How to Access Cluster for First Time

1. You have been granted access to use the research cluster and have received an ID and password.

2. First thing you need to do is reset the password and can do that by following these instructions. This server is intended to hold your credentials and should only be used to reset your password.
    a. SSH into hsdnis.luc.edu (IP address 147.126.58.39) using your ID and password. **(Note: If you are using Windows, you can SSH into the server by using the software Putty. It can be found at https://www.putty.org/. See attached screen shot on how it should be configured)**
    b. Once you are connected, at the prompt, type in **yppasswd** and hit enter.
    c. Type your old password and then type in a new password twice.
    d. Type **exit** to close out of the session.

    Important NOTE: hsdnis.luc.edu should only be used to reset your password, as it has no processing power.

    NOTE #2: The above password reset will not change on the ROCKs cluster. To change the password on the ROCKs cluster, just login and type passwd.

3. You can now access the cluster with your ID and password. Below are the details of each server:
    a. SMP Server #1 – Reserved for Bioinformatics Core
        i. IP address 147.126.58.40
        ii. Defined as mongo1.luc.edu
        iii. Generally accessible via ssh

    b. SMP Server #2 – General purpose research computing
        i. IP address 147.126.58.41
        ii. Defined as mongo2.luc.edu
        iii. Generally accessible via ssh

    c. ROCKS Cluster – Head node and 64 Compute nodes
        i. IP address 147.126.58.42
        ii. Defined as hsdbc1.luc.edu
        iii. Generally accessible via ssh
        iv. Compute nodes are all “compute-0-X” where X is an integer between 0 and 63.

    b. ROCKS Cluster status pages is at: http://hsdbc1.luc.edu/ganglia/

Storage you will see when logged into the cluster

The defined file systems have specific purposes and are **NOT** designed to be utilized as general purpose file storage. Current file systems shared as:

1. "/home" – This file systems is utilized for user "home" directories. Home directories should be used to maintain individual user programs, computational libraries and/or datasets required for active or near-term data analysis. This file system is a GPFS "-r2 –m2" file system meaning that both inodes and data blocks are fully replicated. The file system is designed for high stability and high availability with reasonable write performance (400MBps-600MBps) and high read performance (800MBps-900MBps). This file system is currently limited to 131TBs.

2. "/data" – This file system is utilized by users to store static reference datasets or final result datasets that they wish to retain for longer periods of time. The general assumption is that these volumes will have a large percentage of IO that are reads. This file system is a GPFS "-r2 –m2" file system meaning that both that inodes and data blocks are fully replicated. The file system is designed for high stability and high availability with reasonable write performance (400MBps-600MBps) and high read performance (800MBps-900MBps). This file system is currently limited to 131TBs.

3. "/scratch" – This file system is used as temporary work space and is optimized for performance. This file system is a GPFS "-r1 –m2" file system meaning that inodes are replicated but data blocks are not. This file system is designed for good stability and high read-write performance. Write performance ranges 900MBps-1.2GBps and read performance can be as high as 9GBps in some circumstances. This file system is currently 200TBs.

Putty Configuration

1. Type IP of server in Host Name
2. Change Protocol to SSH
3. To save the session, type the name of the server under Saved Sessions, then click Save.
4. To open the session, highlight the server you want to connect to and then click Open.