AWS Academy Cloud Foundations

Course Introduction

Module overview

Topics

- Course objectives and overview
- AWS certification exam information
- AWS Documentation

Activities

- AWS Documentation scavenger hunt

Module objectives

After completing this module, you should be able to:

- Recognize the purpose of the AWS Academy Cloud Foundations course
- Recognize the course structure
- Recognize the AWS certification process
- Navigate the AWS Documentation website

Course Introduction

Section 1: Course objectives and overview

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Course prerequisites

- General Required Knowledge
  - IT technical knowledge
  - IT business knowledge
- Preferred Knowledge
  - Familiarity with cloud computing concepts
  - Working knowledge of distributed systems
  - Familiarity with general networking concepts
  - Working knowledge of multi-tier architectures

Course objectives

After completing this course, you should be able to:

- Define the AWS Cloud.
- Explain the AWS pricing philosophy.
- Identify the global infrastructure components of AWS.
- Describe security and compliance measures of the AWS Cloud including AWS Identity and Access Management (IAM).
- Create an AWS Virtual Private Cloud (Amazon VPC).
- Demonstrate when to use Amazon Elastic Compute Cloud (EC2), AWS Lambda and AWS Elastic Beanstalk.
- Differentiate between Amazon S3, Amazon EBS, Amazon EFS and Amazon S3 Glacier.
- Demonstrate when to use AWS Database services including Amazon Relational Database Service (RDS), Amazon DynamoDB, Amazon Redshift, and Amazon Aurora.
- Explain AWS Cloud architectural principles.
- Explore key concepts related to Elastic Load Balancing (ELB), Amazon CloudWatch, and Auto Scaling.

Course outline by module

1. Welcome to AWS Academy Cloud Architecting
2. Introducing Cloud Architecting
3. Securing Access
4. Adding a Storage Layer with Amazon S3
5. Adding a Compute Layer Using Amazon EC2
6. Adding a Database Layer
7. Creating a Networking Environment
8. Connecting Networks
9. Securing User, Application, and Data Access
10. Implementing Monitoring, Elasticity, and High Availability
11. Automating Your Architecture
12. Caching Content

Module 1: Cloud Concepts Overview

Module sections:

- Introduction to cloud computing
- Advantages of cloud computing
- Introduction to Amazon Web Services (AWS)
- Moving to the AWS Cloud – The AWS Cloud Adoption Framework (AWS CAF)

Module 2: Cloud Economics and Billing

Module sections:

- Fundamentals of pricing
- Total Cost of Ownership
- Billing
- Technical support

Module 3: AWS Global Infrastructure Overview

Module sections:

- AWS Global Infrastructure
- AWS services and service category overview

Module 4: AWS Cloud Security

Module sections:

- AWS shared responsibility model
- AWS Identity and Access Management (IAM)
- Securing a new AWS account
- Securing accounts
- Securing data on AWS
- Working to ensure compliance

Module 5: Networking and Content Delivery

Module sections:

- Networking basics
- Amazon VPC
- VPC networking
- VPC security
- Amazon Route 53
- Amazon CloudFront

Module 6: Compute

Module sections:

- Compute services overview
- Amazon EC2
- Amazon EC2 cost optimization
- Container services
- Introduction to AWS Lambda
- Introduction to AWS Elastic Beanstalk

Module 7: Storage

Module sections:

- Amazon Elastic Block Store (Amazon EBS)
- Amazon Simple Storage Service (Amazon S3)
- Amazon Elastic File System (Amazon EFS)
- Amazon Simple Storage Service Glacier

Module 8: Databases

Module sections:

- Amazon Relational Database Service (Amazon RDS)
- Amazon DynamoDB
- Amazon Redshift
- Amazon Aurora

Module 9: Cloud Architecture

Module sections:

- AWS Well-Architected Framework
- Reliability and availability
- AWS Trusted Advisor

Module 10: Automatic Scaling and Monitoring

Module sections:

- Elastic Load Balancing
- Amazon CloudWatch
- Amazon EC2 Auto Scaling

Course Introduction

Section 2: AWS certification exam information

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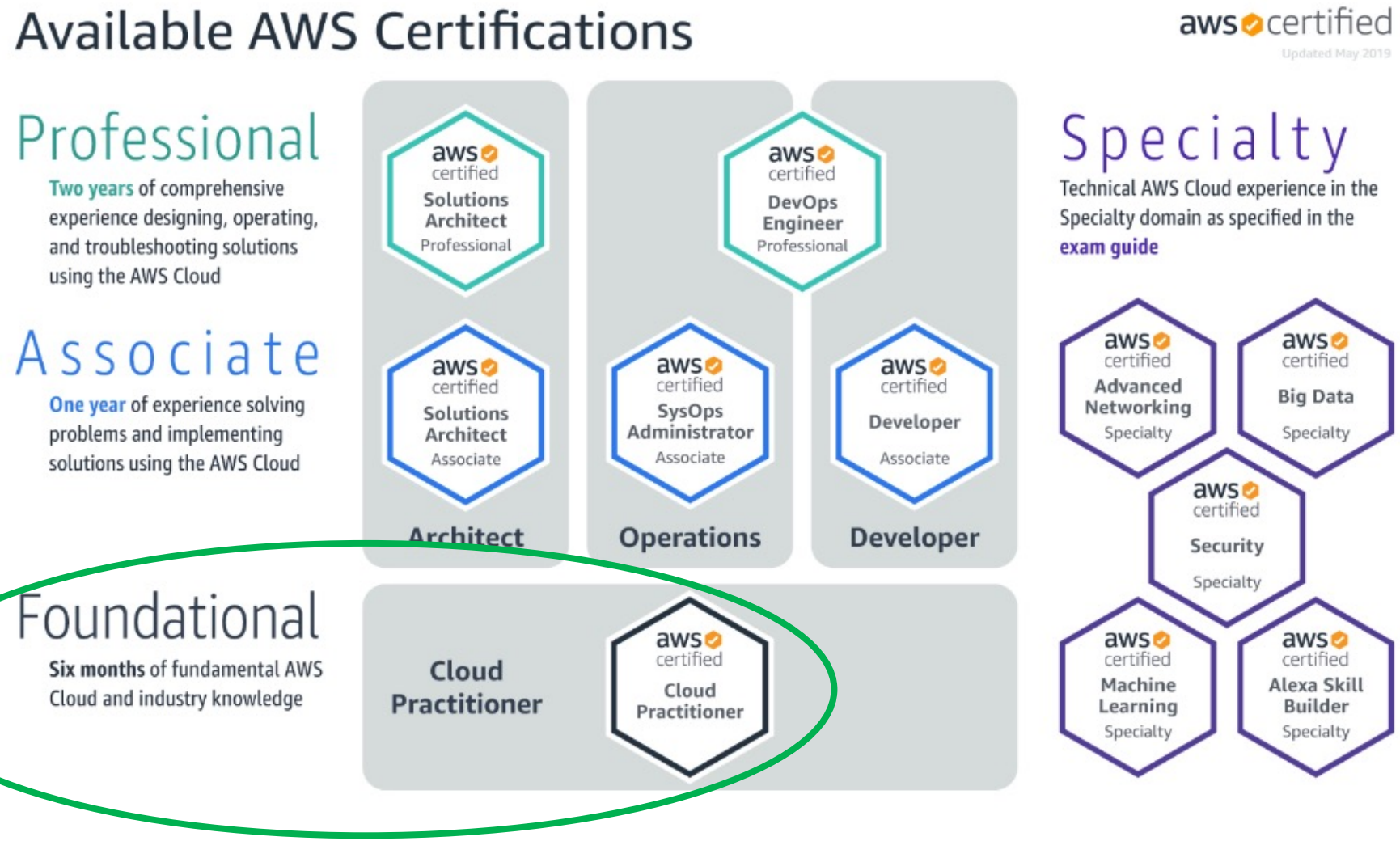
AWS certification exams



*This course helps prepare you for the AWS **Cloud Practitioner** certification exam*

AWS Certified Cloud Practitioner exam

- Details about the exam—including how to register for it—are at https://aws.amazon.com/certification/certified-cloud-practitioner/
  - Download and carefully read the AWS Certified Cloud Practitioner Exam Guide
  - Download the sample exam questions

- See the recommended path to attain the certification at https://aws.amazon.com/training/path-cloudpractitioner/
  - AWS Academy Cloud Foundations covers much of the same material found in the Cloud Practitioner Essentials course, but in greater depth.
  - There is additional free digital training available at aws.training

Course Introduction

Section 3: AWS Documentation

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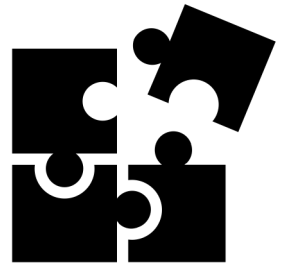
AWS Documentation

- Find user guides, developer guides, API references, tutorials, and more.
  - https://docs.aws.amazon.com/

- ***Whitepapers*** are also available at https://aws.amazon.com/whitepapers/, including these which are recommended reading for the AWS Cloud Practitioner exam:
  - Overview of Amazon Web Services
  - Architecting for the Cloud: AWS Best Practices
  - How AWS Pricing Works
  - The Total Cost of (Non) Ownership of Web Applications in the Cloud

Activity - AWS Documentation Scavenger Hunt

- Navigate the AWS Documentation website
- Start from the main page at https://docs.aws.amazon.com
- Five challenge questions for the class appear in the following slides



AWS Documentation Scavenger Hunt – Question 1

- Question #1: What guides and references exist for the Amazon EC2 service?

- Answer:
  - User Guides for Linux and Windows
  - API Reference
  - AWS CLI Reference
  - EC2 Instance Connect Reference
  - User Guide for Auto Scaling
  - VM Import/Export User Guide

AWS Documentation Scavenger Hunt – Question 2

- Question #2: Can you find the documentation that describes how to create an Amazon S3 bucket?

- Answer:
  - From https://docs.aws.amazon.com/ click **S3**
  - Click the **Getting Started Guide**
  - Click **Create a Bucket**

AWS Documentation Scavenger Hunt – Question 3

- Question #3: Can you find a one-sentence summary of the AWS Cloud9 service?

- Answer:
  - AWS Cloud9 is a cloud-based integrated development environment (IDE) that you use to write, run, and debug code.

AWS Documentation Scavenger Hunt – Question 4

- Question #4: Which programming languages does the AWS Lambda service API support?

- Answer:
  - From the main AWS Documentation page, click the **AWS Lambda** link
  - Click the **API Reference** link
  - Click **Getting Started** > **Tools** to find a table that lists the following languages: **Node.js**, **Java**, **C#**, **Python**, **Ruby**, **Go**, and **PowerShell**

AWS Documentation Scavenger Hunt – Question 5

- Question #5: Find the tutorial that describes how to run a serverless Hello World application, then scroll through the documented steps. What two AWS services does the tutorial have you use?

- Answer:
  - From the main AWS Documentation page, click **Tutorials and Projects**
  - In the **Websites & Web Apps** area, click the tutorial.
  - The tutorial has you use **AWS Lambda** and **Amazon CloudWatch**.

Course Introduction

Module wrap-up

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Module summary

In summary, in this module, you learned how to:

- Recognize the purpose of the AWS Academy Cloud Foundations course
- Recognize the course structure
- Recognize the AWS certification process
- Navigate the AWS Documentation website

Additional resources

- AWS Certification
- AWS Certified Cloud Practitioner
- AWS Documentation

Thank you

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