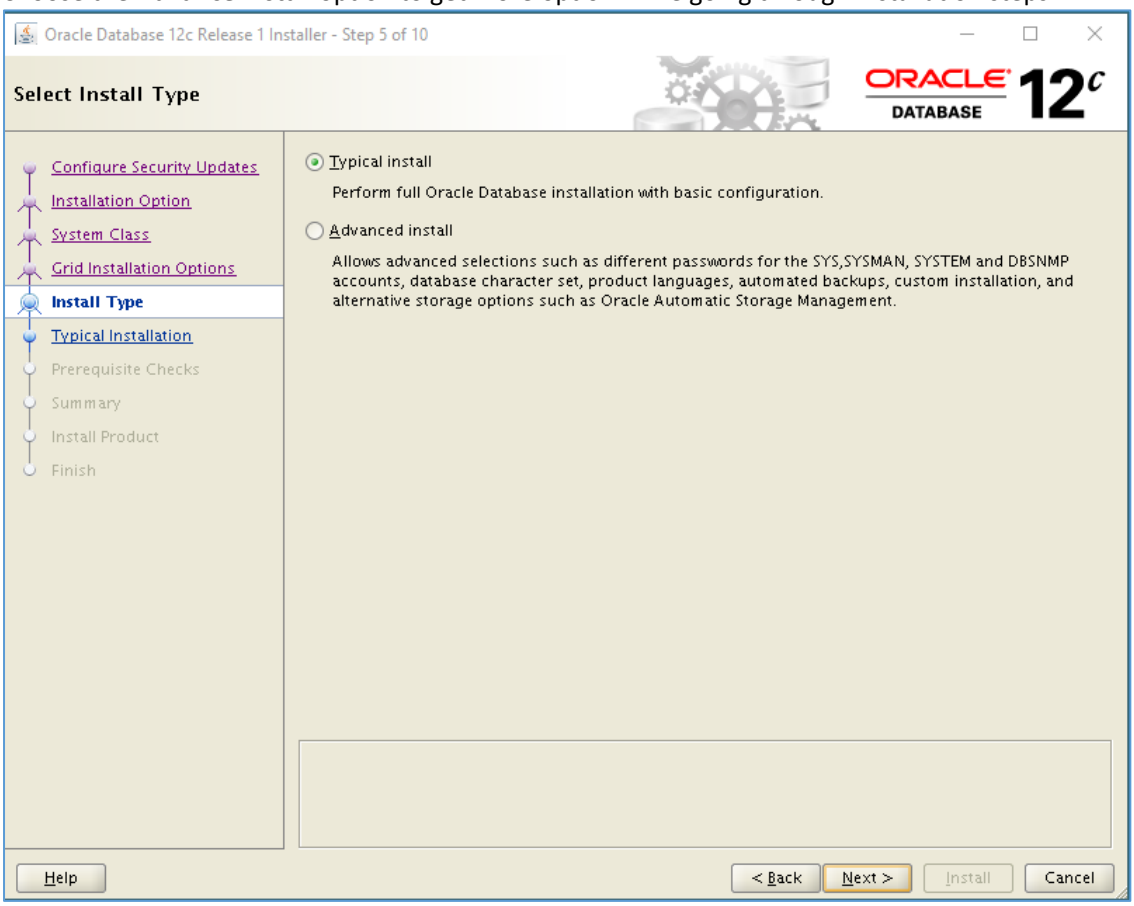


Grid Installation Options



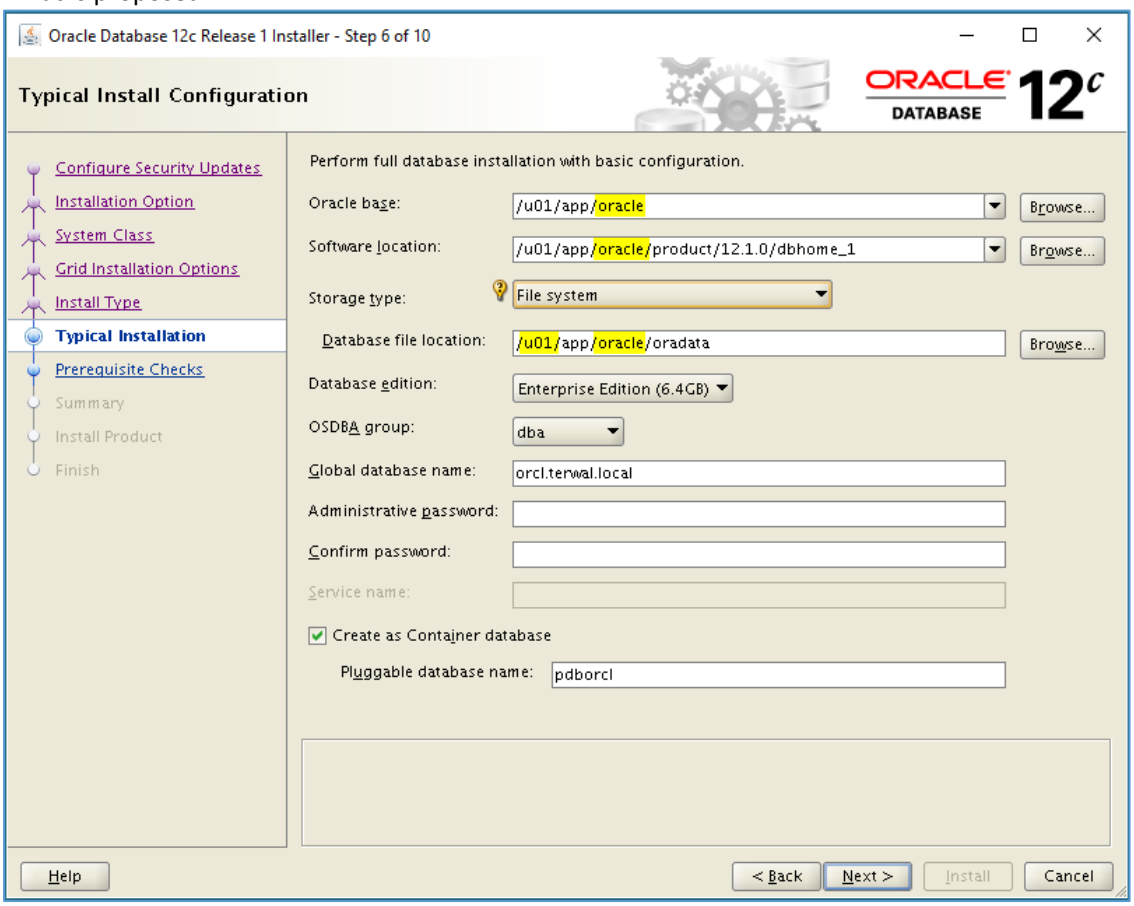
Install Type

Choose the **Advance install** option to get more option while going through Installation steps



Installation Location

What is proposed



I changed some values

Oracle Database 12c Release 1 Installer - Step 6 of 10

Typical Install Configuration

ORACLE DATABASE 12c

- Configure Security Updates
- Installation Option
- System Class
- Grid Installation Options
- Install Type
- **Typical Installation**
- Prerequisite Checks
- Summary
- Install Product
- Finish

Perform full database installation with basic configuration.

Oracle base: /u01/app [Browse...]

Software location: /u01/app/product/12102/db1 [Browse...]

Storage type: File system

Database file location: /u02/oradata [Browse...]

Database edition: Enterprise Edition (6.4GB)

OSDBA group: dba

Global database name: orcl.terwal.local

Administrative password: ••••••

Confirm password: ••••••

Service name:

☑ Create as Container database

Pluggable database name: pdborcl

Messages:

⚠ Administrative password:[INS-30011] The ADMIN password entered does not conform to the Oracle recommended standards.

Help | < Back | Next > | Install | Cancel

Oracle Database 12c Release 1 Installer - Step 7 of 11

Create Inventory

ORACLE DATABASE 12c

- Configure Security Updates
- Installation Option
- System Class
- Grid Installation Options
- 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: /u01/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

Oracle Database 12c Release 1 Installer - Step 9 of 11

Summary

- Configure Security Updates
- Installation Option
- System Class
- Grid Installation Options
- Install Type
- **Typical Installation**
- Create Inventory
- Prerequisite Checks
- **Summary**
- Install Product
- Finish

Oracle Database 12c Release 1 Installer

Global settings

- Disk space: required 6.4 GB available 194.64 GB [Edit]
- Source location: /u01/temp/database/install/../stage/products.xml
- Install method: Typical installation [Edit]
- Database edition: Enterprise Edition (Create and configure a database) [Edit]
- Oracle base: /u01/app [Edit]
- Software location: /u01/app/product/12.1.0/db1 [Edit]
- Privileged Operating System groups: dba (OSDBA), dba (OSOPER), dba (OSBACKUPDBA), dba (OSDGDBA), dba (OSKMDBA) [Edit]

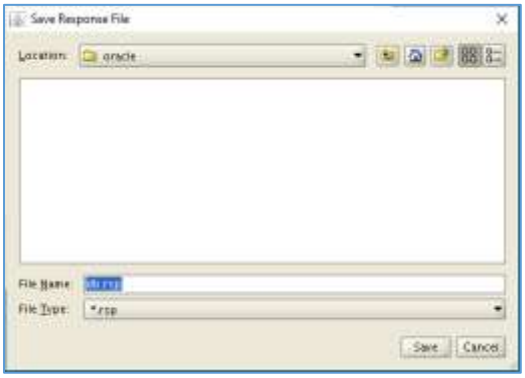
Inventory information

- Inventory location: /u01/oraInventory [Edit]
- oraInventory group: oinstall [Edit]

Database information

- Configuration: General Purpose / Transaction Processing
- Global database name: orcl.terwal.local [Edit]
- Oracle system identifier (SID): orcl [Edit]
- Pluggable database name: pdborcl [Edit]
- Allocated memory: 6295 MB
- Automatic memory management option: FALSE
- Database character set : West European (WE8MSWIN1252)
- Management method: Database express
- Database storage mechanism: File system [Edit]
- Database file location: /u02/oradata [Edit]
- Recovery: Disabled

Save Response File... | Help | < Back | Next > | Install | Cancel



Oracle Database 12c Release 1 Installer - Step 10 of 11

Install Product

ORACLE DATABASE 12c

- Configure Security Updates
- Installation Option
- System Class
- Grid Installation Options
- Install Type
- Typical Installation
- Create Inventory
- Prerequisite Checks
- Summary
- **Install Product**
- Finish

Progress

79%

Completed 'Prepare for configuration steps'

Status

Oracle Database installation	Succeeded
• Prepare	Succeeded
• Copy files	Succeeded
• Link binaries	Succeeded
• Setup	Succeeded
Setup Oracle Base	Succeeded
Execute Root Scripts	In Progress
Oracle Database configuration	Pending

Details Retry Skip

ORACLE DATABASE 12c

Help < Back Next > Install Cancel

Execute Configuration scripts

The following configuration scripts need to be executed as the "root" user.

Scripts to be executed:

Number	Script Location
1	/u01/oraInventory/orainstRoot.sh
2	/u01/app/product/12.1.0/db1/root.sh

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

Help OK

Oracle Database 12c Release 1 Installer

[INS-10015] The installer has detected that current home is not registered in the central inventory on this system.

Are you sure you want to continue?

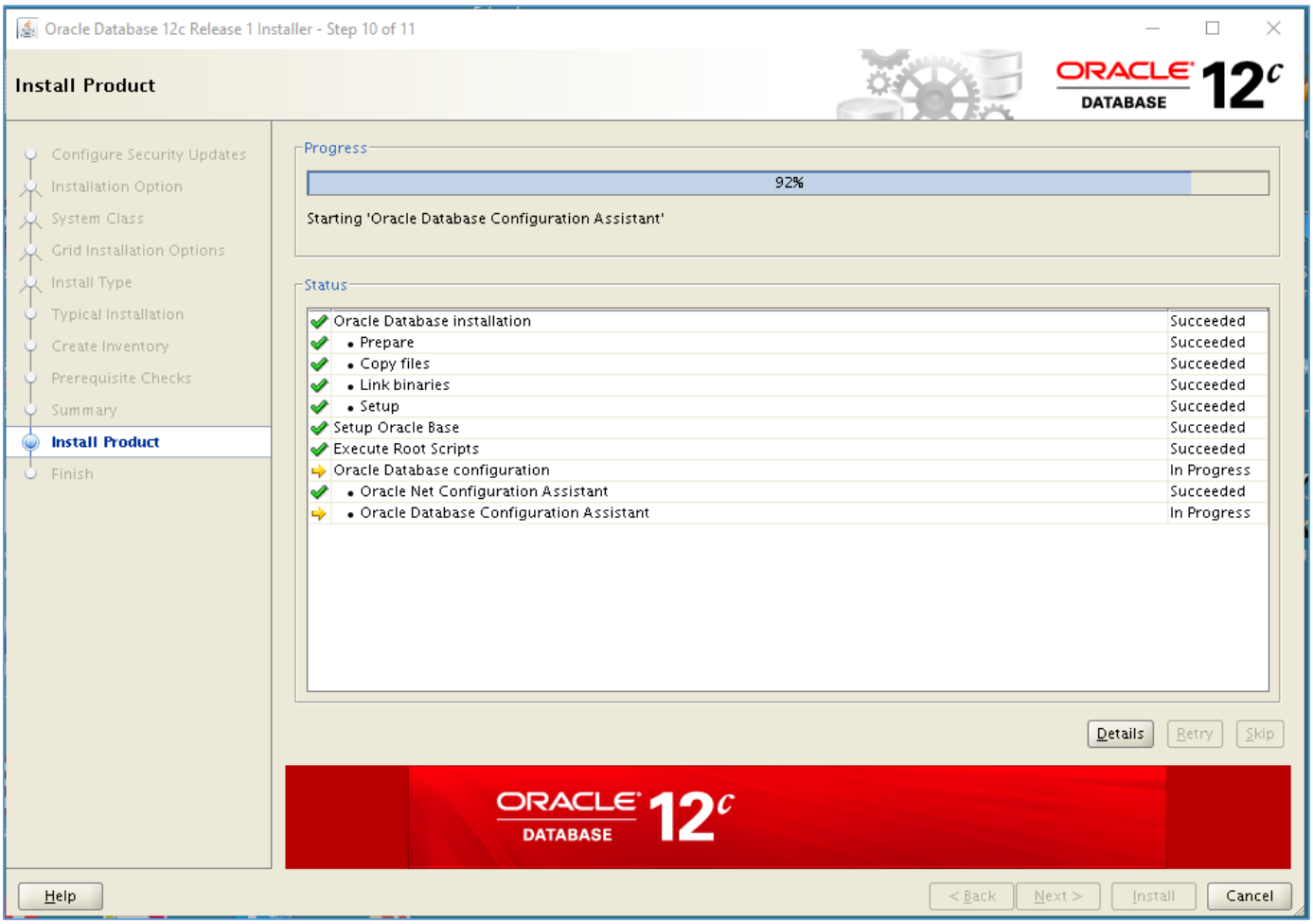
Yes No Details

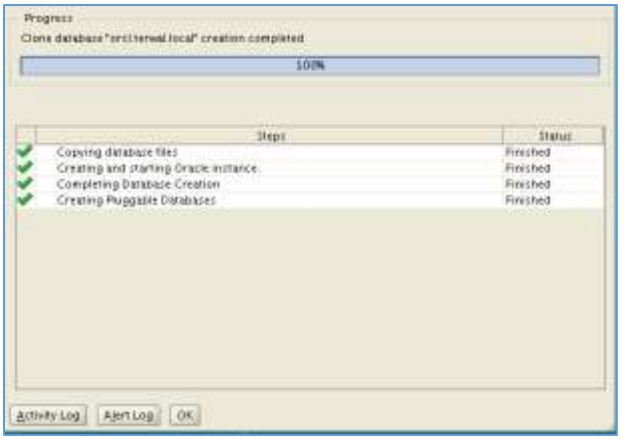
Cause - This can happen for the following reasons - either /u01/oraInventory/orainstRoot.sh has not been run or script failed to update the inventory.

Action - Run the script as a root user.

```
root@linsrv2:/u01/oraInventory
login as: root
Using keyboard-interactive authentication.
Password:
Last login: Thu Dec 22 21:22:20 2016 from 192.168.0.20
linsrv2:~ # cd /u01/oraInventory
linsrv2:/u01/oraInventory # ls -la
total 8
drwxrwx--- 5 oracle oinstall   89 Dec 22 22:07 .
drwxr-xr-x 5 root   root       49 Dec 22 17:38 ..
drwxrwx--- 2 oracle oinstall   60 Dec 22 22:07 ContentsXML
drwxrwx--- 2 oracle oinstall  138 Dec 22 22:05 logs
-rw-rw---- 1 oracle oinstall   52 Dec 22 22:07 oraInst.loc
-rwxrwx--- 1 oracle oinstall 1554 Dec 22 22:07 orainstRoot.sh
drwxrwx--- 2 oracle oinstall   22 Dec 22 22:05 oui
linsrv2:/u01/oraInventory # ./orainstRoot.sh
Changing permissions of /u01/oraInventory.
Adding read,write permissions for group.
Removing read,write,execute permissions for world.

Changing groupname of /u01/oraInventory to oinstall.
The execution of the script is complete.
linsrv2:/u01/oraInventory #
```

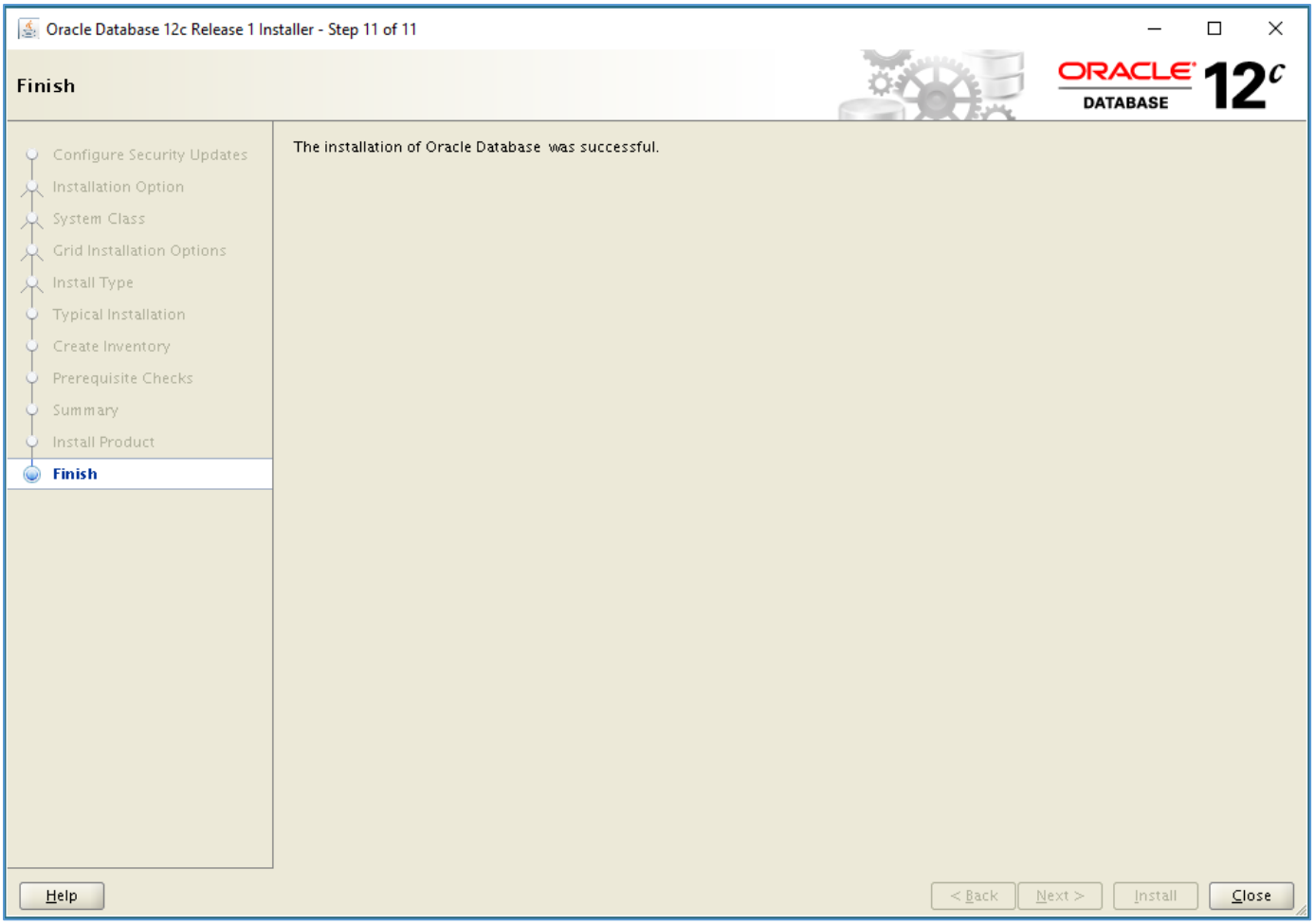
```
root@linsrv2:...product/12.1.0/db1
drwxr-xr-x  3 oracle oinstall   35 Dec 22 22:06 ucp
drwxr-xr-x  3 oracle oinstall   18 Dec 22 22:05 usm
drwxr-xr-x  2 oracle oinstall   33 Dec 22 22:05 utl
drwxr-xr-x  3 oracle oinstall   19 Dec 22 22:05 wwg
drwxr-xr-x  7 oracle oinstall   88 Dec 22 22:05 xdk
linsrv2:/u01/app/product/12.1.0/db1 # ./root.sh
Performing root user operation.

The following environment variables are set as:
    ORACLE_OWNER= oracle
    ORACLE_HOME=  /u01/app/product/12.1.0/db1

Enter the full pathname of the local bin directory: [/usr/local/bin]:
   Copying dbhome to /usr/local/bin ...
   Copying oraenv to /usr/local/bin ...
   Copying coraenv to /usr/local/bin ...


Creating /etc/oratab file...
Entries will be added to the /etc/oratab file as needed by
Database Configuration Assistant when a database is created
Finished running generic part of root script.
Now product-specific root actions will be performed.
linsrv2:/u01/app/product/12.1.0/db1 #
```

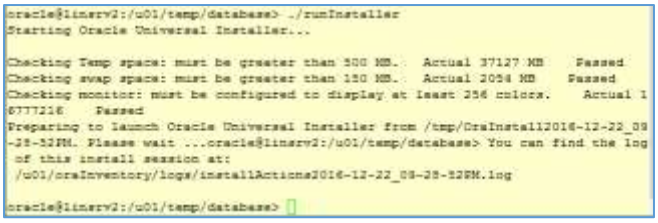



Progress
Clone database "orcl.terwal.local" creation completed
100%
Steps
Status
Copying database files
Finished
Creating and starting Oracle instance
Finished
Completing Database Creation
Finished
Creating Pluggable Databases
Finished
Activity Log
Alert Log
OK


Database Configuration Assistant
Database creation complete. For details check the logfiles at:
/u01/app/cfgtoollogs/dbca/orcl
Database Information:
Global Database Name: orcl.terwal.local
System Identifier(SID): orcl
Server Parameter File name: /u01/app/product/12.1.0/db1/dbs/spfileorcl.ora
EM Database Express URL:
Note: All database accounts except SYS and SYSTEM are locked. Select the Password Management button to view a complete list of locked accounts or to manage the database accounts. From the Password Management window, unlock only the accounts you will use. Oracle strongly recommends changing the default passwords immediately after unlocking the account.
Password Management...
OK


Password Management
Lock / unlock database user accounts and / or change the default passwords:
User Name
Lock Account?
New Password
Confirm Password
SYS
SYSTEM
OUTLN
LBACSYS
OLAPSYS
SI_INFORMTN_SCHEMA
DVSYS
ORDPLUGINS
XDB
ANONYMOUS
CTXSYS
ORDDATA
GSMADMIN_INTERNAL
APPQOSSYS
APEX_040200
WMSYS
DBSNMP
ORDSYS
MDSYS
DVF
FLOWS_FILES
AUDSYS
GSMUSER
SPATIAL_WFS_ADMIN_USR
SPATIAL_CSW_ADMIN_USR
APEX_PUBLIC_USER
SYSDG
DIP
SYSBACKUP
MDDATA
GSMCATUSER
SYSKM
ORACLE_OCM
OK
Cancel


Oracle Database 12c Release 1 Installer - Step 11 of 11
Finish
ORACLE DATABASE 12c
Configure Security Updates
Installation Option
System Class
Grid Installation Options
Install Type
Typical Installation
Create Inventory
Prerequisite Checks
Summary
Install Product
Finish
The installation of Oracle Database was successful.
Help
< Back
Next >
Install
Close


oracle@linsrv2:/u01/temp/database> ./runInstaller
Starting Oracle Universal Installer...
Checking Temp space: must be greater than 500 MB. Actual 37127 MB Passed
Checking swap space: must be greater than 150 MB. Actual 2054 MB Passed
Checking monitor: must be configured to display at least 256 colors. Actual 1
6777216 Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2016-12-22_09
-28-32PM. Please wait ...oracle@linsrv2:/u01/temp/database> You can find the log
of this install session at:
/u01/oraInventory/logs/installActions2016-12-22_09-28-32PM.log
oracle@linsrv2:/u01/temp/database>