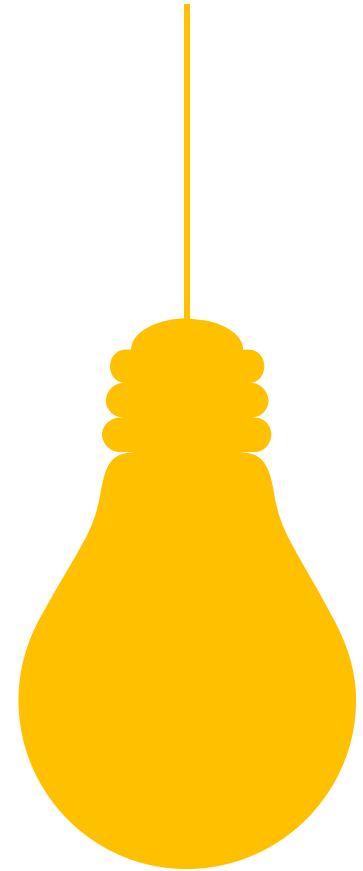


Introduction Azure

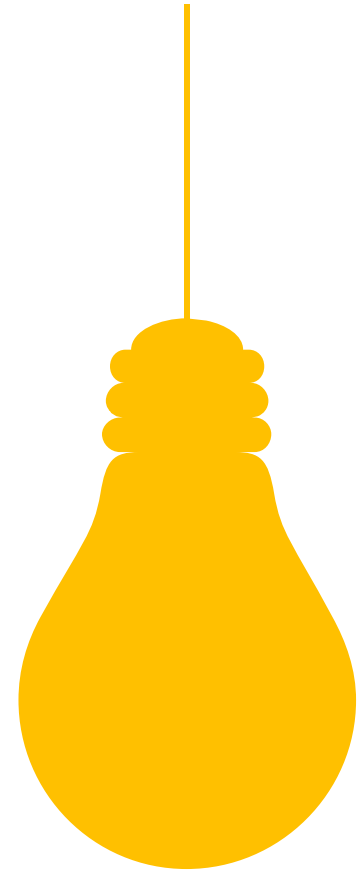
AZ-204 Study Areas

Develop Azure Compute Solutions	25-30%
Develop for Azure storage	10-15%
Implement Security, and optimize azure solutions	15-20%
Monitor troubleshoot, and optimize azure solution	10-15%
Connect to and consume azure and third party services	25-30%



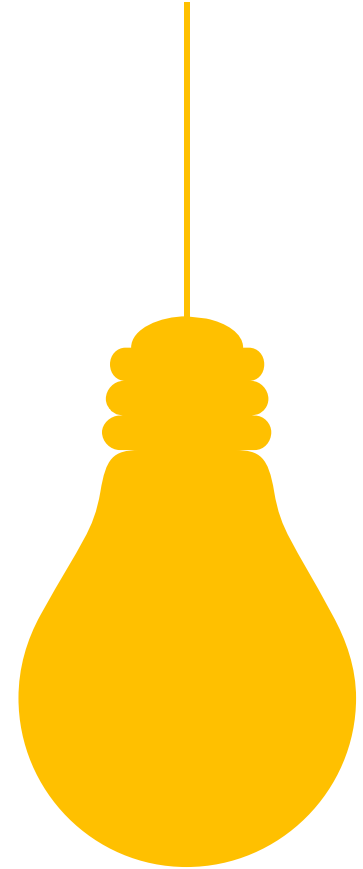
Azure Cloud

Azure offers a broad set of global cloud-based products including compute, storage, database, analytics, networking, machine learning and AI, mobile, developer tools, IoT, security, enterprise applications, and much more



Introduction to Cloud Computing

- Cloud computing is a paradigm shift in how computing resources are delivered and managed.
- It involves accessing and using resources over the internet, resembling a utility service



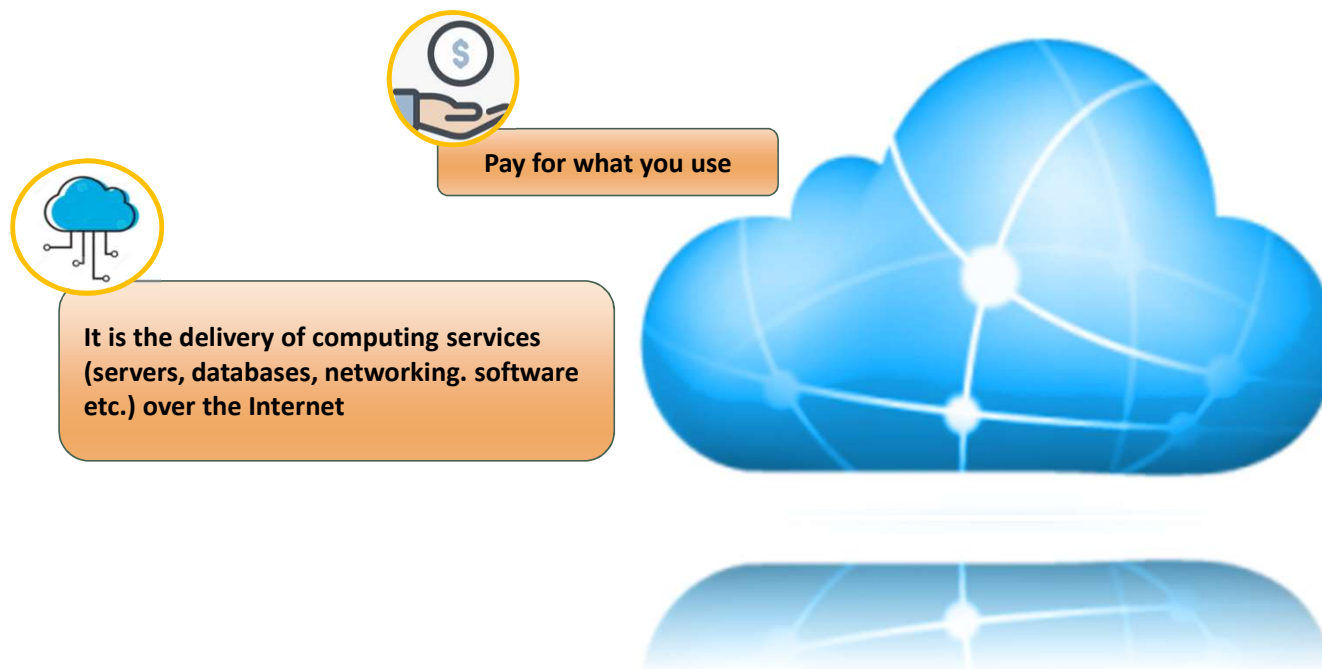
What is cloud Computing?



It is the delivery of computing services (servers, databases, networking, software etc.) over the Internet



What is cloud Computing?



What is cloud Computing?



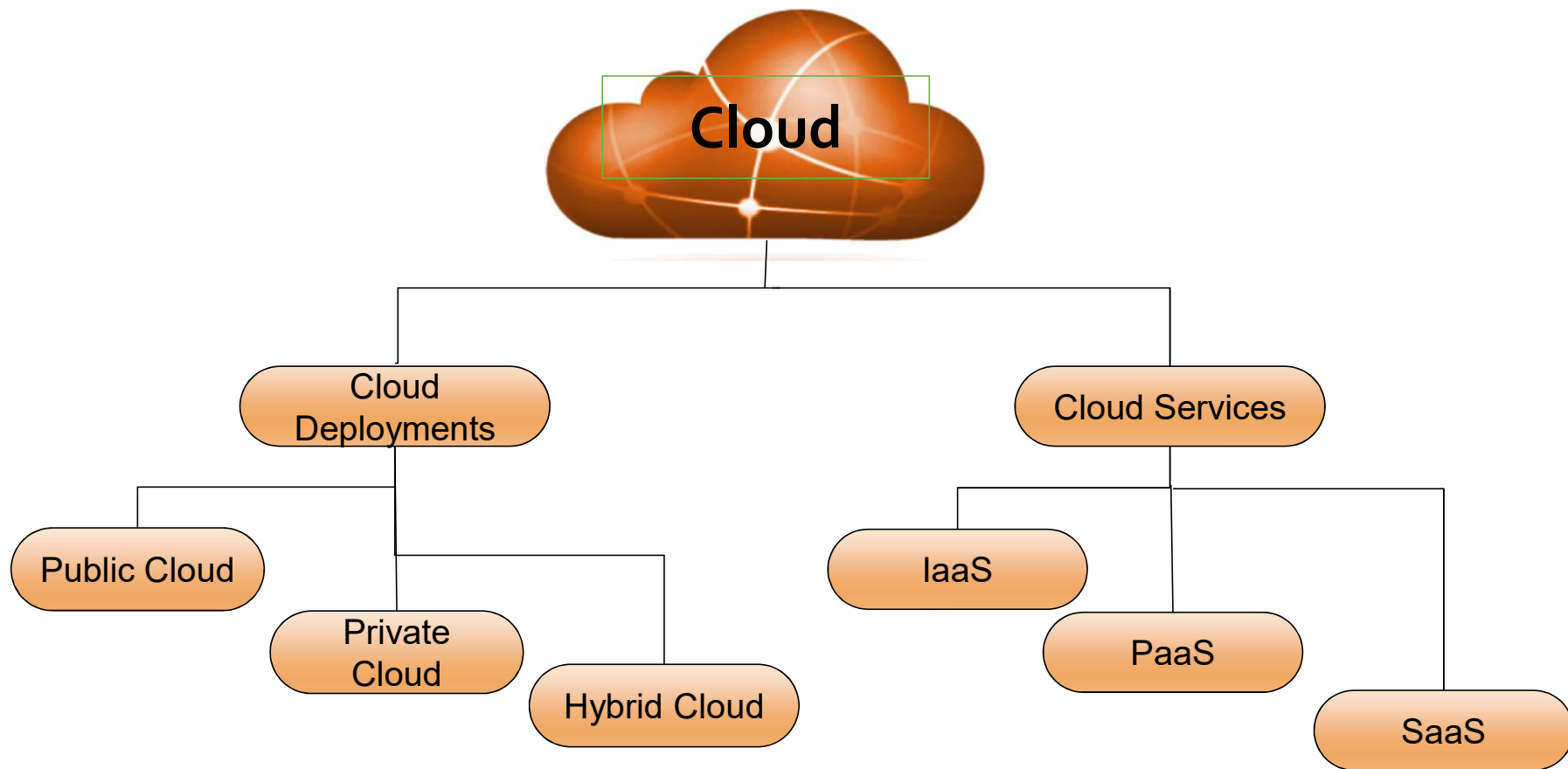
Q&A Session

1. What is one benefit of cloud computing?
 - a. Computer resources can be quickly provisioned.
 - b. A workload can quickly move to a cloud computing environment.
 - c. There is no operational cost for a cloud computing environment.
 - d. The resources can quickly move from one cloud environment to another.

1. What is one benefit of a cloud computing environment?
 - a. It improves server performance.
 - b. It minimizes network traffic to the virtual machines.
 - c. It automatically transforms physical servers into virtual machines.
 - d. It maximizes server utilization by implementing automated provisioning.

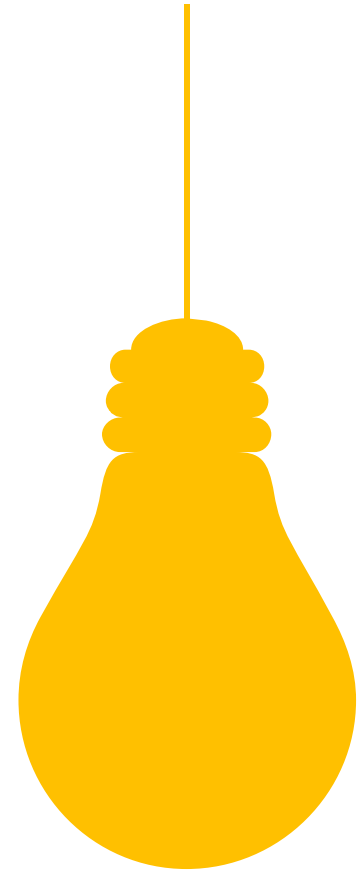
3. What is the role of virtualization in cloud computing?
 - a. It removes operating system inefficiencies.
 - b. It improves the performance of web applications.
 - c. It optimizes the utilization of computing resources.
 - d. It adds extra load to the underlying physical infrastructure and has no role in cloud computing.

Type(s) Of **Cloud Computing**



Deployment Models

- **Public Cloud:** Services available to the public over the internet (e.g., Microsoft Azure, AWS, Google Cloud).
- **Private Cloud:** Services hosted on a private network, offering increased control and security.
- **Hybrid Cloud:** Combination of public and private clouds, allowing data and applications to be shared.



Cloud Architecture

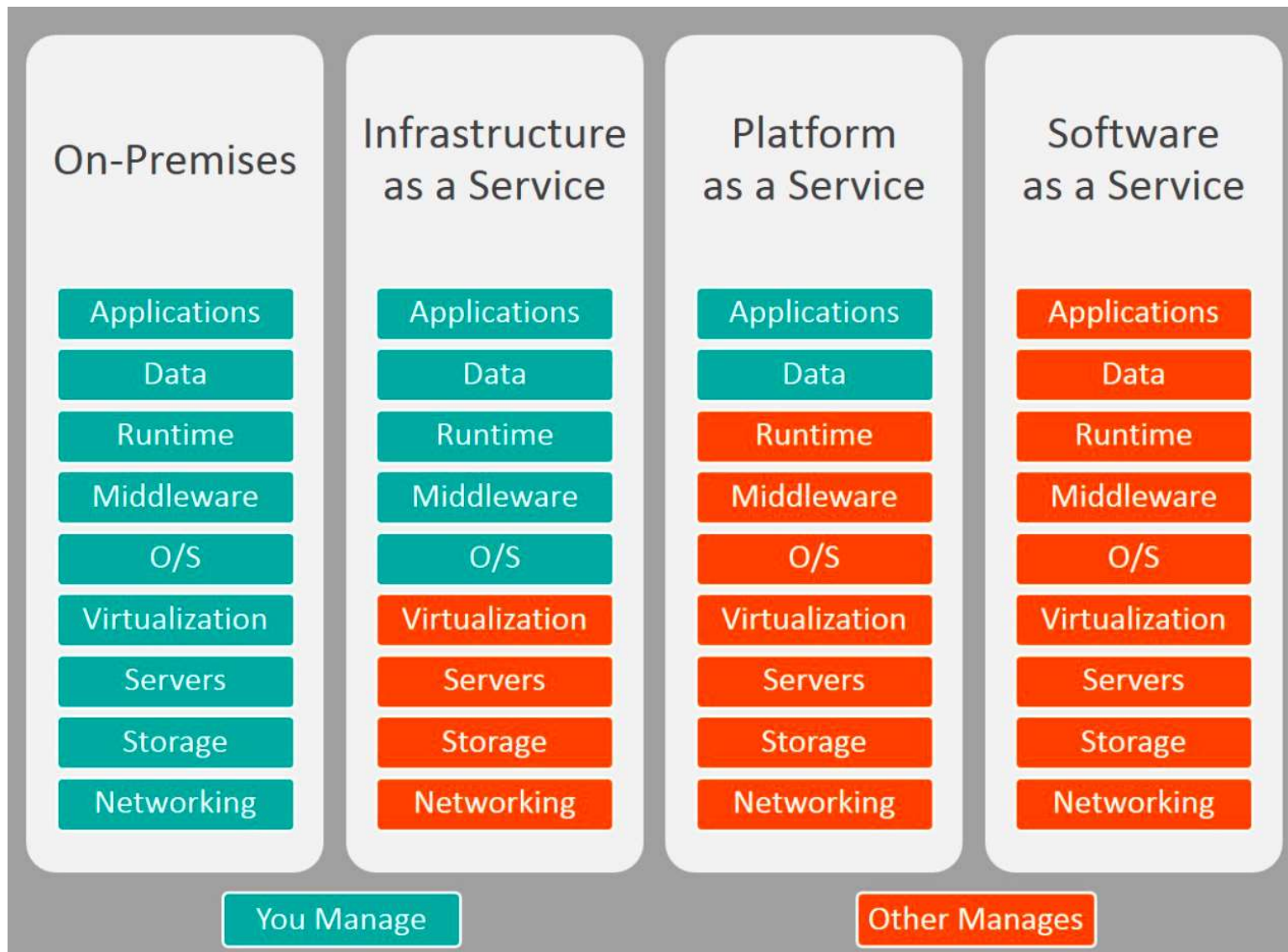
Cloud Computing Architecture:

Cloud architecture is the way technology components combine to build a cloud, in which resources are pooled through virtualization technology and shared across a network.

The components of a cloud architecture include:

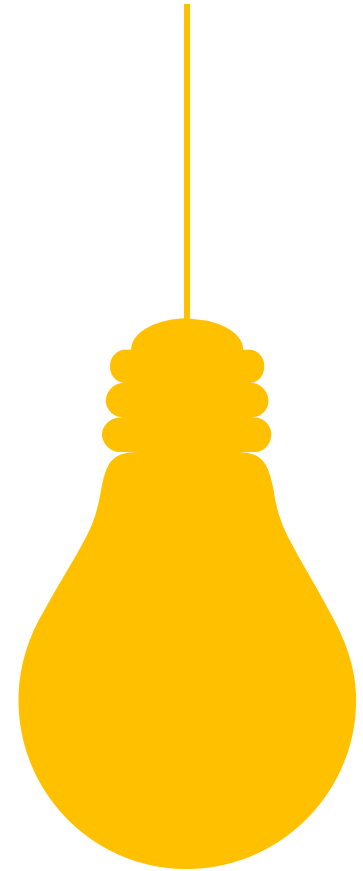
- A front-end platform (the client or device used to access the cloud)
- A back-end platform (servers and storage)
- A cloud-based delivery model (SaaS, PaaS, IaaS)
- A network (IP addresses ,routing etc)

Together, these technologies create a cloud computing architecture on which applications can run, providing end-users with the ability to leverage the power of cloud resources.



Cloud Developer Role

Microsoft Azure developer design, build, test and maintain cloud solution ,
such as application and services, partnering with cloud solution architects,
cloud DBAs, cloud administrators and client to implement these solution



Azure User Accounts

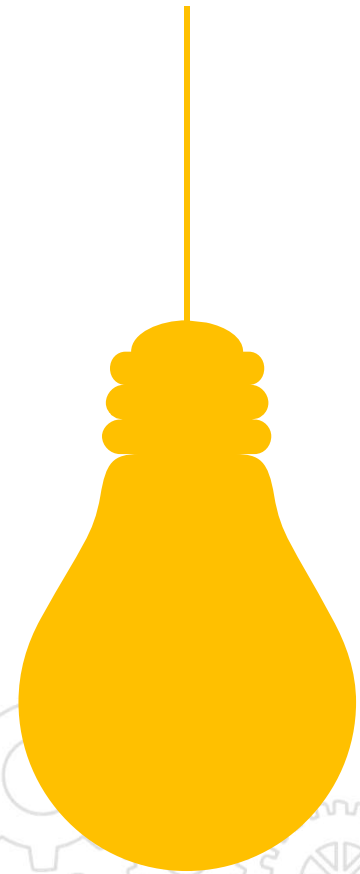
There are two types of users:

Root User

- Account owner
- Created when the Azure account is created
- Allow full access to all resources in the account
- Only the root user can close your account

Azure Active Directory (Azure AD):

- Azure AD is Microsoft's identity and access management service.
- Provides a single sign-on (SSO) experience for various applications and services.



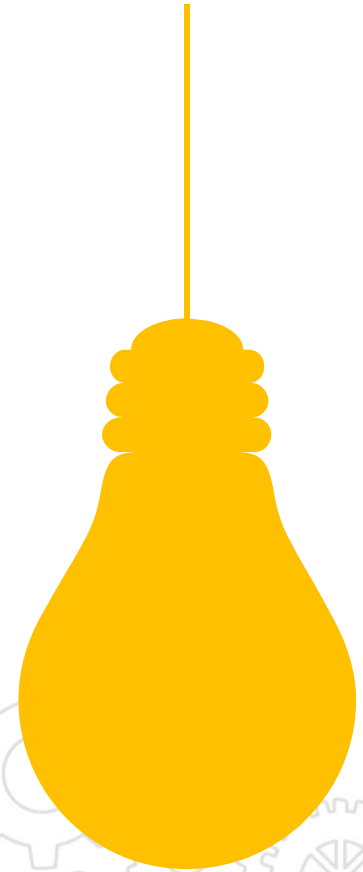
Create Azure AD User

Steps:

- Navigate to Azure Active Directory.
- Add a new user and specify details.
- Assign roles and permissions.

Authentication Methods:

- Multi-Factor Authentication (MFA): Adds an extra layer of security.
- Single Sign-On (SSO): Access multiple applications with a single set of credentials.
- Role-Based Access Control (RBAC): Assign roles to users based on their responsibilities.



Create Azure AD User

Lab 01

- Showcase how to create a new user in Azure AD.
- Assign roles to the user and demonstrate access control.



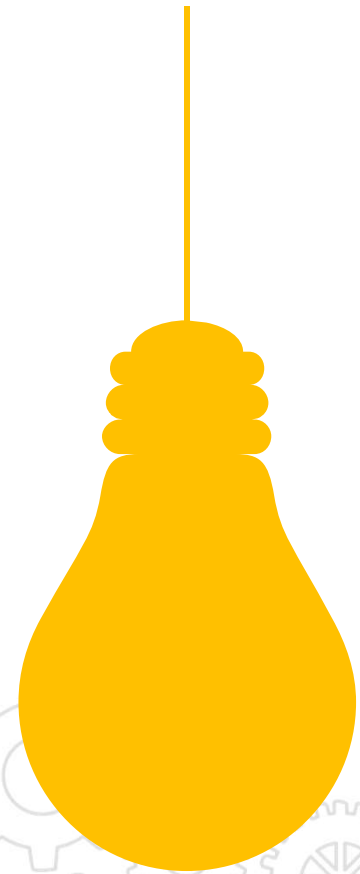
Azure Service Plan

What is a Service Plan?

- A Service Plan defines a set of compute resources (CPU, memory) for an app.
- It determines the region where the app is hosted.

Types of Service Plans:

- Free Tier: Limited resources for basic testing and development.
- Shared Tier: Multi-tenant hosting, suitable for low-traffic sites.
- Basic Tier: Dedicated resources, auto-scaling, and custom domains.
- Standard Tier: Enhanced performance, multiple deployment slots.
- Premium Tier: High performance, advanced scaling, and traffic management.



Selecting Azure Locations

1



Proximity to Customers

Select the region where most of your end users are located. It ensures the best user experience. For example, if most of your end users are located in South America, in this case, selecting the Sao Paulo region will be better than the Singapore region.

2



Compliance

You may have data compliance requirements where your data needs to reside in a certain country or replicated to a specific country for disaster recovery.

3



Service availability

While most of the popular Azure services are available in all regions, not all azure services are available in all regions. In deciding on a region, consider your current and future business needs.

4



Cost

Price across regions varies due to different regulations in each country, capital, and operational expenses such as the cost of electricity

Azure App Services

Introduction:

Azure App Service is a fully managed platform for building, deploying, and scaling web apps.

Supports multiple programming languages, frameworks, and tools.

Key Features:

Web Apps: Host web applications, APIs, and mobile backends.

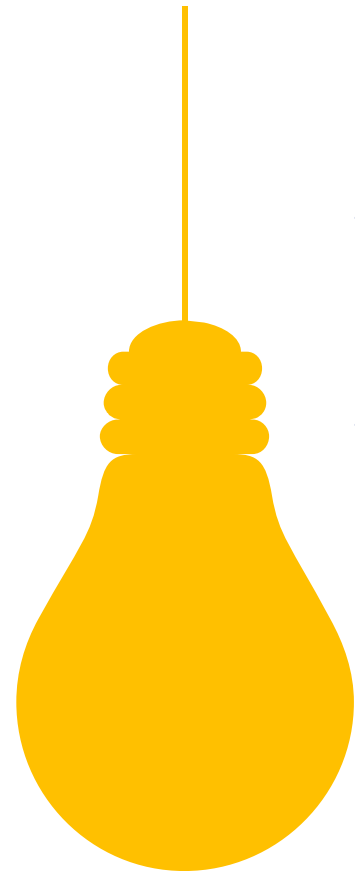
Containers: Run containerized apps using Docker.

Integration: Seamless integration with Azure services like Azure SQL Database, Cosmos DB, and more.

Auto Scaling: Automatically adjust resources based on demand.

Deployment Slots: Test changes in a staging environment before production.

Continuous Deployment: Integrate with Git, Azure DevOps, and more for continuous delivery.



Azure App Services

Benefits:

- **Efficiency:** Focus on code, Azure handles infrastructure management.
- **Scalability:** Easily scale vertically or horizontally as traffic grows.
- **High Availability:** Redundancy across multiple data centers.
- **Security:** Integration with Azure Active Directory for identity and access management.
- **Monitoring and Diagnostics:** Built-in tools for tracking app performance and troubleshooting.



Azure App Services DEMO

Lab 02

Deploy App Service via Azure Portal and Azure CLI

