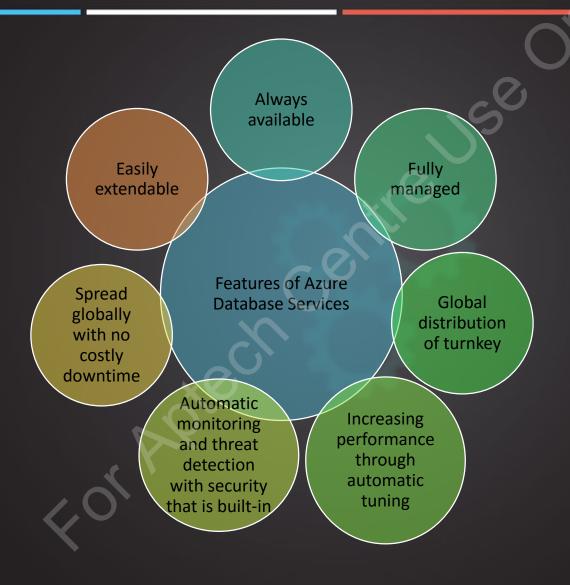


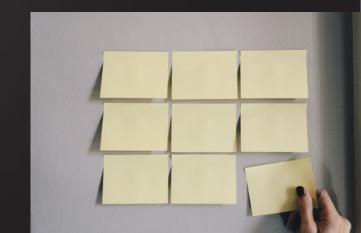
Session 06: Using Third-party Databases and Azure Storage Services

Objectives

- Describe the significance of third-party databases in Azure
- Describe using Entity Framework (EF) with MySQL and SQLite databases
- Describe how to create and integrate NoSQL Cosmos DB

Introduction to Third-party Database Support in Azure





Azure Database for MySQL

Features of Azure Database for MySQL

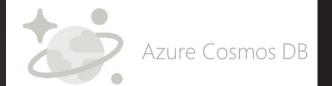
Applications for MySQL can be developed with Azure Database using open source tools and required platform

Completely managed database

Workloads that are mission-critical can be handled ensuring high performance and dynamic scalability

Azure Cosmos DB

Provides tools required for scaling computational resources and global distribution pattern



Azure Cosmos DB

Allows managing data, which is stored in data centers across the globe

Globally distributed database service

Using Entity Framework (EF) with MySQL and SQLite Databases [1-2]

Entity Framework uses a provider model to access various databases.

For connecting to a database, executing commands and achieving results, specific data providers are used.

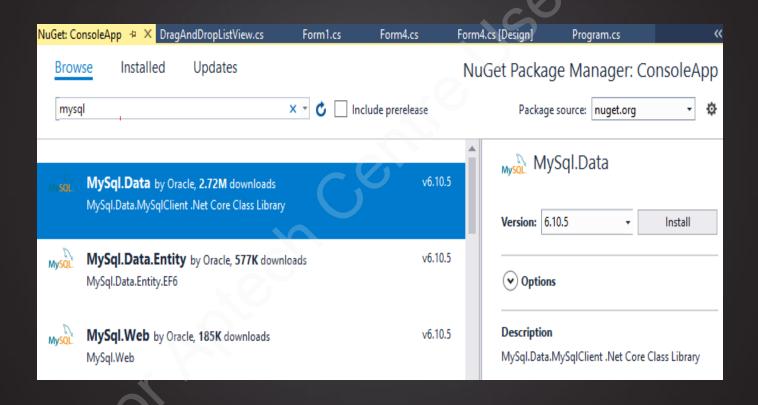
A data provider represents a set of libraries that facilitate data operations.

SQL-related databases use SQL data provider, Oracle databases use Oracle data provider, and so on.

Microsoft's Entity Framework is an Object-relational Mapper. It enables .NET developers to work with relational data.

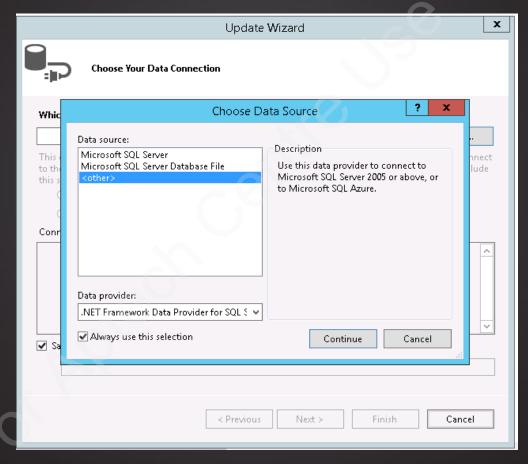
Using Entity Framework (EF) with MySQL and SQLite Databases [2-2]

NuGet Package Manager



Connecting MySQL Database with EF

Data Connection Wizard



Entity Framework Using SQLite

SQLite

- Autonomous, serverless, zero-configuration, transactional SQL database engine
- Code is in the public domain; its usage is free for any purpose, whether commercial or private
- It is one of the most widely used global database engines

Using NoSQL Cosmos DB

Ensures availability, consistency of data, and delay at SLA level of 99.999% Automatic replication of master-slave; Automatic data indexing Stores documents in JSON format Low latency for 99% of queries Multi-model data paradigm: key-value, document, graph, and family of columns Configurable throughput Non-relational database

Summary

- Azure supports relational database services such as MySQL, SQLite, and more.
- Developers can connect to MySQL and SQLite through Entity Framework.
- Azure Database also supports Microsoft's own developed NoSQL database called Cosmos DB, which was earlier known as Document DB.
- Cosmos DB is easy to manage and program using .NET and many other programming languages.