**AWS:**

1) What are all the AWS services that you worked on.

Ans. I have experience in EC2, S3, VPC, Route53, ELB, AutoScaling, RDS, Lambda,

In my company we are using cloud provider aws and iac tool(infrastructure as code) as terraform. i created terraform script in hashicorp language to create resources from scratch using service for target architecture . I mostly worked on services like compute {1.EC2: It stands for elastic compute cloud,used to create virtual machines in the aws , used as server for hosting websites and server management such as storage , ports and security. 2. AMAZON RELATION DATABASE: used to create dedicated database instances. i create multiple database engines like mysql,postgresql etc 3.AMAZON SIMPLE STORAGE S3: used as file storage service and has has zero latency 4.AMAZON VPC: used to isolate infra from exposure and provide information to authorized systems and individuals 5. AMAZON SIMPLE NOTIFICATION SERVICE SNS: can send notification to user and flexible to integrate with node.js and python. 6. AWS AUTO SCALING : free service to scale ur infrastructure automatically 7. IDENTITY AND ACCESS MANAGEMENT(IAM): created user and group with user and group permissions for access of aws resources etc and used many other services depending on project requirement.

**EC2:**

2) Limit to attach certificates to alb?

3) Preference b/w alb, nlb, clb, glb?

4) Lose access to SSH in EC2 instance. What to do?

5) If you are unable to login to ec2 after restart also, what you will do?

6) Difference b/w ebs & efs and in which cases you will use?

7) How do you upgrade or downgrade a system with near-zero downtime?

8) How will you increase the ebs volume attached to linux server?

9) what is the backup strategy of ec2 instances?

10) how will you use the one loadbalancere for applications running in multiple instances?

11) Installed jenkins in ec2, able to access it inside the server, but not outside of server?

12) What are the benefits of using Amazon EC2 Auto Scaling, where you implemented in your organization?

13) what is a launch configuration?

14) when the scaling starts that you configured?

15) what is the use of different instance types?

16) Difference of internal and internet loadbalancer

17) How will you monitor the memory of ec2?

**S3:**

1) Define all types of Storage Classes in AWS S3?

Ans: All types of storage classes are

1.Standard S3 archiving class: Without targeted archiving instructions inside for an indefinite period of time for the future upload, S3 cutting-edge day storage will be the default storage class.

2.S3 Standard Storage Class for Infrequent Access: When we need to get proper access to three records, a wonderful deal masses lots much less often but swiftly and now not the usage of a delay, we are able to use the identical antique storage beauty for infrequent get proper of access to.

3.S3 Reduced Redundancy Storage Class: Redundancy helios for duplicating records if reduced ranges of redundancy. This is a great exchange for state-of-the-art S3 daily storage due to a particular reason.

4.S3 Glacier Storage Class: The S3 glacier storage works right for low-charge data records. As per present business demand, S3 is coming up with data sovereignty.

2) How you configure static website securely?

Ans: aws s3 stands for simple storage service

\* To configure securely static website create a s3 vpc endpoint

1. On the left-hand menu, navigate to the “Endpoints” page.

2.Select “Create Endpoint”.

3.Search for “s3” in the Service List, and select the Amazon S3 Interface Endpoint service.

4.Select the VPC which contains your private inbound connection, and at least two subnets to which the endpoint will belong

5.Select the security group that you would like to protect the VPC Endpoint. This security group must allow access on port 443 from the security group for your ALB at minimum

6.Select “Full Access” for the VPC Endpoint policy.

7.Select “Create endpoint”.

8.Select your new VPC Endpoint ID to navigate to the new VPC Endpoint.

9.On the bottom tabs, go to “Subnets”.

10.Note the IPv4 Addresses of your VPC Endpoint, as you’ll need them later!

\* create a s3 bucket on aws .After creating the bucket ,we will upload the website contents and files in ur bucket

\* Click on Create Bucket at the right corner of the s3 console ,give s3 bucket name ,region , configure bucket security and privacy setting ,to provide access

untick block access

\* Add bucket policy by moving to s3 bucket and go to permissions tab scroll down to BucketPolicy and select Edit

\* Add your policy based on the provided documentation. For convenience, you can also use this provided policy to make sure that only your VPC Endpoint is explicitly allowed

\* Configure an index document and error document

\* In the Buckets list, choose the name of the bucket that you want to use to host a static website.

Enable static website hosting for your bucket, and enter the exact name of your index document (for example, index.html).

\* Upload other website content to your bucket.

\* Test ur website content use vpc end points to acccess securely

3) What kind of data you store in Amazon S3?

Ans: Amazon S3 (Simple Storage Service) is a highly scalable, secure, and durable object storage service provided by Amazon Web Services (AWS). S3 is designed to store and retrieve any amount of data from anywhere on the internet.

S3 can store a wide variety of data types, including:

\* Text and binary data: This includes documents, images, videos, audio files, and any other type of digital file.

\* Databases: S3 can store structured and unstructured data, including SQL and NoSQL databases.

\* Logs: S3 is commonly used to store log data generated by servers, applications, and devices.

\* Backup and archival data: S3 is an excellent choice for long-term storage of data backups and archives.

\* Machine learning data: S3 is often used to store large datasets used for machine learning and data analytics.

\* Static website data: S3 can host static websites, allowing users to store HTML, CSS, and JavaScript files.

\* Mobile and IoT data: S3 is often used to store data generated by mobile applications and IoT devices.

In summary, S3 can store virtually any type of digital data and is designed to be flexible enough to support a wide range of use cases.

4) How much big size file can you put in s3?

Ans: Amazon S3 objects can range in size from a minimum of 0 bytes to a maximum of 5 TB .The maximum size of file is 5tb

5) What is the use of s3 versioning?

Ans: S3 Versioning helps to keep multiple variants of an object in the same bucket and can be used to preserve, retrieve, and restore every version of every object stored in the S3 bucket.

\* Buckets can be in one of the three states

Unversioned (the default)

Versioning-enabled

Versioning-suspended

\* S3 Object Versioning is not enabled by default and has to be explicitly enabled for each bucket.

=> Versioning once enabled, cannot be disabled and can only be suspended

=> Versioning enabled on a bucket applies to all the objects within the bucket

=> Permissions are set at the version level. Each version has its own object owner; an AWS account that creates the object version is the owner. So, you can set different permissions for different versions of the same object

\* As Versioning maintains multiple copies of the same objects as a whole

\* for e.g. for a 1GB file with 5 copies with minor differences would consume 5GB of S3 storage space and you would be charged for the same.

**CloudFront:**

1) What is the use of cloudfront and where you used?

Ans: Amazon CloudFront is a web service that speeds up distribution of your static and dynamic web content, such as .html, .css, .js, and image files, to your users.

\* If the content is already in the edge location with the lowest latency, CloudFront delivers it immediately.

\* If the content is not in that edge location, CloudFront retrieves it from an origin that you've defined—such as an Amazon S3 bucket

IN our company with out cloudfront our users are facing userexperience issue due to delay as our server is placed in us and we have users from singapore , india etc .As usa user having good experience but due to geographical restrictions remaining users facing delay. to solve this we developed cloud front infrastructure were cache from s3 bucket stored in edge locations and when access by user we have less delay .

2) How will you clear the cloudfront cache?

Ans: CloudFront is an popular caching and content delivery network service provided by the Amazon Web Services. remove cloudfront cache using AWS CLI or management console. Use one of the blelow methods to create CloudFront invalidations and remove object from cache

\* remove specific files from cache

=> aws cloudfront create-invalidation \

--distribution-id EXSE2W0DCDBPB \

--paths "/path/to/example-file.css" "/path/to/example-file-2.jpg"

\* remove all content from a specific directory

=> aws cloudfront create-invalidation \

--distribution-id EXSE2W0DCDBPB \

--paths "/static/content/\*"

\* remove all objects stored in cache

=> aws cloudfront create-invalidation \

--distribution-id EXSE2W0DCDBPB \

--paths "/\*"

# using management console

=> Click on CloudFront ID from list to open its configuration

. Open “Invalidations” tab

. Click on “Create Invalidation” button

. Enter file names with full paths to remove from cache. You can also use “\*” as wildcard names.

. To clear all cache use “/\*“. Then click Invalidate button.

Wait for the invalidation process completed

. Cloudfront Invalidation Status

. All done

**CloudWatch:**

1) What are all you monitored using Cloudwatch?

2) difference of cloudwatch and cloudtrail?

Ans: 1.cloudwatch is a monitoring service for aws resources and applicationsand cloud trail is a web service that records api activity in your aws account

2. cloudwatch monitors applications and infrastructure performance in the aws environment.cloud trail monitors actions in aws environment

3.cloudwatch delivers metrics data in 5min or 1 min periods for essential monitoring .cloud trail delivers an event with in 15min of api call

3) What is the use of event rules?

Ans: CLOUD WATCH events and Targets:CloudWatch Events to describe changes in AWS resources.CloudWatch Event responds by triggering actions such as sending messages

A Rule evaluates events based on preset thresholds and sends them to Targets for further processing. Targets can be of different types:

\* Amazon EC2 instances

\* Amazon SNS topics

\* Amazon SQS queues

**IAM:**

1) What are iam policies and what are all policies you wrote in the organization?

Ans: aws iam centralized access manager for aws

aws Iam manages permissions required to access the aws services and resource using policies . we create users,groups,policies in aws iam S3,Ec2, IAm mfa etc

2) Write a sample iam policy?

Ans: create a policy to attachor detach volume to Ec2 instance

{

"Version": "2012-10-17",

"Statement": [

{

"Effect": "Allow",

"Action": [

"ec2:AttachVolume",

"ec2:DetachVolume"

],

"Resource": [

"arn:aws:ec2:\*:\*:volume/\*",

"arn:aws:ec2:\*:\*:instance/\*"

],

"Condition": {

"ArnEquals": {"ec2:SourceInstanceARN": "arn:aws:ec2:\*:\*:instance/instance-id"}

}

}

]

}

3) What is the use of MFA?

Ans: MFA adds extra security because it requires users to provide unique authentication from an AWS supported MFA mechanism in addition to their regular sign-in credentials when they access AWS websites or services:

FIDO security key – FIDO Certified hardware security keys are provided by third-party providers.

Virtual MFA devices – A virtual authenticator application that runs on a phone or other device and emulates a physical device.

Hardware TOTP token – A hardware device that generates a six-digit numeric code based on the time-based one-time password (TOTP) algorithm.

**Route53:**

1) Difference b/w public and private hosted zone?

Ans: \* A hosted zone has the same name as the primary domain and can be either a public or private hosted zone

\* A public hosted zone describes how you want to route traffic for the domain in the public internet while a private hosted zone defines how you want to route traffic in a private AWS VPC.

\* To create a public hosted zone, open up the Route 53 dashboard from your AWS management console. You can then enter the domain name which becomes the name of the hosted zone

\* Creating a private zone select the private hosted zone radio button, a new dialogue appears where you can select the VPC or VPC’s you want to route traffic to when someone enters the domain url.

2) What are the different record types you used in your organization?

Ans types of dns record types used in my organization

\* A=domain name to Ipv4 address (domain.com>>32.23.11.22)

\* AAAA= domain name to IPv6 address (domain.com >> 2001:defa:0001)

\* CNAME= Points domain to Another Domain

\* NS = nameserver

\* SOA= state of authority

\* MX= specifies mail servers

\* TXT= Used to specify Email Senders and Application Specific Values

\* PTR= Points IP to Domain name

\* SPF= Sender policy Framework

\* NAPRT= Name Authority Pointer

=> NS and SOA are dafault types we get when we host

\* create a route53 hosted zone and add record type

3) What are the different Routing policies?

Ans: ROUTE 53 ROUTING POLICIES

\* When you create a record that tells Route 53 how to respond to DNS queries.

we have

=> Simple Routing Policy

This is used for a single resource like a web server.

=> Failover Routing

This policy will route traffic to a healthy resource, but will swap out to a nominated alternative endpoint should the primary resource become unavailable or unhealthy.

=> Geolocation Routing

When you want to tailor your content to a geographic location, or restrict content to specific locations you can use geolocation routing to achieve this.

=>Geoproximity Routing

This lets you route traffic using Route53 traffic flow. Using either AWS region or latitude/longitude you can send traffic to the nearest resource endpoint

=> Latency-based Routing

If your application is hosted in multiple AWS Regions, you can improve performance for your users by serving requests from the AWS Region that provides the lowest latency.

=> Multi-Value Answer Routing

With this policy you provide a number of values, like IP addresses for web servers to be used in response to DNS queries.so it always has a pool of healthy resource to share traffic amongst to improve latency, availability and a form of simple load balancing.

=> Weighted Routing

This policy allows you to define multiple endpoints associated with the same domain name endpoint. It then allows you to specify what percentage of traffic is routed to each endpoint

**VPC:**

1) Diffrence b/w security group and ACL?

Ans: The Security groups are tied to an instance.

Network ACLs are tied to the subnet.

\* Any changes applied to an incoming rule will be automatically applied to the outgoing rule in security groups.

\* In network ACL any changes applied to an incoming rule will not be applied to the outgoing rule.

2) What is the use of VPN and how you are using in your organization?

Ans: In our organization we used vpn for its privacy(vpn uses encryptionto keep confidential information private),security(prevent from unauthorized access),Anonymity(hides ur ip address to remain anonymous on internet

\* it creates secure link between vpc and on premises database after vpn setup u can access all the vpc resources using private ip.

\* now create vpc with cidr block provided by on premises network guy no other machine will use

\* after vpc create vpn by creating customer gateway by giving staticor dynamic routing and add ip provided after the creation start creating virtual private gateway attach it to vpc

\* click on vpn connection by providing virtual private gateway , customer gateway, routing options

\* after vpn creation download configuration based on customer gateway depending on router

\* after download u will have public ip and key set it on onpremises to complete vpn setup

3) Use of subnet, route table, natgateway?

Ans: A subnet is essentially a range of IP(v4 and v6) addresses.

\* we can assign ip address to resources (ec2 instance, nat gateway). a subnet live in single availability zone . A availability zone have multiple subnets

\* each subnet assigned with route table(set of rules allowed for outbound traffic)

\* In subnet we have public(access the internet),private( cannot access the internet),vpc only subnet( traffic routed site to site vpn connection through virtual private gateway.

\* we can assign security group or acl to assign them to subnet to control traffic

ROUTE TABLE:

\* Route tables are essentially a set of rules. These rules help us determine where to direct the network traffic from a subnet or gateway.

\* The route table will specify a range of destinations and target IP addresses

\* A route table can also be assigned to a gateway such as an internet or virtual private gateway. The route table can help us control the traffic entering the VPC.

= For instance, we can have a route table:

Destination: 10.0.0.0/16 Target: local

This entry allows instances within a VPC to communicate with each other.

Destination: 0.0.0.0/0 Target: nat-id

This entry sends all other subnet traffic to a NAT gateway with the specified ID.

NAT gateway

A NAT gateway is an AWS-managed service.

It enables resources within a private subnet such as an EC2 instance to access the internet. Hence it allows resources to send outbound traffic to the internet.

**Git:**

1) what things to setup if want to clone repo in local?

Ans: Git is distributed version control system . In our project as code management tool we used git .with git every developer as complete copy of code with history of changes made to code . to clone a repo from github first install git in ur local machine and add command git init to initialize git repo . use git config to add username and email .now clone repo with command git clone repo url. if public it starts immediately for private give credentials for start the git cloning

2) difference b/w git reset, revert, rebase?

Ans: Git reset is a git command to undo the changes.Git reset we have 3 modes soft,mixed,hard. In reset workflow we have working directory, staging index ,head

. working directory where ur files are present

. staging area where git tracks and saves all changes in the files. saved in .git directory

. The current branch in git is referred as HEAD

HARD RESET used to go to pointed commit ,working directory with files and staging area reset .

SOFT RESET points to commit. files of all commits remain in working directory and staging area

MIXED RESET: pointer and staging area get reset

Git revert: is used to revert some changes . It is similar to git reset command but only difference is that u perform new commit

Git rebase: is moving or combining commits of one branch over another branch . consider u have master branch and feature branch A rebase will take all my commits from the feature branch and move them on top of the master branch commits. So, behind the scenes, git is duplicating the feature branch commits on the master branch.

3) How to delete local branch and remote branch in git ?

Ans: . Use git commands for local branch1. git branch -a 2. git branch --delete branchname or git branch -d branchname

. Use git command for remote branch after removal of branch in above command it is in github we use git push origin -d branchname

4) Difference2 between git diff and git status ?

Ans: The git diff command gives more detailed information about the status of your files. “Diff” itself stands for difference, and git diff gives you the exact changes in your files

. The git diff command tells you the exact changes made in the files along with some other meta information like content change

. The git status command is extremely helpful to understand what files have changed.

5) what is the git flow that you are following in your organization?

Ans: In our organization the git flow is like this we create seperate master branch and different branches for developers . we have environements liks development, pre-prod,prod, uit,sit . In all environment we follow same procedure as developer develop the code and push to branch the manager will check the code and merge into master branch and it continious

6) what is git cherry pick?

Ans: git cherry pick is command allows you to apply a commit from one branch to another branch .it is useful when you want to selectively apply commit to branch

Commands:

\* git checkout <target-branch>

\* git cherry-pick <commit>

7) can we switch the branch once committed and what happens

Ans: yes ,we switch the branch using git switch existing branch

8) git squash

Ans: Git squash is used to squash the previous commits into one. It is not a command; instead, it is a keyword. You can merge several commits into a single commit with the compelling interactive rebase command.

9) what contains .git , who creates it and when

Ans: In our machine install git using yum or apt package repository. after install run git init in repo to create .git .it stores all the file changes

**Linux:**

1) How will you connect from one linux server to another without authentication?

Ans: wihtout key authentication we use ssh key-gen and ssh-copy- id to connect to linux server

2) On which linux flavours you worked on and their versions?

Ans: In our company we mostlyworked on linux server .i worked on linux flavour like ubuntu= version 20.04, cent os= version 8

3) Have you upgraded he OS version?

ans: yes we upgraded as once stable version release available if not we use old version

4) study on grep, sed, awk, find cmds?

Ans: grep stands for global search for regular expression and print out

\* grep [options] pattern [files]

Searching for string

. grep -r "string-name" \*

ignoring Case sensiive

. grep -i "linux" welcome.txt

SED:

\* SED is a powerful text stream editor. Can do insertion, deletion, search and replace(substitution).

SED command in unix supports regular expression which allows it perform complex pattern matching.

. Replacing substituting string sed 's/unix/linux/' geekfile.txt

. Replacing all the occurrence of the pattern in a line: sed 's/unix/linux/g' file.txt

AWK :

The awk command is used for text processing in Linux. Although, the sed command is also used for text processing, but it has some limitations, so the awk command becomes a handy option for text processing. It provides powerful control to the data.

\* awk '{print}' student.txt

5) list the top consuming files in a disk?

Ans: du -a /home | sort -n -r | head -n 5

du command: Estimate file space usage.

a : Displays all files and folders.

sort command : Sort lines of text files.

-n : Compare according to string numerical value.

-r : Reverse the result of comparisons.

head : Output the first part of files.

-n : Print the first ‘n’ lines.

6) how will you connect private linux server in your organization?

Ans: In our organizatin we have linux servers we use ssh username@ip and provide password. for next time use ssh-keygen and ssh-copyid

7) how will you provide sudo access to user?

Ans: Giving full sudo access to user

\* Editing the sudoers file and add

<user> ALL=(ALL) ALL

\* Add user to sudo group

sudo usermod -aG sudo <user>

8) how will you monitor the load in linux server?

Ans : To monitor load in linux server we use load average .load average of metrics used to linux users to keep track of resources

\* uptime and top command to to check load in linux server

9) use of ping, telnet, traceroute, nslookup commands?

Ans: \* ping (Packet Internet Groper) command is used to check the network connectivity between host and server/host.

=> ping ww.google.com

\* telnet : Telnet is an old network protocol that is used to connect to remote systems over a TCP/IP network.It allows us to administrate other systems by the terminal.

=> telnet localhost

\* trace route : traceroute command in Linux prints the route that a packet takes to reach the host.

=>syntax : traceroute [options] host\_Address [pathlength]

\* NSLOOKUP : Nslookup (stands for “Name Server Lookup”) is a useful command for getting information from the DNS server. It is a network administration tool for querying the Domain Name System (DNS) to obtain domain name or IP address mapping

syntax:

nslookup [option]