

High School Technology Services
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Certification Courses

AWS Associate certification training

Last updated on June 2017

a- AWS Certified Solutions Architect (40 hours)

Amazon Web Services (AWS) Certification is fast becoming the must have certificates for any IT professional working with AWS. This course is designed to help you pass the AWS Certified Solutions Architect (CSA) - Associate Exam. Even if you have never logged in to the AWS platform before, by the end of our AWS training you will be able to take the CSA exam. No programming knowledge needed and no prior AWS experience required. With this AWS certification under your belt (and optionally after completing our AWS Certified Developer 2017 - also available on HSTS), you will be in high demand by many employers and you can command a superior salary.

In this course we will start with a broad overview of the AWS platform and then deep dive into the individual elements of the AWS platform. You will explore Route53, EC2, S3, Cloud Front, Autoscaling, Load Balancing, RDS, RedShift, DynamoDB, EMR, VPC etc.

Who is the target audience?

- AWS Absolute Beginners. No prior AWS experience necessary
- Existing Solutions Architects
- Programmers Interested in Deploying Applications on AWS
- People interested in hosting highly scaleable, fault tolerant applications (such as Wordpress and Joomla) on the AWS cloud.

Course Outline

1. Cloud and AWS concepts

- Understand the types of clouds
- Understand cloud concepts and best practices
- Understand the shared responsibility model
- Describe the benefits of cloud
- Describe the AWS global infrastructure
- Create an AWS account
- Manage accounts and access using IAM

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2. Basic services: compute, storage, network, and database

- Understand and use EC2 concepts
- Create an AMI
- Describe the different types of services
- Use S3 for a static website
- Understand how AWS networking works
- Understand the differences between RDS and DynamoDB

3. Other services

- Understand the differences between SNS, SQS, SES, and SWF
- Use Cloudtrail and Cloudwatch to track data on users and usage
- Use TrustedAdvisor to secure services
- Understand general uses of other services

4. Using services together

- Use VPC to create a secure virtual network
- Implement load balancing and autoscaling
- Use security groups to allow services to securely communicate
- Move data from other services to S3 or Glacier

5. Deployment

- Understand which services to deploy to implement a solution
- Create automated infrastructure using CloudFormation
- Create a web platform using Beanstalk

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- Create a development platform using Opswork

b- AWS Certified Developer 2017 (40 hours)

Amazon Web Services - (AWS) Certification is fast becoming the must have certificate for any IT professional working with AWS. This course is designed to help you pass the AWS Certified Developer Associate (CDA) 2017 Exam. Even if you have never logged in to the AWS platform before, by the end of our AWS training course you will be able to take the CDA exam. No specific programming knowledge is needed (though knowing a language would be advantageous) and no prior AWS experience required. With AWS certification under your belt (and optionally after completing our AWS Certified Solutions Architect course - also available on HSTS), you will be in high demand by many employers and will command a superior salary.

Please note, **this is not a course to teach you how to code**, this course is specifically designed on helping you to **pass the AWS Certified Developer exam**. All required code to do the exercises in this course is provided when you join the course.

Course Objectives

Upon completion of this course, you should be able to:

- Understand AWS service offerings and their use cases
- Navigate the AWS Console and manage compute, storage, and administrative offerings
- Configure Identity Access Management according to best practices
- Configure Multi-Factor authentication
- Understand authentication using Web Identity and Active Directory federations
- Describe the Shared Security Responsibility model of AWS
- Create your own isolated VPC and configure NAT, VPN, and Access Lists
- Configure multiple routing policies in Route 53
- Configure Elastic Block Store (EBS) volumes and take snapshots
- Use roles to allow EC2 instances to access AWS functions
- Understand Serverless Architecture using Lambda
- Create and secure object storage using an S3 Bucket
- Compare and contrast relational and non-relational databases
- Configure a DynamoDB non-relational database and perform queries
- Understand AWS application services including SQS, SNS, and SWF

Course Outline

Module 1: Introduction

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- How to become an AWS Certified Developer Associate
- The AWS Free Tier
- The evolution of AWS
- Understand the many service offerings of AWS at a high level and the use cases for each

Module 2: Security

- Understand the basic features of Identity and Access Management (IAM) including multi-factor authentication, usernames and passwords, and permissions
- Understand how Identity Federations can be used to integrate with Active Directory and Web Identity Federations

Module 3: EC2

- Understand what an EC2 instance is and the concept of a virtual server
- Differentiate EC2 tiers and their use cases
- Understand Spot Instances and how bids work
- Differentiate EC2 instance types that are optimized for different workloads
- Understand gp2, io1, and st1 volume types
- Create virtual disks for an instance
- Understand EC2 instance metadata

Module 4: AWS CLI

- Configure an EC2 instance with credentials using the AWS CLI
- Assign an IAM role to an EC2 instance
- Learn important AWS CLI commands that will appear on the certification test
- Run a simple bash script against an EC2 instance
- Understand the concepts behind server-less architecture using Lambda
- Create and configure an Elastic Load Balancer and verify proper operation
- Understand the AWS SDK for PHP client for Amazon Simple Storage Service (S3)

Module 5: S3

- Learn about S3 simple file storage and identify durability characteristics and use cases
- Understand objects and the components that they include such as keys, values, versions, and metadata
- Define an S3 bucket and learn how to configure them in the AWS Console
- Understand how to secure an S3 bucket with an access list and encryption

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- Differentiate between S3 tiers including Infrequent Access, Reduced Reliability, and Glacier
- Understand the CloudFront Content Delivery Network and how it can be used to improve website performance
- Understand the use cases for a Gateway Stored Volumes, Gateway Cached Volumes, and Virtual Tape Libraries
- Differentiate Import/Export, Snowball, and Transfer Acceleration, and how each can be used to move large amounts of data into AWS
- Understand AWS Cross-Origin Resource Sharing (CORS)

Module 6: DynamoDB

- Understand different database types
- Understand DynamoDB concepts and create a DynamoDB table
- Understand ElastiCache at a high level
- Learn indexing and querying concepts for DynamoDB

Module 7: DNS

- Understand the basic concepts of DNS and differentiate between record types
- Understand how Route 53 routing policies can improve performance and availability
- Configure a hosted zone in Route53 and modify DNS records
- Differentiate and configure Route53 Routing Policies

Module 8: Application Services

- Understand how SQS can be used to create a distributed message queue, allowing the components of an application to be de-coupled
- Know the use cases for SQS, SWF, and SNS
- Understand Elastic Transcoder at a high-level

Module 9: Virtual Private Cloud (VPC)

- Use a dedicated connection to connect your site to the AWS Cloud
- Create a logically isolated section of the AWS cloud with custom subnets
- Protect instances from Internet traffic and all secure access through a bastion host
- Connect your site to the Virtual Private Cloud (VPC) over a secure Virtual Private Network (VPN)
- Configure Network Address Translation (NAT) to translate public IP addresses to a private IP address range

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- Create an Access Control List (ACL) to secure a network