

Cloudera Data Engineering 1.5.4

Cloudera Data Engineering Release Notes

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Contents

What's new in Cloudera Data Engineering Private Cloud.....	4
Known issues and limitations in Cloudera Data Engineering on CDP Private Cloud.....	4
Fixed issues in Cloudera Data Engineering on CDP Private Cloud.....	8
Creating Cloudera Data Engineering Virtual Cluster without installing Atlas in your CDP Base cluster.....	9
Compatibility for Cloudera Data Engineering and Runtime components.....	9

What's new in Cloudera Data Engineering Private Cloud

Review the new features in the Cloudera Data Engineering (CDE) service of the CDP Data Services 1.5.4 release.

Support for password protected private key to initialize the virtual cluster

You can now use the password protected private keys to initialize the virtual cluster. Currently, the password protected private keys are supported with RSA and EC algorithms only. For more information, see [Initializing virtual clusters](#).

Support for Spark Connect session (Technical Preview)

CDE supports Spark Connect sessions which are a type of [CDE sessions](#) that expose the [Spark Connect interface](#). Spark Connect session allows you to run Spark commands from any remote Python environment.

Known issues and limitations in Cloudera Data Engineering on CDP Private Cloud

This page lists the current known issues and limitations that you might run into while using the Cloudera Data Engineering (CDE) service.

DEX-14676: Deep Analysis is not working in CDE PvC under analysis tab

If you are using Spark version 2.x for running your jobs, then the Run Deep Analysis feature present under the Analysis tab is not supported on Cloudera Data Engineering Private Cloud.

DEX-12150: Recursive search for a file in resources is not working

If you search for any file using the Search field in the Resources page, the result does not display any files present with that name inside the resources.

Navigate to the relevant resource and then locate the file in that resource.

DEX-8540: Job Analysis tab is not working

When you access the Jobs Runs Analysis tab through the Cloudera Data Engineering UI, the Analysis tab fails to load data for Spark 2.

To view the data in the Job Analysis tab, open the JOBS API URL from the Virtual Cluster details page and access the Analysis tab.

DEX-12426: Data Connector UI does not load

Data Connector UI does not load for self-signed certificates if the browser certificates are not trusted.

When utilising the self-signed certificates, it is crucial to trust the certificates associated with the CDE URLs. Perform the following:

1. Using the CDE UI, install a virtual cluster (VC) on the cluster.
2. Initialize the installed VC using the `cde-utils.sh` script.
3. Open the **Jobs UI** in a new tab, which prompts the acknowledgement and trust of the certificates, accept it.
4. Refresh the **Data Connectors** page.

You can now access Grafana and the Data Connectors UI.

DEX-11300: Editing the configuration of a job created using a Git repository shows Resources instead of Repository

Jobs which use application file from *Repositories* when edited, shows Resources as a source under Select application file. This issue does not affect the functionality of the job but could confuse as it displays the source as a Resource for the application even if the selected file is from a repository. Though it would show Resource in this case, in the backend it is selected from the chosen repository.

DEX-11340: Sessions go to unknown state if you start the CDE upgrade process before killing live Sessions

If spark sessions are running during the CDE upgrade then they are not be automatically killed which can leave them in an unknown state during and after the upgrade.

You must kill the running Spark Sessions before you start the CDE upgrade.

DEX-10939: Running the `prepare-for-upgrade` command puts the workload side database into read-only mode

Running the `prepare-for-upgrade` command puts the workload side database into read-only mode. If you try to edit any resources or jobs or run jobs in any virtual cluster under the CDE service for which the `prepare-for-upgrade` command was executed, The MySQL server is running with the `--read-only` option so it cannot execute this statement error is displayed.

This means that all the APIs that perform `write` operations will fail for all virtual clusters. This is done to ensure that no changes are done to the data in the cluster after the `prepare-for-upgrade` command is executed, so that the new restored cluster is consistent with the old version.

You must ensure that you have sufficient time to complete the entire upgrade process before running the `prepare-for-upgrade` command.

DOCS-17844: Logs are lost if the log lines are longer than 50000 characters in fluentd

This issue occurs when the `Buffer_Chunk_Size` parameter for the `fluent-bit` is set to a value that is lesser than the size of the log line.

The values that are currently set are:

```
Buffer_Chunk_Size=50000
Buffer_Max_Size=50000
```

When required, you can set higher values for these parameters in the `fluent-bit` configuration map which is present in the `dex-app-xxx` namespace.

DOCS-18585: Changes to the log retention configuration in the existing virtual cluster do not reflect the new configuration

When you edit the log retention policy configuration for an existing virtual cluster, the configuration changes are not applied.

When you edit the log retention policy configuration, you must restart the `runtime-api-server` pod using the `kubectl rollout restart deployment/<deployment-name> -n <namespace>` command to apply the changes.

For example:

```
kubectl rollout restart deployment/dex-app-fw6lrgm-api -n dex-app-fw6lrgm
```

DEX-11231: In OpenShift, the Spark 3.3 virtual cluster creation fails due to Airflow pods crashing

This is an intermittent issue during virtual cluster installation in the OCP cluster where the `airflow-scheduler` and `airflow-webserver` pods are stuck in the `CrashLoopBackOff` state. This leads to virtual cluster installation failure.

Retry the virtual cluster installation because the issue is intermittent.

DEX-10576: Builder job does not start automatically when the resource is restored from an archive

For the airflow python environment resource, the restoration does not work as intended. Though the resource is restored, the build process is not triggered. Even if the resource was activated during backup, it is not reactivated automatically. This leads to job failure during restoration or creation, if there is a dependency on this resource.

You can use the CDE API or CLI to download the requirements.txt file and upload it to the resource. You can activate the environment if required.

```
# cde resource download --name <python-environment-name> --resource-path requirements.txt
# cde resource upload --name <python-environment-name> --local-path requirements.txt
```

DEX-10147: Grafana issue if the same VC name is used under different CDE services which share same environment

In CDE 1.5.1, when you have two different CDE services with the same name under the same environment, and you click the Grafana charts for the second CDE service, metrics for the Virtual Cluster in the first CDE service will display.

After you have upgraded CDE, you must verify other things in the upgraded CDE cluster except the data shown in Grafana. After you verified that everything in the new upgraded CDE service, the old CDE service must be deleted and the Grafana issue will be fixed.

DEX-10116: Virtual Cluster installation fails when Ozone S3 Gateway proxy is enabled

Virtual Cluster installation fails when Ozone S3 gateway proxy is enabled. Ozone s3 gateway proxy gets enabled when more than one Ozone S3 Gateway is configured in the CDP Private Cloud Base cluster.

Add the `127.0.0.1 s3proxy-<environment-name>.<private-cloud-control-plane-name>-services.svc.cluster.local` entry in the `/etc/hosts` of all nodes in the CDP Private Cloud Base cluster where the Ozone S3 gateway is installed. For example, if the private cloud environment name is `cdp-env-1` and private cloud control plane name is `cdp`, then add the `127.0.0.1 s3proxy-cdp-env-1.cdp-services.svc.cluster.local` entry in `/etc/hosts`.

DEX-10052: Logs are not available for python environment resource builder in CDP Private Cloud

When creating a python environment resource and uploading the requirements.txt file, the python environment is built using a k8s job that runs in the cluster. These logs cannot be viewed currently for debugging purposes using CDE CLI or UI. However, you can view the events of the job.

None

DEX-10051: Spark sessions is hung at the Preparing state if started without running the cde-utils.sh script

You might run into an issue when creating a spark session without initialising the CDE virtual cluster and the UI might hang in a Preparing state.

Run the `cde-utils.sh` to initialise the virtual cluster as well as the user in the virtual cluster before creating a Spark long-running session.

DEX-9783: While creating the new VC, it shows wrong CPU and Memory values

When clicking on the Virtual Cluster details for a Virtual Cluster that is in the Installing state, the configured CPU and Memory values that are displayed are inaccurate for until the VC is created.

Refresh the Virtual Cluster details page to get the correct values, five minutes after the Virtual Cluster installation has started.

DEX-9961: CDE Service installation is failing when retrieving aws_key_id

CDE Service installation is failing when retrieving `aws_key_id` with the `Could not add shared cluster overrides, error: unable to retrieve aws_key_id from the env service error.`

1. Restart the Ozone service on the Cloudera Data Platform Base cluster and make sure all the components are healthy.
2. Create a new environment in Cloudera Data Platform Private Cloud using the Management Console.
3. Use the same environment for creating the CDE Service.

DEX-8996: CDE service stuck at the initialising state when a user who does not have correct permission tries to create it

When a CDE user tries to create a CDE service, it gets stuck at the initializing state and does not fail. Additionally, cleanup cannot be done from the UI and must be done on the backend.

Only the user who has the correct permission should create a CDE service. If you experience any issue, delete the stuck CDE service from the database.

DEX-8226: Grafana Charts of new virtual clusters will not be accessible on upgraded clusters if virtual clusters are created on existing CDE service

If you upgrade the cluster from 1.3.4 to 1.4.x and create a new virtual clusters on the existing CDE Service, Grafana Charts will not be displayed. This is due to broken APIs.

Create a new CDE Service and a new virtual cluster on that service. Grafana Charts of the virtual cluster will be displayed.

DEX-7000: Parallel Airflow tasks triggered at exactly same time by the user throws the 401:Unauthorized error

Error 401:Unauthorized causes airflow jobs to fail intermittently, when parallel Airflow tasks using CDEJobRunOperator are triggered at the exact same time in an Airflow DAG.

Using the below steps, create a workaround bashoperator job which will prevent this error from occurring. This job will keep running indefinitely as part of the workaround and should not be killed.

1. Navigate to the Cloudera Data Engineering Overview page by clicking the Data Engineering tile in the Cloudera Data Platform (CDP) console.
2. In the CDE Services column, select the service containing the virtual cluster where you want to create the job.
3. In the Virtual Clusters column on the right, click the View Jobs icon on the virtual cluster where you want to create the job.
4. In the left hand menu, click Jobs.
5. Click Create Job.
6. Provide the job details:
 - a. Select Airflow for the job type.
 - b. Specify the job name as bashoperator-job.
 - c. Save the following python script to attach it as a DAG file.

```
from dateutil import parser
from airflow import DAG
from airflow.utils import timezone
from airflow.operators.bash_operator import BashOperator
default_args = {
    'depends_on_past': False,
}
with DAG(
    'bashoperator-job',
    default_args = default_args,
    start_date = parser.isoparse('2022-06-17T23:52:00.123Z')
    .replace(tzinfo=timezone.utc),
    schedule_interval = None,
    is_paused_upon_creation = False
) as dag:
```

```
[ BashOperator(task_id = 'task1', bash_command = 'sleep infinity'),
  BashOperator(task_id = 'task2', bash_command = 'sleep infinity') ]
```

- d. Select File, click Select a file to upload the above python, and select a file from an existing resource.
7. Select the Python Version, and optionally select a Python Environment.
8. Click Create and Run.

DEX-7001: When Airflow jobs are run, the privileges of the user who created the job is applied and not the user who submitted the job

Irrespective of who submits the Airflow job, the Airflow job is run with the user privileges who created the job. This causes issues when the job submitter has lesser privileges than the job owner who has higher privileges.

Spark and Airflow jobs must be created and run by the same user.

Changing LDAP configuration after installing CDE breaks authentication

If you change the LDAP configuration after installing CDE, as described in [Configuring LDAP authentication for CDP Private Cloud](#), authentication no longer works.

Re-install CDE after making any necessary changes to the LDAP configuration.

HDFS is the default filesystem for all resource mounts

For any jobs that use local filesystem paths as arguments to a Spark job, explicitly specify file:// as the scheme. For example, if your job uses a mounted resource called test-resource.txt, in the job definition, you would typically refer to it as /app/mount/test-resource.txt. In CDP Private Cloud, this should be specified as file:///app/mount/test-resource.txt.

Scheduling jobs with URL references does not work

Scheduling a job that specifies a URL reference does not work.

Use a file reference or create a resource and specify it

DEX-13775: The synchronization operation fails when using a non-default branch from the Git repository with CDE Git repositories

When you use a non-default branch from a Git repository with the CDE Git repositories, the synchronization operation fails.

Clone the Git repository from the non-default branch again after the latest commit.

Fixed issues in Cloudera Data Engineering on CDP Private Cloud

Review the list of issues that are resolved in the Cloudera Data Engineering (CDE) service in the CDP Data Services 1.5.4 release.

DEX-9692: CDE UI does not work when the port 80 is blocked on the Kubernetes cluster

The CDE service UI loads correctly after authentication even if a firewall is configured to block all the requests going to the Kubernetes cluster at port 80.

DEX-11508: The file modification time in the Modified column is not updated on the Repositories page

The GIT Repository modified time shows the correct modified time after syncing the files.

DEX-8614: Sometimes Spark job is not getting killed even though its parent Airflow job gets killed

A Spark job gets successfully killed if a request to kill a Spark batch is sent to the Livy API.

DEX-13597: CDE jobs enabled with GPU acceleration gets stuck if gang scheduling is enabled on the virtual cluster

The CDE jobs enabled with GPU acceleration run correctly even if they are running on a virtual cluster where gang scheduling is enabled.

DEX-13155: Restoring virtual cluster fails during upgrade if the SMTP username or password are missing

A virtual cluster is restored successfully during the upgrade even if the SMTP username or password are missing or not available.



DEX-12096: Virtual clusters are not being restored with the same original app tier value and the log retention policy

When you back up and restore a CDE service, virtual cluster is restored with the same original app tier value with which they are created and the same log retention policy.

Creating Cloudera Data Engineering Virtual Cluster without installing Atlas in your CDP Base cluster

If the Cloudera Data Engineering Virtual Cluster creation fails because Atlas is not installed, you must identify the CDE Namespace and set an environment variable prior to creating the Virtual Cluster.

Procedure

1. Identify the CDE Namespace
 - a. In the Cloudera Data Platform (CDP) console, click the Data Engineering tile. The CDE Home page displays.
 - b.  In the CDE Services column, click  for the CDE service you want to create a VC.
 - c. Note the Cluster ID shown on the page and identify the CDE Namespace. For example, if the Cluster ID is cluster-sales8098, then the CDE Namespace is *dex-base-sales8098*.
2. Use this CDE Namespace (*dex-base-sales8098*) to run Kubernetes commands using kubectl or OpenShift's command line oc.

```
kubectl
```

```
kubectl set env deployment/dex-base-configs-manager -c dex-base-configs-manager ATLAS_CONFIGS_DISABLED=true --namespace <CDE Namespace>
```

```
oc
```

```
oc set env deployment/dex-base-configs-manager -c dex-base-configs-manager ATLAS_CONFIGS_DISABLED=true --namespace <CDE Namespace>
```

Compatibility for Cloudera Data Engineering and Runtime components

Learn about Cloudera Data Engineering (CDE) and compatibility for Runtime components across different versions.

Table 1: CDE compatibility with Runtime component details

Runtime Version	Spark 2.4.x	Spark 3.2.x	Spark 3.3.x	Spark 3.4.x	Airflow	Iceberg	Kubernetes
7.1.7 SP 2	<ul style="list-style-type: none"> Spark 2.4.7 Scala 2.11 Python 2.7 Python 3.6 	<ul style="list-style-type: none"> Spark 3.2.3 Scala 2.12.10 Python 3.6 	NA	NA	<ul style="list-style-type: none"> Airflow 2.6.3 Python 3.8 	Iceberg 0.14.1	1.27
7.1.8	<ul style="list-style-type: none"> Spark 2.4.7 Scala 2.11 Python 2.7 Python 3.6 	<ul style="list-style-type: none"> Spark 3.2.3 Scala 2.12.10 Python 3.6 	NA	<ul style="list-style-type: none"> Spark 3.4.1 Scala 2.12.17 Python 3.8 	<ul style="list-style-type: none"> Airflow 2.6.3 Python 3.8 	Iceberg 0.14.1 (Not applicable for Spark 3.4.x)	1.27
7.1.9	<ul style="list-style-type: none"> Spark 2.4.7 Spark 2.4.8 Scala 2.11 Python 2.7 Python 3.6 	<ul style="list-style-type: none"> Spark 3.2.3 Scala 2.12.15 Python 3.6 	<ul style="list-style-type: none"> Spark 3.3.2 Scala 2.12.15 Python 3.8 	NA	<ul style="list-style-type: none"> Airflow 2.6.3 Python 3.8 	Iceberg 1.3.0	1.27



Important: From the next major release after Private Cloud 1.5.4, Spark 3.5 will be supported and Spark 3.4 will no longer be available. Also, upgrading from Spark 3.4 to Spark 3.5 will not be supported. You must take a backup of the jobs and metadata that are created in the Spark 3.4 virtual cluster and then restore them in the Spark 3.5 virtual cluster.