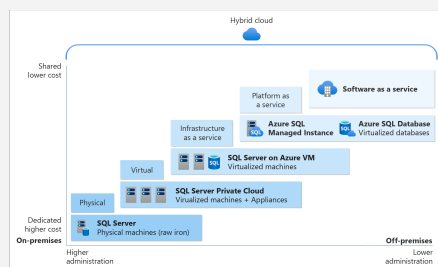## What is Azure SQL?

Azure SQL is a family of managed, secure, and intelligent products that use the SQL Server database engine in the Azure cloud.
Azure SQL Database: Support modern cloud applications on an intelligent, managed database service that includes serverless compute.

Azure SQL Managed Instance: Modernize your existing SQL Server applications at scale with an intelligent fully managed instance as a service, with almost 100% feature parity with the SQL Server database engine. Best for most migrations to the cloud.
SQL Server on Azure VMs: Lift-and-shift your SQL Server workloads with ease and maintain 100% SQL Server compatibility and operating system-level access.

Service comparison

Azure SQL Database

As a single database with its own set of resources managed via a logical SQL server.	An elastic pool, which is a collection of databases with a shared set of resources managed via a logical server.

Azure SQL Database (cont)

A single database is similar to a contained database in SQL Server. This option is optimized for modern application development of new cloud-born applications. Hyperscale and serverless options are available.	Single databases can be moved into and out of an elastic pool. This option is optimized for modern application development

Azure SQL Database is a relational database-as-a-service (DBaaS) hosted in Azure that falls into the industry category of Platform-as-a-Service (PaaS).
Azure SQL Database offers the following deployment options:

Azure SQL Managed Instance

Azure SQL Managed Instance falls into the industry category of Platform-as-a-Service (PaaS), and is best for most migrations to the cloud

SQL Server on Azure VM

SQL Server on Azure VM falls into the industry category Infrastructure-as-a-Service (IaaS) and allows you to run SQL Server inside a fully managed virtual machine (VM) in Azure.

The most significant difference from SQL Database and SQL Managed Instance is that SQL Server on Azure Virtual Machines allows full control over the database engine

Cost

Billing and licensing basics

With SQL Database, you can choose a service tier that fits your needs from a wide range of prices starting from 5$/month for basic tier and you can create elastic pools to share resources among databases to reduce costs and accommodate usage spikes.	With SQL Managed Instance, you can also bring your own license. For more information on bring-your-own licensing, see License Mobility through Software Assurance on Azure or use the Azure Hybrid Benefit calculator to see how to save up to 40%.

Both SQL Database and SQL Managed Instance are sold as a service and are available with several options and in several service tiers with different prices for resources, all of which are billed hourly at a fixed rate based on the service tier and compute size you choose

With SQL Database and SQL Managed Instance

the database software is automatically configured, patched, and upgraded by Azure, which reduces your administration costs. the database software is automatically configured, patched, and upgraded by Azure, which reduces your administration costs.
With SQL on Azure VMs, you can use any of the platform-provided SQL Server images (which includes a license) or bring your SQL Server license. All the supported SQL Server versions (2008R2, 2012, 2014, 2016, 2017, 2019) and editions (Developer, Express, Web, Standard, Enterprise) are available. In addition, Bring-Your-Own-License versions (BYOL) of the images are available.

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Service-level agreement (SLA)

For both Azure SQL Database and Azure SQL Managed Instance, Microsoft provides an availability SLA of 99.99%.

For SQL on Azure VM, Microsoft provides an availability SLA of 99.95% for two virtual machines in an availability set, or 99.99% for two virtual machines in different availability zones.