Getting Started with HPC

SEAS has migrated much of computing hardware to FAS Research Computing. All remaining SEAS machines are in "maintenance mode" and will be phased out. New users should obtain a FAS RC account by visiting https://rc.fas.harvard.edu

SEAS Academic Computing provides a wide variety of software and compute server systems for courses and other computational needs.

- Overview of SEAS Compute Resources
- How to access SEAS central computing resources
- How to set up your environment
- Application Software, Best practice

Overview of SEAS Compute Resources

SEAS Compute Systems

How to access SEAS central computing resources

First: obtain a SEAS account assigned by SEAS IT. Apply for a SEAS Account

Second: set yourself up for a SEAS Remote Desktop (recommended) or a ssh account. Each method has its own advantages/disadvantages.

- SEAS Academic Computing Remote Desktop is a graphical Linux based desktop that allows one to run both command line and GUI based SW applications (Matlab, Abaqus, etc) remotely on SEAS central research computing systems. The Remote Desktop is persistent so that users can disconnect and reconnect to the same personalized Desktop at will. In the final release version, the end users also do not have to set up SSH keys, nor configure SSH for X tunneling (see below). A disadvantage of the desktop is the relative difficulty of transferring files between your local and SEAS HPC systems.
  For instructions how to set up the SEAS Remote Desktop, please look at our Documentation page: here.

- SSH Access to Systems: In order to allow wider network access to HPC systems, but to ensure that the systems remain secure, we have migrated to SSH key-based access only to HPC systems. This means that you cannot use your SEAS login password for access, but instead must set up SSH key based access to our systems. Please visit the following Documentation page: SSH Access to SEAS Hosts

How to set up your environment

We use module commands to set up a software environment on our compute systems. Once you have access to our compute systems, you can get a list of the available engineering and scientific software by typing:

```
module av
```

Then, you can access a specific version of a software (Eg. matlab, r2008b) by typing:

```
module load packages/matlab/r2008b
```

You can display information about paths etc. with:
module display packages/matlab/r2008b

Application Software, Best practice

Application Software and System Usage
Best Practices and Policies
SGE Queues On the HPC Cluster