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

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

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

It supports [version control](https://en.wikipedia.org/wiki/Version_control" \o "Version control) tools, including [AccuRev](https://en.wikipedia.org/wiki/AccuRev_SCM" \o "AccuRev SCM), [CVS](https://en.wikipedia.org/wiki/Concurrent_Versions_System" \o "Concurrent Versions System), [Subversion](https://en.wikipedia.org/wiki/Subversion_(software)" \o "Subversion (software)), [Git](https://en.wikipedia.org/wiki/Git_(software)" \o "Git (software)), [Mercurial](https://en.wikipedia.org/wiki/Mercurial" \o "Mercurial), [Perforce](https://en.wikipedia.org/wiki/Perforce" \o "Perforce), [ClearCase](https://en.wikipedia.org/wiki/ClearCase" \o "ClearCase) and [RTC](https://en.wikipedia.org/wiki/Rational_Team_Concert" \o "Rational Team Concert), and can execute [Apache Ant](https://en.wikipedia.org/wiki/Apache_Ant" \o "Apache Ant), [Apache Maven](https://en.wikipedia.org/wiki/Apache_Maven" \o "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" \o "Shell script) and Windows [batch commands](https://en.wikipedia.org/wiki/Batch_file" \o "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