JENKINS:

- Jenkins is an **open source** project written in **java** by Kohsuke Kawaguchi it runs on the **Window, Linux and Mac OS .**
- Jenkins is a widely used open-source automation tool that helps developers and teams automate and streamline various tasks related to building, testing, and deploying the Application.

- It is community-supported, Free to use, and the First choice for Continuous Integration.
- Consist of Plugins
- Automates the Entire Software Development Life Cycle (SDLC).
- It was originally developed by Sun Microsystem in 2004 as HUDSON.
- Hudson was an enterprise Edition we need to pay for it.
- The project was renamed Jenkins when Oracle brought the Microsystems.It can run on any major platform without Compatibility issues.
- Whenever developers write code, we integrate all the code of all developers at any point in time and we build, test, and deliver/deploy it to the client. This is called CI/CD.

Advantages:

- Jenkins follows Master-Slave Architecture.
- You can write your own plugin, can use the community plugin also.
- Jenkins master is going to assign a job to the slave..
- If Slaves are not available Jenkins itself does the job.
- By using the labels we can specify the jobs to the nodes.
- Jenkins automates repetitive and manual tasks in the software development process, reducing human error and saving time.
- Jenkins enables teams to continuously integrate code changes, making it easier to detect and fix integration issues early in the development cycle.
- Jenkins can be configured for high availability, ensuring continuous operation and minimal downtime.
- It integrates seamlessly with popular version control systems like Git, enabling emcient code management.

JENKINS ALTERNATIVES:

- BAMBOO
- HUSON
- TEAM CITY
- CIRCLE CI
- AWS CODE PIPELINE
- BUDDY
- SEMAPHORE
- GITLAB