

ACES Workshop

Wi-Fi: SSHR-MEETING

Password: texas23

<https://u.tamu.edu/acw23>



High Performance
Research Computing
DIVISION OF RESEARCH

Thursday, July 13	Tutorials and Lightning Talks (Amphitheater)
7:00AM - 9:00AM	Breakfast
9:00AM - 9:15AM	Opening Remarks and ACES Overview
9:15AM - 12:00PM	Distributed Deep Learning with H100s
12:00PM - 1:30PM	Lunch (Harbourview Room)
1:30PM - 2:15PM	Lightning talks
2:15PM - 2:30PM	Break
2:30PM - 5:00PM	Intel oneAPI AI Analytics Toolkit
6:30PM - 8:30PM	Dinner (Paradise Reef)



ACES

Accelerating Computing for Emerging Sciences

Our Mission:

- Offer an accelerator testbed for numerical simulations and **AI/ML workloads**
- Provide consulting, technical guidance, and training to researchers
- Collaborate on computational and data-enabled research.



ACES - Accelerating Computing for Emerging Sciences



Component	Description
Graphcore IPU	Colossus GC200 IPUs, Bow IPUs, for AI/ML applications
Intel FPGA PAC D5005	FPGA SOC with Intel Stratix 10 SX FPGAs
Bittware IA-840F FPGA	Accelerator based on Intel Agilex FPGA
NextSilicon coprocessor	Reconfigurable accelerator with an optimizer
NEC Vector Engine	Vector computing card (8 cores and HBM2 memory)
Intel Max GPUs (formerly PVC)	HPC, DL Training, AI Inference
Intel Optane SSDs	Addressable as memory w/ MemVerge Memory Machine.
NVIDIA H100 GPUs	HPC, DL Training, AI Inference

- Intel Sapphire Rapids (96 core/node) with NVIDIA Mellanox NDR 200

Logging into ACES Using the HPRC Portal

- HPRC webpage: <https://hprc.tamu.edu/>, Portal dropdown menu

ATM TEXAS A&M HIGH PERFORMANCE RESEARCH COMPUTING

Home User Services Resources Research Policies Events Training About **Portal**

Terra Portal
Grace Portal
FASTER Portal
FASTER Portal (ACCESS)
ACES Portal (ACCESS)

Quick Links

- New User Information
- Accounts
 - Apply for Accounts
 - Manage Accounts
- User Consulting
- Training
- Knowledge Base

TEXAS A&M UNIVERSITY TO ACQUIRE A

Accessing ACES via the ACES Portal (ACCESS)

Log-in using your ACCESS credentials.

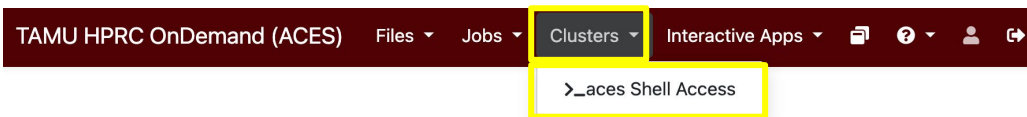
The screenshot shows the ACCESS portal interface. At the top left is the ACCESS logo, and at the top right is the 'Powered By CILogon' logo. Below the logo is a 'Consent to Attribute Release' section with a dropdown arrow. The consent text states: 'TAMU FASTER ACCESS OOD requests access to the following information. If you do not approve this request, do not proceed.' followed by a list of requested information: 'Your CILogon user identifier', 'Your name', 'Your email address', and 'Your username and affiliation from your identity provider'. Below the consent section is a 'Select an Identity Provider' section. It features a dropdown menu with 'ACCESS CI (XSEDE)' selected. Below the dropdown is a 'Remember this selection' checkbox and a 'Log On' button. At the bottom of this section, it says 'By selecting "Log On", you agree to the [privacy policy](#).' At the very bottom of the page, there is a footer with links for 'For questions about this site, please see the FAQs or send email to help@cilogon.org.', 'Know your responsibilities using the CILogon Service.', and 'See [acknowledgments](#) for support for this site.'

The screenshot shows the ACCESS portal login screen. At the top left is the ACCESS logo, and at the top right is the CILogon logo. Below the logo is a 'Login to CILogon' section. It contains two input fields: 'ACCESS Username' and 'ACCESS Password'. Below the password field is a 'Don't Remember Login' checkbox. At the bottom of this section is a 'Login' button. To the right of the login section, there is a note: 'CILogon facilitates secure access to CyberInfrastructure (CI).'. Below this note are four links: 'If you had an XSEDE account, please enter your XSEDE username and password for ACCESS login', 'Register for an ACCESS Account', 'Forgot your password?', and 'Need Help?'. At the bottom of the page, there is a footer with a link: 'Click Here for Assistance'.

This is a close-up of the 'Select an Identity Provider' dropdown menu. The dropdown is open, showing the selected option 'ACCESS CI (XSEDE)' with a question mark icon to its right.

Select the Identity Provider appropriate for your account.

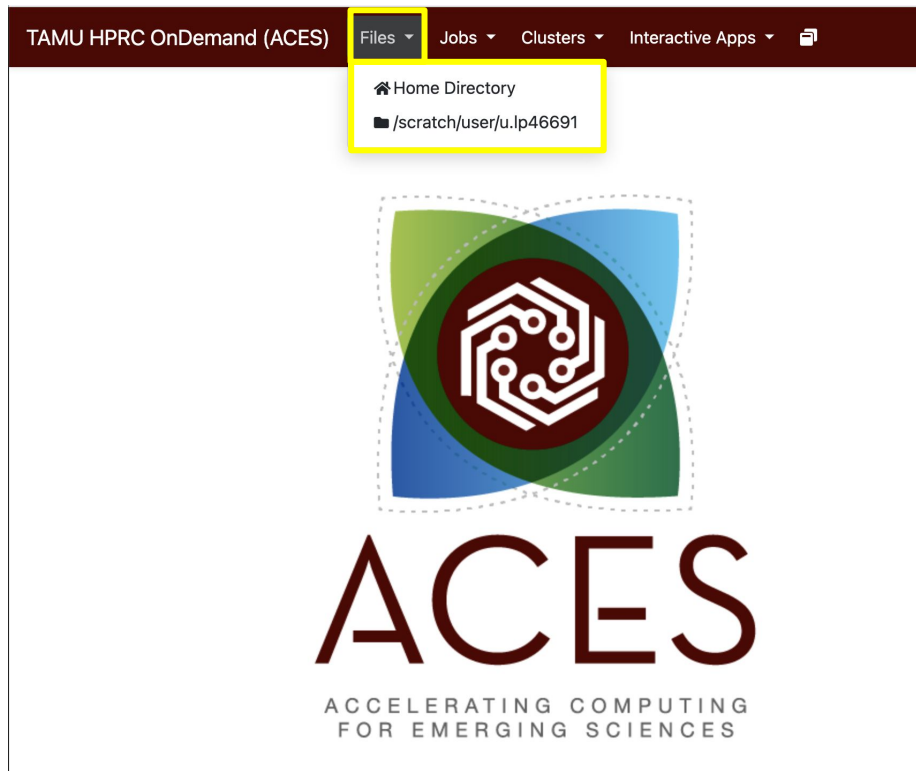
Shell access via the HPRC Portal






```
Host: alogin3      Themes: Default
*****
This computer system and the data herein are available only for authorized
purposes by authorized users. Use for any other purpose is prohibited and may
result in disciplinary actions or criminal prosecution against the user. Usage
may be subject to security testing and monitoring. There is no expectation of
privacy on this system except as otherwise provided by applicable privacy laws.
Refer to University SAP 29.01.03.M0.02 Acceptable Use for more information.
*****









Last login: Mon Jul 10 16:18:27 2023 from 10.71.1.6
[u.lp46691@alogin3 ~]$
```

File Browsing, viewing, and editing






File Browsing, viewing, and editing

TAMU HPRC OnDemand (ACES) Files ▾ Jobs ▾ Clusters ▾ Interactive Apps ▾   

 Open in Terminal  Refresh  New File  New Directory  Upload  Download  Copy/Move  Delete

Home Directory
/scratch/user/u.lp46691






 / scratch / user / u.lp46691 /  Change directory  Copy path

☐ Show Owner/Mode ☐ Show Dotfiles Filter:

Showing 7 of 8 rows - 0 rows selected

	Type	Name	Size	Modified at
<input type="checkbox"/>	Folder	data		7/1/2023 12:54:22 AM
<input type="checkbox"/>	Folder	ondemand		5/2/2023 3:16:44 PM
<input type="checkbox"/>	Folder	PIP_CACHE		7/1/2023 12:33:14 AM
<input type="checkbox"/>	Folder	venv		7/1/2023 12:33:20 AM
<input type="checkbox"/>	File	fashion_mnist.py	11.6 KB	7/1/2023 12:53:45 AM
<input type="checkbox"/>	File	pytorch.sif	7.94 GB	7/1/2023 12:48:18 AM

Context menu for **fashion_mnist.py**:

-  View
-  Edit
-  Rename
-  Download
-  Delete