

Machine Learning

Release Notes

Date published: 2020-07-16

Date modified: 2024-05-30

CLOUDERA

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

Legal Notice

© Cloudera Inc. 2024. All rights reserved.

The documentation is and contains Cloudera proprietary information protected by copyright and other intellectual property rights. No license under copyright or any other intellectual property right is granted herein.

Unless otherwise noted, scripts and sample code are licensed under the Apache License, Version 2.0.

Copyright information for Cloudera software may be found within the documentation accompanying each component in a particular release.

Cloudera software includes software from various open source or other third party projects, and may be released under the Apache Software License 2.0 (“ASLv2”), the Affero General Public License version 3 (AGPLv3), or other license terms. Other software included may be released under the terms of alternative open source licenses. Please review the license and notice files accompanying the software for additional licensing information.

Please visit the Cloudera software product page for more information on Cloudera software. For more information on Cloudera support services, please visit either the Support or Sales page. Feel free to contact us directly to discuss your specific needs.

Cloudera reserves the right to change any products at any time, and without notice. Cloudera assumes no responsibility nor liability arising from the use of products, except as expressly agreed to in writing by Cloudera.

Cloudera, Cloudera Altus, HUE, Impala, Cloudera Impala, and other Cloudera marks are registered or unregistered trademarks in the United States and other countries. All other trademarks are the property of their respective owners.

Disclaimer: EXCEPT AS EXPRESSLY PROVIDED IN A WRITTEN AGREEMENT WITH CLOUDERA, CLOUDERA DOES NOT MAKE NOR GIVE ANY REPRESENTATION, WARRANTY, NOR COVENANT OF ANY KIND, WHETHER EXPRESS OR IMPLIED, IN CONNECTION WITH CLOUDERA TECHNOLOGY OR RELATED SUPPORT PROVIDED IN CONNECTION THEREWITH. CLOUDERA DOES NOT WARRANT THAT CLOUDERA PRODUCTS NOR SOFTWARE WILL OPERATE UNINTERRUPTED NOR THAT IT WILL BE FREE FROM DEFECTS NOR ERRORS, THAT IT WILL PROTECT YOUR DATA FROM LOSS, CORRUPTION NOR UNAVAILABILITY, NOR THAT IT WILL MEET ALL OF CUSTOMER’S BUSINESS REQUIREMENTS. WITHOUT LIMITING THE FOREGOING, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CLOUDERA EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, QUALITY, NON-INFRINGEMENT, TITLE, AND FITNESS FOR A PARTICULAR PURPOSE AND ANY REPRESENTATION, WARRANTY, OR COVENANT BASED ON COURSE OF DEALING OR USAGE IN TRADE.

Contents

What's New.....	4
Known Issues.....	5
Fixed Issues.....	8

What's New

CDP Private Cloud 1.5.4 includes the following features for Cloudera Machine Learning.

New features

CML Service Accounts are available in CML Private Cloud

In Cloudera Machine Learning (CML), the Kerberos principal for the Service Account may not be the same as your login information. Therefore, ensure you provide the Kerberos identity when you sign in to the Service Account. For more information, see [Authenticating Hadoop for CML Service Accounts](#).

Model Registry is available in CDP Private Cloud

Model Registry is now generally available (GA) in CDP Private Cloud. Model Registry in CDP Private Cloud uses Apache Ozone to store model artifacts. For creating a Model Registry you need the Ozone S3 gateway endpoint, the Ozone access key, and the Ozone secret key.

If you deploy Model Registry in an environment that contains one or more CML workspaces, you must synchronize the Model Registry with the workspaces. For more information, see [Prerequisites for creating Model Registry](#) and [Synchronizing the model registry with a workspace](#).

Heterogeneous GPU usage

When using heterogeneous GPU clusters to run sessions and jobs, the available GPU accelerator labels need to be selected during workload creation. For more information, see [Heterogeneous GPU clusters](#).

Data connections without auto discovery

Cloudera Machine Learning is a flexible, open platform, supporting connections to many data sources. The provided code samples demonstrate how to access local data for CML workloads. For more information, see [Connecting to CDW](#).

Spark Log4j Configuration

Cloudera Machine Learning allows you to update Spark's internal logging configuration on a per-project basis. Spark logging properties can be customized for every session, and job with a default file path found at the root of your project. You can also specify a custom location with a custom environment variable. For more information, see [Spark Log4j Configuration](#).

ML Metrics Collector service

The Metrics Collector service gathers data about how users and groups use resource quota, like how much CPU, Memory and GPU capacity (if any) is allocated, and what the users or groups utilize from that. The Metrics Collector service is running by default, but to collect data about resource quota metrics, you need to enable the Quota Management feature. For more information, see [ML Metrics Collector Service overview](#).

Quota Management for group level

Quota Management Technical Preview (TP) release enables you to control how resources are allocated within your CML workspace on user and on group level. Yunikorn Gang Scheduling is also available, which is the default scheduling mechanism in Cloudera Machine Learning. For more information, see [Quota Management overview](#) and [Yunikorn Gang Scheduling](#).

Restarting a failed AMP setup

You can now retry failed AMP deployment steps and continue the AMP setup to handle intermittent and configuration issues. For more information, see [Restarting a failed AMP setup](#).

New Hadoop CLI Runtime Addon versions are available

The HadoopCLI 7.1.8.3-601 Runtime Addon is released for the Private Cloud.

Related Information

[Known Issues and Limitations](#)

Known Issues

You might run into some known issues while using Cloudera Machine Learning on Private Cloud.

Using dollar character in environment variables in Cloudera Machine Learning

Environment variables with the dollar (\$) character are not parsed correctly by Cloudera Machine Learning (CML). For example, if you set `PASSWORD="pass$123"` in the project environment variables, and then try to read it using the `echo` command, the following output will be displayed:

```
pass23
```

Workaround: Use one of the following commands to print the \$ sign:

```
echo 24 | xxd -r -p
or
echo JAo= | base64 -d
```

Insert the value of the environment variable by wrapping it in the command substitution using `$()` or `` ``. For example, if you want to set the environment variable to `ABC$123`, specify:

```
ABC$(echo 24 | xxd -r -p)123
or
ABC`echo 24 | xxd -r -p`123
```

DSE-36718: Disable auto synchronization feature for users and teams

The automated team and user synchronization feature is disabled. Newly installed or upgraded workspaces do not have the automatic synchronization option in the Cloudera Machine Learning UI.

Workaround: none

DSE-36759: AMPs and Feature Announcement sections do not work in NTP setups

Cloudera Machine Learning (CML) Private Cloud setups with Non Transparent Proxy do not function properly, that affects Accelerators for ML Projects (AMPs) and Feature Announcements. The home page freezes, the feature announcement displays error message, and the AMPs do not load.

Workaround:

To avoid the home page freeze copy the following environment variables from the web deployment, and add them to the environment section of the API deployments:

- `HTTP_PROXY`
- `HTTPS_PROXY`
- `NO_PROXY`
- `http_proxy`
- `https_proxy`
- `no_proxy`



Note: The values are the same for both the lower and upper case variants.

DSE-32943: Enabling Service Accounts

Teams in the CML workspace can only run workloads within team projects with the Run as option for service accounts if they have previously manually added service accounts as a collaborator to the team.

DSE-35013: First CML workspace creation fails

On RHEL 8.8, during the first CML workspace installation on GPU with ECS external registry, pods might get stuck in the init or CrashLoop state.

First-time workspace installation is expected to fail. Consider this as a test workspace, and apply the following manual workaround for creating subsequent workspaces:

1. Restart or delete the pods which are in init or CrashLoop state in the test workspace.
2. Once all pods are in the running state, create new workspaces as needed.
3. Delete the test workspace from the CML UI if no longer needed.

OPSX-4603: Buildkit in ECS in CML PrivateCloud

Issue: BuildKit was introduced in ECS for building images of models and experiments. BuildKit is a replacement for Docker, which was previously used to build images of CML's models and experiments in ECS. Buildkit is only for OS RHEL8.x and CentOS 8.x.

Buildkit in CML Private Cloud 1.5.2 is a Technical Preview feature. Hence, having Docker installed on the nodes/hosts is still mandatory for models and experiments to work smoothly. Upcoming release will be completely eliminating the dependency of Docker on the nodes.

Workaround: None.

DSE-32285: Migration: Migrated models are failing due to image pull errors

Issue: After CDSW to CML migration (on-premises) via full-fledged migration tool, migrated models on CML Private Cloud Workspace fails on initial deployment. This is because the initial model deployment tries to pull images from on-premises's registry.

Workaround: Redeploy the migrated model. As this involves the build and deploy process, the image will be built, pushed to the CML Private Cloud Workspace's configured registry, and then the same image will be consumed for further usage.

DSE-28768: Spark Pushdown is not working with Scala 2.11 runtime

Issue: Scala and R are not supported for Spark Pushdown.

Workaround: None.

DSE-32304: On CML Private Cloud ECS terminal and ssh connections can terminate

Issue: In Private Cloud ECS, CML Terminal and SSH connections can terminate after an uncertain amount of time, usually after 4-10 minutes. This issue affects the usage of local IDEs to work with CML, as well as any customer application using a websocket connection.

Workaround: None.

DSE- 35251: Web pod crashes if a project forking takes more than 60 minutes

The web pod crashes if a project forking takes more than 60 minutes. This is because the timeout is set to 60 minutes using the `grpc_git_clone_timeout_minutes` property. The following error is displayed after the web pod crash:

```
2024-04-23 22:52:36.384 1737 ERROR AppServer.VFS.grpc
crossCopy grpc error data = [{"error": "1"}],
{"code": 4, "details": "2", "metadata": "3"}, "Deadline exceeded", {}]
["Error: 4 DEADLINE_EXCEEDED: Deadline exceeded\n
at callErrorFromStatus (/home/cdswint/services/web/node_modules/
@grpc/grpc-js/build/src/call.js:31:19)\n at Object.onReceiveS
tatus (/home/cdswint/services/web/node_modules/@grpc/grpc-js/bui
ld/src/client.js:192:76)\n at Object.onReceiveStatus (/home/c
```

```

cdswint/services/web/node_modules/@grpc/grpc-js/build/src/client-
interceptors.js:360:141)\n    at Object.onReceiveStatus (/home/c
dswint/services/web/node_modules/@grpc/grpc-js/build/src/client-
interceptors.js:323:181)\n    at /home/cdswint/services/web/node
_modules/@grpc/grpc-js/build/src/resolving-call.js:94:78\n    at
  process.processTicksAndRejections (node:internal/process/task_q
ueues:77:11)\nfor call at\n    at ServiceClientImpl.makeUnaryReq
uest (/home/cdswint/services/web/node_modules/@grpc/grpc-js/buil
d/src/client.js:160:34)\n    at ServiceClientImpl.crossCopy (/ho
me/cdswint/services/web/node_modules/@grpc/grpc-js/build/src/mak
e-client.js:105:19)\n    at /home/cdswint/services/web/server-dist/
grpc/vfs-client.js:234:12\n    at Object.crossCopy (/home/cdswi
nt/services/web/server-dist/models/vfs.js:280:38)\n    at projec
tForkAsyncWrapper (/home/cdswint/services/web/server-dist/models/
projects/projects-create.js:229:19)" ]
  node:internal/process/promises:288
    triggerUncaughtException(err, true /* fromPromise */);
    ^Error: 4 DEADLINE_EXCEEDED: Deadline exceeded
    at callErrorFromStatus (/home/cdswint/services/web/n
ode_modules/@grpc/grpc-js/build/src/call.js:31:19)
    at Object.onReceiveStatus (/home/cdswint/services/web/n
ode_modules/@grpc/grpc-js/build/src/client.js:192:76)
    at Object.onReceiveStatus (/home/cdswint/services/we
b/node_modules/@grpc/grpc-js/build/src/client-interceptors.js:36
0:141)
    at Object.onReceiveStatus (/home/cdswint/services/web/n
ode_modules/@grpc/grpc-js/build/src/client-interceptors.js:323:1
81)
    at /home/cdswint/services/web/node_modules/@grpc/grpc-
js/build/src/resolving-call.js:94:78
    at process.processTicksAndRejections (node:internal/p
rocess/task_queues:77:11)
    for call at
    at ServiceClientImpl.makeUnaryRequest (/home/cdswint/s
ervices/web/node_modules/@grpc/grpc-js/build/src/client.js:160:3
4)
    at ServiceClientImpl.crossCopy (/home/cdswint/services/
web/node_modules/@grpc/grpc-js/build/src/make-client.js:105:19)
    at /home/cdswint/services/web/server-dist/grpc/vfs-cli
ent.js:235:19
    at new Promise (<anonymous>)
    at Object.crossCopy (/home/cdswint/services/web/server-
dist/grpc/vfs-client.js:234:12)
    at Object.crossCopy (/home/cdswint/services/web/server-
dist/models/vfs.js:280:38)
    at projectForkAsyncWrapper (/home/cdswint/services/web/
server-dist/models/projects/projects-create.js:229:19) {
      code: 4,
      details: 'Deadline exceeded',
      metadata: Metadata { internalRepr: Map(0) {}}, options:
    {} }
  }
}

```

Workaround: Increase the timeout limit, for example, to 120 minutes, using the `grpc_git_clone_timeout_minutes` property.

```
UPDATE site_config SET grpc_git_clone_timeout_minutes = <new
value>;
```

Fixed Issues

This section lists issues fixed in this release of Cloudera Machine Learning (CML) on Private Cloud.

DSE-24333: Embedded Spark UI fails to load in Spark pushdown mode for Spark 3

When Spark is run on yarn, the configuration attempts to disable proxying of the Spark UI through the Yarn Resource Manager. This setting was not respected by Spark 3 binaries and resulted in the Could not determine the proxy server for redirection error message when attempting to reach the embedded Spark UI on the driver.

This behavior works again in Spark 3.2.3 with CDH 7.1.7 and Spark 3.3.2 with CDH 7.1.9.

DSE-32887: Runtime updates cannot be enabled from the Cloudera Manager UI Site Administration dashboard

Runtime updates can now be enabled from the CML UI Site Administration dashboard.

DSE-29976: Job Arguments fail in PBJ runtimes

PBJ (Powered by Jupyter) Runtimes were not able to access Job arguments as standard command line arguments. To mitigate this, a new environment variable was added to Jobs, called "JOB_ARGUMENTS". This environment variable can be used to access arguments specified in the Job Creation or Job Update UI.