

Machine Learning

## API

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# CLOUDERA

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# Cloudera Data Science Workbench API v2

Cloudera Data Science Workbench exposes a REST API that you can use to perform operations related to projects, jobs, and runs. You can use API commands to integrate Cloudera Data Science Workbench with third-party workflow tools or to control Cloudera Data Science Workbench from the command line.

API v2 supersedes the existing Jobs API. For more information on the Jobs API, see Jobs API in the Related information section, below.

## How to view the API Specification

You can view the comprehensive API specification on the REST API v2 Reference page. See Related information, below, for the link.

You can also obtain the specification of the available API commands directly from Cloudera Data Science Workbench. In a browser, enter the following addresses:

- REST API: <https://<domain name of CML instance>/api/v2/swagger.html>
- Python API: <https://<domain name of CML instance>/api/v2/python.html>

You can also get json formatted output, by specifying `swagger.json`.

## Quickstart

### API key authentication

To get started, generate an API key. The API key is a randomly generated token that is unique to each user. It must be treated as highly sensitive information because it can be used to start jobs via the API. You need this API key to use in API calls.

1. Sign in to Cloudera Data Science Workbench.
2. In User Settings API Keys , click Create API Key.
3. Copy this API key to the clipboard.

### Using `curl` from the command line

To use the `curl` command, it is convenient to store the domain and API key in environmental variables, as shown here:

1. Copy the API key.
2. Open a terminal, and store it to a variable. On unix-based systems:  

```
export API_KEY=<paste the API key value here>
```
3. Copy the domain name, which is in the address bar of the browser. On unix-based systems: 

```
export CDSW_DOMAIN=<domain>
```

 (a value like: `ml-xxxx123456.com`).

## Using the Python client library

To use the Python API in your own code, first install the Python API client and point it to your cluster.

```
pip3 install https://$CDSW_DOMAIN/api/v2/python.tar.gz
```

Include the following code, and specify the values for `<CDSW_DOMAIN>` and `<API_KEY>` with variables or values for your installation.

```
# In a session:
api_instance = default_client()
# Outside a session:
default_client("https://" + cluster, APIKEY)
```



**Note:** If you use `default_client()` in a session, no arguments are needed. If you use it outside of a session, you must provide the cluster name and API v2 key.

Then you can use commands in your script, such as a call to list projects:

```
projects = api_instance.list_projects()
```

The API returns objects that store values as attributes. To access the values, use dot notation. Do not use bracket notation as you would with a dictionary. For example:

```
myproj = client.create_project(...)
# This doesn't work:
myproj["id"]

# But this does
myproj.id
```

Check the Python documentation for a full list of the available API commands.

### Using the Python client library in the REPL

Here is an example of a stub Python script that contains the environmental variables for your installation. Save it to your computer and run it locally to get a Python prompt for API commands.

demo.py

```
import clap
import argparse

parser = argparse.ArgumentParser(description='Test the generated python package.')
parser.add_argument("--host", type=str, help='The host name of your workspace')
parser.add_argument("--token", type=str, help='Your API key')
args = parser.parse_args()

config = clap.Configuration()
config.host = args.host
client = cmlapi.ApiClient(config)
client.set_default_header("authorization", "Bearer " + args.token)
api = cmlapi.ApiApi(client)
```

Run the script from your command line:

```
python3 -i demo.py --host https://$CDSW_DOMAIN --token $API_KEY
```

This returns a Python prompt with `api` available. You can run `api` calls from the prompt, as follows:

```
>>> api
<cmlapi.api.api_api.ApiApi object at 0xlasjoid>
>>> api.api_list_projects()
```

You can specify a search filter, such as the following:

```
api.api_list_projects(searchFilter='demo')

api.api_list_projects(page_size=2)
```

```
api.api_list_projects(page_size=2, page_token='<token value>')
```

**Related Information**[Starting a Job Run Using the API](#)

## API v2 Usage

You can use API v2 to perform actions on Projects, Jobs, Models, and Applications.

See [Getting started with CML API](#) for information on using API v2.

**Related Information**[Starting a Job Run Using the API](#)[Cloudera Data Science Workbench API v2](#)