

## Multiple Choice Questions

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1. Choose all the pipelines which Jenkins supports?

- a. Scripted pipelines
- b. CI/CD pipelines
- c. Declarative pipelines
- d. All the above

Answer: d

Explanation:

Jenkins supports scripted, declarative and CI/CD pipelines.

Scripted pipelines - It is a traditional way of writing code where a Jenkins file is written on the Jenkins UI interface to create pipelines.

Declarative pipelines - It is a new feature that supports pipeline as a code. This code is written in a Jenkins file which can be checked with any source control management system like GIT.

CI/CD pipelines - It automates your software delivery process by building codes, running test cases, and safely deploying the code or application on your servers.

2. A user is working on an ABC project that uses Maven for creating project artefacts after successful builds. Which file should the user choose to define dependency in Maven?

- a. pom.xml
- b. dependency.xml
- c. version.xml
- d. build.xml

Answer: a

Explanation:

POM or project object model is the fundamental unit of work in Maven. POM.xml file contains information about project and configuration details used by Maven to

build the project.

3. A user needs to test the application code using JUnit test cases. Is it possible to run JUnit as a part of the Jenkins pipeline?

- a. True
- b. False

Answer: a

Explanation:

The user needs to use the JUnit plugin to integrate it with Jenkins. JUnit testing consumes XML reports generated during the builds and provides the web UI for viewing test reports.

4. A user is looking to use Maven in the Jenkins pipeline. Which command does the user need to run to check the installed Maven version?

- a. maven -ver
- b. maven -version
- c. mvn -version
- d. mvn -ver

Answer: c

Explanation:

'mvn -version' is the command that is used to check the Maven version. If Maven is already installed, then the 'mvn -version' command will show the maven version installed in your machine.

5. A user is creating a Jenkins pipeline and wants to add Jenkins plugins as per the project requirement. The user has checked the Jenkins plugin directory but could not find the required plugin. Is it possible for the user to add custom plugins in the Jenkins pipeline?

- a. Yes
- b. No

Answer: a

Explanation:

Jenkins provide flexibility to its users to create their own plugins and use them as per their requirement.

6. You are using Maven to create builds in your Jenkins pipeline. Which maven plugin you need to use to create your project structure?

- a. execution
- b. dependency
- c. archetype
- d. properties

Answer: c

Explanation:

Archetype is a Maven project templating toolkit where you can define your project structure. Archetype is a model from which all other things of the same kind are created.

7. A user is looking to create a Jenkins pipeline. From the following steps, select the correct order to create the Jenkins pipeline?

1. Enter project name and select freestyle job
2. Select a new item from the main menu
3. Configure your job
4. Click OK to create a new job in Jenkins

- a. 1-3-2-4
- b. 2-1-4-3
- c. 4-2-1-3
- d. 1-4-2-3

Answer: b

Explanation:

To create a Jenkins pipeline, you need to:

1. Select a new item from the main menu
2. Enter the name of the project and select freestyle job
3. Click OK to create a new job in Jenkins
4. Configure your job

8. You have installed Jenkins in your local machine successfully. Now you need to run Jenkins. Which command will you use to run Jenkins from the command line?

- a. java -war jenkins.war
- b. java -war jenkins.jar
- c. java -jar jenkins.jar
- d. java -jar jenkins.war

Answer: d

Explanation:

java -jar jenkins.war is the command used from the command-line to run the Jenkins application. This command will start the jetty servlet engine, which hosts the Jenkins application.

9. A user wants to create distributed Jenkins build pipeline. From the following steps, select the correct order to achieve this task?

1. Click on new nodes
2. Under manage Jenkins sections, select manage nodes
3. Enter slave node machine details
4. Provide node name and select dumb slave option and click OK

a. 2-1-4-3

b. 4-2-1-3

c. 2-3-1-4

d. 4-1-2-3

Answer: a

Explanation:

Steps to create distributed Jenkins build pipeline:

1. Under manage Jenkins sections, select manage nodes
2. Click on new nodes
3. Provide node name and select dumb slave option and click OK
4. Enter slave node machine details

10. While configuring and installing Jenkins (version 2.54 and above) in your local machine, which JAVA Development Kit (JDK) version is required to run Jenkins?

a. 5

b. 7

c. 8

d. 6

Answer: c

Explanation:

JAVA Development Kit (JDK) 1.8 version is the minimum requirement to run Jenkins version 2.54 and above.

11. Among the following options, select the static code analysis plugins supported by Jenkins?

- a. Checkstyle
- b. PMD
- c. FindBugs
- d. All the above

Answer: d

Explanation:

Checkstyle, PMD and FindBugs are static code analysis plugins supported by Jenkins.

Checkstyle - It is a static code analysis tool used in the software development cycle to check if the java source code is compliant with specified code rules.

PMD - It is an open-source static code analysis tool that reports on issues found within application code.

FindBugs - It is an open-source static code analysis tool that detects possible bugs in java programs.

12. You are required to use PMD and FindBugs as a part of static code analysis in your Jenkins pipeline. Where will you add PMD and FindBugs plugins

configuration in your project?

- a. build.xml
- b. version.xml
- c. pom.xml
- d. dependency.xml

Answer: c

Explanation:

You need to add PMD and FindBugs plugin configuration under the plugins section of your projects pom.xml file. Then you can execute the maven pmd and FindBugs command to complete the static code analysis.

13. You have created a Jenkins pipeline, and now there is an additional requirement to add static code analysis as a part of your code coverage in the Jenkins pipeline.

In which Jenkins pipeline stage, you will preferably add static code analysis code?

- a. Between run unit test cases and publish test reports
- b. Between checkout code and run unit test cases
- c. Between publish test reports and build code
- d. Before checkout code

Answer: b

Explanation:

You need to add static code analysis code in the stage between checkout code and run unit test cases stages. Because when you trigger the Jenkins pipeline, first Jenkins job will checkout your code from the SCM, then it will analyze your static code and then test the code coverage. After that, it will execute the unit test cases.

14. A user executed the wrong Jenkins job, and a workspace has been created, which is not required anymore for the current project work. Is it possible to delete the workspace in Jenkins?

- a. True
- b. False

Answer: a

Explanation:

The workspace folder is the largest folder in Jenkins that contains your project artefacts from different Jenkins job stages. It is safe to delete or remove the workspace for a given Jenkins job as long as it is not currently running.

15. You have been given a task to create a Jenkins pipeline. You have configured and installed Jenkins successfully. Now you need to set up a source code management tool for your Jenkins job.

Among the following options, which source code management tool plugin does Jenkins install by default?

- a. SVN
- b. GIT
- c. None
- d. Concurrent version system

Answer: c

Explanation:

Jenkins does not install any source code management tool plugin by default. However, if you need to use any source code management tool plugin, you can find that under the plugin directory and then select that and use it in your project.

16. You have been given a task to move the existing Jenkins job from one server to another. From the following steps, select the correct order to complete this task?

1. Make a copy of the already created Jenkins job
  2. Copy the related job directory to slide a job from one installation to another
  3. Create a clone of a job directory by a different name
  4. Rename existing job by renaming a directory
- a. 3-1-2-4
  - b. 2-1-3-4
  - c. 2-1-4-3
  - d. 3-2-1-4

Answer: b

Explanation:

Steps to move the existing Jenkins job from one server to another:

1. Copy the related job directory slide a job from one installation to another
2. Make a copy of the already created Jenkins job
3. Create a clone of a job directory by a different name
4. Rename existing job by renaming a directory

17. You are currently installing and configuring the Jenkins in your system. Which environment variable do you optionally use to specify the folder in which Jenkins configuration and runtime data is contained?

- a. JENKINS\_HOME
- b. JAVA\_HOME
- c. M2\_HOME
- d. JENKINS\_ROOT

Answer: a

Explanation:

The optional JENKINS\_HOME can be configured as either a system- or user-level variable in the host OS. By default, Jenkins configuration and runtime data are stored in a subfolder named .jenkins within the user's home directory, but it will use the location specified by the JENKINS\_HOME variable instead if the configuration exists.

18. A user is looking to use Gradle to build a project as a part of the Jenkins pipeline. Which plugin is required to configure while integrating Gradle with Jenkins?

- a. Gradle plugin and java plugin
- b. Only the Gradle plugin
- c. Gradle plugin and SCM plugin
- d. None of the above

Answer: c

Explanation:

To build the Gradle project as a part of the Jenkins pipeline, you need to configure the Gradle plugin and Source Code Management plugin in your configuration file.



19. You are about to create your first Jenkins pipeline. You have already installed Jenkins without any plugins configured. Among the following options, what

is the only type of Jenkins build job you can create?

- a. Multiconfiguration project
- b. Maven project
- c. Pipeline project
- d. Freestyle project

Answer: d

Explanation:

A Jenkins freestyle project provides few build facilities other than manipulating Jenkins environment variables and running shell scripts.

You need to install the Maven and Pipeline plugins to create a Maven and Pipeline project. The Multi-configuration project becomes available after installing the Jenkins Git plugin.

20. You are required to use Gradle build Init plugin in your Jenkins pipeline. Which task is executed to use Gradle build init plugin?

- a. Standard
- b. Init
- c. Skipping
- d. Standard or Init

Answer: b

Explanation:

The Build Init plugin is used to create a new Gradle build in your Jenkins pipeline. It supports creating brand new Gradle builds of various types as well as converting existing Apache Maven builds to Gradle.

21. A user has created a Jenkins pipeline and looking for a plugin that can effectively monitor the system parameters after the applications are deployed successfully on

the servers. Among the following options, select the appropriate plugin for this task?

- a. JBoss
- b. ANT
- c. Kubernetes
- d. Prometheus and Grafana

Answer: d

Explanation:

With the help of the Prometheus and Grafana plugin in Jenkins, all system parameters such as CPU, memory, disk usage etc., are effectively monitored, and all these parameters are projected well on Grafana dashboards. You also have an option to customize Grafana dashboards as per your requirement.

22. In the context of standalone Jenkins applications, which embedded runtime application is used?

- a. WebSphere
- b. Wildfly
- c. Jetty
- d. Tomcat

Answer: c

Explanation:

While an embedded Tomcat server may be the preferred deployment target for Spring Boot projects, Jenkins prefers to embed Jetty. Of course, that does not mean Jenkins is bound to Jetty. While Jenkins comes with an embedded Jetty servlet engine, Jenkins itself can be deployed to any application server that supports the Jetty EE web profile.

23. Among the following options, select the security mechanisms Jenkins uses to authenticate users?

- a. Using application server on which Jenkins is deployed
- b. Internal database for storing user credentials
- c. Using lightweight directory access protocol server
- d. All the above

Answer: d

Explanation:

Jenkins can authenticate users in the following ways:

1. Jenkins uses an internal database to store user data and credentials
2. Using Lightweight Directory Access Protocol server
3. Using the application server on which Jenkins is deployed

24. A user has started creating a Jenkins job. The user is looking for a source code management plugin to integrate with the Jenkins job. Among the following Jenkins plugins, which plugin user should select for source code management?

- a. GIT
- b. Maven
- c. Docker
- d. Prometheus and Grafana

Answer: a

Explanation:

The git plugin provides fundamental git operations for Jenkins projects. It can poll, fetch, checkout, branch, list, merge, tag, and push repositories.

25. User needs to configure the third-party tools within Jenkins. From the following steps, select the correct order to complete this task?

1. Configure third-party tool under tools tab of manage Jenkins section of the admin console.
2. Install third party software.
3. Install the Jenkins plugin that supports third-party tools.
4. Use the third-party tool via plugin within Jenkins build job.

- a. 2-1-3-4
- b. 2-3-1-4
- c. 2-1-4-3
- d. 3-2-1-4

Answer: b

Explanation:

Steps to configure the third-party tools within Jenkins:

1. Install third party software.
2. Install Jenkins plugin that supports third-party tools.
3. Configure third-party tool under tools tab of manage Jenkins section of the admin console.
4. Use the third-party tool via plugin within Jenkins build job.

26. User has created a microservices-based application, and as per the client's requirement, the application will be deployed in containers. Among the following options, which Jenkins plugin user should use to complete the requirement?

- a. ANT

- b. Bamboo
- c. GIT
- d. Docker

Answer: d

Explanation:

The user needs to use the Docker plugin in the Jenkins pipeline to deploy the microservices-based application in the containers. Docker plugin uses a Docker host to dynamically provision a docker container as a Jenkins agent node.

27. User needs to configure Jenkins node agent to communicate back to Jenkins master node. Select among the following options for configuration?

- a. Launch Jenkins node agent from the command line
- b. Launch Jenkins node agent from the browser
- c. Both
- d. None

Answer: c

Explanation:

JNLP file is downloaded when a Jenkins node agent is launched from a browser. When it is run, the JNLP file launches a new process on the client machine that runs Jenkins jobs. On the client, agent.jar file is required to launch it from the command line. The executable JAR file is run from the command line along with a reference to the slave agent's JNLP file. JNLP file is run through a web browser and running this launches a process on the client. That process can communicate with the Jenkins master and run Jenkins build jobs when it has idle clock cycles.

28. A user is working on a java project. The user is creating the Jenkins pipeline and looking for a plugin that can build java code and integrate it with the Jenkins job.

Among the following Jenkins plugins, which plugin user should select to build java code effectively?

- a. SonarQube
- b. Maven
- c. Docker
- d. javancss

Answer: b

Explanation:

Maven is a build tool which is designed to manage dependencies in your project. Maven plugin integrates with Jenkins pipeline, and it works effectively with java based projects.

29. Is it possible to turn off Jenkins security if the administrative users have locked out of the admin console?

- a. True
- b. False

Answer: a

Explanation:

You need to check the config.xml file and change the settings to false for security to be disabled when Jenkins is started next time.

30. A user has started creating Jenkins pipeline where a user has already added plugins for source code management and code build. Now the user is looking for a plugin that can effectively test the application and integrate it with the Jenkins pipeline. Among the following options, select the appropriate answer?

- a. Maven
- b. ANT
- c. SVN
- d. JUnit

Answer: d

Explanation:

The JUnit plugin integrates with the Jenkins pipeline. It provides a publisher that consumes XML test reports generated during the builds and provides graphical and web UI visualization of the historical test results.

31. You need to automate deployment using the Jenkins deploy plugin. Among the following options, which all containers are supported by Jenkins deploy plugin?

- a. Tomcat
- b. JBoss
- c. Both
- d. None

Answer: c

Explanation:

Jenkins deployed plugin takes a war file and deploys that at the end of the build to a running application server. Containers that are supported by Jenkins deploy plugins are Tomcat, JBoss, Glassfish etc.

32. It is required to use different ports if Jenkins and Tomcat run on the same system.

- a. True
- b. False

Answer: a

Explanation:

You should use different ports if Jenkins and Tomcat are running on the same system.

For example - port 9090 for Jenkins and port 8080 for Tomcat

The default **Jenkins** installation runs on **ports** 8080 and 8443. Typically, HTTP/HTTPS servers run on **ports** 80 and 443, respectively.

33. You are using a tomcat container to deploy your application. You are creating a Jenkins pipeline, and this requires you to set up a tomcat username, password and

Tomcat URL. You need to set up the tomcat username and password, so for completing this setup, which tomcat file do you need to make the changes to?

- a. Tomcat-config.xml
- b. Tomcat-users.xml
- c. Tomcat-admin.xml
- d. Tomcat-bin.xml

Answer: b

Explanation:

Tomcat-users.xml contains tomcat username and password details. You can either use the existing Tomcat username/password, or you can create a new role and assign a tomcat username and password for that role.

34. From the given information, select the correct statement about the freestyle and pipeline Jenkins job?

- 1. Pipeline job runs on Jenkins master while freestyle jobs are executed on an agent.
  - 2. Pipeline and freestyle jobs both use lightweight executors
- a. Both statements are correct
  - b. Only the second statement is correct
  - c. Both statements are incorrect

d. Only the first statement is correct

Answer: d

Explanation:

Pipeline jobs run on Jenkins master using a lightweight executor expected to use few resources while freestyle jobs are executed on an agent.

35. Users need to integrate the project GitHub account with Jenkins. Among the following steps, select the correct order to integrate the project GitHub account with Jenkins?

1. Create a new Jenkins job
2. Create Build triggers
3. Install GitHub integration plugin
4. Create webhooks
5. Configure GitHub URL

a. 3-5-2-1-4

b. 3-1-5-2-4

c. 1-5-2-3-4

d. 4-1-5-3-2

Answer: b

Explanation:

Steps to integrate GitHub account with Jenkins:

1. Install GitHub integration plugin
2. Create a new Jenkins job
3. Configure GitHub URL
4. Create Build triggers
5. Create webhooks

36. Does a scripted pipeline support the pipeline as a code concept?

a. True

b. False

Answer: b

Explanation:

A scripted pipeline is a traditional pipeline in which a Jenkinsfile is written on a Jenkins UI instance while a declarative pipeline supports the pipeline as a code concept.

37. A user ran the Jenkins job and, after some time, found a broken build in his/her Jenkins project. How will the user start the investigation?

- a. Restart Jenkins and re-run Jenkins job
- b. Re-run Jenkins job
- c. Check console output, missing project files and replicate the issue
- d. Build a new Jenkins job for the same task

Answer: c

Explanation:

Open the console output where the broken build is created. Now you need to check for missing files, if any. Then you can update your local workspace and replicate the issue.

38. Among the following statements regarding vertical and horizontal scaling in Jenkins, choose the correct statements?

- 1. In vertical scaling, load on the Jenkins controller increases, resulting in more configured jobs.
  - 2. In horizontal scaling, load on Jenkins controllers increases, resulting in additional Jenkins controllers.
  - 3. In vertical scaling, load on Jenkins controllers increases, resulting in additional Jenkins controllers.
  - 4. In horizontal scaling, load on the Jenkins controller increases, resulting in more configured jobs.
- a. The first and second are correct
  - b. The second and third are correct
  - c. The first and fourth are correct
  - d. The third and fourth are correct

Answer: a

Explanation:

In vertical scaling, load on Jenkins controllers increases, resulting in more configured jobs or orchestrating more frequent builds.

In horizontal scaling, load on Jenkins controllers increases, resulting in additional Jenkins controllers to accommodate new teams or projects.



39. There are multiple ways to establish a connection between controller and agent. Select the connector that uses authorized keys to connect agents?

- a. Inbound connector
- b. Custom scripts
- c. JNLP-HTTP connector
- d. SSH connector

Answer: d

Explanation:

Jenkins has a built-in SSH client implementation. Thus, Jenkins controller can easily communicate with any machine with an SSH server installed.

SSH connector requires the controller's public key, which is part of the set of the authorized keys on the agent.

40. It is preferred and comes under good practices to execute jobs on the Jenkins controller.

- a. True
- b. False

Answer: b

Explanation:

You should avoid executing Jenkins jobs on the Jenkins controller as it introduces security issues. Thus, Jenkins user would have full permissions on all the

Jenkins resources on the controller. This can lead to malicious activities. Hence it would be best to create distributed build architecture where Jenkins jobs will get executed on agents.

41. A user is creating a declarative pipeline in Jenkins using Groovy syntax. What are the main elements of this pipeline code?

- a. Pipeline
- b. Master
- c. Agent
- d. Stage

Answer: a, c, d

Explanation:

A pipeline is a block that contains script contents. While Agent defines where the pipeline will start running from, and Stage are the pipelines that contain several steps enclosed in the block.

42. You are using Jenkins for CI/CD. Select the correct statement related to Jenkins?

- a. Continuous integration tool
- b. Build automation tool
- c. Drives built process
- d. Automate the software development process using CI/CD

Answer: a, d

Explanation:

Jenkins is a Continuous Integration (CI) tool used to automate the software development process using CI/CD. Jenkins supports version control tools like Git and AccuRev. In addition, Jenkins can execute Apache Ant and Apache Maven.

43. Parameters in the Jenkins pipeline are supported by the agent and are defined at the bottom level of the pipeline.

- a. True
- b. False

Answer: b

Explanation:

Parameters in the Jenkins pipeline are supported by the agent section and are defined at the top level of the pipeline or inside an individual agent directive.

44. User is creating a Jenkins pipeline and is required to use a backup plugin. From the below statements, select the correct details about the backup plugin?

- 1. It is used to back up critical configurations and settings.
  - 2. It is used to back up SCM code for the future in case of any failure.
- a. Both statements are correct
  - b. Only the second statement is correct
  - c. Only the first statement is correct
  - d. None

Answer: c

Explanation:

Jenkins Backup Plugin is a backup tool that is used to take back up of the critical configurations and settings so that it can be used in the future if there will be any failure or as per the requirement.

45. Arrange the steps correctly that are included in the Jenkins pipeline?

- a. Build-Test-Deploy-Monitor
- b. Test-Build-Deploy-Monitor
- c. Deploy-Build-Test-Monitor
- d. Deploy-Test-Build-Monitor

Answer: a

Explanation:

In the Jenkins pipeline, you need to first build your project by polling your scm code. After the successful build, you can test the code using automated test cases then you must deploy the application code on servers and, after that, set up monitoring on your application servers.

46. You have created a Jenkins pipeline that uses two Jenkins jobs. You have run the pipeline and found that the first job was successful while the second job failed.

What will you do in this case?

- a. Restart Jenkins
- b. Restart from level
- c. Restart the first job again
- d. Configure the second job again

Answer: b

Explanation:

You must use restart from level command to restart the pipeline from where it is failed.

47. Is it possible to integrate your Jenkins pipeline with AWS EC2?

- a. True
- b. False

Answer: a

Explanation:

AWS EC2 and other services work well with Jenkins plugins and pipelines. For example, you can set up your Jenkins server on Amazon EC2 instances or deploy your application using the Jenkins pipeline on your Amazon EC2 instances.

48. You have created your Jenkins pipeline, and you are scheduling your Jenkins job using a cron scheduler. Select the correct cron syntax for this task?

- a. [Hours] [Minutes] [Day of the month] [Month] [Day of the week]
- b. [Hours] [Minutes] [Seconds] [Day of the week] [Month]
- c. [Minutes] [Hours] [Seconds] [Month] [Day of the week]
- d. [Minutes] [Hours] [Day of the month] [Month] [Day of the week]

Answer: d

Explanation:

Correct Cron syntax to schedule Jenkins job is: [Minutes] [Hours] [Day of the month] [Month] [Day of the week]

49. From the following options, select the way to trigger a Jenkins pipeline?

- 1. Manual trigger from Jenkins web application
- 2. Upstream/downstream trigger
- 3. Event-based trigger
- 4. Time based scheduled trigger

- a. Only second and third pipeline type
- b. Only first and second pipeline type
- c. All the above
- d. None

Answer: c

Explanation:

Ways to trigger Jenkins pipeline:

Manual trigger from Jenkins web application

Upstream/downstream trigger - This is based on upstream and downstream jobs, so once the job is finished, only the following job will be triggered.

Event-based trigger - You can set up event-based Triggers like SCM Actions (Git Commit, Pull Requests), WebHooks, etc.

Time-based scheduled trigger - You can set up Cron job to schedule time-based trigger.