# Power off and on all nodes in grid

StorageGRID

NetApp
July 19, 2022

This PDF was generated from https://docs.netapp.com/us-en/storagegrid-116/maintain/stopping-services-and-shutting-down-grid-nodes.html on July 19, 2022. Always check docs.netapp.com for the latest.

# Table of Contents

Power off and on all nodes in grid . . . . . 1
Stop services and shut down grid nodes . . . . . 1
Start up grid nodes . . . . . 3

# Power off and on all nodes in grid

You might need to shut down your entire StorageGRID system, for example, if you are moving a data center. These steps provide a high-level overview of the recommended sequence for performing a controlled shutdown and startup.

When you power off all nodes in a site or grid, you will not be able to access ingested objects while the Storage Nodes are offline.

## Stop services and shut down grid nodes

Before you can power off a StorageGRID system, you must stop all services running on each grid node, and then shut down all VMware virtual machines, container engines, and StorageGRID appliances.

**About this task**

Stop services on Admin Nodes and API Gateway Nodes first, and then stop services on Storage Nodes.

This approach allows you to use the primary Admin Node to monitor the status of the other grid nodes for as long as possible.

> If a single host includes more than one grid node, do not shut down the host until you have stopped all of the nodes on that host. If the host includes the primary Admin Node, shut down that host last.

> If required, you can migrate nodes from one Linux host to another to perform host maintenance without impacting the functionality or availability of your grid.

**Steps**

1. Stop all client applications from accessing the grid.
2. Log in to each Gateway Node:
   a. Enter the following command: `ssh admin@grid_node_IP`
   b. Enter the password listed in the `Passwords.txt` file.
   c. Enter the following command to switch to root: `su -`
   d. Enter the password listed in the `Passwords.txt` file.

   When you are logged in as root, the prompt changes from `$` to `#`.
3. Stop all services running on the node: `service servermanager stop`

   Services can take up to 15 minutes to shut down, and you might want to log in to the system remotely to monitor the shutdown process.
4. Repeat the previous two steps to stop the services on all Storage Nodes, Archive Nodes, and non-primary Admin Nodes.

   You can stop the services on these nodes in any order.

If you issue the `service servermanager stop` command to stop the services on an appliance Storage Node, you must power cycle the appliance to restart the node.

5. For the primary Admin Node, repeat the steps for logging into the node and stopping all services on the node.
6. For nodes that are running on Linux hosts:
   a. Log in to the host operating system.
   b. Stop the node: `storagegrid node stop`
   c. Shut down the host operating system.
7. For nodes that are running on VMware virtual machines and for appliance Storage Nodes, issue the shutdown command: `shutdown -h now`

   Perform this step regardless of the outcome of the `service servermanager stop` command.

   For the appliance, this command shuts down the compute controller, but the appliance is still powered on. You must complete the next step.

8. If you have appliance nodes:
   - For the SG100 or SG1000 services appliance
     i. Turn off the power to the appliance.
     ii. Wait for the blue power LED to turn off.
   - For the SG6000 appliance
     i. Wait for the green Cache Active LED on the back of the storage controllers to turn off.

     This LED is on when cached data needs to be written to the drives. You must wait for this LED to turn off before you turn off power.

     ii. Turn off the power to the appliance, and wait for the blue power LED to turn off.
   - For the SG5700 appliance
     i. Wait for the green Cache Active LED on the back of the storage controller to turn off.

     This LED is on when cached data needs to be written to the drives. You must wait for this LED to turn off before you turn off power.

     ii. Turn off the power to the appliance, and wait for all LED and seven-segment display activity to stop.
9. If required, log out of the command shell: `exit`

   The StorageGRID grid has now been shut down.

**Related information**

SG100 and SG1000 services appliances

SG6000 storage appliances

SG5700 storage appliances

# Start up grid nodes

Follow this sequence to start up the grid nodes after a complete shutdown.

**What you'll need**

If the entire grid has been shut down for more than 15 days, you must contact technical support before starting up any grid nodes. Do not attempt the recovery procedures that rebuild Cassandra data. Doing so might result in data loss.

**About this task**

If possible, you should power on the grid nodes in this order:

- Apply power to Admin Nodes first.
- Apply power to Gateway Nodes last.

If a host includes multiple grid nodes, the nodes will come back online automatically when you power on the host.

**Steps**

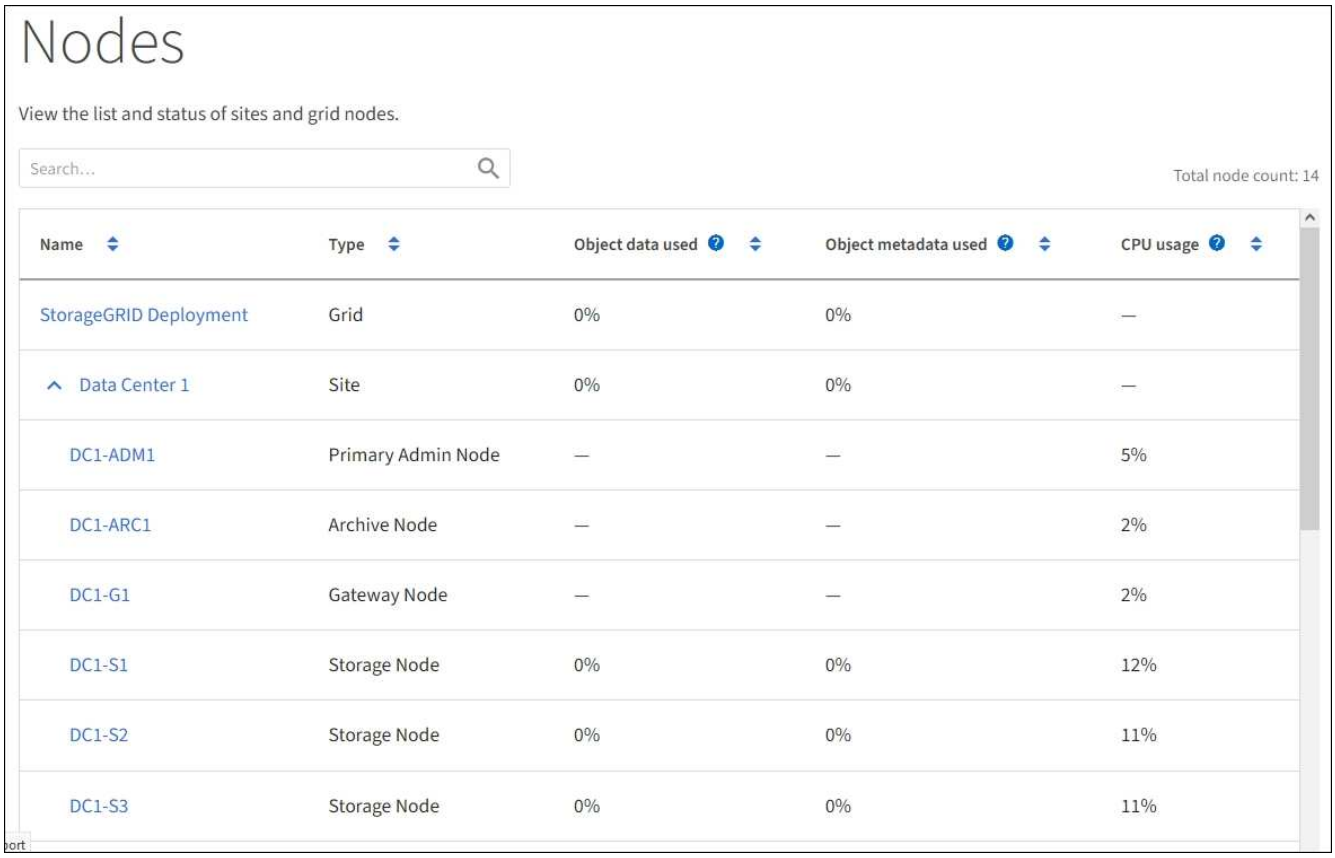
1. Power on the hosts for the primary Admin Node and any non-primary Admin Nodes.

   You will not be able to log in to the Admin Nodes until the Storage Nodes have been restarted.

2. Power on the hosts for all Archive Nodes and Storage Nodes.

   You can power on these nodes in any order.

3. Power on the hosts for all Gateway Nodes.
4. Sign in to the Grid Manager.
5. Select **NODES** and monitor the status of the grid nodes. Verify that there are no alert icons next to the node names.


Nodes
View the list and status of sites and grid nodes.
Search...
Total node count: 14
Name
Type
Object data used
Object metadata used
CPU usage
StorageGRID Deployment
Grid
0%
0%
—
Data Center 1
Site
0%
0%
—
DC1-ADM1
Primary Admin Node
—
—
5%
DC1-ARC1
Archive Node
—
—
2%
DC1-G1
Gateway Node
—
—
2%
DC1-S1
Storage Node
0%
0%
12%
DC1-S2
Storage Node
0%
0%
11%
DC1-S3
Storage Node
0%
0%
11%

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