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DevOps Certification Training Course Content

Course Duration - 45-50 Hrs., 7-8 Weeks

Course Information

Batch Options	**About the Trainer**	**Contact Us**
Weekday Batch Mon – Fri – 1.5 Hr./Day	Industry Expert Trainer with 15+ Years Real Time Work Experience at Top US Based Product and Consulting Firms	**Mobile:** +91 73960 33555 **Whatsapp:** +91 73960 33555 **Mail:** Prasad@unogeeks.com **Website:** Unogeeks.com

Introduction To DevOps Training

DevOps

DevOps is a set of practices, tools, and a cultural philosophy that automate and integrate the processes between software development and IT teams

What you'll learn

- ➢ Learn DevOps Skills from an Industry Expert
- ➢ Version Control, Linux, Containerization & Orchestration
- ➢ GIT, GITHUB, Azure Repo, Docker, Kubernetes, AKS, EKS
- ➢ Azure DevOps & CI/CD with AWS DevOps
- ➢ CI/CD With Jenkins, CM with Ansible and Terraform
- ➢ AWS & Azure Cloud Core Skills
- ➢ Communication, Collaboration & Monitoring
- ➢ Prepare for DevOps certification exams and get Job Ready
- ➢ Resume & Interview preparation and Job Assistance

Course Content

***** Fundamentals of DevOps & Cloud *****

Module 1: Introduction to DevOps

- ➤ Introduction to DevOps
- ➤ Benefits of working in a DevOps environment
- ➤ DevOps Lifecycle
- ➤ DevOps Stages
- ➤ DevOps Delivery Pipeline
- ➤ Web Application Architecture
- ➤ Web Technologies
- ➤ Web Technologies used in Projects

Module 2: Software Development Life Cycle & Application Lifecycle

- ➤ SDLC Methodologies
- ➤ Waterfall Methodology
- ➤ Agile Methodology
- ➤ Scrum Framework
- ➤ What is DevOps?
- ➤ What is Cloud, SAAS, IAAS, PAAS?
- ➤ What is Testing?

Module 3: Introduction to Agile

- ➤ The Manifesto for Agile Software Development
- ➤ The Principles behind the Agile Manifesto
- ➤ Agile Approaches
- ➤ Agile Frameworks

Module 4: Introduction to Cloud Computing

- ➢ Introduction to Cloud Computing.
- ➢ Benefits of Cloud Computing.
- ➢ Leading Cloud Computing Providers.
- ➢ Cloud Offerings - Public vs Private vs Hybrid
- ➢ Infrastructure As A Service - IAAS
- ➢ Platform As A Service - PAAS
- ➢ Software As A Service – SAAS

Module 5: Cloud Computing with AWS

- ➢ Creating a Free Tier Account With AWS.
- ➢ AWS Management Console.
- ➢ Creating your first Virtual Machine in Cloud.

***** Linux for DevOps & Cloud *****

Module 6: Introduction to Operating Systems

- ➢ Introduction to Operating Systems Introduction to Linux OS
- ➢ Linux Distributions
- ➢ Linux Architecture

Module 7: Basics of Linux

- ➢ Understanding Command Line Interface - CLI
- ➢ Understanding Linux File System
- ➢ Using Text Editor (vi)

Module 8: File Management with Linux

- ➤ File & Directory Management
- ➤ Archive Files Using tar and zip utilities
- ➤ Package Management
- ➤ User Management
- ➤ File Permissions
- ➤ Service Management

Module 9: Networking

- ➤ Understand how IP addresses, ports, and DNS works
- ➤ Load Balancers
- ➤ HTTP/HTTPS

***** Version Control – GIT, GITHUB *****

Module 10: Introduction to Version Control System

- ➤ Centralized Version Control System
- ➤ Distributed Version Control System

Module 11: GIT (Version Control)

- ➤ Git Introduction
- ➤ Git Architecture
- ➤ Git Workflow
- ➤ Git Branching Model
- ➤ Git Merging Branches
- ➤ Detached Head for Retro scoping
- ➤ Undoing Changes
- ➤ Git Ignore

Module 12: Distributed Version Control System -GitHub

- ➢ GitHub For Remote Repositories
- ➢ Using existing GIT Repositories with Clone
- ➢ Pull Requests
- ➢ Tagging

***** Build Tools - Maven *****

Module 13: Building Projects with Maven

- ➢ Understanding Code Build Process
- ➢ Introduction to Maven
- ➢ Building a Java Based Web Project using Maven

***** CI/CD With Jenkins *****

Module 14: Introduction of Continuous Integration

- ➢ Overview and Flow of Continuous Integration
- ➢ Benefits of Continuous Integration
- ➢ Requirements of Continuous Integration
- ➢ Build tools and Repository Manager for Continuous Integration

Module 15: Introduction of Continuous Deployment

- ➢ Overview of Continuous Deployment
- ➢ Benefits of Continuous Deployment
- ➢ Tools for Continuous Deployment
- ➢ Agile Mentality of Continuous Deployment

Module 16: Jenkins for Continuous Integration

- ➢ Overview of Jenkins
- ➢ Setting Up Jenkins
- ➢ Setting Up Build Jobs
- ➢ Build Parameters & Triggers
- ➢ Jenkins Job DSL & Plugins

Module 17: Code Analysis using Jenkins and SonarQube

- ➢ Introduction to Code Analysis
- ➢ Code analysis using and SonarQube.
- ➢ Setting Quality Gates in SonarQube.

Module 18: Software Repositories using Jenkins and Nexus

- ➢ Introduction to Software Repositories
- ➢ Storing artifacts in Nexus.

Module 19: Notification using Jenkins and Slack

- ➢ Integrating Slack with Jenkins pipeline.

Module 20: Jenkins for Continuous Deployment

- ➢ Deploying to web app to Web Container using Jenkins.
- ➢ High Availability Jenkins Architecture.

***** AWS Cloud *****

Module 21: AWS Cloud Networking

- ➢ AWS Regions
- ➢ AWS Availability Zones
- ➢ VPC Components
- ➢ Internet Gateway
- ➢ Subnets
- ➢ Route Tables
- ➢ Network Access Control List - NACL

- Security Group

- VPC Requirement

- VPC Subnetting

- VPC Requirement

- Build Custom VPC

Module 22: AWS Cloud Server Management

- Introduction To EC2

- EC2 Components

- EC2 Instance Setup

- SSH Clients

- GitBash - Putty - Terminal

- AWS Key Pairs

- Apache Web Server Setup

- Hosting Web Application

- Public IP

- Private IP

- Elastic IP

- Godaddy - DNS Setup

- Configuring DNS for Website Mapping

Module 23: AWS Security Management

- ➢ Public Subnets
- ➢ Private Subnets
- ➢ Public Subnets vs Private Subnets
- ➢ Bastion / Jump Server
- ➢ NAT Gateway Intro
- ➢ Setup NAT Gateway with Private Subnets
- ➢ Install Application using NAT Gateway
- ➢ Update Application Patches using NAT Gateway

Module 24: AWS Database Management

- ➢ Intro To Databases
- ➢ IAAS Databases vs PAAS Database
- ➢ Host IAAS Databases
- ➢ Host PAAS Database
- ➢ Setup Web Application For IAAS DB
- ➢ Setup Web Application For PAAS RDS

***** Azure Cloud *****

Module 25: Azure Cloud Fundamentals

- ➢ Walk through Azure Free Tier Account
- ➢ Overview of Azure Resource Manage

Module 26: Azure Cloud Networking

- ➤ Azure Regions
- ➤ Azure Availability Zones
- ➤ Azure VNET Components
- ➤ Creating a Virtual Network
- ➤ Virtual Network Peering
- ➤ Azure Bastion
- ➤ Azure Load Balancer

Module 27: Azure Cloud Server Management

- ➤ Introduction To VM's
- ➤ Azure VM Components
- ➤ Azure VM Setup
- ➤ SSH Clients
- ➤ GitBash - Putty - Terminal

Module 28: Azure Cloud Server Management

- ➤ Azure Key Pairs
- ➤ Apache Web Server Setup
- ➤ Hosting Web Application
- ➤ Private & Static IP
- ➤ Godaddy - DNS Setup
- ➤ Configuring DNS for Website Mapping

Module 29: Azure Database Management

- ➢ Intro To Databases
- ➢ Setup Database Instance
- ➢ Setup Web Application For DB
- ➢ Setup SQL Instance
- ➢ Setup Web Application For SQL

***** Containerization & Orchestration: Docker, Kubernetes, AKS, EKS *****

Module 30: Introduction to Containers

- ➢ Virtualization using Virtual Machines
- ➢ Introduction to Containerization
- ➢ Virtual Machines vs Docker

Module 31: Containerization with Docker

- ➢ Docker Architecture
- ➢ Components of Docker
- ➢ Setting up Docker
- ➢ Docker Registry
- ➢ Docker Images Vs Docker Containers
- ➢ Running Docker Containers
- ➢ Docker Volumes
- ➢ Containerize Applications
- ➢ Creating Docker Container from Docker Image
- ➢ Sharing images using Docker Hub
- ➢ Deploying Docker applications using multiple containers
- ➢ Running applications using Docker Compose
- ➢ Docker Networks

Module 32: Orchestration with Kubernetes

- Introduction to Container Orchestration
- Container Orchestration Tools
- Overview of Kubernetes
- Kubernetes Architecture
- Components of Kubernetes
- Understanding Containers
- Running Containers
- Sustaining Containers
- Running Pods of Containers
- Clustering of Pods
- Clustering of Containers
- Replica Sets
- Deployments and Services
- Attaching Docker and Kubernetes
- K8s Release Notes
- Linking Kubernetes and Cloud Native

Module 33: Cloud Kubernetes Services

- Benefits of using managed Kubernetes services.
- Understanding EKS by AWS
- Creating EKS Cluster.
- Understanding AKS by Azure
- Creating AKS Cluster.

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***** Azure DevOps (Application Life Cylce Management) *****

Module 34: Introduction to Azure DevOps

- What is Azure DevOps?
- Azure Boards
- Azure Repos
- Azure Pipelines
- Azure Test Plans
- Azure Artifacts
- Creating Pipelines in Azure DevOps
- Connecting project in Azure DevOps

Module 35: Azure Boards

- What are Azure Boards?
- Why use Azure Boards?
- Agile Project Management Best practices
- Basic concepts of Azure Boards
- Connecting Boards to GitHub
- Work item
- Kanban Board
- Sprint
- Scrum and Plans
- Azure Boards Integrations

Module 36: Azure Repos

- ➢ Introduction to Azure Repos
- ➢ Compare TFVC and Git
- ➢ Key Concepts in Azure Repos
- ➢ Search your code in Repos
- ➢ What is TFVC?
- ➢ Azure Repos Integrations

Module 37: Azure Pipelines

- ➢ What are Azure Pipelines?
- ➢ Why use Azure Pipelines
- ➢ Deploying to Azure
- ➢ Key concepts in Pipelines
- ➢ CI Triggers in pipelines
- ➢ YAML Basics
- ➢ Ecosystems and Integration
- ➢ Setting up CI build
- ➢ Adding Tests to the Pipeline
- ➢ Agents and Tasks

Module 38: Azure Test Plans & Artifacts

- ➢ What are Azure Artifacts?
- ➢ Key concepts in Artifact
- ➢ Working with packages
- ➢ Feeds
- ➢ Views and upstream sources
- ➢ Connecting to Azure Pipelines

- ➢ What are Azure test plans?

- ➢ Exploratory and Manual testing

- ➢ Test from Kanban board

- ➢ Creating Test Plans

- ➢ Testing Web Apps

***** Configuration Management with Ansible and Terraform *****

Module 39: Introduction to Configuration Management

- ➢ Complexity in Infrastructure Management

- ➢ Introduction to Configuration Management Tools

- ➢ PULL vs PUSH Based Configuration Management

Module 40: Configuration Management with Ansible

- ➢ Introduction To Ansible

- ➢ Ansible Setup

- ➢ Ansible Inventory

- ➢ Ansible Modules

- ➢ Ansible Ad-Hoc Commands

- ➢ Introduction To YAML

- ➢ Ansible Playbooks

- ➢ Ansible Handlers

- ➢ Ansible Facts & Variables

- ➢ Ansible Templates

- ➢ Ansible Roles

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Module 41: Introduction to Monitoring & Observability

- ➤ Introduction to Monitoring

- ➤ Introduction to Observability

Module 42: Monitoring & Observability with Prometheus

- ➤ Introduction to Prometheus

- ➤ Working with Prometheus

- ➤ Monitoring and Alerting

- ➤ Internals – Storage and Security

Module 43: Monitoring & Observability with Grafana

- ➤ Grafana Overview and Overall Architecture

- ➤ Installing Grafana on a Linux Server and Windows

- ➤ Starting, Stopping Grafana Services on Windows

- ➤ Installing Grafana on Docker

- ➤ Creating Grafana Dashboards

- ➤ Grafana User Interface Overview

- ➤ Implementing Monitoring and Observability with Grafana

Module 44: DevOps Certification Guidance

- ➤ Explain various DevOps Certification Options

- ➤ Discuss 50+ Important DevOps questions

- ➤ Practice DevOps Certification questions

Module 45: Guidance on Resume Preparation, Interview & Job Assistance

- ➤ Prepare Crisp Resume as Salesforce Admin & Developer
- ➤ Discuss common interview questions in Salesforce
- ➤ Explain students what jobs they should target and how