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Learning Style: Virtual Classroom

Technology: Amazon Web Services

Difficulty: Intermediate

Course Duration: 3 Days

Architecting on AWS

About this Course:

Architecting on AWS covers the fundamentals of building IT infrastructure on AWS. The course is designed to teach solutions architects how to optimize the use of the AWS Cloud by understanding AWS services and how these services fit into cloud-based solutions. This course emphasizes AWS cloud best practices and recommended design patterns to help students think through the process of architecting optimal IT solutions on AWS. Case studies throughout the course showcase how some AWS customers have designed their infrastructures and the strategies and services they implemented.

This course does not include Exam Voucher if enrolled within the Master Subscription, however, you can request to purchase the Official Exam Voucher separately.

Course Objectives:

- Make architectural decisions based on the AWS-recommended architectural principles and best practices.
- Leverage AWS services to make your infrastructure scalable, reliable, and highly available.
- Leverage AWS managed services to enable greater flexibility and resiliency in an infrastructure.
- Make an AWS-based infrastructure more efficient in order to increase performance and reduce costs.
- Use the Well-Architected Framework to improve architectures with AWS solutions.

Audience:

This course is intended for:

- Solutions Architects
- Solution Design Engineers

Prerequisites:

We recommend that attendees of this course have the following prerequisites:

- Familiarity with general networking concepts
- Working knowledge of multi-tier architectures
- Familiarity with cloud computing concepts
- AWS Technical Essentials

Course Outline:

Module 1: Architecting Fundamentals Review

- AWS Services and Infrastructure

- Infrastructure Models
- AWS API Tools
- Securing your infrastructure
- The Well-Architected Framework
- Hands-on lab: Explore Using the AWS API Tools to Deploy an EC2 Instance

Module 2: Account Security

- Security Principals
- Identity and Resource-Based Policies
- Account Federation
- Introduction to Managing Multiple Accounts

Module 3: Networking Part 1

- IP Addressing
- Amazon Virtual Private Cloud (VPC), Patterns and Quotas
- Routing
- Internet Access
- Network Access Control Lists (NACLs)
- Security Groups

Module 4: Compute

- Amazon Elastic Cloud Compute (EC2)
- EC2 Instances and Instance Selection
- High Performance Computing on AWS
- Lambda and EC2, When to Use Which
- Hands-On Lab: Build Your Amazon VPC Infrastructure

Module 5: Storage

- Shared File Systems
- Shared EBS Volumes
- Amazon S3, Security, Versioning and Storage Classes
- Data Migration Tools

Module 6: Database Services

- AWS Database Solutions
- Amazon Relational Database Services (RDS)
- DynamoDB, Features and Use Cases
- Redshift, Features, Use Cases and Comparison with RDS
- Scaling
- Caching and Migrating Data
- Hands-on Lab: Create a Database Layer in Your Amazon VPC Infrastructure

Module 7: Monitoring and Scaling

- Monitoring: CloudWatch, CloudTrail, and VPC Flow Logs
- Invoking Events
- Elastic Load Balancing
- Auto Scaling Options and Monitoring Cost
- Hands-on Lab: Configure High Availability in Your Amazon VPC

Module 8: Automation

- CloudFormation
- AWS Systems Manager

Module 9: Containers

- Microservices
- Monitoring Microservices with X-Ray
- Containers

Module 10: Networking Part 2

- VPC Peering & Endpoints
- Transit Gateway
- Hybrid Networking
- Route 53

Module 11: Serverless Architecture

- Amazon API Gateway
- Amazon SQS, Amazon SNS
- Amazon Kinesis Data Streams & Kinesis Firehose
- Step Functions
- Compare Amazon SQS to Amazon MQ
- Hands-on Lab: Build a Serverless Architecture

Module 12: Edge Services

- Amazon CloudFront
- AWS Web Application Firewall (WAF), DDoS and Firewall Manager
- Compare AWS Global Accelerator and Amazon CloudFront
- AWS Outposts
- Hands-On Lab: Configure an Amazon CloudFront Distribution with an Amazon S3 Origin

Module 13: Backup and Recovery

- Planning for Disaster Recovery
- AWS Backup
- Recovery Strategies

Capstone Lab: Build an AWS Multi-Tier Architecture

https://www.quickstart.com/catalog/product/view/id/2658/s/architecting-on-aws/

Participants review the concepts and services learned in class and build a solution based on a scenario. The lab environment provides partial solutions to promote analysis and reflection. Participants deploy a highly available architecture. The instructor is available for consultation.