

AWS Fundamentals, Skill Labs

Course Specifications

Course Number: ACI76-021SL_rev1.0

Lab Length: Approximately 5 hours

AWS Cloud Concepts (PLAB-AWS-FUN)

Introduction

Objective

Welcome to the AWS Cloud Concepts lab. In this lab, you will be provided with the instructions and devices needed to develop your hands-on skills.

Public cloud computing can be defined as running and accessing different computing services on externally hosted and maintained hardware. The hardware is situated in data centers located across the world to provide availability and redundancy for clients.

These public providers are known as Cloud Service Providers (CSPs). There are several CSPs available to create and run the needed services. The most popular and well-known CSPs are Microsoft Azure and Amazon Web Services (AWS).

AWS is one of the leading Cloud Service Provider (CSP) globally. AWS offers clients a vast number of cloud services to customers. The core cloud services offered by AWS include Infrastructure as a Services (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).

In this module, the basic cloud services will be discussed and explored with the main focus on AWS cloud services.

Alert: A prepopulated AWS account will be used to complete the exercises in this module. It will not be necessary to sign up for a free account through AWS. It is important to note that certain restrictions have been applied to the lab environment. These include that only specific resources can be created in the specified region. If the region is changed, the steps in the tasks will not function accordingly.

Overview

Learning Outcomes

In this module, you will complete the following exercises:

- Exercise 1 – Cloud Models
- Exercise 2 – Basic Cloud Concepts

After completing this module, you should be able to:

- View AWS global footprint.
- Use the Cloud Costing Calculator.

After completing this module, you should have further knowledge of:

- Different Cloud Computing Models
- Core Cloud Services

Exam Objectives

The following exam objectives are covered in this module:

1.1 Define the AWS Cloud and its value proposition.

- Define the benefits of the AWS cloud.
- Explain how the AWS cloud allows users to focus on business value.

AWS Management Console (PLAB-AWS-FUN)

Introduction

Objective

Welcome to the AWS Management Console lab. In this lab, you will be provided with the instructions and devices needed to develop your hands-on skills.

The AWS Management Console is a web-based management interface used to create and manage resources and services on the AWS Cloud Platform. Different services are available on the AWS Cloud Platform to perform different functionalities. Some of the most used services include the Elastic Compute Cloud (EC2), Relational Database Service (RDS), and S3.

Amazon Elastic Compute Cloud (EC2) service is used to create different virtual machines which can be used for a specific function and is referred to as Infrastructure as a Service (IaaS).

The RDS is used to create different types of databases and is known as Platform as a Service (PaaS).

To create a scalable cloud storage solution, the S3 service can be used.

In this module, the different methods to create and manage services on Amazon Web Services will be explored.

Alert: A prepopulated AWS account will be used to complete the exercises in this module. It will not be necessary to sign up for a free account through Amazon Web Services. It is important to note that certain restrictions have been applied to the lab environment. These include specific resources that can only be created in the specific region. If the region is changed, the steps in the tasks will not function accordingly.

Overview

Learning Outcomes

In this module, you will complete the following exercises:

- Exercise 1 – Exploring AWS Services in the Management Console
- Exercise 2 – Exploring the AWS CloudShell

After completing this module, you should be able to:

- Access the AWS Management Console.
- Access the AWS CloudShell.

Exam Objectives

The following exam objectives are covered in this module:

3.1 Define methods of deploying and operating in the AWS cloud

- Identify at a high level different ways of provisioning and operating in the AWS cloud

AWS Virtual Networking Components (PLAB-AWS-FUN)

Introduction

Objective

Welcome to the AWS Virtual Networking Components lab. In this lab, you will be provided with the instructions and devices needed to develop your hands-on skills.

Amazon Web Services provides several networking components that can be used to connect to several web services using the cloud platform.

These networking and content delivery services can be accessed through the AWS Management Console.

The core components of these services consist of the following:

API Gateway

The Application Programming Interface (API) gateway is used to build, deploy and manage different API's on the AWS Cloud Platform.

AWS App Mesh

AWS App Mesh provides an application-level virtual network on the AWS Cloud platform to enable communication between different computing infrastructures, ensuring high application availability.

AWS Cloud Map

The AWS Cloud Map service is used to discover and define custom names for application resources and maintain these resources' locations.

Amazon CloudFront

Dynamic and static web content can be easily distributed to customers using the Amazon CloudFront service. The service is used to distribute web content to data centers worldwide, also referred to as edge locations.

AWS Direct Connect

The AWS Direct Connect service is used to directly connect an on-premise infrastructure to AWS Cloud resources bypassing Internet Service Providers (ISPs).

AWS Global Accelerator

To ensure that users get the best experience when accessing AWS web services, AWS global accelerator can be used to direct web traffic on the least congested route to ensure that jitter, packet loss, and latency are kept to the minimum.

AWS Route 53

Amazon Route 53 is a highly scalable Domain Name Service (DNS) available on the AWS Cloud Platform that can consist of three core functions:

- Domain registrations
- DNS routing
- Resources Health Checking

Amazon Virtual Private Cloud (VPC)

The Amazon Virtual Private Cloud (VPC) service is used to create virtual networks on the AWS cloud platform to facilitate network communication between cloud resources.

Amazon VPC IP Address Manager

The VPC IP Address Manager is used on the AWS cloud platform to automatically manage and monitor the IP address uses. The VPC IP address manager ensures the correct allocation and management of the IP addresses.

In this module, some of these core components will be explored through AWS Management Console.

Alert: A prepopulated AWS account will be used to complete the exercises in this module. It will not be necessary to sign-up for a free account through Amazon Web Services. It is important to note that certain restrictions have been applied to the lab environment. These include that only specific resources can be created in the specified region. If the region is changed, the steps in the tasks will not function accordingly.

Overview

Learning Outcomes

In this module, you will complete the following exercises:

- Exercise 1 – Virtual Private Cloud (VPC) Concepts
- Exercise 2 – Amazon VPC IP Address Manager

After completing this module, you should be able to:

- Create a Virtual Private Cloud (VPC).
- Create a subnet in a VPC.
- Explore the Amazon VPC IP Address Manager.

Exam Objectives

The following exam objectives are covered in this module:

3.3 Identify the core AWS services

- Identify AWS networking services

AWS Database and Storage Concepts (PLAB-AWS-FUN)

Introduction

Objective

Welcome to the AWS Database and Storage Concepts lab. In this lab, you will be provided with the instructions and devices needed to develop your hands-on skills.

Amazon Web Services (AWS) provides different core services which enable customers to create scalable cloud solutions.

The following are some of the core AWS services:

- Amazon S3
- Amazon Elastic Block Store
- Amazon S3 Glacier
- AWS Snowball

Course Outline

- Amazon Elastic File System
- AWS Storage Gateway
- AWS Managed Databases
- Amazon Relational Database Service (RDS)
- Amazon DynamoDB
- Amazon Redshift

In this module, some of the specific core AWS services will be created to demonstrate how these services function and can be accessed using the AWS Management Console.

Alert: A prepopulated AWS account will be used to complete the exercises in this module. It will not be necessary to sign up for a free account through AWS. It is important to note that certain restrictions have been applied to the lab environment. These include specific resources that can only be created in the specified region. If the region is changed, the steps in the tasks will not function accordingly.

Overview

Learning Outcomes

In this module, you will complete the following exercises:

- Exercise 1 – Create a Database in AWS
- Exercise 2 – Create a Storage Solution in AWS

After completing this module, you should be able to:

- Create a Virtual Private Cloud (VPC).
- Create an Amazon RDS Database.
- Create an S3 Storage Solution.

Exam Objectives

The following exam objectives are covered in this module:

3.3 Identify the core AWS services

- Identify different AWS storage services
- Identify different AWS database services

AWS Virtual Machine Concepts (PLAB-AWS-FUN)

Introduction

Objective

Welcome to the AWS Virtual Machine Concepts lab. In this lab, you will be provided with the instructions and devices needed to develop your hands-on skills.

The Amazon Web Service (AWS) allows subscribers to create virtual devices on the Cloud Platform, also referred to as Infrastructure as a Service (IaaS).

For IaaS, public cloud providers (CSPs) provide the physical infrastructure to enable users to create different virtual devices. The CSP manages and maintains the hardware in the data centers. The

Course Outline

customer's responsibility is to manage and maintain the virtual servers or devices, such as managing and maintaining the operating system, ensuring enough resources are available, and managing the data on the virtual devices.

Different pricing plans are available depending on the resources allocated to the devices.

In this module, the creation of virtual machines on the AWS Cloud Platform will be explored using the AWS Management Console.

Alert: A prepopulated AWS account will be used to complete the exercises in this module. It will not be necessary to sign up for a free account through AWS. It is important to note that certain restrictions have been applied to the lab environment. These include specific resources that can be created only in the specified region. If the region is changed, the steps in the tasks will not function accordingly.

Overview

Learning Outcomes

In this module, you will complete the following exercises:

- Exercise 1 – Creating a Virtual Machine using AWS Management Console

After completing this module, you should be able to:

- Create a Virtual Private Cloud (VPC).
- Create a virtual machine in the AWS management console.

Exam Objectives

The following exam objectives are covered in this module:

3.3 Identify the core AWS services

- Describe the categories of services on AWS (compute, storage, network, database)
- Identify AWS compute services