

Code Green Jam

Getting Started Guide



Instructions for Creating User Accounts and Accessing GPU Resources

Gaining access to the GPU resources available for this event requires several initial steps to create accounts, get authorized for use, and login to remote servers where you will be executing your code.

Due to these multiple steps, this process must be completed **before** the day of the jam or you will not be able to personally access the GPU systems. If you happen to already have any of these accounts created from previous work, then you will not need to create new accounts just for this event.

STEP 1 - Create an account with ACCESS

(What is ACCESS? - [Learn More](#))

Approximate time: 10 minutes.

Create an ACCESS ID: <https://operations.access-ci.org/identity/new-user>

- Read the Registration Tips.
- Scroll down the page and click on the 'Register with an existing identify' link:

1. **Register with an existing identity:** Using an existing University account when registering with ACCESS simplifies the sign-up process and enables you to log in to ACCESS using that existing account. With this option, creating an ACCESS-specific password is optional during registration, and you will also have the option to create an ACCESS-specific password later if needed.

- In the 'Select an Identity Provider' box, click the drop-down selector and search for your University. Select this to use your University email address as your user identifier. Then, click on "Log On":

Select an Identity Provider

University of Illinois Chicago

☐ Remember this selection
 [?](#)

LOG ON

- On the next screen, click on the 'Begin' button to start the registration process:

ACCESS

ACCESS Registration Using Federated Identity

Please click the button to begin and complete the form. You will be asked for your name and an email address. Please do not close your web browser window or tab until the entire registration process is complete.

BEGIN

- Wait for the form to initialize.
- Fill out your name and University-affiliated email address in the form, then click the 'Submit' button:

ACCESS

ACCESS Registration Using Federated Identity

Name*

Given Name *

Yiheng

Middle Name

Family Name *

Tao

Email*

Email *

ytao28@uic.edu

* denotes required field

SUBMIT

- A code will be emailed to your submitted address. Enter that code into the form and click 'Submit':

Enter Code to Verify Your Email Address

An email was sent to ytao28@uic.edu containing an alphanumeric code. If you do not receive the email in your Inbox, check your Spam/Junk folder.

DO NOT CLOSE YOUR BROWSER OR NAVIGATE AWAY FROM THIS PAGE. If you have problems, please [Open a Help Ticket](#).

Enter Code:

- On the next screen, type in your university, University of Illinois Chicago, and select from the drop-down menu, then click on the 'Select' button:

ACCESS

Your registration is not complete yet

You must select your primary home organization and verify your email address before your registration is complete.

Type in the box below to find and select your primary home organization.

Primary Home Organization:

ACCESS

Your registration is not complete yet

You must select your primary home organization and verify your email address before your registration is complete.

Type in the box below to find and select your primary home organization.

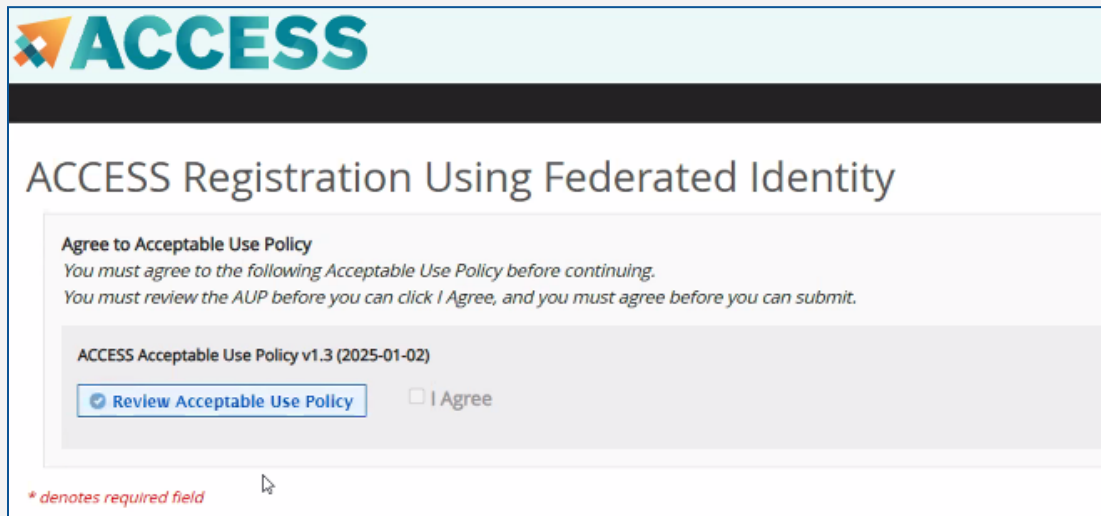
Primary Home Organization:

University of Illinois at Chicago

University of Illinois at Springfield

University of Illinois at Urbana-Champaign

- Wait for the form to process your request.
- Click on the 'Review Acceptable Use Policy' button. A pop up with the policy will appear. Scroll down the document, and then click OK.



ACCESS

ACCESS Registration Using Federated Identity

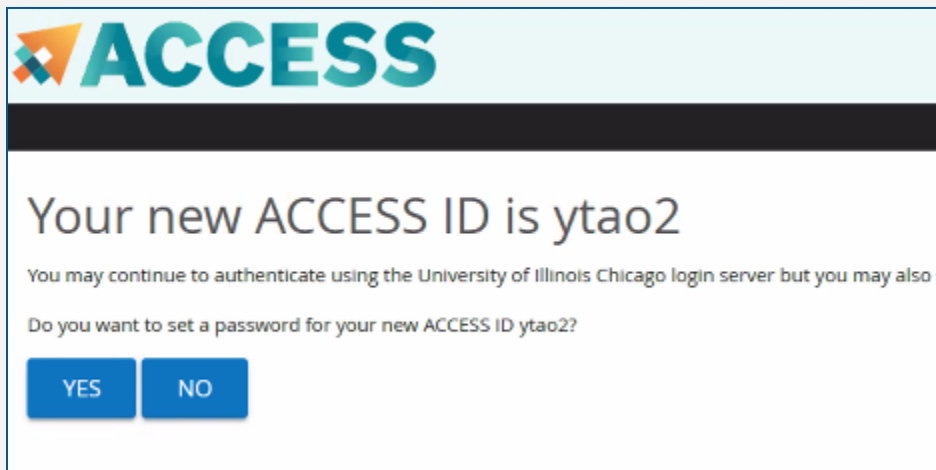
Agree to Acceptable Use Policy
 You must agree to the following Acceptable Use Policy before continuing.
 You must review the AUP before you can click I Agree, and you must agree before you can submit.

ACCESS Acceptable Use Policy v1.3 (2025-01-02)

☐ I Agree

* denotes required field

- Then, the "I Agree" checkbox seen above will become active. Click on this checkbox, then click the 'Submit' button to continue.
- Wait for the form to process your request.
- Click 'Yes' to advance to the next screen to enter a password:



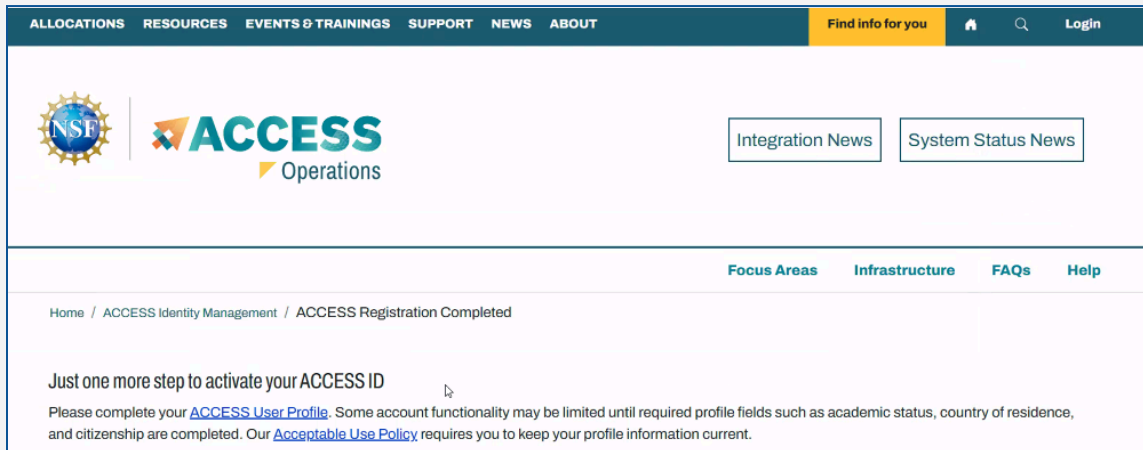
ACCESS

Your new ACCESS ID is ytao2

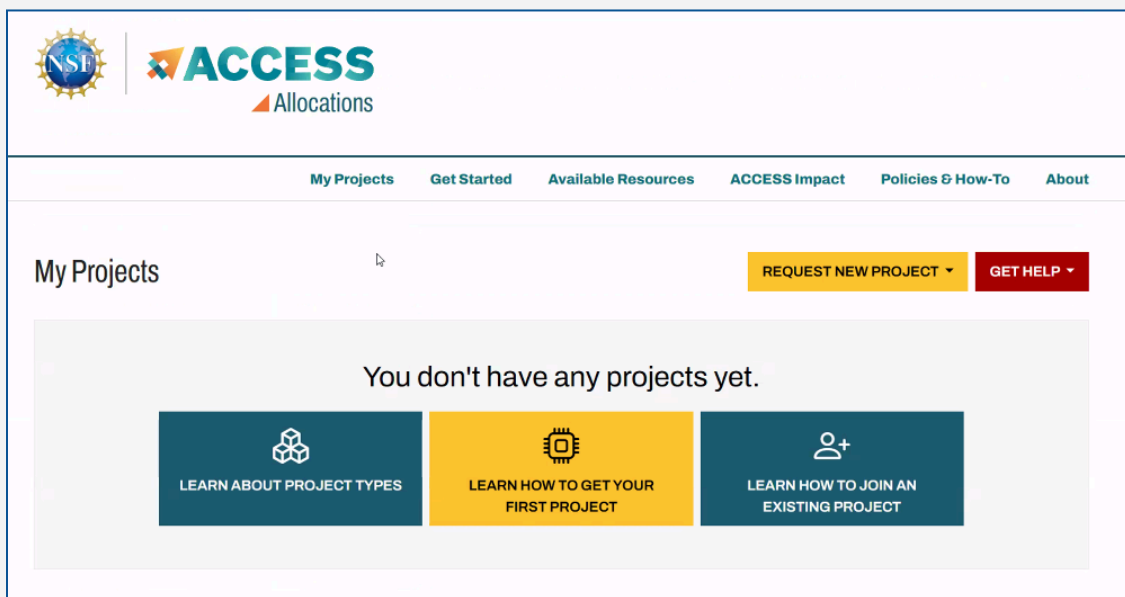
You may continue to authenticate using the University of Illinois Chicago login server but you may also s

Do you want to set a password for your new ACCESS ID ytao2?

- You will need at least 12 characters in your password. Click 'Submit' when you finish entering a new password.
- You're almost there!

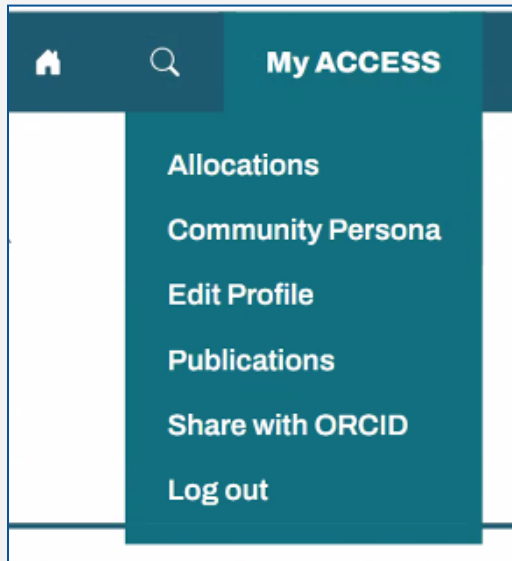


- Click on the 'ACCESS User Profile' link found in the text above after "Just one more step..."
You may need to login again with the University of Illinois Chicago selected as the Identity Provider.
- Fill out required fields on your new User Profile form, including all fields marked with a red asterisk.
- After completing the form, click on 'Save Profile'. You may optionally connect your ORCID.
- Click on the 'My Projects' link at the top center of the User Profile page (you will be logged in now). You should see an *empty* list of My Projects:



Copy your new ACCESS ID:

- Finally, at the top-right corner of the ACCESS Allocation pages, click on 'My Access' >> 'Edit Profile':



- The first field under the Personal Information section is your **ACCESS ID**. Copy this value to use in STEP 2.
- You will also receive an email from registry@cilogon.org with your new ACCESS ID/username.

RESULT of STEP 1: You now have an ACCESS ID.

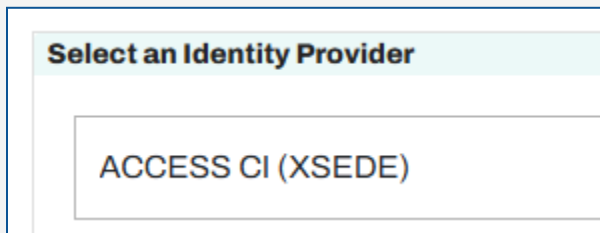
STEP 2 - Setup Multi-factor Authentication (MFA) with ACCESS

Approximate time: 5 minutes.

At this time, you can log back into ACCESS anytime to view your account and your allocated projects (which will be *empty* at first):

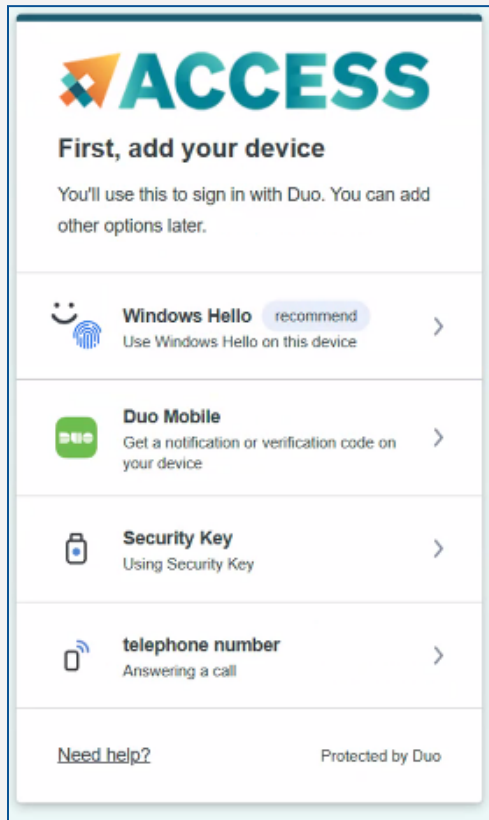
- Go to: <https://allocations.access-ci.org/>
- This time, instead of logging in with your University of Illinois Chicago as the Identity Provider, you should login with the ACCESS Identity Provider using your new ACCESS ID and password:

- Select ACCESS CI (XSEDE) as the identity provider:

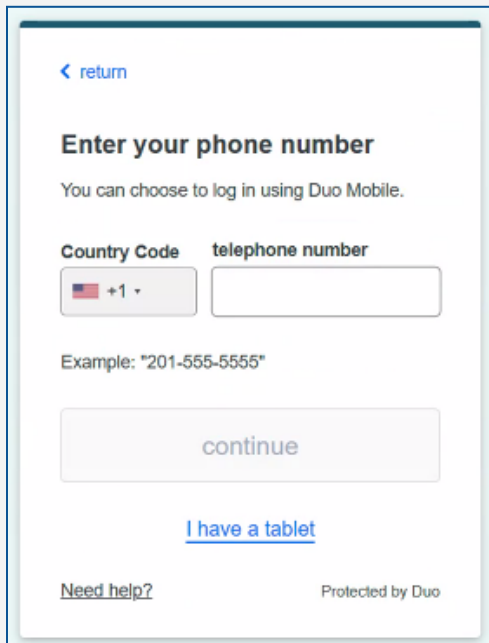


- Enter your ACCESS ID and password.
- Respond to the DUO Mobile MFA request.
- **ON YOUR FIRST TIME:** The first time you log in with the ACCESS CI Identity Provider, the system will prompt you to configure DUO Mobile to authenticate with your mobile device. You should complete this process.

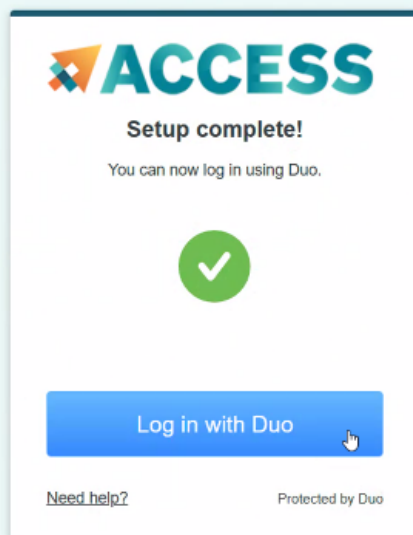
Select Duo Mobile from the list:



- Enter your mobile telephone number and click continue:

A screenshot of a web form for entering a phone number. At the top left is a blue link '< return'. The title is 'Enter your phone number' in bold. Below it is the text 'You can choose to log in using Duo Mobile.' There are two input fields: 'Country Code' with a dropdown menu showing '+1' and a US flag, and 'telephone number' which is empty. Below these fields is an example: 'Example: "201-555-5555"'. A large 'continue' button is centered below the example. At the bottom, there is a blue link 'I have a tablet', a link 'Need help?', and the text 'Protected by Duo'.

- Complete the Duo Mobile installation and configuration on your mobile device by following the instructions provided.



- After this first time multi-factor authentication setup with Duo, you may need to log in again at <https://allocations.access-ci.org/> to view your account.

Your 'My Projects' list will remain *empty* until your ACCESS ID has been added to the project (this happens in the following STEP 3 below).

RESULT of STEP 2: You can login to your ACCESS ID account using MFA.

STEP 3 - Share your ACCESS ID account name to be added to project

Approximate time: 5 minutes.



This step is completed in the Discord server for **Code Green**. If you have not yet joined the server, do so now: <https://discord.gg/GDD5TTDBUX>

- Open the #enter-access-id channel.
- Post a new message with the following details:

My ACCESS ID is <enter your ID value from STEP 1 above>

<your full name>

<your email address>

- **Now, you can take a little break!** 😊
What happens now is that your ACCESS ID must be manually added to the project the Code Green Jam uses to provide you with GPU compute during the event.

Please patiently wait 3-5 business days for your ACCESS ID to be added.

When you have been added to the project, then we will react to your above message with a checkmark or thumbs up.

- After your ACCESS account has been added to the project, you will see the listing appear in your ACCESS 'My Projects':

▼ TRA190023: Campus Champion for University of Illinois at Chicago					Active
Discover: Jun 29, 2023 to Jun 25, 2025					▼
Overview	Credits + Resources	Users + Roles	History		
Resource	Status	Balance	End Date	My Username	
Delta CPU	Active	2.2K of 622K Core-hours remaining (0%)	Jun 25, 2025	Pending	
Indiana Jetstream2 Large Memory	Active	381 of 3K SUs remaining (13%)	Jun 25, 2025	mdearing	
NCSA Delta GPU	Active	368 of 532 GPU Hours remaining (69%)	Jun 25, 2025	Pending	
PSC Bridges-2 GPU	Active	999 of 1K GPU Hours remaining (100%)	Jun 25, 2025	mdearing	
PSC Ocean	Active	1K of 1K GB remaining (100%)	Jun 25, 2025	mdearing	

- The 'My Username' field may initially be marked as "Pending" – this will change after you complete the next STEP 4.

RESULT of STEP 3: You have been added to the Delta GPU project!

STEP 4 - Create an account with NCSA

(What is NCSA? - [Learn more](#))

Approximate time: 10 minutes.

As soon as your My Projects list includes the "Delta GPU" resource item seen above (STEP 3), you will begin receiving a series of emails that will get you access to NCSA.

- Several of these emails will add you to mailing lists related to the resources to which you are gaining access.
- An email from **NCSA Allocations** will let you know that your NCSA Delta account request is being processed. This email will also provide you with your new NCSA Login Name.

Check your email: "ACCESS: NCSA Delta Account - <your name>"

- This email includes:
 - NCSA Login Name: <your assigned username>
 - A reset link to create a new password for this login name.

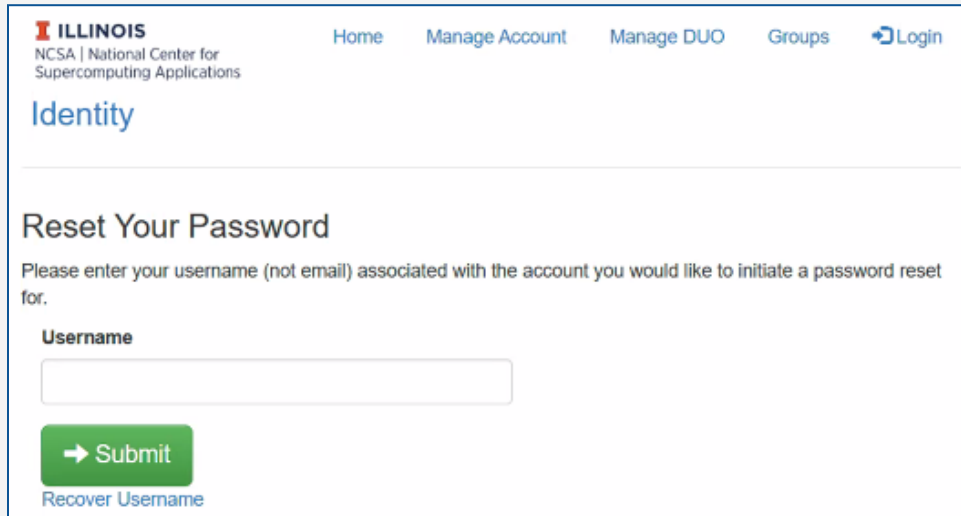
We processed the NCSA Delta account request for you. **The account should be ready tomorrow.**
Below is your NCSA Delta login name. Keep it in a secure place for your reference.
NCSA does not provide passwords by phone or e-mail.
For security reasons DO NOT send your password to anyone, including NCSA staff, via email.

NCSA Login Name: ytao2

If you have not set or do not know your NCSA password you will need to set your NCSA password using the reset password option at:

<https://identity.ncsa.illinois.edu/reset>

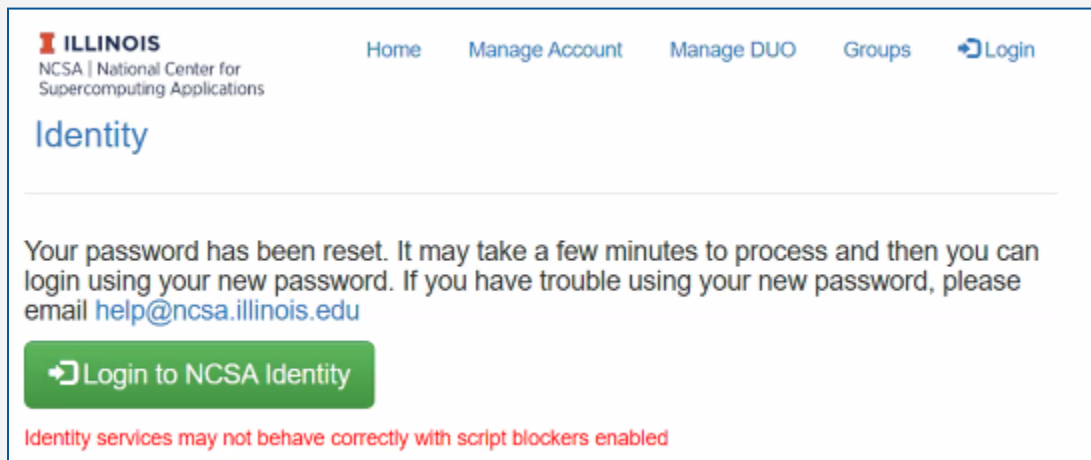
- Click on the “reset” link in the email to create your NCSA password:



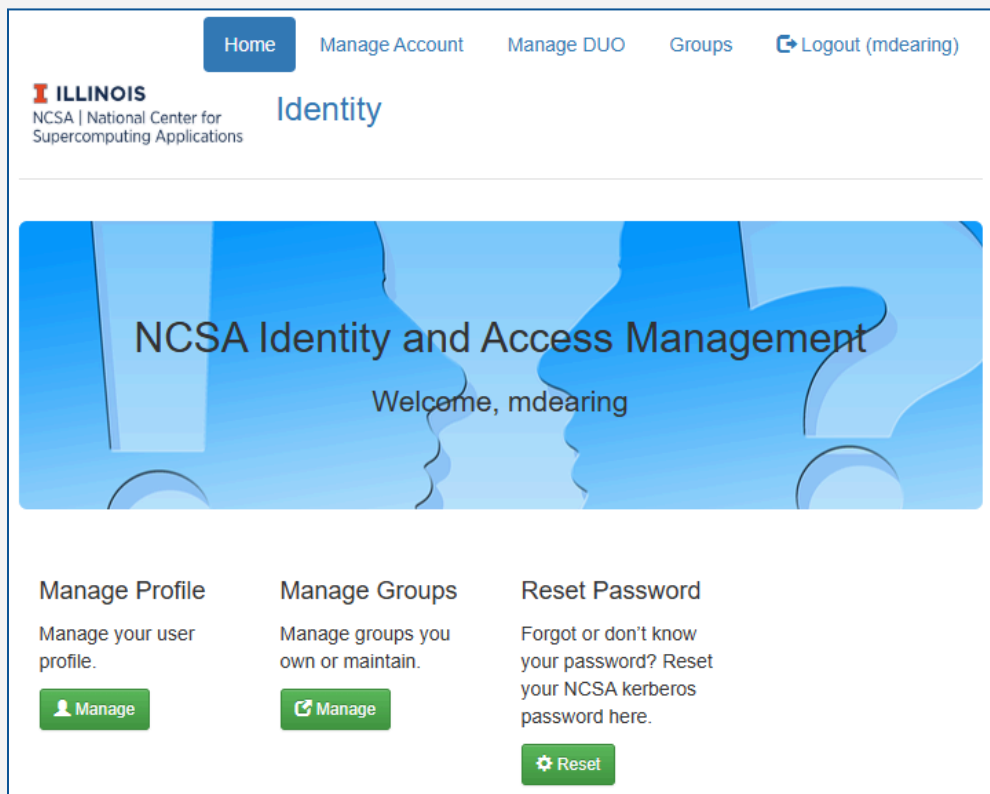
The screenshot shows the NCSA Identity page. At the top, there is a navigation bar with links: Home, Manage Account, Manage DUO, Groups, and Login. The page title is "Identity". Below the title, the heading "Reset Your Password" is displayed. A message asks the user to enter their username (not email) associated with the account they want to reset. There is a text input field for the username. Below the input field is a green "Submit" button with a right arrow icon. At the bottom, there is a link for "Recover Username".

- Enter your NCSA username and click the Submit button.
- You will receive another email with a verification code. Copy this code and paste into the subsequent login screen that asks for your NCSA username (again) and this code.
- The next screen will ask you to create a new password. This password must be a minimum of 12 characters and follow the password rules presented on the page.

- Next, log in to the NCSA Identity service (<https://identity.ncsa.illinois.edu>) by clicking on the Login button. You will be asked to enter your NCSA username and password:



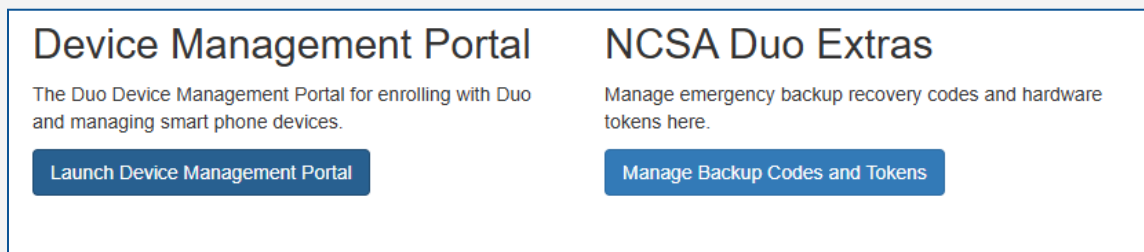
- The welcome page will include your assigned username:



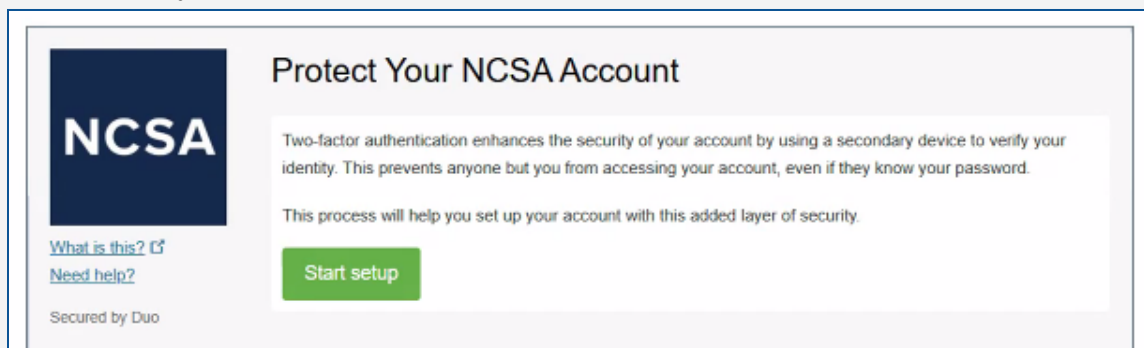
Next, setup multi-factor authentication with NCSA:

- Click on the “Manage DUO” link on the top menu of the NCSA Identity service page.
- Enter your NCSA username and password that you just created.

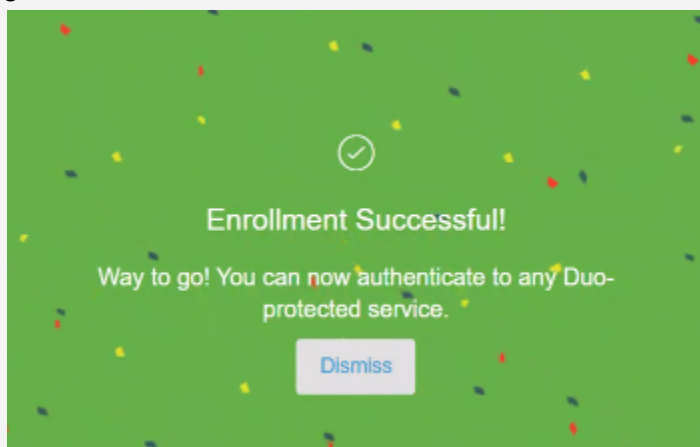
- Click on Device Management Portal > Launch Device Management Portal button:



- Click on the “Start setup” button to complete the multi-factor authentication configuration with DUO on your mobile device:



- Follow the instructions to enter in your mobile phone number and configure your DUO Mobile app on your mobile device to complete the activation. When you are finished, you get confetti!



Finally, return to the ACCESS Allocations My Projects page: <https://allocations.access-ci.org/>

- Now, your My Username field for Delta CPU and Delta GPU should be populated with your assigned username:

▼ TRA190023: Campus Champion for University of Illinois at Chicago					Active
Discover: Jun 29, 2023 to Jun 25, 2025					▼
Overview Credits + Resources Users + Roles History					
Resource	Status	Balance	End Date	My Username	
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PSC Ocean	Active	1K of 1K GB remaining (100%)	Jun 25, 2025	mdearing	

RESULT of STEP 4: You have access to the NCSA and Delta GPU system!

STEP 5 - Test logging into Delta GPU compute system

(Delta User Documentation - [Read the docs](#))

Approximate time: 2 minutes.

Now, it's time to get to the good stuff!

- Log into the Delta “Open OnDemand” (OOD) interface:
<https://openondemand.delta.ncsa.illinois.edu/pun/sys/dashboard>
- Use the National Center for Supercomputing Applications as the identity provider:

Selected Identity Provider

National Center for Supercomputing Applications

- Click Login and then enter your NCSA username and password that you created in the previous step:


NCSA Web Authentication

Log in to CILogon

NCSA Username

NCSA Kerberos Password

Login

 **CILogon**

CILogon facilitates secure access to CyberInfrastructure (CI).


- Enroll In Duo
- Forgot Your Username?
- Forgot Your Password?
- Send Email To Get Help

- Respond to the Duo Push notification for your multi-factor authentication, and then you are in!


ILLINOIS
 NCSA | National Center for
 Supercomputing Applications

OnDemand provides an integrated, single access point for all of your HPC resources.


Pinned Apps A featured subset of [all available apps](#)




Desktop
System Installed App



Jupyter Lab
System Installed App



MATLAB
System Installed App



Code Server
System Installed App

RESULT of STEP 5: You can login remotely to the Delta GPU system.

STEP 6 - Launch a new GPU resource with a Jupyter Lab session

Approximate time: 10 minutes.

(Optional one-time step) Verify project account name: bbvi-delta-gpu

There is a project account name assigned to your Delta GPU project and user login. We need to use the account name when creating a Jupyter Lab server instance. You can double-check the account name is included with your login:

- Open a terminal on your local machine (e.g., Windows PowerShell or Terminal for Windows OS) to remote SSH into the the Delta login node with your user account:

```
ssh -l <your_NCSA_user_name> login.delta.ncsa.illinois.edu
```

For example, `ssh -l mdearing login.delta.ncsa.illinois.edu`

- Enter your NCSA password.
- Respond to the DUO Push request to your mobile device.
- Once logged in, at the command line type 'accounts' and hit enter:

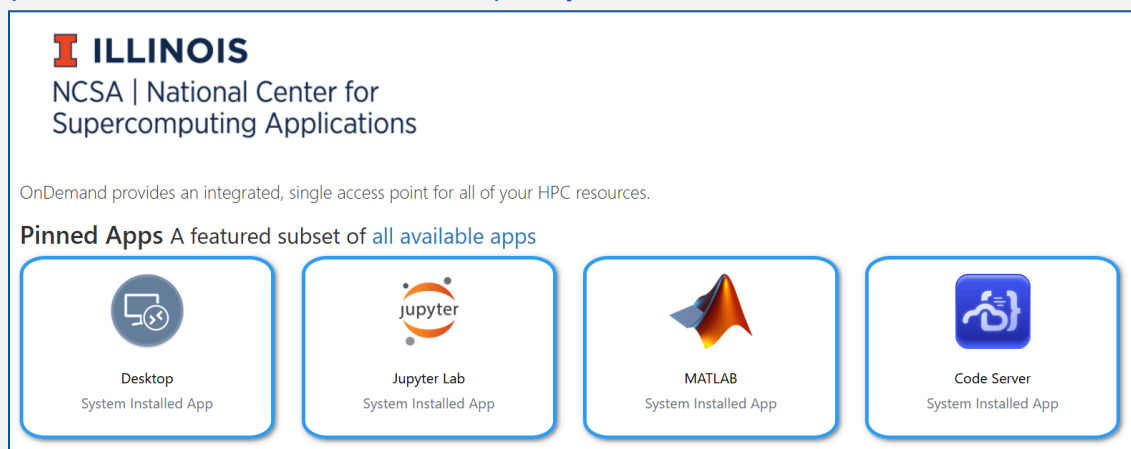
```
[mdearing@dt-login04 ~]$ accounts
Project Summary for User 'mdearing':

Account          Balance (Hours)  Dep
-----
bbvi-delta-cpu   2198
bbvi-delta-gpu   369
[mdearing@dt-login04 ~]$
```

- The `xxxx-delta-gpu` is the account name needed for starting a GPU instance. The value in the screenshot above of "bbvi" is the expected account name.
- Type 'exit' then enter to log out of the terminal.

Return to the NCSA OnDemand Applications dashboard:

<https://openondemand.delta.ncsa.illinois.edu/pun/sys/dashboard>



- Click on the Jupyter Lab application box.

- Fill out the form with the following values and selections:

Jupyter Lab

This app will launch a Jupyter Lab server on one compute node.

Name of account

Chargeable account of the form abcd-delta-cpu or abcd-delta-gpu. Replace abcd with your allocation code.

Partition

Interactive partitions are limited to one hour.

The interactive session allows for a 1 hour maximum time:

Duration of job

Slurm format: DD-HH:MM:SS

Leave the 'Name of reservation' empty.

Number of CPUs = 1

Leave the 'Amount of RAM' empty (1 G is the default).

Number of GPUs = 1

Leave the 'Working Directory' empty (default is \$HOME).

Click Launch!

Launch

* The Jupyter Lab session data for this session can be accessed under the [data root directory](#).

- Your session start up will first enter a Queue, and then move to a starting state. Wait for your Jupyter Lab interactive session to startup:

Jupyter Lab (7493036)

1 node | 1 core | Starting

Created at: 2025-03-04 17:51:05 CST

Time Remaining: 59 minutes

Session ID: [ac7e06ff-4a5f-4fca-8b57-6a6f7caa6a45](#)

Your session is currently starting... Please be patient as this process can take a few minutes.

Delete

When it's ready to go, you will be in a 'Running' state. Click on the 'Connect to Jupyter' button to launch Jupyter Lab in a new web browser tab:

Jupyter Lab (8163076)

1 node | 1 core | Running

Host: [_ gpua025.delta.internal.ncsa.edu](#)

Created at: 2025-03-16 21:27:31 CDT

Time Remaining: 59 minutes

Session ID: [f6a8faef-e081-4475-bf45-1a1c2b29ec4f](#)

Connect to Jupyter

Delete

- When you are finished, go to File > Shutdown to close down the Jupyter Lab session.
- Return to your NCSA OnDemand dashboard and click on the 'Delete' button to remove your session.

RESULT of STEP 6: You know how to launch a Jupyter Lab instance with a GPU on the Delta GPU system – and you are ready to participate in the Code **Green** Jam!