

AWS DevOps Course Content

Training Highlights

- ✓ Live Classroom training
- ✓ Hands-on Assignments for Each Module
- ✓ Realtime Project
- ✓ Highly experienced faculty
- ✓ Experienced staff to coordinate between students and faculty
- ✓ Course Completion Certificate

Placement Program Highlights

- ✓ Good team of HR to take care of placements
- ✓ We have interview preparation and practice sessions to ensure every candidate gets placed.
- ✓ We ensure candidate gets enough placement opportunities based on their expertise in subject and experience level.

Our Motto is our Strength

We Teach well - We Place well

Module 01 - DevOps Introduction

Objective : In this module, you will learn how DevOps evolved, where DevOps is used in IT, what is DevOps, tools in DevOps and the DevOps Flow.

- ✓ Define DevOps
- ✓ What is DevOps
- ✓ SDLC models, Lean, ITIL, Agile
- ✓ Why DevOps?
- ✓ History of DevOps
- ✓ DevOps Goals
- ✓ Important terminology
- ✓ DevOps perspective
- ✓ DevOps and Agile
- ✓ DevOps Tools
- ✓ Configuration management
- ✓ Continuous Integration and Deployment
- ✓ What is cloud computing
- ✓ Characteristics of cloud computing
- ✓ Cloud implementation models
- ✓ Cloud service models
- ✓ Advantages of cloud computing
- ✓ Concerns of cloud computing
- ✓ IaaS, PaaS and SaaS
- ✓ Cloud Deployment Models
- ✓ Virtualization

Practicals : Creating Free AWS account and working with instances.

Module 02 - Linux

Objective : In this module, you will learn various linux commands and how to use those commands and deploy applications.

- ✓ Role of Operating System
- ✓ Flavours of Linux
- ✓ Linux File system structure

- ✓ Basic Linux/Unix commands
- ✓ Changing file permissions and ownership
- ✓ Filter commands
- ✓ Simple filter and advance filter commands
- ✓ Start and stop services
- ✓ Find and kill the process with id and name
- ✓ Package installation
- ✓ Important Commands for Administration.
- ✓ User Management.
- ✓ File Permissions.
- ✓ Partitioning and File System.
- ✓ Package Management.
- ✓ Networking.
- ✓ Automating tasks with Cron.
- ✓ DHCP Configuration.
- ✓ NFS Configuration.
- ✓ Apache Configuration.
- ✓ FTP configuration.
- ✓ SSH configuration.

Practicals : Working with linux commands to understand how to deploy applications to servers.

Module 03 - Git

Objective : In this module, you can learn about Version Controls, Source Code Management using Git and GitHub.

- ✓ Introduction to Version Control and Github
- ✓ Basic Concepts of Git
- ✓ Setup Git Repository Remote and Local
- ✓ Working with Git bash
- ✓ Initialize a Git project locally
- ✓ Concept of Branches
- ✓ Merge Requests
- ✓ Deleting Branches
- ✓ Rebase
- ✓ Resolving Merge Conflicts

- ✓ Git Ignore
- ✓ Git stash
- ✓ Going back in history
- ✓ Undoing commits
- ✓ Merging branches
- ✓ Git for Devops
- ✓ Git on AWS

Practicals : Git installation, working with Branching and Merging, Stashing, Rebasing, Reverting and Resetting.

Module 04 – Build tool Maven

Objective : In this module, you can learn about creating build files like .jar, .war, .ear for deployment.

- ✓ Overview Of Various Build Tools
- ✓ What is Maven
- ✓ Maven Plugins
- ✓ Maven Archetypes
- ✓ Project Object Model (POM)
- ✓ Source Control Integration

Practicals : Create sample Maven project to create build and perform unit test and resolve dependencies.

Module 05 – Continuous Integration using Jenkins

Objective : In this module, you can learn about how to implement Continuous Integration with Jenkins.

- ✓ Understanding continuous integration
- ✓ Introduction about Jenkins
- ✓ Build Cycle
- ✓ Jenkins Architecture
- ✓ Obtaining and installing Jenkins
- ✓ Installing and configuring Jenkins using WAR and RPM

- ✓ Java installation and configuration
- ✓ Maven Installation
- ✓ Exploring Jenkins Dashboard.
- ✓ Creating Jobs
- ✓ Running the Jobs
- ✓ Setting up the global environments for Jobs
- ✓ Adding and updating Plugins
- ✓ Disabling and deleting jobs
- ✓ Understanding Deployment.
- ✓ Tomcat installation and configuration
- ✓ Authentication
- ✓ Jenkins Plugin
- ✓ Authorization
- ✓ Confidential
- ✓ Creating users
- ✓ Best Practices for Jenkins

Practicals : Installing and configuring Jenkins, creating a build using Jenkins, Integrating with Jenkins, Working with Jenkins pipelines.

Module 06 – Docker

Objective : In this module, you can learn about how to implement Continuous Integration with Jenkins.

- ✓ What is a Docker
- ✓ Use case of Docker
- ✓ Platforms for Docker
- ✓ Dockers vs. Virtualization
- ✓ Docker Architecture.
- ✓ Understanding the Docker components
- ✓ Installing Docker on Linux.
- ✓ Understanding Installation of Docker on windows.
- ✓ Some Docker commands.
- ✓ Provisioning
- ✓ Downloading Docker images.
- ✓ Uploading the images in Docker Registry and AWS ECS
- ✓ Understanding the containers

- ✓ Running commands in container.
- ✓ Running multiple containers.
- ✓ Creating a custom image.
- ✓ Running a container from the custom image.
- ✓ Publishing the custom image.
- ✓ Accessing containers
- ✓ Linking containers
- ✓ Exposing container ports
- ✓ Container Routing

Practicals : Build images using Docker file, create multi-containers using Docker Compose, Create User-Defined networks, Work with Docker Swarm.

Module 07 – Kubernetes

Objective : In this module, you can learn to manage Docker hosts using Kubernetes Orchestration.

- ✓ What is Kubernetes
- ✓ Kubernetes Architecture
- ✓ Minikube and kubectl - Local Kubernetes Cluster
- ✓ Main kubectl commands
- ✓ What is Amazon EKS?
- ✓ Kubernetes cluster setup
- ✓ Pods in Kubernetes
- ✓ Manifest file for Pod Object
- ✓ Deployment of objects
- ✓ All about Helm - Package Manager for Kubernetes
- ✓ Secure your cluster - Authorization with RBAC
- ✓ Microservices in Kubernetes
- ✓ Exposing application
- ✓ NodePort Service in Kubernetes
- ✓ LoadBalancer Service
- ✓ Rolling Updates and Rollbacks
- ✓ Blue Green Deployment in cluster
- ✓ Complete CI/CD Pipeline with EKS and DockerHub
- ✓ Autoscaling

- ✓ Cluster Autoscaler with EKS
- ✓ Horizontal Pod Autoscaler
- ✓ Deleting the cluster

Practicals : Install Kubernetes, create Pods and Deployments, Work with jobs, Use ReplicaSets & Rolling Updates, Schedule applications on Containers, Work with services in Kubernetes.

Module 08 – AWS Services

Objective : In this module, you can learn to use various AWS services.

- Introduction to AWS
 - ✓ Creating AWS account
 - ✓ Free tier Eligible services
 - ✓ Understanding AWS Regions and availability zones
- EC2 (Elastic Cloud Compute)
 - ✓ About EC2 and types , Pricing
 - ✓ EIP (Elastic IP address), Allocating, associating , releasing
 - ✓ Launch windows and Linux Instances in AWS
 - ✓ Connecting windows and Linux instances from windows desktop and Linux machines
- S3 (Simple Storage Service)
 - ✓ About AWS Storage services, EBS and S3
 - ✓ Creating S3 Buckets and putting objects in bucket
 - ✓ Discussion about Bucket Properties
 - ✓ S3 Pricing
 - ✓ About S3 glacier
- EBS (Elastic Block Storage)
 - ✓ Types of EBS Volumes
 - ✓ Creation, attaching and Detaching volumes
- ELB (Elastic Load Balancer)
 - ✓ Understanding the load balancing
 - ✓ Configuring ELB and adding the web servers under ELB

- Auto Scaling
 - ✓ Types of Scaling (Horizontal and Vertical)
 - ✓ Configuring Launch Configuration
 - ✓ Creating and defining the auto scaling group policy

- IAM (Identity Access Management)
 - ✓ Understanding of AWS Security using IAM
 - ✓ Definition of Roles, policies and Groups
 - ✓ Creating IAM Users and managing password policies

- RDS (Relational Database Server)
 - ✓ About RDS and available RDS Engines in AWS
 - ✓ Configuring MYSQL RDS service
 - ✓ Connecting EC2 Instance to RDS Instance

Practicals : Work with the above services to get hands on with AWS services.

Module 09 – Terraform

Objective : In this module, you can learn to automate AWS services using Terraform.

- ✓ What is Terraform
- ✓ Installation and setup
- ✓ Terraform Basics - Create, Update and Destroy resources
- ✓ Provisioning of Web Server - Bootstrap simple Web server
- ✓ Using Dynamic Blocks
- ✓ Manage Dependencies
- ✓ Expansion of Terraform features
- ✓ Data Sources to fetch information
- ✓ Variables and variables with auto filling
- ✓ Local variables
- ✓ Local and Remote commands
- ✓ Lookup and conditions
- ✓ Terraform Loops
- ✓ Terraform Remote state and modules
- ✓ Terraform workspaces
- ✓ Refactoring Terraform code

Practicals : Install Terraform, practice automating AWS services using Terraform.

Module 10 – Configuration Management using Ansible

Objective : In this module, you can learn how to use Ansible for Configuration Management.

- ✓ Overview of Configuration Management
- ✓ Introduction to Ansible
- ✓ Ansible Architecture
- ✓ Ansible Components
- ✓ Installation & Configuration
- ✓ Writing Ansible Playbooks
- ✓ Working with Ansible Modules
- ✓ Creating Roles using Ansible Galaxy

Module 11 – Continuous monitoring using Nagios

Objective : In this module, you can learn how to about system monitoring using Nagios and its components.

- ✓ Introduction To Nagios
- ✓ Nagios Plugins
- ✓ Nagios Objects
- ✓ Nagios Commands & Nagios Notifications
- ✓ Installing Nagios
- ✓ Monitoring different servers using Nagios

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