Introduction to Digital Research Alliance of Canada Resources

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High Performance Clusters

Figure: Narval and Niagara Clusters

Interconnect

The InfiniBand Mellanox HDR network with a blocking factor of 33:7

Resources

Website: Alliance Canada
Wiki: Technical Documentation
Account Roles

Advanced Research Computing: ARC Presentation

Research Data Management: Lunaris Platform

Research Software: Canadian Research Software Platforms

Training: Calender
Help: Technical Support

Login

MacOS/Linux

SSH: SSH Documentation

```
[name@server ~]$ ssh -Y sudhipv@narval.computecanada.ca
```

Windows:

PuTTY: Connecting with PuTTY

MobaXterm: Connecting with MobaXterm

Other Packages:
Cyberduck
VS Code Documentation
Carleton VS Code Tutorial

Environment

Login Nodes and Compute Nodes

Project Folder and Scratch Folder

```
[sudhipv@beluga2 ~]$ diskusage_report

  Description                 Space          # of files
/home (user sudhipv)           15G/50G        295k/500k
/scratch (user sudhipv)        1335M/20T      3904/1000k
/project (group sudhipv)       0/2048k        0/1025
/project (group def-asarkar)   16G/1000G      190k/505k
/project (group def-maclab)    458G/1000G     36k/505k
/project (group rrg-asarkar)   17G/25T        3384/505k
```

Running Jobs

Wiki: Running Jobs

Slurm Scheduler: What is a Scheduler?

Slurm Commands: Slurm Quickstart Guide

Job Status

Slurm commands sq, sacct
Detailed usage status Portal
Screen command blog, cc

Interactive Job

```
$ salloc --time=1:0:0 --mem-per-cpu=3G --ntasks=1 --account=def-asarkar
salloc: Granted job allocation 1234567
$ python helloworld.py              # do some work
$ exit              # terminate the allocation
salloc: Relinquishing job allocation 1234567
```

File Transfer

Personal to Cluster: SSH, Cyberduck, PuTTY, VS Code

Between Clusters: Globus File Transfer

GPU

NVIDIA Tesla GPUs : P100, V100, A100, H100
Multi Instance GPUs : MiG

Links to Linux Commands

cheatsheet1
cheatsheet2
bash

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