

What are the tasks performed by Linux

Process Scheduling

Memory management

Creation and termination of processes

Provides filesystem

Access to device such as mouse, monitors, keyboards etc

Provision of a system call API

Networking

What is Runlevel

Runlevel is a mode of operation in OS. It represents different system state of Linux.

When Linux system boots the kernel gets initialized and enters into one and only one RUN level.

When service starts it will try to start all the services that are associated with that runlevel.

In short run level defines what tasks to be accomplished in the current level.

Runlevel0 - System Shut down all running processes, unmount file system and powers off

Runlevel1 - Single user mode state where only single user can login into the system

It is also called rescue mode or trouble-shooting mode

Runlevel2 - Multiuser no network support

Runlevel3 - Non-Graphical text mode operations for server systems

Runlevel4 - Custom mode used by sysadmin

Runlevel5 - Graphical login with same usability of Run level 3

Runlevel6 - Reboot

What is /sbin/init

It is the first process started by Linux system after machine boot and the kernel loads into the memory.

It decides how a user process or a system service should load in what order and whether it should start automatically.

It is parent of all the process.

Chkconfig

How to change time zone?

date

sudo rm /etc/localtime

```
sudo ln -s /usr/share/zoneinfo/us/Pacific /etc/localtime
```

## AWS Interview Questions

### 1. Attaching AWS EBS volume to the instance

Increasing volume to a instance

1. Connect to instance using SSH

2. Use the lsblk command to view our available disk devices and their mount points

3. We need to create file system on the volume as the newly provisioned EBS volume is a raw block device.

Volumes used for snapshots already have the data

```
sudo file -s /dev/xvda1 # it will list down the file system type
```

4. Following command is used to create file system on the volume.

```
sudo mkfs -t ext4 /dev/xvdf
```

5. use the following command to create a mount point directory

```
sudo mkdir /vol
```

6. Use the following command to mount the location we just have created.

```
sudo mount /dev/xvdf /vol
```

7. We can check the new volume is mounted or not

```
lsblk
```

8. To mount this newly added EBS volume on every system reboot, We need to add the entry for device the /etc/fstab file.

I] Create a backup of our /etc/fstab file

```
sudo cp /etc/fstab /etc/fstab.orig
```

II] Open the /etc/fstab file and add a new line

```
device_name mount_point file_system_type fs_mntops
fs_freq fs_passno
dev/xvdf /vol ext4 defaults,nofail
0 2
```

III] Run the sudo mount -a command to mount all file systems in /etc/fstab.

IV] Let's check out disk space using df -h

9. Following is shell script to mount the new volume

```
#!/bin/bash
mkfs.ext4 /dev/xvdf
mkdir /vol
echo "/dev/xvdf /vol auto noatime 0 0" | sudo tee -a /etc/fstab
```

## AWS Cloud front

It is a Global CDN service that speeds up delivery of static and dynamic content to your end users.

It uses edge location to serve the content

Edge location - It cached the file nearer to user's physical location.

Cloudfront:

Edge location can be used for both downloading and uploading objects.

Set Objects TTL

Geo Restriction (whitelist or blacklist countries)

can invalidate cached objects (additional cost)

VPC and VPC Peering

CIDR:

Subnet:

Routetable:

Internet Gateway: Max 1 per VPC

Network Access Control List: (ACL) : Acts as firewall at subnet level

Security Group:

5 Pillars

## 1. Security

Design Principles

Apply Security at all layers

Enable Traceability

Automate response to security events

Focusing on Securing your system (Shared responsibility model)

Secure data, subnets and OS

Automate security best practices

Definition:

Security in the cloud consists of 4 areas

Data Protection

Privilege Management

Infrastructure Protection

Detective Controls

VPC Flow log is a way of tracking network traffic within VPC.

It can be collected at 3 levels

VPC

Subnet

Network Interface level

NAT vs Bastions

SOA

It stores name of the server who stores data about the zone

The administrator of the zone

The current version of data file

The number of seconds a secondary name server should wait before checking for updates.

The number of seconds a secondary name server should wait before

retrying a failed zone transfer

The maximum number of seconds a secondary name server can use data before it must be refreshed or expired

The default number of seconds for the time to live file on resource records

NS Records:

NS stands for name server records and used by top level domain servers to direct the traffic to the content DNS server which contains authoritative DNS records.

A Records:

To translate the name of the domain to IP address.

TTL

The length of the DNS record is cached on either resolving server or users own local pc is equal to the value of TTL in seconds.

The lower the value faster changes to DNS records takes to propagate through the internet.

Used in DNS Migration

drop the TTL of DNS record to 300 sec from 2 day

CNames (canonical names)

it is used to resolve one domain name to another

Alias Records:

Those are like CName records but CNAME can't be used for naked domain names

e.g. you can not have CNAME for <http://acloud.guru> it is either A record or Alias records

Alias resource records saves your time because Route 53 automatically recognizes changes in record sets

do not need to update the zone file.