DELL EMC ISILON CUSTOMER TROUBLESHOOTING GUIDE

TROUBLESHOOT HDFS AND AMBARI

OneFS 8.2 - 9.0

Abstract
This guide helps you troubleshoot a non-Kerberos Hadoop and Hortonworks Ambari installation.

June 18, 2020
Contents and overview

Note
Follow all of these steps, in order, until you reach a resolution.

1. Follow these steps.
   Page 3 Before you begin

2. Perform troubleshooting steps in order.
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   Page 7 HDP deployment failed
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3. Appendixes
   Appendix A If you need further assistance
   Appendix B How to use this flowchart
   Appendix C Example error messages from hdfs.log
   Appendix D Example output
Before you begin

CAUTION!
If the node, subnet, or pool that you are working on goes down during the course of troubleshooting and you do not have any other way to connect to the cluster, you could experience data unavailability.

Therefore, make sure that you have more than one way to connect to the cluster before you start this troubleshooting process. The best method is to have a serial console connection available. This way, if you are unable to connect through the network, you will still be able to connect to the cluster physically.

For specific requirements and instructions for making a physical connection to the cluster, see article 304071 on the Online Support site.

Before you begin troubleshooting, confirm that you can connect through either another subnet or pool, or that you have physical access to the cluster.

Configure screen logging through SSH
We recommend that you configure screen logging to log all session input and output during your troubleshooting session. This log file can be shared with Isilon Technical Support, if you require assistance at any point during troubleshooting.

1. Open an SSH connection to the cluster and log in by using the root account.
   
   Note: If the cluster is in compliance mode, use the compadmin account to log in. All compadmin commands must be preceded by the sudo prefix.

2. Change the directory to /ifs/data/Isilon_Support by running the following command:
   
   ```
   cd /ifs/data/Isilon_Support
   ```

3. Run the following command to capture all input and output from the session:
   
   ```
   screen -L
   ```
   
   This will create a file named screenlog.0 that will be appended to during your session.

4. Perform troubleshooting.
Start troubleshooting

**Introduction**
Start troubleshooting here. If you need help to understand the flowchart conventions that are used in this guide, see Appendix B: How to use this flowchart.

**Note**
This guide has a companion guide for Kerberized installations. See: EMC Isilon Customer Troubleshooting Guide: Troubleshoot HDFS and Ambari with Kerberos.

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**Start**

If you have not done so already, log in to the cluster and configure screen logging through SSH, as described on page 3.

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**Are you having problems deploying a Hortonworks Data Platform (HDP) installation?**

- **No**
  - Go to Page 5

- **Yes**
  - Go to Page 7

---

**After deployment, are the services (other than HDFS) failing to start?**

- **Yes**
  - Go to Page 19

- **No**
  - Go to Page 5

---

**Note**
A service that fails to start will be marked with a red triangle and an exclamation mark.
Routing

You could have arrived here from:
• Page 4 - Start troubleshooting

Note
Services that are not communicating, or are missing a heartbeat, will be marked with a yellow circle and a question mark.

HDFS

After deployment, are any of the services marked with a yellow question mark?

No

Is the issue related to user accounts?

Yes

Go to Page 34

No

Go to Page 6

Yes

Go to Page 29

Go to Page 5
Routing (2)

You could have arrived here from:
- Page 5 - Routing

---

Is the issue related to directories or permissions?

- **No**
- **Yes**

- Are you receiving an error that indicates "The following components are reporting unexpected versions:"?
  - **Yes**
    - Go to Page 53
  - **No**

- Did the issue begin after Ambari or OneFS was upgraded?
  - **Yes**
    - Go to Page 50
  - **No**

- Are you having an issue with a Kerberized cluster?
  - **Yes**
    - Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.
  - **No**

**Refer to:**
- [EMC Isilon Customer Troubleshooting Guide: Troubleshoot HDFS and Ambari with Kerberos](#)
HDP deployment failed

From the OneFS command-line, run the following command to verify HDFS settings, where `<zone>` is the name of the access zone:

```
isi hdfs settings view --zone=<zone>
```

Verify that HDFS is licensed:

```
isi license licenses list
```

Verify the HDFS service is enabled:

```
isi services hdfs enable
```

Is HDFS enabled?

- **No**
  - To enable the HDFS service, run:
    ```
    isi services hdfs enable
    ```

- **Yes**
  - Go to Page 9

**Note**

If HDFS is not licensed, contact your Account team to purchase and install a license.
HDP deployment failed (2)

You could have arrived here from:

- Page 4 - Start troubleshooting

Diagram:

1. Are you on OneFS 8.1.2.0 with Ambari 2.7 and later?
   - Yes: Go to Page 9
   - No: Did the HDP deployment fail at the Confirm Hosts step of the Ambari install wizard?
     - Yes: Go to Page 11
     - No: Go to Page 9
HDP deployment failed (3)

You could have arrived here from:

- Page 7 - HDP deployment failed
- Page 8 - HDP deployment failed (2)

Upon deployment, did you have an option to choose OneFS?

- Yes: Go to Page 10
- No:
  - Is the Ambari Management Pack for OneFS installed on the Ambari server?
    - Yes: Did you restart the Ambari server after installing the management pack?
      - Yes: Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.
      - No: Restart the Ambari server.
    - No: Download and install the Ambari Management Pack for OneFS.

Did this resolve the issue?

- Yes: End troubleshooting
- No
HDP deployment failed (4)

You could have arrived here from:

- Page 9 - HDP deployment failed (3)

---

Did the deployment fail at the **Install, Start and Test** step of the Ambari install wizard?

- **Yes**
  - Go to Page 15

- **No**

  Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in **Appendix A**.
HDP deployment failed (5)

You could have arrived here from:
- Page 8 - HDP deployment failed (2)

Are you using SSH keys?

Yes

Verify that the Isilon cluster is not listed as a target host.

No

On the Isilon cluster check /var/log/hdfs.log for any errors referring to an unsupported Ambari version.

For more information about how to verify the cluster is not listed as a target host, refer to the "Configuring Ambari and Hortonworks" section of EMC Isilon OneFS with Hadoop and Hortonworks Installation Guide.

Does the log show an unsupported Ambari version?

Yes

Review the versions for compatibility and upgrade where needed. Refer to: Hadoop Distributions and Products Supported by OneFS.

No

Go to Page 12

End troubleshooting
HDP deployment failed (6)

You could have arrived here from:

- Page 11 - HDP deployment failed (5)

Have all prerequisites in the [EMC Isilon OneFS with Hadoop and Hortonworks Installation Guide](#) been met?

- No
  - Ensure that all of the prerequisites listed in the installation guide have been met.
  - Is the issue resolved?
    - Yes
      - End troubleshooting
    - No
      - Follow the steps in the installation guide for configuring the manual registration.
  - Is the issue resolved?
    - Yes
      - End troubleshooting
    - No
      - Go to Page 13

When configuring the cluster, did you select **Perform manual registration on hosts and do not use SSH** as described in the “Configuring Ambari and Hortonworks” section of the installation guide?

- Yes
  - Follow the steps in the installation guide for configuring the manual registration.
  - Is the issue resolved?
    - Yes
      - End troubleshooting
    - No
      - Go to Page 13
  - Is the issue resolved?
    - Yes
      - End troubleshooting
    - No
      - Go to Page 13

For links to all Isilon customer troubleshooting guides, visit the [OneFS Customer Troubleshooting Guide - Isilon Info Hub](#).
HDP deployment failed (7)

Run the following command:
isi hdfs settings view

Is the Ambari Namenode name configured in the Isilon HDFS configuration? See example output on this page.

Configure the Ambari Namenode name on the Isilon cluster as directed in the installation guide.

Is the issue resolved?

Example output

```
cluster-1# isi hdfs settings view
Service: Yes
  Default Block Size: 128M
  Default Checksum Type: none
  Authentication Mode: all
  Root Directory: /ifs/hdfs-root
  WebHDFS Enabled: Yes
  Ambari Server: exampleambariserver
  Ambari Namenode: namenode.emc.com
  Odp Version: 2.6.3.8-37
  Data Transfer Cipher: none
  Ambari Metrics Collector: -
```
HDP deployment failed (8)

You could have arrived here from:

- Page 13 - HDP deployment failed (7)

---

Example output

cluster-1# isi hdfs settings view
Service: Yes
Default Block Size: 128M
Default Checksum Type: none
Authentication Mode: all
  Root Directory: /ifs/hdfs-root
  WebHDFS Enabled: Yes
  Ambari Server: exampleambariserver
  Ambari Namenode: namenode.emc.com
  Odp Version: 2.5.3.0-37
  Data Transfer Cipher: none
  Ambari Metrics Collector: -

---

Is the Ambari Server registered on the Isilon cluster? See the example output on this page.

No

Register the Ambari Server on the Isilon cluster as directed in the installation guide.

Yes

This indicates a possible communication problem between the Ambari server and the Isilon cluster. Troubleshoot your local network environment. Additionally, you can visit our OneFS Customer Troubleshooting Guides Info Hub for guides that might help you troubleshoot your connection.

When you are done troubleshooting your environment, if you are still experiencing connection issues, you can return to this guide from the beginning or on the page you left off on.

No

Is the issue resolved?

No

End troubleshooting

Yes

End troubleshooting

---

For links to all Isilon customer troubleshooting guides, visit the OneFS Customer Troubleshooting Guide - Isilon Info Hub.
HDP deployment failed (9)

You could have arrived here from:

- Page 10 - HDP deployment failed (4)

Did you run the provided tools to create users and directories?

- No
  - Is this cluster in production?
    - Yes
      - Do not use the script to create the directories or users on a production cluster.
      - Instead, manually add the users and create the directories and grant the correct permissions. See the "Create HDFS users and groups" section of the EMC Isilon OneFS with Hadoop and Hortonworks Installation Guide.
    - No
      - Create the missing users and directories and grant the correct permissions by downloading and running the latest provided tools. Refer to the "Creating users and directories on the OneFS cluster using Isilon scripts" section of the installation guide.

- Yes
  - Are you on OneFS 8.1.2.0 with Ambari 2.7 and later?
    - Yes
      - Go to Page 16
    - No
      - Go to Page 17

Go to Page 16

Verify permissions for /tmp/hive and /apps/staging/hbase and check that the permissions are at least as high as described below. If the permissions are not at least as described, change them.

Run the following two commands from a client, as an authorized user, such as HDFS:

- hadoop fs -ls /apps/hbase/staging
  - This directory requires rwx--x--x (711) permissions.
- hadoop fs -ls /tmp/hive
  - This directory requires rwxrwxrwx (777) permissions.
HDP deployment failed (10)

You could have arrived here from:
- Page 15 - HDP deployment failed (9)

Check the OneFS Host setting on the Ambari server by navigating to the OneFS service page, click the Configs tab, and validate the value in the OneFS Host field.

Save the settings and restart the necessary components.

Did the components restart successfully?

- Yes → End troubleshooting
- No → Did all services start?
  - No → Go to Page 19
  - Yes → End troubleshooting
HDP deployment failed (11)

You could have arrived here from:
- Page 15 - HDP deployment failed (9)

On the Choose Services screen of the Ambari install wizard, is the Knox service selected to deploy?

For OneFS 8.1.1.1 and earlier, HTTPFS is required for deploying the Knox service. Refer to:
Implementing HTTPFS & Knox with Isilon OneFS to Enhance HDFS Access Security.

Verify that the correct masters are assigned per the installation guide.

The Isilon-specific masters are: NameNode and secondary NameNode (SNameNode).
All other masters must be distributed per Ambari best practices.

Verify that the correct slaves are assigned to the Isilon cluster.

The Isilon-specific slave is: DataNode.
The datanode slave should only exist on the Isilon cluster. All other slaves and clients must be assigned per Ambari best practices.

Note
To view the NameNode configuration, click on the HDFS service and hover over NameNode and SNameNode to see the masters.
Click on DataNodes to see the host list with datanodes configured.

Go to Page 18
In the Ambari Install Wizard, navigate to the **Customize Services** section and select the **HDFS** service. On the **Advanced** settings tab, in the **Advanced hdfs site settings** section, verify that the **dfs.namenode.http-address** field is set to port **8082**.

Redeploy the HDFS instance.

- **Was the redeployment successful?**
  - **No** → Return to **Page 7**
  - **Yes**
    - **Did all services start?**
      - **No** → Go to **Page 19**
      - **Yes** → **End troubleshooting**
Issues with non-HDFS services

You could have arrived here from:
- Page 4 - Start troubleshooting
- Page 16 - HDF deployment failed (10)
- Page 18 - HDP deployment failed (12)
- Page 21 - Issues with non-HDFS services (3)

Is the cluster Kerberized?

- Yes
  - Refer to: EMC Isilon Customer Troubleshooting Guide: Troubleshoot HDFS and Ambari with Kerberos

- No
  - Do the YARN and MapReduce2 services show an alert?
    - Yes
      - Go to page 20 to verify the ports are configured properly, and then confirm the SmartConnect name is configured properly. Return here when complete.
    - No
      - On the OneFS cluster, review /var/log/hdfs.log for errors regarding user permission issues.

- Did the log indicate that there are issues with user permissions?
  - Yes
    - Go to Page 34
  - No
    - Go to Page 22

Note
A service with alerts will be marked with a red triangle and an exclamation mark and will indicate the number of alerts:

⚠️ YARN

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For links to all Isilon customer troubleshooting guides, visit the OneFS Customer Troubleshooting Guide - Isilon Info Hub.
Issues with non-HDFS services (2)

You could have arrived here from:
- Page 19 - Issues with non-HDFS services

Are you on OneFS 8.1.2.0 with Ambari 2.7 and later?

Yes

Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.

No

Configure the Ambari ports with the accurate host name and port.

To check these settings in Ambari, open Ambari Server, navigate to the HDFS service page, click the **Configs tab**, and in the filter box, type: **dfs.namenode.http**. The two relevant settings will appear on the screen. Ensure that both settings are configured as shown below:

**dfs.namenode.https-address** - The host name should be the SmartConnect zone name and the port should be 8080, in the format `<SmartConnectZoneName>:8080`. Example: example.emc.com:8080

**dfs.namenode.http-address** - The host name should be the SmartConnect zone name and the port should be 8082, in the format `<SmartConnectZoneName>:8082`. Example: example.emc.com:8082

See the image on this page for an example.

Is the original issue resolved?

Yes

End troubleshooting

No

Next, you will confirm the SmartConnect name is configured properly.

Go to Page 21
Issues with non-HDFS services (3)

Confirm that the SmartConnect name is properly configured on the Isilon cluster.

For instructions, review the "Configure SmartConnect" section of the [EMC Isilon OneFS with Hadoop and Hortonworks Installation Guide](#).

Confirm that the SmartConnect name is properly configured on the Ambari server.

For instructions, review the "Configuring Ambari and Hortonworks" section of the [EMC Isilon OneFS with Hadoop and Hortonworks Installation Guide](#).

Is the original issue resolved?

- Yes → End troubleshooting
- No → Return to Page 19

You could have arrived here from:

- Page 20 - Issues with non-HDFS services (2)
Issues with non-HDFS services (4)

You could have arrived here from:

- Page 19 - Issues with non-HDFS services

Did a service fail to start?

- Yes: Go to Page 23
- No: Did a service start, and then stop?

- Yes: Go to Page 24
- No: Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.
Issues with non-HDFS services (5)

You could have arrived here from:
- Page 22 - Issues with non-HDFS services (4)

Note
To monitor the Background Operations, refer to this webpage: Monitoring Background Operations.

Review the stderr field of the Ambari Background Operations and look for any messages that indicate why the service failed. If you cannot locate anything specific, review the service log on the host running the service that failed.

Check /var/log/hdfs.log on all nodes of the Isilon cluster for messages related to any messages you found in the previous step. If you find corresponding messages, verify that the timestamps match. Matching up the messages will help you to determine why the service is failing.

If you need assistance identifying messages, contact Isilon Technical Support.

Did you discover any corresponding messages that indicate why the service failed?

- No → Go to Page 25
- Yes

Are you able to resolve the issue using the logs?

- Yes → End troubleshooting
- No → Go to Page 25

For links to all Isilon customer troubleshooting guides, visit the OneFS Customer Troubleshooting Guide - Isilon Info Hub.
Issues with non-HDFS services (6)

You could have arrived here from:
- Page 22 - Issues with non-HDFS services (4)

**Note**
A service with alerts will be marked with a red triangle and an exclamation mark and will indicate the number of alerts:

⚠️ **YARN** 5

Does the YARN service show one or more alerts?

- Yes
  - Go to Page 27
- No
  - Locate the error in the task service log on the HDP host by running this command, where `<servicename>` is the component that is failing:

    `Is /var/log/<servicename>`

    Review the end of the log and look for a traceback and error message that might indicate the cause of the alerts.

  - Does the log indicate that the error is on the Isilon cluster?
    - Yes
      - Go to Page 25
    - No
      - Engage Hortonworks for further troubleshooting.
Issues with non-HDFS services (7)

You could have arrived here from:

- Page 23 - Issues with non-HDFS services (5)
- Page 24 - Issues with non-HDFS services (6)
- Page 33 - Missing heartbeat (5)

1. Verify the current log-level of the HDFS service by running the following command:
   
   `isi_for_array -s "isi hdfs log-level view"

2. Set the log-level of the HDFS service to debug by running the following command:
   
   `isi_for_array -s "isi hdfs log-level modify --set=debug"

3. Reproduce the issue by restarting the Ambari service that has failed. Wait until the issue has reproduced **but no longer than five minutes.**

4. Set the log-level of the HDFS service to the default level by running the following command:
   
   `isi_for_array -s "isi hdfs log-level modify --set=default"

Go to Page 26

---

**CAUTION!**

Do not forget to reset the logging level to default. Leaving the logging level at debug can cause the /var partition to fill with debug logs. In extreme cases, this can reduce the wear life of the boot disks.
Issues with non-HDFS services (8)

You could have arrived here from:

- Page 25 - Issues with non-HDFS services (7)

---

Page 26

Review the Ambari host and OneFS logs again and try to determine the cause of the problem.

Ambari host log location: /var/log/*
OneFS log location: /var/log/hdfs.log

After reviewing the logs, were you able to determine the cause of the problem?

- Yes
  - Go to the section that pertains to the issue discovered in the logs:
    - For issues with a missing heartbeat, go to page 29.
    - For issues with user accounts, go to page 34.
    - For issues with directories or permissions, go to page 42.
    - For issues with upgrades, go to page 50.
  - Next page: Page 26

- No
  - Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.
  - Next page: Page 26

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For links to all Isilon customer troubleshooting guides, visit the OneFS Customer Troubleshooting Guide - Isilon Info Hub.
If the YARN service shows one or more alerts, it means that all node managers have stopped.

Locate the `hadoop.security.token.service.use_ip` setting by clicking on the OneFS service, click the Config tab, and scroll to the Custom core-site section.

Does the `hadoop.security.token.service.use_ip` setting exist and is it set to false?

Yes

Go to Page 28

No

Create the property by clicking Add Property... and set it to False.

Is the issue resolved?

Yes

End troubleshooting

No

Engage Hortonworks for further troubleshooting.

Note
In OneFS 8.1.2 with Ambari 2.7, you will not need to create the property, but you will want to confirm the property is set to False.
Issues with non-HDFS services (10)

Does your environment use /etc/hosts files for network routing?

- Yes
  - If you are using /etc/hosts files instead of DNS-based lookups and your hosts files have FQDNs, you must ensure that the FQDN includes a trailing dot. A correct hosts file entry for foo.example.com may look like this.
  
  1.2.3.4 foo.example.com foo.example.com. foo

- No
  - Engage Hortonworks for further troubleshooting.

Is the issue resolved?

- Yes
  - End troubleshooting

- No
Missing heartbeat

You could have arrived here from:
- Page 5 - Routing
- Page 26 - Issues with non-HDFS services (8)

On the Isilon cluster, check /var/log/hdfs.log for error messages pertaining to network connection or unsupported versions.

Did OneFS report an unsupported version of Ambari?
- Yes: Review Hadoop Distributions and Products Supported by OneFS and check your Ambari and OneFS versions for compatibility. Upgrade as needed.
- No: Go to Page 30

Did upgrading solve the issue?
- Yes: End troubleshooting
- No: Go to Page 30
Missing heartbeat (2)

You could have arrived here from:

- Page 29 - Missing heartbeat

1. Did you recently upgrade from OneFS 7.x?
   - Yes: Review /var/log/hdfs.log for a specific error message pertaining to unsupported components or services. See Appendix C for example error messages.
   - No: Engage Hortonworks for further troubleshooting.

2. Did /var/log/hdfs.log indicate that there is no connection to the Ambari server?
   - Yes: Go to Page 31
   - No: Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.

For links to all Isilon customer troubleshooting guides, visit the OneFS Customer Troubleshooting Guide - Isilon Info Hub. We appreciate your help in improving this document. Submit your feedback at http://bit.ly/isilon-docfeedback.
Verify that the Ambari server setting on the Isilon cluster points to the Ambari server by IP address or fully-qualified domain name (FQDN) by running the following command, where `<zone>` is the name of the access zone:

```
isi hdfs settings view --zone=<zone>
```

Look for the Ambari Server setting in the output.

- Does the Ambari server setting point to the Ambari server by IP address or FQDN?
  - Yes: Go to Page 32
  - No: Edit the Ambari server setting so that OneFS points to the Ambari server by either IP address or FQDN.

- Is the issue resolved?
  - Yes: End troubleshooting
  - No: Go to Page 32
Missing heartbeat (4)

Verify that all nodes can communicate with the Ambari server by running the following command, where `<ambari>` is the IP address or fully qualified domain name (FQDN) of the Ambari server:

`isi_for_array ping -c 1 <ambari>`

Did any of the nodes return the message:
`ping: sendto: No route to host?`

- **No**
  - Go to Page 33

- **Yes**
  - This indicates a possible communication problem between the Ambari server and the Isilon cluster. You will need to troubleshoot your local network environment. Additionally, you can visit our OneFS Customer Troubleshooting Guide Info Hub for guides that might help you troubleshoot your connection.
  - When you are finished troubleshooting your environment, if you are still experiencing connection issues, you can return to this guide from the beginning or on the page you left off on.

End troubleshooting
Review the debug logs that you collected on page 25 for any messages pertaining to two-way SSL. See the example error on this page.

Are messages pertaining to two-way SSL present?

Yes -> Two-way SSL is not supported. Disable two-way SSL by following the directions in: OneFS: Ambari hadoop SSL heartbeat sync issues, article 488313.

No -> Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.

End troubleshooting

Example output
User accounts

You could have arrived here from:

- Page 5 - Routing
- Page 19 - Issues with non-HDFS services
- Page 26 - Issues with non-HDFS services (8)
- Page 52 - Upgrading (3)
- Page 53 - Upgrading (4)

Refer to:
EMC Isilon Customer Troubleshooting Guide: Troubleshoot HDFS and Ambari with Kerberos

34 - Dell EMC Isilon Customer Troubleshooting Guide: Troubleshoot HDFS and Ambari

For links to all Isilon customer troubleshooting guides, visit the OneFS Customer Troubleshooting Guide - Isilon Info Hub.
Find the local provider and verify it is in the correct zone, by running the following command:

```bash
isi zone zones list -v
```

See Appendix D for example output.

Is the local provider mapped to the correct zone?

- **No**: Map the provider to the correct zone.
- **Yes**: Go to Page 36
User accounts (3)

You could have arrived here from:

- Page 35 - User accounts (2)
- Page 41 - User accounts (8)

Are you using local users on the Isilon cluster?

If No, troubleshoot name resolution in your authentication provider. Refer to the OneFS Customer Troubleshooting Guide Info Hub for guides to help troubleshoot your authentication provider. When you are done troubleshooting your authentication provider, if you are still experiencing authentication issues, you can return to this guide from the beginning or on the page you left off on.

If Yes, did you use the provided tools to create users and directories?

If No, is this cluster in production?

If No, go to Page 41.

If Yes, go to Page 37.

If Yes, end troubleshooting.
On the Isilon cluster, check /var/log/hdfs.log for error messages pertaining to user or directory issues.

Does the log indicate issues with a user or with a directory?

User

Go to Page 38

Directory

Go to Page 42

You could have arrived here from:

- Page 36 - User accounts (3)
User accounts (5)

You could have arrived here from:

- Page 37 - User accounts (4)

Page 38

Is the issue a user that is missing?

No → Go to Page 40

Yes

In the Ambari Server, navigate to the Admin > Service Accounts page. This page contains a list of the service user accounts that must be configured on the Isilon cluster.

 Confirm that the anonymous account exists on the Isilon cluster. Note: This account is not listed on the Ambari Service Account page but it is required for HiveServer2. See this forum post for more information: How to get the anonymous user from /etc/passwd?

Create any other missing user accounts on the Isilon cluster and verify that they are in the correct zone.

Is the issue resolved?

No → Go to Page 39

Yes

End troubleshooting
Flush the old authentication settings by running the following commands:

- `isi_for_array "isi auth mapping flush --all"`
- `isi_for_array "isi auth cache flush --all"

On the Isilon cluster, check `/var/log/hdfs.log` for error messages pertaining to user permissions.

Are there any issues with user permissions?

- **Yes** → Go to Page 42
- **No** → Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.
You could have arrived here from:
- Page 38 - User accounts (5)

**User accounts (7)**

Check the User Mapping Rules by running the following command, where `<zone>` is the name of the access zone:

`isi zone zones view <zone>`

Is HDFS mapped to root in the access zone?

Map HDFS to root by running the following command, where `<zone>` is the name of the access zone:

`isi zone modify <zone> --add-user-mapping-rules='hdfs=>root[]'`

When you use Ambari Hive View to run queries as the admin user, do you get this error message:

**Username: 'admin' not found. Make sure your client's username exists on the cluster?**

Refer to the blog post:

[Configuring Ambari Hive View with OneFS](#)

Go to Page 42
User accounts (8)

CAUTION!
If your cluster is in production, you followed the wrong branch. Go back to page 36 and follow the correct path.

To create the users and groups, and to set the directories and permissions, see:
Isilon Hadoop Tools

Is the issue resolved?

Yes ➔ End troubleshooting

No ➔ Go to Page 39
Directories and permissions

You could have arrived here from:

- Page 6 - Routing (2)
- Page 26 - Issues with non-HDFS services (8)
- Page 37 - User accounts (4)
- Page 39 - User accounts (6)
- Page 40 - User accounts (7)

On the OneFS cluster, review /var/log/hdfs.log for messages pertaining to issues with missing directories, issues with the HDFS root directory, or users lacking permissions.

What issues did the OneFS log indicate?

- Missing directories: Go to Page 43
- Issues with HDFS root directory: Go to Page 44
- Users lacking permissions: Go to Page 47
Directories and permissions (2)

Missing directory

You could have arrived here from:

- Page 42 - Directories and permissions

Is this cluster in production?

Yes

Manually create the directory and grant the correct permissions.

Do not use the `isilon_create_directories.sh` script to create directories on a cluster in production.

No

To create the missing directories and assign the correct permissions, see:

[Isilon Hadoop Tools](#)

End troubleshooting

End troubleshooting
Directories and permissions (3)

Issue with HDFS root directory

You could have arrived here from:
- Page 42 - Directories and permissions

Have you changed the group-inheritance policy to parent as described in the "Modify the access control list (ACL) setting for OneFS" in the installation guide?

No

On the Isilon cluster, change the group inheritance ACL policy by running the following command:

```
isi auth settings acls modify --group-owner-inheritance=parent
```

Yes

Does the HDFS Root Directory exist?

No

Verify that the Root Directory exists by running the following command:

```
isi hdfs settings view
```

See the note box on this page for example output.

Yes

Using the value from the Root Directory field, run the following command to validate the contents of the directory, where `<directory>` is the value of the Root Directory field:

```
ls <directory>
```
Directories and permissions (4)

Issue with HDFS root directory (2)

Validate that the permissions for the HDFS Root Directory are correct. To view the permissions, run the following command, where `<directory>` is the name of the HDFS Root Directory:

```
Is -le <directory>
```

Are the permissions correct?

- Yes: Troubleshoot the individual permissions. Refer to the OneFS Customer Troubleshooting Guide Info Hub for guides to help troubleshoot permissions. When you are done troubleshooting the permissions, if you are still experiencing permission issues, you can return to this guide from the beginning or on the page you left off on.

- No: Did you use the provided tools to create the users and the directory structure?
  - Yes: Go to Page 46
  - No: End troubleshooting
Directories and permissions (5)

Issue with HDFS root directory (3)

You could have arrived here from:

- Page 45 - Directories and permissions (4)

---

Troubleshoot the individual permissions. Refer to the [OneFS Customer Troubleshooting Guide Info Hub](#) for guides to help troubleshoot permissions. When you are done troubleshooting permissions, if you are still experiencing permission issues, you can return to this guide from the beginning or on the page you left off on.

---

To create the directories and set the permissions, see: [Isilon Hadoop Tools](#)

---

Is this cluster in production?

- Yes
- No

---

Is the issue resolved?

- Yes
- No

---

Return to Page 45

---

End troubleshooting

---
Directories and permissions (6)

User is lacking permissions

You could have arrived here from:

- Page 42 - Directories and permissions

Verify that the user has the correct permissions to access the directory by running the following command, where <directory> is the name of the directory you are validating:

```
Is -led <directory>
```

Does the directory have ACEs? ACEs are indicated by a plus sign (+).

- No
- Yes

Can the user access the directory?

- No
- Yes

End troubleshooting

Go to Page 48

Verify the group membership of the user and compare the on disk identity to the user ID. Refer to the OneFS Customer Troubleshooting Guide Info Hub for guides to help troubleshoot permissions. When you are done troubleshooting permissions, if you are still experiencing permission issues, you can return to this guide from the beginning or on the page you left off on.
Directories and permissions (7)

User is lacking permissions (2)

You could have arrived here from:
- Page 47 - Directories and permissions (6)

Page 48

Is this directory accessed by multiple protocols?

Yes → Go to Page 49

No

Is this a service account directory?

No

Yes

Troubleshoot the individual permissions. Refer to the OneFS Customer Troubleshooting Guide Info Hub for guides to help troubleshoot permissions. When you are done troubleshooting permissions, if you are still experiencing permission issues, you can return to this guide from the beginning or on the page you left off on.

Caution: This step is only to be performed on a service account directory. Do not perform this step on a user directory. This command will recursively remove all existing permissions and replace the permissions with those specified by the command.

Service account directories often require specific POSIX-only permissions, if an ACE is applied, it could prevent services from starting.

Reset the permissions on the service account directory to remove the ACEs by running the following command, where <posixperm> is the UNIX permissions you wish to set, and <directory> is the name of the directory:

```bash
chmod -b -R <posixperm> <directory>
```

End troubleshooting

Is the issue resolved?

No
Directories and permissions (8)
User is lacking permissions (3)

You could have arrived here from:

- Page 48 - Directories and permissions (7)

---

Caution: This step is only to be performed on a service account directory. Do not perform this step on a user directory. This command will recursively remove all existing permissions and replace the permissions with those specified by the command.

Service account directories often require specific POSIX-only permissions, if an ACE is applied, it could prevent services from starting.

Reset the permissions on the service account directory to remove the ACEs by running the following command, where `<posixperm>` is the UNIX permissions you wish to set, and `<directory>` is the name of the directory:

```
chmod -b -R <posixperm> <directory>
```

---

Troubleshoot the individual permissions. Refer to the OneFS Customer Troubleshooting Guide Info Hub for guides to help troubleshoot permissions. When you are done troubleshooting permissions, if you are still experiencing permission issues, you can return to this guide from the beginning or on the page you left off on.

---

End troubleshooting
Upgrading

You could have arrived here from:
- Page 6 - Routing (2)
- Page 26 - Issues with non-HDFS services (8)

- Is the cluster Kerberized?
  - Yes: Refer to: 
    - EMC Isilon Customer Troubleshooting Guide: Troubleshoot HDFS and Ambari with Kerberos
  - No
    - What product are you upgrading?
      - HDP: Go to Page 52
      - Ambari: Go to Page 51

From OneFS 7.x to 8.x

On the Isilon cluster, review /var/log/hdfs.log for a specific error message pertaining to unsupported components or services. See Appendix C for example error messages.

Engage Hortonworks to remove the unsupported components from OneFS.

End troubleshooting
Upgrading (2)
Ambari

You could have arrived here from:
- Page 50 - Upgrading

- Are you upgrading to Ambari 2.7?
- No

If /var/log/hdfs.log indicates that the Ambari server version is not supported, review [Hadoop Distributions and Products Supported by OneFS](#) and upgrade to a version of OneFS that supports the version of Ambari that you want to upgrade to.

- Yes

Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.

End troubleshooting
Note
Install status of hosts can be found on the Ambari server by navigating to Admin > Stack and Versions > Versions tab.

Upgrading (3)

HDP

You could have arrived here from:

• Page 50 - Upgrading

Are you on OneFS 8.1.2.0 with Ambari 2.7 and later?

No

Is the OneFS host in Ambari stuck in the installing state?

No

Did the installation of a new service or component fail during the upgrade?

Yes

Go to Page 34

Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.

Go to Page 53

Page 52
Upgrading (4)
HDP (2)

You could have arrived here from:
- Page 6 - Routing (2)
- Page 52 - Upgrading (3)

Check the Odp Version in OneFS to confirm that it matches the HDP ODP version by running the following command, where <zone> is the name of the access zone:

```
isi hdfs settings view --zone=<zone>
```

Verify your HDP ODP version, review this blog post: Ever better HDP upgrades with OneFS.

Do the ODP versions in HDP and OneFS match?  
Yes → Did the installation of a new service or component fail during the upgrade?  
   Yes → Go to Page 34  
   No → No → Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.  
   Yes → Go to Page 54
Upgrading (5)
HDP (3)

You could have arrived here from:
- Page 53 - Upgrading (4)

Edit the ODP version on OneFS by running the following command, where <ODP> is the ODP version, and <zone> is the name of the access zone:

```
isi hdfs settings modify --odp-version=<ODP> --zone=<zone>
```

Is the issue resolved?

Yes -> End troubleshooting

No

Note the page number that you are currently on. Upload log files and contact Isilon Technical Support, as instructed in Appendix A.
Appendix A: If you need further assistance

Contact Isilon Technical Support
If you need to contact Isilon Technical Support during troubleshooting, reference the page or step that you need help with. This information and the log file will help Isilon Technical Support staff resolve your case more quickly.

Upload node log files and the screen log file to Isilon Technical Support
1. When troubleshooting is complete, type exit to end your screen session.

2. Gather and upload the node log set and include the SSH screen log file by using the command appropriate for your method of uploading files. If you are not sure which method to use, use FTP.

   **ESRS:**
   ```
   isi_gather_info --esrs --local-only -f /ifs/data/Isilon_Support/screenlog.0
   ```

   **FTP:**
   ```
   isi_gather_info --ftp --local-only -f /ifs/data/Isilon_Support/screenlog.0
   ```

   **HTTP:**
   ```
   isi_gather_info --http --local-only -f /ifs/data/Isilon_Support/screenlog.0
   ```

   **SupportIQ:**
   Copy and paste the following command.
   **Note:** When you copy and paste the command into the command-line interface, it will appear on multiple lines (exactly as it appears on the page), but when you press Enter, the command will run as it should.

   ```
   isigather_info --local-only --ftp /ifs/data/Isilon_Support/screenlog.0 --upload --symlink /var/crash/SupportIQ/upload/ftp
   ```

3. If you receive a message that the upload was unsuccessful, refer to article 304567 for directions on how to upload files over FTP.
Appendix B: How to use this flowchart

**Introduction**
Describe what the section helps you to accomplish.

You could have arrived here from:

- [Page # - Page title]

Directional arrows indicate the path through the process flow.

**Note**
Provides context and additional information. Sometimes a note is linked to a process step with a colored dot.

**Decision diamond**

- **Yes**
  - Process step
  - Optional process step
  - End point

- **No**
  - Process step with command: command xyz
  - Go to Page #

**CAUTION!**
Caution boxes warn that a particular step needs to be performed with great care, to prevent serious consequences.

**Document Shape**
Calls out supporting documentation for a process step. When possible, these shapes contain links to the reference document. Sometimes linked to a process step with a colored dot.
Appendix C: Example error messages from hdfs.log

You could have arrived here from:
- Page 30 - Missing heartbeat (2)
- Page 50 - Upgrading

Example error messages for an unsupported service or component:
HDFS_LOG_WARNING("Ambari: Agent for zone 1 received a status command" "for an unsupported service: <service>"
HDFS_LOG_WARNING("Ambari: Agent for zone 1 received a status command" "for an unsupported component: <component>"
HDFS_LOG_WARNING("Ambari: Agent for zone 1 received an execution " "command for an unsupported service: <service>"
HDFS_LOG_WARNING("Ambari: Agent for zone 1 received an execution " "command for an unsupported component: <component>"

Example error messages for lack of connection, or heartbeat:
Cluster-3 hdfs [2526]: [hdfs] Ambari: Sending the heartbeat to the Ambari server for zone 7 failed. Agent will reset and restart
Cluster-3 hdfs [2526]: [hdfs] Ambari: Agent for zone 7 could not connect to its Ambari server. Agent will attempt to connect again later.
Cluster-3 hdfs [2526]: [hdfs] Ambari: Agent for zone 7 could not connect to its Ambari server. Agent will attempt to connect again later.
Cluster-3 hdfs [2526]: [hdfs] Ambari: Agent for zone 7 could not connect to its Ambari server. Agent will attempt to connect again later.
Cluster-3 hdfs [2526]: [hdfs] Ambari: Agent for zone 7 could not connect to its Ambari server. Agent will attempt to connect again later.
### Example output

```
cluster-1#isi zone zones list -v
   Name: System
   Path: /ifs
   Groupnet: groupnet0
   Map Untrusted: 
   NetBIOS Name: :
   User Mapping Rules: 
   Home Directory Umask: 0077
   Skeleton Directory: /usr/share/skel
   Cache Entry Expiry: 4H
   Zone ID: 1

-----------------------------------------------

   Name: zone2
   Path: /ifs/zone2
   Groupnet: groupnet0
   Map Untrusted: 
   Auth Providers: lsa-local-provider:zone2
   NetBIOS Name: :
   User Mapping Rules: 
   Home Directory Umask: 0077
   Skeleton Directory: /usr/share/skel
   Cache Entry Expiry: 4H
   Zone ID: 2
```

---

For links to all Isilon customer troubleshooting guides, visit the [OneFS Customer Troubleshooting Guide - Isilon Info Hub](https://www.dell.com/support/home/nes/isilon-info-hub).