Niagara College Canada

Applied Dreams.

Setting up PuTTY

ELNC1221 Networking and Data Comms
CTEC1336 Data Management
CTEC1433 Internet of Things

Version 3.4 – *Updated for 2020 Fall/2021 Winter/2021 Spring*

Software*

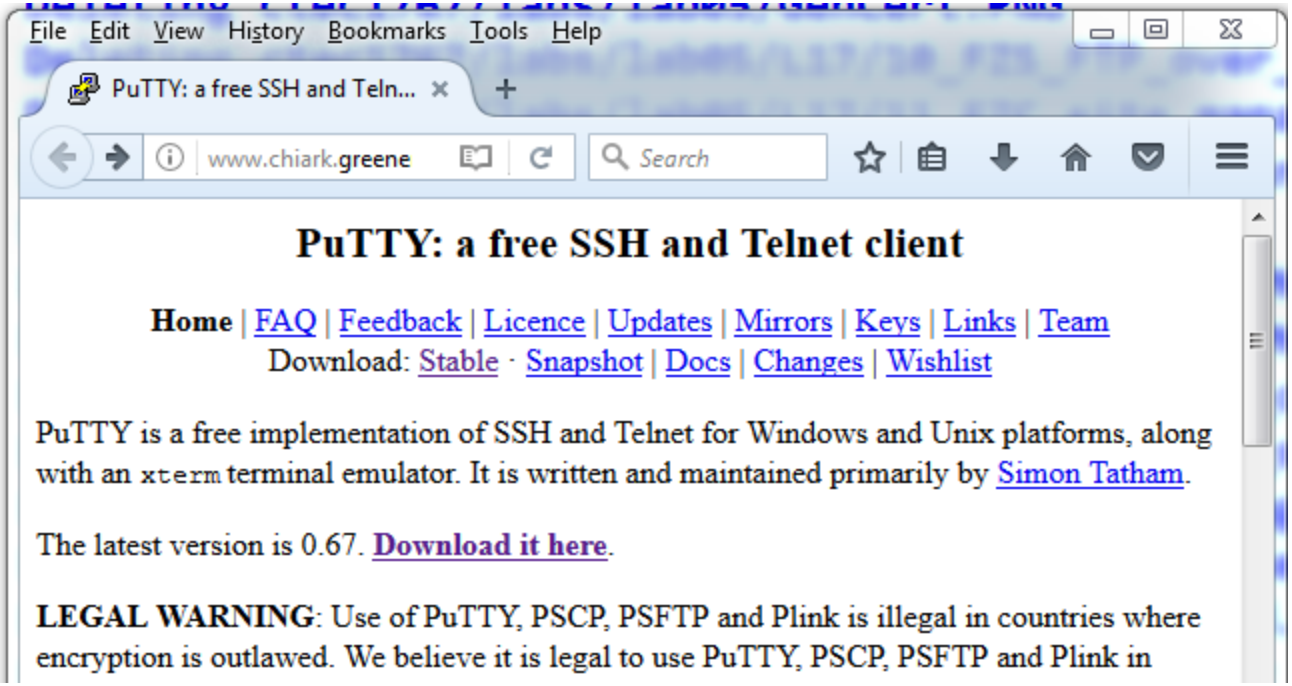
- ✓ Microsoft Windows 10
- ✓ PuTTY 0.74
- ✓ WinSCP 5.17.7

* as at 2020-08-28

Downoad PuTTY

The official PuTTY home page is:

https://www.chiark.greenend.org.uk/~sgtatham/putty/

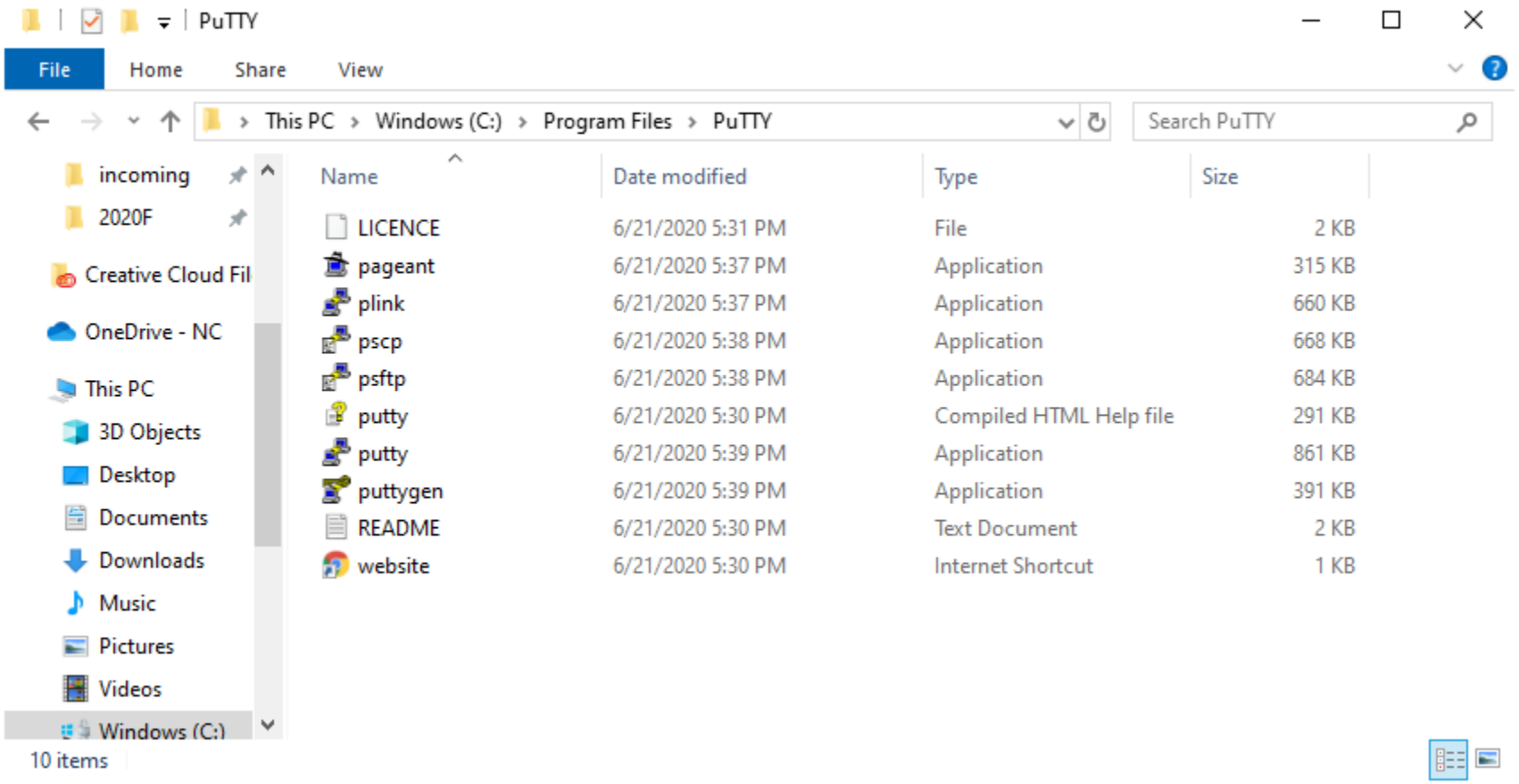


Download PuTTY

- Download the PuTTY installer (**`putty-64bit-0.74-installer.msi`***)
- Alternatively, you can download the **`putty.zip`** file.
- Both contain several programs for SSH, SFTP, and SCP.

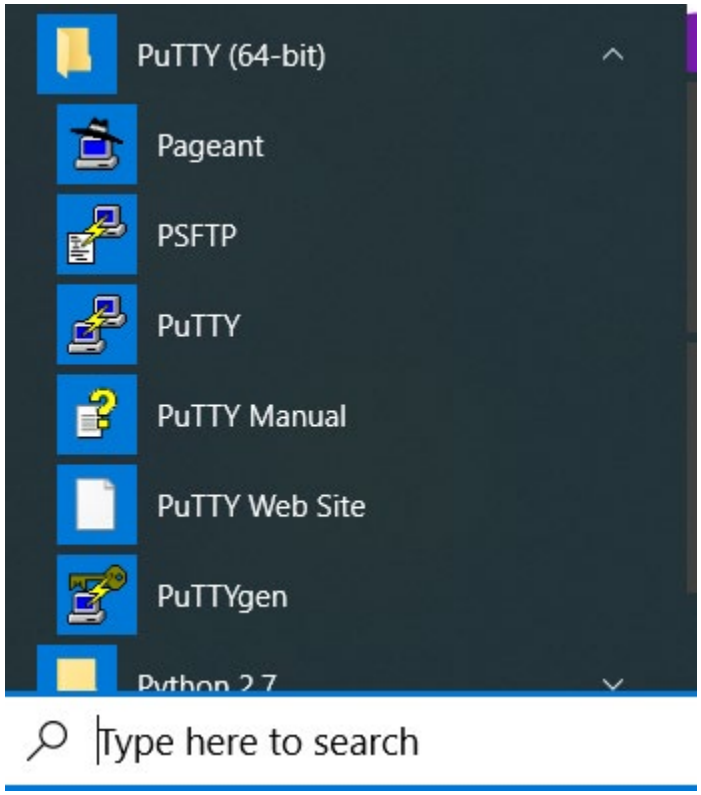
**As at 2020-08-28*

PuTTY Files - Installer



PuTTY Installation (2)

To run PuTTY after using the installer (instead of the zip file), go to the Start menu:



PuTTY Installation – Zip File

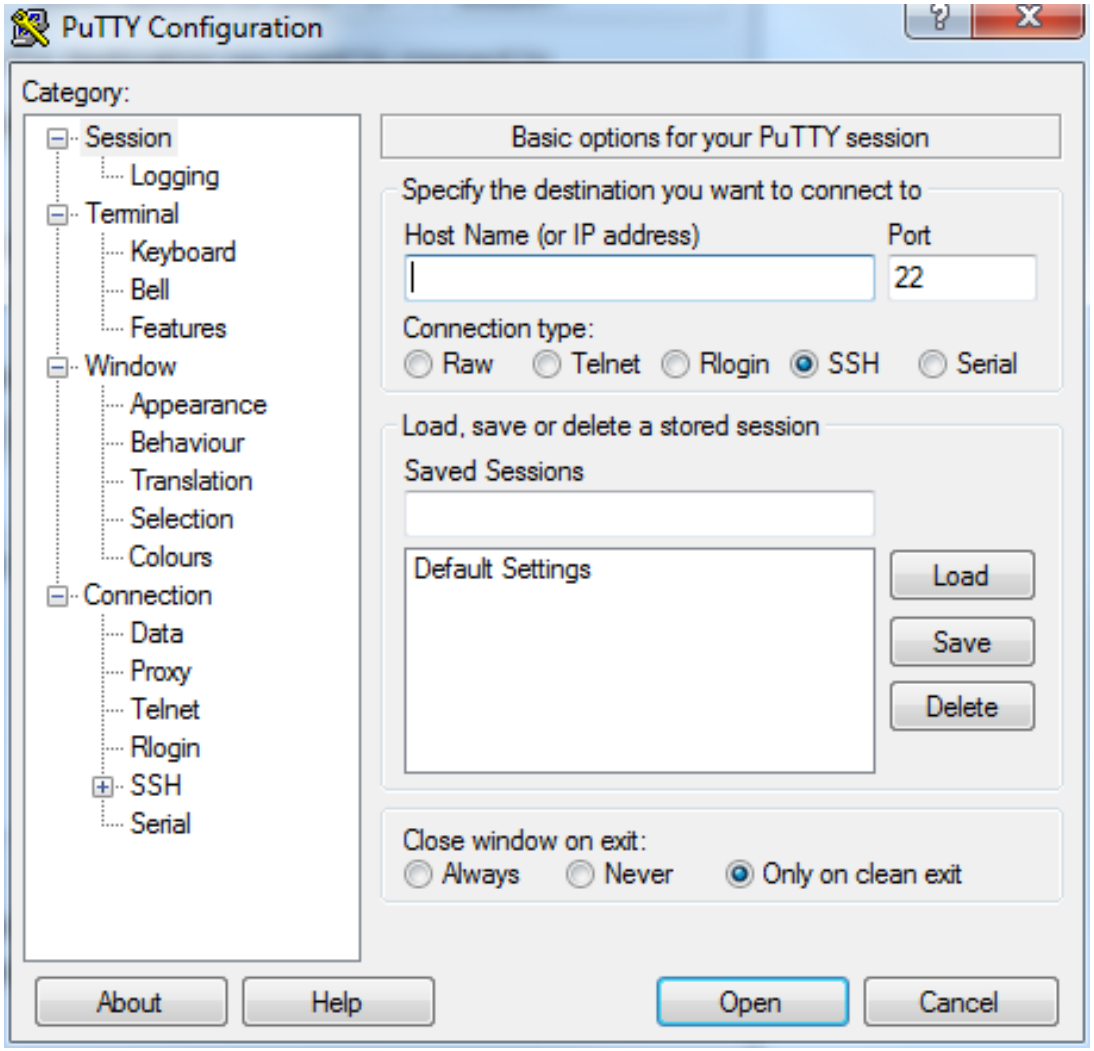
- Copy or extract the files from the zip file into a folder that is on your **PATH**.
- To find out the PATH, right click on the My Computer icon and select Properties. Then, from the Advanced tag, click on the Environment variables button.
- Or you can type **path** from a Command prompt window.

PuTTY Installation – Zip File (2)

If you're not sure, just copy the PuTTY files into **C:\Windows**. That folder is *always* on the path.

To run PuTTY, from the Start menu, select Run… and enter **putty**.

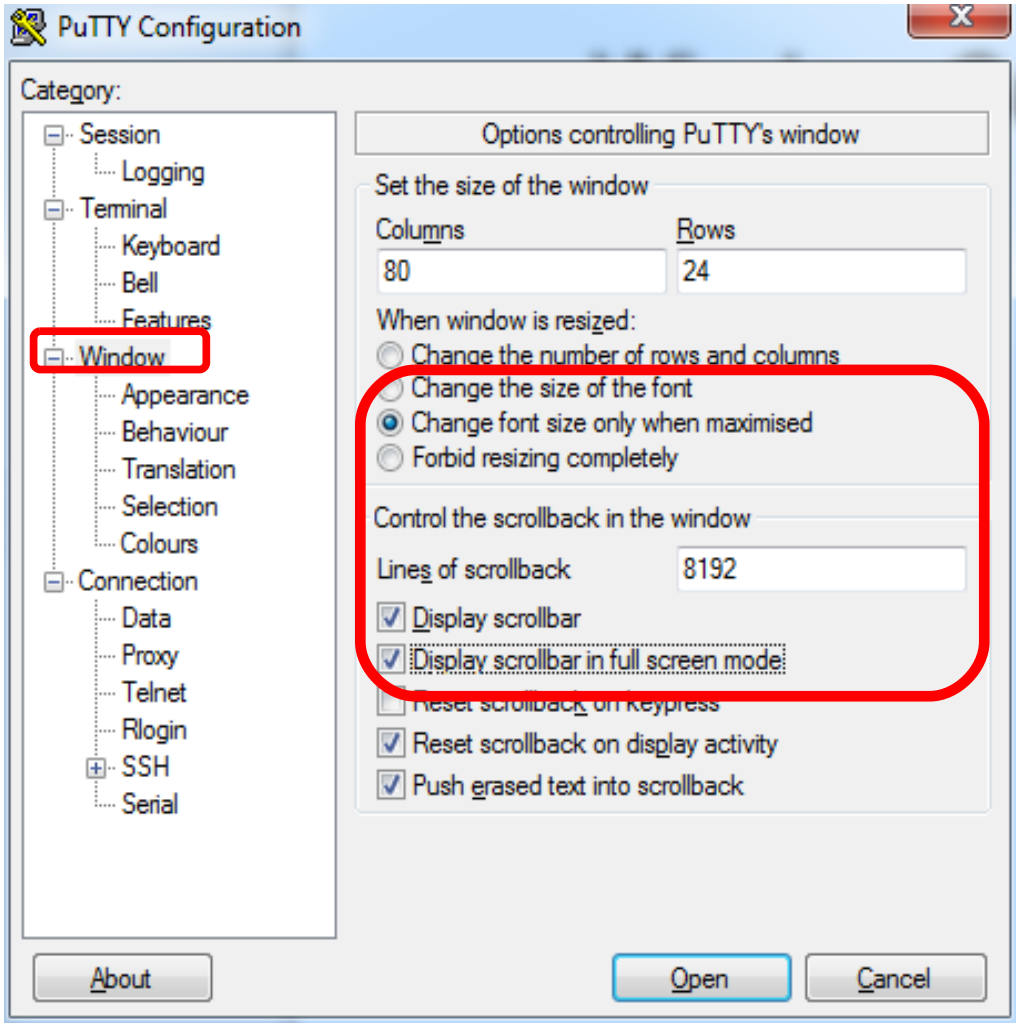
Running PuTTY



Setting up the Session

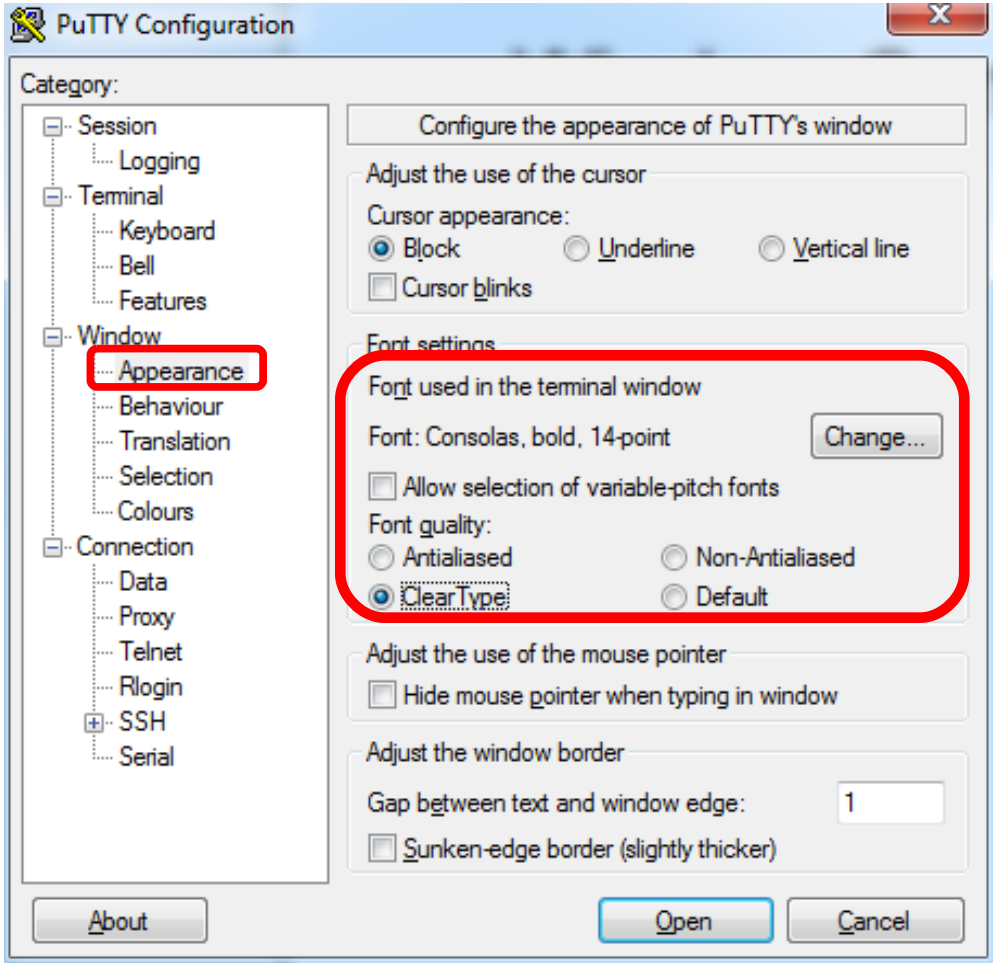
- In the **Host Name (or IP address)** field, enter **technology.niagarac.on.ca** or **192.197.62.35**.
- The **Port** can be **22** (the default, may not work with all networks) or **443** (works both inside and outside the College.)
- Make sure that **SSH** is checked off under **Connection** Type (it is the default).

Window Configuration



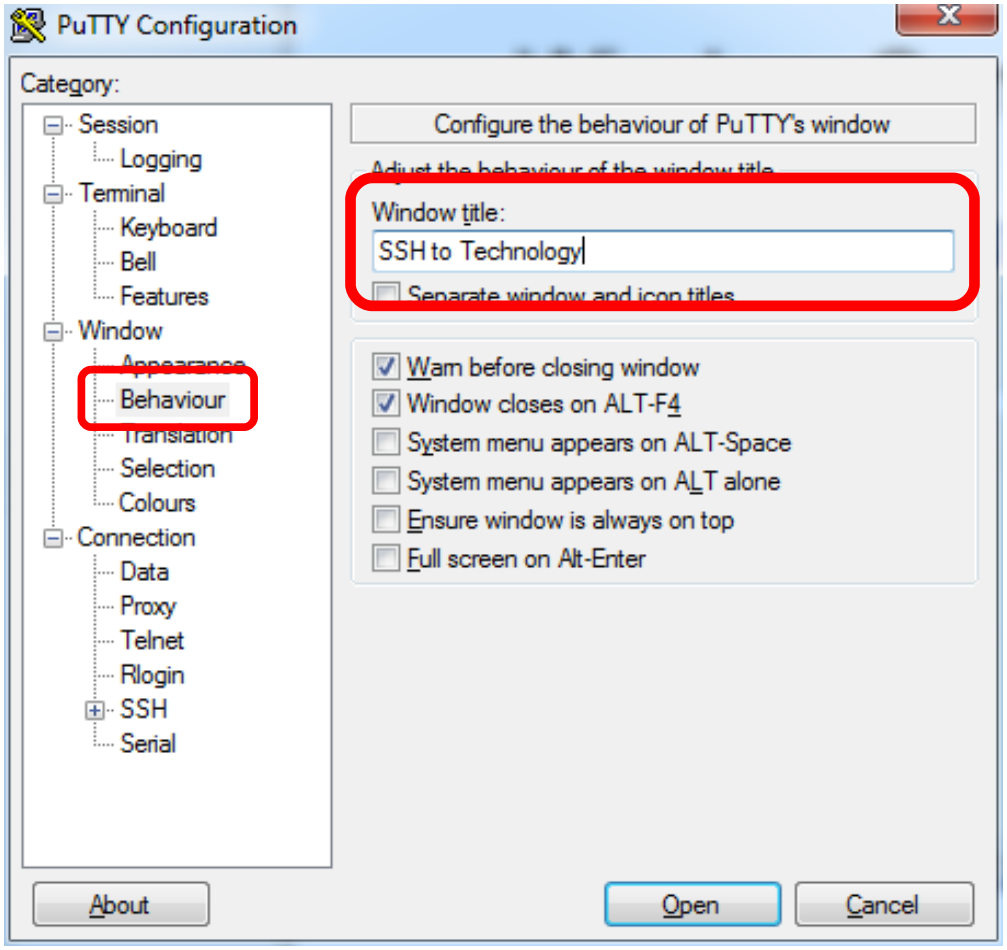
- Change the font size only when maximized
- Set Lines of scrollback
- Display scrollbar in full screen mode

Window Configuration (2)



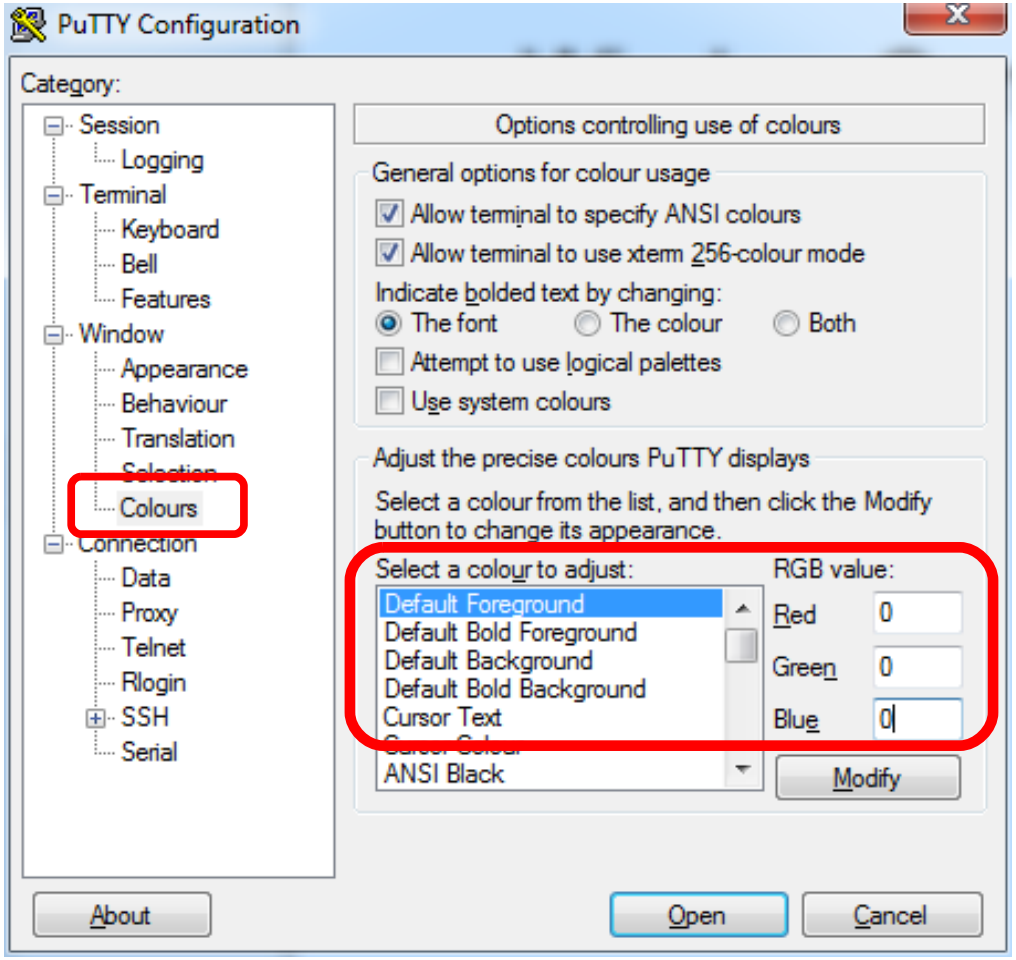
- Change the font to something that you can read *(I like Consolas)*
- Select "Clear Type" for the best anti-aliasing

Window Configuration (3)



Set the **Window title**

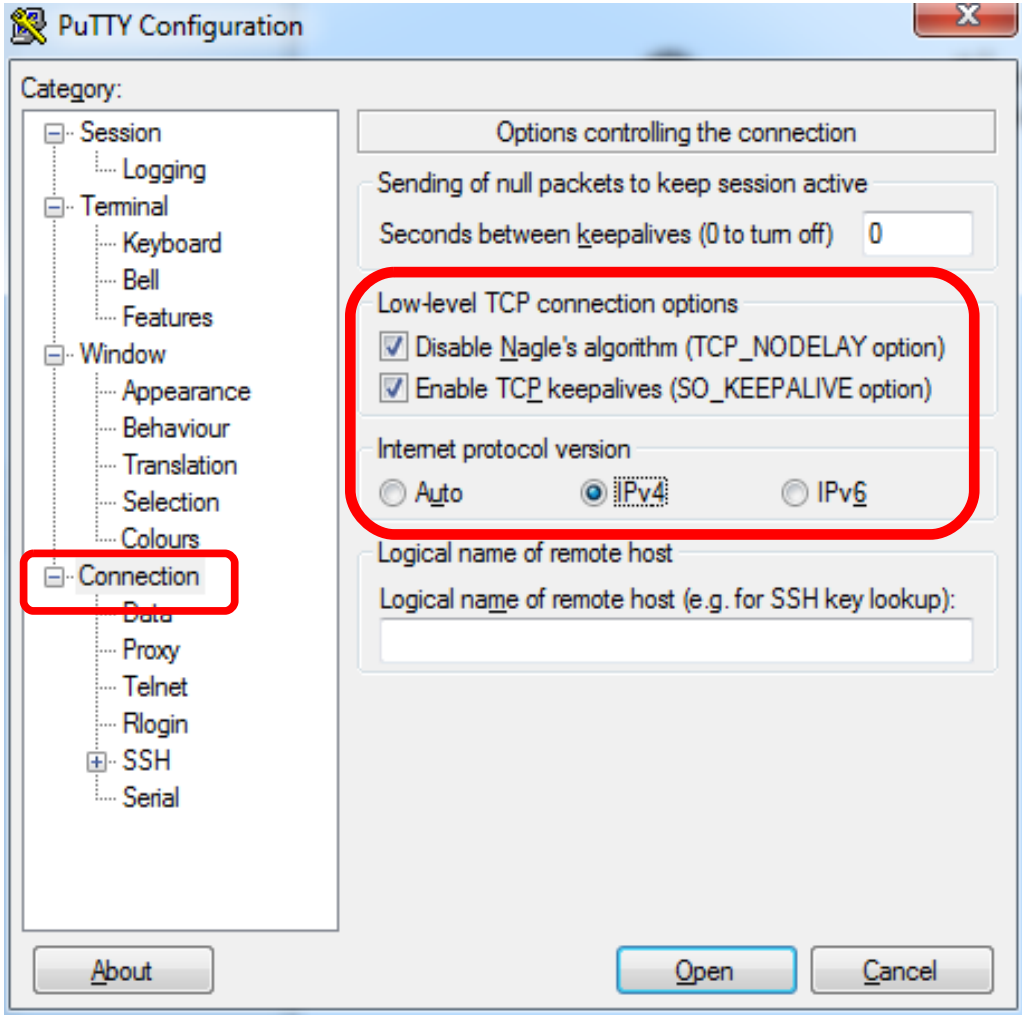
Window Configuration (4)



Set the colours

For example, **Default Foreground** to black (Red = **0**, Green = **0**, Blue = **0**) and **Default Background** to white (Red = **255**, Green = **255**, Blue = **255**)

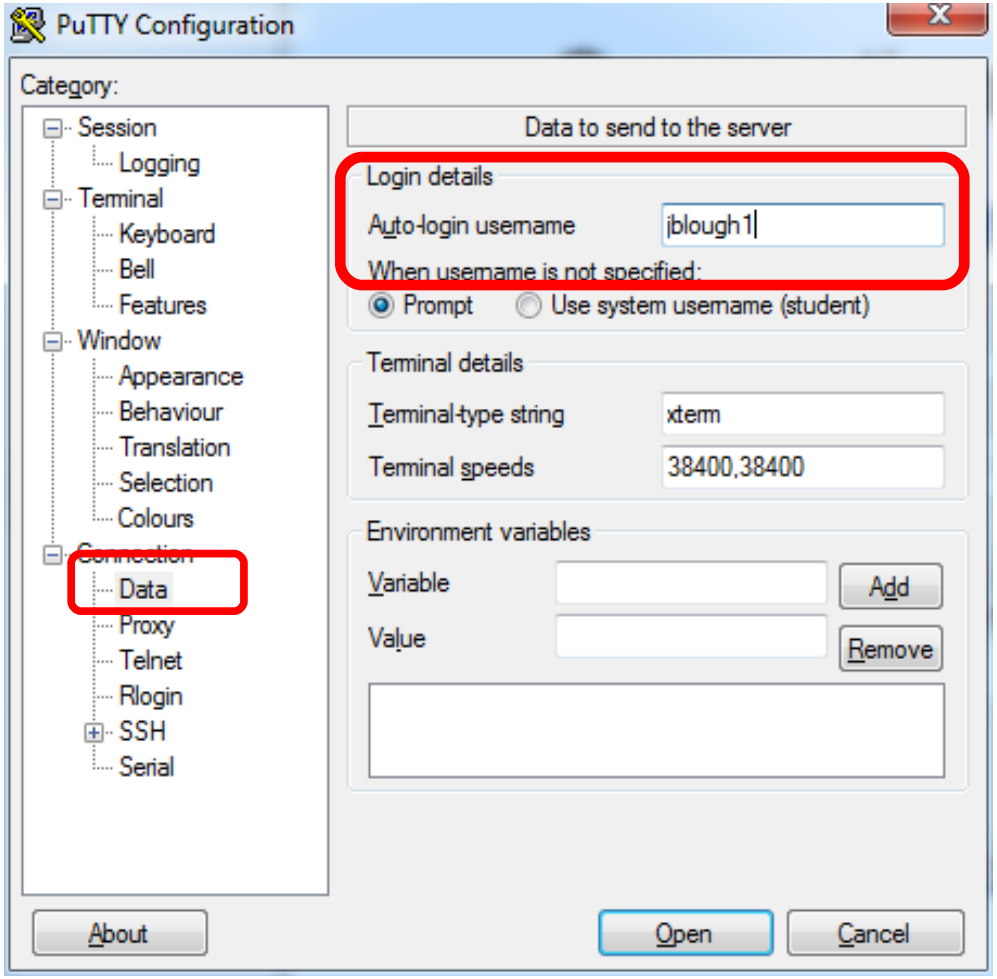
Connection Settings



Enable TCP keepalives

Change the Internet protocol version to **IPv4**

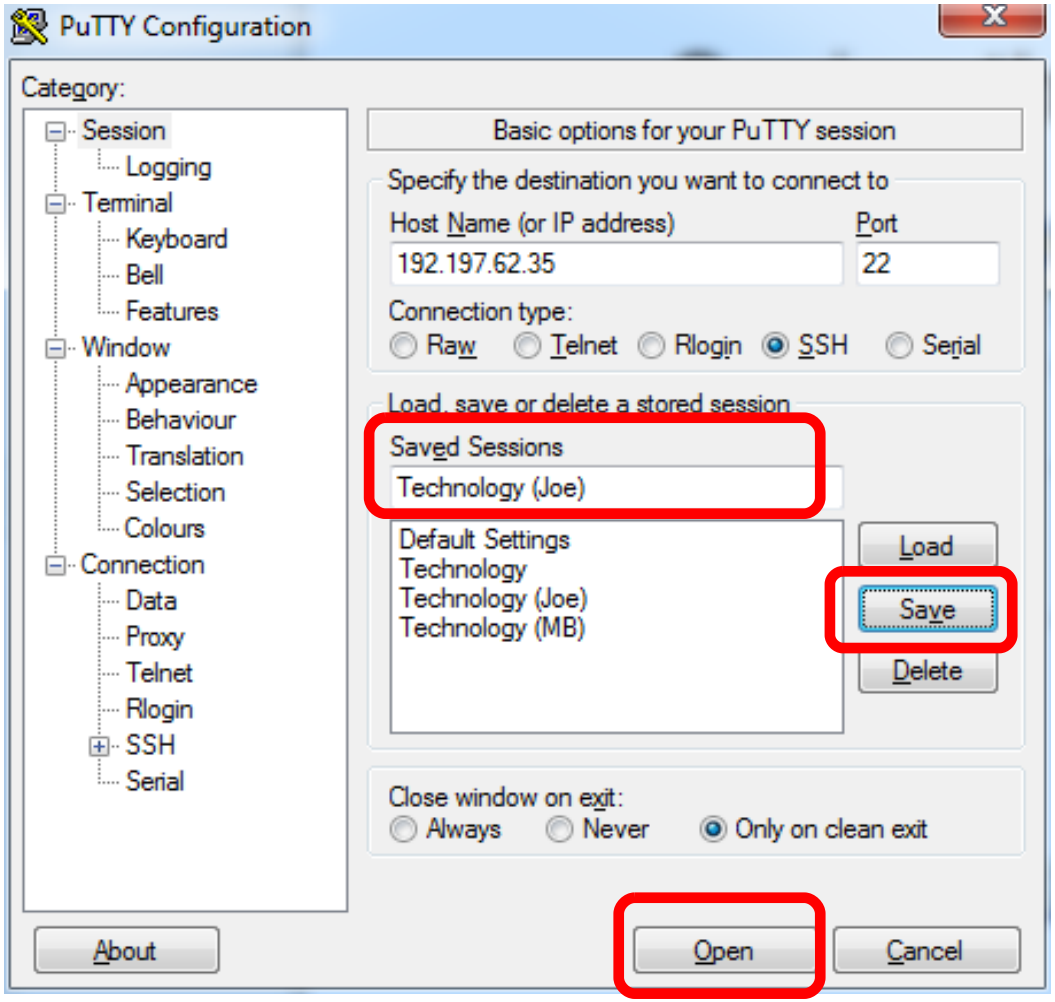
Connection Settings (2)



Enter your **username**

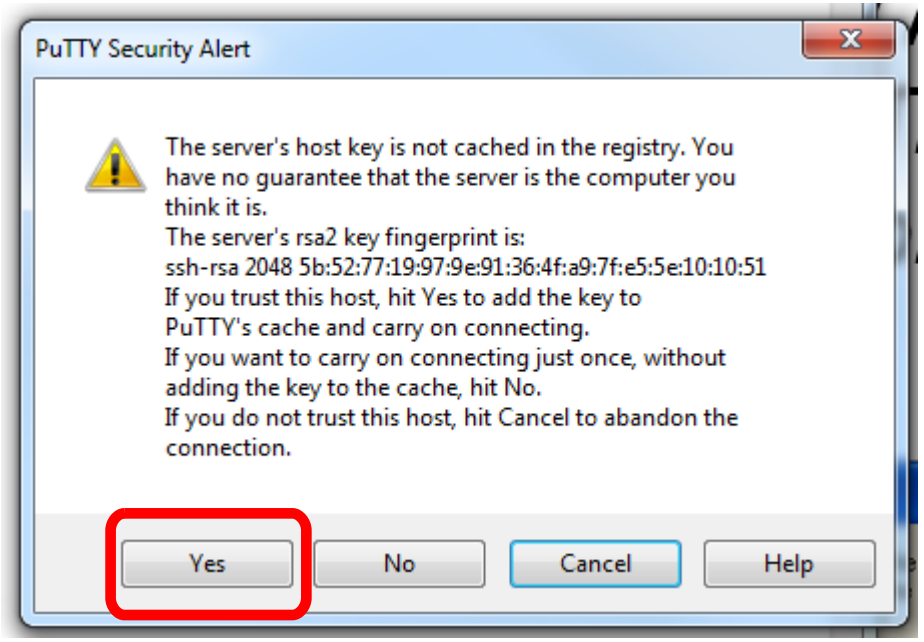
Saving the Settings

Give the session a name and click **Save**; it will be added to the list of Saved Sessions (for future use); Click **Open** to connect



Connecting: First Time

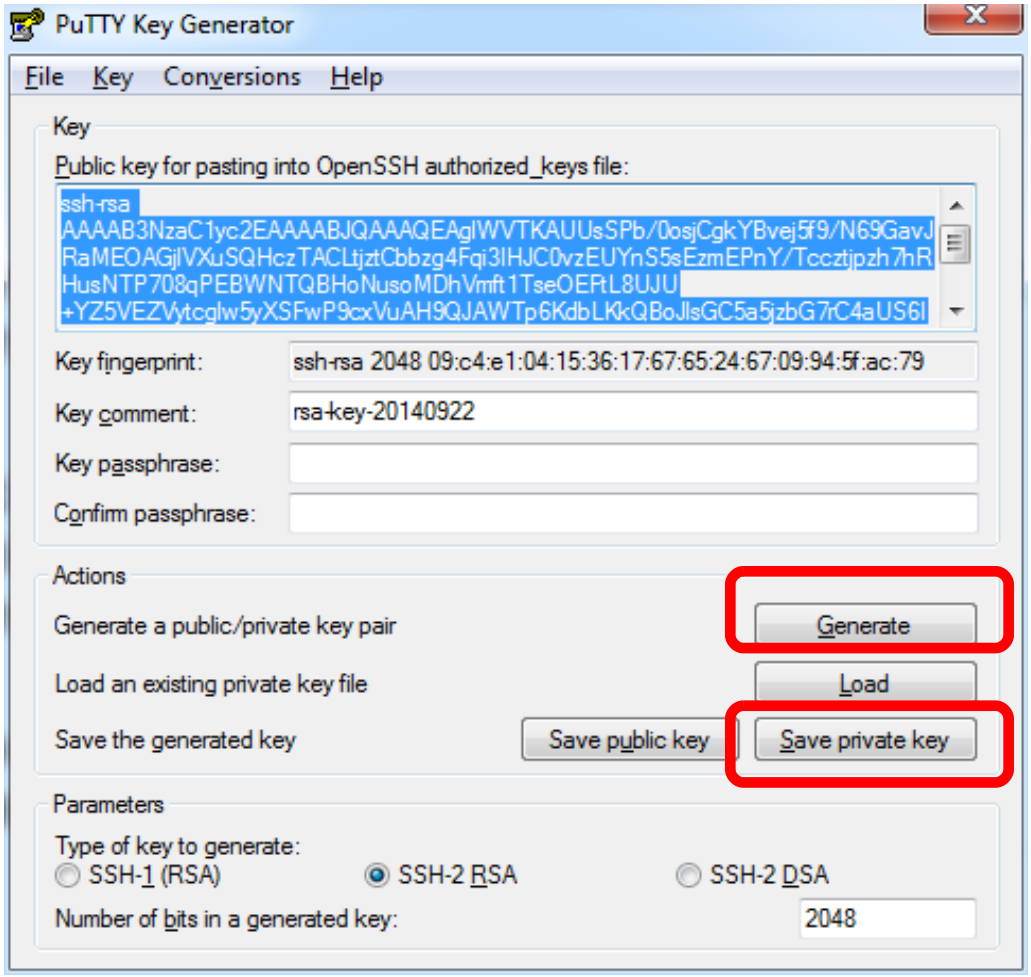
You will get the Security Alert popup the first time you connect. *This is normal and is a feature of the SSH protocol*. Click on the Yes button.



PuTTY Command Line Session

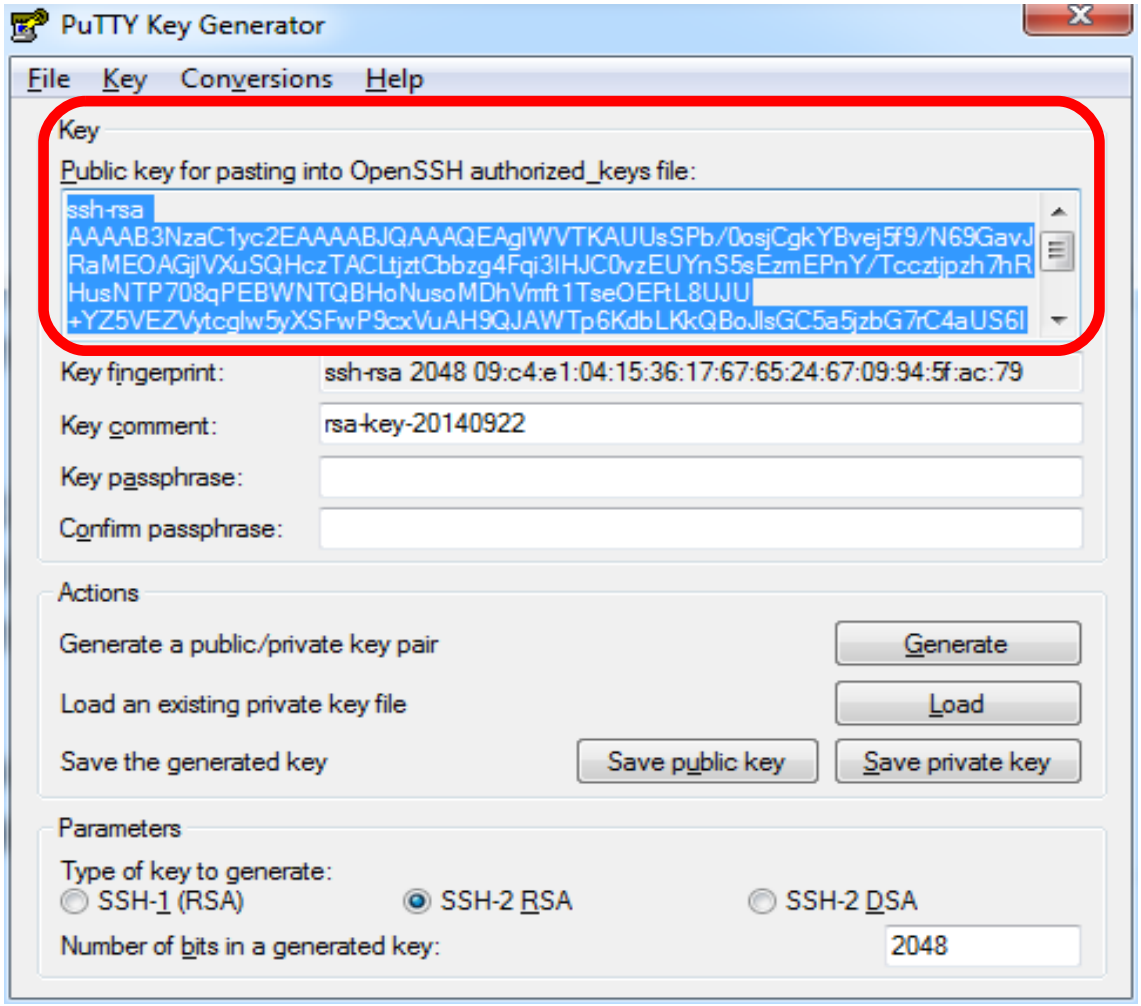
Public Key Encryption

- Run **PuTTYgen** to create a key.
- Click **Generate** and follow the instructions.
- Save the private key… (ignore the warning about a missing passphrase…)



Public Key Encryption (2)

- Highlight and copy the Public key with the mouse.
- Right click, “Select All”, right click, “Copy”



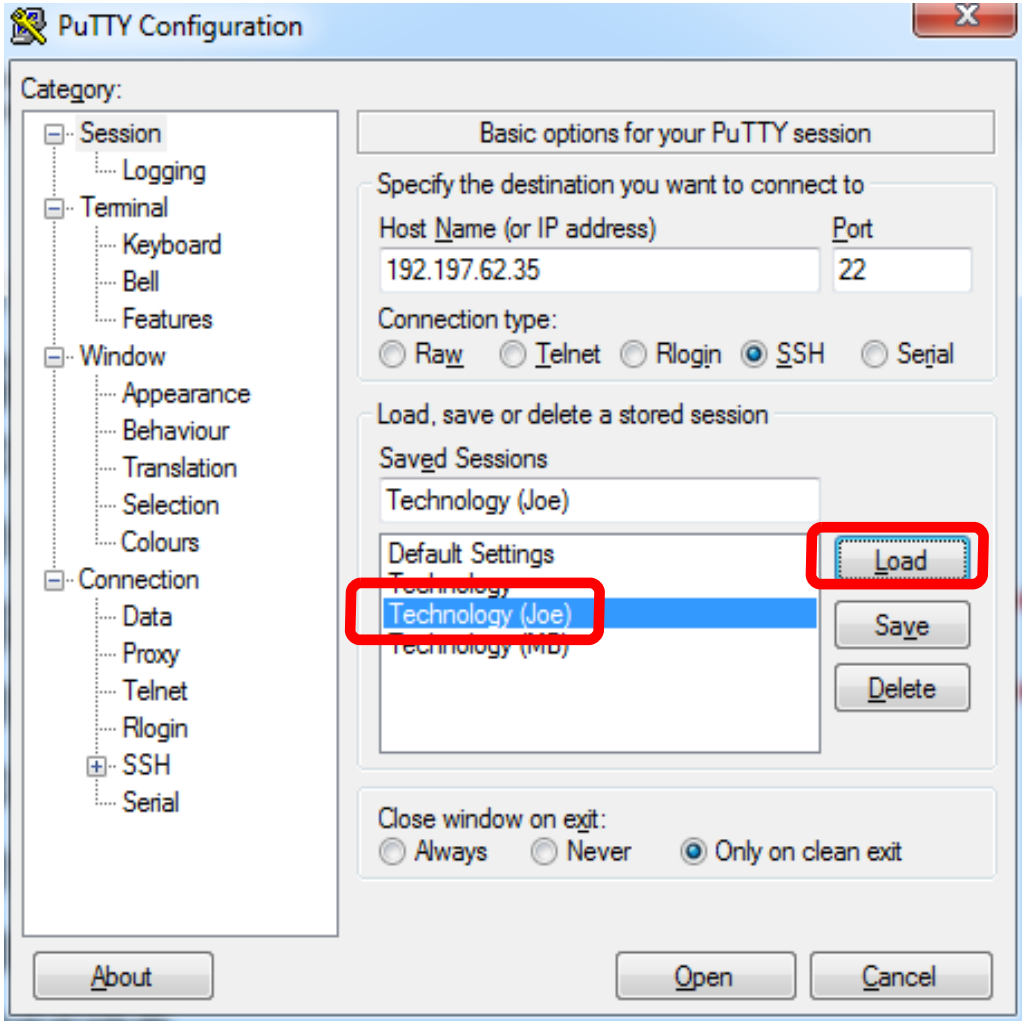
Public Key Encryption (3)

From a PuTTY session, run the following commands then paste using the right mouse button. Press Enter, then Control-D twice (*once to save; the second time to log off*)

```
[jblough1@enterprise2 ~]$ mkdir -p .ssh
[jblough1@enterprise2 ~]$ cat >> .ssh/authorized_keys
ssh-rsa AAAAB3NzaC1yc2EAAAABJQAAAIEAtB+ym4DiqOsud9ca9CKf47mRHlvNkyM0QAp+Azr9tw0L
/83jvpSAHHhTxt3v+z0kMrcD1fOXzxmbig3REBFmFx6U+xnlh5lyu0W+yuIPtlk0PfRC1lcHN+04AFXG
gDaMguyfGXZbmGdSOGozuIj3/qpuasa31rEbip9dnY8ITO8= rsa-key-20130220
[jblough1@enterprise2 ~]$
```

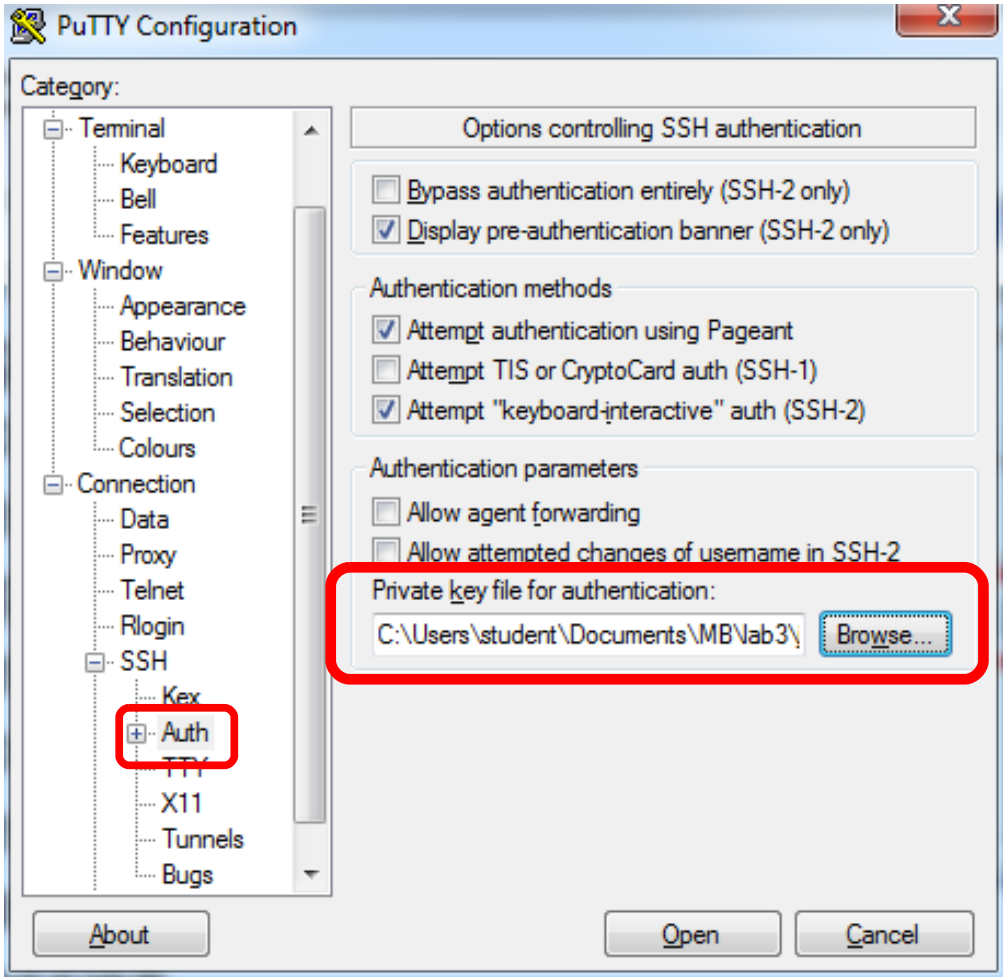
Public Key Encryption (4)

- Run PuTTY again, but just Load the session, do not Open (connect) yet.



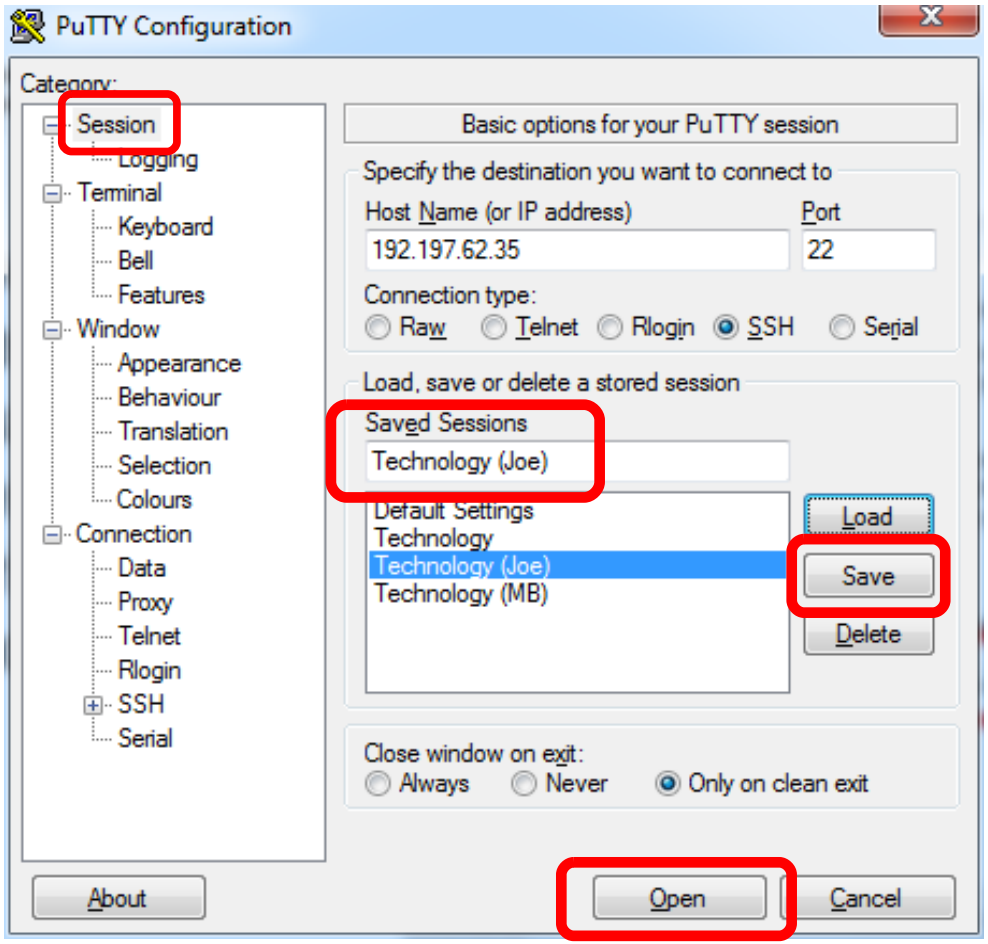
Public Key Encryption (5)

- Set up your private key file.
- Click “Browse” and find your private key (**.ppk**) file.



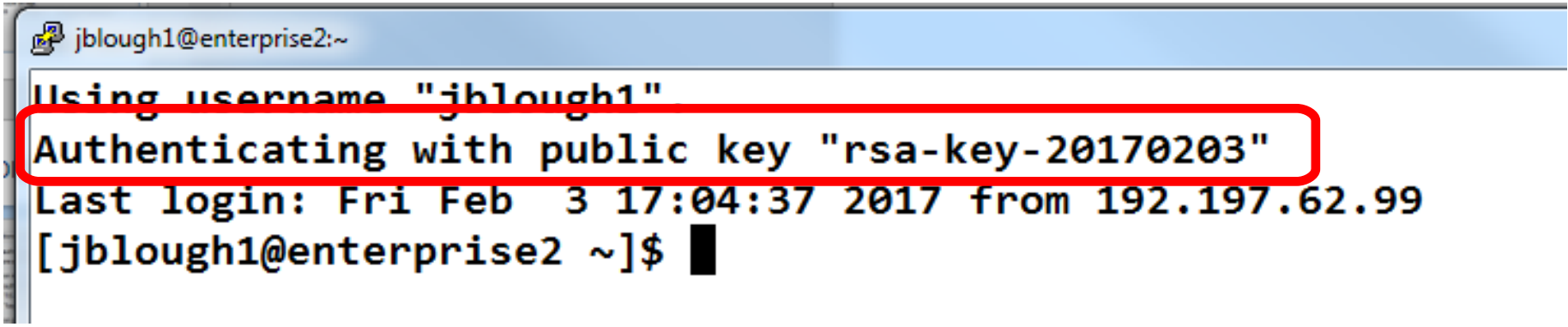
Public Key Encryption (6)

- Save the session, so that it remembers the private key file location.
- First go to Session, click on your session under “Saved Sessions”, click “Save”
- Finally, click “Open” to connect.



Public Key **Authentication** (**DONE**)

Now when you connect, PuTTY will log in *automatically* (yet **securely**.)



Appendix

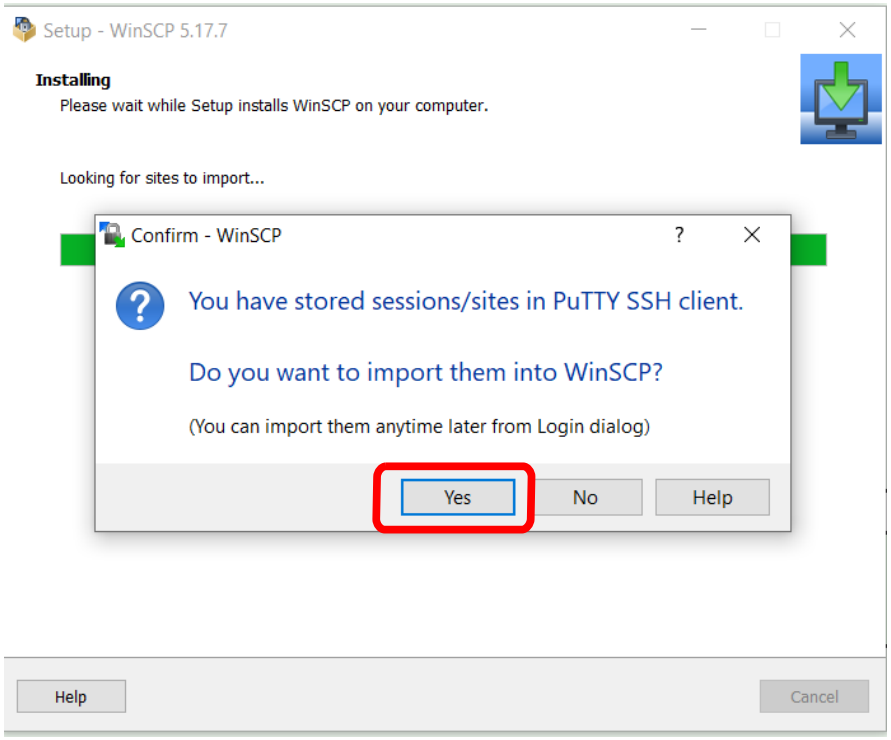
Setting Up WinSCP to use your PuTTY keys

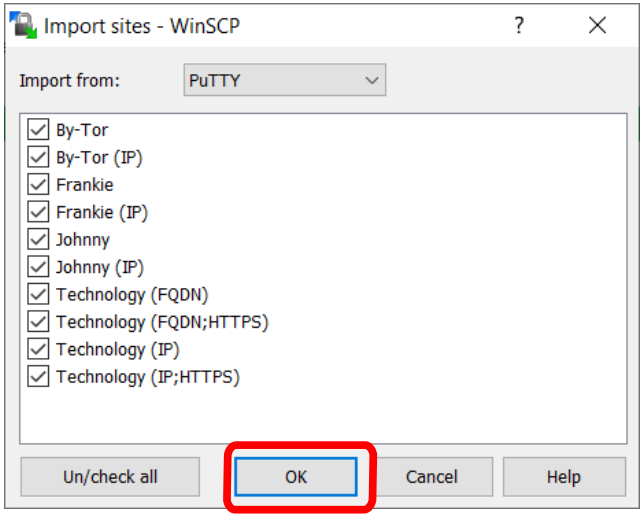
WinSCP

- When you install WinSCP 5.17.7*, it may offer to import any existing PuTTY settings.
- WinSCP is actually built on top of the PuTTY code base.
- You can also configure WinSCP at any time.

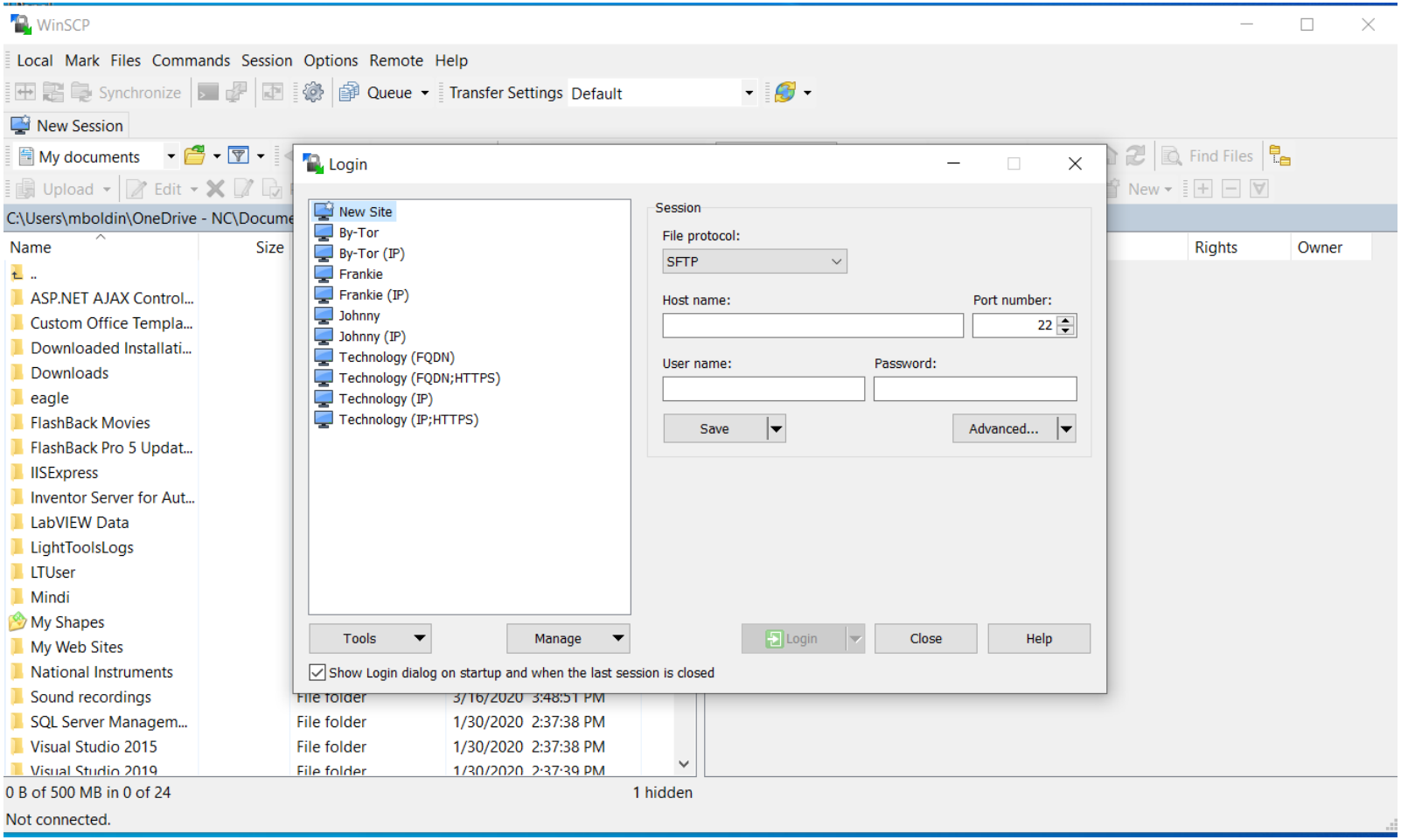
*As at 2020-08-28

WinSCP Installation

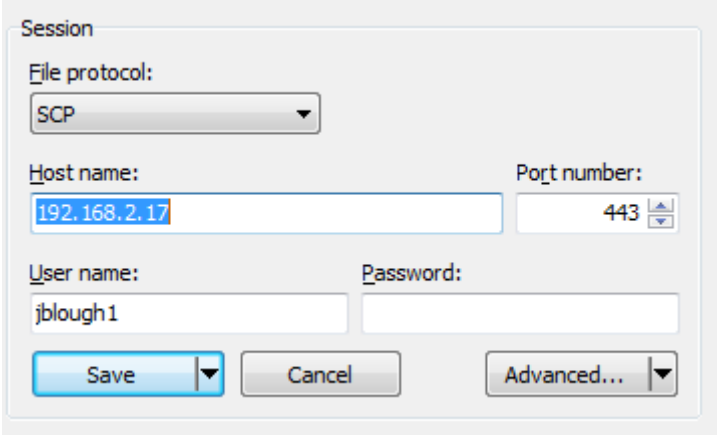




WinSCP (Automatic)

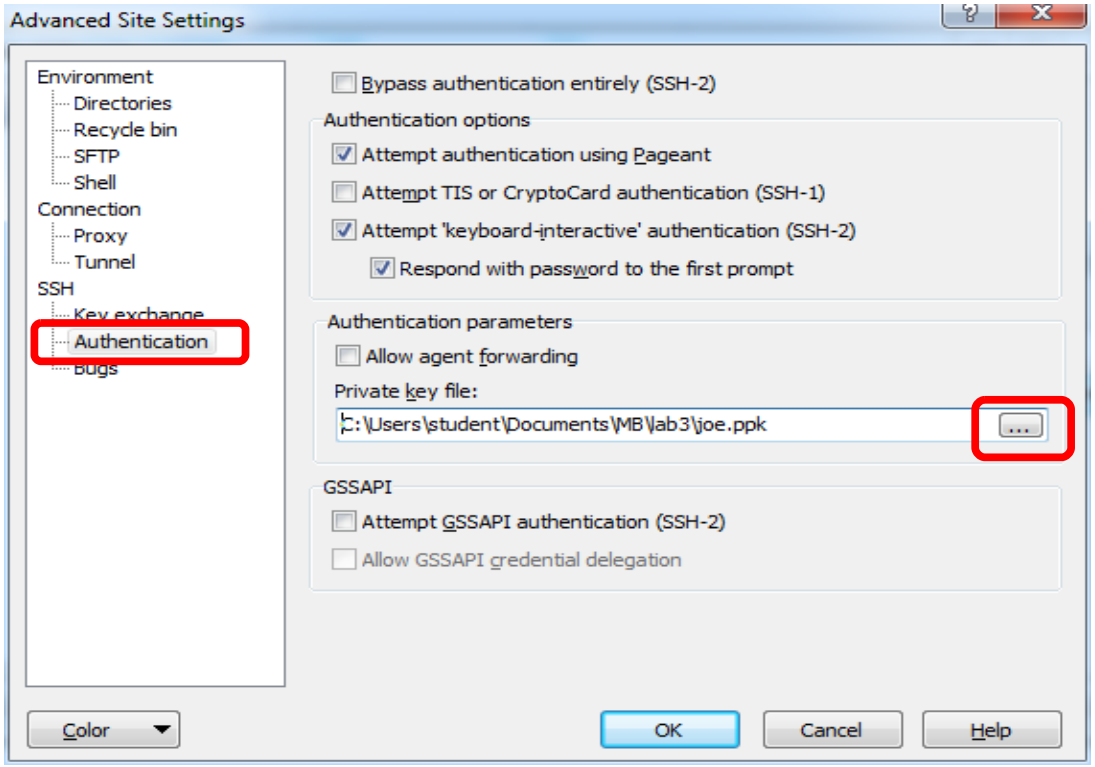


WinSCP Manual Setup



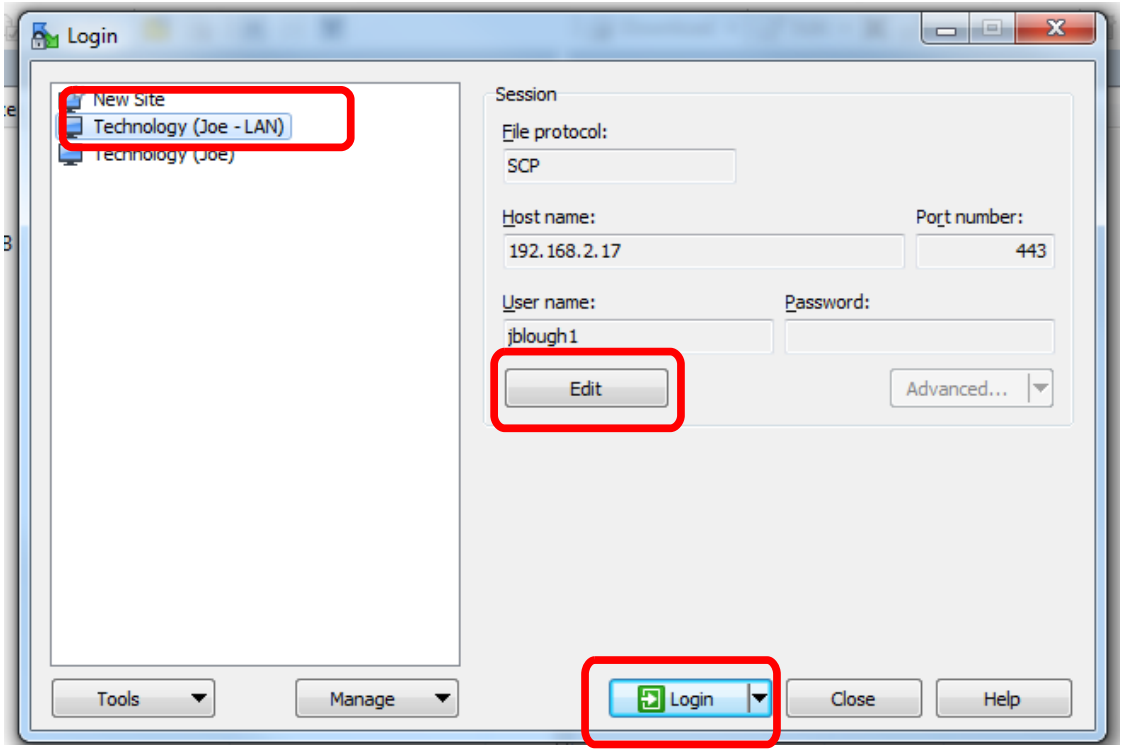
- Click on “New Site”…
- Enter the **Host name** and **User name** only
- Then click on **Advanced...** to set up your key
- If you change the port from 22 to 443, reset the **File Protocol** to SCP.

WinSCP Manual Setup (2)



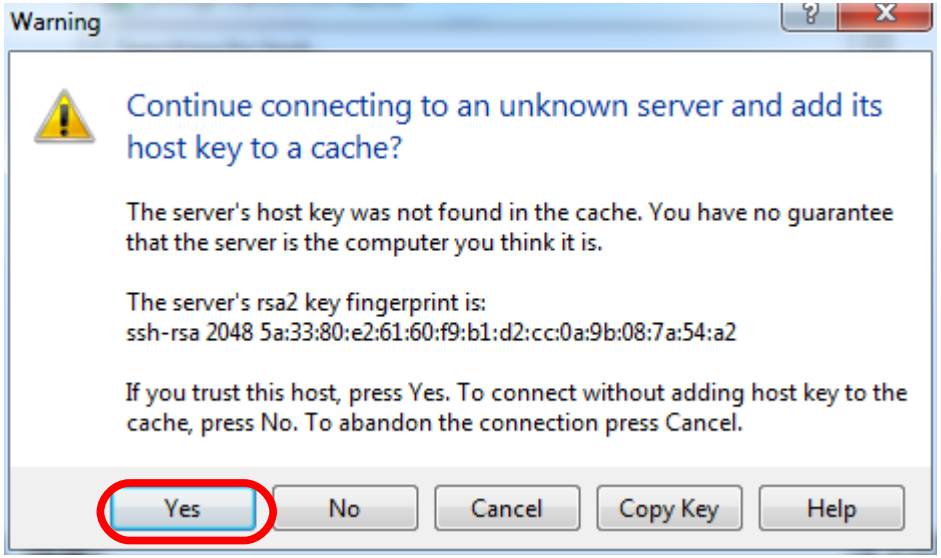
From the **Authentication** category, click on the "browse" button to select your PuTTY private key (**.ppk**) file

WinSCP Manual Setup (3)



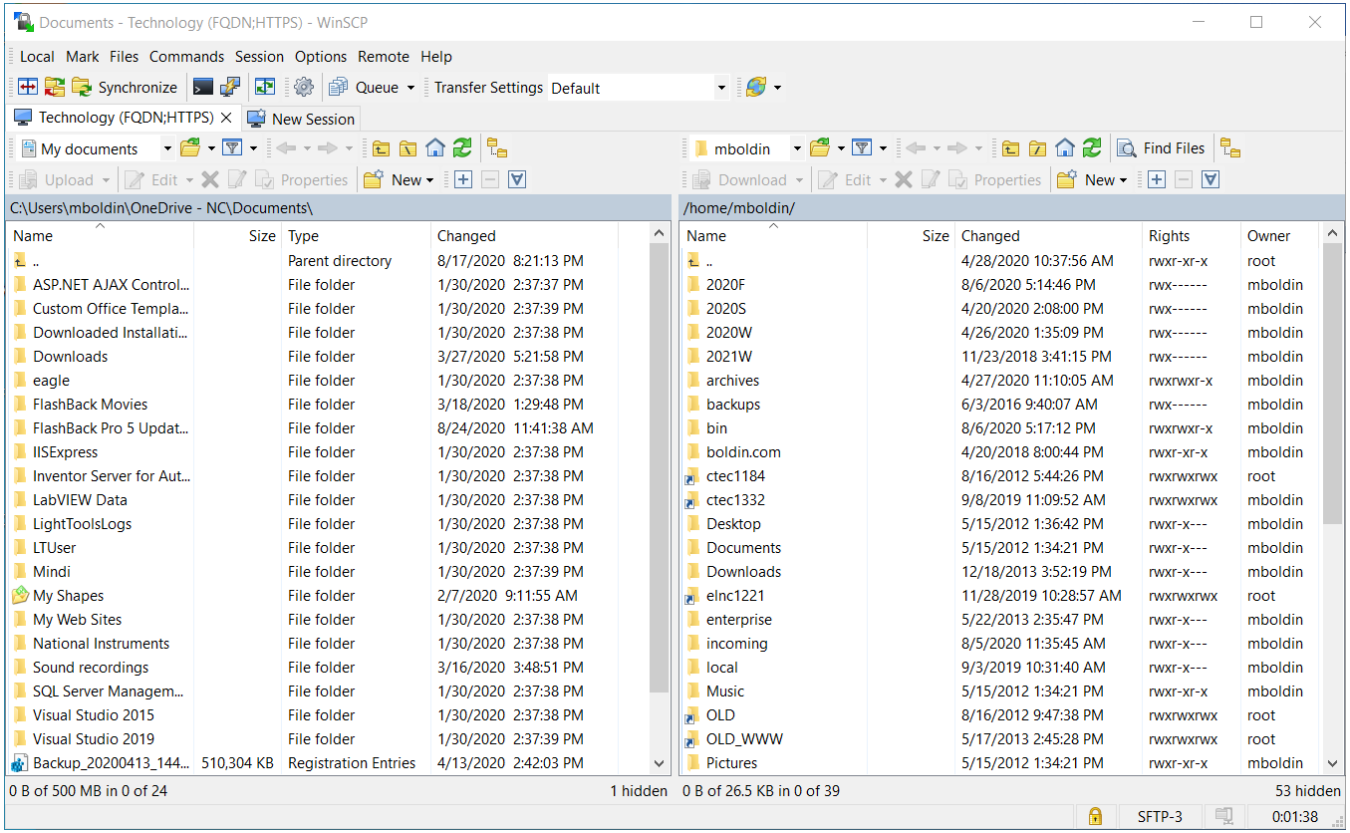
Click **Save** to store the settings *(the button changes name to **Edit** after you save)*
Click **Login** to connect

WinSCP Login



Like **PuTTY**, the first time you connect with WinSCP asks if you “trust the computer that you are connecting to”

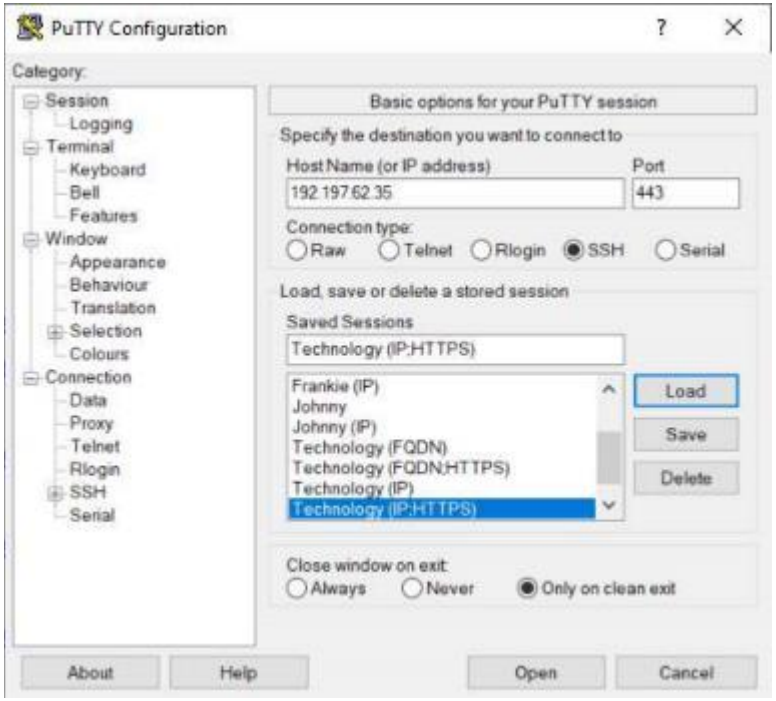
WinSCP - DONE



- Like **FileZilla FTP Client**, your local files are shown on the left side, and the remote files are shown on the right.
  Simply drag from left-to-right/right-to-left to upload/download
- All transfers are encrypted using SSH

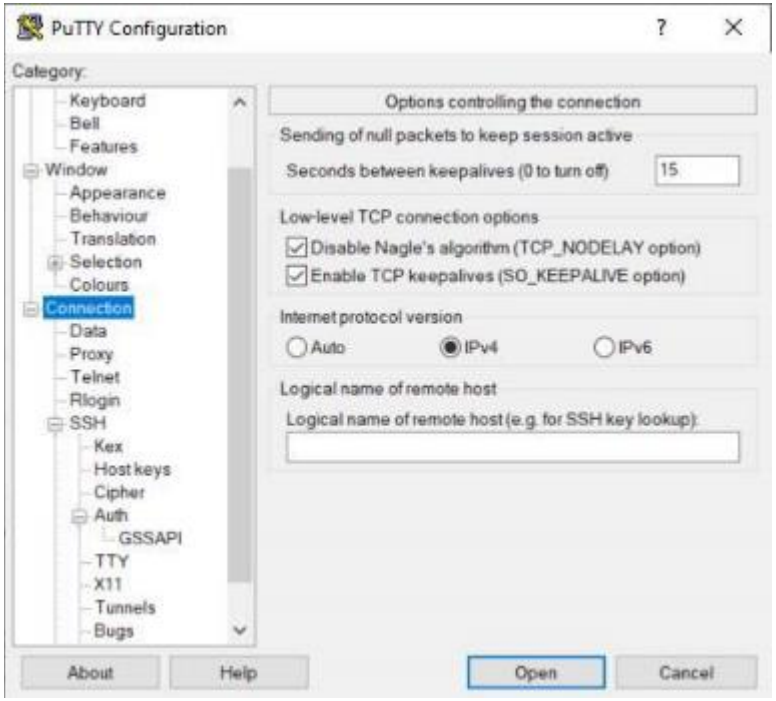
Troubleshooting

If PuTTY cannot connect, my first question would be:
Are you using port 443?
(See slide 10).



Troubleshooting

My next question would be: Are you using port IPv4? (See slide 15).



Troubleshooting – The Last Resort

If the previous 37 slides did not make sense to you:

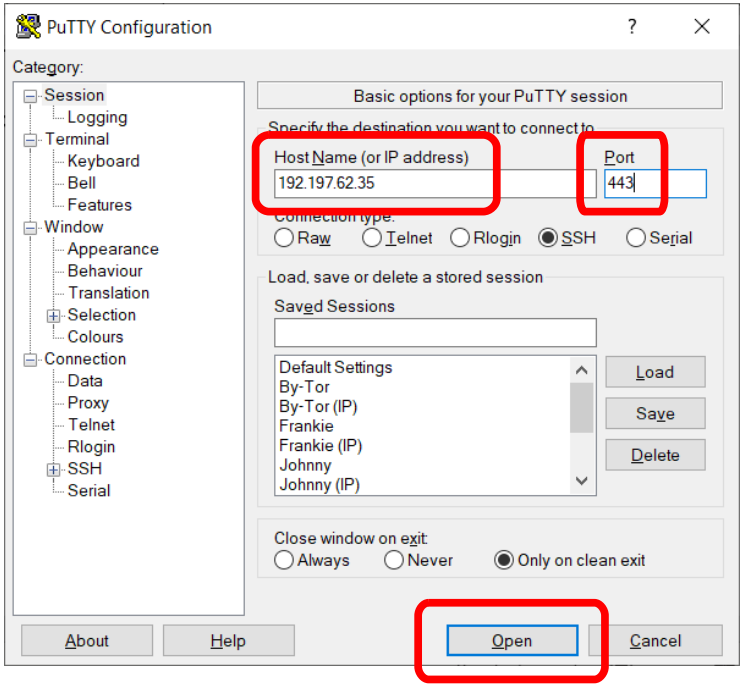
1. Download putty.exe. Here is the link: https://the.earth.li/~sgtatham/putty/latest/w32/putty.exe

2. Run putty.exe

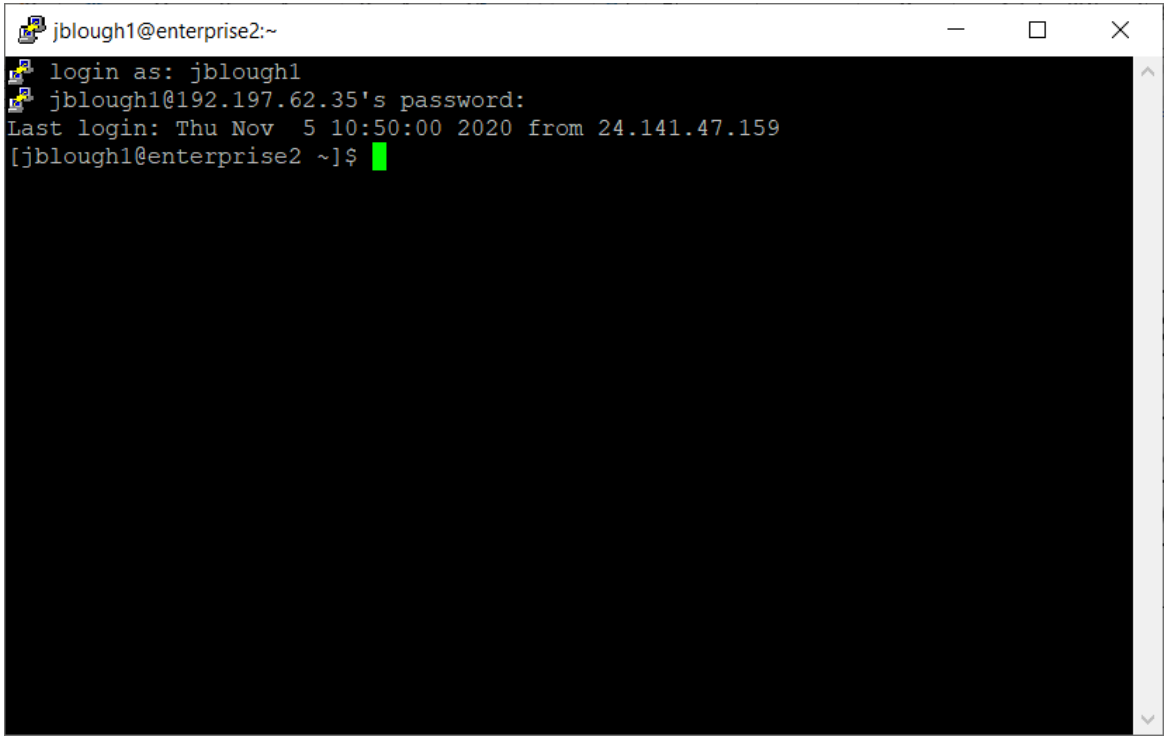
3. In the Host Name (or IP address) box, type in **192.197.62.35**

4. In the Port box, erase the 22 and type in **443**

5. Click on Open



Troubleshooting – The Last Resort

At the "login as: " prompt, type in your College username, as it appears in the email with your account information (all lowercase), and press Enter.

At the "*yourusername*@192.197.62.35's password:" prompt, type in your Password (again, as it appears). The characters will not be shown for security reasons. Press Enter when you have typed in the password.