

# Course Curriculum

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## DevOps with Amazon Web Services



Concept	Hours
Course Overview, Setup	1
IT Architecture Overview.	1
Networking & DNS	2
AWS Overview	1
AWS IAM	1.5
AWS VPC	2.5
AWS ec2	3
AWS ASG	1
AWS ELB	1
Linux	1.5
Source Control	2
Terraform	2
Ansible	2.5
CI-CD	3
Docker	1.5
Kubernetes	2
Cloudwatch	1
Route53	1
AWS - Key Services	2
Project - HA Setup	2

## **Day 1**

- Introduction to the Course.
- Setup - AWS Account Creation, Software Installation up.
- IT Architecture Overview.
  - DataCenters, Networks & Virtualization.
  - 3 Tier & n-Tier Architecture.
  - High Availability, Load balancing, DNS
- AWS Overview
  - AWS Global Infrastructure.
  - AWS Services, Accounts, Organizations
  - AWS Physical & Networking Layer.
  - Shared Security Responsibility Model.

## **Day 2**

- Identity & Access Management
  - Access Control Management, RBAC.
  - AWS IAM overview.
  - Understanding Permissions and Policies in AWS.
  - Users, Groups and Roles.
- Networking
  - VPC overview.
  - Choosing the right CIDR & Subnetting.
  - Hands-on with VPC
  - Routing, Gateways - Internet, NAT
  - Security Groups & NACL

## **Day 3**

- Compute
  - EC2 Overview - InstanceTypes, Categories, Pricing.
  - EC2 Creation
  - AMI - Overview, marketplace, Custom AMIs.
  - Auto Scaling, Load Balancing.

- EBS Volumes, Snapshots

## **Day 4**

- Linux
  - File system, administration.
  - Package, Services and Process Management
  - Scripting

## **Day5**

- Storage
  - Simple Storage Service(S3) Overview.
  - Buckets, Objects, Keys.
  - Access Control.
  - Version Control.
  - LifeCycle Management
- Version Control
  - Git installation & Configuration
  - commits, Branches, Merging.
- Github, aws Code commit

## **Day 6**

- Automation
  - AWS CLI
- Terraform
  - Installation
  - Configuration
  - Apply, Destroy, upgrade.
  - Remote State
- Ansible
  - Installation and configuration
  - Inventory
  - Ad-hoc commands
  - Modules, Tasks,
  - Playbooks

## **Day 7**

- Databases:
  - Understand Database Engines.
  - RDS
  - Instance Types
  - Storage Tiers
  - Serverless
- DynamoDB Overview

## **Day 8**

- CICD
  - Continuous Integration and Continuous Delivery
  - Code Deploy, Code Pipeline
- Containers
  - Overview, Images, containers.
  - Docker - Installation, run, build.
  - Dockerfile, DockerHub

## **Day 9**

- Container Orchestration - Kubernetes 101
  - Pods
  - Replicasets
  - Deployments
  - Services, Ingress, Ingress controller
- EKS
  - Creation, Authentication
  - kubectl

## **Day 10**

- Monitoring & Alerting
  - Metrics
  - Logging
  - Major Incident, RCA, MTTR, MTBF
- AWS Cloudwatch
- SNS

## **Day 11**

- AWS - Other key Services
  - Management & Governance Services Overview.
  - Developer Services Overview.
  - Network & Content Delivery Services Overview.
  - Security, Identity & Compliance.
- Well Architected Framework

## **Day 12**

- Mini Project - HA Setup with end-to-end automation
- Course wrap, Next steps