Tutorial: Python for New Programmers on ACES

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High Performance
Research Computing
DIVISION OF RESEARCH

Outline: HPRC Python Classes

- Python for New Programmers
- Python for Programmers New to Python
- Python for Data Scientists
- Python for HPC

Today: programming basics recognizable in almost every language

Outline: Today's Class

- Overview of Python
- Getting Started
- Jupyter Notebooks:
  - Jupyter and Hello
  - Elements of Code
  - Control

Overview of Python

What Computers Don't

- Comp
- Comp what you sa

Disney's *Fantasia* (1940)

Where to get Python

- Windows, Mac, and Linux all have it in their app stores (for free)
- Python is also **online** for free in various places
  - https://colab.research.google.com/
  - https://replit.com/

Note: stay away from Python 2 because Python 3 is much better.

Today we will be using Python 3.11

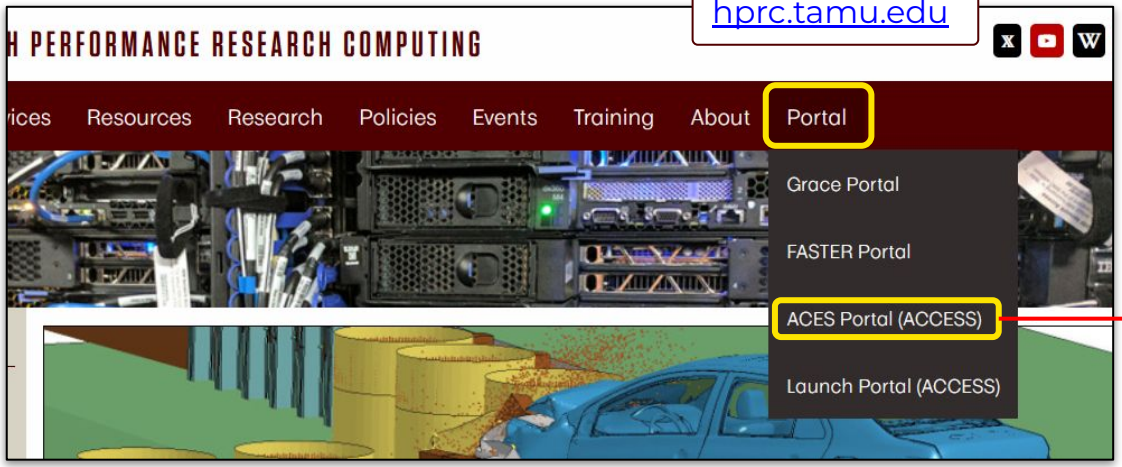
Learning Resources

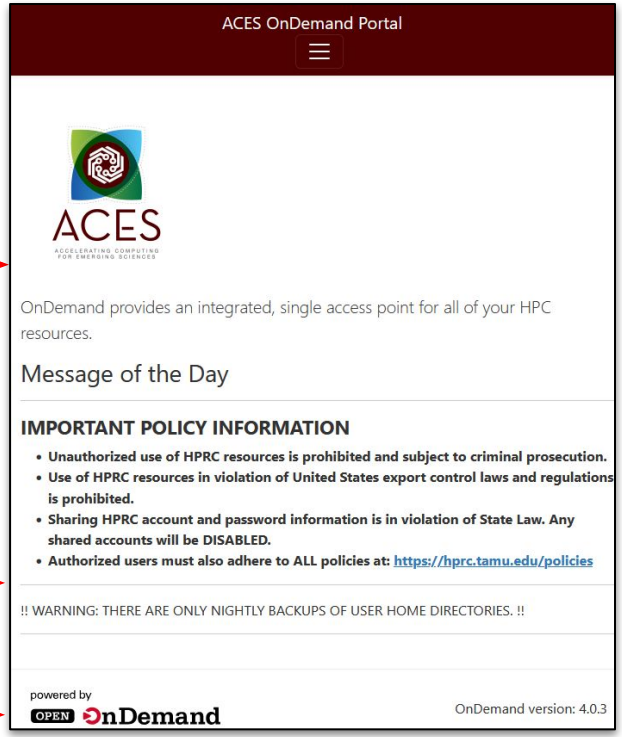
- Slides on the course web page
  https://hprc.tamu.edu/training/aces_intro_python.html
- HPRC's Knowledge Base
  https://hprc.tamu.edu/kb/Software/Python/
- HPRC on YouTube
  https://www.youtube.com/c/TexasAMHPRC
- ACCESS Links
  https://support.access-ci.org/ci-links

Getting Started

Login to ACES Portal

hprc.tamu.edu



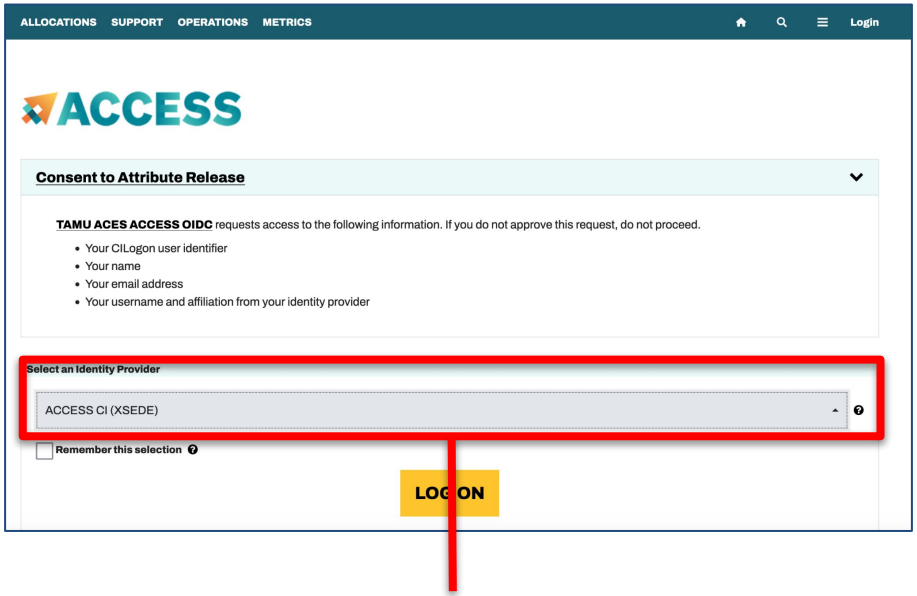


(You will have to log in with ACCESS if you haven't already)

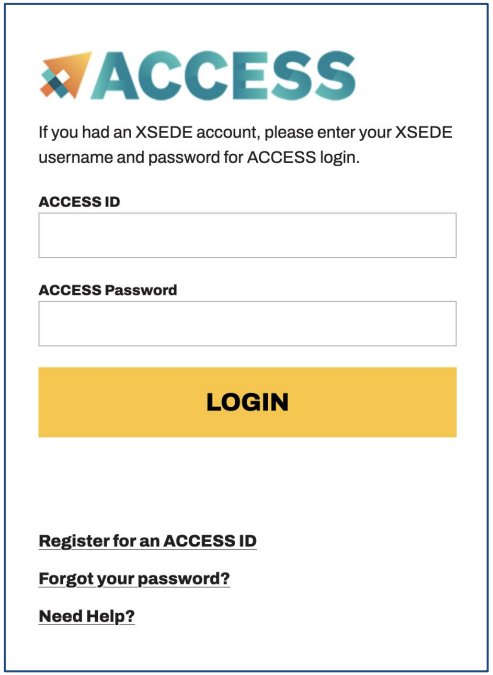
ACES Portal portal-aces.hprc.tamu.edu
is the web-based user interface for the ACES cluster

Open OnDemand (OOD) is an advanced web-based graphical interface framework for HPC users

Accessing ACES via the Portal (ACCESS)

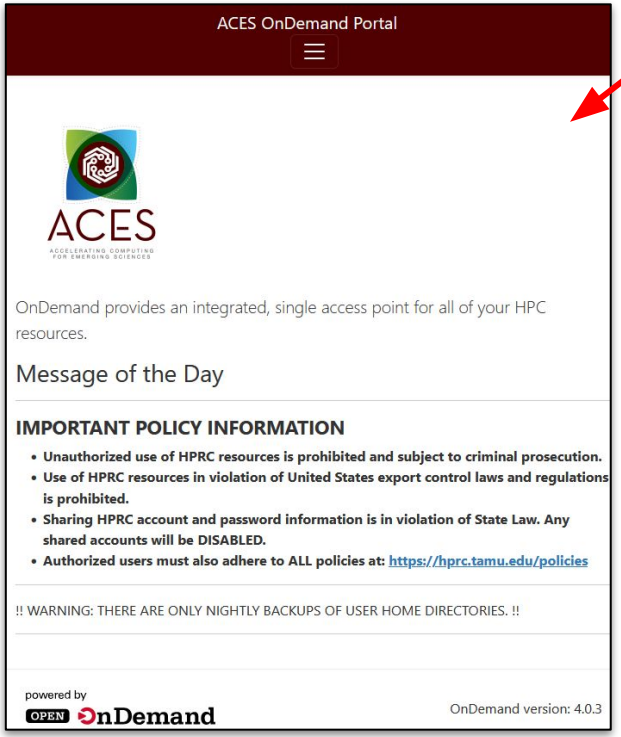


Select the Identity Provider appropriate for your account.



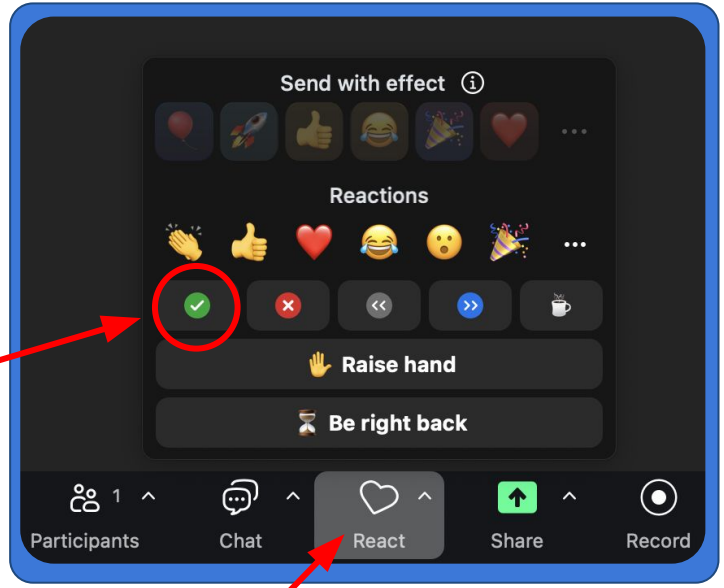
Log-in using your ACCESS or institutional credentials.

Login to ACES Portal



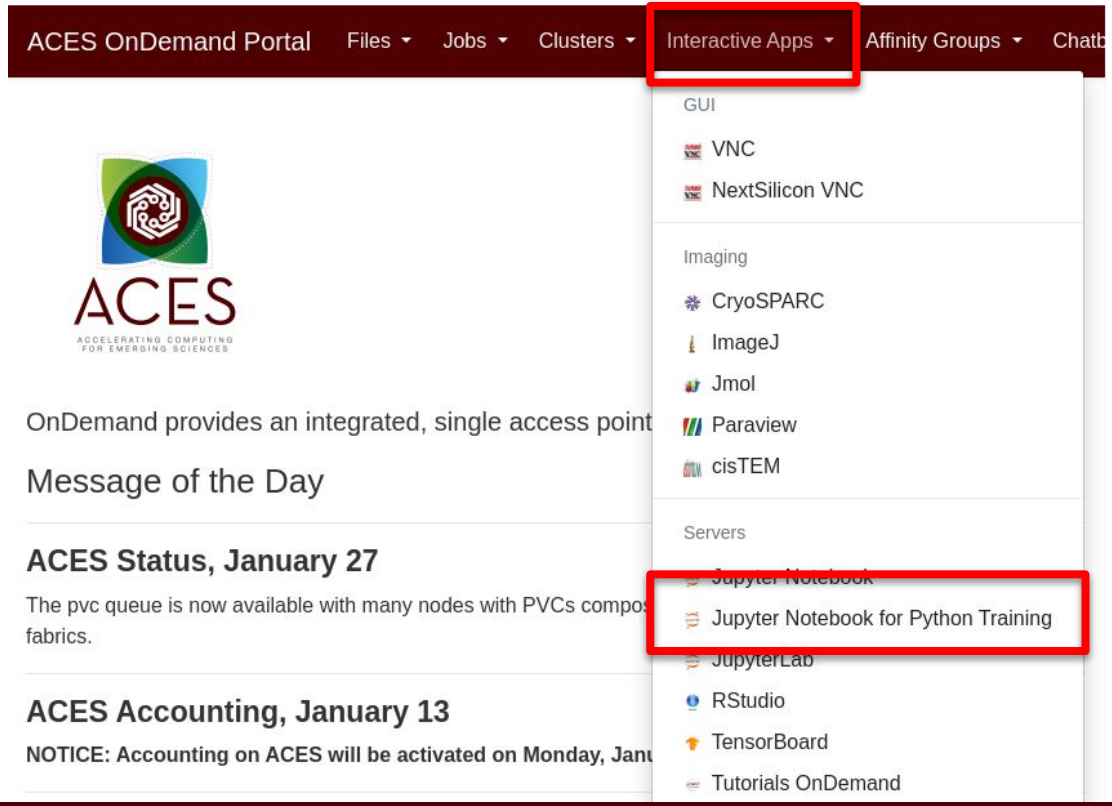
Once you're on this screen...

...Click the green checkmark reaction in Zoom



(find it here)

Jupyter Notebook for Python Training



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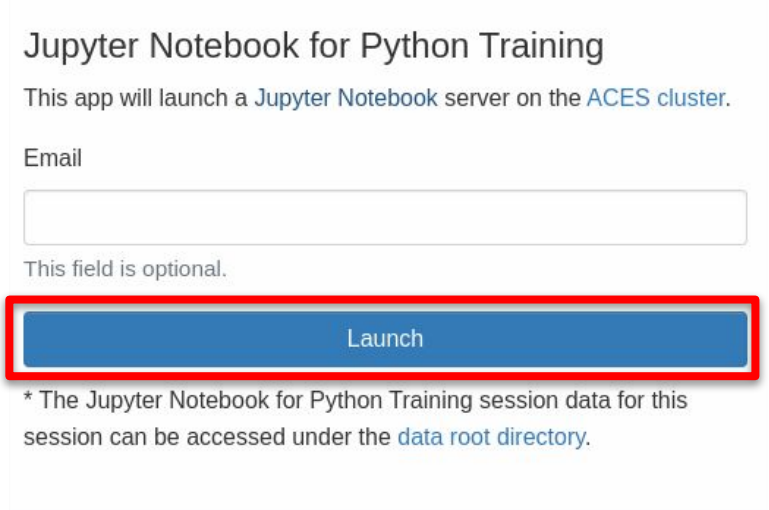

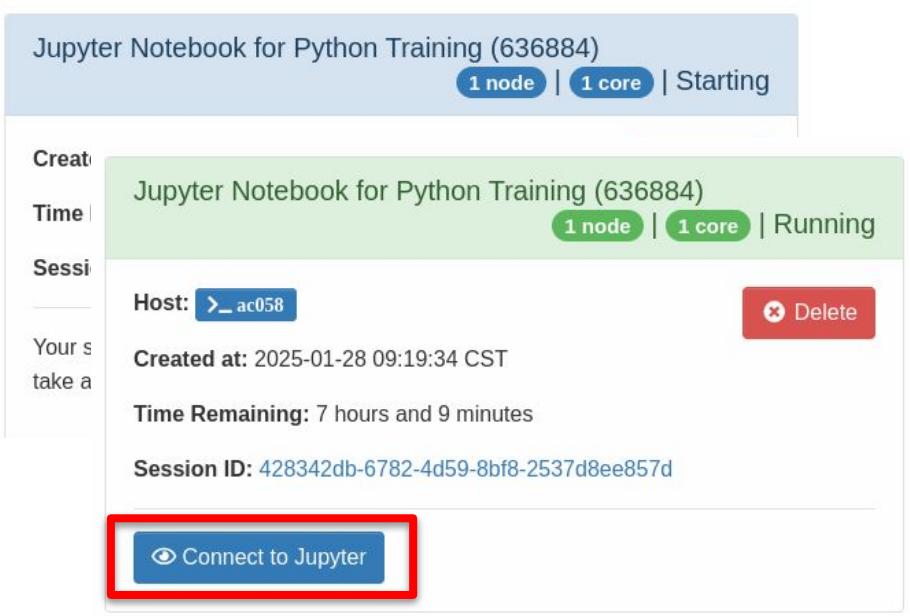

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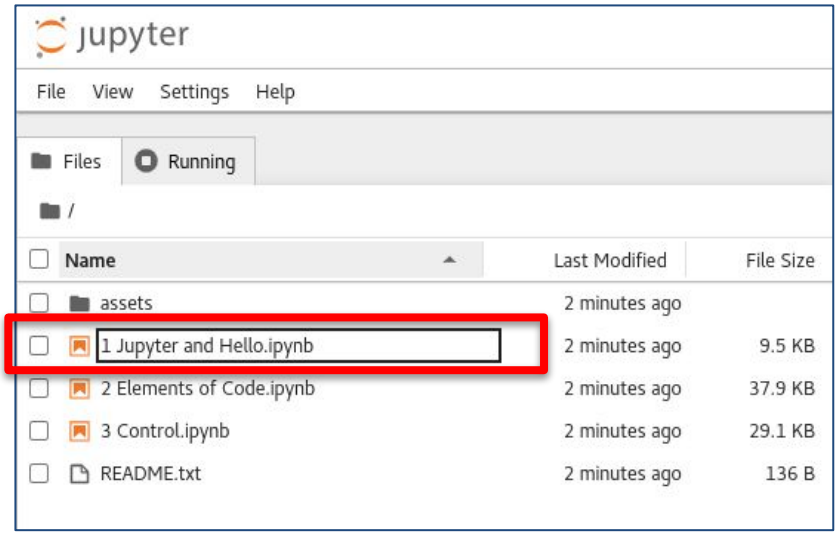

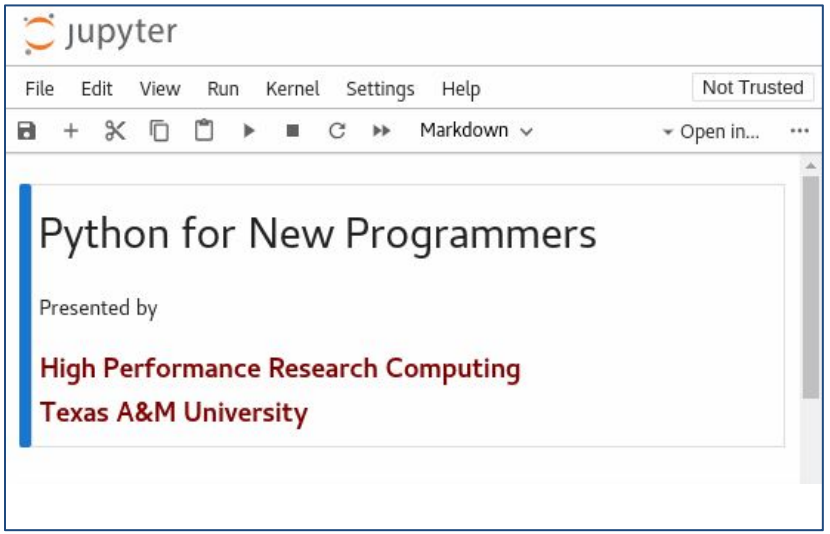

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TEXAS A&M UNIVERSITY

https://hprc.tamu.edu

HPRC Helpdesk:

help@hprc.tamu.edu
Phone: 979-845-0219

Take our short course survey!

HPRC Survey

https://u.tamu.edu/hprc_shortcourse_survey

Help us help you. Please include details in your request for support, such as, Cluster (ACES, FASTER, Grace, Launch), NetID (UserID), Job information (JobID(s), Location of your jobfile, input/output files, Application, Module(s) loaded, Error messages, etc), and Steps you have taken, so we can reproduce the problem.