Enabling the OpenStack CLI

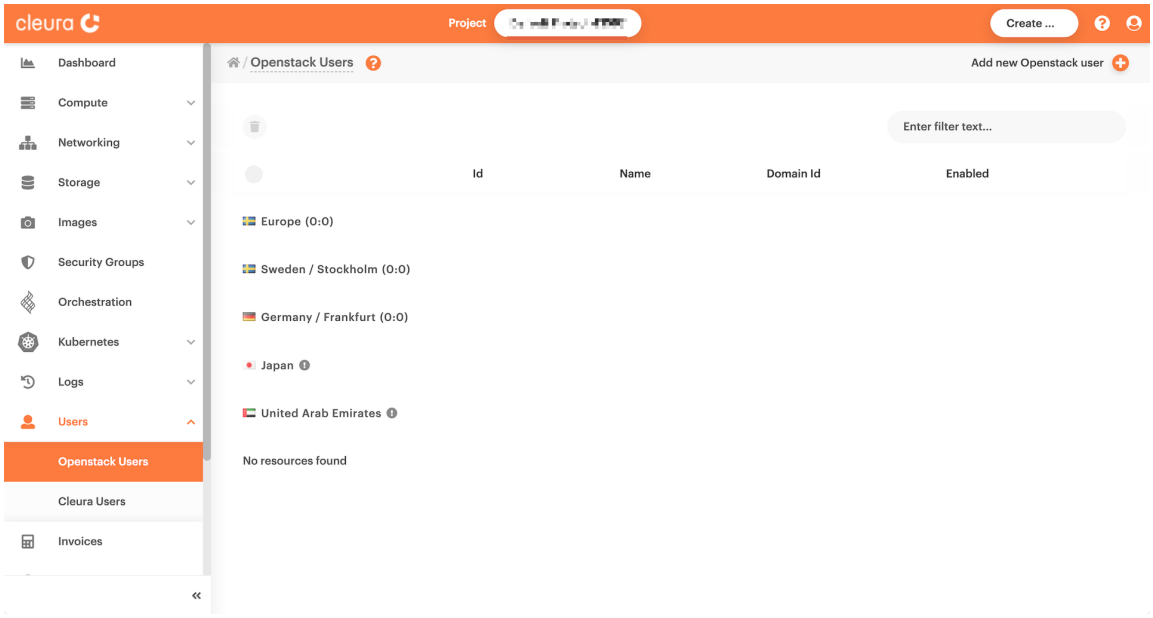
The OpenStack Command Line Interface (CLI) tool, also known as OpenStack Client (OSC) or simply `openstack`, conveniently provides access to various OpenStack APIs. Using the OpenStack CLI tool, you can remotely create and manage the lifecycle of objects related, for example, to Compute, Networking, or Storage.

Before installing `openstack` to your local laptop or workstation, you first need to have an OpenStack user in your Cleura account. Next, you create and download a special RC file onto your computer, modify it to reflect your OpenStack user's credentials, and source it. Only then will you be able to use any installed `openstack` client.

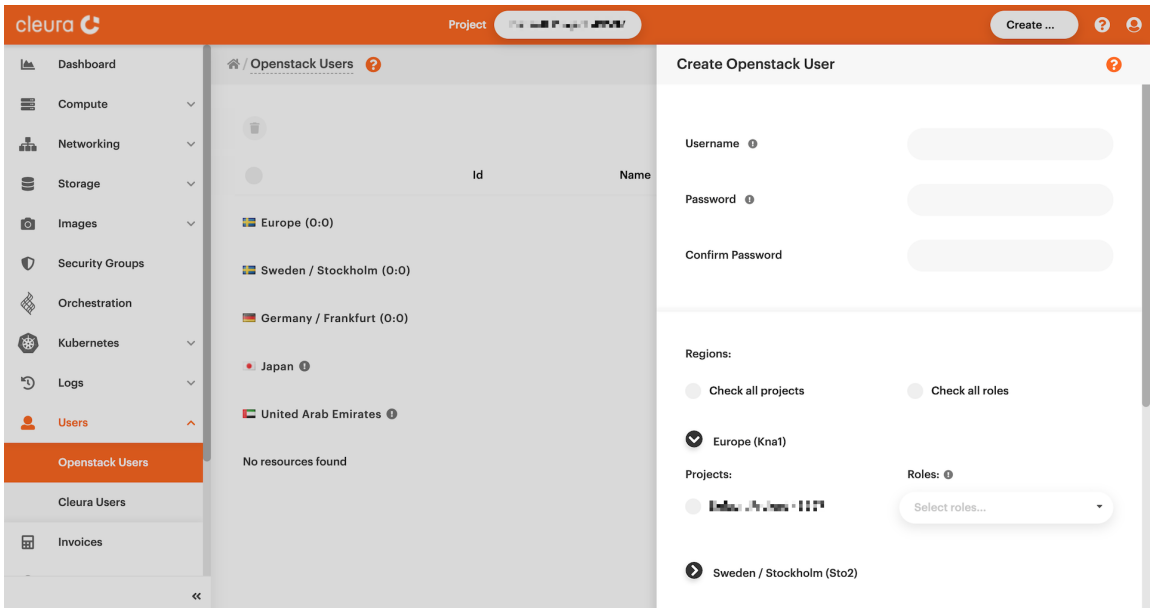
Creating an OpenStack user

From your favorite web browser, navigate to the Cleura Cloud page, and login into your Cleura account.

Please make sure the left-hand side pane on the Cleura Cloud Management Panel is fully visible, click the *Users* category to expand it, and click on *Openstack Users*.

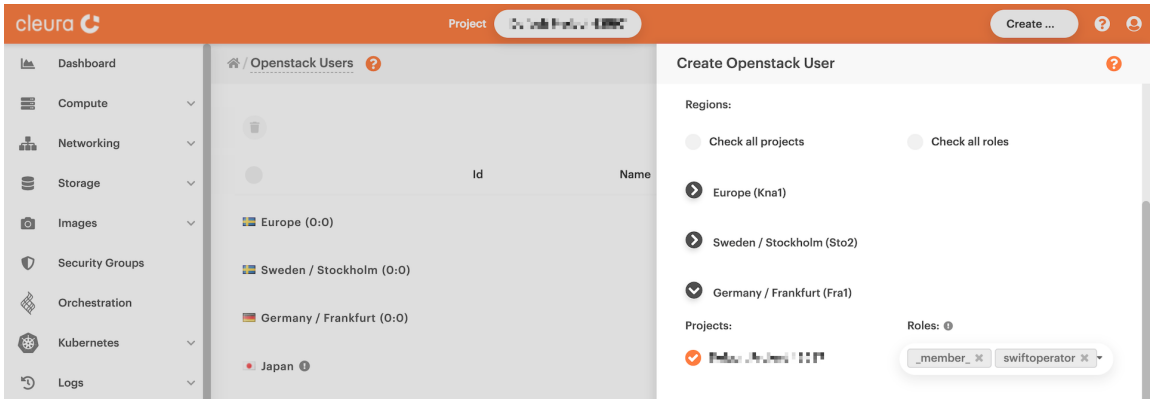


Then, at the top right-hand side of the Cleura Cloud Management Panel, click once more the *Add new Openstack user* option. A new pane will slide into view, titled *Create Openstack User*.

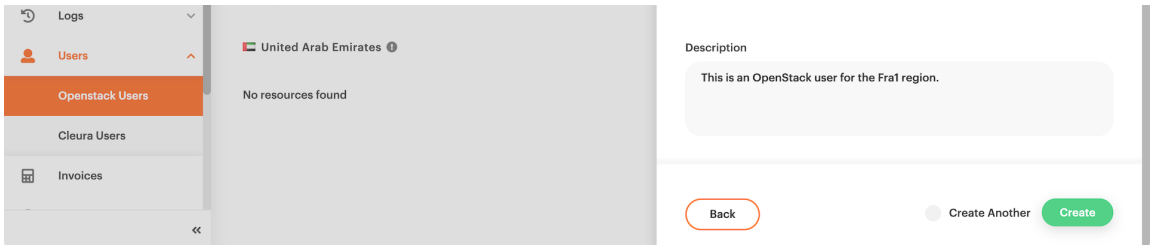


Type in a username and a password for the new OpenStack user. To ensure you typed the password correctly, you must re-type it below. This password should be adequately strong, and thus a password manager may come in handy.

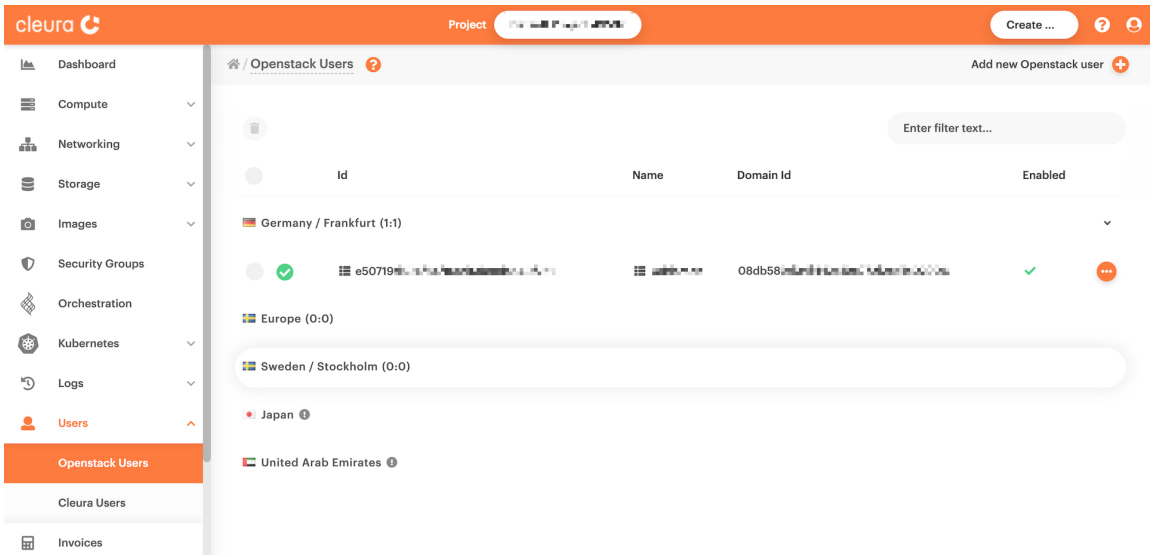
Scroll down a bit, so the *Regions* section is in full view. Expand one or more of the available regions you want your new user to have access to. For each one of the expanded regions, select one or more *Projects*. For each project, activate one or more *Roles*. (Hint: For an overview of the rights that roles provide, hover the mouse pointer over the exclamation mark icon by the *Roles*.)



Optionally, type in a description for the new OpenStack user. Then, create the user by clicking the green *Create* button below the *Description* box.

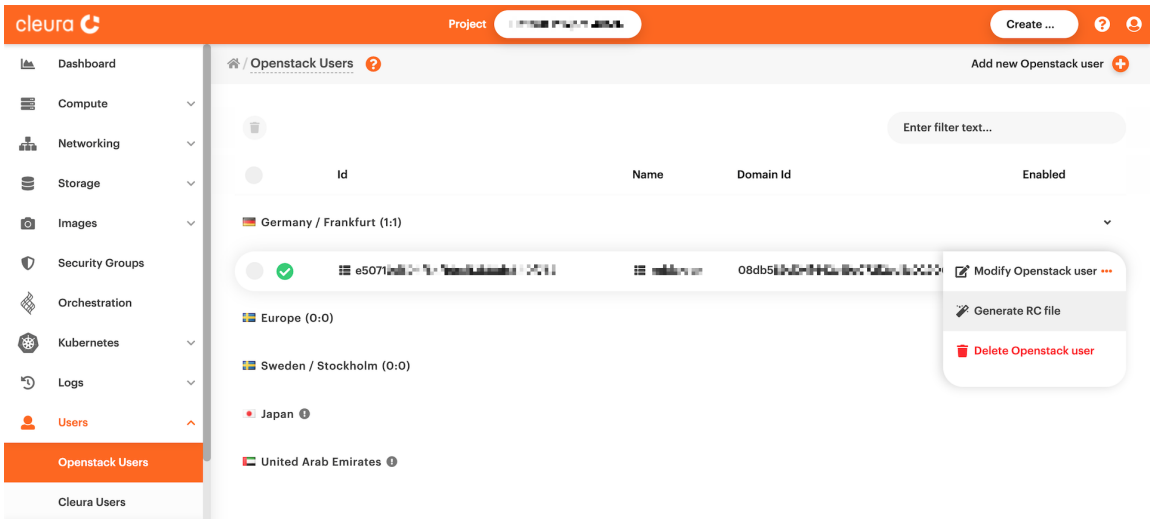


The new OpenStack user will be ready in just a few seconds. At any time, you can view all available OpenStack users by going to the left-hand side pane on the Cleura Cloud Management Panel and selecting *Users* > *Openstack Users*.

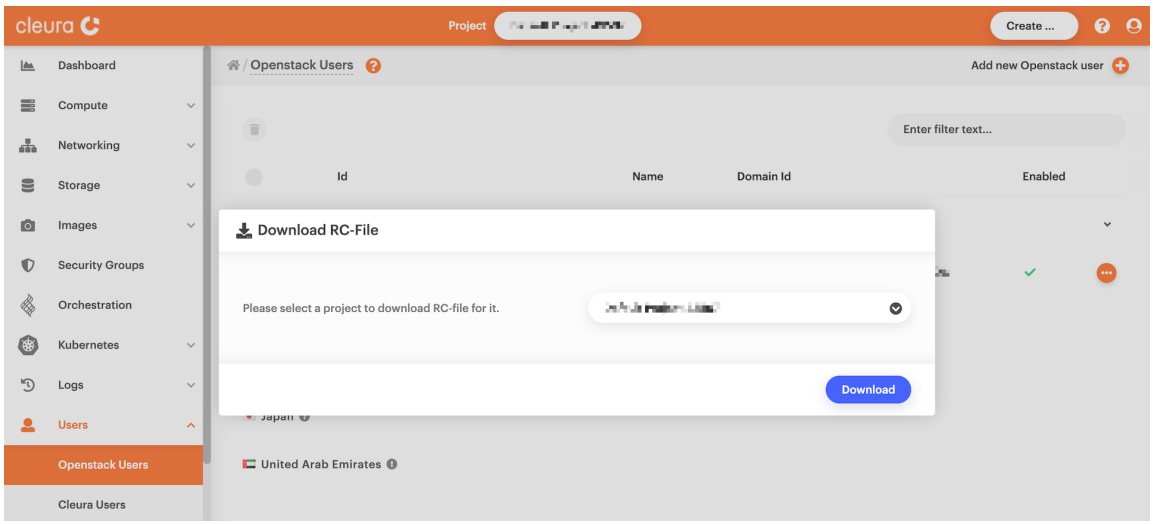


Creating and downloading an RC file

On the Cleura Cloud Management Panel expand the left-hand side pane, click *Users* and then *Openstack Users*. You will then see, listed in the main pane titled *Openstack Users*, all available users. Click on the three-dotted round icon on the right of the user you want to create an RC file for. From the pop-up that appears, select *Generate RC file*.



The RC file will be generated automatically. Before downloading it onto your local computer, you must select one of the available projects to relate the RC file to. Do so and then click the blue *Download* button.



A “Save as” dialog window appears, specific to the operating system you are currently using. Select a convenient location and save your RC file.

Modifying and sourcing the RC file

The general naming for RC files goes like this:

```
your_username--region_name--project_name--rc
```

So, assuming your username is `olafsdottir`, and the RC file has been created for the `fra1` region and the `katla` project, your RC file name should be this:

```
olafsdottir--fra1--katla--rc
```

Take a look at the contents of this file — they should be like this:

```
export OS_USERNAME=olafsdottir
export OS_PASSWORD=<your password goes here>
export OS_AUTH_URL=https://fra1.citycloud.com:5000
export OS_USER_DOMAIN_NAME=...
export OS_PROJECT_DOMAIN_NAME=...
export OS_REGION_NAME=Fra1
export OS_PROJECT_NAME="katla"
export OS_TENANT_NAME="katla"
export OS_AUTH_VERSION=3
export OS_IDENTITY_API_VERSION=3
```

Before you source the RC file, and thus initialize all relevant environment variables, make sure to edit the file and put your OpenStack user password in place of `<your password goes here>`. Also, change the permissions of the file, so it is readable and writable by your local user only:

```
chmod 600 olafsdottir--fra1--katla--rc
```

Then, go ahead and source it:

```
source olafsdottir--fra1--katla--rc
```

Installing the OpenStack CLI

If you do not have the OpenStack CLI tool readily available, use your operating system's package manager or `pip` to install it. Some examples follow.

Debian/Ubuntu	Mac OS X with Homebrew	Python package
apt update && apt install python3-openstackclient	brew install openstackclient	pip install python-openstackclient

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e already sourced your RC file, you can now use the `openstack` command line tool to access various OpenStack APIs on the Cleura Cloud.

To make sure your local installation of `openstack` works as expected, type:

```
openstack token issue
```

If `openstack` can indeed connect to the Cleura Cloud OpenStack APIs, then you will get information, in tabular format, regarding the issuance of a new token.

To get general help regarding `openstack`, type:

```
openstack --help
```

When you need help on a specific command, type something like `openstack help command`.

Auto-adjusting the CLI output to your terminal size

Many of the subcommands available in the `openstack` CLI produce tabular about by default. To ensure that this output always fits neatly into your terminal window, you may add the following line either to OpenStack RC file(s), or to your shell initialization file (like `.profile` or `.bashrc`):

```
export CLIFF_FIT_WIDTH=1
```

Then, be sure to either re-source the file you modified, and/or restart your shell.

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