

## Jenkins CI/CD Deployment Hub

This project demonstrates how to automate web server deployment using **Jenkins**, **GitHub**, and **Docker** with a simple HTML application.

The Jenkins pipeline automatically creates a directory, deploys the HTML page to /var/www/html/pothanapalli, and can optionally build and run the page inside a Docker container for consistent and portable deployment.

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### Project Overview

The **Jenkins CI/CD Deployment Hub** showcases a complete Continuous Integration and Continuous Deployment (CI/CD) workflow.

It integrates Jenkins with GitHub to automate build, test, and deployment processes while using Docker for containerized deployments.

This project highlights:

- Automation of web server configuration and deployment.
  - Continuous integration using Jenkins pipelines.
  - Docker-based application hosting for improved portability.
  - A simple yet effective CI/CD setup for beginners in DevOps.
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### Tools & Technologies

- **Jenkins** – Continuous Integration / Continuous Deployment
  - **GitHub** – Version Control and Webhook Integration
  - **Docker** – Containerization and Image Management
  - **Linux / Shell Scripting** – Automation and Commands Execution
  - **HTML** – Sample static web application
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### Pipeline Stages

1. **Checkout** – Pulls the latest code from the GitHub repository.
  2. **Deploy** – Copies the HTML file to the target web server directory.
  3. **Docker Build (Optional)** – Builds a Docker image and runs it as a container to host the HTML page.
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## Prerequisites

Before setting up this project, ensure the following tools are installed:

- Jenkins (with Git and Docker plugins)
- Docker Engine
- Git
- Linux environment (Ubuntu preferred)
- A running Jenkins server with administrative privileges