

# Hosting a Jenkins Server on AWS

## Abstract:

Although there are many ways to deploy the Jenkins open-source automation server on Amazon Web Services (AWS), this project focuses on a specific approach where a bootstrapped startup can easily finance themselves for this process. First, the traditional deployment on top of Amazon Elastic Compute Cloud (Amazon EC2). Second, the containerized deployment that leverages Amazon EC2 Container Service (Amazon ECS).

These approaches enable customers to take advantage of the continuous integration/ continuous delivery (CI/CD) capabilities of Jenkins. Using an extensive plugin system, Jenkins offers options for integrating with many AWS services and can morph to fit most use cases (e.g., traditional development pipelines, mobile development, security requirements, etc.)

## Existing System:

To understand the continuous integration/continuous delivery (CI/CD) model that Jenkins uses, let's start with understanding its underlying drivers. Since the early 2015s, the advent of fast-paced, iterative methodologies such as agile has shifted the thinking about software development.

In this new paradigm, product teams push their work to customers as quickly as possible so that they can collect feedback and improve upon the previous iteration of their products. Concepts such as minimum viable product (MVP), release candidate, velocity, etc. are all derived from these new approaches. In contrast, product teams using older paradigms like waterfall development might not hear back from customers for months and, quite often, not until the product is commercialized.

## Proposed System:

Jenkins is a very popular product among AWS customers who want to automate their CI/CD pipelines. It accomplishes all of the phases like Build, Test, Release, Monitor and Plan and it integrates very well across languages, platforms, and operating systems. It's an open-source software.

Faster Software Development has become a competitive advantage for companies. The automation of software development processes facilitates speed and consistency. Jenkins is the leading automation product. We see many of most successful AWS customers implementing it. This project walks on using AWS Services with Jenkins detail on customer scenario.

## **Software Tools:**

1. AWS EC2
2. Jenkins
3. AWS IAM
4. S3
5. AWS Code Commit
6. AWS Code Deploy
7. AWS CloudWatch
8. VS Code
9. Python3
10. AWS CLI

## **Hardware Tools:**

1. Laptop
2. Operating System: Windows 11
3. RAM: 8GB
4. ROM: 4GB
5. Fast Internet Connectivity

## **Applications:**

1. Deploying the project CI/CD pipeline on this custom website.
2. Low Cost CI/CD Pipeline for Startups