ULI101: INTRODUCTION TO UNIX / LINUX AND THE INTERNET

WEEK 3: LESSON 1

ADVANCED FILE MANAGEMENT

LESSON 1 TOPICS

File Pathname Types

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

Perform Week 3 Tutorial

- Investigation 1

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

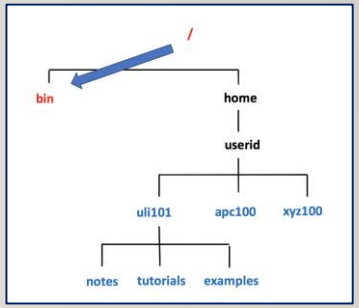
Absolute Pathnames

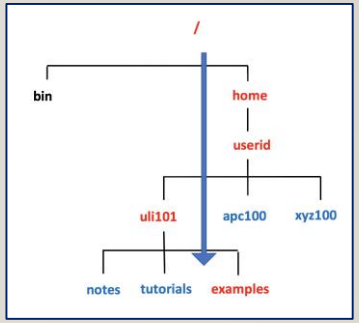
An **absolute pathname** is a path to a file or directory always beginning from the **root directory (i.e. /)**.

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

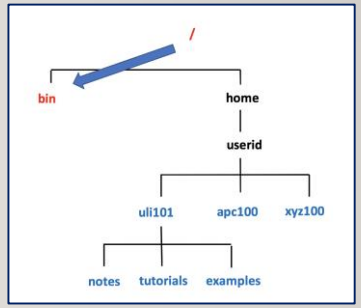
Advantages of using Absolute Pathnames:

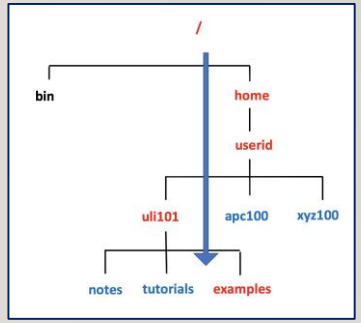
- Useful if you do NOT know your current directory location
- Helps you to understand the FULL layout of pathname

Examples:

/bin

/home/userid/uli101/examples





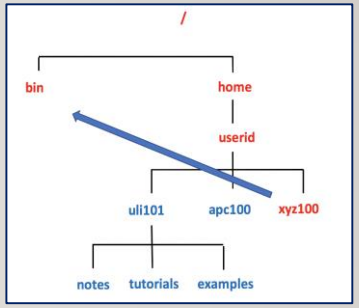
FILE PATHNAME TYPES

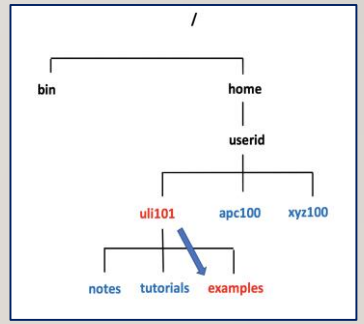
Relative Pathnames

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:

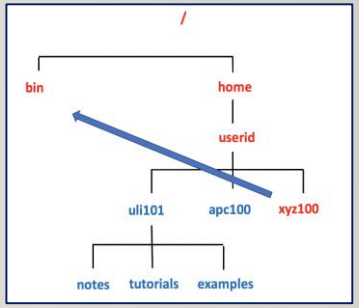
- A period "." represents the **current** directory
- Two periods ".." represents the **parent** directory (i.e. one directory level up)

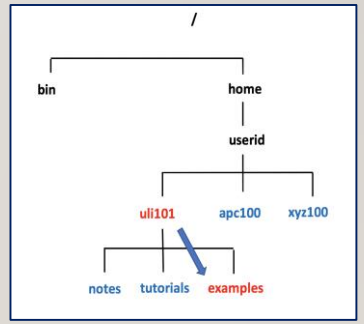
Advantages of using Relative Pathnames:

- Possibly a shorter pathname (less typing)

Examples:

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



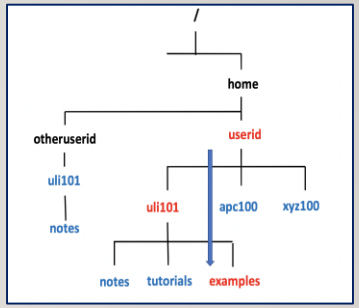


FILE PATHNAME TYPES

Relative-to-home Pathnames

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

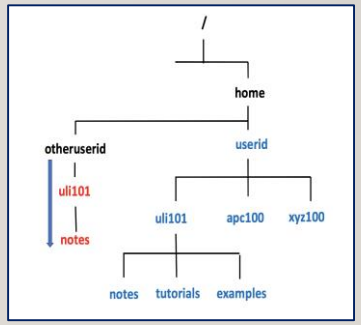
The **tilde** character **~** stores the path of the current user's home directory (i.e. **`~ = /home/current-user-id`**).



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:

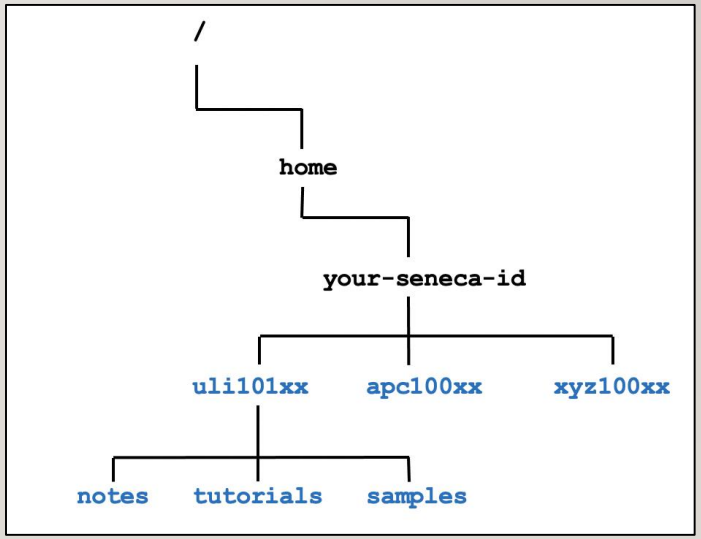
```
~/uli101/examples
~/uli101/notes
~murray.saul/uli101/notes
```

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)