Module 1 - Cloud Concepts Overview

Slides

Objectives / Topics

- Define different types of cloud computing models
- Describe six advantages of cloud computing
- Recognize the main AWS service categories and core services
- Review the AWS Cloud Adoption Framework (AWS CAF)

Labs / Activities

- Knowledge Check

Section 1: Intro to Cloud Computing

Cloud Computing: The on-demand delivery of compute power, database, storage, applications, and other IT resources via the internet with pay-as-you-go pricing. Cloud computing enables you to stop thinking of infrastructure as hardware, and instead think of (and use) it as software.

Traditional Computing Model

- Infrastructure as hardware
- Hardware solutions: Require space, staff, physical security, planning, capital expenditure
- Have a long hardware procurement cycle
- Require you to provision capacity by guessing theoretical maximum peaks

Cloud Computing Model

- Infrastructure as software
- Software solutions:
- Are flexible
- Can change more quickly, easily, and cost-effectively than hardware solutions
- Eliminate the undifferentiated heavy-lifting tasks

Cloud service models vary on how much control you have over IT resources.

- Infrastructure as a Service (IaaS) - Most control
- Platform as a Service (PaaS)
- Software as a Service (SaaS) - Least control

Cloud computing deployment models

1. Cloud
2. Hybrid
3. On-premse (Private Cloud)

Cloud computing can do almost anything the traditional IT can do.

Section 2: Advantages of Cloud Computing

- Pay only for the resources you consume (variable cost vs upfront capital expenditure)
- Economies of scale achieved by aggregate of all users
- Scaling on demand
- Speed and flexibility - changes are software level, not hardware like traditional computing

- Lower overhead due to not maintaining hardware and data centers
- Data centers are global, like a company's customer base

Section 3: Introduction to Amazon Web Services

Web Service: Any piece of software that makes itself available over the internet and uses a standardized formatâ€”such as Extensible Markup Language (XML) or JavaScript Object Notation (JSON) â€” for the request and the response of an application programming interface (API) interaction.

What is AWS?

- AWS is a secure cloud platform that offers a broad set of global cloud-based products called services that are designed to work together.
- There are many categories of AWS services, and each category has many services to choose from.
- Choose a service based on your business goals and technology requirements.
- There are three ways to interact with AWS services:
- AWS Management Console - Graphical interface
- Command Line Interface (CLI) - Access via discrete commands or scripts
- Software Development Kits (SDK) - Access directly from code

Section 4: The AWS Cloud Adoption Framework (AWS CAF)

- AWS CAF provides guidance and best practices to help organizations build a comprehensive approach to cloud computing across the organization and throughout the IT lifecycle to accelerate successful cloud adoption.
- AWS CAF is organized into six perspectives and perspectives consist of sets of capabilities.

Focused on Business Capabilities 1. Business - IT is aligned with business needs - IT Finance - IT Strategy - Benefits Realization - Business Risk Management 2. People - training, staffing, and organizational changes - Resource Management - Incentive Management - Career Management - Training Management - Organizational Change Management 3. Governance - skills and processes align IT and business strategies and goals - Portfolio Management - Program Project Management - Business Performance Measurement - License Management

Focused on Technical Capabilities

1. Platform - describe the architecture of the target state environment in detail
    - Compute Provisioning
    - Network Provisioning
    - Storage Provisioning
    - Database Provisioning
    - Systems and Solution Architechture
    - Application Development
2. Security - the organization meets its security objectives
    - Identity and Access Management
    - Detective Control
    - Infrastructure Security
    - Data Protection
    - Incident Response
3. Operations - define how daily, quarterly, and yearly business will be conducted
    - Service Monitoring
    - Application Performance Monitoring
    - Resource Inventory Management
    - Release Management / Change Management
    - Reporting and Analytics
    - Business Continuity / Disaster Recovery
    - IT Service Catalog

Knowledge Check