Week 1

This week covers the fundamentals of IT, cloud computing and AWS as a whole.

Learning objectives:
By the end of this week, you will be able to:

- Explain IT basics: Client - Server setup, routers, switches, firewalls, DNS, Legacy IT
- Define the AWS Cloud and its value proposition
- Define the benefits of the AWS cloud
- Explain how the AWS cloud allows users to focus on business value
- Explain the difference between Operational Expenses (OpEx) and Capital Expenses (CapEx) as it relates to the AWS Cloud
- Understanding the AWS Global Infrastructure - Regions, Availability Zones, Edge Locations.
- Understand the different cloud service offerings - IaaS, PaaS and SaaS
- Opening and exploring your AWS Account

Week 2

This week covers the security, management and compliance matrix of AWS

Learning objectives:
By the end of this week, you will be able to:

- Give the different types of Cloud Deployment models (Hybrid, On-prem, Cloud Native)
- Explain the basics of Cloud Architecture Design and the AWS Well-Architected Framework
- Draw basic AWS Architectures for deployment
- Different types of design architectures - three-tier, monolithic,microservices, etc.
- Give an understanding of the shared responsibility model. Users responsibilities vs. AWS Responsibilities
- Explain the AWS Cloud Security and Concepts for Compliance (Principle of Least Privilege)
- Use the AWS Management capabilities (access keys, MFA, IAM) in the console

Week 3

This week covers AWS Compute and the different associated services.

Learning objectives:
By the end of this week, you will be able to:

- Identify and explain the different compute services in AWS (EC2, ECS, Lambda, etc)
- Deep Dive into EC2 and various components
- Understand the concept of Autoscaling and Load balancing

- Differentiate between Horizontal Scaling and Vertical Scaling
- Deploy EC2 instances and implement scaling
- Give the difference between Elasticity and Scalability
- Exploring Load balancing and Load Balancers

Week 4
This week covers AWS Networking and Connectivity

Learning objectives:
By the end of this week, you will be able to:

- Understand the Networking Basics - OSI Model
- Explain and use the AWS Networking Services - VPC, Route 53, etc
- Configure a VPC - subnets, route tables, security groups, Internet Gateway, NAT Gateway
- Explain and configure VPC Peering
- Explain methods of network segmentation strategies and use the on AWS
- Explain the differences between the native AWS Security services - Security Groups, NACLs, WAF
- Explain and test the different the connectivity options available on AWS - VPN, Direct Connect, Internet

Week 5
This week covers AWS Storage Services and Content Delivery

Learning objectives:
By the end of this week, you will be able to:

- Identify and use the different types of Storage available on AWS (S3, EBS,EFS etc)
- Exploring S3 - Storage Classes, Lifecycle Management, Glacier, Versioning, etc
- Exploring EBS - Snapshots, Encryption, and configure them etc.
- Understanding The Content Delivery Services
- How You Can Leverage the AWS Fabric for Better Content Delivery - CloudFront
- Deploy CloudFront instances
- Create a static website with S3

Week 6
This week covers Planning For Reliability and Business Continuity

Learning objectives:
By the end of this week, you will be able to:

- Explain concepts like high availability, redundancy, fault tolerance, etc and be capable of implementing

- Understand what backup and replication is and explain the difference between them
- Lean how to prepare different AWS Services for disaster recovery
- Explain the concepts of RTO and RPO
- Design for fault-tolerant workloads

Week 7
This week covers Databases and Managed Services on AWS

Learning objectives:

- Explain what a database is
- Differentiate the differences between a relational and non-relational database
- Give examples of the database solutions available on AWS
- Best Practices for Databases on AWS
- Understand the concept of caching for databases and other applications
- Methods of improving the performance of databases
- Deploy RDS instances on AWS and configure for high availability

Week 8
This week covers Cost Management and Governance on AWS

Learning objectives:
By the end of this week, you will be able to:

- Differentiate between AWS CloudWatch, CloudTrail and Config
- Explain and differentiate the various pricing models available on AWS (On-demand instances, Reserved Instances, etc)
- Implement cost allocation tags
- Identify scenarios for each of the pricing and cost saving models available on AWS
- View all understand the different resources for AWS Billing and pricing (Cost Explorer, Usage Report, Trusted Advisor etc)
- Use the pricing calculator to do estimates of your cloud spend and plan accordingly
- Use best practices for reducing your cost on AWS

Week 9
This week covers Deployment, Provisioning and Automation with CloudFormation

Learning objectives:
By the end of this week, you will be able to:

- Explain what AWS CloudFormation is and what it does
- Understand the notation in CloudFormation
- Use CloudFormation to provision resources across multiple AWS Regions
- Create, manage and troubleshoot CloudFormation scripts

Week 10
This week covers Exploring PaaS, SaaS and Container Services

Learning objectives:
By the end of this week, you will be able to:

- Explain what containers are and the difference with Kubernetes
- Give the difference between containers and EC2
- Differentiate between EKS, ECS, Fargate
- Deploy container technologies on AWS
- Explore Elastic Beanstalk and the nuances surrounding it
- Exploring the AWS Marketplace and use the services available