**What is terraform? Why do we need it?**

terrarium is IAC tool used to launch infrastructure in providers like aws,azure by writing in declarative configuration language known as HashiCorp. helps in having control over complete orchestration/architecture for the services or resources provided using terraform. can be shared, versionized, locked particular config template

**What is remote state?**

* By default, terraform uses local backend. that is, root module as remote state
* With remote state, terraform writes the state data to a remote location which can then be shared between all the members of a team.
* we generally use s3 as backend for terraform state file.

**Terraform init explain?**

Initialise, provider plugin, backend, child module

**How to find empty files?**

find -type f -empty

**What is -type f?**

It searches only for files in

**Top 10 services using maximum memory?**

TOP Command

**Git Cherrypick?**

to merge specific commit id with another specific commit id

applying some commit from one branch into another branch

git cherry\_pick <commit\_id1> <commit\_id2>

**Git Branch?**

To list all the branches

**Can we create more than 200 subnets?**

Yes, you can but, you need to submit your case to aws support

**Difference between alias and environmental variable?**

alias holds a reference to a command and an environment variable just withholds data.

environment variables are just like variables in programming languages, simply keywords that store data

**How to make a file executable?**

We add executable permission (x) to the file

Rwxrwxrwx---owner,group,others---777---(4+2+1)(4+2+1)(4+2+1)

chmod u+x <file\_name> --> To give the owner execute permission

**What is bashrc? where is it present?**

The file . bashrc, located **in your home directory**, is read-in and executed whenever a bash script or bash shell is started.

**Git vs Github?**

Git is a s/w, command line, installed locally on systemand a version control system to manage source code history.

Github is service, gui, hosted on web and acts as hosting service for Git repositories.

**What is aws?**

it is an evolving cloud platform offering various services (iaas, paas, saas) like servers, storage, networking, remote computing, email, mobile development, and security.

**What is user defined data in instance?**

While launching an instance, user has the optionof passing user data to the instance that can be used to perform common automated configuration tasks and even run scripts after the instance starts. You can pass two types of user data to Amazon EC2: shell scripts and cloud-init directives.

**Explain terraforn lifecycle?**

* Init: initialise backend, provider plugin, child module
* Plan: create execution plan. changes match your expectations
* Apply: applying changes to infra
* Destroy: destroy the terraform managed infra

**What is created when terraform apply is execute?**

.tfsate (json format) is created when apply s executed along with services/resources launched in infrastructure

**What is terraform taint?**

Mark a terraform managed resource a s tainted manually. When a a resource is marked tainted, it will be destroyed and recreated on next terraform apply

terraform taint <resource\_type>.<resource\_name> 🡪 to taint a resource

terraform untaint <resource\_type>.<resource\_name> 🡪 to untaint a resource

**Can we mange aws created using terraform?**

Terraform is able to import existing infrastructure. This allows you take resources you've created by some other means and bring it under Terraform management.

**What is the branching strategy we use?**

**Write a shell script to start and stop a instance at 9 in the morning and 9 in night?**

nano /root/ec2instance\_start.sh

#! /bin/bash

aws ec2 start-instances --instance-ids i-f0c3678r3dba65876

chmod +x /root/ec2instance\_start.sh

crontab -e

00 9 \* \* \* sh /root/ec2instance\_start.sh > /tmp/ec2instance\_start.log

00 21 \* \* \* sh /root/ec2instance\_stop.sh > /tmp/ec2instance\_stop.log

**CLI vs Interface? (A)**

**How to give read permission?**

chmod u+r <file\_name> --> To give the owner read permission

chmod o+r <file\_name> --> TO give read permission for others

chmod 444 <file\_name> --->To give read for owner, group and others

**Components of VPC?**

Vpc: logically isolated section, a virtual network to launch aws resources

CIDR: classless interdomain routing, method for allocating [IP addresses](https://en.wikipedia.org/wiki/IP_address) and for [IP routing](https://en.wikipedia.org/wiki/IP_routing).

Subnet: a range of IP addresses of resources in your VPC. Public and pvt. First 4 and lst one reserved by aws

IGW: allows resources connect t to outside world/internet

NAT: allows instances in pvt subnet to access internet but prevents internet from connecting to it

Route table: which resources are associated with which subnets and which gateways

Bastion host: reverse of NAT

**How to create public and private keys?**

ssh-keygen -t rsa --> To generate a rsa key pair (Public and Private Key)

id\_rsa --> Private Key

id\_rsa.pub --> Public Key

**Public vs private subnet?**

The instances in the public subnet can send outbound traffic directly to the internet, whereas the instances in the private subnet can't. Instead, the instances in the private subnet can access the internet by using a network address translation (NAT) gateway that resides in the public subnet.

**What is ec2 instance?**

a virtual server in Amazon's Elastic Compute Cloud (EC2) for running applications on the Amazon Web Services (AWS) infrastructure.

**What is bastion host?**

provide access to a private network from an external network

**Can we connect any other services and resources using route table?**

**Git Architecture?**

Workspace - place where we edit, modify project files. file in workspace visible to all directories.

Staging Area - On Git Add, files moved from workspace to staging area where changes are saved

Local Repo - on Git Commit , files added to local/git repo & then we can track the file versions. Commit ID are created here.

Central repo - On Git Push, files are moved to central repo.

**Git Push?**

**What is Git Orgin?**

a shorthand name for the remote repository that a project was originally cloned from

You can view that origin with the command **git remote -v**

**How do you find difference between two versions of the file?**

git diff <commit1> <commit2>

**What is CIDR? Where do you find it?**

Classless Inter-Domain Routing is a method for allocating IP addresses and for IP routing.

**Bashrc vs bashprofile?**

**How to create 3 directory one inside another?**

**What is VPC Peering?**

networking connection between two VPCs that enables you to route traffic between them using private IPv4 addresses or IPv6 addresses

**How to connect many VPC?**

Vpc peering or transit gateway

**How to connect to a private instance?**

**How to avoid heavy traffic to instance during weekend?**

Auto scaling group

**HOw to create auto scaling group? (A)**

**Git Rebase?**

**What is Git Stash?**

**Diff NACL and Security Groups?**

|  |  |
| --- | --- |
| **SG** | **NACL** |
| supports only **allow rules,** by default, all the rules are denied | supports both **allow and deny** rules, and by default, all the rules are denied |
| You cannot deny the rule for establishing a connection. | You need to add the rule which you can either allow or deny it. |
| **stateful** means that any changes made in the inbound rule will be automatically reflected in the outbound rule | **stateless** means that any changes made in the inbound rule will not reflect the outbound rule, |
| EC2 instance. level | **Subnet level** |
|  |  |
|  |  |

**What is Microservice in AWS? (A)**

**What is S3 bucket?**

Simple Storage Service. S3 is like a virtual drive to store and retrieve data

**Softlink vs hardlink?**

ln -s <original\_file\_path> <softlink\_name> --> To create a soft link

ln <original\_file\_path> <hardlink\_name> --> To create a hard link

softlink will point to the path of the original file and once the file gets deleted/moved

hardlink even after the original file gets deleted/moved The hardlink will still work.

Hardlink points directly to the inode of the file

**How to add a user to an already existing group in aws?**

**What are ports in linux?**

port is a logical entity which acts as a endpoint of communication to identify a given application or process

**What is ssh?**

Secure Shell or Secure Socket Shell. network protocol that enables users to access a server in a secure way over an unsecured network

**How to check file size?**

du -sh filename

**What is IAM Policy? Types?**

Set of permissions written in json format allowing users/groups/roles to have access in aws environment by attaching to them.

**Identity-based policies:** AWS managed or a customer-managed. attached directly with AWS identities like user, group or a role

**Resource-based policies:** directly attached to the AWS resource like S3.

**What is Git Squash?**

**What does Git add do?**

**VPC Limitations?**

5 vpc/region

200subnets/vpc

5 IGW per region

Network ACLs per VPC 200

Rules per network ACL 200

**How to create an instance backup?**

Create an image or AMI

**What is AMI?**

Amazon Machine Image provides the information required to launch an instance. You must specify an AMI when you launch an instance. You can launch multiple instances from a single AMI when you need multiple instances with the same configuration.

**Terraform state file?**

**What does innit initialize?**

**Orphan ps vs Zombie ps vs Child process?**

A process that has terminated, but whose parent has not yet called wait(), is known as a **zombie process**

if a parent did not invoke wait() and instead terminated, thereby leaving its child processes as **orphans**

A child process is **a computer process created by another process (the parent process**

**3/14/2022**

**IPv4 vs IPV6?**

The IPv4 is a 32-bit address, whereas IPv6 is a 128-bit hexadecimal address

**Linux Architecture? Kernel Shell Application**

Hardware, kernel, shell, application

**Types of shells:**

1. **Bourne shell:** the bourne shell is regarded as the first Linux/Unix shell ever. It is denoted as “sh”
2. **CShell (csh):** it was developed with the objective of achieving a scripting language similar to C-programming
3. **KShell (ksh):** it combines the feature of “Bourne shell” and “csh”
4. **Bourne Again Shell (bash):** it has all the features of bourne shell but it is much more efficient and easier to use. It supports additional features like piping, command substitution etc.

**How can we increase the number of CIDR when its maxed out?**

It's not possible to modify the IP address range of an existing virtual private cloud (VPC) or subnet.

You must delete the VPC or subnet, and then create a new VPC or subnet with your preferred CIDR

block. To extend the IPv4 address range of your VPC, you can add an additional IPv4 CIDR block

**Can we manage a aws provisioned ec2 in terraform?**

**what is backend?**

**Terraform Architecture?**

**Git Fetch vs Git Pull?**

**What is Sticky bit?**

**Autoscaling?**

automatically adjusts capacity to maintain steady, predictable performance at the lowest possible cost.

Ec2 🡪 select instance 🡪 actions 🡪 image and template 🡪 create image or template

Template configuration 🡪 instance launch options 🡪 other advanced options 🡪 sizing and scaling policies 🡪 SNS notifications 🡪 review

**what is terraform taint?**

**What is the first step in Terraform?**

**What is commit and rebase?**

**How to execte a command when the shell is started?**

**Ami Vs Snapshot?**

snapshot is a backup of a single EBS volume. EBS snapshot contains all data stored on the EBS volume at the time the EBS snapshot was created.

AMI image is a backup of an entire EC2 instance. Associated with an AMI image is EBS snapshots

**files in /etc?**

folder contains all the configuration files of linux

**How to manage heavy work load to ec2?**

ASG and load balancer

**What are the metrics in ec2?**

CPUUtilization, Disk I/O metrics, Network metrics

Status checks, Events, Memory metric

**Can we use all ip address in CIDR?**

first 4 and last 1 IP are reserved

**Bastionhost?**

**What happens to the statefile in terraform plan?**

**What version of terraform are we using?**

**how to specify the provider in .tf?**

**What is forking in git?**

**What is cherrypick?**

**What is shell?**

interface to kernel which hides complexity of kernel’s functions from users. takes commands from user and executes kernel’s functions

**What is the shell we use?**

Bourne Again Shell (bash):

**How to list a particular pattern in file?**

grep -w "<string>" <file\_name>

**List the port number?**

Netstat

**command to install?**

**elastic ip?**

static, public IPv4 address designed for dynamic cloud computing

**inbound and outbound rule?**

Inbound rules control the incoming traffic to your instance, and outbound rules control the outgoing traffic from your instance

**Types of EC2 instance?**

Gen purpose: applications that use resources in equal proportions such as web servers and code repositories.

Compute optimised: batch processing workloads, high performance web servers and computing (HPC), scientific modeling, dedicated gaming servers and ad server engines, ML inference

Memory optimised: fast performance for workloads that process large data sets in memory.

Storage optimised: for workloads that require high, sequential read and write access to very large data sets

Accelerated computing: hardware accelerators, or co-processors, to perform functions, such as floating-point number calculations, graphics processing, or data pattern matching

**Different types of load balancer?**

<https://medium.com/awesome-cloud/aws-difference-between-application-load-balancer-and-network-load-balancer-cb8b6cd296a4>

**ALB**: http, https protocol, request level. Supports http, https layer7 WebSocket, supports host and path-based routing and query string, headers

**NLB**: Ultra-high Performance at very low latency. connection level. Supports tcp (layer 4),tls(secure tcp),udp. NLB has one static IP/AZ and supports assigning Elastic IP

**CLB**: both at connection & request level.

**GLB**: Improve security, compliance and policy controls. Operates at layer 3 (network layer) IP protocol

**Terraform Life cycle?**

**How to check .tf to be correct or wrong?**

**Terraform taint?**

**How to add a particular file to the repositary?**

**How to check the status of a file?**

**How to check who made the commit? git log**

**How to check which shell?**

echo $SHELL

**Flavours of linux?**

Ubuntu, Debian – apt

Linux, redhat – yum

Fedora – dnf

**How to check all files that does not have a pattern?**

grep -riL "string"

**What is xargs?**

feed the standard output to be used as an argument to the next tool in the pipeline

**How to setup cloudwatch alarm?**

CloudwatchAlarms (all alarms)Create Alarmselect metricconfigure actions (create topic for email notification)name and descriptioncreate alarm

**What are the states in alarm?**

1. Alarm state

2. Insufficient

3. OK state

**S3 Lifecycle policies?**

ensuring your data is managed safely, reduce unnecessary cost, data is cleanly deleted once it is no longer required. Lifecycle policies allow you to automatically review objects within your S3 Buckets and have them moved to Glacier or have the objects deleted from S3. Lifecycle policies are implemented at the Bucket level. Different policies can be set up within the same Bucket affecting different objects through the use of object ‘prefixes.

**Difference between make and maven?**

**Limitation 0f s3 bucket?**

100 buckets/acc

**What is transit gateway?**

a network transit hub that you can use to interconnect your virtual private clouds (VPCs) and on-premises networks. hub and spoke architecture.

**what are different storages in aws?**

Object (s3), file efs), and block storage (ebs)

**How to connect s3 to VPC directly?**

Create a VPC endpoint for Amazon S3.

Add a bucket policy that allows access from the VPC endpoint.

**How to create and checkout to a branch?**

**Variable in terraform?**

**Can we change the umask value?**

Yes

**Types of ip address in aws?**

Public

Private

Elastic

**What happens to ip when instance is deleted?**

**How to create a snapshot?**

**Ec2 console🡪 Snapshots**, **Create snapshot🡪 Resource type**, **Volume**🡪 **Volume ID,** select vol from which to create snapshot🡪 **Create snapshot**.

**What is aws Cognito?**

provides authentication, authorization, and user management for your web and mobile apps.

**What is an api? Why do we use it?**

**How to push a particular file to central repository?**

**Why should we use role in aws?**

**What is the maximum value for a CIDR block?**

**What is the first step for autoscaling?**

Create a launch template🡪 Create AWS Auto Scaling Group🡪select launch template🡪 sizing and scaling policies🡪 SNS notifications 🡪 review

**How to change port in tomcat?**

yum install wget -y

wget <paste the tar.gz address copied in step1>

tar -zvxf apache-tomcat-9.0.10.tar.gz

chmod +x startup.sh

chmod +x shutdown.sh

server.xml for port change

context.xml for adding roles and users

**What is Route53?**

a highly available and scalable Domain Name System (DNS) web service, where we can point IP address to domain name or point host name to another host name

**Limitation of VPC Peering?**

CIDR block shouldn’t overlap

Transitive peering relationships are not supported

inter-region data transfer costs apply.

cannot have more than one VPC peering connection between same two VPCs at same time.

**ALB Vs NLB?**

|  |  |
| --- | --- |
| works at the Application Layer (Layer 7 of the OSI model, Request level) | works at Transport layer (Layer 4 of the OSI model, Connection level) |
| ALB examines the contents of the HTTP request header to determine where to route the request. content based routing. | just forward requests |
|  | uses EIPs, so it has a static endpoint |
| capable of determining availability based on not only a successful HTTP GET of a particular page but also verification that the content is as was expected based on the input parameters. | NLB determines availability based on the ability of a server to respond to ping. no awareness of the application at all |
|  |  |
|  |  |

**Use case for terraform taint?**

**What to do if EBS volume is full?**

Modify Volume” under “Actions.”🡪 option to change both the disk size and the volume type

**How to block a particular ip in ec2 instance?**

network Access Control List (ACL) or security group rules in your VPC.

**Find num of lines in a file?**

wc -l <filename>

**What is az?**

Each AWS Region consists of multiple, isolated, and physically separate AZ's within a geographic area.

**What is a Sticky bit? Command to create**

permission bit that is set on a file or a directory that lets only the owner of the file/directory or the root user to delete or rename the file.

chmod +t dir

**What is VMStat, strace, lsof?**

**Create ALB.**

**What is ELK? CloudFront?**

CloudFront is a content delivery network (CDN) service with low latency and high transfer speeds

Speeds up distribution of static and dynamic web content. Uses edge locations to cache

**Elasticsearch:** distributed search and analytics engine.

**Logstash:** open-source data ingestion tool that allows you to collect data from a variety of sources, transform it, and send it to your desired destination

**Kibana**: data visualization and exploration tool for reviewing logs and events

**What is Shebang?**

the absolute path to the Bash interpreter.#!/bin/bash.

**What shell have you worked on?**

**How to find if it is a stickybit attached file?**

**How to check load average?**

uptime

**Difference between Bashrc and Bash Profile?**

.bashrc is executed for interactive non-login shells. executed before the window command prompt. also run when you start a new bash instance by typing /bin/bash in a terminal

*.bash\_profile* is executed for login shells. executed to configure your shell before the initial command prompt.

**What is alarm?**

**DO we need .tf when we use init?**

**Git Squash?**

**What is edge location?**

Data centers where end users can access services (frequently accessed) located at AWS regions to reduce latency

**log stash?**

**Why is s3 instead of ebs and efs?**

**Server-side encryption? in transit encryption?**

**Encryption at Rest: Client-side encryption** and **Server-side encryption**

Server-side encryption, the data is encrypted after being sent to the S3 bucket and before storing it in the S3 bucket.

**Amazon S3-managed keys (SSE-S3):** key material and the key will be provided by AWS

**CMK (Customer Master key) AWS KMS (SSE-KMS):** key material and key will be generated in AWS KMS

**Customer provided encryption key (SSE-C):** key will be provided by the customer, S3 manages the encryption and decryption

**Encryption in Transit for Amazon S3 can be facilitated with the help of SSL/TLS at the client end**

**How to decrypt client-side encryption?**

data is encrypted before sending it to the S3 bucket

CMK (customer master key) stored in AWS KMS

Customer provided master key stored in the customer’s proprietary application

**What is during the runtime?**

**How to replace a pattern in file?**

%s/<old\_string>/<new\_string>/g

sed 's/<old\_string>/<new\_string>/g'

**What is -i in SED?**

make changes to the original file

**What is -g in SED?**

globally (All occurrences of the pattern)

**What are target groups?**

**How to add users in Linux?**

sudo useradd <user\_name>

getent passwd

cat /etc/passwd

**What is the structure of a policy?**

{

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

"Statement": [

{

"Effect": "Allow", (allow or deny)

"Principal":{“acc/user/role to which policy is applied”},

"Action": \*, (list of actions this policy allows or denies)

"Resource": "\*" (list of resources to which the actions applied to)

},

**Diff between Cloud formation and terraform? (A)**

**What is maven Life cycle?**

**How to route all traffic to a particular target?**

Sticky sessions or session affinity. Same client is always redirected to the same instance behind a load balancer.

**Can we check when is the system up in terminal?**

**What is tee command? Why is it used?**

**What are the different ports?**

**What is restAPI? Why do we use proxy server? (A)**

**Where do we store password in terraform?**

**Where does s3 class data stored immediately?**

**Terra grunt?**

**Local Zones?**

**VPC End point?**

**What happens when terraform files in backend is modified by two guys?**

**How to change terraform variable in runtime?**

**Why we chose s3? Life cycle policy**

**Can you modify the size of EBS that is attached to an Instance?**

Yes

**What are VPC Endpoints and Explain its types?**

**What is different Instance purchasing methods?**

**What is difference between Cloudwatch and Cloudtrail?**

**CloudWatch** monitoring service , focuses on the activity of AWS services and resources, reporting on their health and performance.

**CloudTrail** is a log of all actions that have taken place inside your AWS environment. enables governance, compliance, operational auditing, and risk auditing of your AWS account

**What is Assume Role and AWS STS?**

Returns a set of temporary security credentials that you can use to access AWS resources. access key ID, a secret access key, and a security token.

AWS Security Token Service (STS) is a web service that enables you to request temporary, limited-privilege credentials for AWS (IAM) users or for users that you authenticate (federated users).

**Have you created any Custom Policy?**

**Difference between Policy and Role?**

**What is Inline policy?**

a policy that's embedded in an IAM identity (a user, group, or role). the policy is an inherent part of the identity. You can create a policy and embed it in an identity, either when you create the identity or later.

**Difference between EBS and EFS? Why EBS is faster than EFS?**

**EBS:** block-level storage service, no two instances can have the same EBS volume attached to them. provides a high-performance. used for various databases

EFS: file-level storage service. highly available storage. Share by many servers at the same time. offers scalability on the fly.

**How to find whether a port is open or not in AWS itself?**

Security groups

**Explain how subnets are created?**

**Can you explain how to Switch role or how a user from different account could access resources in**

**your account?**

**Give me any Telnet command that you have used?**

**What is NETSTAT?**

**How can you allow a user in your account to reset password by himself when he lost earlier password?**

**Is it possible to attach more than 10 policies to any user?**

Create more IAM groups and attach the managed policy to the group. You can assign IAM users to up to 10 groups. You can also attach up to 10 managed policies to each group, for a maximum of 120 policies (20 managed policies attached to the IAM user, 10 IAM groups, with 10 policies each).

**Can you see Logs in your CloudWatch?**

**What are CloudWatch and CloudTrail?**

**Can you take the Snapshot of EFS?**

**What are Target Groups?**

**What is the difference between IPV4 and IPV6?**

**What is CloudFront , Cloud Formation , Snowball?**

**What are different Record types and Different Routing Policies?**

A record: traffic to ipv4 and some aws resources

AAAA: traffic to ipv6 and some aws resources

CNAME: traffic to another domain name and some aws resources. use it only for non-Root Domain

Alias: URL to an AWS Resource. map resource record sets in your hosted zone to ELB, CloudFront or S3.

**Simple Routing Policy:** one record with multiple IP addresses. can’t attach health checks.

**Weighted Routing Policy:** controls the what % of the requests that go to specific endpoint

**Latency Routing Policy:** based on lowest network latency for your end user

**Failover Routing Policy: route** traffic to a healthy resource

**Geo Location Routing Policy:** based on the geographic location of your users

**How to setup Elastic Load Balancer?**

**What are different S3 storage classes?**

**What is Route 53 and explain any use case regarding how it works?**

**What is Auto-Scaling?**

**what is difference between JAR WAR EAR files?**

**What is pre prod branch?**

**After feature is created will you delete feature branch?**

**What is branching startegy?**

**What is .gitignore files in git?**

**What is swap memory?**

**Maven lifecycle?**

**What is Elastic Beanstalk?**

can quickly deploy and manage applications in the AWS Cloud without worrying about the infrastructure. handles the details of capacity provisioning, load balancing, scaling, and application health monitoring. PAAS.

**Give me any telnet command?**

**Can a single port be used by multiple services?**

**Difference between AWk and CUT?**

**What is SSL certificatee?**

**WHat is difference between HTTP and HTTPS?**

**WHat is git blame, gi diff?**

**How to files that got changed in a particular commit?**

**Is there any other command to switch branches in git other than git checkout?**

**what is git reset and explain different types?**

**WHat is clean means in mvn clean install command?**

**How to recover terraform state file when you have lost your state file withput having any remote state?**

**What is prerequiste for terraform to work?**

**vpc architecture**

**terraform life cycle**

**git cherry pick**

**hosted zone**

**maven life cycle**

**S3 life cycle**

**merge vs rebase**

**terraform provisioners**

**hosted zone**

**in git command for bad commits**

**git pull vs fetch**

**in git push to centtral repository, what should we do for skipping username and password**

**need of statefile**

**things or contents in statefile**

**when state file is deleted, when we give terraform plan what will happen (assignment)**

**recovery of statefile**

**kms vs secrets**

**terragrunt**

**merge conflict 2 reasons**

**need of maven**

**branching strategy**

**how to check all ports**

**$#**

**maven life cycle**

**lost statefile, i want all the necessary things to start with previous configurations, backup**

**git squash**

**what if I block traffic in security group and give access in NACL**

**Need of Elastic IP, costing method**

**terraform import**

**lambda, its supporting languages**

serverless compute service. run code without provisioning or managing servers. run and scale your code with high availability. Lambda time limit: 15 minutes (900 Seconds). NodeJS, Python, Gr00vy, java, C sharp, Scala and GO

**redshift**

data warehouse product. used for large scale data storage and analysis, and is frequently used to perform large database migrations.

**RDS -**

easy to set up, operate, and scale a relational database in the cloud

run your DB instance in several AZs

can have automated backups

**git stash**

**file in git stash is no more needed then what command?**

**maven repositories , how do they work**

**snapshot vs ami**

**terraform provisioners**

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**git bisect**

* This command uses a binary search algorithm to find which commit in your project's history introduced a bug.

**git reset**

* undo the commited changes, history will be removed

**integration testing**

* Integration testing (sometimes called integration and testing, abbreviated I&T) is the phase in software testing in which individual software modules are combined and tested as a group. Integration testing is conducted to evaluate the compliance of a system or component with specified functional requirements

integration testing in other languages

**pvt vs public subnets**

* The instances in the public subnet can send outbound traffic directly to the internet, whereas the instances in the private subnet can't.

**IGW is given to?**

* To a public subnet to send outbound traffic

**login using pvt ip address**

* Instances within the same VPC can connect to one another via their private IP addresses, as such it is possible to connect to an instance in a private subnet from an instance in a public subnet; otherwise known as a bastion host.

**what is putty?**

* PuTTY is a free and open-source terminal emulator, serial console and network file transfer application. It supports several network protocols, including SCP, SSH, Telnet, rlogin, and raw socket connection. It can also connect to a serial port.

**what is instance?**

* An instance is a virtual server in the AWS Cloud. With Amazon EC2, you can set up and configure the operating system and applications that run on your instance.

**SSH?**

* The most common tool to connect to Linux servers is Secure Shell (SSH).
* When connecting to hosts via SSH, SSH key pairs are often used to individually authorize users

**what are status check?**

* System status checks monitor the AWS systems on which your instance runs. These checks detect underlying problems with your instance that require AWS involvement to repair. When a system status check fails, you can choose to wait for AWS to fix the issue, or you can resolve it yourself.

**RDS services?**

* Amazon Relational Database Service (**RDS**) is a collection of managed services that makes it simple to set up, operate, and scale databases in the cloud

**communicating with different data bases?**

**revert vs reset (forward undo changes)?**

* Reset undo the commited changes, history will be removed
* undo the commited changes , history will be retained, we can track the changes in git log

**what is the use of maven**

* Maven is chiefly used for Java-based projects, helping to download dependencies, which refers to the libraries or JAR files. The tool helps get the right JAR files for each project as there may be different versions of separate packages

**build tools for other lang like nodejs, etc.**

* Packer. ...
* Gulp. ...
* NAnt. ...
* Grunt. ...
* Ant. ...
* Maven. ...
* Docker.

**route 53**

* Amazon Route 53 is a highly available and scalable Domain Name System (DNS) web service, where we can point IP address to domain name or point host name to another host name.

**record set route 53**

* A Record (address)‍ ...
* AAAA Record (quad A) ...
* CNAME Record (Canonical Name) ...
* ANAME Record. ...
* SOA Record (Start of Authority)‍ ...
* NS Record (name server)‍ ...
* MX Record (Mail eXchange)‍ ...
* TXT (text) Record‍

**terraform module, child module, root module.**

* A Terraform module (usually the root module of a configuration) can call other modules to include their resources into the configuration. A module that has been called by another module is often referred to as a child module.

**merge vs fetch**

* Merge : Creates new commitID indicating merge
  + Merge conflict can be handled easily, as the commits are reachable
* Rebase : Rewrites the history by creating new commits for each commit in source branch
  + since commit history is rewritten, it will be difficult to understand the conflict in some cases as commits are no longer reachable.

q

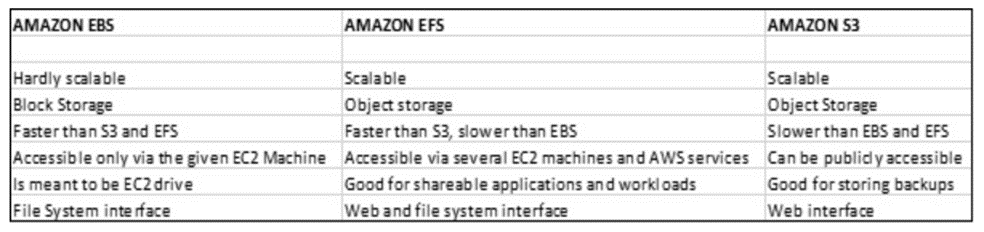
**need of git fetch**

* The git fetch command downloads commits, files, and refs from a remote repository into your local repo. Fetching is what you do **when you want to see what everybody else has been working on**.

**terraform init - what do we see here?**

* command to initialise the respective directory as git repository

**EFS vs S3**

* ****

what is scalability, high availability?

Cloud scalability in cloud computing refers to the ability to increase or decrease IT resources as needed to meet changing demand.

**aws cognito?**

Amazon Cognito lets you easily add user sign-up and authentication to your mobile and web apps. Amazon Cognito also enables you to authenticate users through an external identity provider and provides temporary security credentials to access your app's backend resources in AWS or any service behind Amazon API Gateway.

vpc endpoints

* A VPC endpoint is a virtual device which is horizontally scaled, redundant and highly available, that provides communication between EC2 instances within your Virtual Private Cloud and other supported AWS services without introducing availability risks or bandwidth constraints on your network traffic

on-premise vs cloud

* Essentially, the fundamental difference between cloud vs on-premise software is where it resides.
* On-premise software is installed locally, on your business' computers and servers, where cloud software is hosted on the vendor's server and accessed via a web browser.

how to send local data to cloud?

* To copy files between your computer and your instance you can use an FTP service like FileZilla or the command scp . “scp” means “secure copy”, which can copy files between computers on a network.

max size limit to push from local to central repo?

* GitHub has a strict file limit of 100MB.

null resource

* the null resource implements a standard resource life cycle but takes no action by itself on the infrastructure.
* it can be used as a container for other actions.
* to execute our scripts or commands or to copy on an already existing resources
* To run provisioners on the already existing resources.

stickybit

terraform for on premises

what is the use of build tools

environment variable?

similar tools like git

git stash drop

what is AWS cli

output of a file to a command

finding files only in second directory

load average

$!

sed -e

types of reset in git

git architecture

reset vs revert

terraform life cycle

terraform state file, where it is stored?

git architecture

types of git reset

fetch head

s3 storage classes

how to move from one class to another class

s3 versioning

configuring route 53

tfstate, changing its extension

elb - configuration, if we have to reduce instances without terminating for attached elb

hosted zone

how to clean server every month

lambda advantages and use cases, cleaning

route 53 configuration

ec2 types

git vs github

git stash, stash pop

git cherry pick

Auto scaling types

target group

how do we know whether cidr blocks are overlapping

how does load balancer work at application level or request level.

sed, awk, telenet, uptime, netstat

passwordless connection

limitations of vpc

statefull vs stateless

components of policy

what is elasticsearch

what is elastic beanstalk

elasticache

cloud front and cloud formation

special variables in shell script, what is the use of $

shell script to delete log files of today and yesterday.

Maven life cycle

Cloud formation

cloud front

git revert

terraform taint

what is xargs

git reset

git squash

NACL vs Security groups

elastic beanstalk

what is an endpoint

does all the aws services have end points?

Maven Repository

terraform modules

what happens when we use terraform init, when we use terraform plan

About route 53

how to print 99th line

find the processes running for the past 40 days (we know pid number)

git bisect - gives good commit and bad commit, between these bugs will be there so we can catch it.

package installer for ubuntu

what to do you mean by YUM, apt complete names

how to check all the file those are present in 2nd directory

elasticsearch

git rebase

why do we use S3

what is a key pair

what do we do it when we lost the key pair?

git reset

http port number, SSH, telenet, https

null resource, blocks in null resource, syntax

IAM policies

AWS cognito

command to replace a string in a file

passwordless connection

connect to instance with pvt ip - bastion host

when we open vpc what are visible on left side

languages supported by lambda

get squash

sanity test and integration testing

hot fix branch where it can be merged

VPC

Elasticache

terraform lifecycle

logical volume manager

why do we need build tools

what is compile

git merge and fetch

S3 encryptions

cloud watch

need of route table

$\*

umask

git rebase vs revert

an instance is running, we have put ls, it got hanged. what can be done?

soft link vs hard link

soft link for tomcat startup.sh

daemon process

find files in 2nd folder

why do we use tomcat

where do we change port number in tomcat

how to choose storage classes in S3 bucket

reserved instances

cloudformation

global services

encryption in S3 (P)

route 53 (P)

with which service do we use route 53

shell scripting of factorial, logic of factorial

factorial, fibonacci, big3, half pyramid, full pyramid

ELB

Autoscaling

how to identify a branch? using tag

default user in linux and what happens with other users

cloud trail

git stash

terraform data source

auto scaling and launch configuration (A)

ELB

target group

health check in elb

maven repositories

checking the process - ps -ef

cloud watch

metrics

updating a stack in cloud formation

daemon process

cloud formation - regional or global

need of vpc

how to pull only 5 branches from central repo

$? - echo $?

cherrypick, why do we need git

git fork? what if one deletes, will it remain in our repo?

elastic beanstalk

why do we use AMI

how to create AMI

need of Route 53

how do we access instance in another region

Assignment:

backup of ec2 instance with ami and launch

route 53

in which aws service we can host static website

static website vs dynamic website

git stash vs squash

edge location

s3 life cycle

swap space or swap memory

what is ec2 instance

what is elastic computing

what is elasticity

flavours of linux

encryption of EBS volume

how do we attach EBS volume to instance

how to start a service when we log into instance(A)

how to stop a service

service vs process

Aws Cognito vs IAM

Git revert

horizontal scaling and vertical scaling, which is better? (Horizontal is better)

Complete VPC

IGW is attached to?

NAT instance

Snowball

Terraformd

terragrunt

advantages of terraform

What is IAC tool

Push based vs pull based IAC. what category is Terraform

Terraform Backend

Elastic Search

Redshift

Encryption at rest

Data life cycle manager/management

elastic transcoder

AMI vs Snapshot

terraform architecture

how many Elastic IP addresses to an instance

what is vpn

how do we backup S3 bucket, no one should be able to delete s3 bucket how do we do it

types of EC2 instances

cloud front, if there is nothing in cache in edge location, then we make a request. what happens?

AWS direct connect

Need of Cloud computing

elasticity vs scalability vs availability

classic vs application load balancer. when do we use ALB, NLB?

Cloud trial. what if we want to beyond 90 days? we need to connect it to s3

SQS, SNS, SES

Terraform Life cycle

1st i give terraform plan then terraform destroy what happens?

when does statefile appear when we plan or apply?

Lambda Usecase

AWS 3-tier

what happens when we skip terraform apply

REST API

need of public subnet (as it is not secure why do we need public subnet), public instance

lambda

different state of process

git fetch, how to pull only one branch, fetch one branch

instance purchasing

how to make an instance highly available (autoscaling atleast one instance should be available)

what is high availability

cloud trial, what are events

git ignore

git installer

print 1st 10 lines

git clone vs git pull, commands

git rebase

what is SVN

subgit

Maven lifecycle

states of processes in linux

customer wants what are the top 5 services that are used. - top process - aws related

software as a service

sub git

nacl vs security group

ec2 instance running, connected to any protocol, apply a security group - i would deny

tomcat port, go to securrity group and block that port. what happen?

ec2 instance in on our vpc, another ec2 instance in another account should be connected?

What is a docker?

What is container?

What is fetch head?

How to take backup in jenkins?

What is the diff between conatinerization and virtualization?

What is vpc limitation?

What are the route 53 configration?

What are the special variables in shell script?

Difference between awk and cut?

Can you tell any instructions on docker file?

What is entry point?

What is telnet?

What is netstat?

How will we know a port is running?

Multistage build?

Docker networks?

How did u configure the master and slave?

What is gearman plugin?

How to remove a partifular ip from a load balancer?

different load balancers?

diff between alb and nlb?

Suddenly jenkins stopped? how to debug?

What is CI And CD?

Have you configured artifactory? how?

Have you configured sonarcube? how?

What is pom.xml?

What is branching strategy?

What is git architecture?

What is reset and revert?

Types of git reset? explain

What is git squash?

After fetch head how will you merge it?

What is -i in git merge?

What is git stash?

how to com out of stash?

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ci cd pipeline you used?

What is docker architecture?

Jenkins triggers?

**1. Build Periodically:**

· it is used to trigger the Jenkins job based on schedule (crontab) we set

**2. POLL SCM:**

· Periodically (crontab) polls the scm (source code management) to check whether a new commit has been made. if there are new commits, it will trigger Jenkins job

**3. GitHub webhook trigger**

· in Jenkins it is used to trigger the Jenkins jobs whenever a developer makes any changes to the repo

WHat does webhook trigger do?

What is folder structure for jenkins?

* default path of jenkins: /var/lib/jenkins

Can we take backup of jenkins from local machine?

used Gradle?

common problem in jenkins build?

Autoscaling and types of auto scaling?

Flavors to launch servers?

diff btw ubuntu and red hat? why do people favour one over other?

How do you give access to s3 for a client?

S3 versioning?

how many s3?

Transit peering?

VPC peering? What are the configuration fields?

storage class types?

how to move data from s3 class to another?

Exectution lifecycle of terraform?

What if state file is lost?

Branching strategy?

git architecture?

git checkout?

Managef policy vs customized policy?

How many policies can be attached to a role?

telnet?

telnet commands?

How to check remote server?

howto check if port is open?

password less connection?

WHat is hosted zone?

What is target group?

Zombie process?

What is cloud front?

What is cloud formation?

What is load balancer?

different types of load balancer?

What are terraform provisioners?

breif me about the tools which you used till now and its uses.

Why we want docker.

Can we run different linux of diff OS if the base OS is Windows in docker.

Container and y it is used

What happens to statefile if we change aws manually when it was created by terraform.

can we delete a image when it is used by othe container

how to check list of running containers

why container stops once its created.

Dangaling images and why it is created

stickybit and how to identify it

why we need cicd in 1st place in devops

while creating ec2 instance can we install git wegt etc. if yes how?

during maven 2nd build why it takes less time

whats the exact name of local repo in maven

Where will be jenkines installed, whtas jenkins home dir

Plugins and list out used plugins

What are executors

explain master and slave concept and why it is used

can we have same labels for diff slaves in jenkins

vpc architecture

have you written pipeline script and what ws it

maven clean commmands why we use those

what is the main thing to use master and slave

what all jobs have you dpne in jenkins

upstream and downstrem jobs in jenkins

have you worked with sonarqube

wuality gates and profile

diff b/w clean package and clean install

how to delete paticular resource in terraform'

condition of statefile if we change aws resources manually

when can we see statefile in terraform, which stage

how will you expose aws resources in aws to external world

explore more practically about route53

if we have 100 slaves, how can we configure a particular job (say we need windows )to particualr slave

how do we secure jenkins jobs

what are the main components in docker

can we rename image name and conntainer

diff bw contaianerization n vm

how do we add parameters in jenkins

docker and dockerfile

why jenkins

WHat is docker?

Differnce between virtulization & containarization?

what is container?

Explain docker architecture?

how do you start a container with specific name?

Explian what is -it?

what are the docker insturctions ?

differcne between add & copy ?

what is entry point?

difference between docker attach & docker exec?

what is prun command & list down the commands?

Explain what is multi stage in docker?

WHat is docker compose?

Explain docker netwrok?

how do you display only stopped or exited containers?

how do you check the docker deamon usage?

docker env?

What are docker volumes?

How to copy files from local machine to container and from conatiner to machine?

What is docker image?

how do you create docker container?

How do you disply container which are exited?

Can we attach multiple slaves for a same job?

How to check the status of Jenkins whether it is running or not?

What is difference between declarative and scripting language in Jenkins?

What is difference between node and agent?

How do you configure your Jenkins server?

What are prerequisites for Jenkins ?

Name different environment variables?

How can you take backup of your Jenkins job?

How to check logs of Jenkins jobs in your server?

Which kind of trigger is best suited for a job?

What is Jenkins home?

What is a Jenkins parameter?

How to manage multiple masters In Jenkins server?

What is a environmental variable pipeline?

How to run a job in two different agents using single pipeline code?

linux archituture

EC@ and types

VPC peering

What happens if i upload 10TB datat to s3

How can i mask my ec2 IP add

how can i coonect s3 when my ec2 instance is inside a vpc

how can i access s3 from othe account

whats is eddge location, AV , local zone

can i run docker as slave

use case of master slave

port commands in docker

how to create image of a docker container

use case of custome container

can we have multiple slave machine in pipeline

how can i restart my stage without blue ocean plugin

how can i create sub domains for a ip address

what are taget groups

how to take backup in Jenkins

explian compose?

What is multi stage? asked to write docker file?

hod you display stopped containers?

Differnce between virtulization & containarization?

explain why we use push command & process how you do in ECR?

docker prune?

what are the docker you have used?

difference between CMD & entry point?

differrnce between copy & add

How do you map host & conatainer port?

CI/CD

what is jenkins?

Continous delivery vs continous deployment

jenkinsfile? and why?

types of pipeline syntax?

what is an agent?

declarative vs scripted pipeline

credential management in jenkins?

jenkins architecture?

what is a label?

what is a job?

SonarQube?

Hudson ?

Artifatory?

what is groovy?

how to you take backup of jenkins server?

default storage location in jenkins?

environment variables in jenkins?

Maven life cycle?

Triggers in jenkins?

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what is payload url in webhook

AWs service like GIT?

how does SonarQube does the Code Analysis--? code smells? vulnerabilities??

Setting up SonarQube

Paramateric plugin?

restart jenkins through UI?

multi-master jenkins

multi-project pipelines

Upstream Projects and downstream projects

Flow Control

how to setup 3 tier apllication in aws

what is the 1st thing you will do in auto scaling

how can i run particualr app/cmd while starting container

how can i change region in runtime in terraform

how can i connect a s3 which is out side the vpc

What is Availability zone and use of that

how to collect the logs in aws and whats the tool to analize the logs

s3 policy & intelegent tiering

can i put data directly to s3 glacier

diff b/w cMD ENTRYPOINT - real time example

In multistage docker will multiple container will be running

docker swarm and docker compose

build context

best practise to buil a image in multistage

how to delete dangaling images

dockerfile uses

how can i use ec2 instance in one region into other region and run

docker architecture

docker daemon

how to setup docker hub and push a image

how can i trafer data in s3 bucket in one region to s3 bucket in other region

how to save password in terraform

terraform vault, terragrunt, terraform cloud

pull & fetch diff

how to keep track of pipeline changes

chroot, vmstat, strace

mutibranch pipline

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Can you change bindmount attached to container to docker volume?

What are different types fo containers?

What are docker namespaces?

Can we use both CMD and ENTRYPOINT instructions in the same Dockerfile?

What are the pre-requisites for Docker installation?

What is Docker swarm?

Can you create a custom Docker Host and None Network?

Can a Container restart by itself?

Give me the Docker Architecture in sequence?

What is difference between ENV and ARG instruction?

Why dangling images are created?

What is Amazon COde Commit?

Can you run two containers at a time?

Can you add an image inside a container?

WHat is tmpfs in docker?

What is -it flag used for?

Difference between exec and attach commands in Docker?

What are the issues that you faced while working with Docker in your organisation?

What is the command to delete all the images?

What is difference between EXPOSE and Publish in Docker?

What is Docker Networking?What are its advantages?

What is docker compose?

What is command to check all resources in your Docker server?

What is command to find and delete all thr Dangling images?

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dockerfile

docker architecture

docker image

multistage

instructions in docker file

docker volumes

command for removing images, network containers

attach command

exec command

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cicd setup

declarative vs scripted

give a declarative script

git stash

how to remove git stash branch

git architechture

git vs github

go through another version control tool - ex: SVN

negatives of git

containerization vs virtualisation

docker network

a container created without network which driver will get associated by default

bind mount vs docker volume

ECR

docker volume path

where are docker images stored

pipeline

ingress and egress

how many policies to a role

how step to reduce CPU percentage - aws

what will you do if any server is not healthy in load balancer

Components in a policy? What are they doing?

Components in VPC?

Have you done VPC peering?

Can we connect multiple VPc from other accounts?

How to create subnet?

What is the next step after subnet creation?

Assume Role?

What is git cherry pick?

Git reset and revert?

Branching Strategy?

containerization vs virtualisation

docker multistage build

docker network

terraform state file

bastion host

file provisioners in terraform

kubernetes architecture

advantages of alpine

docker registry vs docker hub

how to stop running containers

container status

-itd?

bindmount vs docker volumes

how to backup volumes

how do we attach volume for a running container

execution cycle for terraform

in terraform in what are getting initiated, how are they initiated

jenkins CI CD setup

artifactory in jenkins

artifactory in docker - folder structure

we have made 4 changes but we want to move only 1 change to staging area. how do we do it

types of reset

git squash command

what is branching

fetch head

what is K8S?

Explian what is Run time ?

How many containers we can run in a pod?

how do you start a container?

Can you explain docker netwroks?

how do you take backup of etcd?

Explain docker architecture?

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What are other tools similar to docker you know?

What is the default ip of Docker Host?

What is Docker Layer?

What are different types of Containers?

difference between Deployment and Stateful set?

Why stateful set cant rollback to its previous version?

What are stateful and stateless applications?

Can you change etcd associated to your K8s cluster?

What is controller in k8S?

What is docker compose?

Difference between docker swarm and kubernetes?

What is the use of etcd?

Explain the workflow of deployment controller?

What is kubelet?

What is kubeproxy?

Explain the workflow of docker multi-stage buld?

Is etcd the default storage in k8s?

What is 3 tier application in AWS?

What are probes?

How to configure probes in k8S?

Git architecture

Types of reset?

reset vs revert?

Git Squash ?

Docker Architecture?

Kube Architecture?

CMD and entry point?

pod vs probe?

What are controlleres?

Diff between cp and mv?

Probes and types of probes?

What are the services of the k8s?

networks in docker?

Docker volumes and bound volumes diff?

What is EKS?

Code deploy in aws?

System security manager in aws?

What is SSM agnet?

How do you modify role to the instance?

snapshot vs imgage?

Services in k8s?

Configration of probes?

What is pod?

Status of pods?

What is unkown?

What is running status?

Controller types in k8s?

Diff between deamon set controller and Stateful set?

Deployment controller?

rollout and rollback in stateful container?

Why does the probe does not start at times?

What is node and pod?

What is cluster?

virtualization

Containerization

Docker architecture

-it meaning

docker info command ??

container life cycle

docker file instructions

attach vs exec

escape sequence?? how to modify that?

cmd vs entrypoint?

docker-compose? and its use cases

can we have Vm's without hypervisor

tyes of hypervisor

other containerization tools

dokcer Daemon

**EXPOSE vs Publish**

Basically, you have three options:

1. Neither specify EXPOSE nor -p
2. Only specify EXPOSE
3. Specify EXPOSE and -p

1) If you specify neither EXPOSE nor -p, the service in container will only be accessible from *inside* the container itself.

2) If you EXPOSE a port, the service in the container is not accessible from outside Docker, but from inside other Docker containers. So, this is good for inter-container communication.

3) If you EXPOSE and -p a port, the service in the container is accessible from anywhere, even outside Docker.

-p <hostport>:<container port>

-p <binding address>:<hostport>:<container port>

docker run -d --publish-all nginx

docker run --expose 8765 nginx or EXPOSE portnumber

**dangling images**

**how to make an image out of a running container.**

docker commit container\_id imagename

**advantages of containerization**

**docker engine?**

**pulling and pulling images from private repositoy?**

**what are Namespaces?Why do you need NameSpaces?**

* partition our cluster into separate virtual sub divisions
* they are logically isolated from one another
* We can create a namespace for different teams
* Names of resources need to be unique within a namespace, but not across namespaces
* Ease of managing

**Why we use Cgroups?**

you use cgroups to control how much of a given key resource (CPU, memory, network, and disk I/O) can be accessed or used by a process or set of processes

**Why we need Services in K8s?**

* services are a way of defining network configuration for pods
* the pods can be horizontally scaled and each new pod gets its own ip address
* to use one ip address instead of many. Ease of use

**What is minikube?**

* Minikube is a lightweight Kubernetes implementation that creates a VM on your local machine and deploys a simple cluster containing only one node.heap

**What is Heapster?**

* Heapster is a cluster-wide aggregator of monitoring and event data.
* runs as a pod in the cluster, similar to how any Kubernetes application would run

**What are different Http status code?**

* Informational responses (100–199)
* Successful responses (200–299)
* Redirection messages (300–399)
* Client error responses (400–499)
* Server error responses (500–599)

What is Main difference between Docker and K8S?

* Docker is about packaging containerized applications on a single node and Kubernetes is meant to run them across a cluster of nodes

**How have you used k8s in your organisation?**

**What is init container?**

* the one that starts and executes before other containers in the same Pod.
* create necessary user accounts, perform database migrations, create database schemas

**Have you worked on EKS?**

**What are different types of pods?**

* There are two types of Pods −
  + Single container pod
  + Multi container pod
* Single Container Pod
  + They can be simply created with the kubctl run command, where you have a defined image on the Docker registry which we will pull while creating a pod.
* Multi Container Pod
  + Multi container pods are created using yaml file (manifest file) with the definition of the containers.

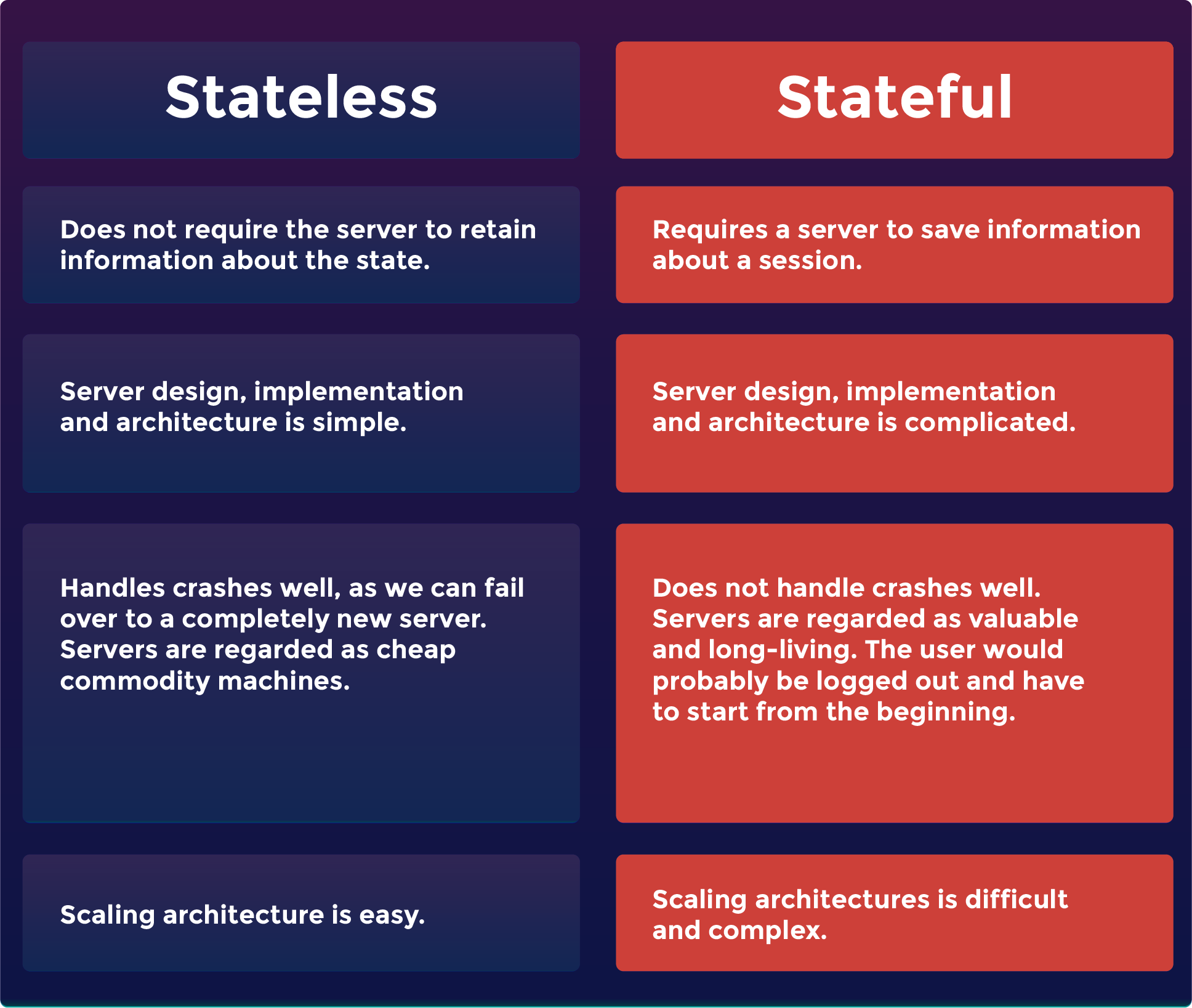
**What is the deployment strategy you used?**

* Daemon set for monitoring
* Deployment set for deploying K8S objects

**What is difference between deployment and stateful set controllers?**

* The common thing between the replica set, deployment controller and daemon set is the pods that are running are exactly identical to each other.
* Stateful set allows us to have different state, each pod can have their own state and their own volumes

**What is difference between stateful and stateless applications?**

* Stateful applications save data to persistent disk storage for use by the server, by clients, and by other applications. An example of a stateful application is a database or key-value store to which data is saved and retrieved by other applications. 

**How to monitor pods?**

* Using Probes

**What is the range of ports used in nodeport?**

* 30000 – 32767

**Can you assign the same port number for two pods?**

* Each pod has its own IP and network namespace

**What is Komposer?**

* application called komposer. It will convert your docker-compose file to a k8s.yaml setup

How to take all traffic from an old port to a new pod created in different worker nodes in the same cluster?

**How to troubleshoot pods status?**

* To check if the status of your pods is healthy, the easiest way is to run the kubectl get pods command. After that, you can use kubectl describe and kubectl logs to obtain more detailed information.
* Pod status is Pending or CrashLoopBackOff or ImagePullBackOff or ErrImagePull

**Difference between Kubectl describe and kubectl get?**

* kubectl get shows tables by default. (You can view/visualize large no of objects easily)
* kubectl describe shows the detailed description. (Better for a single object)
* kubectl describe is more flattened, has lesser data and easier to read than the full object data given by kubectl get -o yaml

**How to run pod in a particular port in a node?**

* Node Affinity – Hard rule.
* Node Selector

How to secure your k8s cluster?

* Enable Kubernetes Role-Based Access Control (RBAC)
* API Authentication, API Authorization
* Use Third-Party Authentication for API Server (github – multi-factor authentication)
* Isolate Kubernetes Nodes - nodes must be on a separate network and should not be exposed directly to public networks
* Controlling the capabilities of a workload or user at runtime

**What is main purpose of kubelet?**

* The kubelet is the primary "node agent" that runs on each node.
* Handles all the things in worker node and communicates back to API server

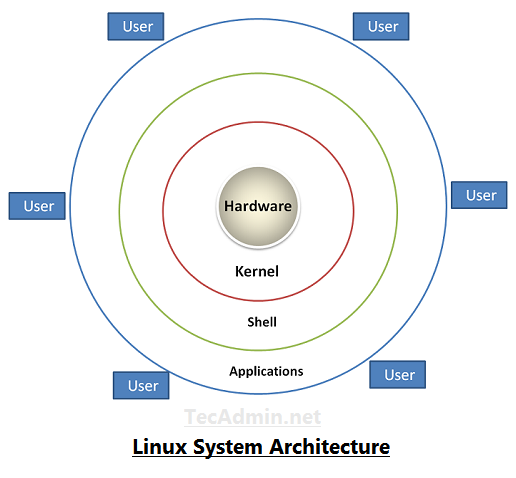
How many containers do you run in a pod for best practice?

What is the role of load-balancer in K8S?

How many load-balancers will you use when you have 10 nodes?

how to check logs in k8s if your container is failing?

**Linux Architecture**



**CICD**

Once dev team pushes the code to GitHub, a Jenkins pipeline job will get triggered. It has 4 stages

1. git checkout
2. build
3. push

deploy

1. **Continuous Integration:** is a development practice that requires developers to integrate code into a shared repository several times a day. Each check-in is then verified by an automated build, allowing teams to detect problems early. (develop - git -jobs)
2. **Continuous Delivery:** Continuous delivery picks up where continuous integration ends. CD automates the delivery of applications to selected infrastructure environments. Most teams work with multiple environments other than the production, such as development and testing environments,
3. **Continuous Deployment:** (directly deliver it to the customer) Continuous deployment goes one step further than continuous delivery. With this practice, every change that passes all stages of your production pipeline is released to your customers. There's no human intervention, and only a failed test will prevent a new change to be deployed to production.

**Other Artifactory you know**

* we build package using build tools and push it to Artifactory - JFROG, dockerhub, ECR

**how can i keep only last builds in Jenkins**

pipeline {

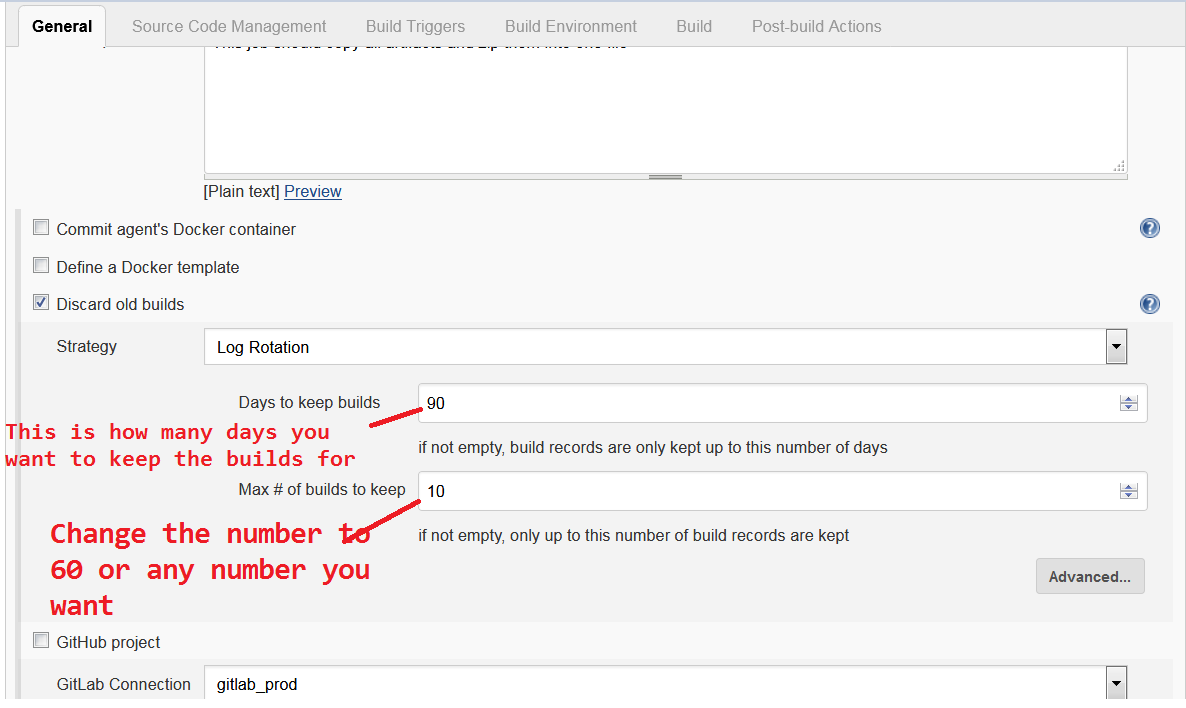
options {

buildDiscarder(logRotator(numToKeepStr: '30', artifactNumToKeepStr: '30'))

}

...

}



**Docker architecture**

Docker daemon: **dockerd.** Docker API requests. manages Docker objects like images, containers, networks, and volumes.

Docker client: users to interact with Docker. commands to docker daemon (one or more)

Docker registry: pull and push the docker images. Docker Hub by default.

Docker host: physical host on which Docker Daemon is running and docker images and containers are created.

**how will u delete Docker image- if it is 100images and some are running**

**docker image prune**

**build context**

**s3 transfer acceleration**

**bucket-level feature that enables fast, easy, and secure transfers of files over long distances between your client and an S3 bucket**. takes advantage of the globally distributed edge locations in Amazon CloudFront.

**What is AZ and y it is necessary**

**can we have vpc in multi AZ**

VPC can span more than one AZ.

**how to check the code line by line and check who has altered it in git**

**git bisect**

**3 tier architecture**

**s3 is region specific or not?**

While the name space for buckets is global**. Yes S3 buckets are region specific**. When you create a new bucket you need to select the target region for that bucket

**lambda and languages it is supported**

**how do u upload large data to aws**

**docker network**

**stash**

**Data layer caching**

**what is API**

**how to reduce image size in docker**

**which instruction will create layers in docker file instructions**

**docker daemon**

**what are aws services you know**

**which are db available in aws**

**Application load and network load balance difference and where it is used**

**use case for lambda and S3**

We can take things further by also utilizing S3 events e.g. dropping or uploading a new file to AWS S3 can trigger a Lambda event that in turn processed files or transforms image files to thumbnails or compresses them.

In order to achieve scheduled jobs, we can leverage on CloudWatch events,which **s**upport cron-like expressions that can be used to trigger a Lambda function periodically.

**Explain vm & containerization?**

**what are Namespaces?Why do you need NameSpaces?**

* partition our cluster into separate virtual sub divisions
* they are logically isolated from one another
* We can create a namespace for different teams
* Names of resources need to be unique within a namespace, but not across namespaces
* Ease of managing

**Why we use Cgroups?**

you use cgroups to control how much of a given key resource (CPU, memory, network, and disk I/O) can be accessed or used by a process or set of processes

**Deployment controller & stateful set differences?**

* Deployments are used for stateless applications, StatefulSets for stateful applications
* The pods in a deployment are interchangeable, whereas the pods in a StatefulSet are not.
* Deployments require a service to enable interaction with pods, while a headless service handles the pods’ network ID in StatefulSets.
* In a deployment, the replicas all share a volume and PVC, while in a StatefulSet each pod has its own volume and PVC.

**Explain taints & tolerations?**

**K8S architecture?**

**What will be the size of virtual machines?**

**what will be the status code if pod gets failed?**

**Explain probe actions with use cases?**

**What is pod?**

**Difference between affinity & taints?**

**What are manifest fields & explain?**

**explain branching strategy?**

**explain controllers?**

**K8S architecture**

**Where does K8S cmd Store**

**can we have only master**

**Overview of k8s installation**

**components of worker nodes**

**how will pod communicate with each other inside a cluster**

**can we assign pod to tainted nodes**

**diff b/w stateful and deployment**

**why need probes**

**HTTp respones codes**

**services in K8S**

**probe actions**

**manifest file**

**What is kubeadm?**

tool built to provide kubeadm init and kubeadm join as best-practice "fast paths" for creating Kubernetes clusters. performs the actions necessary to get a minimum viable cluster up and running.

**Does masternode has kubeproxy?**

**In case of readiness probe, if probe-action fails then what will be the status of probe?**

**Difference between headless and load-balancer controller?**

**What is Node-Antiaffinity?**

**What happens when master-node switched off suddenly?**

**Why only etcd used in kubernetes?**

open source distributed key-value store used to hold and manage the critical information that distributed systems need to keep running.

* **Fully replicated:** Every node in an etcd cluster has access the full data store.
* **Highly available:** etcd is designed to have no single point of failure and gracefully tolerate hardware failures and network partitions.
* **Reliably consistent:** Every data ‘read’ returns the latest data ‘write’ across all clusters.
* **Fast:** etcd has been benchmarked at 10,000 writes per second.
* **Secure:** etcd supports automatic Transport Layer Security (TLS) and optional secure socket layer (SSL) client certificate authentication. Because etcd stores vital and highly sensitive configuration data, administrators should implement role-based access controls within the deployment and ensure that team members interacting with etcd are limited to the least-privileged level of access necessary to perform their jobs.
* **Simple:** Any application, from simple web apps to highly complex container orchestration engines such as Kubernetes, can read or write data to etcd using standard HTTP/JSON  tools.

**What is the alternative for etcd?**

Consul, zookeeper, redis, Memcached, vault, kafka, mongodb, cassandra

**What is difference between node-selector and taints?**

**Why you need pods?**

**Difference between replica-set and replication-controller?**

**How pods communicate with each other?**

**Why namespaces used?**

**What are different pod conditions?**

**Why dangling images are created?**

**Can we run a simple nginx image using single command without using a manifest file?**

**How do you specify desired state in manifest file?**

**If you have 10 nodes and you want to schedule a pod in a node, then which one do you use a)taints b)node-selector?**

**Does masternode have kuberproxy?**

**ClusterIP,NodePort and Load-Balancer, how do they communicate with each other?**

**How to monitor pods?**

Using probes

**What happens if suddenly your master node Switches off?**

**how do micro-services contact each other?**

**30-03-2022 maverick**

**2. Kubelet**

It is a node agent that runs on each node. It runs pods in the node. It applies, creates, updates, and destroys containers on a Kubernetes node.

**3.pod troubleshooting**

The first step in troubleshooting is triage. What is the problem? Is it your Pods, your Replication Controller or your Service?

<https://kubernetes.io/docs/tasks/debug-application-cluster/debug-application/>

* Debugging Pods

kubectl describe pods ${POD\_NAME}

state of the containers pending (not scheduled onto a node) or waiting (scheduled on to a node but can’t run on machine)

* Debugging Replication Controllers
* Debugging Services

**4.if a pod always in pending state what will be the what is the reason**

it means that it cannot be scheduled onto a node. Generally, this is because there are insufficient resources of one type or another that prevent scheduling.

1. **You don't have enough resources**: You may have exhausted the supply of CPU or Memory in your cluster, in this case you need to delete Pods, adjust resource requests, or add new nodes to your cluster
2. **You are using hostPort**: When you bind a Pod to a hostPort there are a limited number of places that pod can be scheduled. In most cases, hostPort is unnecessary, try using a Service object to expose your Pod. If you do require hostPort then you can only schedule as many Pods as there are nodes in your Kubernetes cluster.

**5.some scenario-based questions on Jenkins, and kubernetes**

**31-03-2022**

**2.write a script to check that a user is valid or not**

read user

echo

echo "Validating the $user ..."

if [ `grep -c $user /etc/passwd` -eq 0 ] then

echo

echo "ERROR : PLEASE ENTER A VALID USERNAME."

echo "Exiting ..."

else

echo "Valid user "

fi

**3.grep command**

Used to search for strings inside a file

grep -i "<string>" <file\_name> display all the lines with the string, i for case sensitive

-w for whole word

-c count the number of lines the pattern is present

-v display all the that does not have the pattern

-I check for pattern in all files and prints filenames

"^<string>" lines that start with the pattern

"<string>$" lines that end with the pattern

**4. Telnet and netstat command**

**telnet:** networking protocol to create a remote connection. Unencrypted.

**telnet hostname portname**

**netstat:** check the information about ports in the linux server

netstat -a --> To check all the ports

netstat -l --> To check all that are in use

sudo netstat -tulnp --> To check which is using which port

**5.how will u improve ur application performance**

**6.infrastructure**

**7.ingress flow**

**31-03-2022**

**2.terraform important**

**3.terraform provisioners**

1. **File:** copy files or directories from local machine to newly created resource
2. **local-exec:** run a script or command on local machine, where terraform is running
3. **remote-exec:** run scripts or commands on remote resource after it is created
   1. **inline**: execute a list of commands
   2. **script:** copy local script and execute it
   3. **scripts:** to copy List of scripts and execute them

**4.ebs volume types**

Ebs: scalable, high-performance block-storage service

Gen purpose SSD: dev/test env, smaller db isntances, burstable with baseline performance

Provisioned iops SSD: mission critical apps, large db workloads, 32000IOPS/volume

Throughput optimised HDD and cold HDD: cheaper than SSD

EBS magnetic:

**5.Route s3 routing policies**

Simple routing: no health check option

Latency: multiple AWS Regions, and you want to route traffic to region that provides best latency

Weighted: traffic to multiple resources in proportions that you specify.

Failover: route traffic to healthy resources

Geobased: route traffic to different AWS locations.

**6.i have an instance type t2.medium and I want change the instance type**

**7 . I'm creating resources in terraform like elb, auto scaling, ec2 instance I want these to create in order on bye one how can achieve it**

**31-03-2022 maveric 2nd**

**2.terraform statefile**

**3.k8s statefull set**

**4.node exporter**

**5.controller types**

**6.terraform important**

**7. Ami**

**8.terraform module use case**

**9.in Jenkins I'm getting an error that no source found what will be the reason**

**01-04-2022 microland**

**1.introduction**

**2.day to day activities**

**3.jenkins pipeline**

**4.ci/cd**

**5.k8s architecture**

**6.docker daemon**

**7.Terraform state**

**8. Terraform workspace**

**9.monitoring tools**

**10.pre-requisites for Jenkins to run**

**11.how docker deamon will work**

**01-03-2022 capgemini**

**2.top command**

**3.netstat command**

**4.free -h**

**5.df -h**

**6.how your connecting to an instance**

**7.application load balancer**

**8.ssm**

**9.k8s command daily using**

**10.docker command to check running container**

**11.docker build commands**

**12.git rebase**

**13.git merge**

**14.jenkins security**

**15.pipeline and multibranch pipeline difference**

**02-04-2022 coforge**

**2.dockerfile instructions**

**3.docker command to remove container as soon as I stop the container**

**4.cmd and entry point**

**5.k8s troubleshooting**

**6.k8s service manifest file**

**7.instance puchase types**

**8.terraform statefile**

**9.Terraform remote backend**

**10.Terraform State lock**

**02-04-2022 xebia**

**1.docker commands**

**2.aws infrastructure**

**3.aws s3 bucket**

**4.k8s command**

**5.ansible-vault**

**6.jenkins pipeline flow**

**7.why we use label in jenkins**

**8.linux command**

**9.aws cli commands**

**02-04-2022 hitachi ventera**

**1.introduction**

**2.jenkins ci/CD**

**3.eks cluster**

**4.eksctl**

**5.k8s services**

**6.docker commands**

**7.shell script**

**8.runlevel in linux**

**03-02-2022 tech Mahindra**

**2.linux command to stop a process**

kill/kilall --> To forcefully stop a process

kill -9 <PID> --> To kill a process by PID

killall -9 <process\_name> --> To kill a process by its name

killall -9 -u <username> --> To kill all the process started by an user

sudo service <process\_name> stop --> Gracefully stop a process

**3.and operator in Linux**

&**--->**To run a command or a script in background

command/script &

fg <PID/command/script> --> To bring the process/command/script to the foreground

**4.docker**

**5.dockerfile**

**6.dockerhub**

**7.kubernetes challenges u faced**

**8.how to run a shell script in jenkins**

**8.how to manage users in jenkins**

**9.how to install plugin in jenkins**

**10.plugins u used**

**11.docker build command**

**12.how to secure k8s**

**13.how to create a empty file in linux**

**14.environment variable in jenkins**

**04-04-2022 infostretch**

**2.s3 bucket**

**3.ebs volumes**

**4.AWS infrastructure**

**5.aws lambda**

**6.docker command**

**7.sonarqube integration with jenkins**

**8.difference between ci/CD**

**9.master slave concept**

**10.k8s architecture**

**11.linux command to add permission**

**12.what is ext3 and ext4 in jenkins**

**13.Terraform important command**

**14.Terraform workspace**

**15.when two persons apply at a time in terraform what will happen**

**16.what is state lock**

applied on remote backend to avoid changes for multiple users at the same time to the state file

DynamoDB table can be used to lock remote state file.

**17.remote backend in terraform**

By default, terraform uses local backend, terraform.tfstate file is created in the root module. With remote state, terraform writes the state data to a remote location which can then be shared between all the members of a team. we generally use s3 as backend for terraform state file.

**18.linux command to give any user a specific permission to specific file**

chmod u/g/o +/- r/w/x <file\_name>

**05-04-2022 infostretch**

**2.ci/cd**

**3.how to use ci/cd with auto scaling**

<https://medium.com/@elmanhasa/ci-cd-in-aws-configure-auto-scaling-for-codedeploy-28063b9e714>

**4.Terraform import**

**5.Terraform life cycle**

**6.manifest file**

**7.where we keep ur secret in case of k8s**

**8.dockerfile**

contains a base image.

on that update all the packages

install packages….so on

Default Name: Dockerfile

FROM, RUN, COPY/ADD, CMD/ENTRYPOINT, ENV, ARG

**9.multistage build**

**10.docker commands**

**05-04-2022 Tech Mahindra 2nd**

**2.docker-compose file**

define and share multi-container applications. we can create a YAML file to define the services and with a single command, can spin everything up or tear it all down.

**3.docker exec command**

**4.Terraform configuration file for ec2 instance**

terraform {

required\_providers {

aws = {

source = "hashicorp/aws"

version = "~> 3.27"

}

}

required\_version = ">= 0.14.9"

}

provider "aws" {

profile = "default"

region = "us-west-2"

}

resource "aws\_instance" "app\_server" {

ami = "ami-830c94e3"

instance\_type = "t2.micro"

tags = {

Name = "ExampleAppServerInstance"

}

}

**5.difference between terraform and ansible**

Terraform is orchestration tool, with mutable infra written in declarative format using HLC syntax

Ansible is Configuration Management tool (keeping the applications and dependencies up to date), with immutable infra written in procedural format using YAML syntax

**6.difference between tcp and udp**

**7.difference between http and https**

**8.Terraform commands**

**9.dockerfile**

**10.ci/cd flow**

**11.terraform workspace**

**06-04-2022 puresoftware**

**1.how to use security group in jenkins pipeline**

**2. How to use parameters in jenkins**

**3.have u worked on ecs**

**4.do u know about gitlab**

**5.Rds**

**6.Terraform backend**

**7.Terraform state lock**

**8.webhook trigger**

**07-04-2022 altimetrik**

**2.docker instructions**

**3.docker network**

**5.nodeport and clusterIP**

**6.docker build command**

docker build . --> Builds a docker with Dockerfile present in current directory

docker build -f <Dockerfile\_name> <Dockerfile\_path> --> create image with custom Docker file name

docker build --tag=<image\_name>:<tag> . --> To set a name for the custom image

**7.how to create custom network on docker**

* bridge – An automatically generated network with a subnet and a gateway.
* host – Allows a container to attach to the host’s network.
* none – A container-specific network stack that lacks a network interface.

docker network create --driver bridge <network\_name> --> To create network

docker run -it --network <network\_name> alpine --> To create container in specific network

docker connect <networkname> <containername/containerID> --> To connect container to network

**8.jenkins pipeline**

**9.ansible role**

**10.ansible-galaxy**

**11.modules used in ansible**

**12.ansible-vault**

**13.ansible role structure**

**14.autoscaling configuration**

**15.elb configuration**

**07-04-2022 capgemini 2nd**

**2.jenkins pipeline flow**

**3.ci/cd**

**4.Rbac**

RBAC or Role-Based Access Control is an approach in Kubernetes used to add constraints for users, groups and applications to access Kubernetes resources. adds security to the Kubernetes cluster and we can apply it for a specific namespace or to the total cluster.

* Subject--- entity that needs access . user or group or a service account
* Resources--- subject wants to access . could be pods, deployments, services etc
* Verbs--- actions a subject can do on resources. could be the list, delete, create, watch etc

**5.network policy in k8s**

**6.HPA**

**7.ingress controller**

An Ingress controller is a specialized load balancer for Kubernetes (and other containerized) environments.

**8.K8s architecture**

API server

ETCD

Scheduler Control panel/master

Controller manager

Kubelet Worker node

kubeproxy

**9.cmd and entrypoint**

Both are USED TO SET a default command that gets executed once you run the docker container but in entrypoint when a command is passed during run time, it will take the command as an argument to the original entry point instruction

**10.jenkins master slave**

**11.IAM**

Identity and access management: manage User, Roles, Groups & Policy password policy. Global.

Policy: json doc defining set of permissions (version, statement, effect, principal, action, resource)

Identity based, resource based, session-based policies

**12.alb and nlb**

**13.autoscaling**

* **activedeadlieneseconds to terminate the job when it reaches the limit set**
* **--dry-run test a manifest file without actually executing it. Validate syntax**