Data Visualization Overview

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CDP Data Visualization Overview

Data Visualization in Cloudera Data Science Workbench

CDP Data Visualization in CDSW 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.

Using this rich visualization layer enables you to accelerate advanced data analysis: You can create state-of-the-art 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 stakeholders discover, explore, and curate visualizations. It allows customization and collaboration on a new level, that speeds up your agility, innovation, and time to results.

CDP Data Visualization is integrated with Cloudera Data Science Workbench (CDSW) workflows. You can use the same visualization tool for structured, unstructured/text, and ML analytics, which means deeper insights and more advanced dashboard applications. The web-based, no-code, drag-and-drop user interface is highly intuitive and enables you to build customized data applications with minimum time investment.

Data Visualization user interface

The web interface of Data Visualization has three views: Home, Visuals, and Data. When you log in, you land on the homepage where the Main or Top navigation enables you to directly access the other two interfaces.
CDP Data Visualization homepage

Data Visualization enables you to explore data and communicate insights across the whole data lifecycle by using visual objects. The information available on the homepage helps you learn how to use the web interface.

The default CDP Data Visualization homepage contains the following items:

1. **Main** or **Top navigation**, which enables you to directly access the following interfaces:
   - **Home** interface, described in this article.
   - **Visuals** interface for building **Visuals** and **Dashboards** in **Visual Designer**, and for managing and launching **Apps**.
   - **Data** interface providing access to **Datasets**, **Connections**, and the **Connection Explorer**.
   - **Settings** menu providing access to **Set Homepage** (custom), and to check **Job Status**.

Users with administrative privileges can make **Site Administration** 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** interface helps you to configure site-wide settings and settings at the level of individual visuals, dashboards, and filters.
• **Help** provides you with the email address of Cloudera Support, and displays the release number of the running instance of CDP Data Visualization.
• **User management** menu includes password change and logout options. The **username** identifies the current user.

2. **Banner Stats** shows the number of Dashboards, Apps, Datasets, and Total Views that you can access.

3. **Existing Visuals** pane provides quick access to the following visuals and dashboards:
   - Last Viewed by You
   - Recently Created by You
   - Overall Most Popular
   - Sample Dashboards

4. **New Dashboard** takes you to the **Dashboard Designer** interface, where you can create new dashboards and visuals.

5. **New App** takes you to the **App Designer** interface, where you can quickly build and style custom BI apps from existing dashboards and visuals.

6. **Stats for Last 7 Days** include how many dashboards, apps, and datasets were created.

7. **Get Started** points to help content embedded in the tool.

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**CDP Data Visualization, Visuals interface**

The information available on **Visuals** interface enables you to use visualization features. In this interface, you can initiate a number of operations when working with visuals.

You can work in grid or list view. **Grid View** shows you thumbnail previews of your visuals, dashboards, and applications, while **List View** presents the items vertically arranged as a single, continuous, multiple-line list. List view exposes the ID of the visuals, dashboards, and apps, and it also shows the number of related dashboards and linked visuals with their IDs.

*Figure 1: Visual Interface; Grid View*
You can:

1. Start a new dashboard by clicking **New Dashboard**.
2. Start a new application by clicking **New App**.
3. Access standard groupings by clicking on their titles: **All** or **My Favorites**.
4. Create a workspaces interface by clicking the plus sign next to **Workspaces** in the left navigation menu. Under **Workspaces**, you can see the default workspaces that all users have: **Private** and **Public**.
5. Look at the **Dashboard Samples** that ship with CDP Data Visualization.
6. Switch between viewing **Dashboards**, **Visuals**, **Apps**, or **All** visual artifacts.
7. Switch between **Grid View** and **List View**.
8. Open an existing dashboard, visual, or app in **View** mode by clicking it. In **List View**, you can click the reduced size image at the beginning of the row to view the dashboard, visual, or app.

   **Note:** Dashboards are marked with a teal icon in the bottom right corner, visuals are marked with a green icon, and apps use a purple icon.

9. Preview descriptive information about a visual artifact in **Grid View** by hovering over the title until a tooltip appears.
10. Open a dashboard, visual, or app in **Edit** mode in **Grid View** if you hover over the bottom right corner to change the original icon to a blue pencil (edit) icon. In **List View**, you can also click the pencil (edit) icon at the end of the row to edit the dashboard, visual, or app.
11. Select visuals and dashboards in **Grid View** if you hover over the top right corner and click the checkmark.

   In **List View**, you can select and mark visuals, dashboards, and apps if you mark the selection box that corresponds to the item.
Note: When you select one or more items, the options for selected visuals appear across the top.

12. De-select selected visuals and dashboards by clicking **Clear Selection**.
13. Moving selected items to a new workspace by clicking **Move to Workspace**.
14. Delete the selected items by clicking **Delete** at the top.

In **List View**, you can also delete a single item by clicking the trash icon at the end of the row. that corresponds to it.

Note: Some items do not have the delete option: this is because they are linked visuals that appear in a dashboard.

15. Export selected visuals by clicking **Export**.
16. In **List View**, you can check the ID of the visuals and dashboards, and the IDs of dashboards where the visuals appear.

**Figure 2: Visual Interface; List View**

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**Related Information**

- Homepage
- Data interface

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**CDP Data Visualization, Data interface**

The information available on the **Data** interface enables you to manage data needed for your visualizations and to initiate a number of operations when working with datasets.

The **Data** interface shows your existing data connections on the left navigation bar. You can create new connections to data sources, new datasets, and work with your data tables. The interface has two tabs: **Datasets** and **Connection Explorer**.

**Datasets view**

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

In the Connection Explorer view, check the databases and preview table details in a data connection.

1. **New Connection** is for connecting to any source of data.
2. **New Dataset** is for creating datasets. New datasets are needed for developing dashboards and visuals. You can also start a new dataset from a specified table.
3. For SQLite connections, **Add Data** enables you to introduce data from outside sources to enrich your datasets.
4. You can reach new options in the Supplemental menu by clicking the ellipsis icon.

Options are:

- **Clear result cache**: it forces a reload of the full table definition. Clicking Refresh for individual tables performs the action on that table only.
- **Import Visual Artifacts**: it enables you to restore or import visual artifacts from a back-up *.json file.
• **Direct Access**: it lets you access data on the connections directly and build datasets from specific SQL queries, as opposed to starting with an existing table.

5. You can list all your datasets by clicking **All Connections** in the left navigation menu.

6. The database area of the screen shows all databases that you can access through the current connection. Selecting a database shows its tables.

7. The **# Datasets** column lists the number of datasets that use the particular table as their initial definition.

8. You can click New Dataset to create a dataset on a specific table.

9. To see more information about data tables, you can click the row of each table and then select the distinct tabs. The information tabs include the following:
   
   • Sample Data
   • Datasets

**Related Information**

Homepage

Visuals interface