Oracle RAC 12cR2(12.2.0.1.0) on SUSE Linux Enterprise Server 15 - x86_64



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Introduction

This documentation provides the details for install Oracle RAC 12cR2 on SUSE Linux Enterprise Server 15 OS. Here, x86_64 version of both Oracle Database 12c Enterprise and SUSE Linux Enterprise Server is used. Similar steps applies to other platforms(x86, ia64, etc.). If you encounter any problem or have general question, please post your query to suse-oracle@listx.novell.com.

The oracle offical product documentation available at: http://docs.oracle.com/en/

Hardware and Software Requirements

Hardware Requirements

Requirement	Minimum
RAM	32 GB
Swap space	Approx. twice the size of RAM
Disk space in /tmp	8 GB
Disk space for software files	8 GB
Disk space for database files	8 GB

Software Requirements

SuSE

• SUSE Linux Enterprise Server 15 GA (x86_64) (<u>http://download.suse.de/install</u>)

Oracle

• Oracle Grid Infrastructure 12cR2 (12.2.0.1.0) (x86_64)

• Oracle Database 12cR2 (12.2.0.1.0) (x86_64)

(http://www.oracle.com/technetwork/indexes/downloads/index.html#database)

Cluster(4-node) Information

HP DL360 Gen9 Server (Intel Xeon 2x12 core ~ 48 CPU), 64GB RAM 4 NIC per server (two bonded as active/passive) + Static IP Address Local HDD (500 GB) Shared SAN Partition (1TB) SUSE Linux Enterprise Server 15 GA(x86_64) Kernel version: 4.12.14-25.25-default

Prerequisites

1. Install SUSE Linux Enterprise Server 15 on each cluster node.

Follow the official document (URL:<u>https://www.suse.com/documentation/sles-15/</u>) to Install SLES 15 GA (x86_64) on each node of the cluster.

2. Cluster Network configuration

#Private:			
10.1.1.1	c2n1-priv		
10.1.1.2	c2n2-priv		
10.1.1.3	c2n3-priv		
10.1.1.4	c2n4-priv		
#Public:			
137.65.135.7	'2 c2n1.p	rovo.novell.	com c2n1
137.65.135.7	'3 c2n2.p	rovo.novell.	com c2n2
137.65.135.7	'4 c2n3.p	rovo.novell.	com c2n3
137.65.135.7	'5 c2n4.p	provo.novell.	com c2n4
# Virtual			
137.65.135.7	'6	c2n1-vip	c2n1-vip.provo.novell.com
137.65.135.7	7	c2n2-vip	c2n2-vip.provo.novell.com
137.65.135.7	'8	c2n3-vip	c2n3-vip.provo.novell.com
137.65.135.7	' 9	c2n4-vip	c2n4-vip.provo.novell.com
#SCAN:			

c2-scan.provo.novell.com (137.65.135.87) c2-scan.provo.novell.com (137.65.135.148) c2-scan.provo.novell.com (137.65.135.149)

Oracle RAC Installation

1. Installing Oracle Grid Infrastructure.

1-1. Login to the SLES 15 64-bit OS as a non-admin user. Download the Oracle Database 12c Release 2 Grid Infrastructure (12.2.0.1.0) for Linux x86-64.

1-2. Extract linuxx64_12201_grid_home.zip and run the installer './gridSetup.sh' from Gird ShipHome.

Install Flow:

1). Select Installation Option.

Oracle Grid Infrastructure 12c Release 2 Installer - Step 1 of 9				
elect Configuration Option				
Configuration Option	Select an option to configure the software. The wizard will register the home in the central inventory and then			
Cluster Configuration	perform the selected configuration.			
Operating System Groups	Onfigure Oracle Grid Infrastructure for a New <u>Cluster</u>			
Installation Location	Configure Oracle Grid Infrastructure for a Standalone Server (Oracle <u>Restart</u>)			
Root script execution				
Prerequisite Checks				
Summary				
Install Product	Set Up Software Only			
Finish				
Help	<u>Back</u> <u>Next></u> Install Cance			

Choose option "Configure Oracle Grid Infrastructure for a New Cluster", then click Next to continue.

2). Select Cluster Configuration.

c	Pracle Grid Infrastructure 12c Release 2 Installer - Step 2 of 9 ×
Select Cluster Configuration	
Configuration Option	Choose the required cluster configuration.
Q Cluster Configuration	Onfigure an Oracle Standalone Cluster
Operating System Groups Installation Location	Configure an <u>O</u> racle Domain Services Cluster
Prerequisite Checks	Configure an Oracle Member Cluster for <u>Applications</u>
Finish	Oracle Extended clusters are special purpose clusters that constitute nodes which span across multiple sites. Specify a minimum of 3 site names and a maximum of 5 (e.g., siteA, siteB, siteC). Configure as an Oracle Extended cluster Site names:
Help	< <u>Back</u> <u>Next</u> Install Cancel

Choose option "Configure an Oracle Standalone Cluster", then click Next to continue.

3). Grid Plug and Play Information.

I Plug and Play Information						12
Configuration Option Cluster Configuration	Single Client Acc cluster as a who	ess Name (le. Client co	(SCAN) allows clients to use one name nnect requests to the SCAN name can	in connection st be handled by an	trings to connect t ny cluster node.	to the
Grid Plug and Play	<u>C</u> luster Name:	c2-cluster				
Cluster Node Information	SCAN Name:	c2-scan.pr	ovo.novell.com			
Network Interface Usage	SC <u>A</u> N Port: 💡	1521				
Storage Option	Coofiguro CN	e				
Grid Infrastructure Management	Configure GN	5				
Create ASM Disk Group	Configure	e nodes Virt	ual <u>I</u> Ps as assigned by the Dynamic Ne	tworks		
ASM Password	Oreate a	n <u>e</u> w GNS				
Operating System Groups	GNS <u>V</u> I	P Address:				
Installation Location	<u>G</u> NS Su	b Domain:				
Root script execution Prerequisite Checks	◯ <u>U</u> se Shar	ed GNS				
Summary	GNS CI	ent <u>D</u> ata: [Browse
Install Product						
Finish						
200000						
	Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Management Create ASM Disk Group ASM Password Operating System Groups Installation Location Prerequisite Checks Summary Install Product Finish	Configuration Option Single Client Acc Cluster Configuration Cluster as a who Grid Plug and Play Quster Name: Cluster Node Information SCAN Name: Network Interface Usage SCAN Port: Storage Option Configure GN Grid Infrastructure Management Configure GN Create ASM Disk Group Create a ASM Password © Create a Operating System Groups GNS Su Root script execution GNS Su Prerequisite Checks GNS Client Acc Summary Install Product Finish Image: Summary	Configuration Option Single Client Access Name (cluster as a whole. Client co Cluster Configuration Cluster Name: c2-cluster Grid Plug and Play Cluster Name: c2-scan.pr Cluster Node Information SCAN Name: c2-scan.pr Network Interface Usage SCAN Name: c2-scan.pr Storage Option SCAN Port: 1521 Grid Infrastructure Management Configure nodes Virte Create ASM Disk Group Create a new GNS ASM Password GNS VIP Address: Operating System Groups GNS Sub Domain: Installation Location GNS Sub Domain: Root script execution Use Shared GNS Prerequisite Checks GNS Client Data: Summary Install Product Finish Install Product	Configuration Option Single Client Access Name (SCAN) allows clients to use one name cluster Configuration Grid Plug and Play Cluster Node Information Cluster Node Information Cluster Name: Network Interface Usage SCAN Name: Storage Option SCAN Port: Grid Infrastructure Management Configure nodes Virtual IPs as assigned by the Dynamic Network ASM Password © Create a ngw GNS Operating System Groups GNS VIP Address: Installation Location © Use Shared GNS Prerequisite Checks GNS Client Data: Summary Install Product Finish Image: Configure Constant C	Configuration Option Single Client Access Name (SCAN) allows clients to use one name in connection st cluster as a whole. Client connect requests to the SCAN name can be handled by an Cluster Node Information Grid Plug and Play Cluster Node Information Cluster Node Information SCAN Name: Network Interface Usage SCAN Name: Storage Option SCAN Port: Grid Infrastructure Management Configure nodes Virtual IPs as assigned by the Dynamic Networks ASM Password © Create a ngw GNS Operating System Groups GNS VIP Address: Installation Location GNS Sub Domain: Prerequisite Checks GNS Client Data: Summary Install Product Finish Install Product	Configuration Option Single Client Access Name (SCAN) allows clients to use one name in connection strings to connect to cluster as a whole. Client connect requests to the SCAN name can be handled by any cluster node. Cluster Configuration Cluster Name: c2-cluster Cluster Node Information SCAN Part: © 1521 Network Interface Usage SCAN Port: © 1521 Storage Option Configure GNS Configure GNS Grid Infrastructure Management Configure GNS Configure GNS Operating System Groups GNS ½IP Address: Constructure Installation Location GNS Client Data: CINS Client Data: Prerequisite Checks GNS Client Data: CINS Client Data: Summary Install Product Finish CINS Client Data:

In the **Cluster Name** and **SCAN Name** fields, enter the names for your cluster and cluster scan that are unique throughout your entire enterprise network. , then click **Next** to continue.

(More details for GNS configuration please see Oracle official document.)

4). The Cluster Node Information screen appears.

	0	racle Grid Infrastructure 12	c Release 2 Installer - Step 4 c	of 16 ×
Clu	ister Node Information			
Ť	Configuration Option	Provide the list of nodes to be ma Hostname.	naged by Oracle Grid Infrastructure with	their Public Hostname and Virtual
-T		Public Hostname	Role	Virtual Hostname
- Y	Grid Plug and Play	c2n1.provo.novell.com	HUB	c2n1-vip.provo.novell.com
- 🗅	Cluster Node Information	c2n2.provo.novell.com	НИВ	c2n2-vip.provo.novell.com
	Network Interface Usage	c2n3.provo.novell.com	НИВ	 c2n3-vip.provo.novell.com
T	Otaaraa Oatiaa	c2n4.provo.noveII.com	HUB	c2n4-vip.provo.noveli.com
Ĭ	Storage Option			
Ý	Grid Infrastructure Management			
Ý	Create ASM Disk Group			
Ý	ASM Password			
Ý	Operating System Groups			
Ý	Installation Location			
~	Root script execution			
Ý	Prerequisite Checks			
Ý	Summary			
÷ψ	Install Product			
9	Finish	SSH connectivity	Use Cluster Configurat	ion File
•				
	Help		< <u>B</u> ack	Next > Install Cancel

In the Public Hostname column of the table of cluster nodes, you should see your local node. Click Add to add another node to the cluster. Enter the second node's public name(node2), and virtual IP name (node2-vip), then click OK. Make sure all nodes are selected, then click the SSH Connectivity button at the bottom of the window. After a short period, another message window appears indicating that passwordless SSH connectivity has been established between the cluster nodes. Click **OK** to continue. When returned to the Cluster Node Information window, click **Next** to continue.

5). Specify Network Interface Usage.

Oracle Grid Infrastructure 12c Release 2 Installer - Step 5 of 16					
Specify Network I	nterface Usage				
Configuration Op	tion Private interfaces a	re used by Oracle Grid Infrastructure for in	iternode traffic.		
Grid Plug and Pla Grid Plug and Pla Cluster Node Info	v Interface bond1 prmation bond0	Name Subnet 137.65.135.0 10.1.1.0	Use for Public ASM & Private		
Network Interface	e Usage				
Storage Option					
Grid Infrastructur	re Management				
Create ASM Disk	Group				
ASM Password					
Operating System	n Groups				
↓ Installation Locat	tion				
Root script execu	ition				
Prerequisite Chee	cks				
Summary					
Install Product					
- Finish					
Help			< Back Next > Install Cancel		

Verify that each interface has the correct interface type associated with it. If you have network interfaces that should not be used by Oracle Clusterware, then set the network interface type to **Do Not Use**. For example, if you have only two network interfaces, then set the public interface to have a Use For value of Public and set the private network interface to have a Use For value of ASM & Private, then click **Next** to continue.

6). Storage Option Information.

O Storage Option Information	racle Grid Infrastructure 12c Release 2 Installer - Step 6 of 16 × CRACLE 12 ^c
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Management Create ASM Disk Group ASM Password Operating System Groups Installation Location Prerequisite Checks Summary Install Product Finish	Oracle Cluster Registry (OCR) files, voting disk files and other clusterware data will be configured with Oracle ASM. You can choose to configure Oracle ASM on block devices or on a NFS location. Configure <u>ASM using block devices</u> Configure ASM on NF <u>S</u>
Help	< Back Next > Install Cancel

Choose option "Configure ASM using block devices", then click Next to continue.

7). Grid Infrastructure Management Repository Option.

	Oracle Grid Infrastructure 12c Release 2 Installer - Step 7 of 16				
Gri	d Infrastructure Manageme	nt Repository Option			1 2 °
	Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Management Create ASM Disk Group ASM Password Operating System Groups Installation Location Prerequisite Checks Summary Install Product Finish	Do you want to create a separate Management Repository (GIMR) o Yes No	Automatic Storage Management (ASN data?	4) disk group for the Grid Infrastr	ucture
	Help		< <u>B</u> ac	k Next >	Cancel

Choose whether you want to store the Grid Infrastructure Management Repository in a separate Oracle ASM disk group, then click **Next** to continue.

8). Create ASM Disk Group.

0	racle Grid Infras	tructure 12c Release 2 Installer - S	Step 8 of 1	5	×
Create ASM Disk Group			GRI		
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage	OCR and Voting dis Disk group. Disk group name Redundancy Allocation <u>U</u> nit Size	k data will be stored in the following ASM Dis SUSEDEMO O Flex O High O Normal D External	ik group. Selec	t disks and ch	naracteristics of this
<u>Storage Option</u> Grid Infrastructure Management	Select Disks		Sh	ow Candidate/	Provisioned Disks 🔻
Create ASM Disk Group	/dev/oradata	Disk Path	Size (in MB) 102400	Status Candidate	Failure Group
ASM Password Operating System Groups Installation Location	 ✓ /dev/oradata ✓ /dev/oradata ✓ /dev/oradata ✓ /dev/oradata ✓ /dev/oradata ✓ /dev/oradata 	/dstdisk2 /dstdisk3 /newdisk21 /newdisk22 /newdisk23	102400 102400 102399 102399 102399	Candidate Candidate Candidate Candidate Candidate	
Prerequisite Checks Summary Install Product Finish	Specify <u>Failure</u> G Configure Oracl Select this option t by Oracle ASM.	roups e ASM <u>F</u> ilter Driver o configure ASM Filter Driver(AFD) to simplify	y configuration	Char	nge Discovery <u>P</u> ath nent of disk devices
<► 		[< <u>B</u> ack	Next >	Install Cancel

Depending on your needs to creat ASM Disk Group, then click **Next** to continue.

9). Specify ASM Password.

Specify ASM Password GRID INFRASTRUCTURE				
Configuration Option	The new Oracle privileges for ad privileges to mor	Automatic Storage Manage ministration. Oracle recom nitor the ASM instance.	ement (Oracle ASM) instance requi mends that you create a less privile	res its own SYS user with SYSASM ged ASMSNMP user with SYSDBA
Grid Plug and Play	Specify the pass	word for these user accour	nts.	
Cluster Node Information	🔿 Use <u>d</u> ifferent	passwords for these accou	unts	
Network Interface Usage				
Storage Option		Password	Confirm Password	
Grid Infrastructure Management	S <u>Y</u> S			
Create ASM Disk Group	ASMSNMP			
ASM Password				
Operating System Groups) Use <u>s</u> ame pa	sswords for these account	S	
Installation Location				
Root script execution	Specify Pas	sword:	Confirm Password	•••••
Prerequisite Checks				
Summary				
Install Product				
Finish				

Choose the same password for the Oracle ASM SYS and ASMSNMP account, or specify different passwords for each account, then click **Next** to continue.

10). Failure Isolation Support.

Oracle Grid Infrastructure 12c Release 2 Installer - Step 10 of 18 ×		
Failure Isolation Support		
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Management Create ASM Disk Group ASM Password Evidem Inclusion	Choose one of the following Failure Isolation Support options. Use Intelligent Platform Management Interface (IPMI) To ensure successful installation with IPMI enabled, ensure your IPMI drivers are properly installed and enabled. User Name : Password :	
Management Options Operating System Groups Installation Location Root script execution Prerequisite Checks Summary Install Product Finish		
Help	< <u>Back</u> <u>Next</u> <u>Install</u> Cancel	

Select the option **"Do not use Intelligent Platform Management Interface** (IPMI)", then click **Next** to continue.

11). Specify Management Options.

Oracle Grid Infrastructure 12c Release 2 Installer - Step 11 of 18 ×		
Specify Management Options		
Configuration Option	You can configure to have this instance of Oracle Grid Infrastructure and Oracle Automatic Storage Management to be managed by Enterprise Manager Cloud Control. Specify the details of the Cloud Control configuration to perform the registration.	
Grid Plug and Play	Register with Enterprise Manager (EM) Cloud Control	
Cluster Node Information	OMS host:	
Network Interface Usage	QMS port:	
Storage Option		
Grid Infrastructure Management		
Create ASM Disk Group	EM Admin Password:	
ASM Password		
Failure Isolation		
Management Options		
Operating System Groups		
 ↓ Installation Location 		
Root script execution		
Ý Prerequisite Checks		
ý Summary		
 ↓ Install Product 		
⊖ Finish		
Help	< <u>Back</u> <u>Next</u> <u>Install</u> <u>Cancel</u>	

Selected/Deselected the option "Register with EM...", then click Next to continue.

12). Privileged Operating System Groups.

r

Oracle Grid Infrastructure 12c Release 2 Installer - Step 12 of 19 ×		
Privileged Operating System	Groups ORACLE GRID INFRASTRUCTURE 12C	
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Managemen Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution Prerequisite Checks Summary Install Product Finish ▼	Select the name of the operating system group, that you want to use for operating system authentication to Oracle AsM Administrator (OSASM) Group dba Oracle ASM <u>D</u> BA (OSDBA for ASM) Group Oracle ASM <u>O</u>perator (OSOPER for ASM) Group (Optional)	
Help	< <u>Back</u> <u>N</u> ext > <u>Install</u> Cancel	

Accept the default operating system group names for Oracle ASM administration, then click **Next** to continue.

13). Specify Installation Location.

r

Oracle Grid Infrastructure 12c Release 2 Installer - Step 13 of 18 ×		
Specify Installation Location		12 ^c
Configuration Option	Specify the Oracle Grid Infrastructure for a Cluster Oracle base. By default, Oracle Grid Infrastructure installed in a path indicating the Oracle Grid Infrastructure release and grid infrastructure software o	e is wner.
Grid Plug and Play	Oracle base: /home/oracle/grid_base	Browse
<u>Cluster Node Information</u> <u>Network Interface Usage</u>	This software directory is the Oracle Grid Infrastructure home directory.	
 <u>Storage Option</u> 	Software location: /home/oracle/grid	
Grid Infrastructure Management		
Create ASM Disk Group		
ASM Password		
Failure Isolation		
Management Options		
Operating System Groups	_	
Installation Location	-	
Root script execution		
 Prerequisite Checks 		
Summary		
Install Product		
U Finish		
<u>H</u> elp	Seck Next > Install	Cancel

7

Specify the directory to use for the Oracle base for the Oracle Grid Infrastructure installation, then click **Next** to continue. The Oracle base directory must be different from the Oracle home directory.

14). Create Inventory.

Oracle Grid Infrastructure 12c Release 2 Installer - Step 14 of 19 ×			
Create Inventory			
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Manageme Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Root script execution 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: /home/oracle/oralnventory Members of the following operating system group (the primary group) will have write permission to the inventory directory (oralnventory). oralnventory Group Name: oinstall		
Help	< Back Next > Install Cancel		

Change the path for the inventory directory, if required. Then, click **Next** to continue.

15). Root script execution configuration.

Oracle Grid Infrastructure 12c Release 2 Installer - Step 15 of 19 ×		
Root script execution configuration		
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Managemen Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution Prerequisite Checks Summary Install Product	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.	
 ▲ ▲	<u>Back</u> <u>Next ></u> <u>Install</u> Cancel	

Select the option to **Automatically run configuration scripts**. Enter the credentials for the root user or a sudo account,then click **Next** to continue.

Alternatively, you can Run the scripts manually as the root user at the end of the installation process when prompted by the installer.

16). Perform Prerequisite Checks.

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0	acle Grid Infrastructure 12c Release 2 Installer - Step 16 of 19	×
Perform Prerequisite Checks		
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage Storage Option Grid Infrastructure Managemen Create ASM Disk Group ASM Password Failure Isolation Management Options Operating System Groups Installation Location Create Inventory Root script execution Prerequisite Checks	Verification Result Some of the minimum requirements for installation are not completed. Review ar following table, and recheck the system. Check Again Fix & Check Again Show Failed Image: All Nodes Checks Checks Checks Image: All Nodes Image: Checks Image: All Nodes Image: Checks Image: Checks Image: Checks Image: Checks	Ind fix the issues listed in the Ignore All Ignore All Status Fixable Warning Yes Warning No
	Checks that OS network parameter NOZEROCONF is set to yes or the parameter liset in case of SUSE Linux. (more details) Check Failed on Nodes: [c2n4, c2n3, c2n2, c2n1]	.INKLOCAL_INTERFACES is not
Help	< Back	t > Install Cancel

Perform Pre-Check as shown above; Click **Fix&Check Again** to recheck the system.

0	racle Grid Infrastructure 12c Release 2 Installer - Step 16 of 19 ×
Perform Prerequisite Checks	
Configuration Option Cluster Configuration Grid Plug and Pla	Verification Result Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system.
Cluster Node Infe Network Interfac Some of the needs to be r (/tmp/GridSe using the priv <u>Create ASM Disk ASM Password Failure Isolation Management Opt Management Opt </u>	Fixup Script Image: Script prerequisites have failed on the following nodes. Installer has generated a fixup script that in as a privileged user (root). Installer will run the fixup script tupActions2018-08-21_00-56-27AM/CVU_12.2.0.1.0_oracle/runfixup.sh) on the listed nodes ileged user credentials provided earlier. Click "OK" to proceed. tus Fixable Image: No Image: No Image: No Image: No Im
	OK Cancel Checks that OS network parameter NOZEROCONF is set to yes or the parameter LINKLOCAL_INTERFACES is not set in case of SUSE Linux. (more details) Check Failed on Nodes: [c2n4, c2n3, c2n2, c2n1]
Help	< <u>Back</u> <u>N</u> ext > <u>Install</u> Cancel

Follow the prompts, manual run Fixup Script as "root" user on each node, then click **OK**.

c2n1:/home # /tmp/GridSetupActions2018-08-21_00-56-27AM/CVU_12.2.0.1.0_oracle/runfixup.sh
All Fix-up operations were completed successfully.
c2n1:/home # []

(**Note:** CVU checks are working as expected with exception of zeroconf check; a fix will be in the next distributed CVU.)

Oracle Grid Infrastructure 12c Release 2 Installer - Step 16 of 19 ×			×
Perform Prerequisite Check	s		С
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information	•	Verification Result Fixup Result Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system. Check Again Eix & Check Again Show Failed Image: Check Again Checks Status]
<u>Network Interface Usage</u> Storage Option <u>Grid Infrastructure Management</u>		Checks Sector Hadre Market Market	
<u>Create ASM Disk Group</u> <u>ASM Password</u> <u>Failure Isolation</u>			
<u>Management Options</u> <u>Operating System Groups</u> <u>Installation Location</u>			
Create Inventory Root script execution Prerequisite Checks			
Summary Install Product Finish	•	Checks that OS network parameter NOZEROCONF is set to yes or the parameter LINKLOCAL_INTERFACES is not set in case of SUSE Linux. (more details) Check Failed on Nodes: [c2n4, c2n3, c2n2, c2n1]	
< ► ► ► ► ► ► ► ► ► ► ► ► ► ► ► ► ► ► ►		< <u>Back</u> <u>Next</u> <u>Install</u> <u>Cancel</u>	_]]/

Select option "Ignore All", then click Next to continue.



Installation Summary as shown above, click Install to continue.

18). Install Product.

	Oracle Grid Infrastructure 12c Release 2 Installer - Step 18 of 19	×
Install Product		E 12 ^C
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information Network Interface Usage	Progress 15% Copying /home/oracle/grid to remote nodes Status	Succeeded
Grid Infrastructure Manageme Create ASM Disk Group	Configure Eccal Node Prepare Link binaries Setup	Succeeded Succeeded Succeeded
ASM Password Failure Isolation	Copy Files to Remote Nodes Configure Remote Nodes Prepare Setup	Pending Pending Pending Pending
Operating System Groups	Setup Oracle Base Execute Root Scripts Configure Oracle Grid Infrastructure for a Cluster	Pending Pending Pending
Create Inventory Root script execution Prerequisite Checks Summary	Details	<u>R</u> etry <u>S</u> kip
Install Product Finish	GRACLE Maximum Availability GRID INFRASTRUCTURE 12 ^C Eliminate Downtime and Idle Redund	dancy
<u>H</u> elp	< <u>B</u> ack <u>N</u> ext > <u>I</u> ns	tall Cancel

Installer prompted you to run the orainstRoot.sh and root.sh scripts. Click Yes.

	Oracle Grid Infrastructure 12c Release 2 Installer - Step 18 of 19	×
Install Product		LE 12 ^C
Configuration Option Cluster Configuration Grid Plug and Play Cluster Node Information	Progress 44% Saving Cluster Inventory	
Network Interface Us Storage Option	Oracle Grid Infrastructure 12c Release 2 Installer	Succeeded
Grid Infrastructure M Grid Infrastructure M Create ASM Disk Gro ASM Password Failure Isolation Management Options Operating System Gr	Configuration scripts generated by the Installer need to be run as a privileged user (root). Installer will run these scripts using the privileged user credentials provided earlier. Are you sure you want to continue ? Yes No	Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded In Progress Pending
Installation Location Create Inventory Root script execution Prerequisite Checks Summary		Pending
Install Product Finish	GRID INFRASTRUCTURE 12 ^c Consolidate. Compress.	Control.
Help	< <u>B</u> ack <u>N</u> ext >	Install Cancel

Continue monitoring the installation until the Finish window appears.

```
19). Finish.
```

Oracle Grid Infrastructure 12c Release 2 Installer - Step 19 of 19 ×			
Finish			
火 Configura	tion Option		The configuration of Oracle Grid Infrastructure for a Cluster was successful.
Cluster C	onfiguration		
Grid Plug	and Play		
Cluster N	ode Information		
Network I	nterface Usage		
Storage C	ption		
Grid Infra	structure Managem		
Create AS	iM Disk Group		
ASM Pas	sword		
Failure Is	olation		
↓ Managerr	ent Options		
↓ Operating	System Groups		
Installatio	n Location		
Create Inv	ventory		
Root scrip	ot execution		
Prerequis	ite Checks		
Summary			
Unstall Pro	oduct		
🍥 Finish		9	
4	•		
Help			< <u>Back</u> <u>Next</u> <u>Install</u> <u>Close</u>

Click **Close** to complete the installation process and exit the installer.

1-3. Post-Install Checks.

1).Check Oracle Clusterware health.

oracle@c2n1:/home/oracle> /home/oracle/grid/bin/crsctl check cluster -all ***** c2n1: CRS-4537: Cluster Ready Services is online CRS-4529: Cluster Synchronization Services is online CRS-4533: Event Manager is online c2n2: CRS-4537: Cluster Ready Services is online CRS-4529: Cluster Synchronization Services is online CRS-4533: Event Manager is online ***** c2n3: CRS-4537: Cluster Ready Services is online CRS-4529: Cluster Synchronization Services is online CRS-4533: Event Manager is online ***** ******* c2n4: CRS-4537: Cluster Ready Services is online CRS-4529: Cluster Synchronization Services is online CRS-4533: Event Manager is online

2). Check Oracle Clusterware resources.

oracle@c2n1:/home/oracle> /home/oracle/grid/bin/srvctl status nodeapps VIP 137.65.135.76 is enabled VIP 137.65.135.76 is running on node: c2n1 VIP 137.65.135.77 is enabled VIP 137.65.135.77 is running on node: c2n2 VIP 137.65.135.78 is enabled VIP 137.65.135.78 is running on node: c2n3 VIP 137.65.135.79 is enabled VIP 137.65.135.79 is running on node: c2n4 Network is enabled Network is running on node: c2n1 Network is running on node: c2n2 Network is running on node: c2n4 Network is running on node: c2n3 ONS is enabled ONS daemon is running on node: c2n1 ONS daemon is running on node: c2n2 ONS daemon is running on node: c2n4 ONS daemon is running on node: c2n3

3). Check status of designated resources.

/home/oracle/grid/bin/crsctl stat res -t

Local Resources ora ASMNET1LSNR_ASM.Isnr ONLINE ONLINE c2n1 STABLE ONLINE ONLINE c2n2 STABLE ONLINE ONLINE c2n3 STABLE OFALINE ONLINE C2n1 STABLE ONLINE ONLINE c2n1 STABLE ONLINE ONLINE c2n2 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n3 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n4 STABLE ONLINE ONLINE c2n1 STABLE OTALISTENER_SCAN3.Isnr 1 ONLINE ONLINE c2n1 STABLE OTALISTENER SCAN3.ISNR 1 ONLINE ONLINE c2n1 STABLE OTALISTENER OTALISTENER SCAN3.ISNR 1 ONLINE ONLINE c2n1 ST	Name	Target State	Server	State details
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ora.c2n2.vip	ora.c2n	2.vip		
1 ONLINE ONLINE c2n2 STABLE	1	ONLINE ONLINE	c2n2	STABLE

ora.c2n3	3.vip		
1	ONLINE ONLINE	c2n3	STABLE
ora.c2n4	l.vip		
1	ONLINE ONLINE	c2n4	STABLE
ora.cvu			
1	ONLINE ONLINE	c2n1	STABLE
ora.mgm	ntdb		
1	ONLINE ONLINE	c2n1	Open,STABLE
ora.qosr	nserver		
1	ONLINE ONLINE	c2n1	STABLE
ora.scan	11.vip		
1	ONLINE ONLINE	c2n2	STABLE
ora.scan	12.vip		
1	ONLINE ONLINE	c2n3	STABLE
ora.scan	13.vip		
1	ONLINE ONLINE	c2n4	STABLE

4). Check OCR and Voting disk files.

oracle@c2n1:/home/oracle> /home/oracle/grid/bin/ocrcheck Status of Oracle Cluster Registry is as follows :

Version : 4 Total space (kbytes) : 409568 Used space (kbytes) : 2324 Available space (kbytes) : 407244 ID : 1244818092 Device/File Name : +SUSEDEMO Device/File integrity check succeeded

Device/File not configured

Device/File not configured

Device/File not configured

Device/File not configured

Cluster registry integrity check succeeded

Logical corruption check bypassed due to non-privileged user

oracle@c2n1:/home/oracle> /home/oracle/grid/bin/crsctl query css votedisk ## STATE File Universal Id File Name Disk group

2. ONLINE 862c261278274f80bf4c028766cc69f0 (/dev/oradata/dstdisk3) [SUSEDEMO]

^{1.} ONLINE c4a0b2f390724f49bf04e44f4ccff587 (/dev/oradata/dstdisk1) [SUSEDEMO]

^{3.} ONLINE 4288e19357cf4f92bf7d6f6c19b7261b (/dev/oradata/dstdisk2) [SUSEDEMO] Located 3 voting disk(s).

2. Installing Oracle Database.

1-1. Login to the SLES 15 64-bit OS as a non-admin user. Download the Oracle Database 12c Release 2 (12.2.0.1.0) for Linux x86-64.

1-2. Extract linuxx64_12201_database.zip and run the installer './runInstaller' from Database ShipHome.

Install Flow:

1). Configure Security Updates.

Oracle Database 12c Release 2 Installer - Step 1 of 9 ×		
Configure Security Updates		
 Configure Security Updates Installation Option Database Installation Options Install Type Typical Installation Prerequisite Checks Summary Install Product Finish 	Provide your email address to be informed of security issues, install the product and initiate configuration manager. <u>View details</u> . Email: Email: Easier for you if you use your My Oracle Support email address/username. My Oracle Sugport Password:	
Help	<u>Back</u> <u>Next > Install</u> <u>Cancel</u>	1

Provide your email address to be informaed of security issues, then click Next to continue.

2). Select Installation Option.

	Oracle Database 12c Release 2 Installer - Step 2 of 9	×
Select Installation Option		2 ^c
Configure Security Updates Installation Option Database Installation Options Install Type Typical Installation Prerequisite Checks Summary Install Product Finish	Select any of the following install options.	
Help	< Back Next > Install	Cancel

Select option "Install database software only", then click Next to continue.

3). Select Database Installation Option.

	Oracle Database 12c Release 2 Installer - Step 3 of 9	×
Select Database Installation O	option ORACLE DATABASE	12 ^c
Configure Security Updates Installation Option Database Installation Options Install Type Typical Installation Prerequisite Checks Summary Install Product Finish	Select the type of database installation you want to perform. Single instance database installation Oracle Real Application Clusters database installation Oracle RAC Ong Node database installation	
Halp		Cancel
пер		Cancer

Choose option "Oracle Real Application Clusters database installation", then click Next to continue.

4). Select List of Nodes.

Oracle Database 12c Release 2 Installer - Step 4 of 10			×
Select List of Nodes			
<u>Configure Security Updates</u> Installation Option	Select nodes (in addition RAC One.	to the local node) in the cluster where the installer s	hould install Oracle RAC or Oracle
		Node name	
Database installation Options	2 c2n3		
Nodes Selection	✓ 2 02n3		
🗼 Install Type	✓ 4 c2n4		
Typical Installation			
Prereguisite Checks			
O Summary			
Lastell Desclust			
Install Product			
Ó Finish			
	SSH connectivity		Select all Deselect all
Help		< <u>B</u> ack	<u>Next > Install</u> Cancel

Select all nodes in the cluster, then click **Next** to continue.

5). Select Database Edition.

	Oracle Database 12c Release 2 Installer - Step 5 of 11 ×
Select Database Edition	
Configure Security Updates Installation Option Database Installation Options Nodes Selection Database Edition Installation Location Operating System Groups Prerequisite Checks Summary Install Product Finish	Which database edition do you want to install? <u>Interprise Edition (7.5GB)</u> Oracle Database 12c Enterprise Edition is a self-managing database that has the scalability, performance, high availability, and security features required to run the most demanding, mission-critical applications. <u>Standard Edition 2 (7.5GB)</u> Oracle Database 12c Standard Edition 2 is a full-featured data management solution ideally suited to the needs of medium-sized businesses. It includes Oracle Real Application Clusters for enterprise-class availability and comes complete with its own Oracle Clusterware and storage management capabilities.
Help	< <u>Back</u> <u>N</u> ext> <u>Install</u> Cancel

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

6). Specify Installation Location.

	Oracle Database 12c Release 2 Installer - Step 6 of 11	×
Specify Installation Location		12 ^c
Configure Security Updates Installation Option Database Installation Options Nodes Selection Database Edition Operating System Groups Prerequisite Checks Summary Install Product Finish	Specify a path to place all Oracle software and configuration-related files installed by this installation This location is the Oracle base directory for the installation owner. Oracle base: /home/oracle/grid_base Specify a location for storing Oracle database software files separate from database configuration to Oracle base directory. This software directory is the Oracle database home directory. Software location: /home/oracle/db	n owner.
Help	< <u>B</u> ack <u>N</u> ext > <u>I</u> nstall	Cancel

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

7). Privileged Operating System groups.

	Oracle Database 12c Release 2 Installer - Step	7 of 11 ×
Privileged Operating System g	roups	
Configure Security Updates Installation Option Database Installation Options Nodes Selection Database Edition Installation Location Operating System Groups Prerequisite Checks Summary Install Product Finish	SYS privileges are required to create a database using operatin Groups grants the corresponding SYS privilege, eg. membership Database Administrator (OSDBA) group: Database Operator (OSOPER) group (Optional): Database Backup and Recovery (OSBACKUPDBA) group: Data Guard administrative (OSDGDBA) group: Encryption Key Management administrative (OSKMDBA) group: Real Application Cluster administrative (OSRACDBA) group:	g system (OS) authentication. Membership in OS p in OSDBA grants the SYSDBA privilege. dba • dba • dba • dba •
<u>H</u> elp		< Back Next > Install Cancel

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

8). Perform Prerequisite Checks.

r	Oracle Database 12c Release 2 Installer - Step	8 of 11 ×
Perform Prerequisite Checks		
	Verification Result All minimum requirements are satisfied. You may proceed with Check Again Eix & Check Again Show All	a the installation.
Vodes Selection	Checks	Status Fixable
Database Edition	Physical Memory	Succeeded
Installation Location	Available Physical Memory	Succeeded
Operating System Groups	Swap Size	Succeeded
operating system oroups	Free Space	Supported
Prerequisite Checks	Space: c2n3:/tmp	Succeeded
Summary	Eree Space: c2n2:/tmp	Succeeded
u Install Product	Eree Space: c2n1:/tmp	Succeeded
	⊡ B User Existence	oubected and a second s
 Finish 	User Existence: oracle	
	Users With Same UID: 483	Succeeded
	Group Existence	
	Group Existence: dba	Succeeded
	Group Existence: oinstall	Succeeded
	Group Membership	
	Group Membership: oinstall(Primary)	Succeeded 🚽
	This is a prerequisite condition to test whether the system has memory. (more details)	at least 1GB (1048576.0KB) of total physical
Help		< <u>Back</u> <u>Next</u> <u>Install</u> Cancel

Checking verification result, click **Next** to continue.

9). Summary.



Installation Summary as shown above, click Install to continue.

10). Install Product.

	Oracle Database 12c Release 2 Installer - Step 10 of 11	×
Install Product		12 ^c
Configure Security Upda	tes Progress 97%	
Nodes Selection	Execute Configuration Scripts ×	
Database Edition Installation Location	The following configuration scripts need to be executed as the "root" user on each listed cluster node. Each script in the list below is followed by a list of nodes on which it has to be executed.	eded
Operating System Grou	Scripts Nodes	ded
Prerequisite Checks	/home/oracle/db/root.sh c2n1, c2n3, c2n2, c2n4	ded
Summary		ded
Install Product		ded
Circle h		ded
O Philish	To execute the configuration scripts: 1. Open a terminal window 2. Login as "root" 3. Run the scripts 4. Return to this window and click "OK" to continue	ded ress
	Help QK Cancel	<u>S</u> kip
	ORACLE 12C	
Help	< <u>B</u> ack <u>N</u> ext > <u>I</u> nstall	Cancel

Execute **root.sh** as the "root" user on each cluster node, then click **OK** to continue.

<pre>c2nl:/home/oracle # /home/oracle/db/root.sh Performing root user operation.</pre>
The following environment variables are set as: ORACLE_OWNER= oracle ORACLE_HOME= /home/oracle/db
Enter the full pathname of the local bin directory: [/usr/local/bin]: The contents of "dbhome" have not changed. No need to overwrite. The contents of "oraenv" have not changed. No need to overwrite. The contents of "coraenv" have not changed. No need to overwrite.
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.

11). Finish

	Oracle Database 12c Release 2 Installer - Step 11 of 11		×
Finish			2 ^c
Configure Security Updates Installation Option Database Installation Options Nodes Selection Database Edition Installation Location Operating System Groups Prerequisite Checks Summary Install Product Simmary	The installation of Oracle Database was successful.		
Help	< <u>B</u> ack	<u>N</u> ext > <u>I</u> nstall	<u>C</u> lose

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

1-3. Using DBCA to create Oracle RAC DataBase.

1). Database Operation.

r	Database Configuration Assistant - Application - Step 1 of 14	×
Select Database Operation		С
Database Operation	Select the operation that you want to perform.	
<u>Creation Mode</u>		
 Deployment Type Database Identification Storage Option Fast Recovery Option Database Options Configuration Options Management Options User Credentials Creation Option Summary Progress Page Finish 	 Configure an existing database Delete database Manage templates Manage Pluggable databases Oracle RAC database Instance management 	
Help	<u>Back</u> <u>Next ></u> <u>Finish</u> Canc	el

Select option "Create Database", then click Next to continue.

2). Creation Mode.

	Database Configuration Assistant - Create a database - Step 2 of 14 ×					
Sel	ect Database Creation Mo	de		12 ^C		
φ	Database Operation	 <u>Typical configuration</u> 				
0	Creation Mode	<u>G</u> lobal database name:	susedb			
- •	Deployment Type	Storage type:	Automatic Storage Management (ASM)	-		
Ý	Database Identification	Database files location:	+SUSEDEMO/{DB_UNIQUE_NAME}	Browse		
Ĵ	Storage Option	Fast Recovery Area (FRA):	+SUSEDEMO	Browse		
Ţ	Database Options	Database <u>c</u> haracter set:	AL 32UTE8 - Unicode UTE-8 Universal character set			
	Configuration Options	Administrative password:				
•	Management Options	Confirm password:	· · · · · · · · · · · · · · · · · · ·			
Ý	User Credentials	-				
Ŷ	Creation Option	Create as Container databas	se			
Ŷ	Summary	P <u>l</u> uggable database name:				
Ĵ	Progress Page Finish	 Advanced configuration 				
	<u>H</u> elp		< <u>B</u> ack <u>N</u> ext >	Einish Cancel		

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

3). Perform Prerequisite Checks.

×

Databa	base Configuration Assistant - Create 'susedb' database - Step 3 of 6 x				
Perform Prerequisite Checks			0		
Database Operation <u>Creation Mode</u> Prerequisite Checks	Verification Result Some of the minimum requirements for installation are not following table, and recheck the system.	completed. Review and fix the issues listed in the			
O Summary	Check Again Eix & Check Again Show All	All Nodes	11		
Progress Page	Checks	Status Fixable			
Finish	Available Physical Memory Available Physical Memory Swap Size Free Space Free Space: c2n4:/tmp Free Space: c2n3:/tmp Free Space: c2n2:/tmp Free Space: c2n1:/tmp Free Space: c2n1:/tmp Free Space: c2n1:/tmp Free Space: c2n1:/tmp Free Space: c2n2:/tmp Free Space: c2n	Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded Succeeded			
Help		< <u>B</u> ack <u>N</u> ext > <u>Einish</u> Cancel	5		

Checking verification result, then click **Next** to continue.

4). Summary.

Datab	ase Configuration Assistant - Create 'susedb' database - Step 4 of 6	×
Summary		2 ^c
Database Operation Creation Mode Prerequisite Checks Summary Progress Page Finish	Database Configuration Assistant Global Settings Global database name: susedb Node List: c2n1,c2n2,c2n4,c2n3 Configuration type: Oracle Real Application Cluster (RAC) database - Admin Managed SID: susedb Create as Container database: No Database Files Storage Type: Automatic Storage Management (ASM) Memory Configuration Type: Automatic Shared Memory Management Template name: General Purpose Initialization Parameters audit_file_dest: (ORACLE_BASE)/admin/(DB_UNIQUE_NAME)/adump audit_trail: db cluster_database: true compatible: 12.2.0 db_block_size: 8 KB db_create_file_dest: +SUSEDEMO/(DB_UNIQUE_NAME)/ db_name: susedb db_recovery_file_dest: +SUSEDEMO db_recovery_file_dest: tORACLE_BASE) disgnostic_dest: (ORACLE_BASE) disgnostic_dest: (ORACLE_BASE) disgnostic_dest: (ORACLE_BASE)	€ File
Help	< <u>Back</u> <u>Next</u> > <u>Finish</u>	Cancel

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

5). Progress Page.

Dat	abase Configuration Assistant - Create 'susedb' database - Step 5 of 6	×
Progress Page		
Database Operation Creation Mode Prerequisite Checks Summary Progress Page Finish	Progress Clone database "susedb" creation in progress 68% Copying database files Creating and starting Oracle instance Creating cluster database views Completing Database Creation Executing Post Configuration Actions DBCA Log Location:/home/oracle/grid_base/cfgtoollogs/dbca/susedb/trace.log_2019-07 Alert Log Location:/home/oracle/grid_base/diag/rdbms/susedb/susedb1/trace/alert_st	Status Finished Finished In Progress 3-27_10-55-11-PM usedb1.log
Help	< <u>Back</u> <u>N</u> ext >	Einish Cancel

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

6). Finish.



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

1-4. Post-Install Checks.

1). Verify database status and configuration.

oracle@c2n1:~> export ORACLE_HOME=/home/oracle/db oracle@c2n1:~> /home/oracle/db/bin/srvctl status database -d susedb Instance susedb1 is running on node c2n1 Instance susedb2 is running on node c2n2 Instance susedb3 is running on node c2n4 Instance susedb4 is running on node c2n3

oracle@c2n1:~> /home/oracle/db/bin/srvctl status database -d susedb -a Instance susedb1 is running on node c2n1 Instance susedb1 is connected to ASM instance +ASM1 Instance susedb2 is running on node c2n2 Instance susedb3 is connected to ASM instance +ASM2 Instance susedb3 is running on node c2n4 Instance susedb3 is connected to ASM instance +ASM2 Instance susedb4 is connected to ASM instance +ASM2 Instance susedb4 is running on node c2n3 Instance susedb4 is connected to ASM instance +ASM4

oracle@c2n1:~> /home/oracle/db/bin/srvctl config database -d susedb -a Database unique name: susedb Database name: susedb Oracle home: /home/oracle/db Oracle user: oracle Spfile: +SUSEDEMO/SUSEDB/PARAMETERFILE/spfile.309.1004051465 Password file: +SUSEDEMO/SUSEDB/PASSWORD/pwdsusedb.282.1004050937 Domain: Start options: open Stop options: immediate Database role: PRIMARY Management policy: AUTOMATIC Server pools: **Disk Groups: SUSEDEMO** Mount point paths: Services: Type: RAC Start concurrency: Stop concurrency: Database is enabled Database is individually enabled on nodes: Database is individually disabled on nodes: OSDBA group: dba OSOPER group: Database instances: susedb1,susedb2,susedb3,susedb4 Configured nodes: c2n1,c2n2,c2n4,c2n3 CSS critical: no CPU count: 0 Memory target: 0 Maximum memory: 0 Default network number for database services: Database is administrator managed

Name	Target State	Server	State details				
Local Resources							
ora.ASMNET1LSNR_ASM.lsnr							
	ONLINE ONLINE	c2n1	STABLE				
	ONLINE ONLINE	c2n2	STABLE				
	ONLINE ONLINE	c2n3	STABLE				
	ONLINE ONLINE	c2n4	STABLE				
ora.LIST	ENER.lsnr						
	ONLINE ONLINE	c2n1	STABLE				
	ONLINE ONLINE	c2n2	STABLE				
	ONLINE ONLINE	c2n3	STABLE				
	ONLINE ONLINE	c2n4	STABLE				
ora.SUS	EDEMO.dg						
	ONLINE ONLINE	c2n1	STABLE				
	ONLINE ONLINE	c2n2	STABLE				
	ONLINE ONLINE	c2n3	STABLE				
	OFFLINE OFFLINE	c2n4	STABLE				
ora.chac	ł						
	ONLINE ONLINE	c2n1	STABLE				
	ONLINE ONLINE	c2n2	STABLE				
	ONLINE ONLINE	c2n3	STABLE				
	ONLINE ONLINE	c2n4	STABLE				
ora.net1	.network						
	ONLINE ONLINE	c2n1	STABLE				
	ONLINE ONLINE	c2n2	STABLE				
	ONLINE ONLINE	c2n3	STABLE				
	ONLINE ONLINE	c2n4	STABLE				
ora.ons							
	ONLINE ONLINE	c2n1	STABLE				
	ONLINE ONLINE	c2n2	STABLE				
	ONLINE ONLINE	c2n3	STABLE				
	ONLINE ONLINE	c2n4	STABLE				
Cluster I	Resources						
ora LIST							
1		~ <u>_</u>	STADI E				
I oro LIST		CZNZ	STADLE				
01a.LIS I	ONLINE ONLINE	o) n 2					
		CZHS	STABLE				
	ENER_SCANS.ISH	- 0 - 1					
		CZN4	STABLE				
		- O - 1					
1	ONLINE ONLINE	C2N1	169.254.207.176 10.1				
ora asm			.1.1,5TABLE				
1	ONLINE ONLINE	c2n1	Started STABLE				
2	ONLINE ONLINE	c2n2	Started STABLE				
3	ONLINE ONLINE	c2n3	Started STARI F				
ora c^{2n1}		02110					
1		c2n1	STABI F				
ora c2n2	2.vip	52111	C JEE				
J. J. J. J. J.							

oracle@c2n1:~> /home/oracle/grid/bin/crsctl stat res -t

1	ONLINE	ONLINE	c2n2	STABLE
ora.c2n3.	vip			
1	ONLINE	ONLINE	c2n3	STABLE
ora.c2n4.	vip			
1	ONLINE	ONLINE	c2n4	STABLE
ora.cvu				
1	ONLINE	ONLINE	c2n1	STABLE
ora.mgmt	db			
1	ONLINE	ONLINE	c2n1	Open,STABLE
ora.qosm	server			
1	ONLINE	ONLINE	c2n1	STABLE
ora.scan1	l.vip			
1	ONLINE	ONLINE	c2n2	STABLE
ora.scan2	2.vip			
1	ONLINE	ONLINE	c2n3	STABLE
ora.scan3	3.vip			
1	ONLINE	ONLINE	c2n4	STABLE
ora.sused	db.db			
1	ONLINE	ONLINE	c2n1	Open,HOME=/home/orac
				le/db,STABLE
2	ONLINE	ONLINE	c2n2	Open,HOME=/home/orac
				le/db,STABLE
3	ONLINE	ONLINE	c2n4	Open,HOME=/home/orac
				le/db,STABLE
4	ONLINE	ONLINE	c2n3	Open,HOME=/home/orac
				le/db,STABLE

2). Verify Oracle Enterprise Manager.



EM Express - Database Home - Mozilla Firefox				
EM Express - Database H 🗙 🕂				
← → ♂ ☆ ① i iii http://c2-sca	n.provo.novell.com:5501/er	m/shell#/dbhc ••• (🔊 🏠 🔍 Search	
🌣 Most Visited 🗎 SUSE 🎓 Getting Started	🔊 Latest Headlines 🗎 🕅	Mozilla Firefox		
	Express 12c			Help 🗸 🛛 🤽 SYS 🗍 Log Out 🔘
📜 SUSEDB (12.2.0.1.0 RAC) 🔑 Configuration 🔻 🍇	Storage 🔻 🧦 Security 👻 🔜	Performance 🔻		🧮 c2n4
Database Home		Page Refreshed 2	:21:46 AM GMT-0600 Auto R	tefresh 1 Minute 🔻 🖒 🔺
⊻ Status	✓ Performance			
Up Time 3 hours, 8 minutes Type RAC - 4 instance(s) up Version 12.2.0.1.0 Enterprise Edition Database Name SUSEDB Platform Name Linux x86 64-bit Archiver Stopped ✓ Incidents - Last 24 Hours	Activity Class Services 50 40 30 20 10 0 1:25 AM Mar 28 1:35 AM	Instances	2:05 AM 2:15 AM	- Wait User I/O CPU
Inst Time Inci Pro Error	✓ Resources			
No Incidents	Host CPU	Active Sessions	Memory 80 GB PGA 60 GB Other SGA 60 GB Shared I/O Pool 40 GB Java Pool 20 GB Large Pool	Data Storage 3 GB Others 2.25 GB Temporary 1.5 GB Logs Undo
✓ Running Jobs	. 4 / 0	.2	0 CD Buffer Ceche	System
Inst Owner Name Ela Started	SQL Monitor - Last Hour (20) max)		
No Durarian John	Status Duration	Ty Instance ID ID	User Name Par	rallel Database Time

Additional Comments

This document provides some temporary solutions and brief instructions for Oracle Database 12cR2 on SLES 15 GA.

- Add "CV_ASSUME_DISTID=SUSE12" parameter in database/stage/cvu/cv/admin/cvu_config & grid/cv/admin/cvu_config
- Apply the Oracle RU of Oct 2018(p28507711_122010_Linux-x86-64.zip)
- CVU Pre-installation Check Issue "Verifying zeroconf check ... FAILED". Please ignore this error, a fix will be in the next distributed CVU.
- Oracle Prerequisite Checks Fixup Script is workaround for some CVU check failures.
- ACFS is not supported on this platform.

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