SysOps [a.k.a DevOps] Intensives

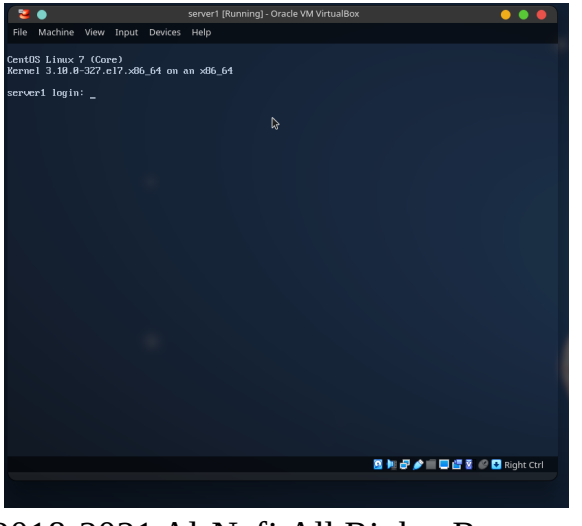
RHEL Intensive Session:1

Overview of FSH, Absolute/Relative Path revision,Options if you have not Installed linux,Command/Flags revision, VI Editor, AWS account

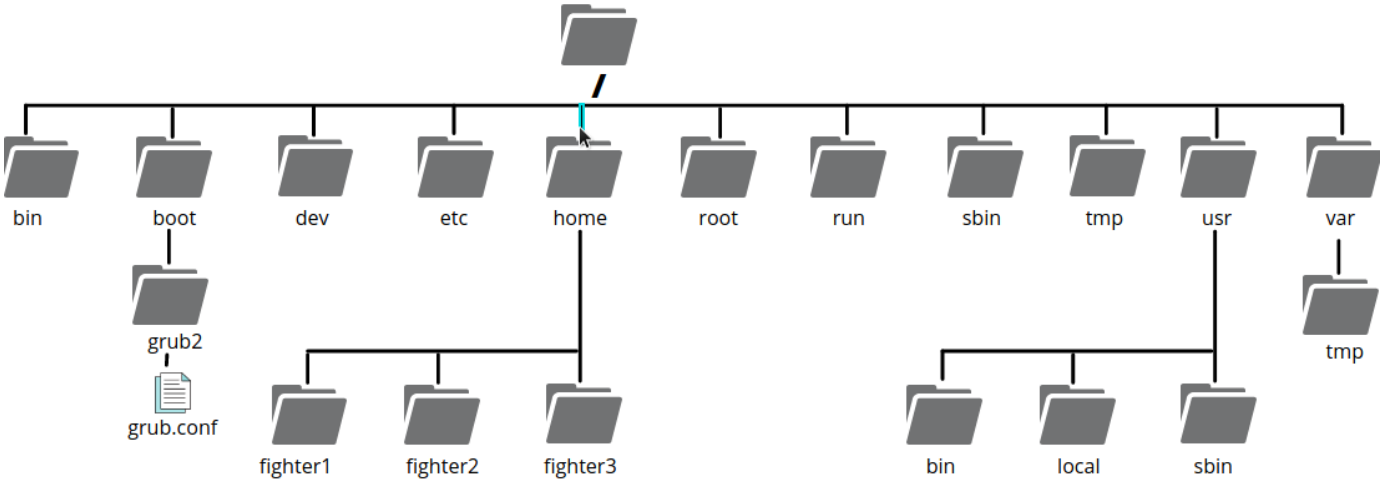
AL NAFI,
Education Benefits all.

Logging in to a local computer

- To run the shell you need to log in to the compuer on a terminal. A terminal is a text based interface used to enter commands into & print output from computer system.
- Most these virtual consoles run a terminal providing a text login prompt, and if you enter your username & password correctly, you will login & get a shell prompt

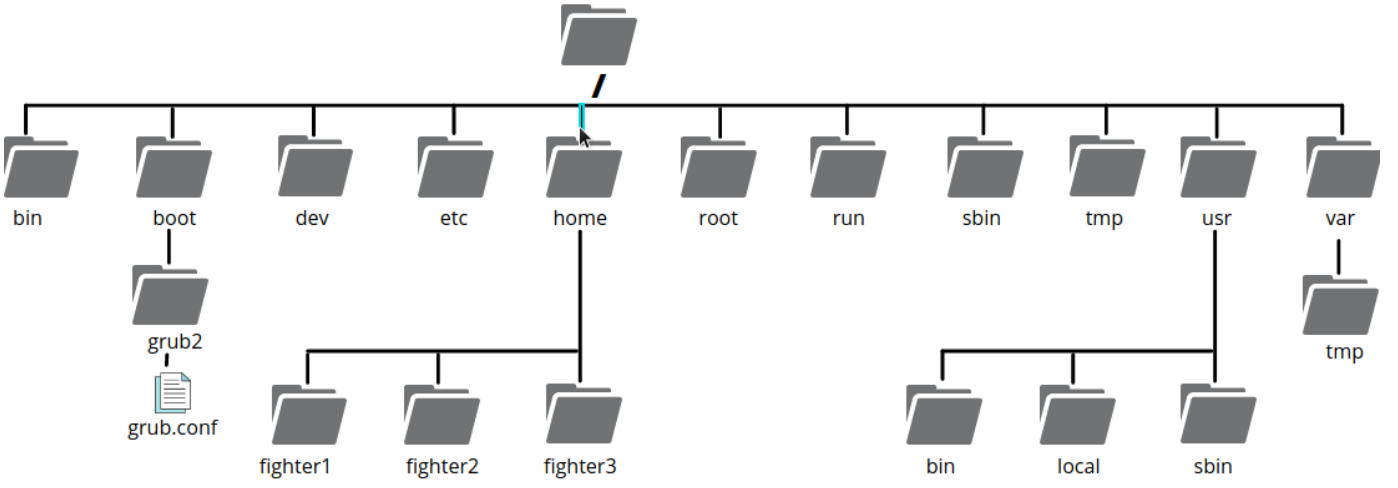


Linux File System Hierarchy Concepts [FSH]



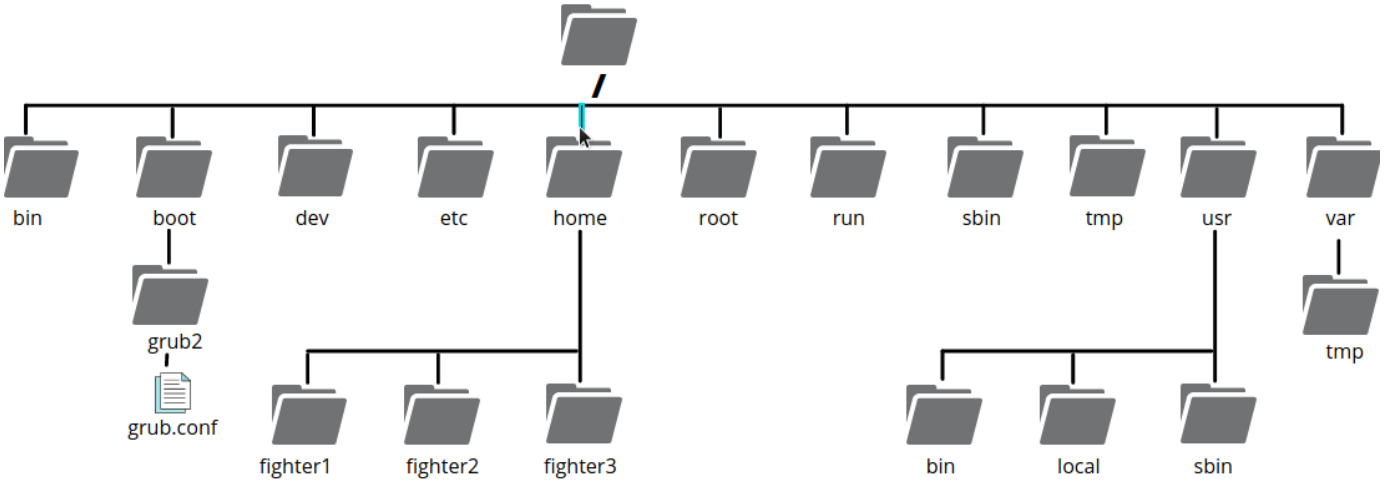
- The ***/*** directory is the root directory at the top the file system hierarchy. The / character is also used as a *directory separator* in file names. For example, if **boot** is a subdirectory for the / directory, you could refer to that dir as **/boot**. Likewise, if the **/boot** contained a directory named grub2, you could refer that directory as **/boot/grub2**

Topic: Absolute path revision



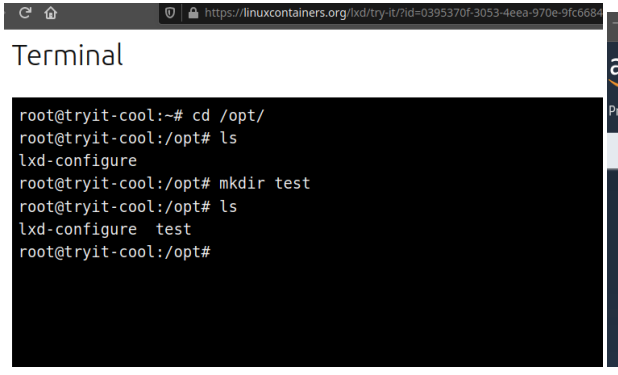
- **The absolute path** is a fully qualified name, specifying the files exact location in the FSH it begins at the root[/] directory & specifies each subdirectory that must be traversed to reach the specifc file. Simple rule: A path name with forward slash / as the first character is an absolute path. For ex: absolute path name for grub.conf file is **/boot/grub2/grub.conf**

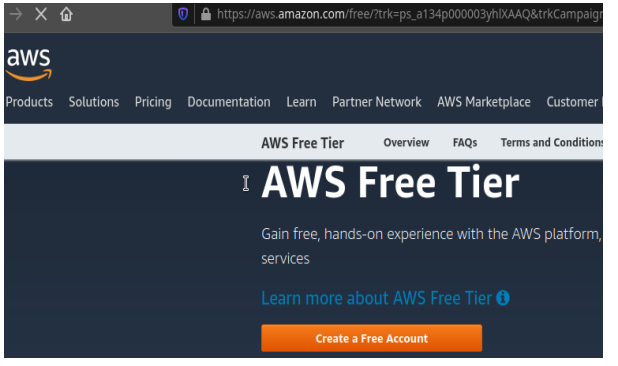
Topic: Relative path revision



- Like an absolute path, relative path identifies a unique file, specifying only the path necessary to reach the file from working directory.Simple rule: path name with anything other than a forward slash as the first character is a relative path name. User in the boot directory could refer to the grub.conf file relatively as **grub2/grub.conf**

Options: If you have not installed Linux





- Other options if you have not installed linux
- In google search for "***Linux online terminals***" . You can practice without installing a linux machine

  1. linuxcontainers.org , 2. webminal.org , 3. linuxzoo.net
- Free account on AWS & launch ec2 instance. Download juice ssh on android phone or ssh terminal on iphone.

  These are just like a putty to take remote of linux machine running on cloud/oracle vm from your mobile phone.

  For flexibility, use phone screen magnifier & keyboard with OTG cable on your mobile to type & run commands

  from juice ssh/ ssh terminals

Revision: commands/flags

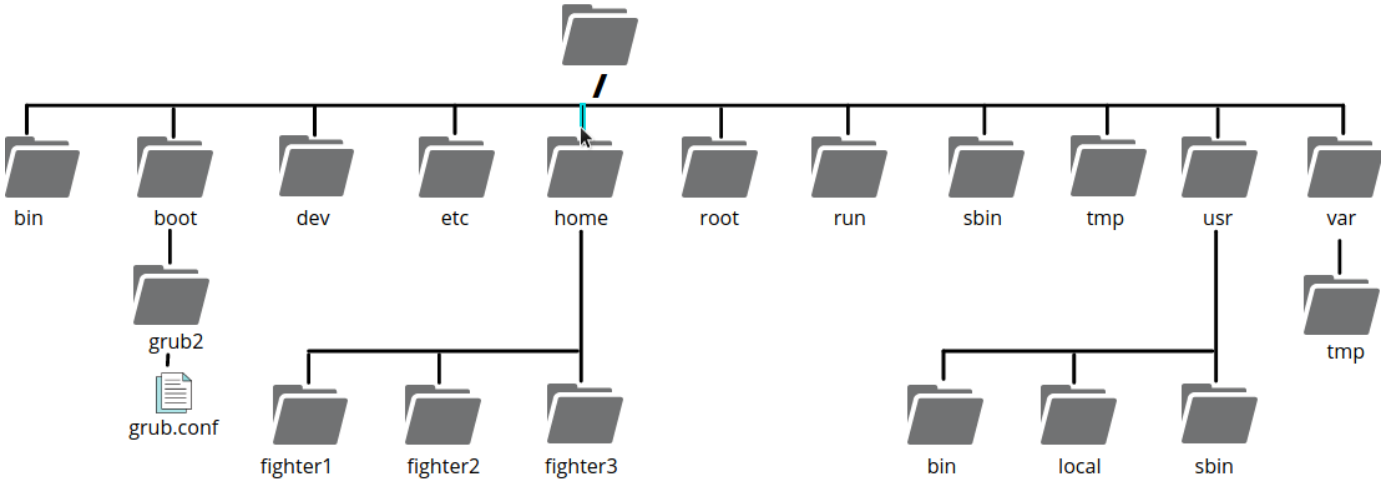
- Commands are atlast program
- In linux almost commands are developed in C language & then converted in binary. In windows we call it exe & in linux we call it binary.In windows we call it restart & in linux we call it reboot. Windows have registry & in linux no registry but FS hierarchy. Windows have defrag & in linux no defrag because of the way how files are written . So anyways commands are atlast binary file which are kept in some path[location] from where we call them & run it as a command.
- Recap of Commands:

  ls,df,pwd,touch,mkdir,rm,whatis,man, --help
- **To view contents of file in linux – command is cat**
- **Tab completion** allows user to quickly complete commands of file names after

  they have typed enough at the prompt to make unique. If the characters typed are not unique,

  pressing the Tab key twice displays all commands that begin with the characters already typed

Overview: Red Hat Linux Directories



Location	Purpose
/usr	*Installed software, shared libraries.* */usr/*bin: user commands */usr/*sbin: sysadmin commands
/home	Home directories where users store their personal data& config files
/boot	Files needed to start boot process

Overview: Red Hat Linux Directories

Location	Purpose
/dev	Contains special device files that are used by systemt to access hardware
/etc	Config files specific to system
lost+found	this directory contains data recoverd files
/lib	Contains .so file shared object files
/var	Files that dynamically changes, such as DB,log files
/opt	Optional directory for installing 3rd party softwares. Not much that important
/mnt	Used for mountpoints

Revision: commands/flags continued

- Linux is multiuser mode & windows is non multiuser mode.We cannot use simultaneous both users in windows. But in Linux we can work on multiple terminals.
- Commands that we will try today: “id” “whoami” to find current user
- Switching user in linux: command is “su – username”
- Commands are atlast program: we will run few more commands today with flags

  command is the name of the program to run. It may be followed by one or more flags,which adjust the behaviour of the command or what it will do. Flag normally start with one or two dashes (-a or –all, for exmaple : mkdir -p */path/of/folder*
- Commands have –help flag that displays the usage
- Whatis,man, --help

Editing Text files from the shell [VIM editor]

- Create & edit text files from the command line using vim editor.
- Information & config settings [DNS config, Apache config, postfix config are some exmaples] are stored in text based files on linux. Advantage of text files is that they can be viewed & edited using any simple text editor.
- Vim is the improved version of vi editor ditributed with linux systems. Highly configurable & efficient
- You can open a file for editing with command “vi filename”
- Vi have several modes of operation – 40 to 50 modes including insert mode , command mode, extended command mode. Depending on mode you may be issuing commands, editing text you should always be aware of your current mode as keystroke have different effects in different modes.

Vi modes

1. “vi filename” open the file in RW format

2. press “i” for insert mode – where all text typed becomes file contents

3. pressing “Esc” key returns to command mode and the “**:**” begins extended command mode for tasks such as writing “:w” . “:wq” for saving & quit . “:wq!” override/forcefully

4. “:q” quit without save

5. “dd” to delete a single line. If you want to delete 3 lines then “3dd”

6. ”yy” to copy a line & “p” for paste. To copy 4 lines “4yy”

7. “dw” delete word

8. “ye” copy word

9. “x” delete single letter

10. “u” for undo

Vi modes

11. ":%s/word/replaceword/g" search & replace

12. ":X" to protect file with password with vim editor

Create AWS account

1. Create AWS free acount

2. Check this 50 commands of linux from journal dev link. Create AWS account & try these commands on your own.

3. Next class we will cover – symlinks, hardlinks & runlevels.