# **Creating the Azure SQL Database**

Azure SQL Database is a fully managed relational database service provided by Microsoft on the Azure cloud platform. It is based on SQL Server and offers features like high availability, automated backups, scaling, and security, without the need to manage the underlying infrastructure. It allows users to store and manage data in the cloud with minimal administrative effort, providing automatic updates and patching.

Azure SQL Database is designed for cloud applications that require high-performance, scalability, and reliability. It supports a variety of workloads, including web applications, data warehousing, and enterprise solutions. It offers several deployment options, such as single databases, elastic pools (for multiple databases), and managed instances (for near-complete SQL Server compatibility).

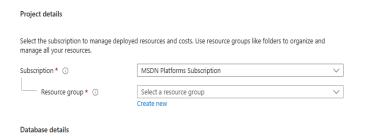
### **Use Cases of Azure SQL Database**

- 1. **Web and Mobile Applications**: Azure SQL Database is commonly used for storing and managing data for web and mobile applications, offering scalable performance and reliable availability.
- 2. **Business Applications**: It is ideal for enterprise business applications like customer relationship management (CRM) and enterprise resource planning (ERP) systems that require a robust and scalable database solution.
- 3. **Data Warehousing and Analytics**: Azure SQL Database can be used to store and analyze large amounts of data for business intelligence, supporting data warehousing solutions and integration with Power BI and Azure Synapse Analytics.
- 4. **SaaS Applications**: It's widely used for Software-as-a-Service (SaaS) applications, where multi-tenant architectures require secure and scalable database solutions with automatic backups and high availability.
- 5. **Backup and Disaster Recovery**: Azure SQL Database supports disaster recovery scenarios, enabling automated backups and geo-redundancy for business continuity.

The end goal of this lab is to successfully deploy an Azure SQL Database on the Azure cloud platform. This involves selecting a resource group, providing a unique database name, and configuring a server with SQL authentication. We also choose the appropriate region, cost-effective pricing model, and backup options, while enabling a public endpoint for database access. Additionally, a firewall rule is set to allow access from the current client device. After reviewing the configuration, we proceed to create and deploy the SQL database, ensuring a fully functional, scalable, and secure database solution in the cloud.

### To begin with the lab

- 1. In previous lab we deploy a virtual machine. In this lab, we are going to deploy a SQL database. Go to the SQL Databases section in the Azure portal and click on Create.
- 2. Select an existing resource group or create a new one.



3. Provide a name for the database.



- 4. Choose a unique server name.
- 5. Select the Azure region (e.g., North Europe) to keep all resources in one location.

# Create SQL Database Server Microsoft Server details Enter required settings for this server, including providing a name and location. This server will be created in the same subscription and resource group as your database. Server name \* demoserver6999 .database.windows.net Location \* (Europe) North Europe

Authentication

6. Choose SQL authentication and provide the server admin login credentials (username and password) for accessing the database server.

Azure Active Directory (Azure AD) is	now Microsoft Entra ID. <u>Learn more</u> 년				
access your server with SQL authentication	chods for accessing this server. Create a server admin login and password to on, select only Microsoft Entra authentication Learn more & using an existing on as Microsoft Entra admin Learn more & , or select both SQL and Microsoft				
Authentication method	<ul> <li>Use Microsoft Entra-only authentication</li> <li>Use both SQL and Microsoft Entra authentication</li> <li>Use SQL authentication</li> </ul>				
Server admin login *	sqlserver				
Password *	······································				
Confirm password *	······································				
7. Basic Model is selected	for cost efficiency, as it offers the least expensive option.				
Want to use SQL elastic pool? ①	Yes No				
Workload environment	Development     Production				
	Default settings provided for Development workloads. Configurations can be modified as needed.				
Compute + storage * ①	Basic 2 GB storage Configure database				
8. Select Locally-redundary	nt backup storage to save on backup storage costs.				
Backup storage redundancy					
Choose how your PITR and LTR back available when geo-redundant storage	ups are replicated. Geo restore or ability to recover from regional outage is only ge is selected.				
Backup storage redundancy ①	<ul> <li>Locally-redundant backup storage</li> <li>Zone-redundant backup storage</li> <li>Geo-redundant backup storage</li> <li>Geo-Zone-redundant backup storage</li> </ul>				
Review + create Next : N	Networking >				

- 9. Choose a public endpoint to allow access to the database.
- 10. Set a firewall rule to allow the **current client IP address** (the device used to connect to the database).

Basics	Networking	Security	Additional settings	Tags	Review + create		
Configure network access and connectivity for your server. The configuration selected below will apply to the selected server 'sqlserver6999' and all databases it manages. Learn more 🗗							
Network connectivity							
Choose an option for configuring connectivity to your server via public endpoint or private endpoint. Choosing no access creates with defaults and you can configure connection method after server creation. Learn more							
Connectivity method * ①		O No access					
			<ul><li>Public endpoint</li></ul>				
			Private endpoint				
Firewall rules							
Setting 'Allow Azure services and resources to access this server' to Yes allows communications from all resources inside the Azure boundary, that may or may not be part of your subscription. Learn more 27 Setting 'Add current client IP address' to Yes will add an entry for your client IP address to the server firewall.							
	ure services and re is server *	esources to	No Yes				
Add current client IP address *		No Yes					
Connect	ion policy						
Configure how clients communicate with your SQL database server. Learn more ☑							
-							
Connection policy ①			<ul> <li>Default - Uses Redirect policy for all client connections originating inside of Azure (except Private Endpoint connections) and Proxy for all client connections originating outside Azure</li> </ul>				
			_	_	e provied via the Azure SOL Database gateways		
Review	+ create	< Previous	Next : Security	>			

- 11. After configuring security and additional settings, click on **Review + Create**.
- 12. Review the configuration, then click **Create** to begin the deployment.

## Your deployment is complete

Deployment name: Microsoft.SQLDatabase.newDatabase... Start time : 12/17/2024, 1:30:06 PM

Subscription : MSDN Platforms Subscription Correlation ID : 57ec337d-e4bc-4ea3-bb56-95e819b57...

Resource group : Demorg

> Deployment details

∨ Next steps

Go to resource