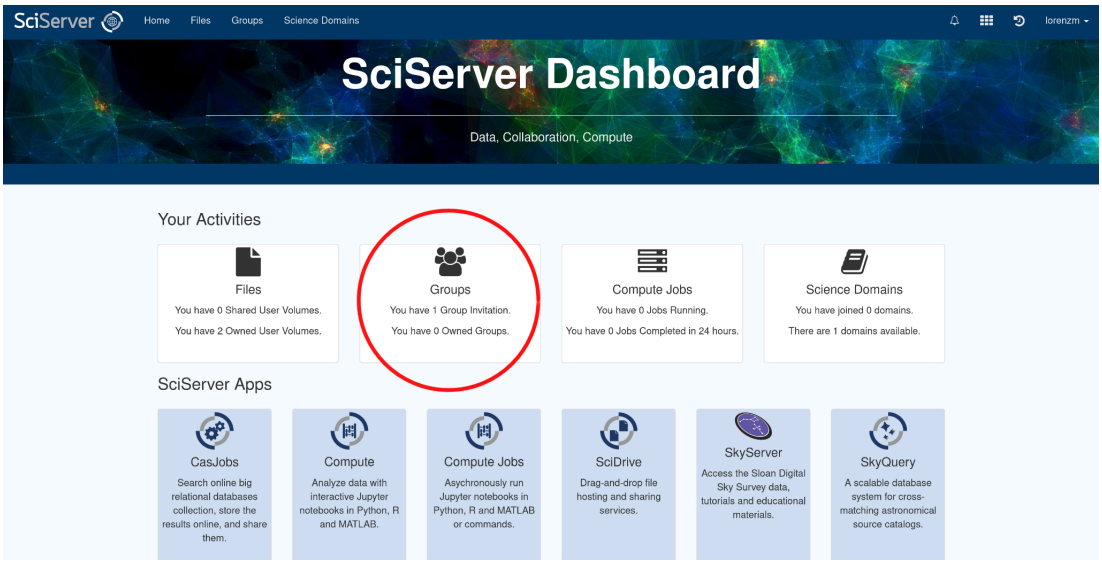
SIXTE on SciServer

User Guide

This document describes how to run SIXTE simulations on the SciServer platform. For detailed SciServer documentation, see the SciServer User Guide.

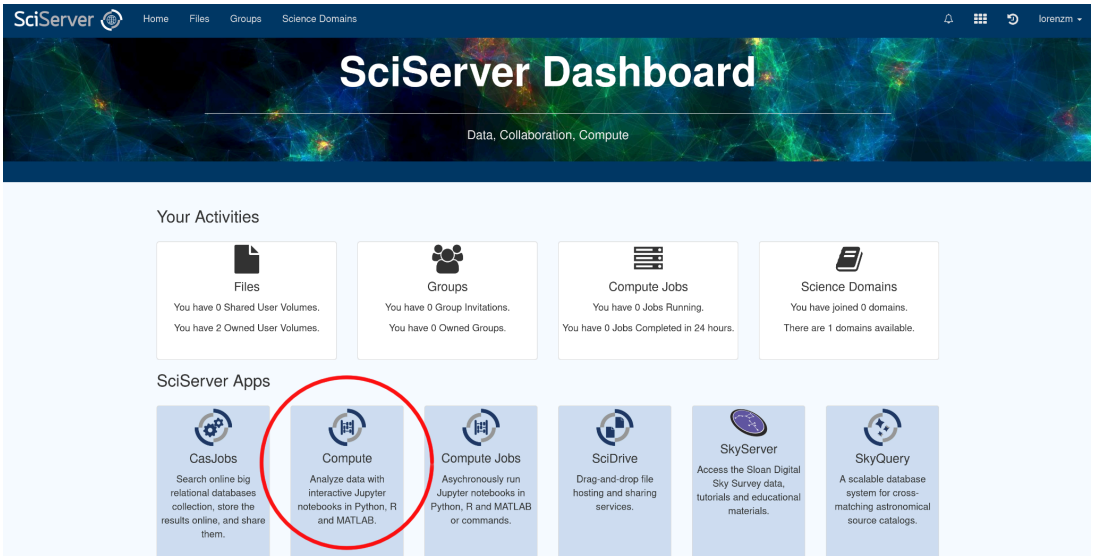
1. Getting Started

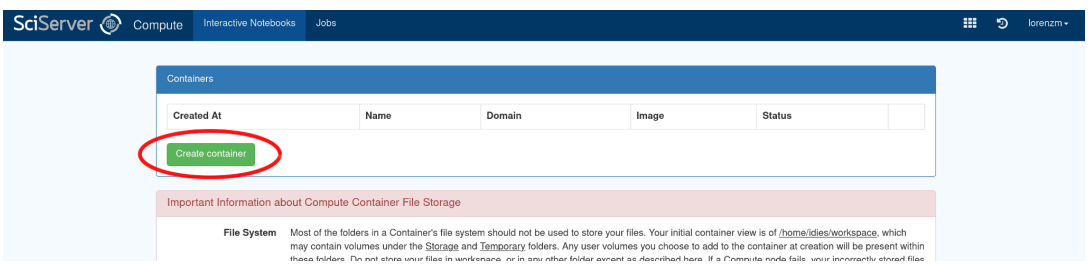
- Log in or create a new account at https://apps.sciserver.org/login-portal/.
- Please write an email with your username to sixte-support@lists.fau.de to invite you to the SciServer sixte_users group.
- Go to your **Dashboard** (you should automatically start here after log-in. Otherwise, navigate there via the Home button in the top panel). Open the **Groups** tab under **Your Activities**, and accept the invitation.



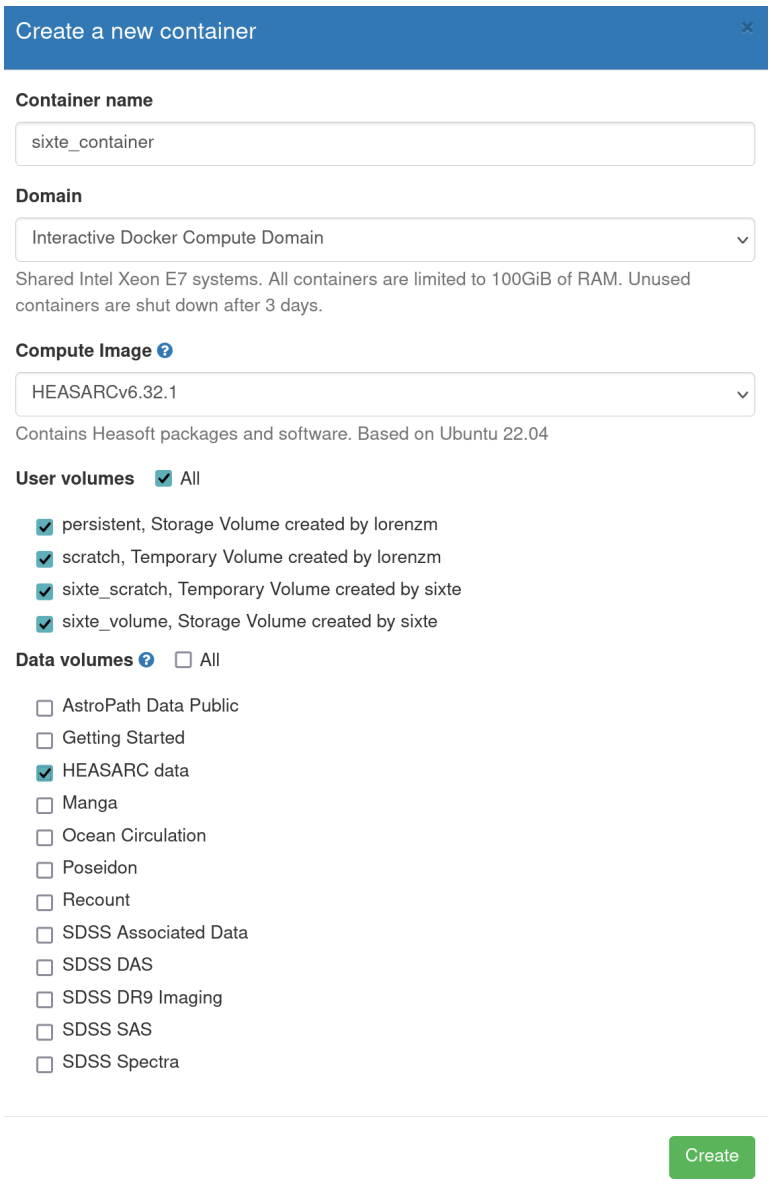
2. Create a new Compute Container

- To run applications and access the SciServer resources, you need to create a new **Compute Container**.
- On your Dashboard, click on **Compute** from the SciServer Apps. Then press **Create container**.





- Choose a **Container name** and select the **HEASARCv6.32.1 Compute Image**. Check **all User volumes** and the **HEASARC Data volume** as shown below, then press **Create**.

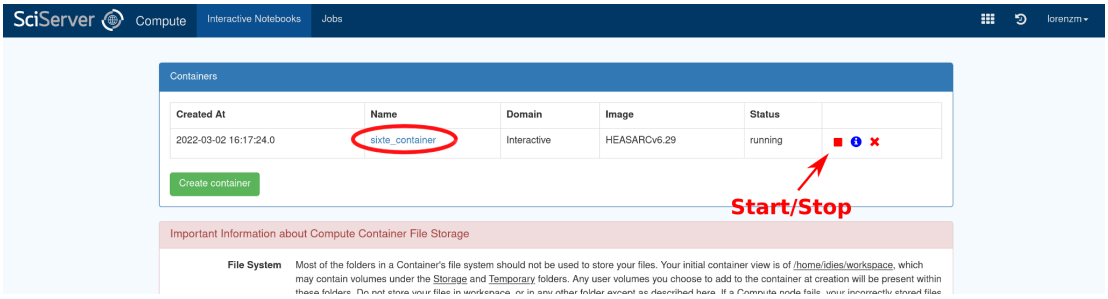


- Since this Compute Container is based on the HEASARCv6.32.1 image, all HEASoft tools will be available within the container by default. For a detailed documentation of this image, see also the HEASARC@SciServer User Guide.

3. Start the Compute Container

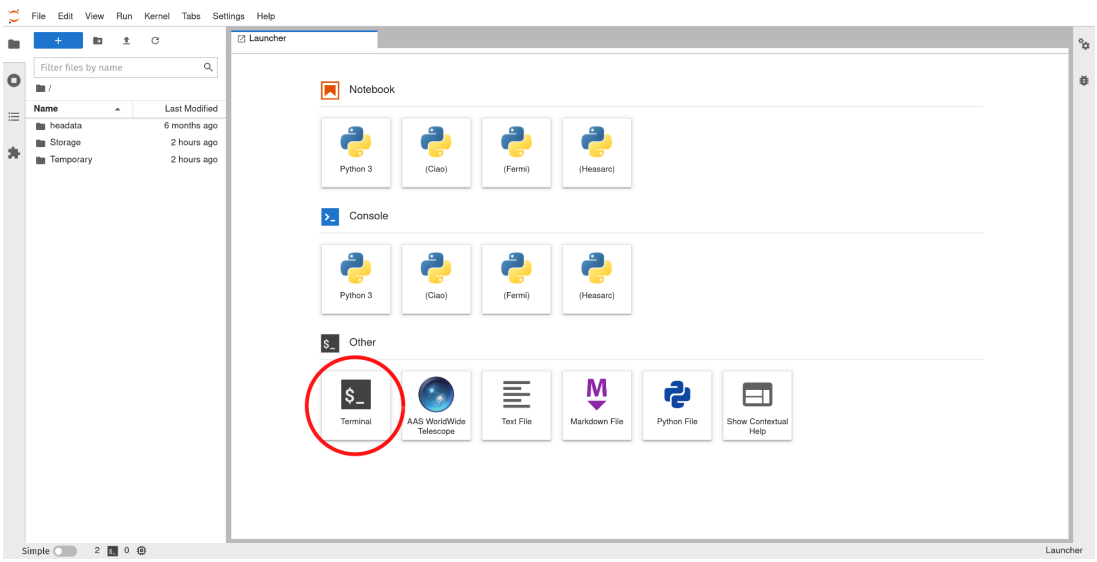
- Your new container will now show up in the Containers section. If the container is not already running, press the green arrow to start it. To stop a container, press the red square.

- Click on the name of your container to open a new browser tab with a Jupyter session.



4. Initialize SIXTE

- If you are not already on the JupyterLab interface, click on **"Switch to JupyterLab"** to open your workspace. The surface should now look like in the image below.
- Open a **Terminal** from the **Other** section of the Launcher:



- Initialize SIXTE by sourcing the setup script:

```
idies@5e7eab316ed8:~$ source $HOME/workspace/Storage/sixte/sixte_volume/sixte_setup.sh
```

- Verify that SIXTE is initialized correctly by running the **sixteversion** tool:

```
idies@5e7eab316ed8:~$ sixteversion
SIXTE version 2.7.1.7-f54f3
Compiled Mar  2 2022, 17:07:48
```

5. SciServer Overview

- **Filesystem:**

  Your files and data are stored in **User Volumes** on SciServer. By default, you have two User Volumes (*persistent* and *scratch*) to begin with at

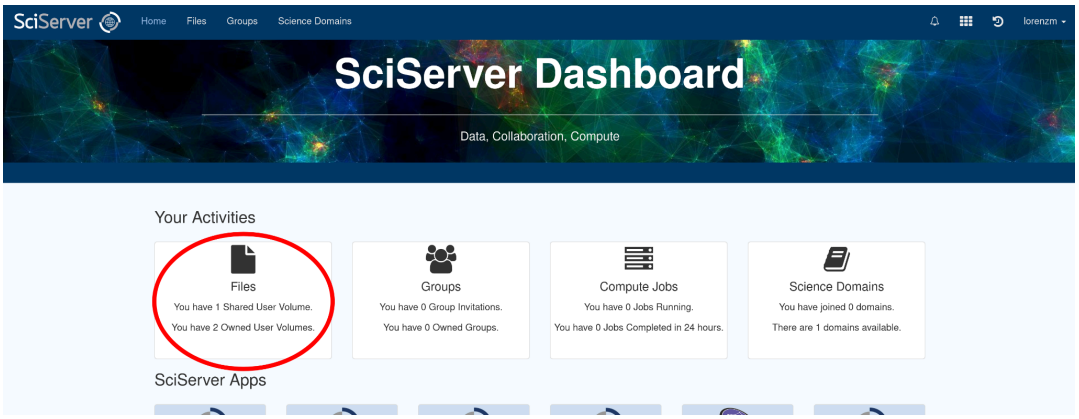
  ```
  $HOME/workspace/Storage/username/persistent/
  $HOME/workspace/Temporary/username/scratch/
  ```

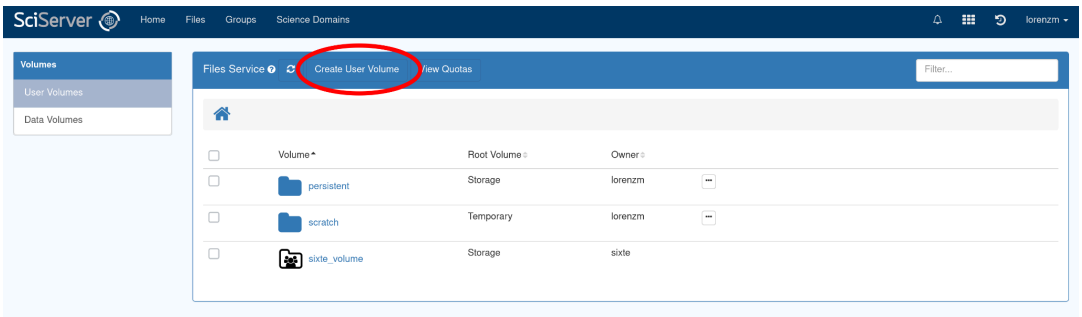
  Files in User Volumes under the **Storage** directory are backed up, permanent (quota limit of 10 GB), and persist between your Compute Containers. Use these Volumes for long-term storage of scripts and data.

  Files under **Temporary** are not backed up and will be deleted automatically after some time. Use these Volumes for temporary and intermediate data products.

  Important: Only store data within User Volumes (e.g., in /persistent or /scratch), **not** in any other directory (e.g., $HOME).

  You can find an overview of all your User Volumes in the **Files** tab under **Your Activities** on the SciServer Dashboard. Here you can also create new User Volumes as needed.



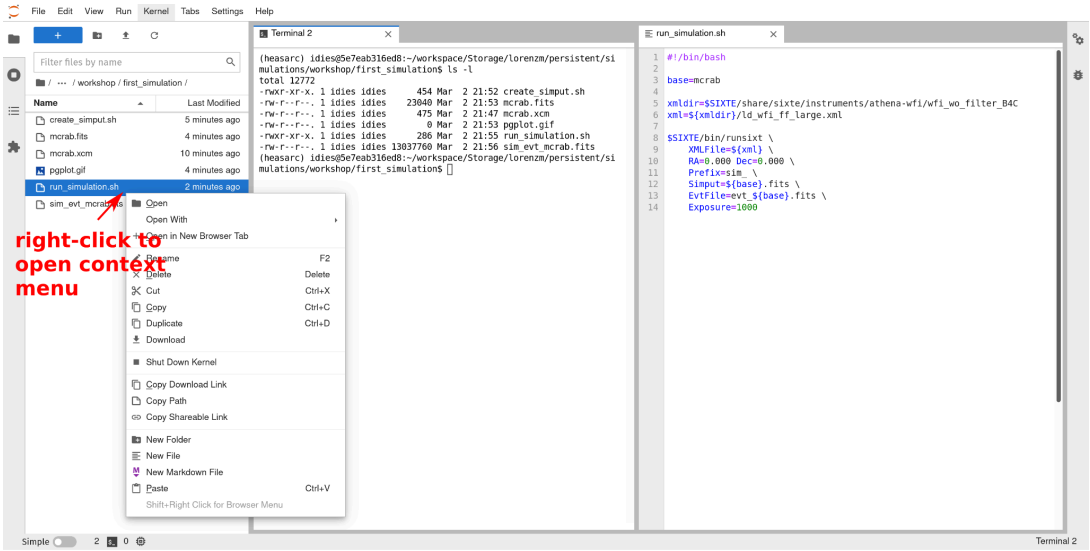


- **Navigation and File Editing:**

  SciServer compute images are based on Scientific Linux 7. You can navigate the filesystem and edit files with standard Linux commands in the Terminal.

  Alternatively, you can also navigate the filesystem via the file browser on the left. Right-clicking within the file browser opens a context menu that allows creation, deletion, copying, and renaming files and folders. Double-clicking on a text file opens

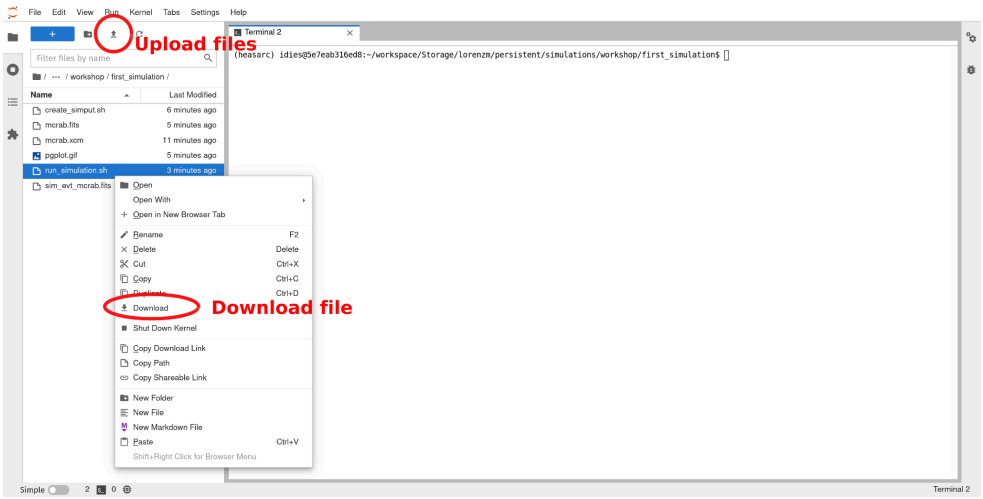
it in a basic editor.



- **Up- & Downloading Files:**

  There are two ways to move files in and out of a User Volume:

  1. Using the file browser in a Jupyter session:



  2. Within the Files section of the SciServer Dashboard: