



AWS DEVOPS COURSE SYLLABUS

Section 1: Cloud Computing Introduction

- What is Cloud Computing
- Why Cloud Computing?
- Advantages of Cloud Computing
- What is Private Cloud
- What is Public Cloud
- What is Hybrid Cloud
- What is Software as a Service (SaaS)
- What is Platform as a Service (PaaS)
- What is Infrastructure as a Service (IaaS)

Section 2: Basics of Linux

Linux intro
Basic commands
File system
Package management
File permission
Shell scripting
Loops

Section 2: Introduction to AWS Services

- Amazon Elastic Compute Cloud (EC2)
- Amazon Simple Storage Service (S3)
- Amazon Relational Database Service (RDS) Amazon DynamoDB
- Amazon ElastiCache
- Identity and Access Management (IAM)
- Virtual Private Cloud (VPC)
- Cloud Formation
- Simple Email Services (SES)
- Simple Queue Services (SQS)
- Simple Notification Services (SNS)

- Cloud Trail
- Elastic Beanstack
- CloudFront
- Route-53
- Key Management Service (KMS)

Section 3: Understanding Object Storage

- Explain AWS Storage
- AWS Simple Storage Service – S3
- Creating an AWS S3 bucket
- AWS Storage Gateway
- What is Command Line Interface (CLI)
- What is Amazon S3
- Understanding Amazon Glacier storage for long-term data backup and archiving
- Learn Amazon Snowball for data import/export

Section: 4 Understanding Database services

- What is Elastic Block Storage (EBS)
- Relational Data bases Amazon RDS
- What is Amazon DynamoDB – No SQL Data base
- Data warehousing Product - Amazon Redshift
- Memory data Store - Amazon ElasticCache
- Deploying AWS database migration service

Section: 5: Auto Scaling

- Introduction to auto scaling
- Auto scaling components
- Launch configuration Prerequisites
- How to Create Launch configuration.

- How to Create Auto Scaling Groups (ASG)
- How to Attach & Detach EC2 Instances in ASG
- configuring auto scaling policies based on the Load on EC2 instances.
- Using Auto scaling with Elastic Load balancer (ELB).
- Removing the Instances Temporarily
- Suspend and Resume Process
- Shut Down – Auto Scaling Process
- Monitoring – Auto Scaling Instances
- Health Checks
- Getting Notifications When ASG Changes

Section 6: ELB – Elastic Load Balancing

- What is ELB
- How to Create load balancer
- What is Internal & External Load balancers
- Load balancing protocols
- What is Listener Configurations
- What is SSL Negotiation Configurations
- How to Attach & Detach Subnets
- Creating Security groups for the load balancer
- Configuring health check for the load balancer
- Adding multiple instances to the load balancer
- What is Custom Domain Names & Cross-Zone Load Balancing
- Explain DNS Failover
- What is Sticky Sessions
- Perform Monitoring and Logging
- What is Connection Draining & ELB traffic logging

Section 7: VIRTUAL PRIVATE CLOUD (VPC)

- Setting up the different types of networks in AWS
- How to Create custom VPC

- What is NACLs & Security Groups
- How to Create Internet Gateway(IGW)
- How to Connect to instances in the gateway
- What is Subnets, Route Tables & Association
- NAT Instances & NAT-Gateways
- DHCP Options Sets & DNS'
- VPC Peering
- Overview of VPN and its components

Section 8: Application Services

- Study about AWS application services
- Learn Elastic Beanstalk
- Learn Simple Email Services
- Learn Simple Notification Service
- Learn Elastic OpsWorks and CLI

Section 9: Identity and Access Management(IAM)& Monitoring

- What is IAM
- What is Monitoring
- To Create user accounts
- To Set up multi factor Authentication (MFA)
- IAM Roles & IAM Groups
- Cloudwatch

Section10: Cloud Formation

- How to Build AWS infrastructure as a code
- Understanding Sample templates – Utilization
- What is JSON

Section: 12: AWS Security

- Study about AWS Cloud Security
- Understanding Security compliance
- Logging and monitoring
- Security: Using IAM to Manage Access to Amazon RDS Resources
- Understanding Native AWS Security

Section: 13: Install DevOps Tools

- Git/Github
- Docker
- Maven
- Jenkins
- Ansible
- Kubernetes
- Terraform

Section 14: Introduction to DevOps

- What is Software Development
- Understanding Software Development Life Cycle
- What & Why Devops?

- Devops Lifecycle & Tools
- Section – Software Version Control
- What is software version control
- Types of Version control
- Create a git project
- Create a file and add to git, Edit file, Commit the code
- Study about SVN & Git

Section 15 : Containerization with Docker

- Docker Fundamentals
- What is Container Orchestration
- Docker Volumes
- Docker Swarm
- Create an image in Docker and run it

Section 17 : Ansible

- What is Ansible
- Configuration, Writing Ansible Playbooks
- Ansible based Configuration Management
- Ansible Roles

- Command Line usage.
- Write Ansible playbook

Section 18 : Continuous Testing

- Basics about the Automating Builds – Maven, Ant
- What is Maven?
- Running Testing Cases

Section 19 : Jenkins

- What is Continuous Integration?
- What is Jenkins?
- Setting up continuous Delivery Pipeline using Jenkins
- Building a continuous Delivery Pipeline Using Jenkins
- Understanding CI/CD Pipelines
- Creating an end to end automated CI/CD Pipeline

Section 20: Continuous Orchestration with Kubernetes

- What is Kubernetes
- Docker Swarm vs Kubernetes
- Explain Kubernetes Architecture
- Deploying Kubernetes using Kubeadms
- Alternate ways of deploying Kubernetes
- Study about YAML Files
- Creating a Deployment in Kubernetes using YAML
- Services & Ingress in Kubernetes

