**What could be the reason that you are not able to unmount file system?**

There are three reasons:

1. You can’t be on the same directory
2. Permission issue
3. Open files this means someone might be using the current file system

**Why is sar command used for?**

The sar command is a standard UNIX command used to gather statistical data about the system. With its numerous options, the sar command provides queuing, paging, TTY, and many other statistics. The sar -d option generates real-time disk I/O statistics.

SAR=System Activity reporter

Write a shell script to get argument from command line with options?

Echo “biken”

#!/bin/bash

Echo “first argument is : $1”

Echo “first argument is : $2”

Write a shell script to print CPU Utilization for n number of servers?

#!/bin/bash

Hosts=[host1, host2 ]

For I in hosts:

Do

Echo “ $top”

Done

1. If a server is not connecting how will you troubleshoot and what approach you will follow

==> ping the server fist if reachable login and check the ssh service if it's running or not

Where does dns cache located in linux?

ans: /var/cache/nsdc/hosts

\*\*swap memory in linux, projects worked on , explain CI/CD , docker, kubernetes

\* What is a swap memory and how can you create swap memory and see swap memory?

Ans: Swap space in Linux is an extension of physical RAM, offering virtual memory that helps maintain system stability and performance

swapon -s to see swap space

free -m this gives more detail

How to Increase/Decrease Swap Space

swapon --show

Before resizing, disable the swap space with the following syntax:

sudo swapoff -v /[swap\_path]

After resizing the swap partition, update the partition table using the following syntax:

sudo mkswap /[swap\_path]

sudo swapon /[swap\_path]

How to see the cpu info in linux?

lscpu

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see here for sre questions:

https://www.ambitionbox.com/interviews/signzy-technologies-interview-questions/site-reliability-engineer

What is the difference between SLA,SLI and SLO?

=> sla:An agreement between a company and its customers that defines measurable metrics like uptime, responsiveness, and responsibilities. SLAs are used externally to define the company's service. If the SLA is not met, the company may face a penalty, such as a partial refund or additional subscription time.

slo:An agreement within an SLA that defines a specific metric, such as uptime or response time. SLOs are individual promises made to customers and are measured internally to determine if the SLA is being met

SLI:A specific metric that measures some aspect of the level of service to customers. SLIs are a sub-section of SLOs and are key metrics used to determine if the SLO is being met. The value of the SLI must always meet or exceed the value determined by the SLO.

1. your Ec2 instance is runnning out of disk space what action you will take?

Ans: check the logs and rotate using roatare command in linux check the cpu utulization and memeory as well.

zip the logs using tar -czvf message.tar.zip files.

2. what is a bastion host or a gateway? and what role does it play?

ans:bastion server is a server which act as a door to the internal network and it provide an extra layer of security as well through which can manage all the user at one place

3.multiple ec2 instance are getting terminated in ASG and this is causing issue in application downtime. but there is no issue in ec2 pricing and all quota looks good.

Ans:there can be disk space issue,memory,process and there can not any issue with ASG and amazon service.

4.create a linux script that will automitically push certain logs to s3 bucket and also script should run at particular time.

ans:

5.Why is logging important? what is centralized logging and what tool helps us to achive the same.

ans: we can have logs in elastic search, s3 bucket, cloudwatch etc.

6. how can we list all the users in a group in linux.

Ans:we can use group groupname. or getent group groupname

7.To create a group in linux

Ans: sudo groupadd biken

8.To add user in a group

Ans: sudo usermod -aG group username

7.what is AWK command in linux? and how to use it?

ans: this is a powerrful textprocessing command in linux.

example:

$cat > employee.txt

ajay manager account 45000

sunil clerk account 25000

varun manager sales 50000

amit manager account 47000

tarun peon sales 15000

deepak clerk sales 23000

sunil peon sales 13000

satvik director purchase 80000

awk '/manager/ {print}' employee.txt This line will print only lines that have manager

url to know more: https://www.geeksforgeeks.org/awk-command-unixlinux-examples/

8.how to connect to ec2 instance if we lost the key?

Ans: https://stackoverflow.com/questions/49749794/recovering-lost-aws-ec2-key-pairs see here the multiple ways to do so

=> Yes. Snapshot the instance. Provision a new instance from the snapshot selecting a different key (keypair popup appears when you click launch at end of launch wizard)

9.What are the types of EBS we have?

Ans: general purpose gp3,gp2,Iops and magnetic types ebs we have.

10. Can we use one ebs volume by multiple instance?

ans: can shared by instances in the same AZ

10. What is the max iops we can get in aws ebs?

Ans: For standard volumes, the maximum size is 16 TiB. For Provisioned IOPS (IO1) and General Purpose (GP2) volumes, the maximum size is 64 TiB.

11.What is the difference between values and snapshots?

Ans: Value is the data of ec2 instance and snapshot is the the backup of the value. and it is layerby layer backup.

12. Can we attach snapshots with ec2 instance? if yes how and if no why?

Ans: You can't use snapshots to launch a new instance, but you can use them to replace volumes on an existing instance.

13.What is the difference between ebs efs and s3 storage?

Ans: https://www.google.com/search?q=What+is+the+difference+between+ebs+efs+and+s3+storage&rlz=1C1GCEA\_enIN902IN902&oq=What+is+the+difference+between+ebs+efs+and+s3+storage&gs\_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigAdIBBzkxOGowajeoAgCwAgA&sourceid=chrome&ie=UTF-8

\*\* Can we launch an instance using efs in aws?

Ans: Yes, you can use Amazon Elastic File System (EFS) to launch an Amazon EC2 instance by creating an EFS file system and mounting it to the instance during launch using the Amazon EFS Quick Create feature. EFS is a serverless, shared file system that can be mounted to multiple EC2 instances and is designed to be a durable and highly available file storage solution

14.Give me some example where vertical scaling is apporopriate then horizantal scaling.

Ans: When you have a small, predictable workload, When you need to quickly improve performance:

15.Name three aws services where we can run kubernetes.

Ans: EKS,ECS and EKS anywere.

16.What are cloud computing deployment models?

Ans: Cloud computing deployment models are the different ways that cloud computing resources can be delivered to and used by customers. There are four main deployment models:

public,private,cumminity,hybrid

17.What is a shared responsible model?

Ans:In cloud computing, a shared responsibility model is a security framework that outlines the security responsibilities of both the cloud provider and the cloud customer. The model is based on the principle that both parties have shared responsibility for securing the cloud environment.

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ans: we can have logs in elastic search, s3 bucket, cloudwatch etc.

6.What is the difference between sepcial permission and access control list(ACL)?

Ans: special permission is like SUID,GUID and Sticky bit:

soS, 4,2,1 t or T for sticky bit.

ACL is more like a redefine or fine-granied level of permission access for a file or a directory and this is applicabel at user or group level and to make this applicable we need to have ACL enable at partition level.

like getfacl and setfacl.

7.what is the difference between s and S in special permission?

ans: s(lowercase) when s appears in the execute permission field. it indicates that the set user ID(suid) or set group(SGID) permission is set. The SUID permission allows a user to execute a file with the permissions of the files owner.likewise the SGID permission allows a user to exeucte a file witht he permisison of the files' group.

example: rwsr-xr-x indicates that the SUID bit is set for the owner.

S(uppercase): when 'S' appears in the execute permission filed. it indicates that the corresponding execute permission is not set and the SUID or SGID permission is not active.

example rw-rw-r would be rwSr-Sr-- if the SUID bit is set for the owner but execute permission is not set.

8.What is the difference between t and T?

Ans: When t appears in the excute permission field for others on a directory. it indicates that the sticky bit is set. The sticky bit on directory is a permission that restricts the deletion of files within the directory to only the file's owner, the directorys owner or the root user.

example: drwxr-xr indicates that the sticky bit is set for others.

same as capital S set but not given execute permission.

9.what is suid ?can you give me an example? how to set suid?

ans:Change user UID on execution. if SETUID bit is set when the file will be executed by a normal user, the process will have same rights as the owner of the file being executed. BAsically the owner of the command will be root user but still normal user can execute it.

example: ls -l/bin/ping

chmod u-s /bin/ping

chmod 4766 /bin/ping

10.what is sgid ?can you give me an example? how to set sgid?

ans: SGID -- Set the group ID used on executable files to allow the file to be run as if logged into group (like suid but used file grp permission)

ans: mkdir /amazon

chgrp biken amazon

ls -ld amazon

chmod 2766 amazon

cd /amazon

touch vpc

ls -l

example: chgrp lambda amazon // changing the group of the dir amazon

chmod 2766 amazon // setting the sgid for the dir amazon

and if you create any file under amazon it will take group as lambda.

11. what is stickybit ?can you give me an example? how to set stickybit?

Ans: Sticky bit is a special file or directory permission and only the owner or root user can delete that file or directory.

Example: mkdir compute

chmod 1766 compute

touch ec2.txt

ls -ld compute

su - splunk

cd compute

rem ec2.txt

12.How to enable ACL on a partition?

Ans: mount -o acl /dev/sdb1 /youtube

getfacl to check the acl is applied in a directory or not

13.how to apply and Acl on a file or a directory?

Ans: setfacl option argument file or dir

setfacl -m u:manish:rx /dir

how will you change default user id value in linux?

ans: useradd biken -- to add user in linux, and to change the id range we have to edit the file /etc/login.defs

2.root# rm -rf /tmp/test gives error operation not permitted. Reason?

ans: touch /tmp/test

chratter +i /tmp/test---this character attrbute ensure that file or folder would not be deleted even by the root user.

3./etc/hosts/ which RPM is responsible for creating this file.

ans:we check using rpm -qf /etc/hosts files which are owned by this packages can be cheked using above command.

4.what is the difference betwwen RPM and YUM?

ans:both are use to manage software in centos/redhat.

to check the dependency we can use rpm -qPR hpptd.6.6.7.rpm

rmp -ivh httpd.1.23.rpm

RPM and YUM are both package managers for Linux systems, but they differ in their approach to package management. RPM is the low-level package manager

responsible for installing, updating, and removing individual RPM packages. YUM, on the other hand, is a higher-level package manager that builds on top of RPM and adds features like automatic dependency resolution and repository management.

Essentially, YUM uses RPM to manage packages,but provides a more user-friendly interface and handles dependencies automatically

5. what is the difference between hardlink and softlink.

A Hard link acts as a copy (mirrored) of the selected file. It accesses the data available in the original file. If the earlier selected file is deleted, the hard link to the file will still contain the data of that file.

Ans:ln /tmp/test /etc/biken

ll -i /etc/biken ---- the inode value remains the same in the case of harlink.

ln -s /tmp/test /mnt/biken

ll -i /mnt/biken

rm /tmp/test in this case link will be broken.

A soft link (also known as a Symbolic link) acts as a pointer or a reference to the file name. It does not access the data available in the original file. If the earlier file is deleted, the soft link will be pointing to a file that does not exist anymore.

ln -s /etc/biken

What is inode(Index node)?

An inode (index node) is a data structure that stores information about a file or directory in a file system

If inode are full we can't create files or directoris and to check df -i

What is the issue if i am unable to unmount a filesystem:

it could be because of active process useing it.

difference between yum and dnf?

dnf is more updated and latest and yum is also updated but dnf is faster for complex system

why do we do patching?

it's for compliane and security and important for auditing

What is the difference between nfs and samba?

In Linux, "NFS" stands for Network File System, a native protocol primarily used for file sharing between Unix-like systems,

while "Samba" is a software suite that enables Linux machines to access and share files with Windows systems by implementing the SMB (Server Message Block) protocol, essentially acting as a bridge between the two platforms; meaning NFS is better for pure Linux environments, while Samba is ideal for mixed Linux-Windows networks.

What is Dns and which daemon is responsible to run dns service?

it is use to translate the human readable text to machine code and serach for ip address by translating the domain.

6.what is a sticky bit in linux?

Ans:sticky bit is implemtmed to prevent deletion of any folder and this is only applicable to folder level not in file level.

chmod +t dir or chmod 1777 dir

7.how you will check open ports in linux server?

ans:netstat -tunlp

8.how you will check open ports in remote server without login.

Ans: we can use command line utility to check the remote open port. nmap -A server-name/hostip and nmap is use to scan the open ports as well

sudo nmap -sT -p- 10.10.8.8 This is to scan tcp port and for udp sudo nmap -sU -p- 10.10.8.8

9.your site is throwing 500 error how you will start troubleshooting?

ans:datbase is not responding.

10.how you will start troubleshooting if the site is down?

Ans:depending on the erro code we have to start.

11.how will you create a disk space if it is 100% occupied?

ans:we can use df -HT and go inside the directory and use du -sh \*.

12.what is sar command in linux and do you and what is the package of sar?

ans;sar command can be used to see the info of the systme and it's stastical data.

we have to install utility/package to see it yum sysstat. and after that restrt and check.

sar -q.

The sar command is a standard UNIX command used to gather statistical data about the system. With its numerous options, the sar command provides queuing, paging, TTY, and many other statistics. The sar -d option generates real-time disk I/O statistics.

useradd admin

git clone giturl.

git checkout giturl

add a text file.

git add textfile

git commit -m "add textfile"

git checkout giturl

git cherry-pickt id

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how do you see logs for deployment ###

kubectl logs deployment biken

can we add multiple load balancer in route 53

yes we can add but based on situation if conditions satisfied

==========================================

shell scripting part1: done with basic

shell scripting part2:

df -ht

free-- to check memory info

nproc

let's write a shell script to get the node/cpu info of a machine.

#!/bin/bash

###############################

#Author: Biken

#Date: 08/14/2023

# This script output the health of a node.

set -x #debug mode

df -h

free -g

nproc

to get the list of running process-> ps -ef, ps -ef | grep "amazon", this is to get the list of process

date | echo "This is today date"

this does not give the time because this date command belongs to stdin not to stdout or stderr

awk command: know little bit about it and the usecase.

ps -ef | grep amazon | awk -F "" '${print $2}'

set -e: exit the script when there is an error.

set-o pipefail: when pipe command fail then we can error out as well.

curl command: is use to retrieve the info fromthe internet example of getting the log file.

curl https:\\biken.com | grep error.

wget actually downloads the files. whereas curl command will look for and error

find /etc -name biken.txt // this is the format of using find command

let's write a simple if ifelse for loop in linux.

a=10

b=20

if [ $a gt $b ]

then

echo "bbbbbbb"

else

echo "bbbbbbbb"

fi

for loop

for i in {1...200}; do echo $1; done

trap command:know more on this

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shell scripting interview questions.

write a simple shell script to list all the processes

#!/bin/bash

ps -ef | awk -F " " '{print $2}'

write a shell script to print only error log from remote

curl google.com | grep error

for i in {1...100}; do

if ([`expr $i % 3` == 0 ] || [`expr $i % 5` == 0 ]) && [`expr $i % 15` !=0 ];

then

echo $i

fi;

done

write a shell script to print "S" in missisipi

x=biken

grep -o "b" <<<"$x" | wc -l

what is crontab in linux and give one example?

how do you open a file in read only mode?

vi -r biken.txt

what is the dfference between soft and hard link?

what is the difference between break and continue in a loop?

what is the method you use to sort files in linux?

sort command

how you will manage huge logs in linux when you have multiple apps?

logrotate

Write a script to report the usage of AWS project?

configure aws account with awscli using aws configure

if you want to check aws cli command realted go to aws reference page.

#!/bin/bash

##############################

#Author: Biken

#Date:08-15th-2023 8730830223

#Version: V1

#This script will send the report to a user

#################################

#AWS S3

#Aws ec2

#aws lambda

#aws Iam

###############################

integrate with a cron tab the same above script.

================================================

Github API integration using shell script.

go through it and try to do it.

================================================

Ultimate shell script project used by Netflix Live Demo AWS Real-time project.

================================================

Permision:

who assign default permission to files and directories in linux?

What is Umask in Linux? Umask (short for user file-creation mode mask) is used by UNIX-based systems to set default permissions for newly created files and directories

linux reboot process step by step:

1. Step1: Power On and POST: When you power on your machine, it performs a Power-On Self-Test (POST) to ensure all hardware necessary for the system to operate is functioning correctly.

2.BIOS/UEFI: The BIOS/UEFI (Basic Input/Output System or Unified Extensible Firmware Interface) is then loaded. This low-level software checks the hardware and then scans the system's storage devices for bootable media.

3.MBR and GRUB: Once a bootable device (like your hard drive) is found, it reads the first 512 bytes known as the Master Boot Record (MBR) or, in newer systems, it uses the GUID Partition Table (GPT). The MBR/GPT contains the bootloader (often GRUB in Linux systems), which is then executed.

4.Kernel Loading: The GRUB menu allows you to select an operating system (in a dual boot scenario) or different kernel versions. GRUB/GRUB2 then loads the selected Linux kernel into memory.

5.Initramfs: The bootloader also loads a special filesystem called the initramfs (Initial RAM FileSystem) into memory alongside the kernel. This temporary root filesystem includes the drivers and tools needed to mount the actual root filesystem.

6.Kernel Initialization: Once loaded, the kernel decompresses and initializes itself, sets up system functions (like hardware interfaces, memory management, process control, etc.), and then extracts the initramfs archive in memory.

7.Switch Root: The kernel then executes the /init program located in the initramfs, which continues the boot process, typically by locating and mounting the actual root filesystem. The kernel then 'switches' from the initramfs to the newly mounted root filesystem.

8.Init and Runlevel/Targets: After the root filesystem is mounted, the kernel starts the first process init (or systemd in most modern systems). This process continues the boot process by moving the system into a specific runlevel, which dictates what processes or services to start.

9.User-Space: Init or systemd starts the necessary user-space processes according to the chosen runlevel.

10.Login: Finally, a login prompt or graphical user interface (GUI) appears, and the system is ready for user interaction.

# Get the list of all running containers

CONTAINERS=$(docker ps -a)

# Loop through the list of containers

for CONTAINER in $CONTAINERS; do

# Get the name of the container

NAME=$(echo $CONTAINER | awk '{print $1}')

# Get the status of the container

STATUS=$(docker inspect --format='{{.State.Running}}' $CONTAINER)

# Check if the container is running

if [ "$STATUS" = "true" ]; then

echo "$NAME is running"

else

echo "$NAME is not running"

fi

done