

Hortonworks Data Platform

Ambari Troubleshooting Guide

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Hortonworks Data Platform : Ambari Troubleshooting Guide

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1. Troubleshooting Ambari Deployments

The first step in troubleshooting any problem in an Ambari-deploying Hadoop cluster is [Reviewing the Ambari Log Files](#).

Find a recommended solution to a troubleshooting problem in one of the following sections:

- [Resolving Ambari Installer Problems](#)
- [Resolving Cluster Deployment Problems](#)
- [Resolving General Problems](#)

1.1. Reviewing Ambari Log Files

Find files that log activity on an Ambari host in the following locations:

- Ambari Server logs

```
<your.Ambari.server.host>/var/log/ambari-server/ambari-server.log
```

- Ambari Agent logs

```
<your.Ambari.agent.host>/var/log/ambari-agent/ambari-agent.log
```

- Ambari Action logs

```
<your.Ambari.agent.host>/var/lib/ambari-agent/data/
```

This location contains logs for all tasks executed on an Ambari agent host. Each log name includes:

- commands-N.txt - the command file corresponding to a specific task.
- output-N.txt - the output from the command execution.
- errors-N.txt - error messages.

1.2. Resolving Ambari Installer Problems

Try the recommended solution for each of the following problems:

1.2.1. Problem: Browser crashed before Install Wizard completes

Your browser crashes or you accidentally close your browser before the Install Wizard completes.

1.2.1.1. Solution

The response to a browser closure depends on where you are in the process:

- The browser closes prior to hitting the **Deploy** button.

Re-launch the **same** browser and continue the install process. Using a different browser forces you to re-start the entire process.

- The browser closes after the **Deploy** button has launched the **Install, Start, and Test** screen.

Re-launch the same browser and continue the process or use a different browser and re-login. You are returned to the **Install, Start, and Test** screen.

1.2.2. Problem: Install Wizard reports that the cluster install has failed

The Install, Start, and Test screen reports that the cluster install has failed.

1.2.2.1. Solution

The response to a report of install failure depends on the cause of the failure:

- The failure is due to intermittent network connection errors during software package installs.

Use the **Retry** button on the **Install, Start, and Test** screen.

- The failure is due to misconfiguration or other setup errors.
 1. Use the left nav bar to go back to the appropriate screen; for example, **Customize Services**.
 2. Make your changes.
 3. Continue in the normal way.
- The failure occurs during the start/test sequence.
 1. Click **Next** and **Complete** and proceed to the Monitoring **Dashboard**.
 2. Use the **Services View** to make your changes.
 3. Re-start the service using **Service Actions**.
- The failure is due to something else.
 1. Open an SSH connection to the Ambari Server host.
 2. Clear the database. At the command line, type:

```
ambari-server reset
```
 3. Clear your browser cache.
 4. Re-run the Install Wizard.

1.2.3. Problem: Ambari Agents May Fail to Register with Ambari Server.

When deploying HDP using Ambari 1.4.x or later on RHEL CentOS 6.5, click the “Failed” link on the Confirm Hosts page in the Cluster Install wizard to display the Agent logs. The following log entry indicates the SSL connection between the Agent and Server failed during registration:

```
INFO 2014-04-02 04:25:22,669 NetUtil.py:55 - Failed to connect to
https://{ambari-server}:8440/cert/ca due to [Errno 1] _ssl.c:492:
error:100AE081:elliptic curve routines:EC_GROUP_new_by_curve_name:unknown
group
```

For more detailed information about this OpenSSL issue, see https://bugzilla.redhat.com/show_bug.cgi?id=1025598

1.2.3.1. Solution:

In certain recent Linux distributions (like RHEL/CentOS/Oracle Linux 6.x), the default value of `nproc` is lower than the value required if you are deploying the HBase service. To change this value:

1. Check the OpenSSL library version installed on your host(s):

```
rpm -qa | grep
openssl openssl-1.0.1e-15.el6.x86_64
```

2. If the output reads `openssl-1.0.1e-15.x86_64 (1.0.1 build 15)` you must upgrade the OpenSSL library by running the following command:

```
yum upgrade openssl
```

3. Verify you have the newer version of OpenSSL (1.0.1 build 16):

```
rpm -qa | grep openssl
openssl-1.0.1e-16.el6.x86_64
```

4. Restart Ambari Agent(s) and Click “Retry Failed” on the Wizard.

1.2.4. Problem: The “yum install ambari-server” Command Fails

You are unable to get the initial install command to run.

1.2.4.1. Solution:

You may have incompatible versions of some software components in your environment. Check the [Minimum System Requirements](#) and make any necessary changes.

1.2.5. Problem: HDFS Smoke Test Fails

If your DataNodes are incorrectly configured, the smoke tests fail and you get this error message in the DataNode logs:

```
DisallowedDataNodeException
org.apache.hadoop.hdfs.server.protocol.
DisallowedDatanodeException
```

1.2.5.1. Solution:

- Make sure that reverse DNS look-up is properly configured for all nodes in your cluster.
- Make sure you have the correct FQDNs when specifying the hosts for your cluster. Do not use IP addresses - they are not supported.

Restart the installation process.

1.2.6. Problem: yum Fails on Free Disk Space Check

If you boot your Hadoop DataNodes with/as a ramdisk, you must disable the free space check for yum before doing the install. If you do not disable the free space check, yum will fail with the following error:

```
Fail: Execution of '/usr/bin/yum -d 0 -e 0 -y install unzip' returned 1. Error
Downloading Packages: unzip-6.0-1.el6.x86_64: Insufficient space in download
directory /var/cache/yum/x86_64/6/base/packages
* free 0
* needed 149 k
```

1.2.6.1. Solution:

To disable free space check, update the DataNode image with a directive in /etc/yum.conf:

```
diskspacecheck=0
```

1.2.7. Problem: The HCatalog Daemon Metastore Smoke Test Fails

If the HCatalog smoke test fails, this is displayed in your console:

```
Metastore startup failed, see /var/log/hcatalog/hcat.err
```

1.2.7.1. Solution:

1. Log into the HCatalog node in your cluster.
2. Open /var/log/hcatalog/hcat.err or /var/log/hive/hive.log (one of the two will exist depending on the installation) with a text editor.
3. In the file, see if there is a MySQL Unknown Host Exception like this:

```
at java.lang.reflect.Method.invoke (Method.java:597)
at org.apache.hadoop.util.Runjar.main (runjar.java:156)
Caused by: java.net.UnknownHostException:mysql.host.com
at java.net.InetAddress.getAllByName (InetAddress.java:1157)
```

This exception can be thrown if you are using a previously existing MySQL instance and you have incorrectly identified the host name during the installation process. When you do the reinstall, make sure this name is correct.

4. In the file, see if there is an `ERROR Failed initializing database` entry like this:

```
11/12/29 20:52:04 ERROR DataNucleus.Plugin: Bundle
org.eclipse.jdt.core required
11/12/29 20:52:04 ERROR DataStore.Schema: Failed initialising
database
```

This exception can be thrown if you are using a previously existing MySQL instance and you have incorrectly identified the username/password during the installation process. It can also occur when the user you specify does not have adequate privileges on the database. When you do the reinstall, make sure this username/password is correct and that the user has adequate privilege.

5. Restart the installation process.

1.2.8. Problem: A service with a customized service user is not appearing properly in Ambari Web

You are unable to monitor or manage a service in Ambari Web when you have created a customized service user name with a hyphen, for example, `hdfs-user`.

1.2.8.1. Solution

Hyphenated service user names are not supported. You must re-run the Ambari Install Wizard and create a different name.

1.3. Resolving Cluster Deployment Problems

Try the recommended solution for each of the following problems:

1.3.1. Problem: Trouble Starting Ambari on System Reboot

If you reboot your cluster, you must restart the Ambari Server and all the Ambari Agents manually.

1.3.1.1. Solution:

Log in to each machine in your cluster separately:

1. On the Ambari Server host machine:

```
ambari-server start
```

2. On each host in your cluster:

```
ambari-agent start
```

1.3.2. Problem: Metrics and Host information display incorrectly in Ambari Web

Charts appear incorrectly or not at all despite being available in the native Ganglia interface or Host health status is displayed incorrectly.

1.3.2.1. Solution:

All the hosts in your cluster and the machine from which you browse to Ambari Web must be in sync with each other. The easiest way to assure this is to enable NTP.

1.3.3. Problem: On SUSE 11 Ambari Agent crashes within the first 24 hours

SUSE 11 ships with Python version 2.6.0-8.12.2 which contains a known defect that causes this crash.

1.3.3.1. Solution:

Upgrade to Python version 2.6.8-0.15.1 .

1.3.4. Problem: Attempting to Start HBase REST server causes either REST server or Ambari Web to fail

As an option you can start the HBase REST server manually after the install process is complete. It can be started on any host that has the HBase Master or the Region Server installed. If you install the REST server on the same host as the Ambari server, the http ports will conflict.

1.3.4.1. Solution

In starting the REST server, use the `-p` option to set a custom port. Use the following command to start the REST server.

```
/usr/lib/hbase/bin/hbase-daemon.sh start rest -p <custom_port_number>
```

1.3.5. Problem: Multiple Ambari Agent processes are running, causing re-register

On a cluster host `ps aux | grep ambari-agent` shows more than one agent process running. This causes Ambari Server to get incorrect ids from the host and forces Agent to restart and re-register.

1.3.5.1. Solution

On the affected host, kill the processes and restart.

1. Kill the Agent processes and remove the Agent PID files found here: `/var/run/ambari-agent/ambari-agent.pid`.
2. Restart the Agent process:

```
ambari-agent start
```

1.3.6. Problem: Some graphs do not show a complete hour of data until the cluster has been running for an hour

When a cluster is first started, some graphs, like **Services View -> HDFS** and **Services View -> MapReduce**, do not plot a complete hour of data, instead showing data only for the length of time the service has been running. Other graphs display the run of a complete hour.

1.3.6.1. Solution

Let the cluster run. After an hour all graphs will show a complete hour of data.

1.3.7. Problem: Ambari stops MySQL database during deployment, causing Ambari Server to crash.

The Hive Service uses MySQL Server by default. If you choose MySQL server as the database on the Ambari Server host as the managed server for Hive, Ambari stops this database during deployment and crashes.

1.3.7.1. Solution

If you plan to use the default MySQL Server setup for Hive and use MySQL Server for Ambari - make sure that the two MySQL Server instances are different.

If you plan to use the same MySQL Server for Hive and Ambari - make sure to choose the existing database option for Hive.

1.3.8. Problem: Service Fails with Unknown Host Exception

JVM `networkaddress.cache.negative.ttl` default setting of 10 (never cache) may result in DNS failure. Long, or multiple queries running on the JVM may fail. Occurs in Java 6,7, and 8.

1.3.8.1. Solution

Appropriate values for `networkaddress.cache.negative.ttl` depend on various system factors, including network traffic, cluster size, and resource availability. You can set Java VM options in an Ambari-installed cluster using the following procedure:

1. Edit the template for `hadoop-env.sh` file. Ambari deploys the template file on your cluster in the following location:

```
/var/lib/ambari-server/resources/stacks/{stackName}/  
{stackVersion}/hooks/before-START/templates/hadoop-env.sh.j2
```

where `{stackName}` and `{stackVersion}` refer to your specific stack name and version.

2. Change the following line in the template to add options to all Hadoop processes, then save the file.

```
export HADOOP_OPTS="-Djava.net.preferIPv4Stack=true  
${HADOOP_OPTS}"
```

3. Restart Ambari server.

```
ambari-server restart
```

4. Restart affected services, using the Ambari Web UI.

1.3.9. Problem: Cluster Install Fails with Groupmod Error

The cluster fails to install with an error related to running "groupmod". This can occur in environments where groups are managed in LDAP, and not on local Linux machines.

```
Fail: Execution of 'groupmod hadoop' returned 10. groupmod: group 'hadoop'  
does not exist in /etc/group
```

1.3.9.1. Solution

During the cluster install, on the Customize Services step for the Install Wizard, select the Misc tab and check the "Skip group modifications during install" option.

1.3.10. Problem: Host registration fails during Agent bootstrap on SLES due to timeout.

When using SLES and performing host registration using SSH, there are scenarios where Agent bootstrap fails due to timeout when running the setupAgent.py script. On the host with the timeout, you will see the following process hanging:

```
c6401.ambari.apache.org:/etc/ # ps -ef | grep zypper  
root      18318 18317   5 03:15 pts/1    00:00:00 zypper -q search -s --match-  
exact ambari-agent
```

1.3.10.1. Solutions

1. If you have a repository registered that is prompting to accept keys, via user interaction, you may see the hang and timeout. In this case, run "zypper refresh" and confirm all repository keys are accepted for the zypper command to work without user interaction.
2. Another alternative is to perform manual Agent setup and not use SSH for host registration. This option does not require that Ambari call zypper without user interaction.

1.4. Resolving General Problems

1.4.1. Problem: Hive developers may encounter an exception error message during Hive Service Check

MySQL is the default database used by the Hive metastore. Depending on several factors, such as the version and configuration of MySQL, a Hive developer may see an exception message similar to the following one:

```
An exception was thrown while adding/validating classes) : Specified key was too long; max key length is 767 bytes
```

1.4.1.1. Solution

Administrators can resolve this issue by altering the Hive metastore database to use the Latin1 character set, as shown in the following example:

```
mysql> ALTER DATABASE {metastore_database_name} character set latin1;
```

1.4.2. Problem: API calls for PUT, POST, DELETE respond with a "400 - Bad Request"

Removing a registered host not added to a cluster. curl command and REST API calls require a header element.

1.4.2.1. Solution

Starting with Ambari 1.4.2, you must include the "X-Requested-By" header with the REST API calls.

For example, if using curl, include the `-H "X-Requested-By: ambari"` option.

```
curl -u admin:admin -H "X-Requested-By: ambari" -X DELETE http://{ambari-host}:8080/api/v1/hosts/host1
```

1.4.3. Problem: Enabling NameNode HA wizard fails on the "Initialize JournalNode" step.

After upgrading to Ambari 1.6.1 and attempting to enable NameNode HA in a HDP 2.x Stack-based cluster, the HA wizard fails to complete with an error during the "Initialize JournalNode" step. This failure situation can also occur if your cluster was created using a Blueprint.

1.4.3.1. Solution

Using the Ambari REST API, you need to create JournalNode and ZKFC service components. This API can also be called prior to launching the NameNode HA wizard to avoid the wizard failing.

```
curl --user admin:admin -H "X-Requested-By: ambari" -i -X POST -d '{ "components": [ { "ServiceComponentInfo": { "component_name": "JOURNALNODE" } }, { "ServiceComponentInfo": { "component_name": "ZKFC" } } ] }' http://ambari.server:8080/api/v1/clusters/c1/services?ServiceInfo/service_name=HDFS
```

Replace `ambari.server` and `c1` with your Ambari Server hostname and cluster name respectively.