Morpheus

Morpheus is CABSEL's workstation. It is a Dual Intel Xeon Gold 6130 16 Core machines. Please follow these instructions for access to the workstation. Also attached are best practices for storing data and specs of the workstation.

Important Specification
Processor
Dual Intel Xeon Gold 6130 (3.7 GHz Turbo)
16 Cores/Processor → 32 Cores in total
32 Threads/Processor → 64 Threads in total

Memory
512 GB DDR4 (ECC)

OS
Linux Mint 19.1 Cinnamon

Access

From Windows machine
Note: Access to the workstation requires one to be connected to the UB Secure network. If you are outside the University, please use VPN to logon to the UB network before accessing the workstation. (Use CISCO AnyConnect)

Morpheus can be accessed using the Secure Shell (SSH) network protocol. Windows users can use
1. PuTTY (terminal emulator) [https://www.putty.org/]
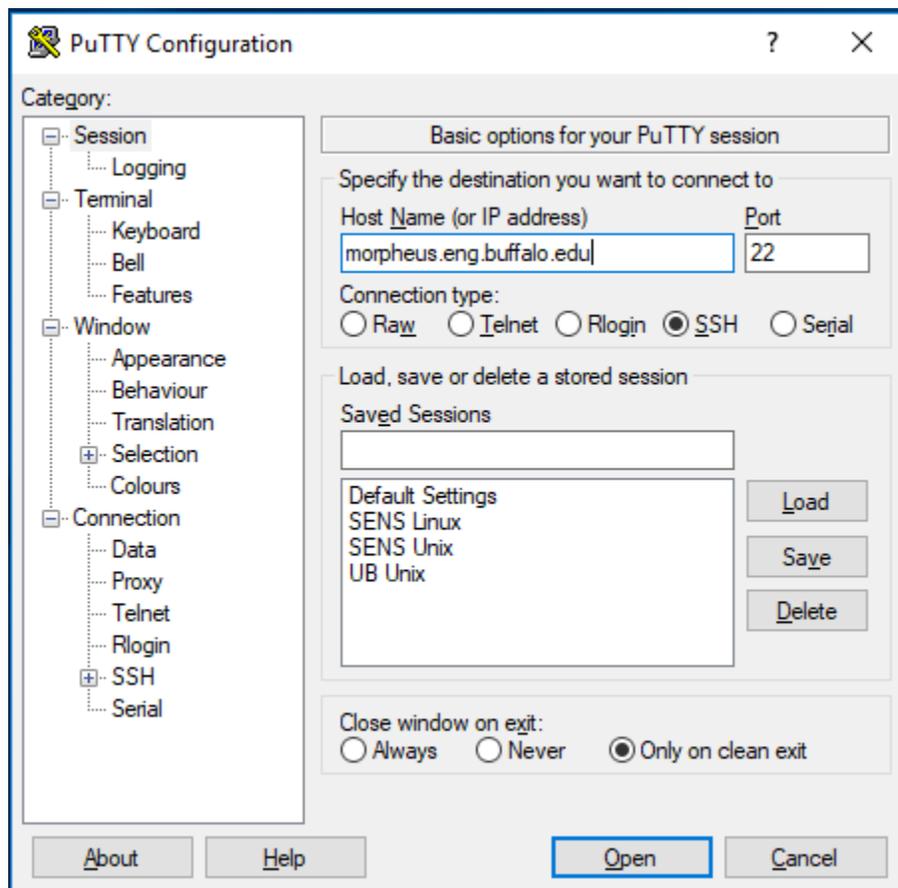
The host name is *morpheus.eng.buffalo.edu*

You can then logon using your UBIT name and password. PuTTY will not natively support graphics (X11) Tunneling. You will need to install an X11 server on to your computer. You can send a ticket to SENS to install 'XMING'. XMING is a X11 server for windows.

2. WINSCP (SFTP – File transfer protocol for transferring data to Morpheus)
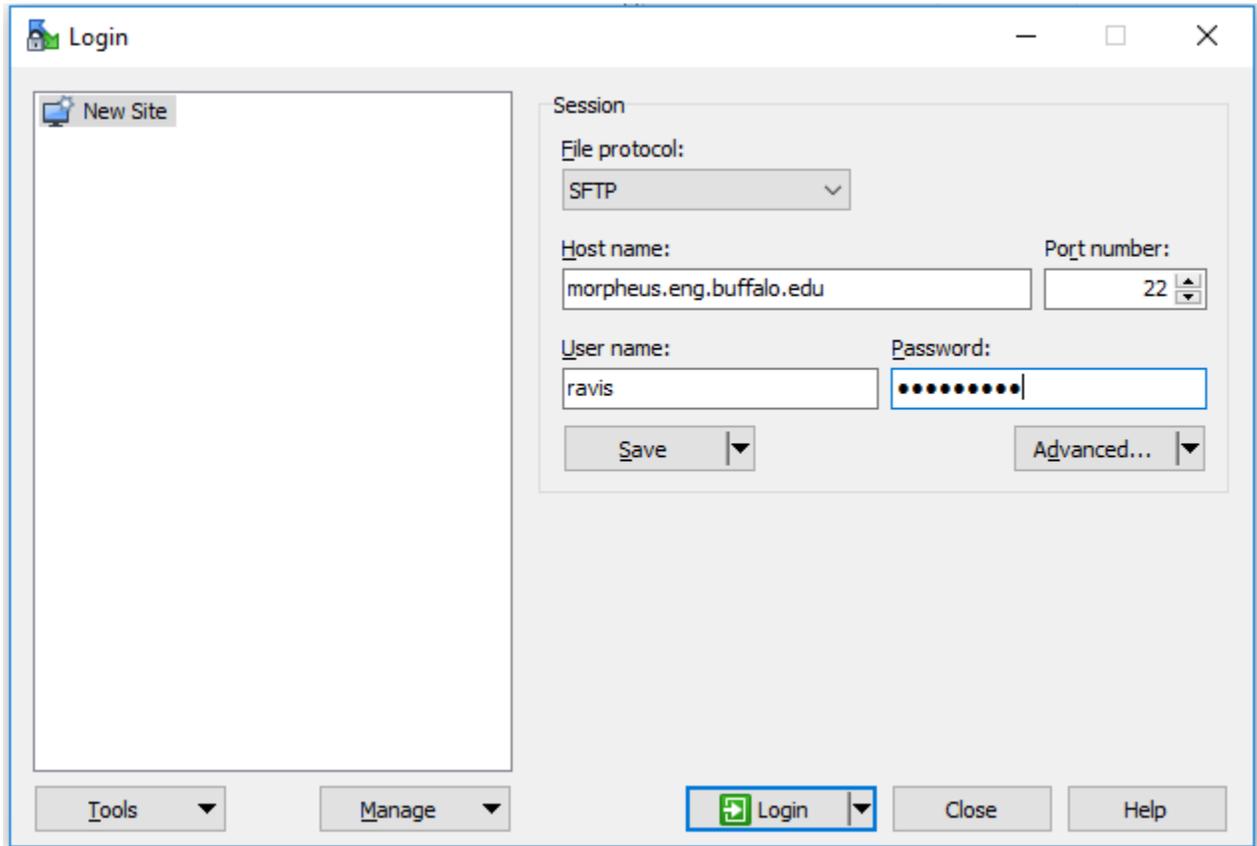
Both PuTTY and WINSCP are already installed on to your SENS Desktop computers.

Note: MobaXterm is a free software that requires no installation. [https://mobaxterm.mobatek.net/download-home-edition.html]. Download the Home edition and unzip. You will have an executable file which can be run without installation. MobaXterm combines a terminal emulator, X11 server and SFTP protocol all in one software.

From MAC and LINUX

Mac and LINUX both have built-in terminal. 'XQuartz' is an X11 Server for that can be used for graphics tunneling. 'Cyberduck' [https://cyberduck.io/download/] can be used for file transfer to the workstation. From the terminal use

```
ssh –Y UBITname@morpheus.eng.buffalo.edu
```

R in Morpheus

Once you are logged on to the workstation, you can use the following commands for launching R and R Studio.

`setenv QMLSCENE_DEVICE softwarecontext`

`/util/rstudio-1.2.1335/bin/rstudio`

This will launch R - Studio. Please ensure you have an X11 server installed and running to forward the GUI.

MATLAB in Morpheus

`use matlab`

This will launch matlab R2018b. Please ensure you have an X11 server installed and running to forward the GUI.

Note: For other versions of R or MATLAB or to find other modules in the workstation, please use the command 'use' to find the module. You can then use the name of the module to load it.

Important Information on File Storage and Core Usage

1. When you logon to the workstation, it will automatically take you to the home directory. By default this is

    `/eng/home/username/`

    This is your home directory and you can see this directory all over the SENS LINUX network. Please do not store big data files in the directory. This directory is meant for network files that you might want to use from other LINUX machines in the SENS network.

2. The majority of the storage space of the workstation is split within the group members with no restrictions on any individual person. Currently there are 8 authorized users sharing 1.6 Tb of storage space (which will increase very soon), so please be considerate and restrict your usage to 200 Gb until further notice.

3. The following directory is where you should store your data files.

    `/morpheus1/data/username` – For shared projects. You can share data in this folder to other group members. Instruction on how to do this will follow. When you share with other members in the group, they can have access to the folder in your directory.

    `/morpheus1/users/username` – For personal projects. Others cannot have access to this folder.

    The total storage for `/morpheus1` is 1.6 Tb as of now [Will increase]

4. The workstation can recover 1 hard drive failure. However, please take a backup of all files in a timely manner.

5. The 64 threads are split between all members of the group. When you logon, please use 'top' to check for available cores to run your program.