Guidelines for remote X-windows access to 12th floor computers using PC-Windows/MAC[1]

Because each computing environment is a bit different, we can only provide some basic guidelines for establishing a remote connection to the computers in the 12th floor lab (O&M 1201) with X-windows capability so that computer display and analysis tools can *theoretically* be run remotely. No guarantees intended or implied (i.e., your mileage may vary)!

Before beginning, you need to know the answer to two basic questions:

1. Am I on a computer in the TAMU computer network?
   - The answer should be obvious!
2. What is the IP or named address of the 12th floor LINUX/UNIX computer I intend to log into and run my computer application?
   - The answer is displayed on a label on the front of each computer in the lab. I recommend logging into the machine you normally sit at during lab so that we do not overwhelm one particular computer.

Software:

Also, you need to download, install and setup some software onto your computer (PC or MAC) before beginning. It is up to you to figure out how to setup these software packages. The software companies and TAMU Helpdesk (http://helpdesk.cs.tamu.edu/) have excellent help and instructions. By the way, any mention of a commercial product below is not intended to be an endorsement but serves as an example of what is commercially available.

1. ssh – secure shell terminal emulator. You will use ssh software to log into a 12th floor computer. (***Note***: Starnet's X-Win32 (see below) comes with its own ssh; no need to download separately so you can skip this step if you are going to use X-Win32.)
   - Although there are many possibilities, I recommend "putty" for PCs. It is *free*, reliable, and easy to set up and to use. You can download it at this Internet address: http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html in a few minutes.
   - For MACs, you can try the following open source (free) MAC ssh software http://pro.wanadoo.fr/chombier/MacSSH/SSH_info.html. A more complete list of possibilities can be found here: http://www.openssh.com/macos.html

2. X-window emulator. This software will allow your PC/MAC computer to display windows applications in a UNIX like X-window even though the software is actually running on a LINUX box in the 12th floor lab.
   - There are several possibilities. I will mention a few. Most can be used with demonstration licenses for limited amounts of time for free or can be purchased for about $20 to $90.
     - X-Win32: http://www.starnet.com/ by starnet.com
       - TAMU: http://sellsoftware.tamu.edu/x_windows.php
       - HELP: http://helpdesk.cs.tamu.edu/docs/x-win32_Ver5.4
     - XLitePro and X-ThinPro: http://www.labtam-inc.com/ by Labtam

[1] If you want to run windows applications remotely on a LINUX/UNIX machine that is on the TAMU network, then this is even easier. Some instructions can be found at http://helpdesk.cs.tamu.edu/docs/gui_display

- MI/X: http://www.microimages.com/mix/ by microimages.com

3. VPN: IF you are NOT on the TAMU network, then you will also need to use a Virtual Private Network (VPN) to get through the Firewall.
   - http://net.tamu.edu/network/vpn.html

Basic and Limited Instructions:

These instructions are for after installing and setting up the necessary software above onto your PC/MAC. (***Note***: Starnet X-Win32 5.4 is already loaded on PC/MAC computers in the TAMU Student Computing Center (SCC) Open-Access Computer Lab (http://oalinfo.tamu.edu/default.asp) and you do not need to download putty since ssh is included in the Starnet X-Win32 software package.)

1) If you are running Starnet X-Win32 from home or the SCC, which has ssh built into the X-windows software

1. Run X-Win32 Configuration (X-Config)
2. For the first session (or use), run the "Wizard" by selecting the "Wizard" button. Otherwise, skip to line 10.
3. Select "StarNetSSh" for your connect method. Hit Next.
4. In the box, type in the IP address or host name of the LINUX computer in Rm 1201 that you are logging into. Hit Next.
5. Type in your "login" and "password" for the LINUX computers in Rm 1201 in the appropriate box. Hit Next.
6. Select "Linux" as the Host Command from the list. Hit Next
7. Give a name to your session (e.g., "atmo352"). Select "launch this session now" and hit finish (or you can just hit finish and then select "launch" from the buttons to the right. This session will be available if you need to login again. The next time you can launch the session without having to go through the setup process again.
8. If it asks you about a security key the first time you run this, just select "yes"
9. An "xterm" window should pop up on your computer screen. Now you are logged into one of the LINUX machines in Rm 1201. You can run any LINUX command that you would as if you were sitting at the computer in Rm 1201. For example, you can run "garp" or "nsharp". When you enter "garp" (or "nsharp") and hit enter, the garp (nsharp) window will pop up and you are ready to go. When you are done, type "exit" in the xterm window to logout of the LINUX machine.
10. If you have already gone through the XWin-32 wizard, just run the X-Config command. Select your saved session (e.g., "atmo352") and hit the "launch" button to the right. You are now logged in as before.

2) If you are running XLitePro or MI/X or similar program, which requires you to run ssh separately.

1. Start/Run your X-windows emulator software.

2. Log into a LINUX computer on the 12th floor lab using ssh (e.g., putty) software. You will need your ATMO 352 class login and password. To set up ssh with "tunneling," you should (using putty)
    a. Select "Tunnels" under SSH menu category to left. Turn on "Enable X11 forwarding" by checking the box next to it.
    b. Select "Sessions." Check SSH (which will cause PORT to be 22). Type in IP address or host name of LINUX box on 12th floor lab in "Host Name" box. *Note*: You can save this login setup (by giving the login session a name in "Saved Sessions" and clicking on save button) so that next time you just need to select the saved session and hit "load" rather than go through steps 2a-b.
    c. Select "open." A login window should appear. Enter your login name from class and return. You'll be prompted for your password. Enter password. You should now be logged into a LINUX machine on the 12th floor.
3. In the ssh (putty) window that is logged into LINUX box on 12th floor lab, you can now run computer applications as you normally would in lab. If everything is working, the application window should pop up on your PC-windows/MAC.