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Hitachi Content Platform Gateway Operations Guide

v4.2.0

Windows & Linux

The objective of this document is to provide the customer administrator operational information for the Hitachi Content Platform Gateway software.

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Chapter 1 HCP Gateway Start-up

Windows Cluster

1. Open Failover Cluster Manager, right click on the cluster name and select Start Cluster. Otherwise follow the next step.
2. Open Services, make sure Cluster service is running.
3. Check that HCPG services are running: MariaDB, SAM VFS and WildFly. If MariaDB and WildFly services are not running, start them. If SAM VFS service is not running, check the cluster role status.
4. Open Failover Cluster Manager on node1, Click on Cluster name, make sure Current Host Server has node1 listed.
5. Expand Cluster Name, select Roles. Make sure the Role is running on node1, if not, Right click on the Role and select Start Role.

Active Node

1. Make sure the Cluster service is running on node1.
2. Check that HCPG services are running: MariaDB, SAM VFS and WildFly. If MariaDB and WildFly services are not running, start them. If SAM VFS is not running, check the cluster role status.
3. Open Failover Cluster Manager, click on Cluster name, make sure Current Host Server has node1 listed.
4. Expand Cluster Name, select Roles. Make sure the Role is running on node1, if not, Right click on the Role and select Start Role.

Passive Node

1. Make sure the Cluster service is running on node2.
2. Check that HCPG services are running: MariaDB and WildFly. If MariaDB and WildFly services are not running, start them.
3. Open Failover Cluster Manager on node2, Click on Cluster name, make sure Current Host Server has node1 listed.
4. Expand Cluster Name, select Roles. Make sure the Role is running on node1, if not, Right click on the Role select Start Role.

Chapter 2 Determine HCP Gateway Health

Windows Cluster

1. Open Failover Cluster Manager on node1, Right click on cluster Name.
2. The summary should show the node that is the Current Host Server and there should be no errors listed in the Recent Cluster Events.

Active Node

1. Open Services, check that HCPG services are running: MariaDB, SAM VFS and WildFly. If MariaDB and WildFly services are not running, start them. If SAM VFS is not running, check the cluster role status.
2. Open Failover Cluster Manager on node1, click on cluster name at the top left, make sure Current Host Server has node1 listed.
3. Expand Cluster Name, select Roles. Make sure the Role is running on node1, if not, right click on the Role and select Start Role.
4. Click on the Role name and select the Resources tab at the bottom of the screen. Verify that Storage, File Server, Server Name and Roles are Online.
5. Open Windows File Explorer, enter the UNC path of the Role name. You should see the shares being hosted by the cluster.
6. If no shares are listed, open the HCP Gateway UI https://<shared-ip-address-or-dns-name>:28443/hcpg. On the Summary page, verify the Status is Active for each share. If not select Shares on the left and click the Start button under the Action column for each share. Go to step 5 for testing, if the shares still do not show, escalate appropriately.

Passive Node

1. Make sure node node2 is online and the Cluster service is running (see Start).

Chapter 3 HCP Gateway Shutdown

Windows Cluster

3. Open Failover Cluster Manager on node1, Right click on cluster Name, select More Actions, Shut Down Cluster… and click OK on the Shut Down Cluster window.
4. The summary should show Cluster Status as Down.

Active Node

1. To shut down the active node node1, make sure that node2 is ready to take over cluster services. See step 7 of *Determine Gateway Health.*
2. In Failover Cluster Manager, right click on the cluster name. Under More Actions, select Move Core Cluster Resources, Select Node…, click on the name of node2. Then click ok.
3. Verify the Current Host Server changes to node2.
4. Under Cluster Core Resources (lower Windows pane), verify the resources are online.
5. Click on Roles on the left, right click on the role name, select Move, Select Node…, and select the Cluster Node node2, click OK. The Summary tab will show the Owner Node is now node2. See Determine Gateway Health, step 3 and 4 to verify resources.
6. To shut the server down, right click the Windows Start button, select "Shut down or sign out", select Shut down. Note that the cluster service will startup automatically after power up and bring all cluster resources online.

   Alternative PowerShell method to failover:
   If node1 is the active cluster node, use this command in elevated PowerShell:
   get-clusternode <node1> | Get-Clustergroup | move-clustergroup -Node <node2>
   If node2 is the active cluster node:
   get-clusternode <node2> | Get-Clustergroup | move-clustergroup -Node <node1>

Passive Node

1. Verify node1 is the active cluster node. To shut down the passive node (node2) right click the Windows Start button, select "Shut down or sign out", select Shut down.

Chapter 4 Windows Cluster Failover

1. Login to the active node node1 to failover to the passive node node2, make sure node2 is ready to take over cluster services. See step 7 of “Determine Gateway Health”.
2. In Failover Cluster Manager, right click on the cluster name. Under More Actions, select Move Core Cluster Resources, Select Node…, click on the name of node2. Then click ok.
3. Verify the Current Host Server changes to node2.
4. Under Cluster Core Resources (lower Windows pane), verify the resources are online.
5. Click on Roles on the left, right click on the role name, select Move, Select Node…, and select the Cluster Node node2, click OK. The Summary tab will show the Owner Node is now node2. See Determine Gateway Health, step 3 to verify resources.
6. To shut the server down, right click the Windows Start button, select “Shut down or sign out”, select Shut down.

   Alternative PowerShell method to failover:
   If node1 is the active cluster node, use this command in elevated PowerShell:
   get-clusternode <node1> | Get-Clustergroup | move-clustergroup -Node <node2>
   If node2 is the active cluster node:
   get-clusternode <node2> | Get-Clustergroup | move-clustergroup -Node <node1>

Chapter 5 Start & Stop Database Replication

Stop Replication

1. Log in to node2, should be the passive cluster node.
2. Click on the Windows Start button, select MariaDB Command prompt.
3. Enter ***mysql -uroot -p<password>***
4. Enter ***stop slave;***
5. ***show slave status\G***
6. Enter ***exit*** to end MariaDB prompt.

Start Replication

1. Log in to node2, should be the passive cluster node.
2. Click on the Windows Start button, select MariaDB Command prompt.
3. Enter ***mysql -uroot -p<password>***
4. Enter ***start slave;***
5. ***show slave status\G***
6. Enter ***exit*** to end MariaDB prompt.

Chapter 6 Reboot Cluster Member Node

Active Node

1. To reboot the active node node1, make sure that node2 is ready to take over cluster services. See step 7 of “Determine Gateway Health”.
2. In Failover Cluster Manager, right click on the cluster name. Under More Actions, select Move Core Cluster Resources, Select Node…, click on the name of the passive cluster node node2. Then click ok.
3. Verify the Current Host Server changes to the node2.
4. Under Cluster Core Resources (lower Windows pane), verify the resources are online.
5. Click on Roles on the left, right click on the role name, select Move, Select Node…, and select the Cluster Node node2, click OK. The Summary tab will show the Owner Node is now the node2. See Determine Gateway Health to validate cluster resources.
6. To reboot the server down, right click the Windows Start button, select “Shut down or sign out”, select Restart.

   Alternative PowerShell method to failover:
   If node1 is the active cluster node, use this in elevated PowerShell:
   get-clusternode <node1> | Get-Clustergroup | move-clustergroup -Node <node2>
   If node2 is the active cluster node:
   get-clusternode <node2> | Get-Clustergroup | move-clustergroup -Node <node1>

Passive Node

1. Verify node1 is the active cluster node. To shut down the passive cluster node (node2) right click the Windows Start button, select “Shut down or sign out”, select Restart.
2. Refer to Determine Gateway Health to validate passive node resources.

Chapter 7 Backup the System

1. Login to HCP Gateway UI https://<shared-ip-address-or-dns-name>:28443/hcpg and select Shares from the menu and verify you have an operation$ share. Refer to HCPG Administration Guide, Chapter 15 Section 1 for details.

2. Select the Operation menu, Backup tab. Verify you have Enable System Backup set to ON and System Backup Location has Network selected and the UNC path is correct. Click Test to validate. Click Backup Now. This will backup the database and HCP Gateway configuration.

Chapter 8 Create and Delete Shares and Sub-Shares

1. Prerequisite for creating a share is that you have storage, storage group and policies already configured. Login to HCP Gateway UI https://<shared-ip-address-or-dns-name>:28443/hcpg and select Shares. Click the ***Add*** button at the top right. Enter the name of the share (this will be the UNC share name). Provide a ***Description*** (optional), select the ***Storage Group***, set Share to ***Yes*** for users and/or applications to access the share. The remaining configuration parameters are options, refer to the Administration Guide Chapter 10.

2. To delete a share first delete all the files and folders under the share in Windows File Explorer. In the HCP Gateway UI, click on ***Operations***. Click on the ***Delete On Storage*** tab. In the Status column for the share you want to delete, slide the bar to on. Click on ***Settings*** for that share. In the ***Deleted file versions*** section select ***Delete all versions***. If this share has retention click on the ***Delete*** option in the ***Expired retention files*** section. In the ***File history record*** section click on ***Remove all deleted file records***. Click ***Apply***. Click the *Start Now* button to remove all the files records from the database and storage. Click on ***Shares***, click on the share name you want to delete. Click the ***Delete*** button at the bottom of the screen.

3. To create a Subshare first make sure you have the folder created within the share. In Windows File Explorer, navigate to the HCP Gateway share, then create a folder that will become the Subshare. Right-click on the Subshare folder and select ***Properties***. Select ***Sharing***, then select ***Advanced Sharing***. Select ***Share this folder***, if necessary, edit the Share name, select Permissions to configure the Subshare Access Permissions. Select ***OK*** to save the Subshare settings. Select *Close* in the Subshare Properties window. Stop and restart the share in the HCP Gateway Shares page for the Subshare configuration to be added to the share. In Windows File Explorer, configure the appropriate NTFS inherited permissions on the Subshare folder.

4. To delete a Subshare, in Windows File Explorer, navigate to the HCP Gateway share, then right-click on the Subshare folder and select ***Properties***. Select ***Sharing***, then select ***Advanced Sharing***. Unselect ***Share this folder***, then select ***OK*** to remove the Subshare. Select ***Close*** in the Subshare Properties window. Stop and restart the share in the HCP Gateway Shares page for the Subshare configuration to be removed from the Gateway database.

Chapter 9 Performance Tuning

There are no performance tuning options within the UI.

1. After monitoring with performance tools, if there is a resource deficiency add more CPU, more memory or faster disk.
2. If the issue is network related consider optimizing bandwidth for the typical file sizes being managed.
3. If the CPU cores becomes the bottleneck, especially with 1GB and larger size files, consider stopping the following services on HCP Gateway: encryption, compression, hashing and/or deduplication and moving these to the HCP backend storage.

Chapter 10 Cleanly Start Node from Dirty Shutdown

1. Check the Windows file systems/disks (***chkdsk*** from a Windows Command Prompt) to see if there are any errors. Use your existing Windows administration processes to repair the file system.
2. Check the MariaDB error log in D:\MariaDB\data\<hostname>.err for any crashed table(s) that need repair. If there are any crashed, open the MariaDB command prompt and repair the database with the following MariaDB command:
   mysqlcheck -uroot -p --all-databases --auto-repair
3. After the database has been repaired, reboot the node and repeat steps 1 and 2.
4. Refer to *Re-Sync Database between Nodes*.
5. Make sure the cluster comes up cleanly. See *Determine Gateway Health*.

Chapter 11 Cleanly Shutdown Node from Hung State

1. Open Windows Task Manager and sort by CPU or Memory to identify what process is causing the hung state.
2. These are the processes related to HCP Gateway:
   OpenJDK Platform Library
   SAM-Monitor.exe
   Wildfly Common Daemon Service Runner → Wildfly
   mysqld.exe
3. It is relatively safe to kill any of these processes except mysqld.exe.
4. If the mysqld.exe process is hung open the MariaDB command prompt and login to MariaDB: ***mysql -uroot -p<password>.*** Enter ***show processlist*** hit enter. If there are no lines showing "update", "delete" or "insert" end the mysqld.exe process in Task Manager and restart the MariaDB service.
5. If the system is still unresponsive, use the MS Cluster Failover instructions.

Chapter 12 Force Failover of All Services from Active to Passive Nodes

1. Login to the active node node1 to failover to the passive node node2, make sure that node2 is ready to take over cluster services. See step 7 of “Determine Gateway Health”.
2. In Failover Cluster Manager, right click on the cluster name. Under More Actions, select Move Core Cluster Resources, Select Node…, click on the name node2. Then click ok.
3. Verify the Current Host Server changes to node2.
4. Under Cluster Core Resources (lower Windows pane), verify the resources are online.
5. Click on Roles on the left, right click on the role name, select Move, Select Node…, and select the Cluster Node node2, click OK. The Summary tab will show the Owner Node is now node2. See Determine Gateway Health, step 3 to verify resources.

   Alternative PowerShell method to failover:
   If node1 is the active cluster node, use this command in elevated PowerShell:
   get-clusternode <node1> | Get-Clustergroup | move-clustergroup -Node <node2>
   If node2 is the active cluster node:
   get-clusternode <node2> | Get-Clustergroup | move-clustergroup -Node <node1>

Chapter 13 Re-Sync Database between Nodes

1. On both nodes, open the MariaDB command prompt from the Windows Start menu. Login to the database ***mysql -uroot -p***

2. Enter the command ***show slave status\G***

3. Check the output from each command and find the results for the following properties: Last_IO_Error and Last_SQL_Error. If the result shows an error only on one node continue with the next step. If both nodes show errors follow these instructions for both nodes, one at a time starting on the passive node or contact Hitachi Support.

4. On the node showing the replication error enter ***stop slave;*** and ***reset slave all;***

5. On the node with no error, enter ***show master status;*** in the MariaDB command prompt. Example output:

```
+------------------+----------+--------------+------------------+
| File             | Position | Binlog_Do_DB | Binlog_Ignore_DB |
+------------------+----------+--------------+------------------+
| hcpg-1-bin.000012 |   342612 |              | mysql
+------------------+----------+--------------+------------------+
```

   Also enter:
   select binlog_gtid_pos('<file from show master status> ',<position from show master status>);
   Note the query result as it will be entered in a command on the other node. For example, if node2 is showing the error:

```
+-------------------------------------------+
| binlog_gtid_pos('hcpg-1-bin.000012',342612) |
+-------------------------------------------+
| 1-1-707033,2-2-9054                       |
+-------------------------------------------+
```

   Example if node1 is showing the error:

```
+-------------------------------------------+
| binlog_gtid_pos('hcpg-2-bin.000015',529553) |
+-------------------------------------------+
| 1-1-207433,2-2-3052                       |
+-------------------------------------------+
```

6. If node1 is the node showing the replication error, enter the following in the MariaDB command prompt:

   (If copying from this document, please paste into Notepad to get rid of hidden formatting)

   SET GLOBAL gtid_slave_pos = '2-2-3052';

   CHANGE MASTER TO master_host="<IP-address-of-node2>", master_port=3306,
   master_user="replication_user", master_password='0rgan1cReplication',
   master_use_gtid=slave_pos, master_ssl=1;
   start slave;

7. If node2 is the node showing the replication error, enter the following in the MariaDB command prompt:
   SET GLOBAL gtid_slave_pos = '1-1-707033';

   CHANGE MASTER TO master_host="<IP-address-of-node1>", master_port=3306,
   master_user="replication_user", master_password= '0rgan1cReplication',
   master_use_gtid=slave_pos, master_ssl=1;
   start slave;

8. Run ***show slave status\G*** and verify the following:
   Slave_IO_Running: Yes
   Slave_SQL_Running: Yes
   And the Last_IO_Error and Last_SQL_Error show blank results.

Chapter 14 Recover Cluster from Backup

1. Recovering the system from backup will require the HCP Gateway cluster to be offline. This will restore the entire cluster to the time the backup was taken. Note that you will need to have the amount of space free on the G: drive that is currently being used by the G:\SAM folder. See the *HCP Gateway Administration Guide, Recover from Backup Chapter 17*.
2. Verify the system backup is working properly using the integrated backup within HCP Gateway on the active node, See Backup the System.
3. Stop database replication on both nodes. See *Start & Stop Database Replication*.
4. Use Notepad++ to edit the sam.properties file in C:\SAM\etc\sam.
5. Insert a new line called ***point.protect=no*** and save the file. Close Notepad++.
6. For the change to take effect, in the Failover Cluster Manager right-click on the role “nas” and select Stop Role. Once the resources are offline, right-click on the role “nas” and click Start Role.
7. Login to the HCPG Gateway https://<shared-ip-address-or-dns-name>:28443/hcpg and click on Shares. Click the Stop button on all shares except operation$.
8. Click on Operations in the UI and click the Restore tab.
9. Turn the Select button to On for All Shares.
10. Click the calendar icon in the Restore to date and select the backup time needed to restore to. Click “Start to restore” button to initiate the restore. Click Yes in the pop-up window to confirm the restore process.
11. Click Events in the UI to monitor the restore progress.
12. Copy the backup from G:\Restore\Backup\SAM.yyy-mm-dd_hh-mm.sql and paste it to C:\Temp on the passive node.
13. Open MariaDB command prompt. Change directory to C:\Temp. Login to MariaDB with ***mysql -uroot -p***
14. Enter the following: ***drop database SAM;*** and ***drop database sam*** Exit MariaDB prompt. When not restoring full database (restoring a single share for example) do not do this step.
15. At the Windows command prompt, enter ***mysql -uroot -p < SAM.yyy-mm-dd_hh-mm.sql***.
16. Open MariaDB command prompt. Login to MariaDB with ***mysql -uroot -p***
17. Type ***reset master; reset slave all;***. Perform the same step on the other node.
18. Follow the *Re-Sync Database between Nodes* starting on step 5 to re-sync the database on the passive node.
19. Follow the *Re-Sync Database between Nodes* starting on step 5 to re-sync the database on the active node.
20. Login to the HCPG Gateway https://<shared-ip-address-or-dns-name>:28443/hcpg and click on Shares. Click the Start button on all the shares.
21. See *Determine Gateway Health*, to verify resources.

22. Once the restore has been validated, delete the G:\SAM\Archive***X***_yyyy-mm-dd-hh-mm. These are the old copies of the cached files.
23. Remove the entry ***point.protect=no*** from sam.properties added in step 5 and repeat step 6 to restart the “nas” role.
24. Delete the folder contents under G:\Restore.

Chapter 15 Patch OS

1. On each cluster node, click on the Windows Start button, select MariaDB Command prompt.
2. Enter ***mysql -uroot -p<password>***
3. Enter ***stop slave;***
4. Enter ***exit*** to end MariaDB prompt.
5. For Windows updates, apply the appropriate updates and/or security updates on the passive node first.
6. Refer to Reboot Cluster Member Node to restart the passive node.
7. On each cluster node, click on the Windows Start button, select MariaDB Command prompt.
8. Enter ***mysql -uroot -p<password>***
9. Enter ***start slave;***
10. Enter ***show slave status\G***
11. Enter ***exit*** to end MariaDB prompt.
12. Refer to MS Cluster Failover to failover to the other node and repeat step 1 and 2.

Chapter 16 Patch MariaDB

1. On each cluster node, click on the Windows Start button, select MariaDB Command prompt.
2. Enter ***mysql -uroot -p<password>***
3. Enter ***stop slave;***
4. Enter ***exit*** to end MariaDB prompt.
5. Perform a backup of the HCP Gateway on the passive node first. See Backup the System.
6. Apply the appropriate MariaDB update.
7. Refer to Reboot Cluster Member Node to restart the passive node.
8. On each cluster node, click on the Windows Start button, select MariaDB Command prompt.
9. Enter ***mysql -uroot -p<password>***
10. Enter ***start slave;***
11. Enter ***show slave status\G***
12. Enter ***exit*** to end MariaDB prompt.
13. Refer to MS Cluster Failover to failover to the other node and repeat steps 1 – 3.

Chapter 17 Patch HCP Gateway

1. Download and unzip the HCP Gateway update to the C:\Temp folder on both nodes.
2. To update the HCP Gateway software, login to the passive node.
3. Verify that the SAM VFS service is not running on this node.
4. Right-click the Windows Start button, select Apps and Features. Click SAM from the list of installed programs and select Uninstall.
5. Accept the defaults and click Yes to restart the computer.
6. Once the server had rebooted, login and open the C:\Temp\<HCP Gateway Update> folder and copy the SAM folder contents to C:\SAM, overwriting existing files when prompted.
7. Execute the msi file in the update folder. Accept all the defaults but do not restart when prompted. We will click Yes to restart later.
8. Open the Firefox browser and open https://localhost:28443. Click the Administration Console. When prompted enter the username “admin” and the password.
9. Click Deployments. One the left side, select the listed name (hcpg-windows-ui-*).
10. Click the arrow down next to View. Select Undeploy, click Yes. A green Window at the top right will notify you that the undeploy was successful.
11. Click the “+” drop down menu at the top left. Select Upload deployment. Click “Choose a file or drag it here”. Browse to the C:\Temp\<HCP Gateway Update> folder and select the hcpg-windows-ui-*.war file. Click Next.
12. In the Runtime Name change the text to ***hcpg.war***. Verify that Enabled is set to ON. Click Finish. When you see Upload successful, Click Close.
13. Close Firefox. Click Yes to restart on the prompt from step 7.
14. See *Determine Gateway Health*, for the passive node to verify resources.
15. Refer to MS Cluster Failover to failover to the other node and repeat steps 2 -14.

Chapter 18 Recovery of Version of File

1. Login as a user with Administration rights to the HCPG Gateway https://<shared-ip-address-or-dns-name>:28443/hcpg and click on File Explorer.
2. Click the Choose Detail button.
3. Select Versioning and click Apply.
4. Navigate to the file needed for recovery. Click the box next to the file name.
5. Click the Versions button.
6. Choose the appropriate version and click Apply.
7. Wait 3-5 minutes if you need to choose a different version.

Chapter 19 Backup the Share Data

Customer defined process.

Chapter 20 Recover Data from Backup

Customer defined process.

Chapter 21 Recover from Ransomware Attack (restore previous file versions)

Please call Hitachi Vantara support for assistance.

Chapter 22 Litigation Holds & Preservation Orders

Apply Legal Hold

1. Login as a user with administration rights to the HCPG Gateway https://xxxxx/HCPG. .
2. Click Policy in the HCP Gateway UI.
3. Click Add. Enter the Legal Hold policy name. Select Policy Mode Archive from the drop-down menu.
4. Select Legal Hold from the Policy Type drop-down menu. Optionally enter the end date of the legal hold. Click Apply.
5. Select File Explorer from the HCP Gateway UI. Click the Choose Details button. Select Legal Hold. Click Apply.
6. Browse to the folder/file requiring legal hold. Click the box to the left of the appropriate folder/file. Click the Legal Hold button.
7. Select the Legal Hold policy from the drop-down menu.
8. Click Apply.

Remove Legal Hold

1. Login as a user with administration rights to the HCPG Gateway https://<shared-ip-address-or-dns-name>:28443/hcpg.
2. Select File Explorer from the HCP Gateway UI. Click the Choose Details button. Select Legal Hold. Click Apply.
3. Select File Explorer from the HCP Gateway UI. Click the Choose Details button. Select Legal Hold. Click Apply.
4. Browse to the folder/file requiring legal hold. Click the box to the left of the appropriate folder/file. Click the Legal Hold button and select Remove Legal Hold from the policy drop-down menu.
5. Click Apply.

Chapter 23 Object Storage File Maintenance

1. Login as a user with administration rights to the HCPG Gateway https://<shared-ip-address-or-dns-name>:28443/hcpg.
2. Select Operations from the HCP Gateway UI.
3. Click Delete On Storage
4. Turn Status on for the share you want to clean up. Click Settings on that share.
5. In the Deleted file versions section select Delete all versions.
6. To remove the metadata in the File history record select Remove all deleted files records.
7. Click Apply.
8. Click Start Now to run the cleanup process immediately or select a schedule to run the cleanup process.

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