

ULI101: INTRODUCTION TO UNIX / LINUX AND THE INTERNET

WEEK 3: LESSON I

ADVANCED FILE MANAGEMENT

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LESSON 1 TOPICS

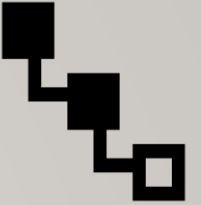
File Pathname Types

- Absolute File Pathnames
- Relative File Pathnames
- Relative-to-home File Pathnames
- Demonstration

Perform Week 3 Tutorial

- Investigation I

FILE PATHNAME TYPES



Purpose of File Pathnames

As previously mentioned, a **pathname** is a **fully-specified location** of a unique filename within a file system. The concept of a pathname relates to every operating system including:

Unix, Linux, MS-DOS, MS-Windows, Apple-Macintosh, etc.

Last week, we used a pathname from our home directory to create and manipulate directories and text files. There are different **types of pathnames** that we can use to access a directory or text file.

For Example:

`/home/userid/uli101/cars.txt` (**absolute pathname**)

`samples/cars.txt` (**relative pathname**)

`~/cars.txt` (**relative-to-home pathname**)

These types of file pathnames can make it more **efficient** (i.e. **less keystrokes** for users to type)



FILE PATHNAME TYPES

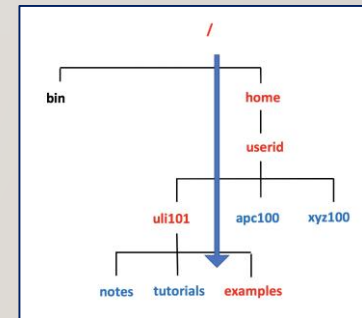
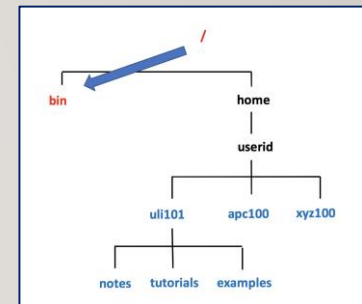
Absolute Pathnames

An **absolute pathname** is a path to a file or directory always beginning from the **root directory (i.e. /)**.

This type of pathname is referred to as **absolute** because the pathname always begins ABSOLUTELY from the **root directory** regardless of your current directory location.

In other words, this type of pathname requires that you always provide the **FULL** pathname starting with the root directory.

Remember the Rhyme: “If it is **ABSOLUTE**, it begins with **ROOT!**”



FILE PATHNAME TYPES

Absolute Pathnames

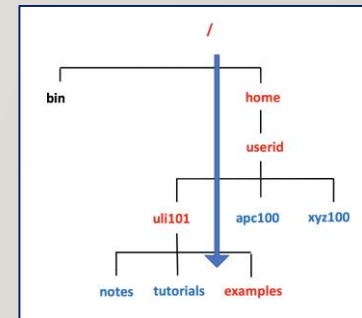
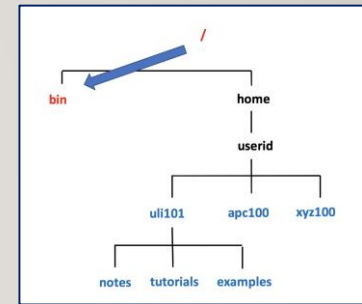
Advantages of using Absolute Pathnames:

- Useful if you do NOT know your current directory location
- Helps you to understand the FULL layout of pathname

Examples:

`/bin`

`/home/userid/uli101/examples`



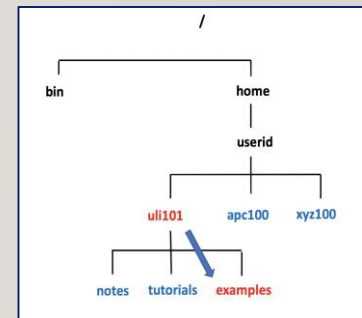
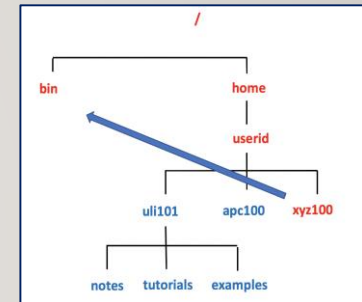
FILE PATHNAME TYPES

Relative Pathnames

A **relative pathname** is a path to a file or directory that begins from your **current** directory.

This is called a *relative pathname* because it is used to locate a specific file **RELATIVE** to your **current directory**.

NOTE: In order to use relative pathnames, it is absolutely necessary that you know the **location** of your **current directory**!



FILE PATHNAME TYPES

Relative Pathnames

Relative Pathname Symbols:

- A period "." represents the **current** directory
- Two periods ".." represents the **parent** directory (i.e. one directory level up)

Advantages of using Relative Pathnames:

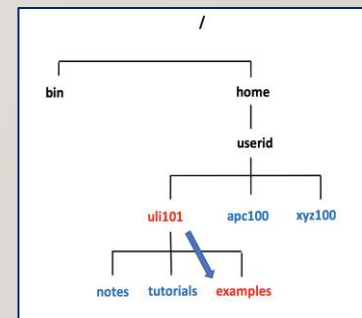
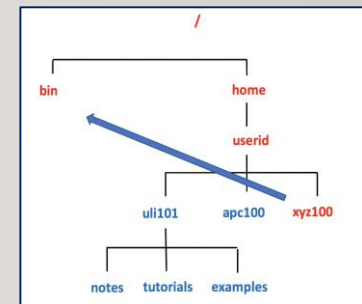
- Possibly a shorter pathname (less typing)

Examples:

`../../../../bin`

`examples`

`./examples`



FILE PATHNAME TYPES

Relative-to-home Pathnames

A **relative-to-home pathname** begins with the **tilde** character (i.e. `~`) to represent the current user's **home** directory.

The **tilde** character `~` stores the path of the current user's home directory (i.e. `~ = /home/current-user-id`).

Advantages of using Relative-to-Home Pathnames:

- Possibly a shorter pathname (**less typing**)

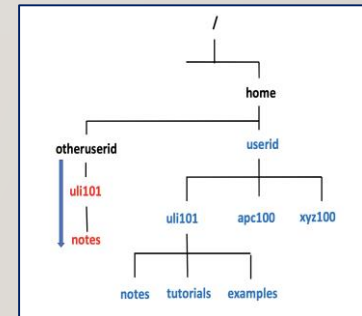
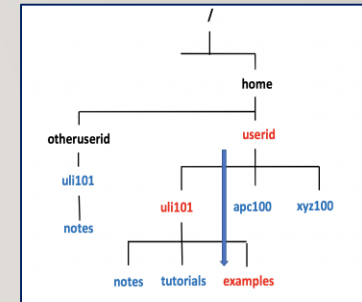
You can place a **username** IMMEDIATELY **after** the tilde character to represent another user's home directory (for example: `~jane = /home/jane`)

Examples:

`~/uli101/examples` = `/home/current-user-id/uli101/examples`

`~/uli101/notes` = `/home/current-user-id/uli101/notes`

`~murray.saul/uli101/notes` = `/home/current-user-id/murray.saul/uli101/notes`



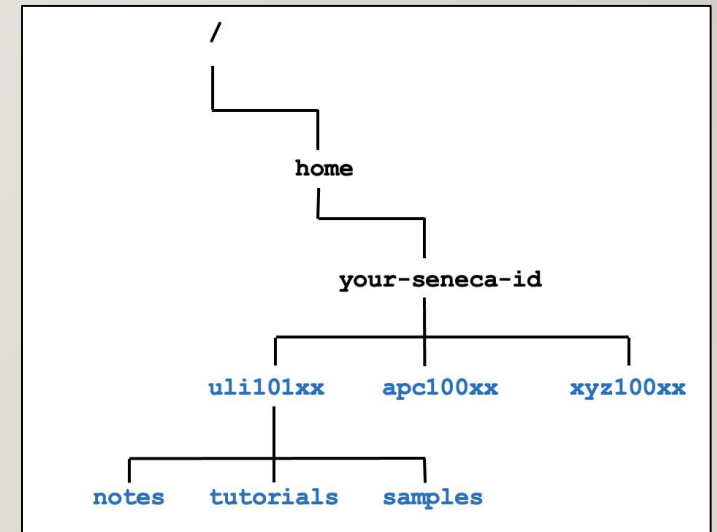
FILE PATHNAME TYPES



Instructor Demonstration

Your instructor will now demonstrate how to issue Unix / Linux commands using absolute, relative and relative-to-home pathnames for directory / file management:

- Creating / Removing Directories
- Moving Files / Directories
- Copying Files / Directories
- Listing Directory Contents
- Removing Regular Files



HOMEWORK

Getting Practice

Perform online **Tutorial 3: Advanced File Management / Quoting Special Characters**

(Due: Friday Week 4 @ midnight for a 2% grade):

- [INVESTIGATION 1:ABSOLUTE / RELATIVE / RELATIVE-TO-HOME PATHNAMES](#)
- [LINUX PRACTICE QUESTIONS](#) (Questions 1 – 8)