Cadence Setup Guide: ECE 410

(ver. Spring 2015 – Update 5)

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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.

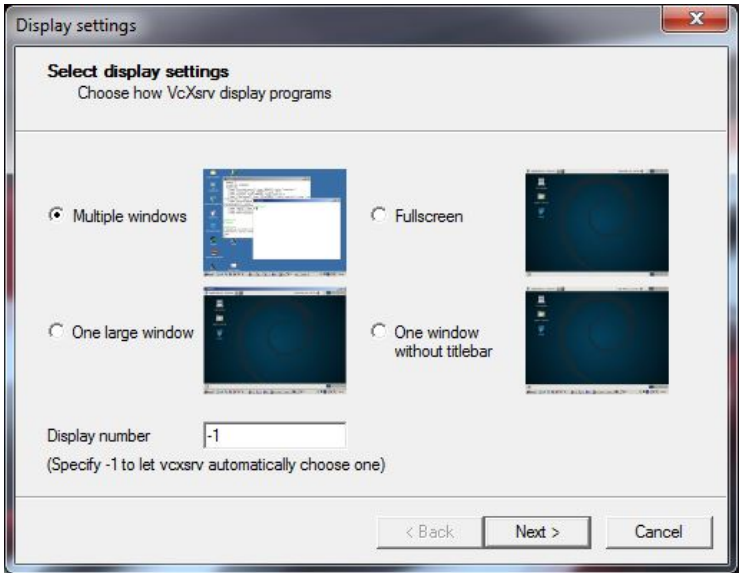
How to Setup Cadence for the First Time

Setup of VcXsrv and PuTTy

VcXsrv 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, VcXsrv will help display this interface at client side.

Launch & Setup VcXsrv

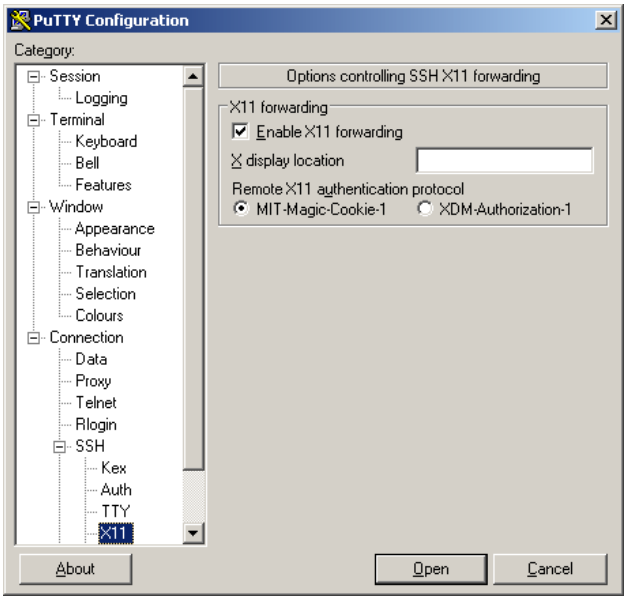
1. Launch the VcXsrv server at Start => All Programs => VcXsrv => XLaunch.
2. In the window that pops up, select **Multiple windows**.



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. in your system tray, near the date and time.

Initial PuTTy setup

1. From a Windows PC, launch PuTTy at **Start => All Programs =>PuTTY => PuTTY**.
2. In the Category list (on the left), select **Connection => SSH => X11**. In the panel that opens, check **Enable X11 forwarding**.
3. In the Category list, select **Session** to return to the first control panel. In the Host Name field, enter <username>@scully.egr.msu.edu (where <username> is your MSU netid, i.e. Sparty's might be sparty12)
4. In the Saved Sessions field enter in something like "computeserver" so that you don't have to repeat these intial steps when connecting in the future. Click **Save**, then click **Open**.



Step 2

Launch & Setup Cadence

1. In the pop-up terminal window, enter your engineering password to log in to scully.
2. After logging in, type in the command
   computeuse
   to find a server with a low load on it. The lower the load, the faster the server will perform. The load changes throughout the day, so make sure to always find one that is low.
3. Type in the command
   ssh SERVERNAME –Y
   where SERVERNAME is the name of the server you found using "computeuse". (Note:-Y is the newer protocol for X11 forwarding. If you are experiencing difficulty logging in, you might try using "ssh SERVERNAME –X")
4. 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 create a working directory within your ECE410 class directory. Change to your ECE 410 directory by typing the following in the command prompt:

   cd /egr/courses/unix/ECE/410/<your username>.

5. 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.
6. Go to the directory *cadence* by typing
   cd cadence
7. Type type the command
   source $SOFT/cadence-auto virtuoso
   This will launch Cadence. The –auto option will automatically copy the initialization files you need into your cadence directory.

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 VcXsrv server at Start => All Programs => VcXsrv => VcXsrv.
- Launch Putty at Start => All Programs =>PuTTY => PuTTY.
- Log into scully from PuTTy, and find a low load server using **computeuse**
- ssh into this server using **ssh SERVERNAME –Y**
- change directory to your cadence directory using
  cd /egr/courses/unix/ECE/410/<your username>/cadence
- Launch Cadence using
  source $SOFT/cadence-auto virtuoso

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.