# ComS 252 Homework 6: Building Packages from Source

Group assignment (with 5% penalty per group member)

Due October 12, 2021

## 1 Objectives

For this assignment, you will install software from source code. As discussed in lecture, this involves unpacking a compressed tarball, and then configuring, building, and installing the package.

## 2 Download

Download the virtual machine `Hw06.ova`. Accounts are `root` and `user` with passwords `rootpw` and `userpw`, as usual. The virtual machine already has development tools and several libraries installed. Any other packages that you need should be built from source code, "by hand". **You may not use yum or dnf.** If a package you are installing depends on another package (a library or executable), then you must install the dependency first. Tarballs for all the packages you will need (and others that you will not need) are available under subdirectory `Tarballs` in the `user` account. Note that the submission script requires the following.

- Tarballs should be unpacked within `user`'s home directory, preferably under the `Tarballs` subdirectory.
- Packages should be configured and built as `user`. **Do not do this as** `root`.
- Use `sudo make install`, or `make install` run as `root`, to install packages to their *default locations*. You do this step as `root` because you must: ordinary users cannot copy files into `/usr` or `/usr/local`.
- Do not perform any cleanup after installing the packages.

You are *strongly encouraged* to read the documentation (e.g., files named `INSTALL` and `README`) for any specific instructions to configure and build the packages.

## 3 LXDE

Build and install `lxpanel`, `pcmanfm`, `lxsession`, and `lxde-common`, along with any required dependencies. Follow instructions to set `sysconfdir` to `/etc` during configuration. Note: you will need to run `ldconfig` (as root) after installing supporting libraries. You can test your installation by running

```
startx
```

in the `user` account; you should then see the screen shown in Figure 1.

## 4 Terminal

Build and install `lxterminal`, the terminal emulator for LXDE. To test this, run

```
startx
```

and when the GUI starts up, click on the menu icon in the lower left corner, and select "Run". Type "lxterminal" in the dialog box.

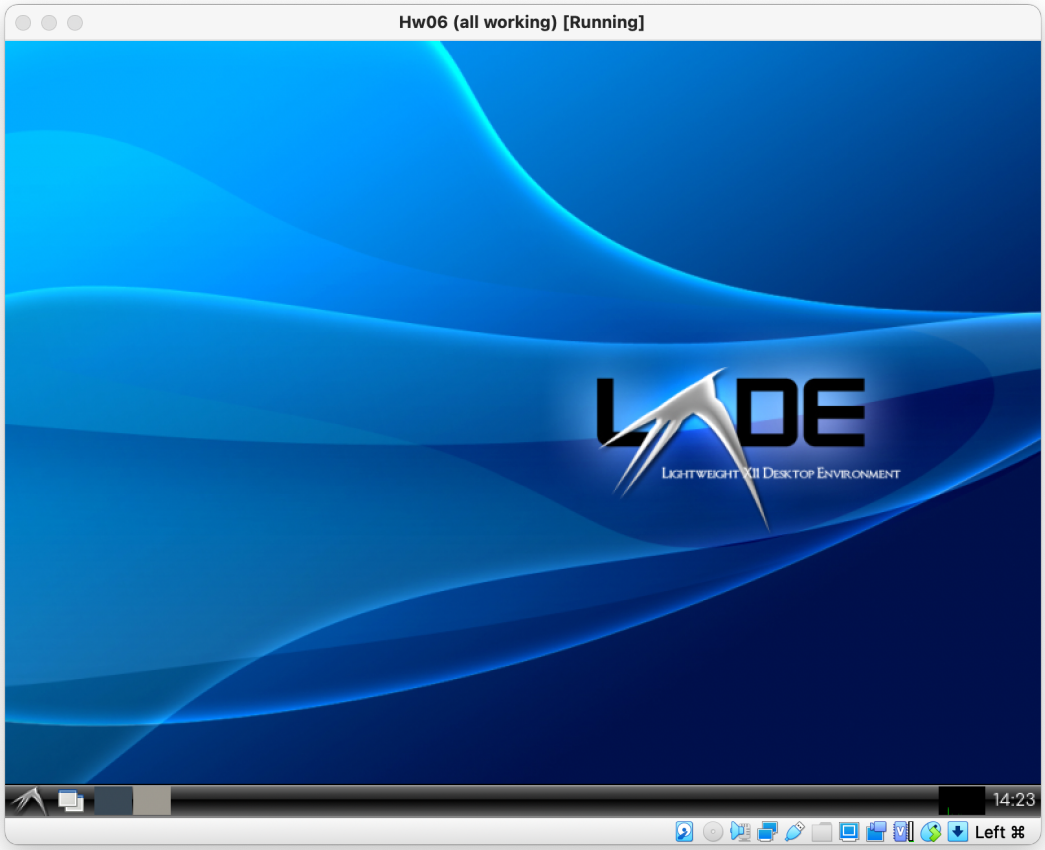


Figure 1: Screenshot of working LXDE

## 5 xearth

Build and install `xearth`. `xearth` is an amusement that draws the earth as seen from the sun according to the current time and date. You can test `xearth` by starting the GUI, opening a terminal window, and running

```
xearth -noroot
```

If you forget the "`-noroot`", `xearth` will try (and fail silently) to display in the "root" window (the main background).

## 6 Submitting your work

Run `Turnin userid` as `root` to submit your work. This expects packages to be installed in their default locations.