

**Fundamentals of UNIX**  
**Lab 5.3.3 – Navigating the File System**  
***(Estimated time: 20 min.)***

**Objectives:**

- Become familiar with the file system directory tree used in class
- Determine the current working directory with the **pwd** command
- Work with absolute and relative pathnames
- Change directories from one location to another in the file system with the **cd** command

**Background:**

In this lab you will work with the UNIX file system or directory tree, which has been set up for the class. You will learn how to determine your current location in the directory tree and how to change from one directory to another.

Remembering which directory you are currently working in is often difficult. The **pwd** (print working directory) command will display the **absolute pathname** of your current directory. The **pwd** command is used frequently to check the current location in the directory tree or hierarchy.

You can move from one directory to another with the **cd** (change directory) command. The directory location you wish to change to is specified using an **absolute** or **relative** pathname. An **absolute pathname** specifies a file or directory in relation to the entire file hierarchy. The hierarchy begins at the / (root) directory. Absolute pathnames always start at the root (/) directory and list each directory along the path to the destination file (or directory).

A **relative pathname** describes the location of a file or directory as it relates to the current directory or the directory you are currently in. If you are in a directory and you want to move down the directory tree, you can type the path starting with the name of the next directory down in the directory structure. If a pathname does not begin with a slash, it is a relative pathname. Relative pathnames are useful because they are usually shorter than absolute pathnames. To use relative path names, you must know what directory you are currently in since that is your starting point. The **pwd** command will tell you where you are in the directory tree or hierarchy. Shortcuts such as the **tilde (~)**, **dot/dot (..)** can also be used with relative pathnames.

**Tools / Preparation:**

- a) Before starting this lab, review Chapter 5, Section 3 – Navigating the File System
- b) You will need the following:
  1. A login user ID (e.g. user2) and password assigned by your instructor.
  2. A computer running the UNIX operating system with CDE.
  3. Networked computers in classroom.

**Notes:**

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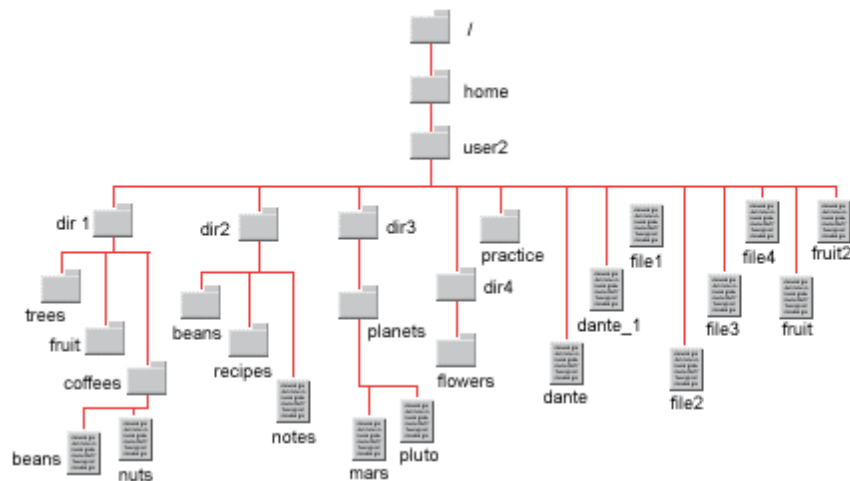
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## Worksheet

**Use the diagram of the sample class file system directory tree to assist with this lab.**



## Step 1. Log in to CDE

Login with the user name and password assigned to you by your instructor in the CDE entry box.

## Step 2. Access the Command Line

Right click on the **workspace** backdrop and click on **Tools**. Select **Terminal** from the menu to open a terminal window.

### Step 3. Use the `pwd` Command

To determine the directory you are currently in, which is known as your **current directory**, use the `pwd` command. The `pwd` command does not have any options or arguments. It tells you what directory you are in using the **absolute pathname** so there is no doubt. If you have just logged in, your **current directory** should be your **home directory**.

- a. Enter the following command: `$ pwd`

What is your current directory?

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**Worksheet – Cont.**

**Step 4. Identify Absolute and Relative Pathnames**

Use the Class File System Directory Tree diagram to answer the following questions:

- a. What is the **absolute** pathname to the **dir2** directory? \_\_\_\_\_
- b. What is the **absolute** pathname to the **planets** directory? \_\_\_\_\_
- c. What is the **absolute** pathname of the notes file? \_\_\_\_\_
- d. From your **home** directory, what is the **relative** pathname to the **dir4** directory?  
\_\_\_\_\_
- e. From your **home** directory, what is the **relative** pathname to the **flowers** directory?  
\_\_\_\_\_
- f. If you are in the **dir1** directory, what is the **relative** pathname to the **trees** directory?  
\_\_\_\_\_
- g. Specify the relative pathnames for **all** of the **dir1** subdirectories and files.  
\_\_\_\_\_

**Step 5. Use the cd (Change Directory) Command with Absolute Pathnames**

Use **ONLY absolute pathnames** and **NO shortcuts**.

- a. Change to your **home** directory. What command did you use? \_\_\_\_\_
- b. Change to the **dir2** directory. What command did you use? \_\_\_\_\_
- c. Verify what directory you are currently in. What command did you use? \_\_\_\_\_
- d. Change to the **dir4** directory. What command did you use? \_\_\_\_\_
- e. Return to your **home** directory. What command did you use? \_\_\_\_\_
- f. Change to the **fruit** directory. What command did you use? \_\_\_\_\_
- g. Verify what directory you are currently in with the pwd command. What was the response?  
\_\_\_\_\_

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**Worksheet – Cont.**

**Step 6. Use the cd (Change Directory) Command with Relative Pathnames**

You can move around in the directory hierarchy using the cd command along with an absolute or relative pathname. Use **ONLY relative pathnames** and the **abbreviations or shortcuts** shown in the table.

Directory Navigation Shortcuts	
Abbreviation / Shortcut Symbol	Meaning
<b>.</b> (dot)	Current (working) directory
<b>..</b> (dot/dot)	Parent directory; the directory directly above the current directory
<b>~</b> (tilde)	User's home directory (Korn and C shells)
<b>Cd</b>	cd by itself changes to your home directory

- a. Change to your **home** directory. What command did you use? \_\_\_\_\_
- b. Change to the **dir2** directory (~). What command did you use? \_\_\_\_\_
- c. Verify what directory you are currently in. What command did you use? \_\_\_\_\_
- d. Change to the **dir4** directory. What command did you use? \_\_\_\_\_
- e. Return to your **home** directory (~). What command did you use? \_\_\_\_\_
- f. Change to the **fruit** directory. What command did you use? \_\_\_\_\_
- g. Verify what directory you are currently in with the **pwd** command. What was the response?  
\_\_\_\_\_
- h. Return to your **home** directory. What command did you use? \_\_\_\_\_
- i. Change to the **root** directory. What command did you use? \_\_\_\_\_
- h. Return to your **home** directory and enter the **ls** (list files) command. What directories and files are listed? \_\_\_\_\_

**Step 7. Close the Terminal Window and Logout**

Double click on the dash button in the upper left corner of the screen, then click the **EXIT** icon on the front panel.