



CIS 191 Linux Lab Exercise

Lab 5: Configuring an X Window Session Fall 2008

Lab 5: Configuring an X Window Session

The purpose of this lab is to custom configure an X Window session for a regular user.

You will be editing configuration files to control which window manager and which X clients will come up in the session.

You will then be turning in a screen shot of your configured display along with the contents of one of the configuration files. VMware systems are available for you to use in the CTC and the CIS Lab (room 2504).

Supplies

- Star VM or CentOS 5 ISO

Forum

If you get stuck on one of the steps below don't beat your head against the wall. Use the forum to ask for assistance or post any valuable tips and hints once you have finished. Forum is at: <http://simms-teach.com/forum/viewforum.php?f=10>

Procedure

- 1) Either use the Star VM or make your own VM by installing Centos 5. Star is already configured to boot into run level 3.
 - ☐ If you are using the Star VM, do a Revert to Snapshot (under the VMware Snapshot menu)
 - ☐ Log in as cis191.
 - ☐ X Windows should not be running; if it is, you need to switch to runlevel 3. Use the following command as superuser: **/sbin/init 3**
 - ☐ In your home directory, remove any hidden files called .xinitrc or .Xclients

2) To run an X Window Desktop session you would use the `startx` command. In this lab, we are going to run a simpler version of the X Window system consisting of just the X server, a window manager and a few clients.

- ☐ Try the command `xinit` and see what comes up. Pretty simple, isn't it? You should have an `xterm` window in which you may type various Linux commands. Note that without a window manager, the desktop is not very user friendly.
- ☐ Type the command `ps -u cis191` in the `xterm` window. Note: Make sure the `xterm` window has input focus by clicking in the window with the mouse. The `ps` output shows you what processes are running in your session.
- ☐ Type the command `exit` in the `xterm` window.
- ☐ You should now be back to your command line shell. What you just saw was the bare-bones, no frills `xinit` command. For a more user friendly interface, copy the system `xinitrc` file to your home directory and rename it to `.xinitrc` as follows:
 - ☐ `cp /etc/X11/xinit/xinitrc .xinitrc`
- ☐ Now enter the `xinit` command again. Your screen should look like you just ran `startx`. What a difference can be made with the right configuration file!
- ☐ Bring up a terminal window by clicking on the terminal icon in the taskbar at the bottom of the screen. Enter the same `ps` command as you did above:
 - ☐ `ps -u cis191`
- ☐ Note how many processes (and resources) are being used in a full desktop session.
- ☐ Logout from the desktop back to your command line.

3) We are now going to customize our own personal desktop, specifying which clients we want to run in a configuration file called `.Xclients`. Note: `.Xclients` is a hidden file.

- ☐ Use `vi` to edit a file named `.Xclients` in your home directory, and add the following two lines to it:
 - ☐ `xclock -geometry 100x100-5+5 &`
 - ☐ `exec xterm -geometry 80x24+50+150`
- ☐ Save the file and give it execute permission.
- ☐ Now re-execute the `xinit` command. This may be a little better, but let's add a simple window manager to the picture.
- ☐ Type `exit` in the `xterm` window to return to your shell.
- ☐ Edit your `.Xclients` file to look like the following:
 - ☐ `xclock -geometry 100x100-5+5 &`
 - ☐ `xterm -geometry 80x24+50+150 &`
 - ☐ `exec twm`
- ☐ Notice that the command `exec` is used only once - on the last line of the file. This means that your X session will not end until you exit from that particular client.

- ☐ Rerun **xinit**. This is getting a little better. Play around with this simple window manager. To exit this window manager, and the session, click in the desktop area and choose exit from the pop-up menu.
 - ☐ Now add the following line just above the exec line in the .Xclients file:
 - ☐ **firefox &**
 - ☐ Re-run the xinit command.
- 4) You should be getting the idea here that the .Xclients file is a way for you to customize your desktop session by deciding which clients you want started up. You should always exec a window manager as the last line in the file. Why is that?
- ☐ Browse /usr/bin/x* for various X clients you might want to run. Try xeyes, xlogo, xev, xkbwatch, xterm, ... , etc.
 - ☐ Run the x clients first from your xterm. If you like one of them, add to your .Xclients file.
 - ☐ If you can't close a window with twm, then hold down the left-mouse click on the desktop to get a popup menu, select kill, then drag kill icon to window to kill.
 - ☐ Check out the **xsetroot** command (use **man** command) for playing with the background of the desktop. Try the **-solid** option with the colors in /usr/share/X11/rgb.txt. For example try:
 - ☐ **xsetroot -solid "azure2"**
 - ☐ Your task is to come up with a unique, custom X session that has a window manager, background color and at least three clients, one of which is an xterm window displaying the contents of your .Xclients file and your name.
- 5) When you are finished designing your desktop, you must take a screen shot of it using the X Window Dump xwd command.
- ☐ From your xterm window, issue the following command:
 - ☐ **xwd -root -out lab5**
 - ☐ Be sure the **contents of your .Xclient file** (cat it out) and **your name** (use #first last comment) is displayed in the xterm window!!!!
 - ☐ This command will create an image file called lab5 in your current working directory.
 - ☐ If you would like to view the image you just created, you can do so with the following command:
 - ☐ **xwud -in lab5**

To turn in

Compress your lab5 file using the gzip command:

- ☐ **gzip lab5**

Now copy the lab3.gz file to the cis191 account on opus.cabrillo.edu using the following command:

```
❑ scp lab5.gz cis191@opus.cabrillo.edu:lab5.logname
```

Grading Rubric (30 points)

A screen shot submitted:

- ❑ Shows .Xclient file contents for all clients displayed – 10 points
- ❑ Shows three non-xterm clients – 10 points
- ❑ Shows an xterm client – 5 points
- ❑ Shows a background color – 5 points

Note: The screen shot must show your name and must be turned in by the due date to get credit.

Example screenshot:

