Implement DevOps On SAP Training

Curriculum 5 Days

Day - 1

Introduction to DevOps and SAP DevOps Framework

- **Welcome & Course Introduction**
  - Overview of the 5-day training agenda.
  - Objectives and expected outcomes.
- **Introduction to DevOps Concepts**
  - DevOps fundamentals: CI/CD, automation, collaboration, and monitoring.
  - Understanding how DevOps improves SAP workflows.
- **SAP DevOps Overview**
  - The role of DevOps in SAP environments.
  - Challenges of implementing DevOps in SAP.
- **Setting up the Development Environment**
  - Installing and configuring the necessary tools (Git, Jenkins, Docker, SAP BTP).
  - Introduction to version control using Git and GitLab.
  - Setting up a basic SAP Cloud Platform instance.
- **Hands-on Lab:**
  - Basic Git operations (cloning repositories, creating branches, and merging code).
  - Deploying an SAP application to the cloud.

Day - 2

Continuous Integration & Continuous Deployment (CI/CD) for SAP

- **Understanding CI/CD in the Context of SAP**
  - Overview of CI/CD pipelines and their role in automating SAP development and deployment.
  - Best practices for SAP CI/CD pipelines.
- **Jenkins for SAP Automation**
  - Setting up Jenkins as an automation server.
  - Creating Jenkins jobs to automate build and test processes for SAP systems.
- **Hands-on Lab:**
  - Configuring Jenkins to automate SAP deployments.
  - Creating and triggering build jobs in Jenkins.
- **Docker & Kubernetes in SAP DevOps**
  - Introduction to containerization with Docker.
  - Using Kubernetes for orchestrating SAP containers.
  - Containerizing SAP applications for portability and scalability.
- **Hands-on Lab**
  - Setting up a Docker container for an SAP application.
  - Deploying a Dockerized SAP application to a Kubernetes cluster.

Day - 3

Infrastructure Automation and Configuration Management

- **Infrastructure as Code (IaC) with Terraform**
  - Build integrations with external systems: databases, APIs, files, queues, SAP, and email
- **Topics**
  - Introduction to Terraform for automating SAP infrastructure provisioning.
  - Configuring and deploying SAP-related infrastructure automatically.
- **Configuration Management with Ansible**
  - Using Ansible for SAP configuration management and automation of infrastructure tasks.
- **Hands-on Lab**
  - Provisioning infrastructure using Terraform.
  - Automating configuration tasks in SAP with Ansible.
- **SAP Solution Manager and Monitoring Tools**
  - Introduction to SAP Solution Manager and its role in SAP DevOps.
  - Setting up Prometheus and Grafana for monitoring SAP performance.
- **Hands-on Lab**
  - Monitoring SAP systems with Prometheus and Grafana.
  - Configuring dashboards and alerts in Grafana.

Day - 4

Quality Assurance and Testing in SAP DevOps

- **Integrating SonarQube for Code Quality**
  - Introduction to SonarQube for continuous code quality inspection.
  - Configuring SonarQube for SAP applications.

- **Automated Testing for SAP**
  - Importance of automated testing in DevOps pipelines for SAP.
  - Introduction to JUnit, Selenium, and JUnit for SAP testing.

- **Hands-On Labs**
  - Setting up SonarQube and integrating it with Jenkins.
  - Writing and running automated tests for SAP applications.

- **CI/CD and Automated Testing Workflow**
  - Best practices for integrating testing into CI/CD pipelines.
  - Automating test execution during builds and deployments.

- **Hands-On Labs**
  - Automating tests in Jenkins and integrating them with the deployment pipeline.

Day - 5

Final Project and Best Practices

- **Best Practices for Implementing DevOps in SAP**
  - Discussing real-world use cases and success stories of DevOps in SAP environments.
  - Continuous improvement, monitoring, and scaling SAP DevOps processes.
- **Collaborative Tools for SAP DevOps**
  - Using Slack or Microsoft Teams for DevOps communication.
  - Setting up alerts and notifications from Jenkins, Terraform, and Prometheus to these tools.
- **Capstone Project: Implementing a Full SAP DevOps Pipeline**
  - Participants will work on a project to implement an end-to-end DevOps pipeline using all the tools and techniques covered in the course.
  - Creating, testing, and deploying an SAP application using the CI/CD pipeline, automated testing, containerization, and monitoring.
- **Closing Remarks and Q&A Session**
  - Course recap, final thoughts, and Q&A session.
  - Certification and next steps for continued learning in SAP DevOps.