UNIX Tips for Using Cadence An ECE410 Cadence EDA Tools Help Document

Document Contents

Introduction UNIX Tips

Introduction

This document describes several modifications that can simplify starting and using the Cadence EDA tools. Descriptions of basic UNIX commands can be found at http://www.egr.msu.edu/decs/support/unix/.

UNIX Tips

Help with UNIX Commands

To get documentation on a UNIX command, use the *man* command. For example

man ls man man

File and Directory Sizes

To view the size of the files in the current directory use

ls -lh

To view the size of the current directory including its sub-directories use

du -sh

To view the size of the current directories sub-directories use

du -h --max-depth=1

Create a Symbolic Link

Create a soft link to a target directory. It can map your personal class space to a directory that is easy to access. They can be set up as follows:

```
ln -s source_directory target_directory
```

Example:

ln -s /egr/courses/personal/ece410/<username> ~/ece410

This would map your personal class space to a directory called "ece410" relative to your home directory. In this way, you would only have to type "cd ece410" to get to your class directory from your home directory or "cd ~/ece410" from anywhere else. The benefit of this approach is that symbolic links are treated just like directories and could also be used within the Cadence program when pointing to files or libraries etc.

If you want to remove the link, simply type "rm link_name", where link_name is the name of the file or directory you have created as a symbolic link. This will only remove the link, and will not remove any files or directories it was linked to.

Search for Files

Descend to arbitrary depths in a file hierarchy seeking specified files. There are many options for this command. A simple but useful example is:

```
find . -name "stimulus.txt"
```

This would search from the current directory for files named "stimulus.txt".

Wild cards can also be used. For example

```
find . -name "stim*"
```

This command would find "stimulus.txt" and "stimulus.pdf" and "stim.cir".

Alternate Shell

TCSH is a shell that allows for command line editing and has auto-completion. To invoke the shell type

tcsh

You can "auto-complete" commands by pressing the tab key. For instance typing "cd /egr/co" and then pressing tab will now change the command to "cd /egr/courses". This is a great way to speed up navigation in the UNIX environment and reduce the number of typing errors.

Use the up and down arrow keys to navigate through previous commands. The right and left arrow keys can be used to position the cursor in the current command line. CNTRL-A and CNTRL-E will place the cursor at the beginning and end of a line respectively.

Create an Alias

Create shorthand for a command.

```
alias commandname='value'
or
alias commandname 'value'

Example:
alias my410='cd /egr/courses/personal/ece410/<username>/'
```

This would allow you to type my410 to go to your 410 class directory. You have to type this command very time after you log on the computer if you want to use it. You can add this command into your .cshrc file (a configuration file that is stored in your home directory) so that this command will be executed every time you log on.

Edit the .cshrc File

The .cshrc file contains commands that are invoked whenever you start a new terminal session (or begin a new C-shell session such as "tcsh"). It is useful to put commands here that you do not wish to type every time. The file should be located in your home directory (type "ln -a" in your home directory to check). If it is not, you can create/edit it by doing the following:

- 1) Login to one of the UNIX using your egr account.
- 2) Right click on the desktop and press *Utilities/Terminal* to get a command prompt window.
- 3) Go to your home directory by typing "cd ~"

```
4) Type "nedit .cshrc"
5) Add any UNIX commands you like to the end of the file.
6) Go to File => Save
7) Go to File => Exit
```

One useful command to put in your .cshrc file is the following:

```
if ( -e $SOFT/cadence ) then
    source $SOFT/cadence
endif
```

This command is then automatically executed every time you start a terminal session, meaning you will not need to type it again. Also, if you wish to make use of aliases, put them in .cshrc.

An Example .cshrc file

If you used this file, all you would have to do is type "runcad" at the command prompt to launch icfb from your class directory (assuming your design directory matches the example).

Running a Script

Scripts are a collection of commands that have been collected in a file to run together. To run a script type

```
source script_name
Example:
source ~/.cshrc
```