

# ATLAS GPU Tutorial 2025

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Scot Halverson, Robbie Searles

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This is a two day, interactive tutorial that will use a Jupyter notebook for the informational material as well as the exercises.

Day 1 will be presented by **Scot Halverson** from NVIDIA.

Day 2 will be presented by **Robbie Searles** from NVIDIA.

Each day will be 4 hours long, from 15:00 CEST to 19:00 CEST, with a couple of breaks during the session.

If you are a member of ATLAS, there will be a third day of tutorial on **Monday April 28** that will cover using GPUs in Athena.

How to startup a Jupyter notebook on Perlmutter:

- <https://docs.google.com/document/d/1DucYfloPoQGfbrBnTBil7vmzxCOaVKYIIQHQGwFQm8M>

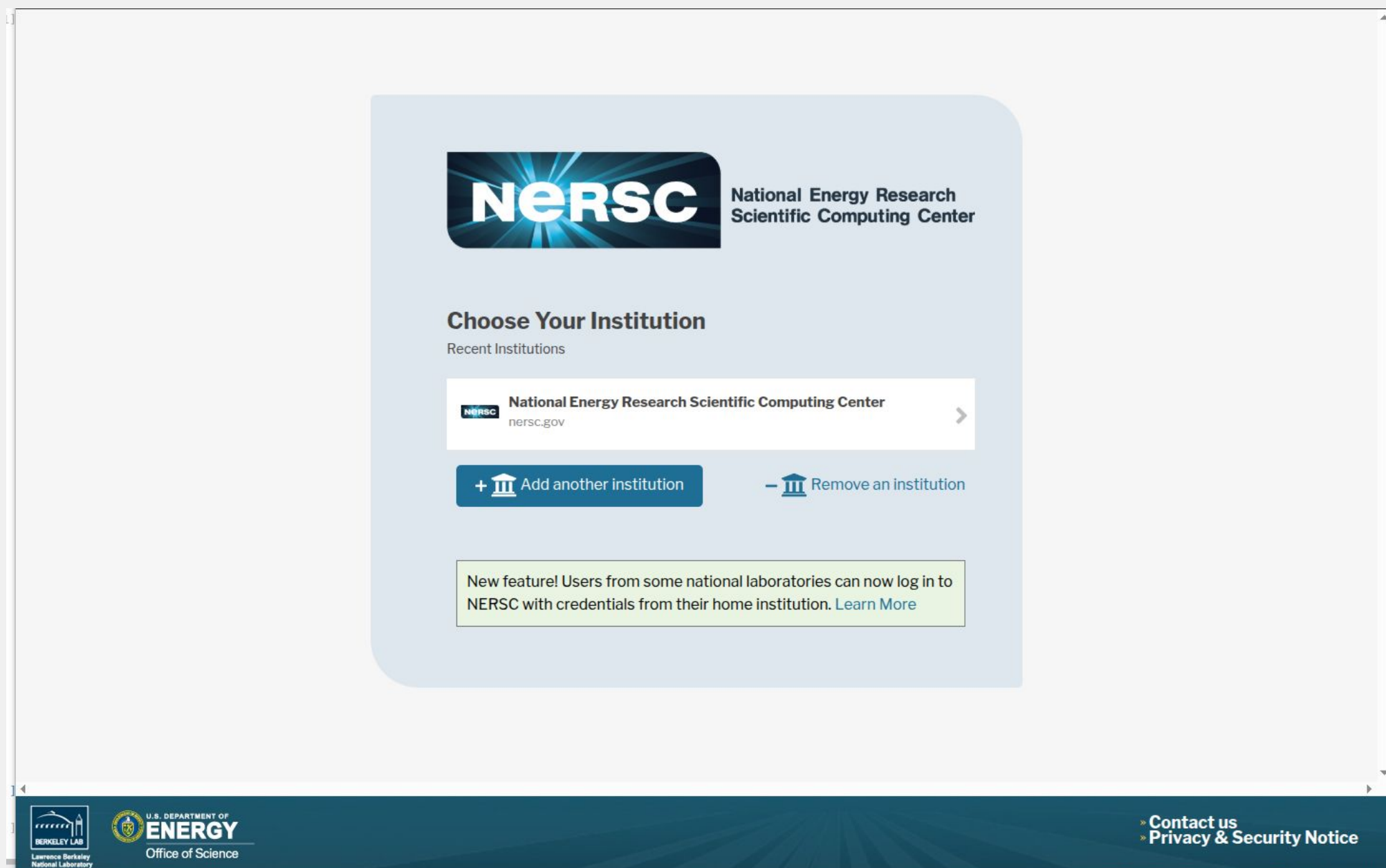
How to startup a Jupyter notebook on your own device:

- <https://docs.google.com/document/d/1cyPTUDWPASCQU9tdACkl1A2upV4mQlwj7zob2Yg5JEE>


Live notes for questions:

- <https://docs.google.com/document/d/1S-ZaiGkB6yJB6pfot-O8Xcolsouc3YBaaeY-qu25bKc>

Point your web browser to **<https://jupyter.nersc.gov>**, sign in with your NERSC identity




Enter your username and password




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Scientific Computing Center

Log in

[Forgot password?](#)[Forgot username?](#)




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# Select a Configurable Job


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	Login Node	Shared GPU Node	Exclusive CPU Node	Exclusive GPU Node	Configurable Job
Perlmutter	<a href="#">start</a>	<a href="#">start</a>	<a href="#">start</a>	<a href="#">start</a>	<a href="#">start</a>
Resources	Use a login node shared with other users, outside the batch queues.	Use a single GPU on a node within a job allocation using defaults.	Use your own node within a job allocation using defaults.		Use multiple compute nodes with specialized settings.
Use Cases	Visualization and analytics that are not memory intensive and can run on just a few cores.	Work that fits on a single GPU, and uses at most a quarter of a GPU node's CPU cores and host memory.	Visualization, analytics, machine learning that is compute or memory intensive but can be done on a single node.		Multi-node analytics jobs, jobs in reservations, custom project charging, and more.

## Configure the notebook


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### Server Options

Account ("\_g" suffix will be added as needed):

trn001

Constraint:

gpu

QOS:

jupyter

cpus-per-task (node has 128 cpus):

32

gpus-per-task (node has 4 GPUs):

1

nodes (maximum of 4 for jupyter QOS):

1

ntasks-per-node:

1

Reservation:

ATLAS\_GPU\_Tutorial

time (time limit in minutes):

360

Start

Tomorrow this will be  
**ATLAS\_GPU\_Tutorial\_Day2**

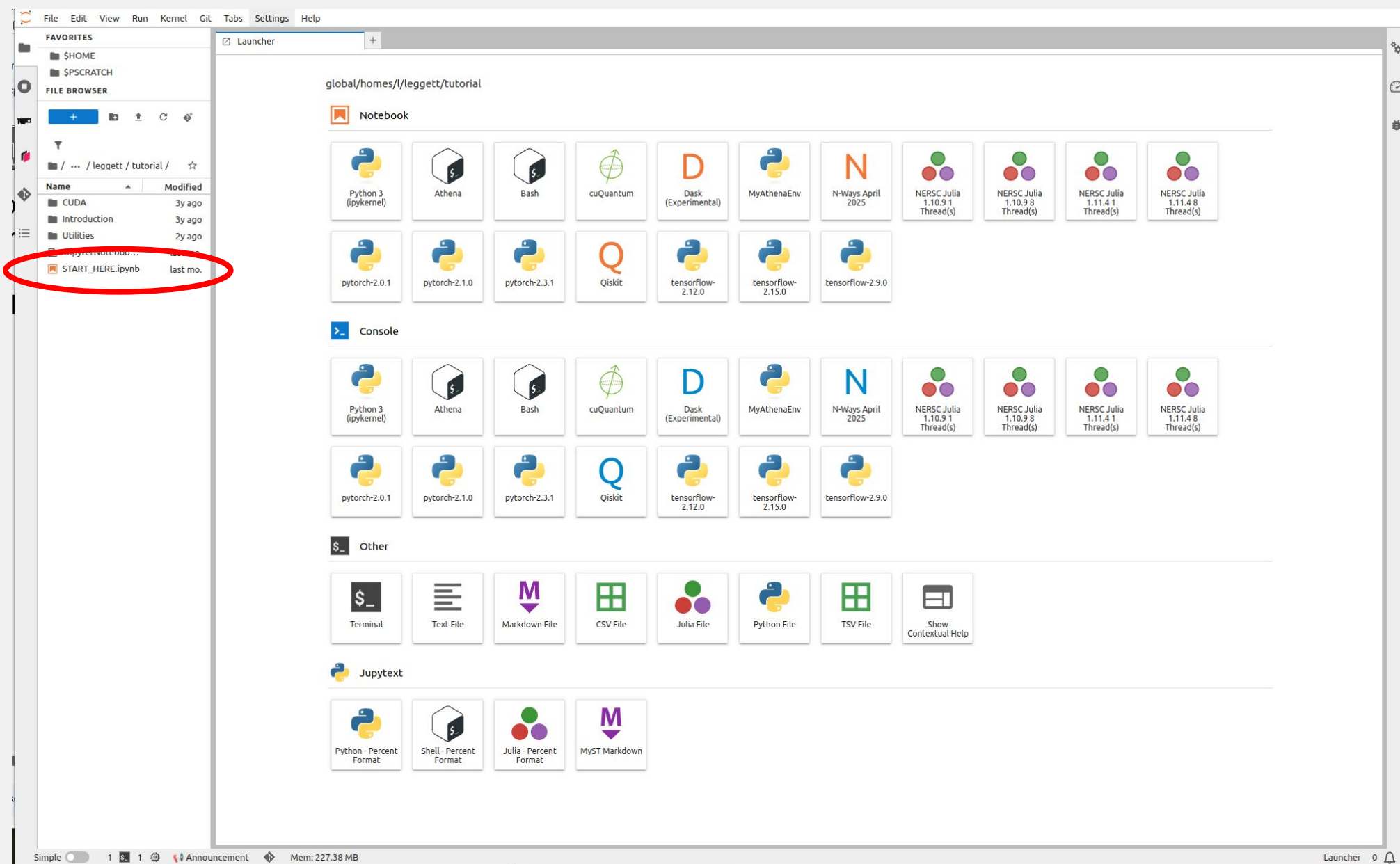


You should have already done this, but if you haven't, copy the notebook to your home directory and unpack it:

**File -> New -> Terminal**

```
> cp /global/cfs/cdirs/trn001/JupyterNotebook.tgz .  
> tar -xzf JupyterNotebook.tgz
```

Double click on **START\_HERE.ipynb**



Fin