# DevOps Interview questions

**Git:**

1. Difference between git and svn?
2. Difference between git merge and git rebase?
3. Difference between git pull and git fetch?
4. Difference between git reset and git revert?
5. What is git cherry-pick and its use?
6. What is a git webhook?
7. Commands to delete a branch in local repository and remote repository?
8. What is git bisect?
9. What is git reflog?
10. What is subgit?
11. What are the branching strategies in your project?
12. If one commit got deleted in a branch, how do you know about the details of the deleted commit?
13. Mostly used git commands in your project?
14. How do you solve merge conflict and is there any additional tools for solving merge conflict problems?
15. How many users can add in git for access management?
16. Where git history will store in git?
17. What is git Instaweb?

**Jenkins:**

1. What is Jenkins and why should we use Jenkins ?
2. What is the difference between continues integration, continues deployment and continues delivery?
3. How to configure parallel builds in declarative pipeline?
4. Difference between scripted pipeline and declarative pipeline?
5. How to configure secret credentials in pipeline?
6. If agent node failed during the pipeline execution what happened to build?
7. How to configure multi branch pipeline what is the purpose of multi branch pipeline? When you have used this multi branch pipeline?
8. How to configure Jenkins pipeline to automate the process when develop branch build completed then need to run staging branch automatically?
9. How to configure a mail to send a report to end users, result as table format structure with all details?
10. If Jenkins server got deleted how to get it back normal?
11. Jenkins running as a docker container if someone deleted java inside a container and exited from the container. Is it possible to login that container and how to troubleshoot?
12. How to scale up Jenkins horizontally and vertically?
13. How to integrate SonarQube, ansible, docker, Kubernetes with Jenkins pipeline?
14. How to run integration tests in Jenkins?
15. What is active choice reactive parameter?
16. Write a pipeline script to run dependency job?

17. Is it possible to configure 20 microservices in single Jenkins job? How to configure 20 services in single pipeline?
18. What are the stages configured in Jenkins as a Devsecops engineer?
19. If Jenkins build failed how to find the issue and resolve?
20. How to give permissions to users? Different types of user managements Jenkins will support?
21. How to make Jenkins high availability when huge traffic?
22. How to monitor Jenkins metrics, logs, job execution status and execution time in single display like dashboards?
23. What is webhook and how to configure it in Jenkins?
24. What are the best practices to manage Jenkins in different environment like dev, stage and prod. Is single pipeline or multiple pipelines?
25. Write a declarative pipeline with all stages?
26. What are plugins used in you projects?

**Docker:**

1. Difference between containerization and virtualization?
2. What is docker and its advantages?
3. How to secure docker containers?
4. Difference b/w cmd and entry point?
5. How to make Docker image as light weight?
6. What is multi stage docker image?
7. Is it possible to use multiple FROM statements in a single docker file?
8. How many types of networks in docker and its use cases?
9. What is overlay network in docker?
10. Most used docker commands?
11. What is docker stats?
12. What is on_build command in dockerfile?
13. What are the diff types of volumes, how to attach volumes to running container and how to share data from one container to another container?
14. What is docker daemon?
15. How to provide user access to docker?
16. How to configure multiple services in single docker file?
17. What is docker swarm and its uses?
18. Diff b/w docker swarm and Kubernetes?
19. If a container failed in running state, how to troubleshoot?
20. How to expose docker services to outside network?
21. How to integrate monitoring tools with docker and how to get metrics from docker container?
22. What are the plugins used in docker?
23. Write a Docker file to build a java application?

**Kubernetes:**

1. What is Kubernetes and its components?
2. Diff b/w Kubernetes and docker swarm?
3. What are the diff types of services in k8s and its uses?
4. What is ingress?
5. What are the security features in Kubernetes ?
6. Diff b/w replication set and replication controller?

7. What is pods, deployments, services, Deamon sets, stateful set, secrets, config maps, jobs, pv, pvc, storage class?
8. What is init container, side car container, ephemeral container, ambassador container?
9. How to make Kubernetes High availability?
10. What is HPA, VPA and cluster auto scaling?
11. What is Kubernetes network policy and its use?
12. How to attach distributed volumes and secrets to pods?
13. Types of volumes in Kubernetes?
14. If node fail how to troubleshoot?
15. Pod evicted in the node, what are actions to take troubleshoot?
16. How to troubleshoot errors ( Image pull backoff, crash loop backoff, OOMkill, Pod evicts, liveness and readiness probe fails, pod struck in pending state, pod struck in creating state, Service not accessible, node not ready, PVC pending )
17. Steps to upgrade Kubernetes cluster?
18. Diff b/w node selector, Node affinity, taint and tolerations?
19. Kubernetes network troubleshooting steps?
20. How to make Kubernetes worker node as master node?
21. Kubernetes command to update and rollback deployments?
22. Deployment types in Kubernetes?
23. How to take cluster backup (etcd backup and velero backup)?
24. What are the controllers in k8s (Network controller, node controller, cloud controller)?
25. How to integrate monitoring tools to K8S?
26. What is fluentD, Containerd ?
27. What is PDB, CRD?
28. Mostly used Kubernetes command to troubleshoot pods and network?
29. What is namespace in Kubernetes?
30. Write manifest files (pods, deployments, services, ingress, secrets, config maps, liveness probe, readiness prob, network policies, Deamon sets, stateful sets)
31. What is RBAC and service account?
32. How to secure Kubernetes cluster?
33. What is Kubernetes-system-matric service?

**Terraform:**

1. What is terraform (IAC) ?
2. What is terraform module?
3. What are the different files in terraform?
4. Write a code for launching vpc, public and private subnets, ec2, s3, terraform backed etc..
5. Why should we use terraform import and refresh?
6. What is state file in terraform and types of state files ?
7. What is terraform backend?
8. What is provisioner in terraform and types of provisioners in terraform?
9. What is Null resource in terraform?
10. What is terraform plan?
11. How to rollback terraform deployment?
12. Terraform apply created 10 instances, someone deleted 2 instances manually. What happened if reapply a terraform command again?
13. State file deleted there is no backup, How to get deleted state file ?
14. If any resource modification changes, Is terraform detect those changes?

15. How to manages terraform with multiple environments?
16. Commands to create terraform workspace and enter into a diff environments?
17. What is terraform registry?
18. How to manage multi cloud resources in terraform?
19. What is terraform taint?
20. What is depends_on in terraform?
21. How to configure secrets in terraform?
22. How to pass variables through command line?
23. Terraform apply failed, how to troubleshoot it?
24. where terraform lock id will store?
25. What is local and data blocks in terraform?
26. Where to run terraform commands. Is it possible to run terraform from Jenkins ci cd?
27. What are sentinel policies?
28. Write a terraform file to manage multiple cloud resources like aws and azure?


**Ansible:**

1. What is configuration management?
2. What is ansible and its features?
3. What are the main components in ansible?
4. What is play and playbook?
5. What are the ansible modules used in projects?
6. What is had-hoc command?
7. What is dynamic inventory and its use?
8. Diff b/w command and shell modules?
9. Conditional modules in ansible?
10. Which module is used to the store output of task?
11. How to pass variables in playbook?
12. If multiple hosts are present in host file but need to run one task in particular host. How to configure it?
13. What is ansible vault, how to create, rename, encrypt and decrypt vault file?
14. What is role in ansible? tree structure of role?
15. Handlers and templets in ansible? when should we use?
16. What is ansible tower?
17. What is include_task and import_task in ansible?
18. What is debug module?
19. What is call back plugins in ansible?
20. What is dot notation and array notation in ansible?
21. What is synchronize modules?
22. What is firewalld, set_facts module?
23. What is reboot_timeout ?
24. How to handle execution errors in playbook? ignore-errors?
25.  How to define multiple items of statements in single value command? With_items and loops?
26. Write a playbook to install and configure tomcat by using templates and handlers?