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Course Title

DevOps Bootcamp

Course ID

DEVOPS-701

Course Level

Beginner to Intermediate

Duration

180 Hours (Bootcamp)

Includes instructor-led training, hands-on labs, DevOps projects, assignments, mock exams, and interview preparation.

Delivery Mode

Hybrid / Onsite + Online LMS Support

Course Description

This bootcamp provides practical training in DevOps practices and tools used for continuous integration, continuous delivery, and infrastructure automation. Learners will gain hands-on experience with version control, automated builds, containerization, orchestration, and configuration management. The program focuses on industry's best practices to streamline software development, deployment, and operations in real-world environments.

Course Objectives

By the end of the course, learners will be able to implement CI/CD pipelines, manage version control with Git, automate application deployment with Docker and Kubernetes, and manage infrastructure with Ansible. Participants will also gain experience in monitoring, troubleshooting, and optimizing DevOps workflows.

Intended Audience

This course is suitable for software engineers, system administrators, junior developers, and IT professionals seeking careers in DevOps and cloud-native application deployment.

Prerequisites

Basic knowledge of Linux/Windows commands, scripting (Bash, Python), and software development lifecycle (SDLC). A laptop with a minimum i5 processor, 8GB RAM, and virtualization support enabled is required.

Tools & Platforms

Git, GitHub/GitLab, Jenkins, Docker, Docker Compose, Kubernetes (Minikube / Kind), Ansible, Linux CLI, monitoring tools overview, and LMS portal for assessments and resources.

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Course Outline (Modules & Topics)

Module 1: Introduction to DevOps

Overview of DevOps culture, principles, and practices. Understanding CI/CD pipelines, version control, infrastructure as code, and benefits of DevOps. Lab includes setting up DevOps environment and exploring toolchains.

Module 2: Version Control with Git

Git basics, repository creation, branching, merging, pull requests, resolving conflicts, and collaboration workflows. Lab includes creating and managing a Git repository and team collaboration exercises.

Module 3: Continuous Integration with Jenkins

Jenkins installation, configuration, job creation, build triggers, pipelines (Declarative & Scripted), plugin management, and pipeline code. Lab includes building automated CI pipelines.

Module 4: Containerization with Docker

Docker architecture, images, containers, Dockerfile, volumes, networks, Docker Compose, and best practices. Lab includes containerizing applications and managing multi-container setups.

Module 5: Container Orchestration with Kubernetes

Kubernetes architecture, pods, deployments, services, config maps, secrets, scaling, and rolling updates. Lab includes deploying containerized applications on Kubernetes cluster (Minikube/Kind).

Module 6: Configuration Management with Ansible

Introduction to Ansible, playbooks, roles, inventory management, variables, tasks, and modules. Lab includes automating system configuration and application deployment with Ansible.

Module 7: CI/CD Pipeline Integration

Integrating Git, Jenkins, Docker, Kubernetes, and Ansible for end-to-end automated deployment. Lab includes building a full DevOps pipeline from code commit to deployment.

Module 8: Monitoring, Troubleshooting & Security

Basics of logging, monitoring, alerts, troubleshooting CI/CD pipelines, container and cluster health checks, and security best practices. Lab includes monitoring applications and troubleshooting deployment issues.

Module 9: Capstone Project & Certification Preparation

End-to-end DevOps project integrating Git, Jenkins, Docker, Kubernetes, and Ansible. Includes pipeline creation, deployment automation, monitoring, mock assessments, and interview preparation.

Assessment & Evaluation

Assessment includes quizzes, lab assignments, DevOps project evaluation, pipeline implementation tasks, and mock certification exams to ensure industry readiness.