

Working with Data APIs

Date published: 2020-10-30

Date modified: 2024-05-30

CLOUDERA

Legal Notice

© Cloudera Inc. 2024. All rights reserved.

The documentation is and contains Cloudera proprietary information protected by copyright and other intellectual property rights. No license under copyright or any other intellectual property right is granted herein.

Unless otherwise noted, scripts and sample code are licensed under the Apache License, Version 2.0.

Copyright information for Cloudera software may be found within the documentation accompanying each component in a particular release.

Cloudera software includes software from various open source or other third party projects, and may be released under the Apache Software License 2.0 (“ASLv2”), the Affero General Public License version 3 (AGPLv3), or other license terms. Other software included may be released under the terms of alternative open source licenses. Please review the license and notice files accompanying the software for additional licensing information.

Please visit the Cloudera software product page for more information on Cloudera software. For more information on Cloudera support services, please visit either the Support or Sales page. Feel free to contact us directly to discuss your specific needs.

Cloudera reserves the right to change any products at any time, and without notice. Cloudera assumes no responsibility nor liability arising from the use of products, except as expressly agreed to in writing by Cloudera.

Cloudera, Cloudera Altus, HUE, Impala, Cloudera Impala, and other Cloudera marks are registered or unregistered trademarks in the United States and other countries. All other trademarks are the property of their respective owners.

Disclaimer: EXCEPT AS EXPRESSLY PROVIDED IN A WRITTEN AGREEMENT WITH CLOUDERA, CLOUDERA DOES NOT MAKE NOR GIVE ANY REPRESENTATION, WARRANTY, NOR COVENANT OF ANY KIND, WHETHER EXPRESS OR IMPLIED, IN CONNECTION WITH CLOUDERA TECHNOLOGY OR RELATED SUPPORT PROVIDED IN CONNECTION THEREWITH. CLOUDERA DOES NOT WARRANT THAT CLOUDERA PRODUCTS NOR SOFTWARE WILL OPERATE UNINTERRUPTED NOR THAT IT WILL BE FREE FROM DEFECTS NOR ERRORS, THAT IT WILL PROTECT YOUR DATA FROM LOSS, CORRUPTION NOR UNAVAILABILITY, NOR THAT IT WILL MEET ALL OF CUSTOMER’S BUSINESS REQUIREMENTS. WITHOUT LIMITING THE FOREGOING, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CLOUDERA EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, QUALITY, NON-INFRINGEMENT, TITLE, AND FITNESS FOR A PARTICULAR PURPOSE AND ANY REPRESENTATION, WARRANTY, OR COVENANT BASED ON COURSE OF DEALING OR USAGE IN TRADE.

Contents

Enabling Data APIs.....	4
Using API keys.....	4
Accessing Data API request payload.....	5
Migrating visual artifacts with REST APIs.....	6
Exporting visual artifacts with REST APIs.....	7
Importing visual artifacts with REST APIs.....	7

Enabling Data APIs

To enable Cloudera Data Visualization Data API, update the configuration settings and restart the Cloudera Data Visualization instance.

About this task



Note: This is only possible for Cloudera Data Visualization instances running in CML and CDSW.

Before you begin

Before invoking the platform-name Data API, you must first enable it in the configuration file of the Web Server and obtain an API key.

If you want to access the API outside of CML or CDSW jobs or sessions, you have to enable Enable Unauthenticated Access for the application. For more information and instructions, see the Public Applications section in [Securing Applications](#).

Procedure

1. Click the Gear icon on the main navigation bar to open the Administration menu and select Site Settings.
2. Select Advanced Settings from the left navigation and scroll down to the Advanced Site Settings section.
3. Add the `ENABLE_API_KEYS` and `DATA_API_ENABLED` settings.

```
ENABLE_API_KEYS = True # If you plan to access via API keys
DATA_API_ENABLED = True
```

4. Save your changes and restart the Cloudera Data Visualization service.

Using API keys

When you do not log into the visual layer of Cloudera Data Visualization directly, you must obtain an API key and implement it when using Data APIs.

Before you begin

Create a new API key. For instructions, see *Creating new API keys*.

Procedure

1. Use the API key that you have obtained to authenticate the user to access the dataset.
2. Invoke the data layer of Cloudera Data Visualization at the following endpoint and proceed with using the Data API interface.

```
http(s)://server:port/arc/api/data
```

For more information, see *Example of Data API usage*.

Related Information

[Creating new API keys](#)

[Example of Data API usage](#)

Accessing Data API request payload

To avoid creating Data API requests from scratch, Cloudera Data Visualization provides access to the details of the data requests.

About this task

This task is optional.

Procedure

1. Open Site Settings and scroll to Advanced Settings at the bottom of the left navigation.
2. Add the following settings.

```
ENABLE_DSREQ_PERF_DISPLAY = True  
COMPRESS_DSREQ = True
```

3. Restart the Cloudera Data Visualization service.
4. Open an existing dashboard.
5. Use the keyboard shortcut **Shift + Control/Cmd + G** to open the Performance Profile interface.

6. Hover over a line that represents a visual ID and view the duration, type, and details of the query that runs against that visual.

The query uses the same API and includes the details of the data requests. You can use this dataset request as the payload for your Data API call.

QUERY EXECUTION BY VISUAL ID (drag to select area to zoom in)

QUERY DETAIL

Time	ID	Type	Duration (seconds)
2022-11-10T11:42:52.681Z	0	startup	
2022-11-10T11:42:53.116Z	0	staticfetch	0.17
2022-11-10T11:42:53.119Z	0	staticfetch	0.17
2022-11-10T11:42:53.131Z	0	staticfetch	0.18
2022-11-10T11:42:53.524Z	0	QueryRun	0.53
2022-11-10T11:42:53.524Z	75	Query	0.41

build.start dataset request 0.002196

```
{
  "version": 1,
  "highlighting": false,
  "type": "SQL",
  "limit": 5000,
  "dimensions": [
    {
      "type": "SIMPLE",
      "expr": "[cereal_name] as 'cereal_name'"
    },
    {
      "type": "SIMPLE",
      "expr": "[calories] as 'Calories'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[complex_carbohydrates_grams] as 'Carbohydrates'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[fat_grams] as 'Fat'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[dietary_fiber_grams] as 'Fiber'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[potassium_mg] as 'Potassium'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[protein_grams] as 'Protein'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[sodium_mg] as 'Sodium'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[sugars_grams] as 'Sugar'",
      "order": {
        "asc": false,
        "pri": 1
      }
    },
    {
      "type": "SIMPLE",
      "expr": "[vitamins_and_minerals] as 'Vitamins/Minerals'",
      "order": {
        "asc": false,
        "pri": 1
      }
    }
  ],
  "ksqlStreamPosition": "",
  "dataset_id": 11
}
```

build.complete query 0.000770

```
SELECT TA_0.`cereal_name` as `cereal_name`,
sum((TA_0.`calories`)) as `Calories`
```

Migrating visual artifacts with REST APIs

In addition to UI-enabled export and import, Cloudera Data Visualization provides REST APIs that give more flexibility in choosing what objects to migrate. While migrating artifacts using the UI allows you to directly specify export of visuals, dashboards, and apps, REST APIs enable you to specify a wider range of migratable objects.

About this task



Note: You do not migrate events and segments separately, but as part of dataset migration. Similarly, you do not migrate thumbnails along with dashboards or visuals that they represent.

Before you begin

Enable and create the relevant data API keys, both for the source and destination machines. For instructions, see *Enabling API keys* and *Creating new API keys*. The examples used in these instructions use the secret API key that appears when you generate the keys for the first time, as in *Creating new API keys*.

Procedure

1. Export the objects by submitting a GET request on the source machine. For instructions, see *Exporting visual artifacts with REST APIs*.
2. Import the objects by submitting a POST request on the target machine. For instructions, see *Importing visual artifacts with REST APIs*.

Related Information

[Enabling API keys](#)

[Creating new API keys](#)

Exporting visual artifacts with REST APIs

Procedure

1. Authenticate the user using the data API.
2. Submit a GET request to the following address for a source machine: `source_arcviz_ip/arc/migration/api/export/`
For instructions on import, see *Importing visual artifacts with REST APIs*.

Example

This is a sample Python code snippet for authenticating and submitting the GET request that exports dashboards with IDs 2115 and 2110, and then writing the response to the `my_app.json` file.

```
export requests
headers = {'AUTHORIZATION': 'apikey secret_api_key'}
payload = {'dashboards': '[2115, 2110]', 'filename': 'apitestmigration',
'dry_run': 'False'}
r = requests.get('source_arcviz_ip/arc/migration/api/export/', headers=headers,
params=payload)
with open('my_app.json', 'w') as f:
    f.write(r.text)
```

Related Information

[Importing visual artifacts with REST APIs](#)

Importing visual artifacts with REST APIs

Before you begin

Make sure that the JSON file with information about exported visual artifacts is on the destination machine.

Procedure

1. Authenticate the user using the data API.
2. Submit a POST request to the following address for a destination machine: `destination_arcviz_ip/arc/migration/api/import/`
For instructions on export, see *Exporting visual artifacts with REST APIs*.

Example

This is a sample Python code snippet for authenticating and submitting the POST request that imports dashboards with IDs 2115 and 2110, which were earlier saved (from a metadata perspective) as my_app.json. This file is uploaded to the Data Visualization server during the import.

```
import requests
headers = {'AUTHORIZATION': 'apikey secret_api_key'}
payload = {'dry_run': False, "dataconnection_name": "data_connection"}
files = {'import_file': open('/Users/my_name/Downloads/my_app.json', 'r')}
r = requests.post('destination_arviz_ip/arc/migration/api/import/', files=files, data=payload, headers=headers)
print r.status_code # 200 is success
```

Related Information

[Exporting visual artifacts with REST APIs](#)