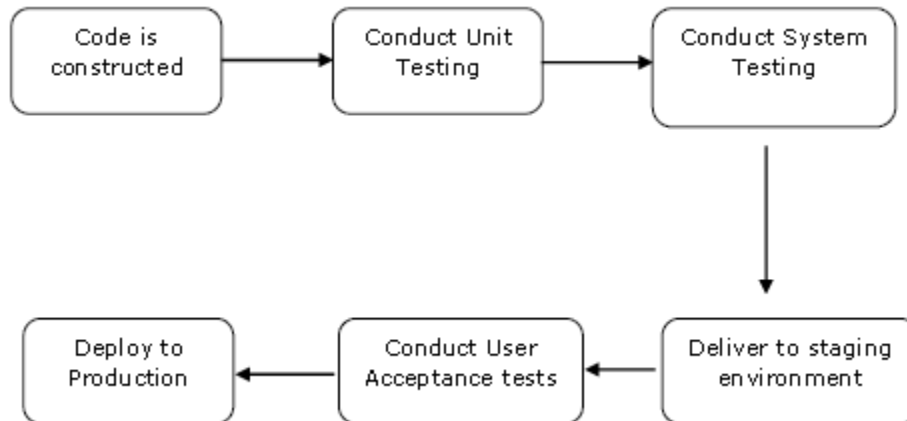


# Jenkins - Continuous Deployment

Jenkins is used in providing good support for continuous deployment and delivery. The flow of a software development till the deployment is shown below:



The main part of continuous deployment to make sure that the above entire process is automated. Jenkins provides various plugins for all these things. One of them is "**Deploy to container**" plugin, which was seen in earlier sections.

Jenkins provides various plugins which are used to give a graphical representation of the continuous deployment process.

To understand that, let's first create another project in Jenkins so that we can see how it works and which emulates the QA stage:

## Jenkins VS Ansible

Ansible is a powerful tool for automation to the provision of the target environment and to then deploy the application. It helps you to do the configuration management, application deployment, task automation, and also IT orchestration. It can run tasks in a sequence and create a chain of events happening on different servers or devices.

And Jenkins is a popular tool for IT automation and used for CI/CD to provision the target environment.

# Jenkins

Jenkins is the most popular open-source automation server that was written in a java programming language. It facilitates the automation process of continuous integration and continuous delivery (CI/CD) in the software development process.

Jenkins supports over 1,400 plugins for other software tools. These plugins expand Jenkins into five years; platforms, UI, administration, source code management, and build management.

Jenkins is easy to install and use. It provides an impressive browser-hosted project management dashboard.

Some of the common reasons to evaluate and choose Jenkins include:

- Open-source and free
- Widely used and well documented
- Vibrant user community
- Integration with a large variety of tools and technologies.
- Plugin support
- Easy to install, configure and upgrade
- Distributed builds
- Monitoring external jobs
- Support for various authentication methods, notification, version control system, etc.

# Ansible

Ansible is an IT automation tool. It can deploy software, configure systems, and orchestrate more advanced IT tasks such as CD (Continuous Deployment) or zero downtime rolling updates.

Automation simplifies complex tasks, not just making developers' jobs more manageable but allowing them to focus attention on other tasks that value to an organization.

In other words, it frees up time and increases efficiency. Ansible is rapidly rising to the top in the world of automation tools.

Ansible uses the simple YAML syntax. One of the other features of Ansible is its Agentless architecture. For automating configuration management, a lightweight and secure solution is Ansible. There are several modules in Ansible. Within Jenkins pipeline, applications could be deployed, and the environment could be provisioned using the Ansible tool.

Let's see some advantages and features of Ansible:

- Ansible is an open-source tool.
- No special coding skills are required to use Ansible's playbooks.
- Ansible allows you to model even highly complex IT workflows.
- You can orchestrate the entire application environment no matter where it is deployed. You can also customize it based on your needs.
- You do not need to install any other software or firewall ports on the client systems you want to automate.
- You do not need to set up a separate management structure.
- Because you don't have to install any extra software, there is more room for application resources on your server.
- Ansible is designed to be very simple, reliable, and consistent for configuration management.

# Jenkins vs. Circle CI Comparison Table

The following are the primary comparison between Jenkins and Circle CI:

Jenkins	Ansible
Easy to install.	Hard to install.
Many plugins are available for Jenkins.	It supports fewer plugins.
It supports C, C++, Java, Perl, Python, Ruby, and other languages.	It supports C, Python, JavaScript, and Ruby language.
Jenkins is free.	Ansible is not free, but the free trial version is available.
It supports Windows, Mac OS X, Linux, and others.	It also supports Windows, Mac OS X, and others. But Windows can be a pain.
It is not light weighted.	It is very light weighted.
Jenkins is not easier to set up and configure.	Ansible is easier to use, configure, and set up the installation.
It was licensed under MIT license.	It was licensed under a proprietary commercial license.
It is a server-based tool.	It is a cloud-based tool.