[AWS-SOAA]: AWS System Ops Admin Associate

Length   : 3 days
Delivery Method   : Instructor-led (Classroom)

Course Overview

The Systems Operations on AWS course is designed to help individuals operate highly available and scalable infrastructure on the AWS platform. In this course, we demonstrate how to effectively manage and support AWS resources. We cover concepts such as provisioning infrastructure, deploying applications, tracking costs, monitoring utilization, and creating backups.

Course Objectives

This course is designed to teach you how to:

- Use standard AWS infrastructure features such as Amazon Virtual Private Cloud (VPC), Amazon Elastic Compute Cloud (EC2), Elastic Load Balancing, and Auto Scaling from the command line
- Use AWS CloudFormation and other automation technologies to produce stacks of AWS resources that can be deployed in an automated, repeatable fashion
- Build functioning virtual private networks with Amazon VPC from the ground up using the AWS Management Console
- Deploy Amazon EC2 instances using command line calls and troubleshoot the most common problems with instances
- Monitor the health of Amazon EC2 instances and other AWS services
- Manage user identity, AWS permissions, and security in the cloud
- Manage resource consumption in an AWS account using tools such as Amazon CloudWatch, tagging, and Trusted Advisor
- Select and implement the best strategy for creating reusable Amazon EC2 instances
- Configure a set of Amazon EC2 instances that launch behind a load balancer, with the system scaling up and down in response to demand
- Edit and troubleshoot a basic AWS CloudFormation stack definition

Intended Audience

Systems Administrators, Cloud Engineers, IAAS, PAAS Engineers

Pre-Requisites

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

AVANTUS TRAINING PTE LTD
80 Jurong East Street 21 #04-04 Devan Nair Institute Singapore 609607
Main Line: +65 6661 0888 | Fax: +65 6661 0886
Email: enquiries@AvantusTraining.com
www.AvantusTraining.com

- Attended the AWS Essentials course
- Background in either software development or systems administration
- Basic knowledge of networking protocols (TCP/IP, HTTP)

Hands-on Activity

This course allows you to test new skills and apply knowledge to your working environment through a variety of practical exercises.

Course Outline

Day 1:
Introduction to Systems Operations on AWS
This section will cover the possible operations available and AWS and the flexibility that is provided by AWS console. We will walk through the console by introducing different areas where you can deploy, monitor and optimize the systems. We will also look at the options for troubleshooting different system areas like slow response time.
We will also demonstrate on AWS console where to create AWS EC2 instances, how to manage them such as adding more storage and memory.

Security and AWS Identity and Access Management (IAM)
This section will cover various aspects of security. We will demonstrate how to create identity key and how to Remote connect into EC2 instances. All the various security aspects of the user roles and groups will be discussed with permission settings on various levels on AWS console.
We will talk about the various best practices being used by managing security of AWS admins across big organizations.

Compute
We will introduce AWS compute services and their roles and needs in AWS. We will talk about EC2 instances and their configuration. It will be followed by a demo of running and setting up an EC2 instance and managing security. We will also talk about AWS lambda why this is very popular these days and why function based execution helps in reducing cost of large systems.
We will wrap up by discussing microservices and AWS elastic beanstalk and their role in the AWS systems.

Day 2:
Networking
We will be talking about various network configuration options available in AWS. How an organization can set up VPN and manage it via AWS. We will look at Amazon private cloud and various configuration and benefits that are provided by it.

AVANTUS TRAINING PTE LTD
80 Jurong East Street 21 #04-04 Devan Nair Institute Singapore 609607
Main Line: +65 6661 0888 | Fax: +65 6661 0886
Email: enquiries@AvantusTraining.com
www.AvantusTraining.com

We will wrap up this section by talking about cloud front; how it can help to speed up the applications by caching the html and CSS and making it highly available content to the user. We will also be talking about some security features that comes bundled with this.

Storage Systems
Storage is important when your applications are storing images, media files etc. It becomes even more critical when it is on large scale with millions of documents or images. We will be talking about AWS options available in this area like block storage and , file system. We will be looking at hot and cold storage options with configurations. We will wrap it up by discussing S3 storage and its benefits; how it can interface with other systems.

Databases
Databases are crucial for applications and its support and availability impacts directly on performances of the applications. In this section we will be talking about support of various databases that is available in AWS. We will be comparing Relational vs Non Relational databases; as well as monitoring options available using Amazon RDS. We will also talking about Amazon elastic cache its role and purpose. How it can help in making in memory db by making the response time shorter.
We will wrap up by discussing various monitoring options and Amazon Redshift.

Day 3:
Application Deployment and Management
Application deployment and management is one of the crucial areas in AWS. We will discuss various app deployment strategies in different environments. When apps are in high load states, we need to be able to configure it to scale and handle the workload properly. We will be looking at these options. We will talk about AWS Elastic beanstalk how it helps with scaling and deployment. We will be comparing it with classic methods of deployment.

Monitoring and Metrics
Monitoring is crucial when the systems are under heavy load and have many applications running, we need to make sure all apps are performing well and have enough resources allocated. We will be discussing various monitoring options available in AWS. We will be talking about Amazon Cloud Watch and its various configurations with logs handling etc.
We will also be introducing Amazon cloud trail and its role with various options.

High Availability
This section will focus on high availability of the systems when the systems is under heavy load. There are different tools and services provided by AWS to create and manage high availability systems. AWS SQS is a query that can decouple the crone jobs

AVANTUS TRAINING PTE LTD
80 Jurong East Street 21 #04-04 Devan Nair Institute Singapore 609607
Main Line: +65 6661 0888 | Fax: +65 6661 0886
Email: enquiries@AvantusTraining.com
www.AvantusTraining.com

from the application by making applications light weights and optimal. For notification based systems like mobile apps etc AWS simple notification service comes into picture making things simple and optimal by delivering notification on cloud to google and apple devices.

We will wrap up by talking about the various options available in AWS for monitoring the load of the systems. We will introduce AWS elastic beans talk and their role in auto scaling applications. We will also discuss the scaling up and scaling out options available in AWS.