

**Remote Access to Cadence at GWU for ECE 126 / 128 / 213 / 214 / 216 / 218**  
**For Mac OS X**  
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To access cadence tools remotely (from home or on campus), two tools are required: SSH client software and VNC client software. Mac OS X already has these built in, you do not need to download any additional software.

**BEFORE YOU BEGIN:**

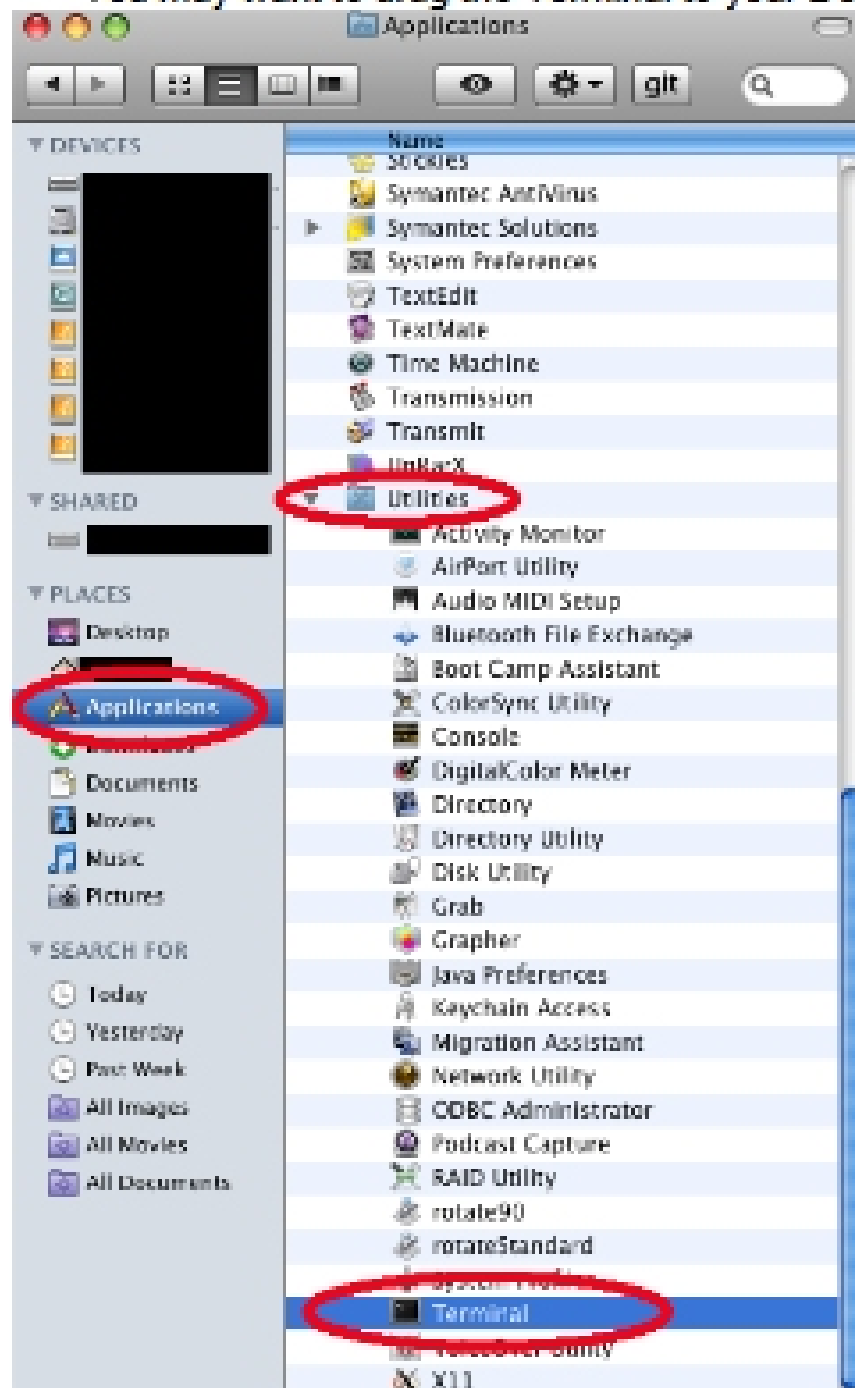
You must have a valid SEAS account, if you do not, do not continue with this tutorial.

The dedicated remote-access server at GWU is:

`shell.seas.gwu.edu`

**MAC Instructions:**

- 1) Open up the Terminal application. It can be found under the Applications -> Utilities folder. You may want to drag the Terminal to your Dock, so you can quickly launch it.



2) Obtain your VNC Port # by doing the following:

- At the command prompt you opened in step one, type in the following:

```
ssh seas_username@shell.seas.gwu.edu
```

Replace this with your SEAS username

- Type in your seas username and password
- Once you are logged in type:

```
~vlsi/course_all/vnc_scripts/update_profile_vnc
```

- After pressing enter, you will see:

```
Your VNC Port number is: XXXXX
```

WRITE THIS # down!

- Write down this VNC port number, this is your own personal # for the semester.
- Once you have the number written down, type:

```
exit
```

3) Reconnect to the GWU server using your VNC Port # by doing the following:

- At the command prompt you opened in step one, type in the following:

```
ssh -c arcfour,blowfish-cbc -L XXXXX:localhost:XXXXX -C seas_username@shell.seas.gwu.edu
```

Replace this with your SEAS username

- Take care to replace **XXXXX** with your VNC Port # generated in step 2

What does this mean? (You can skip this if you aren't interested)

- -c arcfour,blowfish-cbc specifies 2 ciphers that work well with compression
- -C enables compression
- -L XXXXX:localhost:XXXXX creates a secure tunnel between the workstation your connecting to and your localhost. It binds port XXXXX on the remote machine to your local machine on port XXXXX, via an SSH tunnel. This port number is your VNCPORT#.
  - Your VNCPORT # is unique. Do not use another students VNCPORT #, as it will not work for you.
  - This SSH tunnel is a secure link between your workstation and shell.seas.gwu.edu. Without this secure link, any traffic you send over VNC could be eavesdropped, be it passwords or important design information! It is important that you set up this tunnel!

4) Set your VNC PASSWORD by doing the following

- At the command prompt you opened in step one, type in the following:

```
vncpasswd
```

You will be prompted to create a password, you can use your same SEAS password to make it easier on your memory.

- 5) Next type the following command:

```
cp ~/vlsi/course_all/vnc_scripts/xstartup ~/.vnc
```

- 6) Now that your environment is setup, you will only ever need to type the following command to start the VNC server on the sun workstation, type:

```
start_vnc
```

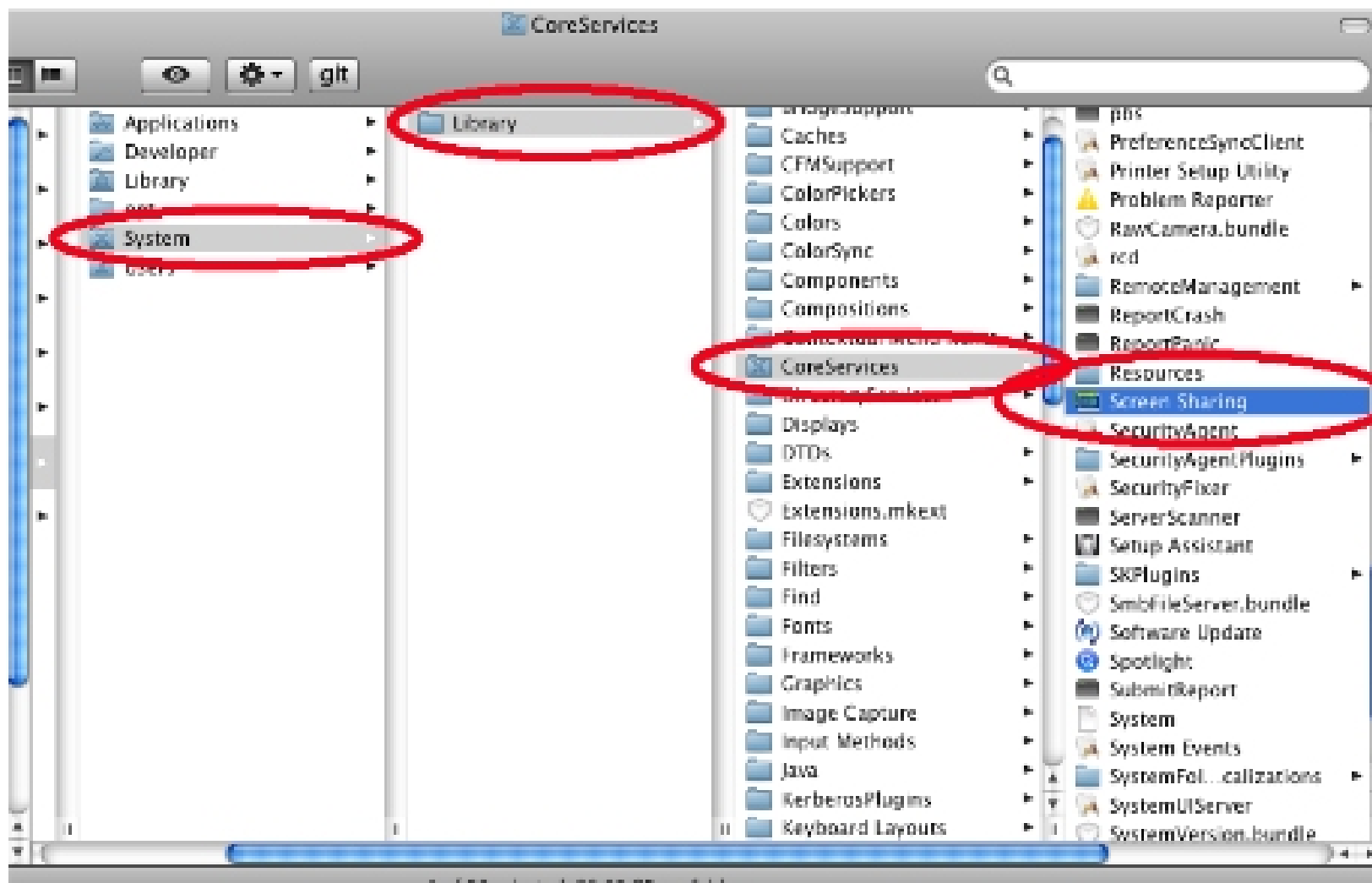
- 7) If no error messages appear (inspect the window carefully), type the following command:

```
prevent_timeout
```

That is like a screen saver printing a list of who's logged into the GWU server every 20 minutes or so. This will prevent your connection to GWU from timing out.

- 8) You can now minimize the SSH client (terminal), we will now start the next part of the process.

- 9) Mac OSX has VNC software installed by default, but it isn't readily accessible. It is called Screen Sharing and can be found in System -> Library -> Core Services -> Screen Sharing



You may want to drag that application to your Dock, so you can quickly launch it if needed.

Double click this application to start it. By default, there are no windows that come up, but the menu bar at the top of your screen will show that you are running "Screen Sharing"