1. What is Linux?

Linux is an open-source and Unix-like operating system that was first developed by Linus Torvalds in 1991.

1. Linux vs Unix
2. How to use setup swap in linux
3. RPM Management Tools

RPM Stands for Red-Hat Package Management Tool or system in Linux Distros which provides tools for installing, upgrading, querying, and managing software packages.

1. Access Permissions granted in Linux
2. ACL

ACL Stands for Access Control List. It is a security mechanism used in computer systems and networks to control and manage access to resources and or actions of a user or entities.

1. Can we provide permissions to a user individually only or we can provide other way in linux?

Instead of setting permission for each individual user we can grant similar permissions to a group of users, or we can use ACL which a more sophisticated way to provide permissions.

1. Different type of shells?

Bash (Bourne Again Shell) – Default and mostly used shell in Linux.

Sh (Bourne Shell) – One of the earliest UNIX shells and serves as foundation of many other shells.

Csh (C Shell)

Tcsh (TENEX C Shell)

Ksh (Korn Shell)

Zsh (Z Shell)

1. Different types of installing apache

Sudo apt install apache2 // Ubuntu

Sudo yum install httpd // CentOS/RHEL

Sudo dnf install httpd // Fedora

sudo zypper install apache2 // openSUSE

sudo pacman -S apache // arch Linux

1. Process states in Linux

Running (R) – currently executing

Stopped (T) – Suspended state can be resumed later by SIGCONT command.

Terminated (X) – Finished executing and terminated by itself or receiving signal from other process.

Zombie (Z) – Terminated process but still has an entry in the process table.

Interruptible Sleep (S or I) – The process is in sleeping or blocked state but can be awakened or interrupted by a signal.

Uninterruptible Sleep (D) – Similar to interruptible sleep but Processes in this state are generally waiting for hardware or other low-level operations to complete.

1. Different User Mode in Linux OR below question
2. Two types of user mode or might be two types of modes in Linux.

**User mode** also known as User Space or Unprivileged Mode – Default mode for regular users.

**Superuser mode** or Root Mode or Privileged Mode – Special user account with unrestricted access.

**Kernel Mode:** or Privileged Kernel Mode – Most reserved mode for the Linux Kernel.

1. How to give permission of read and write to user
2. Two types of user mode or might be two types of modes in linux
3. Command Line in GUI Mode or might be command line and GUI mode
4. What is rescue mode
5. Shell vs Kernal

**Shell**: A shell in Linux OS takes input from users, process it and then gives the output

**Kernel**: Linux Kernel is the core or heart of the Linux OS which sits between the OS and Hardware and responsible for allocating machine resources including memory, disk space and CPU cycles to all other programs running on the computer.

1. Shell script to find max of 3 number

#!/bin/bash

# Function to find the maximum of three numbers

find\_max() {

if [ $1 -gt $2 ] && [ $1 -gt $3 ]; then

echo "The maximum number is: $1"

elif [ $2 -gt $1 ] && [ $2 -gt $3 ]; then

echo "The maximum number is: $2"

else

echo "The maximum number is: $3"

fi

}

# Usage: ./find\_max.sh num1 num2 num3

if [ $# -eq 3 ]; then

find\_max $1 $2 $3

else

echo "Please provide exactly three numbers as arguments."

fi

1. Basic components of linux

Kernel, Shell, Shell Scripts, File System, Processes, Users, Networking

1. Modes of vi editor

Command mode and insert mode. To switch to insert mode press ‘i’ and ‘Esc’ to exit from it.

1. Shell Scripting and its roles
2. Max Length of Kernal
3. Differenet Conditional Statements in Shell Script
4. Mount in Linux

Mount is a process of attaching file system to a specific directory

1. Use of grep command
2. Search <file name> which command we use?
3. Absolute vs relative address
4. PWD
5. CAT command
6. How to create a file in Linux
7. How to remove file and directories in Linux
8. Significance of swap space
9. Different compression file utilities
10. Difference between bash and borne
11. What is samba server and why do we use it?

Samba is open-source software suit that allows seamless file and printer sharing between different OS particularly between windows or Linux /UNIX OS.

We use it because it allows file and printer sharing between Heterogeneous network i.e. between different OS and it is also secure and cost effective.program to implement whether a number is positive or negative in Linux?

#!/bin/bash

# Read the number from the user

read -p "Enter a number: " num

# Check if the number is positive, negative, or zero

if [ $num -gt 0 ]; then

echo "The number is positive."

elif [ $num -lt 0 ]; then

echo "The number is negative."

else

echo "The number is zero."

fi