**Jenkins**

**Continuous Integration and Continuous Deployment(CI/CD)**

**Continuous Integration (CI) is a practice in which developers can able to merge their code ,create a build of their code and test their code.**

**Continuous Deployment (CD) is a practice in which we can release the changes from the repository to differnt environment ( non-prod , stage , Production).**

**Which tool you use for CI/CD?**

**Jenkins**

**what are the diff tools you know for CI/CD?**

**bamboo , udeploy , tfs**

**What are the steps involve in CI?**

**1 get source code ( from git ) ,**

**2 comiple source code (in maven ) ,**

**3 unit test ( using JUnit ),**

**4 build ,**

**5 static code analysis ( sonarqube ) ,**

**6 notify if build fail ,**

**7 build success then push to ( jfrog/nexus ) repo**

**What type of job have you configured in jenkins? / What are the type of jobs available in Jenkins?**

**free style , maven project , pipeline, build flow**

**what is the difference between free style and pipeline job?**

**free style is a GUI based configuration to run the job.**

**In case of pipeline we can write DSL code to run the job.**

**what is pipeline in jenkins?**

**A pipeline is a collection of job stages in a specified sequence that brings the software**

**from version control system to the hands of the end users by using automation tools.**

**What is scripted pipeline and declaretive pipeline?**

**scripted pipeline stages work inside node block**

**declaretive pipeline stages work inside pipeline block**

**Syntax of scripted pipeline?**

**node ('LinuxAgent1')**

**{**

**stage('Build') {**

**//**

**}**

**stage('Test') {**

**//**

**}**

**stage('Deploy') {**

**//**

**}**

**}**

**Syntax of declaretive pipeline?**

**pipeline {**

**agent{**

**node {**

**label 'LinuxAgent1'**

**customWorkspace "/tmp/foCusPipeline/"**

**}**

**}**

**stages {**

**stage('Build') {**

**steps {**

**//**

**}**

**}**

**stage('Test') {**

**steps {**

**//**

**}**

**}**

**stage('Deploy') {**

**steps {**

**//**

**}**

**}**

**}**

**}**

**How to configure slave jenkins node?**

**Click on Manage Jenkins in the left corner on the Jenkins dashboard.**

**Click on Manage Nodes.**

**Select New Node and enter the name of the node in the Node Name field.**

**Select Permanent Agent and click the OK button. ...**

**Enter the required information.**

**Enter the Hostname in the Host field.**

**add credentials**

**Select the next dropdown to add the Host Key Verification Strategy under**

**Non verifying Verification Strategy.**

**Select Keep this agent online as much as possible in the Availability field.**

**how many way we can connect slave in jenkins?**

**we can connect slave via ssh , or via java web start , or as a windows service control by windows server**

**jenkins ---> nodes ---> click on the required node ----> click configure ---> select launch method**

**How many way we can provide security for your jenkins server?**

**How to provide security for your jenkins server?**

**Click on Manage Jenkins and choose the ‘Configure Global Security’**

**Click on Enable Security**

**choose the option ( lets select ‘Jenkins’ own user database’)**

**Setting up an admin users**

**Click on Manage Jenkins then Manage Users**

**Create other users for the system**

**Go to Manage Jenkins → Configure Global Security ---> click on ‘Matrix based security’ from Authorization section**

**how to configure github webhook in jenkins?**

**Login to GitHub repo**

**click settings**

**Click on Webhooks and then click on ‘Add webhook’**

**paste your Jenkins environment URL in Payload URL**

**select: ‘application/json’ In the ‘Content type’**

**check ‘Pull Requests’ and ‘Pushes’ under Which events would you like to trigger this webhook?**

**check ‘Active’**

**click on ‘Add webhook’.**

**Now got to jenkins**

**click on ‘New Item’ to create a new project**

**Give your project a name**

**choose ‘Freestyle project’ / pipeline click OK**

**Click on the ‘Source Code Management’ tab**

**select git and paste your GitHub repository URL**

**Click on the ‘Build Triggers’ select "GitHub hook trigger for GITScm polling"**

**click save**

**How to declare variable in pipeline?**

**def buildInfo\_var**

**def job\_tier="IfrsDev"**

**for environment variable we need to mention it in environment block**

**environment{**

**playbook\_path = "/home/ad/easa\_ansib\_f6/ifrsTest"**

**runFailure = "false"**

**}**

**How to call a variable in pipeline?**

**${variable\_name}**

**ex --> ${playbook\_path}**

**${job\_tier}**

**If you have 10 repo in your github how many jobs you need in jenkins?**

**we need 10 jobs to test 10 github repo**

**How to install jenkins?**

**Add Jenkins repo ( wget -O /etc/yum.repos.d/jenkins.repo \**

**https://pkg.jenkins.io/redhat-stable/jenkins.repo )**

**Install Java**

**Install Jenkins packages**

**Start Jenkins service**

**Allow Jenkins port in firewall**

**Step Jenkins portal ( /var/lib/jenkins/secrets/initialAdminPassword )**

**Change the shell for jenkins user to /bin/bash**

**Add user jenkins to the sudoers file without requiring a password**

**Enable password authentication in sshd\_config**

**Restart sshd**

**How to configure JDK , MAVEN, Gradle in jenkins?**

**Manage jenkins ---> Global tool configuration**

**how to configure multiple JDK for java Implementation project?**

**manage jenkins --> global tool configuration --> add JDK**

**How to take backup jenkins server?**

**.jenkins folder need to take backup**

**thin backup plugin**

**What is jenkins home directory?**

**.jenkins is the home directory for jenkins**

**How to delete old builds automatically?**

**open job ---> configure ---> discard old builds under General tab**

**How to pass multiple parameters to Jenkins job?**

**select The project is parameterized under general tab**