

SQL Database tutorial: Create a SQL database in minutes using the Azure portal

By Carl Rabeler (<https://github.com/CarlRabeler>)

Updated: 04/14/2016

- Connecting to the Microsoft Azure portal with a subscription
- Create an Azure SQL Database logical server
- Create a new Azure SQL database
- Create a new Azure SQL Database server-level firewall
- Next steps
- Additional resources
- 84 Comments

Single database

Azure portal ▾

In this tutorial, you'll learn how to use the Azure portal to:

- Create a SQL Database logical server to host SQL databases
- Create a SQL database with no data, with sample data or with data from a SQL database backup.
- Create a server-level firewall rule for a single IP address or for a range of IP addresses.

Use these links to perform these same tasks using either C# ([./sql-database-get-started-csharp/](#)) or PowerShell ([./sql-database-get-started-powershell/](#)).

Connecting to the Microsoft Azure portal with a subscription

To connect to the Microsoft Azure portal, you must have a subscription.

Get a new account

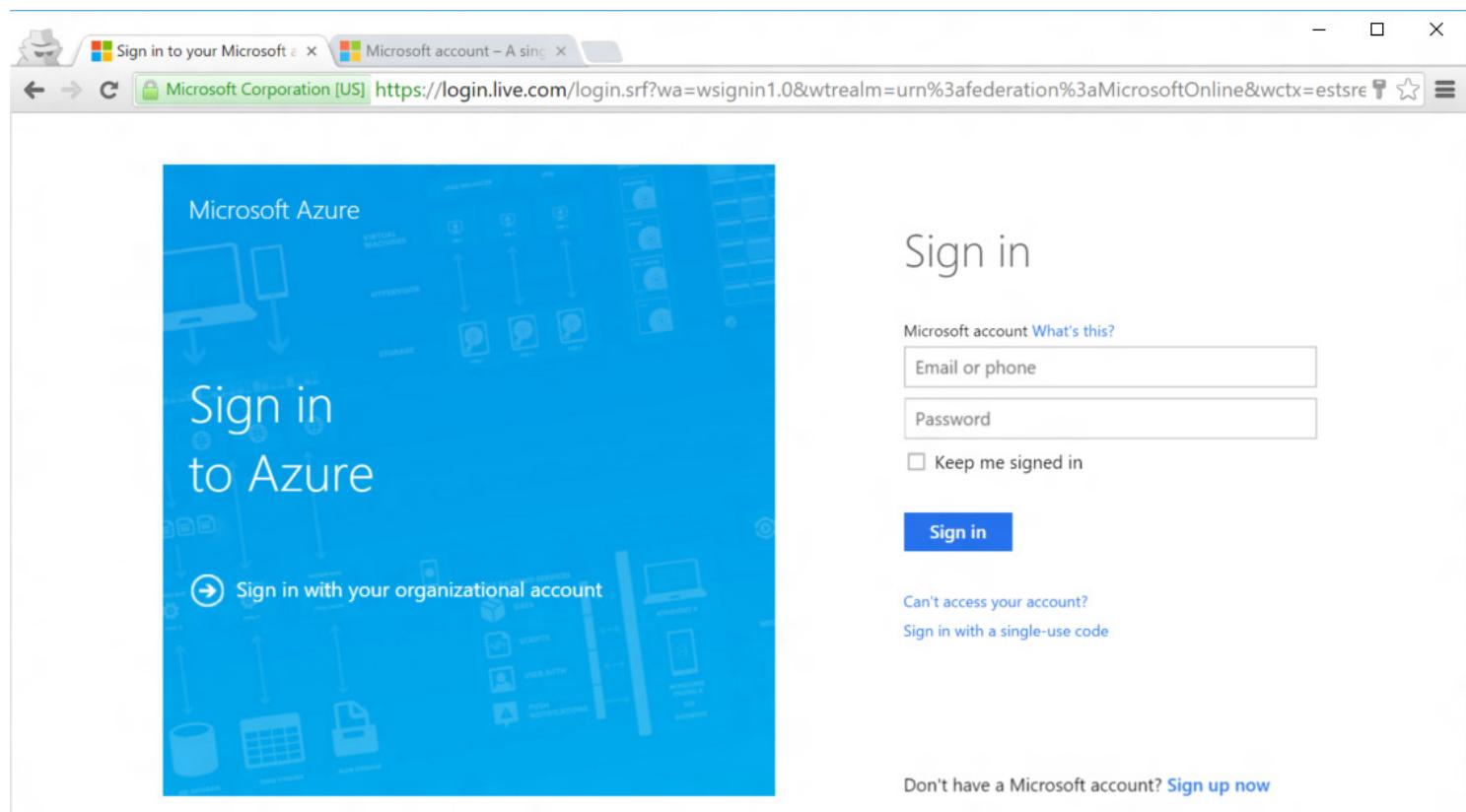
If you do not have an existing Microsoft Azure account, follow one of the links below to obtain an account:

- Get a free account (<https://azure.microsoft.com/get-started/>)
- Use an MSDN subscription (<https://azure.microsoft.com/pricing/member-offers/msdn-benefits/>)

Sign in using your existing account

Using your existing subscription (<https://account.windowsazure.com/Home/Index>), follow the steps below to connect to the Azure portal.

1. Open your browser of choice and connect to the Azure portal (<https://portal.azure.com/>).
2. Sign in to the Azure portal (<https://portal.azure.com/>).
3. When the sign in page appears, provide the credentials for your subscription

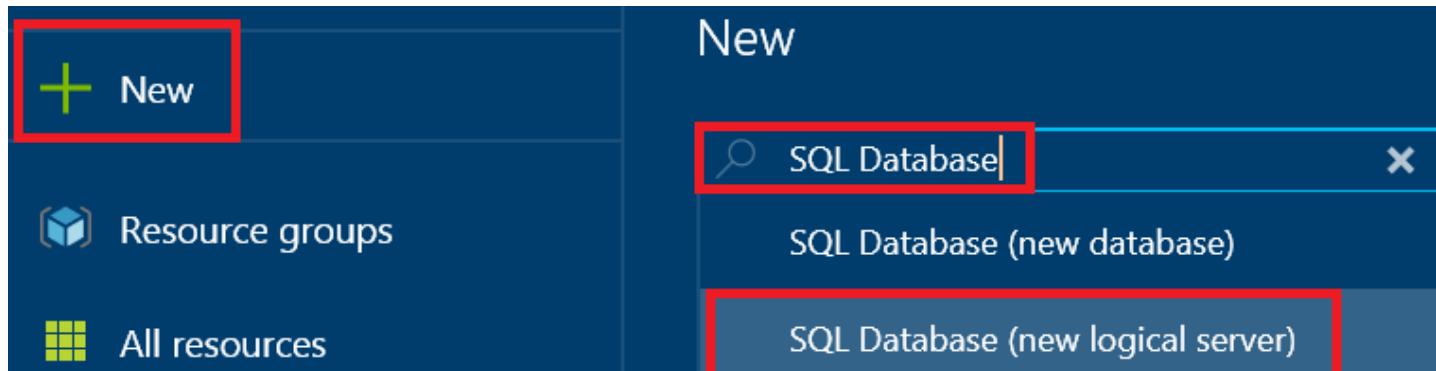


Create an Azure SQL Database logical server

Use the following steps in the Azure portal to create an Azure SQL Database logical server.

1. If not currently connected, connect to the Azure portal (<http://portal.azure.com>).

2. Click **New**, type **SQL Database** and then click **SQL Database (new logical server)**



3. Click **SQL Database (new logical server)**.

The screenshot shows the Azure portal search results for 'SQL Database (new logical server)'. The search bar at the top contains the query. Below it, the results section is titled 'Results'. A table lists two items: 'SQL Database (new logical server)' and 'SQL Database (new database)'. The first item is highlighted with a red box. The table has columns: NAME, PUBLISHER, and CATEGORY.

NAME	PUBLISHER	CATEGORY
SQL Database (new logical server)	Microsoft	Data + Analytics
SQL Database (new database)	Microsoft	Data + Storage

4. Click **Create** to open a template to create an empty logical server that can host single databases and elastic database pools.



SQL Database (new logical server)

Microsoft

SQL Database is a cloud database service built for application developers that lets you scale on-the-fly without downtime and efficiently deliver your applications. Built-in advisors quickly learn your application's unique characteristics and dynamically adapt to maximize performance, reliability, and data protection.

Use this template to create an empty logical server, which can host databases and elastic database pools for SQL Database, host SQL Data Warehouse databases, or be used as the remote endpoint for a SQL Server stretch database.



The screenshot shows the Azure portal interface for creating a new logical server. The left sidebar lists various Azure services like Resource groups, All resources, and Virtual machines. The main area shows the 'auditing-ds' logical server configuration. It includes fields for Resource group (selected), Server version (V12), and Firewall settings. The 'Create' button at the bottom is highlighted with a red border.

5. Provide the values for the following server properties:

- Server name
- Server admin login
- Password
- Subscription (only if have multiple subscriptions)
- Resource group (new or existing)

- Location

SQL Server (logical server only)

* Server name
sqldatabasecarl .database.windows.net ✓

* Server admin login
carlrbabeler ✓

* Password
***** ✓

* Confirm password
***** ✓

* Subscription >

* Resource group
sqldatabasergcarl ✓

Select existing

* Location >
North Central US

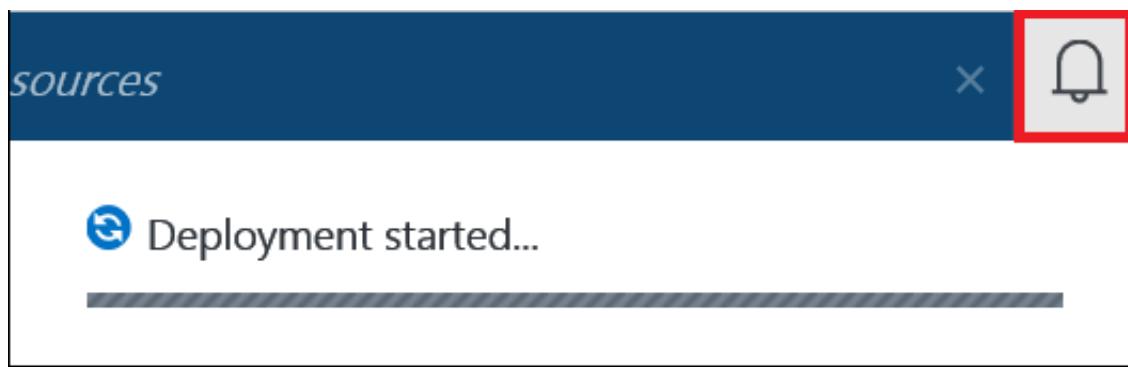
Allow azure services to access server ⓘ

Pin to dashboard

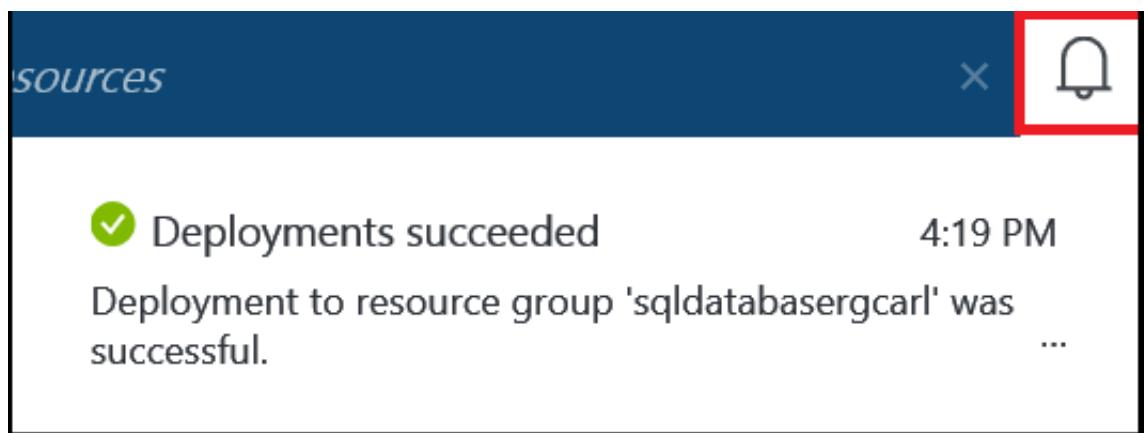


Create

6. Click **Create** and in the notification area, you can see that deployment has started.



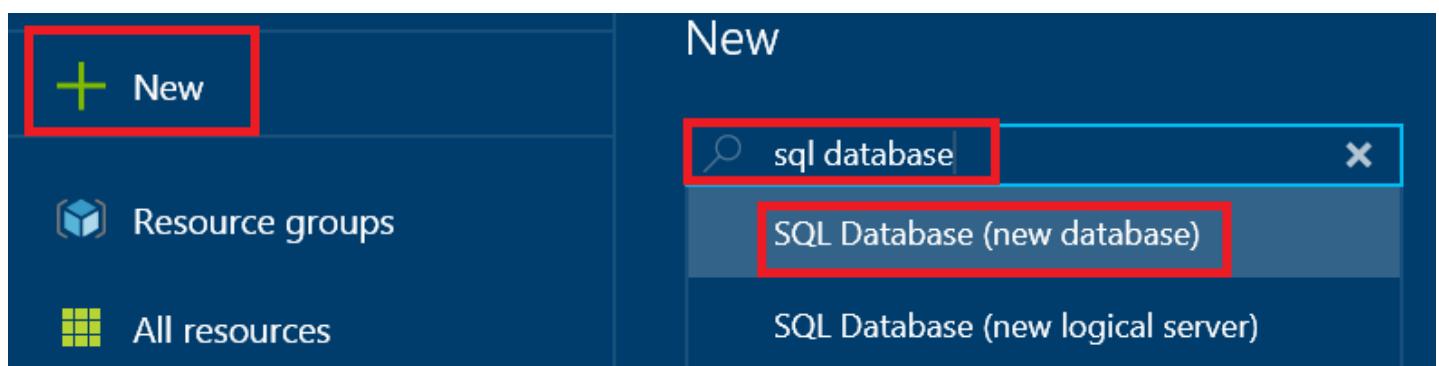
7. Wait for deployment to finish before continuing to the next step.



Create a new Azure SQL database

Use the following steps in the Azure portal to create a new Azure SQL database on a new or existing Azure SQL Database logical server.

1. If not currently connected, connect to the Azure portal (<http://portal.azure.com>).
2. Click **New**, type **SQL Database** and then click **SQL Database (new database)**



3. Click **SQL Database (new database)**.

Everything



Filter

SQL Database (new database)



Results

NAME

PUBLISHER

CATEGORY

SQL Database (new database)	Microsoft	Data + Storage
SQL Database (new logical server)	Microsoft	Data + Analytics
SQL Data Warehouse (new)	Microsoft	Data + Storage
SQL Sentry Performance Advisor Evaluation	SQL Sentry	Virtual Machines
Datadog Agent for Linux	Datadog Inc.	
Datadog Agent for Windows	Datadog Inc.	
Datadog Agent for Windows	Datadog Inc.	
Aras Innovator PLM Suite 11	Aras	Virtual Machines

4. Click **Create** to create a new database in the SQL Database service.



SQL Database (new database)

Microsoft

SQL Database is a cloud database service built for application developers that lets you scale on-the-fly without downtime and efficiently deliver your applications. Built-in advisors quickly learn your application's unique characteristics and dynamically adapt to maximize performance, reliability, and data protection.

Use this template to create a new database in the SQL Database service. You can create the database on a new logical server or on a logical server that already exists in your subscription.



The screenshot shows the Azure portal interface for managing a database named 'AdventureWorks2012'. On the left, there's a sidebar with navigation links like 'Dashboard', 'Data', 'Tables', 'Metrics', 'Actions', and 'Logs'. The main area has two tabs: 'Summary' and 'Geo Replication'. The 'Summary' tab displays basic information about the database, including its name, location ('East Asia'), and connection status ('Online'). It also shows metrics such as DTU percentage (5.17%), Data I/O Percentage (3.26%), Log Churn Percentage (0.01%), and CPU Percentage (1.61%). The 'Geo Replication' tab shows a world map with various regions and a table for configuring geo-replication. The table includes columns for 'Primary' (set to 'East Asia'), 'Secondary' (set to 'sgm3.geo.core.windows.net'), and 'Target Region' (with options for 'Brazil South', 'Central US', and 'East Asia'). A large blue button labeled 'Create' is visible at the bottom left of the 'Geo Replication' section.

5. Provide the values for the following server properties:

- Database name
- Subscription (only if you have multiple subscriptions)
- Resource group (if just getting started, use the resource group of the logical server)
- Select source (you can choose a blank database, sample data or a database backup)
- Server (a new or existing logical server)

- Server admin password
- Password
- Pricing tier (if just getting started, use the default value S0)
- Collation (only if blank database chosen)

SQL Database

* Database name
database1 ✓

* Subscription
▼

* Resource group
sqldatabasergcarl ▾

* Select source ⓘ
Sample ▾

* Select sample ⓘ
AdventureWorksLT [V12] ▾

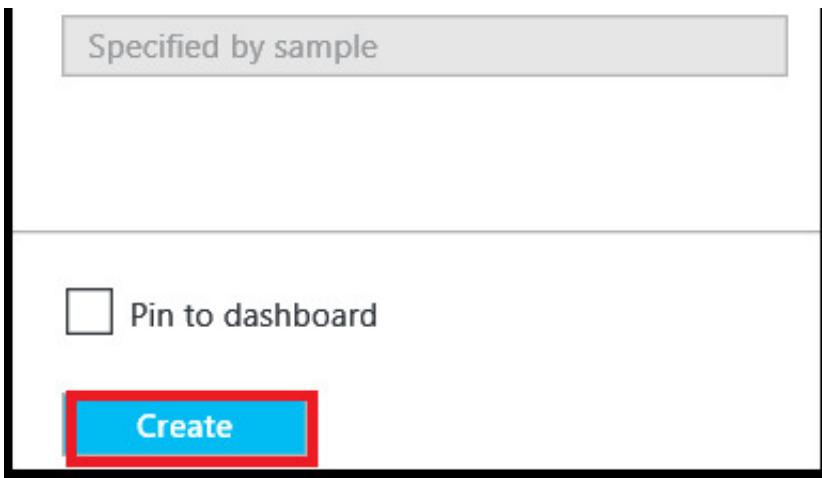
* Server
sqldatabasecarl (North Central US) >

* Server admin login
carlraebeler ✓

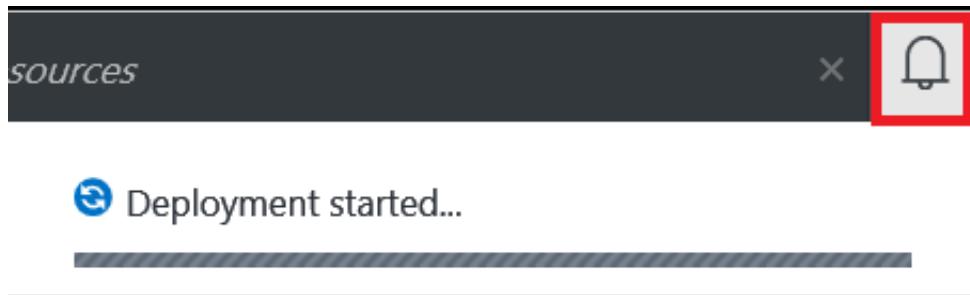
* Password
***** ✓

* Pricing tier ⓘ
S0 Standard >

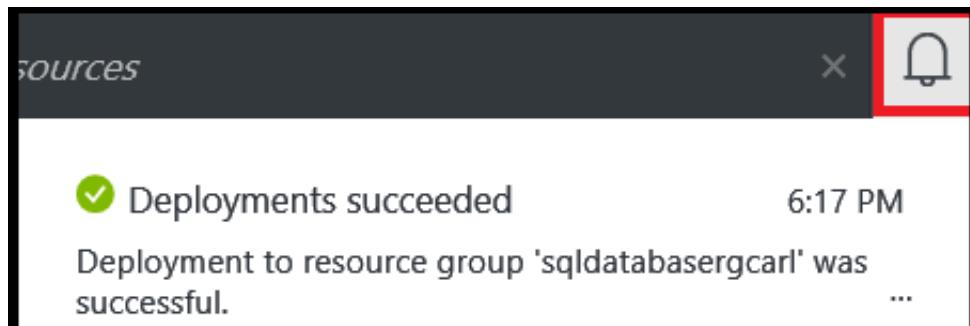
* Collation ⓘ



6. Click **Create** and in the notification area, you can see that deployment has started.



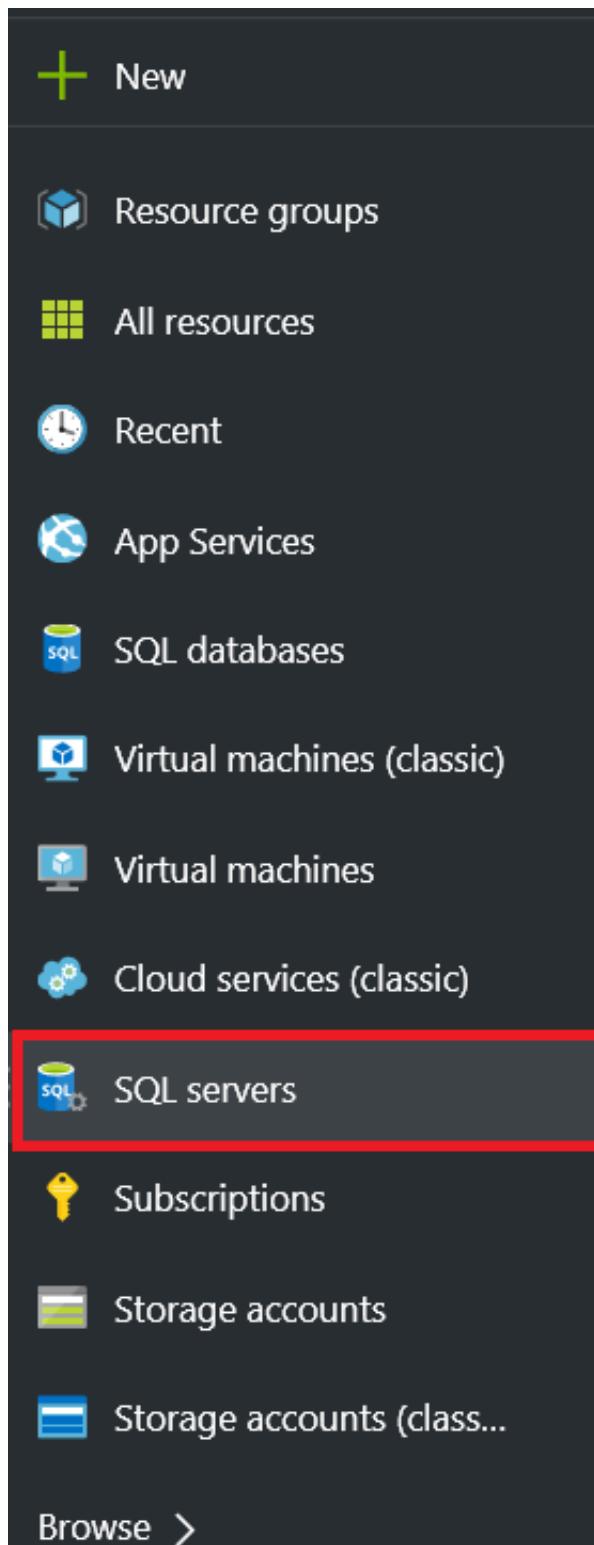
7. Wait for deployment to finish before continuing to the next step.



Create a new Azure SQL Database server-level firewall

Use the following steps in the Azure portal to create a server-level firewall rule that allows connections from an individual IP address (your client computer) or an entire IP address range to a SQL Database logical server.

1. If not currently connected, connect to the Azure portal (<http://portal.azure.com>).
2. In the default blade, click **SQL Server**.



3. In the SQL Server blade, click the SQL Database server on which to create the firewall rule.

This screenshot shows the 'SQL servers' blade in the Azure portal. The 'sqldatabasecarl' server is selected and highlighted with a red box. The blade includes a toolbar with 'Add', 'Columns', and 'Refresh' buttons, a search bar, and a table with columns for NAME, STATUS, LOCATION, and SUBSCRIPTION. The 'NAME' column lists 'sqldatabasecarl'. The 'STATUS' column shows 'Available'. The 'LOCATION' column shows 'North Central US'. The 'SUBSCRIPTION' column shows 'DnA_SQL_DS1'. There is also a '...' button at the end of the row.

4. Review the properties of your server.

The screenshot shows the Azure portal interface for managing a SQL database. At the top, there's a navigation bar with a 'SQL v12' icon, the database name 'sqldatabasecarl' (which is highlighted with a red box), and the service type 'SQL server'. Below the navigation bar are several action buttons: 'Settings' (gear icon), 'Reset password.' (pencil icon), 'Import database.' (down arrow icon), 'Delete' (trash bin icon), 'Move' (arrow icon), and 'New pool' (plus sign icon). To the right of these buttons are three small icons: a lightning bolt in a cloud, two people, and a tag.

Below the navigation bar, there's a section titled 'Essentials' with a dropdown arrow. To the right of this are three small icons: a lightning bolt in a cloud, two people, and a tag.

The main content area has a title 'Databases' with an 'Add tiles +' button. Underneath it, a section titled 'SQL databases' shows a summary: '1 Database'. A table follows, with columns 'DATABASE', 'STATUS', and 'PRICING TIER'. It contains one row for 'database1' which is 'Online' and in the 'Standard: S0' tier.

Below this, there's another section titled 'Elastic database pools' with an 'Add tiles +' button. This section also has a title 'Elastic database pools' and a summary: '0 Elastic database pools'. A table follows with columns 'NAME', 'PRICING TIER', and 'POOL EDTU'. It displays the message 'No elastic pools found'.

5. In the Settings blade, click **Firewall**.

Settings

sqldatabasecarl

 Filter settings

SUPPORT + TROUBLESHOOTING

-  Troubleshoot >
-  Audit logs >
-  New support request >

RESOURCE MANAGEMENT

-  Users >
-  Tags >

GENERAL

-  Properties >
-  Firewall >
-  Auditing & Threat detection >
-  Latest SQL Database Update >
-  Active Directory admin (preview) >
-  Roles >

6. Click Add Client IP to have Azure create a rule for your client's IP address.

Firewall settings
Allow access for specific IPs

Add client IP

Allow access to Azure services **ON** OFF

Client IP address 174.73.16.180

RULE NAME	START IP	END IP	...
			...

No firewall rules configured.

7. Optionally, click the IP address that was added to edit the firewall address to allow access to a range of IP addresses.

Firewall settings
Allow access for specific IPs

Add client IP

Allow access to Azure services **ON** OFF

Client IP address 174.73.16.180

RULE NAME	START IP	END IP	...
ClientIPAddress_2016-3-2_-	174.73.16.180	174.73.16.180	...

8. Click **Save** to create the server-level firewall rule.

The screenshot shows the 'Firewall settings' page for 'Allow access for specific IPs'. At the top, there are three buttons: 'Save' (highlighted with a red box), 'Discard', and 'Add client IP'. Below these are two toggle switches: 'Allow access to Azure services' set to 'ON' (highlighted with a blue box) and 'Client IP address' set to '174.73.16.180'. A table below lists a single rule:

RULE NAME	START IP	END IP
ClientIPAddress_2016-3-2_	174.73.16.180	174.73.16.180

Important:

Your Client IP address may change from time to time, and you may not be able to access your server until you create a new firewall rule. You can check your IP address using Bing (<http://www.bing.com/search?q=my%20ip%20address>), and then add a single IP address or a range of IP addresses. See [Manage firewall settings \(./sql-database-configure-firewall-settings/#manage-existing-server-level-firewall-rules-through-the-azure-portal\)](#) for details.

Next steps

Now that you've completed this SQL Database tutorial and created a database with some sample data, you're ready to explore using your favorite tools.

- If you're familiar with Transact-SQL and SQL Server Management Studio, learn how to Connect and query a SQL database with SSMS ([./sql-database-connect-query-ssms/](#)).
- If you know Excel, learn how to Connect to SQL database with Excel ([./sql-database-connect-excel/](#)).
- If you're ready to start coding, see Connect and query your SQL database with C# ([./sql-database-connect-query/](#)) and Using SQL database from .NET (C#) ([./sql-database-develop-dotnet-simple/](#)). See the Quick start code samples to SQL Database ([./sql-database-develop-quick-start-client-code-samples/](#)) for Node.js, Python, Ruby, Java, PHP and C++ samples and how-to's in addition to C#.

- If you want to move your on-premises SQL Server databases to Azure, see Migrating a database to Azure SQL Database ([./sql-database-cloud-migrate/](#)) to learn more.

Additional resources

[SQL Database Overview](#) ([./sql-database-technical-overview/](#))