Building Blocks for Developing Essential AWS Technical Skills-Part 1: A Self-Study Guide for APN Consulting Partners

June 2016

Notices

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Introduction

Intended Audience and Goals for Self-Study

This is a getting started guide targeted at APN Consulting Partners who would like their technical professionals to get a better understanding of what the AWS platform has to offer. However, this document can also be utilized by business professionals who'd like to learn more about different AWS Services.

The overarching goal of this self-study guide is to help the technical professionals at our Consulting Partner firms get familiar with the core AWS services such as Compute, Storage, Database, Networking and Security using AWS whitepapers, instructional videos/webinars, and some free hands-on labs. This guide is focused on fundamental AWS services; this is core foundational knowledge that is an important base for you as you begin to work with AWS. After going through this guide, you should continue with training that allows you to dive deeper into these services, helps you understand AWS-based solutions, and ultimately prepares you to take the AWS Certified Solutions Architect – Associate Level exam. Note that we do not review each and every AWS service available. To learn more about all AWS services, click here.

We expect that it may take around four-to-six hours to get a basic understanding of each key AWS service, and around 40 hours to go through all the content in this self-study guide. This document is not intended to be read beginning to end at one time; rather, it should be viewed as a self-study training guide that can be completed at your own pace. The time it may take you to work through the guide can vary based on your existing level of knowledge.

Hour 1

What is Cloud Computing?

"Cloud computing," by definition, refers to the on-demand delivery of IT resources and applications via the Internet with pay-as-you-go pricing.

How Does Cloud Computing Work?

Cloud computing provides a simple way to access servers, storage, databases and a broad set of application services over the Internet. Cloud computing providers such as Amazon Web Services (AWS) own and maintain the network-connected hardware required for these application services, while customers provision and use what they need via a web application.

What is AWS?

Amazon Web Services (AWS) provides on-demand delivery of IT resources via the Internet with pay-as-you-go pricing. AWS has been a leading IaaS provider since its launch in 2006, and we offer broad and deep services that, along with our comprehensive security capabilities, support virtually any cloud workload.

What is the AWS Partner Network (APN)?

The AWS Partner Network (APN) is the global Partner Program for AWS that consists of tens of thousands of Technology and Consulting Partners around the world. The goal of the APN is to help APN Partners build a successful AWS-based business by providing great business, technical, marketing, and go-to-market (GTM) support.

APN Consulting Partners are professional services firms that help customers design, architect, build, migrate, and manage their workloads and applications on AWS. Consulting Partners include System Integrators, Strategic Consultancies, Agencies, Managed Service Providers, and Value-Added Resellers.

APN Technology Partners provide software solutions that are either hosted on, or integrated with, the AWS platform. APN Technology Partners include Independent Software Vendors (ISVs), SaaS, PaaS, Developer Tools, Management and Security Vendors.

**If you need login credentials for the APN Portal, click here*

Hours 2 to 5

AWS Technical Professional

AWS Technical Professional provides fundamental technical knowledge on key concepts around AWS cloud computing, including global infrastructure, services, common solutions, migration, security, and compliance. It is intended to enable learners to make informed decisions about IT solutions based on customer business requirements. Upon successful completion of all assessments, you will earn AWS Technical Professional Accreditation.

Process to earn your AWS Technical Professional Accreditation:

1. Log in to the APN Portal
2. Click on the “Training” tab
3. Click on “AWS Training Portal”
4. Select the AWS Technical Professional Course

Signing up for a New AWS Account

Click here to view a video that shows you how to get started with AWS by signing up for a new AWS Account.

AWS Free Tier

The AWS Free Tier is designed to enable you to get hands-on experience with AWS cloud services. The AWS Free Tier includes services with a free tier available for 12 months following your AWS sign-up date, as well as additional service offers that do not automatically expire at the end of your 12 month AWS Free Tier term.

The main AWS Free Tier webpage includes information related to AWS Free Tier, including AWS Free Tier terms and conditions and frequently asked questions.

Architecting for the Cloud – Best Practices

Click here to access a whitepaper that provides you with best practices for architecting on the Cloud.

AWS Well-Architected Framework

Click here to download the AWS Well-Architected Framework, a whitepaper that outlines a set of questions you can use to evaluate how well an architecture is aligned to AWS best practices.

Foundational AWS Services

With a basic understanding of the cloud and AWS, you're now ready for an overview of key AWS services. Below we will walk you through a breakdown of a number of AWS services, to help you gain a better understanding of all the AWS platform has to offer. Please note that while we highlight a number of services, we do not detail each and every service available in every particular area.

Compute Services

Hours 6 to 8

Amazon EC2

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. Amazon EC2 forms the backbone compute platform for hundreds of thousands of AWS customers.

Introduction to Amazon EC2

Amazon EC2 Master Class Webinar

Master Class Webinars provide a technical deep dive and go beyond the basics. They are created to educate you on how to get the best from AWS technologies, show you how things work, and how to get things done.

Master Class Webinar – Amazon EC2 Demo

Creating a Windows Server on AWS in 5 Minutes

Creating a Red Hat Enterprise Linux Server on AWS in 5 Minutes

AWS Self-Paced Labs

AWS Self-Paced Labs from training partner qwikLABS are designed by AWS subject matter experts. Self-paced labs provide an opportunity to use the AWS console with step-by-step instructions, giving you hands-on practice to help you gain confidence working with various AWS Services. We'll discuss self-paced labs in more detail in the Next Steps section.

To get started, you need to create a new account here.

Once you create an account, you can start using the free labs.

Click here for a free Introduction to Amazon EC2 lab.

Hours 9 to 10

Elastic Load Balancing

Elastic Load Balancing automatically distributes incoming application traffic across multiple Amazon EC2 instances in the cloud. It enables you to achieve greater levels of fault tolerance in your applications, seamlessly providing the required amount of load balancing capacity needed to distribute application traffic.

Introduction to Elastic Load Balancing

Free Lab on Elastic Load Balancing

Auto Scaling

Auto Scaling allows you to scale your Amazon EC2 capacity up or down automatically according to conditions you define. With Auto Scaling, you can ensure that the number of Amazon EC2 instances you're using increases seamlessly during demand spikes to maintain performance, and decreases automatically during demand lulls to minimize costs. Auto Scaling is particularly well suited for applications that experience hourly, daily, or weekly variability in usage. Auto Scaling is enabled by Amazon CloudWatch, and available at no additional charge beyond Amazon CloudWatch fees.

How to Improve Availability and Lower Costs using Auto Scaling

Networking Services

Hours 11 to 12

Amazon VPC

Amazon Virtual Private Cloud (Amazon VPC) lets you provision a logically isolated section of the AWS Cloud, where you can launch AWS resources in a virtual network that you define. You have complete control over your virtual networking environment, including selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways.

Introduction to Amazon VPC Webinar

Amazon VPC for On-Premises Network Engineers, Part. 1

Amazon VPC for On-Premises Network Engineers, Part. 2

Free Lab on Introduction to Amazon Virtual Private Cloud

Hours 13 to 14

Amazon Route 53

Amazon Route 53 is a highly available and scalable Domain Name System (DNS) web service. Amazon Route 53 effectively connects user requests to infrastructure running in AWS – such as Amazon EC2 instances, AWS Elastic Load Balancing load balancers, or Amazon S3 buckets – and can also be used to route users to infrastructure outside of AWS. You can use Amazon Route 53 to configure DNS health checks to route traffic to healthy endpoints or to independently monitor the health of your application and its endpoints. Amazon Route 53 makes it possible for you to manage traffic globally through a variety of routing types, including Latency Based Routing, Geo DNS, and Weighted Round Robin—all of which can be combined with DNS Failover in order to enable a variety of low-latency, fault-tolerant architectures. Amazon Route 53 also offers Domain Name Registration – you can purchase and manage domain names such as example.com and Amazon Route 53 will automatically configure DNS settings for your domains.

Introduction to Amazon Route 53

High Availability with Amazon Route 53 DNS Failover

Free Lab on Introduction to Amazon Route 53

AWS Direct Connect

AWS Direct Connect lets you establish a dedicated network connection between your network and one of the AWS Direct Connect locations. Using industry standard 802.1q VLANs, this dedicated connection can be partitioned into multiple virtual interfaces. This allows you to use the same connection to access public

resources (such as objects stored in Amazon S3) using public IP address space, and private resources (such as Amazon EC2 instances running within an Amazon VPC) using private IP space, while maintaining network separation between the public and private environments.

Cloud Architectures with AWS Direct Connect

AWS Security

Hours 15 to 16

Cloud Security at AWS is job zero. All AWS customers benefit from a data center and network architecture built to satisfy the requirements of the most security-sensitive organizations. AWS Cloud Compliance enables customers to understand the robust controls in place at AWS to maintain security and data protection in the cloud. As systems are built on top of AWS cloud infrastructure, compliance responsibilities will be shared.

Overview of Security Processes

AWS Security Resources

AWS Compliance Resources

Shared Responsibility Model

Because you're building systems on top of the AWS platform, the security responsibilities will be shared. While AWS manages security of the cloud, security in the cloud is the responsibility of the customer. Customers retain control of what security they choose to implement to protect their own content, platform, applications, systems and networks, no differently than they would for applications in an on-site datacenter. Learn more about the AWS Shared Responsibility Model here.

Hours 17 to 18

AWS IAM and KMS

AWS Identity and Access Management (IAM) enables you to securely control access to AWS services and resources for your users. Using IAM, you can create and manage AWS users and groups and use permissions to allow and deny their access to AWS resources. AWS Key Management Service (KMS) is a managed service that helps make it easy for you to create and control the encryption keys used to encrypt your data, and uses Hardware Security Modules (HSMs) to protect the security of your keys.

Introduction to IAM

Deep Dive Session on IAM

IAM Best Practices

Free Lab on Introduction to AWS IAM

Introduction to AWS Key Management Service

Free Lab on Introduction to AWS KMS

Storage Services

Hours 19 to 20

AWS offers a number of different storage services, including Amazon S3, Amazon EBS Amazon EFS, and Amazon Glacier. Amazon S3 is an object storage service, Amazon EBS is a block storage service, Amazon EFS is a file storage service, and Amazon Glacier is a long-term archive storage service.

Amazon S3

Introduction to Amazon S3

Master Class Webinar – Amazon S3

Free Lab on Introduction to Amazon S3

Hour 21

Amazon EBS

Introduction to Amazon EBS

Free Lab on Introduction to Amazon EBS

Amazon EFS

Introduction to Amazon EFS

Hour 22

Amazon Glacier

Introduction to Amazon Glacier Webinar

Archiving Amazon S3 Data to Amazon Glacier

Hours 23 to 24

AWS Storage Gateway

The AWS Storage Gateway is a service connecting an on-premises software appliance with cloud-based storage, to provide seamless and secure integration between an organization's on-premises IT environment and AWS's storage infrastructure.

AWS Storage Gateway Webinar

Understanding Gateway Cached Volumes and Gateway Stored Volumes on AWS Storage Gateway: Video One, Video Two

Hour 25

Amazon CloudFront

Amazon CloudFront is a content delivery web service. It integrates with other AWS services to give developers and businesses an easy way to distribute content to end users with low latency, high data transfer speeds, and no minimum usage commitments.

Introduction to Amazon CloudFront

Getting started with Amazon CloudFront

Free lab on introduction to Amazon CloudFront

AWS Database Services

Hours 26 to 29

Amazon RDS

Amazon Relational Database Service (Amazon RDS) is a web service that makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while managing time-consuming database management tasks, freeing you up to focus on your applications and business. It gives you access to the capabilities of a MySQL, Oracle, SQL Server, or PostgreSQL database engines running on your own Amazon RDS cloud-based database instance.

Intro to AWS Database Services Session

Intro to Amazon Aurora

How to Create an Oracle RDS Database in 5 Minutes

Amazon RDS for Oracle: Best Practices and Migration

Amazon RDS for MySQL: Best Practices and Migration

Amazon RDS for SQL Server: Performance, Security, Best Practices

Amazon RDS for PostgreSQL

Free Lab on Introduction to Amazon RDS

Amazon DynamoDB

Getting started with Amazon DynamoDB

Free Lab on introduction to Amazon DynamoDB

Amazon ElastiCache

Getting Started with Amazon ElastiCache

Big Data & Analytics Services

Hours 30 to 31

Big Data Technology Fundamentals

Big Data Technology Fundamentals provides baseline general knowledge of the technologies used in big data solutions. It covers the development of big data solutions using the Hadoop ecosystem, including Amazon Elastic MapReduce, HDFS, and the Pig and Hive programming frameworks. This three hour web-based course helps you build a foundation for working with AWS Services for big data solutions.

You can register here to take this web based course.

Hour 32 to 34

Amazon Redshift

Amazon Redshift is a fast, fully managed, petabyte-scale data warehouse solution that makes it simple and cost-effective to efficiently analyze all your data using your existing business intelligence tools.

Click here to watch an introductory video to Amazon Redshift.

Detailed Session on Amazon Redshift

Free Lab on Introduction to Amazon Redshift

Amazon QuickSight

Amazon QuickSight is a very fast, easy-to-use, cloud-powered business intelligence (BI) service that makes it easy for all employees within an organization to build visualizations, perform ad-hoc analysis, and quickly get business insights from their data. Amazon QuickSight uses a new, Super-fast, Parallel, In-memory Calculation Engine ("SPICE") to perform advanced calculations and render visualizations rapidly. Amazon QuickSight integrates automatically with AWS data services, enables organizations to scale to hundreds of thousands of users, and delivers fast and responsive query performance to them via the SPICE engine.

Click here to watch an introductory video to Amazon QuickSight.

Amazon Elastic MapReduce (Amazon EMR)

Amazon Elastic MapReduce (Amazon EMR) is a web service that makes it easy to quickly and cost-effectively process vast amounts of data. Amazon EMR uses Hadoop, an open source framework, to distribute your data and processing across a resizable cluster of Amazon EC2 instances. Amazon EMR is used in a variety of applications, including log analysis, web indexing, data warehousing, machine learning, financial analysis, scientific simulation, and bioinformatics.

Click here for an introduction to Amazon EMR.

Free Lab on Introduction to Amazon EMR

Introduction to Amazon Kinesis

Amazon Kinesis is a platform for streaming data on AWS, offering powerful services to make it easy to load and analyze streaming data, and also providing the ability for you to build custom streaming data applications for specialized needs. Web applications, mobile devices, wearables, industrial sensors, and many software applications and services can generate staggering amounts of streaming data – sometimes TBs per hour – that need to be collected, stored, and processed continuously. Amazon Kinesis services enable you to do that simply and at a low cost.

Click here to watch an introductory video to Amazon Kinesis.

Amazon Machine Learning

Amazon Machine Learning is a machine service that allows you to easily build predictive applications, including fraud detection, demand forecasting, and click prediction. Amazon Machine Learning uses powerful algorithms that can help you create machine learning models by finding patterns in existing data, and using these patterns to make predictions from new data as it becomes available. Once the models are created, you can get predictions for your application by using the simple API, without having to implement custom prediction generation code or manage any infrastructure. Amazon Machine Learning is highly scalable and can generate billions of predictions, and serve those predictions in real-time and at high throughput.

Click here to watch an introductory video to Amazon Machine Learning.

Free Lab on Introduction to Amazon Machine Learning

Amazon Elasticsearch Service

Amazon Elasticsearch Service is a managed service that makes it easy to deploy, operate, and scale Elasticsearch in the AWS Cloud. Elasticsearch is a popular open-source search and analytics engine for use cases such as log analytics, real-time application monitoring, and click stream analytics.

Click here to watch an introductory video to Amazon ElasticSearch

Free Lab on Introduction to Amazon ElasticSearch

Application Services

Hours 35 to 36

Amazon Simple Email Service (Amazon SES)

Amazon Simple Email Service (Amazon SES) is a highly scalable and cost-effective email-sending service for businesses and developers. SES integrates with other AWS Services, making it easy to send emails from applications being hosted on AWS. Amazon SES can be used by any business or developer that needs a reliable, scalable, and inexpensive way to deliver email — without having to build their own solution or license, install, and operate third-party software.

Introduction to Amazon SES

Amazon Simple Notification Service (Amazon SNS)

Amazon Simple Notification Service (Amazon SNS) is a web service that makes it easy to set up, operate, and send notifications from the cloud. It provides developers with a highly scalable, flexible, and cost-effective capability to publish messages from an application and immediately deliver them to subscribers or other applications. The Amazon SNS Service can support a wide variety of needs including monitoring applications, workflow systems, time-sensitive information updates, mobile applications, and any other application that generates or consumes notifications. For example, Amazon SNS can be used in workflow systems to relay events among distributed computer applications, move data between data stores or update records in business systems. Another example use for Amazon SNS is to relay time-critical events to mobile applications and devices.

Introduction to Amazon SNS

Amazon Simple Queue Service (Amazon SQS)

Amazon Simple Queue Service offers a reliable, highly scalable hosted queue for storing messages as they travel between computers. By using Amazon SQS, developers can simply move data between distributed application components performing different tasks, without losing messages or requiring each component to be always available. Amazon SQS makes it easy to build an automated workflow, working in close conjunction with the Amazon Elastic Compute Cloud (Amazon EC2) and the other AWS infrastructure web services.

Introduction to Amazon SQS

Amazon SNS and Amazon SQS are important Services for sending, managing, and queuing system notifications. The following session details the fundamentals on how to use these services, demonstrates the value for application developers, and covers some common use cases and customers where they have solved a critical business problem.

Building Elastic High performance Systems with Amazon SQS and Amazon SNS

Amazon Simple Workflow Service (Amazon SWF)

Amazon Simple Workflow Service (Amazon SWF) is a web service that makes it easy to coordinate work across distributed application components. Amazon SWF enables applications for a range of use cases, including media processing, web application back-ends, business process workflows, and analytics pipelines, to be designed as a coordination of tasks. The coordination of tasks involves managing execution dependencies, scheduling, and concurrency in accordance with the logical flow of the application. With Amazon SWF, developers get full control over implementing processing steps and coordinating the tasks that drive them, without worrying about underlying complexities such as tracking their progress and keeping their state. By using Amazon SWF, developers benefit from ease of programming and have the ability to improve their applications' resource usage, latencies, and throughputs.

Introduction to Amazon SWF

Deployment and Management Services

Hour 37 to 38

AWS Elastic Beanstalk

AWS Elastic Beanstalk is a service to help developers quickly deploy and manage applications in the AWS Cloud. Developers simply upload their application, and AWS Elastic Beanstalk automatically handles the deployment details of capacity provisioning, load balancing, auto-scaling, and application health monitoring. AWS Elastic Beanstalk supports Java, Node.js, PHP, Python, Ruby, and .NET web applications.

Introduction to AWS Elastic Beanstalk

Free Lab on AWS Elastic Beanstalk

AWS OpsWorks

AWS OpsWorks is a flexible application management solution with automation tools that enable you to model and control your applications and their supporting infrastructure. AWS OpsWorks is designed for IT administrators and ops-minded developers who want an easy way to manage applications of nearly any scale and complexity without sacrificing control. With AWS OpsWorks, you can create a logical architecture, provision resources based on that architecture, deploy your applications and all supporting software and packages in your chosen configuration, and then operate and maintain the application through lifecycle stages such as auto-scaling events and software updates.

Introduction to AWS OpsWorks

Free Lab on Introduction to AWS OpsWorks

AWS CloudFormation

AWS CloudFormation is a service that helps you model and set up your AWS resources so that you can spend less time managing those resources and more time focusing on your applications that run in AWS. You create a template that describes all the AWS resources that you want (like Amazon EC2 instances or Amazon RDS DB instances), and AWS CloudFormation takes care of provisioning and configuring those resources for you. You don't need to individually create and configure AWS resources and figure out what's dependent on what; AWS CloudFormation handles all of that.

Introduction to AWS CloudFormation

Free Lab on Introduction to AWS CloudFormation

Disaster Recovery on AWS

Hour 39

Businesses are using AWS to enable faster disaster recovery of their critical IT systems without incurring the infrastructure expense of a second physical site. The AWS platform supports many popular disaster recovery (DR) architectures, from “pilot light” environments that are ready to scale up at a moment’s notice, to “hot standby” environments that enable rapid failover. With data centers in 10 regions around the world, AWS provides a set of cloud-based disaster recovery services that enable rapid recovery of your IT infrastructure and data.

Disaster Recovery on AWS Session

Using AWS for DR Whitepaper

Knowledge Check

Hour 40

1. Which of the following AWS services provides resizable compute capacity?

    a. Amazon EC2

    b. Amazon EBS

    c. Amazon RDS

    d. Amazon VPC

2. Which of the following is a valid Amazon EC2 purchasing model?

    a. On-demand

    b. Reserved

    c. Spot

    d. All of the above

3. What is a Pre-configured template that packages the bits you need in order to launch an instance on AWS (including the operating system and any additional software you may need)?

    c. Virtual Image

    d. Amazon Machine Image (AMI)

    c. Root Software

    d. Open Image

4. The following is an AWS service that enables you to automatically launch or terminate Amazon Elastic Compute Cloud (Amazon EC2) instances based on user-defined policies, health status checks, and schedules:

    a. Elastic scaling

    b. Auto scaling

    c. Vertical Scaling

    d. There is no such AWS Service

5. Which of the following methods can be used to access AWS services?

a. AWS Console

b. AWS SDK

c. AWS API's

d. All of the above

6. Identify the AWS service that improves an application's availability by distributing incoming traffic between two or more Amazon EC2 instances:

a. Amazon Virtual Private Cloud (VPC)

b. Auto Scaling

c. Elastic Load Balancing

d. Availability Booster

7. Which AWS service lets you provision a logically isolated section of the Amazon Web Services (AWS) Cloud where you can launch AWS resources in a virtual network that you define?

a. Virtual Public Cloud

b. Amazon Virtual Private Cloud (Amazon VPC)

c. Dedicated Cloud

d. Intra Cloud

8. Which of the following acts as a virtual firewall that controls the traffic for one or more instances?

a. Security Group

b. VPC

c. Network ACL

d. VPN

9. Which of the following AWS services lets you establish a dedicated private network connection from an on-premise data center to AWS?

a. AWS Import/Export

b. AWS Direct Connect

c. Bring your own Network

d. Amazon CloudFront

10. Which of the following routing types are supported by Amazon Route 53?

a. Geo-NDS

b. Weighted Round Robin

c. Latency based

d. All of the above

11. If you build your systems on AWS, the security responsibilities will be:

a. Owned by AWS

b. Owned by the customer

c. Shared between AWS and the customer (Shared Responsibility Model)

d. None of the above

12. The Following AWS service lets you create and manage AWS users and groups, and use permissions to allow and deny access to your AWS resources:

a. Amazon VPC

b. IAM

c. CRM

d. AWS CloudTrail

13. Which of the following IAM entities defines a set of permissions that are not associated with a specific user or group, but instead are assumed by trusted entities, such as IAM users, applications or AWS services?

a. IAM role

b. IAM group

c. IAM policy

d. MFA

14. Which of the following storage services does AWS provide to their customers?

a. Amazon S3

b. Amazon EBS

c. Amazon Glacier

d. All of the above

15. Which of the following configurations does AWS Storage Gateway support?

a. Gateway-Stored Volumes

b. Gateway-Cached volumes

c. Gateway-Virtual Tape Library

d. All of the above

16. Which of the following storage volumes offer storage with consistent and low-latency performance, and is designed for applications with I/O-intensive workloads?

a. Provisioned IOPS (SSD) volumes

b. Magnetic Volumes

c. Glacier Vault

d. None of the above

17. Which of the following methods can be used to control access to the data stored in Amazon S3?

a. IAM Policies

b. Bucket policies

c. Access control lists

d. All of the above

18. Which AWS service makes it easy to set up, operate, and scale a relational database, freeing you up to focus on your applications and business?

a. Amazon RDS

b. Amazon DynamoDB

c. Amazon SimpleDB

d. None of the above

19. Which Amazon RDS option increases the database availability by automatically provisioning and maintaining a synchronous “standby” replica in a different Availability Zone?

a. Multi-AZ deployment

b. Reserved DB Instances

c. On-demand DB instance

d. All of the above

20. Which AWS service provides a fast and powerful, fully managed, petabyte-scale data warehouse service in the cloud?

a. Amazon Redshift

b. Amazon DynamoDB

c. Amazon RDS

d. Amazon ElastiCache

21. Which engine is supported by Amazon ElastiCache?

a. Memcached

b. Redis

c. Both a and b

d. None of the above

22. Which AWS service uses Hadoop Framework, and makes it easy to quickly and cost-effectively process vast amounts of data?

a. Amazon Elastic MapReduce (Amazon EMR)

b. Amazon ElastiCache

c. Amazon CloudSearch

d. All of the above

23. Which architecture scenario can customers use to operate a DR on AWS?

a. Pilot Light

b. Warm Standby

c. Multi-Site

d. All of the above

24. Based on what parameters does a customer usually select their DR Strategy?

a. RTO

b. RPO

c. Both RTO and RPO

d. None of the above

25. Which of the following AWS services gives developers and businesses an easy way to distribute content to end users with low latency and high data transfer speeds?

a. Amazon CloudWatch

b. AWS CloudFormation

c. Amazon CloudFront

d. Amazon WorkSpaces

26. An instance store:

a. Is disk storage that is physically attached to the host computer of an Amazon EC2 instance

b. Has the same lifespan as the instance

c. Provides temporary block-level storage for use with an instance

d. All of the above

27. A network ACL is:

a. An optional layer of security that acts as a firewall for controlling traffic in and out of a subnet

b. A hardware device

c. A way of tagging network resources

d. None of the above

28. What enables Amazon EC2 instances in the Amazon VPC to directly access the Internet?

a. Simple Gateway

b. Internet Gateway

c. Customer Gateway

d. None of the above

29. Which VPC option is supported by AWS?

a. VPC with Public and Private Subnets

b. VPC with Public and Private Subnets and Hardware VPN Access

c. VPC with a Private Subnet Only and Hardware VPN Access

d. All of the above

30. An Amazon VPC router:

a. Enables Amazon EC2 instances within subnets to communicate with Amazon EC2 instances in other subnets within the same VPC

b. Enables subnets, Internet Gateways and Virtual Private Gateways to communicate with each other

c. Both a and b

d. None of the above

31. Which of the following AWS Application Services are offered by AWS?

a. Amazon Simple Email Service (Amazon SNS)

b. Amazon Simple Queue Service (Amazon SQS)

c. Amazon Simple Notification Service (Amazon SNS)

d. All of the above

32. Amazon SQS:

a. Allows applications to send time-critical messages to multiple subscribers through a “push” mechanism, eliminating the need to periodically check or “poll” for updates

b. Is a message queue service used by distributed applications to exchange messages through a polling model, and can be used to decouple sending and receiving components.

c. Both a and b

d. None of the above

33. Which of the following is a benefit of using Amazon SNS Service?

a. Instantaneous, push-based delivery (no polling)

b. Flexible message delivery over multiple transport protocols

c. Simple APIs and easy integration with applications

d. All of the above

34. How many queues does Amazon SQS support?

a. 5

b. 10

c. 100

d. Unlimited

35. Which of the following AWS services makes it easy to coordinate work across distributed application components?

a. Amazon Simple Email Service (Amazon SES)

b. Amazon Simple Workflow Service (Amazon SWF)

c. Amazon Simple Notification Service (Amazon SNS)

d. None of the above

36. AWS Elastic Beanstalk:

a. Enables developers to quickly deploy and manage applications in the AWS cloud

b. Enables developers to quickly and easily send emails

c. Is a web service that provides visibility into user activity by recording API calls made on your account

d. None of the above

37. From the options below, identify the AWS service that lets you describe all the AWS resources that you want (like Amazon EC2 instances or Amazon RDS DB instances) in the form a template and then takes care of provisioning and configuring those resources for you:

a. AWS Elastic Beanstalk

b. AWS CloudFormation

c. AWS OpsWorks

d. None of the above

38. Amazon Kinesis:
    a. Is a fully managed service for real-time processing of streaming data at massive scale
    b. Is a service to automate deployment of AWS resources
    c. Is a service that offers AWS Identity and Access Management
    d. None of the above
39. Which of the following is an advantage of cloud computing?
    a. Trade capital expense for variable expense
    b. Increase speed and agility
    c. Both a and b
    d. None of the above
40. The APN stands for:
    a. The AWS Partner Network
    b. The Amazon Prime Video Network
    c. The Amazon Premier Network
    d. None of the above

Answers to Knowledge check questions:

1. a
2. d
3. b
4. b
5. d
6. c
7. b
8. a
9. b
10. d
11. c
12. b
13. a
14. d
15. d
16. a
17. d
18. a
19. a
20. a
21. c
22. a
23. d
24. c

25. c
26. d
27. a
28. b
29. d
30. c
31. d
32. b
33. d
34. d
35. b
36. a
37. b
38. a
39. c
40. a

Next Steps - Prepare for the AWS Certified Solutions Architect - Associate Exam

Customers worldwide are actively looking to engage with APN Partners who deliver consulting, architecture, operations and developer services to help them build reliable, scalable, and cost effective applications to run on AWS. These customers seek out technical professionals that have the necessary knowledge, skills, best practices and proven credentials in AWS Architecture, AWS Systems Operations (including DevOps) and AWS Developing (building applications for AWS).

AWS offers in-depth Training and Certification options to help you develop your skills, and gain recognition for your technical experience with AWS Services and Solutions. Once you have gained knowledge on AWS services through the 40-hour self-study guide, there are a number of next steps you should take to prepare yourself for the AWS Certified Solutions Architect – Associate Level exam.

Self-Paced Labs

Designed by AWS subject matter experts from training partner qwikLABS, self-paced labs provide an opportunity to use the AWS console with step-by-step instructions, giving you hands-on practice to help you gain confidence working with AWS. They are designed to help you test product, acquire new skills, and gain practical experience working with AWS technologies. There are a number of self-paced labs we offer for free on AWS Basics, including labs on Amazon EC2, Amazon EBS, Amazon S3, and others. There are a number of additional labs that are offered for a one-time charge.

The labs vary in time, but most range between 30 minutes in length to an hour and a half. We encourage you to take AWS Self-Paced Labs to gain hands-on experience with many of the AWS Services discussed in the self-study guide. The AWS Training team has put together a Self-Paced Lab Learning Quest to help you get hands-on practice with several key services as you prepare for the AWS Certified Solutions Architect – Associate Exam.

AWS Training Courses – Architecting on AWS

AWS Training is available to anyone interested in learning more about AWS. Public instructor-led classes are available throughout the world, and we also offer dedicated onsite training for organizations that want to privately train a group of people. As a next step to the knowledge you've gained through completing the AWS Technical Professional Course and the self-study resources outlined in this document, we encourage you to begin with the Architecting on AWS courses, to begin preparations for the AWS Certified Solutions Architect – Associate Level exam.

Architecting on AWS

The Architecting on AWS course is a 3-day, instructor-led course with hands-on labs that will teach participants how to design scalable, elastic, secure, and highly available applications on AWS. This course covers architecture patterns for common solutions running on AWS, including Web Applications, Batch Processing, and hosting internal IT Applications.

Click here for an in-depth description of the course.

We offer APN Partners up to a 20% discount on public instructor-led classes delivered by AWS. You can register through your APN Portal account to receive discounted pricing. To register through the Portal, follow these steps:

- Step 1: Log in to the APN Portal
- Step 2: Select "Training" from the Top Navigation
- Step 3: Click link to access the AWS Training Portal

AWS Certification Exam Readiness Workshop

Designed to complement Architecting on AWS, this half-day workshop is intended for individuals who are preparing for the AWS Certified Solutions Architect – Associate exam. In this workshop, we review what to expect at the testing center and while taking the exam. We walk you through how the exam is structured, including question formats, content domains, and the breakdown of questions across those domains. We also teach you how to interpret the concepts being tested by a question so that you can better eliminate incorrect responses. During the workshop, you will have the chance to apply knowledge and test concepts through a series of practice exam questions. At the end of the workshop, you'll also receive a voucher to take an additional online practice exam at no cost. Learn more about the course here.

After you've completed these courses, taking the AWS Certified Solutions Architect – Associate Exam is typically the next step in the skill development process.

AWS Certification Preparation

AWS Certified Solutions Architect – Associate Exam

AWS Certifications are important for your successful development as an APN Partner. You can distinguish your firm's experience level with AWS, and gain credibility with both customers and AWS staff by getting AWS Certified. There are five AWS Certifications currently available, and we suggest you begin with the AWS Certified Solutions Architect – Associate Level. Here are the steps to begin the AWS Certification process:

Certification Step	Partner Action	Additional Information
Step 1 – Complete AWS Instructor-led Training	Sign up for, and attend, the appropriate training course	Click here to select the course of your choice
Step 2 – Continue to Prepare for the AWS Certification Exam	Download exam guides, sample questions, and take practice exams	Click here for access to additional study material
Step 3 – Take the AWS Certification Exam	Register for the Certification Exam	Click here to begin the registration process

A number of study materials have been made available to you as you prepare for the AWS Solutions Architect – Associate Level exam:

Exam Blueprint

The examination blueprint should give you an idea of the knowledge level you should have before taking the AWS Certified Solutions Architect – Associate Level exam, and will walk you through weighting, test objectives, and example content for the exam. These are included to clarify the test objectives, but should not be construed as a comprehensive listing of all of the content of this examination.

Sample Exam Questions

The sample questions are designed to help you understand what type of questions will be included on the AWS Certified Solutions Architect – Associate Level exam.

Practice Exam

We offer a practice exam for the AWS Certified Solutions Architect – Associate Level exam, so that you can gauge your level of preparedness for the actual exam. Associate practice exams cost $20.

Additional Resources

APN Portal

The APN Portal is exclusive to APN Partners, and provides your firm with (1) business and technical documentation to help you build your business on AWS, (2) marketing guidance and tools, and (3) access to your Partner Scorecard, a tool that allows you to track your success with AWS.

AWS Partner Training

To learn more about all of the training options available to you as an APN Partner, visit this page.

AWS Certifications

To learn more about the AWS Certifications Program, visit the main AWS Certifications page.

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