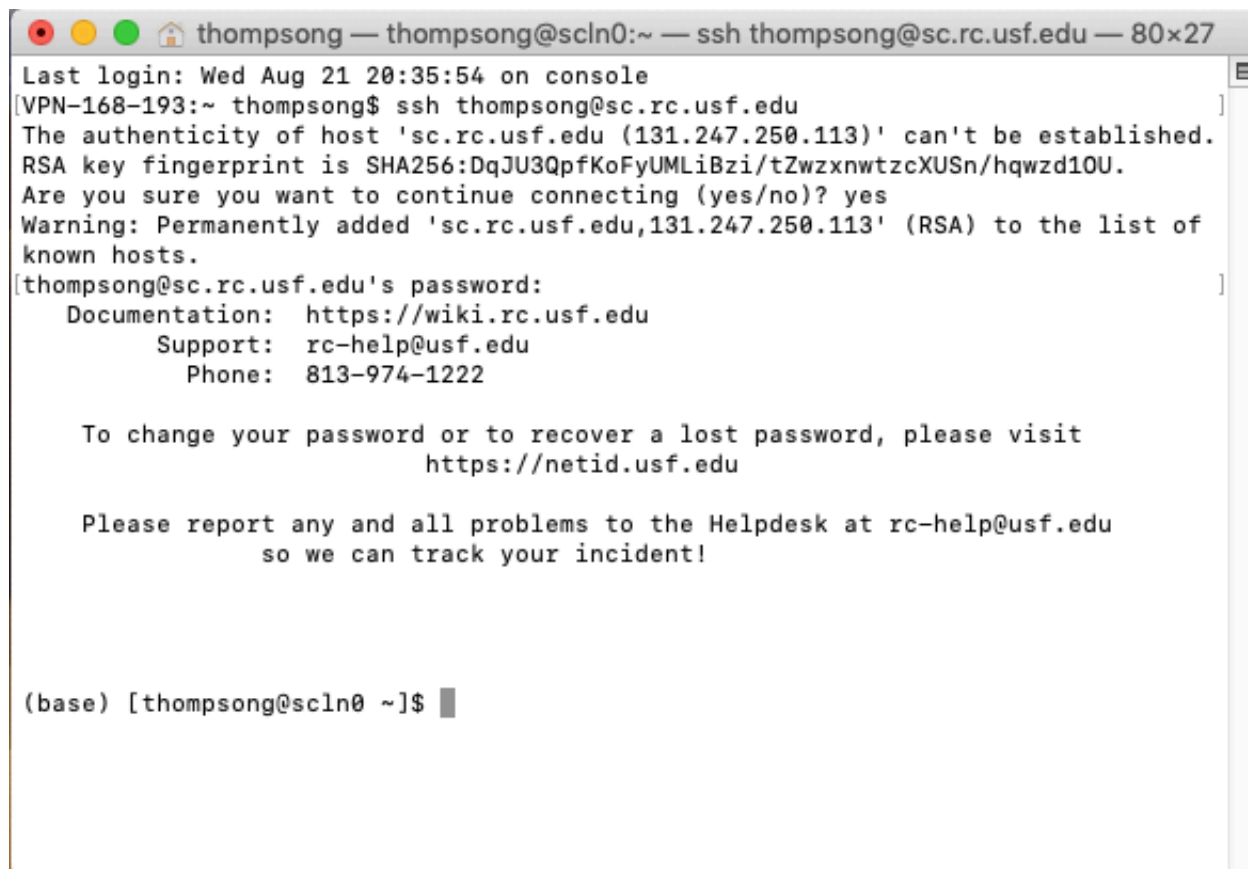# 1. Use x2go and SC, the student teaching cluster (easier)

USF IT group is split into several subgroups. One of them is Research Computing, and they run two main clusters. CIRCE is for research, SC is for teaching.

To get on to the cluster you can use secure shell (ssh), but this will only give you a terminal. For example, from a bash terminal on Mac or Linux, I would issue the command:

    ssh -l thompsong -Y sc.rc.usf.edu

thompsong is my NETID username (use yours). sc.rc.usf.edu is the address of the server (in this case the Student teaching Cluster) we are logging in to. It will then ask you for your password. With the -Y option, you graphical applications should work if you are on a Mac or Linux PC. For Windows, it is difficult to get graphics through ssh, so use x2go. For Seisan and ObsPy, graphics are important.

```
thompsong — thompsong@scln0:~ — ssh thompsong@sc.rc.usf.edu — 80×27
Last login: Wed Aug 21 20:35:54 on console
[VPN-168-193:~ thompsong$ ssh thompsong@sc.rc.usf.edu
The authenticity of host 'sc.rc.usf.edu (131.247.250.113)' can't be established.
RSA key fingerprint is SHA256:DqJU3QpfKoFyUMLiBzi/tZwzxnwtzcXUSn/hqwzd1OU.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'sc.rc.usf.edu,131.247.250.113' (RSA) to the list of
known hosts.
[thompsong@sc.rc.usf.edu's password:
   Documentation:  https://wiki.rc.usf.edu
        Support:  rc-help@usf.edu
          Phone:  813-974-1222

    To change your password or to recover a lost password, please visit
                      https://netid.usf.edu

    Please report any and all problems to the Helpdesk at rc-help@usf.edu
              so we can track your incident!




(base) [thompsong@scln0 ~]$ ▊
```
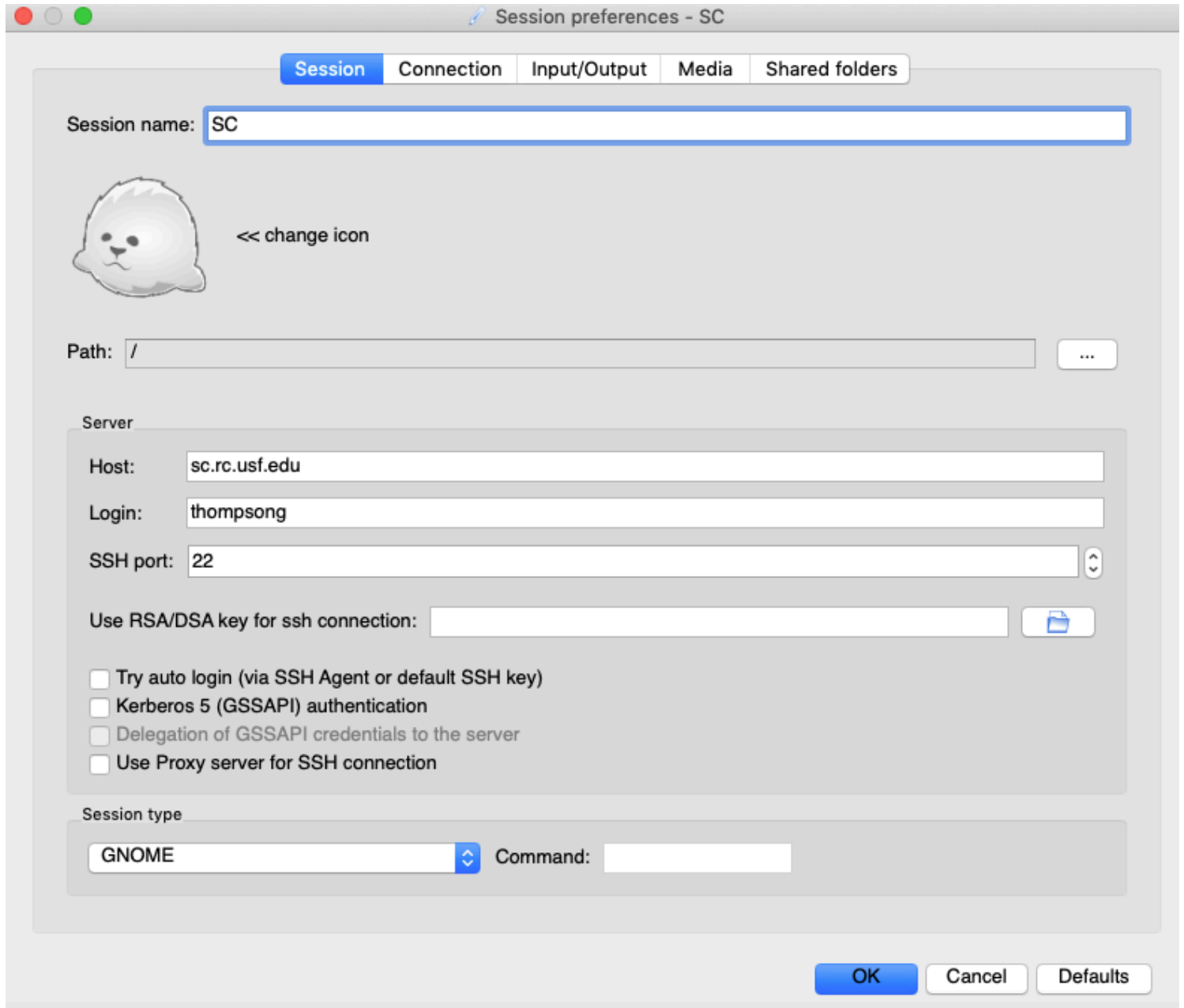
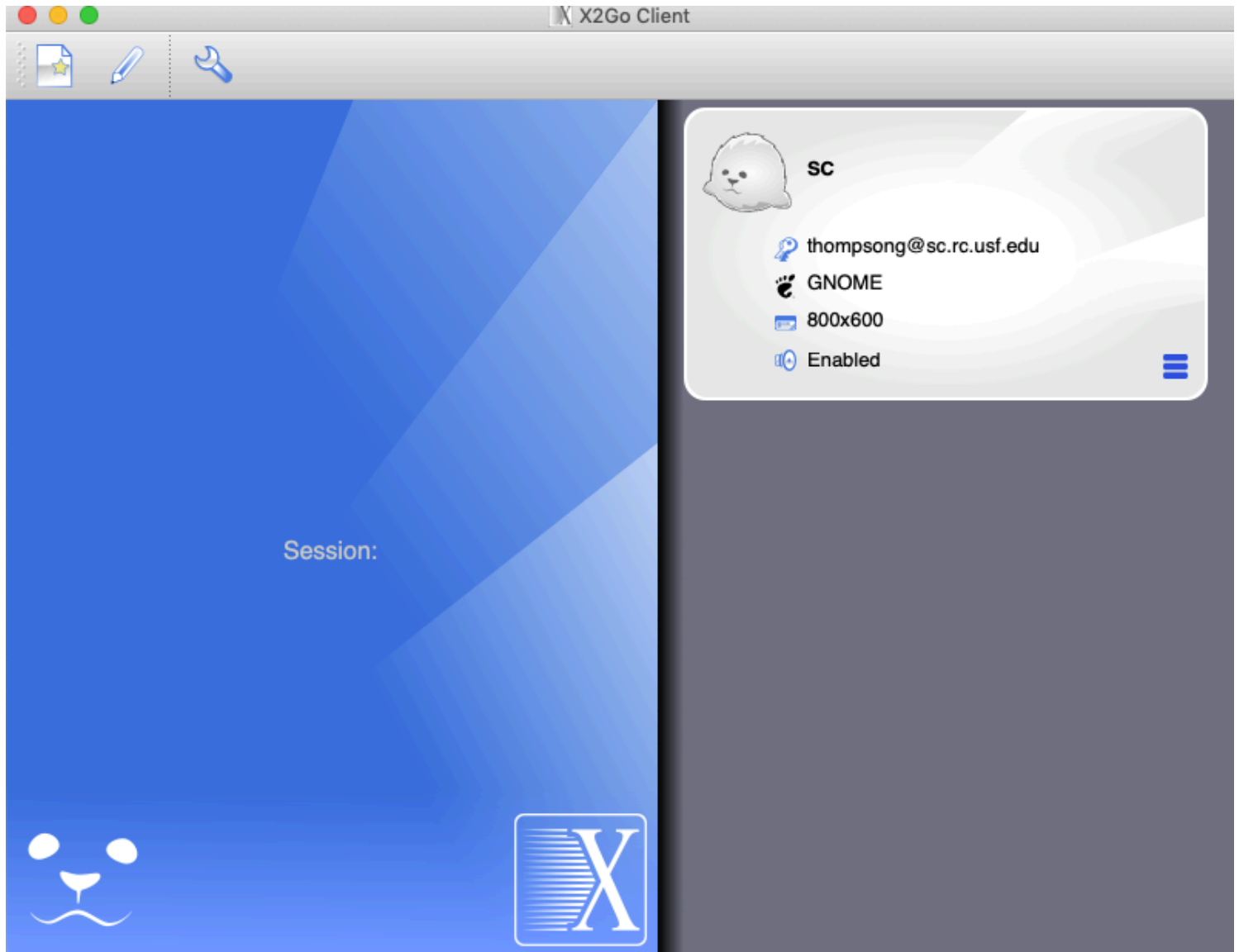To run graphical user interfaces, you need to use x2go.

x2go is already installed on the computers in SCA222. To install on your own computer, **download x2go from here** ⤷ **(https://wiki.x2go.org/doku.php/download:start)** .

Follow **instructions from Research Computing** ⤷ **(https://wiki.rc.usf.edu/index.php/CIRCE/SC_Desktop)** for installing x2go and configuring it to access SC / CIRCE.
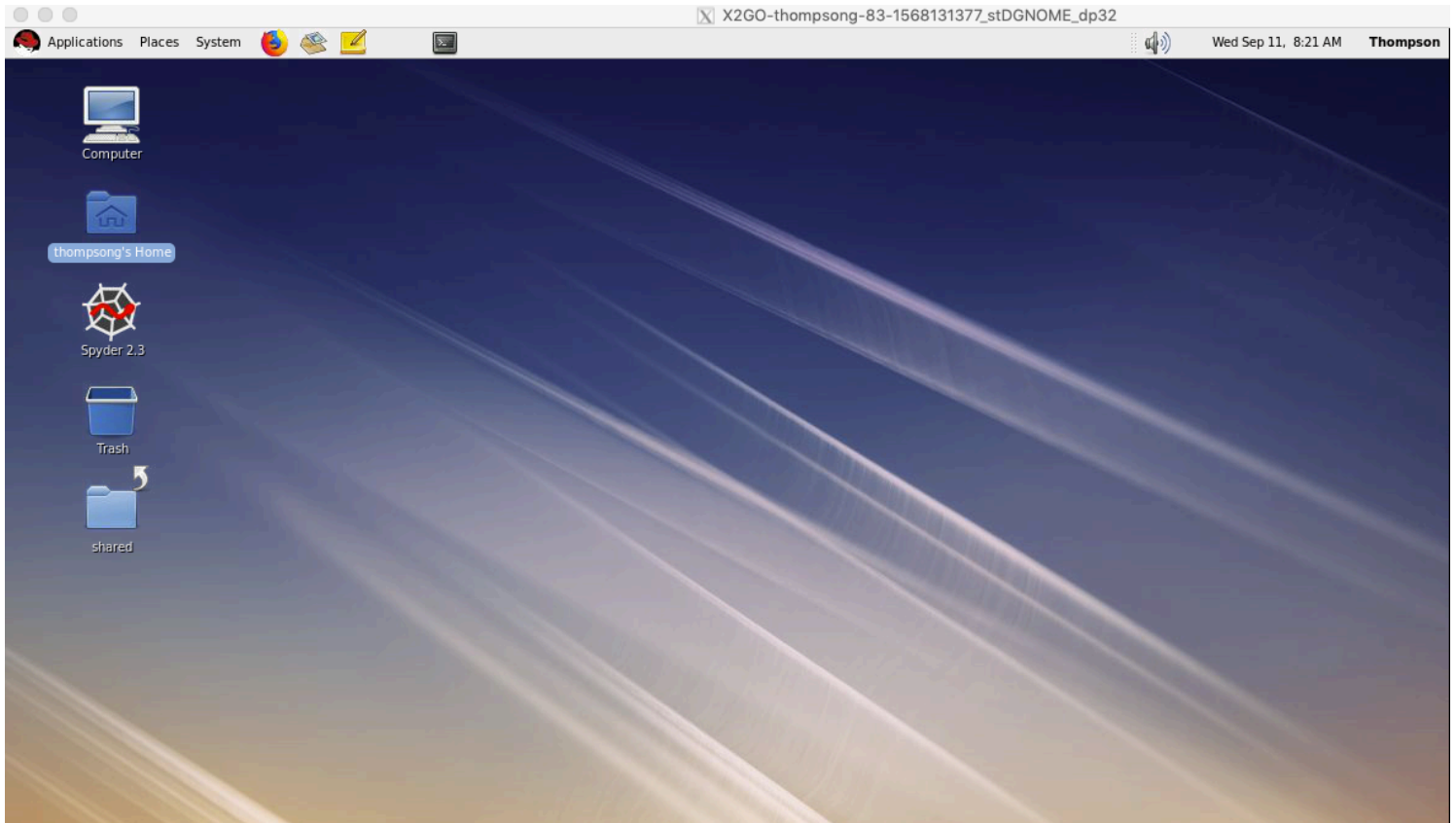
I just downloaded x2go on my home Mac, installed it, and then opened x2go and it prompted me to setup my session preferences. Here they are for SC. Note the server name sc.rc.usf.edu goes in the Host box, and your NETID username goes in the Login box. Make sure you change the Session Type from KDE to GNOME.

I select OK and that window goes away. Now my X2go client window looks like this:

If you double-click on that gray box in the upper right, it should prompt you to open a new session - just type in your NETID password. It might tell you it is connecting for a few tens of seconds before it finally opens, but then you should see a full Red Hat Linux desktop (rather than just a terminal) which looks like this:

x2go on a Mac needs XQuartz

On Mac you will also need to already have XQuartz installed otherwise you might get **an error (https://usflearn.instructure.com/courses/1423020/files/82949642/download?wrap=1)** ↓ **(https://usflearn.instructure.com/courses/1423020/files/82949642/download?download_frd=1)** when you try to connect : **https://www.xquartz.org/** ⇨ **(https://www.xquartz.org/)**

I had to restart my Mac after installing XQuartz, before I could get x2go to open a session.

Working off campus

Note that if you are working off campus, you may need to connect to the USF VPN first . Instructions are at **https://www.usf.edu/it/documentation/virtual-private-network.aspx** ⇨ **(https://www.usf.edu/it/documentation/virtual-private-network.aspx)**

Below is what connecting to the USF VPN looks like from my Mac at home. I had to download and

configure Junos Pulse, and then open it whenever I want to connect to the USF VPN. You are then treated exactly as if you were at a computer on campus. You would need to do this before running x2go (or ssh).