

# Connecting to BioHPC from outside of Cornell without Cornell Netid or Cornell VPN

**NOTE:** This way of connecting to BioHPC Lab is for external users that do not have Cornell Netid. If you have Cornell Netid you should connect using Cornell VPN.

**NOTE:** Main login server is [cbsulogin.tc.cornell.edu](http://cbsulogin.tc.cornell.edu), the backup login server is [cbsulogin2.tc.cornell.edu](http://cbsulogin2.tc.cornell.edu). You can substitute `cbsulogin` with `cbsulogin2` below.

## 1. Connecting from Windows Computers.

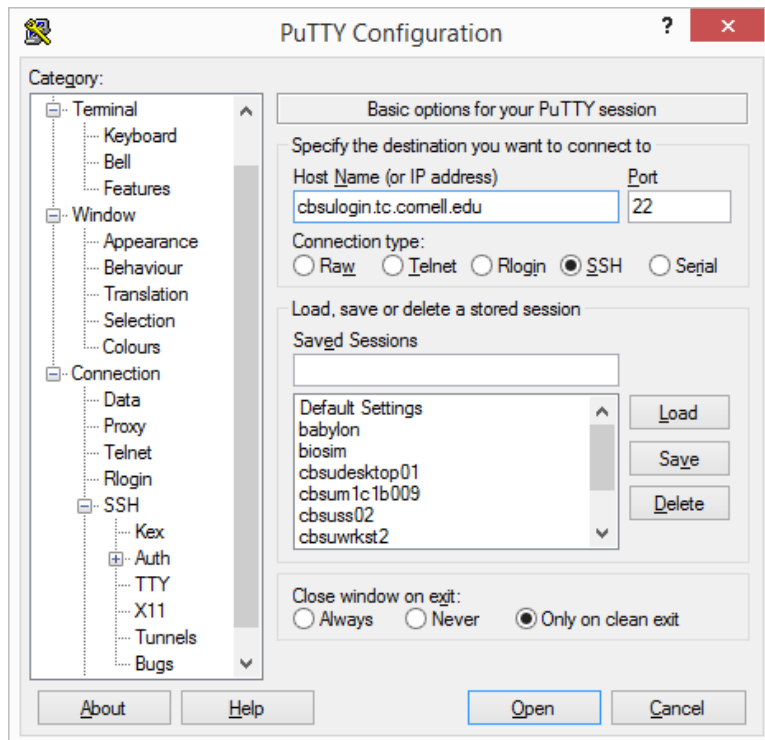
First, install software needed to connect to BioHPC Lab as described in our online documentation (Putty for connecting to workstations, FileZilla or WinSCP for file transfer, MobaXterm for X-Windows). You may want to install RealVNC VNC Viewer (Free edition) if you prefer to have access to the fully functional Linux desktop environment; the other option is to use the default Java applet.

Reserve workstation you want to use via our web pages (<http://cbsu.tc.cornell.edu/lab/labres.aspx>). In this document we will assume your workstation is `cbsum1c2b001`, please substitute the name of your reserved workstation when setting up the connection.

There are three scenarios, depending on the software you will use.

### (a) Using terminal and command line software only

Set up your Putty to connect to the login node, `cbsulogin.tc.cornell.edu`



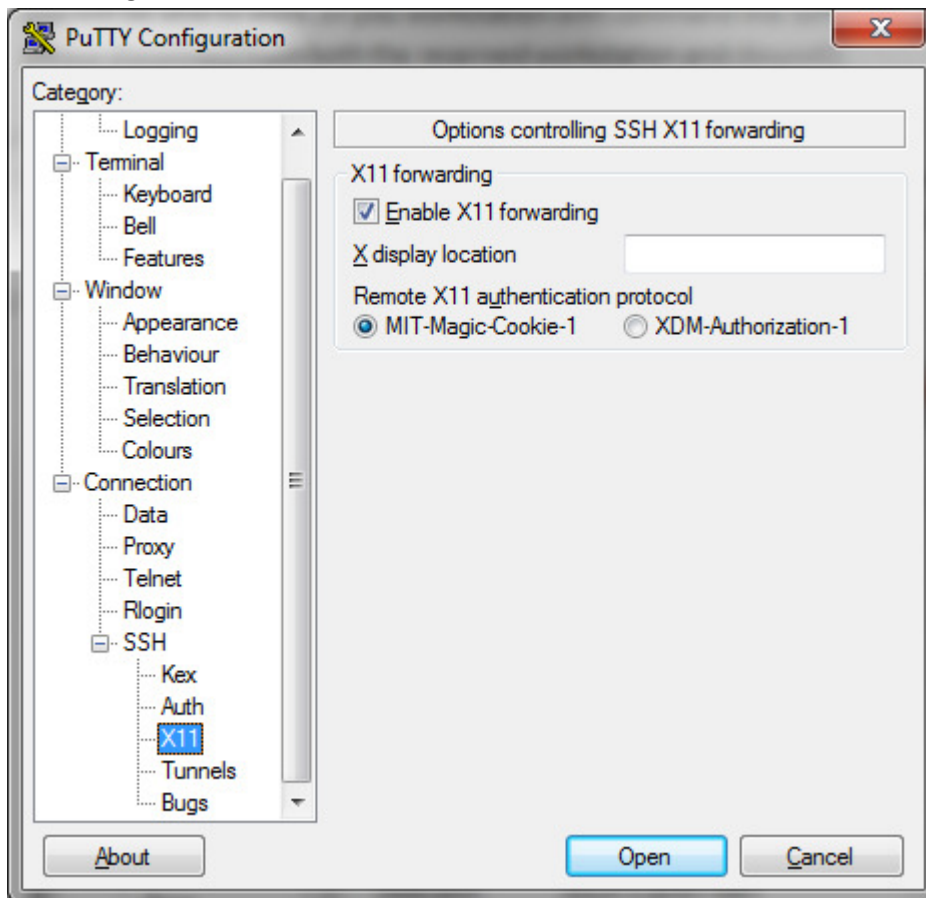
You will be asked for user id and password. Once your terminal session on the login node is established, type the command

```
ssh cbsum1c2b001
```

which will connect you to your reserved workstation (you will be asked password again). Remember to substitute example workstation name with your reserved workstation name! Now you will be able to work on you workstation with command line software. Once you are done, please disconnect from both the reserved workstation and cbsulogin (press “Ctrl-D” twice).

**(b) Using command line software and X-Windows software with MobaXterm.**

Set up your Putty to connect to cbsulogin.tc.cornell.edu as above, but before connecting scroll down the left panel, expand :”Connection”, “SSH”. Click on “X11” and make sure “Enable X11 forwarding” is checked:



Click “Open”. Once connected to the login node (cbsulogin.tc.cornell.edu), type the command

```
ssh -X cbsum1c2b001
```

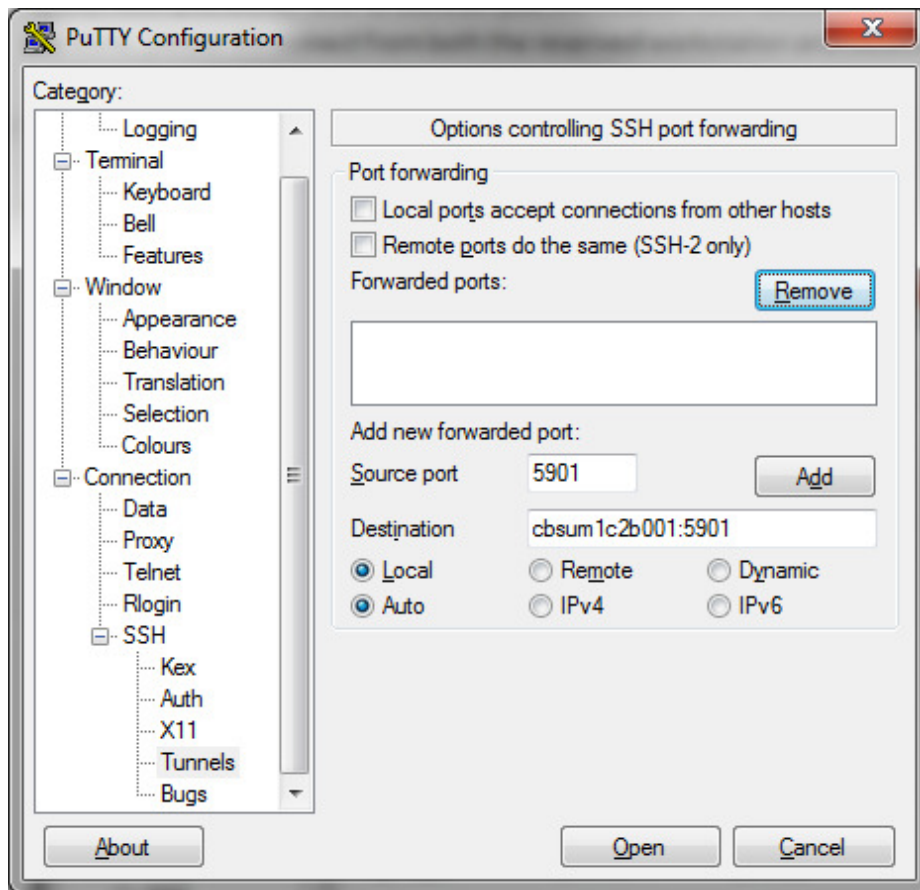
which will connect you to your reserved workstation (you will be asked password again). Remember to substitute example workstation name with your reserved workstation name! Now

you will be able to work on your workstation with command line software and X-Window software, just start MobaXterm on your local computer and then GUI software on BioHPC Lab machine. Once you are done, please disconnect from both the reserved workstation and cbsulogin (press “Ctrl-D” twice).

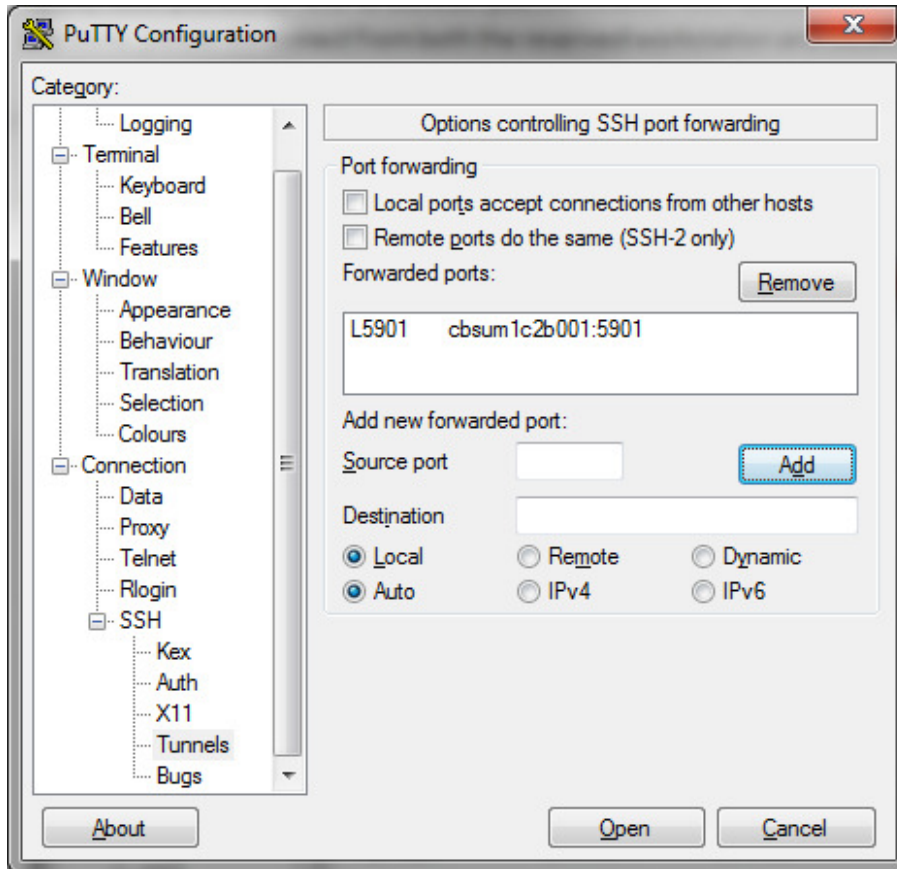
**(c) Using VNC connection (Linux remote desktop).**

Start your VNC connection by clicking on “Connect\_VNC” on the action list of your reservation (“My Reservations” page). The Java applet will NOT connect, but please keep the browser window open if you want to use Java applet (rather than RealVNC viewer) for VNC connection.

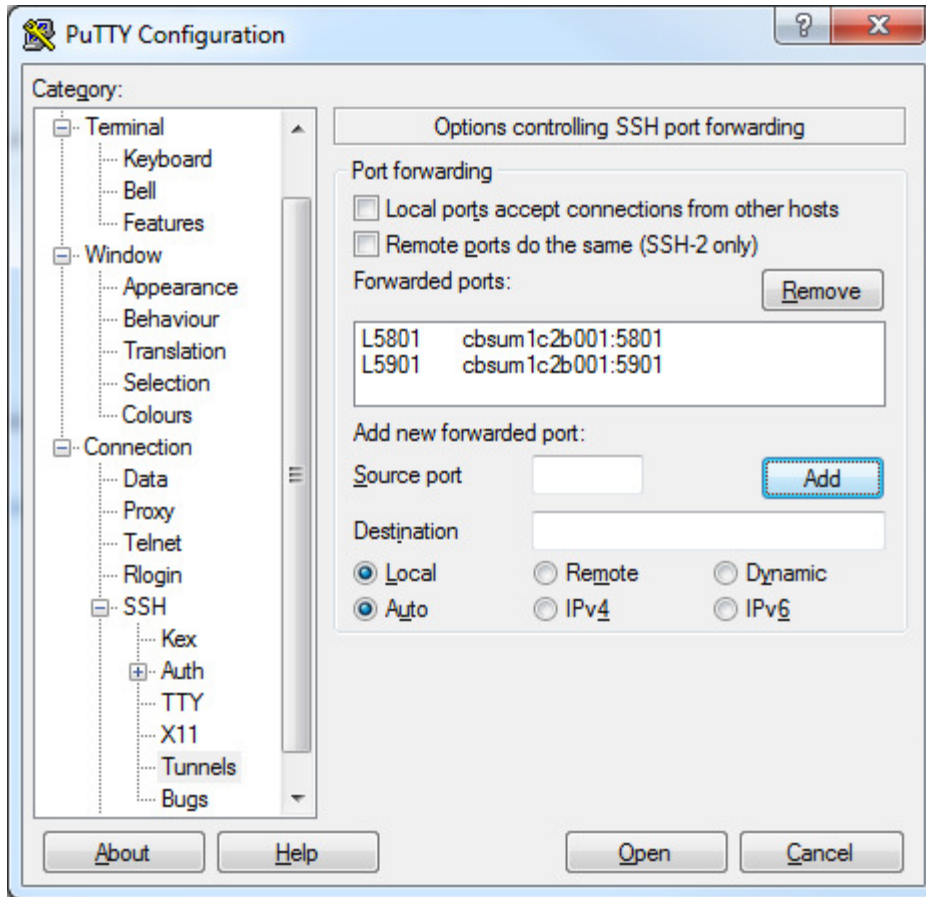
Set up your Putty to connect to cbsulogin.tc.cornell.edu as above, but before connecting scroll down the left panel, expand :“Connection”, “SSH”. Click on “Tunnels”, and fill tunneling information as below (remember to substitute workstation name!):



Click “Add” and Putty will display forwarding information as below:



The above screenshots show the forwarding for RealVNC Viewer and port 5901. Please check what port has been assigned to your connection, it is the rightmost number in the reservations table on “My Reservations” page. If you plan to use Java applet please also forward corresponding port in the 5800 range, i.e. subtract 100 from the 59XX port number. Screenshot for proper port tunneling for Java applet is below:



Click “Open” to connect to the login node (cbsulogin.tc.cornell.edu). Once connected, type the command

```
ssh cbsum1c2b001
```

which will connect you to your reserved workstation (you will be asked password again). Remember to substitute example workstation name with your reserved workstation name! Now you will be able to work on you workstation with command line software and X-Windows software. Once you are done, please disconnect from both the reserved workstation and cbsulogin (press “Ctrl-D” twice).

In order to use VNC via the Java applet, edit the URL in the browser window you got after clicking “Connect\_VNC” (on “My Reservations” page) and replace “cbsum1c2b001.tc.cornell.edu” with “localhost”, load the URL and Java applet should connect. NOTE: port number for Java applet is 5800-based, NOT 5900 based! If you need to type the URL it will be `http://localhost:5801/` (subtract 100 from the port umber displayed on the rightmost column in the “My Connections” page for your reservation).

If you want to use RealVNC Viewer type "localhost:5901" as the address and connect. Replace 5901 with the port number displayed on the rightmost column in the "My Connections" page for your reservation.

## 2. Connecting from Unix Computers (Linux, Mac).

Reserve workstation you want to use via our web pages (<http://cbsu.tc.cornell.edu/lab/labres.aspx>), just as any user. For this document let's assume your workstation is cbsum1c2b001, please substitute your workstation name when setting up the connection.

### (a) Using terminal and command line software only

Connect to cbsulogin.tc.cornell.edu using ssh:

```
ssh cbsulogin.tc.cornell.edu
```

Once connected, type second ssh command:

```
ssh cbsum1c2b001
```

Remember to substitute example workstation name with your reserved workstation name! You are now ready to work with command line programs. Once done, please disconnect both connections.

### (b) Using command line software and X-Windows software.

Connect to cbsulogin.tc.cornell.edu using ssh:

```
ssh -X -t -t -t mylabid@ cbsulogin.tc.cornell.edu "ssh mylabid@cbsum1c2b001 -X"
```

You will be asked for password twice. Remember to substitute example workstation name with your reserved workstation name and "mylabid" with your Lab ID! You are now ready to work with command line and X-Windows programs. Once done, please disconnect both connections.