**Jenkins** is an [**open source**](https://en.wikipedia.org/wiki/Open_source)**automation server**.

It helps **automate** the parts of [**software development**](https://en.wikipedia.org/wiki/Software_development) related to [**building**](https://en.wikipedia.org/wiki/Software_build)**,**[**testing**](https://en.wikipedia.org/wiki/Test_automation)**, and**[**deploying**](https://en.wikipedia.org/wiki/Software_deployment), facilitating [**continuous integration**](https://en.wikipedia.org/wiki/Continuous_integration)**and**[**continuous delivery**](https://en.wikipedia.org/wiki/Continuous_delivery).

It is a **server-based** system that **runs in**[**servlet containers**](https://en.wikipedia.org/wiki/Java_Servlet#Container_servers) such as [**Apache Tomcat**](https://en.wikipedia.org/wiki/Apache_Tomcat).

It supports [version control](https://en.wikipedia.org/wiki/Version_control) tools, including [AccuRev](https://en.wikipedia.org/wiki/AccuRev_SCM), [CVS](https://en.wikipedia.org/wiki/Concurrent_Versions_System), [Subversion](https://en.wikipedia.org/wiki/Subversion_(software)), [Git](https://en.wikipedia.org/wiki/Git_(software)), [Mercurial](https://en.wikipedia.org/wiki/Mercurial), [Perforce](https://en.wikipedia.org/wiki/Perforce), [ClearCase](https://en.wikipedia.org/wiki/ClearCase) and [RTC](https://en.wikipedia.org/wiki/Rational_Team_Concert), and can execute [Apache Ant](https://en.wikipedia.org/wiki/Apache_Ant), [Apache Maven](https://en.wikipedia.org/wiki/Apache_Maven) and [sbt](https://en.wikipedia.org/wiki/Sbt" \o "Sbt) based projects as well as arbitrary [shell scripts](https://en.wikipedia.org/wiki/Shell_script) and Windows [batch commands](https://en.wikipedia.org/wiki/Batch_file).

Jenkins is a self-contained java-based program, ready to run with packages for Windows, Mac OS, and Unix like OS.

# Features of Jenkins

* Easy installation & configuration
* Plugins
* Extensible
* Distributes

# Architecture

Graphical user interface, diagram

Description automatically generated

# Master-Slave architecture

Diagram

Description automatically generated

# Jenkinsfile

**Pipeline**: It must be top level element which represent we are declaring a pipeline code.

**Agent**: Where to execute the code (node, cluster (master/ slaves))

**Stages:** Where the work happens, stages and steps