

AWS-DevOps Curriculum – SR Technologies

Module 1

DevOps Overview

- Software Development Lifecycle(SDLC) Evolution of Waterfall, Agile and DevOps
- What is DevOps
- Why DevOps
- Benefits of DevOps
- DevOps Stages
- DevOps Lifecycle
- Various Automation in DevOps
- Overview of CI/CD

Module 2

AWS Fundamentals

- Understanding of Physical and Virtual Servers
- Overview of Public/Private Cloud Computing
- Overview of AWS/Azure/GCP
- Benefits of Cloud Computing
- Pricing and Usage Policy
- Overview of IAM Service
- Overview of EC2 Service
- Overview of RDS Service
- Overview of Cloud Storages
- Overview of Public and Private Ips
- Overview of Elastic IP, CloudFront and ELB.
- Overview of EKS, VPC.

DevOps on Cloud (AWS)

- Overview of AWS DevOps and Azure DevOps
- Cod Build,
- Code Commit,
- Code Deploy
- Code Pipeline
- Working with Cloud Formation

Module 3

Linux Fundamentals

- Overview of Linux
- Linux Architecture
- Linux Distributions
- Basic Linux Commands
- File Permission Management
- User Management

Managing Source Code – Git and GitHub

- Overview of Version Control System
- Central vs Distributed Version Control System
- Introduction to Git
- Installation and setting up Git
- Important Git Commands

- Creating and Managing git Repositories
- Branching, Merging, Stashing, Rebasing, Reverting and Resetting
- Introduction to GitHub
- Managing Remote Repositories

Build Tools - Maven

- . Installation of Maven
- . Building the code
- . Creating the jar and War files
- . Overview about POM.XML files

Module 4

Continuous Integration and Continuous Deployment/Delivery by using Jenkins

- Overview of Continuous Integration
- Difference between Continuous vs Traditional Integration
- Overview of Jenkins
- Jenkins Master-Slave Architecture
- Jenkins Installation and Configuration
- Jenkins Plugins • Jenkins Management
- Jenkins Freestyle and Pipeline Jobs
- Declarative Pipelines
- Configuring Slave Node to Jenkins

Module 5

Containerization, Docker, and Docker Hub

- Introduction to Virtualization and Containerization
- What is Containerization
- Docker Architecture
- Overview of Docker Hub
- Docker Installation
- Docker Commands
- Container Modes
- Port Binding
- Docker file
- Managing Docker Images
- Running and Managing Containers
- Docker Volume
- Docker Compose

Container Orchestration Tool - Kubernetes

- Overview of Container Orchestration
- Different between Docker swarm and Kubernetes Cluster
- Kubernetes Architecture
- Installation of Kubernetes
- Kubernetes Nodes
- Kubernetes Pods
- Kubernetes Deployments
- Rolling updates and rollbacks
- Scaling up and down of the application
- Services in Kubernetes

Module 6

Infrastructure Management- Terraform

- Introduction to Terraform
- Terraform Vs Ansible
- Terraform Architecture
- Terraform Configuration
- . Terraform Blocks, Providers
- Terraform Commands
- . Terraform state file
- . Terraform Locking system

Configuration Management- Ansible

- Overview of Configuration Automation
- Introduction to Ansible
- Ansible Architecture
- Components of Ansible
- Installation and Configuration of Ansible
- Ansible ad-hoc commands
- Ansible Playbooks
- Ansible Variables
- Ansible Handlers
- Ansible Role using Ansible Galaxy

Module 7

Continuous Monitoring using Prometheus and Grafana

- Overview of continuous monitoring
- Continuous monitoring tools in DevOps
- Installation and Configuration of Prometheus and Grafana
- Prometheus Architecture
- Monitoring using Prometheus
- Dashboard visualization using Grafana