Introduction to

(And ACCESS Resources at Texas A&M University)

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Wednesday, 26 February 2025

PACES Research Training Workshop

Outline

- ACCESS Overview
- TAMU-specific systems:
  - FASTER
  - ACES
  - Launch
- Logging In

If you haven't told us your ACCESS ID, we need it now!

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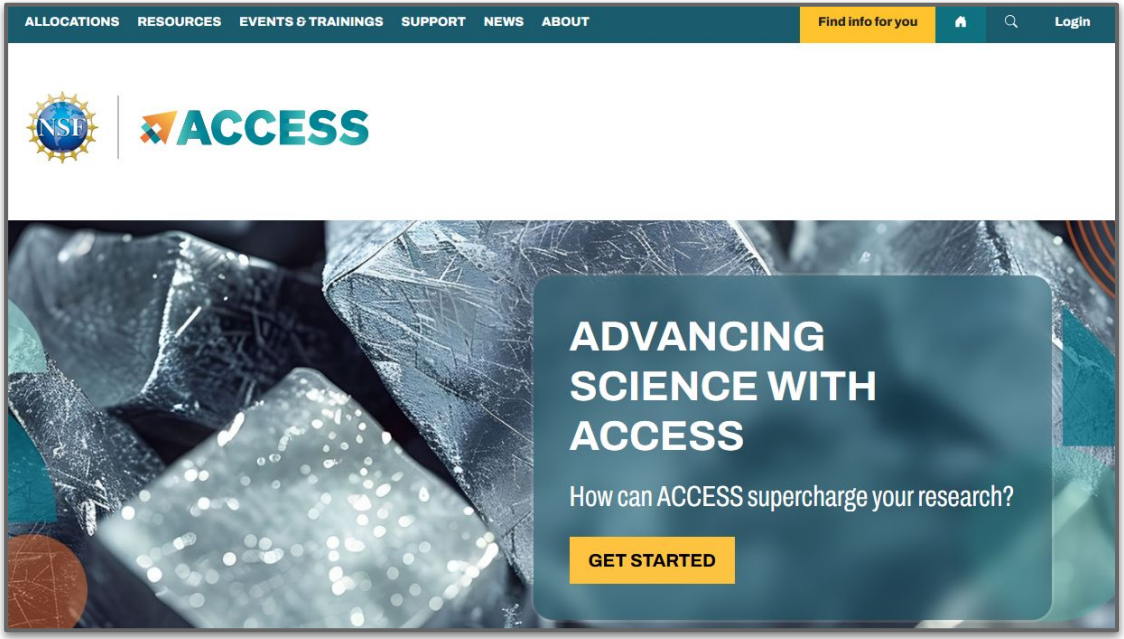
ACCESS

Advanced
Cyberinfrastructure
Coordination
Ecosystem:
Services &
Support

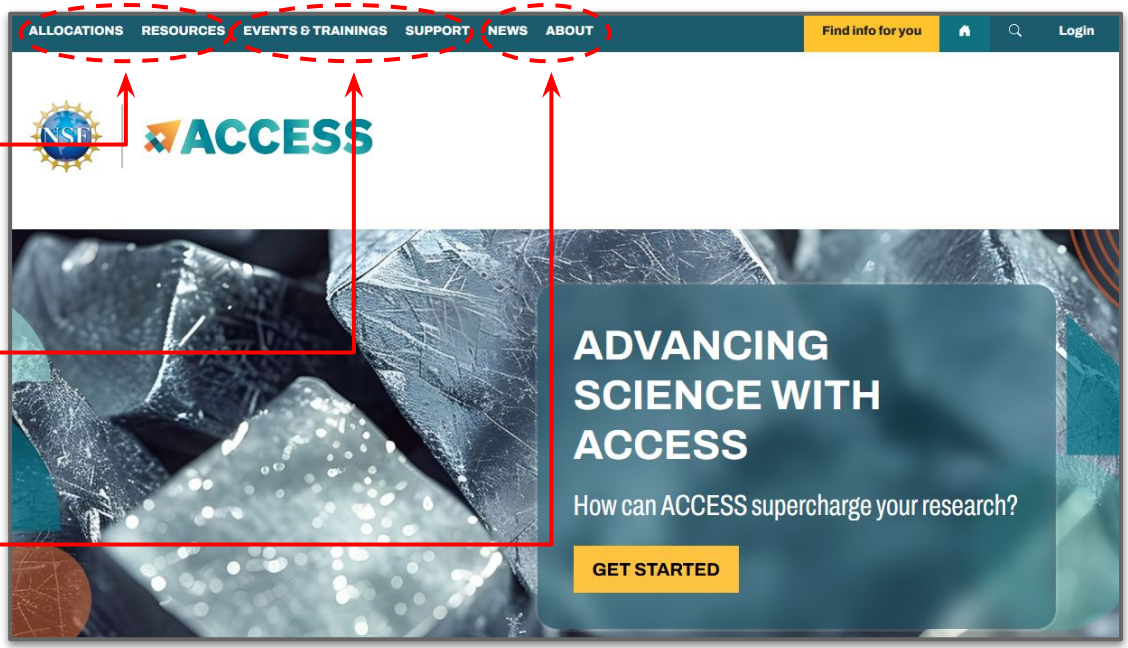
NSF-funded program to help connect researchers and educators with computing resources across the nation



Website: https://access-ci.org/

What You Can Do With ACCESS

- Find computing resources and manage your accounts on them
- Find training events and documentation
- Stay up-to-date on high performance computing and ACCESS news



Website: https://access-ci.org/

Resource Providers

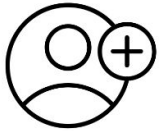
Over a dozen institutions and organizations offering compute resources and support. Some institutions offer multiple clusters!



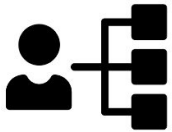

(See https://allocations.access-ci.org/resources for full list and more details)

How to Use ACCESS Resources

General steps:



CREATE ACCOUNT



SELECT OPPORTUNITY

REQUEST ALLOCATION

RECEIVE CREDITS

EXCHANGE CREDITS

For this event you will be added to one of *our* Allocations to be given access to our clusters. After this event you'll need your own allocation!

Project Types / Allocation Levels

There are four ACCESS project types a researcher can apply for:

Explore: For simple grad student projects, testing, etc.

Discover: Moderate research, large classes, etc.

Accelerate: Collaborations, power users, etc.

Maximize: Large-scale research

More info: https://allocations.access-ci.org/project-types

Project Types / Allocation Levels

There are four ACCESS project types a researcher can apply for:

Explore: For simple grad student projects, testing, etc.

Discover: Moderate research, large classes, etc.

Generally a PI applies for an allocation and sponsors accounts for their researchers.

However, graduate students may also apply for their own Explore/Discover allocations with a letter of collaboration from their PI.

More Info: https://allocations.access-ci.org/allocations-policy

Explore ACCESS Request

Applicants must submit:

- A summary of the planned work
- NSF biosketch, CV or Resume for PI and Co-PIs (pdf)
- Letter of collaboration from advisor (for graduate students)
- Data fields:
  - Title of project
  - Research keywords
  - Field of science
  - Supporting grant details, if applicable

See https://allocations.access-ci.org/current-projects for examples of public abstracts.

https://allocations.access-ci.org/prepare-requests

Discover ACCESS Request

Applicants must submit:

- All items required for the Explore request
- One-page description of proposed use of ACCESS resources
  - How you plan to use ACCESS resources
  - Research or Education Objectives (e.g., research questions, classroom exercises, other activities)
  - Description of resource needs
    - Specific computing architectures (e.g. GPUs, large memory)
    - Storage needs
    - Specific software needed

https://allocations.access-ci.org/prepare-requests

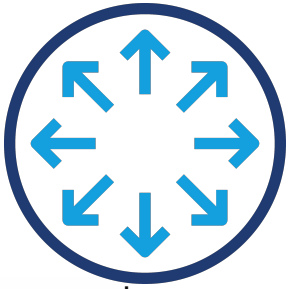
Accelerate ACCESS Request

Applicants must submit:

- All items required for the Explore request
- Three-page description of the project, explaining how you plan to use ACCESS resources
  - Research Objectives
  - Estimate of Compute, Storage, and Other Resources
  - Computational plan
  - Software & Specialized Needs
  - Team and Team Preparedness (team qualifications and readiness)

https://allocations.access-ci.org/prepare-requests

Maximize ACCESS Request



Maximize allocations are for large-scale research projects that are beyond the scope of an Accelerate allocation.

Maximize requests are open for submission on a semi-annual basis

Please visit: https://allocations.access-ci.org/prepare-requests for submission windows and instructions to submit a successful Maximize ACCESS request.

https://allocations.access-ci.org/prepare-requests

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- **TAMU-specific systems:**
  - **FASTER**
  - **ACES**
  - **Launch**
- Logging In

FASTER

- Our first “composable” cluster
- Available via:
  - NetID for TAMU users
  - ACCESS ID for everyone else
- Hardware:
  - 180 nodes
  - 11,520 cores
  - NVIDIA GPUs:
    A100s, A10s, A30s, A40s and T4s

https://hprc.tamu.edu/kb/User-Guides/FASTER/

NSF award #2019129

ACES

- Composable accelerator testbed
- Accessible via ACCESS
- Hardware:
  - 130 nodes
  - 11,888 cores
  - Composable components:
    - NVIDIA H100 and A30 GPUs
    - Intel PVC GPUs
    - Graphcore IPUs
    - Intel Optane SSDs
    - (and more!)

https://hprc.tamu.edu/kb/User-Guides/ACES/

NSF award #2112356

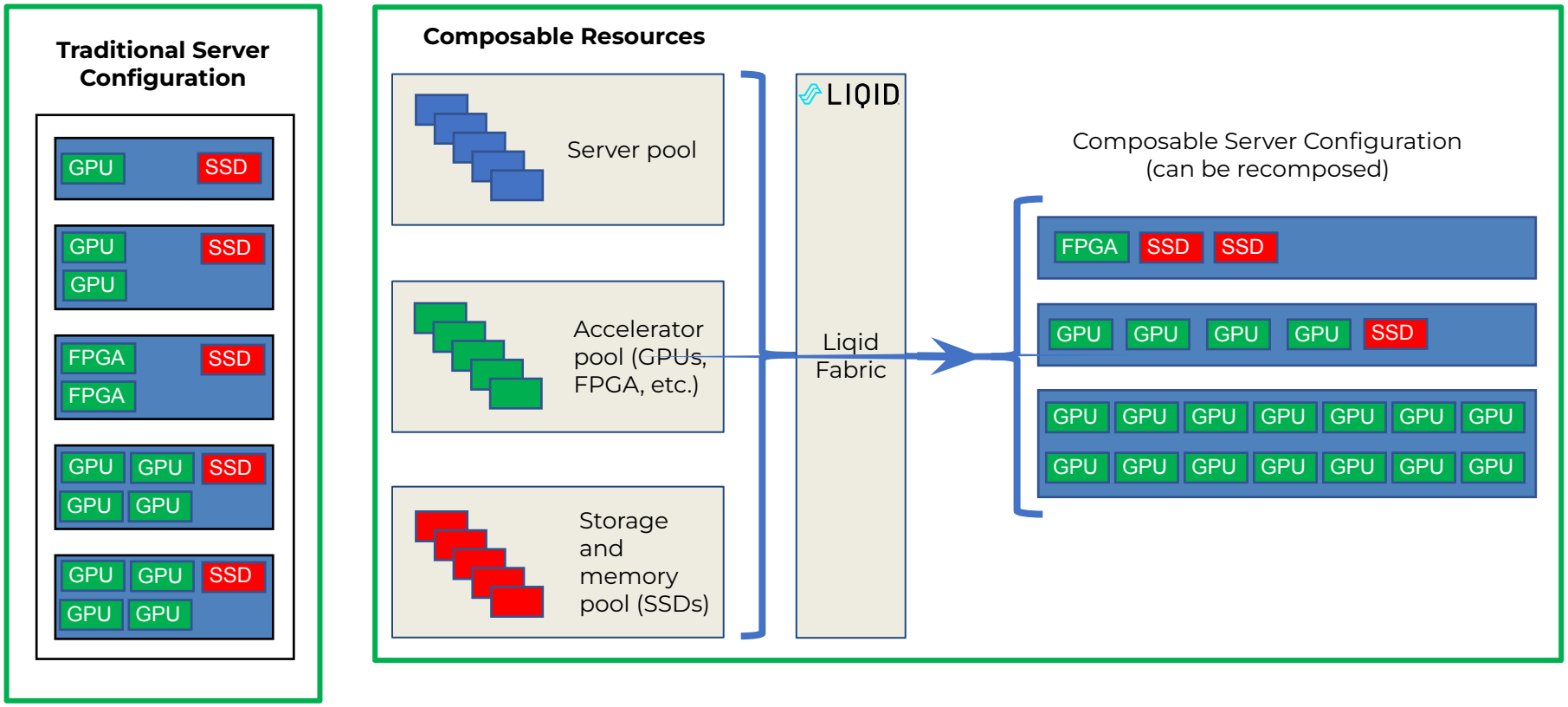
Launch

- Regional computing resource
- TAMU-affiliated institutions access via ACCESS
- Hardware:
  - 45 nodes
  - 8640 cores
  - NVIDIA A30s

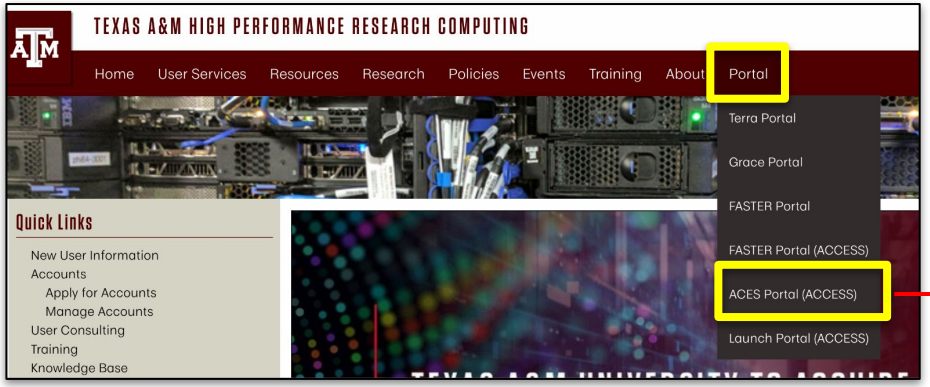
https://hprc.tamu.edu/kb/User-Guides/Launch/

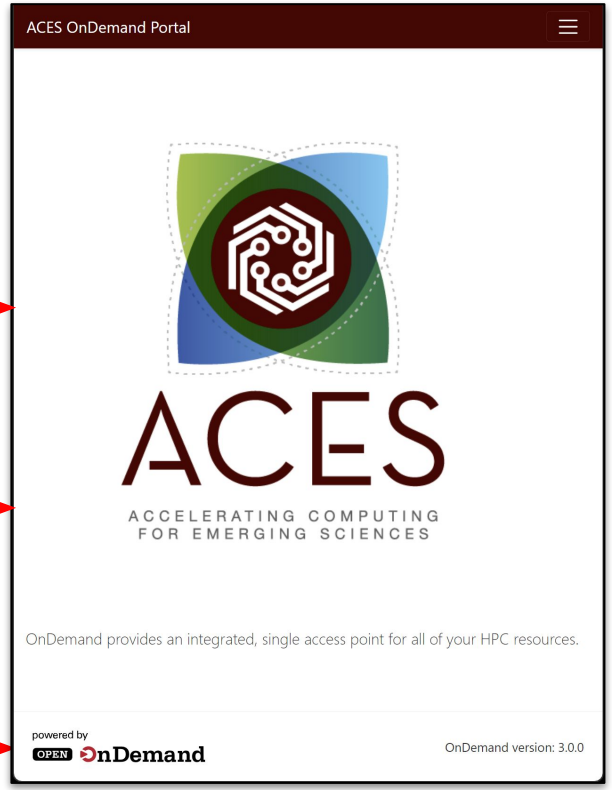
NSF award #2232895

Composability



Resources: OpenOnDemand Portal





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

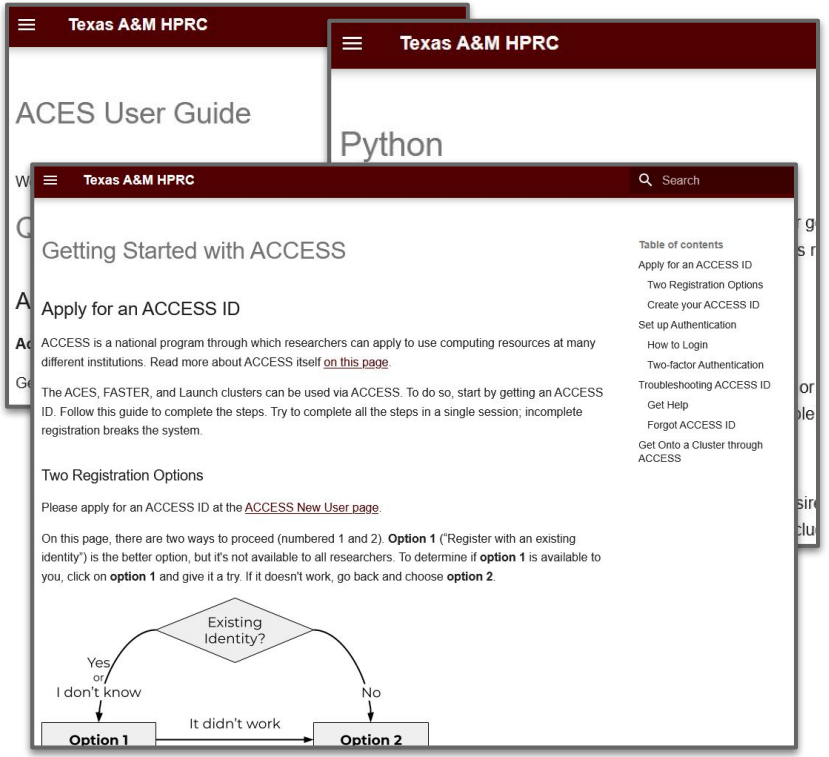
Open OnDemand (OOD) is an advanced web-based graphical interface framework for HPC users

Resources: Documentation

Our Knowledge Base has pages covering many topics:

- Hardware for each cluster
- Software guides
- Accounting procedures
- …and other topics, including:

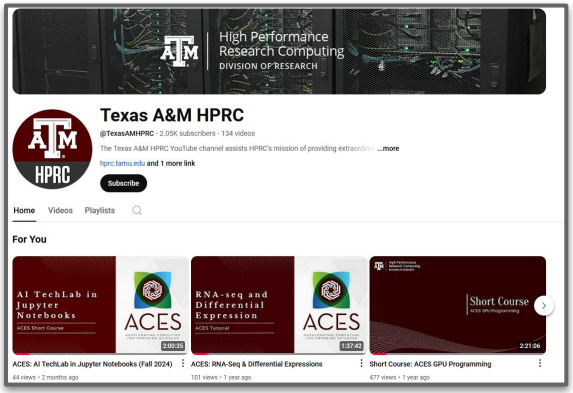
Getting Started with ACCESS: https://hprc.tamu.edu/kb/Helpful-Pages/ACCESS-ID/



Resources: Support

We support researchers at all levels of experience in several ways:

- Live training events: https://hprc.tamu.edu/training/
- HPRC YouTube Channel: https://www.youtube.com/texasamhprc
- Helpdesk: help@hprc.tamu.edu



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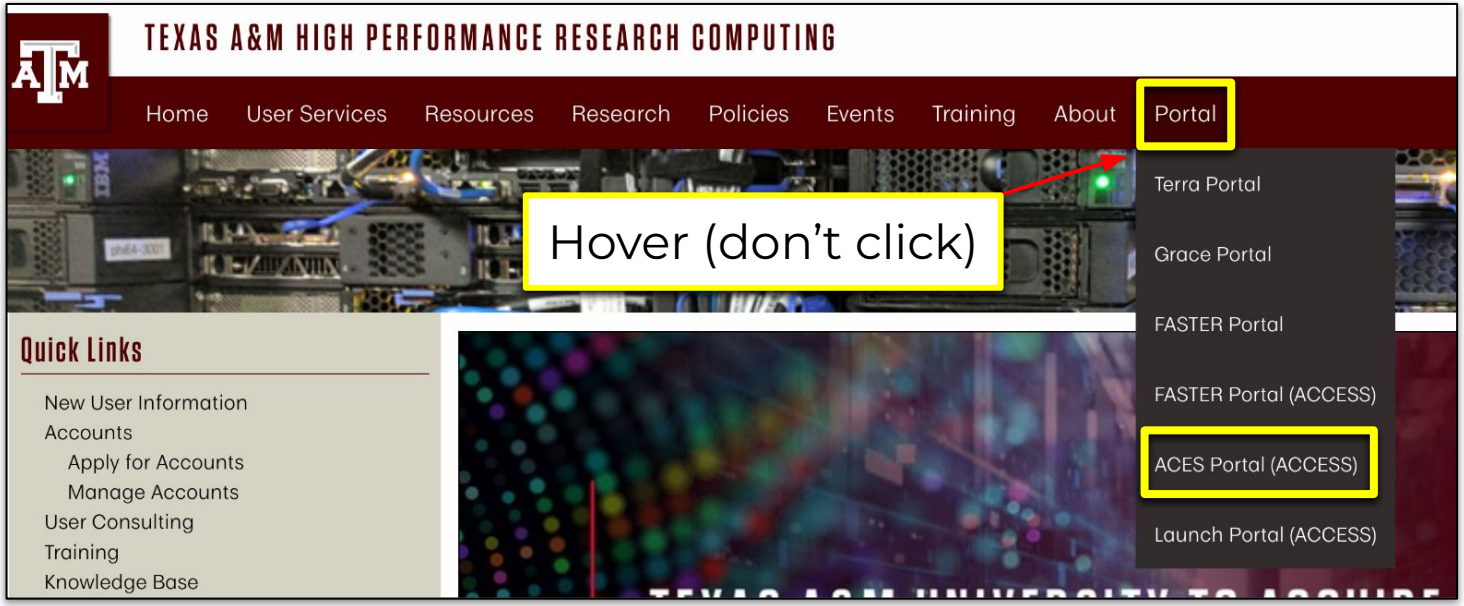
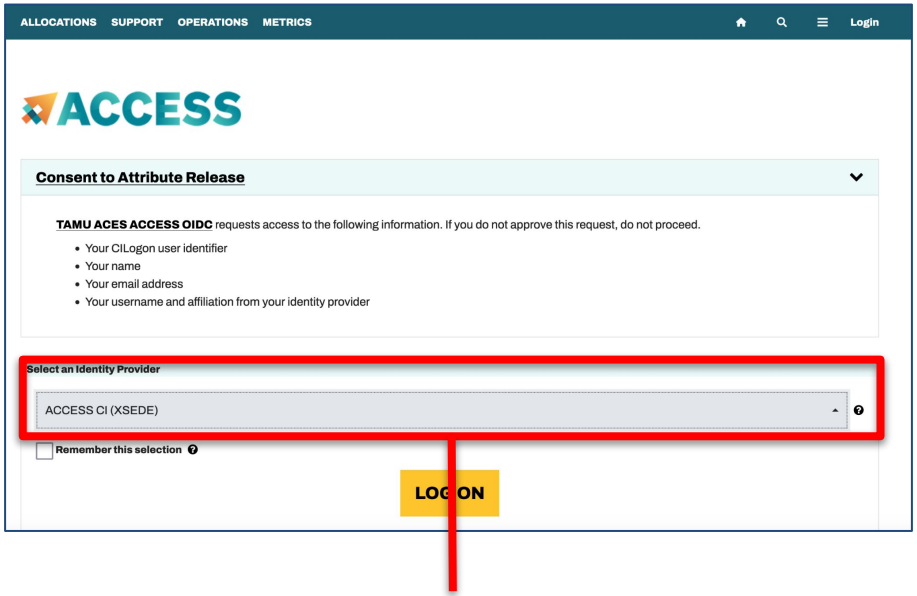
Logging In: Find the Portal

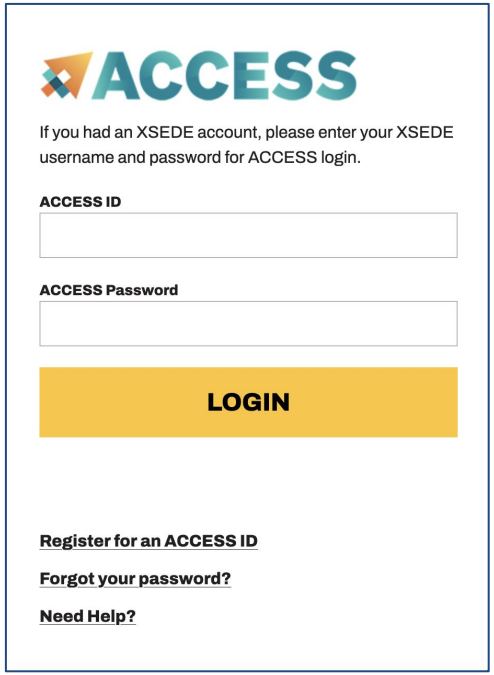
From our homepage: https://hprc.tamu.edu/



Logging In: ACCESS

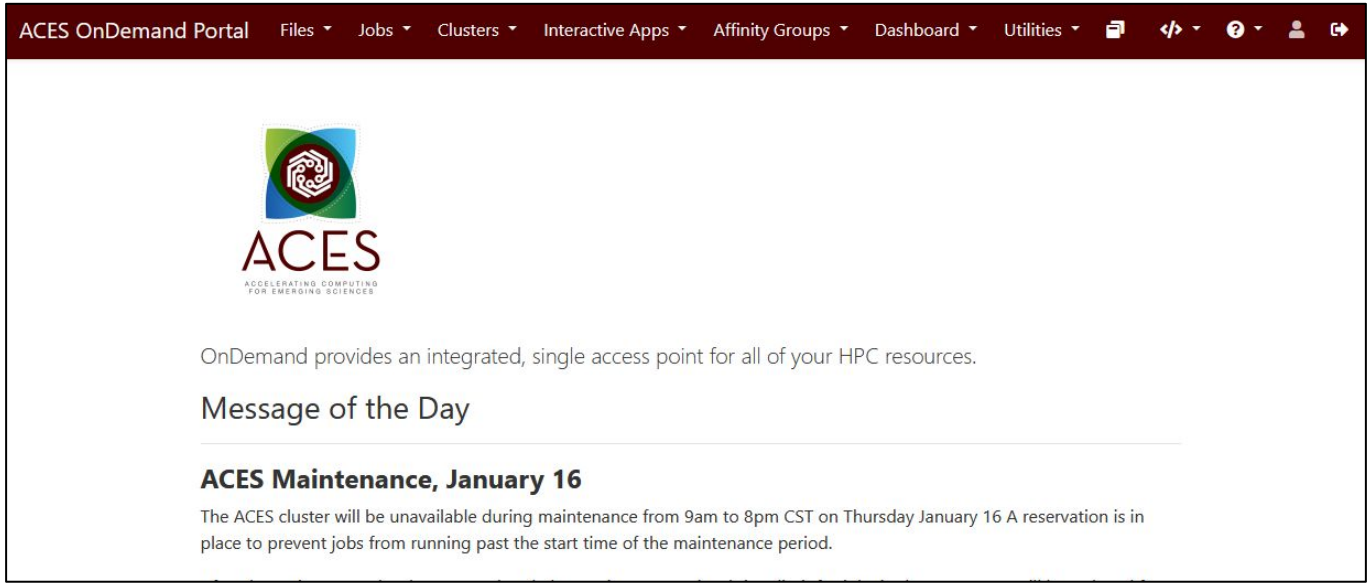


Select the Identity Provider appropriate for your account.



Log-in using your ACCESS or institutional credentials.

The Open OnDemand Portal



You should end up here.
You're now logged-in to ACES!