Module 1: Cloud Concepts Overview

Thursday, September 4, 2025   8:45 PM

A. Learning Outcomes (LO) objectives

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

B. Introduction to Cloud Computing

- **Cloud computing** is 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 allows to stop thinking infrastructure as hardware, instead thinking it like software.

Hardware Solutions	*Software Solutions*
• Require staff, space, physical security, planning, capital expenditure. • Have a long hardware procurement cycle • Require provision capacity by guesssing theoretical maximum peaks.	• Flexible • Change more quickly, easily, cost-effectively than hardware solutions. • Eliminate the undifferentiated heavy-lifting tasks.

- Cloud service models
  + IaaS: Infrastructure as a service => More control over IT resources
  + PaaS: Platform as a service
  + SaaS: Software as a service => Less control over IT resources
- Cloud computing deployment models:
  + Cloud
  + Hybrid: The deployment is such a way that to connect your existing infrastructure and applications to a cloud-based resources.
  + On-premises (private cloud)

C. Advantage of Cloud Computing

- Trade capital expense for variable expense:
  + Data center investment based on forecast
  + Pay only for the amount you use
- Massive economies of scale: Because of aggregate usage from all customers, AWS can achieve higher economies of scale and pass savings on to customers.
- Stop guessing capacity
- Stop spending money on running and maintaining data centers.
- Go global in minutes.

D. Introduction to Amazon Web Services (AWS)

- A **web service** Is any piece of software that makes itself available over the Internet and uses a **standarized format** - such as Extensible Markup Language (XML) or Javascript Object Notation (JSON) - for the request and the response of an **application programming interface (API) interaction.**
- AWS is a **secure cloud platform** that offers a **broad set of global cloud-based products.**
- AWS provides **on-demand** access to compute, storage, network, database, and other IT resources and management tools.
- AWS offers **flexibility.**
- You **pay only for the individual services you need**, for **as long as you use them.**
- AWS services **work toghether** like building blocks.
- Three ways to interact with AWS:
   + AWS Management Console
   + Command Line Interface (AWS CLI)
   + Software Development Kits (SDKs)

E. 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: Business, People, Governance, Platform, Security, and Opertions**
   + **Business, People, Governance focus on Business capabilities**
   + **Platform, Security, and Opertions focus on Tehcnical capibilities**
- Perspectives consist of sets of **capabilities.**
- **Business perspective including Business manaagers, finance managers, budget owners, and strategy stakeholders.**
- **People perspective consists of human resources, staffing, and people managers.**
- **Governance include CIO, program managers, enterprise architects, business analysts, and protofilo managers.**
- **Platform perspective contains CTO, IT managers, and soluions architects.**
- **Security perspective consists of CISO, IT security managers, and IT security analysts.**
- **Operations perspective include IT operations managers and IT support managers.**

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