

Amazon Web Services

Basics: AWS

1. Introduction

Introduction to Course outline

2. Fundamentals of Server Hardware

What is a Server

Server form Factors

Typical server architectures

Major server components

How are servers different than desktops?

Gathering Information About your Hardware

Hardware identification tools

Server Management Tools

The importance of hardware maintenance

Planning and Testing hardware updates

How to justify the Purchase of a new server

Server consolidation

3. Fundamentals of Server OS

Introduction to server os and windows server 2008 R2

Server hardware and resources

Installing windows server 2008 R2

Server Configuration and Management

Storage in windows server 2008 R2

Performance Monitoring in Windows Server 2008 R2

Device Drivers and services in windows server 2008 R2

4. Networking 101

Construct networks using different types of network devices

- Coaxial cable, Twisted-pair cable, Fiber-optics & wireless
- NIC, Switch, Router, Firewall & Load balancer

Identify the basic network architecture

- CAN, WAN, LAN, SAN, vLAN, Intranet and Internet
- Star, Bus, Ring and Mixed

Define the basic network protocol

- AppleTalk, Ethernet, TCP/IP, UDP etc.

Explain routing and address translation

- Enhance Security using security devices

5. Storage 101

Storage Essentials

Physical components of HDD explained

SSD

I/O vs Throughput

Capacity vs Speed

Available Disk Interfaces and their Characteristics

RAID

Storage Technologies

Storage Technologies

- DAS, SAN, NAS, ISCSI & FCoE

Replication Technologies

- Asynchronous & Synchronous, Array-based, Database log shipping, Logical Volume Manager snapshots, Hypervisor Replication and snapshots, Multi-site replication topologies, Array-based snapshots, Array based clone

Capacity Optimization Technologies

- Thin provisioning, Overprovisioning, Data compressions, Data deduplication, Auto-tiering

Backup & Recovery

- Backup Methods, Backup types, Backup targets, Backup to the cloud, Backup retention

Storage and the cloud

6. Virtualization 101

What is Virtualization, Types of Virtualization

What is Server Virtualization and need for it

Benefits of Virtualization

Hypervisor and Types

History of VMware

What is VM?

7. Cloud Computing 101

Introduction

Cloud Characteristics

Cloud Computing and Virtualization

Cloud Computing Deployment Models

Cloud delivery model

Outsource vs Cloud

Cloud Computing use cases

AWS Fundamentals for System Administrators

1. Fundamentals of Cloud Computing
 - Introduction to cloud computing
 - Private, Public, Community & Hybrid Cloud
 - Delivery Model: IaaS, PaaS, SaaS
 - Understanding IaaS delivery model
 - Cloud Costing Model
2. Introduction to AWS
 - AWS History
 - On-Premises Components
 - Do-it-yourself vs. AWS
 - Understanding AWS Global Infrastructure
 - What is Elastic Computing
 - Regions and Availability Zones
3. Understanding AWS Security Measures
 - The Physical Access
 - Shared Security Responsibility Model
 - Identity and Access Management (IAM)
4. The AWS Free Tier
 - The AWS Free Tier
 - How to Sign Up
 - Provision Free Tier Resources

AWS Certified SysOps & Solution Architect

1. Understanding Virtual Networking on AWS

- What is Virtual Private Cloud?
- AWS Reference Model for VPC
- VPC Architecture and Characteristics
- Creating a VPC
- VPC Accessing Methods
- VPC Configuration
- VPC Peering
- Module Summary
- In-Depth VPC Configuration

2. Working with Security Groups and NACLs

- Module Introduction
- Layered Security
- Configuring Security Groups
- Understanding NACLs
- Configuring NACLs
- Module summary

3. Understanding and Configuring VPC Access

- Module Introduction
- AWS VPC Access
- AWS Direct Content
- Configuring VPN
- Understanding VPC Peering
- Configuring VPC Peering
- Module Summary

4. EC2 Instance Types

- Module Introduction
- Understanding EC2 Instances Types
- EC2 Instances Types walkthrough in the AWS Management Console
- EC2 Instances Pricing Options
- AMI
- Module Summary

5. Working with Elastic Block Storage
 - Module Introduction
 - Understanding AWS Storage Types
 - Increasing IOPS Performance
 - Increasing IOPS Performance
 - Configuring Optimized Instances
 - Module Summary
6. EBS Snapshots and Replication
 - Module Introduction
 - EBS Snapshots Characteristics
 - Working Snapshots in the AWS Management Console
 - Copying Snapshots between Region/AZs
 - EBS Encryption
 - Module Summary
7. Working with Amazon S3
 - Module Introduction
 - Amazon S3 Characteristics
 - Working with Amazon S3 via the AWS management console
 - Module Summary
8. Amazon S3 Website Hosting
 - Module Introduction
 - Static Website Hosting
 - Configuration
9. Configuring Elastic Load Balancer (ELB)
 - Module Description
 - ELB Characteristics
 - ELB Deployment Scenarios
 - Configuring ELB via the AWS Management Console
 - Module Summary
10. Configuring Auto Scaling
 - Module Introduction
 - Auto Scaling Features
 - How Auto Scaling works
 - Configuring Auto Scaling Part
 - Module Summary

- 11. Configuring Route 53 (DNS)
 - Module Introduction
 - Route 53 characteristics
 - DNA record type
 - Routing Policies
 - Health Checks
 - Configuring Route 53 from the AWS Management Console
 - Module Summary
- 12. Working with Identity and Access Management (IAM)
 - Module Introduction
 - Introduction to IAM
 - Configuring IAM via the AWS Management Console
 - AWS Security Token Service (STS)
 - Module Summary
- 13. Monitoring with Amazon Cloudwatch and Trusted Advisor
 - Module Introduction
 - Amazon CloudWatch Characteristics
 - Configuring CloudWatch
 - Trusted Advisor
 - Module Summary
- 14. RDS HA and Load Sharing
 - Module Introduction
 - RDS Characteristics
 - Configuring RDS
 - Read replicas
 - Backup and Snapshots
 - Module Summary
- 15. EB
 - Introduction to Elastic Beanstalk (EB)
 - EB Terminology
 - Components of EB
 - Benefits of Elastic Beanstalk (EB)
 - How EB Works
- 16. Cloud Formation
 - Coupled & Decouple systems
 - SNS

SQS

SWF

CloudFront

17. Amazon Kinesis

Overview

Amazon Kinesis Firehose

Amazon Kinesis Streams

Amazon Kinesis Analytics

Use Cases

18. Amazon EMR (Elastic MapReduce)

Hadoop Distributed File System (HDFS)

EMR File System (EMRFS)

Use Cases

19. AWS Data Pipeline

Overview

Usecases

20. AWS Import/Export

Overview

AWS Snowball

AWS Import/Export Disk

Use Cases