

1. git Version - 2.39.2

Jenkins = 72.387

2. Git history

Docker = 18th version

git log

git log --oneline

3. git show "commitid"

I have a file & existing file have modified, after modifying our team member committed the code. How to check?

git history

git show "commitid"

4. How to revert deleted file?

git revert "commitid"

After deleting the file, the status needs to be commit then only we can revert the file.

git add fileid

git commit filename

5. Hot fix branch?

If any issues happen for the code in master branch we will use this hot fix branch.

6. Git Status & Git Stash?

Current status of working directory of all the files.

Git Stash = stores the temporary work space (all the untracked stages will be moved to temporary space)

7. git stash pop? & Git stash apply?

Will revert back all untracked file changes

8. Git stash apply: revert back changes from temporary shelves to working directory.

8. Git merge & Git rebase?

Merge - Merging data b/w 2 diff branches

Rebase - Merging the extra lines added in the one file

9. Git cherry-pick?

Used for existing commits we can use cherry pick  
git merge 10 files

10<sup>th</sup> file - some changes happened

10. who will be giving access for git-cherry-pick

Respective Stakeholder

11. Git clone?

Downloading the data from remote repo to local repo

12. Git pull?

Downloading the data from remote repo to local repo and automatically it will merge the code.

13. Jenkins:

Jenkins is a opensource CI which manages and control Processes Such as code, build, plan, test, deploy, operate, monitor in Devops Env.

14. Continuous Deployment & Delivery differences:

When we required deployment - dev, env, qa, env, UAT Env, SAT, Pre-Production

Continuous Delivery - final delivery - Production - delivery head, architect, manager.

15. Jenkins Port → 8080

16. Maven Path: /usr/share/maven

17. Jenkins is Purely working with Plugins.

18. Jenkins Job: Sequential set of tasks that a user defines

19. Jenkins Job Types

1. Freestyle Project

2. Pipeline

3. Multi-Configuration Project

4. Multibranch Pipeline

5. Organization folder

20. Jenkins default Path:

/var/lib/Jenkins

21. Git Hooks

Git Hooks to run on the Jenkins controller.

22. "Maven Lifecycle" is needed to convert the code into .jar, .war, .ear

23. Jenkins is Popular?

Open Source

Good plugin Support

Good Community Support

Fast & reliable

Good OS Support

24. Build Trigger job Types?

- Trigger builds remotely
- Build after the other projects built?
- Build Periodically
- Git Hub Hook trigger for SCM Polling
- Poll SCM job

25. Upstream & downstream?

An upstream job is a configured Project that triggers a Project as part of its execution

An downstream job is a configured Project that triggered as part of execution of Pipeline.

26. Run the job for every Second is Possible (or) not?

No, the job starts with 1 minute

27. Build Periodically & Poll SCM?

Build Periodically triggers builds as per schedule.

Poll SCM will check for changes before triggering any build, if there are changes to the previous version there only build be triggered.

## Q7 CI & CD $\Rightarrow$ Continuous Integration

CI is the Process by using we are able to plan, code, test, build & deployment via  
Continuous Integration

CD - where we are able to do the deployment according to our requirement.

## Q8 Continuous Deployment

Q9 What is the recent challenge / difficult challenge you have faced in Jenkins / CI CD automation?

our team member in weeks twice/thrice, ~~we~~ I have created audit trail in the Jenkins to know that, to monitor our Jenkins machines.

Q10 Run the job with different slaves?

Get checkout  $\rightarrow$  one agent (Slave 1)

Continuous Deployment - Second agent (Slave 2)

Yes it is possible.

Q11 Docker?

Docker is a open source platform for developing, building, shipping & running applications.

Q12 Docker container & VM difference.

### VM

Each VM runs its own OS.

Boot up time is in minutes

VM Snapshots are used sparingly

only one VM can be started from one set of VMX and VMDK files

### Docker

All containers share the same kernel of the host.

Containers instantiate in seconds.

Images are built incrementally on top of another like layers.

Multiple Docker containers can be started from one Docker image.

33. COPY & ADD instructions in Docker?

Copy file from host to container.

ADD: Copy file from host to container can download files from remote server & place on container.

34. CMD & ENTRYPOINT?

CMD - Run an application on the container -- /bin/bash

ENTRYPOINT - to run default process to the container.

35. Container is crashed,  $\Rightarrow$  we need to use ~~volume~~ to define default volumes of the container.

36. Docker Image?

Image is a set of binaries and libraries, it's just a static file

"Container" is nothing but running instances of an image.

37. How many images?

docker images

without image we can't create containers

38. Docker PS  $\Rightarrow$  only working container

Docker PS-a  $\Rightarrow$  working & existing containers

39. Login the container.

docker exec -it Container name / container id

40. Delete image

docker rmi image id / image name

( docker rmi prune -a  
delete all images  
- time)

41. Delete Container

If container is running, we can't delete it.

$\Rightarrow$  docker stop container name / id

remove container

~~Delete all containers at a time~~

`docker rm -f $(docker ps -aq)`

Q: Need to Pass the Port automatically?

If you pass the P, P will take automatic port forwarding

Jenkins 8080, if we need to configure Docker in it then needs to use Port 90:90 (or) automatic forwarding by using 'P'.

Q: `docker network ls`  $\Rightarrow$  bridge host none

A: After creating Docker container, it is in existed state. What is your approach.

`docker network` we need to check.

We need to check `docker image`.

Q: `docker inspect C1` (Container Id / name)

Q: Creation of docker network  $\Rightarrow$  docker network create myn N/w name

~~Container~~

~~Docker~~ is created but it keeps on existing?

The issue is N/W.

While inspecting `docker inspect`, most of the cases, Gateway & IP addresses shows NULL means, for sure it is an N/W.

For that we need to create docker n/w.

$\Rightarrow$  `docker network create myn`

For the same, attach to the docker image & container.

2 Steps

`docker run -itd --network=myn1 CentOS`

`docker run -itd --name -P CentOS`

After that, Container won't go existed state.

49. Which type of EC2 instance used?

m5dx.2xlarge

50. Diff b/w Spot instance, reserved instance, on-demanding.  
What type of instances you have used in your project?

51. How many regions & availability zones in AWS?

52. 31 Regions & 99 AZ's.

53. Where you deployed your servers?

London because tele communication projects are mostly there

I will come this way region is nothing but a country, India is an country & availability zone having with 2 diff states one for Mumbai & another for Hyd.

### Storage

2 diff volumes → while creating instance this will come

1. Root volume = t2.micro - 8GB →

2. EBS volume - Need to add extra volume on root volume we will use this.

54. How the communication b/w one microservice to another?

Via n/w communication

55.

\* Volume we can't move one location to another location → It can be done via Snapshot. (north virginia to Singapore) copy snapshot & add that volume to the existing one → I have volume created in one region & need to use the same volume in another region?

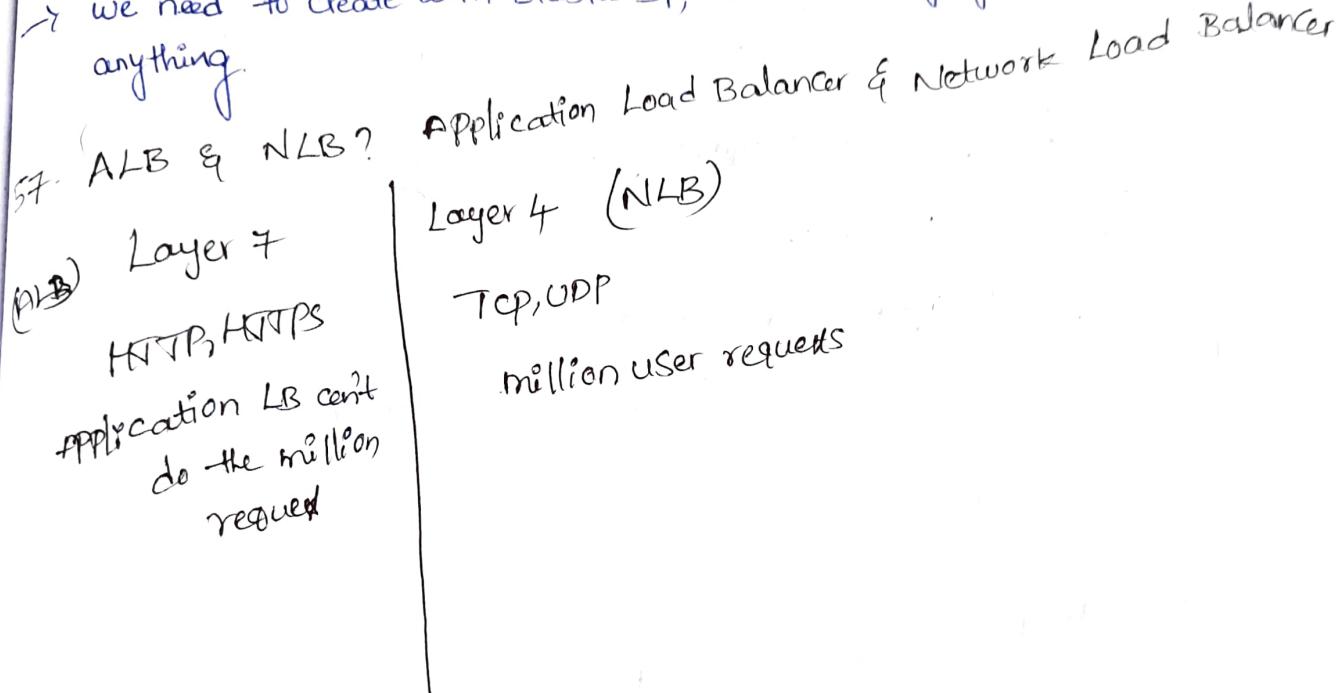
### Load Balancer types

4. classic LB

- 1. APP LB
- 2. N/W LB
- 3. Internet gateway

66) The IP 192.0.0.1 has been changed after starting & stopping the system, but existing IP was used by other application team what you should do?

→ we need to create with Elastic IP, after changing we can't do anything.



58) Load balancer steps?

- 1) Pre-requisite minimum 2 EC2 instances required.  
servers
- 2) Create for defining LB & ~~end~~
- 3) Assign Security Groups
- 4) Configure Security Settings
- 5) Configure health check
- 6) Add EC2 Instances
- 7) Add Tags
- 8) Review

59) How many types of logs we can generate from cloud watch?  
System logs - EC2 Servers  
Application logs - DB logs

60. Diff b/w NLB, ALB, Gateway load balancer? & Scenarios  
Network Load balancer, Gateway load balancers,  
Application LB

61. What types of Services you worked in AWS?

Vm Services for EC2

Storage for S3

LB

Autoscaling

Snapshots for EBS

AMI

Networking for VPC

62. MicroServices in Docker → DNS

63. Docker compose file

64. Cloudwatch & Grafana are now-a-days calling observables

65. S3 will create at Global level.  
EC2 will Create at Region level.

66 I have uploaded my object, Someone deleted that object & there is no backup?

If the Versioning is enabled, we have backup if not we can't do nothing.

delete as a marker ⇒ it will not delete Permanently

67. Services you can see in global?

S3, IAM, Route 53.

68. CRR: Cross Region Replication

i) 2 buckets with diff region

1. Ohio

2. h.Virginia

Ohio regions - s

iii) ohio region S3 notes

ii) CRR in Source  
Source to Destination

Virginia - S3 notes

Ohio region - delete here S3 files

Virginia

9. Encryption types  
i) AES 56 (SSE-53) Amazon S3 managed keys  
ii) KMS (Key Management Service)  
single key encryption

10. What is the data that you can update in S3 at a time?

0 to 5 TB.

11. Lifecycle management types

1. Standard-IA (30 days)

Infrequently accessed data (once a month) with milliseconds access.

2. Intelligent Tiering (No min storage duration)

Data with changing or unknown access patterns.

3. One Zone-IA (30 days) earlier this is 60 days.

Recreatable, infrequently accessed data (once a month) stored in a single AZ with milliseconds access. 30 days min storage duration.

4. Glacier Instant Retrieval (90 days)

Long-live archive data accessed once a quarter with instant retrieval in milliseconds

5. Glacier Flexible Retrieval (formerly Glacier) (90 days)

Long-live archive data accessed once a year with retrieval of min to hrs.

6. Glacier Deep Archive (180 days)

Long-live archive data accessed less than once a year with retrieval of hrs.

72. ~~S3~~ we can able to create with EC2?

Yes

73. How many ways of credentials we can connect?

- (i) Username & Password
- (ii) SSL certification (Secure Sockets Layer)
- (iii) SAML - Security Assertion Markup Language.

74. We have created with the Dockerfile, image & container? where you are storing the docker images?

Docker Hub or Elastic Container Registry. also we can store

75. git tag?

For git tag, we needed commit it, we can get commit id from git history by using command git show (or) git log --oneline & provide git tag version - commit id

76. RDS storage (DB instances up to 0 to 100TB)

77. Database can connect to EC2? YES

78. Blue Green Deployment for PRD Deployment.

↳ Zero DT

Same env also blue deployment - active  
green-passive

2 diff environment blue-green deployment

Blue - Production - V1.2 - V1.3

Green - Staging Area

79. VPC at Region level & Subnet at AZ level

5 VPC's in a Region level. ↳ Public & Private

AZ is created into Subnet max 6 Subnets default min 2 Subnets

We have 1 default ~~region~~, it won't work for any network.

## 10. VPC End Point?

VPC End Point will connect 2 diff Availability zones  
VPC Peering can connect 2 vpc's from same region or diff regions.

## 11. K8S & Docker Swarm differences?

### Docker Swarm

- CLI
- Supports upto 2000 nodes
- Optimized for multiple smaller clusters
- Simple installation but the resultant cluster is not strong
- There is no Dashboard which makes management complex.
- Docker Swarm needs third Party monitoring tool ELK

### K8S

- CLI & Console (GUI)
- Supports upto 5000 nodes

Optimized for one single large cluster

Complex installation but a strong resultant cluster once set up

comes with an inbuilt Dashboard

Inbuilt monitoring tool

## 82. K8S Architecture

1. Master / manager node - 1. master

2. Workernode / slave node - 2. slave

Cluster - 3 instances

### 1. Master / manager node

1. API Server
2. Scheduler
3. High Availability (or) Controller manager
4. etcd

## Q2. Workernode / slave nodes

1. kube-proxy
2. Kubelet
3. kubeadm

## Q3. kubectl create & kubectl apply diff?

Very first time when we are creating the manifest file we can use the command "kubectl create."

But already manifest file is available, we want to execute it then we can use the command "kubectl apply".

## Q4. kubectl get pods --show-labels $\Rightarrow$ to show labels

## Q5. Node Port & Load Balancer?

Assign network services in the nodes.

Load Balancer ~~uses them~~ can connect with the applications & also external IP.

It can monitor health checks, firewall:-

Ingress: incoming traffic

Egress: outgoing traffic

## Q7. Daemonset & deployment? $\Rightarrow$ replicaset

Daemon set is apply for Pod level  
Deployment set is apply for replicaset

Daemonset manages the number of Pod copies to run in a node

Deployment manages the number of Pods & where they should be on nodes.

## Q8. Daemonset & Replica set?

Replicaset should be used when your app is completely deoccupied from the node & you can run multiple copies on a given node without special consideration.

Daemonset should be used single copy of your application must run on

## RBAC: Role based Access Control

It is a method of regulating access to computer or network resources based on the roles of individual users within your organization.

### Q10. Diff b/w Role & cluster role in kubernetes?

A role always sets permissions within a particular namespace; when you create a Role, you have to specify the namespace it belongs in.

cluster Role: by contrast, is a non-namespaced resource.

### Q11. Role-Binding & clusterRole Binding?

A Role-Binding grants permission within a specific namespace.

cluster Role Binding grants that access cluster-wide.

A Role Binding ~~may~~ reference any Role in the same namespace.

### Q12. Default namespaces in kubernetes?

- default
- (4)
- kube-node-lease
- kube-public
- kube-system

### Q13. Differences b/w Persistence Volume & Persistence Volume claims?

## H. Resource & Module? (Terraform)

ec2-resource

ec2-vpc-security-module

vpc-resource

subnets

nat

igw

rt (routetable)

95. Terraform Taint?

Terraform taint command manually marks a Terraform-managed resource as tainted, forcing it to be destroyed and recreated on the next apply.

96. Horizontal Scaling & Vertical Scaling?

Horizontal Scaling refers to adding additional nodes, Vertical scaling describes adding more power to your current machines.

97. Subnet mask?

32 bit created by setting host bits to all 0s and setting network bits to all 1s.

Subnet is a segmented piece of a larger network.

98. Access key & Secret key can be generated from IAM → My Security Credentials.

99. Variables can be categorized into 3 types.

- 1) Input Variable
- 2) Output Value
- 3) Local Value

100. Arguments ⇒ input variables

Attributes ⇒ output values

Ansible  
10.

Idempotent

We have already have the servers, but if we want to install the required configurations, if we are not installed anything if we want to do the automation, by using Idempotent we can install the required hosts

102. How to setup the INVENTORY?

Vim /etc/ansible/hosts