Cloudera Data Visualization 8.0.9

Connecting to Data

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Contents

Creating a data connection in Cloudera Data Visualization

Cloudera Data Visualization allows you to connect to various external data sources to enhance your data analysis and visualization capabilities.

About this task

Cloudera Data Visualization currently supports the following connection types:

- Hive
- Impala
- MariaDB
- MySQL
- PostgreSQL
- Phoenix [Technical Preview]
- Solr [Technical Preview]
- Spark SQL
- SQLite (not supported in Cloudera Data Warehouse)
- Snowflake [Technical Preview]
- Trino [Technical Preview]

These supported connection types provide flexibility and versatility for integrating multiple sources into your data analysis workflows.

In Cloudera Data Warehouse, the connection to the database catalog is automatically set up when you enable Cloudera Data Visualization in a Virtual Data Warehouse. You can also create your own connections to other data warehouses, but it is not supported.

Database catalogs and virtual data warehouses automatically inherit the same security restrictions that are applicable to your Cloudera environment. There is no need to specify the security setup again for each database catalog or virtual warehouse. If you cannot see the data in the connected database catalog after you log in, check and adjust data access permissions or your environment and data warehouse user permissions.

In Cloudera AI, you can set up several connection types. For example, you can connect Cloudera Data Visualization to an Impala or Hive data warehouse.

Before you begin

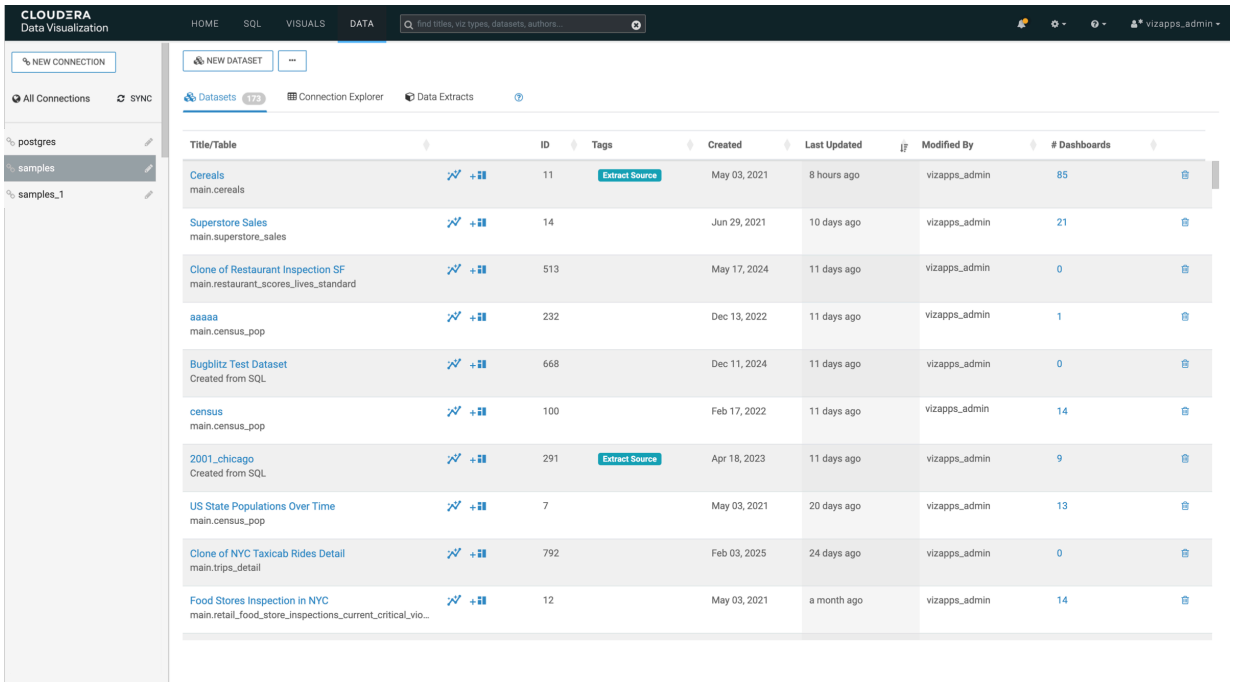
- You must have the Manage data connections privilege or be an administrator to create new connections.
- You can create a connection by:
  - Manually entering connection details.

    If you create a connection, you automatically have the privileges to create and manage datasets on this connection, and also build dashboards and visuals in these datasets. For more information on user privileges, see RBAC permissions.
  - Importing connection details from the JSON configuration of another connection. For instructions on how to obtain the JSON configuration, see Using connection details shared in JSON format.

Procedure

1. On the main navigation bar, click DATA.

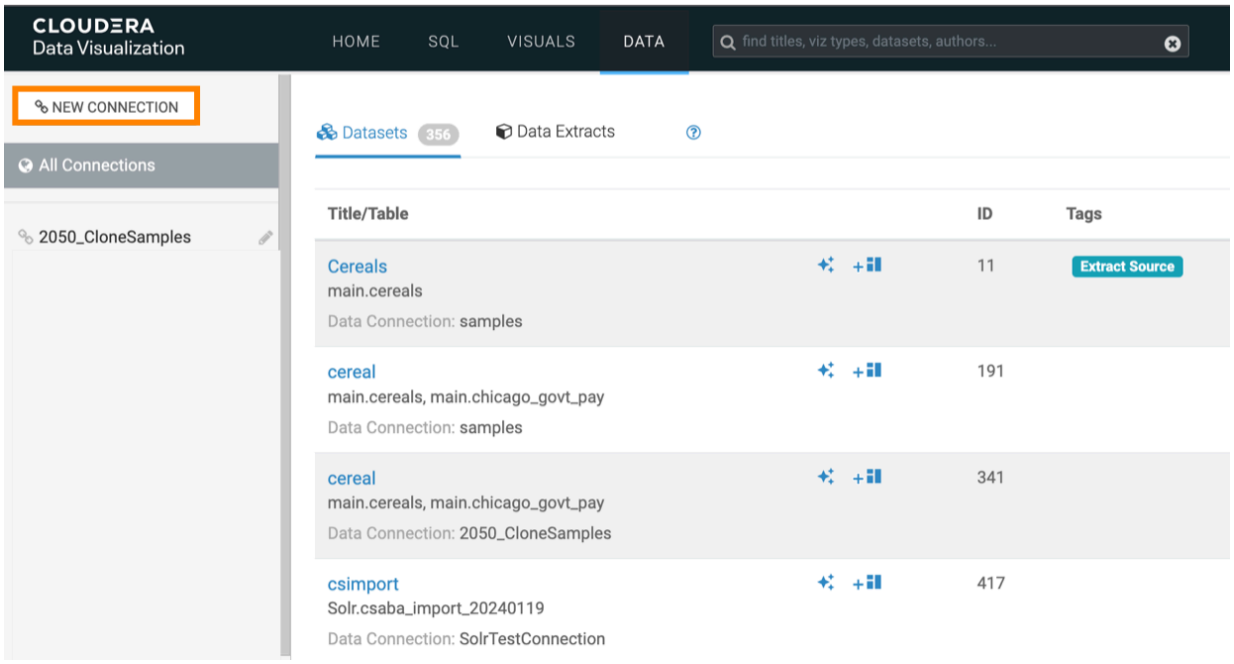
   The DATA interface opens, displaying the Datasets tab.



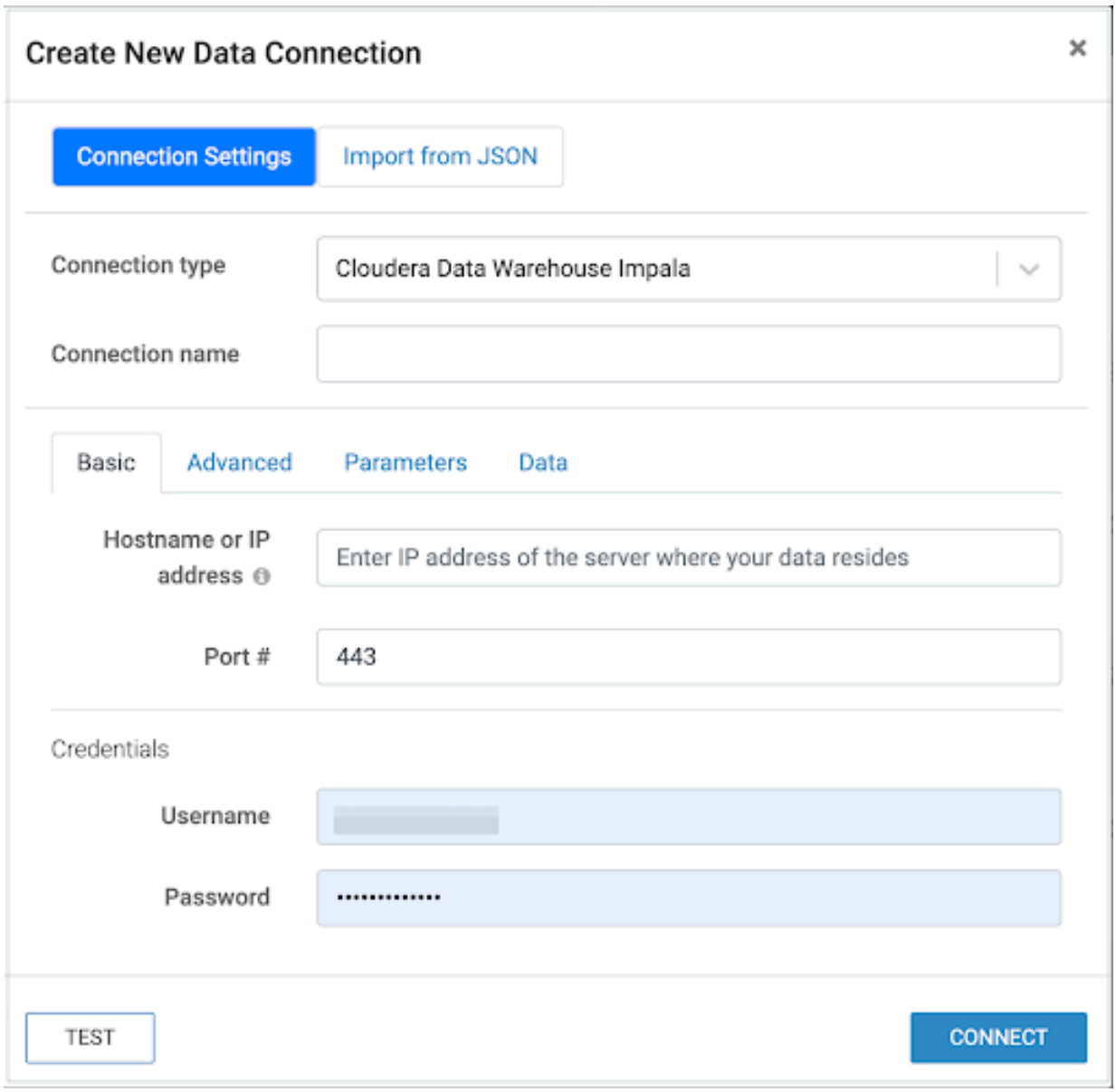
2. On the side menu bar, click NEW CONNECTION.

Note:

The NEW CONNECTION button is only visible to administrators or users with Manage data connections privilege.



The Create New Data Connection modal is displayed.


Create New Data Connection
Connection Settings
Import from JSON
Connection type
Cloudera Data Warehouse Impala
Connection name
Basic
Advanced
Parameters
Data
Hostname or IP address
Enter IP address of the server where your data resides
Port #
443
Credentials
Username
Password
TEST
CONNECT

3. Choose how you want to create the data connection.

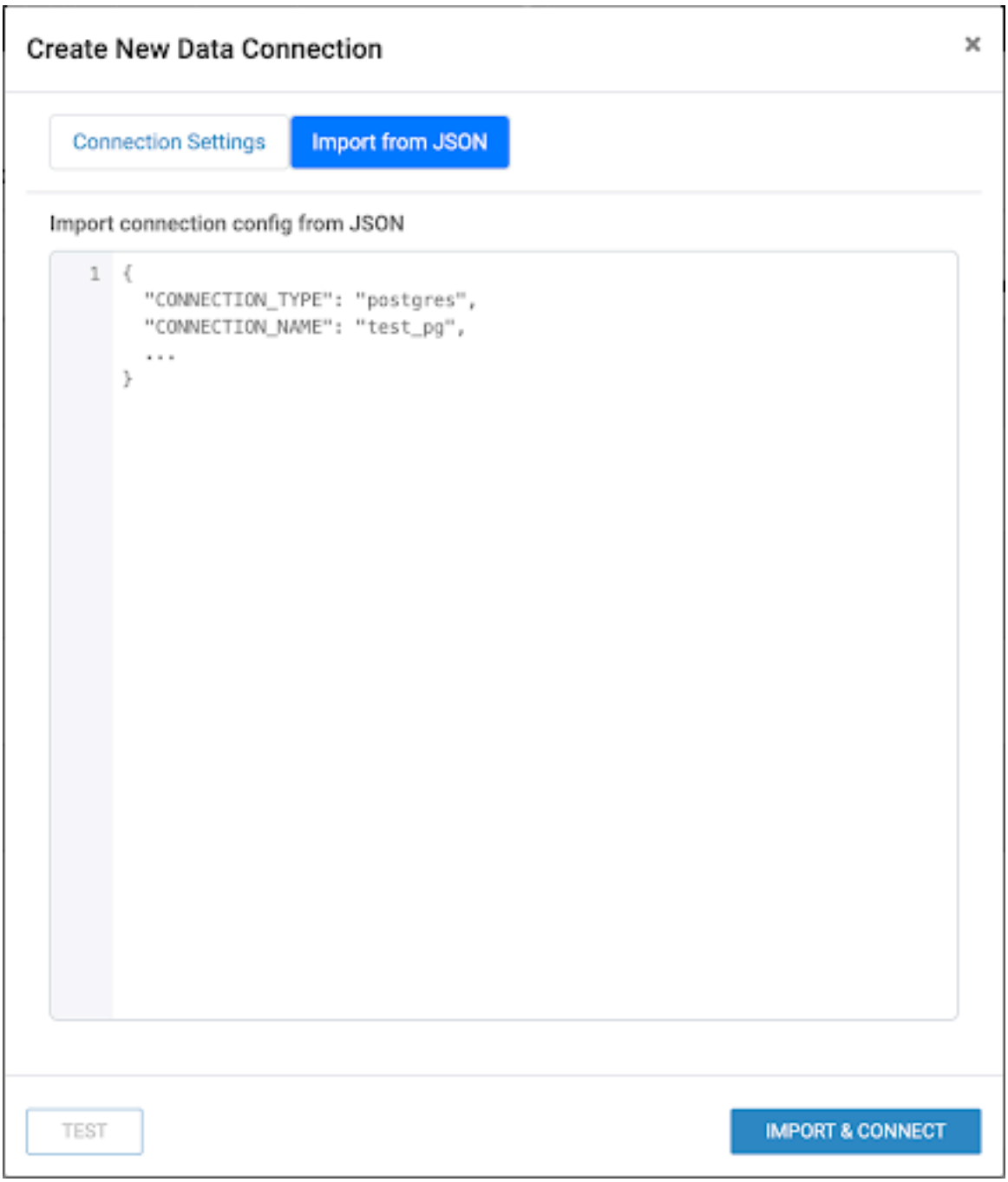
   Option 1: Manually create a connection

   a. On the Connection Settings tab, select the preferred connection type from the drop-down list
   b. Enter a name for the connection.
   c. Fill in the required connection details on all tabs.
   d. Provide your username and password.
   e. Click TEST to verify the connection.

      If any details are missing or invalid, an error message appears. Review and update the fields, and test the connection again.
   f. If the test is successful, click CONNECT to establish the connection.

   Option 2: Import a connection from JSON

   a. Switch to the Import from JSON tab.



b. Paste the connection configuration in JSON format into the text field.

Tip: You can copy the details of an existing data connection from the Data Connection Information modal. For instructions, see *Using connection details shared in JSON format*.

c. Click IMPORT & CONNECT to auto-populate the connection details from the JSON file.

If any configuration details are invalid, an error message appears. You can manually correct the configuration.

Related Information

Using connection details shared in JSON format

Creating a Cloudera AI data connection to Impala

Learn how to connect natively to data stored in Impala when using Cloudera Data Visualization in Cloudera AI.

About this task

Before you start using data modeling and visualization functions, you must connect to your data. The following steps show you how to create a new Cloudera AI data connection in Cloudera Data Visualization to an Impala data warehouse.

Note:

You must have the Manage data connections privilege or be an admin to be able to create and manage connections in Cloudera Data Visualization.

Setting user privileges requires administrator-level access. You can log in as an administrator using the default admin account with the following credentials:

- Username: vizapps_admin
- Password: vizapps_admin

When you create a connection, you automatically get privileges to create and manage the associated datasets. You can also build dashboards and visuals within these datasets.

- For more information on the Manage data connections privilege, see RBAC permissions.
- For instructions on how to define privileges for a specific role, see Setting role privileges.
- For instructions on how to assign the administrator role to a user, see Promoting a user to administrator.

Before you begin

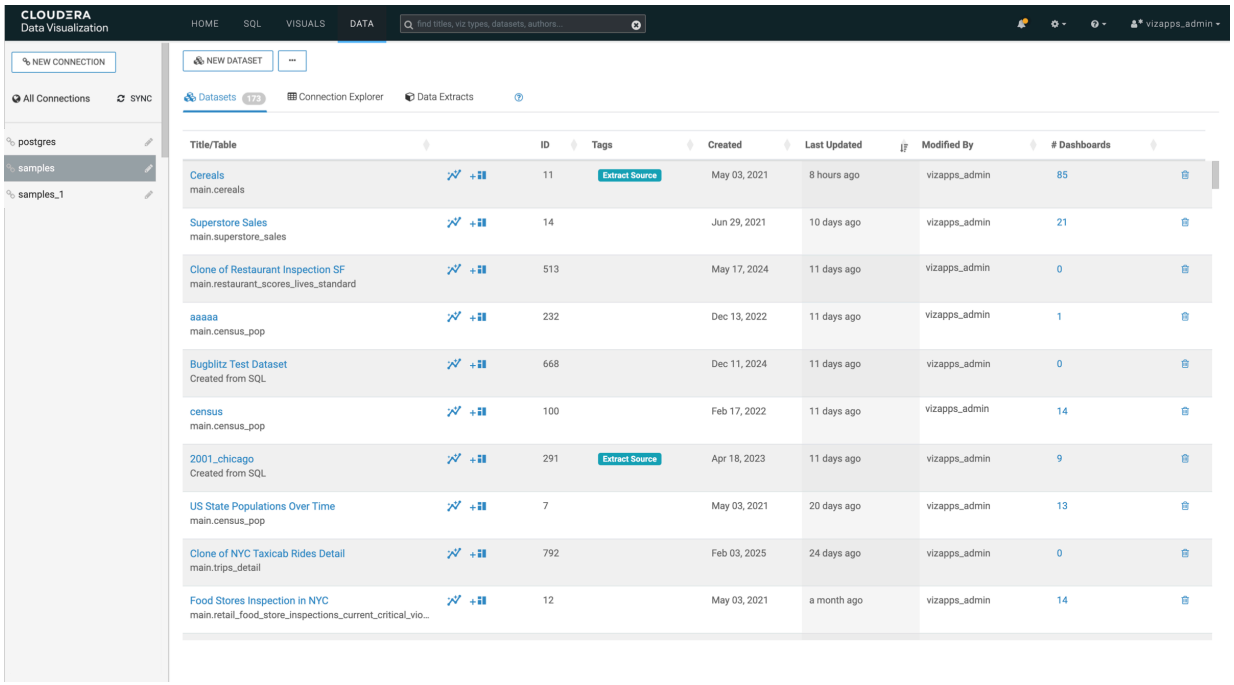
If you are using a Cloudera Base on premises cluster running Impala with Kerberos for authentication, make sure that Kerberos credentials are configured in Cloudera AI before creating a Cloudera AI data connection to the Impala data warehouse. This ensures seamless integration and authentication between Cloudera Data Visualization and the Impala cluster. If you add Kerberos credentials after launching the Cloudera Data Visualization app, you need to restart the app for the changes to take effect.

For more information on using Kerberos for authentication in Cloudera AI, see Hadoop Authentication for AI Workspaces.

Procedure

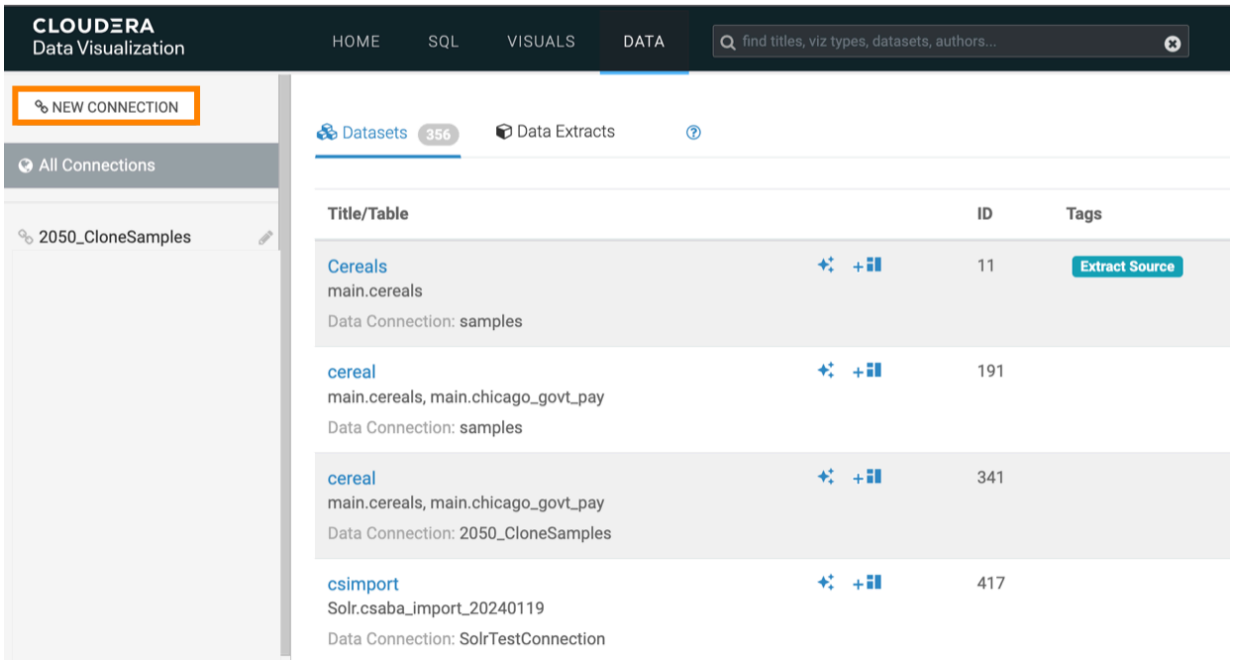
1. On the main navigation bar, click DATA.

   The DATA interface opens, displaying the Datasets tab.



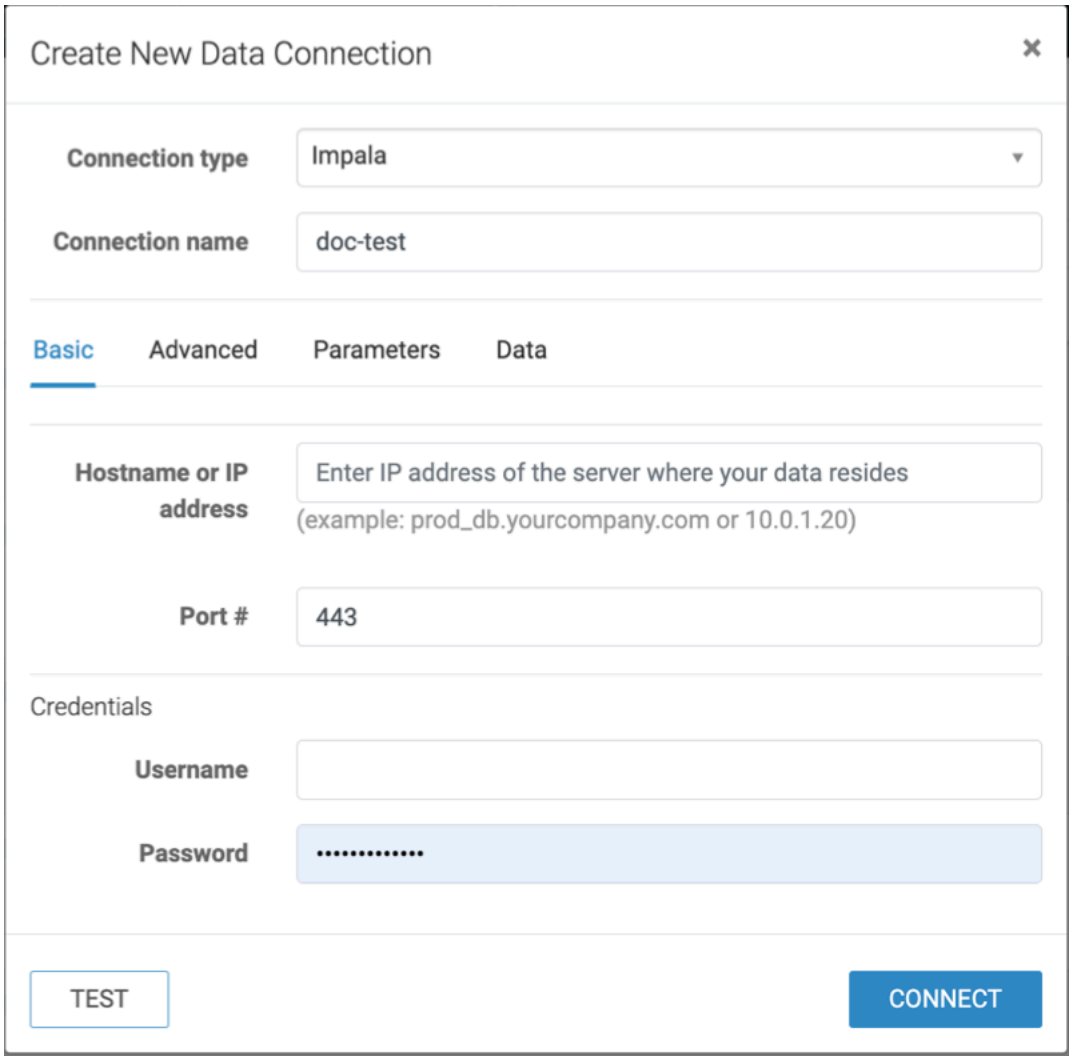
2. On the side menu bar, click NEW CONNECTION.

   Note: Only users with Manage data connections privilege or administrators can access the NEW CONNECTION button.



   The Create New Data Connection modal window appears.

3. Choose Impala from the Connection type drop-down list and assign a name to your connection.



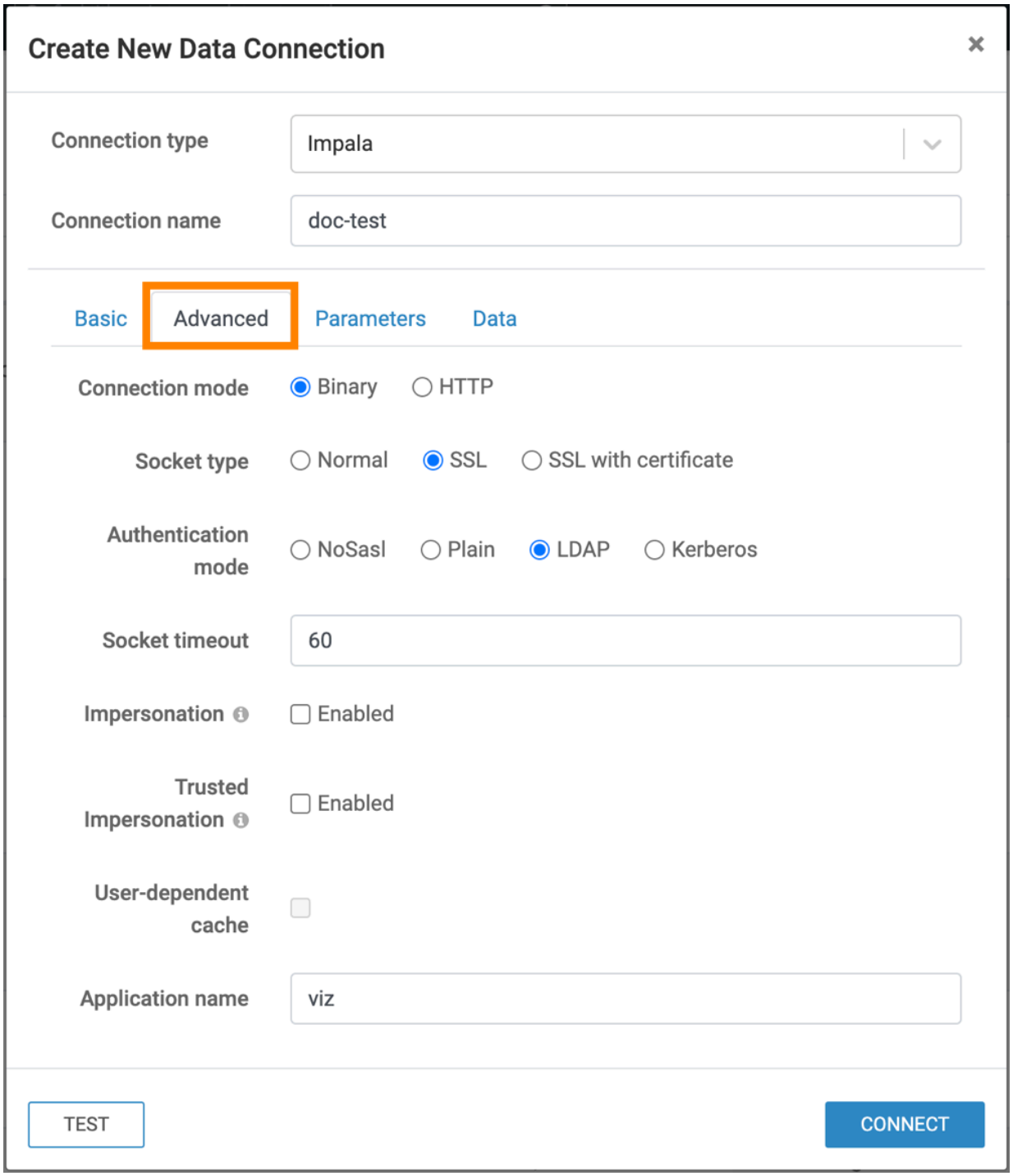
In this example, the Impala connection is made through Knox. Knox always uses TLS encryption and port 443 is the default HTTPS port.

4. Enter the hostname or IP address of the running coordinator.

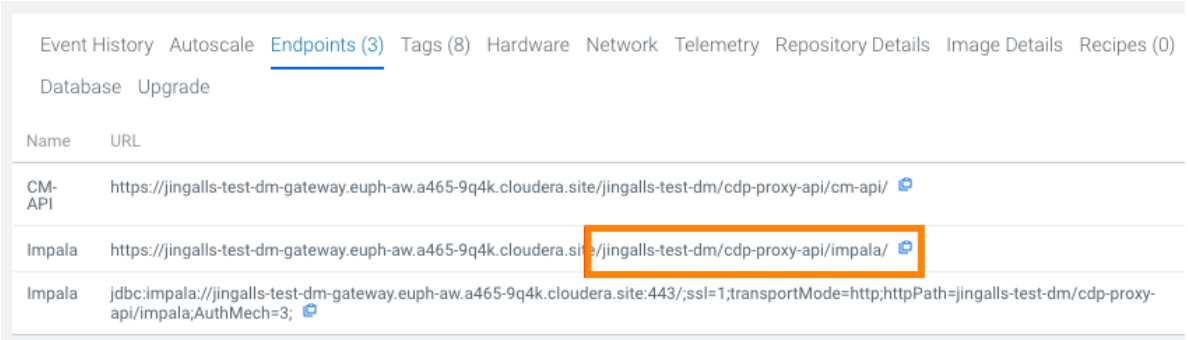
   You can retrieve this information from the JDBC URL of the Impala DW.

5. Add 443 in the Port # field.
6. Enter your workload username and password as credentials.

7. Click the Advanced tab to configure additional details.

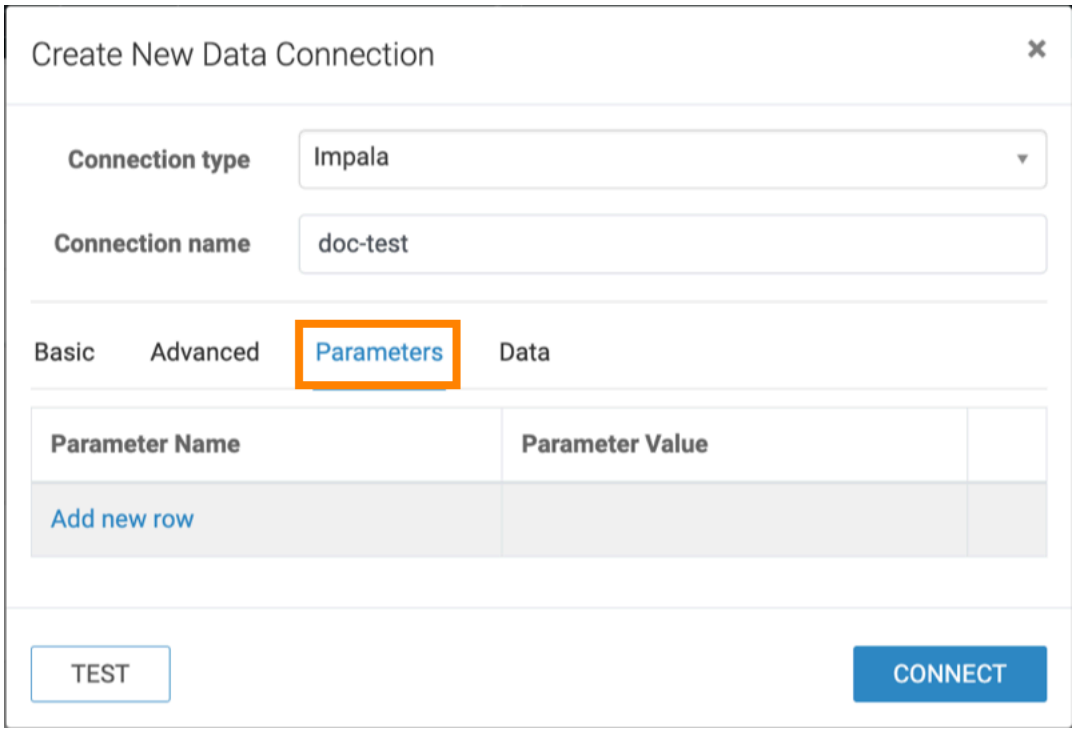


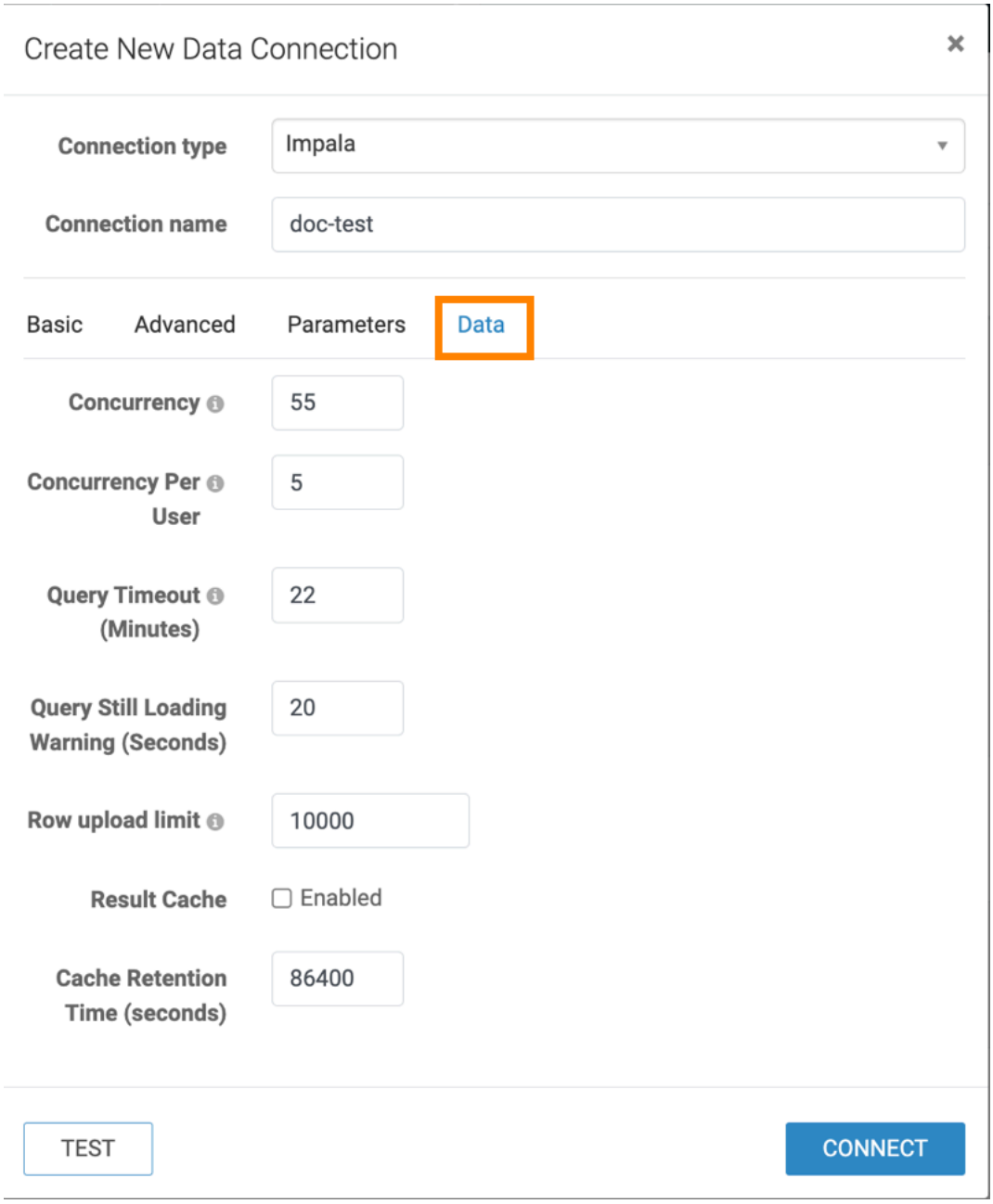
a) For HTTP connection mode, locate the Impala Endpoint for the Data Hub.



b) Copy and paste it into the HTTP Path field.
c) Set any additional details as required.

8. Check the Parameters and Data tabs for more configuration options.





9. Once you finish configuring the settings, click TEST to check the connection.
10. Click CONNECT to establish the connection.

Results

You have successfully set up a connection to a running Impala DW.

Creating a Cloudera AI data connection to a Hive data warehouse

Learn how to connect natively to data stored in Hive when using Cloudera Data Visualization in Cloudera AI.

About this task

Before you start using data modeling and visualization functions, you must connect to your data. The following steps show you how to create a new Cloudera AI data connection in Cloudera Data Visualization to a Hive data warehouse.

Note:

You must have the Manage data connections privilege or be an admin to be able to create and manage connections in Cloudera Data Visualization.

Setting user privileges requires administrator-level access. You can log in as an administrator, using the default admin account with the following credentials:

- Username: vizapps_admin
- Password: vizapps_admin

When you create a connection, you automatically get privileges to create and manage the associated datasets. You can also build dashboards and visuals within these datasets.

- For more information on the Manage data connections privilege, see RBAC permissions.
- For instructions on how to define privileges for a specific role, see Setting role privileges.
- For instructions on how to assign the administrator role to a user, see Promoting a user to administrator.

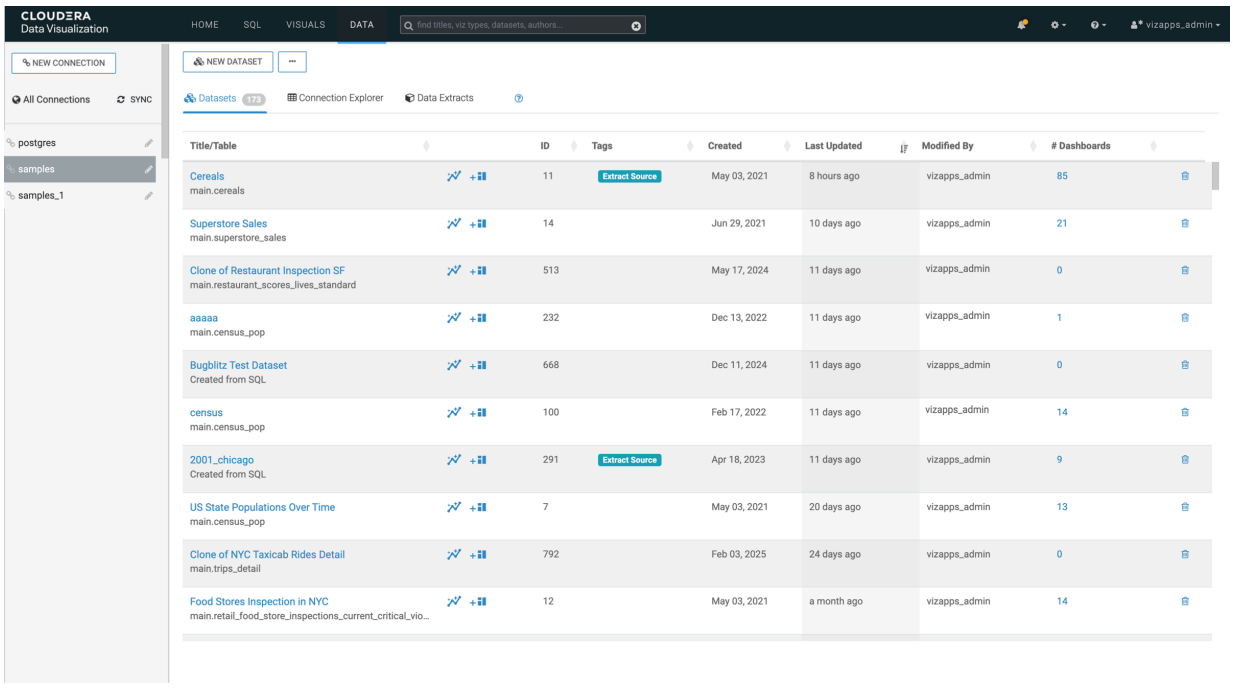
Before you begin

If you are using a Cloudera Base on premises cluster running Hive with Kerberos for authentication, make sure that Kerberos credentials are configured in Cloudera AI before creating a Cloudera AI data connection to the Hive data warehouse. This ensures seamless integration and authentication between Cloudera Data Visualization and the Hive cluster. If you add Kerberos credentials after launching the Cloudera Data Visualization app, you need to restart the app for the changes to take effect.

Procedure

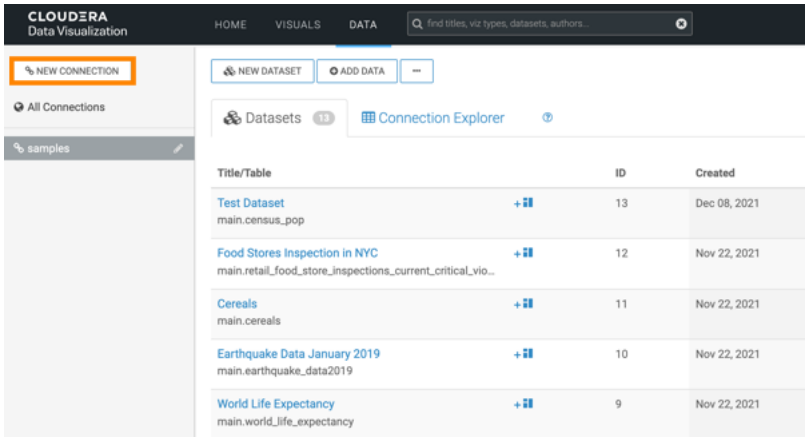
1. On the main navigation bar, click DATA.

   The DATA opens, displaying the Datasets tab.



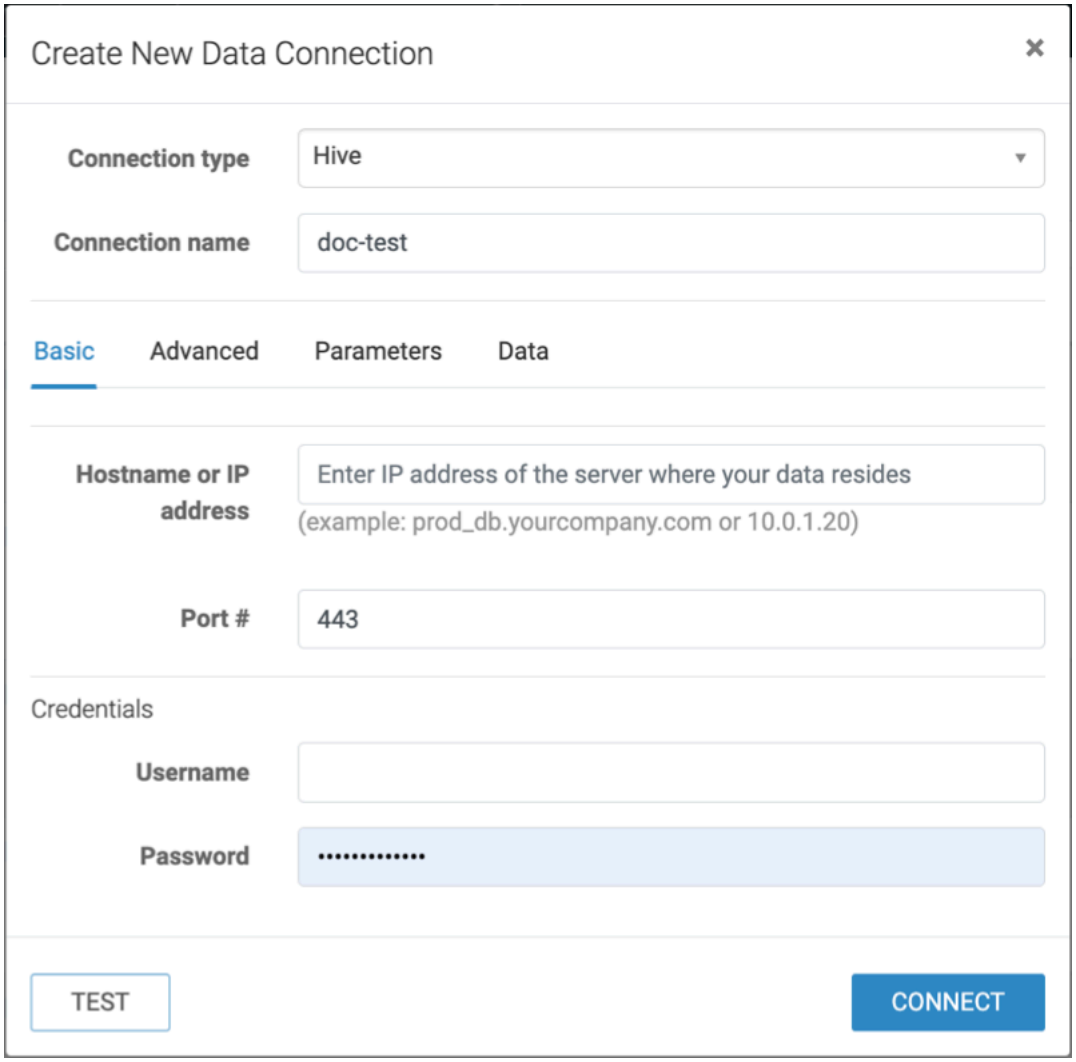
2. On the side menu bar, click NEW CONNECTION.

Note: The NEW CONNECTION button is only accessible to users assigned to roles with the Manage data connections privilege and to administrators.



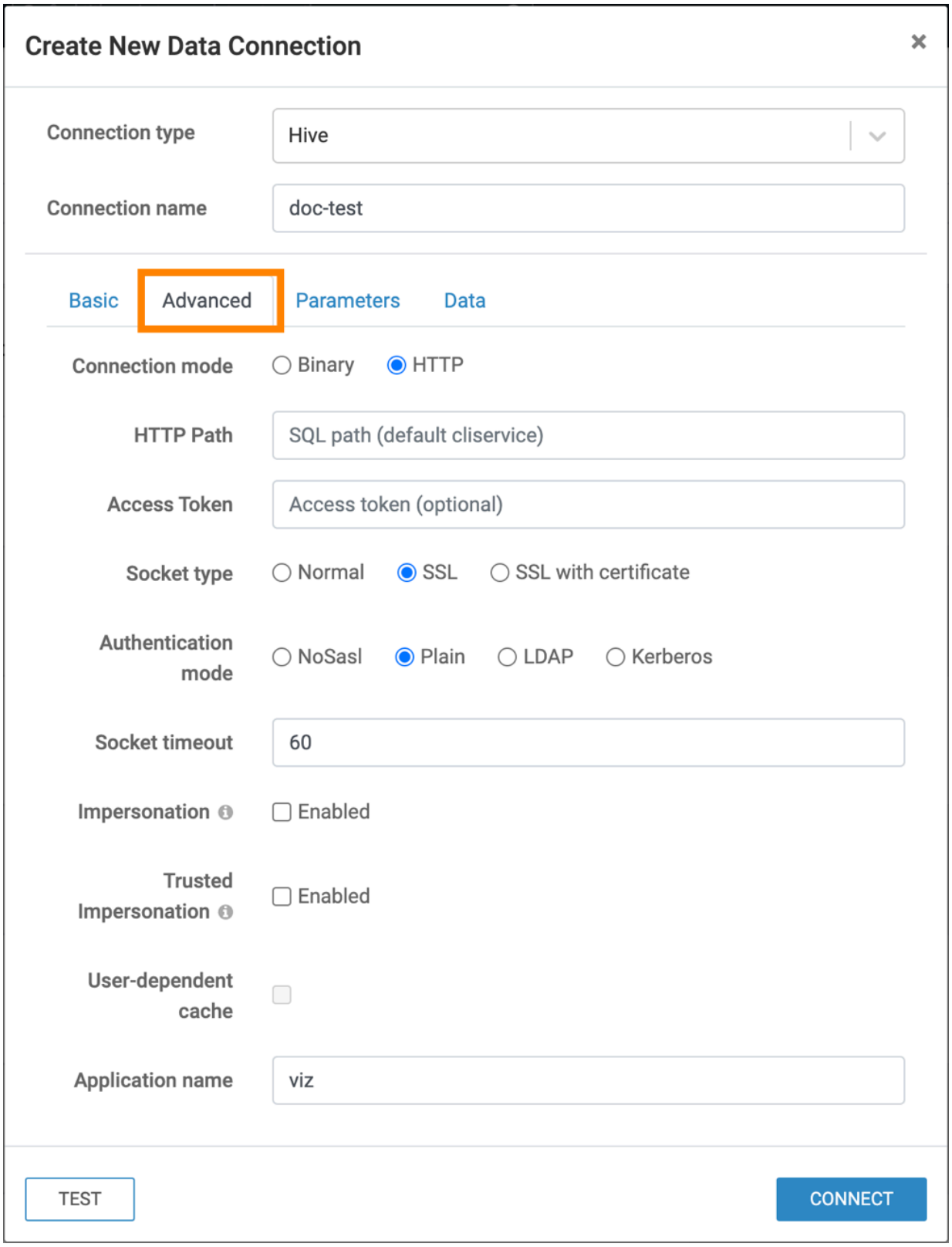
The Create New Data Connection modal window appears.

3. Choose Hive from the Connection type drop-down list and assign a name to your connection.

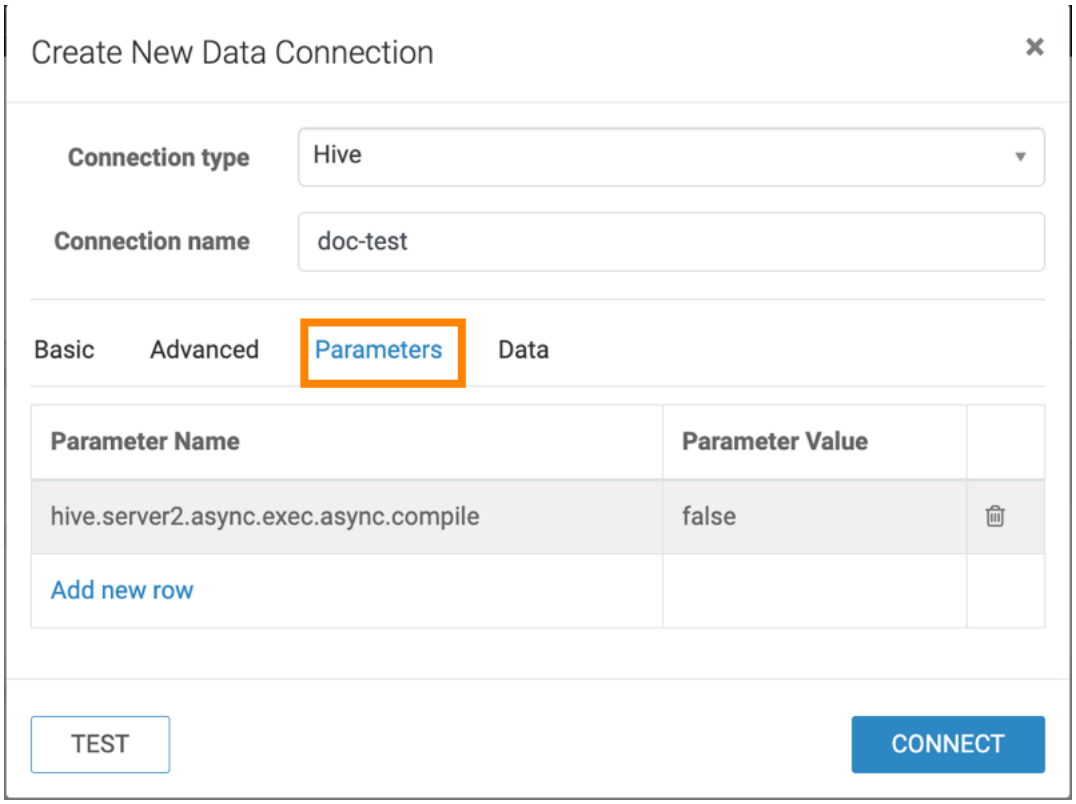


4. Enter the hostname or IP address of the running coordinator.
   You can get the coordinator hostname from the JDBC URL of the Hive DW.
5. Use port 443.
6. Enter your workload username and password as credentials.

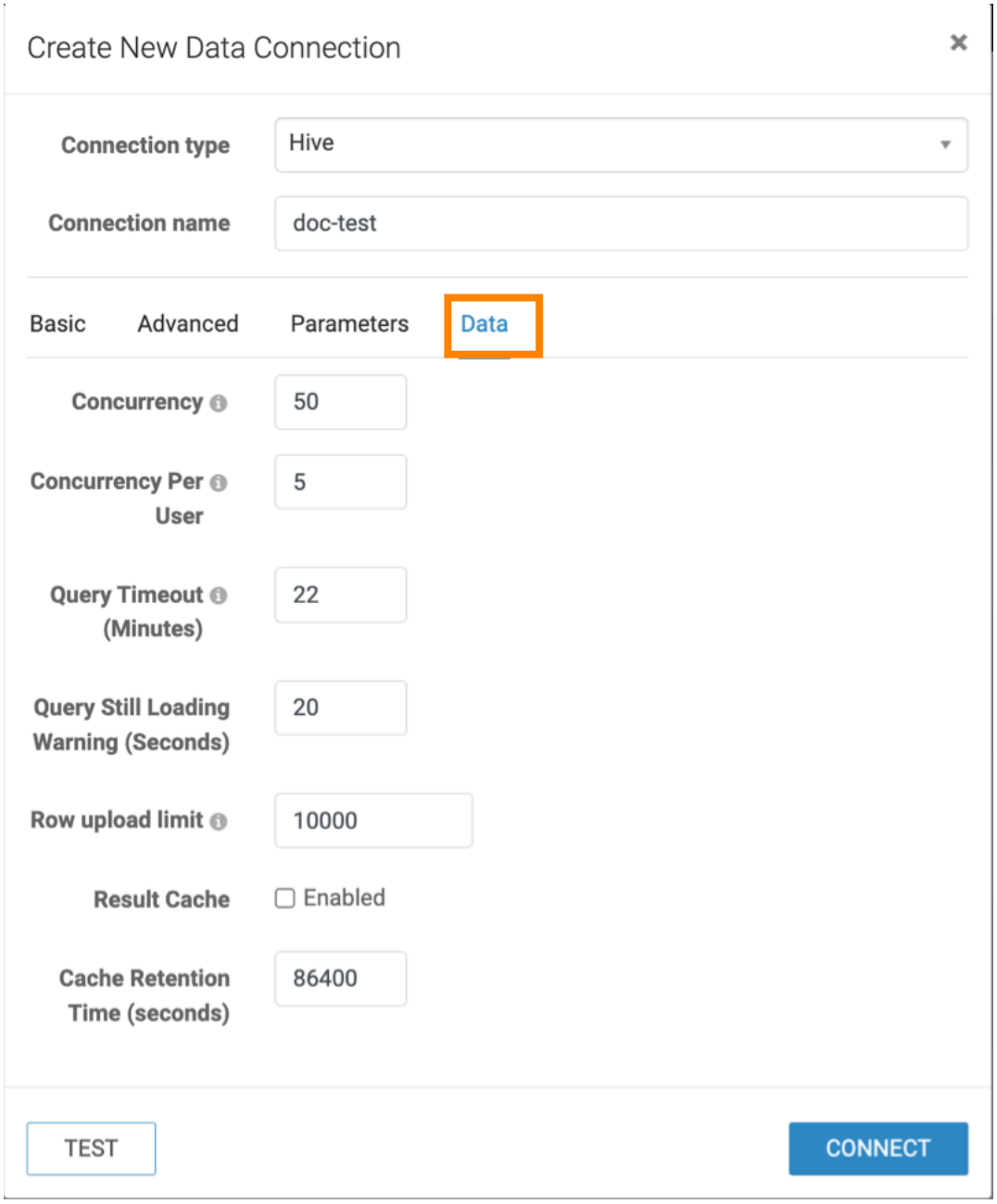
7. Click the Advanced tab to configure the additional details.



8. Click the Parameters tab and set the hive.server2.async.exec.async.compile parameter to false.



9. Check the Data tab for more configuration options.



10. Once you finish configuring the settings, click TEST to test the connection.
11. Click CONNECT to establish the connection.

Results

You have successfully set up a connection to a running Hive DW.

Creating a Cloudera Data Warehouse data connection in Cloudera Data Visualization

Learn how to connect to data when using Cloudera Data Visualization in Cloudera Data Warehouse data service. You can connect Cloudera Data Visualization to a Virtual Warehouse to visualize your data. Similar to using a BI client, you can configure and connect to Virtual Warehouses from different clusters.

About this task

You must connect to your data prior to using the data modeling and visualization functions. You make the connection to the Virtual Warehouse when you select your warehouse in the steps below. The Cloudera Data Warehouse URL has the same compute instance ID as your Virtual Warehouse.

Note:

To create and manage connections in Cloudera Data Visualization, you must have the Manage data connections privilege or hold administrative privileges. In Cloudera Data Warehouse, these are the members of the Admin Groups associated with the Cloudera Data Visualization instance.

When you create a connection, you automatically gain privileges to create and manage datasets associated with this connection, and to build dashboards and visuals within these datasets.

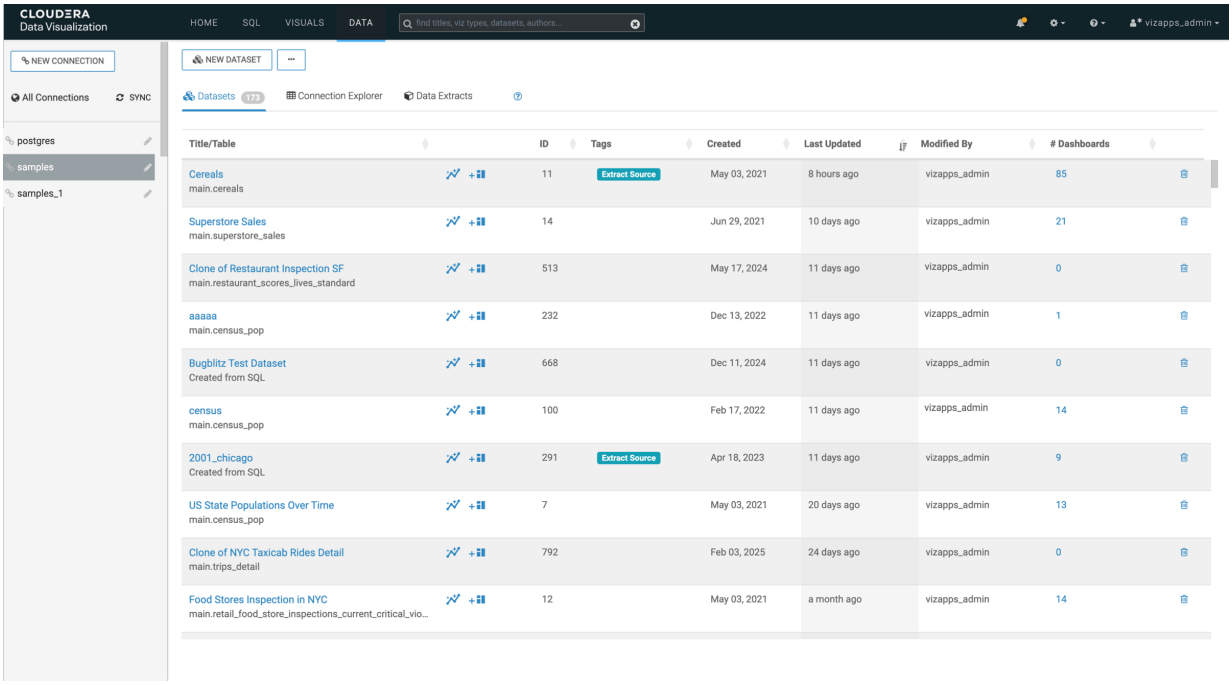
- For more information on the Manage data connections privilege, see RBAC permissions.
- For instructions on how to define privileges for a specific role, see Setting role privileges.
- For instructions on how to assign the administrator role to a user, see Promoting a user to administrator.

When you are creating a Hive or Impala data connection within the same cluster, the connection is considered secure and trusted, and the connection details can be auto-populated with a default authentication user.

Procedure

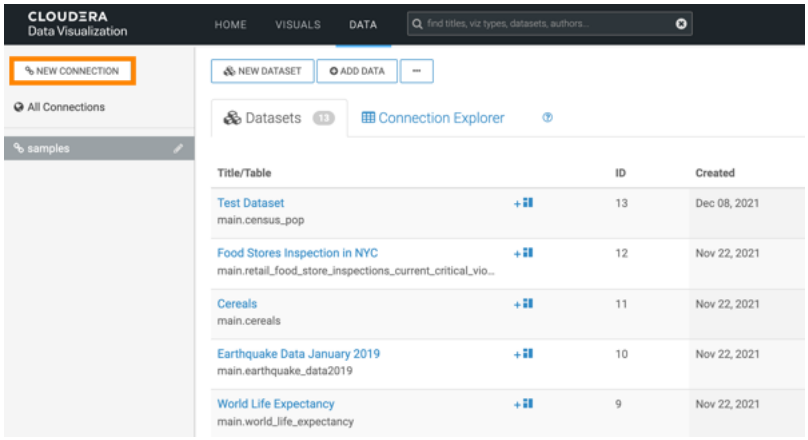
1. Start Cloudera Data Visualization from the left navigation panel in Cloudera Data Warehouse.
2. On the main navigation bar, click DATA.

   The DATA interface appears, open on the Datasets tab.



3. In the side menu bar of DATA, click NEW CONNECTION.

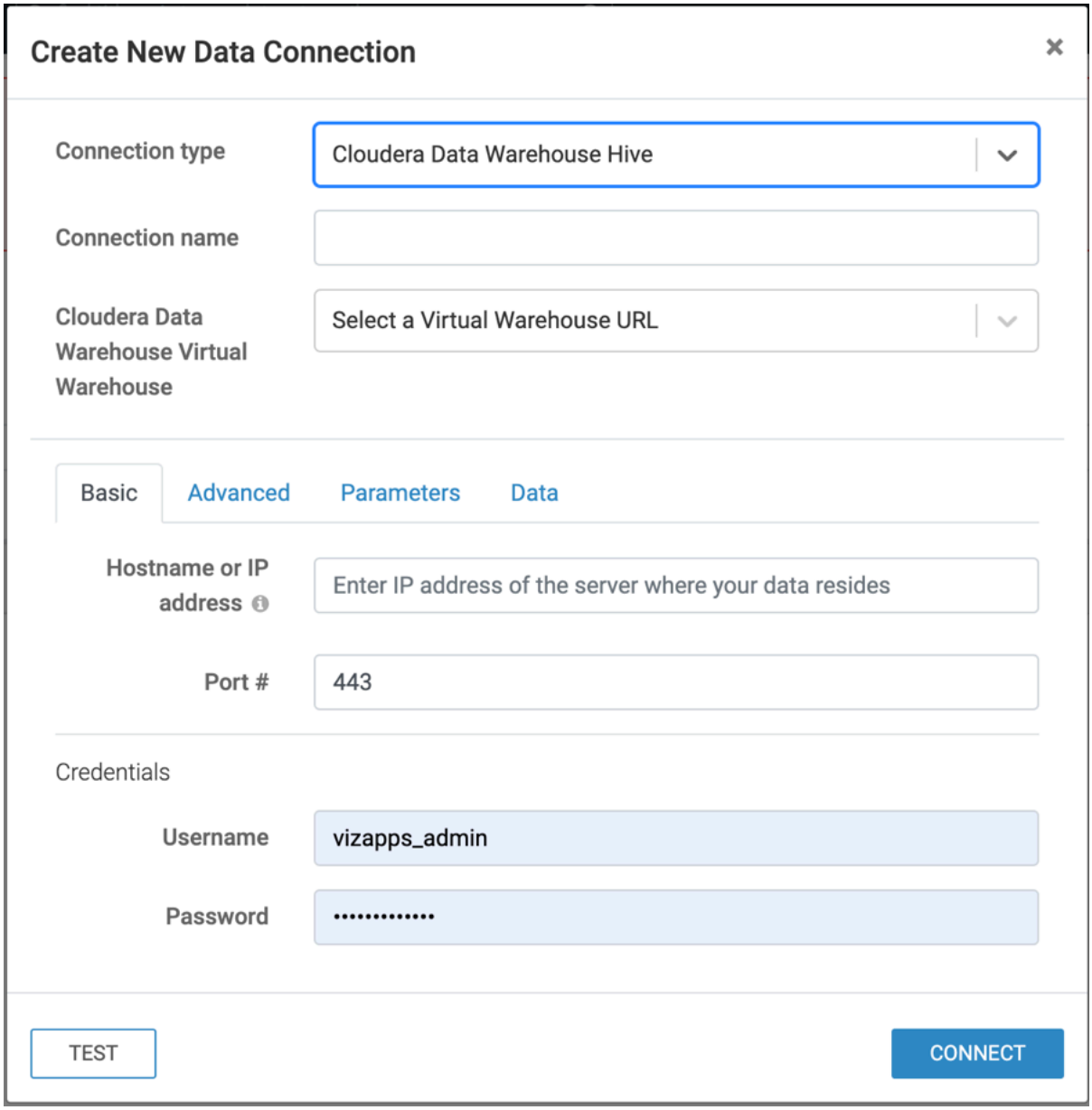
Note: The NEW CONNECTION button is only accessible to users assigned to roles with the Manage data connections privilege and to administrators.



The **Create New Data Connection** modal window appears.

4. In Connection type, select Cloudera Data Warehouse Hive or Cloudera Data Warehouse Impala, and provide a name for your connection.

   Note: SQLite connection is not supported in Cloudera Data Warehouse, and the option is disabled in the connection list.



5. Select a Cloudera Data Warehouse from the list of available warehouses to connect to.

For Data connection within the same cluster

The following fields are auto-populated:

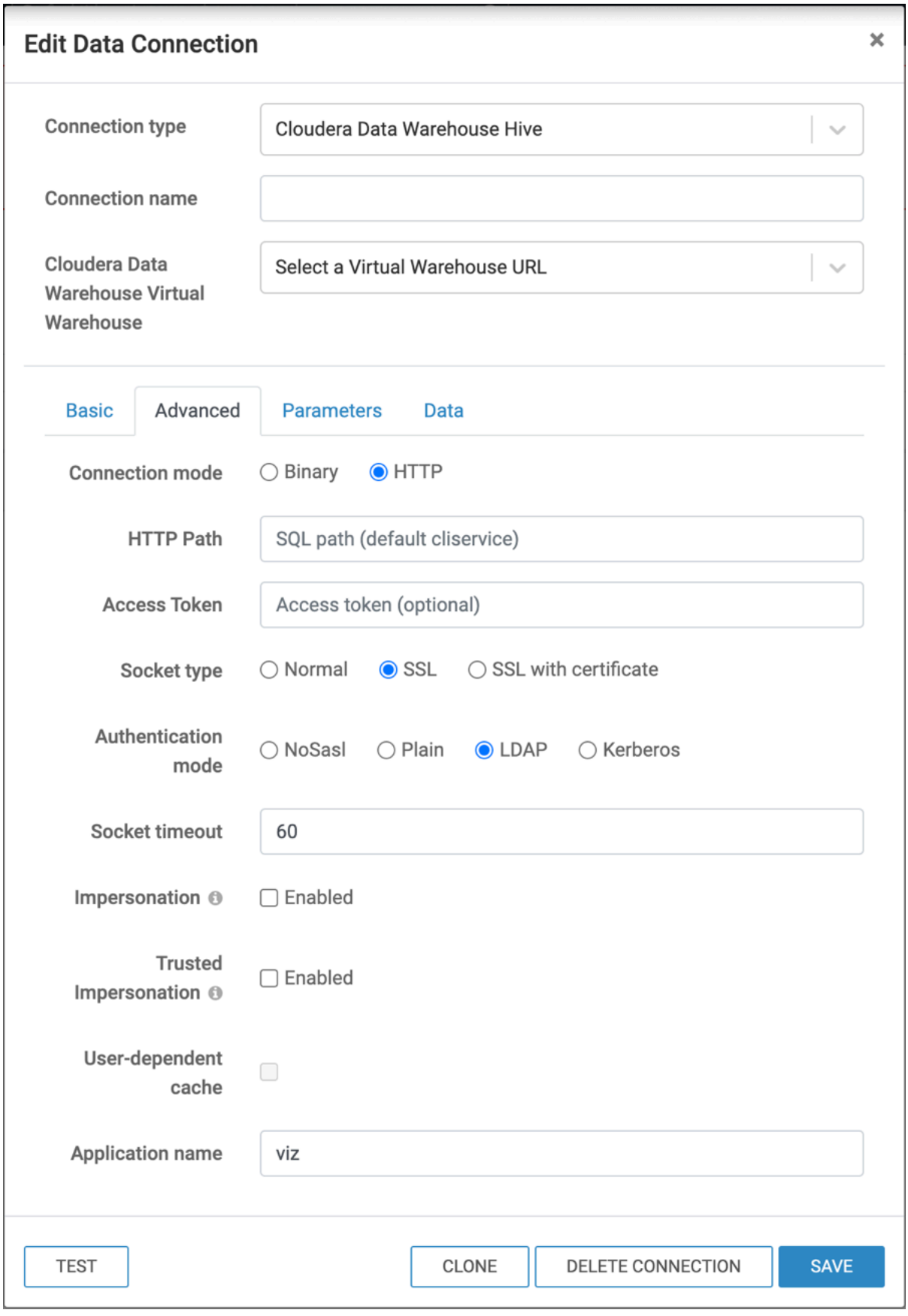
- Hostname or IP address
- Port #
- Username

For Data connection outside the cluster

Enter the following information:

- Hostname or IP address
- Port #
- Username
- Password

6. Click the Advanced tab and configure the additional details.



Important: Depending on the type of connection you are creating, there can be additional tabs in the Create New Data Connection modal window where you have to adjust further settings.

7. Click TEST.

   If the connection is valid, the system returns a Connection Verified message.
8. Click CONNECT.

What to do next

You can create a data set, and then start creating visuals, dashboards, and applications. For more information, see Creating datasets and Creating a visual.

Managing data connections

You can change the properties of existing data connections and you can also delete connections that are not associated with any dataset.

Editing basic data connection details

Data connections allow you to integrate and interact with various data sources in Cloudera Data Visualization. If your data source changes or you need to switch between different connection types (for example from Impala to Hive), you can update an existing connection instead of creating a new one. Updating a connection helps maintain continuity for your datasets and dashboards while reducing configuration effort. Learn how to edit the basic settings of an existing data connection in Cloudera Data Visualization.

About this task

On the Basic tab of the connection settings modal, you can edit fundamental connection details such as the connection type, host, or port. Additional configuration options are available on the other tabs of the modal.

The following example shows how to change an Impala connection to a Hive connection.

Procedure

1. On the main navigation bar, click DATA.

   The Data view appears, open on the Datasets tab.
2. In the side bar, click  to the right of the connection you want to change.

   The Edit Data Connection modal appears.

3. Edit the connnection details according to the connection type change you want to implement.

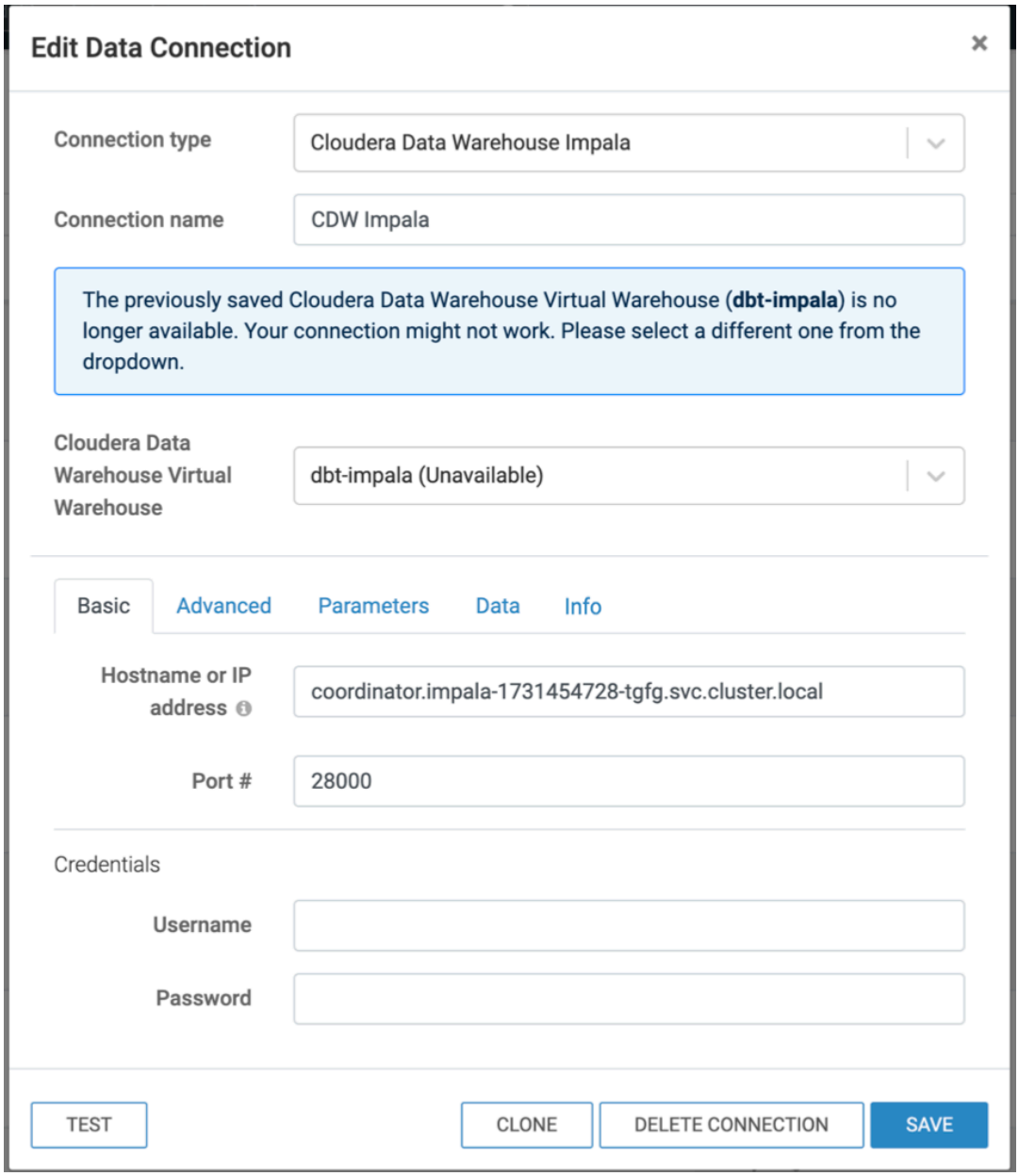
   If you are editing the Virtual Warehouse of an existing Cloudera Data Warehouse Impala or Hive connection, the following scenarios apply:

   Previously saved warehouse is still running:

   The connection remains valid, and the warehouse appears as an available option in the dropdown.

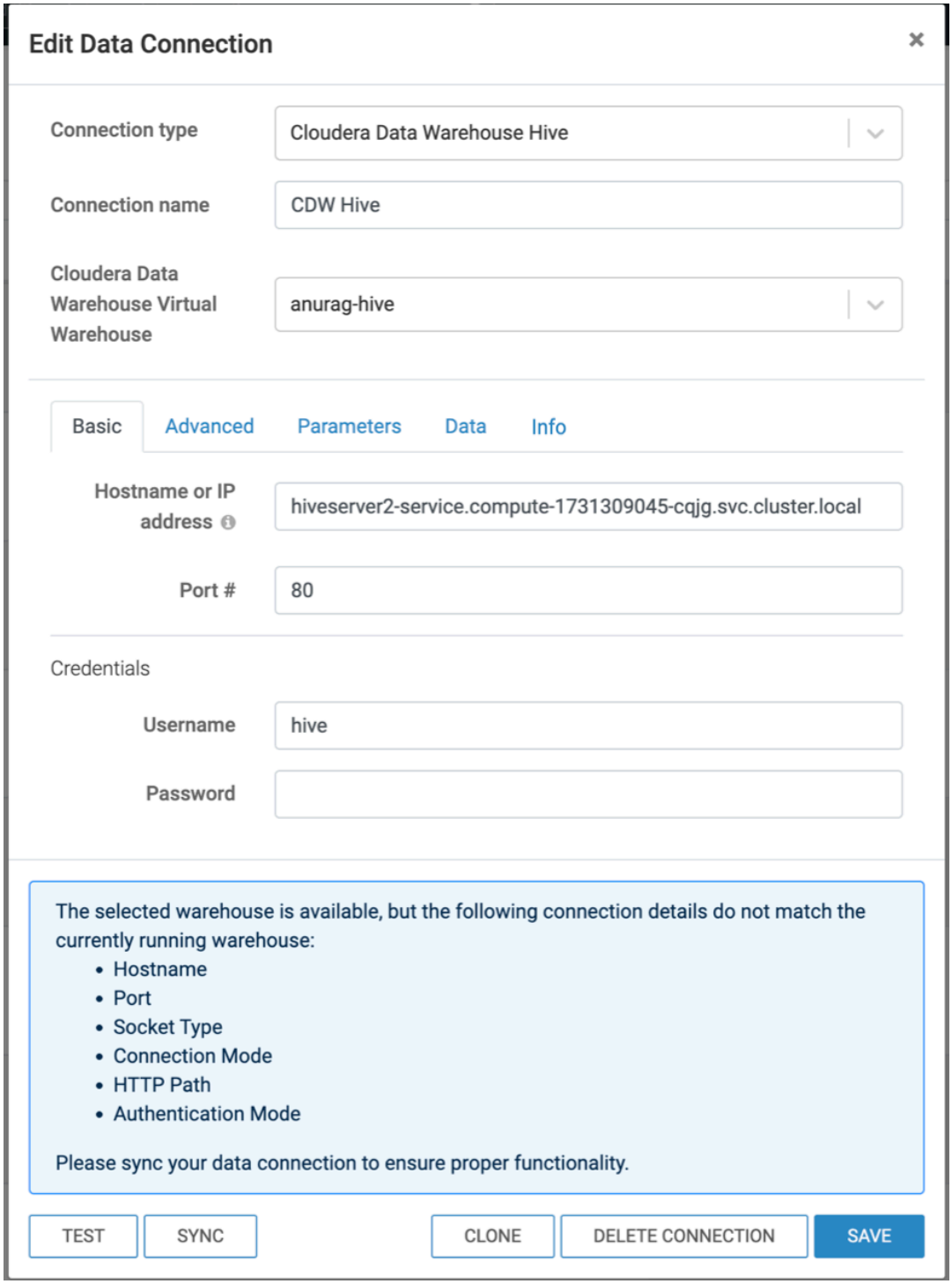
   Previously saved warehouse no longer exists:

   An alert notifies you that the previously saved Virtual Warehouse is no longer available.



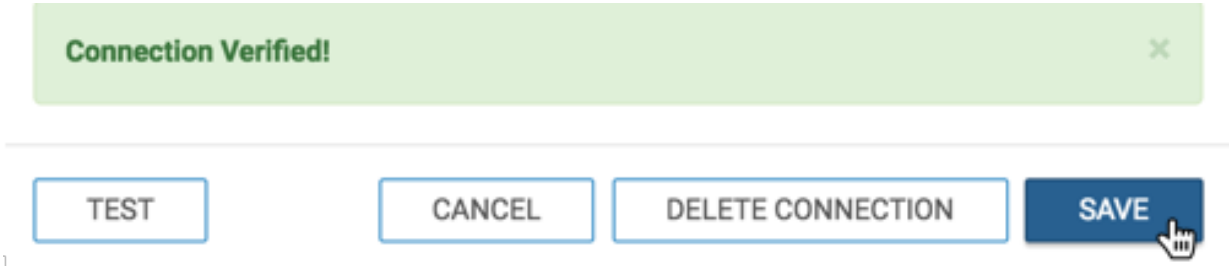
   Previously saved warehouse exists, but details have changed:

   An alert lists the fields that have changed. Click SYNC to update the connection and ensure proper functionality.



4. At the bottom of the modal, click TEST.

5. If the connection is verified, click SAVE.



Reusing data connection settings

You can reuse data connection configurations by copying and pasting them in JSON format. This helps speed up connection setup, reduce manual entry errors, and ensure consistency across environments.

About this task

- If you do not have edit access to the data connection, the configuration details are available in the Data Connection Information modal.
- If you have edit access, the JSON export option is available in the Edit Data Connection modal.

To reuse a configuration, copy the JSON and paste it into the Import from JSON tab when creating a new connection. The system automatically populates all matching fields.

Note: Passwords and secrets are not included in the exported JSON.

You can use this feature to:

- Duplicate a connection for another user or environment
- Share a connection template with other users
- Back up connection settings
- Restore a connection after changes or issues encountered

Copying connection details in JSON format

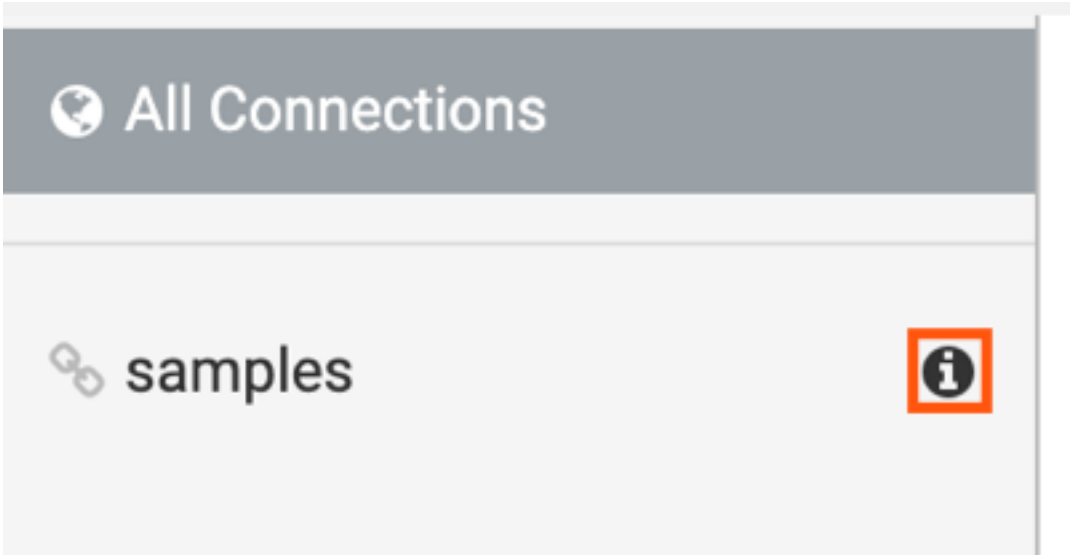
You can reuse data connection configurations by copying and pasting them in JSON format.

Procedure

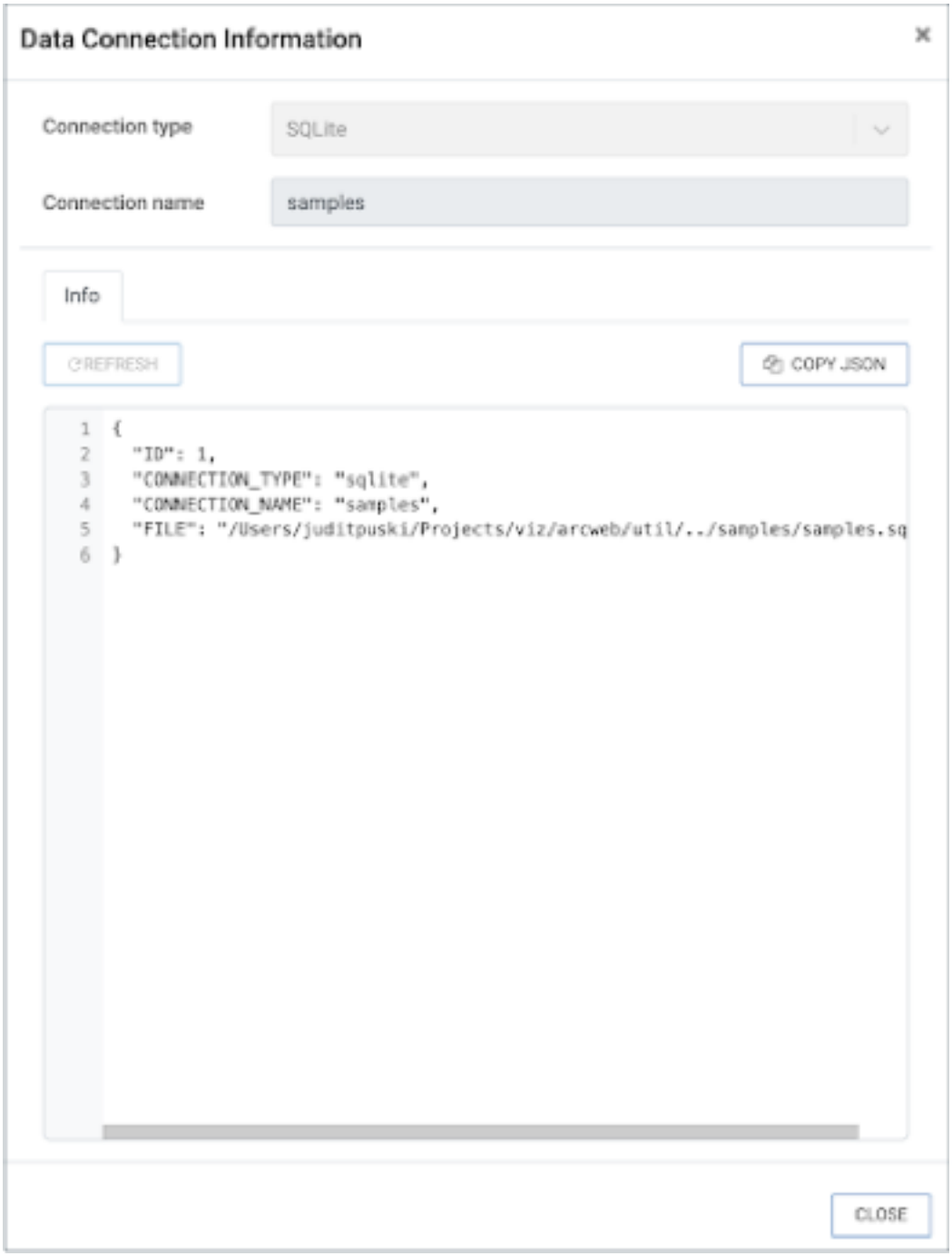
1. On the main navigation bar, click DATA.

   The DATA interface opens, displaying the Datasets tab.

2. Depending on your access level,
   - If you do not have Edit access to the data connection:
     a. In the side menu, click  next to the connection you want to share.



The Data Connection Information modal appears.



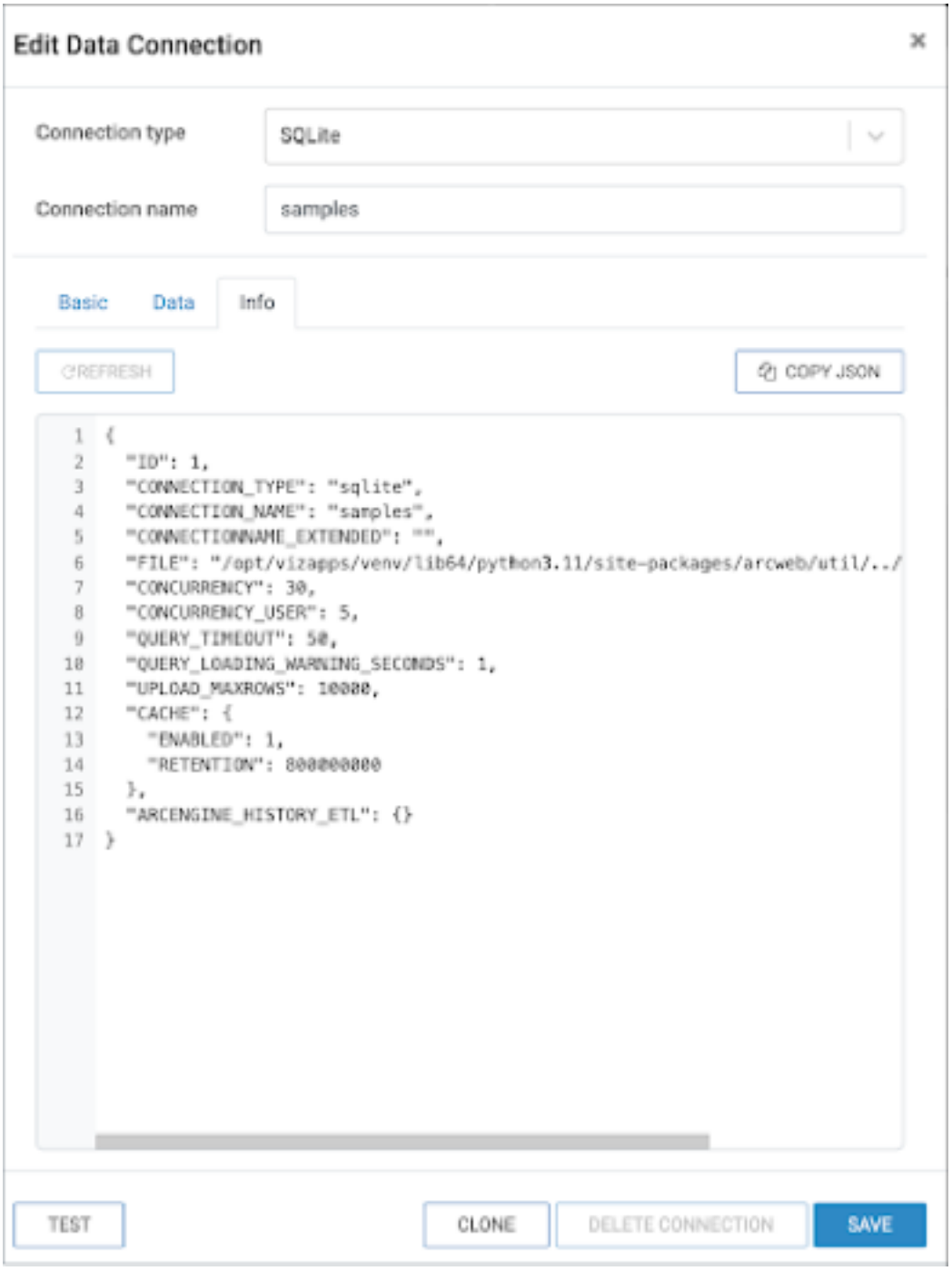
b. Click COPY JSON to copy the connection configuration to your clipboard.

- If you have edit access to the data connection:

a. In the side menu listing all available data connections, click next to the connection you want to share.

The Edit Data Connection modal appears.

b. Switch to the Info tab.



c. Click COPY JSON to copy the connection configuration to your clipboard.

You can use the copied information from your clipboard when creating a new connection, or you can also share the JSON with other users through a secure channel to replicate the connection.

Using connection details shared in JSON format

You can reuse data connection configurations by copying and pasting them in JSON format.

Before you begin

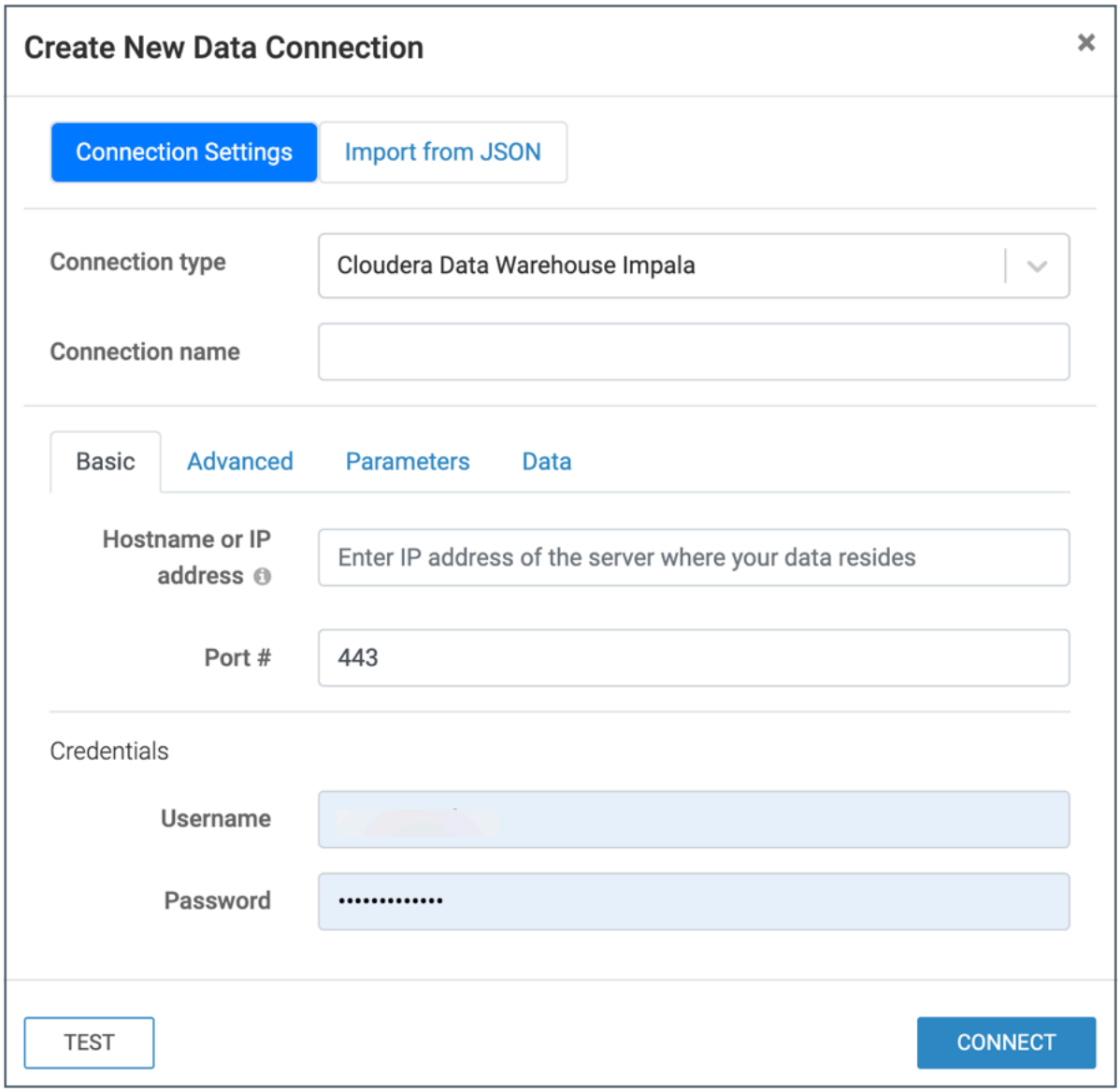
You must have the Manage data connections privilege or be an administrator to create new connections.

Procedure

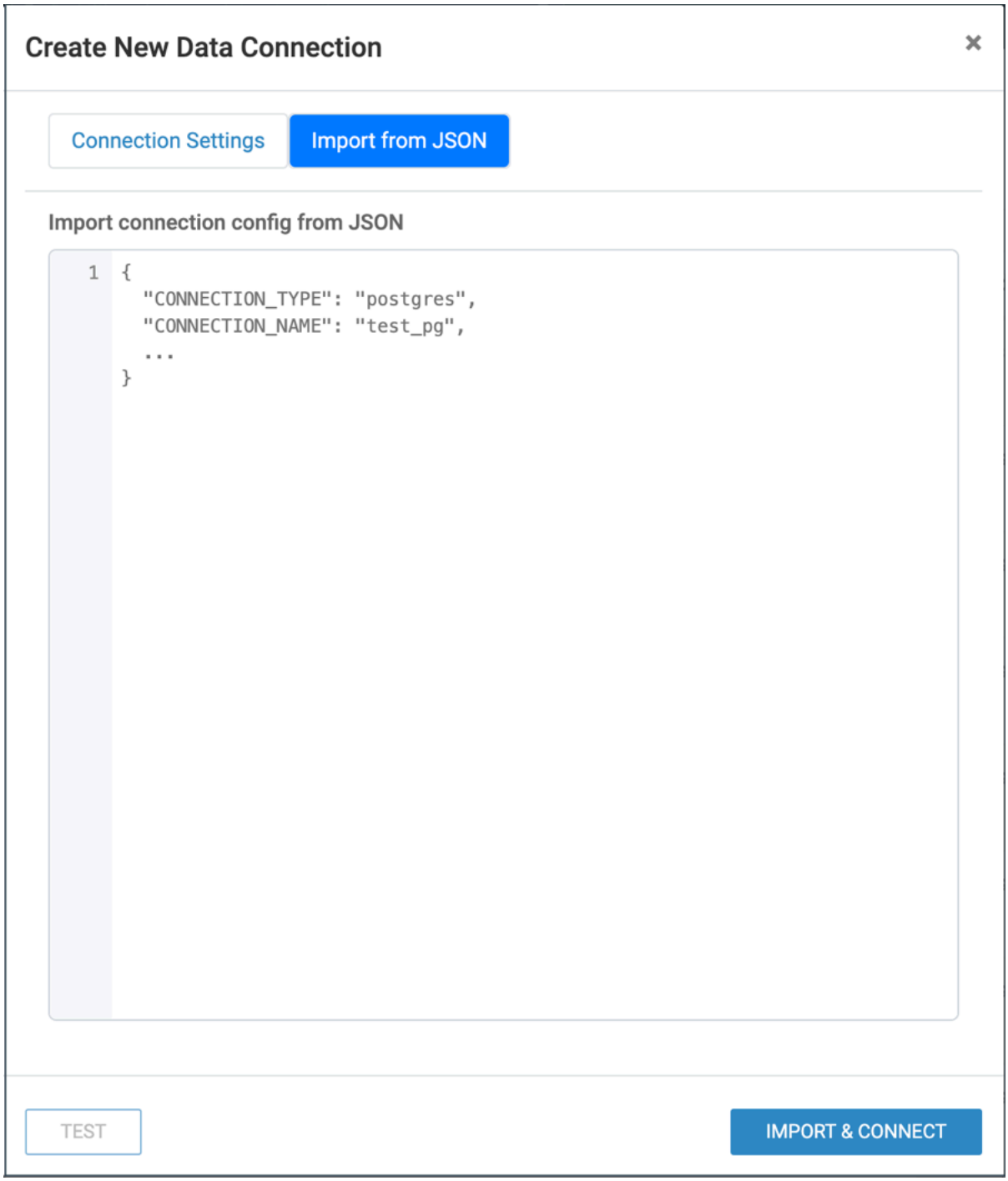
1. In the side menu, click NEW CONNECTION.

   Note: Only users with Manage data connections privilege or administrators can access the NEW CONNECTION button.

   The Create New Data Connection modal appears.



2. Switch to the Import from JSON tab.



3. Paste the connection configuration in JSON format into the text field.

   You can copy the details of an existing data connection from the Data Connection Information modal. For instructions, see *Copying connection details in JSON format*.

4. Click IMPORT & CONNECT to auto-populate the connection details from the JSON file.

   - If any configuration details are invalid, an error message appears, and you can manually correct the configuration.
   - If the configuration is valid, the connection is created and added to the connection list in the left panel. The new connection inherits the name from the copied configuration, with a timestamp appended.

Related Information

Copying connection details in JSON format

Synchronizing data connection

Data connections in Cloudera Data Visualization allow you to integrate and work with various data sources. If a data source changes, for example, after an upgrade, you can update the connection by synchronizing it with the source.

About this task

A connection's settings can become outdated over time when changes occur, such as:

- The underlying data source configuration changes (host, port, credentials, parameters).
- The virtual warehouse is modified, replaced, or moved to a different environment.
- System upgrades alter warehouse settings or parameters.

If connection parameters have changed, you can update the connection by synchronizing it with the source.

When multiple connections require updates, you can use the bulk sync option for Cloudera Data Warehouse connections to simplify the process.

Learn how to synchronize your existing Cloudera Data Warehouse data connections in Cloudera Data Visualization.

Synchronization scenarios

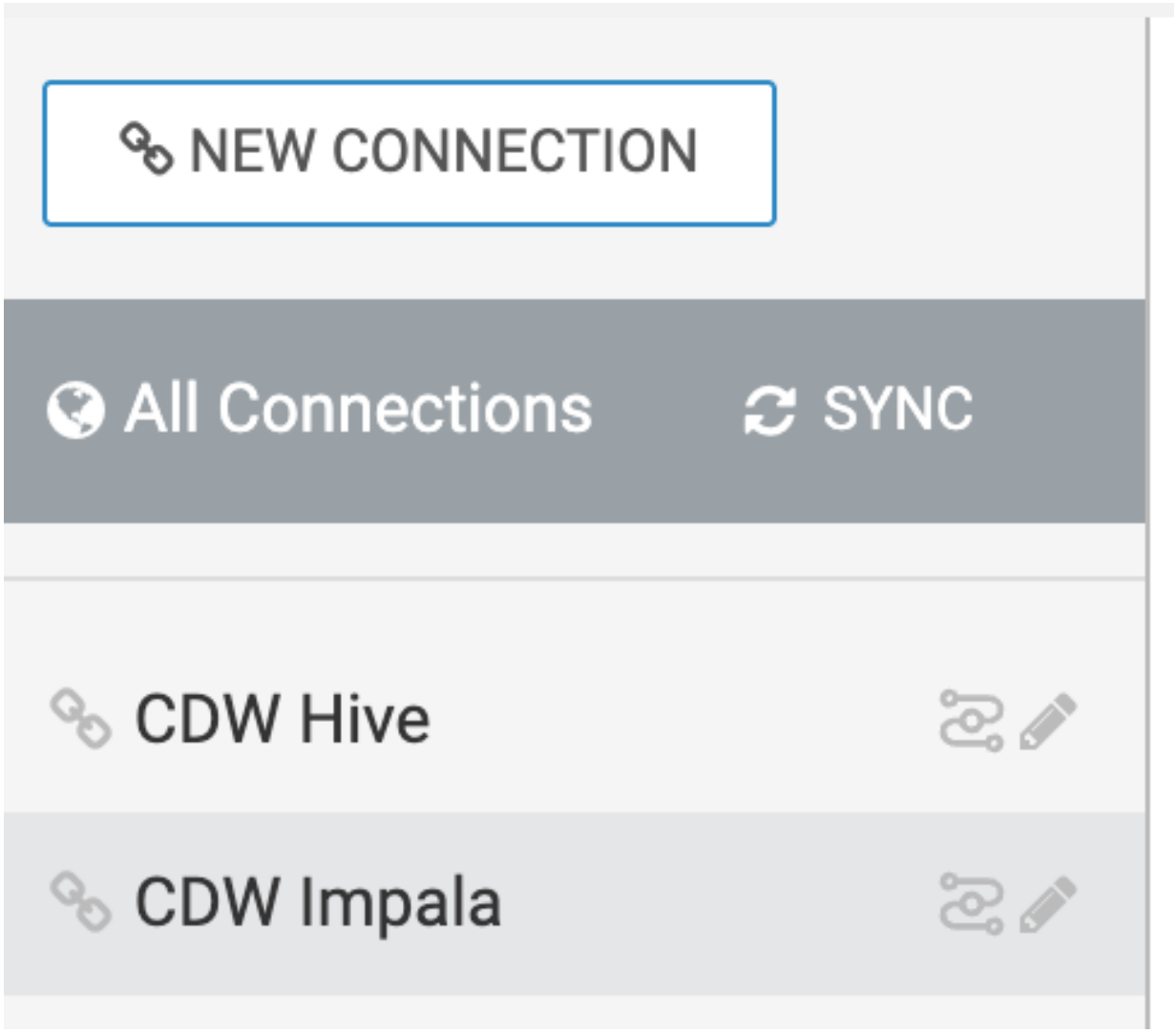
When checking your data connections, one of the following may apply:

- The virtual warehouse is still available, and all previously saved parameters are unchanged.
- The virtual warehouse is still available, but certain parameters have changed.
- The virtual warehouse is no longer available. In this case, bulk sync is not possible. You must manually update the connection by selecting a new virtual warehouse.

You can synchronize your out-of-sync connections using the bulk sync option.

Procedure

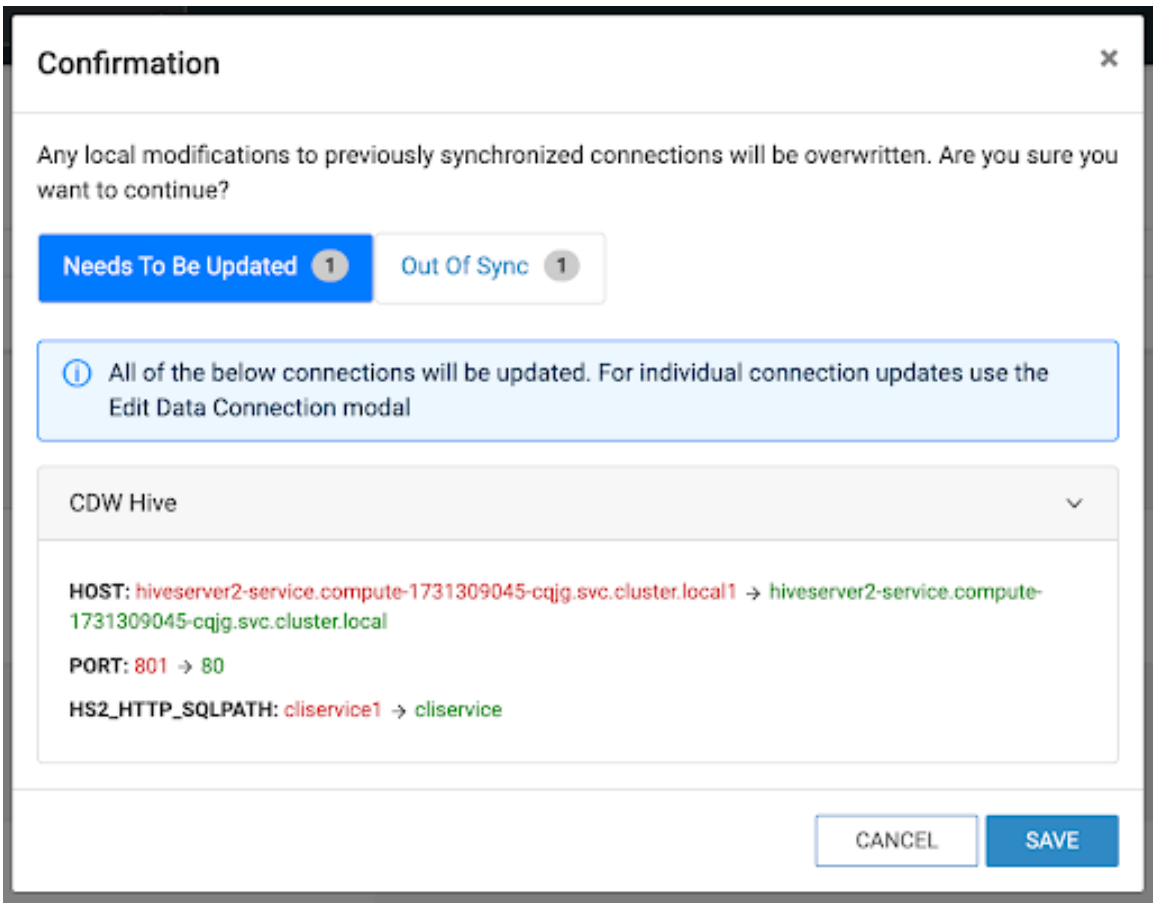
1. In the left navigation panel, click next to All Connections.



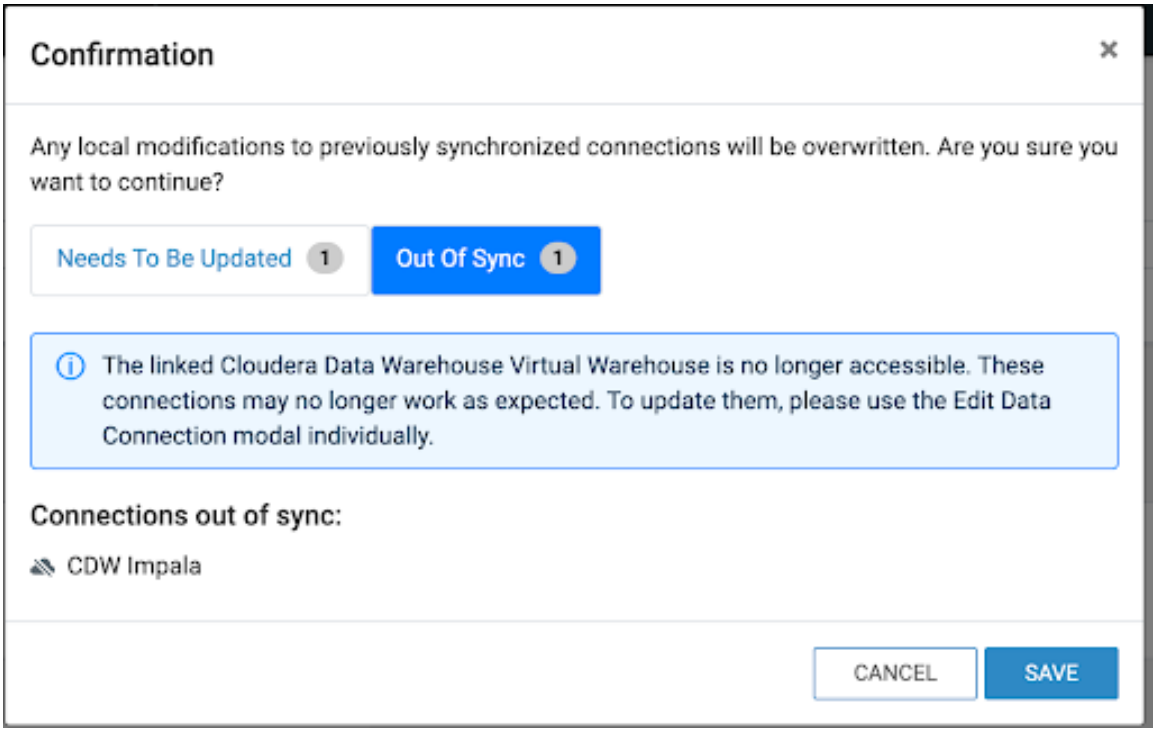
   a. A confirmation modal appears, showing the planned changes:

      1. Needs To Be Updated tab – Lists Cloudera Data Warehouse connections where the previously selected virtual warehouse is still available but some parameters have changed. For each connection, you can see the changed fields, along with their old and new values.

         Review the changes to confirm accuracy.



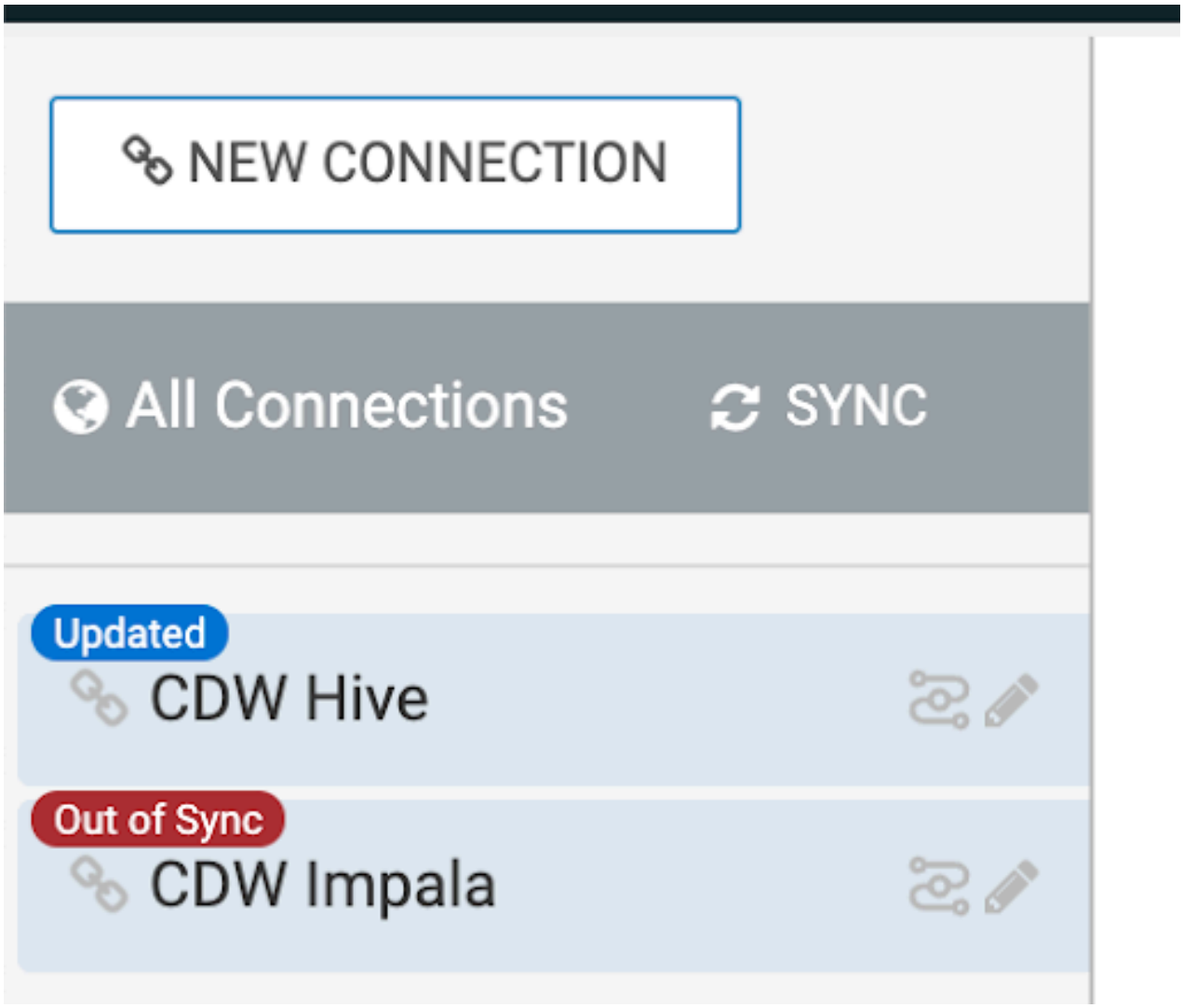
2. Out Of Sync tab – Lists Cloudera Data Warehouse connections where the previously selected virtual warehouse is unavailable. These cannot be bulk-synced and must be updated individually.



2. After reviewing the changes, choose SAVE to apply the updates, or CANCEL to stop the action.

Results

- Connections in the Needs To Be Updated tab are updated with the new parameters and are marked with Updated badges.
- Connections in the Out Of Sync tab remain unchanged and are marked with Out Of Sync badges. Update these manually by selecting a new virtual warehouse.



Setting concurrency for a data connection

You can improve resource management in Cloudera Data Visualization by restricting the number of simultaneous connections on specific datasets.

About this task

Note: This setting is only applicable to Impala, Hive, and SQLite connections.

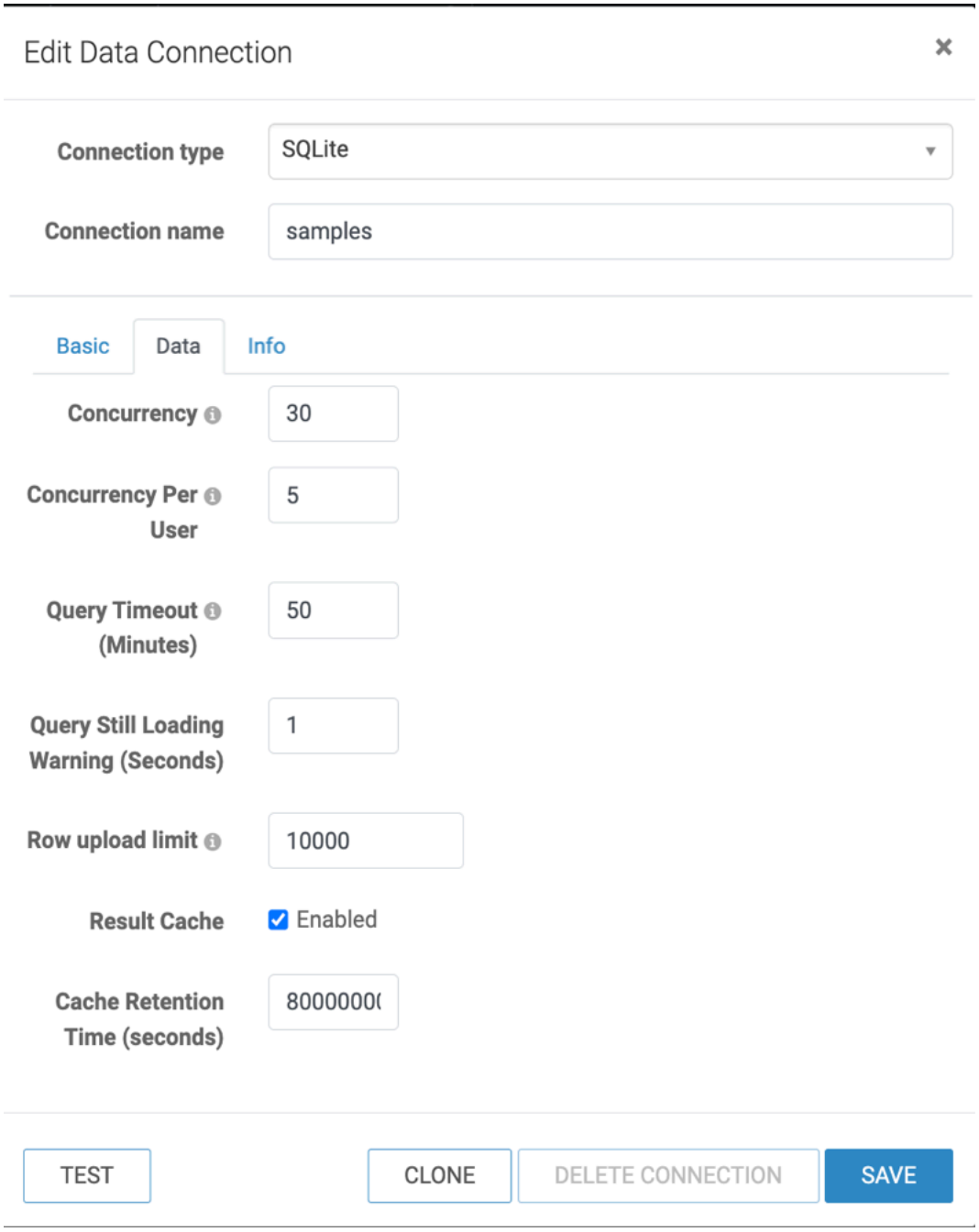
For information on creating or editing data connections, see *Creating a data connection in Cloudera Data Visualization* and *Editing a data connection*.

Procedure

1. On the main navigation bar, click DATA.

   The Data view appears, open on the Datasets tab.
2. In the side bar, click  to the right of the connection you want to change.

   The Edit Data Connection modal appears.
3. Click the Data tab.



4. In the Concurrency field, provide a number to set the maximum limit for simultaneous requests.

   Note: The default maximum concurrency setting per connection is 100. You can change it to a different value in Site Settings Advanced Settings . If you change the default value, ensure that the new maximum concurrency aligns with the requirements of your data connection.

   ```
   DATACONNECTION_CONCURRENCY_DEFAULT = 100
   DATACONNECTION_CONCURRENCY_MAX = 100
   ```

5. In the Concurrency Per User field, provide a number to limit the maximum number of simultaneous requests a user can send.

   Note: You can use this setting to prevent a single user from blocking access for a connection. The default concurrency setting per user is 5, with a default maximum concurrency setting per user at 100. You can adjust these values in Site Settings Advanced Settings .

   ```
   DATACONNECTION_CONCURRENCY_USER_DEFAULT = 5
   DATACONNECTION_CONCURRENCY_USER_MAX = 100
   ```

6. Click SAVE to apply the changes.

Related Information

Creating a data connection in Cloudera Data Visualization
Editing basic data connection details

Setting a warning if the query loads for too long

A data connection admin user can set the time limit for every connection before a warning is shown when data is loaded through a query.

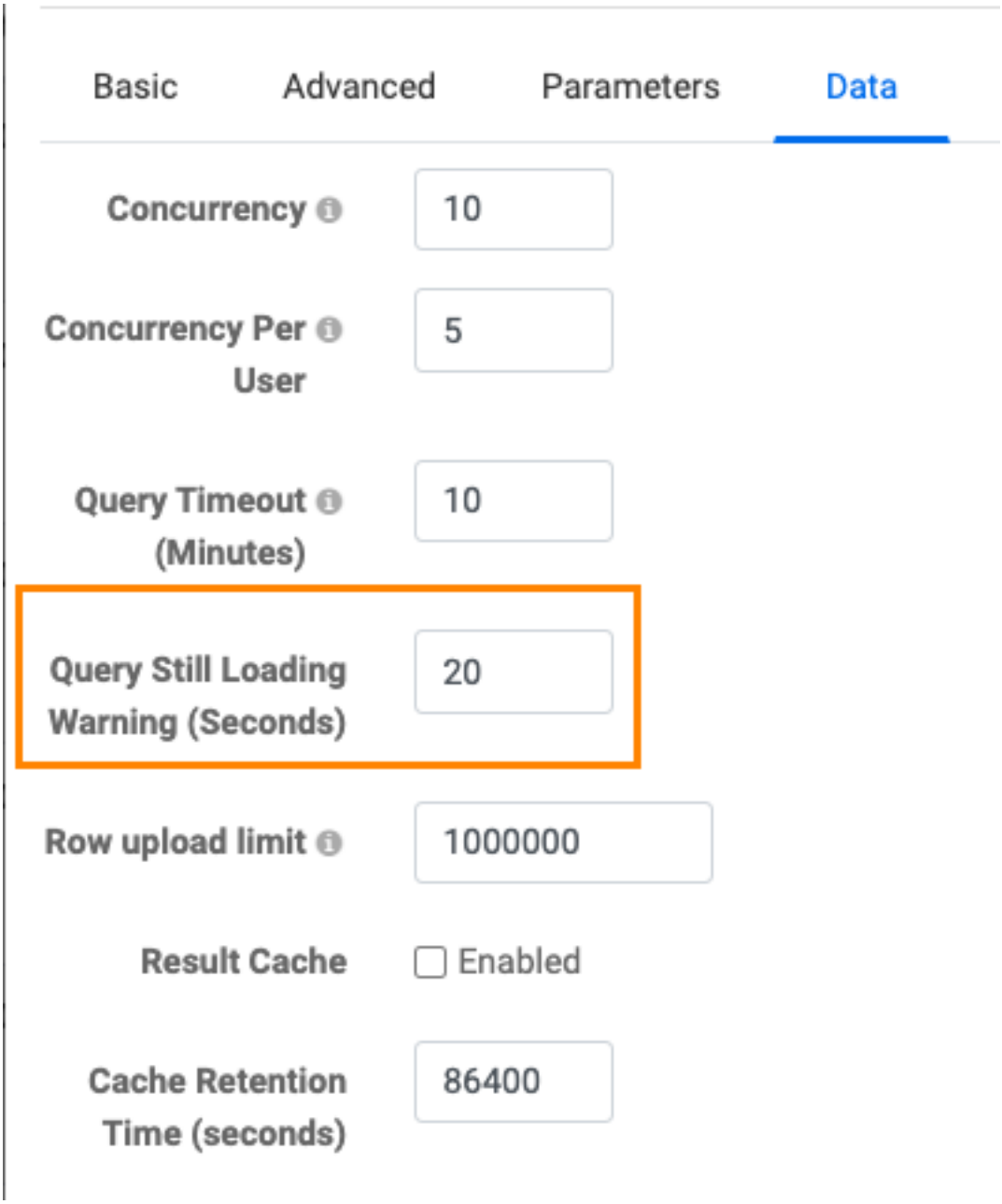
About this task

For information on creating or editing data connections, see *Creating a data connection in Cloudera Data Visualization* and *Editing a data connection*.

Procedure

1. Select the Data tab in the Data Connection modal.

2. Enter the number of seconds you want to pass before the warning appears in Query Still Loading Warning (Seconds).



It is also possible to have this message appear when viewing a dashboard, see *Dashboards*.

Related Information

Creating a data connection in Cloudera Data Visualization
Editing basic data connection details
Dashboards

Enabling impersonation and user dependent-cache for a data connection

User impersonation allows Cloudera Data Visualization to run queries in Cloudera Data Warehouse on behalf of logged in users through a trusted service account. Enabling impersonation and user-dependent cache ensures that

queries respect user-specific permissions, and that cache is handled based on individual users, improving security and performance.

About this task

Procedure

1. On the main navigation bar, click DATA.

   The Data view appears, open on the Datasets tab.

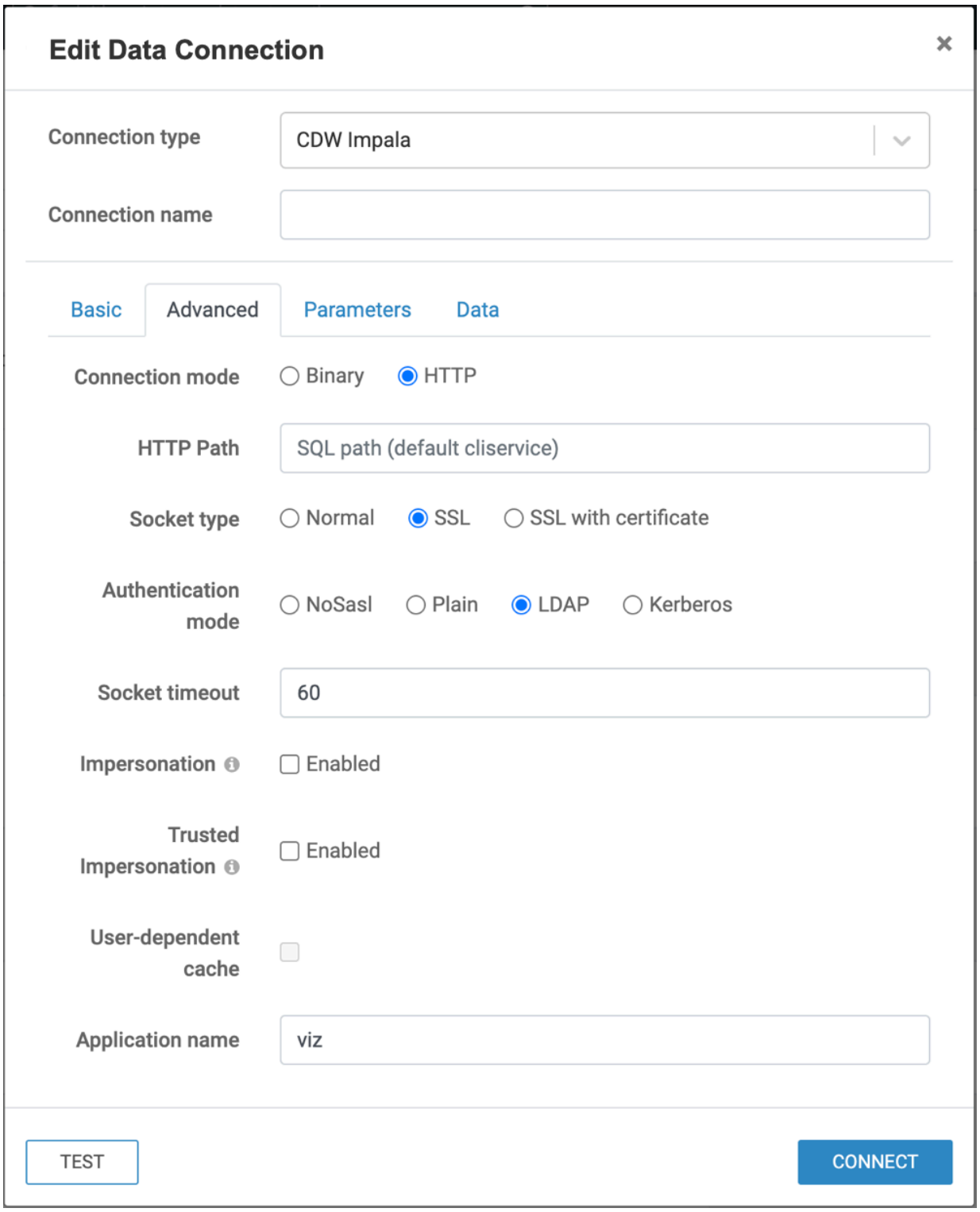
2. In the side bar, click  to the right of the connection you want to change.

   The Edit Data Connection modal appears.

3. Switch to the Advanced tab and configure impersonation.
   - **Impersonation** – Runs queries as the user who is logged in to Cloudera Data Visualization even when the connection is made with a different (trusted) user.
   - **Trusted Impersonation** – Runs queries as the user who is logged into Cloudera Data Visualization, applicable to secure connections.

   Note: Impersonation and Trusted Impersonation cannot be enabled at the same time.



4. Enable user-dependent cache.

   When you enable impersonation or trusted impersonation, the User-dependent cache option becomes available. If you enable it, the user name will be saved to cache. This ensures that if for example a public dashboard created by one user is loaded by another, the second user cannot access the original cache.
5. At the bottom of the modal, click TEST.
6. If the connection is verified, click SAVE.

Results

After the operation succeeds, the name of the new type of connection appears on the side navigation bar.

Deleting a data connection

Learn how you can remove an existing data connection in Cloudera Data Visualization.

About this task

Tip: You can only delete connections that are not associated with any datasets. To learn how to delete datasets, see *Deleting datasets* .

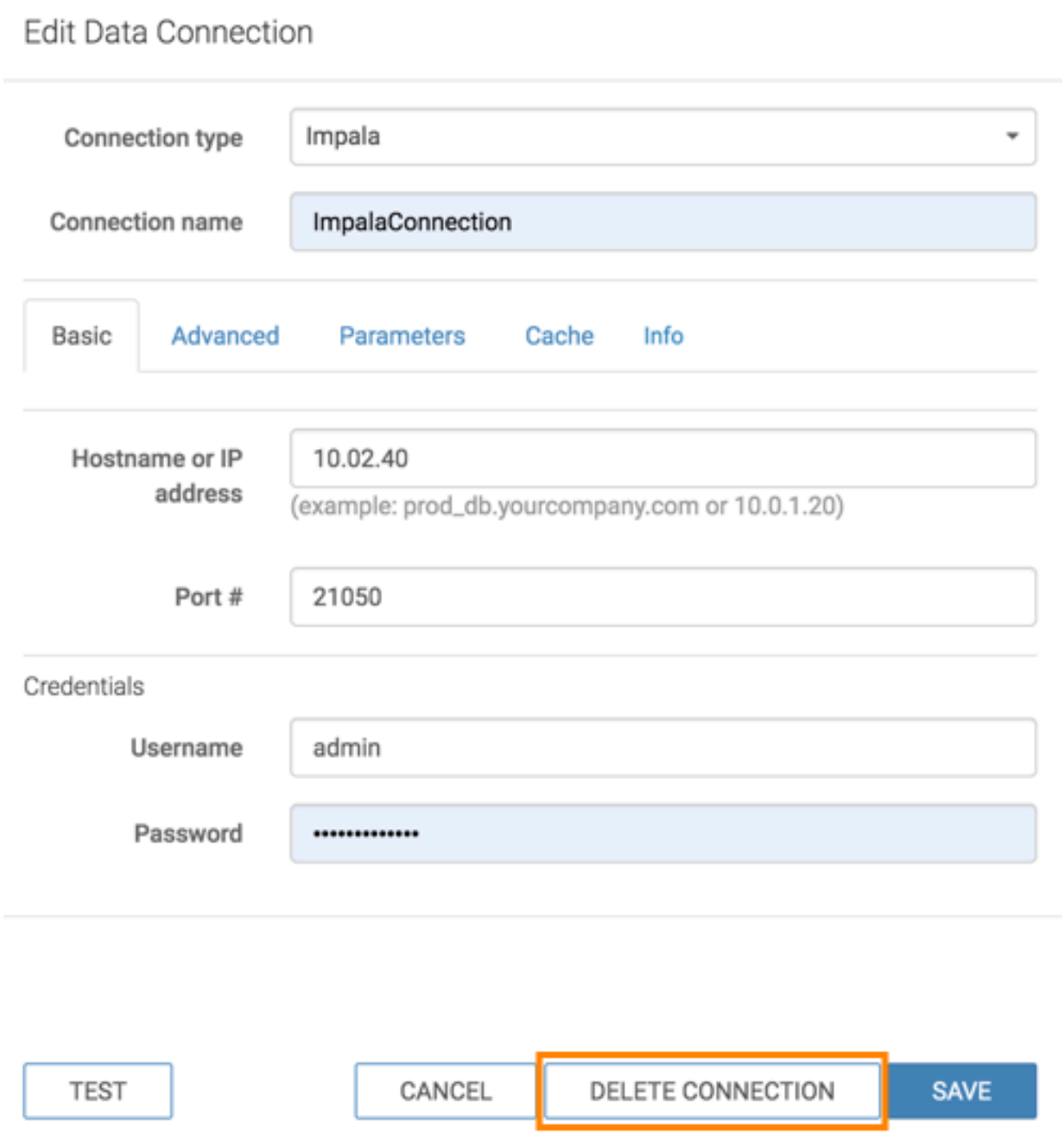
Procedure

1. On the main navigation bar, click DATA.

   The Data view appears, open on the Datasets tab.
2. In the side bar, click  to the right of the connection you want to delete.

   The Edit Data Connection modal appears.

3. At the bottom of the Edit Data Connection modal, click DELETE CONNECTION.



Results

After the operation succeeds, the connection is deleted and its name no longer appears on the side navigation bar.

Related Information

Deleting datasets

Using the Connection Explorer

Cloudera Data Visualization enables you to view existing data connections and all data tables accessible through them. In the Connection Explorer interface, you can create new connections to data sources, preview that data, create

new datasets, navigate to these datasets, import supplemental data, and locate existing dashboards and visuals based on specific datasets.

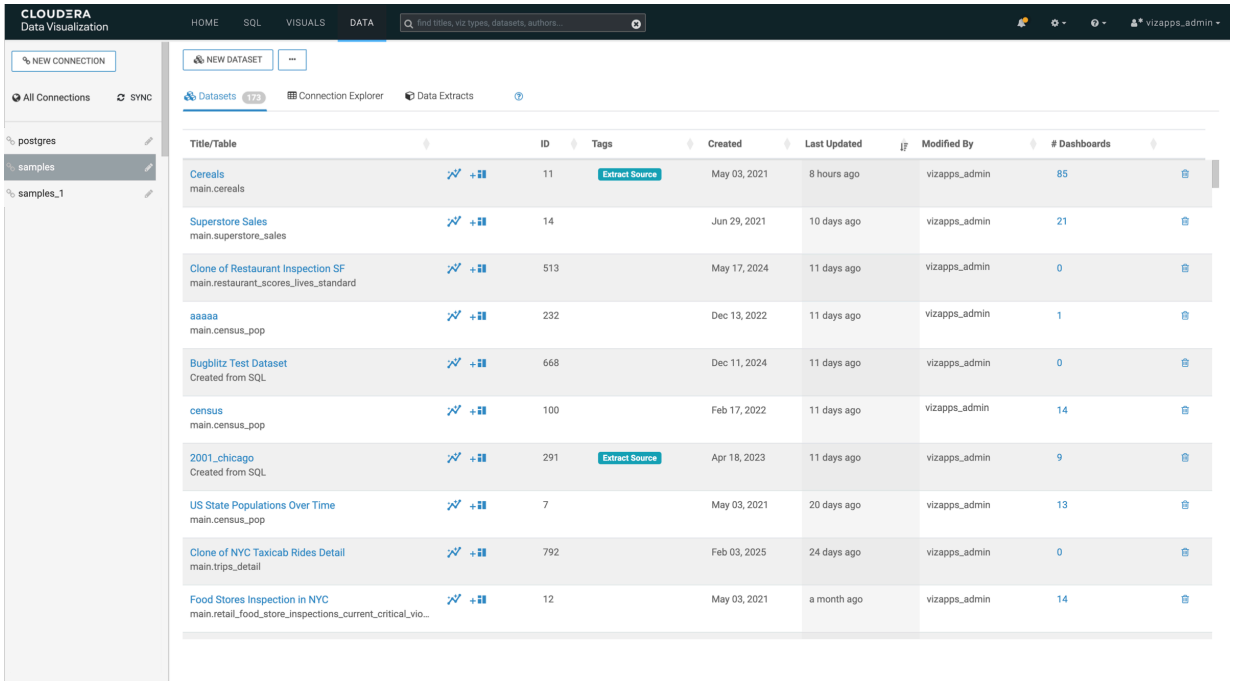
Discovering the Connection Explorer interface

Learn how you can navigate to the Connection Explorer interface and use it to connect to data in Cloudera Data Visualization.

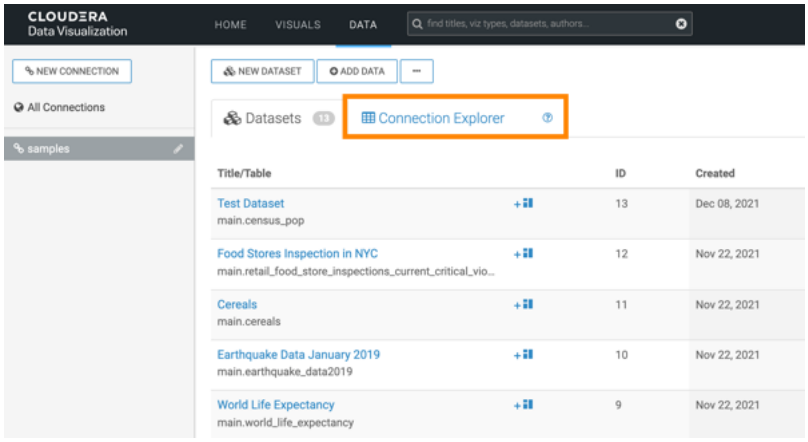
Procedure

1. On the main navigation bar, click DATA.

   The Data view appears, open on the Datasets tab. The Datasets tab lists all existing datasets on the connection.

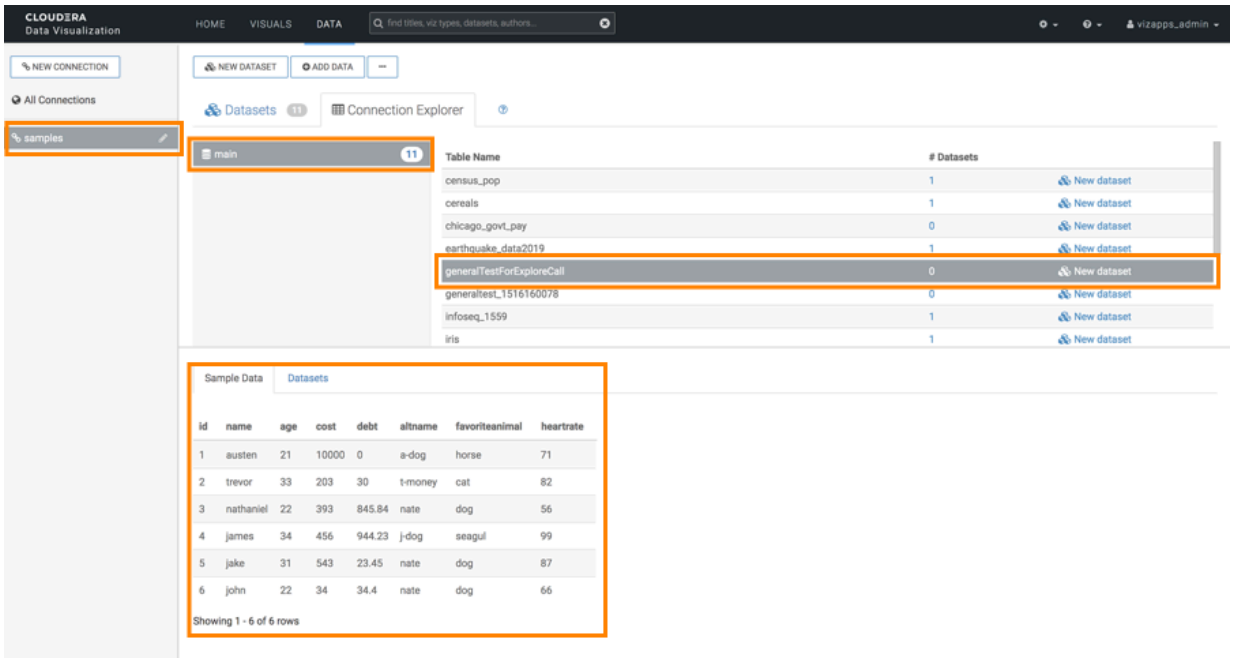


2. In the main area, click the Connection Explorer tab.

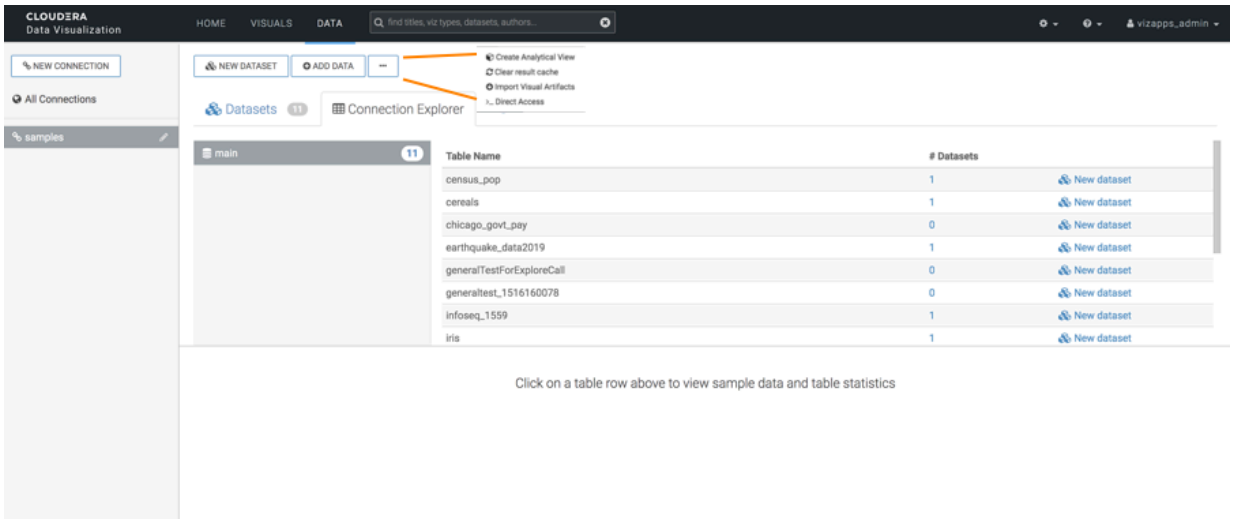


   The Connection Explorer interface appears, where you can explore the databases and tables available on the connection and you can also manage all functions related to the data on the connection. You can click a

connection in left navigation that you want to explore and select a database. You can also select a specific table from that database, and explore its details.



The Connection Explorer interface contains the following items:



- New Connection is for connecting to any source of data.
- New Dataset is for creating datasets, which are necessary for developing dashboards and visuals. You can also start a new dataset from a specified table.
- For SQLite connections, the Add Data option enables you to introduce data that enriches your datasets from outside sources.
- The Supplemental menu, under the (ellipsis) icon, opens new options.

  a. For Impala connections, clicking the Clear result cache option under the supplemental menu reloads the full table definition.

  b. Import Visual Artifacts option under the supplemental menu enables you to restore or import visual artifacts from a backup JSON file.

  c. Direct Access enables you to access data directly by running SQL queries. You can build datasets from specific SQL queries, as opposed to starting with an existing table.

- The databases area of the screen shows all databases that you can access through the current connection. In our example, there is one called main (selected). Selecting a database shows its tables.
- In the list of tables, the # Datasets column lists the number of datasets that use the particular table as their initial definition.
- New Dataset is for creating a dataset on a specific table.

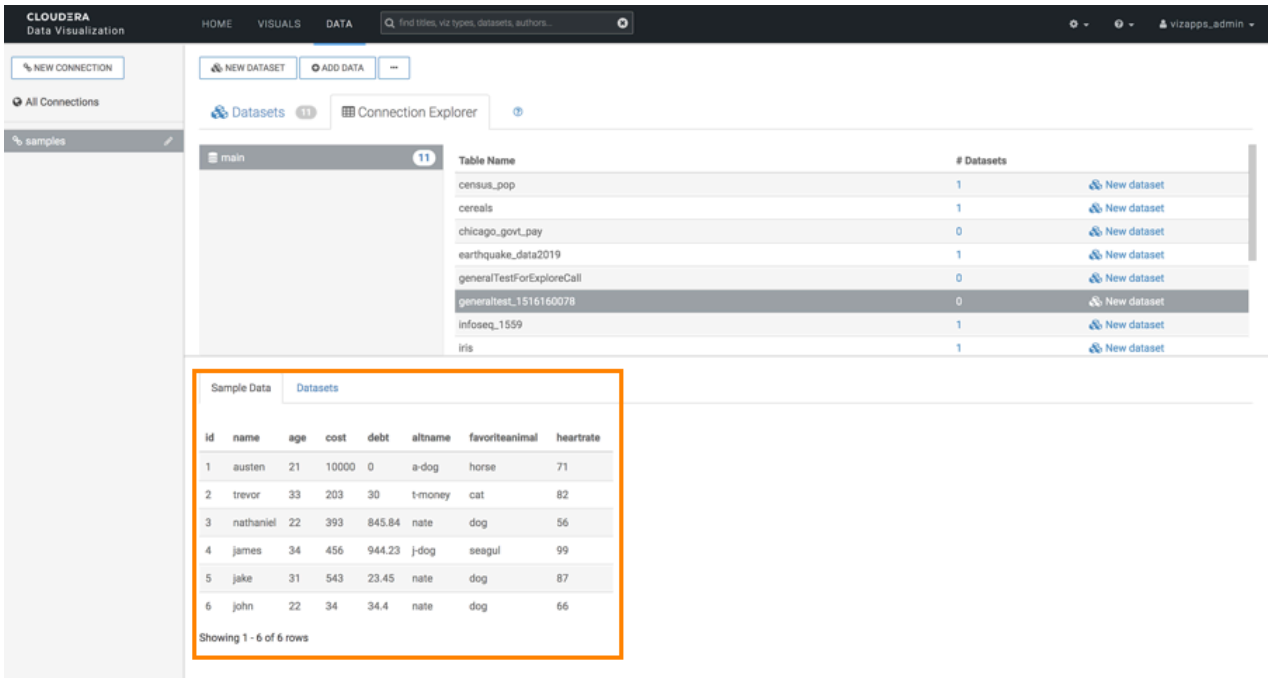
Previewing data table details

Learn how you can preview table details directly in the Connection Explorer interface.

To see more information about data tables in the Connection Explorer, click the row of a table. When you click a row, two tabs, Sample Data and Datasets appear below the list of tables.

Sample data

When you click a table, you can preview the table data in the Sample Data view.



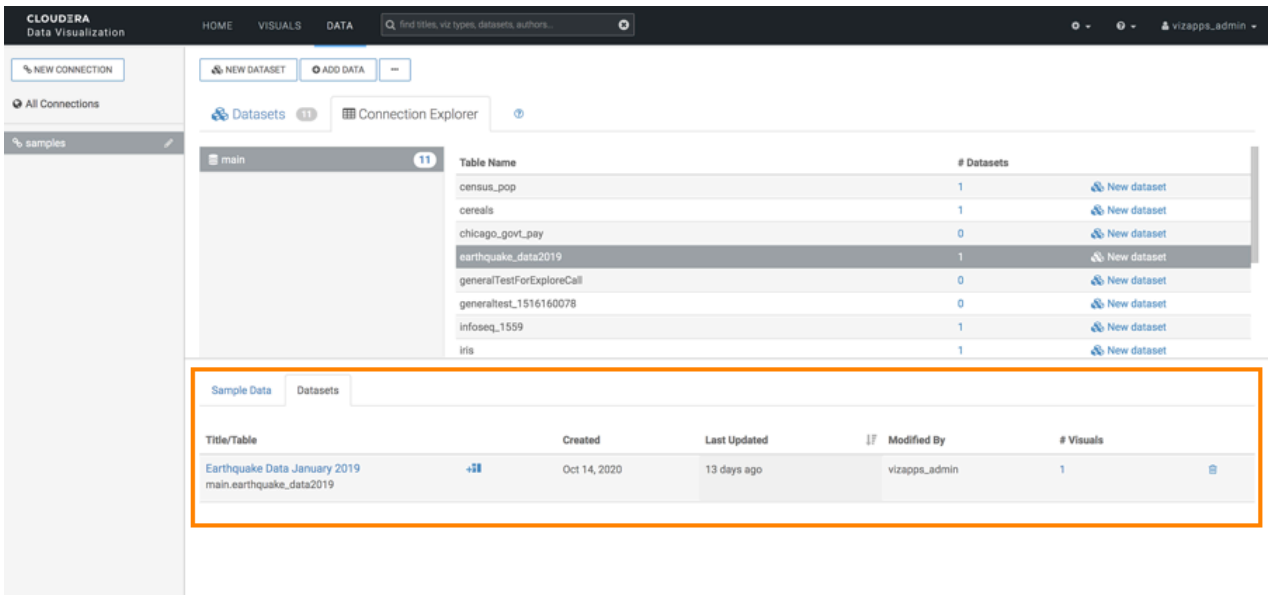
Datasets

When you click a table, you can check the following data in the Datasets view:

- Title/Table
- Created date
- Last Updated date
- Modified by username
- # Visuals for a link to the dashboards and visuals based on the dataset.

You can also perform the following actions:

- Navigate directly to the dataset interface, where you can rename the dataset, modify fields and other parameters, create joins, and so on.
- Start a new dashboard based on the dataset.
- Order datasets based on any of the table columns.
- Delete datasets.



Using the Direct Access interface

The Direct Access interface of Cloudera Data Visualization enables you to run SQL queries on data connections directly on the DATA page. You can quickly examine the structure of tables that are available on the connection, build a query using standard SQL syntax, preview its results, and then create a dataset on the query. You can also download the data, if needed.

Running a SQL query in Direct Access

Learn how you can run a SQL query in the Direct Access interface of Cloudera Data Visualization.

Procedure

1. On the main navigation bar, click SQL.

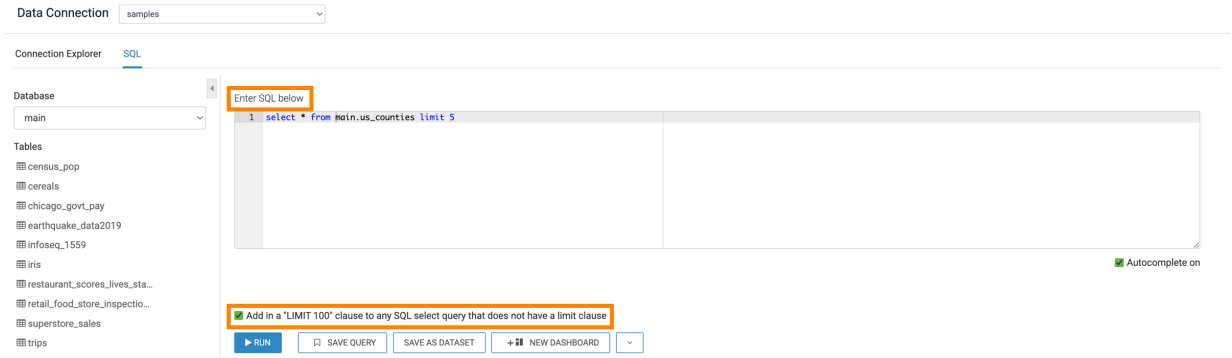
   Alternatively, you can click DATA ••• >_ Direct Access .
2. Select the database in the left-side panel.

3. Add your SQL data query to the Enter SQL below code-enabled text box.

   The Autocomplete option is on by default. It validates the syntax of the SQL query you enter.

   If you want to limit the number of, you have two options:

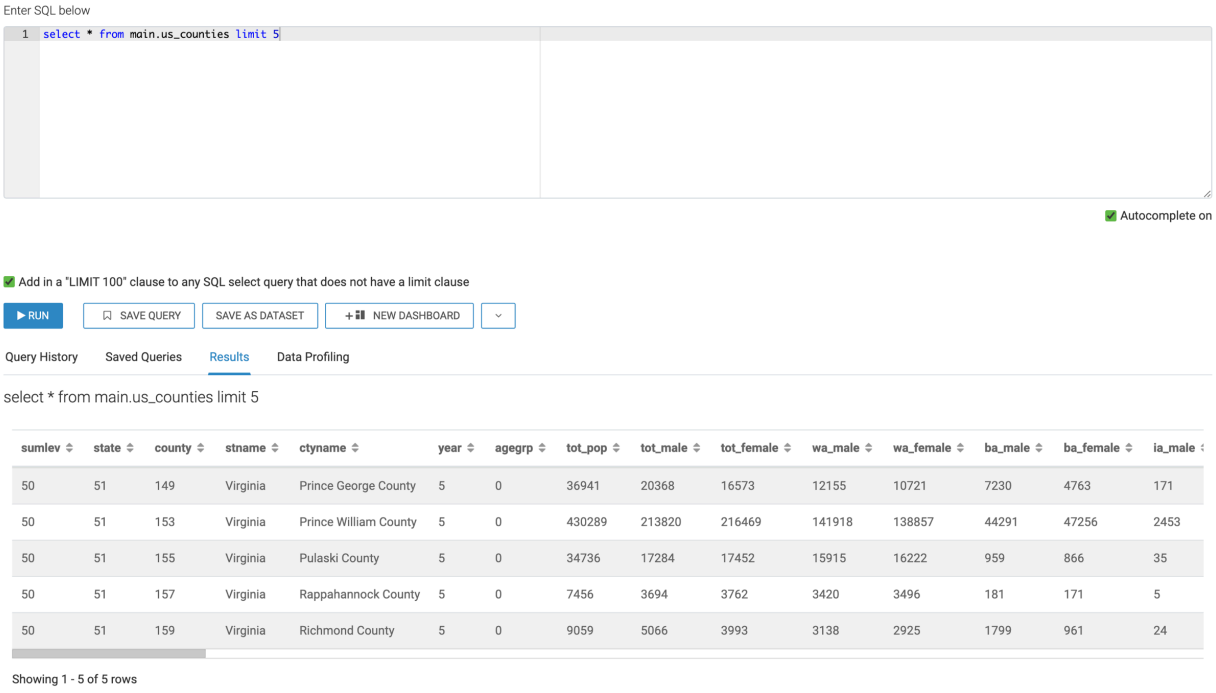
   a. You can add a limit clause in the SQL query syntax.
   b. You can mark the Add in a "LIMIT 100" clause to any SQL select query that does not have a limit clause option. This limitation is on by default. If you set a record limit in the SQL query, it will override this default option, even if it is checked.



4. Click RUN to initiate the SQL query.

   After the query runs, the results tabe shows the query results.

   In this example, the following query has been run: select * from main.us_counties limit 5



sumlev	state	county	stname	ctyname	year	agegrp	tot_pop	tot_male	tot_female	wa_male	wa_female	ba_male	ba_female	ia_male
50	51	149	Virginia	Prince George County	5	0	36941	20368	16573	12155	10721	7230	4763	171
50	51	153	Virginia	Prince William County	5	0	430289	213820	216469	141918	138857	44291	47256	2453
50	51	155	Virginia	Pulaski County	5	0	34736	17284	17452	15915	16222	959	866	35
50	51	157	Virginia	Rappahannock County	5	0	7456	3694	3762	3420	3496	181	171	5
50	51	159	Virginia	Richmond County	5	0	9059	5066	3993	3138	2925	1799	961	24

Note: If there is a error in the query the line number with the error will be displayed if the database returns it.

For more information about the content available on the other tabs, see *Cloudera Data Visualization, SQL interface*.

Related Information

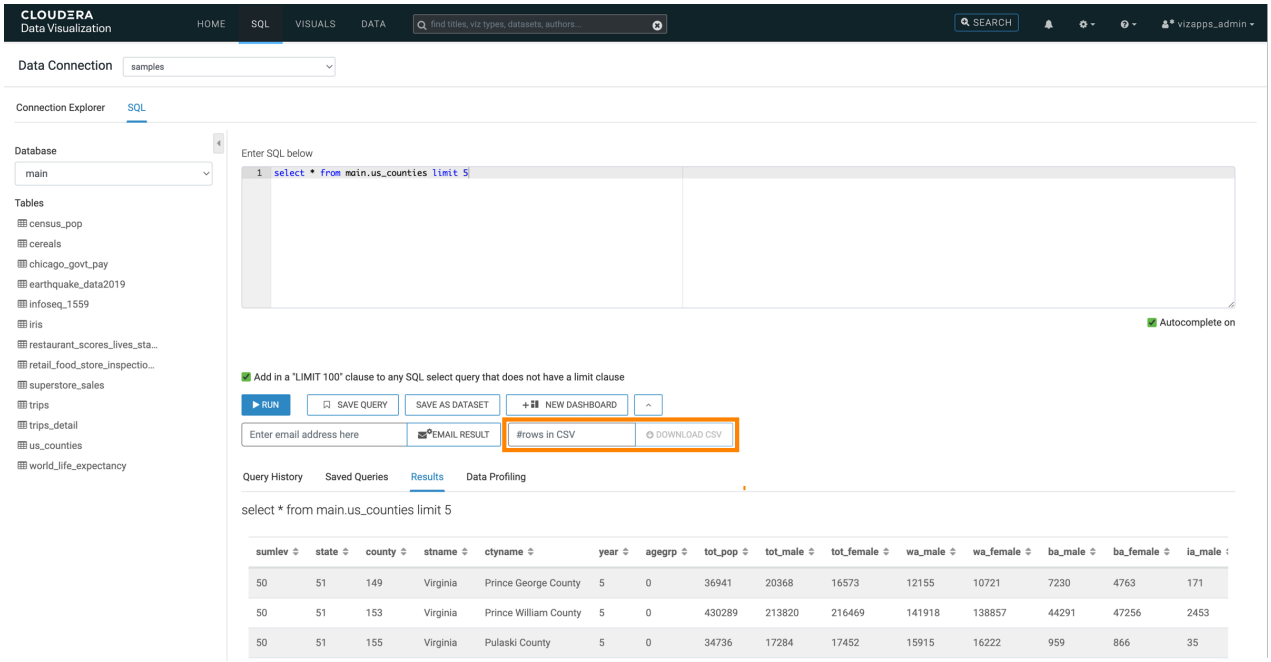
Cloudera Data Visualization, SQL interface

Downloading the results of a Direct Access query

After obtaining query results in the Direct Access interface, you can download the records in CSV format.

You can download the results in CSV format, by clicking DOWNLOAD CSV. The system saves the CSV file to your default download directory.

If you only want to download a subset of the query results, you can specify the Number of rows in CSV. This will limit the number of records in the CSV file.



The system saves the CSV file to your default download directory.

Adding data

Experience the flexibility of importing and integrating data to enhance your data visualization projects. In Cloudera Data Visualization, you have the capability to add data from flat files. The imported data is processed as a new table and it is integrated into an existing data repository. Subsequently, you can use this data as a supplementary information source for your existing datasets by establishing new table joins. You can also create new datasets that reference the imported data as their primary tables.

Data import is available for the following connections:

- Hive
- Impala
- MariaDB
- MySQL
- PostgreSQL
- Spark SQL

Note: Data import is not supported in Cloudera Data Warehouse as the connection is read-only.

- SQLite

  Note: This connection is not supported in Cloudera Data Warehouse.

- Snowflake [Technical Preview]

Cloudera Data Visualization supports two primary forms of data sources: CSV and URL.

You can use the Import Data functionality to enhance your existing datasets, incorporating this data by creating joins within the data model. The choice of creating a new dataset based on the imported data depends on your specific business requirements.

For importing data stored in Excel format, see *Preparing Excel files for data import*.

Importing data in CSV format

Learn how to add data to Cloudera Data Visualization from flat CSV files.

About this task

You can use comma-delimited files or files with other delimiting characters. If you want to import data stored in Excel format, see *Preparing Excel files for data import*.

This feature is available on the following connections:

Enabled by default:	Disabled by default:
• SQLite • Hive • Impala • Snowflake [Technical Preview] • Solr [Technical Preview] • Spark SQL	• DuckDB • MS SQL • Teradata

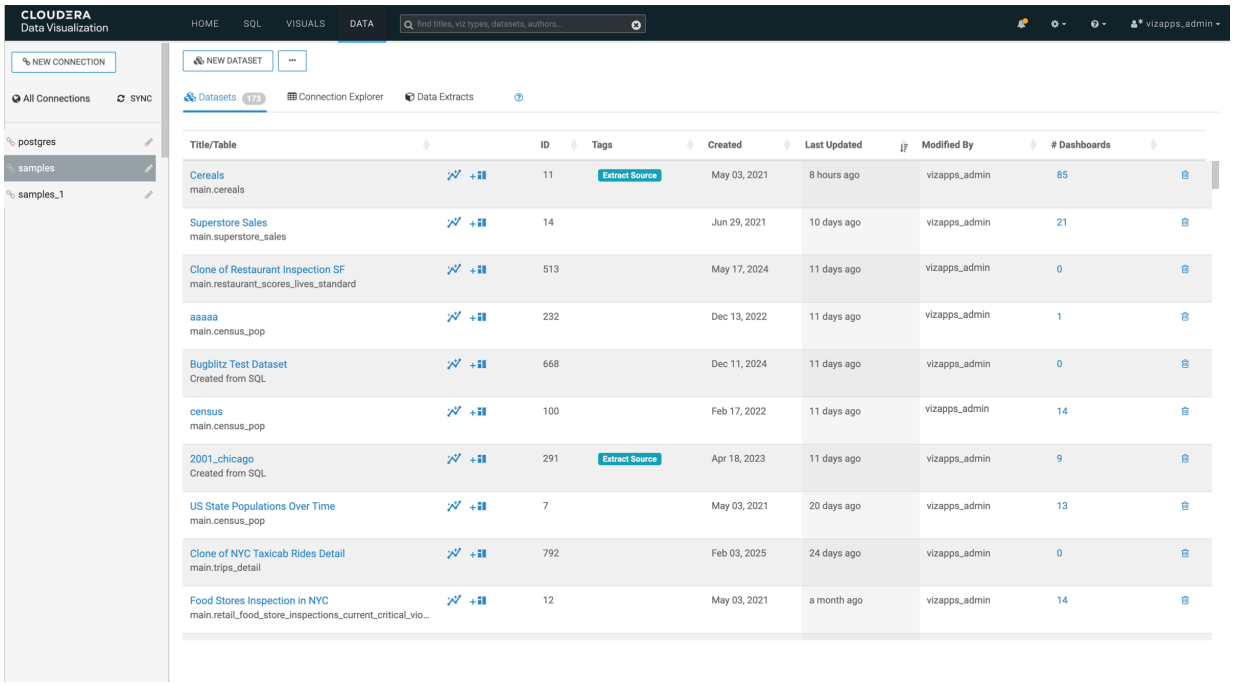
Note: To import data into Cloudera Data Visualization, ensure that you use a data connection with write permissions.

Procedure

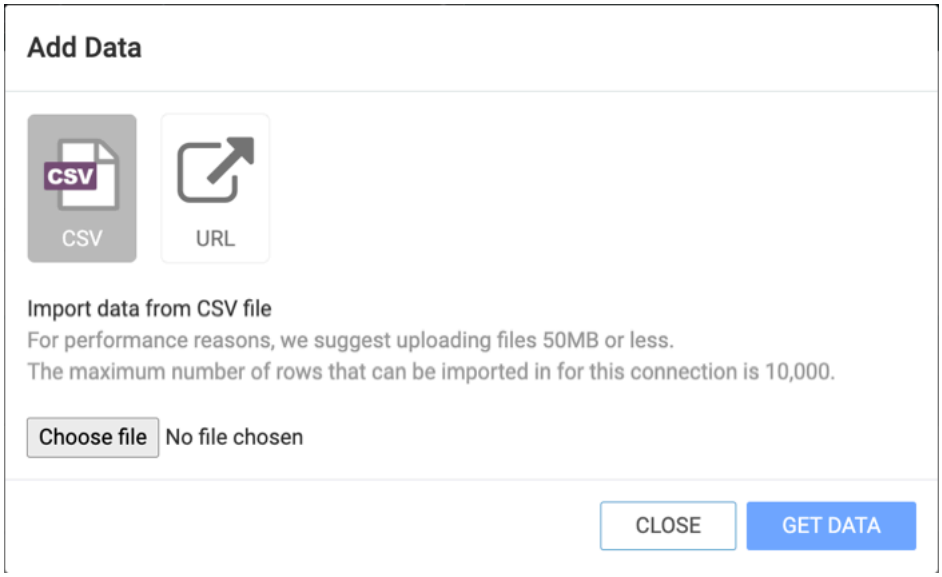
1. On the main navigation bar, click DATA.

   The Data view appears, showing the Datasets tab.

2. Click ADD DATA.



The Add Data modal window appears.



3. Add the CSV file that contains the data you want to import.
   a) Select the CSV option and click Choose file.
   b) Using your computer's file browser, locate and select the data file.
   c) Click GET DATA.

4. In the Imported File modal window, ensure that the data you are adding is configured correctly.
   a) Verify the name of the file.
   b) Under Database, select which database you want to add data to.
   c) Under Table Name, specify a table. The system usually assigns a numerical suffix, which you can remove.
   d) Under Upon Import, select whether you only want to import data or create a dataset, or create a dataset and a dashboard based on the data.
      - If you select Create Dataset, you are directed to the Detail page of the dataset you have created after the import is completed.
      - If you select Create Dataset and Dashboard, you are directed to the newly created dashboard when the import is completed.
   e) For Column Delimiter, define the delimiter used in the source file. It can be Comma, Tab, Space, Semicolon, Colon, Pipe, Control A, or Other.
   f) Under Locale Setting, you can select one of the common locales: United States, United Kingdom, Sweden, Norway. Or you can select Other to add a separate field next to the locale setting, where you can specify the supported locale. For more information, see *Changing the locale setting of an imported file*.
   g) Under Options, select the data clean-up tasks that Cloudera Data Visualization provides prior to data import. These include Create "EXTERNAL" table, File contains headers, Fill missing columns, Skip malformed rows, and Use '\' as escape character.

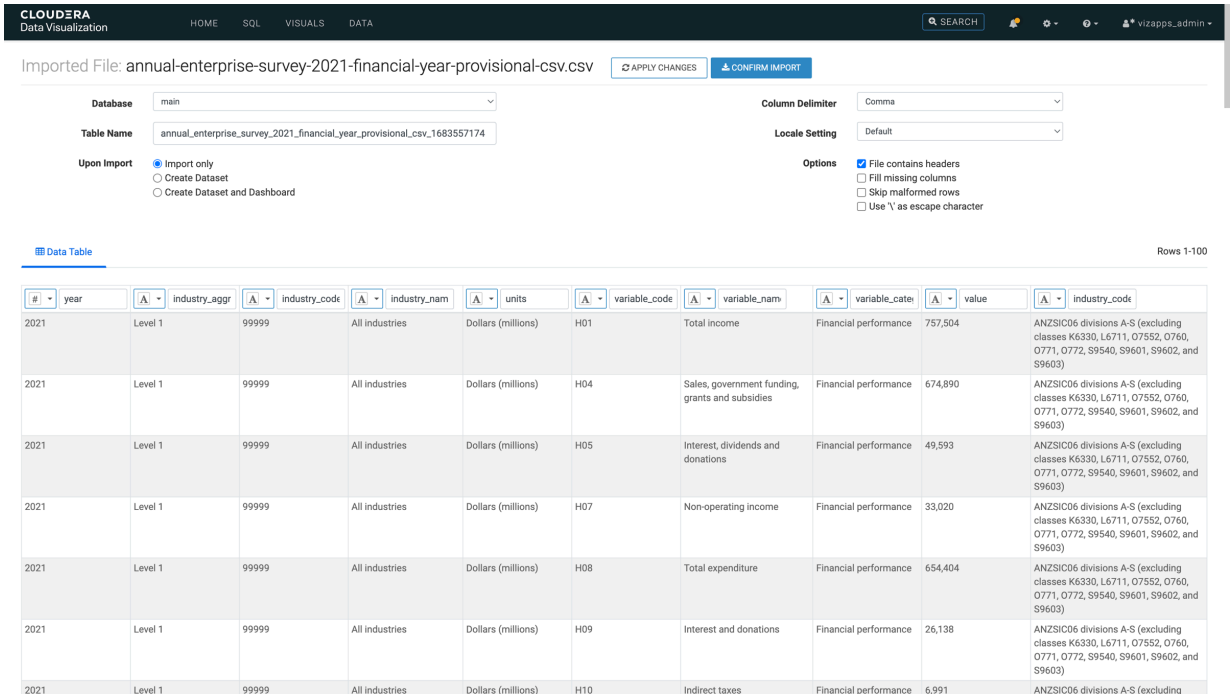
      Note: Cloudera Data Visualization can detect many items, for example the presence of header rows, automatically.

   h) In the Data Table preview, each column of the table appears with its data type and name.

      The data types available are Boolean, Integer, Real, String, and Timestamp.

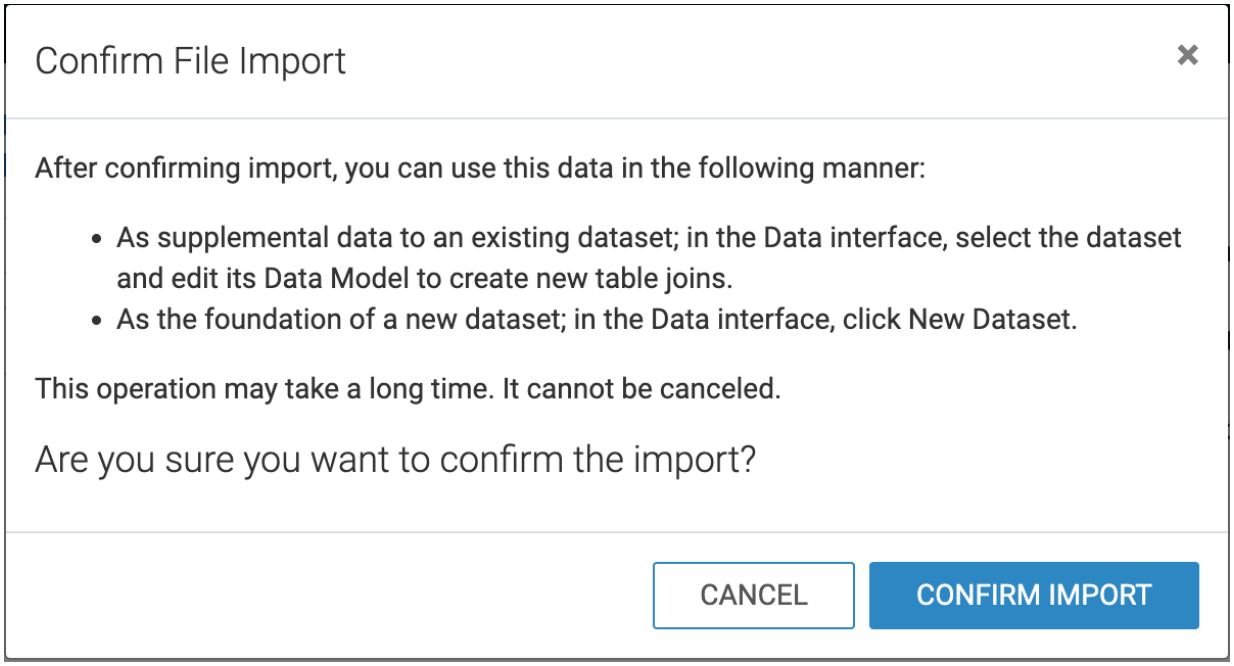
      Cloudera Data Visualization detects the data type automatically, but you can modify them as needed (for example store numerical categories as strings).

      You can change the name of the table column before importing.
   i) Click APPLY CHANGES to save the adjustments you have made.



5. Click CONFIRM IMPORT.

   The Confirm File Import modal window appears, where you have to click CONFIRM IMPORT again to finalize the import.



6. To verify that the data has been imported correctly into your system, check the Connection Explorer interface.

Related Information

Preparing Excel files for data import
Changing the locale setting of an imported file

Adding data through URL

Learn how to how to add a data file using a URL in Cloudera Data Visualization.

About this task

Data files are typically in JSON format. The files may be comma-delimited or they use other delimiting characters.

Note: This feature is available on the following connections:
Enabled by default:

- SQLite
- Hive
- Impala
- Snowflake
- Spark SQL

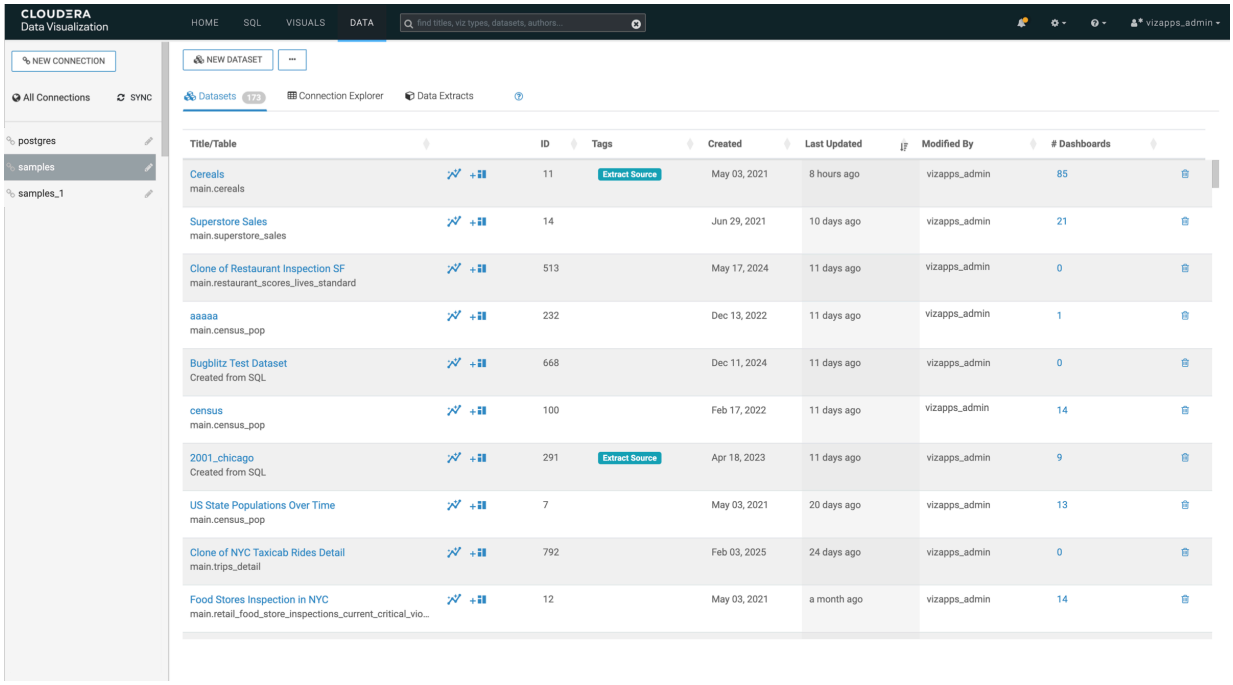
Disabled by default:

- DuckDB
- MS SQL
- Teradata

Procedure

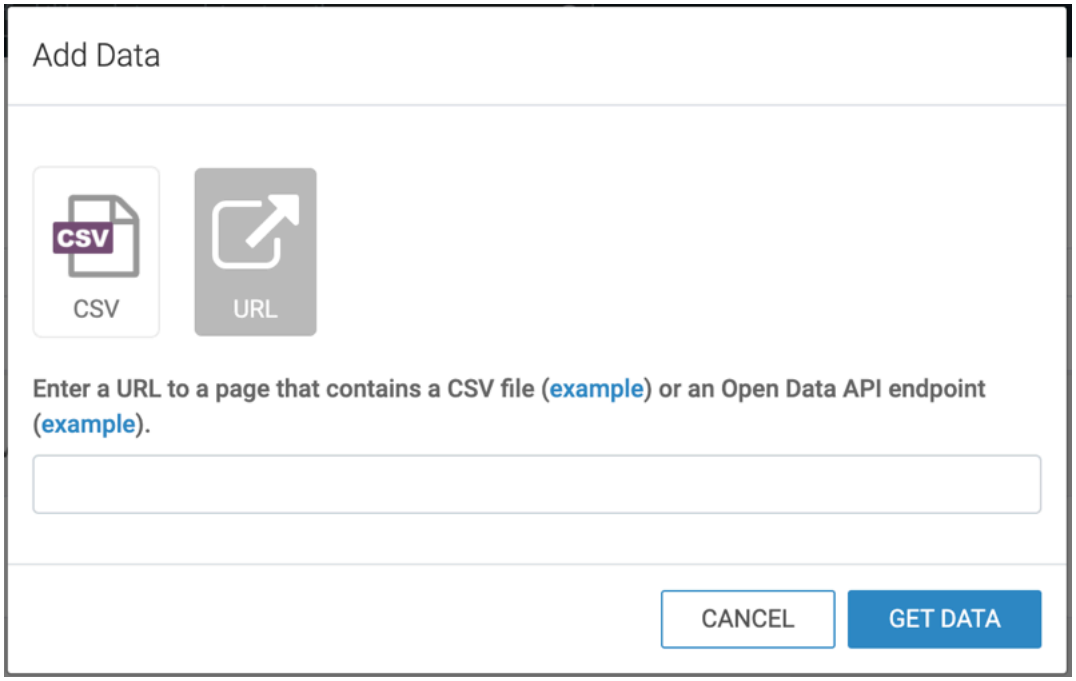
1. On the main navigation bar, click DATA.

   The Data view appears, open on the Datasets tab.



2. Click ADD DATA.

   The Add Data modal window appears.

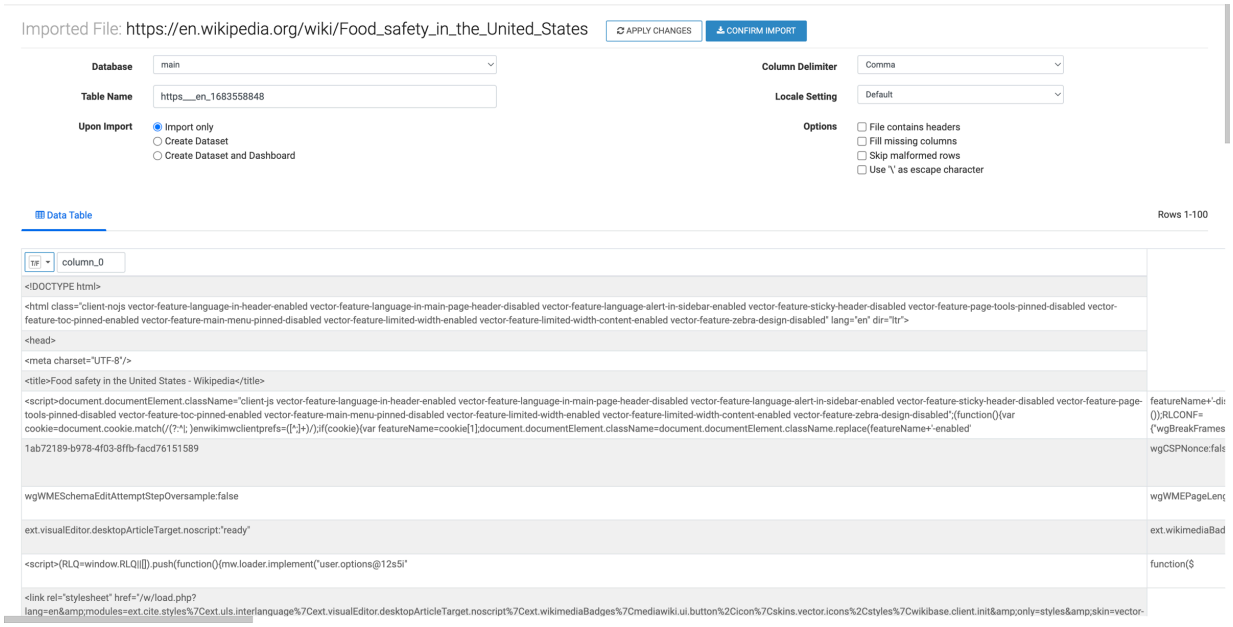


3. Select the URL option, and add the address of the file to the text window, and click GET DATA.

4. Ensure that your data is configured correctly before confirming the import:
   a. Under Database, specify documentation. Alternatively, select another database.
   b. Under Table Name, specify city_chicago_staff. The system typically assigns a numerical suffix that you can remove.
   c. Under Upon Import, select whether you only want to import the data or create a dataset and a dashboard based on the data.
      - If you select Create Dataset, you are taken to the Detail page of the dataset you have created when the import is completed.
      - If you select Create Dataset and Dashboard, you are taken to the newly created dashboard when the import is completed.
   d. For Column Delimiter, define the delimiter used in the source file. In this case, the column delimiter is Comma, but it can also be Tab, Space, Semicolon, Colon, Pipe, Control A, or Other. Make the necessary adjustments to this field.
   e. Under Locale Setting, you can select one of the common options: United States, United Kingdom, Sweden, Norway, or Other. Selecting Other adds a separate field next to the locale setting where you can specify the supported locale. For more information, see *Changing the locale setting of an imported file*.
   f. Under Options, select the data clean-up tasks that Cloudera Data Visualization provides prior to data import. These include File contains headers, Fill missing columns, Skip malformed rows, and Use '\' as escape character.

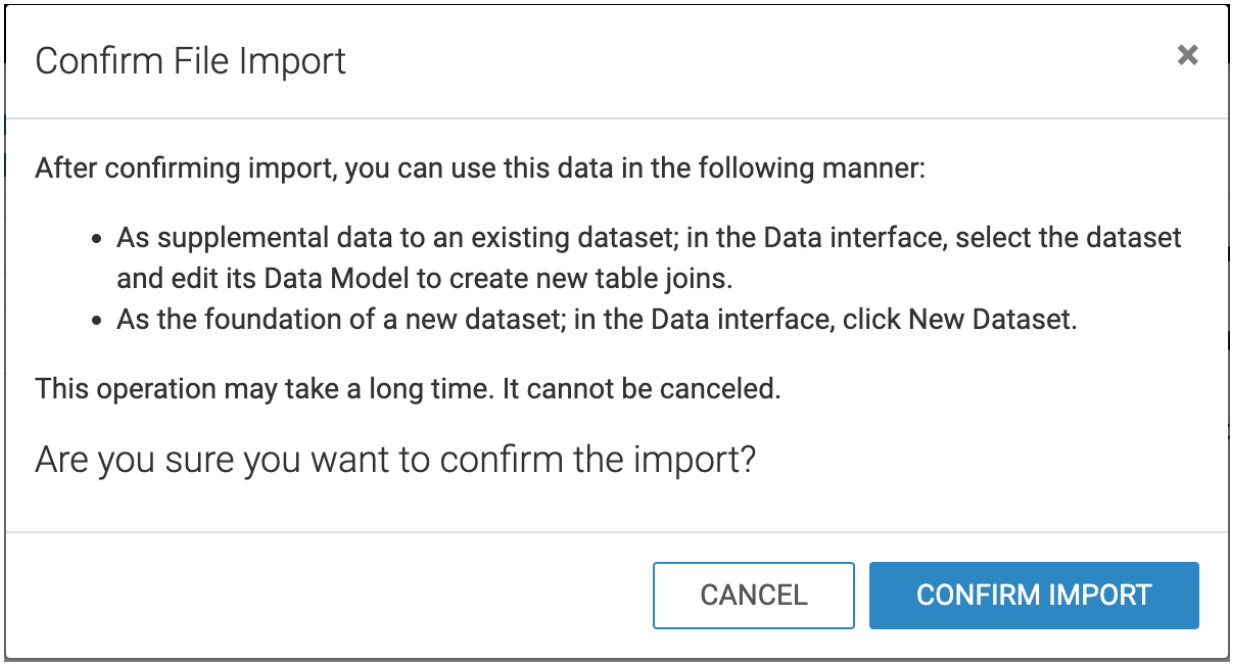
      Note: Cloudera Data Visualization can detect many items automatically, such as the presence of header rows.

   g. In the Data Table preview, each column of the table appears with its data type and name. Cloudera Data Visualization detects the data type automatically, but you can change it in this interface prior to import. For example, you may wish to store numerical categories as strings. The data types are Boolean, Integer, Real, String, and Timestamp.
   h. You can change the name of the table column before importing.



5. Click APPLY CHANGES to ensure that all adjustments you made are saved.

6. Click CONFIRM IMPORT.
   The Confirm File Import modal window appears, where you have to click CONFIRM IMPORT again.



7. To verify that the data has been imported correctly into your system, check the Connection Explorer interface.

Related Information

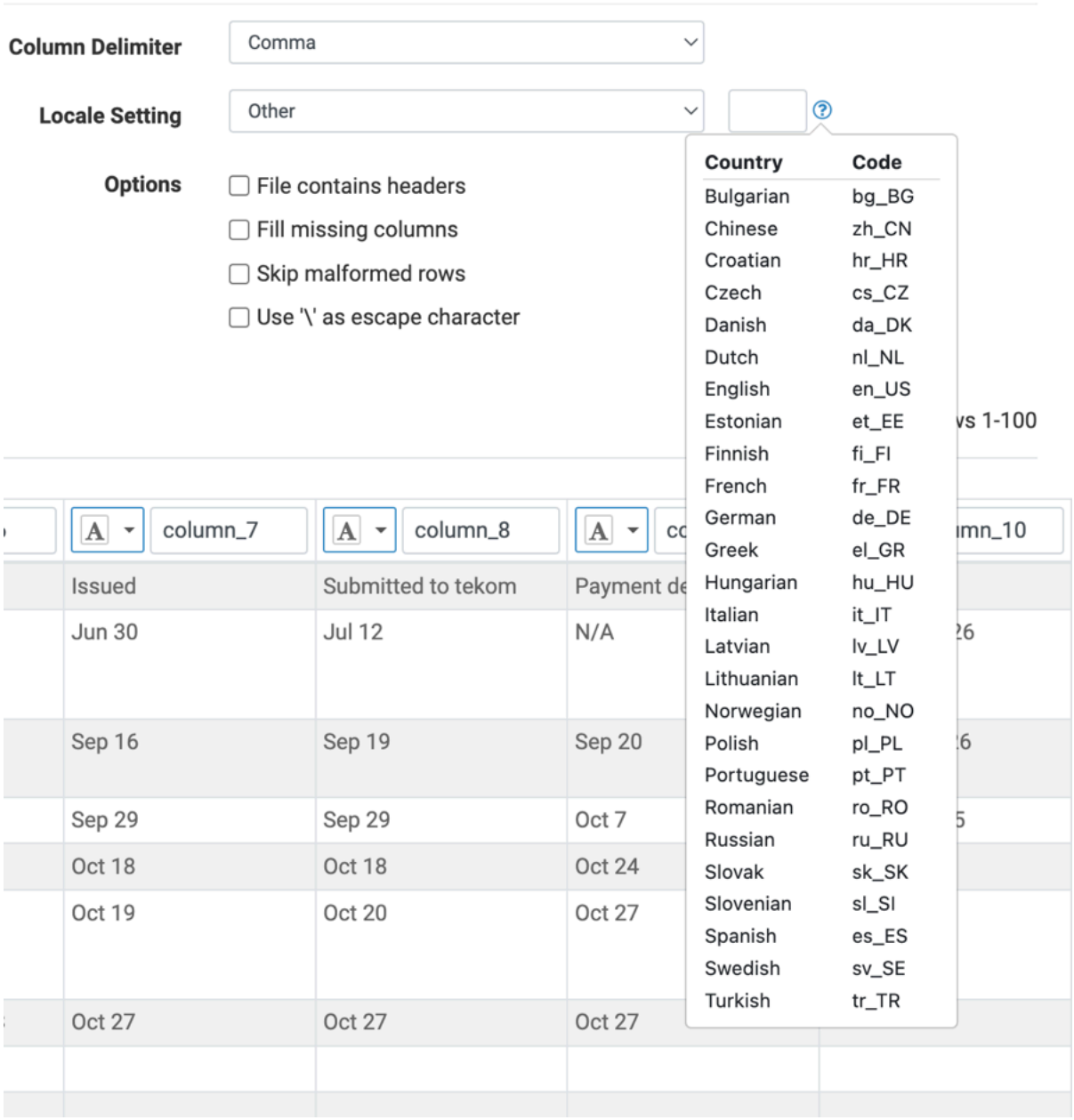
Changing the locale setting of an imported file

Changing the locale setting of an imported file

When importing a data file, you can specify the localization for the data. This will specifically handle differences in specifying floating-point number.

Under Locale Setting, which is the default for your system, select one of the common options: United States, United Kingdom, Sweden, Norway, or Other.

Selecting Other brings adds a new text entry box. Clicking on the information icon opens a separate menu, where you can select another supported locale. In our case, we selected Russian, ru_RU.



Preparing Excel files for data import

To import data from Microsoft Excel or similar spreadsheet tools into Cloudera Data Visualization, you must first save the data in a character-delimited format, typically CSV.

Procedure

1. Open your data file in Microsoft Excel.
2. Click File Save as .
3. Select Comma Separated Values (.csv).
4. Enter a file name, such as MyCSVdata and click Save.