CI/CD Pipeline QUESTIONS

1. **Have you worked in CI/CD pipelines?**

   → YES

2. **Explain CI/CD pipeline.**

   Explain the process from Git→ Jenkins→ Docker→ Kubernetes → Ansible → Nagios

→ I was working on jenkins, creating jobs for ,

- Fetching source code from github, integrating github repo with jenkins and installing github plugins on jenkins
- Installing the maven plugin and building the application which provides WAR/JAR/EAR file
- Installing the AWS plugins for running EC2 instance which was used to install and deploy the application
- Installing the plugins for selenium web driver for testing the practical demo of application.

→ I was also working with docker for containerize the sections of application and creating docker image of our application which then be pushed on docker hub .

→ Afterwards, Kubernetes is used to automate the container operations and deployment of application on several number of ec2 instances . and for configuration management we used ansible and for monitoring ,nagios.

3. **What code coverage tool in ci/cd have you used?**

→ nagios

4. **What is CI CD pipeline?? What are the major components of it**?

→ CI/CD pipeline: A **CI/CD pipeline** helps you automate steps in your software delivery process, such as initiating code builds, running automated tests, and deploying to a staging or production environment.

→ major components

   a. Integrating
   b. Building
   c. Testing
   d. Installing and deployment
   e. Configuration management
   f. monitoring

5. **Given repo, suppose one application is added and it is go language ... You have CI CD pipeline ... But to do this do you need anything else.... ?? How do you do another type of code like c c++ go language like this??**

   a. Yes we need the plugins for building the go application on jenkins. We can use build tool such as Maven,ant or gradle for building and testing and packaging.

6. **What is the purpose of CI CD pipeline??**

   → It helps you to automate the step in your software delivery process, such as initiating code builds,running automated tests and deploying to a staging or production environment.

   → Basically it is used To Continuously Integrate , Build, Test, Deploy, Configure and monitor the application product.

7. **Why do we need Continuous Delivery?**

   → It automates software releases.

   → It increases developer productivity.

   → Locate and addresses bug quickly.

8.

Git/Github Interview Questions

1. **Did you manage Git.**

   No , I was just getting the code from git repo to jenkins.

2. **Diff between merge, pull and fetch.**

   Git Pull is basically a git fetch followed by git merge .

   Git fetch only downloads the data from repository to your local folder but it does not integrated any of these new data into your working directory.

Git pull updates the current HEAD branch with the recent changes and then download all of them.

3. **What is the merge conflict?**

   A merge conflict happens when two branches both modify the same region of a file and are subsequently merged. Git can't know which of the changes to keep, and thus needs human intervention to resolve the conflict.

4. **What strategy you have been utilizing in GitHub/git.**

→ When you're working on a project, you're going to have a bunch of different features or ideas in progress at any given time – some of which are ready to go, and others which are not. Branching exists to help you manage this workflow.

Creating Branch → Add commits to it → Open a pull request → Discuss and review your code → Merge

Maven Interview Questions

Jenkins Interview Questions

1. **Jenkins pipeline file**

→ Jenkins Pipeline is a combination of plugins that support the integration and implementation of continuous delivery pipeline.

Jenkins, an open source automation server, is used to automate tasks associated with building, testing, and deploying software. jenkins file is a text file that contains the definition of jenkins pipeline and it is checked in to the source control.

→ Jenkins pipeline file is a single platform that runs the entire pipeline as a code. All the standard jobs defined by jenkins are manually written in one script and that can be stored in a VCS. Instead of building several jobs for each phase , now you can code the entire workflow and put it in jenkinsfile .

2. **How did u manage installation in Jenkins(I told v send request to Jenkins admin and but I do know how to install it)**

→ when I joined for the project our team already has jenkins installed.

3. **What is web hook**

→ Webhooks typically are used to connect two different applications. When an event happens on the trigger application, it serializes data about that event and sends it to a webhook URL to transfer it to the action application.

Docker Questions

1. **What is a docker file ?Write a docker file?**

→ Simple text file with instructions to build image. It is an automation of image creation.

→ Example : dockerfile

FROM ubuntu #(getting the base image)

MAINTAINER anjali tandel(anjalitandel52@gmail.com)

RUN apt-get-update

CMD [“echo”,”Hello World”]

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2. **Tell me about your experience utilizing docker and docker-files.**

I used to write a docker file for creating a new image for our application ,in which we used to add the instructions for installing dependencies and software packages and running commands which are supposed to be executed while running a container using that image.

3. Diff b/w cmd, Run and entrypoint

- RUN executes command(s) while building the new image. And it is often used for installing software packages.
- CMD sets default command and parameters and executed while creating and running container from the image, which can be overwritten from command line when docker container runs.
- ENTRYPOINT configures a container that will run as an executable.

4. What is the benefit of using docker inside ec2?(recheck)

- Using Docker, you can quickly deploy and scale applications into any environment and know your code will run.
- Running Docker on AWS provides developers and admins a highly reliable, low-cost way to build, ship, and run distributed applications at any scale.

1. ECS is monitoring the status of your Docker containers, so if one goes down, ECS will automatically deploy a new one.
2. Similarly, the Auto Scaling Group is monitoring the status of your EC2 Instances, so if one goes down, it will automatically deploy a new one. Once the new Instance is up, ECS will automatically deploy Docker containers onto it.
3. ECS can do automatic, zero-downtime deployments of new versions of your Docker image.

5. **How many docker containers you run in one ec2 instance?**
   It depends on your environment. The size of your applications as well as the amount of available resources (i.e like CPU) will all affect the number of containers that can be run in your environment.

6. **If you have computer you can run multiple processes?? Then only for 2 containers in one ec2 what is the advantage??**
   The automatic deployment and scaling of the container can be an advantage of using docker on Ec2 instance.

7. **For docker you are adding additional space... Docker also needs a memory... Then when we use ec2 it also gives same results.**

8. **What is Docker Swarm?**

→Docker Swarm or simply Swarm is an open-source container orchestration platform and is the native clustering engine for Docker

9. **What is the difference between kubernetes and docker swarm?**

→

10. **Yaml file – what is difference between yaml and playbook?**

- YAML is a human-readable data-serialization language. It is commonly used for configuration files, but could be used in many applications where data is being stored or transmitted.
- **E.g. Compose** is a tool for defining and running multi-container **Docker** applications. With **Compose**, we use a YAML **file** to configure your application's services. Then, with a single command, you create and start all the services from your configuration. ... Run **docker-compose** up and **Compose** starts and runs your entire app.
- **Ansible** is a configuration management tool that automates the configuration of multiple servers by the use of**Ansible** playbooks. An **Ansible playbook** is an organized unit of scripts that defines work for a server configuration managed by the automation tool **Ansible**.

Kubernetes Questions

1. **What is Kubernetes?**

   → Kubernetes is an open-source platform created by Google for container deployment operations, scaling up and down, and automation across the clusters of hosts.

2. **tell me your experience utilizing Kubernetes.**

   Kubernetes is an open-source container-orchestration system for automating application deployment, scaling, and management.

   We used to create clusters and maintain our docker container operations using kubernetes such as autoscaling and management.

   Kubernetes will manage the state of containers

   - Can start container on specific node
   - Will restart container when it gets killed
   - Move container from one node to another

3. **What is Minikube?**

   Minikube is a tool that makes it easy to run Kubernetes locally. Minikube runs a single-node Kubernetes cluster inside a VM on your laptop for users looking to try out Kubernetes or develop with it day-to-day.

4. What is Kubectl?

Kubectl is command line interface for running commands against Kubernetes cluster.

5. What is KOPS?

Kubernetes Operations- it helps in installing kubernetes in AWS.

6. What is pod ?

- A pod describes an application running on Kubernetes.
- A pod can contain one or more tightly couple containers which talks to each other.
- A pod definition file is created using YML format.

7. **Have you worked on kubernetes? What you worked on kubernetes??**

8. Replication controller and replica and replica set

- Scaling is done in Kubernetes using Replication Controller
- Replication controller will ensure the number of pods replicas will run at all time.
- A Pod created with Replication Controller will be replaced automatically if fail, deleted, or terminated

AWS Questions

1. Worked on aws? What are all the services used in aws?
2. have u used Private DNS and public DNS
3. what is subnet and private Vpc in AWS
4. Cloud Watch metrics ,CPU , memory usage.
   Are you managing the AWS Resources
5. Tell me about private and public subnet?
6. What is aws? And what are the major services you used?
7. Did you hear about lambda? Work on lambda?
8. What is ec2? Why ec2? Why are we using it?
9. Ec2 instance you run docker on it? ...
10. Relationship between eks and ec2??
11. Why s3 and what is s3?
12. What is elb?
13. What is ebs?
14. Just get the IP addresses from the multiple lines in this file?

Ansible Questions

1. How do you handle errors in Ansible Module
2. What modules u used in Ansible
3. What is block and rescue
4. Ansible Roles
5. Bastionhost
6. Tell me about your experience utilizing ansible.

7. Have you been writing ansible playbooks?
8. Tell me about ansible-roles.
9. Do you know about bastion host?

Restful APIs Questions

1. What's the difference between hard link and soft link?
2. How many API's were you working on? What were they?
3. Whats the difference between hard link and soft link.
4. How many API's were you working on? What were they?
5. Tell me about yourself.

Nagios Questions

1. Splunk?
2. Splunk, cloud watch, nagios did you use them?
3. How you are assuring the quality of the software?

Java+SQL+Developer Questions

1. What programming languages you are good at? Or you know?
2. Do you have touch with Java? C code c++,
3. Given an array of names, for a given name find the index of the name?
4. Find the nearest two numbers in an Integer array??
5. What is gcc?? Jdc compiler?

LinuX Questions

1. How good you are in shell scripting and Linux?
2. What are the top 5 you use daily in Linux commands?