

Using Gigantum

Gigantum is a data science platform that

- Runs in a Docker container
- Organizes things according to “Projects”
 - Independent and configurable environments
 - Tracks history of who did what and when
- Allows work in Python or R
 - Python: Jupyter or JupyterLab
 - R: RStudio
- Automates versioning and containerization
 - Projects are portable and can be shared
 - Everything done in a Project is easily reproducible

What will we do today?

- Download a zipped Gigantum Project that has the demo already installed
- Go to a cloud hosted Gigantum instance, make an account, and log in
- Import the zipped Project into your account
 - The project has demo notebooks
- Use those notebooks to explore
- Use your own data (or other data) to play
- Publish the Project to use it later if you like

Using Gigantum: Creating an account

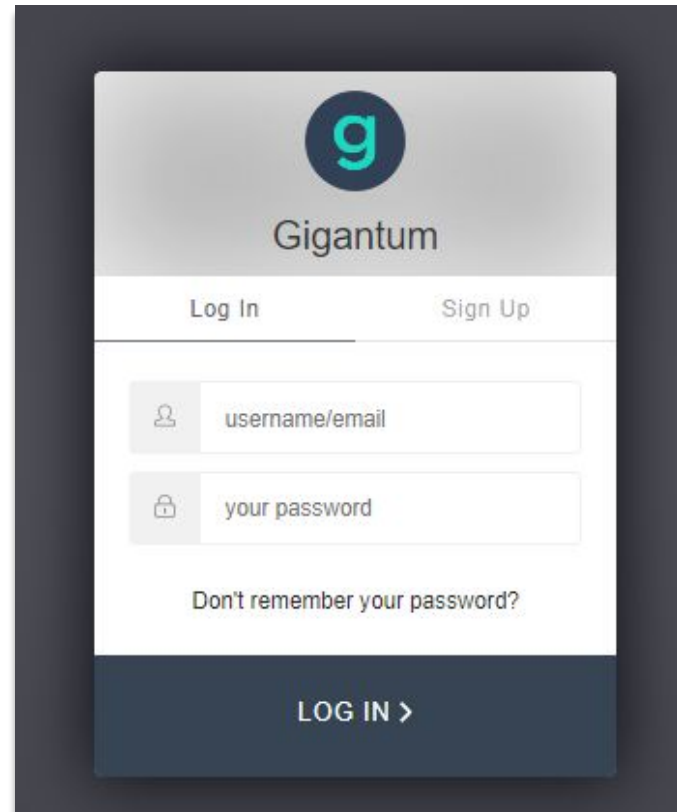
Use **Chrome** or **Firefox** and go to

<https://neurodata.gigantumdemo.com/>

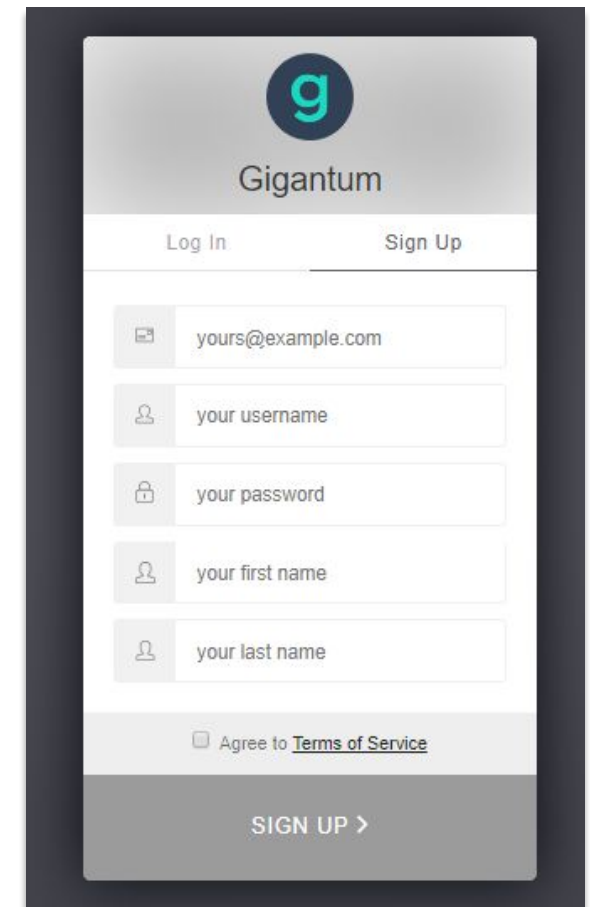


At the Log In widget

Click Sign Up



Enter your details, agree to the terms and click SIGN UP



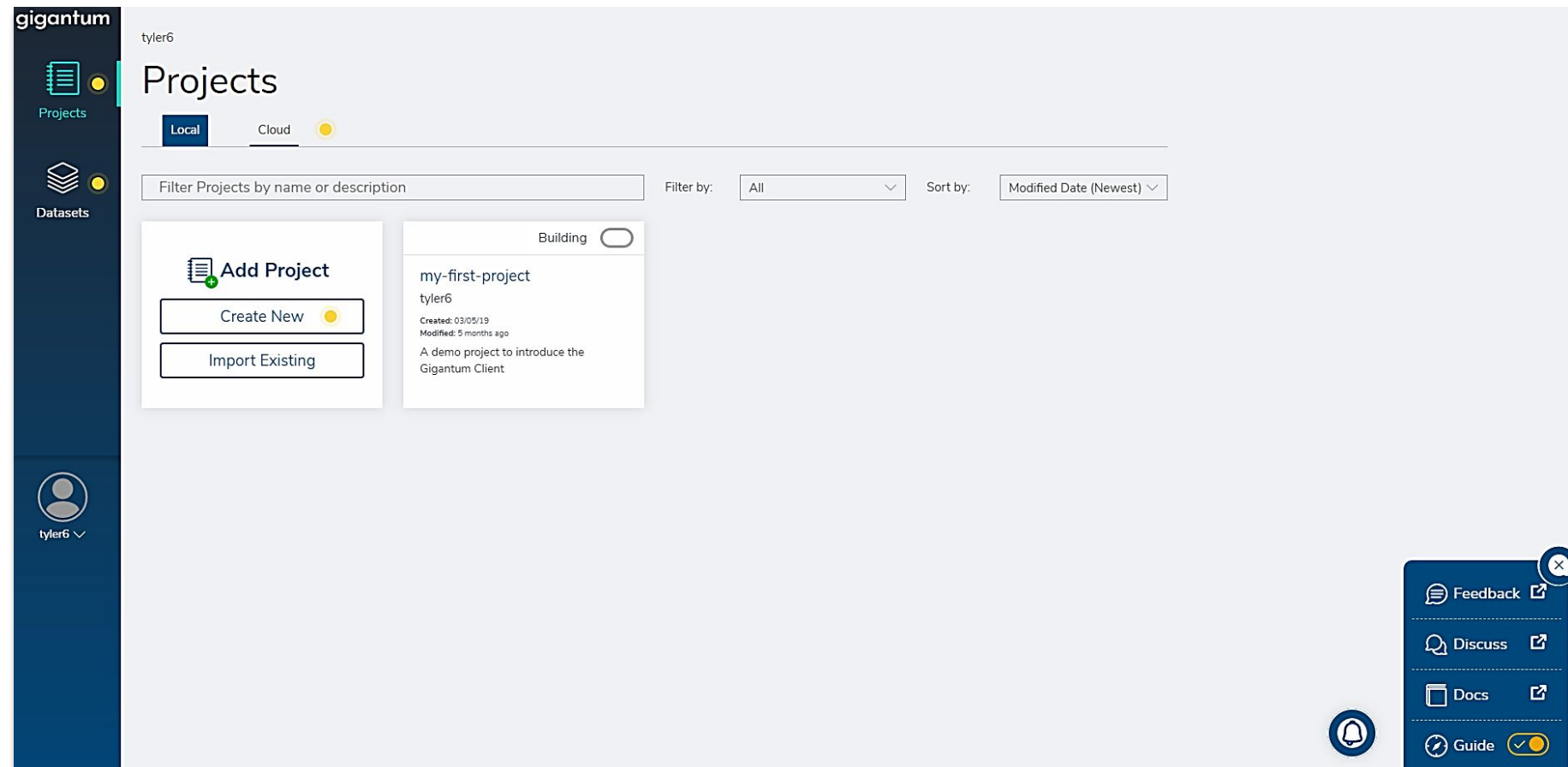
Using Gigantum: Overview page

This page let's you see the Projects you have locally.

You can create a Project or import an existing one.

Yellow dots give hints on mouse over.

You can turn it off with the “Guide” toggle in the corner.



Using Gigantum: Importing a zipped Project

Click Import Existing to bring up the import card.

Drag the zipped downloaded Project onto the import card.

The Project will build and open to the Project Overview Page



Using Gigantum: The Project Overview

After import, the app opens to the Project overview page

There are tabs for code files, input data, and output data.

Look in the Code tab. You will see some notebooks.

Look in the Input Data tab. You will see some files and folders.

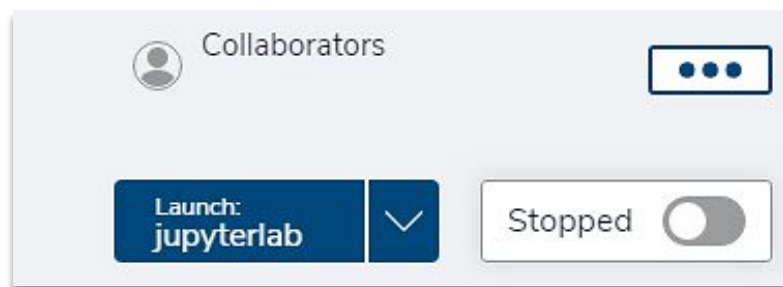
Look in the Environment tab. You will see the installed packages.

The screenshot shows the Gigantum web interface for a project named 'my-first-project' by user 'tyler6'. The interface includes a dark sidebar on the left with icons for 'Projects', 'Datasets', and a user profile. The main content area has a top bar with the project name, a description 'A demo project to introduce the Gigantum Client', and a 'Branch: master' dropdown. Below this is a row of tabs: 'Overview' (selected), 'Activity', 'Environment', 'Code', 'Input Data', and 'Output Data'. The 'Overview' tab displays a 'Recent Activity' section with a log entry at 03:28 pm stating 'gigantum-examples - Executed cell in notebook code/demo-analysis.ipynb and generated a result', accompanied by a small scatter plot. Below the activity is a 'Readme' section titled 'Your First Gigantum Project' with a welcome message and instructions to click the 'Launch Jupyterlab' button. At the bottom, there is an 'Environment' section. The top right corner features a 'Collaborators' section and buttons for 'Launch: jupyterlab' and 'Stop'.

Using Gigantum: Starting & stopping Jupyter

To start computing

Click the “Launch: jupyterlab” button

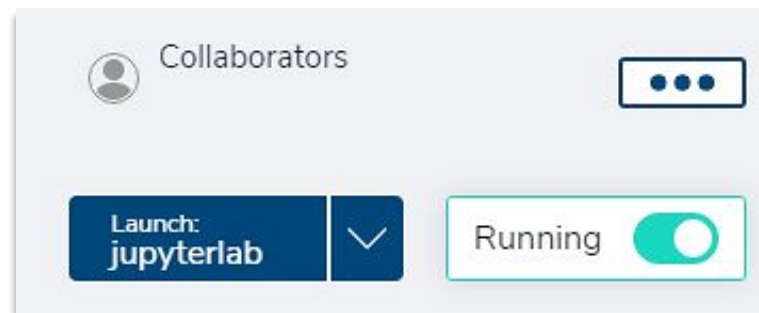


If a tab doesn't launch, then fix your popup blocker so the app can launch a tab.

Once you fix the popup blocker, stop the environment & then re-launch JupyterLab.

While computing

The status button will say “Running”

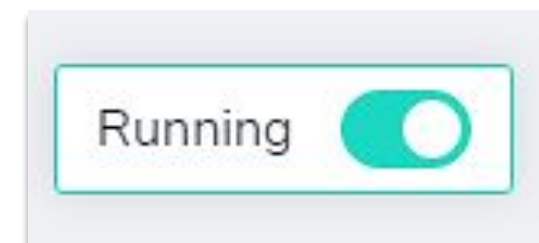


If you close the JupyterLab tab while the environment is running, click the “Launch: jupyterlab” button to get the tab back.

If you click the dropdown arrow, you can also use regular Jupyter.

To stop computing

Click the status button



Before you stop the execution environment by clicking the status button, **make sure to save your work in Jupyter.**

Gigantum versions with a “copy on write” & “record on execute” model, so saving your work makes sure a final version is created.

Using Gigantum: Publishing a Project



- The top bar has features for versioning and publishing the Project.
- First stop the execution environment.
- Then click the “Publish” button to push the Project to the cloud repository.
- Select “Public” or “Private”.
- After it is published, the Publish button will change to “Sync”.
 - As you work, the “commits ahead/behind” numbers will change in the button.
 - Click “Sync” to sync your changes with the cloud and the count will be reset.