

Getting the Session Jupyter Notebook Running on DeltaAI



Key URLs

- DeltaAI Open On Demand portal: <https://gh-ondemand.delta.ncsa.illinois.edu/>
Workshop Github repository: <https://github.com/access-ci-org/AI-Unlocked-Workshop-2025>
- Workshop Shared folder: [Public attendees main folder](#)

Step 1 – Get access to the DeltaAI Open OnDemand portal

Get access to the DeltaAI Open OnDemand (OOD) portal by clicking [here](#). You would need to log in first. Select your identity provider and proceed to log in.

A screenshot of a web browser showing the login page for the DeltaAI Open OnDemand portal. The browser's address bar shows the URL: cilogon.org/authorize?response_type=code&scope=openid%20email%20profile%20or.... The page has a blue header with the "globus" logo on the left and "Powered By CILogon" with a CILogon logo on the right. Below the header, there is a "Consent to Attribute Release" section with a dropdown arrow. The text in this section states: "DeltaAI Open OnDemand requests access to the following information. If you do not approve this request, do not proceed." followed by a bulleted list: "Your CILogon user identifier", "Your name", "Your email address", and "Your username and affiliation from your identity provider". Below this is a "Selected Identity Provider" section with a dropdown menu currently showing "National Center for Supercomputing Applications". There is a checkbox labeled "Remember this selection" and a blue "Log On" button. At the bottom, a small line of text reads: "By selecting 'Log On', you agree to the [privacy policy](#)."



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Provide your NCSA credentials (including 2FA). Prior to this, you should have received over email the info on your NCSA username and instructions on how to set up your password.

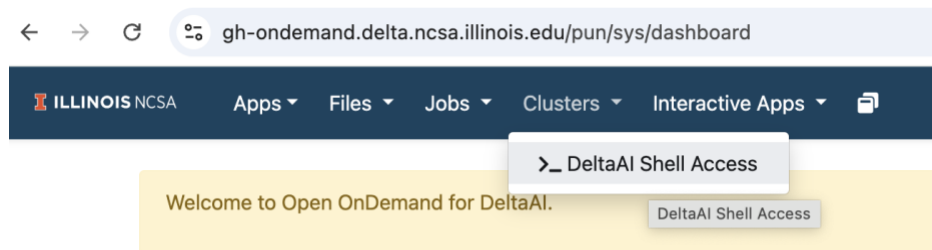
The screenshot shows the NCSA Web Login Service page. At the top, there's a header with the NCSA logo and the text "NATIONAL CENTER FOR SUPERCOMPUTING APPLICATIONS UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN". Below this is a section titled "NCSA Web Authentication". On the left, there's a login form with fields for "NCSA Username" (containing "paola17") and "NCSA Kerberos Password" (masked with asterisks), and a "Login" button. On the right, there's a "CILogon" logo and text stating "CILogon facilitates secure access to CyberInfrastructure (CI)". Below this, there's a list of links: "Enroll in Duo", "Forgot Your Username?", "Forgot Your Password?", and "Send Email To Get Help".

Once you log in, you would gain access to the DeltaAI OOD portal dashboard.

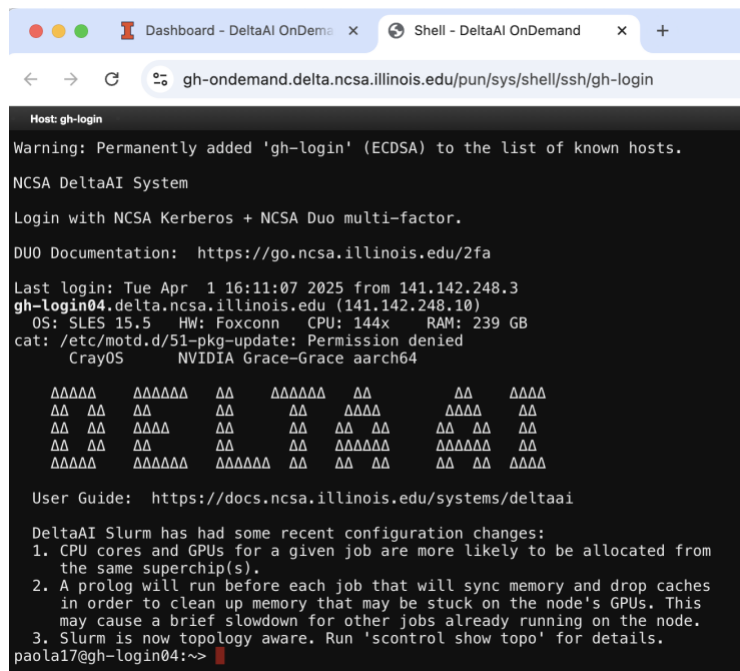
The screenshot shows the DeltaAI OOD portal dashboard. At the top, there's a header with the text "Dashboard - DeltaAI OnDemand" and a navigation bar with links for "Apps", "Files", "Jobs", "Clusters", and "Interactive Apps". Below the header, there's a yellow banner that says "Welcome to Open OnDemand for DeltaAI.". The main content area features the "ILLINOIS NCSA | National Center for Supercomputing Applications" logo and text. Below this, it says "OnDemand provides an integrated, single access point for all of your HPC resources." and "Pinned Apps A featured subset of all available apps". There are two pinned app tiles: "Jupyter Lab System Installed App" and "Code Server System Installed App". At the bottom, there's a footer that says "powered by OPEN OnDemand" and "OnDemand version: 3.1.7".

Step 2 – Get a DeltaAI copy of the workshop Github repository

Let's clone the AI Unlocked 2025 workshop github repository. In the “DeltaAI OOD portal dashboard”, go to the upper menu and click on “Clusters” and then on “>_ DeltaAI Shell Access”.



A new tab that looks like the image below will pop up. Ignore warning or error messages at this point.



Paola A. Buitrago

Type (or copy paste) the following command to clone the Github repository with all the workshop materials and press the “return” key.

```
git clone https://github.com/access-ci-org/AI-Unlocked-Workshop-2025.git
```

It should look like this before you hit the “return” key.

```

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User Guide: https://docs.ncsa.illinois.edu/systems/deltaai

DeltaAI Slurm has had some recent configuration changes:
1. CPU cores and GPUs for a given job are more likely to be allocated from
   the same superchip(s).
2. A prolog will run before each job that will sync memory and drop caches
   in order to clean up memory that may be stuck on the node's GPUs. This
   may cause a brief slowdown for other jobs already running on the node.
3. Slurm is now topology aware. Run 'scontrol show topo' for details.
paola17@gh-login02:~> git clone https://github.com/access-ci-org/AI-Unlocked-Workshop-2025.git
```

Press the return key. You should get confirmation that the repo has been successfully cloned.

```

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paola17@gh-login02:~> git clone https://github.com/access-ci-org/AI-Unlocked-Workshop-2025.git
Cloning into 'AI-Unlocked-Workshop-2025'...
remote: Enumerating objects: 417, done.
remote: Counting objects: 100% (134/134), done.
remote: Compressing objects: 100% (96/96), done.
remote: Total 417 (delta 94), reused 45 (delta 37), pack-reused 283 (from 2)
Receiving objects: 100% (417/417), 133.99 MiB | 8.80 MiB/s, done.
Resolving deltas: 100% (172/172), done.
Updating files: 100% (100/100), done.
paola17@gh-login02:~>
```

Good job! In case you had cloned the repo before on DeltaAI and want to confirm you have the latest version available you can A) go to the repo folder and B) update your DeltaAI copy of the repo.

A) Go to the repo folder

Type the following command in your shell and press the “return” key.

```
cd AI-Unlocked-Workshop-2025/
```

```
paola17@gh-login04:~> cd AI-Unlocked-Workshop-2025/  
paola17@gh-login04:~/AI-Unlocked-Workshop-2025>
```

B) Update your DeltaAI copy of the repo.

Type the following command in your shell and press the “return” key.

```
git pull
```

```
paola17@gh-login04:~> cd AI-Unlocked-Workshop-2025/  
paola17@gh-login04:~/AI-Unlocked-Workshop-2025> git pull  
Already up to date.  
paola17@gh-login04:~/AI-Unlocked-Workshop-2025>
```

You might get a confirmation that your DeltaAI copy of repo is up to date or, if it is not up to date, this command will pull the latest version of the workshop remote repo and describe the changes.

You now have the latest version of the repo ready to be used!

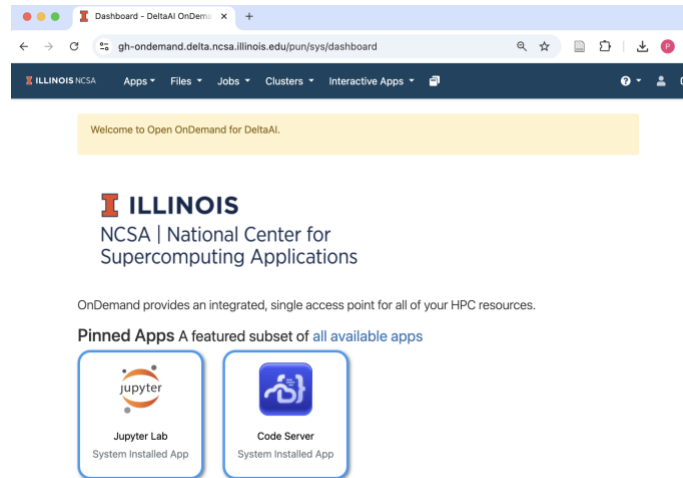
Step 3 - Get a Jupyter Lab or a Notebook instance running on DeltaAI!

Go back to the DeltaAI portal dashboard: <https://gh-ondemand.delta.ncsa.illinois.edu/>.
You can click on this URL or open the appropriate tab.



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Track 2 – Intermediate to Advance
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Session**

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Once, there, click on the “Jupyter Lab” app box.



You will be redirected to a form that looks like the following:

Welcome to Open OnDemand for DeltaAI.

Home / My Interactive Sessions / Jupyter Lab

Interactive Apps

- Jupyter
- Jupyter Lab**
- Servers
- Code Server

Jupyter Lab

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

Name of account

beeh-dtai-gh

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

Partition

ghx4

Interactive partitions are limited to one hour.

Duration of job

2:00:00

Slurm format: DD-HH-MM:SS

Name of reservation (leave empty if none)

Use the following values to fill the form and press “submit” button at the end of the page.

Field	Value
Name of account	beeh-dtai-gh
Partition	ghx4
Duration of job	2:00:00
Name of reservation (leave empty if none)	<i>Leave blank</i>
Number of CPUs	72
Amount of RAM	<i>Leave blank</i>
Number of GPUs	1
Working Directory	<i>Leave blank</i>

After providing this info in the form, hit “Launch”.

Working Directory

Select your project directory; defaults to \$HOME

Select Path

Launch

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

You should get a confirmation message indicating the session was successfully created. A list of cards with the one card on top representing your most recent Jupyter session will also be available on the right side of the screen.

ILLINOIS NCSA
Apps
Files
Jobs
Clusters
Interactive Apps

Welcome to Open OnDemand for DeltaAI.

Session was successfully created.

Home / My Interactive Sessions

Interactive Apps
Jupyter
Jupyter Lab
Servers
Code Server

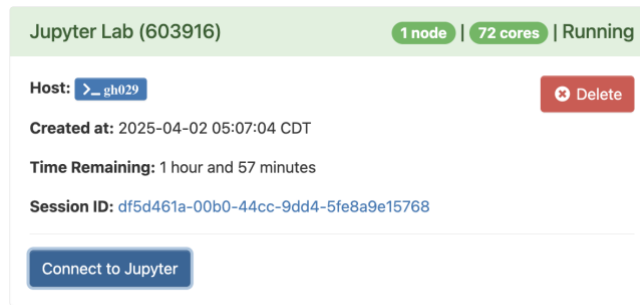
Jupyter Lab (603916) Queued
Created at: 2025-04-02 05:07:04 CDT
Time Requested: 2 hours
Session ID: df5d461a-00b0-44cc-9dd4-5fe8a9e15768
Please be patient as your job currently sits in queue. The wait time depends on the number of cores as well as time requested.



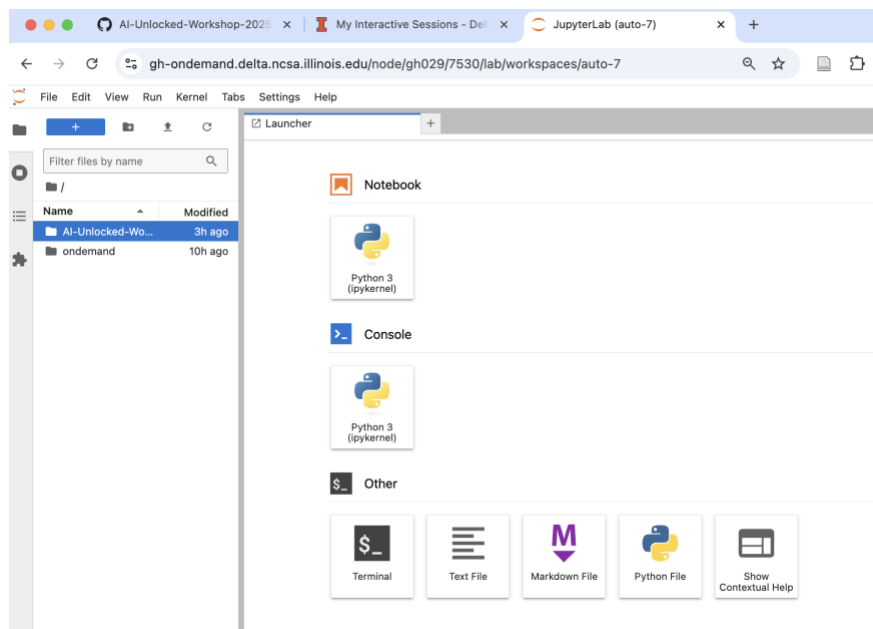
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It may take some time to get the session going. Once the session is ready, your card will change to “Running” status. Click on the “Connect to Jupyter” button in the card.



A new tab will pop up with your JupyterLab session. You are now ready to navigate to the session subfolder and get access to the Jupyter notebook we will be using.



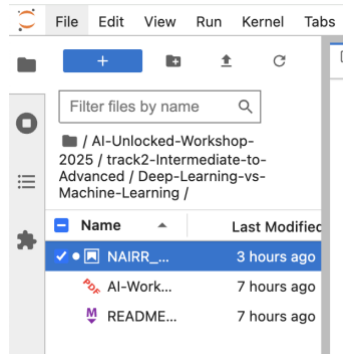
By clicking in the corresponding folders on the file browser on the upper left of the screen, navigate to:

AI-Unlocked-Workshop-2025 > track2-Intermediate-to-Advanced > Deep-Learning-vs-Machine-Learning

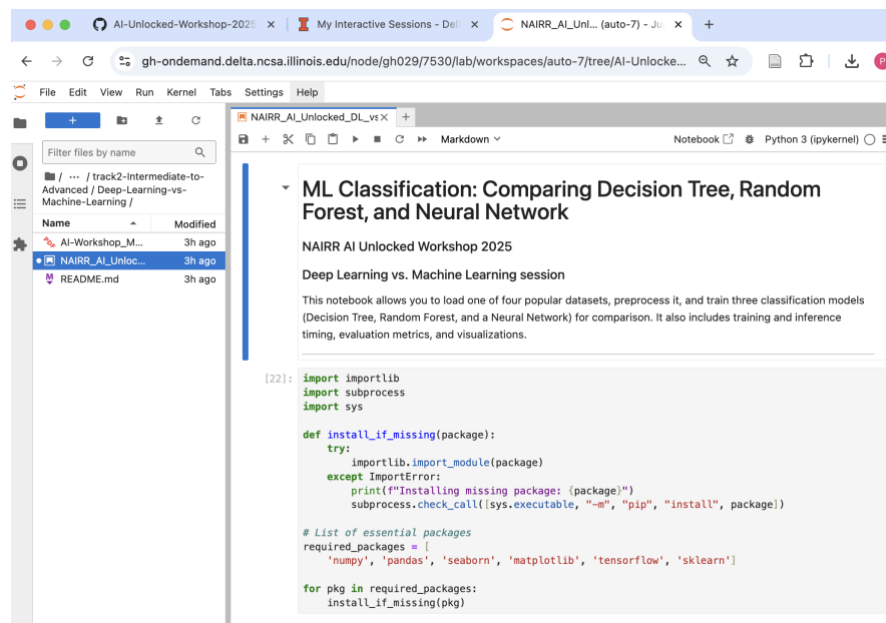


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Once you reach the “Deep-Learning-vs-Machine-Learning” folder, double click on the “NAIRR_AI_Unlocked_DL_vs_ML_model_comparison_training .ipynb” file.



Congratulations! We have now:

- Gained access to the DeltaAI Open OnDemand instance!
- Cloned or pulled the latest version of the workshop repository!
- Created a JupyterLab instance on DeltaAI!
- Gotten access to the Jupyter notebook of the session!

Great job!