

## Removing a Node from the Cluster in Oracle RAC: How-to Guide

In high-availability environments, such as Oracle Real Application Clusters (RAC), it is common to need reconfigurations to optimize resources, perform maintenance, or even decommission servers. Removing a node from the cluster is a critical process that requires careful planning and execution to avoid impacts on the production environment.

In this article, I demonstrate step-by-step how to remove a node from Oracle RAC in a secure manner, ensuring cluster integrity and continuity of services. Whether it's for an upgrade, hardware relocation, or any other administrative need, following best practices is essential to avoid unexpected issues.

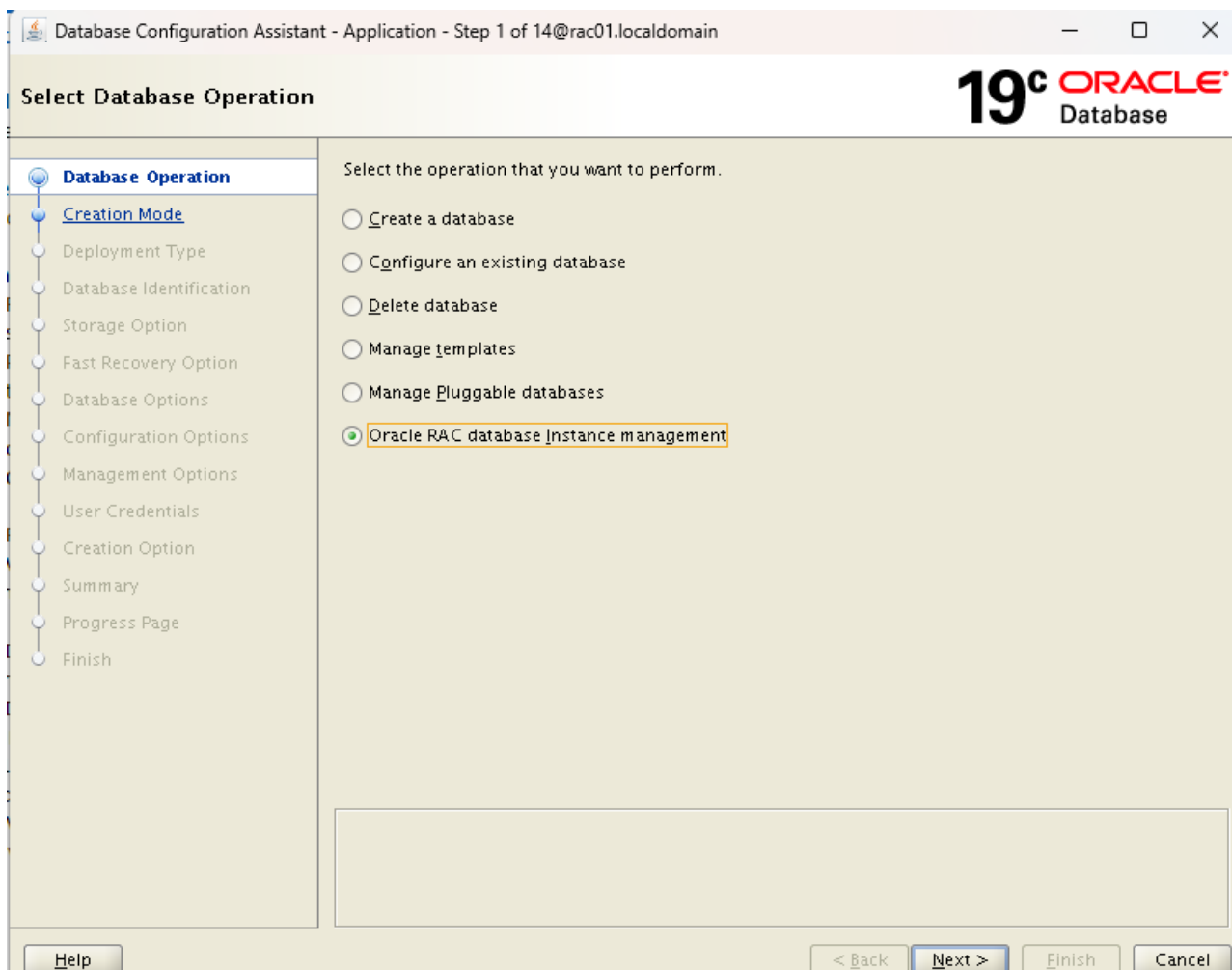
Let's put it into practice.

- 1- Our environment currently has three nodes as shown in the image below.

```
[oracle@rac01 dbs]$ srvctl status database -d orarac -v
Instance orarac1 is running on node rac01. Instance status: Open.
Instance orarac2 is running on node rac02. Instance status: Open.
Instance orarac3 is running on node rac03. Instance status: Open.
```

- 2- The DB instance is first removed through dbca on a node that will not be deleted.

- 3- In **Select Database Operation**, select the **Oracle RAC database Instance management** option.



4- Under **Select Instance Operation**, choose the **Delete an instance** option.

Database Configuration Assistant - Oracle RAC database Instance management - Step 2 of 8@rac01.localdomain

### Select Instance Operation

Select the instance management operation that you want to perform.

☐ Add an instance

☒ Delete an instance

Help < Back Next > Finish Cancel

5- Under **Select Source Database**, select the **Database** to perform the **node removal operation** and enter the **SYS** password.

Database Configuration Assistant - Oracle RAC database Instance management - Step 3 of 8@rac01.localdomain

### Select Source Database

Select an active cluster database to delete an instance.

Database	Local instance	Type
orac1	orac1	ADMIN_MANAGED

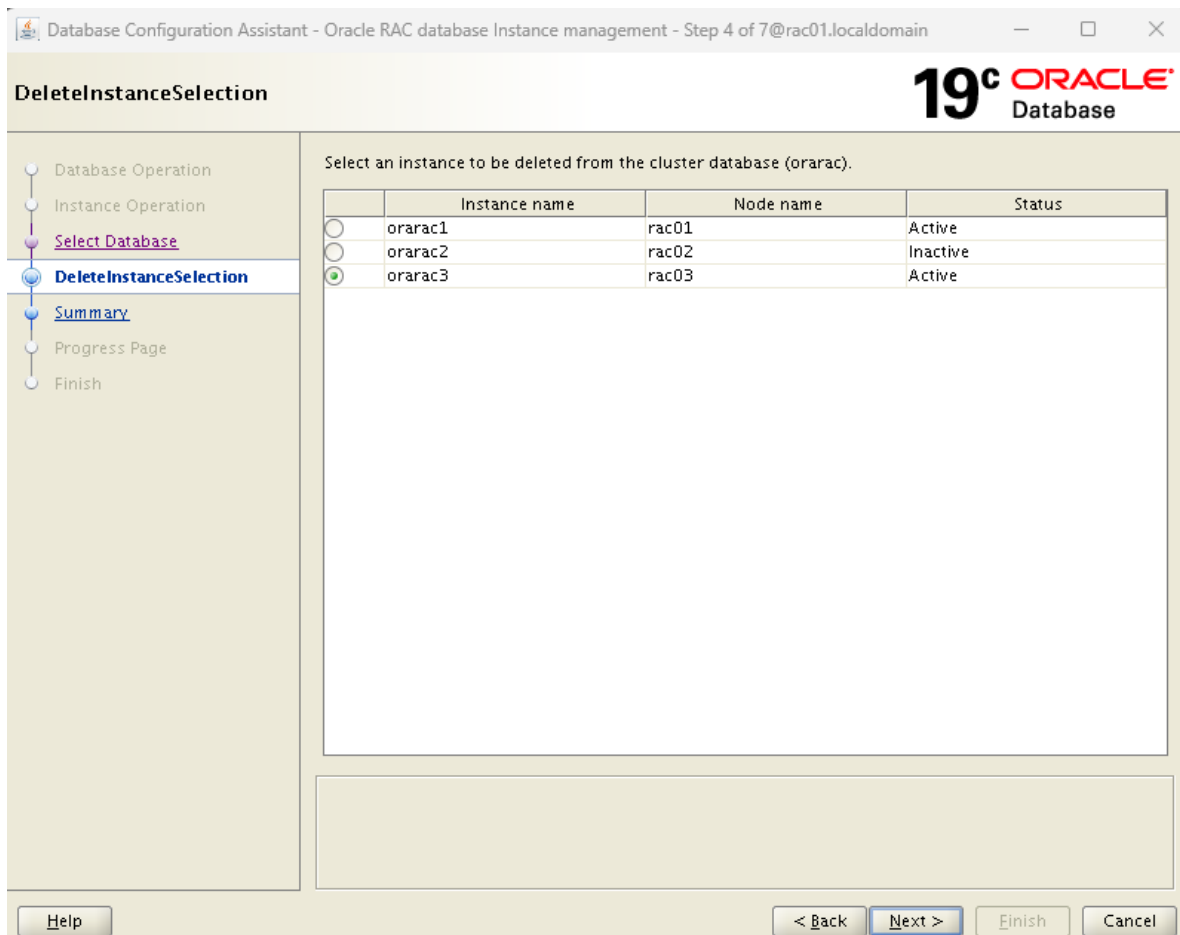
DBCA will connect to the database using OS based authentication. Database credentials may be needed if OS based authentication is disabled. Specify the credentials, if needed.

User name: sys

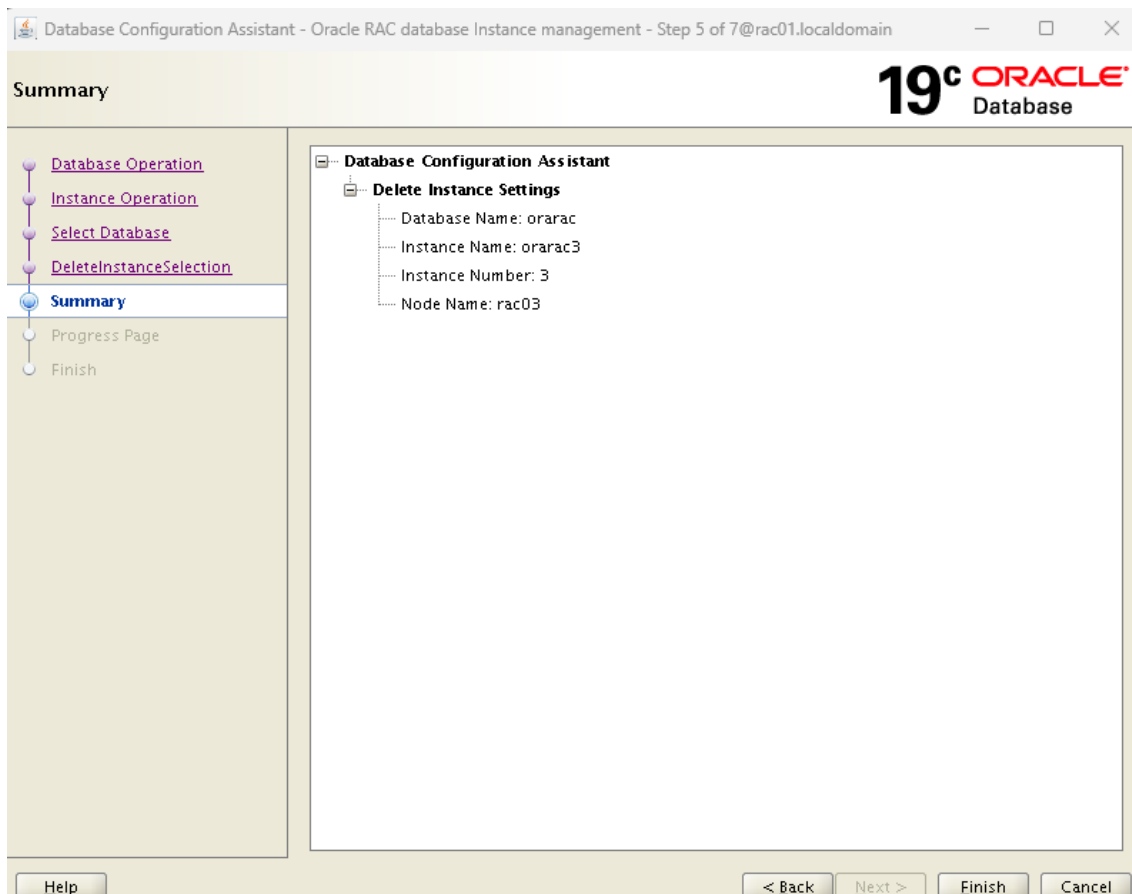
Password: .....

Help < Back Next > Finish Cancel

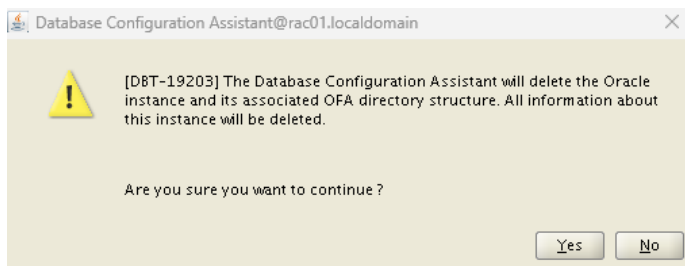
6- Under **DeleteInstanceSelection**, select the **node that you want to delete**.



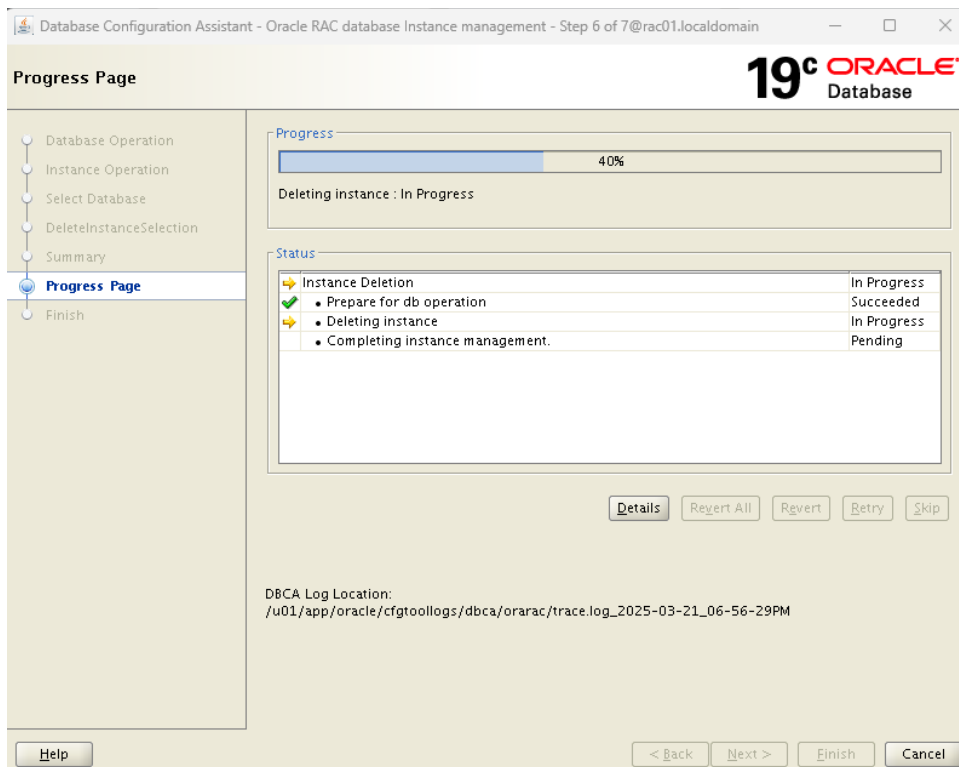
7- You will be presented with a summary of the node that will be deleted, check it out and click **Finish**.



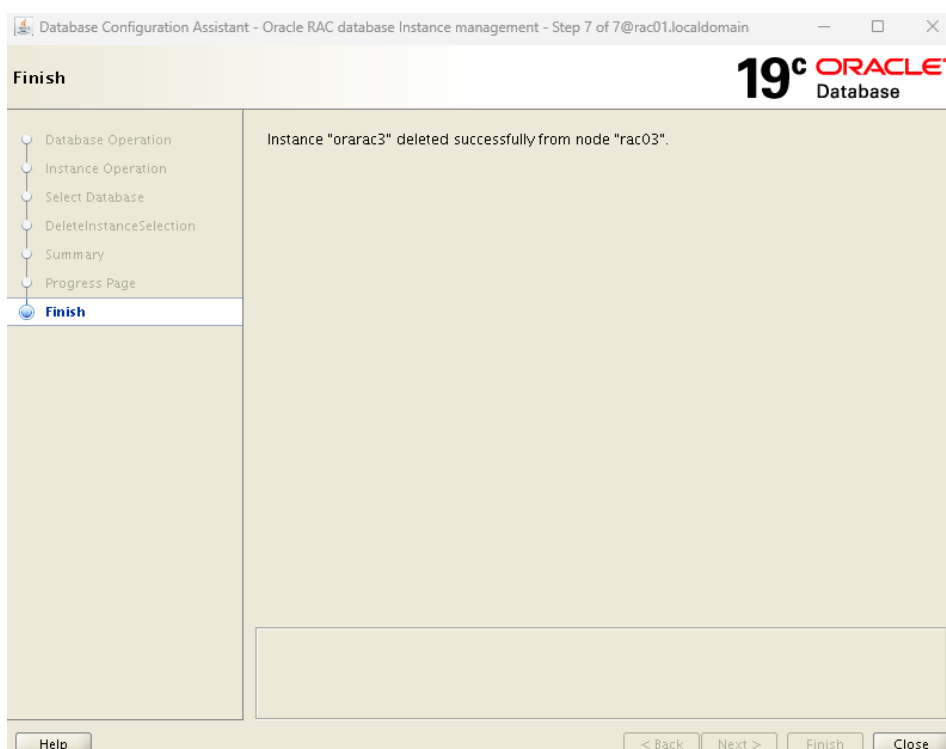
## 8- Confirm that you really want to delete the instance and all structure.



## 9- The removal process will be initialized.



## 10- Removed instance.



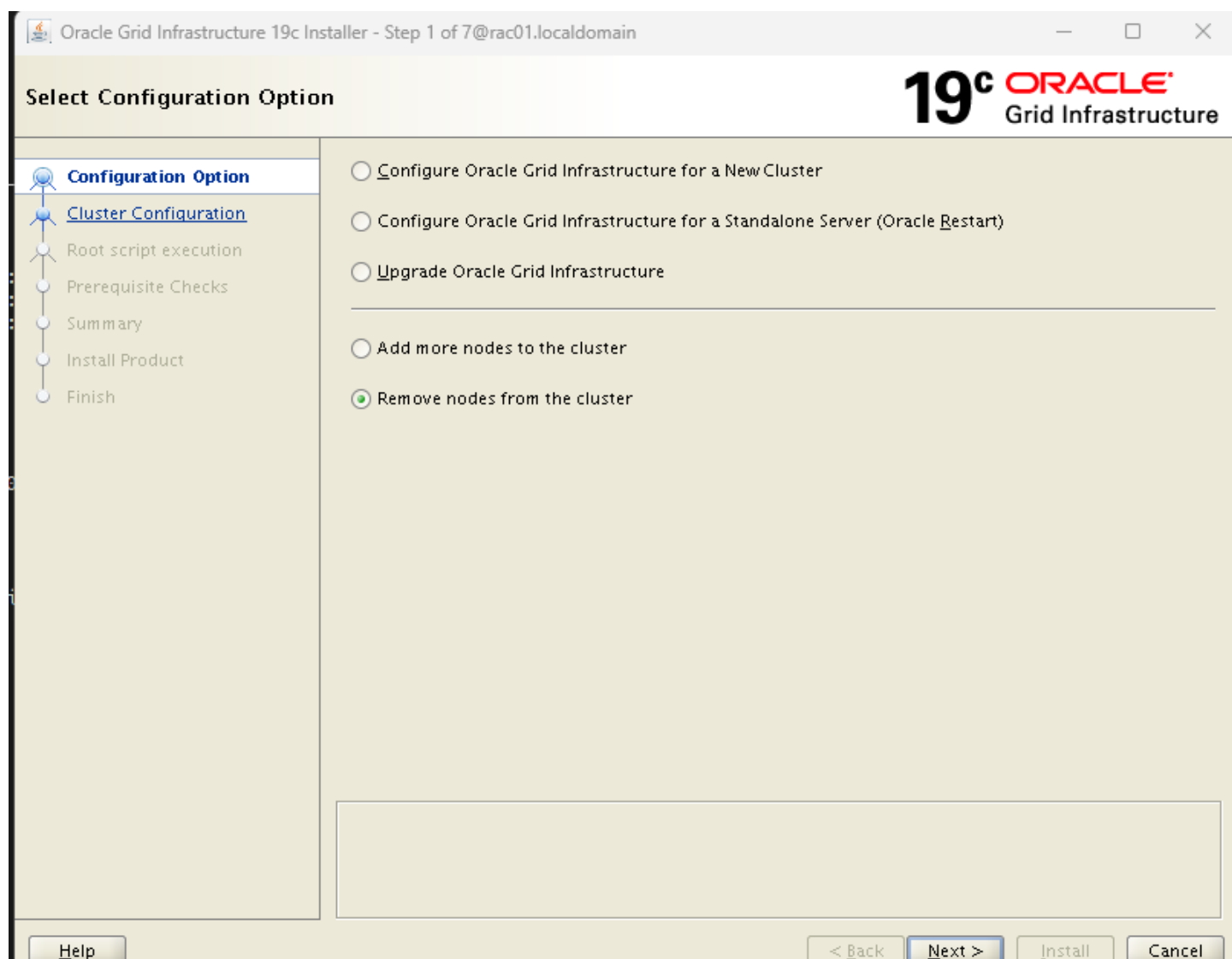
11- It is now verified that we have only two instances in RAC.

```
[oracle@rac01 ~]$ srvctl status database -d orarac -v  
Instance orarac1 is running on node rac01. Instance status: Open.  
Instance orarac2 is running on node rac02. Instance status: Open.
```

12- Now we're going to remove the node from **Grid Infrastructure** through **gridSetup.sh**.

```
[grid@rac01 ~]$ cd $GRID_HOME  
[grid@rac01 grid]$  
[grid@rac01 grid]$ ./gridSetup.sh
```

13- In **Select Configuration Option**, select **Remove nodes from the Cluster** option.



14- Under **Grid Infrastructure Node Selection**, choose the **node to remove**.

Oracle Grid Infrastructure 19c Installer - Step 2 of 6@rac01.localdomain

## Grid Infrastructure Node Selection

Select the Cluster nodes in the hardware cluster where the Installer should remove Grid Infrastructure.

Node Name	Oracle Grid Infrastructure Home
<input type="checkbox"/> rac01	/u01/app/19.3.0/grid
<input type="checkbox"/> rac02	/u01/app/19.3.0/grid
<input checked="" type="checkbox"/> rac03	/u01/app/19.3.0/grid

SSH connectivity...

Help < Back Next > Submit Cancel

15- In **Root script execution configuration**, we check the option to **automatically run the scripts that need to be run with the root user** and enter the root user's password.

Oracle Grid Infrastructure 19c Installer - Step 3 of 6@rac01.localdomain

## Root script execution configuration

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

☒ Automatically run configuration scripts

☐ Use "root" user credential

Password : .....

☐ Use sudo

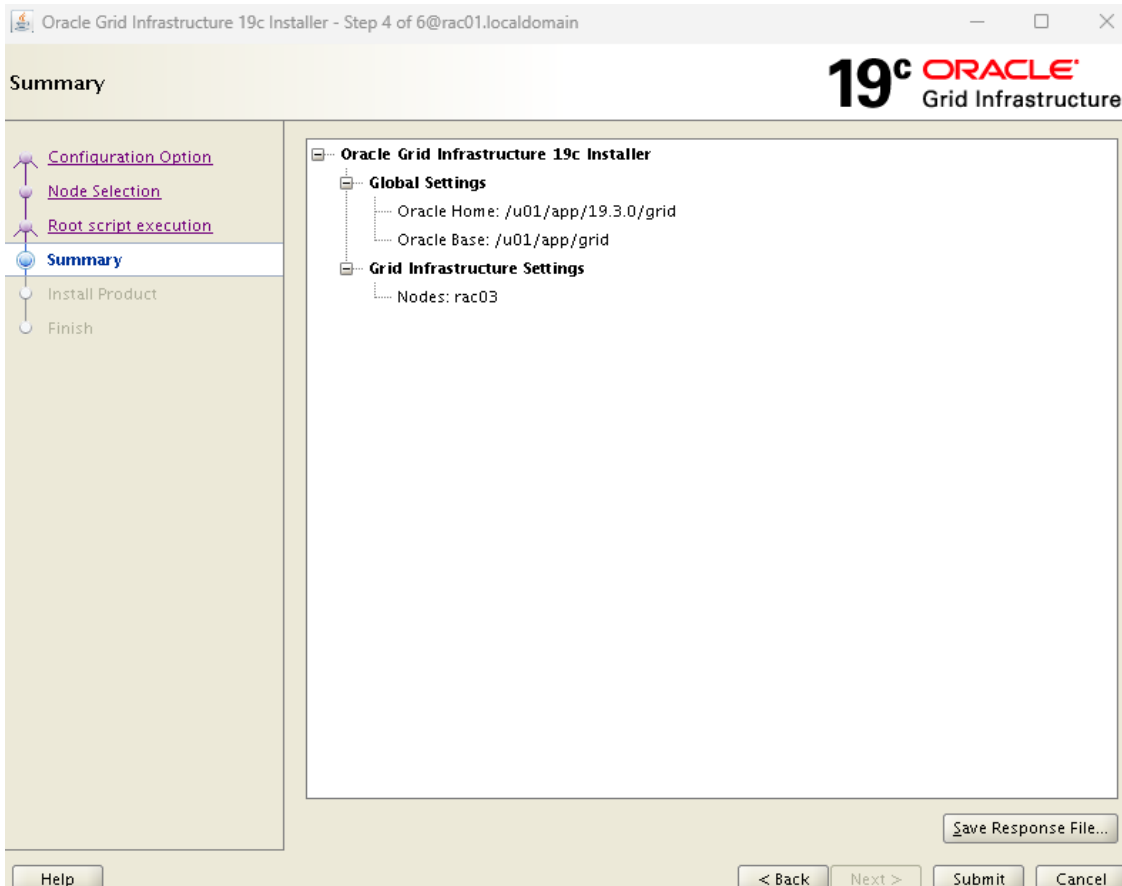
Program path : /usr/bin/sudo Browse...

User name : grid

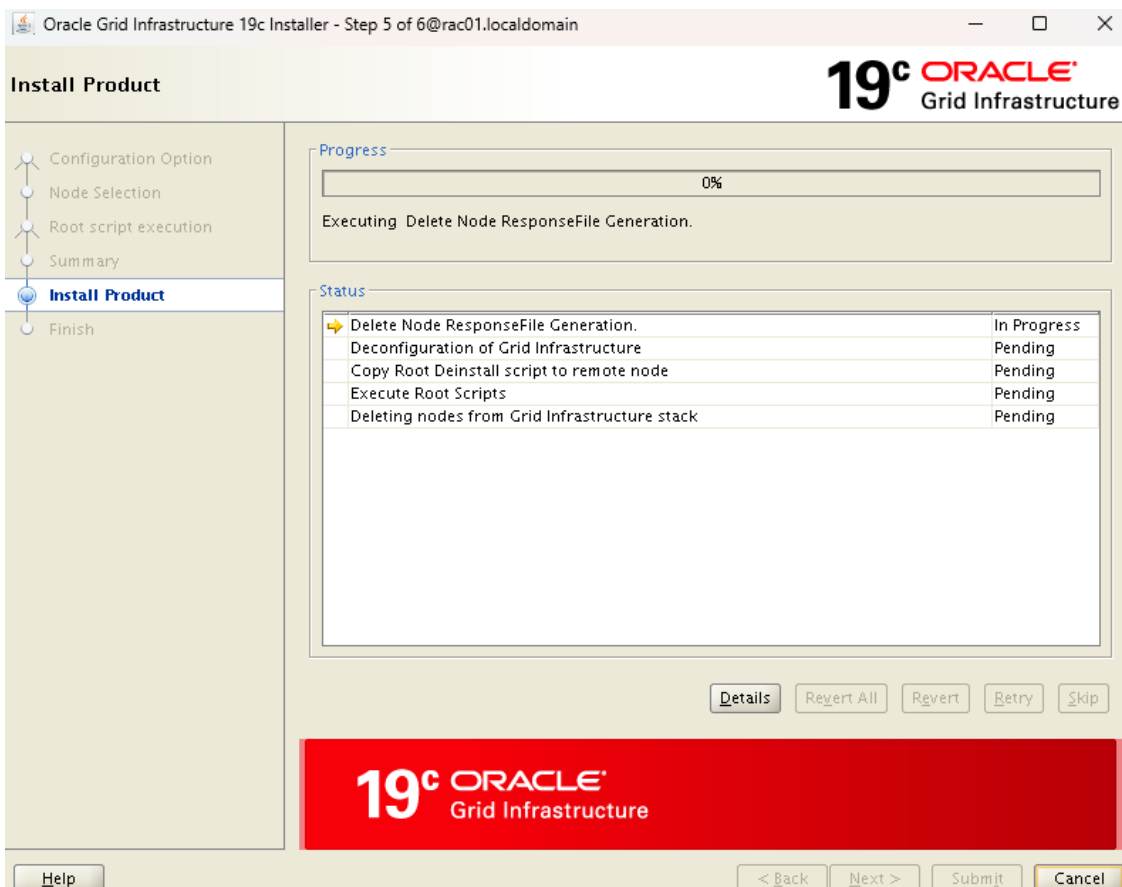
Password :

Help < Back Next > Submit Cancel

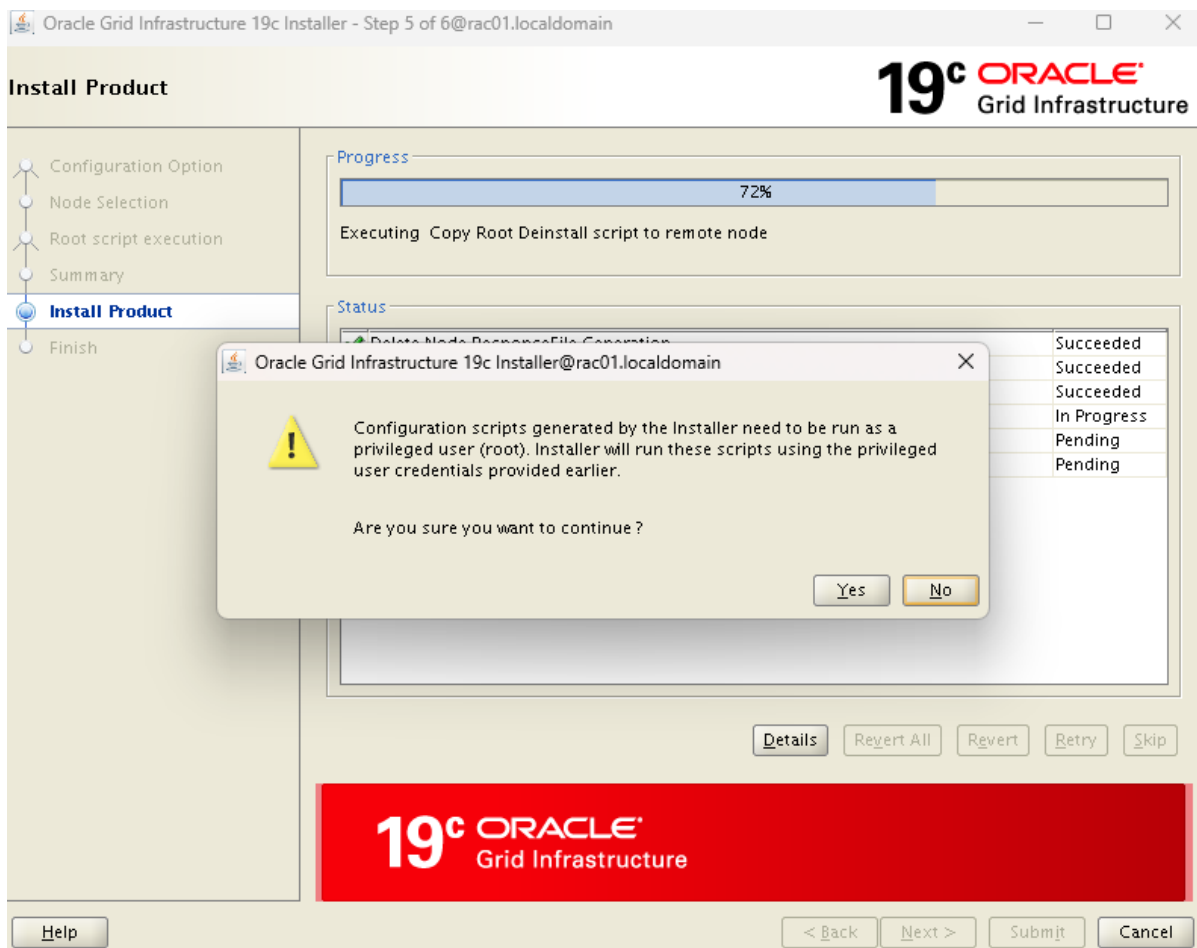
16- You will be presented with a screen with the **information of the node to be deleted**, check it out and click on **Submit**.



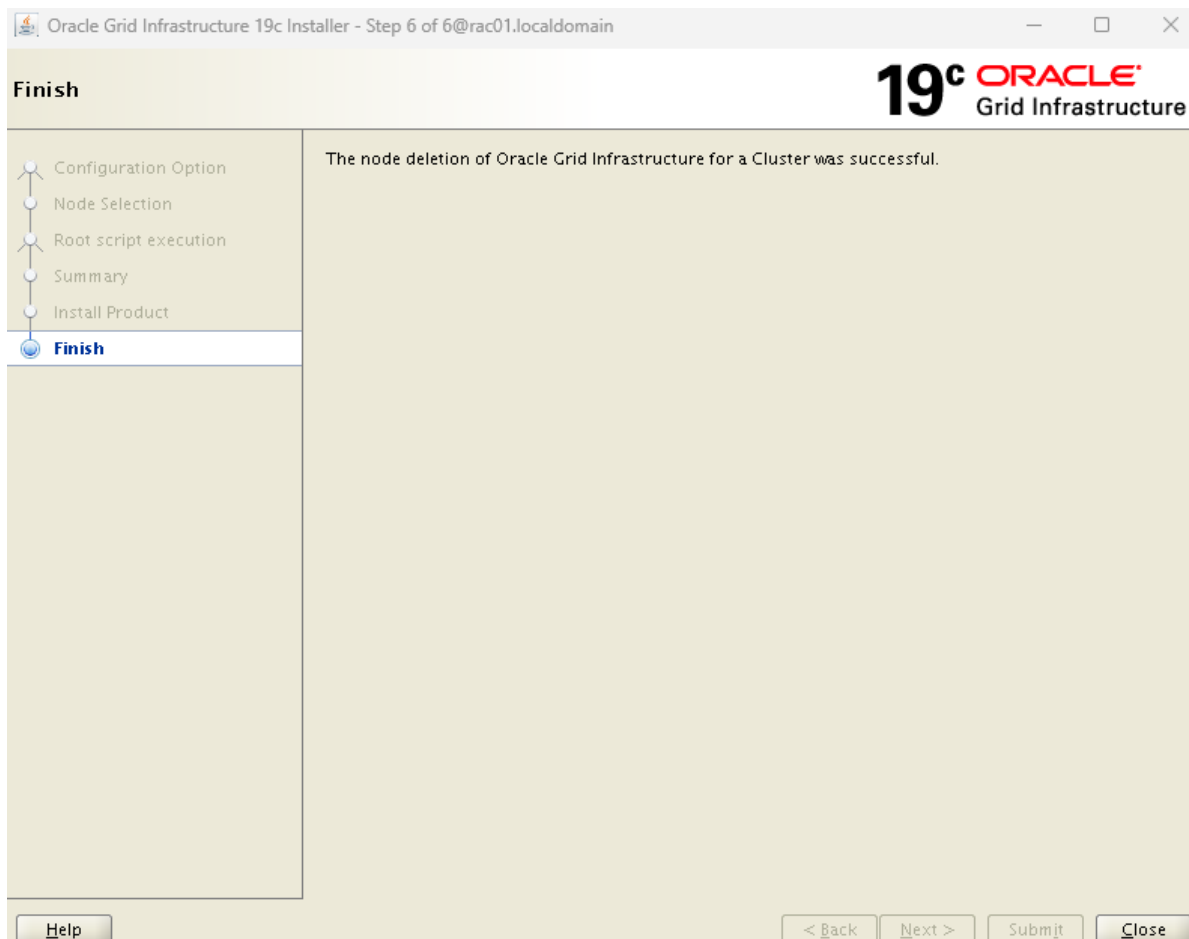
17- The process of removing the node from the Cluster will begin.



18- You will be asked to run the script as root, click **Yes**.



19- Process terminated and node removed from the Cluster.





**20-** We have verified that now that only nodes 1 and 2 are OK and nothing else running on the server we have removed the settings, which can be used for another purpose.

```
[grid@rac01 grid]$ crsctl stat res -t
```

Name	Target	State	Server	State details	
Local Resources					
ora.LISTENER.lsnr	ONLINE	ONLINE	rac01	STABLE	
	ONLINE	ONLINE	rac02	STABLE	
ora.chad	ONLINE	ONLINE	rac01	STABLE	
	ONLINE	ONLINE	rac02	STABLE	
ora.net1.network	ONLINE	ONLINE	rac01	STABLE	
	ONLINE	ONLINE	rac02	STABLE	
ora.ons	ONLINE	ONLINE	rac01	STABLE	
	ONLINE	ONLINE	rac02	STABLE	
Cluster Resources					
ora.ASMNET1LSNR_ASM.lsnr(ora.asmgroup)					
1	ONLINE	ONLINE	rac01	STABLE	
2	ONLINE	OFFLINE		STABLE	
3	ONLINE	ONLINE	rac02	STABLE	
ora.DATA.dg(ora.asmgroup)					
1	ONLINE	ONLINE	rac01	STABLE	
2	ONLINE	OFFLINE		STABLE	
3	ONLINE	ONLINE	rac02	STABLE	
ora.FRA.dg(ora.asmgroup)					
1	ONLINE	ONLINE	rac01	STABLE	
2	ONLINE	OFFLINE		STABLE	
3	ONLINE	ONLINE	rac02	STABLE	
ora.LISTENER_SCAN1.lsnr	1	ONLINE	ONLINE	rac01	STABLE
ora.LISTENER_SCAN2.lsnr	1	ONLINE	ONLINE	rac02	STABLE
ora.LISTENER_SCAN3.lsnr	1	ONLINE	ONLINE	rac01	STABLE
ora.asm(ora.asmgroup)					
1	ONLINE	ONLINE	rac01	Started,STABLE	
2	ONLINE	OFFLINE		STABLE	
3	ONLINE	ONLINE	rac02	Started,STABLE	
ora.asmnet1.asmnetwork(ora.asmgroup)					
1	ONLINE	ONLINE	rac01	STABLE	
2	ONLINE	OFFLINE		STABLE	
3	ONLINE	ONLINE	rac02	STABLE	
ora.cvu	1	ONLINE	ONLINE	rac01	STABLE
ora.orarac.db					
1	ONLINE	ONLINE	rac01	Open,HOME=/u01/app/oracle/product/19.3.0/db_1,STABLE	
2	ONLINE	ONLINE	rac02	Open,HOME=/u01/app/oracle/product/19.3.0/db_1,STABLE	
ora.qosmserver	1	ONLINE	ONLINE	rac02	STABLE
ora.rac01.vip	1	ONLINE	ONLINE	rac01	STABLE
ora.rac02.vip	1	ONLINE	ONLINE	rac02	STABLE
ora.scan1.vip	1	ONLINE	ONLINE	rac01	STABLE
ora.scan2.vip	1	ONLINE	ONLINE	rac02	STABLE
ora.scan3.vip	1	ONLINE	ONLINE	rac01	STABLE

```
[root@rac03 ~]# ps -ef | grep pmon
root      18531 19487  0 17:41 pts/0    00:00:00 grep --color=auto pmon
[root@rac03 ~]#
```

Removing a node from Oracle RAC is a process that requires precise planning and execution to ensure the stability of the environment. By following the best practices and validating each step, it is possible to carry out this operation safely, minimizing risks and impacts.

This was one of the ways we could carry out the node removal process, I hope I have contributed. See you next time.

**Wagner Roberto Gaioto Mariano**

