



Razvan Bunescu <rbunescu@uncc.edu>

HPC Educational Cluster information

1 message

Razvan Bunescu <razvan.bunescu@charlotte.edu>
To: Justin Smith <jsmit840@charlotte.edu>

Thu, Apr 25, 2024 at 12:55 PM

Hello everyone,

For projects or assignments that use deep learning models you may need more substantial resources (memory, CPU, GPU) than usual. For those who do not have access to a powerful computer, one option (besides Google Colab) is to use the educational cluster, which is available for everyone in this class via `ssh <username>@hpc-student.uncc.edu` from a Terminal (command line) window.

Below are links to documentation. If you encounter issues with running your code, we expect that you follow these steps, **in this order**:

1. **Read the documentation.** Make sure the Slurm script file has correct options. Monitor your job's progress. Have patience, depending on the required resources and how many students are using the cluster at one time, the job scheduler may delay starting your job.
2. **Read the error messages** that are recorded in the output file.
3. Attend office hours, **talk to the TA** or me.

Regards,

-RCB

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Galaxy Cluster / Centaurus Partition

The educational (EDU) HPC cluster is named "**Galaxy**", and the partition that you submit to is called "**Centaurus**". Centaurus is a Slurm partition on RHEL 8.3. For information concerning the new educational cluster, Centaurus, please consult our online documentation:

<https://oneit.charlotte.edu/urc/educational-clusters>Links to an external site.

<https://oneit.charlotte.edu/urc/educational-clusters/centaurus-user-notes>Links to an external site.

Accessing Centaurus

Centaurus is available via: [hpc-student.uncc.edu](https://oneit.charlotte.edu/urc/educational-clusters/centaurus-user-notes)Links to an external site.

hpc-student.uncc.edu [Links to an external site.](#) is both the INTERACTIVE and SUBMIT host for the cluster. If off campus, the VPN is required for access.

In addition, Centaurus utilizes **DUO for SSH logins**. Please ensure your students have set up their DUO accounts:

<https://spaces.uncc.edu/pages/viewpage.action?pageId=35651686> [Links to an external site.](#)

Centaurus Storage Information

Each user directory has a quota of 150GB and is located at `/users/<username>`. This volume is BACKED UP nightly with a seven day window. Never modify the permissions on `/users/<username>`. Please instruct your students to track space usage via the `urcquota` utility.

Please note that student data is **not** retained between semesters.

Class Share Directories

Instructors and TAs have write access to class shares, whereas students have read-only access. **Your class share is located in `/projects/class/itcs4111_001` or `/projects/class/itcs5111_001`.**

Connecting, creating the homework folder, submitting the job:

- Connect to the Centaurus server through ssh:
 - Open a Terminal (command line) window and type the command below, using your UNCC user name: **ssh @hpc-student.uncc.edu**
 - This will ask for your password, and dual factor authentication.
- Copy the examples folder for homework number <x> in your home directory **cp -r /projects/class/itcs4111_001/hw0x/ /users/<username>**
- Change current directory to the hw0x folder **cd ~/hw0x**
- Edit the Python file using vi or emacs in the terminal window, or edit the Jupyter notebook file on your computer, save as Python file, and then using sftp or scp transfer the Python file on the educational cluster in **~/hw0x/code/**
- Submit the batch job that will start the Jupyter notebook server **sbatch slurm_script.sh**
 - This will print a message showing the job number, such as “Submitted batch job xxxxxx”
 - When the job is done, the output is saved into a text file with extension .out.

Centaurus Support

Students should work any issues through the TAs and instructors. This helps weed out issues that are not system related, but are instead students incorrectly performing their assignments. If an issue is reported by a student, please confirm the issue

with the instructor or TA before escalating to URC HPC Support.

If you have any questions or encounter issues, please contact URC HPC Support <urc-support@uncc.edu>.