

Cloudera Data Catalog Top Use Cases

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Search overview

On the Cloudera Data Catalog **Search** page, select a data lake and enter a search string in the search box to view all the assets with details that contain the search string.

When you enter the search terms in **Search**, you are looking up names, types, descriptions, and other metadata collected by Cloudera Data Catalog. The search index includes metadata (not data) about your environment and cluster data assets and operations. You can make the search more powerful by associating your own information (business metadata) to the stored assets.

Accessing data lakes

Users have access to the lakes based on the permissions that are granted. You can choose the available lake by selecting the appropriate radio button.

Name	Created On	Owner	Source	Action
default	-NA-	atlas	hbase	...
atlas_janus	-NA-	atlas	hbase	...
h	-NA-	atlas	hbase	...
i	-NA-	atlas	hbase	...
g	-NA-	atlas	hbase	...
i	-NA-	atlas	hbase	...
e	-NA-	atlas	hbase	...
t	-NA-	atlas	hbase	...
s	-NA-	atlas	hbase	...
f	-NA-	atlas	hbase	...
m	-NA-	atlas	hbase	...



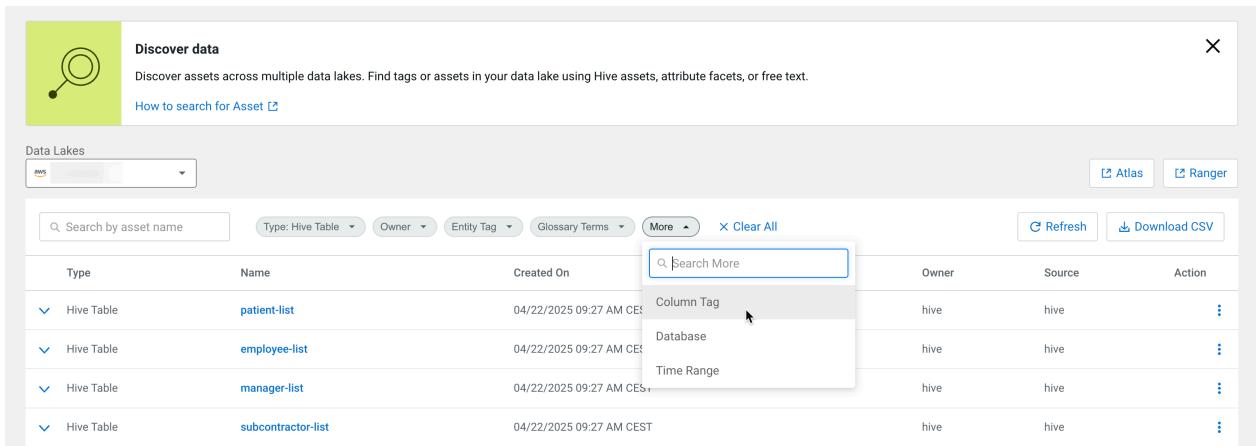
Note:

- You can search the assets of one data lake at a time.
- For the selected data lake, click the [Atlas](#) and [Ranger](#) links to go to the respective base cluster services in a new browser tab.

Using search filters

Use the search filter to fine-tune your results. By selecting a type, additional filter options become available and irrelevant filters are hidden. For example, after selecting Hive Table, the Column Tag, Database and Time Range filters are show under More.

Search



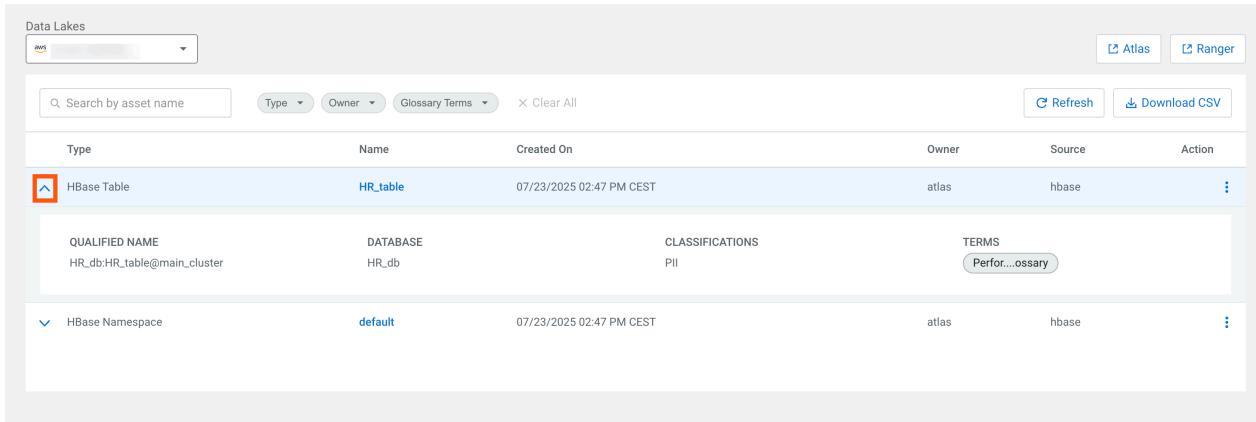
The screenshot shows the Cloudera Data Catalog search interface. At the top, there is a 'Discover data' section with a magnifying glass icon and a brief description: 'Discover assets across multiple data lakes. Find tags or assets in your data lake using Hive assets, attribute facets, or free text.' Below this is a search bar with the placeholder 'Search by asset name' and a dropdown menu set to 'Data Lakes' (aws). The main search results table has columns: Type, Name, Created On, Owner, Source, and Action. The results for 'patient-list' are shown, with a dropdown menu open over the 'patient-list' row. The dropdown menu includes 'Search More', 'Column Tag', 'Database', and 'Time Range'. At the bottom right of the search interface are 'Atlas' and 'Ranger' buttons, and at the bottom right of the page are 'Refresh' and 'Download CSV' buttons.

Type	Name	Created On	Owner	Source	Action
Hive Table	patient-list	04/22/2025 09:27 AM CEST	hive	hive	⋮
Hive Table	employee-list	04/22/2025 09:27 AM CEST	hive	hive	⋮
Hive Table	manager-list	04/22/2025 09:27 AM CEST	hive	hive	⋮
Hive Table	subcontractor-list	04/22/2025 09:27 AM CEST	hive	hive	⋮

Viewing Asset Details

Clicking the  icon for a search result shows the most important data about an asset:

- **Qualified name:** - Qualified names are a unique identifier in Cloudera Data Catalog, identifying the asset with its context. A Hive table has the following qualified name patterns: *DATABASE_NAME.TABLE_NAME@CLUSTER_NAME*
- **Database**
- **Classifications** (Atlas tags)
- **Terms**



The screenshot shows the Cloudera Data Catalog interface with the search results for 'HR_table'. The table has columns: Type, Name, Created On, Owner, Source, and Action. The 'HR_table' row is selected and expanded, showing detailed information: QUALIFIED NAME (HR_db:HR_table@main_cluster), DATABASE (HR_db), CLASSIFICATIONS (PII), and TERMS (Performance). At the bottom right of the search interface are 'Atlas' and 'Ranger' buttons, and at the bottom right of the page are 'Refresh' and 'Download CSV' buttons.

Type	Name	Created On	Owner	Source	Action
HBase Table	HR_table	07/23/2025 02:47 PM CEST	atlas	hbase	⋮
QUALIFIED NAME HR_db:HR_table@main_cluster		DATABASE HR_db	CLASSIFICATIONS PII	TERMS Performance	
HBase Namespace		default	07/23/2025 02:47 PM CEST	atlas	hbase

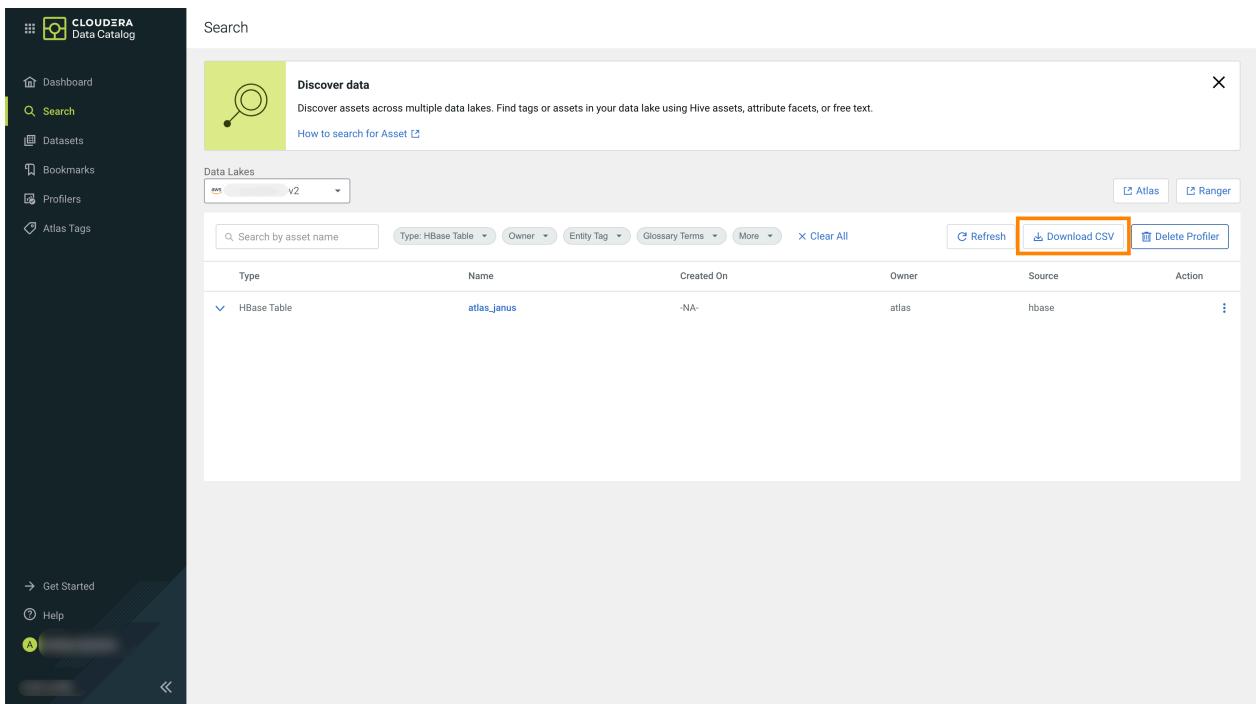
Clicking the Name of the entity will open its **Asset Details**.

Downloading search results as CSV files

You can also download the search result for the current query with the selected data lake. The feature allows you to download up to 10000 rows for the current search query.

The CSV file format does not conform to any specific order or continuation in the downloaded results. For example, a user can download 10000 assets and later downloads the results for the same query again, then the downloaded CSV files may not contain the search results in the same order as it was downloaded previously.

Click Download CSV to start your download:



The screenshot shows the 'Discover data' interface in the Cloudera Data Catalog. On the left, a sidebar includes 'Dashboard', 'Search', 'Datasets', 'Bookmarks', 'Profilers' (which is selected and highlighted in blue), and 'Atlas Tags'. The main area has a search bar and a 'Discover data' section with a magnifying glass icon. It shows a table with one row: 'atlas_janus' (HBase Table), created by 'atlas' on 'NA'. The 'Download CSV' button in the top right of the table area is highlighted with a red box.

Related Information

[Datasets overview](#)

[Filters](#)

[Integrating Cloudera Data Catalog with AWS Glue Data Catalog](#)

[Prerequisites for accessing Hue tables and databases](#)

[Searching for assets using Atlas glossaries](#)

[Additional search options for asset types](#)

[Accessing tables based on Ranger policies](#)

[Viewing Data Asset details](#)

Launching profilers in Compute Cluster enabled environments

In Compute Cluster enabled environments, after you set up the Kubernetes profiler node group, the Profiler Launcher Service (PLS) keeps checking the availability of the node group automatically. Once the node group is ready, the PLS provisions the selected profilers by starting CRON jobs in the Kubernetes node groups.

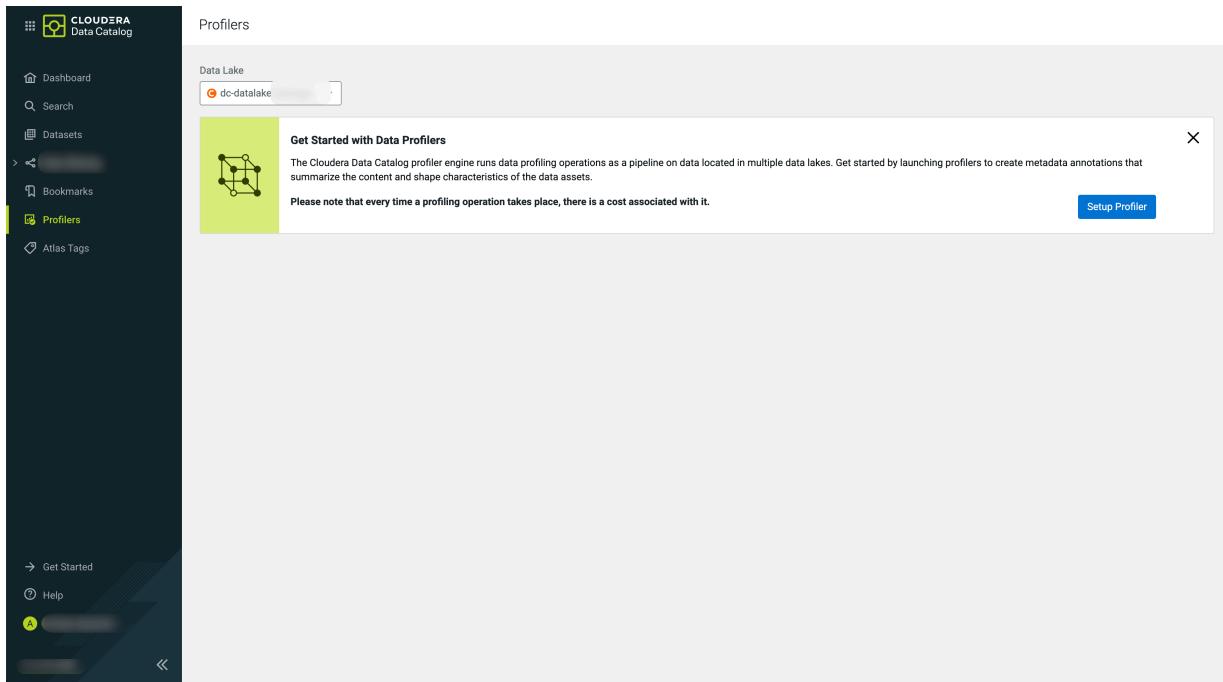


Note: You must be a Power User to launch a profiler cluster.

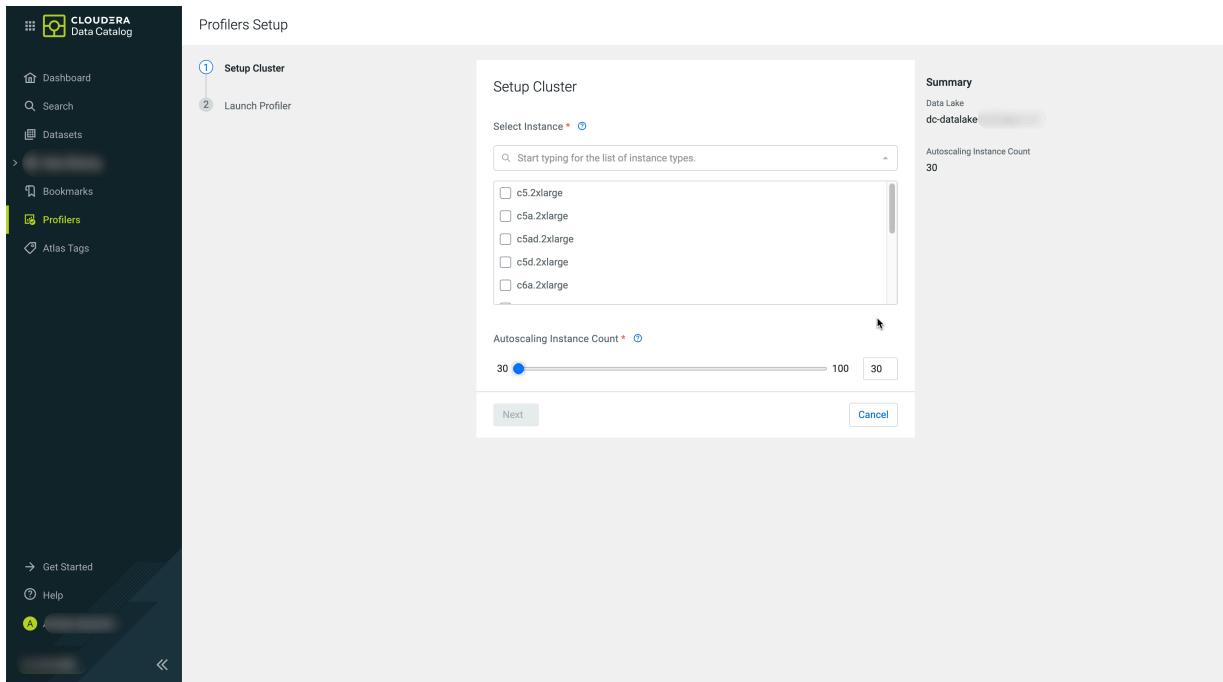
How to launch the profiler for Compute Cluster enabled environments

1. On the **Profilers** page, select the data lake from which you want to launch the profiler cluster.

2. Click Setup Profiler, to start the profiler cluster setup.



3. In Setup Cluster, search for the required instance types:

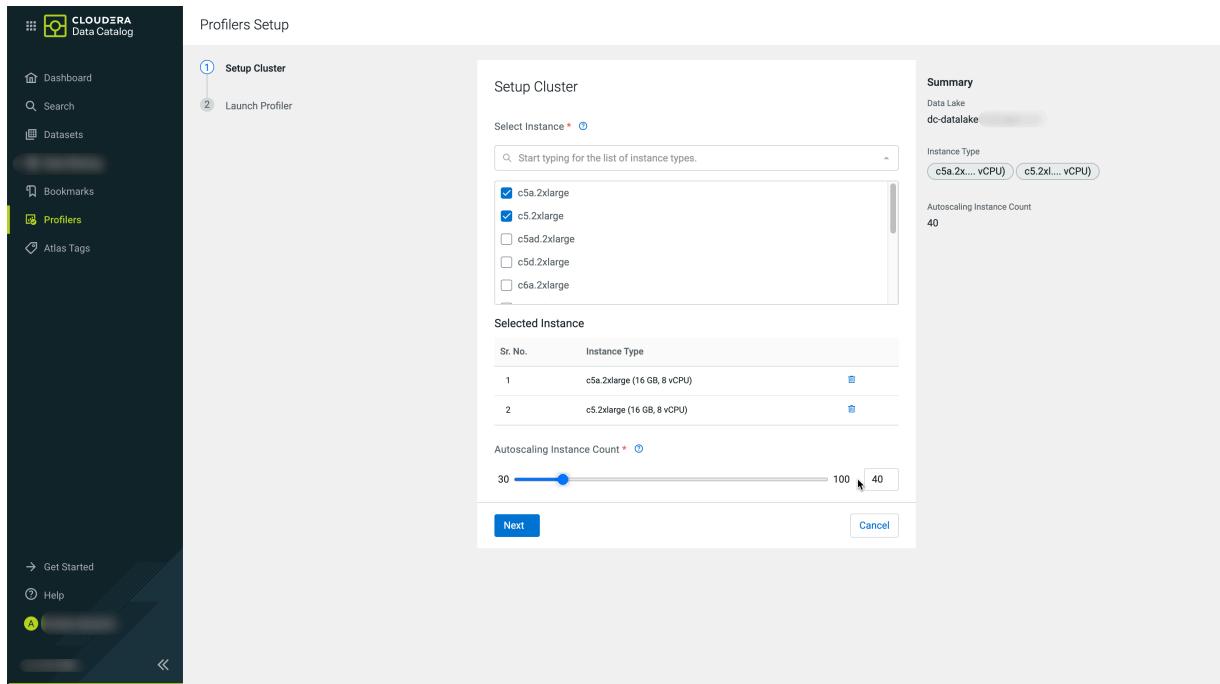


The available instance types depend on the cloud provider of the underlying environment. Choose from them based on your performance and cost requirements.



Note: For more information, see [Amazon EC2 Instance types](#) or [Azure Virtual Machine series](#).

4. Select your required instances and set the Autoscaling instance count to define maximum number of workers. The underlying Apache Spark service will manage the actual number of used instances based on workload.



5. Click Next.

6. Select the necessary profilers to be launched.



Note: Profilers can be launched later as well. Also, their configuration can be changed after launching them.

profilers Setup

Launch Profiler

Activity Profiler

Monitor how your data is being used and who it's used by.

Profiler Configuration :

WORKER MEM LIMIT:

NUM WORKERS:

THREAD PER WORKER:

CRON EXPRESSION:

Data Compliance Profiler

Ensure your data is compliant by keeping track of sensitive data types.

Profiler Configuration :

WORKER MEM LIMIT:

NUM WORKERS:

THREAD PER WORKER:

CRON EXPRESSION:

LAST RUN:

Table Statistics Profiler

Understand the shape of your data with columnar metrics.

Profiler Configuration :

WORKER MEM LIMIT:

NUM WORKERS:

THREAD PER WORKER:

CRON EXPRESSION:

LAST RUN:

Summary

Data Lake
dc-datalake-1

Instance Type

Autoscaling Instance Count
40

profilers

[← Previous](#) [Start Setup](#) [Cancel](#)

- Once the cluster is ready to accept Kubernetes profiler jobs, you can start the individual profilers by clicking Launch. If the profiler jobs were scheduled earlier, they will be automatically assigned to the finished Kubernetes node group.



Note: The readiness of the Kubernetes node group can be checked in Cloudera Management Console Environments <***YOUR_ENVIRONMENT***> Compute Clusters . The worker node group is created by the Liftie service. The expected setup time is around 15 to 30 minutes.

Profilers

The screenshot shows the 'Profilers' section of the Cloudera Management Console. It includes a 'Get Started with Data Profilers' section with a note about running data profiling operations as a pipeline on data located in multiple data lakes. Below this are three profiler types: 'Activity Profiler' (monitor data usage), 'Data Compliance Profiler' (ensure data is compliant), and 'Statistics Collector Profiler' (understand data shape with columnar metrics). Each profiler has a 'Launch' button.

Verifying the profiler cluster for Compute Cluster enabled environments

As a final step, you can verify that the node group is ready for the profiler jobs under the Cloudera Management Console Environments Compute Clusters Node Groups pane.

The screenshot shows the 'Compute Clusters' section of the Cloudera Management Console. It displays a table of Compute Clusters, with one row selected for the 'compute-cluster' node group. The table columns include Status, Name, Nodes, Scale, and CRN. The 'compute-cluster' row shows 'Running' status, 'default-' name, '2' nodes, 'Light Duty' scale, and a blurred CRN. There are 'Actions' buttons for stopping and scaling the cluster.

Launching profilers in VM based environments

In VM-based environments, you must first provision the Cloudera Data Hub to launch the profiler cluster to view the profiler results for your assets.



Note: You must be a Power User to launch a profiler cluster.

Profiler cluster in VM based environments

The Profiler Services supports enabling the High Availability (HA) feature.



Note: The profiler HA feature is under entitlement. Based on the entitlement, the HA functionality is supported on the Profiler cluster. Contact your Cloudera account representative to activate this feature in your Cloudera environment.



Attention: By default when you launch a profiler cluster, the instance type of the Master node will be the following based on the provider:

- AWS - m5.4xlarge
- Azure - Standard_D16_v3
- GCP - e2-standard-16

There are two types of Profiler Services:

- Profiler Manager
- Profiler Scheduler

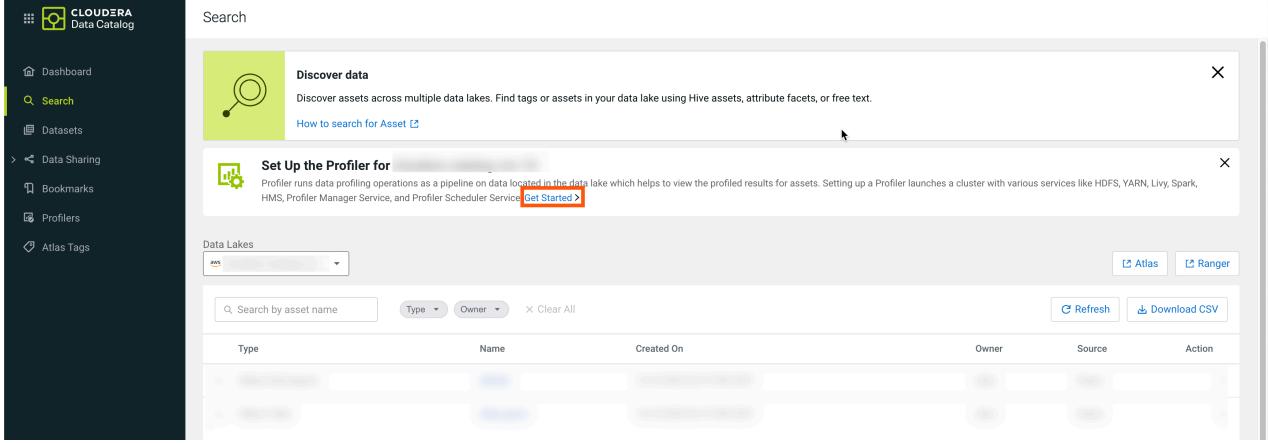
The Profiler Manager service consists of profiler administrators, metrics, and data discovery services. These three entities support HA. The HA feature supports Active-Active mode.



Important: The Profiler Scheduler service does not support the HA functionality.

How to launch the profiler cluster for VM based environments

On the **Search** page, select the data lake from which you want to launch the profiler cluster. Click the Get Started link to proceed.



The screenshot shows the Cloudera Data Catalog interface. On the left is a dark sidebar with navigation links: Dashboard, Search (which is selected and highlighted in yellow), Datasets, Data Sharing, Bookmarks, Profilers (which is also highlighted in yellow), and Atlas Tags. The main content area is titled 'Search' and contains two sections: 'Discover data' and 'Set Up the Profiler for'. The 'Set Up the Profiler for' section has a sub-section titled 'Profiler runs data profiling operations as a pipeline on data located in the data lake which helps to view the profiled results for assets. Setting up a Profiler launches a cluster with various services like HDFS, YARN, Livy, Spark, HMS, Profiler Manager Service, and Profiler Scheduler Service.' with a 'Get Started' button. This 'Get Started' button is highlighted with a red box. Below these sections is a table titled 'Data Lakes' with a single row showing 'ams'. The table includes columns for Type, Name, Created On, Owner, Source, and Action. At the bottom of the main content area is a section titled 'Profiler Setup -' with a sub-section 'Enable High Availability' containing a checkbox. A large blue 'Setup Profiler' button is at the bottom of this section.

Profiler Setup -

Enable High Availability

The Profiler High Availability (HA) cluster provides failure resilience for several of the services, including Knox, HDFS, YARN, HMS, and Profiler Manager Service. Services that do not run in HA mode yet include Cloudera Manager, Livy, and Profiler Scheduler Service.

Setup Profiler

For setting up the profiler, you have the option to enable or disable the HA.

Profiler Setup -

Setting up the profiler enables the cluster to fetch the data related to the profiled assets. The profiled assets contain summarized information pertaining to Cluster Sensitivity Profiler, Ranger Audit Profiler, and Hive Column Profiler.

Enable High Availability

The Profiler High Availability (HA) cluster provides failure resilience for several of the services, including Knox, HDFS, YARN, HMS, and Profiler Manager Service. Services that do not run in HA mode yet include Cloudera Manager, Livy, and Profiler Scheduler Service.

When enabled, the HA Profiler cluster provides greater resiliency and scalability by using more virtual machines that incur additional corresponding cloud provider costs.

[Setup Profiler](#)

Once you enable HA and click Setup Profiler, Cloudera Data Catalog processes the request and the profiler creation is in progress.

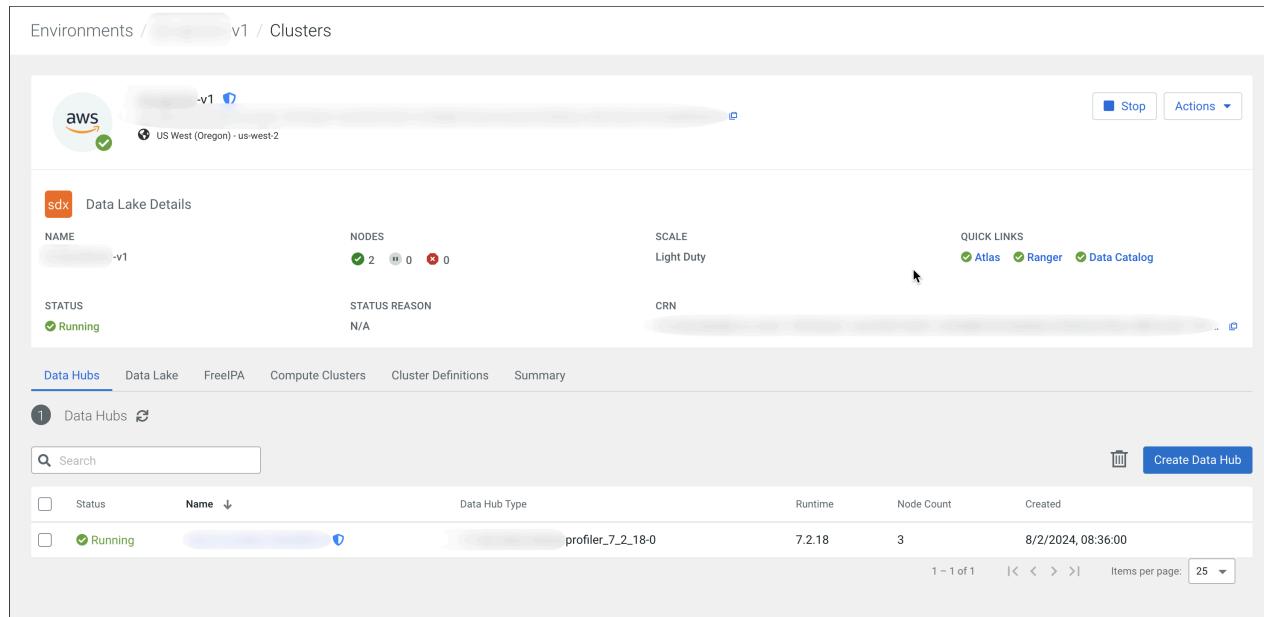
Profiler Cluster is being created						
	Type	Name	Qualified Name	Created On	Owner	Source
<input type="checkbox"/>	Azure Container	container	abfs://container@sparktestingstorage...	-NA-	-NA-	adls
<input type="checkbox"/>	AWS S3 V2 Bucket	s3-extractor-test	s3a://s3-extractor-test@cm	-NA-	-NA-	aws
<input type="checkbox"/>	Hive Table	lounge	airline.lounge@cm	Mon Oct 04 2021	hrt_1	hive

Later, a confirmation message appears that the profiler cluster is created.

Profiler Cluster is provisioned successfully						
	Type	Name	Qualified Name	Created On	Owner	Action
<input type="checkbox"/>	Azure Container	container	abfs://container@sparktestingstorage...	-NA-	-NA-	adls
<input type="checkbox"/>	AWS S3 V2 Bucket	s3-extractor-test	s3a://s3-extractor-test@cm	-NA-	-NA-	aws
<input type="checkbox"/>	Hive Table	lounge	airline.lounge@cm	Mon Oct 04 2021	hrt_1	hive

Next, you can verify the profiler cluster creation under Cloudera Management Console Environments Data Hubs pane.

The newly created profiler cluster looks like the following in Cloudera Management Console:



Environments / v1 / Clusters

aws US West (Oregon) - us-west-2

sdx Data Lake Details

NAME	NODES	SCALE	QUICK LINKS
v1	2 0 0	Light Duty	Atlas Ranger Data Catalog

STATUS: Running

STATUS REASON: N/A

CRN: [REDACTED]

Data Hubs Data Lake FreeIPA Compute Clusters Cluster Definitions Summary

1 Data Hubs

Search: Create Data Hub

Status	Name	Data Hub Type	Runtime	Node Count	Created
Running	profiler_7_2_18-0	7.2.18	3	8/2/2024, 08:36:00	

1 – 1 of 1 | < > | Items per page: 25

Configuring the Activity Profiler

Configure the scheduling and the available resources for your profiler.

Procedure

1. Go to **Profilers** and select your data lake.
2. Go to **Profilers Activity Profiler Profiler Details Configuration All Configurations**

3. Select a schedule to run profiler using either UNIX Cron Expression or the Basic scheduler.



Note: Both the Basic and Cron Expression scheduler (Unix in Compute Cluster enabled environments cron jobs) use the UTC timezone instead of the local timezone of the user.

Figure 1: Profiler schedule with cron expression

Profiler Configuration

Schedule *

Basic Cron Expression [?](#) The CRON expression for the profiling job will run according to UTC time zone. A sample expression is [30 7 * * *] for running jobs at 07:30(am) everyday.

Cron Expression *

Figure 2: Profiler schedule with natural language

Profiler Configuration

Schedule *

Basic Cron Expression [?](#)

At minute of hours on day of month on day of week

Maximum number of executors * [?](#)

Maximum cores per executor * [?](#)

Executor memory limit in GBs * [?](#)

[Save](#) [Cancel](#)



Note:

Compute Cluster based profilers might hang if the underlying AWS cloud provider environment cannot provide the necessary memory for the executor instances. In this case, reconfigure your executors with 4-5 GB memory in Profiler Details Configuration .

4. Continue with resource settings:

a) Set the Maximum number of executors

Indicates the number of processes that are used by the distributed computing framework. The recommended value is at least four executors.

b) Set the Maximum cores per executor

Indicates the maximum number of cores that can be allocated to an executor.

c) Set the Executor memory limit in GBs

Maximum number of executors * 

4

Maximum cores per Executor * 

3

Executor memory limit in GBs * 

4G

Save

Cancel

5. Click Save to apply the configuration changes to the selected profiler.

Configuring the Ranger Audit Profiler

In addition to the generic configuration, there are additional parameters for the Ranger Audit Profiler that can be optionally edited.

Procedure

1. Go to **Profilers** and select your data lake.
2. Go to **Profilers Configs**.
3. Select Ranger Audit Profiler.

The **Detail** page is displayed.

- 4.



Use the toggle button to enable or disable the profiler.

5. Select a schedule to run the profiler using a quartz cron expression.



Note: Quartz CRON jobs (in VM-based environments) use the UTC timezone instead of the local timezone of the user.

Detail

Ranger Audit Profiler

Data Lake: dc-env1

With the Ranger audit Profiler, you can view who has accessed which data from a forensic audit or compliance perspective, visualize access patterns, and identify anomalies in access patterns.

Active

Schedule*
0 */30 * ? **

Advanced Options

Number of Executors*
1

Executor Cores*
1

Executor Memory (in GB)*
1

Driver Core*
1

Driver Memory (in GB)*
1

Save **Cancel**

6. Continue with the resource settings.

- In **Advanced Options**, set the following:

- Number of Executors - Enter the number of executors to launch for running this profiler.
- Executor Cores - Enter the number of cores to be used for each executor.
- Executor Memory - Enter the amount of memory in GB to be used per executor process.
- Driver Cores - Enter the number of cores to be used for the driver process.
- Driver Memory - Enter the memory to be used for the driver processes.



Note: For more information, see [Configuring SPARK on YARN Applications](#) and [Tuning Resource Allocation](#).

7. Click Save to apply the configuration changes to the selected profiler.

Configuring the Data Compliance profiler

You can configure the scheduling and the available resources for your profiler.

Procedure

1. Go to **Profilers** and select your data lake.
2. Go to **Profilers Data Compliance Profiler Details Configuration All Configurations**
3. Select a schedule to run profiler using either UNIX Cron Expression or the Basic scheduler.



Note: Both the Basic and Cron Expression scheduler (Unix in Compute Cluster enabled environments cron jobs) use the UTC timezone instead of the local timezone of the user.

Figure 3: Profiler schedule with cron expression

Profiler Configuration

Schedule *

Basic Cron Expression 

The CRON expression for the profiling job will run according to UTC time zone. A sample expression is [30 7 * * *] for running jobs at 07:30(am) everyday.

Cron Expression *

5 10 * * *

Figure 4: Profiler schedule with natural language

Profiler Configuration

Schedule *

Basic Cron Expression 

At minute of hours on day of month on day of week

Incremental Profiling * 

Last Run Check * 

Incremental profiling processes only the data that has changed since the last job. Currently, Iceberg tables are supported.

4. Select Incremental Profiling when needed.

Using Incremental Profiling can decrease the compute resources and the time needed for the profiling job by processing only the information (only Iceberg tables) updated or added since previous job.

Using Incremental Profiling, you can refine the results from the Last Run Check. Incremental Profiling checks the data (rows) in assets, while Last Run Check filters complete assets.

5. Select Last Run Check and set a period in Day Range if needed.

**Note:**

The Last Run Check enables profilers to avoid profiling the same asset on each scheduled run.

If you have scheduled a cron job, for example set to start in about an hour, and have enabled the Last Run Check configuration for two days, this setup ensures that the job scheduler filters out any asset which was already profiled in the last two days.

If the Last Run Check configuration is disabled, assets will be picked up for profiling as per the job cron schedule, honoring the asset filter rules.

The Last Run Check precedes Incremental Profiling.

6. Continue with resource settings:

- a) Set the Maximum number of executors

Indicates the number of processes that are used by the distributed computing framework. The recommended value is at least 10 executors.

- b) Set the Maximum cores per executor

Indicates the maximum number of cores that can be allocated to an executor.

- c) Set the Executor memory limit in GBs

Maximum number of executors * 

4

Maximum cores per Executor * 

3

Executor memory limit in GBs * 

4G

Save

Cancel

**Note:**

Compute Cluster based profilers might hang if the underlying AWS cloud provider environment cannot provide the necessary memory for the executor instances. In this case, reconfigure your executors with 4-5 GB memory in Profiler Details Configuration .

7. Click Save to apply the configuration changes to the selected profiler.
8. Add **Asset Filtering Rules** as needed to customize the selection and deselection of assets which the profiler profiles.

**Note:**

- Profiler configurations apply to both scheduled and on-demand profiler jobs.
- Asset filtering rules apply to assets, such as tables, and not to complete databases.
- Multiple asset filtering rules are evaluated together as if connected by the OR operator.
- In Compute Cluster environments, you cannot enable conflicting Allow and Deny list rules at the same time. Enabling conflicting rules results in an error message.

Request to create profiler asset filter rule failed. One or more rules with
! the same condition already exist in your Allow or Deny list. In case it is in X the other list, you can disable the rule from that list and retry.

- a) Set your **Deny List** and **Allow-list**.

The profiler will skip profiling assets that meet any criteria in the **Deny List** and will include assets that meet any criteria in the **Allow List**.

1. Click Add New Rule to define new rules.
2. Use the radio buttons to define your new rule for the Allow or Deny List.
3. Select the key from the drop-down list and the relevant operator. You can select from the following:

Key	Operator
Database name	<ul style="list-style-type: none"> • equals • starts with • ends with
Name (of asset)	<ul style="list-style-type: none"> • equals • contains • starts with • ends with
Owner (of asset)	<ul style="list-style-type: none"> • equals • contains • starts with • ends with

Key	Operator
Creation date ¹	<ul style="list-style-type: none"> greater than less than



Note: Name refers here to the actual name of the asset and not to its **Qualified Name**.

4. Enter the value corresponding to the key. For example, you can enter a string as mentioned in the previous example.
5. Click Add Rule. Once a rule is added (enabled by default), you can toggle the state of the new rule to enable it or disable it as needed.

New Rule



Allow Deny

Database Name	equals	airline_operations	
Creation Date	greater than	1 days ago	

[+ \[Add Row\]](#)

[Add Rule](#)

[Cancel](#)



Note: You can check the list of assets impacted by your rule by clicking  > Affected Assets.

Deny List

Status	Condition	Last Modified On	Updated By	Action
<input checked="" type="checkbox"/>	Database Name starts with airline_operations	09/30/2025 06:25 PM CEST	csso_aszuromi	 <div style="display: none;"> Affected Assets Edit Delete </div>

Figure 5: Affected Assets in Asset Filtering Rules configuration

¹ By Creation Date, Greater than 7 days means an asset older than seven days. Less than 7 days means an asset younger than seven days.



Affected Assets

Assets affected by **Database Name starts with airline_operations**

[airline_operations.route_performance_archive@cm](#)

[airline_operations.raw_bookings@cm](#)

[airline_operations.dim_aircraft@cm](#)

[airline_operations.stg_flight_manifests@cm](#)

[airline_operations.enriched_flight_data@cm](#)

[airline_operations.agg_route_performance@cm](#)

Job Summary shows the asset filtering rules applied for the particular profiling job:

The screenshot shows two pages side-by-side. The left page is 'Profilers Details' and the right page is 'Job Summary'.

Profilers Details:

- Recent Job ID: RGFFDQAH
- Total Jobs: 8
- Total Profiled Assets: 9
- Last Run: 09/30/2025 06:39 PM CEST

Job History:

Status	Job Id	Job Type	Started On
Scheduled	RGFFDQAH	Scheduled	09/30/2025 06:39 PM CEST
Scheduled	NMJUQP9I	Scheduled	09/30/2025 06:33 PM CEST
Scheduled	KXRVJP6S	Scheduled	09/30/2025 05:42 PM CEST
Scheduled	7UJJVWG6	Scheduled	09/30/2025 05:30 PM CEST
Scheduled	JRCQNBZQ	Scheduled	09/30/2025 05:22 PM CEST
Scheduled	36B6SSCP	Scheduled	09/30/2025 05:10 PM CEST
Scheduled	6XDKRX8O	Scheduled	09/30/2025 12:16 PM CEST
Scheduled	AQNTVACQ	Scheduled	09/30/2025 12:07 PM CEST

Job Summary:

- Asset Filtering Rules tab is selected.
- Allow List:

Rule ID	Condition
1152	Name starts with "airlines_new"
- Deny List:

Rule ID	Condition
1154	Database Name starts with "airline_operations"

Configuring the Cluster Sensitivity Profiler

In addition to the generic configuration, there are additional parameters for the Cluster Sensitivity Profiler that can be optionally edited.

Before you begin

You need the DataCatalogCspRuleManager role, to create, to deploy new Custom Sensitivity Profiler rules, to create new regex expressions, and to run validations on newly created rules.

Procedure

1. Go to **Profilers** and select your data lake.
2. Go to **Profilers Configs**.
3. Select Cluster Sensitivity Profiler.

The **Detail** page is displayed which contains the following sections:

Detail

Cluster Sensitivity Profiler

Data Lake: dc-env1

The Cluster Sensitivity Profiler automatically performs context and content inspection to detect various types of sensitive data. It also suggests suitable classifications or tags based on the type of sensitive content detected or discovered.

Active

Schedule*
0 20 * * * ?

Last Run Check*
2 Days

Sample Data Size*
Number of Rows

Advanced Options

Number of Executors*
1

Executor Cores*
1

Executor Memory (in GB)*
1

Driver Core*
1

Driver Memory (in GB)*
1

4.



Use the toggle button to enable or disable the profiler.

5. Select a schedule to run the profiler. This is implemented as a quartz cron expression.

For more information, see [Understanding the Cron Expression generator](#).

6. Select Last Run Check and set a period if needed.



Note:

The Last Run Check enables profilers to avoid profiling the same asset on each scheduled run.

If you have scheduled a cron job, for example set to start in about an hour, and have enabled the Last Run Check configuration for two days, this setup ensures that the job scheduler filters out any asset which was already profiled in the last two days.

If the Last Run Check configuration is disabled, assets will be picked up for profiling as per the job cron schedule, honoring the asset filter rules.

7. Set the sample settings for VM-based environments:

a. Select the **Sample Data Size**.

1. From the drop down, select the type of sample data size.
2. Enter the value based on the previously selected type.

8. Continue with the resource settings.

a. In **Advanced Options**, set the following:

- Number of Executors - Enter the number of executors to launch for running this profiler.
- Executor Cores - Enter the number of cores to be used for each executor.
- Executor Memory - Enter the amount of memory in GB to be used per executor process.
- Driver Cores - Enter the number of cores to be used for the driver process.
- Driver Memory - Enter the memory to be used for the driver processes.



Note: For more information, see [Configuring SPARK on YARN Applications](#) and [Tuning Resource Allocation](#).

9. Click Save to apply the configuration changes to the selected profiler.

10. Add **Asset Filter Rules** as needed to customize the selection and deselection of assets which the profiler profiles.



Note:

- Profiler configurations apply to both scheduled and on-demand profiler jobs.
- Asset filtering rules apply to assets, such as tables, and not to complete databases.
- Multiple asset filtering rules are evaluated together as if connected by the OR operator.
- In VM based environments, Deny lists are prioritized over Allow lists.

For example adding a regular expression for a database to the Deny list and adding a regular expression for a table within the first database to the Allow list will result in both entities filtered out. On the other hand, you can include all entities except one from a database by adding the database to the Allow list. Then, add the particular entity from the database to the Deny List.

a) Set your **Deny List** and **Allow-list**.

The profiler will skip profiling assets that meet any criteria in the **Deny List** and will include assets that meet any criteria in the **Allow List**.

1. Select the **Deny-list or Allow List** tab.

2. Click Add New to define new rules.

3. Select the key from the drop-down list and the relevant operator. You can select from the following:

Key	Operator
Database name	<ul style="list-style-type: none"> • equals • starts with • ends with

Key	Operator
Name (of asset)	<ul style="list-style-type: none"> equals contains starts with ends with
Owner (of asset)	
Creation date ²	<ul style="list-style-type: none"> greater than less than



Note: Name refers here to the actual name of the asset and not to its **Qualified Name**.

4. Enter the value corresponding to the key. For example, you can enter a string as mentioned in the previous example.
5. Click Add Rule. Once a rule is added (enabled by default), you can toggle the state of the new rule to enable it or disable it as needed.

New Rule



Allow Deny

Database Name	equals	airline_operations	
Creation Date	greater than	1 days ago	

[+ \[Add Row\]](#)

[Add Rule](#)

[Cancel](#)

Configuring the Statistics Collector profiler

You can configure the scheduling and the available resources for your profiler.

Procedure

1. Go to **Profilers** and select your data lake.

² By Creation Date, Greater than 7 days means an asset older than seven days. Less than 7 days means an asset younger than seven days.

2. Select a schedule to run profiler using either UNIX Cron Expression or the Basic scheduler



Note: Both the Basic and Cron Expression scheduler (Unix in Compute Cluster enabled environments cron jobs) use the UTC timezone instead of the local timezone of the user.

Figure 6: Profiler schedule with cron expression

Profiler Configuration

Schedule *

Basic Cron Expression

The CRON expression for the profiling job will run according to UTC time zone. A sample expression is [30 7 * * *] for running jobs at 07:30(am) everyday.

Cron Expression *

5 10 * * *

Figure 7: Profiler schedule with natural language

Profiler Configuration

Schedule *

Basic Cron Expression

At 10 minute of 10 hours on every day of every month on every day of week

Incremental Profiling *

The Incremental Profiling processes only the data that has changed since the last job. Currently, Iceberg tables are supported.

Last Run Check *

The Last Run Check filters complete assets.

3. Select Incremental Profiling when needed.

Using Incremental Profiling can decrease the compute resources and the time needed for the profiling job by processing only the information (only Iceberg tables) updated or added since previous job.

Using Incremental Profiling, you can refine the results from the Last Run Check. Incremental Profiling checks the data (rows) in assets, while Last Run Check filters complete assets.



Note: By Statistics Collector Profilers, the profiler compares the aggregated metrics between old and newly added data. Depending on the differences, this can slightly skew results. It is highly recommended to process the complete dataset time to time for the most accurate results.

4. Select Last Run Check and set a period in Day Range if needed.



Note:

The Last Run Check enables profilers to avoid profiling the same asset on each scheduled run.

If you have scheduled a cron job, for example set to start in about an hour, and have enabled the Last Run Check configuration for two days, this setup ensures that the job scheduler filters out any asset which was already profiled in the last two days.

If the Last Run Check configuration is disabled, assets will be picked up for profiling as per the job cron schedule, honoring the asset filter rules.

The Last Run Check precedes Incremental Profiling.

5. Continue with resource settings:

- a) Set the Maximum number of executors

Indicates the number of workers that are used by the distributed computing framework. The recommended value is at least 10 executors.

- b) Set the Maximum cores per executor

Indicates the maximum number of cores that can be allocated to an executor.

- c) Set the Executor memory limit in GBs

Maximum number of executors * 

4

Maximum cores per Executor * 

3

Executor memory limit in GBs * 

4G

Save

Cancel

6. Click Save to apply the configuration changes to the selected profiler.

7. Add **Asset Filtering Rules** as needed to customize the selection and deselection of assets which the profiler profiles.



Note:

- Profiler configurations apply to both scheduled and on-demand profiler jobs.
- Asset filtering rules apply to assets, such as tables, and not to complete databases.
- Multiple asset filtering rules are evaluated together as if connected by the OR operator.
- In Compute Cluster environments, you cannot enable conflicting Allow and Deny list rules at the same time. Enabling conflicting rules results in an error message.

Request to create profiler asset filter rule failed. One or more rules with
! the same condition already exist in your Allow or Deny list. In case it is in X
the other list, you can disable the rule from that list and retry.

a) Set your **Deny List** and **Allow-list**.

The profiler will skip profiling assets that meet any criteria in the **Deny List** and will include assets that meet any criteria in the **Allow List**.

1. Click Add New Rule to define new rules.
2. Use the radio buttons to define your new rule for the Allow or Deny List.
3. Select the key from the drop-down list and the relevant operator. You can select from the following:

Key	Operator
Database name	<ul style="list-style-type: none">• equals• starts with• ends with
Name (of asset)	<ul style="list-style-type: none">• equals• contains• starts with• ends with
Owner (of asset)	

Key	Operator
Creation date ³	<ul style="list-style-type: none"> greater than less than



Note: Name refers here to the actual name of the asset and not to its **Qualified Name**.

- Enter the value corresponding to the key. For example, you can enter a string as mentioned in the previous example.
- Click Add Rule. Once a rule is added (enabled by default), you can toggle the state of the new rule to enable it or disable it as needed.

New Rule



Allow Deny

Database Name	equals	airline_operations	
Creation Date	greater than	1 days ago	

[+ \[Add Row\]](#)

[Add Rule](#)

[Cancel](#)



Note: You can check the list of assets impacted by your rule by clicking  > Affected Assets.

Deny List

Status	Condition	Last Modified On	Updated By	Action
<input checked="" type="checkbox"/>	Database Name starts with airline_operations	09/30/2025 06:25 PM CEST	csso_aszuromi	 <div> Affected Assets  Edit Delete </div>

Figure 8: Affected Assets in Asset Filtering Rules configuration

³ By Creation Date, Greater than 7 days means an asset older than seven days. Less than 7 days means an asset younger than seven days.

»

Affected Assets

Assets affected by **Database Name starts with airline_operations**

[airline_operations.route_performance_archive@cm](#)

[airline_operations.raw_bookings@cm](#)

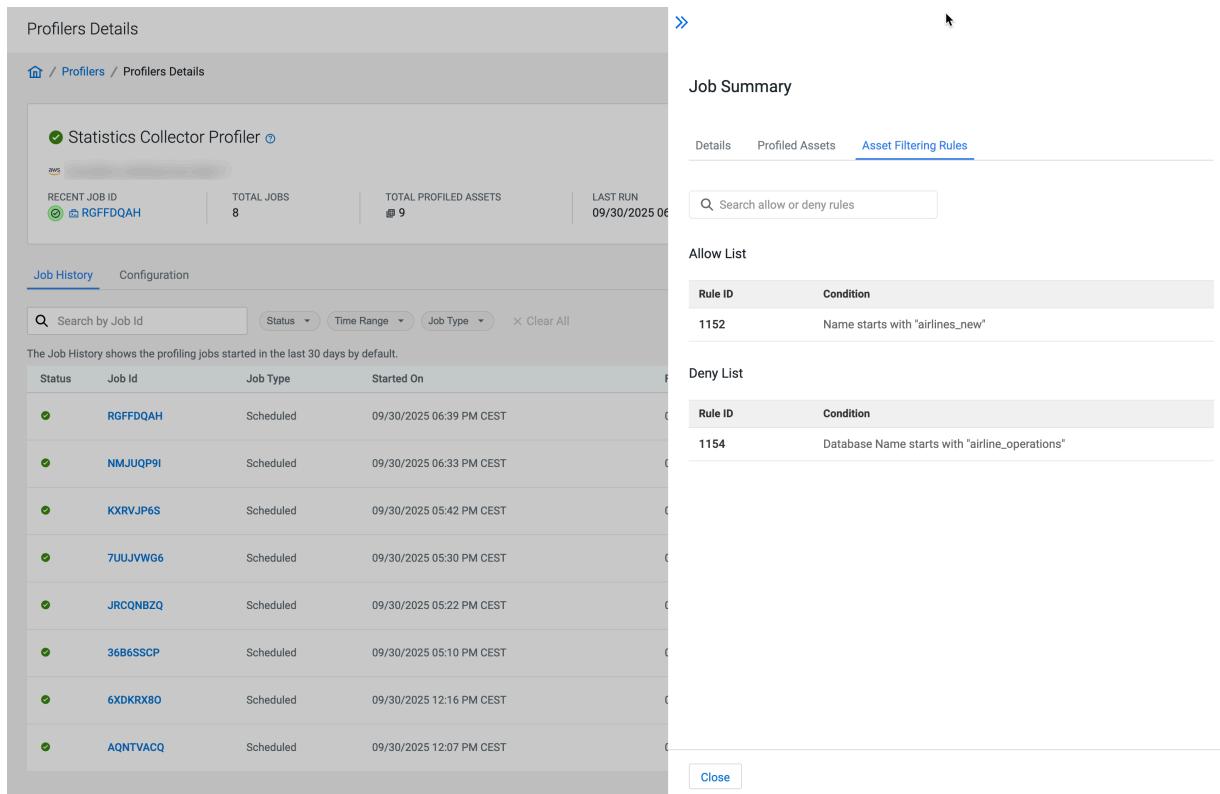
[airline_operations.dim_aircraft@cm](#)

[airline_operations.stg_flight_manifests@cm](#)

[airline_operations.enriched_flight_data@cm](#)

[airline_operations.agg_route_performance@cm](#)

Job Summary shows the asset filtering rules applied for the particular profiling job:



The screenshot shows two side-by-side panels. The left panel is titled 'Profilers Details' and displays a 'Job History' table with 8 scheduled jobs. The right panel is titled 'Job Summary' and shows 'Asset Filtering Rules' for a specific job. The 'Allow List' contains one rule: '1152 Name starts with "airlines_new"'. The 'Deny List' contains one rule: '1154 Database Name starts with "airline_operations"'. A 'Close' button is at the bottom right of the right panel.

Status	Job Id	Job Type	Started On
●	RGFFDQAH	Scheduled	09/30/2025 06:39 PM CEST
●	NMJUQP9I	Scheduled	09/30/2025 06:33 PM CEST
●	KXRVJP6S	Scheduled	09/30/2025 05:42 PM CEST
●	7UJJVWG6	Scheduled	09/30/2025 05:30 PM CEST
●	JRCQNBZQ	Scheduled	09/30/2025 05:22 PM CEST
●	36B6SSCP	Scheduled	09/30/2025 05:10 PM CEST
●	6XDKRX8O	Scheduled	09/30/2025 12:16 PM CEST
●	AQNTVACQ	Scheduled	09/30/2025 12:07 PM CEST

Configuring the Hive Column Profiler

In addition to the generic configuration, there are additional parameters for the Hive Column Profiler that can be optionally edited.

Procedure

1. Go to **Profilers** and select your data lake.
2. Go to **Profilers Configs**.

3. Select Hive Column Profiler.
The **Detail** page is displayed.

Detail

Hive Column Profiler

Data Lake: **dc-env1**

With the Hive Column Profiler, you can view the shape or distribution characteristics of the columnar data within a Hive table.

Active

Schedule*
0 0 0/6 1/1 * ? *

Last Run Check*
1 Day

Sample Data Size *
Sample Percentage ▾ 100

Advanced Options

Number of Executors*
1

Executor Cores*
1

Executor Memory (in GB)*
1

Driver Core*
1

Driver Memory (in GB)*
1

4.



Active

Use the toggle button

to enable or disable the profiler.

5. Select a schedule to run the profiler. This is implemented as a quartz cron expression.



Note: Quartz CRON jobs (in VM-based environments) use the UTC timezone instead of the local timezone of the user.

6. Select Last Run Check and set a period if needed.



Note:

The Last Run Check enables profilers to avoid profiling the same asset on each scheduled run.

If you have scheduled a cron job, for example set to start in about an hour, and have enabled the Last Run Check configuration for two days, this setup ensures that the job scheduler filters out any asset which was already profiled in the last two days.

If the Last Run Check configuration is disabled, assets will be picked up for profiling as per the job cron schedule, honoring the asset filter rules.

7. Set the sample settings:

- a. Select the **Sample Data Size**.

1. From the drop down, select the type of sample data size.
2. Enter the value based on the previously selected type.

8. Continue with the resource settings.

- a. In **Advanced Options**, set the following:

- Number of Executors - Enter the number of executors to launch for running this profiler.
- Executor Cores - Enter the number of cores to be used for each executor.
- Executor Memory - Enter the amount of memory in GB to be used per executor process.
- Driver Cores - Enter the number of cores to be used for the driver process.
- Driver Memory - Enter the memory to be used for the driver processes.



Note: For more information, see [Configuring SPARK on YARN Applications](#) and [Tuning Resource Allocation](#).

9. Click Save to apply the configuration changes to the selected profiler.

10. Add Asset Filter Rules as needed to customize the selection and deselection of assets which the profiler profiles.



Note:

- Profiler configurations apply to both scheduled and on-demand profiler jobs.
- Asset filtering rules apply to assets, such as tables, and not to complete databases.
- Multiple asset filtering rules are evaluated together as if connected by the OR operator.
- In VM based environments, Deny lists are prioritized over Allow lists.

For example adding a regular expression for a database to the Deny list and adding a regular expression for a table within the first database to the Allow list will result in both entities filtered out. On the other hand, you can include all entities except one from a database by adding the database to the Allow list. Then, add the particular entity from the database to the Deny List.

a) Set your **Deny List** and **Allow-list**.

The profiler will skip profiling assets that meet any criteria in the **Deny List** and will include assets that meet any criteria in the **Allow List**.

1. Select the **Deny-list** or **Allow List** tab.
2. Click Add New to define new rules.
3. Select the key from the drop-down list and the relevant operator. You can select from the following:

Key	Operator
Database name	<ul style="list-style-type: none">• equals• starts with• ends with
Name (of asset)	<ul style="list-style-type: none">• equals• contains• starts with• ends with
Owner (of asset)	<ul style="list-style-type: none">• equals• contains• starts with• ends with

Key	Operator
Creation date ⁴	<ul style="list-style-type: none"> greater than less than



Note: Name refers here to the actual name of the asset and not to its **Qualified Name**.

4. Enter the value corresponding to the key. For example, you can enter a string as mentioned in the previous example.
5. Click Add Rule. Once a rule is added (enabled by default), you can toggle the state of the new rule to enable it or disable it as needed.

New Rule



Allow Deny

Database Name	equals	airline_operations	
Creation Date	greater than	1 days ago	

 [Add Row]

Add Rule

Cancel

Atlas tag management

From the Atlas Tags menu, you can create, modify, and delete any of the Apache Atlas classifications to help data discovery and applying governance policies such as security and access control in Apache Ranger.

Creating Atlas tags

You can create a new Cloudera Data Catalog tag in the **Atlas Tags**, which are synced to Atlas. Click Add Tag to open the **Create a new tag** page.

⁴ By Creation Date, Greater than 7 days means an asset older than seven days. Less than 7 days means an asset younger than seven days.

The screenshot shows the 'Atlas Tags' section of the Cloudera Data Catalog. On the left is a dark sidebar with navigation links: Dashboard, Search, Datasets, Data Sharing, Bookmarks, Profilers, and **Atlas Tags**. The main area is titled 'Atlas Tags' and contains a table with three rows of data. The table columns are 'Tag', 'Description', 'Created By', and 'Created On'. The rows are: 'Staff_tag' (Asset related to active employees, created on 08/25/2025 02:48 PM CEST), 'Airline_tag' (Asset related to airline partners, created on 08/25/2025 02:45 PM CEST), and 'imported_merger_2025' (The asset is imported from acquired company, created on 08/25/2025 01:13 PM CEST). In the top right corner, there are two buttons: 'Add Tag' (highlighted with a red box) and 'Atlas'.

In **Create New Tag**, you can define the tag name, description and the "super-classification" from which the attributes are inherited for the sub-classification (or tag in Cloudera Data Catalog)



Note:

- Your classification still needs to be added to an asset in the **Search** or **Asset Details** menu.
- The inherited attributes are shown in Atlas. In Cloudera Data Catalog, you can only see the super-classification.

The screenshot shows the 'Update Tag' dialog box. On the left, the 'Atlas Tags' list shows a single tag: 'flight_data' (Created on 08/25/2025 03:27 PM). On the right, the 'Update Tag' dialog has a 'Name*' field with 'flight_data', a 'Description' field with 'Detailed information for a specific flight leg, including performance data.', and a 'Classification (optional)' section with 'airline_operation' selected. The 'Attributes (optional)' section contains 'is_realtime' (boolean) and 'data_type' (string). At the bottom are 'Save' and 'Cancel' buttons.

You can add or update Atlas tags. The created or updated tag is highlighted in the tag list as seen in the following diagram.

The screenshot shows the 'Atlas Tags' section of the Cloudera Data Catalog. The 'passenger_information' tag is highlighted with a green box. The table columns are 'Tag', 'Description', 'Created By', and 'Created On'. The rows are: 'passenger_information' (Contains customer data, including Personally Identifiable Information, created on 08/25/2025 04:43 PM CEST), 'airline_operation' (Any data related to the core operations of the airline, created on 08/25/2025 03:16 PM CEST), and 'flight_data' (Detailed information for a specific flight leg, including performance data, created on 08/25/2025 03:32 PM CEST). In the top right corner, there are two buttons: 'Add Tag' and 'Atlas'. A green success message 'passenger_information created successfully' is displayed at the top right.

Editing Atlas tags

You can also edit or delete the Atlas tag as shown in the image. When you are editing the tag, you can only change the description or add new attributes.

Tag	Description	Created By	Created On
passenger_information	Contains customer data, including Personally Ident ...		08/25/2025 04:43 PM CEST
airline_operation	Any data related to the core operations of the air ...		08/25/2025 03:16 PM CEST
flight_data	Detailed information for a specific flight leg, in ...		08/25/2025 03:32 PM CEST

Deleting Atlas tags

You can delete one Atlas tag at a time. A separate confirmation message appears for each deletion.

Tag	Description	Created By	Created On
passenger_information	Contains customer data, including Personally Ident ...		08/25/2025 04:43 PM CEST
airline_operation	Any data related to the core operations of the air ...		08/25/2025 03:16 PM CEST
flight_data	Detailed information for a specific flight leg, in ...		08/25/2025 03:32 PM CEST
Parent	Parent		08/25/2025 03:02 PM CEST
Staff_tag	Asset related		08/25/2025 02:48 PM CEST
Airline_tag	Asset related to airline partners.		08/25/2025 02:45 PM CEST
imported_merger_2025	The asset is imported from acquired company.		08/25/2025 01:13 PM CEST

Related Information

[Propagated asset tagging](#)

[Creating tag rules in compute cluster environments](#)[in VM based environments](#)

Creating tag rules in compute cluster environments

With tag rules, you can apply Apache Atlas classifications to your assets based on regex expressions or similarity to a set of values in a table.

About this task

Procedure

1. To start applying tags, go to **Profilers** and select your data lake.
2. Go to **Profilers Data Compliance Tag Rules**.
3. Click **+ Create Tag Rule**.

4. Name your tag rule and add a description to it in **General Information**.

Create Tag Rule

General Information

General Information

About

Tag Rule Name *

Test

Description *

test

Tags

In Atlas, your tags appear as classifications. Atlas classifications / Data Catalogs tags are synchronized between both services.

SELECT TAGS

Select tags to add them to your rule.

Search and select existing tags to apply.

Selected Parent Tags

Parent Tags Children Tags

(dp) (dp_HRV...ection) (dp_upk...number) +74

Selected Child Tags

Children Tags Parent Tags

(dp_HRV...ection) (dp)

Data Pattern Type

Regular Expression Single Column File Upload

Generate an expression manually or by file upload to create a data pattern.

Upload a file that contains all potential values for classification in a single column.

Next → **Cancel**

5. Select the tags to be applied from the list of available tags synchronized from the list of Atlas classifications.

If you select a child tag, its parent tag is also automatically selected. By default, if the child tag is applied to a column, the table receives the parent tag.

6. Select your **Data Pattern Type**:

Option

Regular Expression

You can upload a text file containing your regex expression or directly type it in the **Configure Tag Rule** page. The required format of the CSV file can be seen by clicking Download Sample Tag Rule.

Continue in step 7 on page 39.

Single Column File Upload

Upload a CSV file with values to be matched against the actual values in your tables. After uploading your file, continue with step 11 on page 40.

Creating regular expression based tag rule:

7. Define your regular expression for the table name.



Note: Cloudera recommends using PCRE2 compatible regular expressions. Non-compliant regular expressions may show reduced performance.

For more information, see [PCRE - Perl Compatible Regular Expressions](#).

8. When using **Column Level** regex expressions, you can define multiple expression for both of the following:

- Column Name
- Column Values

Create Tag Rule

General Information

About

Tag Rule Name *

Test

Description *

test

Tags

In Atlas, your tags appear as classifications. Atlas classifications / Data Catalogs tags are synchronized between both services.

SELECT TAGS

Select tags to add them to your rule.

Search and select existing tags to apply.

Selected Parent Tags

Parent Tags Children Tags

dp dp_HRV...ection dp_upk...number +74

Selected Child Tags

Children Tags Parent Tags

dp_HRV...ection dp

Data Pattern Type

Regular Expression Single Column File Upload

Generate an expression manually or by file upload to create a data pattern.

Upload a file that contains all potential values for classification in a single column.

Next > Cancel



Note: Regular expressions matching the same type of entity (column name or value) have the OR logical relationship between them. When using multiple regular expressions of the same type (table name, column name or value), even if one of the regular expressions match, it is considered as a match.

9. Define the Column Value Weightage in percentage with the slider.

The remainder percentage is the column name weightage percentage. The results of the individual regex matches are weighted according to this setting before determining the final result confidence for applying the tag.



Note: A correctly formatted file is automatically processed by Cloudera Data Catalog. All details will be filled in this case.

Tag rule testing:

10. You can make a sanity check of your tag rule in **Test Tag Rule** by uploading a sample dataset in CSV format.



Note: A final test called "Dry Run" is still needed to be passed to enable your tag rule.

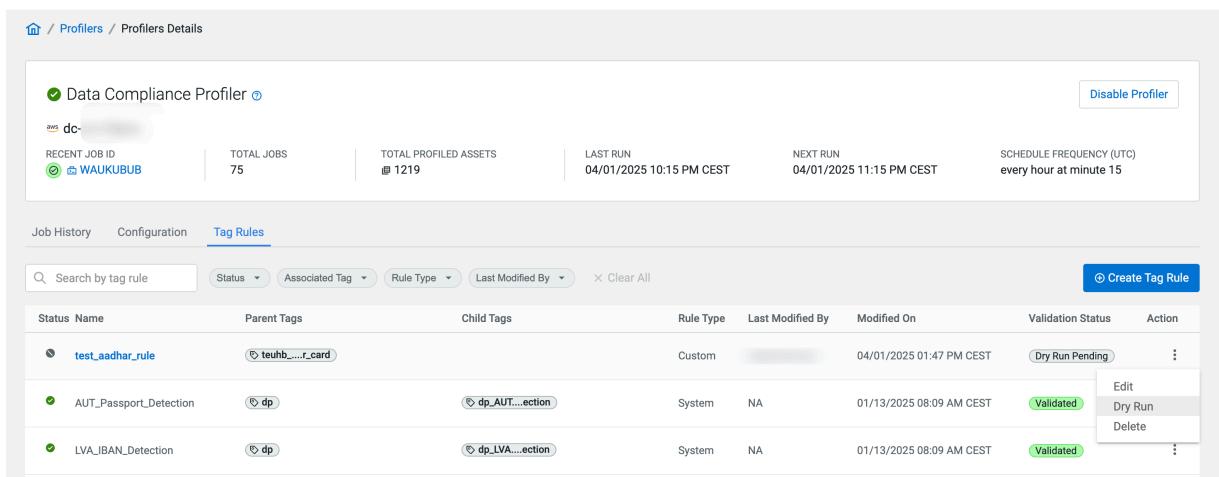
11. Review all your input before clicking **Create Tag Rule**.

a) Click Confirm to finalize your tag rule.

Your tag rule is created with **Status** Disabled() and the **Test Status** will be Test Pending.

12. Click  > Dry Run.

Profilers Details



Status	Name	Parent Tags	Child Tags	Rule Type	Last Modified By	Modified On	Validation Status	Action
	test_aadhar_rule	 teuhb....r_card		Custom		04/01/2025 01:47 PM CEST	 Dry Run Pending	
	AUT_Passport_Detection	 dp	 dp_AUT...ection	System	NA	01/13/2025 08:09 AM CEST	 Validated	 Edit Dry Run Delete
	LVA_IBAN_Detection	 dp	 dp_LVA...ection	System	NA	01/13/2025 08:09 AM CEST	 Validated	

The **Dry Run Test** pane opens.

13. Click Run to start an on-demand dry run profiling job on up to 10 tables from your data.



Dry Run Test

Test Connection with Catalog Data

 customer X

- test123.customer_iceberg
- test123.customer_parquet

Selected Assets

Sr. No.	Asset Name	Actions
1	test123.customer_iceberg	

Start Run

Close

Your tag rule becomes **VALIDATED** after a successful dry run.

14.

After the "Dry run" test was passed, click  > Enable to start your using your tag rule on your live data.

Creating tag rules in VM based environments

With tag rules, you can apply Apache Atlas classifications to your assets based on regex expressions.

About this task

Procedure

1. To start applying tags, go to **Profilers** and select your data lake.
2. Go to **Profilers Tag Rules** .
3. Click **+ New**.
4. Name your tag rule and add a description to it.
5. Select the tags to be applied from the list of available tags synchronized from the list of Atlas classifications.
Multiple tags can be selected.

6. In **Column Name Expression**, select at least one regular expression to use a match it against for column names.
Select from the same regular expression you had created under the **Resources** pane.

Resources

▼ Regex

DeployRegex1669236475651

SampleRegex_1586378290804

DeployRegex1670015816812

SampleRegex_1.6183997393e+1

SampleRegex_1618318507327

DeployRegex1670618720012

 **Note:** You can select multiple expressions connected by AND, OR, NOT logical operators.

Tag Rules

Custom Rule

Name * My test custom tag rule

Description This is a test.

Tags * this_is_test_tag

Column Name Expression Regex(Sales regex test)

Column Value Expression Regex(SampleRegex_1586378290804) OR Regex(SampleRegex_1586378290804)

Save **Cancel** **Save & Validate**

Resources

Regex

- DeployRegex1669236475651
- SampleRegex_1586378290804
- DeployRegex1670015816812
- SampleRegex_1.6183997393e+1
- SampleRegex_1618318507327
- DeployRegex1670618720012
- SampleRegex_1.61849620033e+
- SampleRegex_1.58583859178e+

7. In **Column Value Expression**, select at least one regular expression to use a match it against for column names. The **Column Name Expression** matches are considered with a 15% weightage in the final score when calculating if the tag needs to be applied. The **Column Value Expression** matches receive the remaining 85% weightage. The column name expression results are binary (TRUE, FALSE), while by column value a certain ratio of all values can be matched.
8. Click **Save & Validate**.

9. Enter some sample data manually to check the validity of your regular expression, then click Submit Validation.

Data For Validation

Sample to test column name expression

sales_property



Sample to test column value expression

sales_property

Datalake where the validation will run

dc-profiler ▾

Close

Submit Validation

The status for the newly created regular expression validation is displayed on the **Tags Rules** tab. Once the validation is successful, you can deploy the rule.