

SECTION1: INTRODUCTION OF UNIX / LINUX

- What is Linux?
- Why Linux is better?
- Flavors of Linux
- Why RHEL?
- Linux in Cloud
- Linux Architecture
- user, shell and kernel

SECTION2: LINUX ARCHITECTURE

- Architecture Components
- Shell
- Kernel
- User and Hardware
- Process
- User Space

SECTION3: FILE SYSTEM HIERARCHY STANDARD

- What is FHS?
- Structure of Filesystem
- Directories
- Installation structure
- /boot, /etc/, /proc
- Difference between root (#) and \$.

SECTION4: HYPERVISOR

- What is Hypervisor
- Hypervisor Types
- Difference between Type1 & Type2
- Virtualization
- What is a VM
- VM properties
- VMware workstation
- Oracle Virtual Box

SECTION5: RHEL INSTALLATION

- Installing VMware / Virtual Box
- Creating First VM
- Difference between GUI & CLI
- Downloading and Installing RHEL
- Partition Layout
- Login Terminal

SECTION6: GETTING STARTED WITH COMMANDS

- User Login
- Difference between # and \$
- Terminal
- Basic Commands
- pwd
- Whoami, whereis
- Df, du
- Commands Help

SECTION7: MANAGING FILES

- File attributes (ls)
- Cat command
- Touch command
- Directories
- Navigation Commands
- Copying files
- Moving files
- Removing files
- Metacharacters

SECTION8: FILE COMPRESSION & ARCHIVING

- File compression
- Compression tools
- Bzip2, gzip and zip
- What is archiving
- Backup tool
- Tar command
- Links
- Softlinks
- Hardlinks
- Softlinks vs Hardlinks

SECTION9: THE KING OF EDITORS

- What are the types of Editors
- Nano, gedit...etc
- Modes of operations
- Find and Replace
- Delete and Paste
- Yank and Paste
- Execute mode operations

SECTION10: BASIC FILTERS

- What are the filter commands
- Wc, File
- Tr command
- Head, Tail
- More, Less
- Echo
- Cut, Paste
- && and ;
- File comparisons
- Sort, Uniq

SECTION11: ADVANCED FILTERS

- Searching and Replace
- Sed command
- Pattern matchers
- Grep command
- Pipeing (|)
- Finding file locations
- Locate and Find
-

SECTION12: PROCESS MANAGEMENT

- What is a process?
- Process states
- Running processes with background and foreground
- Adjust process priority and kill process
- Process States and Zombies
- Monitoring the current system
- What is a daemon?
- Init / systemd process

SECTION13: FILE PERMISSIONS

- What is a permission?
- Types of permissions
- Access Levels
- Access modes
- Read, write, execute
- What is a umask?
- Changing permissions with chmod
- What is chgrp?
- What is chown?

SECTION14: NETWORKING BASICS

- What is a network and Networking?
- Managing Hostname & Ip-address
- Managing port numbers
- Remote login connections
- Telnet
- SSH
- SCP & WinSCP

SECTION15: SHELL PROGRAMMING

- What is a Shell?
- Types of shells
- Shell types
- When to use shell script?
- The first shell script
- Interactive shell script
- Shell keywords

SECTION16: SHELL VARIABLES

- What is a variable?
- Variable types
- System defined variables
- Paths
- User defined variables
- Null variables
- Operators
- Types of operators

SECTION17: TAKING DECISIONS

- If-then-fi statement
- If-then-else-fi statement
- Nested if-elses
- Use of logical operators
- The Test commands

SECTION18: LOOP CONTROL STRUCTURE

- What is a loop?
- While loop
- Until loop
- The for loop
- The break statement
- The continue statement

SECTION19: POSITIONAL PARAMETERS

- Command line arguments
- Positional parameter values
- Set keyword
- Setting values of positional parameters
- Shift on positional parameters
- Displaying date on desired format

SECTION20: FUNCTIONS

- What is a function?
- Simple introduction to functions
- Scope of the variable.
- Returning a variable value
- Passing parameters to a function
- Positional parameters in functions

SECTION21: SCHEDULING JOBS

- What is automation?
- One time task execution with AT
- Jobs with crontab
- Shell script to send automatic mails
- Shell script to monitor file system with mail alerts
- Jobs output redirection

SECTION22: IMP SHELL SCRIPTS

- Imp scripts
- User creations
- Network scripts
- Backups

SECTION23: DEBUGGING SHELL SCRIPTS

- What is Debugging?
- Fix bugs (errors)
- Built in debugging help

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