

# Cadence Setup Guide: ECE 410

(ver. Spring 2008 for use with PCs)

## Document Contents

Introduction

How to Setup Cadence for the First Time

What to Do Each Time You Run Cadence

Additional Resources

## Introduction

This document provides step-by-step instructions for setting up your ECE 410 class directory to use the Cadence design tools. It also shows the steps you will have to complete each time you want to run Cadence after the initial setup. Cadence runs on the UNIX platform but we will be running it from PCs using a UNIX terminal program within Windows.

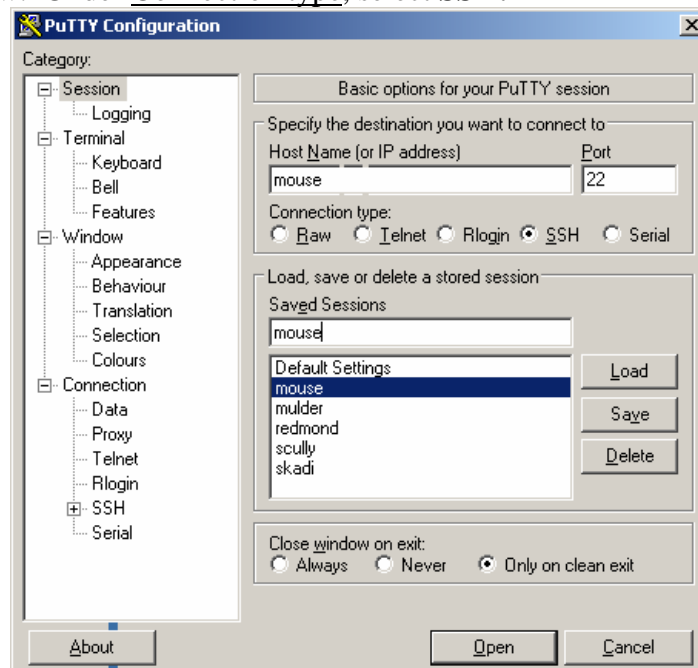
## How to Setup Cadence for the First Time

### Setup of Xming and PuTTY

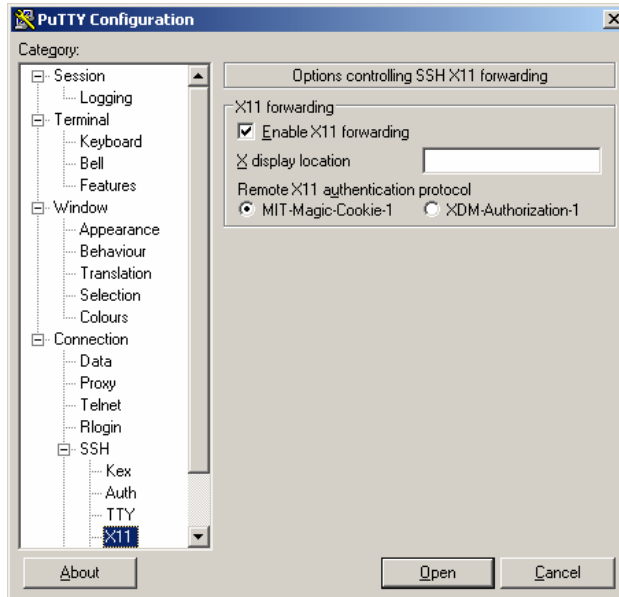
Xming software is a graphic server that runs on the PC to supply remote login to the Xwindow system. PuTTY software is used to setup a link between a remote Xwindow server (in UNIX or Linux) and the client PC. For programs that need a graphics interface, Xming will help display this interface at client side.

### Initial PuTTY setup

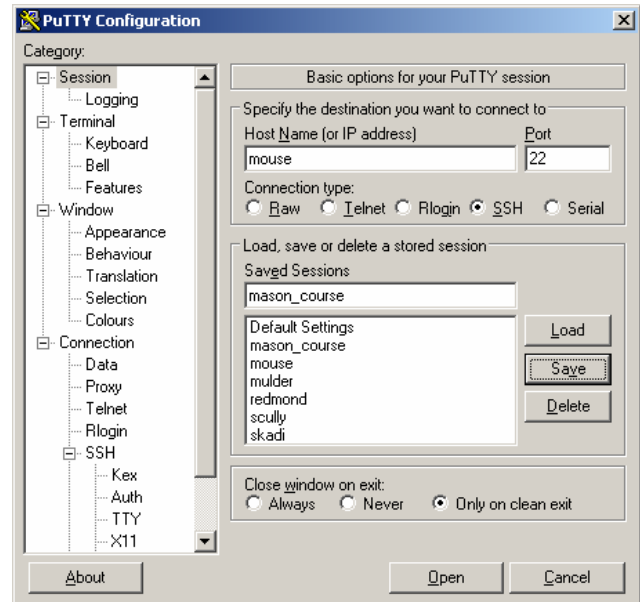
1. From a Windows PC, launch PuTTY at **Start => All Programs => PuTTY => PuTTY**.
2. In the pop-up window, under Host Name key in a DECS server name. Use the server '**mouse**' as shown below. Alternatively, you may use the '**icfbprime**' server or switch to it if the server is slow. Under Connection type, select **SSH**.



3. In the Category list (on the left), select **Connection => SSH => X11**. In the panel that opens, check **Enable X11 forwarding**.
4. In the Category list, select **Session** to return to the first control panel. Under Saved Sessions key in a session name so you can save this configuration to be reloaded in the future. You can choose any name you'd like, such as **ECE410**. The example below uses the session name "mason\_course". Click **Save**. Your session name should now appear in the Saved Sessions list.



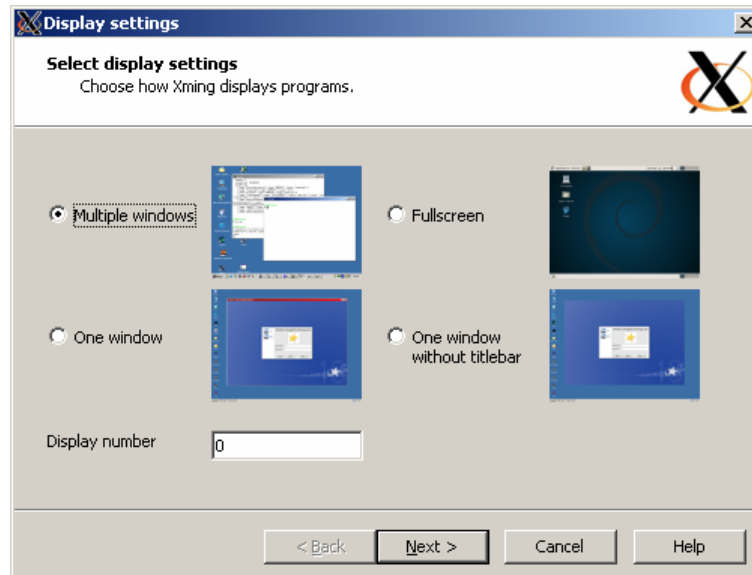
Step 3



Step 4

## Launch & Setup Xming

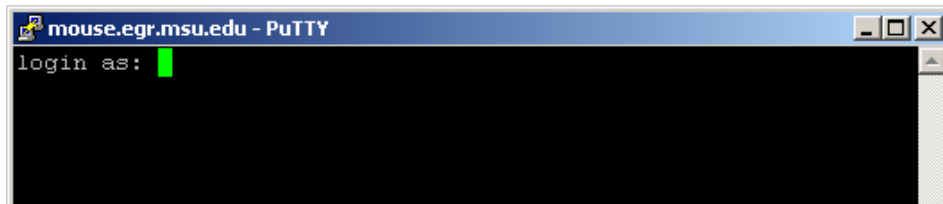
1. Launch the Xming server at Start => All Programs => Xming => XLaunch.
2. In the window that pops up, select **Multiple windows**.



3. Click **Next** on each window pops up until the last window where you click on **Finish** to start the Xming server. Once Xming is running, an icon will appear in the tray at the bottom right corner of the screen.

## Launch & Setup Cadence

- Return to PuTTY. *Select* the session name you saved and *click* on **Load** to reload the previously saved configuration.
- *Click* **Open** at the bottom of the window to connect to a server.
- In the pop-up terminal window, enter your engineering account ID and password to login to the selected UNIX server.



- Once you login, you will be in a command prompt window where you can enter UNIX commands to complete tasks such as copy files, change directories, etc. Initially you will be in your home directory. To setup Cadence, you need to copy some files to your home directory and then create a working directory within your ECE410 class directory.
- Copy the `.cdsinit` and `.cdsenv` setup files into your home directory by typing the following command lines at the terminal prompt:

```
cp _/egr/courses/personal/ece410/resources/.cdsinit _~  
cp _/egr/courses/personal/ece410/resources/.cdsenv _~
```

where the double low lines ( `_` ) represent spaces. Do not forget the 'dot' before the filenames.

*These files will set up the Cadence simulation environment to use the spectre simulator and AMI06 transistor models by default. Copying these files to your home directory will apply these settings to all sessions of Cadence that run from your engineering account (including any other class that you might use Cadence for). If this will cause a problem for you, contact a TA for an alternative.*

- Change to your ECE 410 directory by typing the following in the command prompt
- Create a directory called *cadence* by typing

```
mkdir _cadence
```

*This will create a subdirectory where you should keep all of your Cadence files. You should always launch Cadence from within this directory. This will allow you to create different directories within your class directory, e.g., to save reports, without interfering with your Cadence CAD files.*

- Go to the directory *cadence* by typing `cd_cadence`
- Type `source_=${SOFT}/cadence` (case sensitive)  
*This command sets up your directory to work with Cadence, installing some necessary files (libraries) and linking to appropriate network files.*
- Type `icfb&`  
*The ‘&’ is not required but will allow you to continue using the command prompt window while Cadence is running. You should always launch Cadence tools from your ‘cadence’ subdirectory.*

The *icfb* command will invoke the Cadence session. Two windows will open. The small window is known as the **Command Interpreter Window (CIW)** and will be present throughout your session. The other window is known as the **Library Manager** and it keeps track of all design files you create.

In the **Library Manager** window you should see the following four libraries. If you do not, please consult a TA as soon as possible.

*NCSU\_Analog\_Parts, NCSU\_Digital\_Parts, cdsDefTechLib, basic*

### Exiting Cadence

This completes the initial setup for Cadence. If you plan to continue using Cadence (e.g., to do an assignment) skip this step. To exit Cadence, in the **Command Interpreter Window (CIW)** select

*File => Exit*

### What to Do Each Time You Run Cadence

After the initial setup, each time you run Cadence you need to first complete the following steps:

- Launch Xming server at Start => All Programs => Xming => Xming.
- Launch Putty at Start => All Programs => PuTTY => PuTTY.
- Login to the UNIX system from Putty.
- Change to your ECE 410 directory by typing the following in the command prompt  
`cd /egr/courses/personal/ece410/<username>/cadence`
- Type `source ${SOFT}/cadence` (case sensitive)
- Type `icfb&` to launch the Cadence tool.

### Additional Resources

The class website has several helpful documents/links. See [UNIX Tips](#) for information on modifying your UNIX login to simplify running the Cadence software. See the [Troubleshooting Guide](#) for many answers to common problems. Detailed information for specific tools can be found in the linked [Cadence Manuals](#). If you are not experienced with UNIX, the link to the [DECS UNIX](#) help page contains descriptions of basic UNIX commands.