Session 02:
Understanding Microsoft Azure Cloud Services
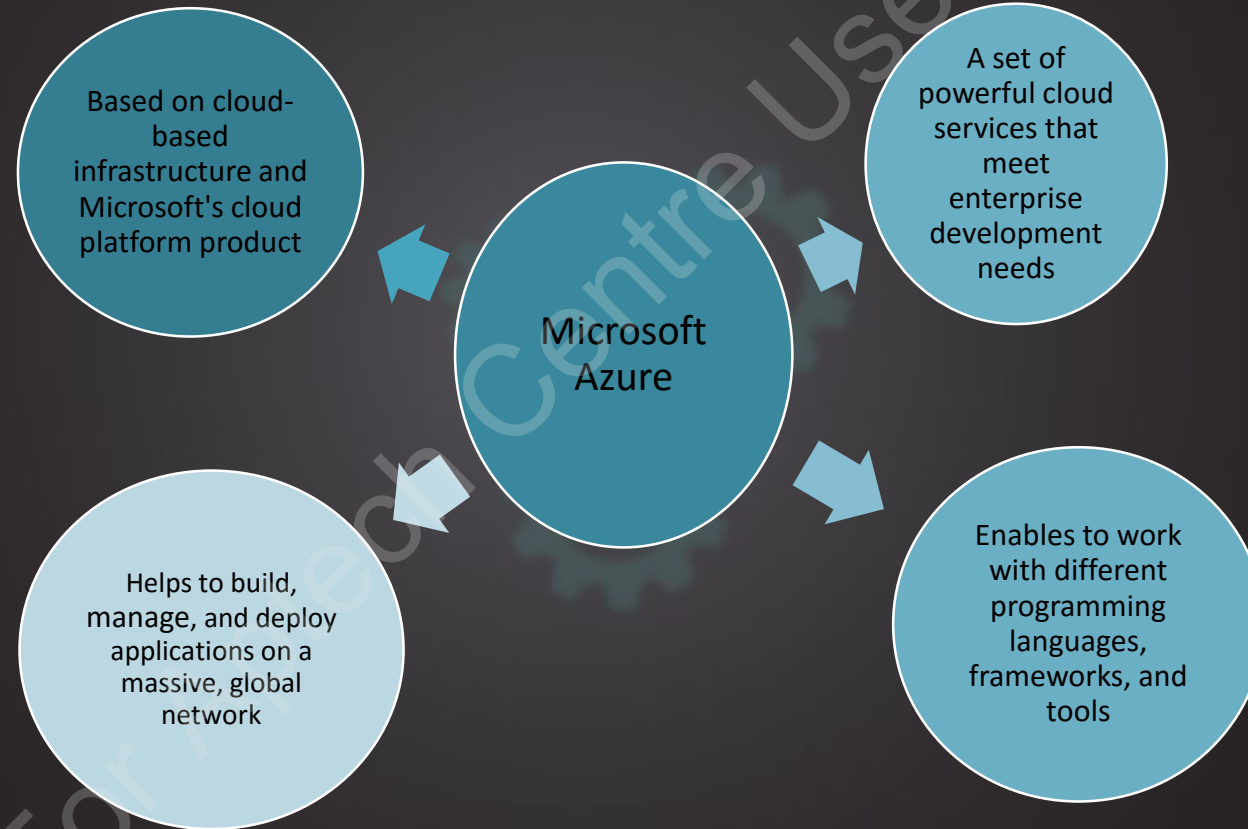
Objectives

- Describe features and functionalities of Microsoft Azure cloud platform

- Explain data and data access technologies

- Explain Azure cloud services

Features and Functionalities of Azure [1-2]

Based on cloud-based infrastructure and Microsoft's cloud platform product

A set of powerful cloud services that meet enterprise development needs

Microsoft Azure

Helps to build, manage, and deploy applications on a massive, global network

Enables to work with different programming languages, frameworks, and tools

Features and Functionalities of Azure [2-2]

Azure subscription:

- Grants a developer or user access to Azure services and Azure portal.

- Following are the components of each subscription:

The Azure account, through which resource usage is reported and services will be billed as and when they are used.

The subscription itself, which governs access to and use of the Windows Azure services that are subscribed to.

Creating a Microsoft Azure Account
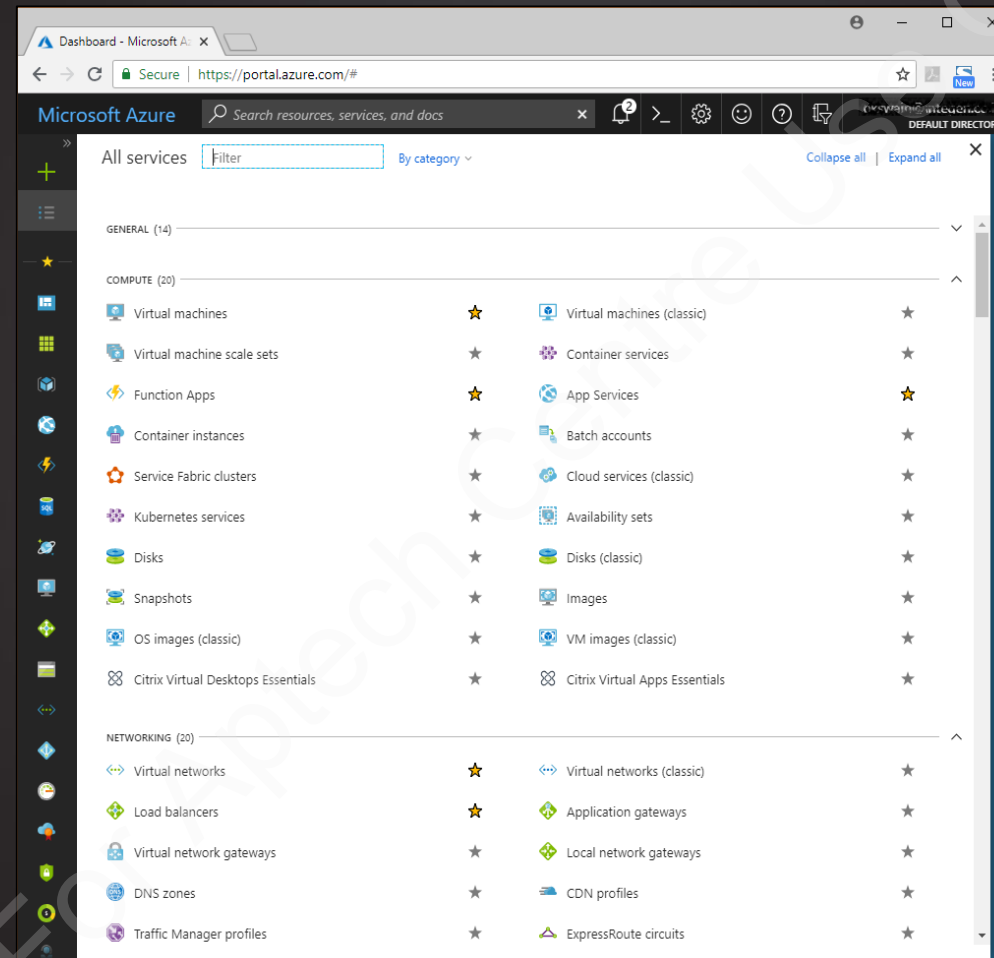
Steps to create a Microsoft Azure account:

Step 1
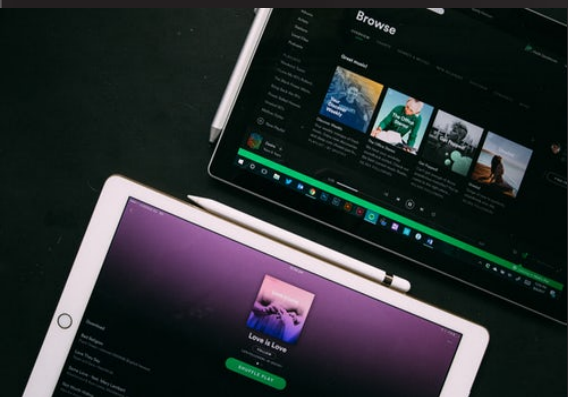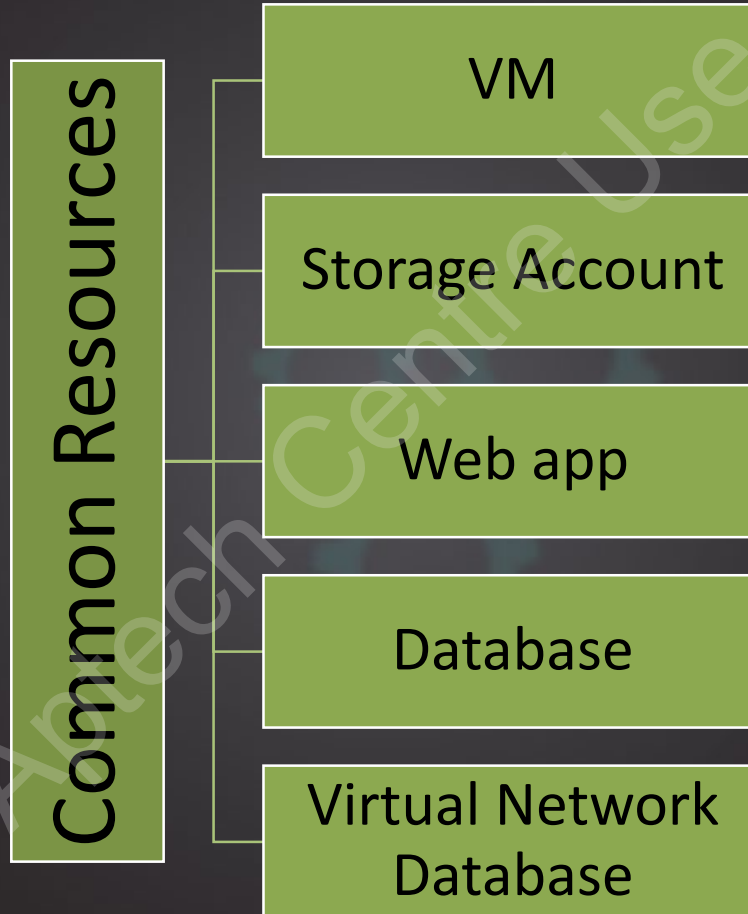- Open `http://portal.azure.com` in a Web browser.

Step 2
- Create a new free or paid account. If the developer has a Microsoft Developer Network (MSDN) subscription, he or she can activate MSDN subscriber benefits from the Azure Benefit for MSDN Subscribers page.

Exploring the Portal

Azure Resource and Resource Manager

Common Resources

- VM
- Storage Account
- Web app
- Database
- Virtual Network Database

Creating a Windows VM in Azure Portal

Azure SQL Database

Features of Azure SQL Database:

High-performance, reliable, and secure database

Based on the developer's choice of programming language, data-driven applications and Websites can be build

Need not manage infrastructure
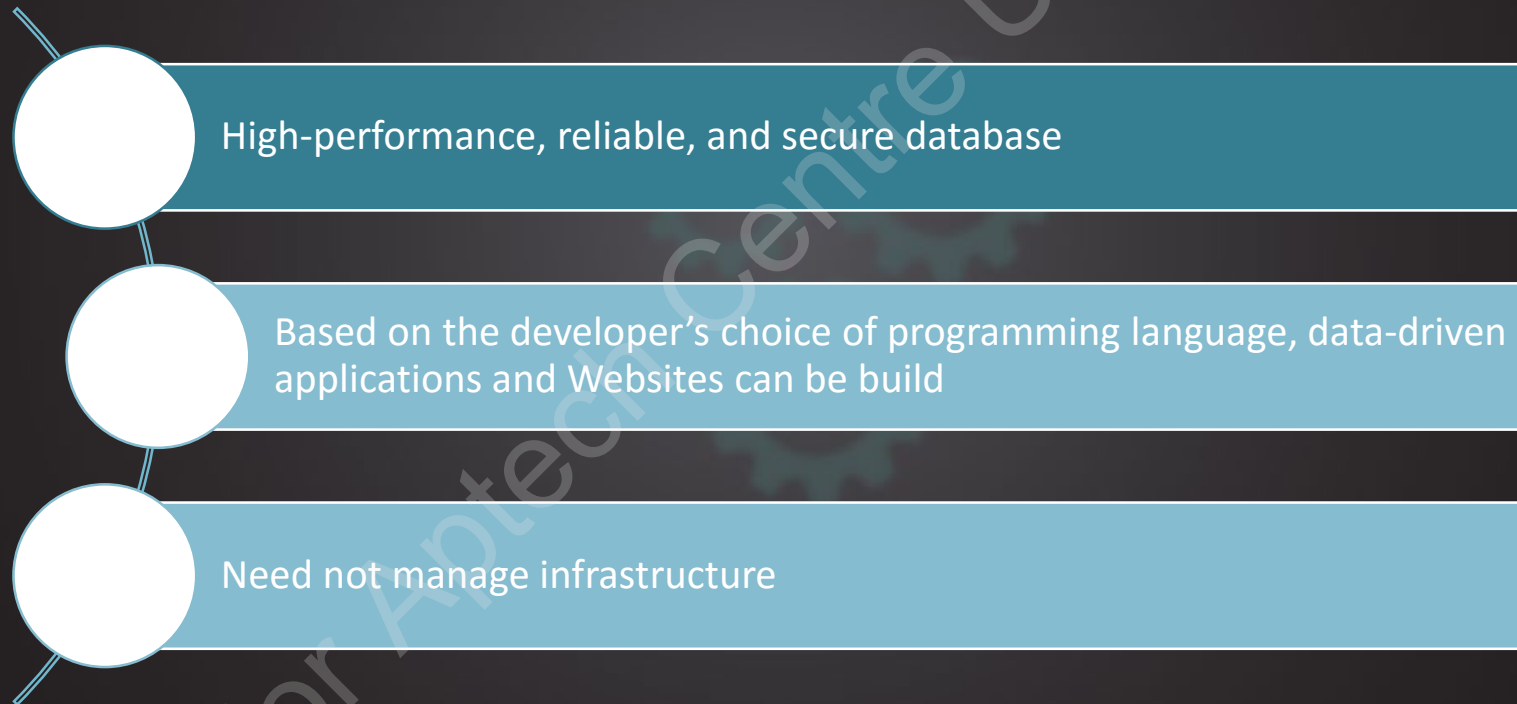
Azure Data Factory

Following tasks are performed using Azure Data Factory:

Data from various data stores are absorbed using data-driven workflows (called pipelines). These workflows are created and scheduled by Azure Data Factory.

Data is processed or transformed using compute services. These include Azure HDInsight Hadoop, Spark, Azure Data Lake Analytics, and Azure Machine Learning.

Data is published to data stores, such as Azure SQL Data Warehouse to be utilized by Business Intelligence (BI) applications.

Application Development in Azure

Features for robust application development by Microsoft Azure:

- Allows building and hosting Web applications based on the choice of a programming language without the need to manage the infrastructure

- Hosts Web applications, REST APIs, and mobile backends

- Runs and scales applications easily on Windows-based environments

- Provides automated deployments from GitHub, Visual Studio Team Services, or any Git repo

- Supports Linux apart from Windows

- Ensures maximum availability

- Provides auto-scaling

Testing the Cloud Service
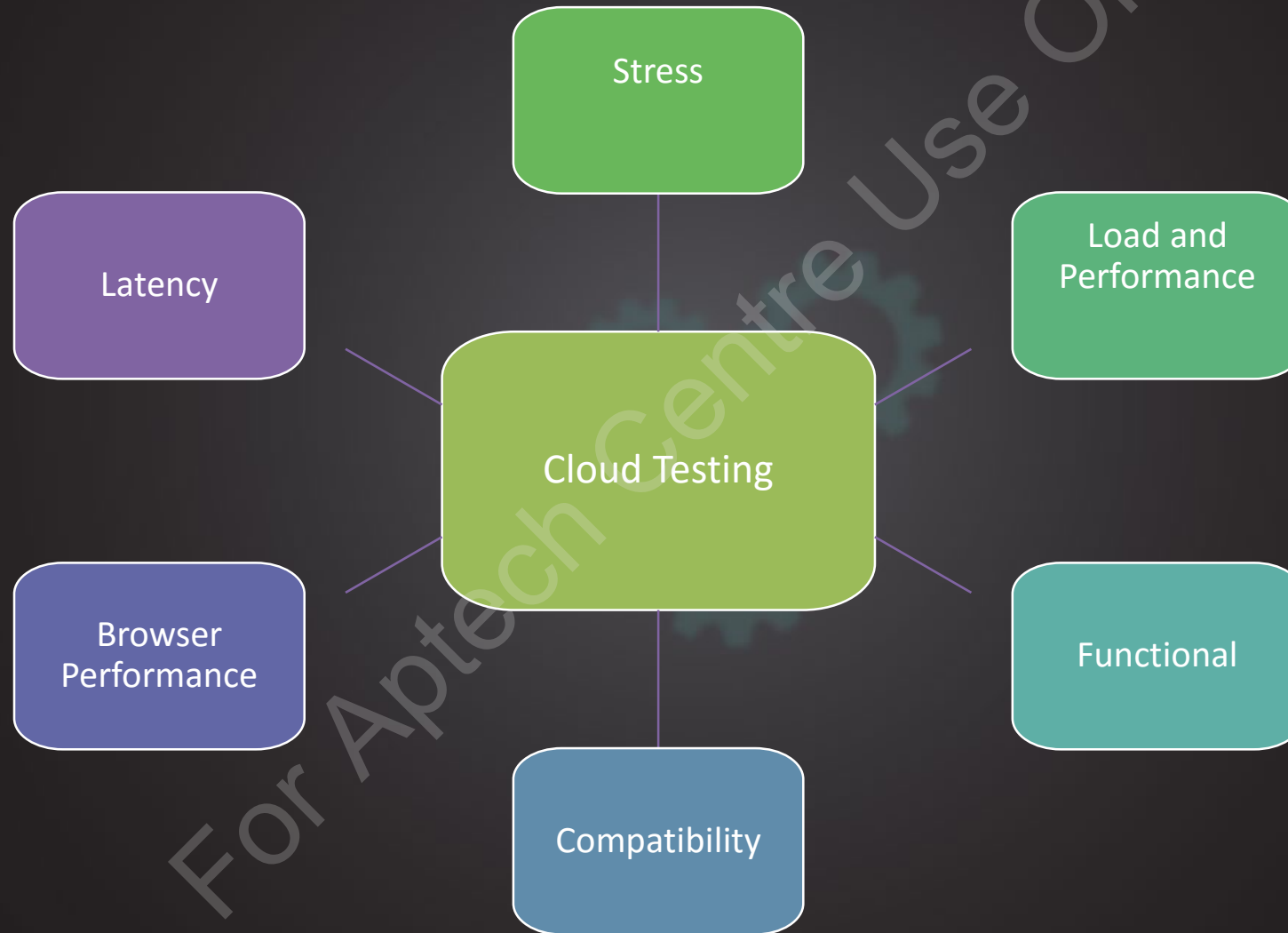
Summary

- Microsoft Azure is a set of powerful cloud services by Microsoft that meet enterprise development needs

- Microsoft Azure enables developers to work with different programming languages, frameworks, and tools (including third-party products).

- Users can create paid or free accounts and obtain subscriptions to access the Azure portal.

- Using Microsoft Azure, Windows Virtual Machines can be created to be used as Web Server or Hosted Database Server.

- Azure database services allow to use variety of database or data sources as per requirement.