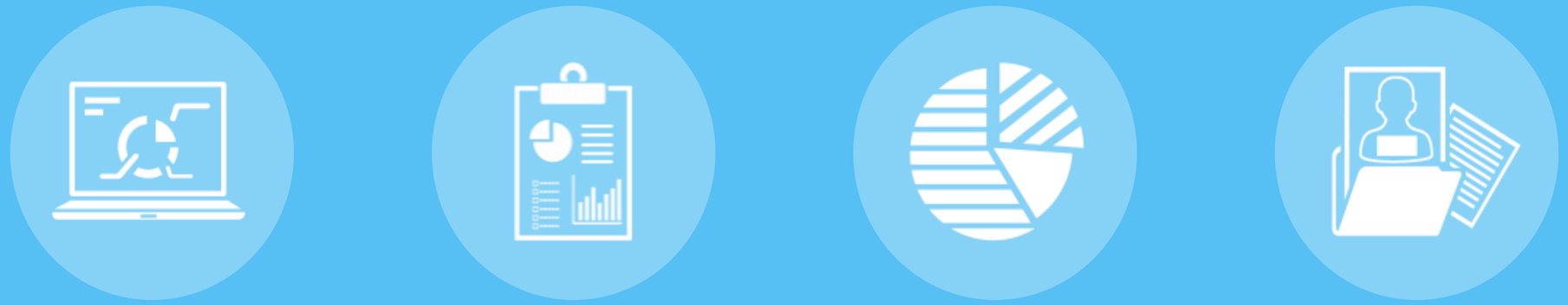
Microsoft Azure Fundamentals

Lesson 07 – Microsoft Azure Databases



What's in It for Me

- Understanding options for relational database deployments
- Creating and connecting to Azure SQL databases

Understanding Options for Relational Database Deployments

- Review relational database deployment options
- Compare SQL database with a SQL Server in a virtual machine
- SQL database resiliency and scalability

Review Relational Database Deployment Options

- PaaS:
  - Azure SQL Database
  - ClearDB MySQL Database
- IaaS:
  - SQL Server in an Azure IaaS virtual machine
  - MySQL in an Azure IaaS virtual machine
  - Any other RDBMS that Azure IaaS virtual machines support, for example:
    - Oracle
    - Sybase
    - DB2
    - SAP HANA

Compare SQL Database with a SQL Server in a Virtual Machine

SQL database	SQL Server in an Azure VM
PaaS	IaaS
Minimized management overhead	Higher management overhead (support for automated patching and backups)
Minimized cost	Cost includes VM charges
Fast provisioning	Provisioning requires a VM deployment
Partial feature parity on-premises SQL Server	Feature parity with on-premises SQL Server
No virtual network support	Virtual network support
Managed high availability and scalability	Support for high availability and scalability

SQL Database Resiliency and Scalability

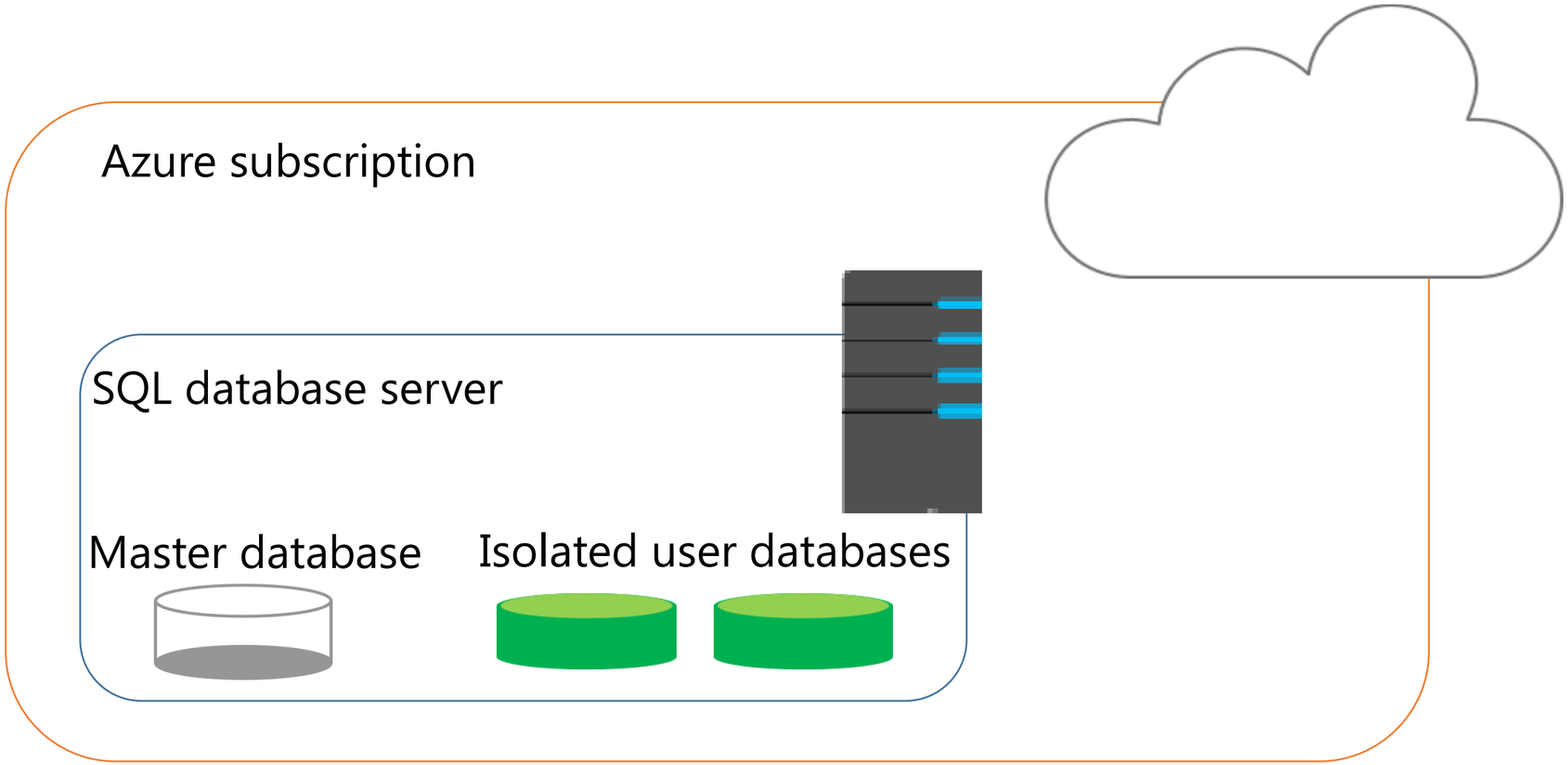
- Resiliency:
  - Three synchronously replicated copies in the local Azure data center
  - Asynchronously replicated copies in up to four remote Azure data centers
  - Support for Point In Time Restore that leverages automatic transaction log backup every five minutes
- Scalability:
  - Vertical scaling up to 1TB and 1750 DTUs by changing performance level
  - Horizontal scaling through federations and sharding
  - Grouping databases into Elastic Database pools

Creating and Connecting to Azure SQL Databases

- Create and import SQL databases
- Demonstration: Create a new SQL database by using the Azure Portal
- Demonstration: Configure geo-replication settings of an Azure SQL database by using the Azure portal
- Connect to an Azure SQL database
- Demonstration: Connect to an Azure SQL Database by using SQL Server Management Studio and an Azure Web app

Create and Import SQL Databases

- PaaS relational data store
- Built on SQL Server technologies



Demonstration: Create a New SQL Database by Using the Azure Portal

In this demonstration, you will see how to:

- Create a SQL database in the Azure portal
- Identify the SQL database and the SQL database server properties in the Azure portal

Demonstration: Configure Geo-replication Settings of an Azure SQL Database by Using the Azure Portal

In this demonstration, you will see how to:

- Configure geo-replication

Connect to an Azure SQL Database

- Interactive tools:
  - SQL Server Management Studio
  - Visual Studio
  - sqlcmd
- Applications:
  - Connection strings (ADO.NET, ODBC, PHP, JDBC)
- Access and security:
  - SQL Server firewall rules
  - SQL Server authentication and authorization

Demonstration: Connect to an Azure SQL Database by Using SQL Server Management Studio and an Azure Web App

In this demonstration, you will see how to:

- Connect to a SQL database by using SQL Server Management Studio
- Connect to a SQL database from an Azure Web app

Key Takeaways

- Azure provides two basic types of relational database services that each support different product types. They are PaaS and Iaas.
- Azure SQL Database depends on the existence of an Azure SQL server, which serves the functions like those provided by a SQL Server instance in on-premises environments.
- You can create a copy of an existing SQL Database by running the T-SQL statement.
- To connect to SQL Database programmatically, applications use connection strings, which you can readily extract from either of the Azure management portals for individual instances of SQL Database.

This concludes “Microsoft Azure Databases.”

Next Lesson is “Creating and Managing Azure AD.”

THANK YOU