

# Getting Started

On this page...

- [Prerequisites](#)
- [Getting Started](#)
  - [Home Directory](#)
  - [Opening & Creating Files](#)
  - [Uploading, Downloading, and Caching Files](#)
  - [Announcements](#)
  - [Internet access](#)
- [Getting Help With...](#)
  - [Jupyter](#)
- [Additional Resources](#)

## Prerequisites

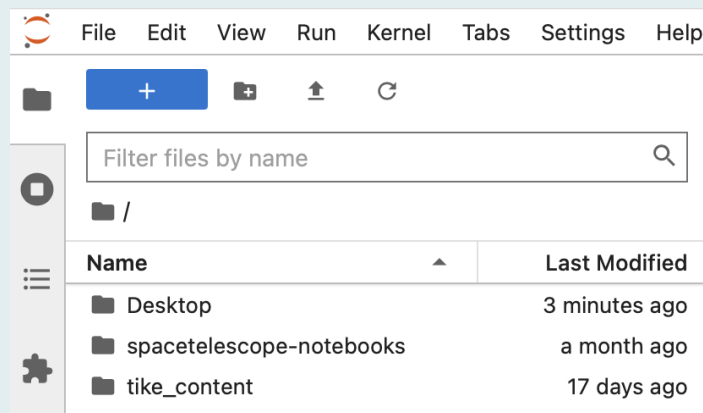
To work on any of the platforms, you'll first need to make a MyST account. If you don't already have an account, please visit the [MyST Account Home](#) to create one.

You'll interact with the platform via JupyterLab. For an overview of all the features available, see the written [JupyterLab Documentation](#) or the video from the creators attached below. We also summarize the essential elements in the "Getting Started" section below.

## Getting Started

### Home Directory

When you log into a Notebook session, the active directory is your \$HOME directory, which will look similar to **Fig 1** below. These pre-populated files include documentation to help you use the system and Notebook tutorials demonstrating various science use cases. This directory is unique to you: edits and uploads are not visible to other users.



**Figure 1** - The Navigation Panel shows a default file list in the home directory.

Files in this directory are saved on AWS storage and will persist between sessions. In addition, STScl creates backups every two weeks. However, it is always prudent to back up any critical files. Storage limit varies depending on the platform but is typically on the order of 25-50 GB; upload large files sparingly.



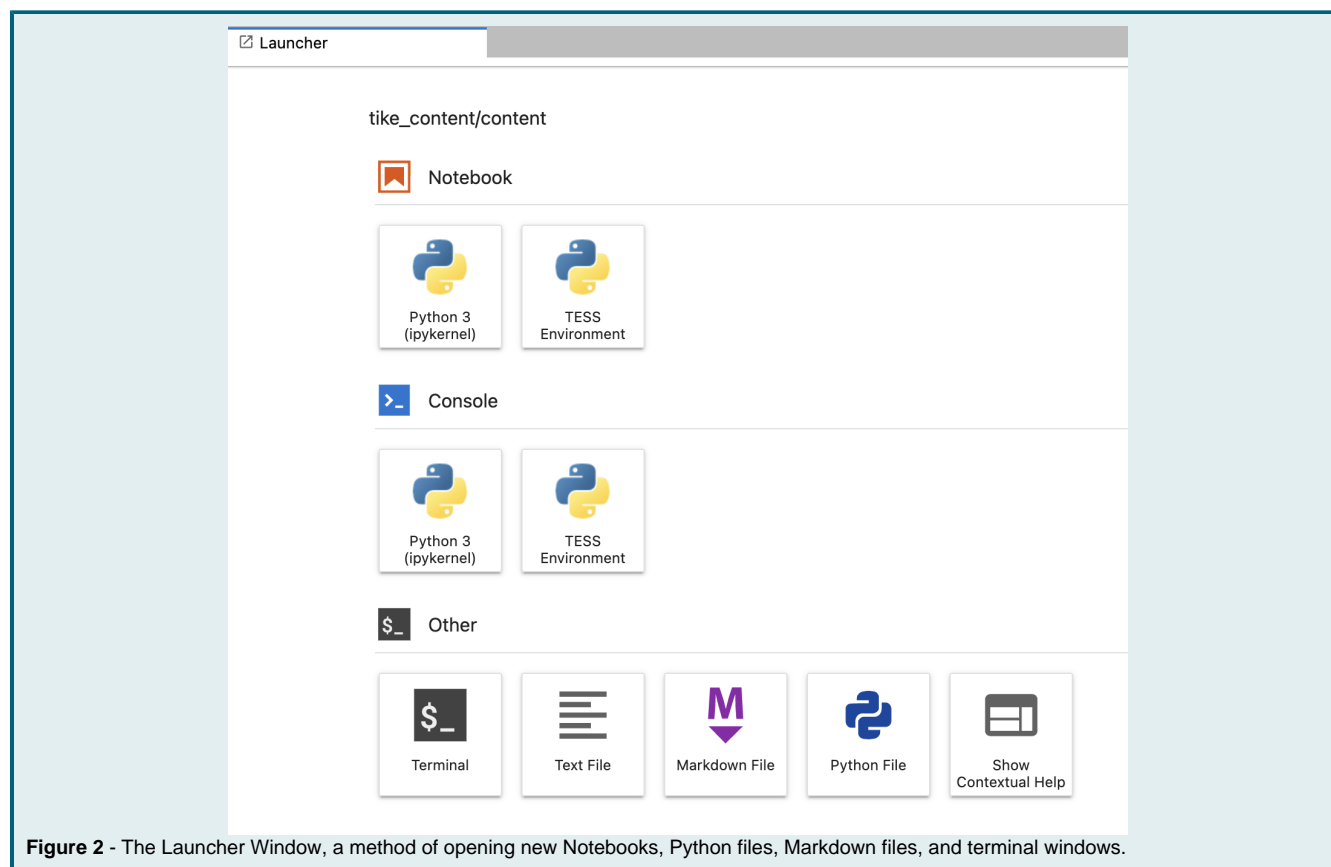
#### Storage Limits

If you exceed **90%** of quota usage, a warning announcement will be sent, and you will be prompted to conserve storage and delete files.

If you exceed **100%** quota usage, you will be **logged off the hub and locked out** until administrators can assist you with reducing your storage consumption.

## Opening & Creating Files

To open a folder, Notebook, or other files, double-click the desired item in the Navigation Panel. Clicking the blue plus sign at the top left of the window will open the launcher window seen below in **Fig 2**.



**Figure 2** - The Launcher Window, a method of opening new Notebooks, Python files, Markdown files, and terminal windows.

Clicking on a Notebook icon will open an empty JupyterLab Notebook window running in its corresponding kernel. The same is true of clicking on a **Console** icon. Read more about kernels and available software in the [Managing Software](#) section below.


The **Terminal** window launches a UNIX / Ubuntu shell window located at your \$HOME directory. This can be used to enter any typical UNIX commands to tar or zip files, compile code, pip install additional software, etc.

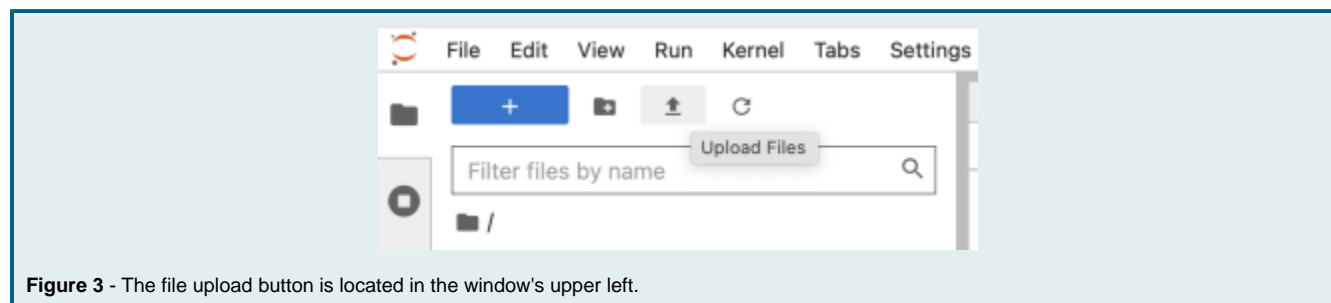
## Uploading, Downloading, and Caching Files

If you're transferring many files, consider creating a zip or tar archive first.

### Uploading

Data can be uploaded into the Notebook environment using the **up-arrow** located at the top of the navigation panel, to the right of the blue + button:

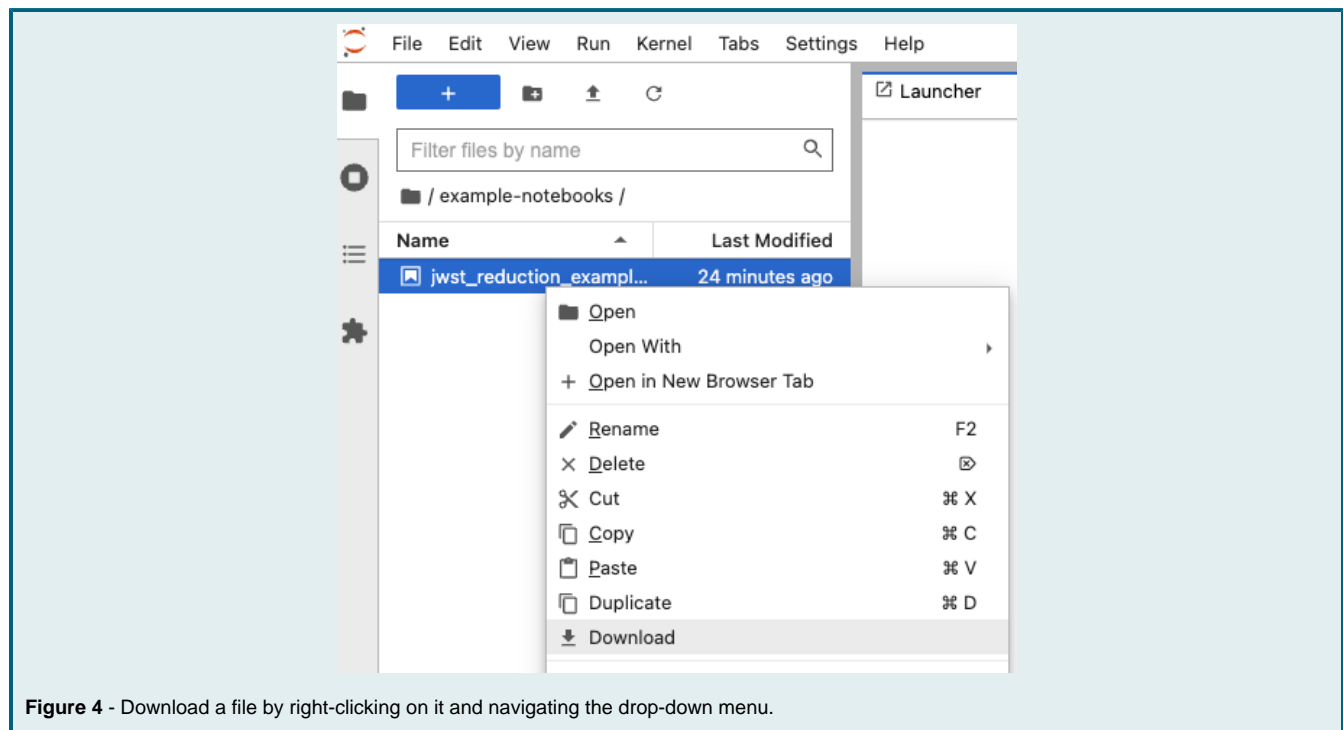
 **File size**  
Be mindful of the storage limit when uploading files!



**Figure 3** - The file upload button is located in the window's upper left.

## Downloading

You can download data from your Notebook environment by navigating to a file, right-clicking on it, then selecting *Download*:



## Automatic Data Cache Clearing

Many tools and packages implicitly cache data files that are fetched from the internet during program execution. Like any files stored in your \$HOME directory, these cached files consume storage space and incur monthly costs to retain. Consequently, upon logout, selected data caches are purged, deleting downloaded files to avoid storage fees. At this time, the packages involved include:

1. Astropy (and many/all client packages of astropy downloads and caching)
2. Lightcurve

Although the system will automatically clear your data caches when your session ends, the utility scripts used are also accessible to you via a terminal window or Notebook "!" escape. These may prove useful for rapidly reducing storage consumption should you approach or exceed quota limits:

Terminal Command	Example	Description
cache-size	<pre>\$ cache-size 3G</pre>	prints out a human-readable total of your data caches in bytes.
cache-clear	<pre>\$ cache-clear \$ cache-size &lt;small residual&gt;</pre>	deletes all data files in your data caches but leaves behind directory structures.


## Automatically Synced Notebooks

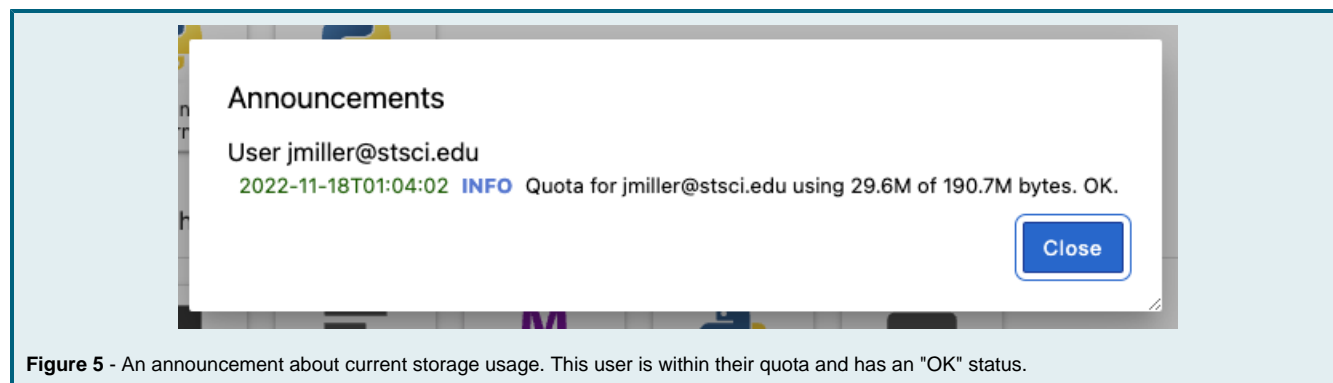
Every Science Platform automatically clones a selection of tutorial Notebooks from GitHub and places them in your \$HOME directory. These Notebooks are updated regularly, which poses an issue: the Platforms shouldn't overwrite your progress on a tutorial, but it's essential that the code in the tutorials be kept up to date as software is modified. To resolve this conflict, the tutorials are read-only. You will always have access to the latest version of tutorials, at the expense of not being able to edit them. Instead, to make changes or run a Notebook, you must:

1. Open a read-only Notebook from its original location.
2. Use File > Save as... to save a writable copy in a different location.
3. Make changes to the original example Notebooks manually as desired.

## Announcements

The bottom right corner of the Notebook display has an **Announcements** button. A new message is indicated by the status

 **Click for Announcements**. High-priority messages, such as warnings, errors, and critical announcements, will automatically open in your display.



## Internet access

Notebooks sessions have full access to the internet. You can download data and software packages into the Notebook environment using Notebook code and standard network tools like *wget*, *curl*, *pip*, and *npm*. See more in the 'Managing Software' section below. Installations will likely be fast, as the session runs in a data center with a > 1Gbps connection.



### Download Restrictions

Downloading data from a Platform session to a local machine is discouraged. Egress from cloud storage incurs additional costs; we limit downloads so that we can continue to provide this service for free to all users.

You can only access your session through a browser window. Despite full internet connectivity, it is not possible to remotely access (e.g., ssh into) your session.

## Getting Help With...

### Jupyter

Within the menu bar at the top of JupyterHub, the 'Help' option contains excellent reference documentation. From there, you can access full JupyterLab overview FAQs, Markdown tips, and the forum. This is not limited to text-based help: video tutorials are also available.

## Science Platforms

To send feedback, report bugs or problems, or request additional pre-installed software, contact the [MAST help desk](#).

---

## Additional Resources

- [Markdown Cheat Sheet](#), to learn about formatting text in Jupyter
- [Jupyter Forum](#)