

AWS Module 1 - Cloud Concepts Overview

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Introduction

- Intro to cloud computing
- Advantages of cloud computing
- Introduction to AWS
- AWS Cloud Adoption Framework

Section 1: Introduction to cloud computing

What is 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*

Infrastructure as software

Cloud computing enable you to **stop thinking of your infrastructure as hardware** and instead *think of it as software*.

In the traditional compute 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 max peaks

Cloud computing model:

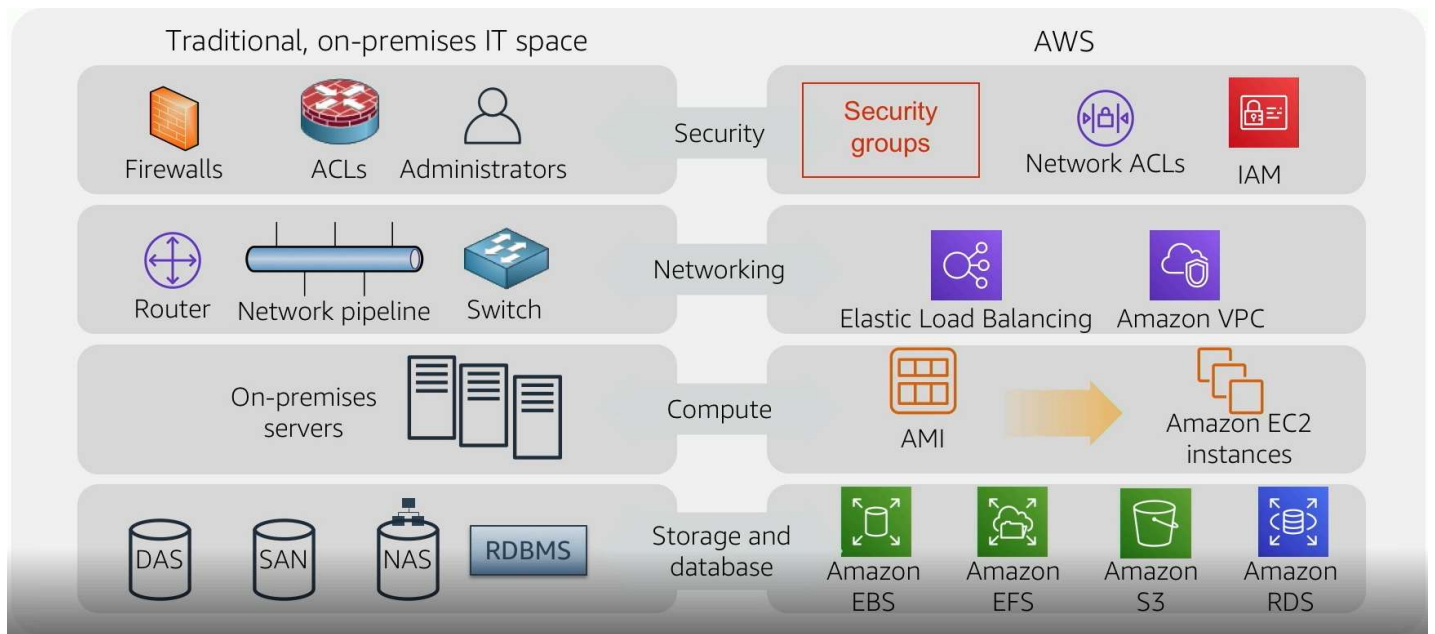
- Infrastructure as software
- Software solutions:
 - Are flexible
 - Can change more quickly, easily and cost-effectively than hardware solutions
 - Eliminate the undifferentiated heavy-lifting tasks



Cloud computing deployment models

1. Cloud
2. Hybrid
 - Between cloud and existing premises
3. On-premises (private cloud)
 - Dedicated resources

Similarities between AWS and traditional IT



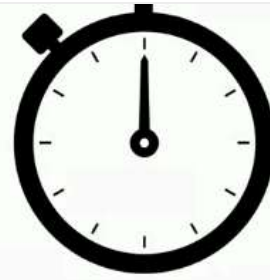
Section 2: Advantages of the cloud

Trade capital expense for variable expense

Capital expense = capex



Data center investment
based on forecast



Pay only for the amount
you consume

Massive economies of scale

Because of aggregate usage from all customers, AWS can achieve higher economies of scale and pass savings onto customers.

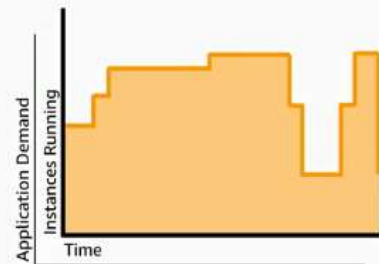
Stop guessing capacity



Overestimated
server capacity



Underestimated
server capacity



Scaling on
demand

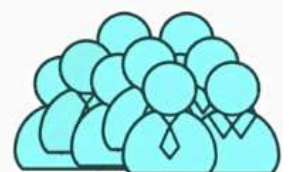
Increase speed and agility

Weeks between wanting resources and having resources to only *minutes*.

Stop spending money on running and maintaining data centers



Running data centers



Business and customers

Can deploy applications in multiple places of the world

Section 3: Introduction to AWS

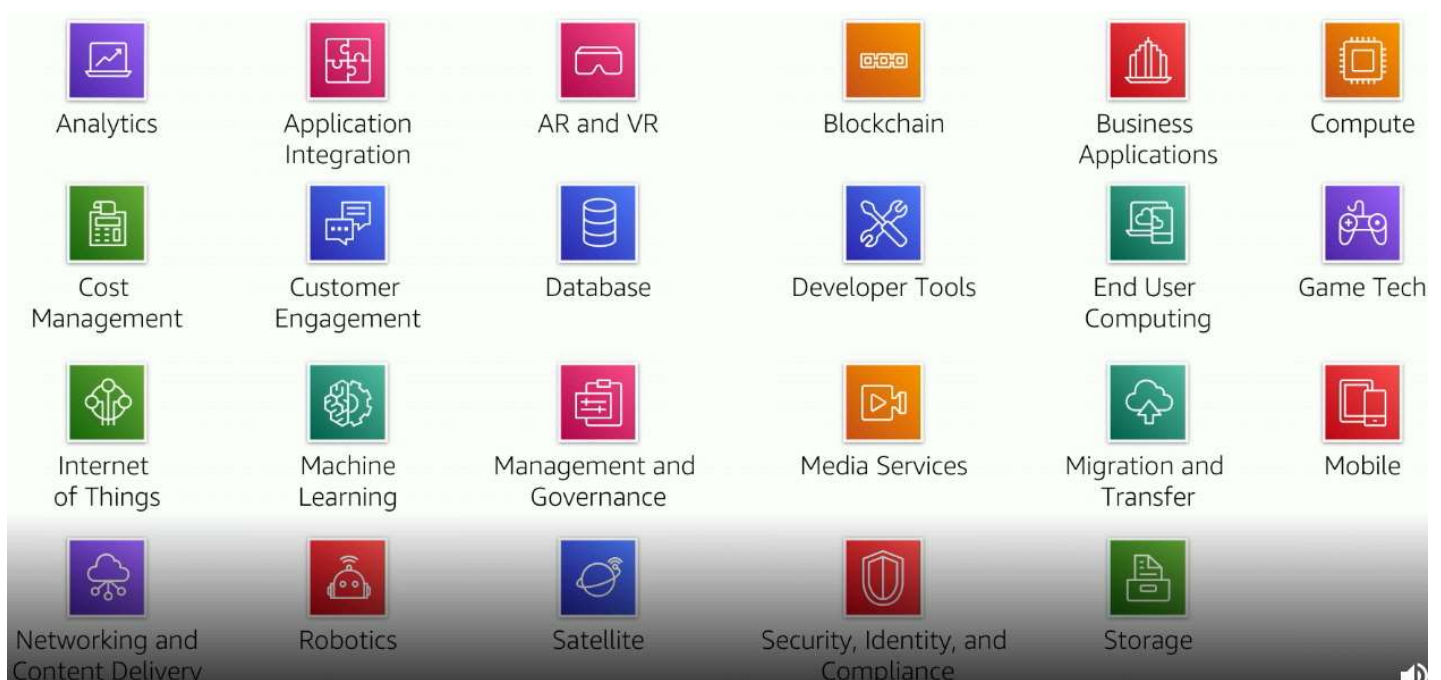
What are web services ?

A **web service** is any piece of software that makes itself available over the internet and uses *standardized format* such as XML or JSON for the request and the response of an **API** interaction.

What is AWS

- a *secure cloud platform* offering a broad set of global cloud-based products
- provides *on-demand access* to compute, storage, network, database, and other IT resources and management tools
- offers **flexibility**
- You pay **only** for the individual services you need, as long as you use them
- AWS services *work together* like Legos

Services



Choosing a service

The service you select *depends on* your business goals and tech requirements.

3 ways to interact with AWS

- AWS management console

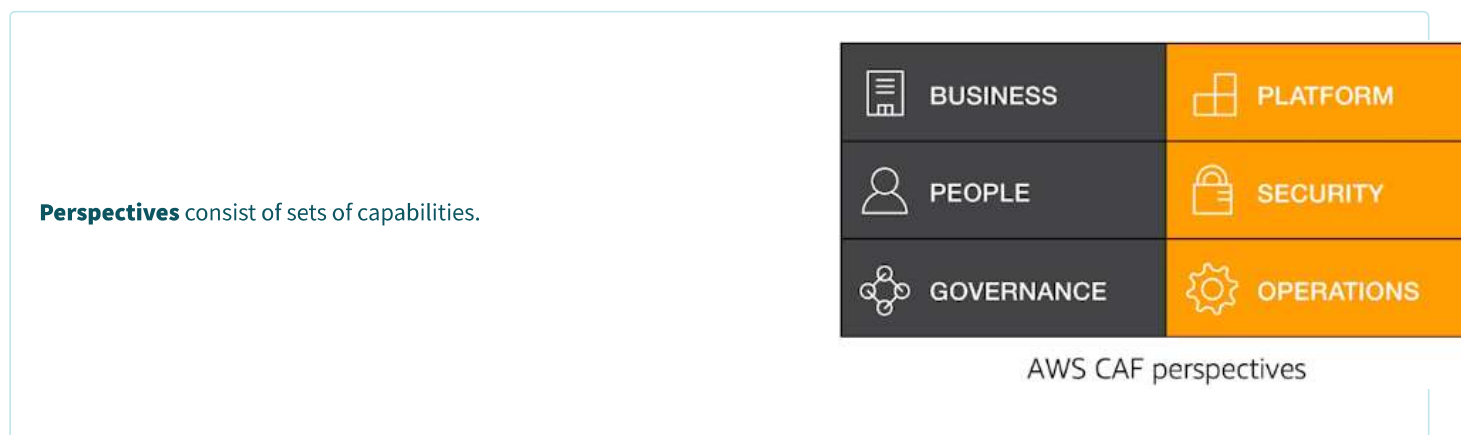
- Command Line Interface (AWS CLI)
 - Access to services by discrete commands or scripts
- Software Development Kits (SDKs)
 - Access services directly from your code

Section 4: Moving to the AWS Cloud

AWS Cloud Adoption Framework

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*



Six core perspectives



Focus on **business** capabilities



Focus on **technical** capabilities

BUSINESS	
IT finance	
IT strategy	
Benefits realization	
Business risk management	

Business perspective capabilities

We must ensure that **IT is aligned with business needs**, and that IT investments can be traced to demonstrable business results - Business managers, finance managers, budget owners, and strategy stakeholders

People perspectives

PEOPLE	
Resource management	
Incentive management	
Career management	
Training management	
Organizational change management	

People perspective capabilities

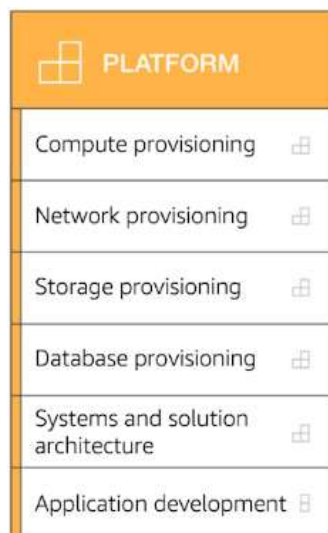
We must prioritize **training, staffing and organizational changes** to build an agile organization - Human resources, staffing, and people managers



Governance perspective capabilities

We must ensure that **skills and processes align IT strategy and goals with business strategy and goals** so the organization can maximise the business value of its IT investments and minimize business risks. - CIO, program managers, business analysts and portgolio managers

Platform perspective



Platform perspective capabilities

We must **understand and communicate the nature of IT systems and their relationships**. We must be able to **describe the architecture of the target state environment** in detail. - CTO, IT managers and solutions architects



We must ensure that the organization **meets its security objectives** - CISO, IT security managers and IT security analysts

Operations perspective



We align with and support the operations of the business, and **define how day-to-day, quarter-to-quarter, and year-to-year business will be conducted** - IT operations manager and IT support managers

Wrap-up

Sample exam question

Why is AWS more economical than traditional data centers for applications with variable compute workloads ?

1. Amazon Elastic Compute Cloud (Amazon EC2) costs are billed on a monthly basis
2. Customers retain full administrative access to their Amazon ECE2 instances



4. Customers can permanently run enough instances to handle peak workloads

► Answer

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