Unix Shell

Software Carpentry Workshop

Day 1

Instructor: Niket Agrawal

❑ What is <u>Unix shell</u>?

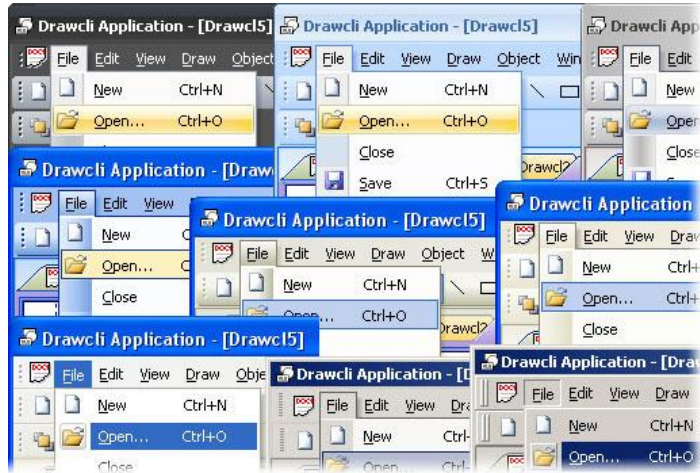❑ Why should I learn it?

❑ How to use it?

❑ Ok, I learnt something, how to proceed further?

A computer …

- ❑ Runs programs, applications
- ❑ Stores data
- ❑ Communicates with other computers
- ❑ **Interacts with the user**

Graphical User Interface (GUI)

Command Line Interface

User types 'command'

Computer executes the command and prints output

Shell

User types another command

Computer executes the command and prints output

- ❑ Shell: A program that runs other programs
- ❑ Origin: Unix Operating System (1970s)
- ❑ BASH (Bourne Again Shell) – Most popular & default
- ❑ Programming instead of visual; cryptic commands

Why learn Unix shell?

❑ Work with scientific computing tools

❑ Work with remote computers

❑ Become more efficient

❑ Automation: Let the computer do the work

Learning goals for today

❑ Concept of a command line interface

❑ Basic shell commands, syntax and usage

❑ Understand file path notation
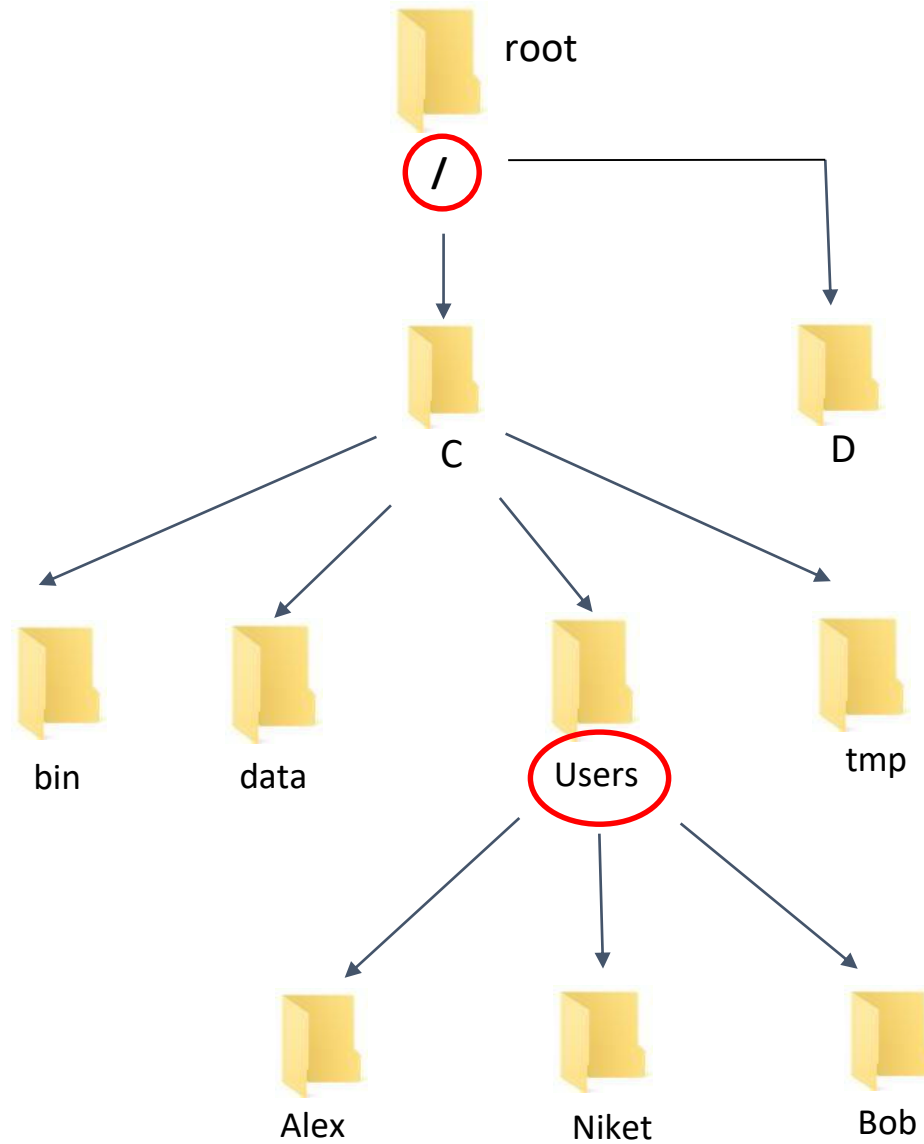
❑ Insights into working efficiently with the shell

Let's get started...

data-shell folder downloaded and extracted on Desktop?

File System organization

$ pwd

$ /c/Users/Niket

For loop

for item **in** list_of_items

do

      operation using $item

done

Iteration 1

operation using item 1

Iteration 2

operation using item 2

.

.

Iteration n
operation using item n

Where to go from here?

- ❑ Reference material for extra exercises - http://swcarpentry.github.io/shell-novice/   [Recommended!]

- ❑ Working with remote machines - http://www.hpc-carpentry.org/hpc-shell/

- ❑ Additional topics - https://carpentries-incubator.github.io/shell-extras/