01) What is Jenkins used for?

Jenkins is used to build and test the product continuously so developers can continuously integrate changes into the build.

02) What is Jenkins agent? What is Jenkins executor (Build Executor)?

- A Jenkins agent is an executable, residing on a node, that is tasked by the controller to run a job.
- A Jenkins executor is one of the basic building blocks which allow a build to run on a node/agent

03) Explain Jenkins master-slave architecture?

The Jenkins master acts to schedule the jobs, assign slaves, and send builds to slaves to execute the jobs. It will also monitor the slave state and get back the build result responses from slaves and the display build results on the console output.

04) Mention three security mechanisms used by Jenkins to authenticate users?

- Default Mechanism Choose an internal database to store user data and credentials.
- Authenticate against a Lightweight Directory Access Protocol (LDAP) server.
- Use the authentication mechanism used by the application server upon which it is deployed.
- 05) Mention ways that a job can be run/scheduled in Jenkins?

- Builds can be triggered by source code management commits.
- Builds can be triggered sequentially after completion of other builds.
- Can be scheduled to run at a specified time using the CRON jobs
- Manual Build Requests.

06) How can we restart Jenkins server (Hint it's an endpoint we visit in the browser)?

Type in the browser "\${jenkins_url}/restart"

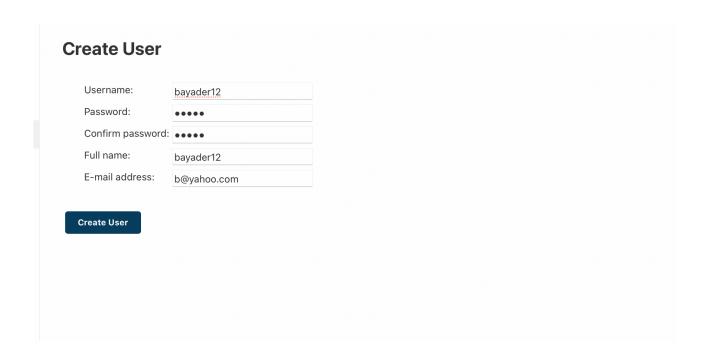
07) Install jenkins with docker image.

```
bayaderalomari—com.docker.cli < docker run -p 8080:8080 -v ~/jenkins:/var/jenkins_home --name jenkins jenkins/jenkins - 132x...
bayaderalomari@Bayaders-MacBook-Pro ~ % docker run -p 8080:8080 -v ~/jenkins:/var/jenkins_home --name jenkins jenkins/jenkins
Unable to find image 'jenkins/jenkins:latest' locally
latest: Pulling from jenkins/jenkins
39ab78bc090?: Already exists
21a4b2097108: Pull complete
74ba10679706: Pull complete
44ba10679706: Pull complete
44ba10679706: Pull complete
46d64074009: Pull complete
46d71ct277f: Pull complete
817f8edb9f7e: Pull complete
91d997158d3: Pull complete
535785887972: Pull complete
535785887972: Pull complete
24313ecc0871: Pull complete
124313ecc0871: Pull complete
1293098e56741: Pull complete
12930167168: Pull complete
129208-09-01 12:15:01.25687c587se06519977c424d591895f18f0644cfcc58a085c8cff3136f975d60e0
Status: Downloaded newer image for jenkins/jenkins:latest
Running from: /usr/share/jenkins/jenkins.war
webroot: EnvVars.masterEnvVars.gat("JENKINS_HOME")
2022-08-01 12:15:01.25640000 [id=1] INFO org.eclipse.jetty.util.log.Log#initialized: Logging initialized @319ms to org.eclipse.jetty.util.log.JavaUtil.log
2022-08-01 12:15:14.290+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war file
2022-08-01 12:15:14.200+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war file
2022-08-01 12:15:14.200+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: jetty-9.4.45.v20220203; built: 2022-08-09.714:34.1052; git: 4a0c91c0be53805e3fcffdcdcc9587d5301863db; jvm 11.0.14.1+1
```

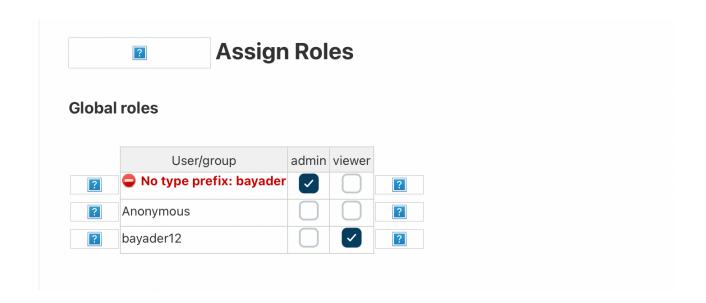
08) Install role based authorization plugin.

Preparation		
	Checking internet connectivity	
	Checking update center connectivity	
	• Success	
Role-based Authorization Strategy	Success	
Loading plugin extensions	Success	
Go back to the top page		
(you can start using the installed	plugins right away)	
Destant Incline out on installati		
🐤 🗌 Restart Jenkins when installation	on is complete and no jobs are running	

09) Create new user.



10) Create read role and assign it to the new user



11) Create free style project and link it to private git repo(inside it create directory and create file with "hello world").

