

By OnlineInterviewQuestions.com

Jenkins Interview Questions

Practice here the top **Jenkins Interview Questions & Answers**, which are mostly asked in Jenkins Interviews.

Q1. What is continuous delivery in jenkins?

Continuous Delivery is a process, where code changes are automatically built, tested, and prepared for a release to production. In continuous delivery, initially, automated build scripts will detect changes in Source Code Management (SCM) like Git and then, once the change is detected, source code would be deployed to a dedicated build server to make sure build is not failing and all test classes and integration tests are running fine. Then, the build application is deployed on the test servers (pre-production servers) for User Acceptance Test (UAT). Finally, the application is manually deployed on the production servers for release.

Q2. What is Jenkins?

Jenkins is an open-source automation tool with a powerful plugin architecture that helps development teams automate their software lifecycle. Jenkins is used to implementing many industry-leading companies' continuous integration and continuous delivery pipelines.

Q3. What is a Jenkins slave?

A Slave, in Jenkins, is a Java executable that operates on a remote computer. The main characteristics of **Jenkins slaves** are that it understands requests from the Jenkins master instance, slaves can work on a mixture of operating systems, the job of a slave is to do as they are directed to and it is likely to set up a project to always run on a distinct slave machine.

Q4. What is hudson build tool?

Hudson is a widely accepted open-source continuous integration server rendering development teams with a secure way to control changes in source control and excels at uniting with virtually every tool.

Moreover, providing a platform for integration collaborations, Hudson can be used for software releases, reporting, monitoring, and other use cases secondary to stable integration. From automatic administration tasks using Puppet to developing and testing PHP code, Hudson is ready to help.

Q5. Enlist the major features of Jenkins?

Some major features of Jenkins

1. **Continuous Integration and Delivery** - Jenkins can be easily used as a CI server or continuous delivery hub for any project.
2. **Easy Installation and Configuration** - Jenkins can be easily installed as it is a self-contained Java-based program. It is ready to run out-of-the-box with packages for Windows, Mac OS, and Unix operating systems. It can also be easily configured using the web interface that includes on-the-fly error checks and built-in help.
3. **Plugins** - Jenkins has hundreds of plugins that integrate with every tool in the continuous integration and continuous delivery.
4. **Extensible** - Jenkins can be easily extended using its plugin architecture.
5. **Distributed** - It can be easily distributed across multiple machines.

Q6. List some useful plugins in Jenkins?

Some of the useful plugins in the Jenkins are,

- **Cobertura** - It integrates the Cobertura coverage reports to Jenkins.
- **Delivery Pipeline** - It is used to visualize the Delivery Pipelines.
- **Cucumber Test Result** - It allows the Cucumber test results to be shown with the Jenkins.
- **Git** - It integrates Git with the Jenkins.
- **HipChat** - It is used to publish the build status to the HipChat rooms.
- **JaCoCo** - It is a HipChat notifier and is used to publish build status to the HipChat rooms.
- **NodeLabel Parameter** - It is used to assign the cleanup jobs to specific nodes.
- **Performance** - It is used for performance testing.
- **Priority Sorter** - It is used to integrate the JMeter reports, JUnit reports, work output, and the other reports into the Hudson.
- **SSH** - It is used to run the shell commands on a remote machine.
- **Subversion** - It adds Subversion support. Thinbackup - It is used to back up the global and job-specific configurations.
- **xUnit** - It makes it possible to record xUnit test reports.

Q7. List SCM tools Jenkins supports?

The supported SCM tools by the Jenkins are AccuRev, CVS, Subversion, Git, Mercurial, Perforce, Clearcase, and RTC.

Q8. What is the requirement for using Jenkins?

The minimum requirements for installing Jenkins are **256MB of RAM**, and **1GB of hard disk space**. If you are running Jenkins as a Docker container, then the minimum recommended space is 10GB.

Q9. What is SCM in Jenkins?

The **SCM** stands for "**Source Code Management**", and it is used to obtain the pipeline from the Source Control Management. SCM is the locally cloned repository.

Q10. What is Build triggers in Jenkins?

A **build trigger** can be used for various processes such as to trigger downstream projects such as Integration tests, Code scans, Performance tests, End to End tests, and Deployment. It can also be used to run on standard jobs.

Trigger a build means that the Jenkins endpoint is open so anyone can hit the server.

Q11. What is parallelization in Jenkins?

Jenkins is capable of **parallel workloads** either inside a running build or across nodes in distributed builds. When you plan out a pipeline, and when things seem to slow down, you can utilize the parallel operations to make things work faster.

Q12. What is the usage of Jenkins?

Jenkins is a continuous integration server and it provides many plugins that help to support building, deploying, and automating projects. Jenkins helps to provide information regarding the working of the tests and getting fast feedback. The fast feedback helps you change the build whenever it is broke. With continuous deployment and delivery, Jenkins helps you to speed up the deployment process.

Q13. What is a Jenkins Pipeline?

The **pipeline** in Jenkins is a suite of plugins that helps in implementing and integrating continuous delivery pipelines into Jenkins. It provides an extensible set of tools for modeling simple-to-complex delivery pipelines "**as code**" through the Pipeline domain-specific language syntax. The Jenkinsfile has the definition of the Jenkins pipeline and committing the Jenkinsfile automatically creates a pipeline build process for all branches and pull requests.

Q14. [What is a job in Jenkins?](#)

The **job** or project in Jenkins refers to the runnable tasks which are controlled and monitored by the Jenkins.

Q15. [What is a plugin in Jenkins?](#)

Plugins are the packages that enhance the functionality of the Jenkins environment to suit organization- or user-specific needs. Jenkins offer over a thousand different plugins that can be installed on the Jenkins master and can be used to integrate various build tools, cloud providers, analysis tools, and much more.

Q16. [List different types of pipelines in Jenkins?](#)

The **Jenkins pipelines** are divided into two types. They are the **declarative** and **scripted pipelines**.

The **Declarative** pipeline is a recent feature that offers richer syntactical features over **Scripted Pipeline syntax**. The declarative pipeline is also designed to make writing and reading Pipeline code easier than the scripted pipeline.

Q17. [What is the use of JENKINS_HOME directory?](#)

Jenkins stores all the states on the disk using the **JENKINS_HOME directory**. Apart from this, it also contains the encryption keys that are used to protect credentials and other important files.

Q18. [Why is the join trigger plugin used in Jenkins?](#)

The **Join trigger plugin** is used to allow a job to be run after all the immediate downstream jobs have been completed. That is, the Join triggers a job after a group of the job is finished. With this plugin, the execution can branch out and perform many steps in parallel.

Q19. [How to install a plugin in Jenkins?](#)

There are mainly two ways to **install Plugins** on the master. First is using the "**Plugin Manager**" in the **web UI**. Second is using the **Jenkins CLI install-plugin command**. The easiest method of installation is using the web UI.

You go to the Manage Jenkins > Manage Plugins view. In the available tab, you can download the plugins. Administrators also use the Jenkins CLI to install the required plugin.

Q20. [How to use the mstest plugin in Jenkins?](#)

The MSTest plugin converts the MSTest TRX test reports into the JUnit XML report so that it can be integrated into Jenkin's JUnit features. This plugin also analyzes the test execution report file generated by mstest and the **vstest.console**. You can also use this plugin to convert the test record into the JUnit format and add them to the build report.

Q21. [What is continuous integration in Jenkins?](#)

As the name suggests, **continuous integration** is the process of integrating all the development work as soon as possible. With this, the resulting artifacts are automatically created and tested. So this process allows you to identify errors in the early stage of the project.

Q22. [How can you setup Jenkins jobs?](#)

Follow the steps to create a Jenkins job.

1. Click a new item on the Jenkins dashboard.
2. Next, enter the Item name and then specify the details of the job on the next screen.
3. Then, specify the location of files that needs to be built. Enter the URL of the local GIT repository or the remote URL where your repository is hosted on the GitHub.
4. Create a build section and add windows batch command and click the build now option to successfully define the Jenkins job.

Q23. [What is Agent in Jenkins?](#)

A Jenkin agent is a machine or a container that connects to a Jenkins master. After a successful connection, the agent executes the task that is directed by the master. The agent doesn't change the behavior of the master, as it is mainly used to offload the build projects from the master.

Q24. [How can we schedule build in Jenkins?](#)

You can set the **schedule period** to schedule the job build in Jenkins. The different fields to schedule the jobs are minutes, hours, dayofmonth, month, dayweek. Jenkins also lets you schedule the jobs multiple times a day, separated by the line breaks.

Q25. What is the blue ocean in Jenkins?

Blue Ocean is the continuous delivery tool to make continuous delivery pipelines easy. It is a visual pipeline editor that is used to represent the pipelines visually so anyone can understand.

Blue Ocean is free and open-source software that you can use to customize the dashboard and diagnose the problems instantly.

Q26. List some Jenkins environment variables?

Some of the Environment variables in the Jenkins are,

- BUILD_NUMBER
- BUILD_ID
- BUILD_URL
- NODE_NAME
- JOB_NAME
- BUILD_TAG
- GIT_URL
- GIT_COMMIT
- GIT_BRANCH
- CVS_BRANCH
- WORKSPACE
- JAVA_HOME
- SVN_REVISION

Q27. List some CI tools used in Jenkins?

Some of the **source control tool** used with the Jenkins are the **CVS, SVN, GIT, Mercurial, Perforce, ClearCase**, and others.

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