Data Catalog 1.5.2

Data Catalog Operations

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Contents

Managing Datasets

You can view, create, edit, and delete Datasets.

On the Data Catalog menu, click Datasets to view all the datasets.

Search for Datasets

On the Datasets page, enter a search string in the search box to view all asset collections with names that contain the search string.

Filter Datasets by Tags

You can filter Datasets and view Dataset with the tags. Select the tag from the drop down list or enter the tag in the filter box. Any Dataset with the filter tag assigned to a column will appear in the filter results.

Related Information

Understanding asset collections

Create Datasets

You can group data assets into Datasets. This enables you to organize data based on business classifications, purpose, protection requirements, or more. Examples of Datasets are: customer profiles, sales assets, financials, PII, and HR data.

Procedure

1. From the Datasets page, click Add Datasets.

   The Add page appears.
2. Enter the following information.

Field Name	Description	Example Values
Name	Enter an appropriate dataset name. This name cannot be duplicated across the system. (Mandatory)	Customer Profiles, Sales Assets, Financials
Description	Describe the purpose or intent of the dataset. (Mandatory)	Contains customer profiles: data assets for US and WW.
Data Lake	Assign the dataset to one Data lake. Choose from a list of available Data lakes. (Mandatory)	dss_bbsh_clust3
Tags	Add tags to your dataset for context and subsequent lookup. Tags enable your to quickly catalog, search and retrieve asset collections as well as share such information with others in the future. (Optional)	se, pii, geo, finance
Public/Private	Select public if you want other users to have access to this dataset. Select private if only you want to have access to this dataset. **Note:** You can later change the status of the asset collection. Click the lock icon on the Dataset Details page to change the access state of the dataset.	

3. Click Next.

   The Dataset Details page appears for the new dataset.
4. Click Add Assets to add related data assets into your dataset.

   The Asset Search page appears.
5. Search for assets using Basic Search.
   a) Search using the name of the asset by entering the name in the search bar.
   b) Use filters to search for specific assets based on the attributes of assets. Click Filter to display the filters available.
      - Created Time: From the dropdown list, select the time to refine the search on the basis of when the asset has been created.
      - Owner: Enter the name of the owner to refine the search on the basis of the owners of the assets.
      - DB Name: Enter the name of the database.
      - Tag: Enter the names of the tags.

   c) Select one more than one filter if needed.
   d) Click Search to view the assets. The Results appear.
   e) Click Reset to reset the filters and search again.
   f) From the list, click to select the assets that you like to add to your dataset.
6. Search for assets using Advanced Search, if needed. Advanced search uses facets of technical and business metadata about the assets, such as those captured in Apache Atlas, to help users define and build collections of interest. Advanced search conditions are a subset of attributes for the Apache Atlas type hive_table.
7. Click Done.

   The assets are added to the dataset and the Search page is refreshed.
8. Close the Search tab.

   The Datasets Details page appears.
9. Click Save.

Edit Datasets

You can edit Datasets by adding or removing assets and changing the access state of the Datasets.

Procedure

1. Click a Dataset in the list to edit it. The Details page of that Dataset appears.
2. On the Assets tab, click Edit to edit the content of this Dataset. The Dataset appears in edit mode. If another user is editing this Dataset, an error message will appear saying that this Dataset is being edited by another user and you cannot edit it.
3. Add or remove assets in the Dataset.
   a) Click Add to add new assets to this Dataset.
   b) Select one or more assets and click Remove to remove assets from this Dataset.
4. Click Save to save the changes that you made to the Dataset.
5. Click Cancel to undo any changes that you made to this Dataset.

Note: You also can edit the metadata (name, description, and tags) of the datasets. Being an owner of specific datasets, and making them private, you can update the name, description, and tags.

Delete Datasets

You might want to delete an Datasets if you no longer need to track those Datasets, or if you want to reassign those assets to another Dataset. You can delete Datasets at any time. Deleting an Datasets does not delete the assets contained therein, it only disassembles the Datasets. You can re-create Datasets or reassign assets to new Datasets.

Procedure

1. From Data Catalog Datasets page, click the More Options icon beside the name of the Dataset you want to delete.
2. Click Delete.
3. Click Confirm.
   You are returned to the Datasets home page.

Collaborate with other users

You can collaborate and share insights with other users in the enterprise regarding various datasets.

You can rate datasets and view the average rating of a dataset. This can help other users to find datasets with higher ratings easily. You can also add your knowledge and insights about the asset collection by adding comments. Other users can respond to your comments or add their comments about each data asset collection.

On the right hand side of each asset collection page, you can see additional details about the dataset. The collaboration details are also displayed in this tab. The tab displays the following details - average rating for the asset collection, the number of likes, the number of comments, and the bookmark icon indicating if the dataset is bookmarked by the current user or not.

You can perform the following collaboration actions for each dataset.

Like a Dataset

You can let other users know that you like a Dataset. The like icon on the Dataset page displays the total number of likes received by this Dataset.

Click the like icon to add the Dataset to your list of liked collections.

Comment and discuss about a Dataset

You might want to share your knowledge or insights about this Dataset with other users. Data Catalog allows you to collaborate with other users by adding comments.

Click the comment icon to add a comment about this Dataset. The Collaborate tab expands. Click Actions menu to reply to an existing comment. You can continue to add comments for each Dataset.

Bookmark the Dataset

In addition to sharing with other users, you can also bookmark Datasets for easy access in the future.

Click the bookmark icon to add the Dataset to your list of bookmarks. This Dataset will appear in the list of bookmarks when you click the Bookmarks link on the left navigation menu.

Rate the Dataset

You can also rate the datasets on a scale of one to five. Click the star icon to rate the open Dataset. The Collaborate tab expands.

Click the stars to provide your own rating. The rating on the Datasets page shows the average of the rating provided by various users. The Rating section also displays the number of votes given for this Dataset.

View the tags of an Dataset

You can add tags while creating the Dataset. You can also click on the tags to search for Datasets with similar tags. There are two types of tags. System tags are automatically generated based on the details of the assets in the Datasets. You can add more tags that appear in the list of user generated tags.

Search for Assets

On the 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 Data Catalog Search, you are looking up names, types, descriptions, and other metadata collected by 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 assets that Data Catalog stores.

Related Information

Understanding data assets

Filters

When you select a property value, a filter breadcrumb shows above the search results.

You can further refine your search results using filters as follows:

- Owner - From all the owner names that appear, you can select the owner to further refine the results and display those search results with the selected owner.
- Database - Select the database to view all the assets stored in that database. This filter is applicable to Hive and HBase tables only.

  Note: For information purposes, Database filter is displayed as Namespace in case of HBase tables.
- Entity Tag - Use entity tags to refine your search results. You can add business metadata as entity tags in Atlas and use these tags to refine your search results and view the details of the required data asset.
- Created Within - You can choose to refine your search results of assets within the data lake to view the data assets created within the last 7 days, 15 days, or 30 days. You can also add custom values such as 5 days or 10 days to view specific information.
- Created Before - Depending on the time when the assets were created, you can choose to refine the search results and view data assets created before 1 day, 7 days, or 15 days. You can add custom values to view data assets created before the days of your preference such as 8 days or 12 days.

  Note: These two filters (Created Within and Created Before) are applicable only when Atlas provides the created time for the assets.
- Column Tag - You can search for Hive and HBase table assets by tags that have been applied on their children entities, that is, columns or column families using the column tags filter.
- Glossary - You can filter assets based on business glossary terms. You can search for any asset without any entity type restrictions.

Click Clear for any filter to clear the selection. You can use a combination of filters to view the required data assets.

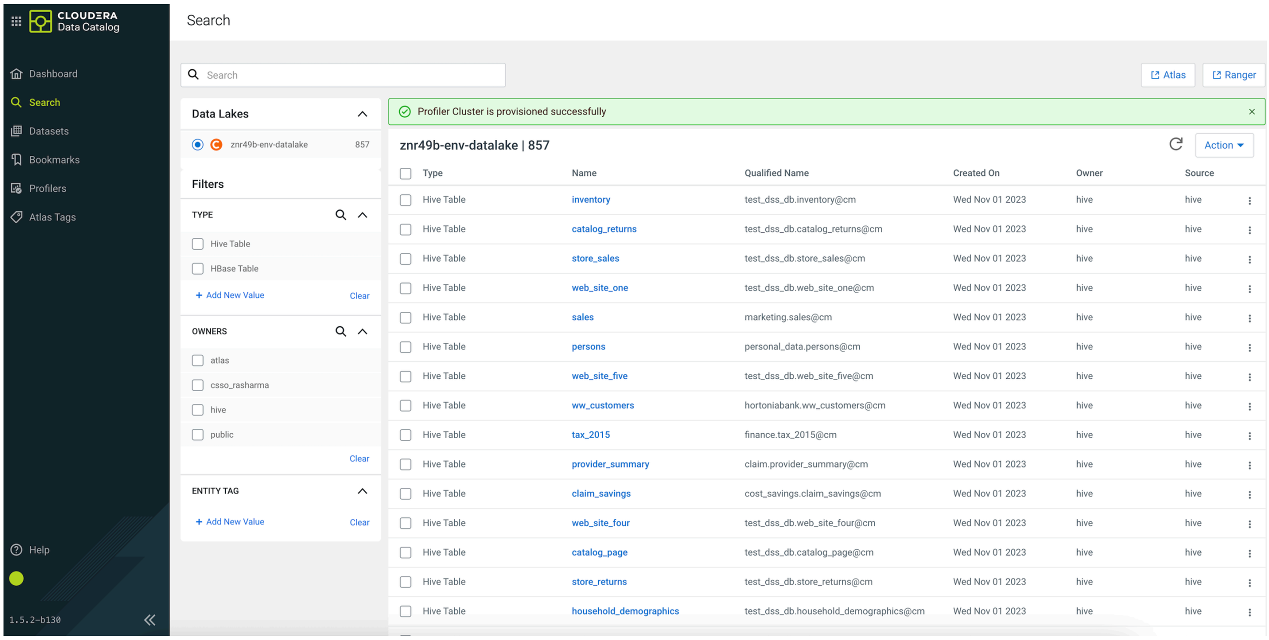
Prepopulating Asset Owners

In Data Catalog, under the search page, you can filter for assets based on the owners.

Rather than having to type in the owners manually, the available asset owners are listed in drop down. Select the record from the list and add it as a filter criteria

For example, in the following diagram, the selected asset TYPE is “Hive”.

For the selected TYPE the owner “hive” is available in the drop-down and based on this condition, the assets can be filtered in the search page.



Profiler Cluster is provisioned successfully

znr49b-env-datalake | 857

Type	Name	Qualified Name	Created On	Owner	Source
Hive Table	inventory	test_dss_db.inventory@cm	Wed Nov 01 2023	hive	hive
Hive Table	catalog_returns	test_dss_db.catalog_returns@cm	Wed Nov 01 2023	hive	hive
Hive Table	store_sales	test_dss_db.store_sales@cm	Wed Nov 01 2023	hive	hive
Hive Table	web_site_one	test_dss_db.web_site_one@cm	Wed Nov 01 2023	hive	hive
Hive Table	sales	marketing.sales@cm	Wed Nov 01 2023	hive	hive
Hive Table	persons	personal_data.persons@cm	Wed Nov 01 2023	hive	hive
Hive Table	web_site_five	test_dss_db.web_site_five@cm	Wed Nov 01 2023	hive	hive
Hive Table	ww_customers	hortoniabank.ww_customers@cm	Wed Nov 01 2023	hive	hive
Hive Table	tax_2015	finance.tax_2015@cm	Wed Nov 01 2023	hive	hive
Hive Table	provider_summary	claim.provider_summary@cm	Wed Nov 01 2023	hive	hive
Hive Table	claim_savings	cost_savings.claim_savings@cm	Wed Nov 01 2023	hive	hive
Hive Table	web_site_four	test_dss_db.web_site_four@cm	Wed Nov 01 2023	hive	hive
Hive Table	catalog_page	test_dss_db.catalog_page@cm	Wed Nov 01 2023	hive	hive
Hive Table	store_returns	test_dss_db.store_returns@cm	Wed Nov 01 2023	hive	hive
Hive Table	household_demographics	test_dss_db.household_demographics@cm	Wed Nov 01 2023	hive	hive

Viewing Ranger and Atlas applications

For the selected data lake, click Atlas and Ranger links to navigate to the respective services in a new browser tab.

The Atlas and Ranger buttons seen on the search page of Data Catalog allows you to navigate to the specific Base cluster component.

Clicking on Atlas and Ranger links enables you to sign into the respective services and proceed further.

Note: When you click on Atlas and Ranger buttons, you must separately sign into these services and proceed further.

Accessing Data Lakes

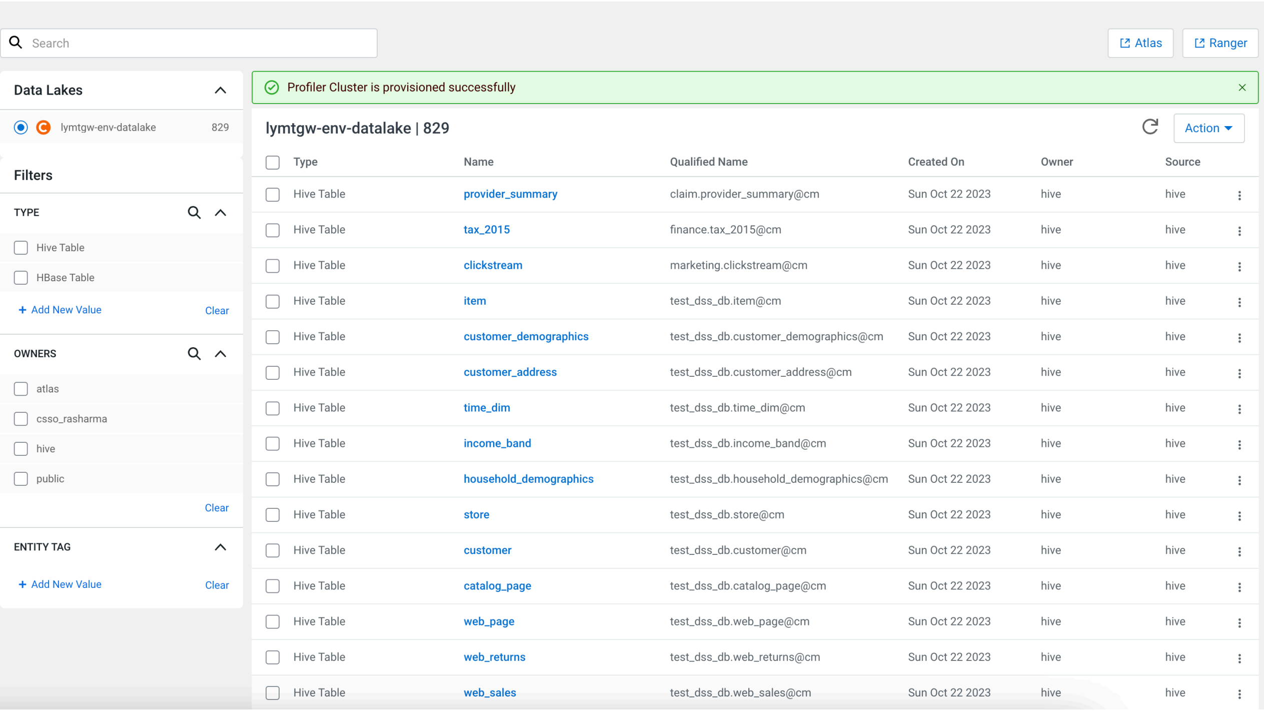
In the Data Catalog search dashboard, the accessible data lakes are displayed under the search panel.

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.

For more information about Data Lakes, see Data Lake Security.

For example, in the following diagram, the logged in user has access to the data lake.

Search



Data Lakes

● lymtgw-env-datalake 829

Filters

TYPE

- □ Hive Table
- □ HBase Table

+ Add New Value Clear

OWNERS

- □ atlas
- □ csso_rasharma
- □ hive
- □ public

Clear

ENTITY TAG

+ Add New Value Clear

lymtgw-env-datalake | 829

□ Type	Name	Qualified Name	Created On	Owner	Source
□ Hive Table	provider_summary	claim.provider_summary@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	tax_2015	finance.tax_2015@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	clickstream	marketing.clickstream@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	item	test_dss_db.item@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	customer_demographics	test_dss_db.customer_demographics@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	customer_address	test_dss_db.customer_address@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	time_dim	test_dss_db.time_dim@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	income_band	test_dss_db.income_band@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	household_demographics	test_dss_db.household_demographics@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	store	test_dss_db.store@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	customer	test_dss_db.customer@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	catalog_page	test_dss_db.catalog_page@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	web_page	test_dss_db.web_page@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	web_returns	test_dss_db.web_returns@cm	Sun Oct 22 2023	hive	hive
□ Hive Table	web_sales	test_dss_db.web_sales@cm	Sun Oct 22 2023	hive	hive

Searching for assets using Glossary

Use glossaries to define a common set of search terms that data users across your organization use to describe their data.

Data can describe a wide variety of content: lists of names or text or columns full of numbers. You can use algorithms to describe data as having a specific pattern, of being within a range or having wide variation, but what's missing from these descriptions is what does the data mean in a given business context and what is it used for? Is this column of integers the count of pallets that entered a warehouse on a given day or number of visitors for each room in a conference center?

The glossary is a way to organize the context information that your business uses to make sense of your data beyond what can be figured out just by looking at the content. The glossary holds the terms you've agreed upon across your organization so business users can use familiar terms to find what they are looking for.

Glossaries enable you to define a hierarchical set of business terms that represents your business domain.

Glossary terms can be thought of as of a flat (but searchable) list of business terms organized by glossaries. Unlike classifications, terms are not propagated through lineage relationships: the context of the term is what's important, so propagation may or may not make sense.

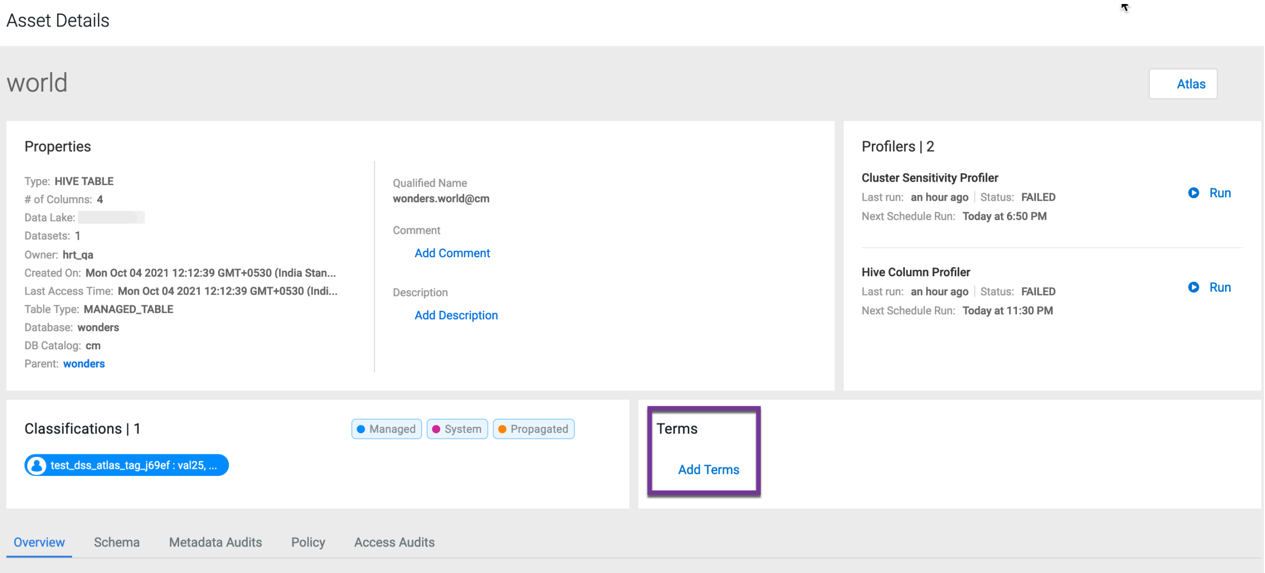
Using Terms in Data Catalog

You can use the Asset Details page in Data Catalog to add or modify "terms" for your selected assets.

A new widget called "Terms" is available in the Asset Details page. You can define rich glossary vocabularies using the natural terminology (technical terms and/or business terms). To semantically relate the term(s) to each other. And finally to map assets to glossary terms(s).

You can assign terms with entities, search for entities, filter entities by glossary term(s), and also search for entities by using associated term(s).

Note: When you work with terms in Data Catalog and map them to your assets, you can search for the same datasets in Atlas by using the corresponding terms.



world

Properties

Type: HIVE TABLE
# of Columns: 4
Data Lake:
Datasets: 1
Owner: hrt_qa
Created On: Mon Oct 04 2021 12:12:39 GMT+0530 (India Stan...
Last Access Time: Mon Oct 04 2021 12:12:39 GMT+0530 (Indi...
Table Type: MANAGED_TABLE
Database: wonders
DB Catalog: cm
Parent: wonders

Qualified Name
wonders.world@cm

Comment

Description

Profilers | 2

Cluster Sensitivity Profiler
Last run: an hour ago | Status: FAILED
Next Schedule Run: Today at 6:50 PM

Hive Column Profiler
Last run: an hour ago | Status: FAILED
Next Schedule Run: Today at 11:30 PM

Classifications | 1

test_dss_atlas_tag_j69ef : val25, ...

Terms

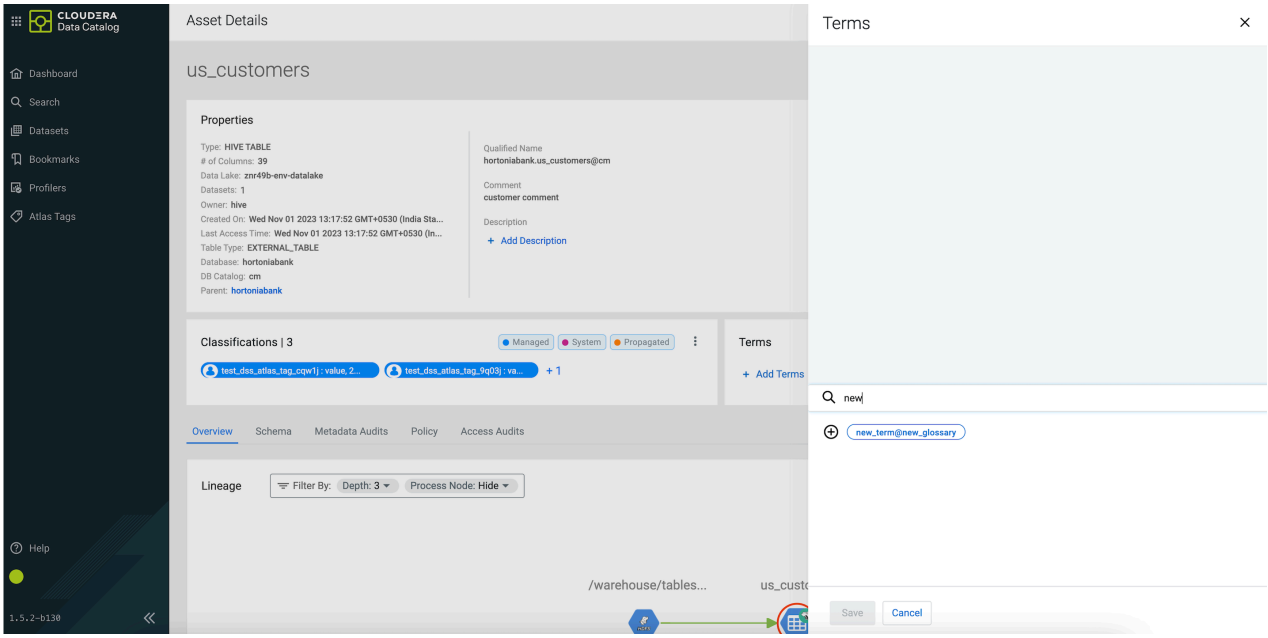
Mapping glossary terms

Data Catalog contains the glossary terms that are created in Atlas.

You can search for those terms in Data Catalog and map specific terms with Data assets. You can search for terms in Data Catalog to either add and delete them from the selected data asset. The selected asset displays the total number of terms associated or mapped accordingly.

When you map a specific term for your dataset, the term is displayed in the following format:

```
<termname>@glossaryname>
```



us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
customer comment

Description

Classifications | 3

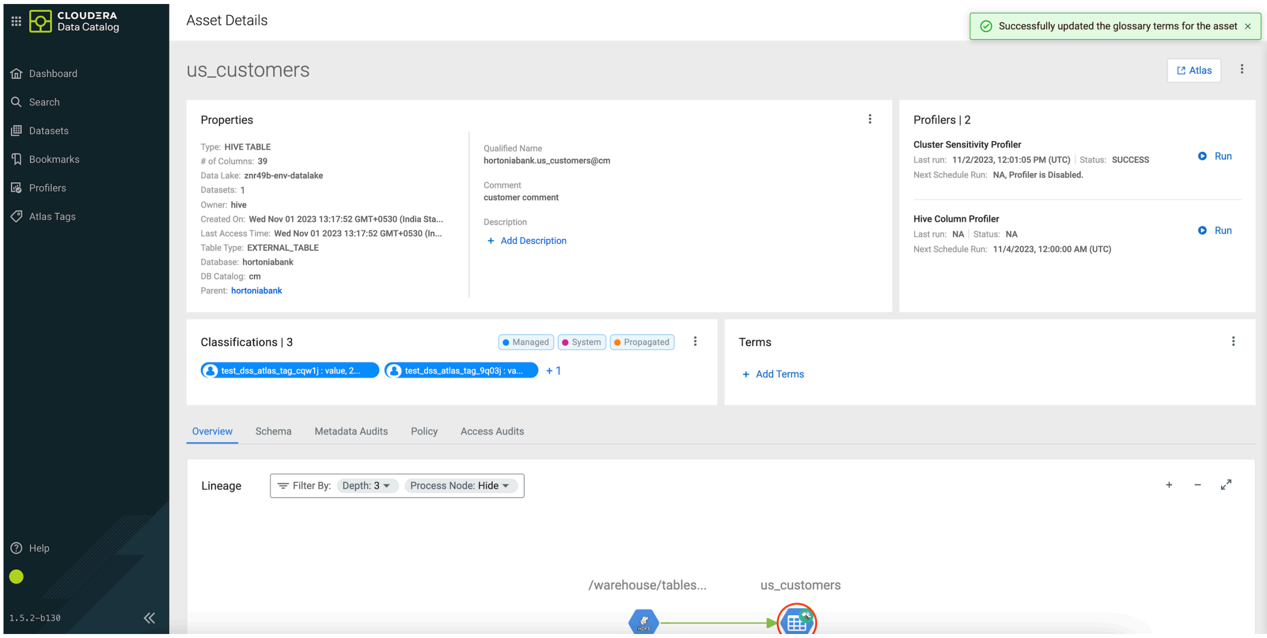
test_dss_atlas_tag_cqw1j : value, 2... test_dss_atlas_tag_9q03j : va... + 1

Terms

new

new_term@new_glossary

You can use the icon in the Terms widget on the Asset Details page to add new terms for your data assset. Click Save to save the changes.


Asset Details

Successfully updated the glossary terms for the asset

us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
customer comment

Description
+ Add Description

Profilers | 2

Cluster Sensitivity Profiler
Last run: 11/2/2023, 12:01:05 PM (UTC) | Status: SUCCESS
Next Schedule Run: NA, Profiler is Disabled.

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/4/2023, 12:00:00 AM (UTC)

Classifications | 3

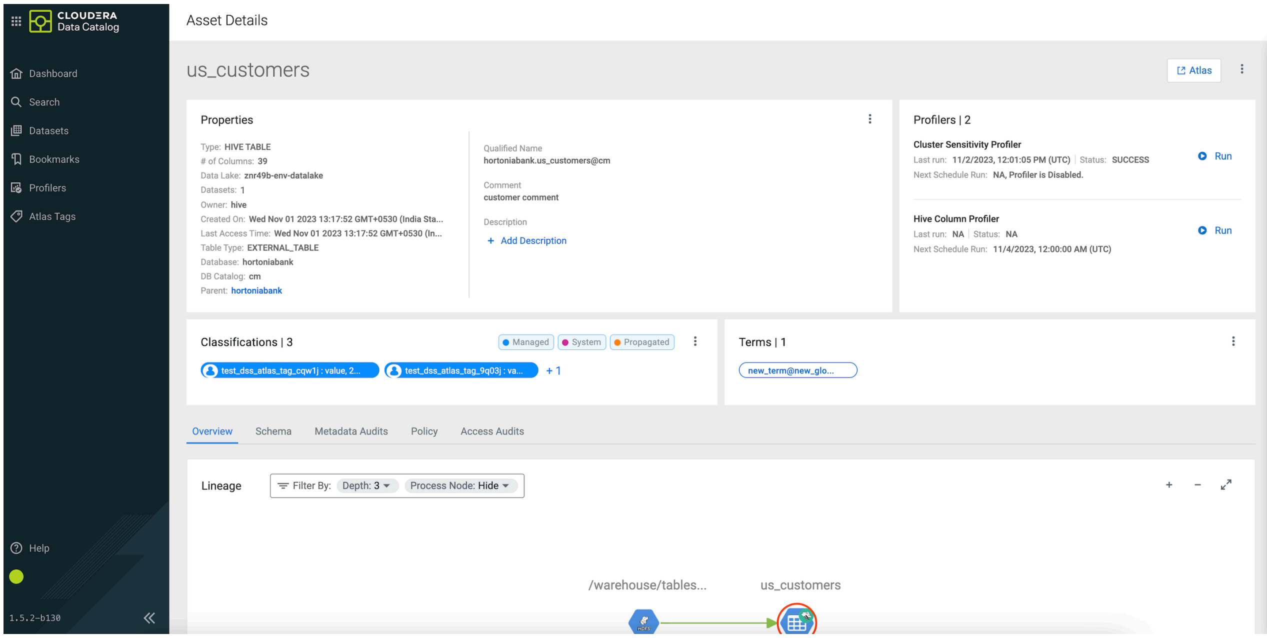
test_dss_atlas_tag_cqw1j : value, 2... test_dss_atlas_tag_9q03j : va... + 1

Terms

+ Add Terms

Lineage

Filter By: Depth: 3 Process Node: Hide


Asset Details

us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
customer comment

Description
+ Add Description

Profilers | 2

Cluster Sensitivity Profiler
Last run: 11/2/2023, 12:01:05 PM (UTC) | Status: SUCCESS
Next Schedule Run: NA, Profiler is Disabled.

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/4/2023, 12:00:00 AM (UTC)

Classifications | 3

test_dss_atlas_tag_cqw1j : value, 2... test_dss_atlas_tag_9q03j : va... + 1

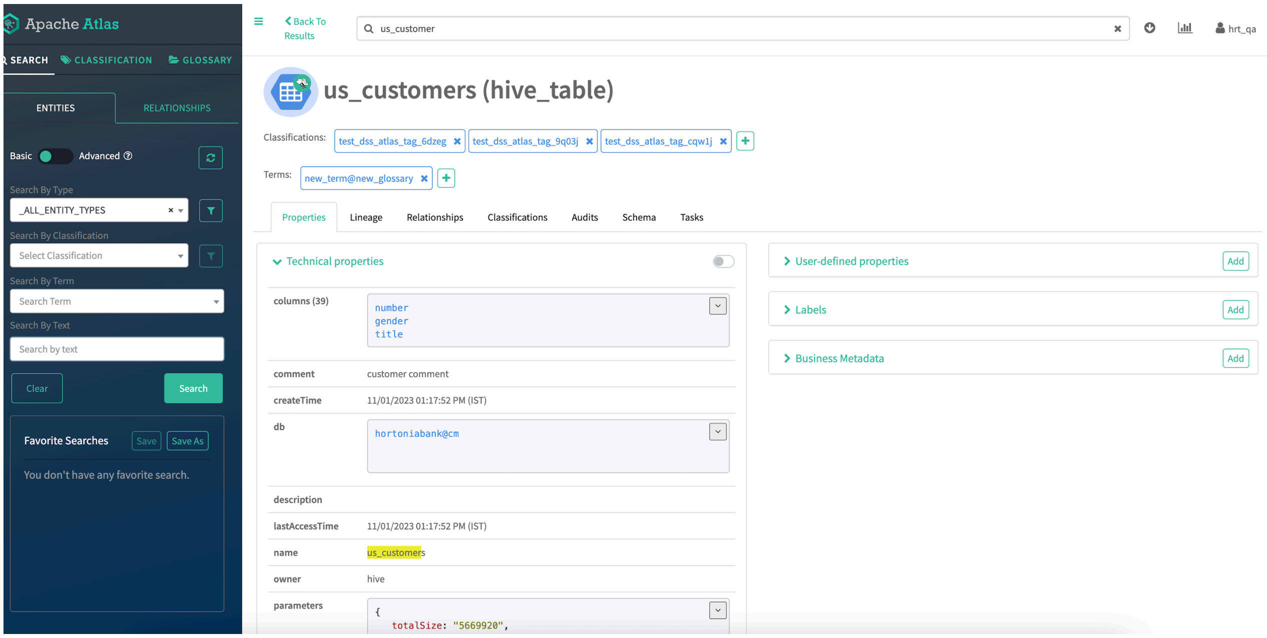
Terms | 1

new_term@new_glo...

Lineage

Filter By: Depth: 3 Process Node: Hide

You can search for the same asset in the corresponding Atlas environment as shown in the example image.



us_customers (hive_table)

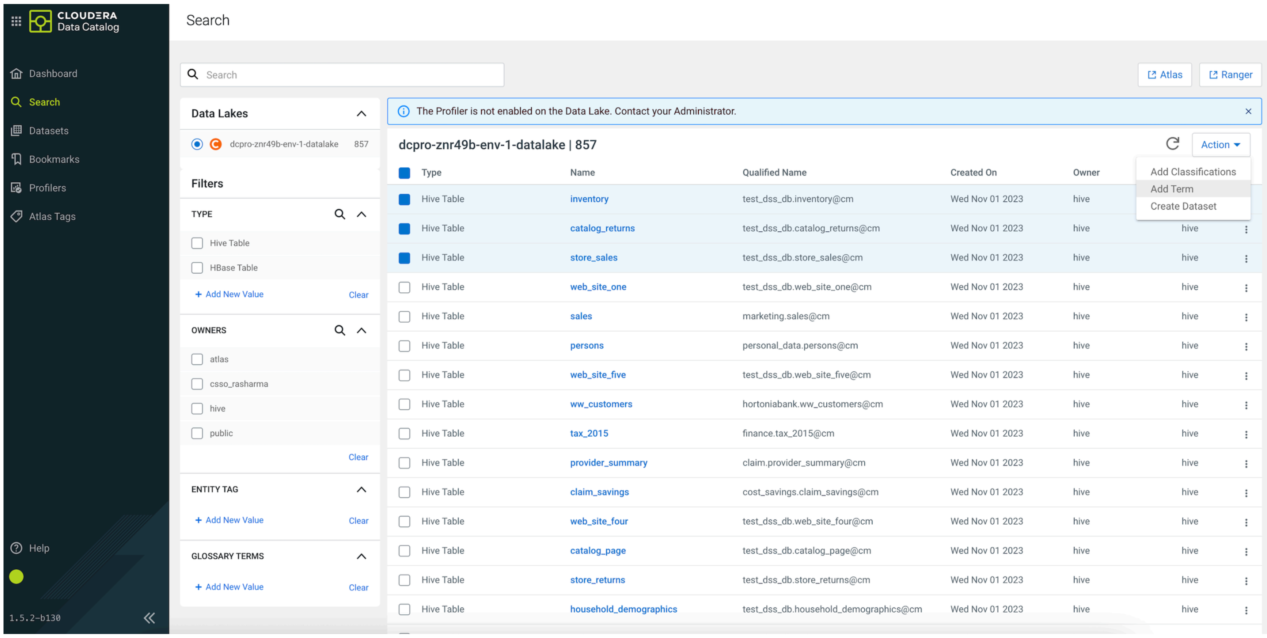
Classifications: test_dss_atlas_tag_6dzeg test_dss_atlas_tag_9q03j test_dss_atlas_tag_cqw1j

Terms: new_term@new_glossary

Technical properties

columns (39)	number gender title
comment	customer comment
createTime	11/01/2023 01:17:52 PM (IST)
db	hortoniabank@cm
description	
lastAccessTime	11/01/2023 01:17:52 PM (IST)
name	us_customers
owner	hive
parameters	{ totalSize: "5669920",

Additionally, you can also associate terms to your datasets by selecting one or more assets on the Data Catalog search page. You can associate terms with multiple datasets at a time.

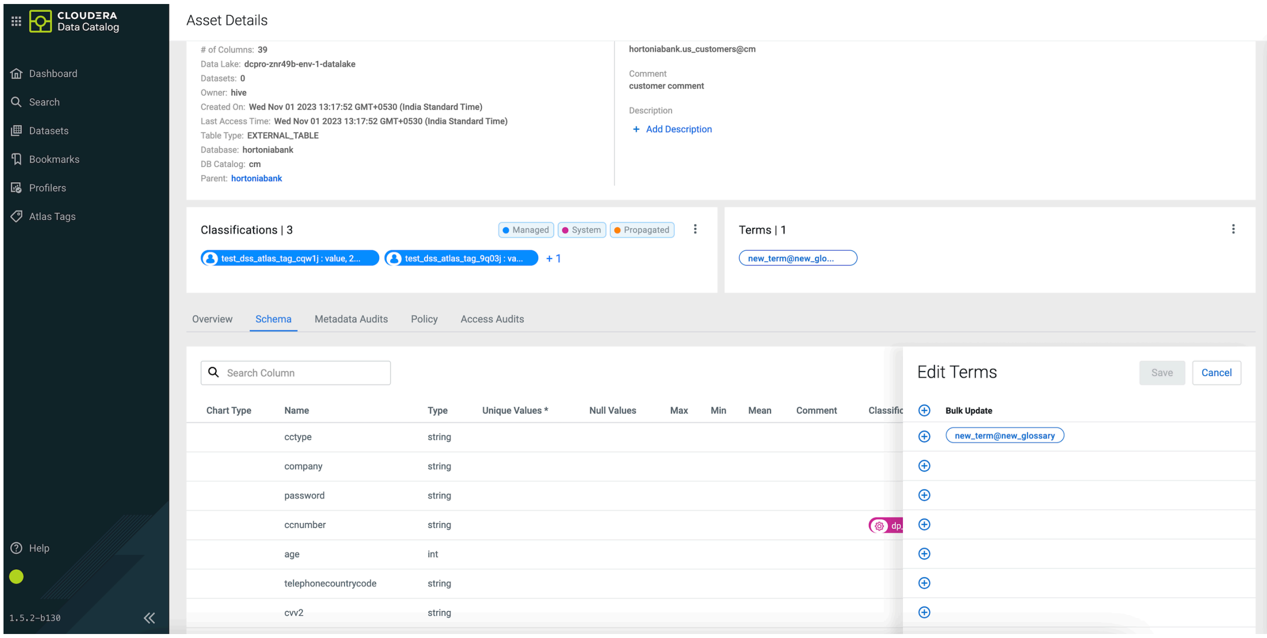


The Profiler is not enabled on the Data Lake. Contact your Administrator.

dcpro-znr49b-env-1-datalake | 857

■	Type	Name	Qualified Name	Created On	Owner	
■	Hive Table	inventory	test_dss_db.inventory@cm	Wed Nov 01 2023	hive	
■	Hive Table	catalog_returns	test_dss_db.catalog_returns@cm	Wed Nov 01 2023	hive	hive
■	Hive Table	store_sales	test_dss_db.store_sales@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	web_site_one	test_dss_db.web_site_one@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	sales	marketing.sales@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	persons	personal_data.persons@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	web_site_five	test_dss_db.web_site_five@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	ww_customers	hortoniabank.ww_customers@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	tax_2015	finance.tax_2015@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	provider_summary	claim.provider_summary@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	claim_savings	cost_savings.claim_savings@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	web_site_four	test_dss_db.web_site_four@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	catalog_page	test_dss_db.catalog_page@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	store_returns	test_dss_db.store_returns@cm	Wed Nov 01 2023	hive	hive
□	Hive Table	household_demographics	test_dss_db.household_demographics@cm	Wed Nov 01 2023	hive	hive

When you select a Hive table asset and navigate to the Asset Details page, under the Schema tab, you can view the list of terms associated with the asset.



# of Columns: 39
Data Lake: dcpro-znr49b-env-1-datalake
Datasets: 0
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Standard Time)
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (India Standard Time)
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

hortoniabank.us_customers@cm

Comment
customer comment

Description
+ Add Description

Classifications | 3
test_dss_atlas_tag_cqw1j : value, 2... test_dss_atlas_tag_9q03j : va... + 1

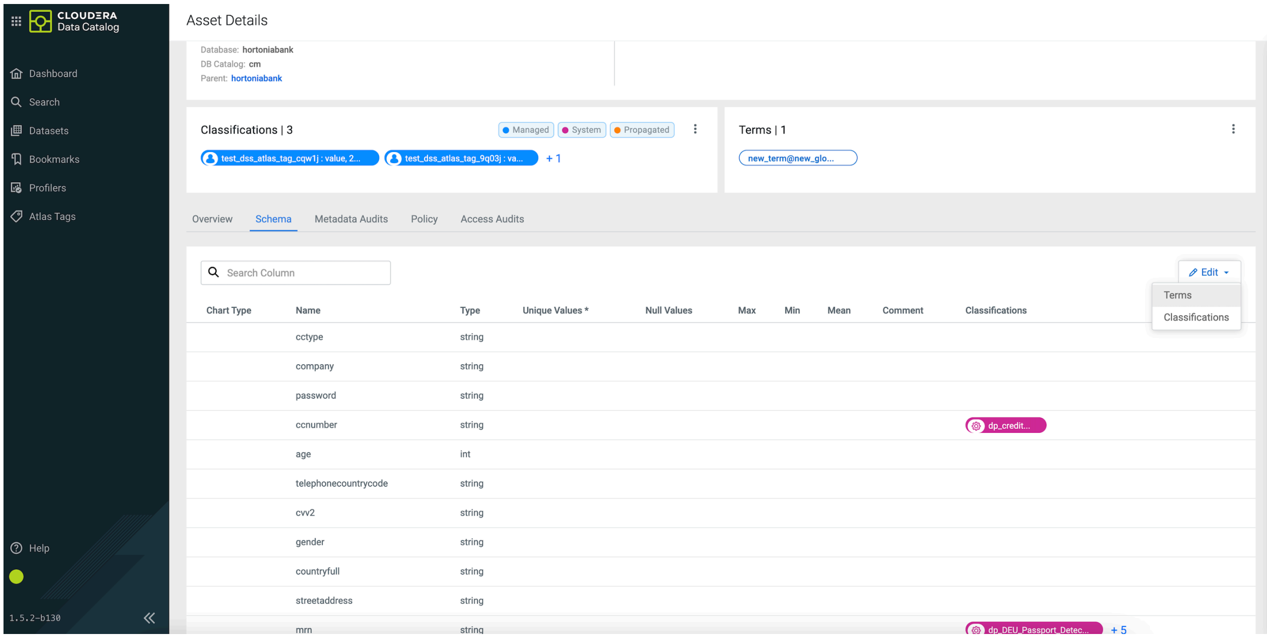
Terms | 1
new_term@new_glo...

Chart Type	Name	Type	Unique Values *	Null Values	Max	Min	Mean	Comment	Classific
	cctype	string							
	company	string							
	password	string							
	ccnumber	string							dp_
	age	int							
	telephonecountrycode	string							
	cvv2	string							

Edit Terms

Bulk Update
new_term@new_glossary

You can add or update the terms for the associated datasets by clicking the Edit button.



Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

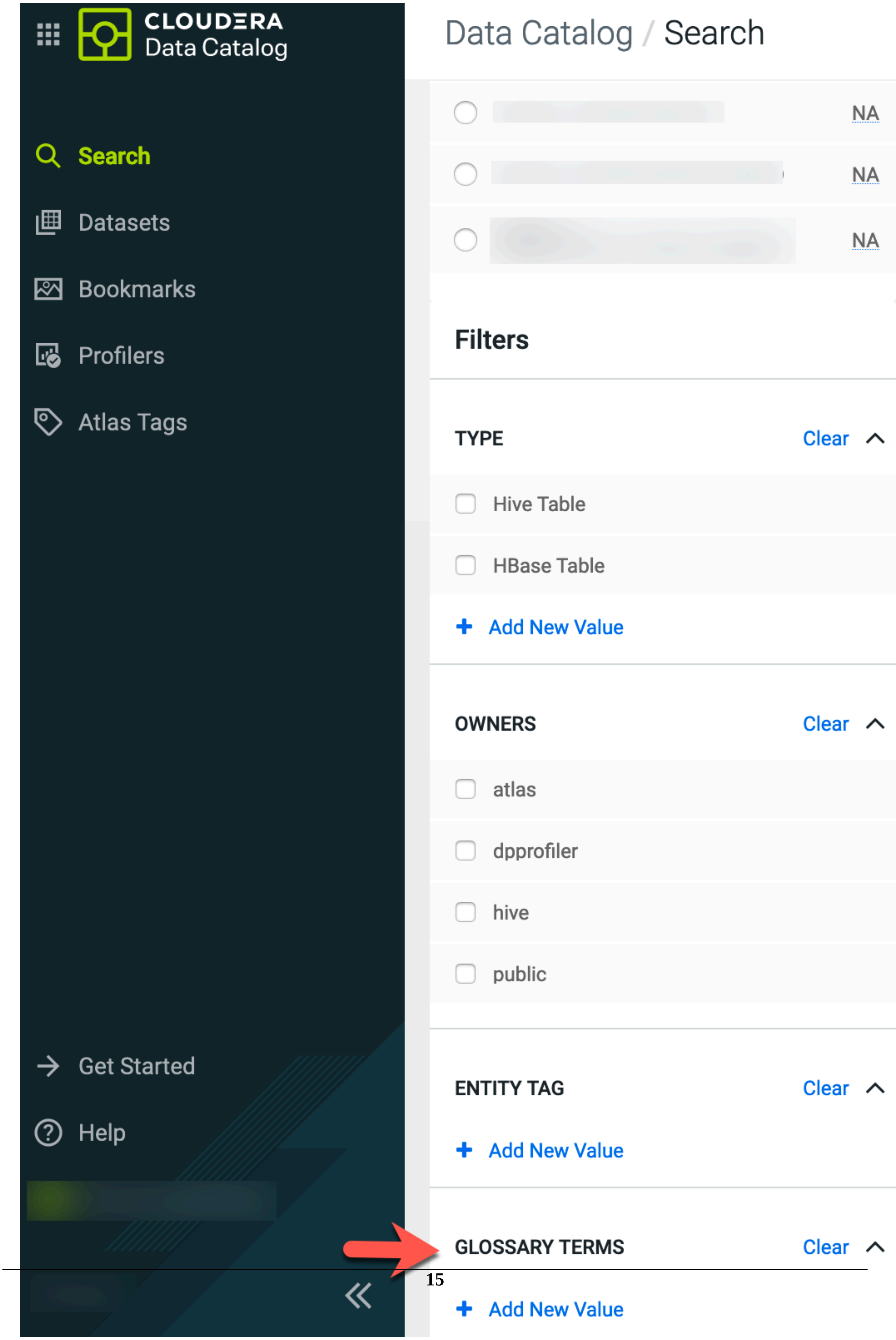
Classifications | 3
test_dss_atlas_tag_cqw1j : value, 2... test_dss_atlas_tag_9q03j : va... + 1

Terms | 1
new_term@new_glo...

Chart Type	Name	Type	Unique Values *	Null Values	Max	Min	Mean	Comment	Classifications
	cctype	string							
	company	string							
	password	string							
	ccnumber	string							dp_credit...
	age	int							
	telephonecountrycode	string							
	cvv2	string							
	gender	string							
	countryfull	string							
	streetaddress	string							
	mrn	string							dp_DEU_Passport_Detec... + 5

Searching for assets using glossary terms

You can search for the datasets using the Glossary terms filter available on the Data Catalog search page.



Data Catalog / Search

○ NA

○ NA

○ NA

Filters

TYPE Clear

□ Hive Table

□ HBase Table

+ Add New Value

OWNERS Clear

□ atlas

□ dpprofiler

□ hive

□ public

ENTITY TAG Clear

+ Add New Value

GLOSSARY TERMS Clear

+ Add New Value

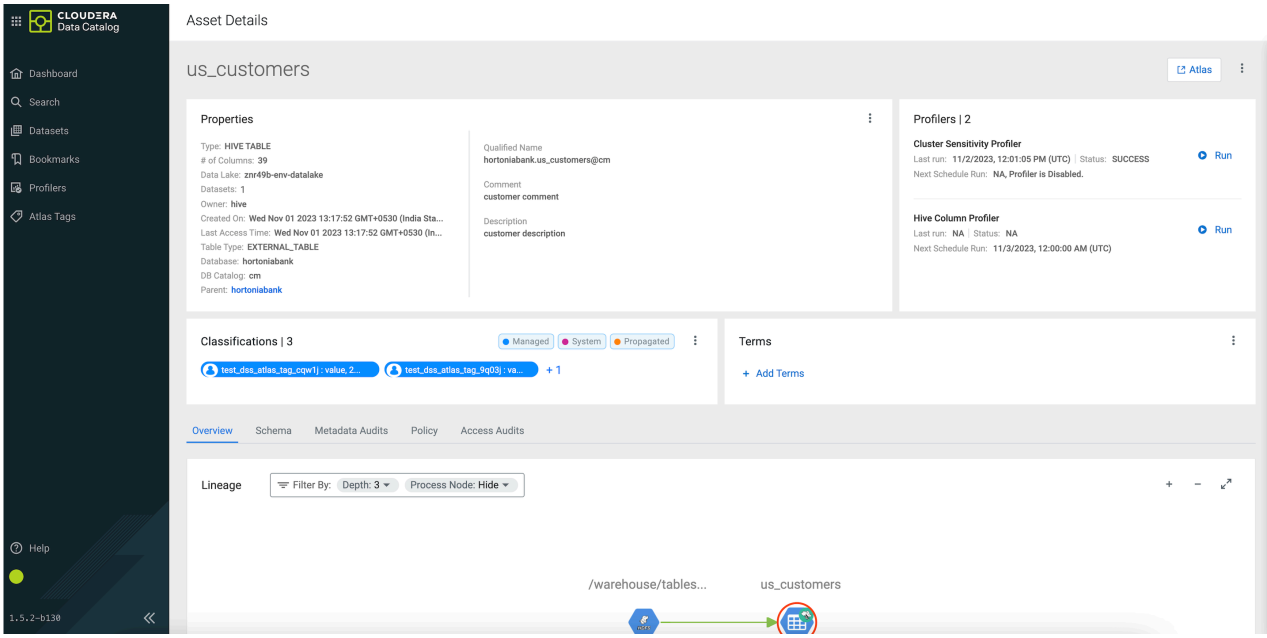
Additional search options for asset types

Using Data Catalog, you can add or edit asset description values to search for data assets across both Data Catalog and Atlas services by using the asset content.

In the Asset Details page for each asset type that you select, you can add or edit comment and description fields. For each asset type in Data Catalog, you can add or edit comments or include a description. Including these values for the selected asset helps you to identify your chosen asset when you perform the search operation.

Later, using the same set of values (comment or description), you can search for the asset types in Atlas.

Note: The comment and description options are supported only for Hive table and Hive Column assets. For other asset types, only the description option is supported.



Asset Details

us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
customer comment

Description
customer description

Profilers | 2

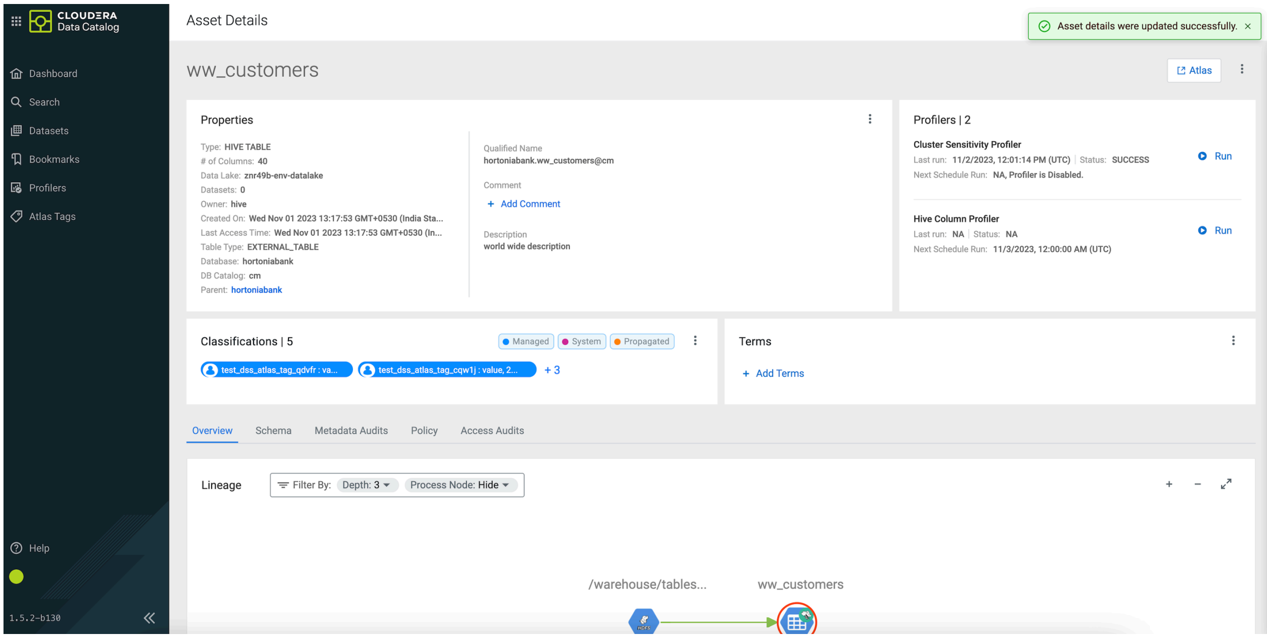
Cluster Sensitivity Profiler
Last run: 11/2/2023, 12:01:05 PM (UTC) | Status: SUCCESS
Next Schedule Run: NA, Profiler is Disabled.
Run

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)
Run

Classifications | 3
● Managed ● System ● Propagated
test_dss_atlas_tag_cqw1j : value, 2... test_dss_atlas_tag_9q03j : va... + 1

Terms
+ Add Terms

Click + besides Comment and Description to include the respective values.



Asset Details

Asset details were updated successfully.

ww_customers

Properties

Type: HIVE TABLE
# of Columns: 40
Data Lake: znr49b-env-datalake
Datasets: 0
Owner: hive
Created On: Wed Nov 01 2023 13:17:53 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:53 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.ww_customers@cm

Comment
+ Add Comment

Description
world wide description

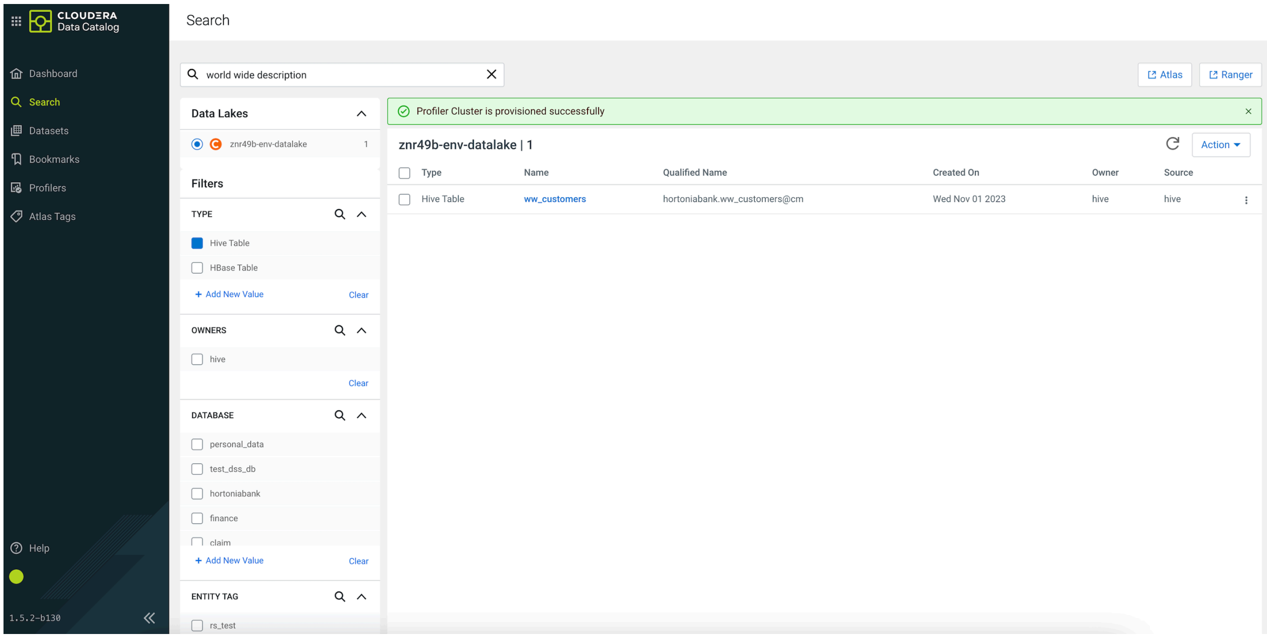
Profilers | 2

Cluster Sensitivity Profiler
Last run: 11/2/2023, 12:01:14 PM (UTC) | Status: SUCCESS
Next Schedule Run: NA, Profiler is Disabled.
Run

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)
Run

Classifications | 5
● Managed ● System ● Propagated
test_dss_atlas_tag_qdvfr : va... test_dss_atlas_tag_cqw1j : value, 2... + 3

Terms
+ Add Terms



world wide description

Profiler Cluster is provisioned successfully

znr49b-env-datalake | 1

Type	Name	Qualified Name	Created On	Owner	Source
Hive Table	ww_customers	hortoniabank.ww_customers@cm	Wed Nov 01 2023	hive	hive

Click Save to save the changes.

Note: You can also edit the already saved valued by clicking the ⋮ icon.

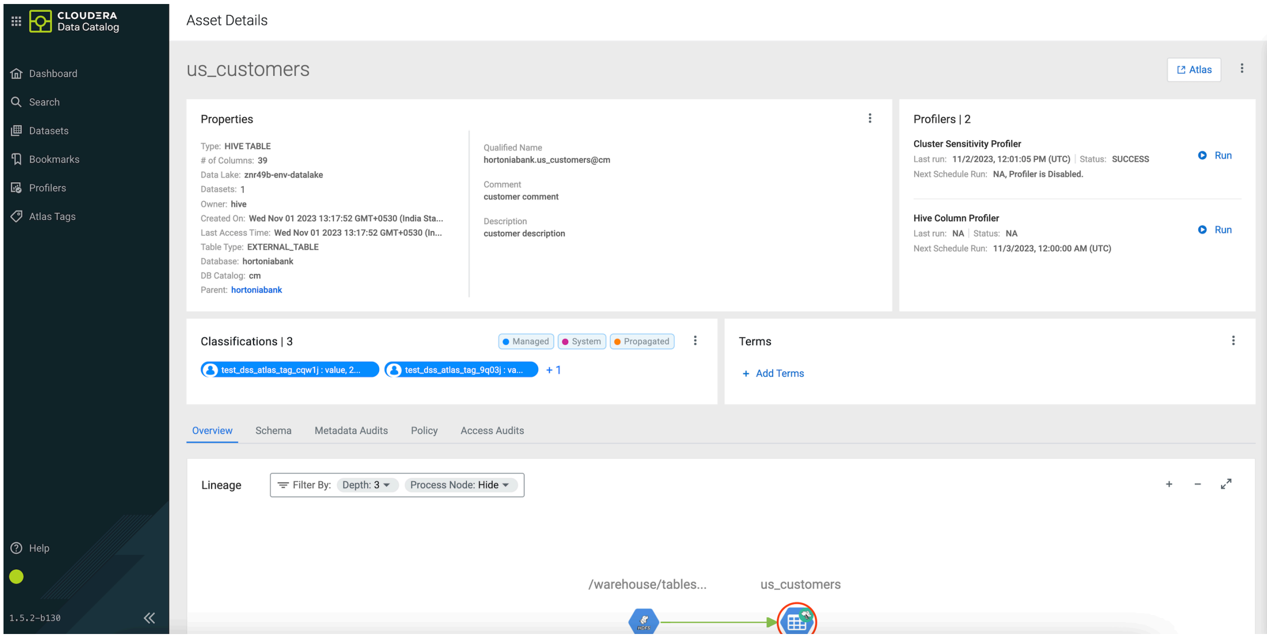
Clicking on the Atlas button will navigate to the corresponding Atlas asset page as displayed.

Searching for assets in Data Catalog using additional search options

Consider a scenario in Data Catalog, where you select a data asset type and under the Asset Details page, you insert a comment and provide the description for the selected asset.

Navigate to the Data Catalog search query pane and enter the Comment and Description value(s) that you saved for the selected asset type in Data Catalog. The result page displays the asset type that you added for the Comment and Description fields in Data Catalog.

When you query for the entered Comment value for the selected asset type in Data Catalog, the relevant asset type is displayed in the search result page.



Asset Details

us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
customer comment

Description
customer description

Profilers | 2

Cluster Sensitivity Profiler
Last run: 11/2/2023, 12:01:05 PM (UTC) | Status: SUCCESS
Next Schedule Run: NA, Profiler is Disabled.

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)

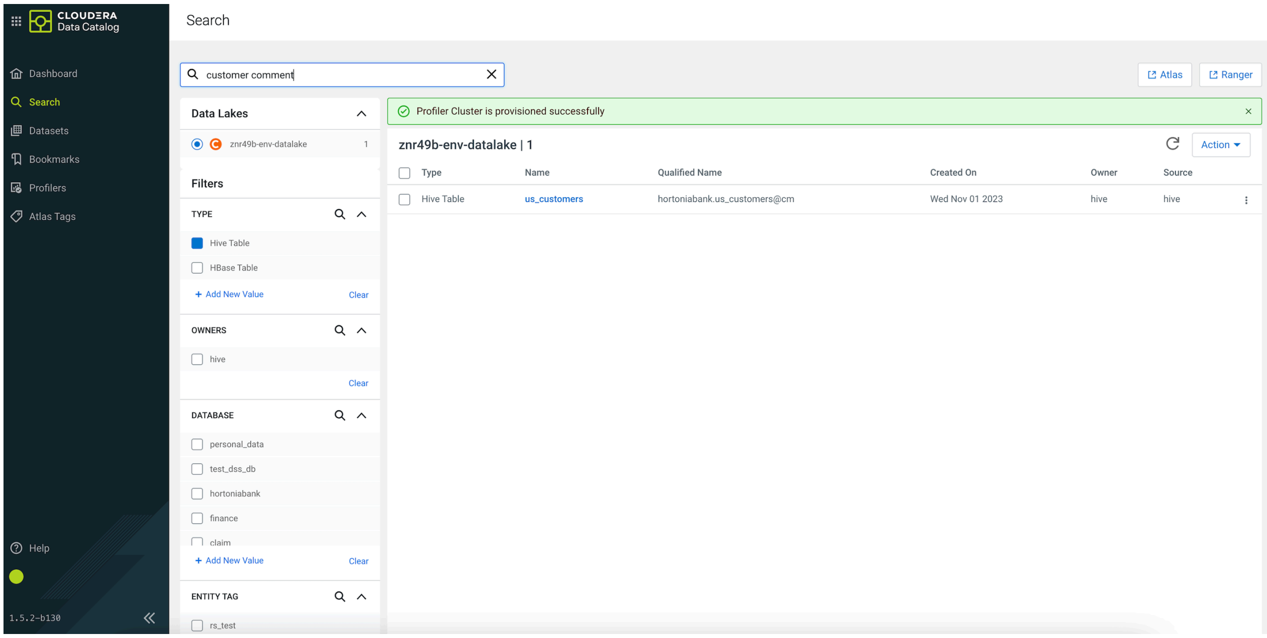
Classifications | 3 ● Managed ● System ● Propagated

test_dss_atlas_tag_cqw1j : value, 2... test_dss_atlas_tag_9q03j : va... + 1

Terms

Overview | Schema | Metadata Audits | Policy | Access Audits

Lineage Filter By: Depth: 3 Process Node: Hide



Search

customer comment

Data Lakes

● znr49b-env-datalake 1

Filters

TYPE
☑ Hive Table
□ HBase Table

OWNERS
□ hive

DATABASE
□ personal_data
□ test_dss_db
□ hortoniabank
□ finance
□ claim

ENTITY TAG
□ rs_test

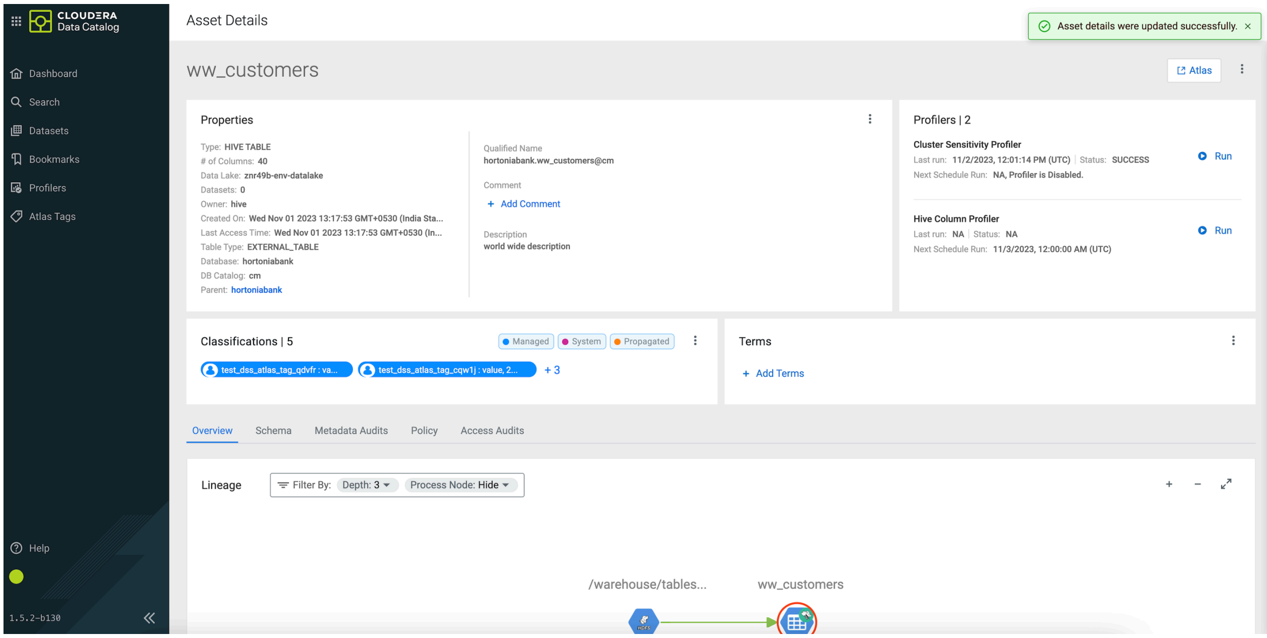
Profiler Cluster is provisioned successfully

znr49b-env-datalake | 1

□	Type	Name	Qualified Name	Created On	Owner	Source
□	Hive Table	us_customers	hortoniabank.us_customers@cm	Wed Nov 01 2023	hive	hive

Clicking on the asset type in Data Catalog displays the comment and description values as it was assigned in Data Catalog.

When you query for the entered Description value for the selected asset type in Data Catalog, the relevant asset type is displayed in the search result page.



Asset Details

Asset details were updated successfully.

ww_customers

Properties

Type: HIVE TABLE
# of Columns: 40
Data Lake: znr49b-env-datalake
Datasets: 0
Owner: hive
Created On: Wed Nov 01 2023 13:17:53 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:53 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.ww_customers@cm

Comment
+ Add Comment

Description
world wide description

Profilers | 2

Cluster Sensitivity Profiler
Last run: 11/2/2023, 12:01:14 PM (UTC) | Status: SUCCESS
Next Schedule Run: NA, Profiler is Disabled.

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)

Classifications | 5

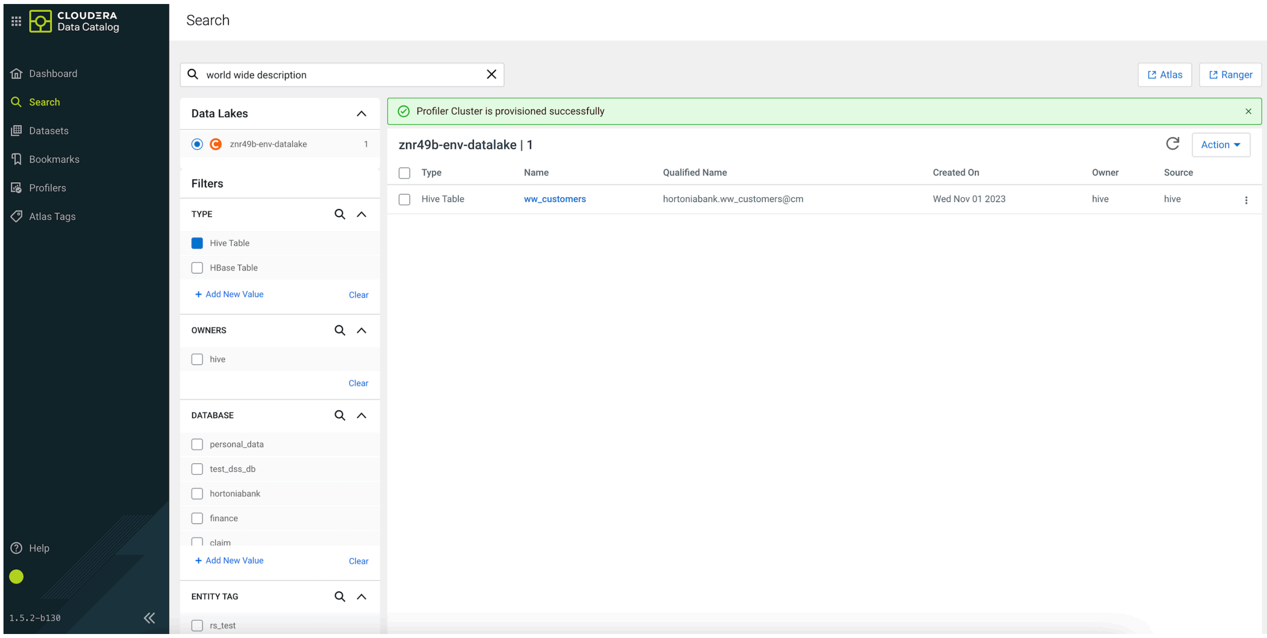
test_dss_atlas_tag_qdvfr : va... test_dss_atlas_tag_cqw1j : value, 2... + 3

Terms

+ Add Terms

Overview Schema Metadata Audits Policy Access Audits

Lineage Filter By: Depth: 3 Process Node: Hide



Search

world wide description

Profiler Cluster is provisioned successfully

Data Lakes

● znr49b-env-datalake 1

Filters

TYPE
☑ Hive Table
□ HBase Table
+ Add New Value Clear

OWNERS
□ hive
Clear

DATABASE
□ personal_data
□ test_dss_db
□ hortoniabank
□ finance
□ claim
+ Add New Value Clear

ENTITY TAG
□ rs_test

znr49b-env-datalake | 1

Type	Name	Qualified Name	Created On	Owner	Source
Hive Table	ww_customers	hortoniabank.ww_customers@cm	Wed Nov 01 2023	hive	hive

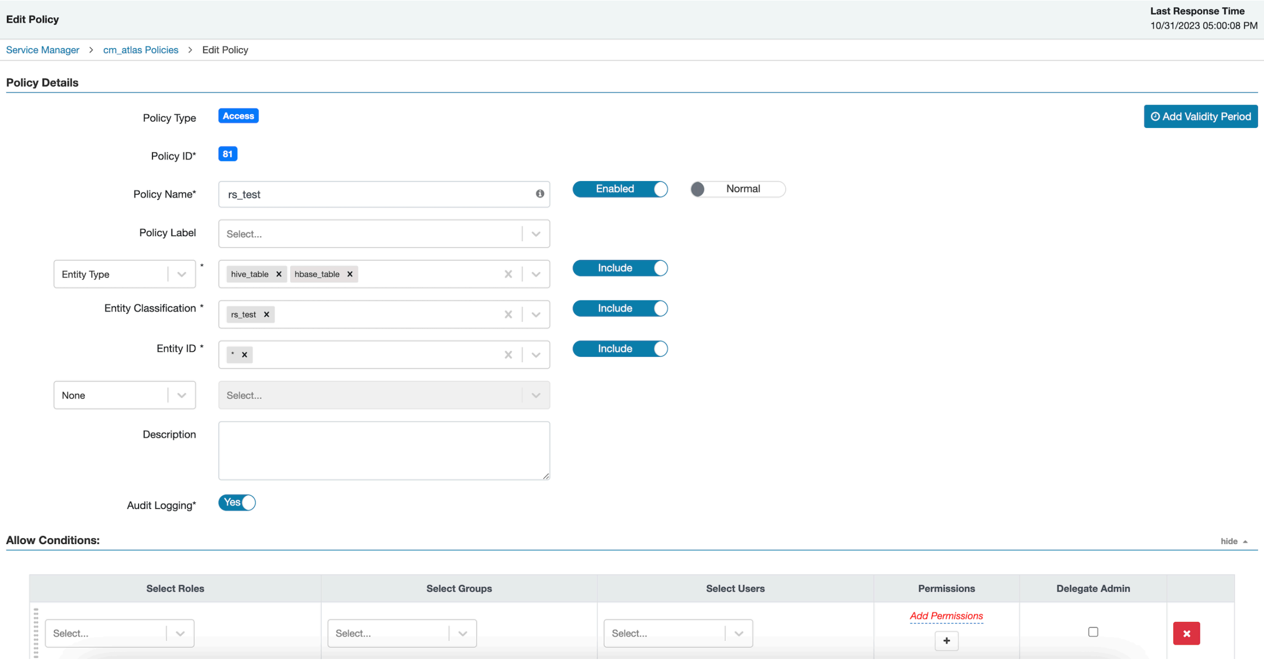
Your search query displays the results.

Accessing Tables based on Ranger policies

In Data Catalog service, when a table is clicked, the Asset Details view page is displayed.

If a user is not authorized to click or view table details, it implies that the user permissions have not been set-up in Ranger.

Note: The user permissions to view table details are configured in Ranger.



Edit Policy

Last Response Time
10/31/2023 05:00:08 PM

Service Manager > cm_atlas Policies > Edit Policy

Policy Details

Policy Type: Access

Policy ID*: 81

Policy Name*: rs_test

Enabled

Normal

Policy Label: Select...

Entity Type *: hive_table × hbase_table × — Include

Entity Classification *: rs_test × — Include

Entity ID *: * × — Include

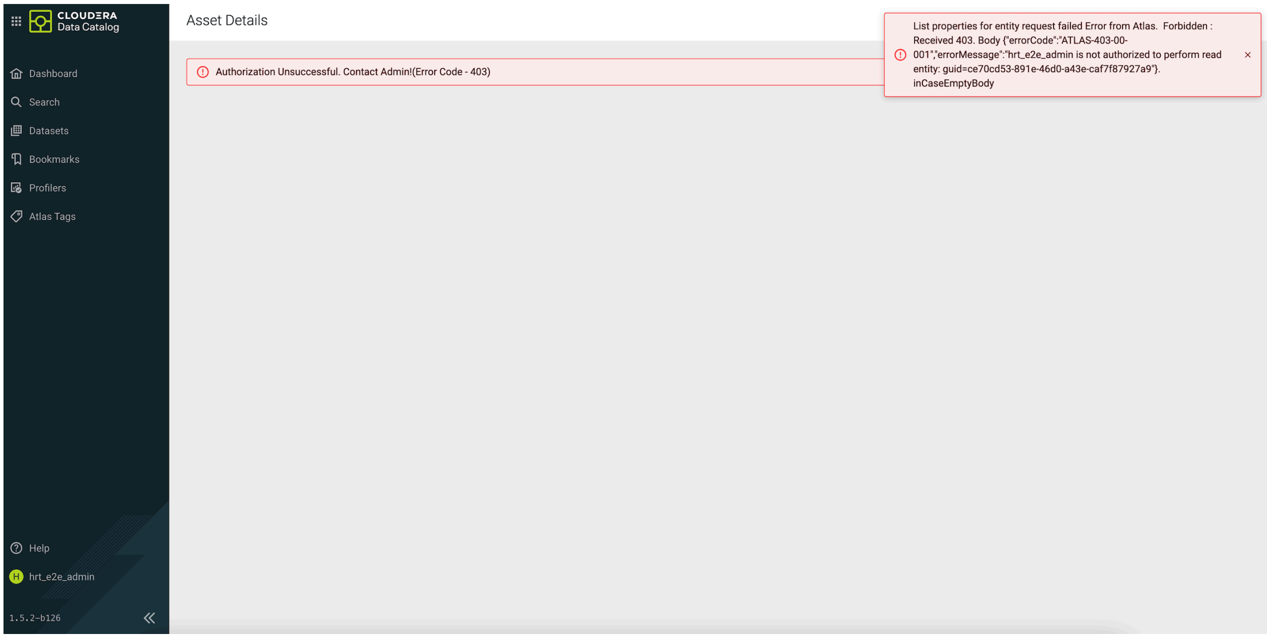
None: Select...

Description:

Audit Logging*: Yes

Allow Conditions:

Select Roles	Select Groups	Select Users	Permissions	Delegate Admin	
Select...	Select...	Select...	Add Permissions +	□	✖



Asset Details

Authorization Unsuccessful. Contact Admin!(Error Code - 403)

List properties for entity request failed Error from Atlas. Forbidden : Received 403. Body {"errorCode":"ATLAS-403-00-001","errorMessage":"hrt_e2e_admin is not authorized to perform read entity: guid=ce70cd53-891e-46d0-a43e-caf7f87927a9"}. inCaseEmptyBody

Creating Classification for selected assets

You can create a classification that can be associated with an asset.

1. From Data Catalog > navigate to the search page.
2. You can perform one or more of the following:
   - Select Add Classifications on action button in search page
   - Select Add classification in classification widget on Asset Details page.
3. On the Add Classification slider, click Create button.
4. Enter the necessary values in the fields and click the Create button.

Adding Classifications / Terms for selected assets

You can add classification or terms that can be associated with an asset.

Procedure

1. From Data Catalog > navigate to the search page.
2. You can perform one or more of the following:
   a) Select Add Classifications / Terms on action button in the search page.
   b) Select Add Classifications / Terms in classification widget on Asset Details page.
3. On the Add Classifications / terms slider, click on the Add icon against classification / term.
4. Enter other values in the fields, if required and click Save.

Additional Entity type selection for searching Assets

Using the Data Catalog service, you can search for assets by using the entity types.

Data Catalog users can search and discover assets of more types. Users can search assets of types just like they do for Hive Table with some restrictions.

Supported entity types include:

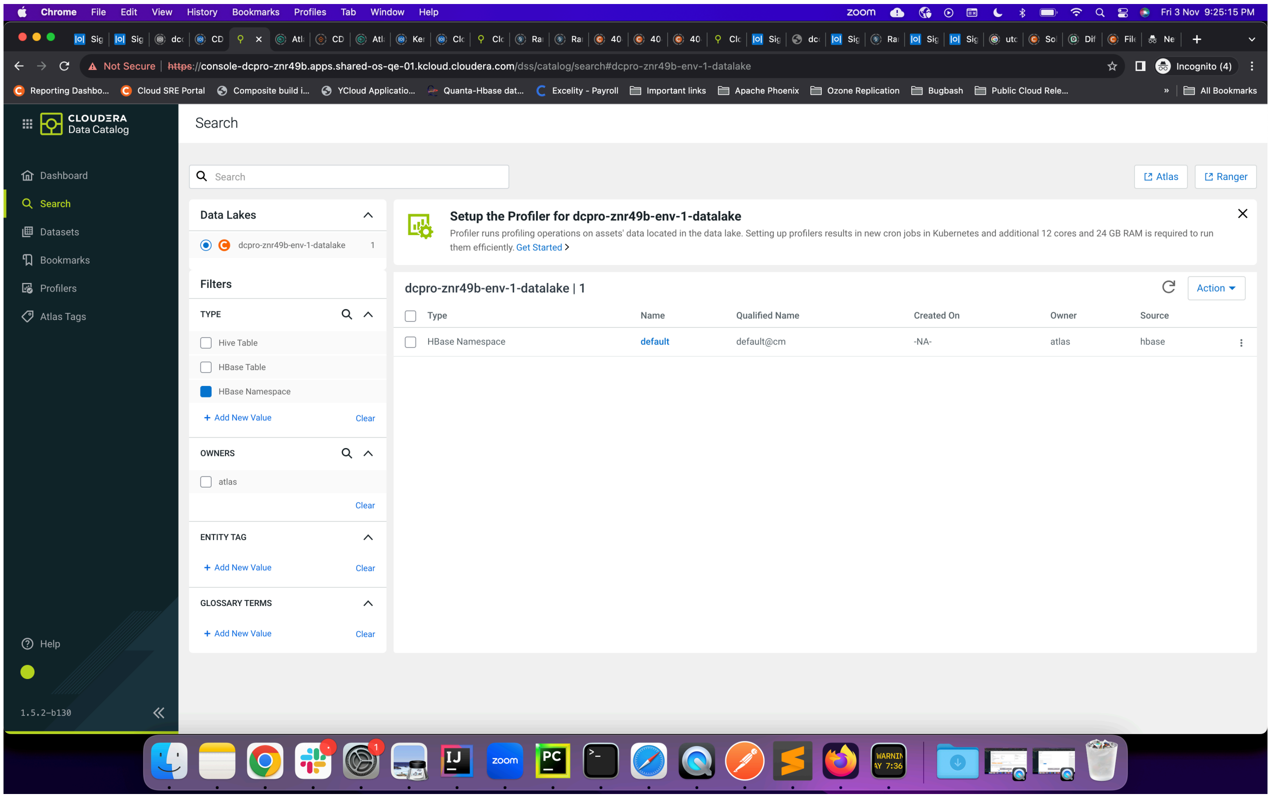
- HBase Table
- HBase Column Family
- HBase Namespace
- HDFS Path
- Hive DB
- Hive Table
- Hive Column
- ML Project
- ML Model Build
- ML Model Deployment
- NiFi Flow
- NiFi Data
- Impala Process
- Impala Column Lineage
- Impala Process Execution
- Kafka Topic
- RDBMS DB
- RDBMS Column
- RDBMS Foreign Key
- RDBMS Index
- RDBMS Instance
- RDBMS Table
- Spark Process
- Spark Application
- Spark Column
- Spark Column Lineage
- Spark DB
- Spark ML Directory
- Spark ML Model

- Spark ML Pipeline
- Spark Process Execution
- Spark Table

Selecting a type triggers a search query for that type. Currently two types of entities are supported but totally about twelve types of generic entities can be selected to search for assets depending on the data lake.

Owners data is derived from the response received from type based queries.

The following example diagrams depict the entity type selection search results.



Search

Data Lakes: ● dcpro-znr49b-env-1-datalake 1

TYPE: □ Hive Table □ HBase Table ☑ HBase Namespace

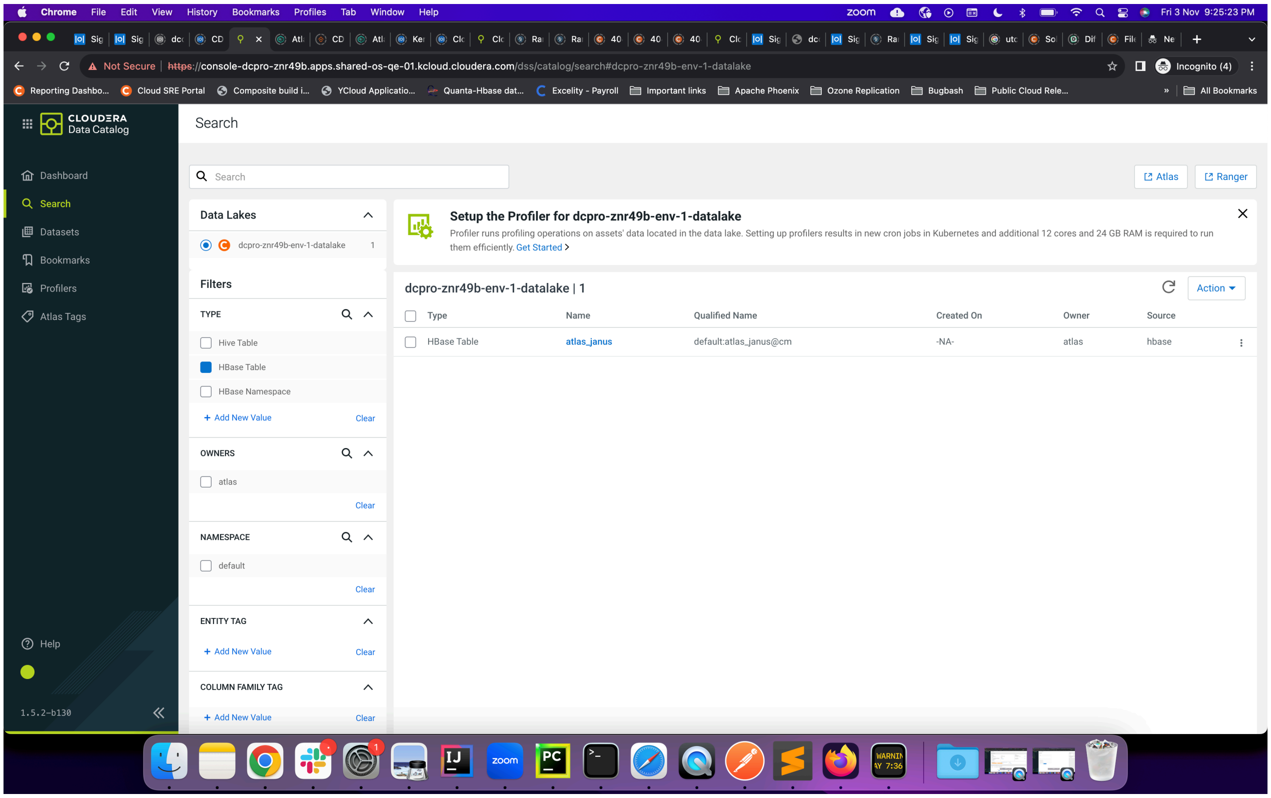
OWNERS: □ atlas

Setup the Profiler for dcpro-znr49b-env-1-datalake

Profiler runs profiling operations on assets' data located in the data lake. Setting up profilers results in new cron jobs in Kubernetes and additional 12 cores and 24 GB RAM is required to run them efficiently. Get Started

dcpro-znr49b-env-1-datalake | 1

Type	Name	Qualified Name	Created On	Owner	Source
HBase Namespace	default	default@cm	-NA-	atlas	hbase



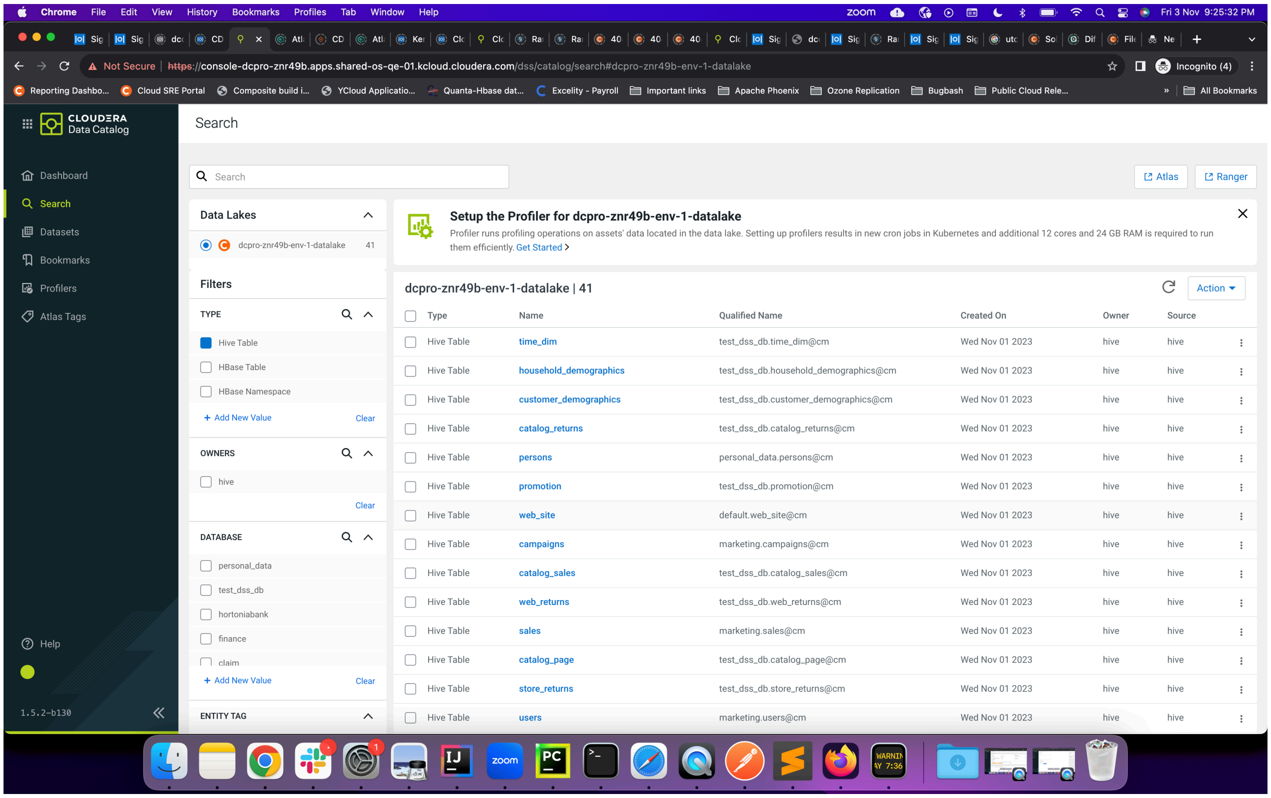
https://console-dcpro-znr49b.apps.shared-os-qe-01.kcloud.cloudera.com/dss/catalog/search#dcpro-znr49b-env-1-datalake

Setup the Profiler for dcpro-znr49b-env-1-datalake

Profiler runs profiling operations on assets' data located in the data lake. Setting up profilers results in new cron jobs in Kubernetes and additional 12 cores and 24 GB RAM is required to run them efficiently. Get Started >

dcpro-znr49b-env-1-datalake | 1

Type	Name	Qualified Name	Created On	Owner	Source
HBase Table	atlas_janus	default:atlas_janus@cm	-NA-	atlas	hbase



https://console-dcpro-znr49b.apps.shared-os-qe-01.kcloud.cloudera.com/dss/catalog/search#dcpro-znr49b-env-1-datalake

Setup the Profiler for dcpro-znr49b-env-1-datalake

Profiler runs profiling operations on assets' data located in the data lake. Setting up profilers results in new cron jobs in Kubernetes and additional 12 cores and 24 GB RAM is required to run them efficiently. Get Started >

dcpro-znr49b-env-1-datalake | 41

Type	Name	Qualified Name	Created On	Owner	Source
Hive Table	time_dim	test_dss_db.time_dim@cm	Wed Nov 01 2023	hive	hive
Hive Table	household_demographics	test_dss_db.household_demographics@cm	Wed Nov 01 2023	hive	hive
Hive Table	customer_demographics	test_dss_db.customer_demographics@cm	Wed Nov 01 2023	hive	hive
Hive Table	catalog_returns	test_dss_db.catalog_returns@cm	Wed Nov 01 2023	hive	hive
Hive Table	persons	personal_data.persons@cm	Wed Nov 01 2023	hive	hive
Hive Table	promotion	test_dss_db.promotion@cm	Wed Nov 01 2023	hive	hive
Hive Table	web_site	default.web_site@cm	Wed Nov 01 2023	hive	hive
Hive Table	campaigns	marketing.campaigns@cm	Wed Nov 01 2023	hive	hive
Hive Table	catalog_sales	test_dss_db.catalog_sales@cm	Wed Nov 01 2023	hive	hive
Hive Table	web_returns	test_dss_db.web_returns@cm	Wed Nov 01 2023	hive	hive
Hive Table	sales	marketing.sales@cm	Wed Nov 01 2023	hive	hive
Hive Table	catalog_page	test_dss_db.catalog_page@cm	Wed Nov 01 2023	hive	hive
Hive Table	store_returns	test_dss_db.store_returns@cm	Wed Nov 01 2023	hive	hive
Hive Table	users	marketing.users@cm	Wed Nov 01 2023	hive	hive

Viewing Data Asset Details

The Asset Details page comprises four to five tabs (Overview, Schema, Metadata Audit, Policy, and Access Audits).

To access the Asset Details page, click an asset in the Data Catalog Search page. This brings you to the Overview tab, the first of the four tabs that form the Asset Details page.

- Asset properties: Number of rows, number of columns, number of partitions, and owner.
- Overview: Displays an overview for the data asset.
  - Lineage: Shows the chain of custody for the data from relevant metadata repositories such as Apache Atlas. Lineage shows both upstream paths (lineage) into and downstream paths (impact) out of a given asset.
- Schema: Displays the schema of the data asset for structured data (such as Hive tables) from the relevant metadata repositories (such as Atlas).
- Metadata Audits: Displays the change logs per asset fetched from Apache Atlas.
- Content: Only visible for container types like databases. When the tab is visible, the overview tab is not applicable.
- Policy: The policy view shows security (authorization) policies defined on assets such as those present in Apache Ranger. It includes both resource (physical asset based) as well as classification based policies
- Access Audits: The data asset audit logs page shows the most recent access audits from Apache Ranger.

Viewing Data Assets

The Data Asset Overview page displays all the Apache Atlas metadata associated with a particular data asset.

About this task

The Data Asset Overview page displays:

Asset properties: Displays properties information relevant to asset type, like in case of Hive table - Number of rows, number of columns, number of partitions, and the owner.

From the Data Catalog search page, click to select a data asset.

The Asset Overview window opens.

The following matrix captures the supported fields for different asset types:

Asset Type	Lineage	Tagging	Access Metrics	Schema	Policy	Audit	Atlas Punch out
Hive DB	Not Supported	Yes	Not Supported	Not Supported	Yes	Yes	Yes
Hive Table	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hive Column	Yes	Yes	Not Supported	Not Supported	Yes	Yes	Yes
Hbase Namespace	Yes	Yes	Not Supported	Not Supported	Yes	Yes	Yes
Hbase Table	Yes	Yes	Not Supported	Yes	Yes	Yes	Yes
Hbase Column Family	Yes	Yes	Not Supported	Not Supported	Yes	Yes	Yes
impala_process	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
impala_column_lineage	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
impala_process_execution	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
ML_Project	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes

Asset Type	Lineage	Tagging	Access Metrics	Schema	Policy	Audit	Atlas Punch out
ML_Model_Build	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
ML_Model_Deploy	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
rdbms_db	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
rdbms_column	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
rdbms_foreign_key	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
rdbms_index	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
rdbms_instance	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
rdbms_table	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_process	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_application	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_column	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_column_lineage	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_db	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_ml_directory	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_ml_model	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_ml_pipeline	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_process_execution	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes
spark_table	Yes	Yes	Not Supported	Not Supported	Not Supported	Not Supported	Yes

View Data Asset Schema

From the Asset Details Schema page, you can view the schema of the data asset for structured data (such as Hive tables) from the relevant metadata repositories (such as Atlas).

Procedure

1. From the Data Catalog search page, select an asset.
   The Asset Overview window opens.
2. Click Schema.
   The Schema table shows the data asset schema as retrieved from Apache Atlas.

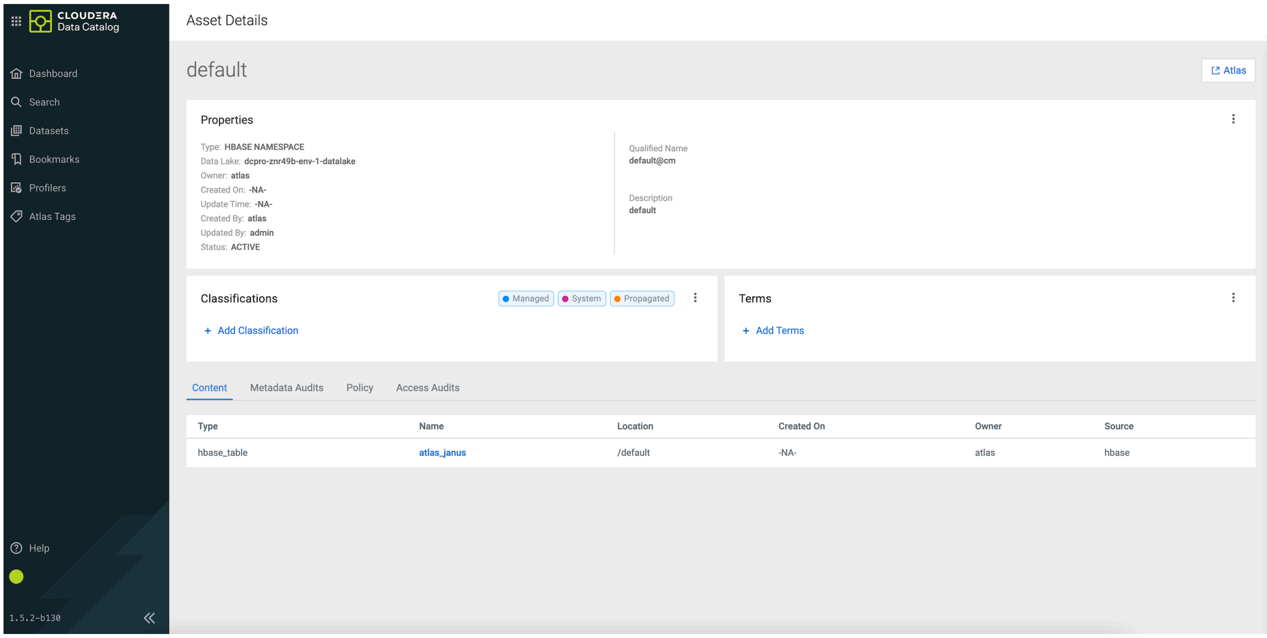
3. (Optional) To edit tags:
   a) Click Edit Tags.
   b) Click the (+) icon.
   c) Select or deselect the tags you choose, then click Save.

      You can now manage and edit tags at the table level.

Navigating from the container asset to the parent asset from Asset Details page

A generic Assets Details page is available for container data types like buckets and databases.

A Contents tab (similar to the Schema tab) lists all the contents of the selected entity. Clicking on any element available in the selected entity list navigates you to the Asset Details page.



default

Properties

Type: HBASE NAMESPACE
Data Lake: dcpro-znr49b-env-1-datalake
Owner: atlas
Created On: -NA-
Update Time: -NA-
Created By: atlas
Updated By: admin
Status: ACTIVE

Qualified Name
default@cm

Description
default

Classifications

Terms

Type	Name	Location	Created On	Owner	Source
hbase_table	atlas_janus	/default	-NA-	atlas	hbase

For example, for a database entity having a list of tables, clicking on any listed table navigates to the Asset Details page of the same table. Helps you understand the parent-child relationship as far as asset management is concerned. The Contents tab displays entities that are contained within assets of container entity types. The entities in the table of Contents tab are clickable, which will allow you to navigate to the Asset Details page of these contained assets.

The following table lists the entity types, their parent, and contents.

Type	Parent	Content
Hive DB	-	Hive Table
HBase Namespace	-	HBase Table
ML Project	-	ML Model Build
ML Model Build	ML Project	ML Model Deployment
RDBMS Instance	-	RDBMS DB
RDBMS DB	RDBMS Instance	RDBMS Table

View Authorization Policies on a Data Asset

The Asset Details Policy page displays all the Apache Ranger policy details associated with a particular data asset. This helps you understand how data access is secured and protected: what users can see what data (or metadata) under what conditions (security policies, data protection, and anonymization).

Procedure

1. From the Data Catalog search page, select a data asset.
   The Asset Overview window opens.
2. Click the Policy tab.
   The Policy table shows the data asset policies as retrieved from Apache Ranger.

View Data Asset Audit Logs

The Asset Details Audit page displays all the Apache Ranger audit events associated with a particular data asset. This helps you to view who has accessed what data from a forensic audit or compliance perspective, and to visualize access patterns and identify anomalies.

Procedure

1. From the Data Catalog search page, select a data asset.
   The Asset Overview window opens.
2. Click the Audit tab.
   The Audit table shows the most recent raw audit event data by type of access and access outcome (authorized/ unauthorized).
3. (Optional) You can filter the audit results by Access Type or Result.

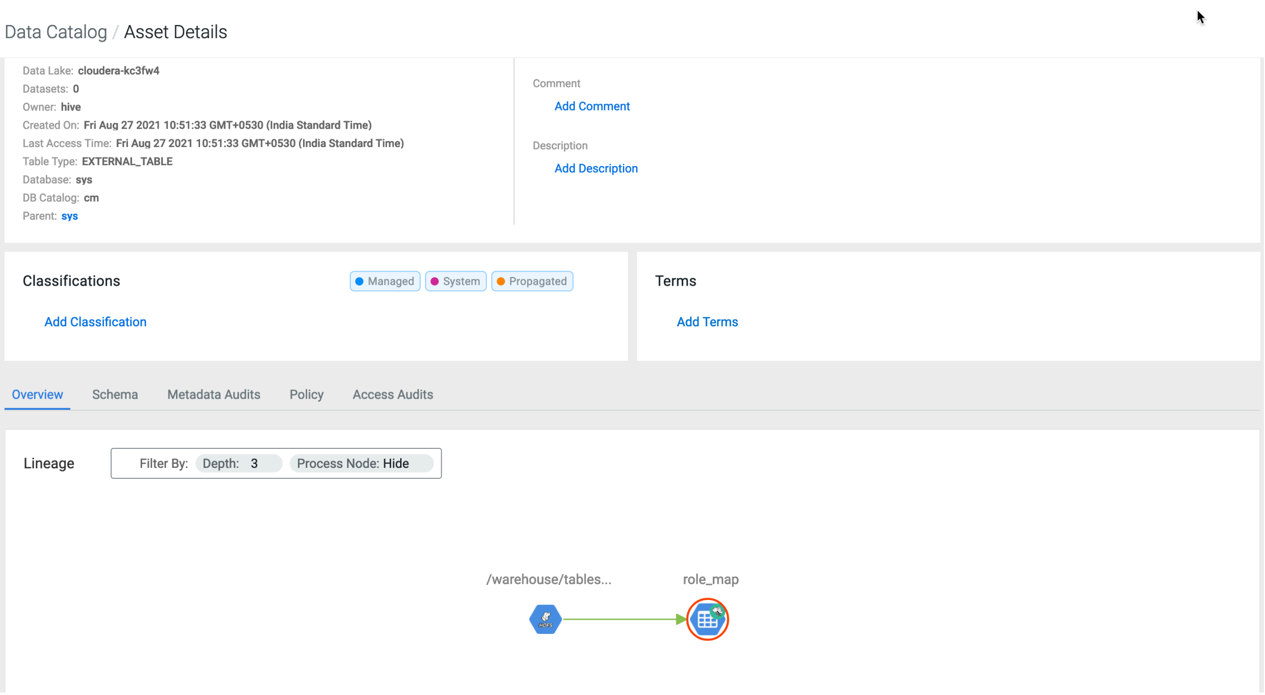
   Access type: SELECT, UPDATE, CREATE, DROP, ALTER, INDEX, READ, WRITE.

   Result: ALLOWED, DENIED.

Navigation Support for Hive entity within Lineage

When you click a Hive entity within lineage, the Asset Details page of the selected Hive entity is displayed.

Previously, when you clicked on any entity for which slider information was available, a slider would display the entity details. As of now, as seen in the corresponding images, the Asset Details page of the Hive entity is displayed. The option selected in Depth drop-down and Show Process nodes are now displayed on the upper-left corner of the Lineage module.



Data Catalog / Asset Details

Data Lake: cloudera-kc3fw4
Datasets: 0
Owner: hive
Created On: Fri Aug 27 2021 10:51:33 GMT+0530 (India Standard Time)
Last Access Time: Fri Aug 27 2021 10:51:33 GMT+0530 (India Standard Time)
Table Type: EXTERNAL_TABLE
Database: sys
DB Catalog: cm
Parent: sys

Comment
Add Comment

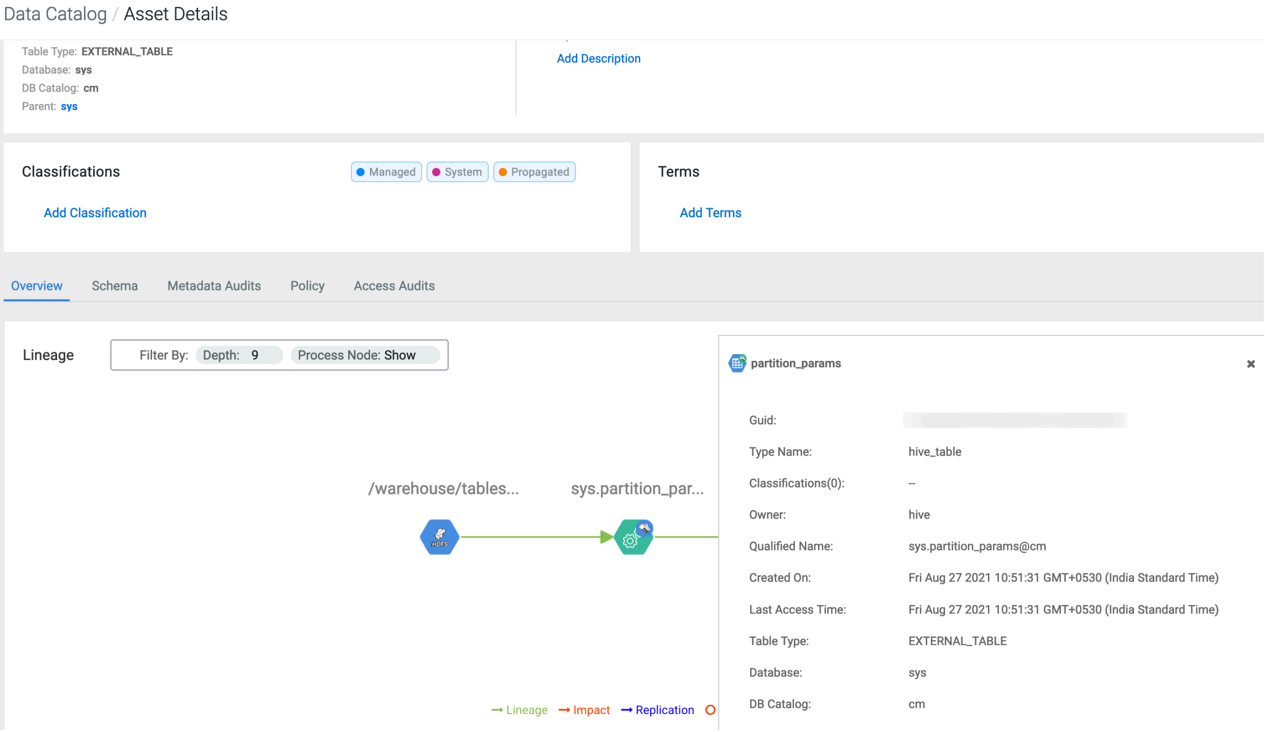
Description
Add Description

Classifications ● Managed ● System ● Propagated
Add Classification

Terms
Add Terms

Alternatively, if you do not want to navigate away from the current page and want to view the information with respect to any entity, hover on the entity and click the information icon ℹ to view the details.

The screenshot depicts the slider information for the clicked entity:



Data Catalog / Asset Details

Table Type: EXTERNAL_TABLE
Database: sys
DB Catalog: cm
Parent: sys

Add Description

Classifications ● Managed ● System ● Propagated
Add Classification

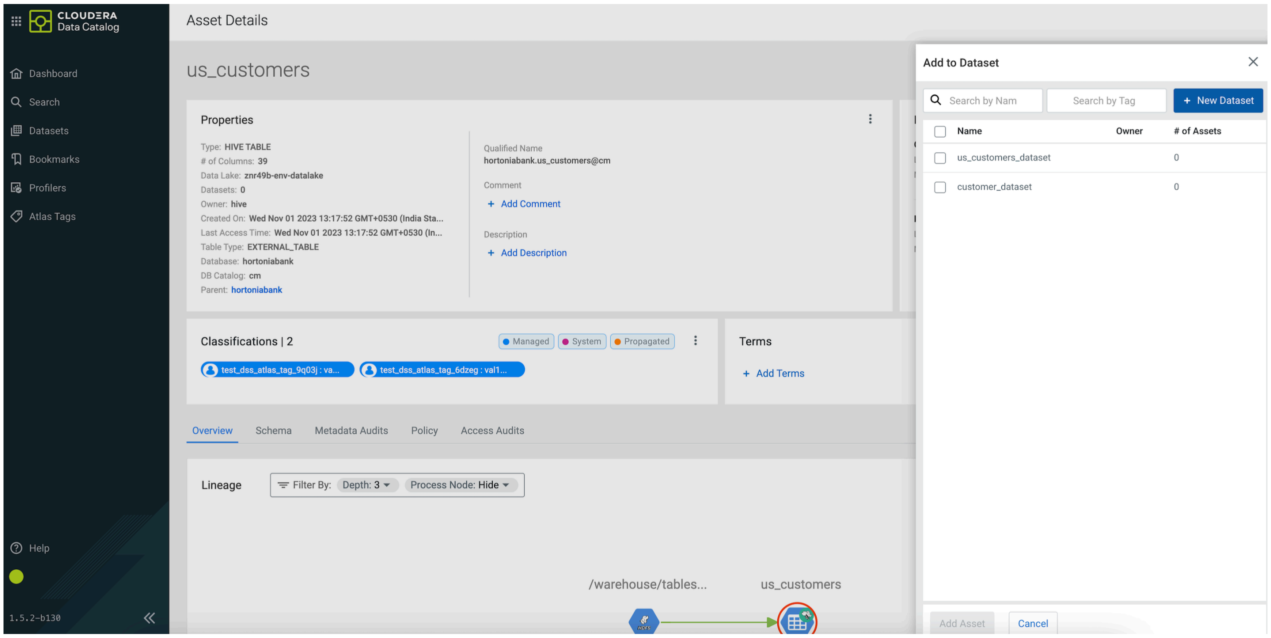
Terms
Add Terms

partition_params ×

Guid: [redacted]
Type Name: hive_table
Classifications(0): --
Owner: hive
Qualified Name: sys.partition_params@cm
Created On: Fri Aug 27 2021 10:51:31 GMT+0530 (India Standard Time)
Last Access Time: Fri Aug 27 2021 10:51:31 GMT+0530 (India Standard Time)
Table Type: EXTERNAL_TABLE
Database: sys
DB Catalog: cm

Adding Hive asset to one or more datasets on Asset Details screen

On the Asset Details screen, users are provided with an option to add the asset to the dataset as shown in the diagram.



Asset Details

us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 0
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
+ Add Comment

Description
+ Add Description

Classifications | 2

test_dss_atlas_tag_9q03j : va... test_dss_atlas_tag_6dzeg : val1...

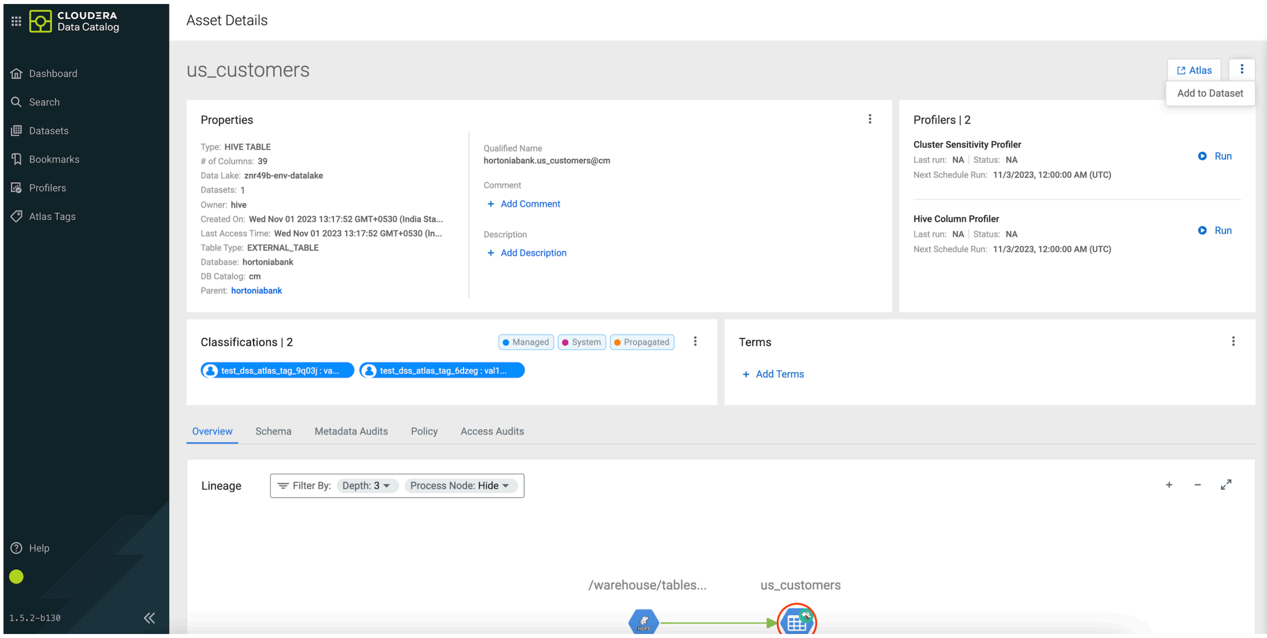
Terms

+ Add Terms

Add to Dataset

Search by Nam | Search by Tag | + New Dataset

	Name	Owner	# of Assets
□	us_customers_dataset		0
□	customer_dataset		0



Asset Details

us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
+ Add Comment

Description
+ Add Description

Profilers | 2

Cluster Sensitivity Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)

Classifications | 2

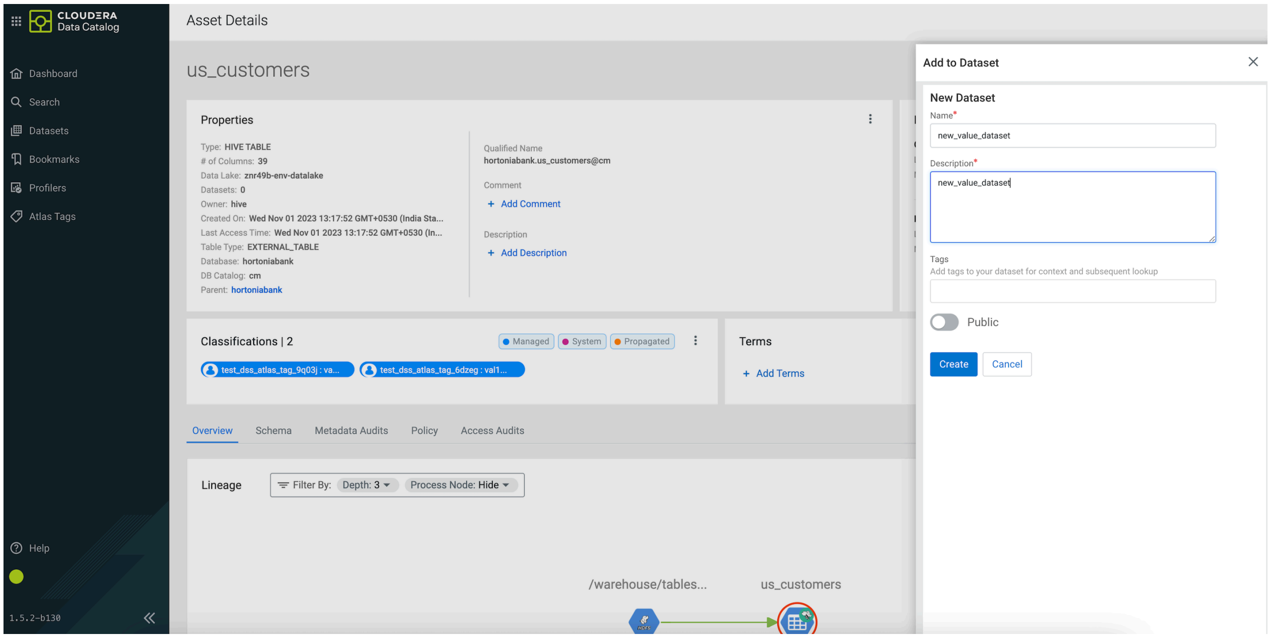
test_dss_atlas_tag_9q03j : va... test_dss_atlas_tag_6dzeg : val1...

Terms

+ Add Terms

The Add to Dataset window provides an option to add the asset into one or more existing datasets or even create a new one.

Datasets that already contain the asset are disabled and marked as checked. Datasets which are currently in edit state are disabled and marked with a *.



us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 0
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
+ Add Comment

Description
+ Add Description

Classifications | 2

test_dss_atlas_tag_9q03j : va... test_dss_atlas_tag_6dzeg : val1...

Filter By: Depth: 3 Process Node: Hide

Add to Dataset

New Dataset

Name*
new_value_dataset

Description*
new_value_dataset

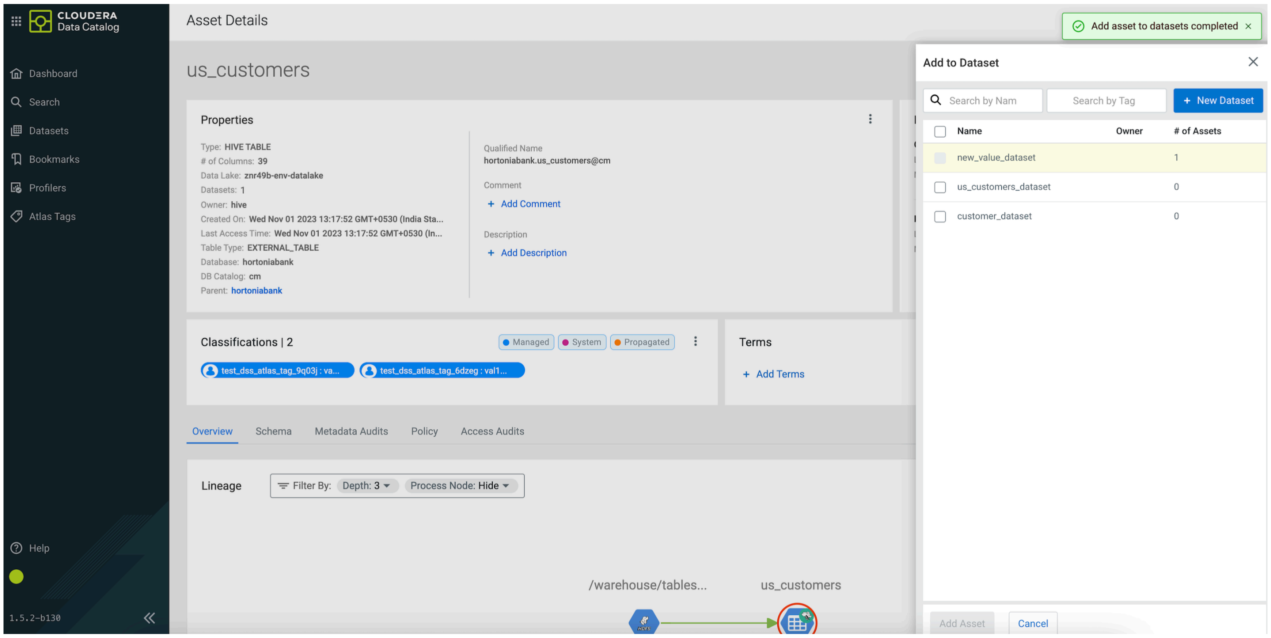
Tags
Add tags to your dataset for context and subsequent lookup

Public

Create Cancel

Users can search for an existing dataset by name or by tags applied on the dataset. Users can select one or more datasets from the list and then click on the Add Asset button which adds the asset to these dataset(s).

There are instances, where there are no datasets present or the user just wants to create a new dataset to add the asset. In that case, the user can click on the New Dataset button which opens up a new dataset form. Once the user fills in the form and clicks on the Create button, a new dataset with the given properties is created and the asset is added to it automatically. This is reflected in the datasets list where the newly added dataset is highlighted.



Add asset to datasets completed

us_customers

Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
+ Add Comment

Description
+ Add Description

Classifications | 2

test_dss_atlas_tag_9q03j : va... test_dss_atlas_tag_6dzeg : val1...

Filter By: Depth: 3 Process Node: Hide

Add to Dataset

Search by Nam | Search by Tag | + New Dataset

□	Name	Owner	# of Assets
□	new_value_dataset		1
□	us_customers_dataset		0
□	customer_dataset		0

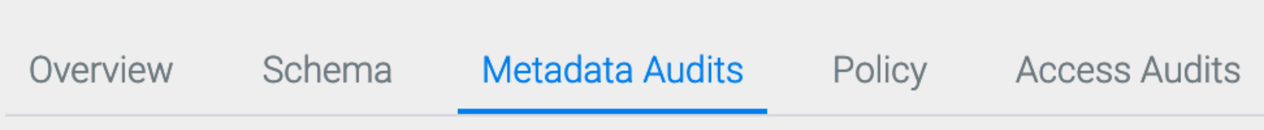
Add Asset Cancel

Viewing Atlas Entity Audits

In Data Catalog, Atlas audits help Data Stewards to identify and track the entity changes or modifications that are performed over a period of time.

Information about the Atlas entity audit events are displayed for each entity in the Asset Details page in Data Catalog. Using this information, Data Stewards can distinguish between entity audits and data audits that emanate from Ranger.

On the Asset Details page, a new tab called Metadata Audits displays information related to the selected entity type and about the events that occurred based on the user activities.



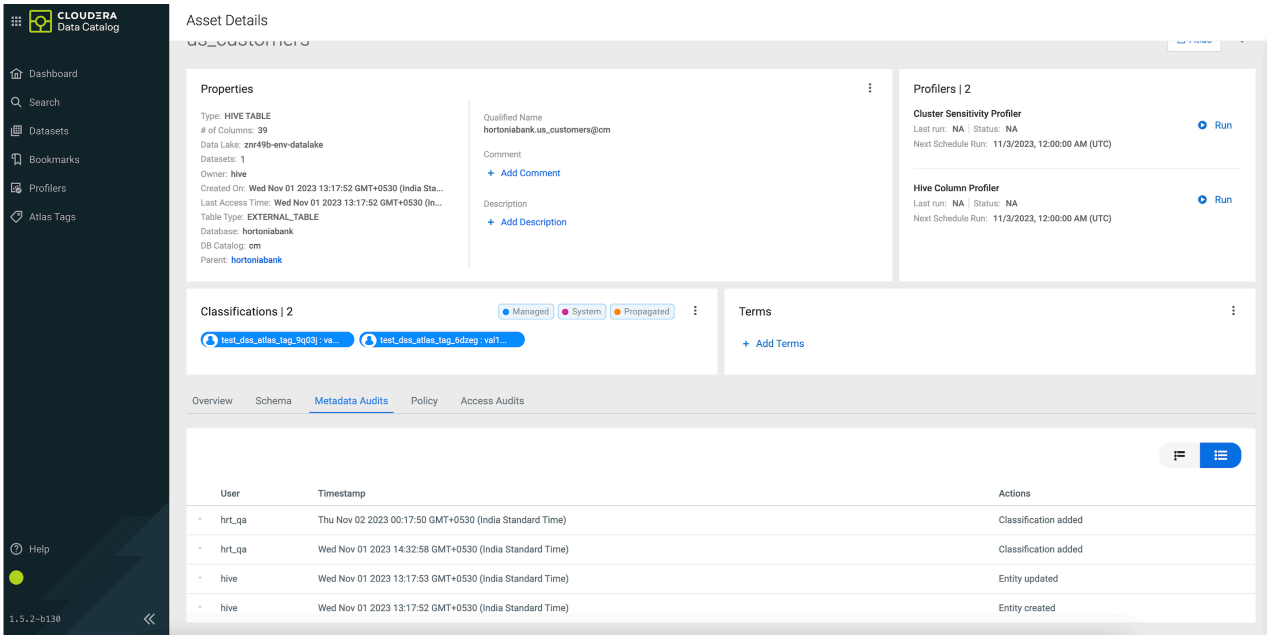
Clicking on Metadata Audits, tab, you can view manage information about:

- The user who made the changes to the specific entity
- The time when the entity was changed
- The kind of change that was made to the entity
- Any other relevant changes pertaining to the audit entries

The changes that can be identified for:

- Created entities and related updates
- Tagged entities
- Labeled entities
- Export and Import operations

For example, the following image displays information about the Atlas audit events that are performed by each Atlas user that is displayed in the Asset Details page in Data Catalog.



Properties

Type: HIVE TABLE
# of Columns: 39
Data Lake: znr49b-env-datalake
Datasets: 1
Owner: hive
Created On: Wed Nov 01 2023 13:17:52 GMT+0530 (India Sta...
Last Access Time: Wed Nov 01 2023 13:17:52 GMT+0530 (In...
Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Qualified Name
hortoniabank.us_customers@cm

Comment
+ Add Comment

Description
+ Add Description

Profilers | 2

Cluster Sensitivity Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)
Run

Hive Column Profiler
Last run: NA | Status: NA
Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)
Run

Classifications | 2

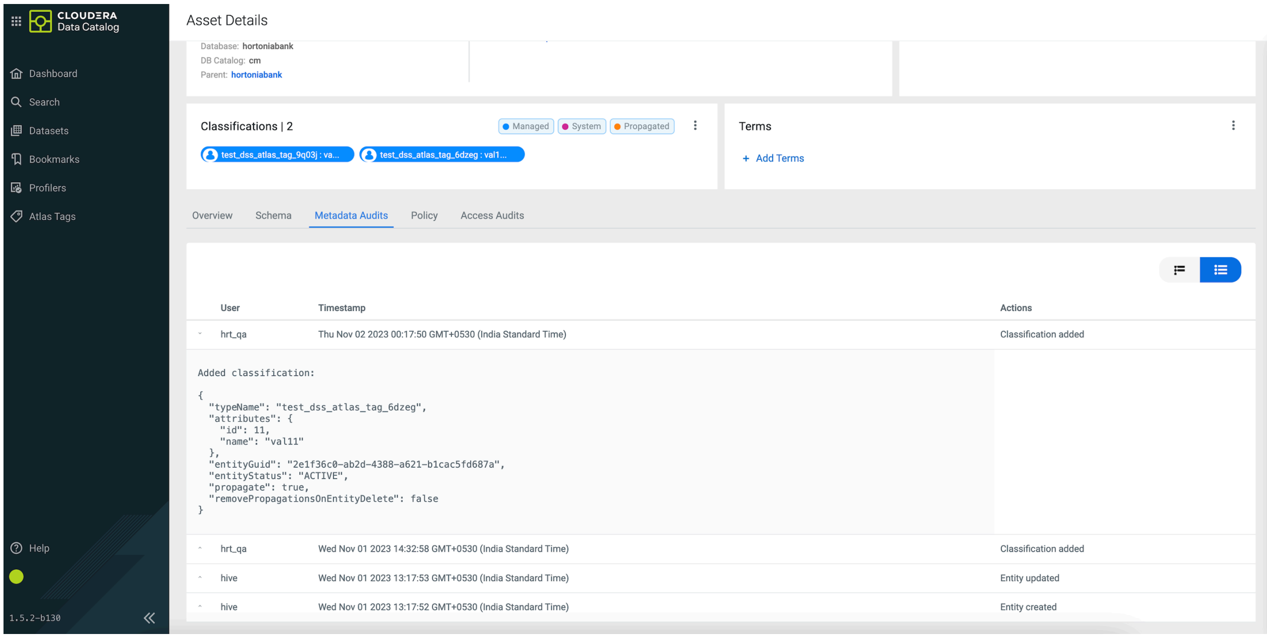
test_dss_atlas_tag_9q03j : va... test_dss_atlas_tag_6dzeg : val1...

Terms

+ Add Terms

User	Timestamp	Actions
hrt_qa	Thu Nov 02 2023 00:17:50 GMT+0530 (India Standard Time)	Classification added
hrt_qa	Wed Nov 01 2023 14:32:58 GMT+0530 (India Standard Time)	Classification added
hive	Wed Nov 01 2023 13:17:53 GMT+0530 (India Standard Time)	Entity updated
hive	Wed Nov 01 2023 13:17:52 GMT+0530 (India Standard Time)	Entity created

Clicking on any line item displays the JSON format, which is directly derived from Atlas, in other words the source of data available in Atlas.



Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

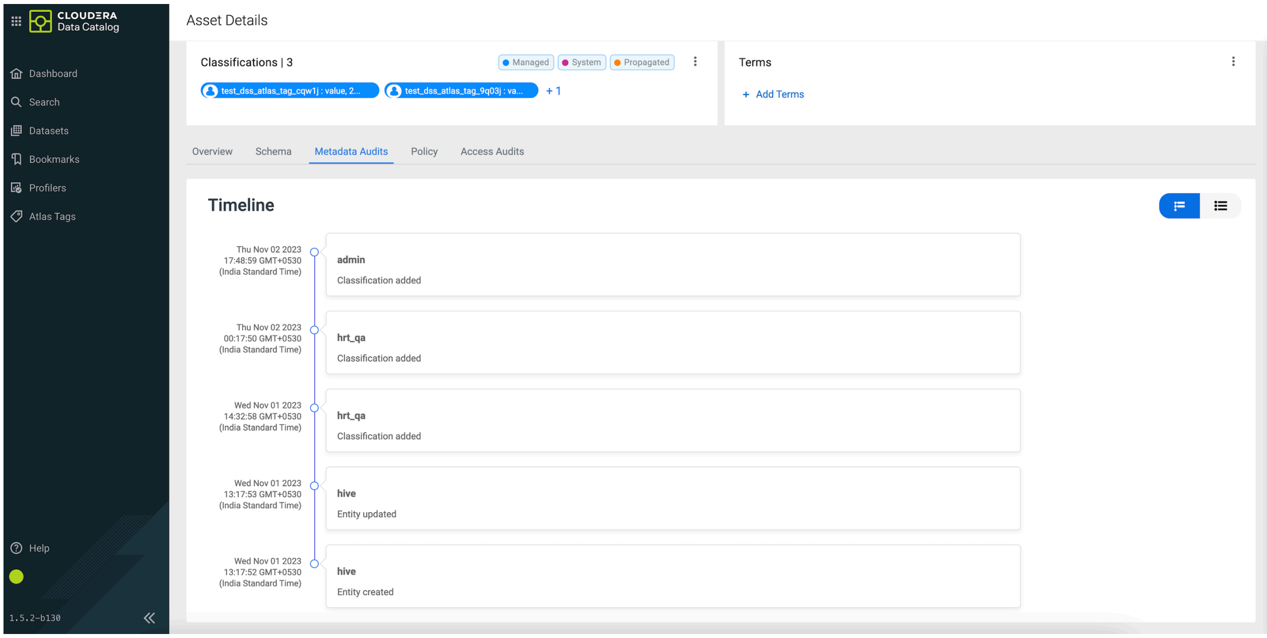
User	Timestamp	Actions
hrt_qa	Thu Nov 02 2023 00:17:50 GMT+0530 (India Standard Time)	Classification added

```
Added classification:

{
  "typeName": "test_dss_atlas_tag_6dzeg",
  "attributes": {
    "id": 11,
    "name": "val11"
  },
  "entityGuid": "2e1f36c0-ab2d-4388-a621-b1cac5fd687a",
  "entityStatus": "ACTIVE",
  "propagate": true,
  "removePropagationsOnEntityDelete": false
}
```

User	Timestamp	Actions
hrt_qa	Wed Nov 01 2023 14:32:58 GMT+0530 (India Standard Time)	Classification added
hive	Wed Nov 01 2023 13:17:53 GMT+0530 (India Standard Time)	Entity updated
hive	Wed Nov 01 2023 13:17:52 GMT+0530 (India Standard Time)	Entity created

Use the toggle icon (on the top-right corner) for viewing Atlas Audits in different formats. By default, you can view Metadata Audits in tabular format in the Asset Details page and when you toggle the view icon, you can view the Timeline format. The events are listed as timelines in this format.



Timeline

Thu Nov 02 2023 17:48:59 GMT+0530 (India Standard Time)
admin
Classification added

Thu Nov 02 2023 00:17:50 GMT+0530 (India Standard Time)
hrt_qa
Classification added

Wed Nov 01 2023 14:32:58 GMT+0530 (India Standard Time)
hrt_qa
Classification added

Wed Nov 01 2023 13:17:53 GMT+0530 (India Standard Time)
hive
Entity updated

Wed Nov 01 2023 13:17:52 GMT+0530 (India Standard Time)
hive
Entity created

Clicking on a user in the Timeline format displays the JSON data, which is again derived from Atlas.

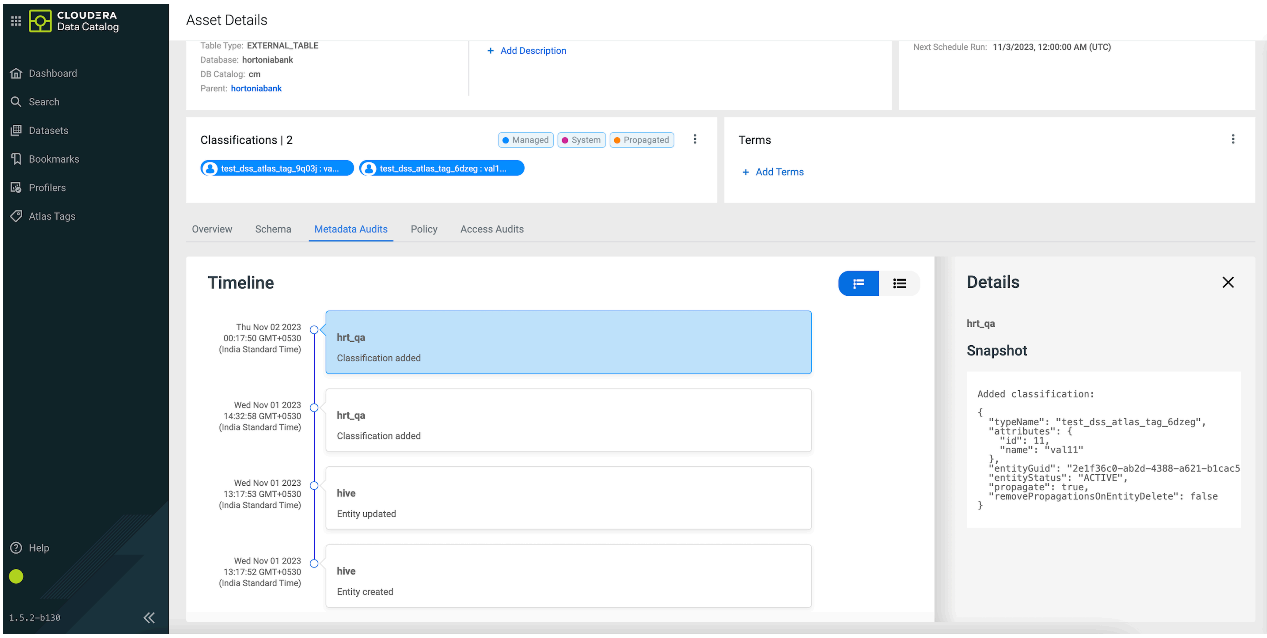


Table Type: EXTERNAL_TABLE
Database: hortoniabank
DB Catalog: cm
Parent: hortoniabank

Next Schedule Run: 11/3/2023, 12:00:00 AM (UTC)

Thu Nov 02 2023 00:17:50 GMT+0530 (India Standard Time) — hrt_qa — Classification added

Wed Nov 01 2023 14:32:58 GMT+0530 (India Standard Time) — hrt_qa — Classification added

Wed Nov 01 2023 13:17:53 GMT+0530 (India Standard Time) — hive — Entity updated

Wed Nov 01 2023 13:17:52 GMT+0530 (India Standard Time) — hive — Entity created

hrt_qa

Snapshot

```
Added classification:

{
  "typeName": "test_dss_atlas_tag_6dzeg",
  "attributes": {
    "id": 11,
    "name": "val11"
  },
  "entityGuid": "2e1f36c0-ab2d-4388-a621-b1cac5
  "entityStatus": "ACTIVE",
  "propagate": true,
  "removePropagationsOnEntityDelete": false
}
```

Managing Profilers

Kubernetes enables profiler job scheduling and runs profiler jobs on-demand and on schedule.

A service called Profiler Launcher Service (PLS) is made available to launch the Data Catalog profiler. The PLS is deployed in the Control Plane during the stack installation and the Management Console application (DC-API) makes an HTTP call to schedule the jobs. PLS is authorized to schedule and run Kubernetes jobs in the targeted cluster. You must install a PLS service in each Kubernetes / OCP cluster and a single control plane application to manage all the profiler jobs.

Note: You must be a **PowerUser** to launch the Profiler.

Table 1: List of built-in profilers

Profiler Name	Description
Cluster Sensitivity Profiler	A sensitive data profiler- PII, PCI, HIPAA, etc.
Ranger Audit Profiler	A Ranger audit log summarizer.
Hive Column Profiler	Provides summary statistics like Maximum, Minimum, Mean, Unique, and Null values at the Hive column level.

Scheduling Profiler jobs on your Private Cloud cluster

You must schedule the profilers to view the profiler results for your assets and datasets. You must be a **PowerUser** to schedule these jobs.

Profiler launcher service is installed at the setting up of the cluster. Later, you can schedule or run jobs on demand from the Data Catalog UI.

You must first note the following scenarios when working with profilers:

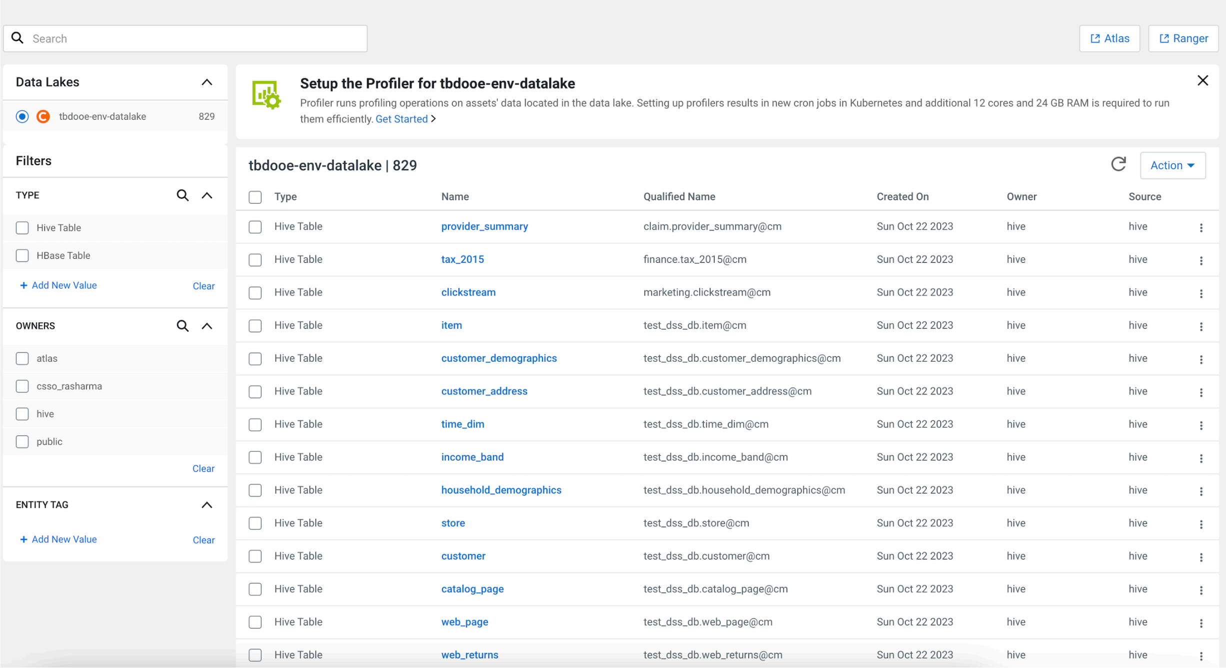
- Your profiler is not launched for the selected data lake
- Your profiler is already launched for the selected data lake.

If your profiler is not launched for the selected data lake, follow these steps:

1. From the Search menu > select the data lake for which you want to profile the data.

   The setup profiler page is displayed for the data lake.
2. Click the Get Started link.

Search



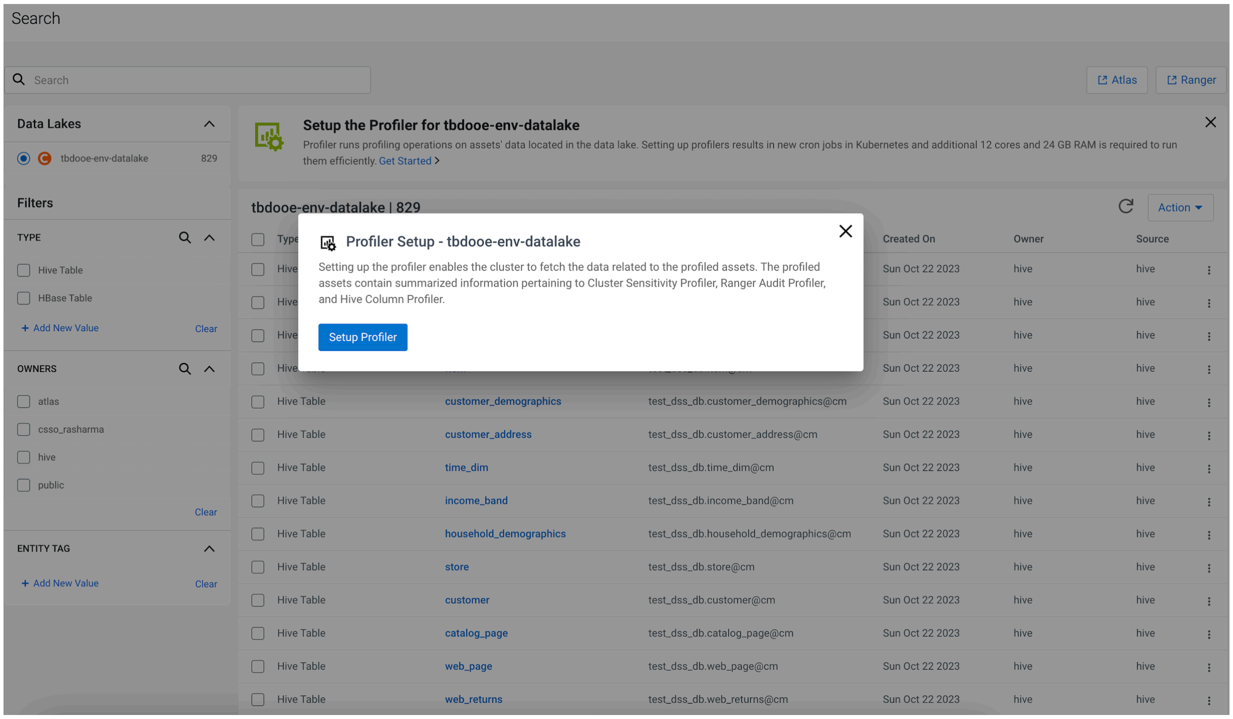
Setup the Profiler for tbdooe-env-datalake

Profiler runs profiling operations on assets' data located in the data lake. Setting up profilers results in new cron jobs in Kubernetes and additional 12 cores and 24 GB RAM is required to run them efficiently. Get Started >

tbdooe-env-datalake | 829

Type	Name	Qualified Name	Created On	Owner	Source
Hive Table	provider_summary	claim.provider_summary@cm	Sun Oct 22 2023	hive	hive
Hive Table	tax_2015	finance.tax_2015@cm	Sun Oct 22 2023	hive	hive
Hive Table	clickstream	marketing.clickstream@cm	Sun Oct 22 2023	hive	hive
Hive Table	item	test_dss_db.item@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer_demographics	test_dss_db.customer_demographics@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer_address	test_dss_db.customer_address@cm	Sun Oct 22 2023	hive	hive
Hive Table	time_dim	test_dss_db.time_dim@cm	Sun Oct 22 2023	hive	hive
Hive Table	income_band	test_dss_db.income_band@cm	Sun Oct 22 2023	hive	hive
Hive Table	household_demographics	test_dss_db.household_demographics@cm	Sun Oct 22 2023	hive	hive
Hive Table	store	test_dss_db.store@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer	test_dss_db.customer@cm	Sun Oct 22 2023	hive	hive
Hive Table	catalog_page	test_dss_db.catalog_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_page	test_dss_db.web_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_returns	test_dss_db.web_returns@cm	Sun Oct 22 2023	hive	hive

The Profiler setup for the data lake window appears.



Profiler Setup - tbdooe-env-datalake

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.

Setup Profiler

Setup the Profiler for tbdooe-env-datalake

Profiler runs profiling operations on assets' data located in the data lake. Setting up profilers results in new cron jobs in Kubernetes and additional 12 cores and 24 GB RAM is required to run them efficiently. Get Started >

tbdooe-env-datalake | 829

Type	Name	Qualified Name	Created On	Owner	Source
Hive			Sun Oct 22 2023	hive	hive
Hive			Sun Oct 22 2023	hive	hive
Hive			Sun Oct 22 2023	hive	hive
Hive			Sun Oct 22 2023	hive	hive
Hive Table	customer_demographics	test_dss_db.customer_demographics@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer_address	test_dss_db.customer_address@cm	Sun Oct 22 2023	hive	hive
Hive Table	time_dim	test_dss_db.time_dim@cm	Sun Oct 22 2023	hive	hive
Hive Table	income_band	test_dss_db.income_band@cm	Sun Oct 22 2023	hive	hive
Hive Table	household_demographics	test_dss_db.household_demographics@cm	Sun Oct 22 2023	hive	hive
Hive Table	store	test_dss_db.store@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer	test_dss_db.customer@cm	Sun Oct 22 2023	hive	hive
Hive Table	catalog_page	test_dss_db.catalog_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_page	test_dss_db.web_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_returns	test_dss_db.web_returns@cm	Sun Oct 22 2023	hive	hive

3. Click Setup Profiler button to launch the profiler

The High Availability (HA) feature for profilers, including launching and managing jobs are supported by default. No separate action is required to enable the HA functionality or its components.

Note: Once you schedule the profiler jobs, navigate to the Profilers page to view the status of the respective profiler jobs.

Launching profilers using Command-line

Data Catalog now supports launching Data profilers using the Command-Line Interface (CLI) option.

This, apart from launching the profilers using the Data Catalog UI. The CLI will be one executable and will not have any external dependencies. You can execute some operations in the Data Catalog service using the CDP CLI commands.

Users must have valid permission(s) to launch profilers on a data lake.

For more information about the access details, see Prerequisites to access Data Catalog service.

You must have the following entitlement granted to use this feature:

DATA_CATALOG_ENABLE_API_SERVICE

In your CDP CLI environment, enter the following command to get started in the CLI mode.

cdp datacatalog --help

This command provides information about the available commands in Data Catalog.

The output is displayed as:

NAME

datacatalog

DESCRIPTION

Cloudera Data Catalog Service is a web service, using this service user can execute operations like launching profilers in Data Catalog.

AVAILABLE SUBCOMMANDS

launch-profilers

You get additional information about this command by using:

cdp datacatalog launch-profilers --help

NAME

launch-profilers -

DESCRIPTION

Launches DataCatalog profilers in a given datalake.

SYNOPSIS

launch-profilers

--datalake <value>

[--cli-input-json <value>]

[--generate-cli-skeleton]

OPTIONS

--datalake (string) The Name or CRN of the Datalake.

```
--cli-input-json  (string) Performs service operation based on the JSON stri
ng provided. The JSON string follows the format provided by --generate-cli-s
```

```
keleton. If other arguments are provided on the command line, the CLI values
 will override the JSON-provided values.
```

```
--generate-cli-skeleton (boolean) Prints a sample input JSON to standard out
put. Note the specified operation is not run if this argument is specified.
The sample input can be used as an  argument  for --cli-input-json.
```

OUTPUT

datahubCluster -> (object)

Information about a cluster.

clusterName -> (string)

The name of the cluster.

crn -> (string)

The CRN of the cluster.

creationDate -> (datetime)

The date when the cluster was created.

clusterStatus -> (string)

The status of the cluster.

nodeCount -> (integer)

The cluster node count.

workloadType -> (string)

The workload type for the cluster.

cloudPlatform -> (string)

The cloud platform.

imageDetails -> (object)

```
The details of the image used for cluster instances.
```

name -> (string)

```
The name of the image used for cluster instances.
```

id -> (string)

```
The ID of the image used for cluster instances.
```

```
This is internally generated by the cloud provider to Uniquely identify the
image.
```

catalogUrl -> (string)

The image catalog URL.

catalogName -> (string)

The image catalog name.

environmentCrn -> (string)

The CRN of the environment.

credentialCrn -> (string)

The CRN of the credential.

datalakeCrn -> (string)

The CRN of the attached datalake.

clusterTemplateCrn -> (string)

```
The CRN of the cluster template used for the cluster
```

creation.

You can use the following CLI command to launch the Data profiler:

cdp datacatalog launch-profilers --datalake <datalake name or datalake CRN>

Example

cdp datacatalog launch-profilers --datalake test-env-ycloud

{

"datahubCluster": {

"clusterName": "cdp-dc-profilers-24835599",

```
        "crn":
           "crn:cdp:datahub:us-west-1:9d74eee4-1cad-45d7-b645-7ccf9edbb73d:
cluster:dfaa7646-d77f-4099-a3ac-6628e1576160",
```

"creationDate": "2021-06-04T11:31:23.735000+00:00",

"clusterStatus": "REQUESTED",

"nodeCount": 3,

"workloadType": "v6-cdp-datacatalog-profiler_7_2_8-1",

"cloudPlatform": "YARN",

"imageDetails": {

```
            "name":
           "docker-sandbox.infra.cloudera.com/cloudbreak/centos-76:2020-05
-18-17-16-16",
```

"id": "d558405b-b8ba-4425-94cc-a8baff9ffb2c",

```
            "catalogUrl":
           "https://cloudbreak-imagecatalog.s3.amazonaws.com/v3-test-cb-imag
e-catalog.json",
```

"catalogName": "cdp-default"

},

```
        "environmentCrn":
           "crn:cdp:environments:us-west-1:9d74eee4-1cad-45d7-b645-7ccf9edbb
73d:environment:bf795226-b57c-4c4d-8520-82249e57a54f",
```

```
        "credentialCrn":
           "crn:altus:environments:us-west-1:9d74eee4-1cad-45d7-b645-7ccf9edb
b73d:credential:3adc8ddf-9ff9-44c9-bc47-1587db19f539",
```

```
        "datalakeCrn":
           "crn:cdp:datalake:us-west-1:9d74eee4-1cad-45d7-b645-7ccf9edbb73d
:datalake:5e6471cf-7cb8-42cf-bda4-61d419cfbc53",
```

```
        "clusterTemplateCrn":
           "crn:cdp:datahub:us-west-1:9d74eee4-1cad-45d7-b645-7ccf9edbb73d:c
lustertemplate:16a5d8bd-66d3-42ea-8e8d-bd8765873572"
```

}

}

Deleting profilers

Deleting profiler container (pod) jobs removes all the Custom Sensitivity Profiler rules and other updates to the specified profiler.

About this task

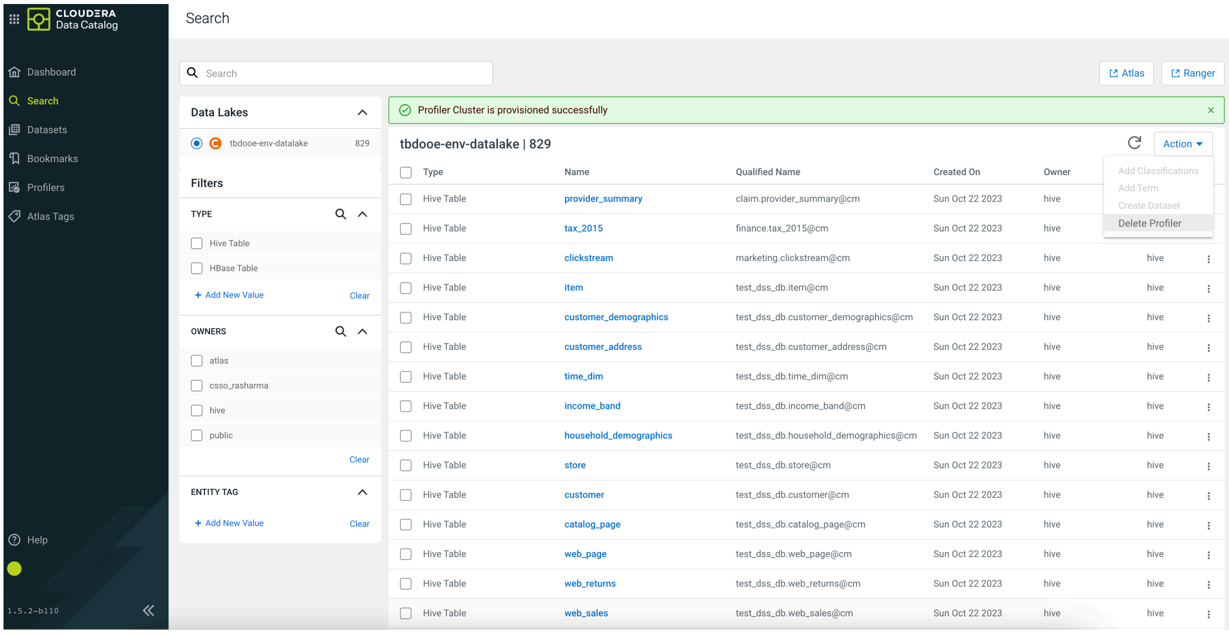
To overcome this situation, when you decide to delete the profiler cluster, there is a provision to retain the status of the Custom Sensitivity Profiler rules. If your profiler cluster has rules that are not changed or updated, you can directly delete the profiler cluster. If the rules were modified or updated, you have an option to download the modified rules along with deletion. The modified rules consist of the suspended System rules and the deployed Custom rules.Using the downloaded rules, you can manually add or modify them to your newly added profiler cluster.

- When you delete the scheduled jobs, the associated Kubernetes cron job object is deleted from the Kubernetes cluster.
- The associated data of the profilers from the Management Console database is also deleted for the specified data lake.

Procedure

1. On the search page, select the Data Lake from the list.

2. Click the Actions drop-down menu and select Delete Cluster.



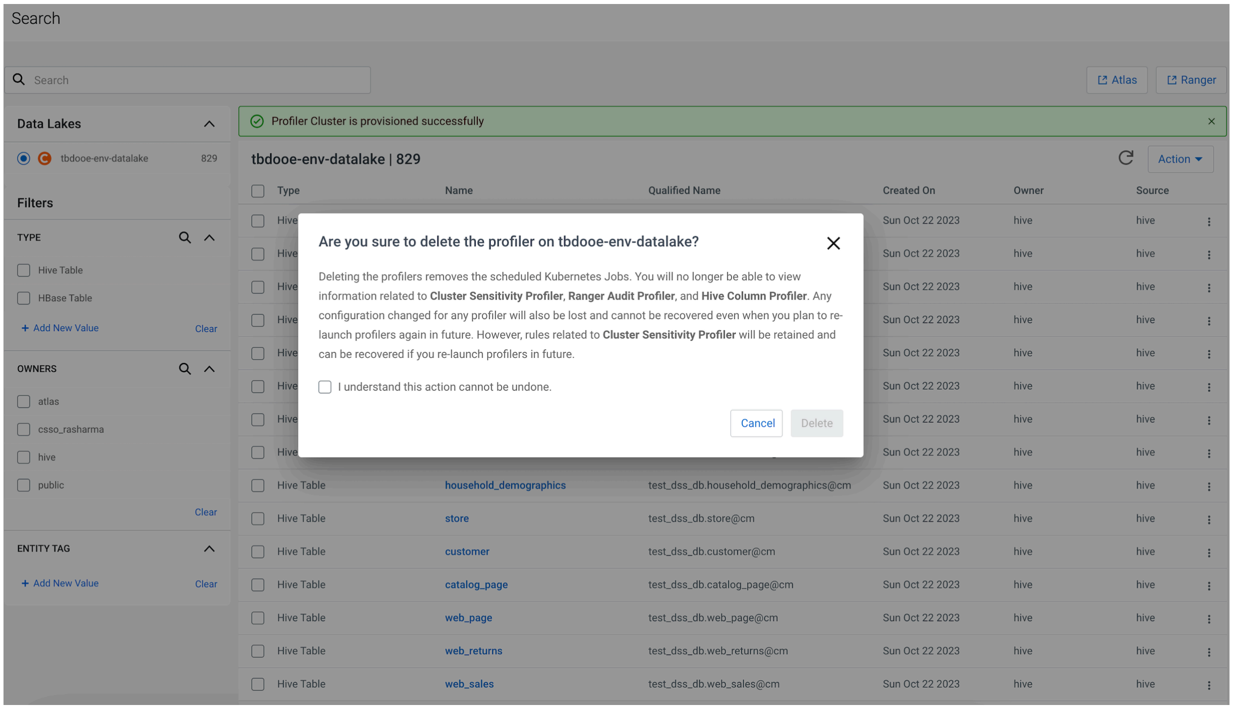
Profiler Cluster is provisioned successfully

tbdooe-env-datalake | 829

Type	Name	Qualified Name	Created On	Owner	
Hive Table	provider_summary	claim.provider_summary@cm	Sun Oct 22 2023	hive	
Hive Table	tax_2015	finance.tax_2015@cm	Sun Oct 22 2023	hive	
Hive Table	clickstream	marketing.clickstream@cm	Sun Oct 22 2023	hive	hive
Hive Table	item	test_dss_db.item@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer_demographics	test_dss_db.customer_demographics@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer_address	test_dss_db.customer_address@cm	Sun Oct 22 2023	hive	hive
Hive Table	time_dim	test_dss_db.time_dim@cm	Sun Oct 22 2023	hive	hive
Hive Table	income_band	test_dss_db.income_band@cm	Sun Oct 22 2023	hive	hive
Hive Table	household_demographics	test_dss_db.household_demographics@cm	Sun Oct 22 2023	hive	hive
Hive Table	store	test_dss_db.store@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer	test_dss_db.customer@cm	Sun Oct 22 2023	hive	hive
Hive Table	catalog_page	test_dss_db.catalog_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_page	test_dss_db.web_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_returns	test_dss_db.web_returns@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_sales	test_dss_db.web_sales@cm	Sun Oct 22 2023	hive	hive

3. Click Yes to proceed.

4. If you agree, select the warning message I understand this action cannot be undone.



Profiler Cluster is provisioned successfully

tbdooe-env-datalake | 829

Are you sure to delete the profiler on tbdooe-env-datalake?

Deleting the profilers removes the scheduled Kubernetes Jobs. You will no longer be able to view information related to **Cluster Sensitivity Profiler**, **Ranger Audit Profiler**, and **Hive Column Profiler**. Any configuration changed for any profiler will also be lost and cannot be recovered even when you plan to re-launch profilers again in future. However, rules related to **Cluster Sensitivity Profiler** will be retained and can be recovered if you re-launch profilers in future.

□ I understand this action cannot be undone.

Type	Name	Qualified Name	Created On	Owner	Source
Hive Table	household_demographics	test_dss_db.household_demographics@cm	Sun Oct 22 2023	hive	hive
Hive Table	store	test_dss_db.store@cm	Sun Oct 22 2023	hive	hive
Hive Table	customer	test_dss_db.customer@cm	Sun Oct 22 2023	hive	hive
Hive Table	catalog_page	test_dss_db.catalog_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_page	test_dss_db.web_page@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_returns	test_dss_db.web_returns@cm	Sun Oct 22 2023	hive	hive
Hive Table	web_sales	test_dss_db.web_sales@cm	Sun Oct 22 2023	hive	hive

5. Click Delete.

   The application displays the following message.

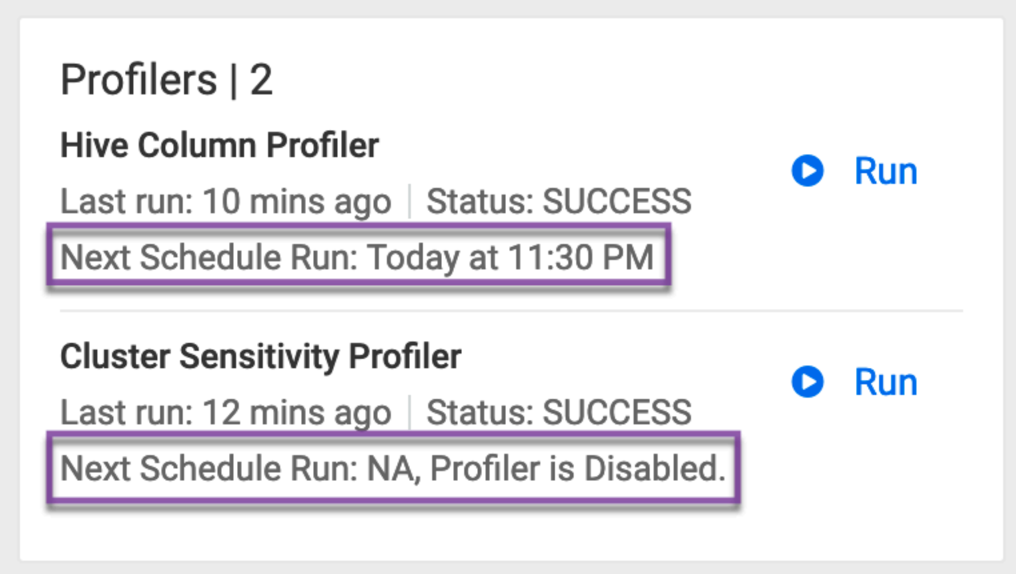
   The profiler cluster is deleted successfully.

On-Demand Profilers

You can use on-demand profilers to profile specific assets without depending on the cron-based scheduling of profilers jobs. On-demand profiler option is available on the asset details page of the selected asset.

For example, the diagram displays the Asset Details page of an asset. Run On-Demand profiler for Hive Column Statistics and Custom Sensitivity Profiler by clicking on the appropriate Run button. The next scheduled run provides details about the next scheduled profiling for the respective profilers.

Note: You can use the On-Demand Profiler feature to profile both External and Managed tables.



Profilers | 2

Hive Column Profiler

Last run: 10 mins ago | Status: SUCCESS

Next Schedule Run: Today at 11:30 PM

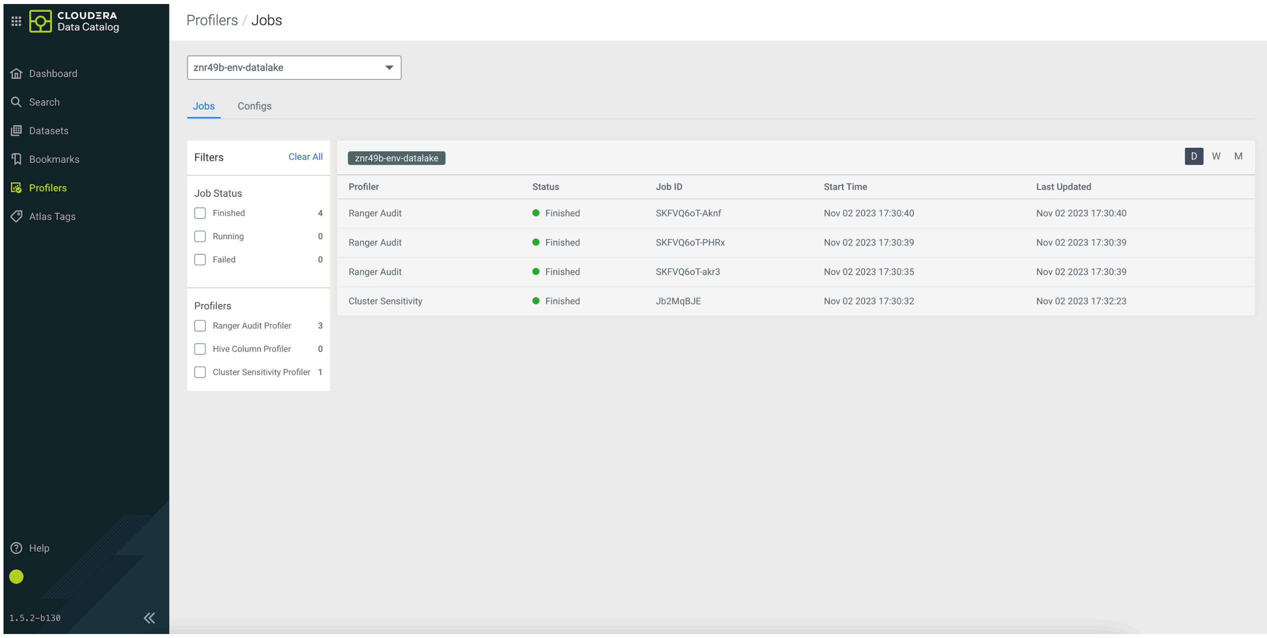
Cluster Sensitivity Profiler

Last run: 12 mins ago | Status: SUCCESS

Next Schedule Run: NA, Profiler is Disabled.

Tracking Profiler Jobs

The Data Catalog profiler page is updated to provide a better user experience for tracking respective profiler jobs.



znr49b-env-datalake

Job Status
- □ Finished 4
- □ Running 0
- □ Failed 0

Profilers
- □ Ranger Audit Profiler 3
- □ Hive Column Profiler 0
- □ Cluster Sensitivity Profiler 1

znr49b-env-datalake

Profiler	Status	Job ID	Start Time	Last Updated
Ranger Audit	● Finished	SKFVQ6oT-Aknf	Nov 02 2023 17:30:40	Nov 02 2023 17:30:40
Ranger Audit	● Finished	SKFVQ6oT-PHRx	Nov 02 2023 17:30:39	Nov 02 2023 17:30:39
Ranger Audit	● Finished	SKFVQ6oT-akr3	Nov 02 2023 17:30:35	Nov 02 2023 17:30:39
Cluster Sensitivity	● Finished	Jb2MqBJE	Nov 02 2023 17:30:32	Nov 02 2023 17:32:23

For each profiler job, you can view the details about:

- Status
- Job ID
- Start Time
- Last Updated

Viewing Profiler Jobs

You can monitor the overall health of your profiler jobs by viewing their status on the Profiler Jobs .

Monitoring the profiler jobs has the following uses:

- By seeing long-term trends in job execution, you can determine the overall health of your profilers.
- Knowing when jobs first failed can help when troubleshooting problems with profilers.

You can take the following actions:

1. Filter by job status or profiler.
2. Sort by start time.
3. Click to show a day, week, or month of jobs.

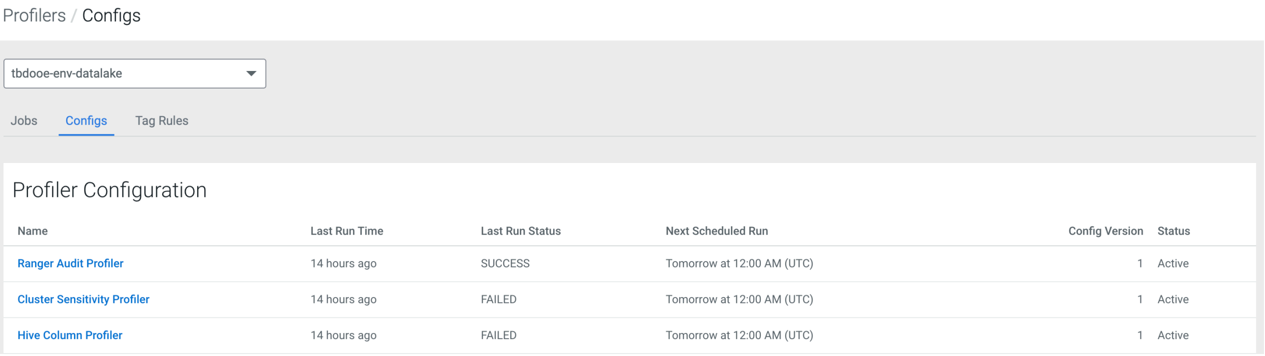
Related Information

Understanding the sensitive data profiler

Understanding the ranger audit profiler

Viewing Profiler Configurations

You can monitor the overall health of individual profilers by viewing their status on Profiler Configs .



Profiler Configuration

Name	Last Run Time	Last Run Status	Next Scheduled Run	Config Version	Status
Ranger Audit Profiler	14 hours ago	SUCCESS	Tomorrow at 12:00 AM (UTC)	1	Active
Cluster Sensitivity Profiler	14 hours ago	FAILED	Tomorrow at 12:00 AM (UTC)	1	Active
Hive Column Profiler	14 hours ago	FAILED	Tomorrow at 12:00 AM (UTC)	1	Active

Monitoring the profiler configurations has the following uses:

- Verify which profilers are active and inactive.
- Verify the status of the profiler runs.
- View the last run time and status and the next scheduled run.

Related Information

Understanding the sensitive data profiler

Understanding the ranger audit profiler

Additional Configuration for Ranger Audit Profiler

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

Procedure

1. Click Profilers in the main navigation menu on the left..
2. Click Configs to view all of the configured profilers.
3. Select Ranger Audit Profiler for which you need to edit the profiler configuration.

   You can use the toggle button to enable / disable the Ranger Audit Profiler.

   The Ranger Audit Profiler detail page is displayed which contains the following entities:

   - Profiler Configurations
   - Pod Configurations
   - Executor Configurations

   Profiler Configurations

   - Cron Expression - A cron expression details about when the schedule executes and visualizes the next execution dates of your cron expression.
   - Input Block Size - When the Ranger Audit Profiler is run, it converts the logs into data frames for processing. You can set the block size to control the size of partitions in these data frames. This can impact the performance of operations on the pod.

   Pod Configurations

   As all profilers are submitted as Kubernetes jobs, you must decide if you want to add or reduce resources to handle workload of various sizes.

   Pod configurations specify the resources that would be allocated to a pod when the profiler job starts to run.

   - Pod CPU limit: Indicates the maximum number of cores that can be allocated to a Pod. The accepted values examples are 0.5, 1, 2, 500m, and 250m.
   - Pod CPU Requirements: This is the minimum number of CPUs that will be allocated to a Pod when its provisioned. If the node where a Pod is running has enough resources available, it is possible (and allowed) for a container to use more resource than its request for that resource specifies. However, a container is not allowed to use more than its resource limit. The accepted values examples are 0.5, 1, 2, 500m, and 250m.
   - Pod Memory limit: Maximum amount of memory can be allocated to a Pod. The accepted values examples are: 128974848, 129e6, 129M, 128974848000m, and 123Mi.
   - Pod Memory Requirements: This is the minimum amount of RAM that will be allocated to a Pod when it is provisioned. If the node where a Pod is running has enough resources available, it is possible (and allowed) for a container to use more resource than its request for that resource specifies. However, a container is not allowed to use more than its resource limit.

   Executor Configurations

   - Number of workers: Indicates the number of processes that are used by the distributed computing framework.
   - Number of threads per worker: Indicates the number of threads used by each worker to complete the job.
   - Worker Memory limit in GB: To avoid over utilization of memory, this parameter forces an upper threshold memory usage for a given worker. For example, if you have a 8 GB Pod and 4 threads, the value of this parameter must be 2 GB.

Additional Configuration for Hive Column Profiler

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

Procedure

1. Click Profilers in the main navigation menu on the left.
2. Click Configs to view all of the configured profilers.

3. Select the cluster for which you need to edit profiler configuration.

   The list of profilers for the selected clusters is displayed.
4. Select the cluster for which you need to edit profiler configuration.

   You can use the toggle button to enable / disable the Hive Column Profiler.

   The Hive Column Profiler detail page is displayed which contains the following sections:

   - Profiler Configurations
   - Pod Configurations
   - Executor Configurations
   - Asset Filter Rules

   Profiler Configurations

   - Sampling or Profiler configurations enables you to regulate sampling behaviour of the profilers. When an asset/table is profiled, instead of scanning the whole table, the profiler sample selects records as it finds them.
   - Sample Count: Indicates the number of times a table must be sampled for profiling. A value less than 3 and higher than 30 is not recommended.
   - Sample Factor: Controls the randomisation of records. Less value promote better random samples and higher values results in poor samples. A value 0.001 indicates that the data that is retrieved from Hive and a new random number is generated. If the value is less than or equal to the provided proportion (0.001), it will be chosen in the result set. If the value is greater, it is ignored.
   - Sample Records: Indicates the number of records to be retrieved in a given sample. Consider this as LIMIT clause of the SQL query.

   Pod Configurations

   As all profilers are submitted as Kubernetes jobs, you must decide if you want to add or reduce resources to handle workload of various sizes.

   Pod configurations specify the resources that would be allocated to a pod when the profiler job starts to run.

   - Pod CPU limit: Indicates the maximum number of cores that can be allocated to a Pod. The accepted values examples are 0.5, 1, 2, 500m, and 250m.
   - Pod CPU Requirements: This is the minimum number of CPUs that will be allocated to a Pod when its provisioned. If the node where a Pod is running has enough resources available, it is possible (and allowed) for a container to use more resource than its request for that resource specifies. However, a container is not allowed to use more than its resource limit. The accepted values examples are 0.5, 1, 2, 500m, and 250m.
   - Pod Memory limit: Maximum amount of memory can be allocated to a Pod. The accepted values examples are: 128974848, 129e6, 129M, 128974848000m, and 123Mi.
   - Pod Memory Requirements: This is the minimum amount of RAM that will be allocated to a Pod when it is provisioned. If the node where a Pod is running has enough resources available, it is possible (and allowed) for a container to use more resource than its request for that resource specifies. However, a container is not allowed to use more than its resource limit.

   Executor Configurations

   Executor Configurations are the runtime configuration. These configuration must be changed if you are changing the Pod configurations and when there is a requirement for additional compute power.

   - Number of workers: Indicates the number of processes that are used by the distributed computing framework.
   - Number of threads per worker: Indicates the number of threads used by each worker to complete the job.
   - Worker Memory limit in GB: To avoid over utilization of memory, this parameter forces an upper threshold memory usage for a given worker. For example, if you have a 8 GB Pod and 4 threads, the value of this parameter must be 2 GB.

Additional Configuration for Cluster Sensitivity Profiler

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

Procedure

1. Click Profilers in the main navigation menu on the left.
2. Click Configs to view all of the configured profilers.
3. Select Cluster Sensitivity Profiler for which you need to edit the profiler configuration.

   You can use the toggle button to enable / disable the Cluster Sensitivity Profiler.

   The Cluster Sensitivity Profiler detail page is displayed which contains the following sections:

   - Profiler Configurations
   - Pod Configurations
   - Executor Configurations
   - Asset Filter Rules

   Profiler Configurations

   - Sampling configurations enables you to regulate sampling behaviour of the profilers. When an asset/table is profiled, instead of scanning the whole table, the profiler sample selects records as it finds them.
   - Sample Count: Indicates the number of times a table must be sampled for profiling. A value less than 3 and higher than 30 is not recommended.
   - Sample Factor: Controls the randomisation of records. Less value promote better random samples and higher values results in poor samples. A value 0.001 indicates that the data that is retrieved from Hive and a new random number is generated. If the value is less than or equal to the provided proportion (0.001), it will be chosen in the result set. If the value is greater, it is ignored.
   - Sample Records: Indicates the number of records to be retrieved in a given sample. Consider this as LIMIT clause of the SQL query.

   Pod Configurations

   As all profilers are submitted as Kubernetes jobs, you must decide if you want to add or reduce resources to handle workload of various sizes.

   Pod configurations specify the resources that would be allocated to a pod when the profiler job starts to run.

   - Pod CPU limit: Indicates the maximum number of cores that can be allocated to a Pod. The accepted values examples are 0.5, 1, 2, 500m, and 250m.
   - Pod CPU Requirements: This is the minimum number of CPUs that will be allocated to a Pod when its provisioned. If the node where a Pod is running has enough resources available, it is possible (and allowed) for a container to use more resource than its request for that resource specifies. However, a container is not allowed to use more than its resource limit. The accepted values examples are 0.5, 1, 2, 500m, and 250m.
   - Pod Memory limit: Maximum amount of memory can be allocated to a Pod. The accepted values examples are: 128974848, 129e6, 129M, 128974848000m, and 123Mi.
   - Pod Memory Requirements: This is the minimum amount of RAM that will be allocated to a Pod when it is provisioned. If the node where a Pod is running has enough resources available, it is possible (and allowed)

for a container to use more resource than its request for that resource specifies. However, a container is not allowed to use more than its resource limit.

Executor Configurations

Executor Configurations are the runtime configuration. These configuration must be changed if you are changing the Pod configurations and when there is a requirement for additional compute power.

- Number of workers: Indicates the number of processes that are used by the distributed computing framework.
- Number of threads per worker: Indicates the number of threads used by each worker to complete the job.
- Worker Memory limit in GB: To avoid over utilization of memory, this parameter forces an upper threshold memory usage for a given worker. For example, if you have a 8 GB Pod and 4 threads, the value of this parameter must be 2 GB.

Related Information

Understanding the sensitive data profiler

Understanding Cron Expression generator

A cron expression details about when the schedule executes and visualizes the next execution dates of your cron expression.

The cron expression uses a typical format:

Each * in the cron represents a unique value.

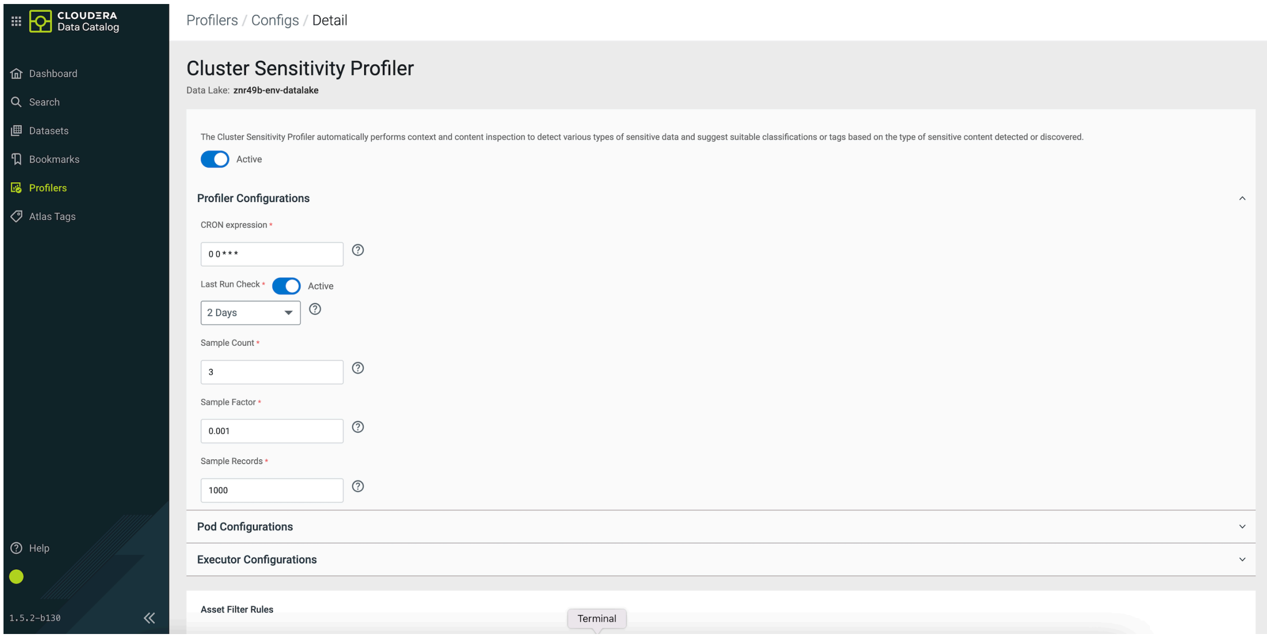
Cron Expression: 0 18 * * *
Represented by Minute hour day(month) month day(week) As an example, “At 10:30 on day-of-month 15 in May.” 30 10 15 5 *
Consider another use case example:
“At 10:30 on Sunday in May.” 30 10 * 5 7

You can change the value of cron as and when it is required depending on how you want to schedule your profiler job.

Setting Asset filter rules

Add Asset filter rules as needed to customize the selection and deselection of assets which the profiler profiles.

Note: You can configure the Deny-list and Allow-list for both Cluster Sensitivity Profiler and Hive Column Profiler. The same filter rules do not apply to Ranger Audit Profiler.



Profilers / Configs / Detail

Cluster Sensitivity Profiler

Data Lake: **znr49b-env-datalake**

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

Active

Profiler Configurations

CRON expression * 0 0 * * *

Last Run Check * Active

2 Days

Sample Count * 3

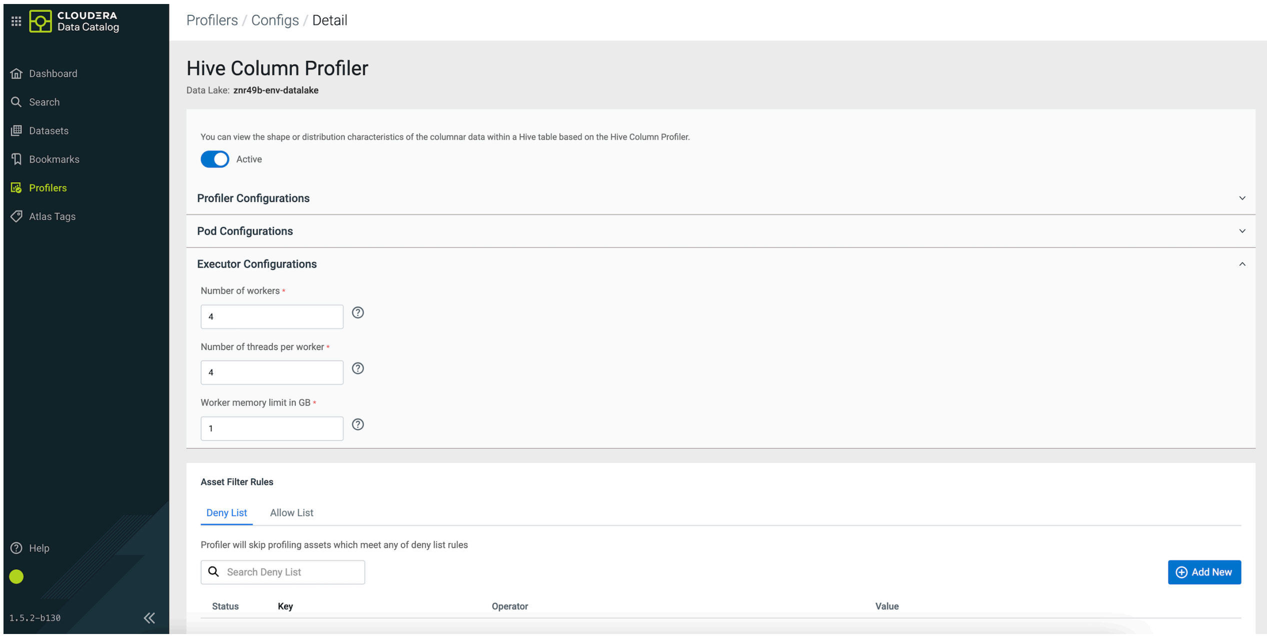
Sample Factor * 0.001

Sample Records * 1000

Pod Configurations

Executor Configurations

Asset Filter Rules



Profilers / Configs / Detail

Hive Column Profiler

Data Lake: **znr49b-env-datalake**

You can view the shape or distribution characteristics of the columnar data within a Hive table based on the Hive Column Profiler.

Active

Profiler Configurations

Pod Configurations

Executor Configurations

Number of workers * 4

Number of threads per worker * 4

Worker memory limit in GB * 1

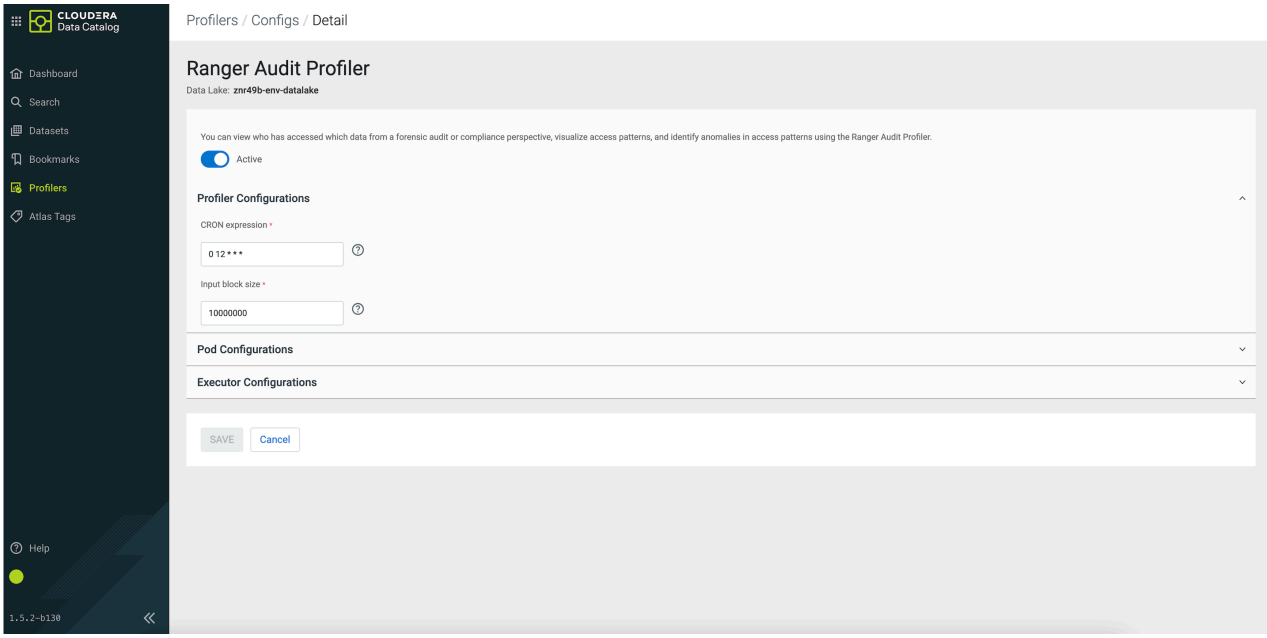
Asset Filter Rules

Deny List Allow List

Profiler will skip profiling assets which meet any of deny list rules

Search Deny List

Status	Key	Operator	Value



Ranger Audit Profiler

Data Lake: znr49b-env-datalake

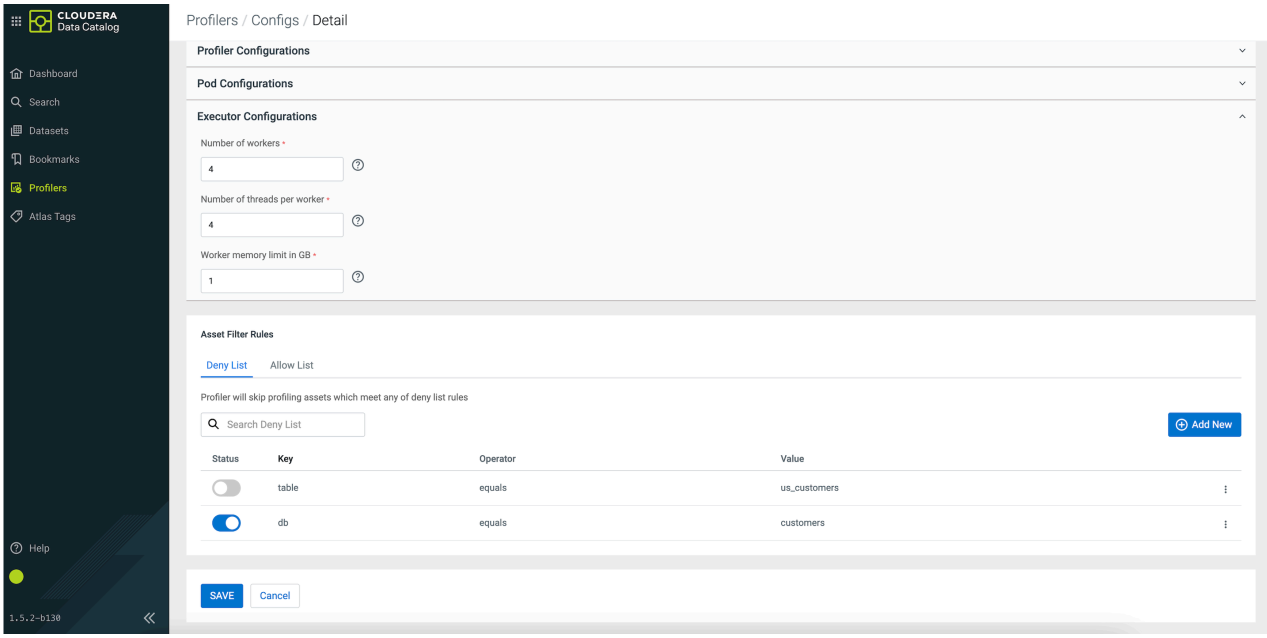
You can view who has accessed which data from a forensic audit or compliance perspective, visualize access patterns, and identify anomalies in access patterns using the Ranger Audit Profiler.

Active

CRON expression * : 0 12 * * *

Input block size * : 10000000

- Deny-list - The profiler will skip profiling assets that meet any defined Deny-list criteria.
  - Select the Deny-list tab.
  - Click Add New to include rules for Deny-list.
  - Select the key from the drop down list. You can select a database name, name of the asset, name of the owner of the asset, path to the assets, or created date.
  - Select the operator from the drop down list. Depending on the keys selected, you can select an operator such as equals, contains. For example, you can select the name of assets that contain a particular string.
  - Enter the value corresponding to the key. For example, you can enter a string as mentioned in the previous example here.
  - Click Done. Once it is added, you can toggle the state of the new rule to enable it or disable it as needed.



Number of workers * : 4

Number of threads per worker * : 4

Worker memory limit in GB * : 1

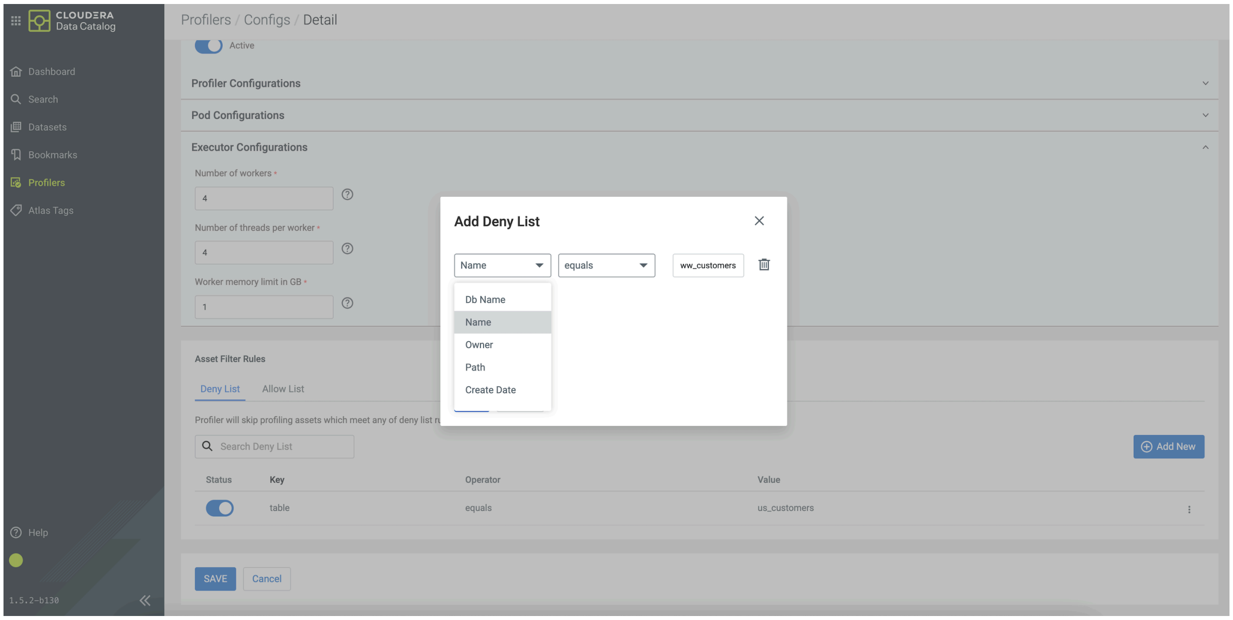
Asset Filter Rules

Deny List | Allow List

Profiler will skip profiling assets which meet any of deny list rules

Status	Key	Operator	Value
○	table	equals	us_customers
●	db	equals	customers

- Allow-list - The profiler will include only assets that satisfy any defined Allow-list criteria. If no Allow-list is defined, the profiler will profile all the assets.
  - Select the Allow-list tab.
  - Click Add New to include rules for the Allow-list.
  - Select the key from the drop down list. You can select a database name, name of the asset, name of the owner of the asset, path to the assets, or created date.
  - Select the operator from the drop down list. Depending on the keys selected, you can select an operator such as equals, contains. For example, you can select the name of assets that contain a particular string.
  - Enter the value corresponding to the key. For example, you can enter a string as mentioned in the previous example.
  - Click Done. Once it is added, you can toggle the state of the new rule to enable or disable it as needed.



Number of workers * 4

Number of threads per worker * 4

Worker memory limit in GB * 1

Profiler will skip profiling assets which meet any of deny list r

Add Deny List

Name | equals | ww_customers

Status	Key	Operator	Value
●	table	equals	us_customers

Note: If an asset meets both Allow-list and Deny-list rules, the Deny-list rule overrides the Allow-list.

Enable or Disable Profilers

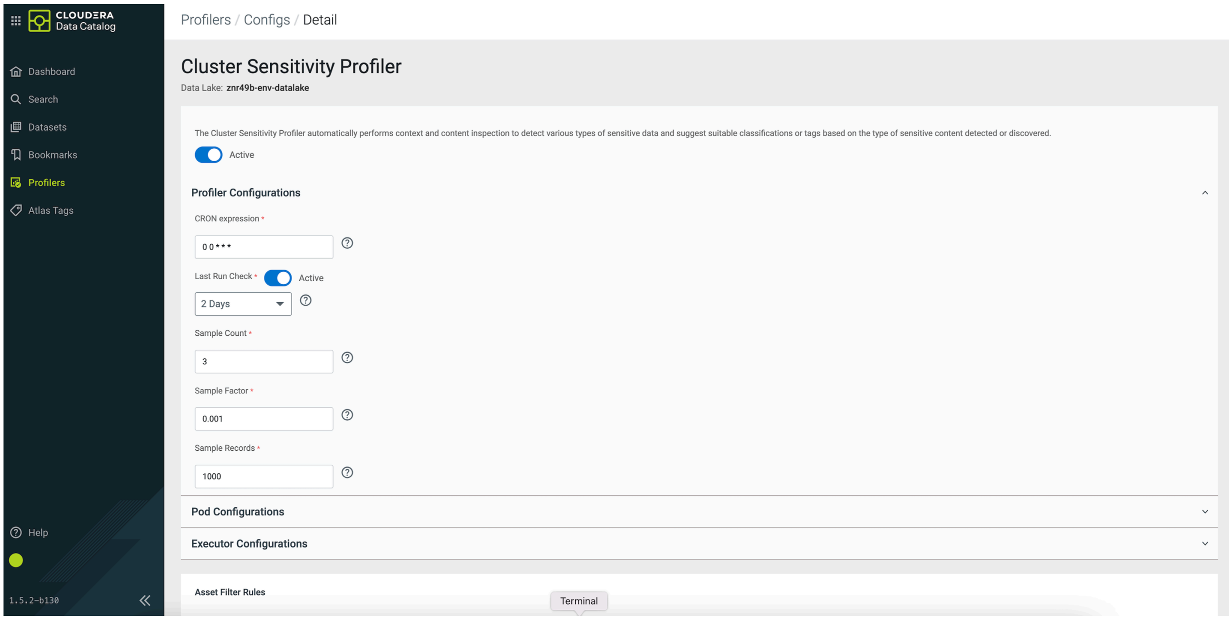
By default profilers are scheduled to run at every 24 hours at midnight UTC timezone.

Procedure

1. From Profiler Configs

2. **2.** Select the profiler to proceed further.

   To enable or diasble the selected profiler, use the toggle button.



Profilers / Configs / Detail

Cluster Sensitivity Profiler

Data Lake: **znr49b-env-datalake**

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

Active

Profiler Configurations

CRON expression *: 0 0 * * *

Last Run Check * Active: 2 Days

Sample Count *: 3

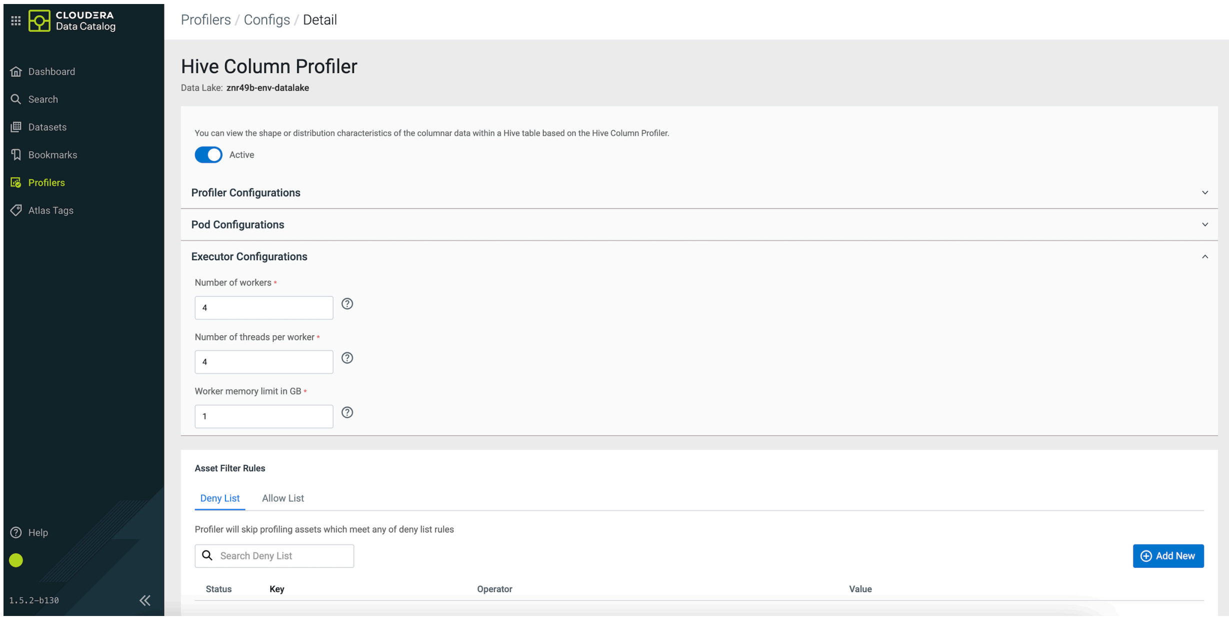
Sample Factor *: 0.001

Sample Records *: 1000

Pod Configurations

Executor Configurations

Asset Filter Rules



Profilers / Configs / Detail

Hive Column Profiler

Data Lake: **znr49b-env-datalake**

You can view the shape or distribution characteristics of the columnar data within a Hive table based on the Hive Column Profiler.

Active

Profiler Configurations

Pod Configurations

Executor Configurations

Number of workers *: 4

Number of threads per worker *: 4

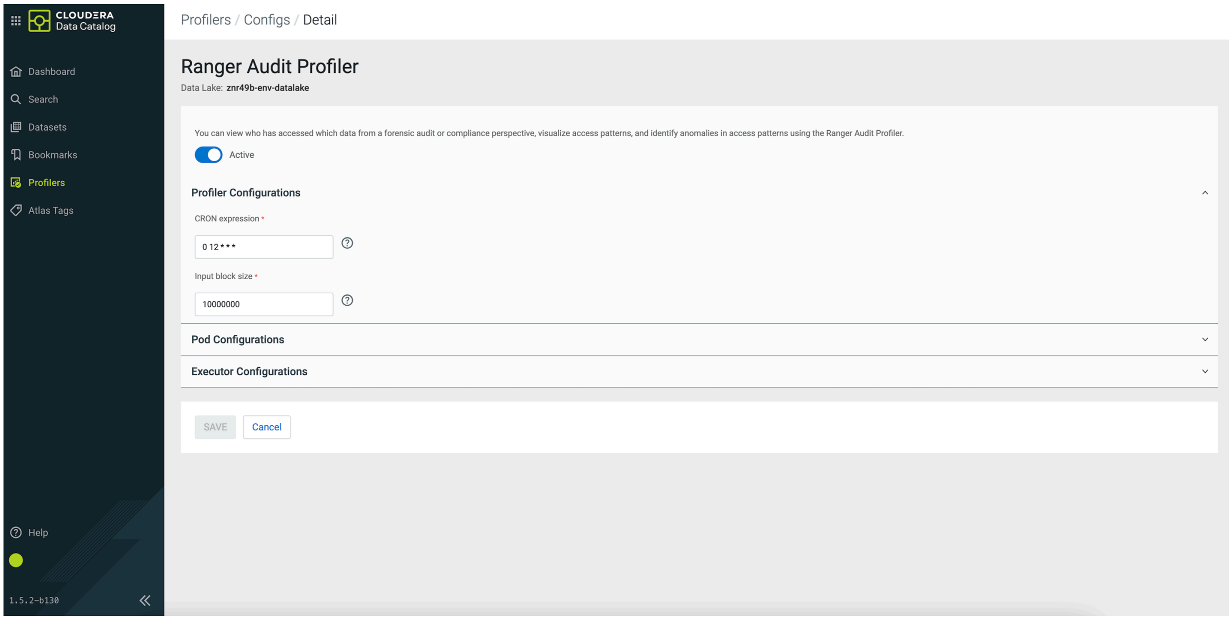
Worker memory limit in GB *: 1

Asset Filter Rules

Deny List | Allow List

Profiler will skip profiling assets which meet any of deny list rules

Status	Key	Operator	Value



Ranger Audit Profiler

Data Lake: **znr49b-env-datalake**

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

Active

Profiler Configurations

CRON expression *: 0 12 * * *

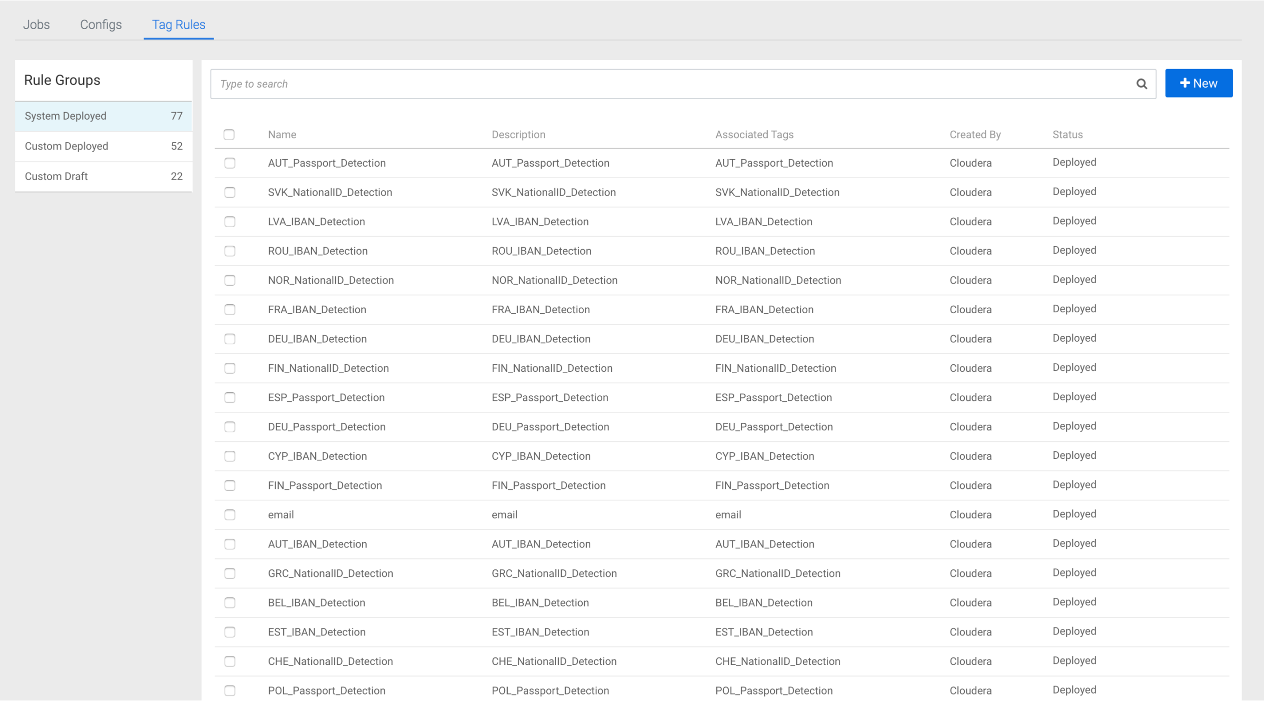
Input block size *: 10000000

Profiler Tag Rules

You can use preconfigured tag rules or create new rules based on regular expressions and allow or deny files on specific columns in your tables.

Rules are categorized into three groups:

- System Deployed : These are in-built rules that cannot be edited.
- Custom Deployed: Tag rules that you create and deploy on clusters after validation will appear under this category. Hover your mouse over the tag rules to deploy or suspend them as needed. You can also edit these tag rules.
- Custom Draft : You can create new tag rules and save them for later validation and deployment on clusters. Such rules appear under this category.



Rule Groups	
System Deployed	77
Custom Deployed	52
Custom Draft	22

□	Name	Description	Associated Tags	Created By	Status
□	AUT_Passport_Detection	AUT_Passport_Detection	AUT_Passport_Detection	Cloudera	Deployed
□	SVK_NationalID_Detection	SVK_NationalID_Detection	SVK_NationalID_Detection	Cloudera	Deployed
□	LVA_IBAN_Detection	LVA_IBAN_Detection	LVA_IBAN_Detection	Cloudera	Deployed
□	ROU_IBAN_Detection	ROU_IBAN_Detection	ROU_IBAN_Detection	Cloudera	Deployed
□	NOR_NationalID_Detection	NOR_NationalID_Detection	NOR_NationalID_Detection	Cloudera	Deployed
□	FRA_IBAN_Detection	FRA_IBAN_Detection	FRA_IBAN_Detection	Cloudera	Deployed
□	DEU_IBAN_Detection	DEU_IBAN_Detection	DEU_IBAN_Detection	Cloudera	Deployed
□	FIN_NationalID_Detection	FIN_NationalID_Detection	FIN_NationalID_Detection	Cloudera	Deployed
□	ESP_Passport_Detection	ESP_Passport_Detection	ESP_Passport_Detection	Cloudera	Deployed
□	DEU_Passport_Detection	DEU_Passport_Detection	DEU_Passport_Detection	Cloudera	Deployed
□	CYP_IBAN_Detection	CYP_IBAN_Detection	CYP_IBAN_Detection	Cloudera	Deployed
□	FIN_Passport_Detection	FIN_Passport_Detection	FIN_Passport_Detection	Cloudera	Deployed
□	email	email	email	Cloudera	Deployed
□	AUT_IBAN_Detection	AUT_IBAN_Detection	AUT_IBAN_Detection	Cloudera	Deployed
□	GRC_NationalID_Detection	GRC_NationalID_Detection	GRC_NationalID_Detection	Cloudera	Deployed
□	BEL_IBAN_Detection	BEL_IBAN_Detection	BEL_IBAN_Detection	Cloudera	Deployed
□	EST_IBAN_Detection	EST_IBAN_Detection	EST_IBAN_Detection	Cloudera	Deployed
□	CHE_NationalID_Detection	CHE_NationalID_Detection	CHE_NationalID_Detection	Cloudera	Deployed
□	POL_Passport_Detection	POL_Passport_Detection	POL_Passport_Detection	Cloudera	Deployed

Tag Management

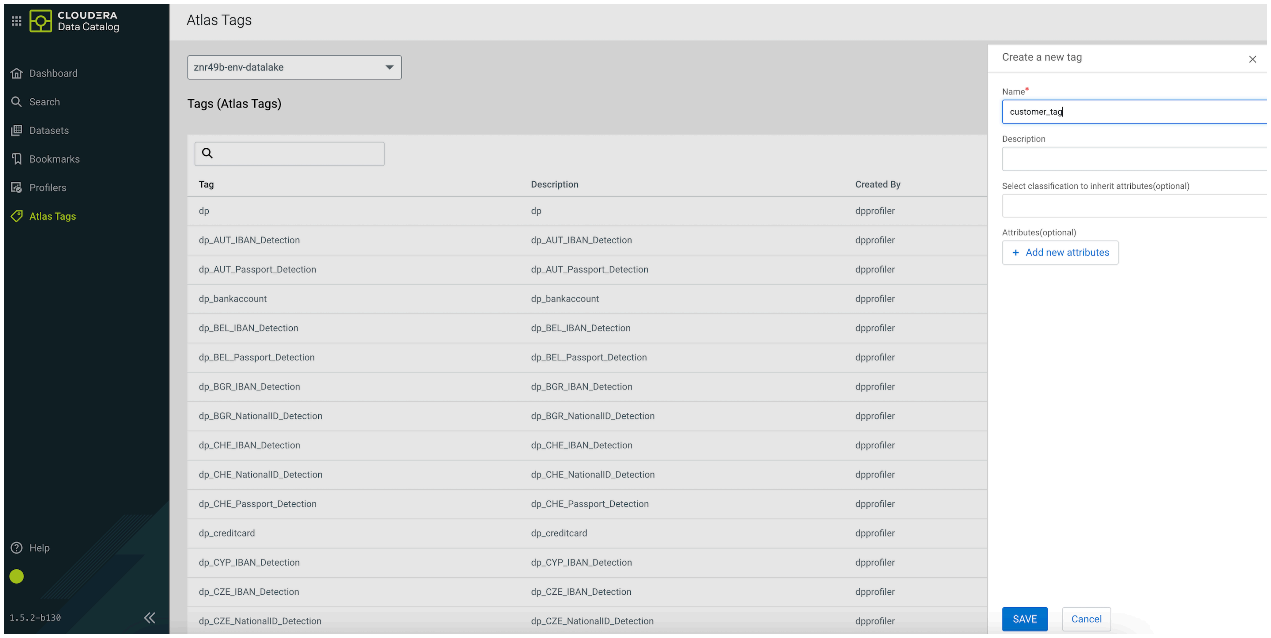
From Atlas tags UI in Data Catalog, you can create, modify, and delete any of the Atlas tags in a Data Catalog instance.

You can access the Atlas link by logging into Data Catalog > Atlas Tags .

Atlas Tags allows the user to perform the following activities with a selected Data Lake for tag management:

- Selecting a Data Lake
- Searching for a tag
- Adding a tag
- Editing a tag
- Deleting a tag

The new Atlas tags UI is displayed as seen in the diagram.



Tag	Description	Created By
dp	dp	dpprofiler
dp_AUT_IBAN_Detection	dp_AUT_IBAN_Detection	dpprofiler
dp_AUT_Passport_Detection	dp_AUT_Passport_Detection	dpprofiler
dp_bankaccount	dp_bankaccount	dpprofiler
dp_BEL_IBAN_Detection	dp_BEL_IBAN_Detection	dpprofiler
dp_BEL_Passport_Detection	dp_BEL_Passport_Detection	dpprofiler
dp_BGR_IBAN_Detection	dp_BGR_IBAN_Detection	dpprofiler
dp_BGR_NationalID_Detection	dp_BGR_NationalID_Detection	dpprofiler
dp_CHE_IBAN_Detection	dp_CHE_IBAN_Detection	dpprofiler
dp_CHE_NationalID_Detection	dp_CHE_NationalID_Detection	dpprofiler
dp_CHE_Passport_Detection	dp_CHE_Passport_Detection	dpprofiler
dp_creditcard	dp_creditcard	dpprofiler
dp_CYP_IBAN_Detection	dp_CYP_IBAN_Detection	dpprofiler
dp_CZE_IBAN_Detection	dp_CZE_IBAN_Detection	dpprofiler
dp_CZE_NationalID_Detection	dp_CZE_NationalID_Detection	dpprofiler

Create a new tag

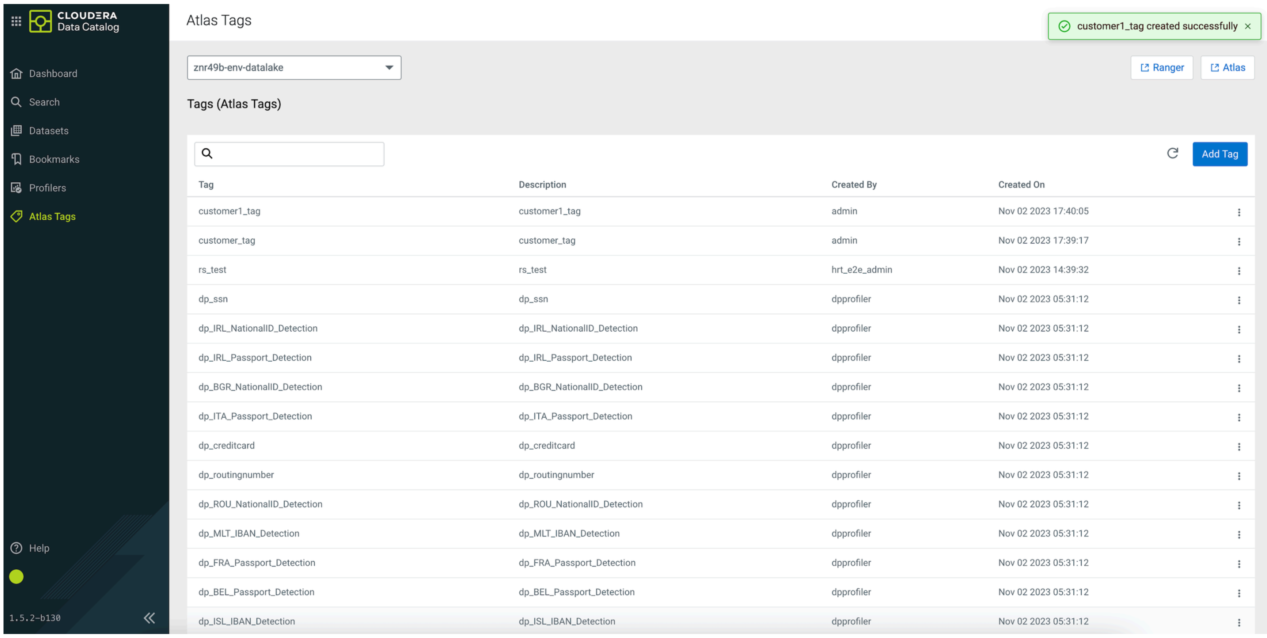
Name* customer_tag

Description

Select classification to inherit attributes(optional)

Attributes(optional)

You can create a new tag in the Atlas tags UI. The following diagram provides an overview about the Create a new tag page.

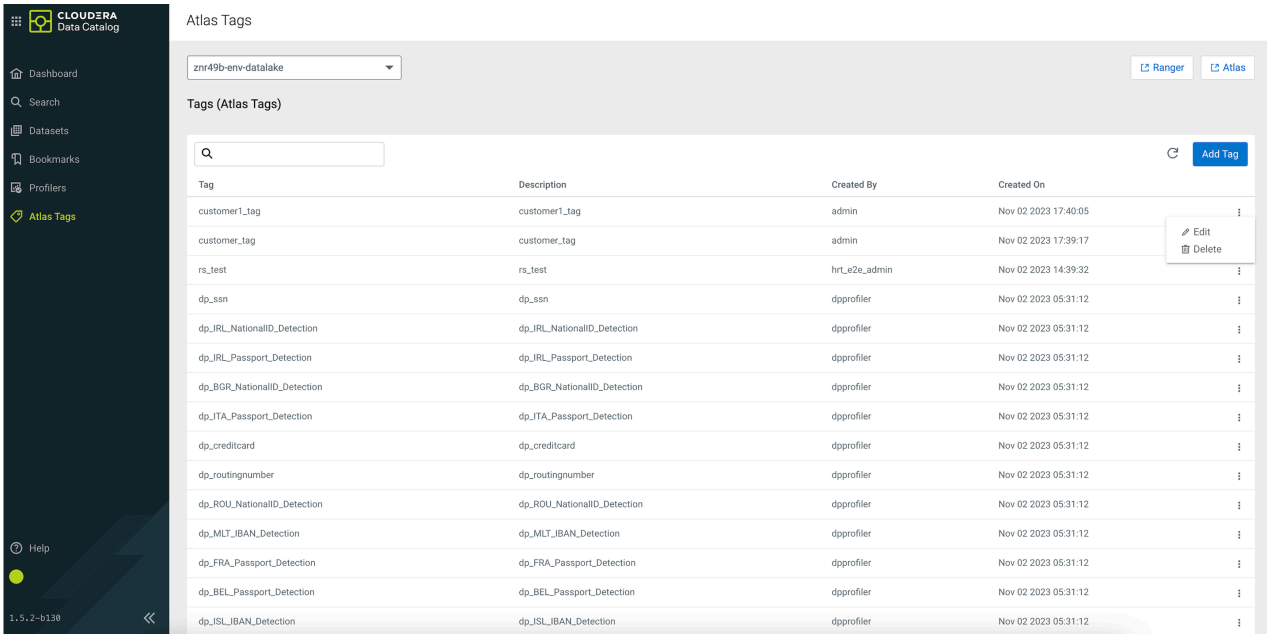


customer1_tag created successfully

Tag	Description	Created By	Created On
customer1_tag	customer1_tag	admin	Nov 02 2023 17:40:05
customer_tag	customer_tag	admin	Nov 02 2023 17:39:17
rs_test	rs_test	hrt_e2e_admin	Nov 02 2023 14:39:32
dp_ssn	dp_ssn	dpprofiler	Nov 02 2023 05:31:12
dp_IRL_NationalID_Detection	dp_IRL_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_IRL_Passport_Detection	dp_IRL_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_BGR_NationalID_Detection	dp_BGR_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_ITA_Passport_Detection	dp_ITA_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_creditcard	dp_creditcard	dpprofiler	Nov 02 2023 05:31:12
dp_routingnumber	dp_routingnumber	dpprofiler	Nov 02 2023 05:31:12
dp_ROU_NationalID_Detection	dp_ROU_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_MLT_IBAN_Detection	dp_MLT_IBAN_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_FRA_Passport_Detection	dp_FRA_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_BEL_Passport_Detection	dp_BEL_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_ISL_IBAN_Detection	dp_ISL_IBAN_Detection	dpprofiler	Nov 02 2023 05:31:12

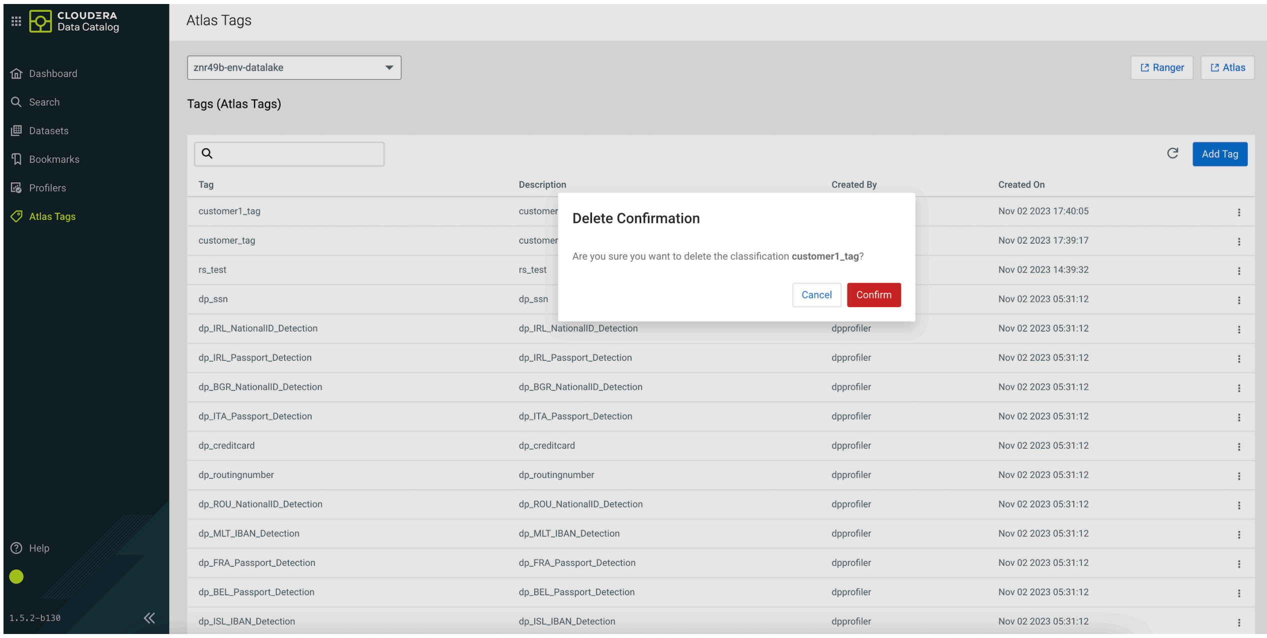
You can add or update Atlas tags. The created or updated tag is highlighted in the tag list as seen in the following diagram.

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
customer1_tag	customer1_tag	admin	Nov 02 2023 17:40:05
customer_tag	customer_tag	admin	Nov 02 2023 17:39:17
rs_test	rs_test	hrt_e2e_admin	Nov 02 2023 14:39:32
dp_ssn	dp_ssn	dpprofiler	Nov 02 2023 05:31:12
dp_IRL_NationalID_Detection	dp_IRL_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_IRL_Passport_Detection	dp_IRL_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_BGR_NationalID_Detection	dp_BGR_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_ITA_Passport_Detection	dp_ITA_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_creditcard	dp_creditcard	dpprofiler	Nov 02 2023 05:31:12
dp_routingnumber	dp_routingnumber	dpprofiler	Nov 02 2023 05:31:12
dp_ROU_NationalID_Detection	dp_ROU_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_MLT_IBAN_Detection	dp_MLT_IBAN_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_FRA_Passport_Detection	dp_FRA_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_BEL_Passport_Detection	dp_BEL_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_ISL_IBAN_Detection	dp_ISL_IBAN_Detection	dpprofiler	Nov 02 2023 05:31:12

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



Delete Confirmation

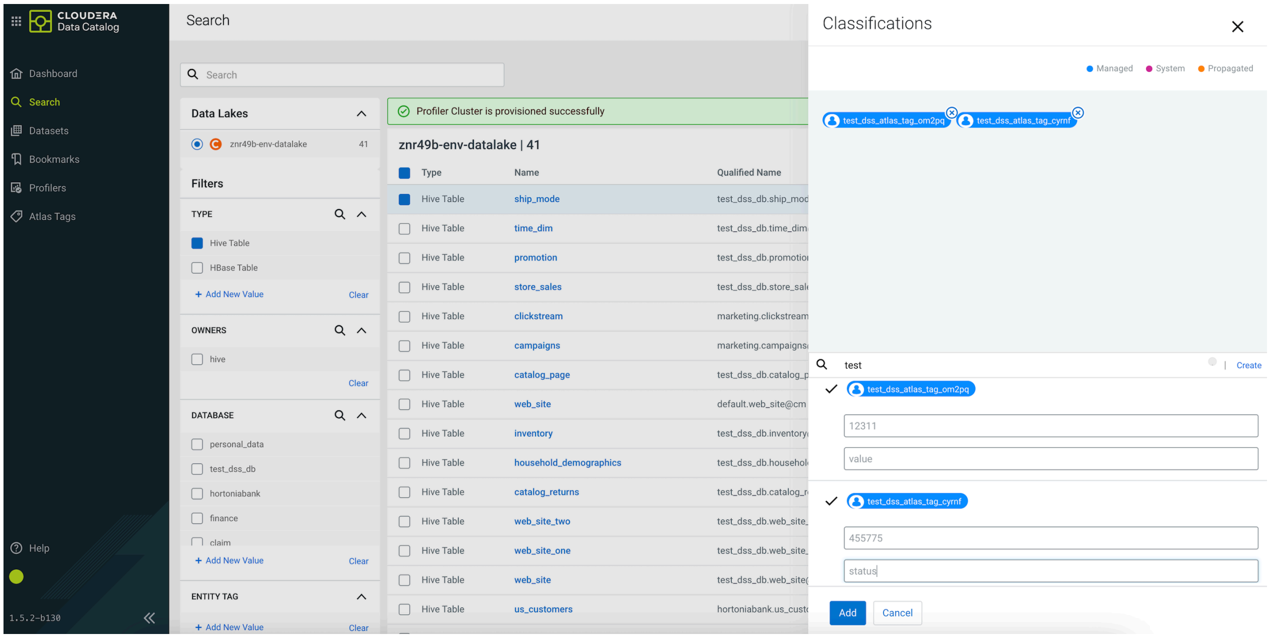
Are you sure you want to delete the classification **customer1_tag**?

Tag	Description	Created By	Created On
customer1_tag	customer		Nov 02 2023 17:40:05
customer_tag	customer		Nov 02 2023 17:39:17
rs_test	rs_test		Nov 02 2023 14:39:32
dp_ssn	dp_ssn		Nov 02 2023 05:31:12
dp_IRL_NationalID_Detection	dp_IRL_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_IRL_Passport_Detection	dp_IRL_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_BGR_NationalID_Detection	dp_BGR_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_ITA_Passport_Detection	dp_ITA_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_creditcard	dp_creditcard	dpprofiler	Nov 02 2023 05:31:12
dp_routingnumber	dp_routingnumber	dpprofiler	Nov 02 2023 05:31:12
dp_ROU_NationalID_Detection	dp_ROU_NationalID_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_MLT_IBAN_Detection	dp_MLT_IBAN_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_FRA_Passport_Detection	dp_FRA_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_BEL_Passport_Detection	dp_BEL_Passport_Detection	dpprofiler	Nov 02 2023 05:31:12
dp_ISL_IBAN_Detection	dp_ISL_IBAN_Detection	dpprofiler	Nov 02 2023 05:31:12

Tagging Multiple Assets

On the Data Catalog search page, you can add tags to multiple assets based on the asset type that you select based on the search result.

When you select an asset, you can add one or more available tags to the selected asset. You can also create one or more new tags and associate the newly created tags to the selected asset. The number of selected assets that you plan to tag is displayed. As you add the number of tags to one or more selected assets, The Add Tag panel displays the number of tags assigned.



Profiler Cluster is provisioned successfully

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	Type	Name	Qualified Name
☑	Hive Table	ship_mode	test_dss_db.ship_mod
□	Hive Table	time_dim	test_dss_db.time_dim
□	Hive Table	promotion	test_dss_db.promotio
□	Hive Table	store_sales	test_dss_db.store_sal
□	Hive Table	clickstream	marketing.clickstream
□	Hive Table	campaigns	marketing.campaigns
□	Hive Table	catalog_page	test_dss_db.catalog_p
□	Hive Table	web_site	default.web_site@cm
□	Hive Table	inventory	test_dss_db.inventory
□	Hive Table	household_demographics	test_dss_db.househol
□	Hive Table	catalog_returns	test_dss_db.catalog_r
□	Hive Table	web_site_two	test_dss_db.web_site_
□	Hive Table	web_site_one	test_dss_db.web_site_
□	Hive Table	web_site	test_dss_db.web_site
□	Hive Table	us_customers	hortoniabank.us_custo

test_dss_atlas_tag_om2pq test_dss_atlas_tag_cyrnf

test

✓ test_dss_atlas_tag_om2pq

12311

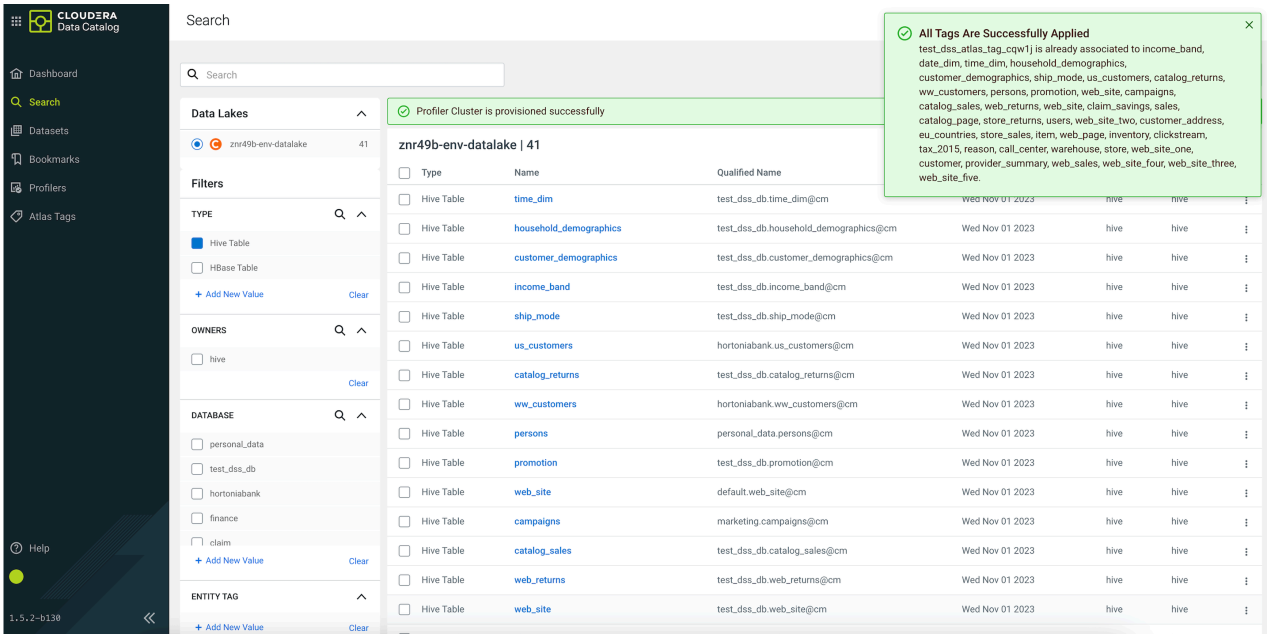
value

✓ test_dss_atlas_tag_cyrnf

455775

status

Note: If you do not save your changes without clicking the Add button in Add Tags panel, the changes are not retained in the Data Catalog instance. You have to retag the assets and later click the Add button.



All Tags Are Successfully Applied
test_dss_atlas_tag_cqw1j is already associated to income_band, date_dim, time_dim, household_demographics, customer_demographics, ship_mode, us_customers, catalog_returns, ww_customers, persons, promotion, web_site, campaigns, catalog_sales, web_returns, web_site, claim_savings, sales, catalog_page, store_returns, users, web_site_two, customer_address, eu_countries, store_sales, item, web_page, inventory, clickstream, tax_2015, reason, call_center, warehouse, store, web_site_one, customer, provider_summary, web_sales, web_site_four, web_site_three, web_site_five.

Profiler Cluster is provisioned successfully

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□	Type	Name	Qualified Name				
□	Hive Table	time_dim	test_dss_db.time_dim@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	household_demographics	test_dss_db.household_demographics@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	customer_demographics	test_dss_db.customer_demographics@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	income_band	test_dss_db.income_band@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	ship_mode	test_dss_db.ship_mode@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	us_customers	hortoniabank.us_customers@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	catalog_returns	test_dss_db.catalog_returns@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	ww_customers	hortoniabank.ww_customers@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	persons	personal_data.persons@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	promotion	test_dss_db.promotion@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	web_site	default.web_site@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	campaigns	marketing.campaigns@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	catalog_sales	test_dss_db.catalog_sales@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	web_returns	test_dss_db.web_returns@cm	Wed Nov 01 2023	hive	hive	⋮
□	Hive Table	web_site	test_dss_db.web_site@cm	Wed Nov 01 2023	hive	hive	⋮

When you add one or more tags to the selected entities, the assigned tags are displayed having been tagged to the number of selected entities. Another scenario could throw a message saying that the selected asset is already tagged.

Propagated Asset tagging

Data Catalog supports the concept of propagated tags. This feature is derived from Apache Atlas.

Whenever you add a new tag, you can mark them as propagated and use those tags accordingly while tagging assets.

For example, consider table1 as a parent asset and table2 as a child asset. Create a tag and mark that tag as propagated, and later apply the same tag to table1. The tag gets applied to table2 as well. Propagated tag works on the basis of parent -> child tagging relationship.

Note: When you delete or remove the propagated tag from the parent asset, the same tag is removed from all the child assets.

Attention: The propagated tag concept is not supported with child -> parent relationships.

Creating Custom Profiler Rules

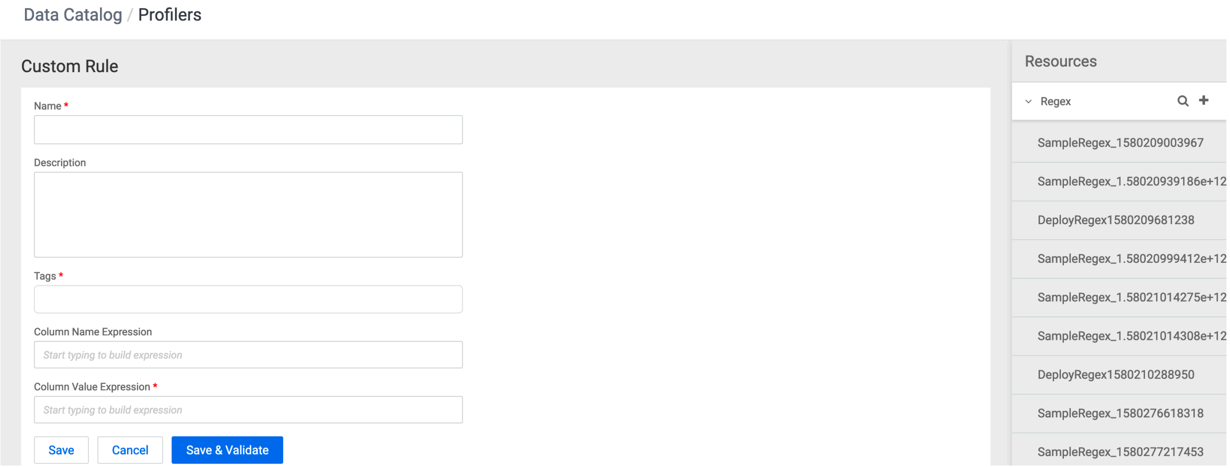
You can create a custom profiler by adding the required tags, regex entries, and attaching whitelist or blacklist files to specific columns within your tables.

Procedure

1. On the Profilers page, click Tag Rules.
2. On the Tag Rules tab, click New to create a new profiler tag rule.
3. Enter the name of the new custom profiler tag rule.
4. Enter the description for the custom tag rule.
5. Select the Tags. You can select tags from the drop down list and or enter a new value to create a new tag.

   New tags that you create here are added with a dp_ prefix in the list of Atlas tags. For example, if you add a new tag called credit_card, this tag will be added as dp_credit_card in Atlas.
6. Enter the rule for the column name. As you enter the values, regex name and resource names are auto populated. Select the column that is needed for your custom profiler.
7. Enter the column value for the DSL.

   Based on your entry, Data Catalog auto populates values from the entries already available in the Resources tab. You can use a combination of regex entries and whitelist or blacklist files and other behaviors. For more information about behaviors, see DSL Grammar.
8. Click Save and Validate.

   
   Data Catalog / Profilers
Custom Rule
Name *
Description
Tags *
Column Name Expression
Start typing to build expression
Column Value Expression *
Start typing to build expression
Save
Cancel
Save & Validate
Resources
Regex
SampleRegex_1580209003967
SampleRegex_1.58020939186e+12
DeployRegex1580209681238
SampleRegex_1.58020999412e+12
SampleRegex_1.58021014275e+12
SampleRegex_1.58021014308e+12
DeployRegex1580210288950
SampleRegex_1580276618318
SampleRegex_1580277217453

   In the validation pop up window that appears, enter data to validate your custom profiler tag rule. Make sure you separate each data entry with a new line.
9. Click Save to create a tag rule and validate and deploy it later.

Adding Custom Regular Expressions

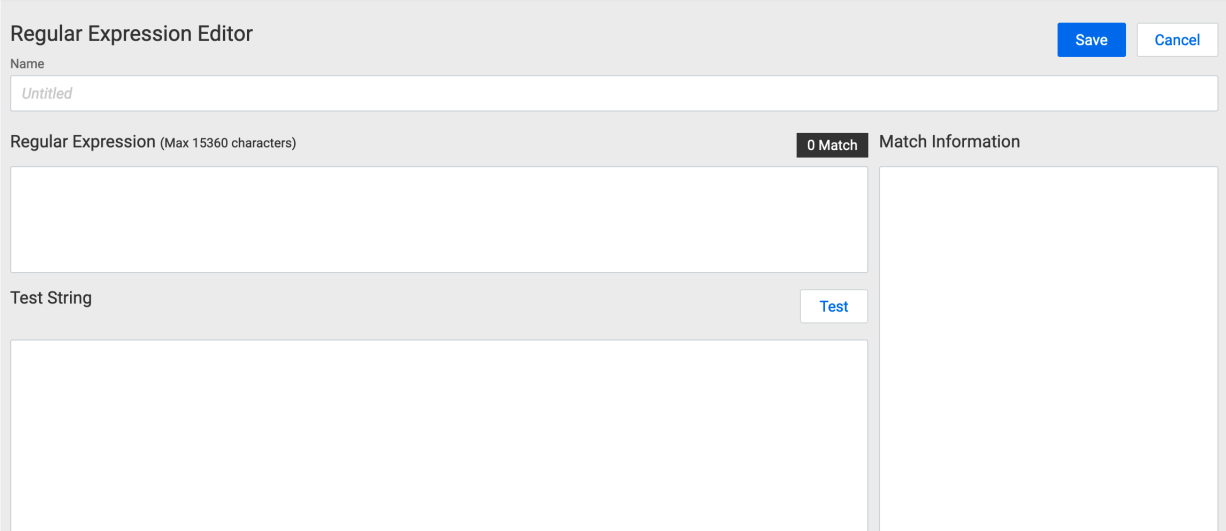
To use custom regex entries within your new custom profiler tag rules, you can also add new regex values.

Procedure

1. Click Resources in the right panel on the New Custom Profiler Rules page.
2. Click + icon on the Regex tab. The Regular Expression Editor page appears.
3. Enter the name of the new regular expression.
4. Enter a valid regular expression.

   For example:

   ```
   \b(([a-zA-Z0-9_\-\.]+)@((\[[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.)|(([a-zA-
   Z0-9\-]+\.)+))([a-zA-Z]{2,4}|[0-9]{1,3})(\]?))\b
   ```


Regular Expression Editor
Save
Cancel
Name
Untitled
Regular Expression (Max 15360 characters)
0 Match
Match Information
Test String
Test

5. Enter the list of test strings to evaluate the new regular expression.

   If the test string is valid, then the match information gets auto populated in the Match Information box.
6. Click Save to add the new regular expression to the list of Regex Resources.

Adding Lookup Files

When you have too many allowed and denied entries and cannot add them inline, you can create allowed or denied files with one value in each line and add them to your DSL.

Procedure

1. Click Resources in the right panel on the New Custom Profiler Rules page.
2. Click + icon on the Lookups tab. The New Lookup File page appears.
3. Enter the name of the new Lookup file.
4. Click Choose File to upload the file.
5. Click Save.

Using Behaviors

You can use various behaviors to take single inputs of type text and evaluate them to a Boolean value.

The profiler can take column values of any type and pass the values to each behaviour as text. Behaviors include the following:

1. Regular expressions
2. File based allowlist and denylist checks

Regular expressions

You can include one or more regular expressions and evaluate to True if one of these matches the provided value.

You can use a combination of regular expressions by referring to DSL Grammar.

Keyword: regex

A regex that matches everything can be defined as follows:

```
regex(\"[\\\\s\\\\S]+\")
```

A regex that includes multiple expressions can be defined as follows:

```
regex(\"[\\\\s\\\\S]+\",\"^[0-9]*$\")
```

Using DSL Grammar

Using DSL grammar, you can combine different behaviours in intuitive ways to bring out functionality while creating custom profiler rules.

The two behaviors available in this framework are as follows:

1. falseIdentity - Always evaluates to false, regardless of the input.
2. trueIdentity - Always evaluates to true, regardless of the input.

These two behaviors are used in the following examples and descriptions.

Binary AND operator

Keyword: `and`

And works the same way it does other languages. Hence following observations.

```
falseIdentity and trueIdentity == falseIdentity
```

```
falseIdentity and falseIdentity == falseIdentity
```

```
trueIdentity and trueIdentity == trueIdentity
```

```
trueIdentity and falseIdentity == falseIdentity
```

Here we are using == to show their equality.

Binary OR operator

The or operator works the same way it does in other languages.

```
falseIdentity or trueIdentity == trueIdentity
```

```
falseIdentity or falseIdentity == falseIdentity
```

```
trueIdentity or trueIdentity == trueIdentity
```

```
trueIdentity or falseIdentity == trueIdentity
```

Expand DSL to use as follows.

```
val rule1= falseIdentity and trueIdentity and trueIdentity
```

```
val rule2= trueIdentity and trueIdentity and trueIdentity
```

```
val rule3=rule1 and rule2
```

```
rule3 or trueIdentity
```

The above expression evaluates to true.