

Cloudera AI

Troubleshooting Cloudera AI

Date published: 2020-07-16

Date modified: 2025-10-31

CLOUDERA

<https://docs.cloudera.com/>

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Troubleshooting issues with workloads

This section describes some potential issues data scientists might encounter once the Cloudera AI Workbench is running workloads.

401 Error caused by incompatible Data Lake version

The following error might occur due to an incompatible Data Lake version:

```
org.apache.ranger.raz.hook.s3.RazS3ClientCredentialsException: Exception in
Raz Server;
Check the raz server logs for more details, HttpStatus: 401
```

To avoid this issue, ensure that:

- Data Lake and Runtime (server) version is 7.2.11 or higher.
- Hadoop Runtime add-on (client) used in the Cloudera AI session is 7.2.11 or higher.
- Spark Runtime add-on version must be CDE 1.13 or higher.

Engines cannot be scheduled due to lack of CPU or memory

A symptom of this is the following error message in the Workbench: "Unschedulable: No node in the cluster currently has enough CPU or memory to run the engine."

Either shut down some running sessions or jobs or provision more hosts for Cloudera AI.

Workbench prompt flashes red and does not take input

The Workbench prompt flashing red indicates that the session is not currently ready to take input.

Cloudera AI does not currently support non-REPL interaction. One workaround is to skip the prompt using appropriate command-line arguments. Otherwise, consider using the terminal to answer interactive prompts.

PySpark jobs fail due to Python version mismatch

```
Exception: Python in worker has different version 2.6 than that in driver 2.
7, PySpark cannot run with different minor versions
```

One solution is to install the matching Python 2.7 version on all the cluster hosts. A better solution is to install the Anaconda parcel on all CDH cluster hosts. Cloudera AI Python engines will use the version of Python included in the Anaconda parcel which ensures Python versions between driver and workers will always match. Any library paths in workloads sent from drivers to workers will also match because Anaconda is present in the same location across all hosts. Once the parcel has been installed, set the PYSARK_PYTHON environment variable in the Cloudera AI Admin dashboard.

Troubleshooting Kerberos issues

This topic describes some common Kerberos issues and their recommended solutions.

HDFS commands fail with Kerberos errors even though Kerberos authentication is successful in the web application

If Kerberos authentication is successful in the web application, and the output of klist in the engine reveals a valid-looking TGT, but commands such as `hdfs dfs -ls /` still fail with a Kerberos error, it is possible that your cluster is missing the [Java Cryptography Extension \(JCE\) Unlimited Strength Jurisdiction Policy File](#). The JCE policy file is

required when Red Hat uses AES-256 encryption. This library shall be installed on each cluster host and will live under \$JAVA_HOME. For more information, see [Using AES-256 Encryption](#).

Cannot find renewable Kerberos TGT

Cloudera AI runs its own Kerberos TGT renewer which produces non-renewable TGT. However, this confuses Hadoop's renewer which looks for renewable TGTs. If the Spark 2 logging level is set to WARN or lower, you may see exceptions such as:

```
16/12/24 16:38:40 WARN security.UserGroupInformation: Exception encountered
while running the renewal command. Aborting renew thread. ExitCodeException
exitCode=1: kinit: Resource temporarily unavailable while renewing credentia
ls

16/12/24 16:41:23 WARN security.UserGroupInformation: PriviledgedActionExcep
tion as:user@CLOUDERA.LOCAL (auth:KERBEROS) cause:javax.security.sasl.SaslEx
ception: GSS initiate failed [Caused by GSSException: No valid credentials p
rovided (Mechanism level: Failed to find any Kerberos tgt)]
```

This is not a bug. Spark 2 workloads will not be affected by this. Access to Kerberized resources should also work as expected.

Exit codes for Cloudera AI jobs and sessions

The exit codes and their descriptions for Cloudera AI jobs and sessions are essential for troubleshooting the errors.



Note: Take action on the exit codes if you have retried the same job multiple times, resulting in the same error code and you have addressed the possible causes.

Exit codes with user action required

The error codes listed in the following table are encountered in Cloudera AI sessions. Therefore, check and review your scripts running in Cloudera AI sessions.

Table 1: Exit codes and their descriptions for Cloudera AI jobs and sessions - User action required

Exit code	Description	Cause	Required action
1	Failed with exit code 1.	Execution failure.	Check the execution output of the session or job.
127	Command not found.	Container launch affected by custom Runtime.	Contact Cloudera Support.
128	Invalid argument provided to exit.	Invalid exit argument is used.	Check the script for invalid exit argument.
129	Timeout has been reached.	The length of the timeout value has been exceeded.	Modify the session timeout environment variable.
130	SIGINT: Script terminated by user using control-c or the interrupt button.	Invalid exit argument is used.	Check the script for invalid exit argument.
137	SIGKILL: Process terminated. It often indicates memory exhaustion.	It can be caused by one of the following options: out of memory, anti-virus terminated pod, liveness probe failed.	Increase resources or check the profile script.
158	SIGXCPU: CPU time limit exceeded.	The CPU time limit has been exceeded.	Increase resources.
159	SIGXFSZ: File size limit exceeded.	The file size limit has been exceeded.	Increase resources or reduce file size.

Exit code	Description	Cause	Required action
409	The job run is skipped.	The job run is skipped because an earlier instance of the job run must be completed first.	Increase the time interval between job runs.

Exit codes requiring Cloudera Support

The exit codes listed in the following table might occur due to issues in the Cloudera AI or underlying infra issues. Contact Cloudera Support for assistance with these errors.

Table 2: Exit codes and their descriptions for Cloudera AI jobs and sessions - Contact Cloudera Support

Exit code	Description	Cause	Required action
-1	Unknown termination.	Internal error during workload startup.	Contact Cloudera Support.
2	Misuse of shell built-ins.	Internal error during workload startup.	Contact Cloudera Support.
33	Engine initiation failure.	Internal error during workload startup.	Contact Cloudera Support.
34	Process terminated by the reconciler.	Internal error during workload startup.	Contact Cloudera Support.
126	The command cannot be executed, or its exit status is unknown.	Internal error during workload startup.	Contact Cloudera Support.
131	SIGQUIT: Terminal quit signal.	Internal error during workload startup.	Contact Cloudera Support.
132	SIGILL: Illegal instructions used.	Internal error during workload startup.	Contact Cloudera Support.
133	SIGTRAP: Trace or breakpoint trap.	Internal error during workload startup.	Contact Cloudera Support.
134	SIGABRT: Process aborted.	Internal error during workload startup.	Contact Cloudera Support.
135	SIGEMT: Emulation trap occurred.	Internal error during workload startup.	Contact Cloudera Support.
136	SIGFPE: Arithmetic exception.	Internal error during workload startup.	Contact Cloudera Support.
138	SIGBUS: Access to an undefined portion of a memory object.	Internal error during workload startup.	Contact Cloudera Support.
139	SIGSEGV: Invalid memory reference.	Internal error during workload startup.	Contact Cloudera Support.
140	SIGSYS: Invalid system call.	Internal error during workload startup.	Contact Cloudera Support.
141	SIGPIPE: Broken pipe.	Internal error during workload startup.	Contact Cloudera Support.
142	SIGALRM: Alarm clock signal.	Internal error during workload startup.	Contact Cloudera Support.
143	SIGTERM: Process terminated gracefully.	Internal error during workload startup.	Contact Cloudera Support.
144	Worker console started after its master console had stopped.	Internal error during workload startup.	Contact Cloudera Support.
146	SIGCHLD: A child process was stopped or terminated.	Internal error during workload startup.	Contact Cloudera Support.
148	SIGTSTP: Terminal stop signal.	Internal error during workload startup.	Contact Cloudera Support.
151	SIGSTOP: Stop the process.	Internal error during workload startup.	Contact Cloudera Support.
152	SIGCONT: Continue executing, if stopped.	Internal error during workload startup.	Contact Cloudera Support.
153	SIGCONT: Continue executing, if stopped.	Internal error during workload startup.	Contact Cloudera Support.
154	SIGTTIN: Background process attempting to read from terminal.	Internal error during workload startup.	Contact Cloudera Support.
155	SIGTTOU: Background process attempting to write from terminal.	Internal error during workload startup.	Contact Cloudera Support.

Exit code	Description	Cause	Required action
156	SIGVTALRM: Virtual timer expired.	Internal error during workload startup.	Contact Cloudera Support.
157	SIGPROF: Profiling timer expired.	Internal error during workload startup.	Contact Cloudera Support.

Troubleshooting for ML Runtimes

This topic helps you overcome some potential issues you might encounter with ML Runtimes.

Warnings in Python messages

Follow the instructions to overcome some potential issues with Python messages.

TqdmWarning: IPProgress not found. Please update Jupyter and ipywidgets.

Install or update the ipywidgets Python package. Do not upgrade the jupyter_client library.

Interrupted R package installation hindering further successful R package installations

Learn how to troubleshoot interrupted R package installations hindering further successful R package installations.

If the installation of an R package is interrupted before completion, for example, if a session is stopped during the process, all subsequent R package installations will fail.

To resolve this issue, the lock files created during the interrupted installation must be deleted.

Troubleshooting Custom Runtime addons

Follow the instructions to resolve potential issues that might arise with Runtime images.

When a Custom Runtime addon attempts to mount a file or folder that falls into one of the following categories, workloads might fail to work. In that case, Cloudera AI UI shows the following error messages:

- **Failed setting up runtime addons**
- **Engine exited with status 33**

The exact error message can help you to determine what scenario causes the issue.

The file or folder does not exist in the uploaded tarball or is not located under the proper path within the tarball archive

A possible root cause is Cloudera AI not being able to mount files or folders from Custom Runtime addons.

Adjust the paths in the tarball or metadata file according to the details in *Custom Runtime addon format requirements*.

The file or folder, a custom Runtime addon tries to mount, exists already in the filesystem

The file or folder either already exists on the Runtime image or is mounted by another Runtime addon.

Due to a limitation, Custom Runtime addons cannot overwrite existing files. Change the path of the mounted files.

cdsu user has no write access in the pod's file system to create symlinks to mounted files

Modify the path of the mounted files to a location writable by the cdsu user. Alternatively, create a Custom Runtime image with adjusted permissions and use it for all the workloads.

Cloudera AI Runtime addons support only Java 8 integrated into Hadoop

In Cloudera AI, when mounting JAVA to workloads using Runtime addons, the only available Runtime addon is for JAVA 8, which is integrated into the Hadoop addon.

Run workloads with the required Java version using Custom Runtime addons. Include the required version details in the following example commands.



Note: Using Java versions other than Java 8, which is integrated into the Hadoop addon, may lead to unexpected behavior.

The following example instructions include the `[***JAVA VERSION***]` placeholder. Replace this placeholder with the required Java version, as shown in the examples:

- For java 11: `openjdk-11-jre-headless` or `openjdk-11-jdk-headless`
- For java 17: `openjdk-17-jre-headless` or `openjdk-17-jdk-headless`

1. Save the following Dockerfile:

```
FROM ubuntu:20.04
RUN apt-get update && apt-get install -y openjdk-[***JAVA
VERSION***]-jre-headless openjdk-[***JAVA VERSION***]-jdk-headless
RUN tar -czf /cml-java[***VERSION***]-addon.tar.gz /usr/lib/jvm/j
ava-[***VERSION***]-openjdk-amd64 /etc/java-[***VERSION***]-openjdk
```

2. Build the Dockerfile and copy the tar file created in Step 1.

```
docker build --network=host -t cml_java_addon .

container_id=$(docker create cml_java_addon)
docker cp $container_id:/cml-java[***VERSION***]-addon.tar.gz - > ./
cml-java[***VERSION***]-addon.tar.gz
docker rm -v $container_id
```

3. Upload the Tarball file as a custom addon to Cloudera AI with the following metadata file:

```
{
  "name" : "java[***VERSION***]",
  "spec" : {"paths" : ["/usr/lib/jvm/java-[***VERSION***]-openjdk-amd
64", "/etc/java-[***VERSION***]-openjdk"]}
}
```

4. Set the following environment variables at Site Administration Runtimes :

`JAVA_HOME: /usr/lib/jvm/java-[***VERSION***]-openjdk-amd64`

`PATH: ${PATH}/java-8/java-[***VERSION***]}`

Related Information

[Requirements for Cloudera AI on premises](#)

[Custom Runtime addons with Cloudera AI](#)