### What are the features of Jenkins?

Some of the crucial features of Jenkins are the following:

* It is a free and open-source automation tool
* Jenkins provides a vast number of plugins
* It is easy to set up and install on multiple operating systems
* Provides pipeline support
* Fast release cycles
* Easy upgrades

### What is a CI/CD pipeline?

CI/CD Pipeline or Continuous Integration/ Continuous Delivery is considered the DevOps approach's backbone. The pipeline is responsible for building codes, running tests, and deploying new software versions.

### How do you store credentials in Jenkins securely?

Credentials can be stored securely in Jenkins using the Credentials plugin, which stores different types of credentials like - Username with a password, SSH username with the private key, AWS Credentials, Jenkins Build Token, Secret File/Text, X509 & other certificates, Vault related credentials securely with proper encryption & decryption as and when required.

### What are the requirements for using Jenkins?

To use Jenkins, you require the following:

* A source code repository that can be accessed, for example, a Git repository.
* A build script, for example, a Maven script.

### 

### Name the two components that Jenkins is mostly integrated with.

Jenkins is typically integrated with these two components:

1. Version Control systems like Git and SVN (Apache Subversion)
2. Build tools like [Maven](https://www.simplilearn.com/tutorials/maven-tutorial/what-is-maven)

### Name some of the useful plugins in Jenkins.

Some of the plugins in Jenkins include:

* [Maven 2 project](https://www.simplilearn.com/tutorials/maven-tutorial/maven-project-in-eclipse)
* [Amazon EC2](https://www.simplilearn.com/tutorials/aws-tutorial/aws-ec2)
* Copy artifact
* Join
* HTML publisher
* Green Balls

### How can you create a backup and copy files in Jenkins?

* Jenkins stores all the settings, builds scripts, and logs in the home directory.
* Then, if you want to create a backup of this Jenkins set up all you have to do is copy this directory.
* The job directory may also be copied to clone a job or rename the directory.

### What could be the steps to move or copy Jenkins from one server to another?

There are multiple ways to move or copy Jenkins from one server to another:

* You may move a job from one Jenkins installation to another just by copying the corresponding job directory.
* You may make a copy of an already existing job by making a clone of the job directory with an uncommon name.
* You may also just rename a current job by renaming a directory.

### 

### Name some more continuous Integration tools other than Jenkins.

Some of the top continuous integration tools other than Jenkins are:

* TeamCity
* Travis CI
* Go CD
* Bamboo
* GitLab CI
* CircleCI
* Codeship

### Assume that you have a pipeline. The first job that you performed was successful, but the second one failed. What would you do now?

You don't have to worry, and you just have to restart the pipeline from the point where it failed by doing 'restart from stage.'

### Explain the process in which Jenkins works?

Here’s the process in which Jenkins works:

* Jenkins checks changes in repositories regularly, and developers must secure their code regularly.
* Once the changes are defined, Jenkins detects them and uses them to prepare a new build.
* After that, Jenkins will transverse through various stages in its usual pipeline. As one stage completes, the process will move further on to the next stage.
* If a stage fails, the Jenkins build will stop there, and the software will email the team using it. When completed successfully, the code implements itself in the proper server so that testing begins.
* After the successful testing phase, Jenkins shares the results with the team using it.

### 

### What is the process to integrate Git with Jenkins?

To integrate Git with Jenkins, you can follow the following steps:

* First, create a new Jenkins job and open the Jenkins dashboard.
* Now, enter the desired project name and select the job type.
* Click on OK.
* Then enter the project information.
* After that, visit the 'Source Code Management' tab.
* If the Git plugin is pre-installed in Jenkins, there will be 'Git'.
* If it is not installed, you must reinstall the plugins (GitHub plugin, GitHub Branch Source plugin, GitHub API plugin, Git client plugin, etc.).
* After we install the plugins, restart Jenkins.
* To check if Git is installed, you can go to Command Prompt and type Git, and you would see various options like usage, version, help, etc.

### What is the use of the JENKINS\_HOME directory?

* JENKINS\_HOME directory is the place where all the settings, logs, and configurations are stored. It stores all this information in XML files.
* The directory contains a subdirectory for every Jenkins build job being operated.
* Every directory has two subdirectories: builds and workspace., and some other files as well.
* These sub directories are important, as the workspace directory is located at the place where Jenkins is building the project, and it contains the source code.
* The builds directory stores the history of all the builds performed for this job.