**1 . Difference between git merge and git rebase?**

**Git merge:** Git merge command allows to merge branches from git and when we give git log that time we will get complete history of merge of commits.

**Git rebase:** Git rebase is a command that allows the developers to integrate changes from one branch to another branch.

**2.What is Virtualization ?**

->Virtualization is nothing but more than one operating system running on a single physical operating system.

-> Virtualization completely depend on the software because to simulate its hardware functionality and creates a virtual computers known as Virtual machines.

-The two types of Virtualization are:

Type 1: It will have only hypervisor and this hypervisor will act as OS

Type 2: It will have both Hypervisor and Operating System.

Hypervisor: It is a computer software which is hardware or firmware that creates and runs the virtual machine. On computer where hypervisor runs one or more VMs then it is called host machine and each VMs are called guest machines

**3 What is Docker ?**

Docker is a type of container.

Docker is a open source containerization platform.

It is also a application build and deployment tool.

It uses OS-level virtualization to deliver software in the packages into containers.

The Docker which hosts the containers is called Docker Engine.

**4 About Amazon EC2**

Amazon EC2 stands for Amazon Elastic compute cloud. It is one of the services in AWS

It is a virtual machine in cloud on which we have OS level control.

We can create EC2 instance easily and we can create whenever we want and run as well as.

For creating instance we need to select the AMI(Amazon machine image) and we need to give a keypair.

AMI: is nothing but which provides all the information to launch instance. It includes the following one or more EBS snapshots or OS and an application sever etc..and we can choose what we want in it.

Keypair: It is a secure login information for Virtual machine where we can launch instance by using keypairs which will have both private key and public key where we can choose which type of key we want for our instance.

**5 How do you integrate the Jenkins with Jacoco maven and sonarqube ?**

Step 1: In Jenkins install the required plugins.

Step 2: Configure the plugins inside global tool configuration.

Step 3: Add credentials to global credentials.

Step 4: create a new job and check the plugins and all the configuration are given properly or not.

**6 About Amazon Rpote53 ?**

Amazon Route53 its is a one of the services in AWS.

Amazon Route53 is a highly available and scalable DNS web service.

It is primarily a global service.

It is used to route end users on internet application by translating names like [www.example.com](http://www.example.com) to numeric IP addresses like 192.0.80.

It makes easy to manage traffic globally.

With the help of Amazon route53 Traffic flows we can easily manage how end=users are routed to applications.

Route53 also offers Domain name registration in that we can purchase our own domain name which will be their permanently with us.

It is use to configure DNS health checks and continuous monitor and its has ability to recover from failures and control application recovery with the help of Route53 Application Recovery Controller.

**7 About AWS services ?**

Amazon Web services is a cloud computing service offered by amazon.com

It helps to build, test deploy and manage application and services where all these things are donr by data centers and it is managed by AWS.

We can create virtual machines which will have storage capacity and we can specify in which region we want our servers to be placed.

With the help of AWS services we can reduce maintenance cost

AWS is cost effective like pay as you go.

Even we have free services in AWS

The AWS services are

Iaas (Infrastructure as a service) It is type of cloud computing services It manages the lowest level of network infrastructure including networking, storage, servers and virtualization.

Paas (Platform as a service) It is a type of cloud computing services where third party providers provide platform which has hardware and software tool for the users to use on internet.

Saas (Software as a service) It is a type of cloud computing services where it’s a way to deliver a software applications on the internet so user can use the services.

**8 How do you change port number in Jenkins ?**

Step 1 Go to program files.

Step 2 click on Jenkins.

Step 3 Click on Jenkins Xml document and open the document in notepad.

Step 4 Change the port number.

Step 5 Go to services select Jenkins.

Step 6 Restart Jenkins.

**9 About Amazon S3 ?**

Amazon S3 stands for Amazon Simple Storage Service it is one of the AWS services

In Amazon S3 the data will be stored in the form of Objects.

In S3 there are three ways to store data

->Files

->Hard disk (Block)

->Object

But usually we all stored the data in the form of object (JAR or WAR files etc..)

It is used to store and retrieve any amount of data from anywhere.

It has high availability and scalability and pay as you use.

It is used to stored the large amount of data.

**10 Git commands ?**

->git init: to intialize the remote branch.

->ls: lists the contents of the current working directory.

->ls-ltr: lists the files and directories.

->git status: it displays the state of the repository and staging area.

->touch: used to create file.

->git add: adds the file to the working directory.

->git add . : adds all the files to the working directory.

->git commit: it is used to create a snapshot of te staged changes along a timeline of a Git projects history.

->git push: it is used to upload local repository content to remote repository.

->git pull: it is used to fetch and download the content from remote repository.

->git log: it is used to display all of the commits in a repository's history.

->git fetch: it is used to download content from remote repository.

->git merge: it is used to integrate changes from another branch.

->git rebase: it is used to merge the history of two branches on a repository.

->git revert: it is used for undoing changes to a repository's commit history.

->git reset: it is used to undo changes to the state of a Git repository.

->git squash: combines multiple commits into one.

**11 Difference between Git and GitHub.**

->Git:

\*Git is a DevOps tool used for source code management.

\*it is installed locally.

\*launched in 2005.

\*It is distributed version control tool.

->GitHub:

\*Hosted in Cloud(SaaS).

\*launched in 2008.

\*It is web-based interface that uses Git, the open source version control software that lets multiple people make separate changes to web pages at the same time.

**12 Difference between git pull and git fetch ?**

->git pull:

\*it updates local repository with the changes from the remote repository.

->git fetch:

\*It updates the repository data leaving local repository unchanged

**13 Difference between git merge and git rebase ?**

->git merge:

\*it preserves commit history.

->git rebase:

\*it rewrites commit history.

**14 About maven lifecycle.**

->Maven life cycle includes,

1)Validate: Validate the project is correct and all necessary information available.

2)Compile: compile the source code of the project.

3)Test: tests the compiled source code using a suitable unit testing framework.

4)Package: take the compiled code and package it in its distributable format such as a JAR.

5)Integration Test: process and deploy the package if necessary into an environment where integration tests can be run.

6)Verify: checks to verify the package is valid.

7)Install: install the package into the local repository.

8)Deploy: In this phase, the packaged code is copied and deployed to other remote repositories.

**15 Different classes of S3 ?**

Storage Classes available with Amazon S3 are:

Amazon S3 Standard

Amazon S3 Standard-Infrequent Access

Amazon S3 Reduced Redundancy Storage

Amazon Glacier.

**16 What is the minimum and maximum capacity of the one bucket in S3 ?**

Minimum of 0 bytes

Maximum of 5TB

**17 What is git merge conflict ?**

A merge conflict will takes place when Git is unable to resolve differences in code automatically between two commits.

Git can merge the changes automatically only if the commits are on different lines or branch.