

Getting Started with SciServer

The included exercises are designed to be run using SciServer (<http://www.sciserver.org/>). SciServer is a free, cloud-based research platform, which allows users to access and manipulate large datasets without the need to download any software or data onto a local computer. With SciServer, all you need to access and explore the full dataset from the Sloan Digital Sky Survey is a web-browser!

To setup a new account on SciServer:

1. Navigate to <http://www.sciserver.org/>, and click on “**Login to SciServer**”.



2. Click on “**Create a new account**”, on the left hand side, and fill in your details. Press submit.

Login with SciServer

User name

Password

Sign in

[Create a new account](#)

[Forgot your password?](#)

Login with Globus

Globus allows you to use your educational institution or Google login to authenticate with SciServer.

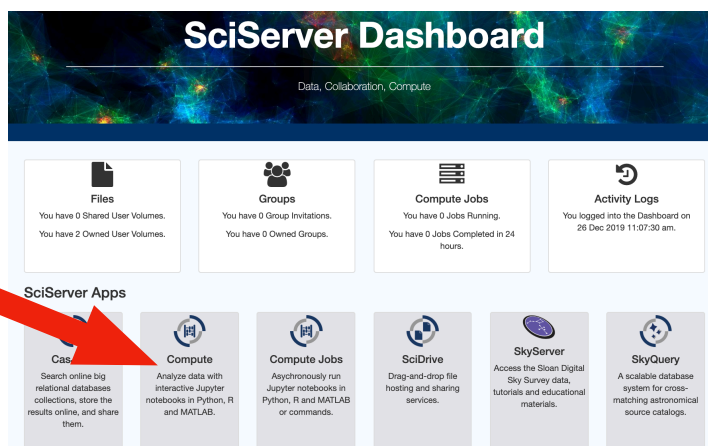
Sign in with Globus

[Sign out of Globus](#)

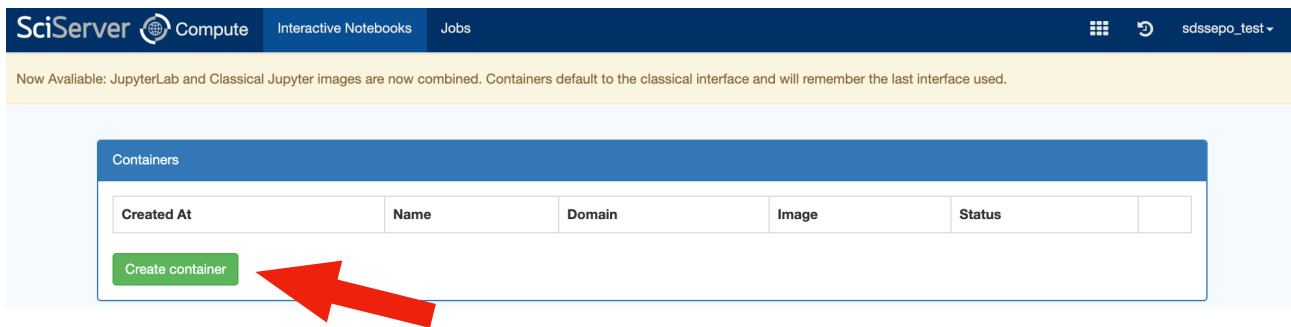


3. Once your account is activated you might need to log in with your details, which will lead you to the SciServer Dashboard panel.

Click on “**Compute**”.



4. You'll now be at your list of "containers" - essentially workspaces. You won't have any, so click "Create container".



5. Give your container a sensible name, and select the following options:

Domain: "Interactive Docker Compute Domain"
Compute Image: "SciServer Essentials 2.0"
User volumes: "persistent" and "scratch"
Data Volumes: "Getting Started", "SDSS*", "Manga"

The screenshot shows the 'Create a new container' form. It includes fields for 'Container name' (example_container), 'Domain' (Interactive Docker Compute Domain), and 'Compute Image' (SciServer Essentials 2.0). Below these are sections for 'User volumes' and 'Data volumes'. Red arrows point to the following selected options: 'persistent' and 'scratch' under User volumes; 'Getting Started', 'Manga', 'SDSS Associated Data', 'SDSS DAS', 'SDSS DR9 Imaging', 'SDSS SAS', and 'SDSS Spectra' under Data volumes. A 'Create' button is at the bottom right.

Create a new container

Container name
example_container

Domain
Interactive Docker Compute Domain

Shared Intel Xeon E7 systems. All containers are limited to 100GiB of RAM. Unused containers are shut down after 3 days.

Compute Image ?
SciServer Essentials 2.0

Python 3.8 (Anaconda 2020.11), R 4.0.3, TensorFlow 2.3.0, PyTorch 1.7.1

User volumes ☐ All

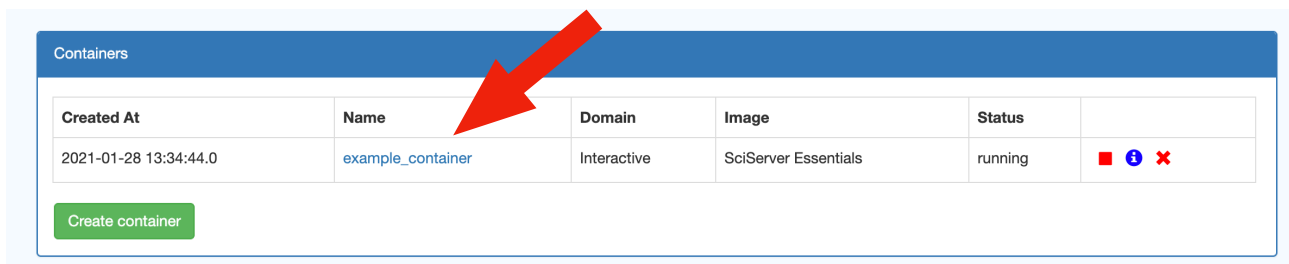
- ☒ persistent, Storage Volume created by astro420unca
- ☒ scratch, Temporary Volume created by astro420unca

Data volumes ? ☐ All

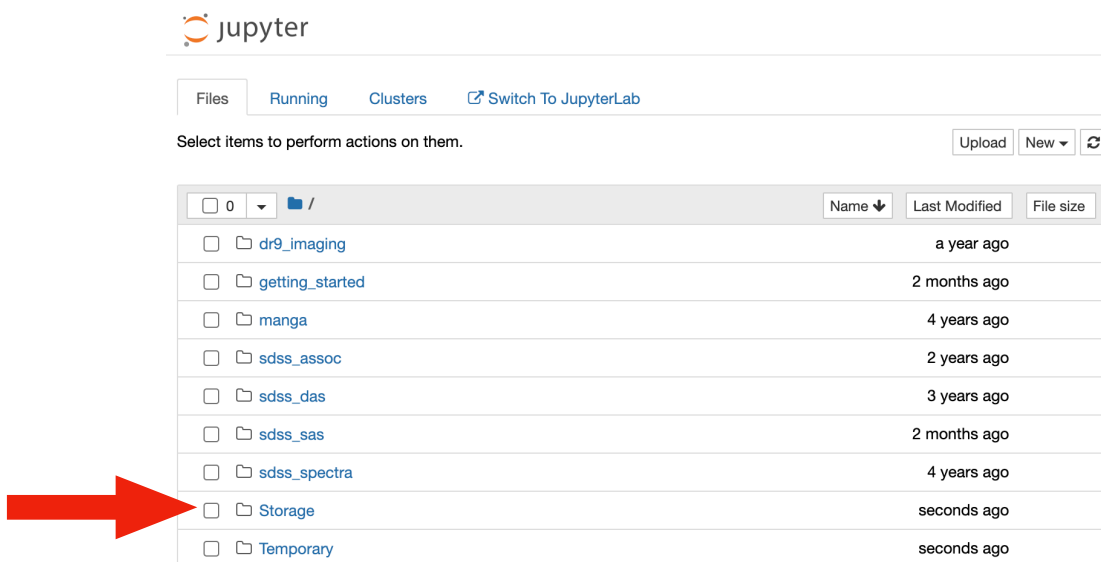
- ☐ AstroPath Data Public
- ☒ Getting Started
- ☐ HEASARC data
- ☒ Manga
- ☐ Ocean Circulation
- ☐ Poseidon
- ☐ Recount
- ☒ SDSS Associated Data
- ☒ SDSS DAS
- ☒ SDSS DR9 Imaging
- ☒ SDSS SAS
- ☒ SDSS Spectra

Create

6. Once created, navigate into your container.



7. If you're familiar with Jupyter, you're now in familiar territory. You always want to work from the “Storage” directory, so navigate into it.



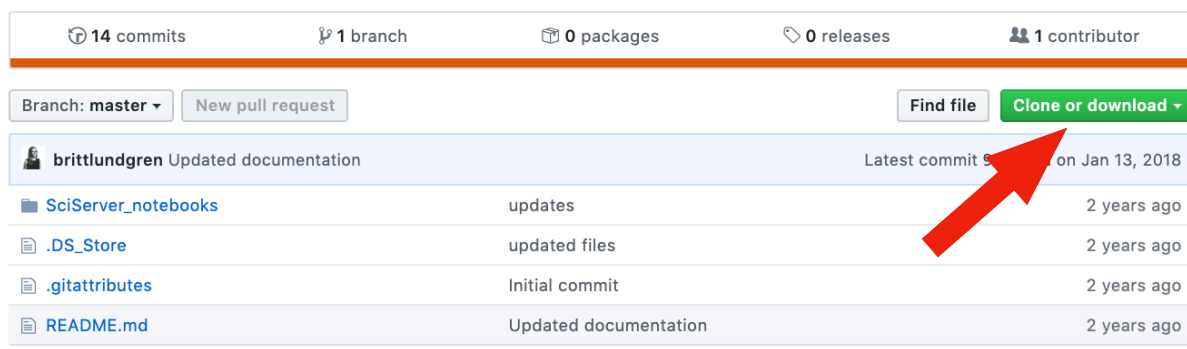
8. You can locate the example SDSS/SciServer Python notebooks on GitHub:

Intro-level university exercises: <https://github.com/ritatojeiro/SDSSEPO>

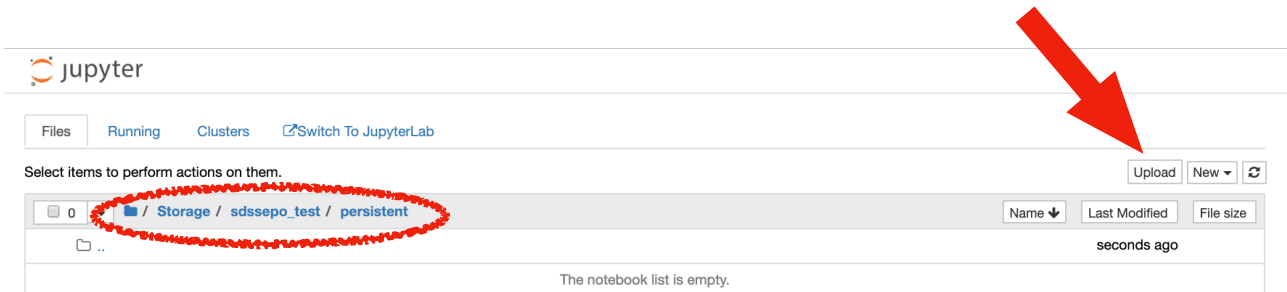
Upper-level university exercises: <https://github.com/brittlundgren/SDSS-EPO>

9. Download them to your local computer. It is recommended that you download the repository as a “zip” file, and extract/unzip the repository before attempting to load the files in SciServer.

Educational materials using the Sloan Digital Sky Survey



10. In SciServer Compute, navigate to your “**persistent**” directory, and use the “**Upload**” button to upload them to your persistent directory.



11. Note: In some cases, the uploaded filenames will end in an unwanted extension. If the filename appears as **notebook.ipynb.json** or **notebook.ipynb.txt**, tick the box immediately to the left of the filename. Then click the “Rename” button and delete the extension, making sure the filename ends in .ipynb. Click OK.