This is the place for documentation in regards to using the Compute2 Platform, part of RIS services and the future location of all RIS User Documentation. These documents are actively being developed and in flux.

12falsenonelisttrue

## Requirements:

- VPN (For off campus access)
- Terminal Access
  - Windows: PowerShell or downloaded software like PuTTY or MobaXterm
  - Mac: Terminal (Under Utilities)
  - Linux: Terminal

## Connect via SSH

- Connect via 1 of 3 login clients

- Where N is 1, 2, or 3.

## Using Slurm

### Load RIS module via `ml`

- See what is available via `ml` with `avail` command

- Load RIS module

### Job Options

- The help option provides a full list of what's available
- The basic options are listed here
  - CPU: Use `--ntasks` for increase of CPUs used with `--cpus-per-task=1`

  - Job name

  - Ram/Memory

= --mem-per-cpu if --mem is specified.]]>

  - Host/Node/Server

  - Partition/Queue (Default: general)

  - Standard Out (`stdout`)

  - Job Run Time

  - Using a container (Docker image)

  - Using a GPU

### Using `srun`

- Submits a job that runs in real time
- Example using python

Storage allocations are mounted and you do not need to mount storage

Storage allocations do need to be mounted if using a container. See the Using Containers section.

You can get a shell connection to a job by using the `--pty` option and `/bin/bash` as the command.

This works for jobs that use installed applications or containers.

### Using `sbatch`

Submits a batch job (Runs in the background)

Create a job file: testjob.slurm

Submit job using `sbatch`

Check the output

Storage allocations are mounted and you do not need to mount storage.

Storage allocations do need to be mounted if using a container. See the Using Containers section.

### Using `squeue`

Displays running jobs

Basic options listed here

By user

By partition/queue

By name

By account

By default shows all jobs

Use the `-u` option to show only your jobs

### Using `scancel`

Cancels or kills running jobs

Default use job ID to cancel a job

Use the `--me` option to kill all your jobs

Can cancel via other options

Job name

User

Partion/Queue

### Using `sinfo`

Provides partitions/queues available

## Using GPUs

GPUs are available in the general and general-short partitions

Use a script that uses pytorch to test for GPU usage called `test_gpu.py`

Load `slurm` and `pytorch` module. Shown below is an example command.

Run a test using a python script

## Using Containers

A container (Docker image) can be used with the following option

`${Home}` directories are automatically mounted

The `${Home}` directory is not default working directory

Use the full path name for files

The working directory can be set with the following option

Example setting the working directory

Storage allocations are not mounted by default

Storage allocations can be mounted with the following option.

Example mounting a storage allocaiton

These same options can be used with `sbatch` submissions

## Using Job Arrays

Job arrays can only be used with `sbatch` jobs

They can be used with the following option

An example of using a job arrays

Job script

Job submission

Looking at job arrays in the queue

Job arrays can all be cancelled

Example for job array (job ID) 50 with 5 elements

Or particular array elements can be cancelled