Getting Started with Jenkins

By-
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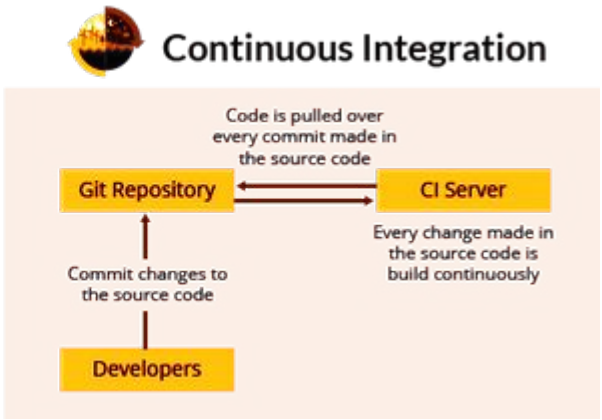
Learnings

- What is Continuous Integration?
- What is Build Automation?
- Introduction to Jenkins
- Jenkins Alternatives
- Getting Started with Jenkins
- Jenkins deployment using github

What is Continuous Integration?

Continuous integration is a DevOps software development practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run. Continuous integration most often refers to the build or integration stage of the software release process and entails both an automation component (e.g. a CI or build service) and a cultural component (e.g. learning to integrate frequently).

– Martin Fowler



Continuous Integration Benefits

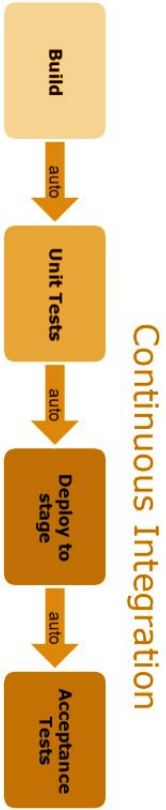
1. Risk Mitigation

2. Confidence

3. Team Communication

4. Reduced Overhead

5. Consistency of Build Process



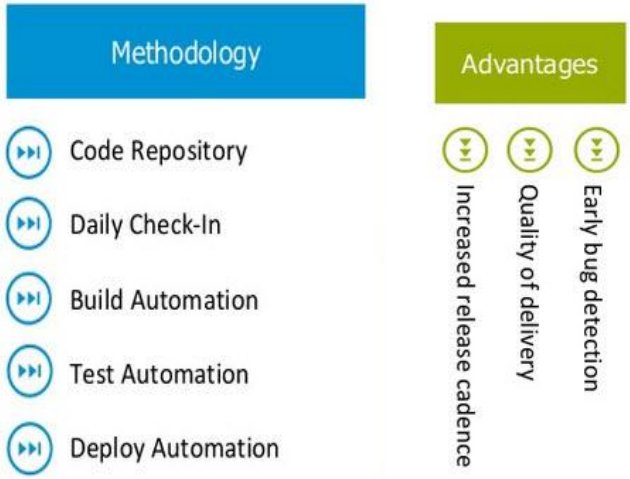
Continuous Integration - Benefits

Avoid Wastage of Development hours

Immediate bug detection

A deployable system at any given point

Record of evolution of the project



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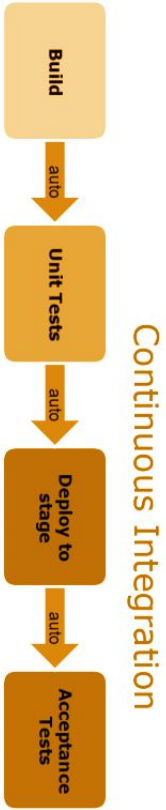


What is Build Automation?

Build automation is the process of automating the creation of a software build and the associated processes including: compiling computer source code into binary code, packaging binary code, and running automated tests.
Build Tools help in creating seamless, smooth and automated build process. We can configure what different stages in our build process OR what different commands should be executed.

Popular Build Tools

Introduction to Jenkins

Jenkins is a **Continuous Integration (CI) server** or tool which is written in java. It provides Continuous Integration services for software development, which can be started via command line or web application server. And also, it is happy to know that **Jenkins** is free software to download and install.

Jenkins - History

2005 - Hudson was first release by Kohsuke Kawaguchi of Sun Microsystems

2010 – Oracle bought Sun Microsystems

Due to a naming dispute, Hudson was renamed to Jenkins

Oracle continued development of Hudson (as a branch of the original)

Jenkins - Why?

Jenkins is a highly configurable system by itself

The additional community developed plugins provide even more flexibility

By combining Jenkins with Ant, Gradle, Maven, Grunt, Gulp, or other Build Automation tools, the possibilities are limitless

Jenkins - Why?

There is a large support community and thorough documentation

-

It’s easy to write plugins

-

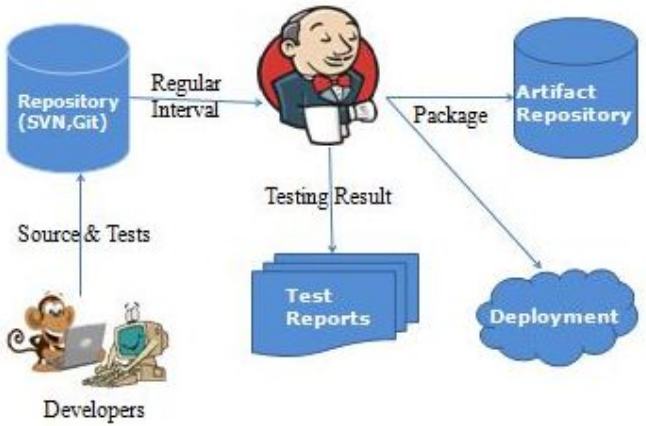
Think something is wrong with it? You can fix it!

Who uses Jenkins?

Continuous Integration with Jenkins

Jenkins tool is heavily used in CI which allows code to build, deployed and tested automatically.

It is a simple, extensible, and user-friendly open source tool that provides CI services for application development. Jenkins supports SCM tools such as StarTeam, Subversion, CVS, Git, AccuRev and so on. Jenkins can build Freestyle, Apache Ant, and Apache Maven-based projects.



Jenkins Alternatives

TeamCity - allows for personal builds, pre- tested commits

Bamboo - Atlassians CI server, good, but somewhat inflexible

Cruise Control - bleurgh, old, behind the times

Travis CI - **free for all open source projects** hosted on the GitHub and for the first 100 builds otherwise

Last, but not the least Cron and bash...

Getting Started with Jenkins

Jenkins - Installation - Lab

- Install Jenkins on Ubuntu 18.04

Nodejs app server - Lab

- Install nodejs on Ubuntu 18.04

Github webhook integration- Lab