**Connect to the Cluster**

Once you have received an email confirming the creation of your Fedgen-UserID, you have access to the FEDGEN HPC Cluster.

To begin using the cluster, you need to be aware of the following;

1. You need to **log on to the cluster** using an SSH client (Windows Powershell, Windows CMD, Putty, MacOS Terminal, Linux Terminal, MobaXterm etc) to the login node (Allot.hpc.fedgen.net) which will give you command-line access.
2. You can connect to the cluster only through the login node over the internet or on Covenant University Campus Network.
3. When you login, you will be on your $HOME Directory on the login node. Do not run any long-lasting programs here. The login node shall only be used for job preparation and simple file operations.
4. Before you can do some work, you'll have to **transfer the files** that you need from your computer to the cluster. At the end of a job, you might have to transfer your output files back.
5. To move files from your computer to the cluster or vice versa, you may use any tool that works with ssh. On Linux and OSX, these are scp, rsync, or similar programs. On Windows, you may use WinSCP. Transferring files to/from FEDGEN HPC Cluster
6. Optionally, if you wish to use programs with a **graphical user interface**, you will need an X-server on your client system and log in to the login nodes with X-forwarding enabled.
7. Usually several versions of **software packages and libraries** are installed, so you need to select the ones you need. To manage different versions efficiently, the FEDGEN HPC Cluster use so-called **modules**, so you will need to select and load the modules that you require for your work. E.g. Module load Matlab
8. To eventually run the program, you have to write a job script. In this script, you can define how long the job (i.e. the program) will run and how much memory and compute cores it needs. For the actual computation, you need to learn at least the basics of Linux shell scripting. You can learn some basics here: Linux command line.
9. After writing the job script, you execute it with sbatch jobscript.sh. This will put the script in the Job queue, where it will wait until an appropriate compute node with the requested resource is available. You can see the status of your job with squeue -u username. Batch system and Job script examples
10. Understand that the Cluster is a Shared Resource therefore utmost responsibility is expected of each user. You are also responsible for the efficient management of Quota Resources assigned to you. You can see more in the Policy.

See the following section for details on using ssh to access the cluster.

Working With An SSH Client

Introduction to Mobaxterm