AWS SYSOPS ADMIN COURSE OUTLINE

Monitoring and Metrics

Demonstrate ability to monitor availability and performance

- Understanding AWS Instance Types, Utilization, and Performance
- Elastic Compute Cloud (EC2) Instance and System Status Checks
- Creating CloudWatch Alarms
- Installing and Configuring Monitoring Scripts for Amazon EC2 Instances
- Dedicating an Instance to Monitoring
- Monitoring EBS for Performance and Availability
- Monitoring RDS for Performance and Availability
- Monitoring ElastiCache for Performance and Availability
- Monitoring the Elastic Load Balancer for Performance and Availability

Demonstrate ability to monitor and manage billing and cost optimization processes

- AWS Billing and Linking AWS Accounts
- AWS Billing Dimensions and Metrics for CloudWatch
- Cost Optimizing
- Using the AWS Price List API and Cost Explorer

High Availability

Implement scalability and elasticity based on scenario

- Scalability and Elasticity Essentials
- Determining Reserved Instance Purchases Based on Business Needs
- AutoScaling vs. Resizing
- Elastic Load Balancer Sticky Sessions

Ensure level of fault tolerance based on business needs

- High Availability with Single Instance Applications that Require Elastic IP Addresses
- Understanding RDS Multi-AZ Failover

- Applying High Availability Bastion Host Instance
- Overview of Services that Allow Access to the Underlying Operating System
- Elastic Load Balancer Configurations

Analysis

Optimize the environment to ensure maximum performance

- Offloading Database Workload
- Initializing (Pre-warming) EBS Volumes
- Pre-warming The Elastic Load Balancer

Identify performance bottlenecks and implement remedies

- Resizing or Changing EBS Root Volume
- SSL on Elastic Load Balancer
- Network Bottlenecks
- Live! Lab: Test Bandwidth on EC2 instances with iperf3

Identify potential issues on a given application deployment

- EBS Root Devices on Terminated Instances – Ensuring Data Durability
- Troubleshooting Auto Scaling Issues

Deployment and Provisioning

Demonstrate the ability to provision cloud resources and manage implementation automation

- OpsWorks: Overview
- OpsWorks: Creating our First Stack
- CloudFormation: Essentials
- Live! Lab: Introduction to CloudFormation – Your First Stack

Data Management

Demonstrate ability to create backups for different services

- Overview of Backup Services on AWS and Services that Include Backups
- Creating and Scripting Automation for EC2 Snapshots

Managing Backup And Disaster Recovery Processes

- Read Replicas with MySQL RDS Across Regions
- Quickly Recovering from Disasters
- Storing Log Files and Backups

Security

Implement and manage security policies

- S3 IAM and Bucket Policies Concepts
- S3 Bucket Policies
- Building IAM Policies
- Network Access Control Lists (NACLs) and Security Groups
- Using IAM Roles with EC2

Ensure data integrity and access controls when using the AWS platform

- MFA on Amazon Web Services (Multifactor Authentication)
- Security Token Service

Demonstrate understanding of the shared responsibility model

- Understanding the Shared Responsibility Model

Demonstrate ability to prepare for security assessment use of AWS

- AWS and IT Audits

Networking

Demonstrate ability to implement networking features of AWS

- Route53 and DNS Failover
- Weighted Routing Policies in Route53
- Latency Based Routing
- VPC Essentials
- Building a Non-Default VPC
- VPC Networking

- VPC Security
- Configuring a NAT Instance
- DB Subnet Groups
- Elastic IP Addresses and Elastic Network Interfaces
- Configuring a Web Application in a Non-Default VPC
- Live! Lab: Creating a NAT Instance and Gateway in a VPC
- Live! Lab: Building a Virtual Private Cloud from Scratch
- Live! Lab: Troubleshooting Connectivity Issues
- Live! Lab: Creating a Virtual Private Cloud with CloudFormation and Launching an EC2 Instance

Demonstrate ability to implement connectivity features of AWS

- AWS Direct Connect & On-premises to VPC Redundancy