

On-Premise



SQL Server Database



SQL Server Instance



Server

Azure



Azure SQL Database



Azure SQL Managed Instance



Virtual Server

Azure SQL Database - A single fully-managed Platform-as-a-Service database. (or a set of databases sharing resources as part of an ["elastic pool"](#))

- Automatic [backups](#), [monitoring](#), [performance](#) and [index tuning](#).
- Dynamically [scale resources](#) to match varying workloads and demand.
- Automatic encryption of data [at-rest](#) (with options to encrypt data [in-use](#) too).
- [High Availability](#) (can span [separate regions](#)).
- No server or instance required, just [create a standalone database](#).
- Maximum database size of [4TB](#) (or [100TB](#) with hyperscale tier).
- No [linked-servers](#), cross database queries or [CLR](#).
- [SQL](#) or [Azure Active Directory](#) authentication.

Azure SQL Managed Instance - Azure SQL databases can optionally be part of an instance, with dedicated compute and storage resources.

- Maximum database size of [8TB](#).
- Closer compatibility with SQL Server, including [Manual backup](#).
- [Linked-servers](#), cross database queries and [CLR](#) are possible.
- No server required.
- [Database Mail](#), [SQL Agent](#) and [Extended Events](#).
- [Security isolation](#): Private IP address, dedicated subnet inside virtual network.

Azure Virtual Machine with SQL Server - Create VM using Azure resources, install SQL Server on it in the same way that you would on a physical server.

- Near complete compatibility with SQL Server.
- Azure provide the hardware and storage, but you maintain the operating system. Greater flexibility, but more maintenance.
- Automated [Patching](#) and [Backup](#) available.
- Option for a failover cluster to span on-premise and Azure VM, providing a [Hybrid Disaster Recovery](#) solution.

On-premise SQL Server - The traditional model of server (either virtual or physical) / SQL Instance / SQL Database. Unlike an Azure SQL Database, you need the server and instance before you can create the database.