Cloudera Public Cloud

CDP CLI

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CLOUDƎRA

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CDP CLI

CDP CLI allows you to manage Cloudera environments, clusters, and other entities.

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CLI client setup

To set up the Cloudera client, complete the following tasks:

1. Installing Cloudera client
2. Generate an API access key
3. Configuring Cloudera client with the API access key

Instead of steps 2 and 3, you can use the interactive login described in Logging into the CDP CLI/SDK.

Installing Cloudera client

You can install the Cloudera client through pip on Linux, macOS, or Windows. The Cloudera client works with Python version 3.6 or later.

For more information, refer to the following instructions. Note that similar instructions are available from the Cloudera web interface from the Help menu in the bottom left corner > Download CLI.

For current information on changes to the CLI, see the API changelog.

Install Cloudera client on Linux

Install Cloudera client on Linux and verify that the CDP CLI client is working.

Procedure

1. To avoid conflicts with older versions of Python or other packages, Cloudera recommends that you install the Cloudera client in a virtual environment. Use the virtualenv tool to create a virtual environment and install the client.

2. Use pip to install the client on a virtual environment:

```
mkdir ~/cdpclienv
```

```
virtualenv ~/cdpclienv
```

```
source ~/cdpclienv/bin/activate
```

```
~/cdpclienv/bin/pip install cdpcli
```

3. To upgrade the Cloudera client to the latest version, run the following command:

```
~/cdpclienv/bin/pip install --upgrade cdpcli
```

4. After the client installation process is complete, run the following command to confirm that the Cloudera client is working:

   - If virtualenv is activated: cdp --version
   - If virtualenv is not activated: ~/cdpclienv/bin/cdp --version

Install Cloudera client on macOS

The version of Python and pip installed with macOS is older than the one required for the Cloudera client. You must install the latest version of Python before you install the Cloudera client.

Install Python on macOS

Install Python and verify if it is working.

Procedure

1. Download and install the latest version of Python for Mac OS X from the Python downloads page.
2. Use the following commands to install pip:

```
$ curl -O https://bootstrap.pypa.io/get-pip.py
```

```
$ python3 get-pip.py --user
```

3. Use the following commands to verify that Python and pip are correctly installed:

```
python3 --version
```

```
pip3 --version
```

Install Cloudera client after Python on macOS

Install the CDP CLI client and verify if it is working.

Procedure

1. Use the following command to install the Cloudera client:

```
$ pip3 install cdpcli --user
```

2. Check the location of your Python directory that contains the client executable files. For example, for Python 3.6.x the executable files are in the following directory:

```
~/Library/Python/3.6/bin
```

3. Add the Python directory that contains the client executable files to the PATH environment variable. For example:

```
echo "~/Library/Python/3.6/bin" | sudo tee -a /etc/paths
```

4. Use the following command to verify that the Cloudera client is correctly installed:

```
cdp --version
```

To upgrade the Cloudera client to the latest version, run the following command:

```
$ pip3 install cdpcli --upgrade --user
```

Install Cloudera client on Windows

You must install Python and pip before you install the Cloudera client.

Install Python and pip on Windows

To install Python and pip:

Procedure

1. Download and install the latest version of Python for Windows from the Python downloads page.

2. Add the Python home and scripts directories to the Windows PATH environment variable.

3. The Python directory can vary for different versions of Python and different versions of Windows. For example, on the Windows 2016 server, the Python 3.6.1 home directory and the scripts directory are in the following locations:

```
C:\Users\Administrator\AppData\Local\Programs\Python\Python36-32\;
```

```
C:\Users\Administrator\AppData\Local\Programs\Python\Python36-32\Scripts\;
```

Install Cloudera client after Python on Windows

To install the Cloudera client:

Procedure

1. Open a Command Prompt window.

2. Use the following commands to verify that Python and pip are correctly installed:

```
python --version
```

```
pip --version
```

3. Use pip to install the Cloudera client using the following command:

```
pip install cdpcli
```

4. Use the following command to verify that the Cloudera client is correctly installed:

```
cdp --version
```

To upgrade the client to the latest version, run the following command:

```
pip install --upgrade cdpcli
```

Logging into the CDP CLI/SDK

You can log into the CDP CLI using two different methods. The interactive method described in this topic integrates with any SAML-compliant external identity provider.

About this task

There are two ways to log into the CDP CLI/SDK. The traditional method requires generating access credentials (an API access key and private key), then configuring the ~/.cdp/credentials file with the key pair. In this method the access credentials are permanent until they are removed from the ~/.cdp/credentials file. If you prefer to use this method of access, you can skip to the following topics: *Generating an API access key* and *Configuring Cloudera client with the API access key*. It is possible that this traditional login method may be disabled by an administrator, and therefore unavailable to some users.

If you would prefer that user access to the CLI/SDK is shorter-lived, you can use the "interactive" method of logging into the CDP CLI/SDK. By default, this login method grants a 12-hour access key to the CLI/SDK. The access key will time out after one hour of inactivity. The interactive method integrates with any SAML-compliant external identity provider. To set up the interactive method of logging into the CLI/SDK, follow the steps below.

Before you begin

1. Determine which identity provider you want to use for login. If you do not specify an IdP in the login command, the login command will use your default IdP, which is typically the oldest identity provider configured under User ManagementIdentity Providers.
2. Verify that the identity provider you are using has been configured for SAML-based sign on.
3. Take note of your Cloudera tenant/account ID. To find it, click your user name in the bottom left hand navigation menu, select Profile, and then copy the Tenant ID field.

Procedure

1. Use the following command to login to the CDP CLI:

```
cdp login --account-id <tenant-account-id> --identity-provider <idp-name>
  --use-device-code
```

- --account-id is required unless it is configured in the ~/.cdp/config file (account_id).
- --identity-provider is optional, but if not specified, the command uses the default IdP. Give the name or the CRN of the desired IdP as listed in the details page for the IdP, which you can access from User Management Identity Providers .
- --use-device-code allows for the CDP CLI login on a device that does not have a browser. If you use this parameter in the login command, you are instructed to open a URL from any other device with a browser present, input a code displayed on the CLI screen, then complete the authentication flow in the browser.

  Note: The --use-device-code option is not enabled by default. To have this feature enabled, contact your account team.

Running the command sends a request to the specified IdP, which opens the login page in a browser window.

2. Login to the IdP using your company credentials.

   The browser window will inform you when it is safe to close the window. The access key that is generated by the command is saved to the ~/.cdp/credentials file. You can run a test command in the CLI to verify that you are successfully logged in. If you receive an authentication error, login in again.

Related Information

Configuring Cloudera client

Generating an API access key

Generating an API access key

A Cloudera user account (a user or a machine user) must have API access credentials to access Cloudera services through the CDP CLI or API.

When you use this method to generate an access key and then manually configure the access key in the ~/.cdp/credentials, the access credentials are permanent until they are removed from the ~/.cdp/credentials file. A login command is not required if access credentials are stored in the ~/.cdp/credentials file. If you prefer that the API access key is shorter-lived, refer to the topic *Logging into the CDP CLI/SDK*, which describes a method of logging into the CLI/SDK through any SAML-compliant identity provider.

Required roles: Users who have the IAMUser role can generate an API access key from their own account page. As a Cloudera administrator or PowerUser, you can generate an API access key for all user accounts.

Generate your own access key

Steps

1. Sign in to the Cloudera console.
2. Click on your user name in the bottom left corner and then select Profile.
3. On the user profile page that appears, click Generate Access Key.
4. Cloudera creates the key and displays the information on the screen.

   Copy the access key and private key to a text file and send it to the Cloudera user who requires it. The private key is a very long string of characters. Make sure that you copy the full string. You can optionally download the credentials file containing the access key information.
5. Click OK to exit the access key window.

   Note:

   The Cloudera console displays the API access key immediately after you create it. You must copy or download the access key ID and private key information when it is displayed. Do not exit the console without copying the private key. After you exit the console, there is no other way to view or copy the private key.

Once you've generated the access key, you can configure CDP CLI, SDK, or other utilities that require it.

Generate an access key for another user or machine user (admin only)

Steps

1. Sign in to the Cloudera console.
2. From the Cloudera home page, click Cloudera Management Console.
3. On the side navigation panel, click Users.
4. On the Users page, click the name of the user or machine user account for which you want to generate an access key.
5. On the user account page, go to the Access Keys section and click Generate Access Key.

6. Cloudera creates the key and displays the information on the screen.

   Copy the access key and private key to a text file and send it to the Cloudera user who requires it. The private key is a very long string of characters. Make sure that you copy the full string. You can optionally download the credentials file containing the access key information.

7. Click OK to exit the access key window.

   Note:

   The Cloudera console displays the API access key immediately after you create it. You must copy or download the access key ID and private key information when it is displayed. Do not exit the console without copying the private key. After you exit the console, there is no other way to view or copy the private key.

Once you've generated the access key, you can configure CDP CLI, SDK, or other utilities that require it.

Related Information

Logging into the CDP CLI/SDK

Configuring Cloudera client

After you generate the access key, go to the command line and run the following commands to configure the Cloudera client.

Procedure

1. On the command line, run the following command to configure the client with the access key:

   cdp configure

2. Enter the following information at the prompt:

   a. Cloudera Access key. Copy and paste the access key ID that you generated in the Cloudera Management Console.
   b. Cloudera Private key. Copy and paste the private key that you generated in the Cloudera Management Console.

   The configuration utility creates the following file to store your user credentials:

   ~/.cdp/credentials

3. To verify that the credentials were created correctly, run the following command:

   cdp iam get-user

   The command displays your Cloudera client credentials.

4. Optionally, configure the Cloudera client to use the correct Cloudera Control Plane region. In the ~/.cdp/config file, set the Control Plane region as follows:

   cdp_region = <CONTROL_PLANE_REGION>

   For example: cdp_region = eu-1

   The CDP CLI chooses the endpoint URL in the following order:

   a. The endpoint-url from the command line or config file
   b. The --cdp-region argument from the command line (for example: cdp iam   get-user --cdp-region eu-1
   c. The cdp_region from the ~/.cdp/config file
   d. Default to us-west-1

   For more information about Cloudera Control Plane regions, see *Cloudera Control Plane regions*.

5. After you configure the client, go back to the Cloudera Management Console and click OK to exit the access key window. Note that a login command is not required if access credentials are stored in the ~/.cdp/credentials file.

Related Information

Cloudera Control Plane regions

Configuring CLI autocomplete

To configure CLI autocompletion, you must have two pieces of information: the name of the shell you're using and the location of the cdp_completer script.

About this task

The CDP CLI includes a command-completion feature that enables you to use the Tab key to complete a partially entered command. This feature isn't automatically installed, so you need to configure it manually. When you partially enter a command, parameter, or option, the command-completion feature either automatically completes your command or displays a suggested list of commands. To prompt command completion, you partially enter a command and press Tab.

Procedure

1. Locate the CLI completer.

    which cdp_completer

2. Add the completer's folder to your path:

    a) Find your shell's profile script in your user folder.

        For example:

        ~/.bash_profile

    b) Add the following command to your bash_profiler, replacing /usr/local/bin/cdp_completer with the actual location discovered in the previous sub-step:

        complete -C /usr/local/bin/cdp_completer cdp

    c) Reload the profile into the current session to put the changes into effect. Replace .bash_profile with the name of the shell script you discovered in the first sub-step:

        ```
        $ source ~/.bash_profile
        ```

3. Enter cdp <TAB> to display the available options for autocomplete.

CLI reference

The CLI reference documentation is available on GitHub:

*   CDP CLI Reference
*   Beta CDP CLI Reference

CDP CLI parameter types

This section describes the format of common CLI parameter types.

Timestamp

Format the timestamp parameter according to the ISO 8601 standard.

For example:

- YYYY-MM-DDThh:mm:ss.sssTZD (UTC)
- YYYY-MM-DDThh:mm:ss.sssTZD (with offset)
- YYYY-MM-DD
- Unix time in seconds

Accessing CLI help

CDP CLI includes help that can be accessed by using the cdp help command.

To get more information about a certain CDP CLI, use:

```
cdp <module-name> <command-name> help
```

For example:

```
cdp iam add-ssh-public-key help
```

```
cdp iam help|grep group
```

You can also find all of the CDP CLI commands in the CDP CLI Reference documentation.

Installing Beta CDP CLI

Refer to this documentation if you need to install Beta CDP CLI.

About this task

You may need to install Beta CDP CLI if you would like to access one or more preview features included in Cloudera. In most other cases, you should use the standard CDP CLI. Do not install both the standard and beta CLIs in the same Python environment, as they use the same entry points and will therefore conflict. Either use a separate virtual environment or uninstall the cdpcli first before installing cdpcli-beta.

Procedure

1. Install Python if needed, as described in CDP CLI documentation for your platform. Do not install CDP CLI. Instead, proceed to step 2.
2. Run the following to install Beta CDP CLI:

```
pip3 install cdpcli-beta
```

3. Configure access keys as described in Generating an API access key.
4. If you have previously installed Beta CDP CLI, you can update it to the latest version using:

```
pip3 install cdpcli-beta --upgrade --user
```

Related Information
Beta CDP CLI Reference