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.

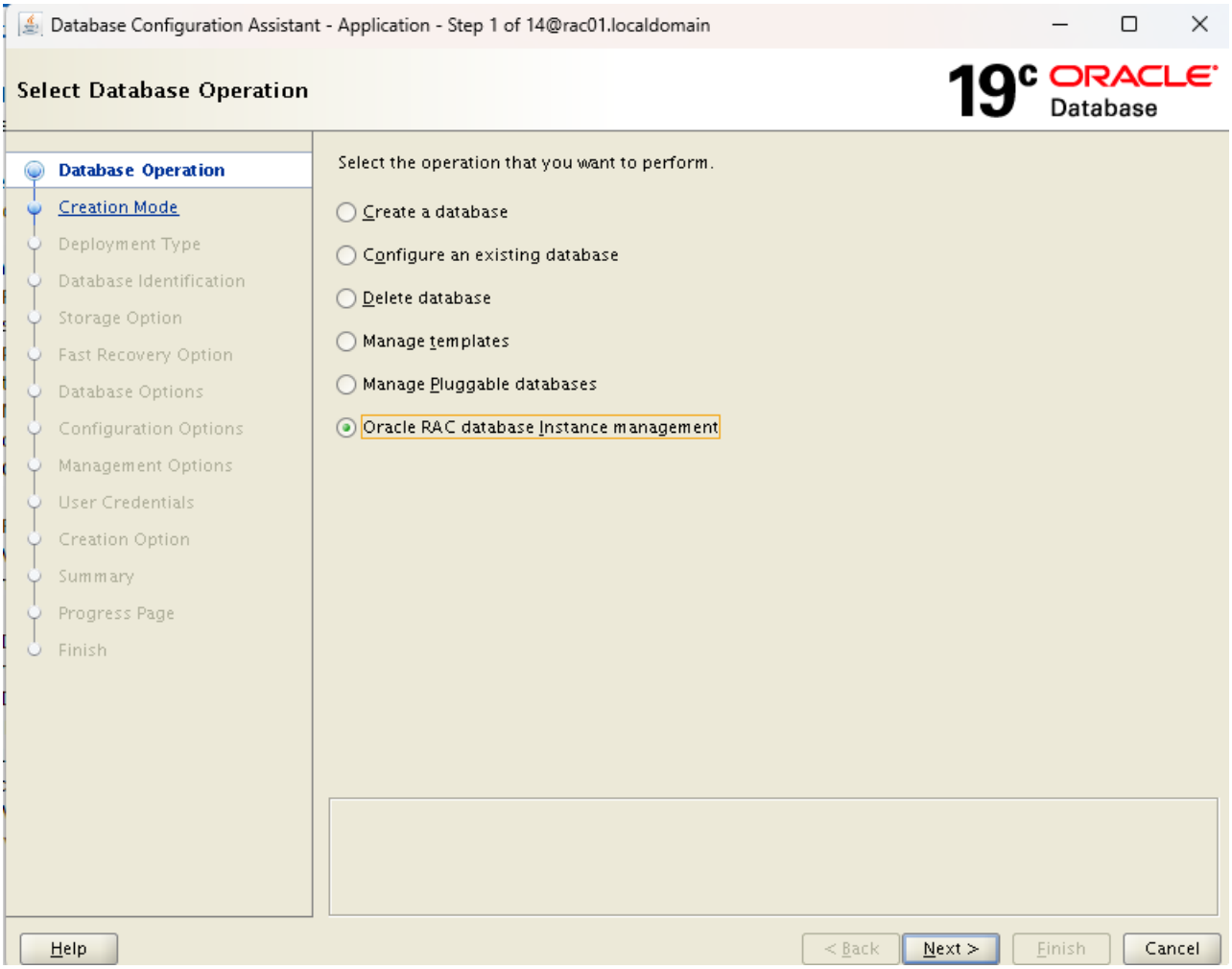
Let's put it into practice.

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

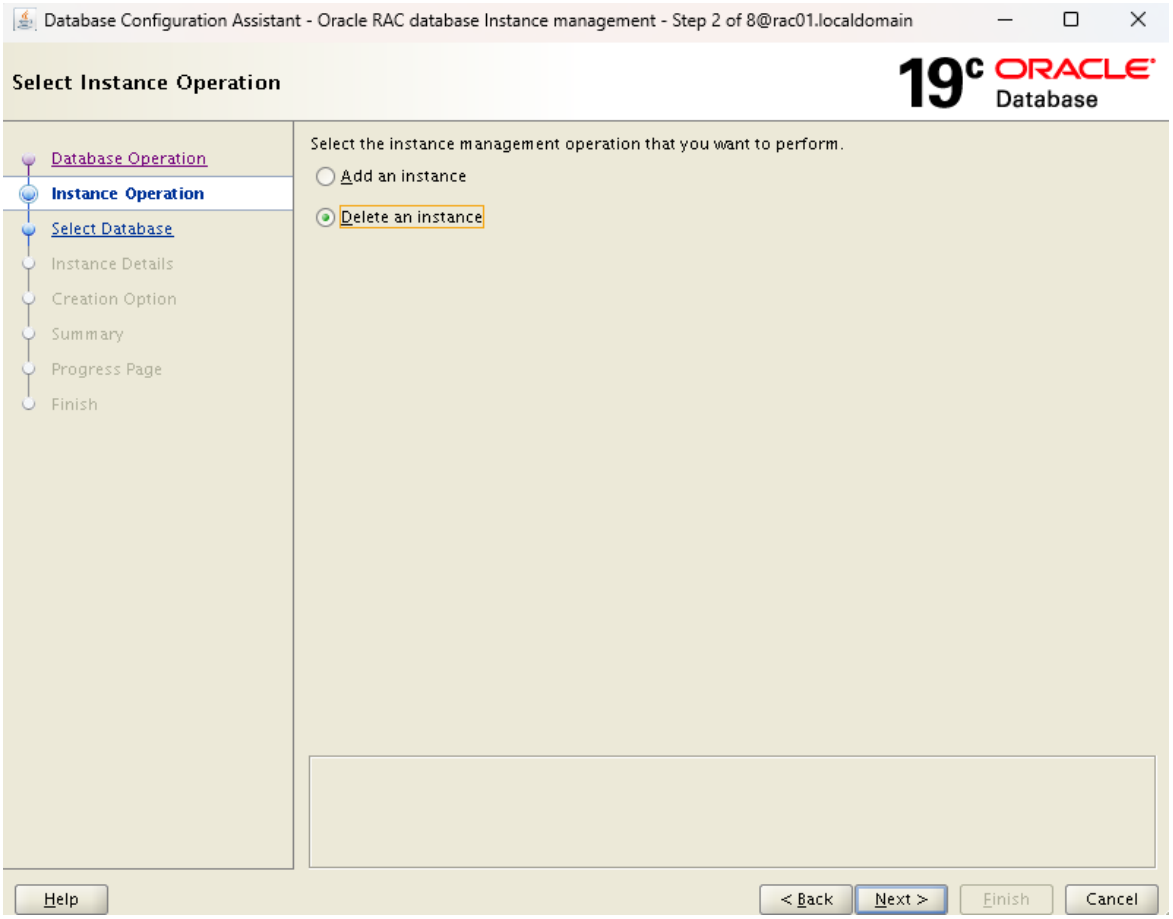
```
[oracle@rac01 dbs]$ srvctl status database -d orarac -v
Instance orarac1 is running on node rac01. Instance status: Open.
Instance orarac2 is running on node rac02. Instance status: Open.
Instance orarac3 is running on node rac03. Instance status: Open.
```

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

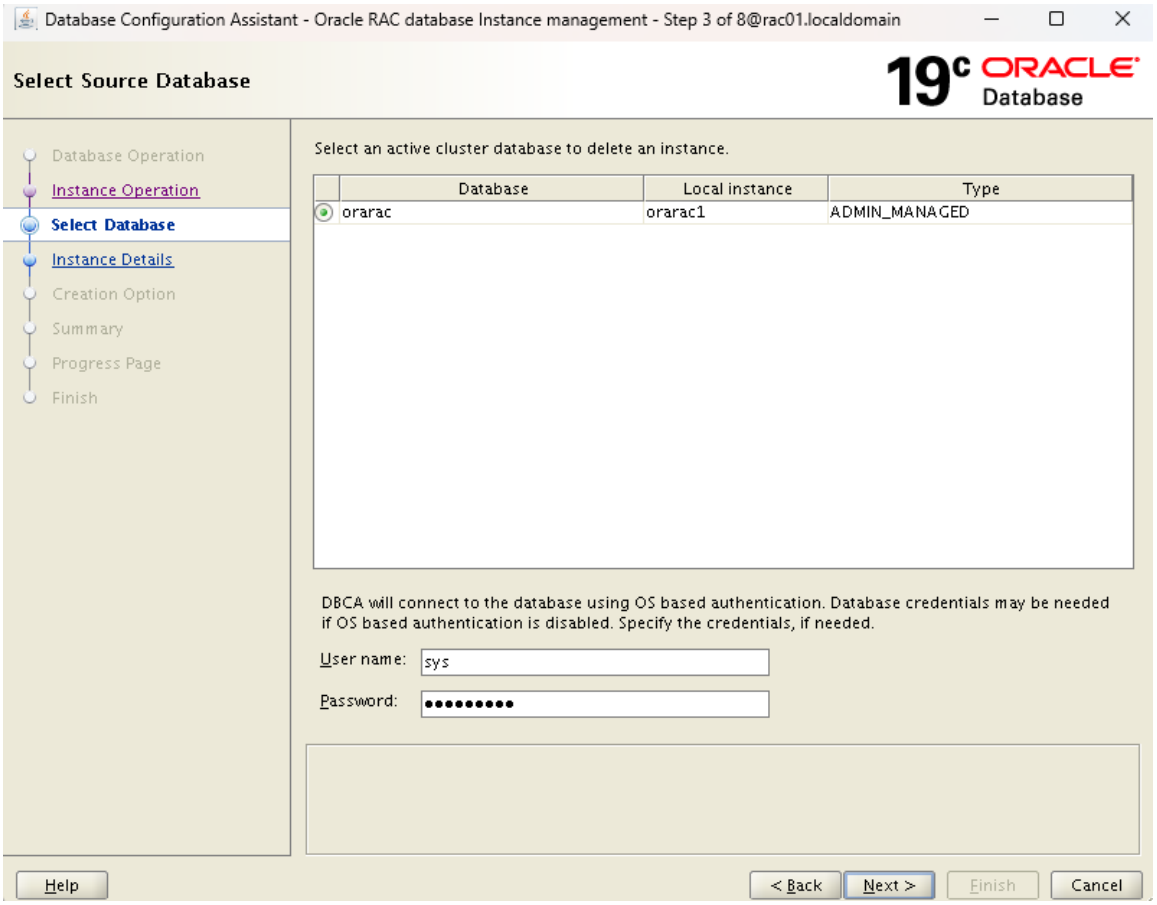
3- In ***Select Database Operation***, select the **Oracle RAC database Instance management option.**



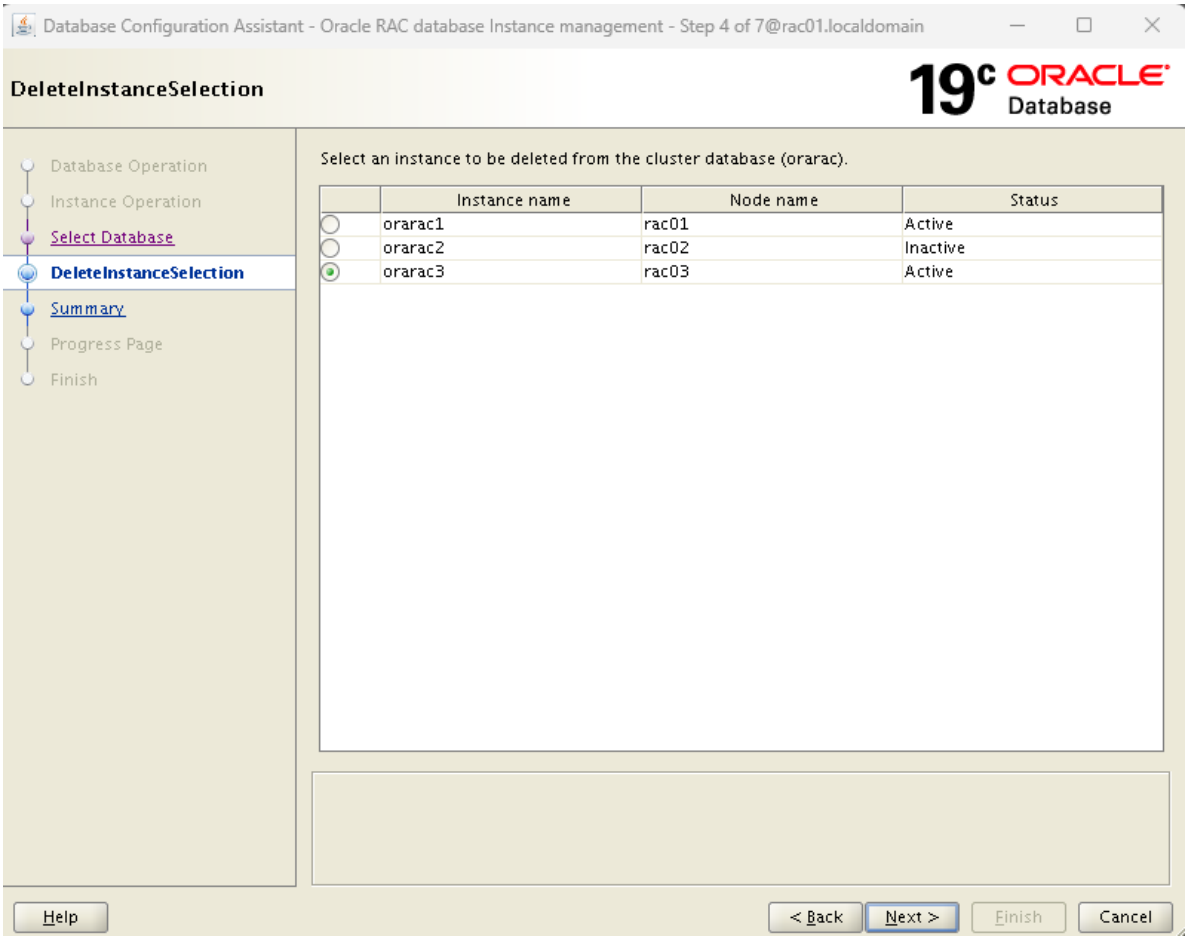
4- Under ***Select Instance Operation,*** choose the **Delete an instance** option.



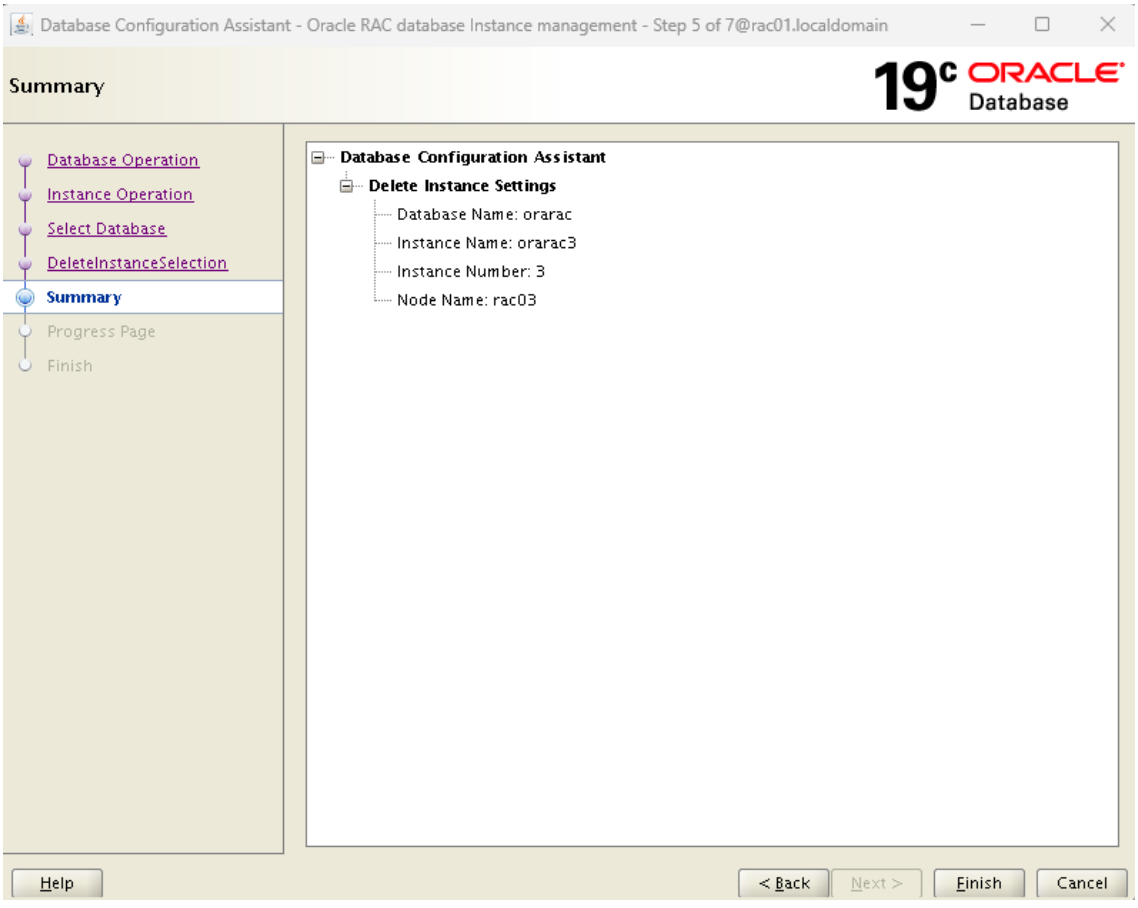
5- Under ***Select Source Database***, select the **Database** to perform the **node removal operation and enter the SYS password.**



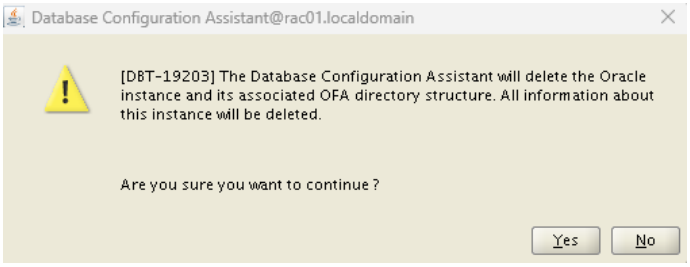
6- Under ***DeleteInstanceSelection***, select the **node that you want to delete**.



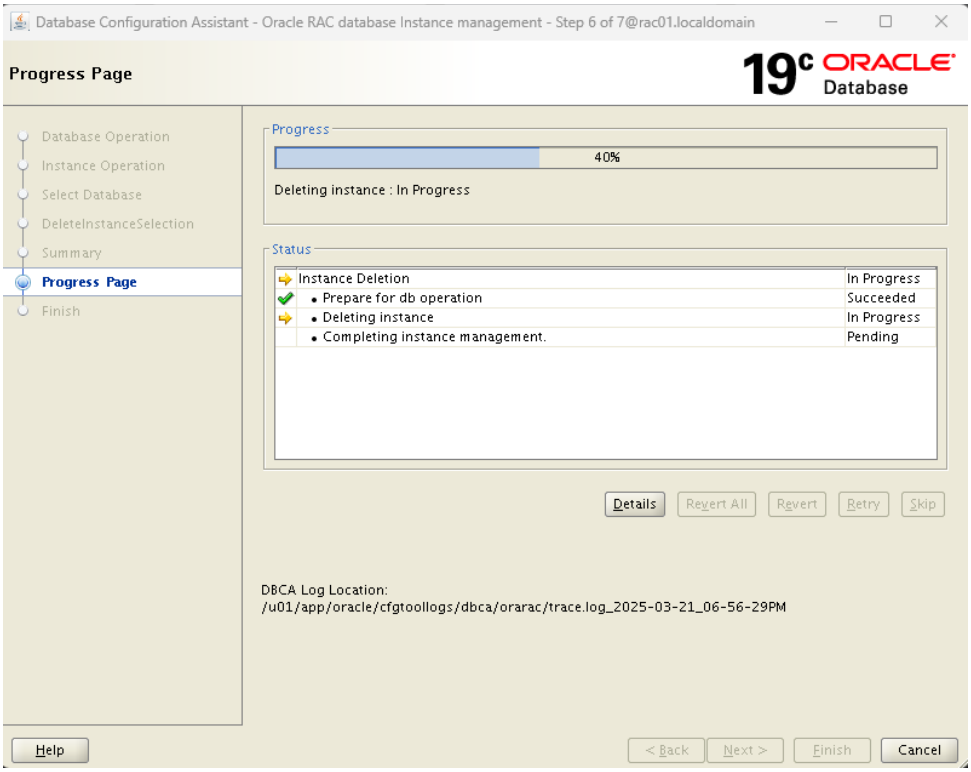
7- You will be presented with a summary of the node that will be deleted, check it out and click **Finish**.



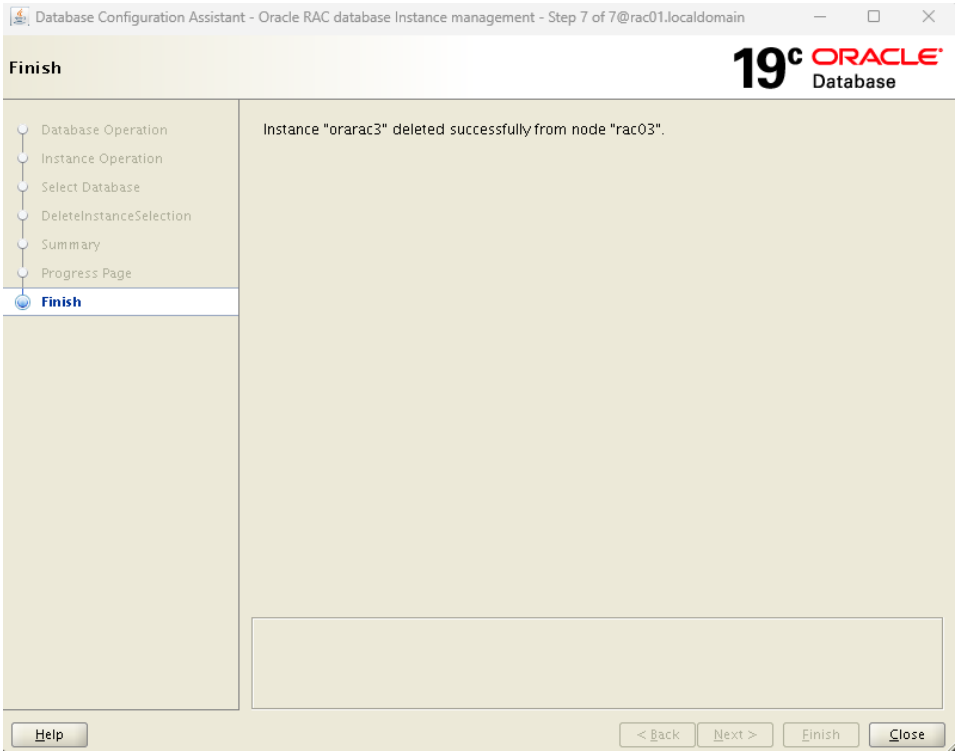
8- Confirm that you really want to delete the instance and all structure.



9- The removal process will be initialized.



10- Removed instance.



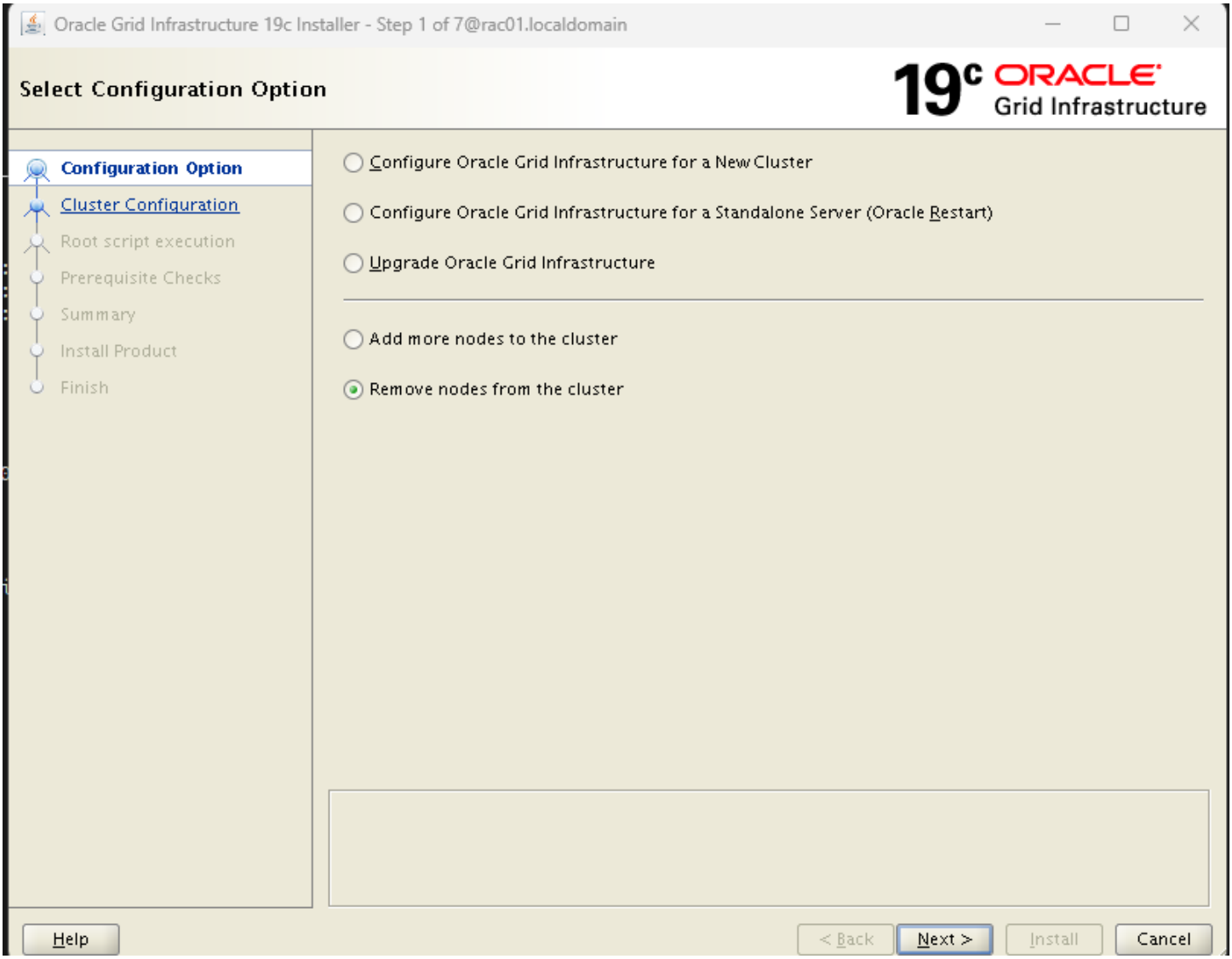
11- It is now verified that we have only two instances in RAC.

```
[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.
```

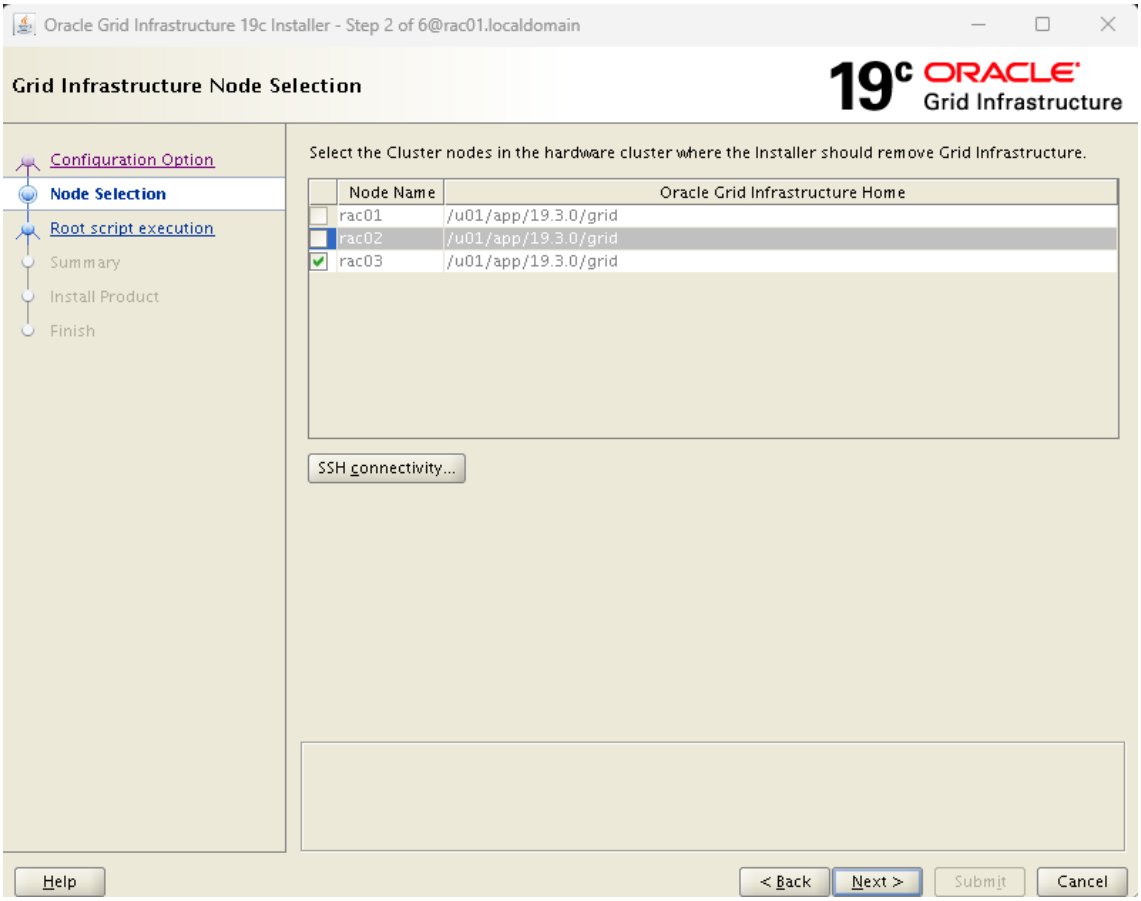
12- Now we're going to remove the node from **Grid Infrastructure** through **gridSetup.sh**.

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

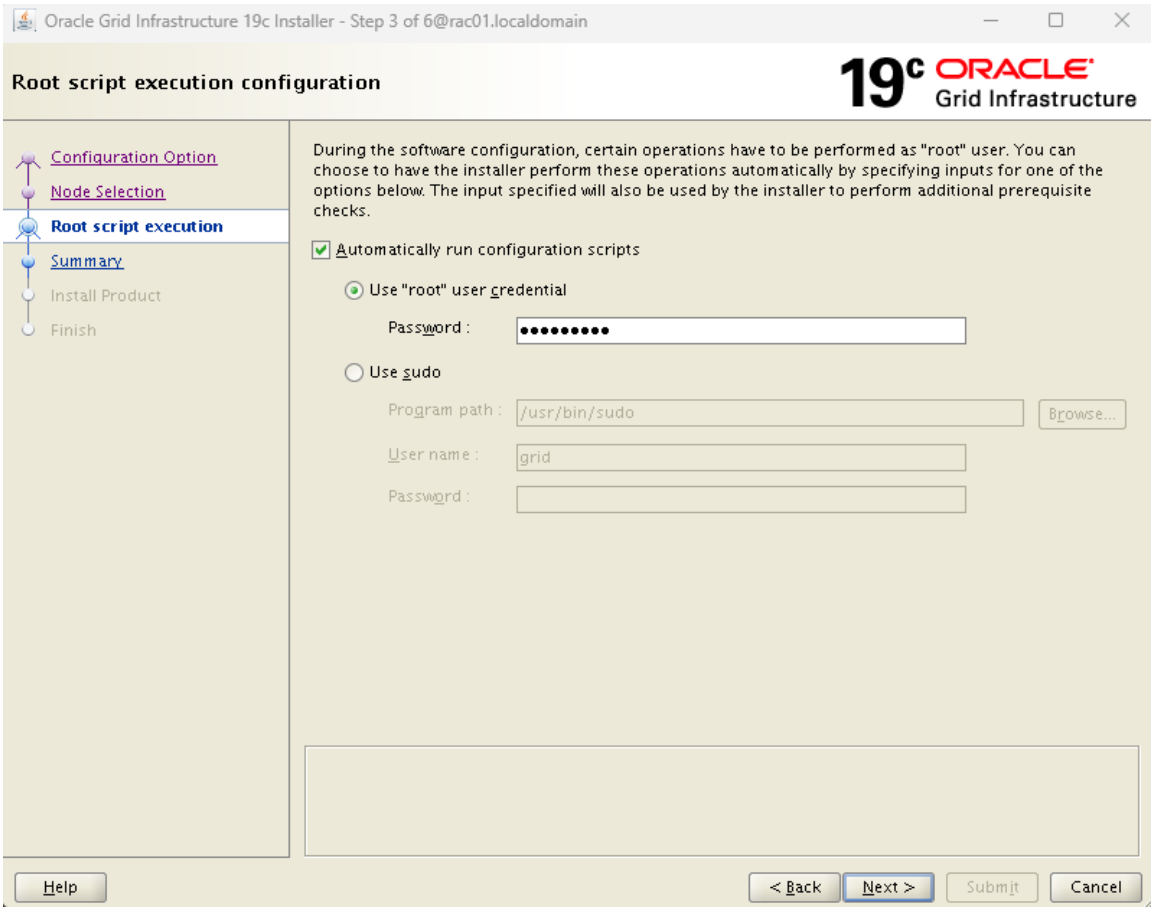
13- Em ***Select Configuration Option***, select **Remove nodes from the Cluster** option.



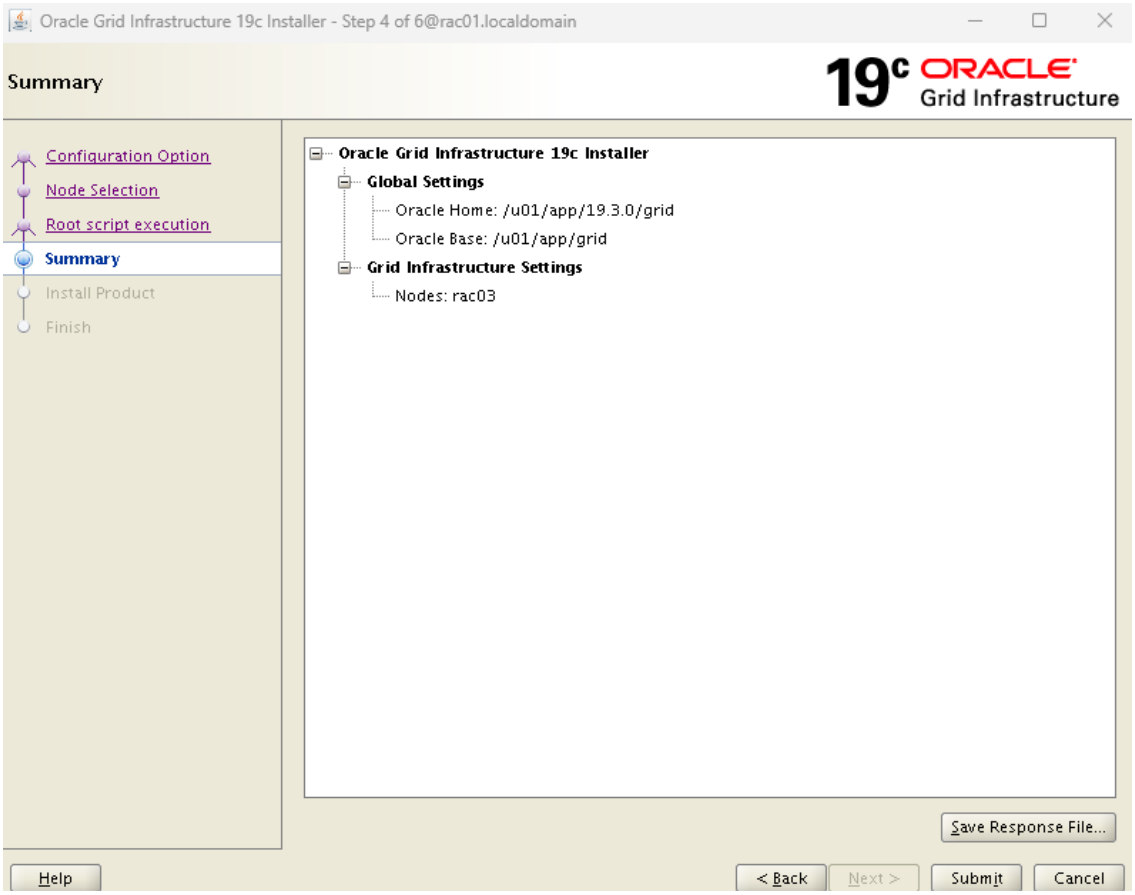
14- Under ***Grid Infrastructure Node Selection,*** choose the **node to remove**.



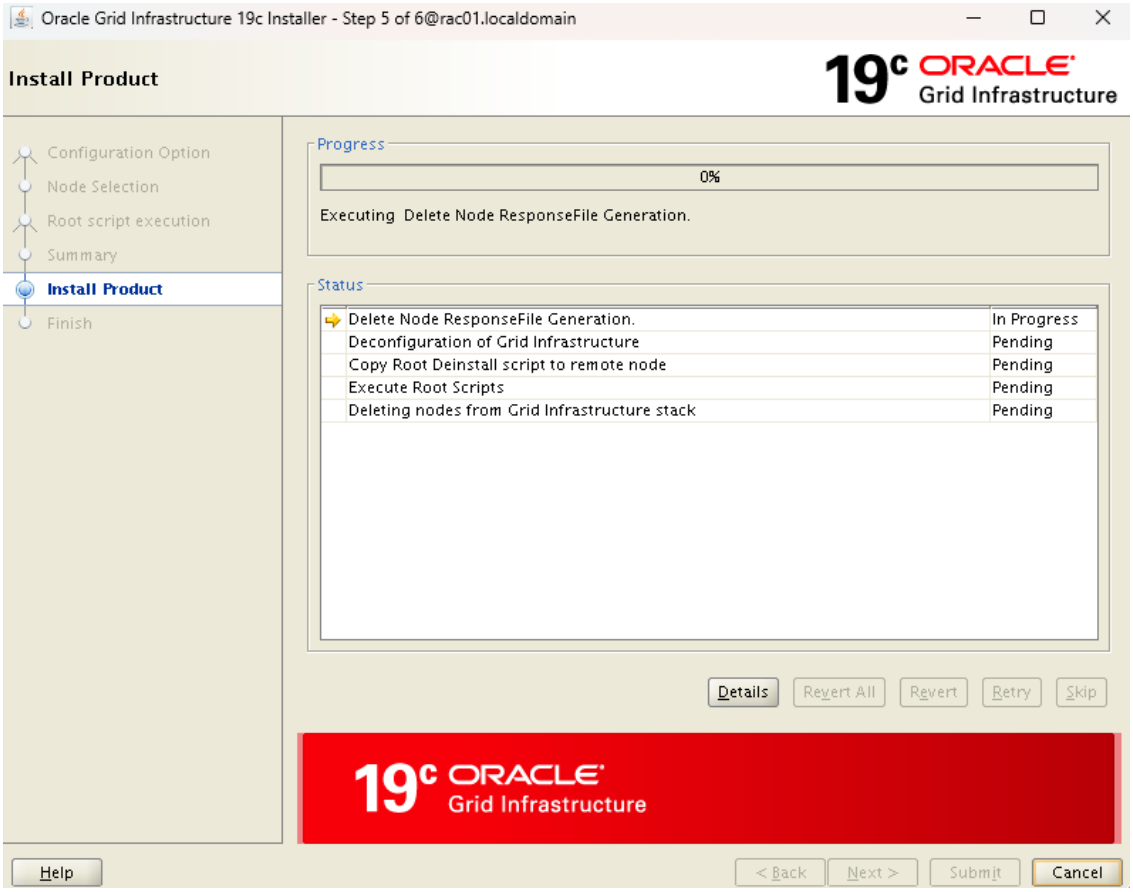
15- In ***Root script execution configuration***, we check the option to **automatically run the scripts that need to be run with the root user** and enter the root user's password.



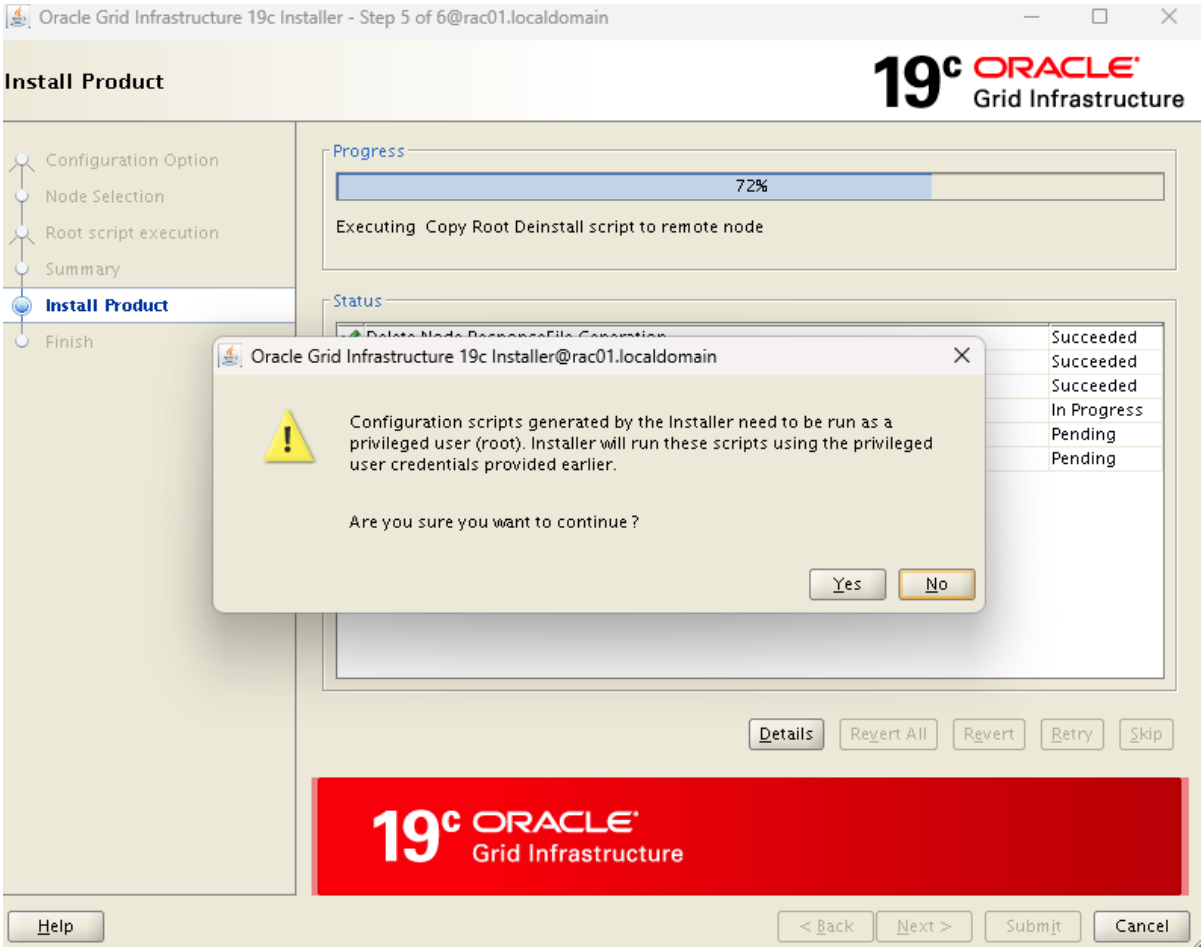
16- You will be presented with a screen with the **information of the node to be deleted, check it out** and click on **Submit**.



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/o
                                                             racle/product/19.3.0
                                                             /db_1,STABLE
      2        ONLINE  ONLINE       rac02                    Open,HOME=/u01/app/o
                                                             racle/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