

DVS Technologies

DVS AWS Course Content

Overview

This course is for those who are completely new to AWS. No prior AWS experience is required. We will introduce you to AWS, walk you through the process of setting up your own AWS account, and teach you the essentials to get you using AWS's core services.

Account Basics

1. AWS Free Tier
2. Create an AWS Account
3. How to Navigate the AWS Console
4. AWS Documentation
5. Access Management
6. Shared Responsibility/Security Model
7. High Availability vs. Fault Tolerance
8. RPO vs. RTO
9. Scaling
10. Tiered Application Design
11. Encryption

Identity & Access Management (IAM)

1. What is IAM?
2. IAM Initial Setup and Configuration
3. IAM Essentials
4. IAM Users and Policies
5. IAM Groups and Policies
6. IAM Access Keys
7. Securing Your Account — Creating an IAM User and Setting Up the CLI
8. IAM Roles

Elastic Compute Cloud (EC2)

1. EC2 Basics
2. Instance Types and Sizes
3. Amazon Machine Images (AMIs)
4. Instance Types
5. Elastic Block Store (EBS)
6. Security Groups
7. IP Addressing
8. EBS Snapshots

9. Security Groups
10. Launching and Using an EC2 Instance
11. Bootstrap
12. Instance Roles
13. Migrating data from one region to another region
14. Migrating servers from one region to another region

Networking Fundamentals

1. Introduction
2. Seven-Layer OSI Model
3. IP Addressing Basics
4. Sub-netting, CIDR

Virtual Private Cloud (VPC)

1. AWS Global Infrastructure
2. VPC Basics
3. Bastion Host/JumpBox
4. Virtual Private Cloud (VPC) and Subnets
5. Routing and Internet Gateway
6. Route Tables (RTs)
7. Network Access Control List (NACLs)
8. Subnets
9. Availability Zones (VPC Specific)
10. VPC Peering
11. VPC Peering across different AZ's
12. VPC Peering across different regions

S3 Architecture and Features S3 Basics

1. Permissions
2. Transferring Data to S3
3. Encryption
4. Static Websites
5. Object Versioning
6. Presigned URLs
7. S3 Performance and Resilience
8. Storage Tiers/Classes
9. Lifecycle Policies and Intelligent-Tiering
10. Cross-Region Replication (CRR)

Databases

1. Database Fundamentals
2. RDS Essentials: Part 1
3. RDS Essentials: Part 2
4. RDS Backups and Restore
5. RDS Resiliency: Multi-AZ
6. RDS Read Replicas

Simple Notification Service (SNS)

1. SNS Basics
2. Using SNS

CloudWatch

1. CloudWatch Basics
2. CloudWatch Metrics and Alarms

Load Balancer

1. ELB Basics
2. Load Balancing Fundamentals
3. Classic Load Balancers and Health Checks: Part 1
4. Classic Load Balancers and Health Checks: Part 2
5. Classic Load Balancers and Health Checks: Part 3
6. Application Load Balancers: Part 1
7. Application Load Balancers: Part 2
8. Network Load Balancers

Auto Scaling

1. Auto Scaling Basics
2. Using Auto Scaling

Network File Systems

1. EFS Fundamentals: Part 1
2. EFS Fundamentals: Part 2

Global DNS (Route 53) Fundamentals

1. Domain Registration
2. Private vs. Public Hosted Zones
3. Record Set Types
4. Health Checks
5. Routing Policy: Simple

6. Routing Policy: Failover
7. Routing Policy: Weighted
8. Routing Policy: Latency

Lambda

1. Lambda Basics
2. Lambda Test
3. Ec2 instance monitoring using lambda
4. Cross region data replication using lambda

Infrastructure as a Code (IaC): Terraform

Terraform Basics

1. Introduction to Orchestration Tools
2. Configuration Management vs Orchestration
3. Mutable Infrastructure vs Immutable Infrastructure
4. Procedural vs Declarative
5. Client/Server Architecture vs Client-Only Architecture
6. Infrastructure As A Code with AWS Using Terraform
7. Installation
8. Creating connection between CLI & AWS API

Working With Terraform

1. HashiCorp Configuration Language
2. Terraform Console and Output
3. Input Variables
4. Breaking Out Variables and Outputs

Working with Datatypes:

1. What are the diff data types supported by terraform
2. String,list,map,number data types
3. Practical exercise with all data types with terraform code

Working with Meta arguments

1. Use case of having meta arguments
2. Using count for creating multiple resources
3. Using count with index use cases
4. Implementing loops using for_each
5. Practical examples of using meta arguments along with diff data types

Advanced terraform concepts

1. Building two tier infrastructure using all the concepts above

2. Make use of workspaces & build multiple environments for the application onboarding
3. Building and deploying end to end applications infrastructure
4. Introduction to Modules
5. The S3 Bucket and Random ID
6. The Root Module
7. VPC, IGW, and Route Tables
8. Subnets, Security, and the Count Attribute
9. Variables and Outputs
10. The Root Module
11. AMI Data, Key Pair, and the File Function
12. The EC2 Instance
13. The Root Module

Packer :

Packer, a popular DevOps tool for simplifying the creation of machine images, and implement a continuous development approach to changes in your software

1. Introduction packer
2. What is Packer?
3. Structure
4. Installation
5. Understanding Packer
6. Baking a complex web image for Ec2
7. Provisioning the images with scripting
8. Building hardened images
9. Customizing the Jenkins Image configuration using Packer