Cloudera Data Visualization 7.2.8

# Data Visualization Overview

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## CLOUDΞRA

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# Contents

# Cloudera Data Visualization capabilties

Cloudera Data Visualization enables you to explore data and communicate insights across the whole data lifecycle by using visual objects. The fast and easy self-service data visualization streamlines collaboration in data analytics through the common language of visuals.

Cloudera Data Visualization is integrated with Cloudera Machine Learning and Cloudera Data Warehouse workflows in Cloudera Public Cloud. You can also use it on premises with Cloudera Data Science Workbench workflows. You can use the same visualization tool for structured, unstructured/text, and machine learning analytics, which means deeper insights and more advanced dashboard applications. The user interface is highly intuitive and enables you to build customized data applications with minimum time investment.

Advanced data analysis helps you to find data insights that answer your business problems. You can connect to your data in Cloudera, create rich visualizations on top of your datasets, build informative dashboards and applications, and publish them anywhere across the data lifecycle. This provides you with a dynamic and data-driven insight in any line of business, and lets you and other stakeholders discover, explore, and curate visualizations.
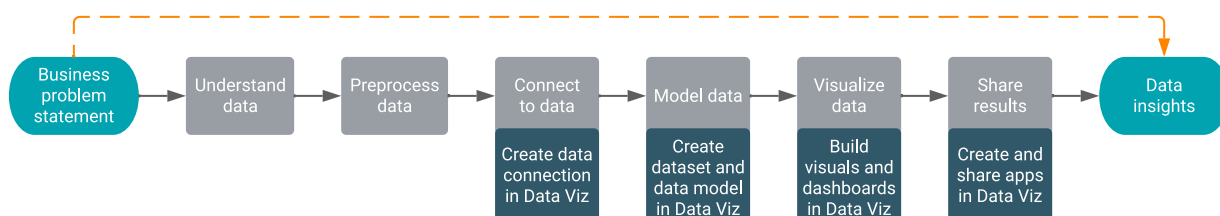


**Self-service data visualization for the full data lifecycle**

You can quickly and easily explore data, collaborate, and share insights across the data lifecycle. Cloudera Data Visualization provides a consistent and easy to use data visualization experience with intuitive and accessible drag-and-drop dashboards and custom application creation.

**Intelligent and automated reporting**

You can automate analytics dashboards for updates and consumption. You can set rules for scheduled updates, email reports, and dynamic alerts to ensure everyone has access to the latest insights.

**Accelerating collaboration**

You can build and publish custom dashboards and analytic applications in minutes and you can collaborate across teams to reach stakeholders and decision makers more effectively. Cloudera Data Visualization enables collaboration and transparency between data, analytics, and business teams without moving data to third party platforms.

**Secure and integrated visualizations**

Cloudera Data Visualization provides out of the box functionality without additional integration efforts, moving data, or creating security issues. From a security and governance perspective, native integration with Cloudera means SSO for authentication and seamless integration with Cloudera Shared Data Experience to manage user access and governance.

# Cloudera Data Visualization user interface

The web interface of Cloudera Data Visualization has four views: HOME, SQL, VISUALS, and DATA. When you log in, you land on the homepage (HOME view) where the menus that you can find on the Main navigation bar enable you to access the other two interfaces.
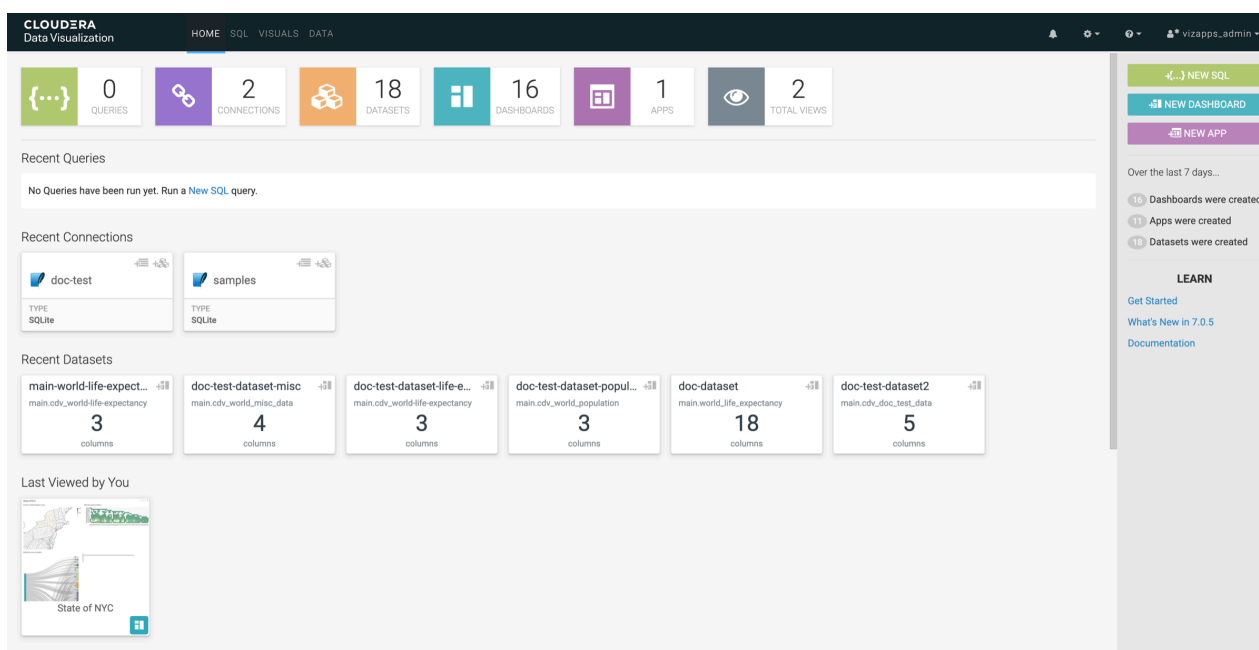
What users see and can access in the UI is determined by their role and permissions.

# Cloudera Data Visualization homepage

Cloudera Data Visualization enables you to explore data and communicate insights across the whole data lifecycle by using visual objects.

When you log into Cloudera Data Visualization, you are taken to the HOME screen, which is the starting point to your data visualization journey. It displays recent views, favorites, and the application's most-viewed content. You can start exploring sample dashboards or the in-tool Get Started guide.

Clicking HOME on the main navigation bar always takes you to the homepage.

The default Cloudera Data Visualization homepage has the following main parts:
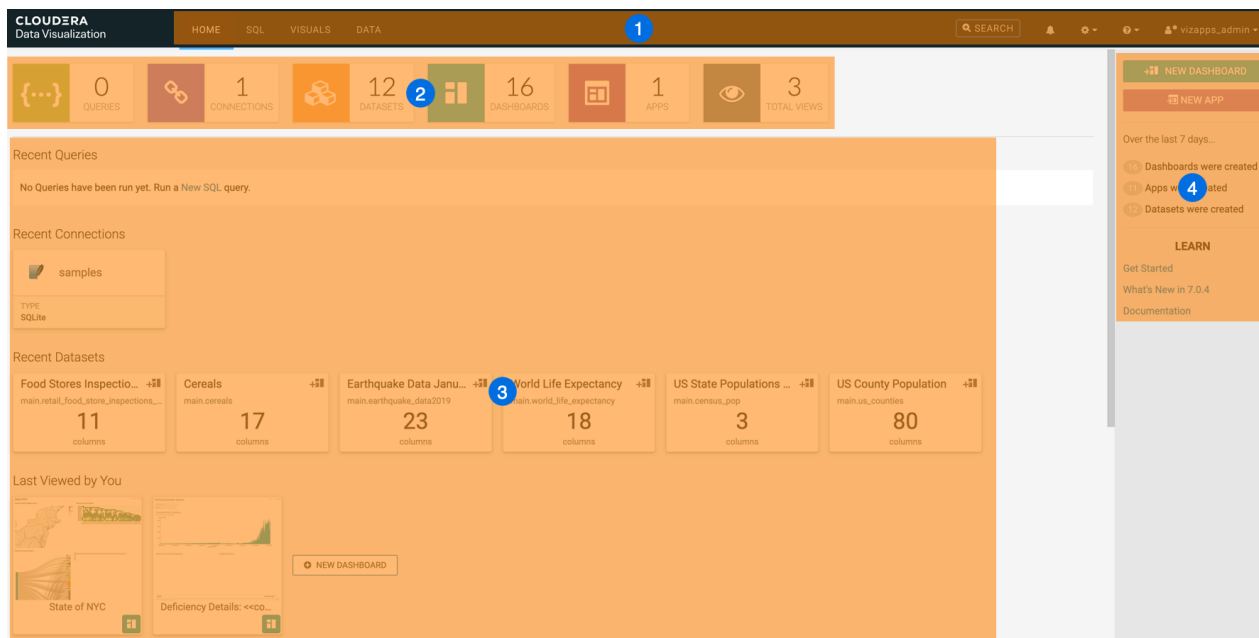
1. Main navigation bar
2. Statistics banner
3. Preview area
4. Homepage side menu bar

For information on how to customize the homepage, see *Custom Homepages*.

## Main navigation bar



The main navigation bar enables you to directly access the following interfaces and functions:

1. The HOME interface is described in this topic.
2. The SQL interface to manually build queries.
3. The VISUALS interface is for building visuals, dashboards, and applications. For more information, see *Visuals interface*.
4. The DATA interface for access to datasets, connections, and the Connection Explorer. For more information, see *Data interface*.
5. The search bar for natural language search. It is only visible if search is enabled in the Site Settings.
6. The notification center that contains application, server and site settings errors and warnings.

   All users can see browser-level errors that might be affecting Cloudera Data Visualization. Additionally, for admin users and users with permission to view activity logs, webserver errors (such issues with applying advanced site settings) are also available in the notification center.
7. The Settings menu provides access to various setting options:

   • With Set Homepage, you can define a custom homepage.
   • With Job Status, you can check job statuses.

   If you have administrative privileges, you can use Site Administration to make changes to the following functionalities:

   • Activity Log displays all recorded events generated by the data processing requests.
   • Users & Groups helps you to manage accounts of all users and user groups, and grant them varying privileges and levels of access.
   • Manage Roles helps you to define roles as a set of privileges, and assign them to users or user groups.
   • Manage API Keys helps you to authenticate with the system to perform some of the administrative tasks.
   • Email Templates helps you to create separate email templates for communicating with various stakeholders, departments, or users who have clearly defined roles in the organization.
   • Custom Styles helps you to apply styling options for the appearance of visuals and applications.
   • Custom Colors helps you to define custom color palettes for styling visuals and applications.
   • Custom Dates helps you to define custom sets of date ranges and anchor them to a specific date and time.
   • Static Assets helps you to save and manage images, CSS files, and JS files as static assets and use them across all reports to standardize the appearance and behavior of visuals and dashboards.
   • Site Settings helps you to configure site-wide settings and settings at the level of individual visuals, dashboards, and filters.
8. Help provides you with the following links:
   **What's New in**

       - a summary of the major new features and improvements of the latest release

   **Documentation**

       - the official Cloudera Data Visualization documentation
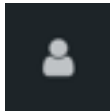
   **Cloudera Support Hub**

       - access to the support and professional services portal on MyCloudera
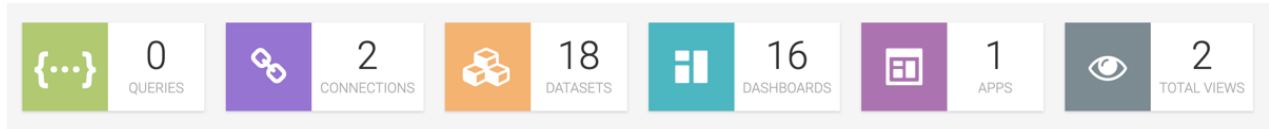
   It also displays the release number of running Cloudera Data Visualization instances.

**9.** The user management menu includes password change and logout options.

It also provides information on your last login date. The username displayed identifies the current user. The user icon can include small, additional icons to show if the current user is an admin or an LDAP/SSO user:

| Admin user | SSO autheticated user | Admin and SSO autheticated user | Regular user |
|---|---|---|---|
|  |  |  |  |

## Statistics banner



This pane shows the number of QUERIES, CONNECTIONS, DATASETS, DASHBOARDS, and APPS that you can access in your Cloudera Data Visualization instance. It also shows you the number of TOTAL VIEWS. You can click each tile to explore further details. By clicking the different tiles you can quickly access recent queries, data connections, and datasets, and can also open your their dashboards and applications.

If you click TOTAL VIEWS, you are directed to the Daily Usage tab of the Activity Log interface, where you can check the list of all activities, users, and dashboards in your Cloudera Data Visualization instance. You can adjust the time interval you want to review (the default is 30 days), and you can download the data in CSV format.

## Preview area



The preview area provides quick access to the following items:

- Recent queries
- Recent connections
- Recent datasets
- Favorites
- Items you last viewed
- Items you recently created
- Overall most popular items
- Sample dashboards

You can click any of the tiles to explore the selected connection, dataset, visual, or dashboard.

The preview on connections displays tiles for the connections you recently worked with. The icons in the top-right corner of the tiles provide shortcuts to the Add Data modal and the New Dataset modal giving you an easy option to add data to a data connection or create datasets directly from the homepage.
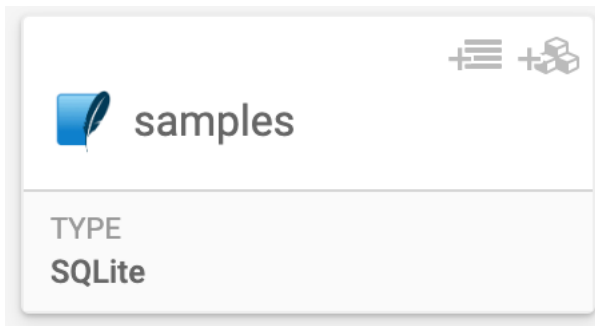
The preview on datasets displays tiles for the datasets you recently worked with. The icon in the top-right corner of the tiles provides a shortcut to creating a new dashboard on the selected dataset.
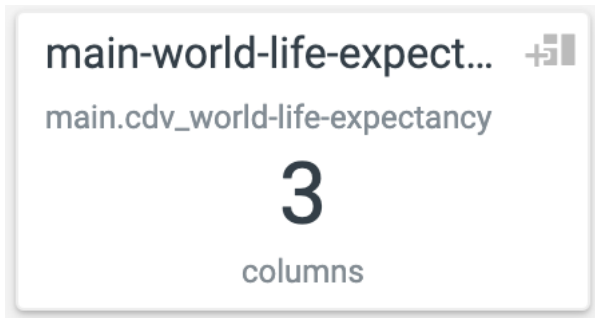


For instructions on how to add a dashboard to your favorites, see *Adding a dashboard to favorites*. Alternatively, you can access your bookmarked dashboards by clicking VISUALS on the main navigation bar and then clicking My Favorites in the side menu bar.

**Homepage side menu bar**
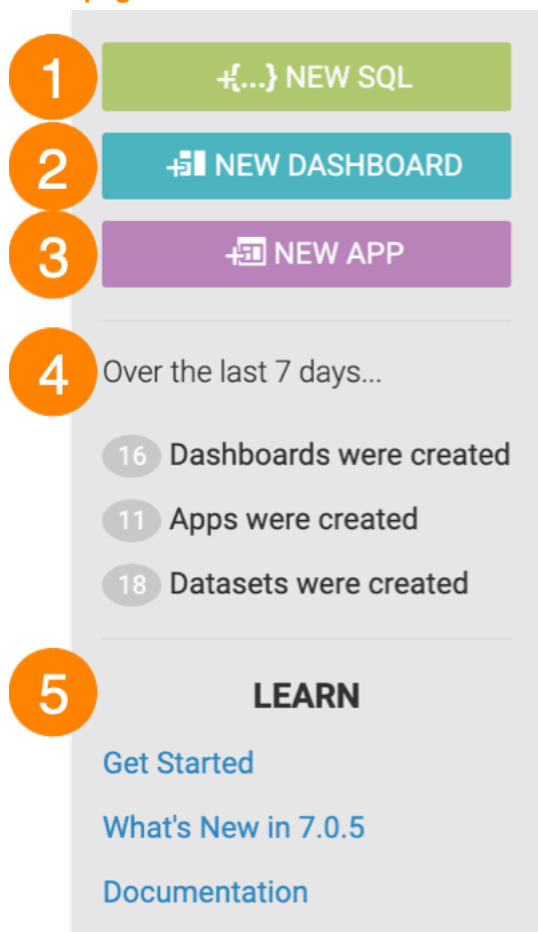


1. The NEW SQL button takes you to the Data Connection interface, where you can compose a SQL query.
2. The NEW DASHBOARD button takes you to the Dashboard Designer interface, where you can create new dashboards and visuals.
3. The NEW APP button takes you to the App Designer interface, where you can build and style custom BI applications from existing dashboards and visuals.
4. Over the last 7 days... includes statistics on how many dashboards, apps, and datasets have been created.
5. In the LEARN section, you can find the following information:

   - The Get Started link points to help content embedded in the tool.
   - The What's New in link opens a modal window showcasing new features.
   - The Documentation link opens this library.

**Related Information**
Visuals interface
Data interface


# Cloudera Data Visualization, SQL interface

The SQL interface provides you with a SQL data query option. From the SQL tab, you can create a new dataset or dashboard from a query with a single click.

The SQL interface has the following main elements:

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1. **Data Connection** – You can select any data source that is available in your project.
2. **Database** – On the SQL tab, you can select any database that is available on the selected data connection. When you select a database, the corresponding tables are displayed.
3. **Textbox for SQL expression** – You can add your SQL query here to interact with the selected dataset.
4. **LIMIT 100 clause** – You can automate the addition of a LIMIT 100 clause to your SQL SELECT queries when a limit is not specified in the query to retrieve a maximum of 100 rows from the database.
5. **Action buttons**

   - **RUN** – Click this button to initiate the SQL query that you have added. It allows you to quickly test and view query results. When clicked, it fetches the requested data from the dataset and displays the result in the Results tab.
   - **SAVE QUERY** – Click this button to save the current SQL query to the Saved Queries tab, where it can be easily accessed for future use. Saved queries are especially useful when you need to repeatedly run the same query or when collaborating with others who may need to refer to the query later.
   - **SAVE AS DATASET** – Click this button to save the output of the current query as a new dataset. Instead of only saving the SQL statement, this option preserves the resulting data, creating a customized dataset. This way you can preserve a specific subset of the data that can be analyzed, profiled, or visualized in the platform without needing to rerun the original query.
   - **NEW DASHBOARD** – Click this button to create a dashboard based on the current query output. A dashboard may contain visualizations, charts, or summary statistics that provide insights into the data.
   - **Enter email address here** – Enter one or more email addresses. It is used in conjunction with the EMAIL RESULT button, enabling users to send query results directly to specified email addresses. You can share query outputs with colleagues or stakeholders without having them access the interface directly.
   - **EMAIL RESULT** – Click this button after entering an email address to send the results of the query to the specified address.
   - **#rows in CSV** – Add a number to this field to specify the number of rows to be included in the CSV file when downloading the results. You can limit the data exported, which is useful when dealing with large datasets. For example, you might want to export only the first 1000 rows instead of the full dataset to reduce file size or focus on a sample.
   - **DOWNLOAD CSV** – Click this button to download the query results as a CSV file. The number of rows in the CSV will correspond to the value specified in the #rows in CSV field.

**6.** Display tabs

- Query History – Shows a list and details of past queries.
- Saved Queries – Shows the queries saved for repeated use.
- Results – Shows the data returned by the query in a tabular format.
- Data Profiling – Provides statistical summaries and insights into the dataset fields. For more information, see *Working with data profiling* .
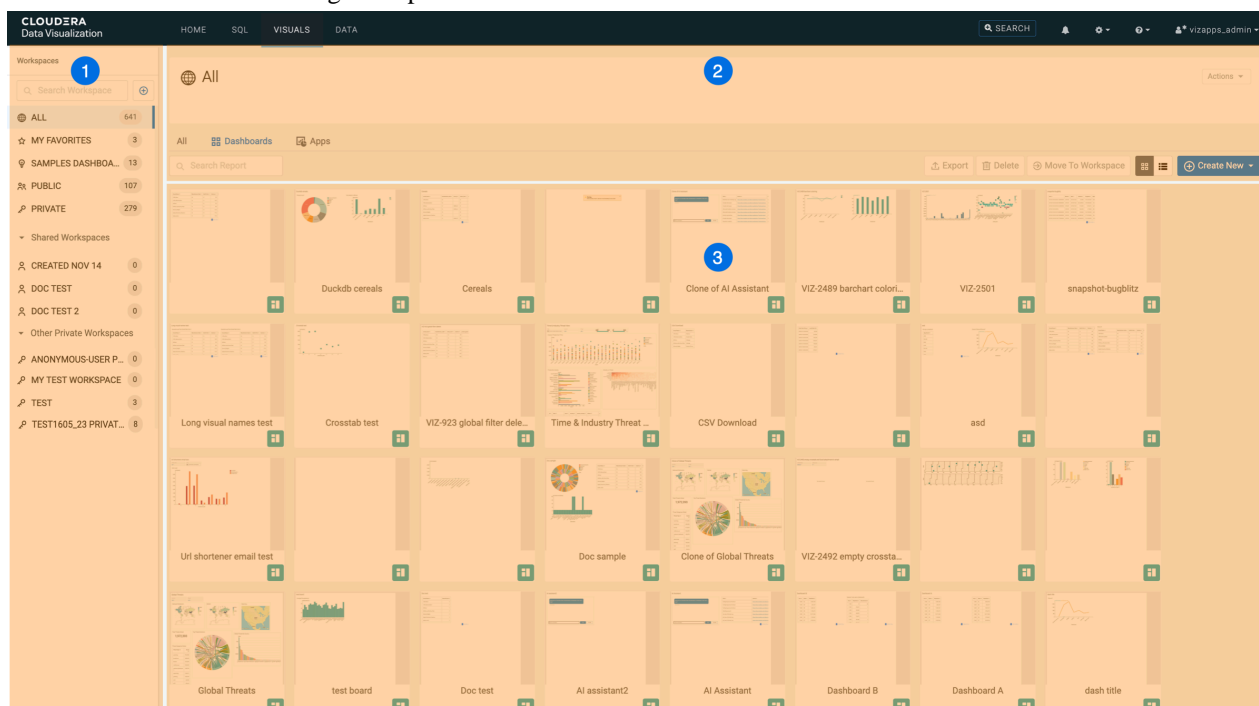
**Related Information**

Working with data profiling

# Cloudera Data Visualization, Visuals interface

The VISUALS interface provides you access to visualization features. You can initiate a number of operations from here when working with visuals.

The interface has the following main parts:



**1.** VISUALS side menu bar

The sidebar displays the list of workspaces available in the environment. By default, Private and Public workspaces are available. You have the option to create custom workspaces, if needed. Once created, these

custom workspaces are automatically added to this side menu bar. The number next to each workspace shows you how many dashboards are available in it.

Shared and Private workspaces are sorted and the lists can be collapsed for easier navigation.

- You can search among the workspaces using the search bar.
- You can create a workspace by clicking the plus sign next to Search Workspace.
- 
  You can edit an existing workspace by clicking  located next to the name of the workspace. The icon appears when you hover over the workspace name.

   **Note:** You can see  only if you have permission to edit the workspace.

  For more information, see *Editing a workspace*.
- Using the side menu bar, you can access standard groupings of visual artifacts by clicking the following options:

  - All
  - My Favorites
  - Sample Dashboards
  - Public
  - Private

     **Note:** Sample Dashboards provides access to a variety of example dashboards available within Cloudera Data Visualization. Get started by exploring these samples to see how they use a combination of visuals and filters to provide business insights.

2. VISUALS actions
   - The Actions button in the top-right corner of the page allows you to edit or delete the workspace you are viewing.

     **Note:** The button is only active if you have permissions to edit and/or delete the workspace.

     For more information, see *Editing a workspace* and *Deleting a workspace*.
   - The All, Dashboards, and Apps tabs allow you to switch between views displaying all visual artifacts, only dashboards, or only apps in the preview area.
   - Search Report allows you to search among the artifacts of the workspace.
   - The Export button allows you to export visual artifacts to your default download folder.

     **Note:** The button is only active if you select at least one artifact in the preview area.

     For more information about this function, see *Exporting and importing visual artifacts*.
   - The ⬚ Delete button deletes the selected items.

     **Note:** The button is only active if you select at least one artifact in the preview area.

   - The Move To Workspace button helps you to move the selected items to a new workspace.

     **Note:** The button is only active if you select at least one artifact in the preview area.

     For more information, see *Moving dashboards between workspaces* and *Moving apps between workspaces*.
   - The two icons ⬚ ☰ allow you to switch between Grid View and List View. Grid View shows thumbnail previews of your visuals, dashboards, and applications, while List View presents the same visual artifacts vertically arranged in a single, multi-line list.
   - The Create New button allows you to start a new dashboard or app.
3. VISUALS preview area

   All visuals artifacts of the selected workspace are displayed here in a grid or list view.

## VISUALS interface – Grid view

Grid view shows you thumbnail previews of your visuals, dashboards, and applications.
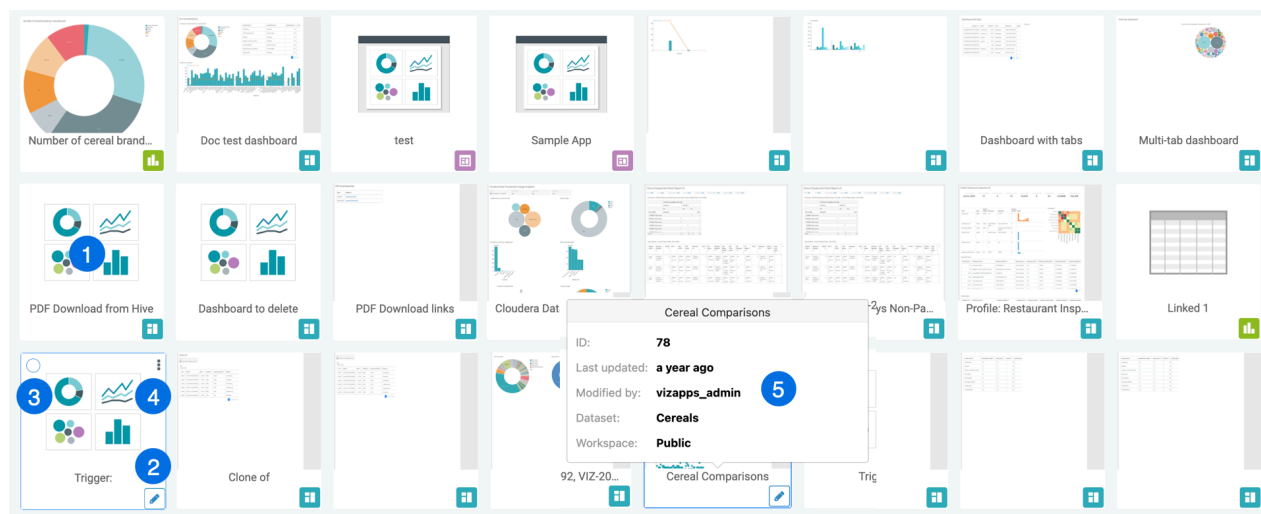
1. You can open a visual artifact in View mode by clicking the tile.

    **Note:** The icon in the bottom right corner of the tile shows you if the visual artifact is a dashboard (teal), a visual (green), or an app (purple).

2. You can open a visual artifact in Edit mode by hovering over the tile and clicking ✎ in the bottom right corner.

3. You can select visuals, dashboards, or apps, if you hover over a tile and click the radio button in the the top left corner. You can deselect the selected artifact by clicking the circle again.

    **Note:** When you select one or more items, the action buttons available in the top right corner of the preview area become active.

4. You can access the Supplemental menu of a visual artifact by hovering over the tile and clicking ⋮ . You can use this menu to export the visual artifact, move it to a different workspace, or delete it.

5. You can access more information about the selected visual artifact if you hover over the name displayed on the tile.

## VISUALS interface – List view

List view presents the visual artifacts of a workspace arranged vertically in a single, multi-line list. It shows the title and the ID of the visuals, dashboards, and apps. It also shows the number of related dashboards/linked visuals and descendant dashboards.

It provides further metadata about each visual artifact including creation date, date of last update, name of the modifier, total views and the corresponding dataset and workspace.



1. You can open a visual artifact in View mode if you click the reduced size image or the title of the visual artifact.

2. You can open a visual artifact in Edit mode if you hover over the reduced size image of the artifact and click ✎ in the bottom right corner.

3. You can also click ✎ at the end of the row if you want to edit a visual artifact.

4. You can select a visual artifact if you mark the check box of the item. You can deselect the selected artifact by clicking the checkbox again.

    **Note:** When you select one or more items, the action buttonss available in the top right corner of the preview area become active.

**5.**

You can delete a single visual artifact by clicking 🗑 at the end of its row.

**Related Information**

Editing a workspace

Deleting a workspace

Exporting and importing visual artifacts

Moving dashboards between workspaces

Moving apps between workspaces

Homepage

Data interface

# Cloudera Data Visualization, Data interface

The information and functionalities available on the DATA interface of Cloudera Data Visualization enable you to manage the data you need for your visualizations and to initiate a number of operations when working with datasets and data extracts.

The DATA interface shows your existing data connections. You can also add new connections to data sources, create new datasets, and work with your data tables and extracts. The interface has the following main parts:
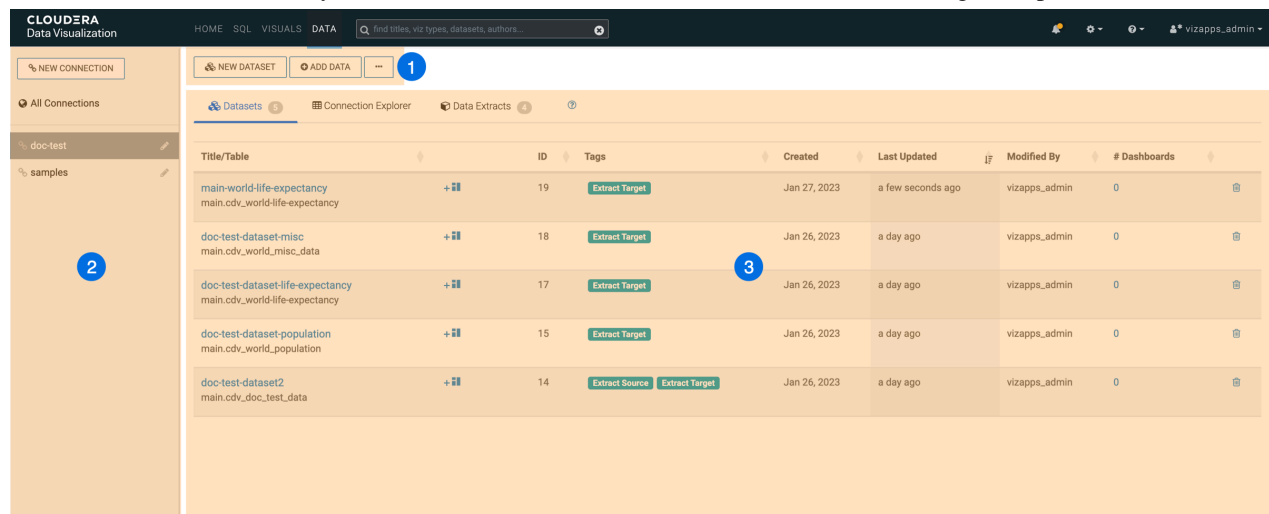


1. DATA interface top menu bar
2. DATA interface side menu
3. DATA interface preview area

## DATA top menu bar



1. The NEW DATASET button is for creating datasets. Datasets are needed for developing dashboards and visuals. You can also start a new dataset from a specified table.
2. For SQLite connections, the ADD DATA button enables you to introduce data from outside sources to enrich your datasets.

**3.** The Supplemental menu provides access to additional functions:

- Clear result cache forces a reload of the full table definition.
- Import Visual Artifacts enables you to restore or import visual artifacts from a backup JSON file.
- Direct Access lets you access data on the connections directly and build datasets from specific SQL queries, as opposed to starting with an existing table.
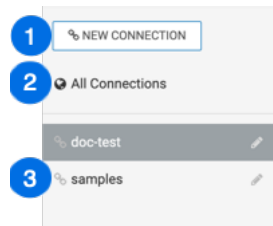
## DATA side menu



**1.** The NEW CONNECTION button is for connecting to a new data source.
**2.** You can list all your datasets by clicking All Connections.
**3.** samples is the SQLite connection that contains the example datasets in Cloudera Data Visualization.

## DATA preview area

The data preview area has three tabs: Datasets, Connection Explorer, and Data Extracts.

In the Datasets view, you can see all existing datasets on a connection available for creating visuals.

| Title/Table | | ID | Tags | Created | Last Updated | Modified By | # Dashboards | |
|---|---|---|---|---|---|---|---|---|
| main-world-life-expectancy<br>main.cdv_world-life-expectancy | +▪◨ | 19 | Extract Target | Jan 27, 2023 | a few seconds ago | vizapps_admin | 0 | 🗑 |
| doc-test-dataset-misc<br>main.cdv_world_misc_data | +▪◨ | 18 | Extract Target | Jan 26, 2023 | a day ago | vizapps_admin | 0 | 🗑 |
| doc-test-dataset-life-expectancy<br>main.cdv_world-life-expectancy | +▪◨ | 17 | Extract Target | Jan 26, 2023 | a day ago | vizapps_admin | 0 | 🗑 |
| doc-test-dataset-population<br>main.cdv_world_population | +▪◨ | 15 | Extract Target | Jan 26, 2023 | a day ago | vizapps_admin | 0 | 🗑 |
| doc-test-dataset2<br>main.cdv_doc_test_data | +▪◨ | 14 | Extract Source  Extract Target | Jan 26, 2023 | a day ago | vizapps_admin | 0 | 🗑 |

In the Connection Explorer view, you can manage functions related to the data on a connection. You can check the databases and preview table details in the data connection.

1. The database area shows all databases that you can access through the current connection. Selecting a database displays its tables.
2. The Datasets column lists the number of datasets that use the particular table as their initial definition.
3. You can click the New dataset link to create a dataset on a specific table.
4. To see more information about data tables, you can click the row of each table. The additional information is displayed under two tabs: Sample Data and Datasets.

In the Data Extracts view, you can see all existing data extracts on a connection.



1. Overall statistics
2. List of Data Extracts sourced from the current data connection

**Related Information**

Custom homepages

Homepage

Visuals interface

Adding a dashboard to favorites