Using dedicated or external file servers

This document reviews accessing files from dedicated (private) BioHPC Lab file servers or external file servers. Some Cornell groups host their own files servers in BioHPC Lab, and data directories from such servers can be accessed in several ways by group members. It is also possible to access files stored on external file servers and transfer data to and from such servers,

1. Directly logging into the dedicated BioHPC Lab server.
   All the members of the dedicated server access group group can ssh to the server from Cornell network (you need VPN to login from the outside). You can organize your data or copy data from/to the outside using scp or ftp. BioHPC Lab home directories are mounted on dedicated file servers

2. Directly logging into the external file server
   If you are allowed to login into external file server you can access BioHPC Lab machines from there in a usual way. You will be able to transfer files using scp directly to the workstations if the external server is on Cornell network, or through cbsuss02.tc.cornell.edu if the server is outside Cornell.

3. Using scp to copy files from and to the dedicated BioHPC Lab file server.
   You can use scp to directly access data on dedicated Lab server from any computer on the internal Cornell network (you need VPN to scp from the outside). The command may look like

   scp myid@cbsuserver.tc.cornell.edu:/data1/jarek/filename /localdir/localfile

   In order to carry it out without a need to enter password you need to establish a correspondence for ssh between the two machines, see "ssh_correspondence.pdf" for more details. Ssh correspondence will work on all machines sharing the same home directory (like all BioHPC Lab workstations or all CAC cluster nodes).

4. Mounting data directories from BioHPC dedicated file servers on BioHPC Lab workstations.
   It is possible to mount data directories from dedicated BioHPC Lab file servers on BioHPC Lab workstations and use them as local directories. To do that execute the following command on the workstation:

   /programs/bin/labutils/mount_server servername /directory

   The directory will mount on /fs/servername/directory . When you don't need it please unmount it with

/programs/bin/labutils/unmount_server servername /directory

The directory will be automatically unmounted when your reservation ends.

5. Mounting data directories from external file servers on BioHPC Lab workstations.
   It is possible to mount data directories from external file servers on BioHPC Lab workstations and use them as local directories **if** external file server supports cifs protocol (contact the external server administrators if not sure). To do that execute the following command on the workstation:

   /programs/bin/labutils/mount_external servername share external_user_id external_domain

   You will be asked for external server password associated with *external_user_id* account. The directory will mount on /fs/biohpcuser/servername/share, in share name all slashes will be converted into "-". Here is an example of mounting Cornell SFS share with Windows UNC \\files.cornell.edu\rs\biotech

   /programs/bin/labutils/mount_external files.cornell.edu rs/biotech jp86 cornell

   The share will be mounted /fs/jarekp/files.cornell.edu/rs-biotech

   When you don't need it please unmount it with

   /programs/bin/labutils/unmount_external servername share external_user_id external_domain

   The directory will be automatically unmounted when your reservation ends.

   The above mounting procedure usually requires manually entering external account password. If the mounting command must be run from a batch with no interactive control appropriate password must be stored in a password store (on home directory) using pstore command

   pstore -c storename

   (*storename* is optional, may be empty for default password store). Once the password is stored the batch version of mounting command can be used on any workstation:

   /programs/bin/labutils/mount_external servername share external_user_id external_domain batch storename

   where storename is again optional.