# Lab: Create and Migrate to Azure SQL Database

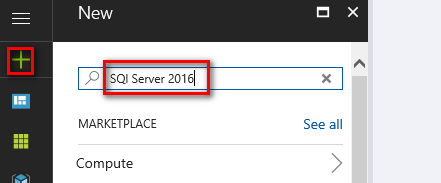
## Lab Overview

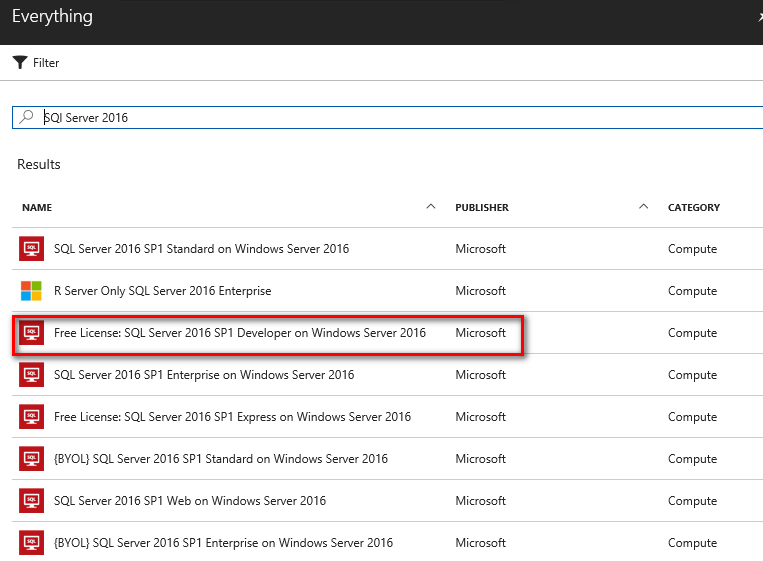
In this lab you will create an Azure SQL Database using the Azure Portal and connect to it using SQL Server Management Studio. You will then migrate a database hosted on a virtual machine to an Azure SQL Database.

## Exercise 1: Create a Lab machine and restore the sample database

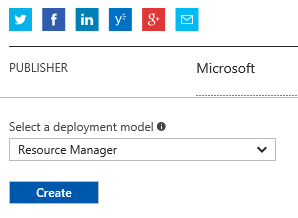
In this exercise you will create a lab machine using a SQL Server image from the Azure Marketplace. You will also restore the AdventureWorks sample database to your lab machine. This virtual machine will be used as your lab server for completing the remaining exercises.

1. In the Azure Portal, click New, then type SQL Server 2016 into the search field. Choose SQL Server 2016 RTM Developer from the results. Verify that you are choosing the developer edition as other editions will incur additional licensing costs.

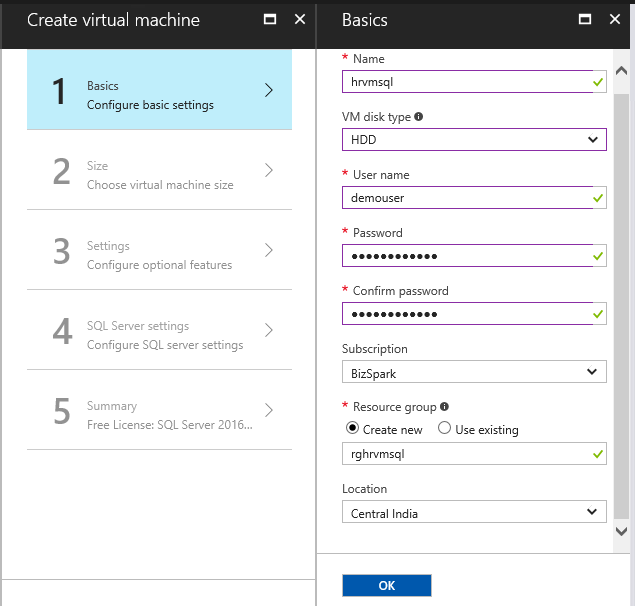




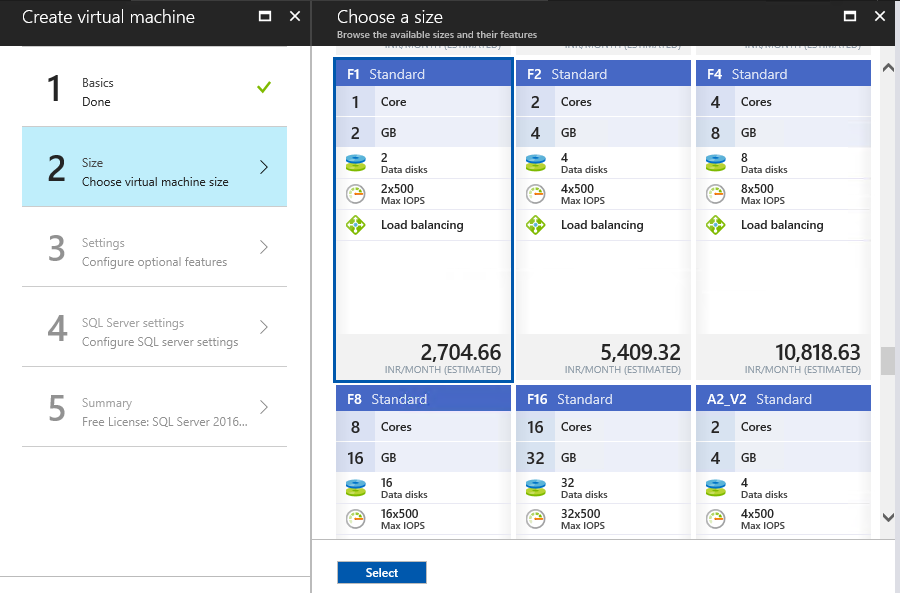
1. Leave the deployment model set to Resource Manager and click Create.



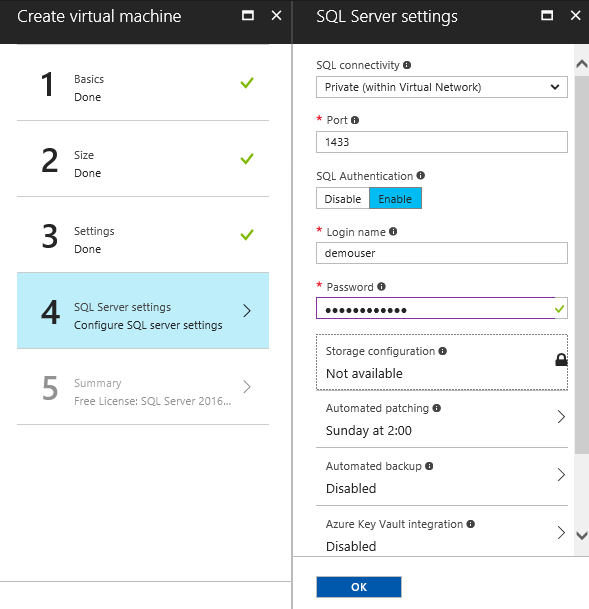
1. On the Basics blade, specify the following configuration and click OK.
   1. Name: <empidName + vm name>, hrvmsql
   2. VM disk type: HDD
   3. User name: demouser
   4. Password: demo@pass123, Demo@Pass123
   5. Subscription: Ensure the correct subscription is selected
   6. Resource Group: Create a new resource group
   7. Location: the region closest to your physical location



1. On the size blade, select View all to see all available VM size options. Choose **A0 Standard** or “**F1 Standard”** and then click Select at the bottom of the page.



1. On the setting blade, accept the defaults and click OK.
2. On the SQL Server settings blade, click the Enable button for SQL Authentication. The Login name field should autopopulate with the demouser account you entered in the basic configuration for the VM. If the login name did not auto‐populate then enter demouser for the login name and demo@pass123 for the password.

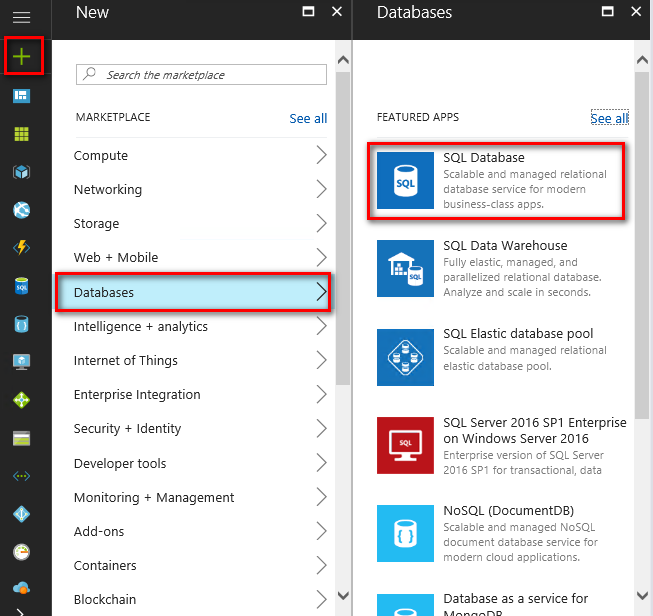


1. On the Summary blade review the summary of your configuration and settings. Click the OK button to begin provisioning your virtual machine. The virtual machine will take approximately 10 minutes to create. Wait for the virtual machine deployment to complete before moving to the next exercise.

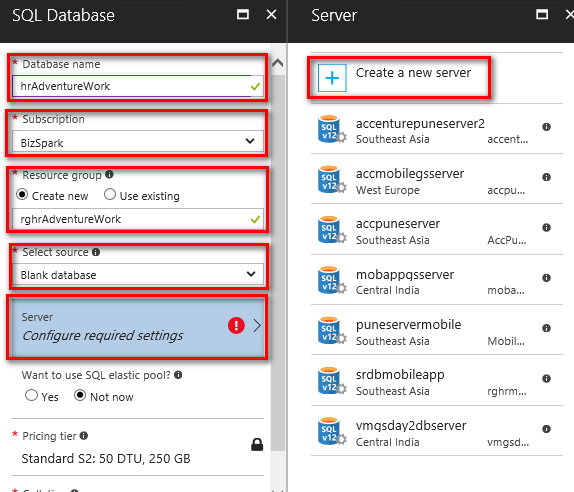
## Exercise 2: Create an Azure SQL Database

In this exercise, you will create an Azure SQL Database.

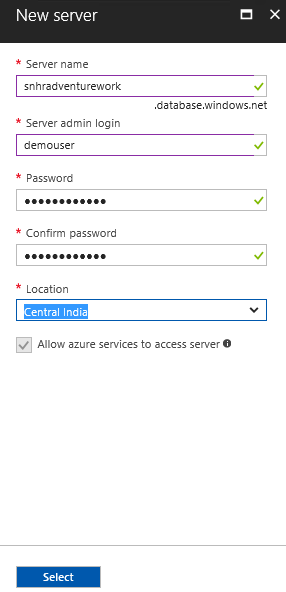
1. Launch a browser and navigate to https://portal.azure.com. Once prompted, login with your Microsoft Azure credentials. If prompted, choose whether your account is an organization account or just a Microsoft Account.
2. Click New, Database, and then click SQL Database.



1. On the SQL Database blade, type **“AdventureWorks”** for the name of database, select subscription, Create new Resource group with name **“rgAdventureWork”,** Select source type of database as **Sample**, then click the Server tile and select Create a new server.



1. Specify the following configuration:
   1. Server name: a unique name for your server. This is the name you will connect to.
   2. Server admin login: demouser
   3. Password: demo@pass123
   4. Location: Select the Azure region you are using for your labs
   5. Create V12 server: Yes
   6. Check the box next to Allow azure services to access server



Click Select. It will create server and select that server.

1. Leave the elastic pool as it is.

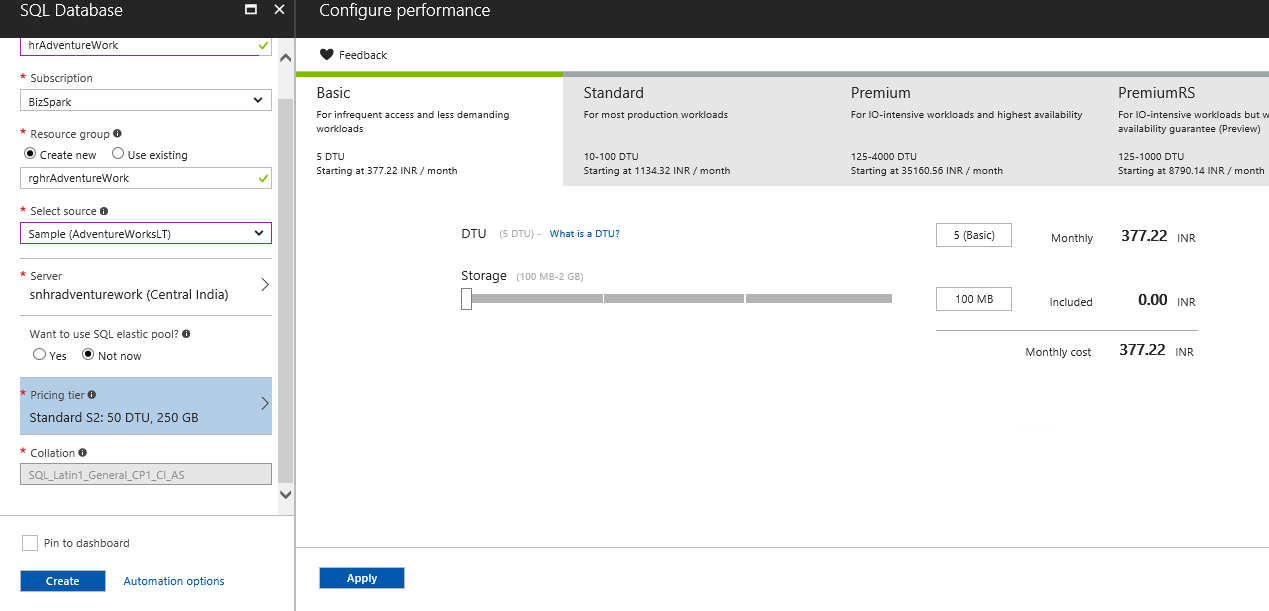
Elastic Pool: SQL Database elastic pools are a simple, cost-effective solution for managing and scaling multiple databases that have varying and unpredictable usage demands. The databases in an elastic pool are on a single Azure SQL Database server and share a set number of resources ([elastic Database Transaction Units](https://docs.microsoft.com/en-us/azure/sql-database/sql-database-what-is-a-dtu) (eDTUs)) at a set price. Elastic pools in Azure SQL Database enable SaaS developers to optimize the price performance for a group of databases within a prescribed budget while delivering performance elasticity for each database.

Note: Elastic pools are generally available (GA) in all Azure regions except West India where it is currently in preview. GA of elastic pools in this region will occur as soon as possible.

Reference: https://docs.microsoft.com/en-us/azure/sql-database/sql-database-elastic-pool

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1. Select the pricing tier.



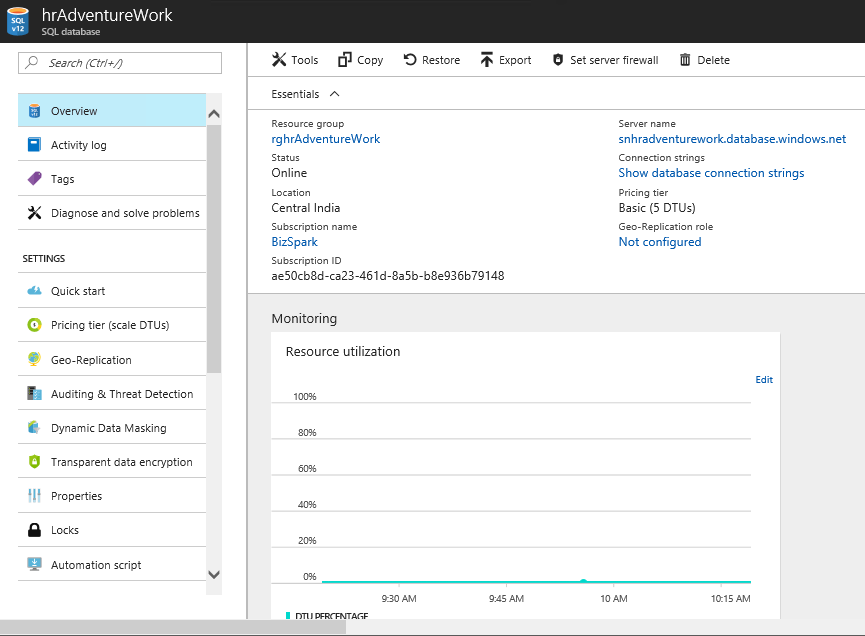
Click on Apply button to apply the pricing tier.

1. Click on Create button to create the Sql Server Database. Wait for the SQL Database to create before starting the next exercise.

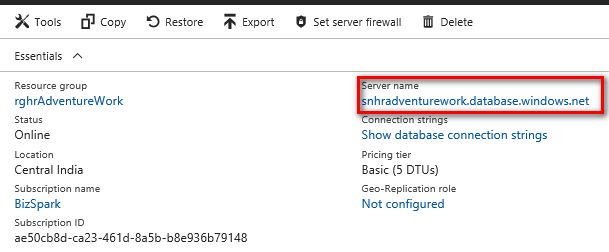
## Exercise 3: Connect to and Manage an Azure SQL Database

In this exercise, you will connect to your new SQL Database.

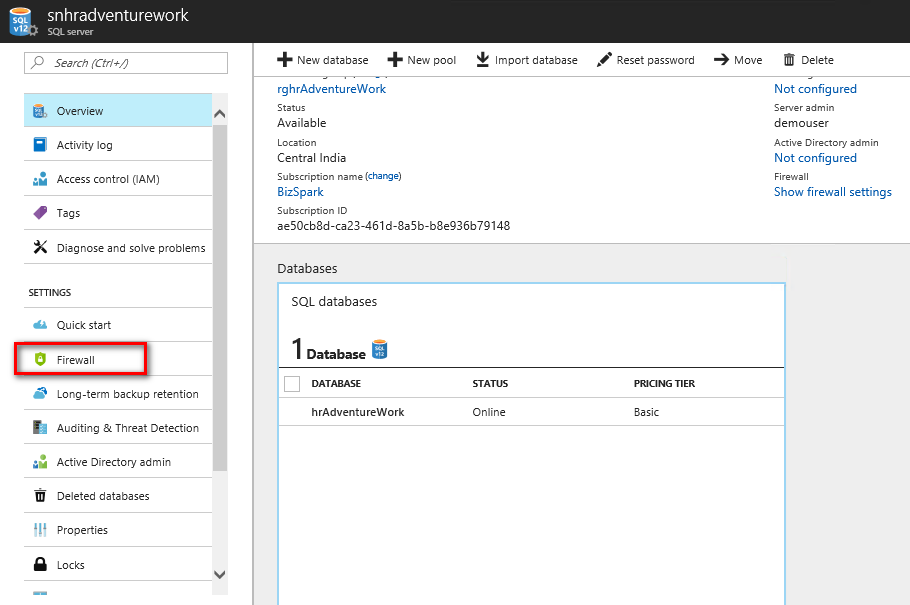
1. Connect to your lab machine, launch Internet Explorer and navigate to the Azure Portal.
2. In the Azure Portal, your **“AdventureWorks”** SQL Database configuration should automatically open upon completion. If it did not open, navigate to your new SQL Database.



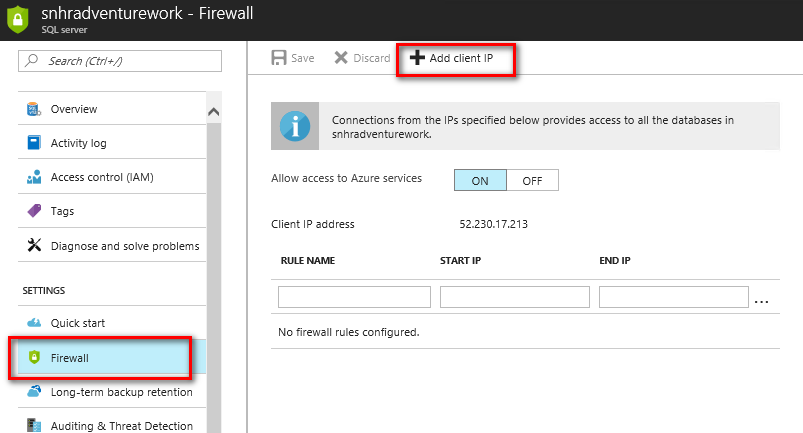
1. Copy the Server name and paste it into notepad for future reference, then click on the Server name to open the SQL Server settings blade.



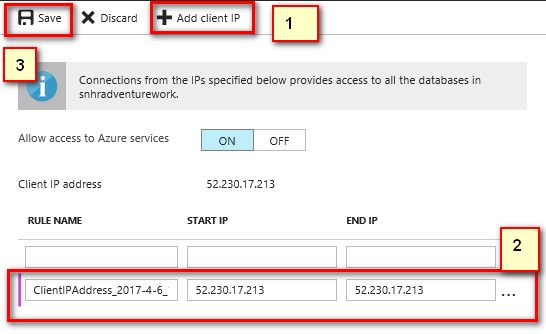
1. On the SQL Server settings blade click All Settings then click Firewall on the Settings blade.



1. On the Firewall settings blade click the Add client IP button to add the IP Address.

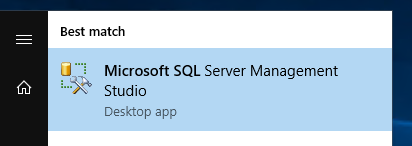


1. Then click the Save button.

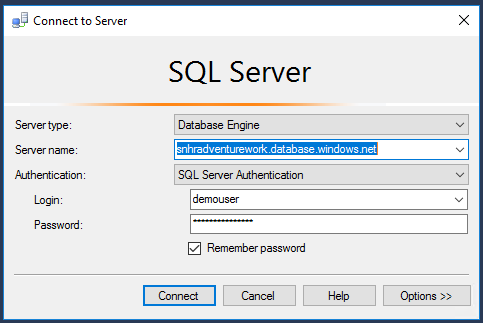


* This will create a firewall rule to allow access from your current client IP address.
* If your IP address changes in the future, you will need to add a new firewall rule for the new IP address.
* New firewall rule for the new IP address.

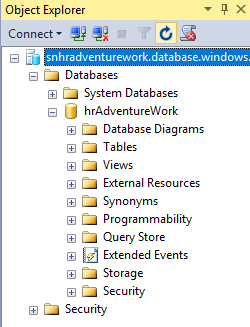
1. Connect to SQL Server Virtual Machine.
2. Launch SQL Server Management Studio from within your lab machine and connect to the local server.



1. In the Connect to Server window change the server name to the Sql Server Name available in your Azure SQL Database Dashboard blade. Set the Authentication to SQL Server Authentication, use your demouser administrative account and password. Click Connect.



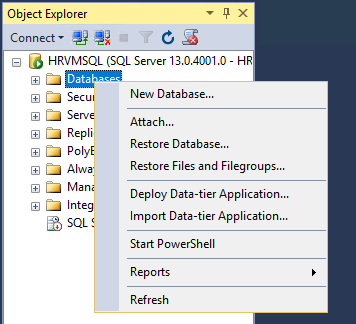
1. Under your SQL Database connection, expand Databases. You should see your AdventureWorks sample database.



## Exercise 4: Migrate an Existing SQL Server Database to Azure SQL Database

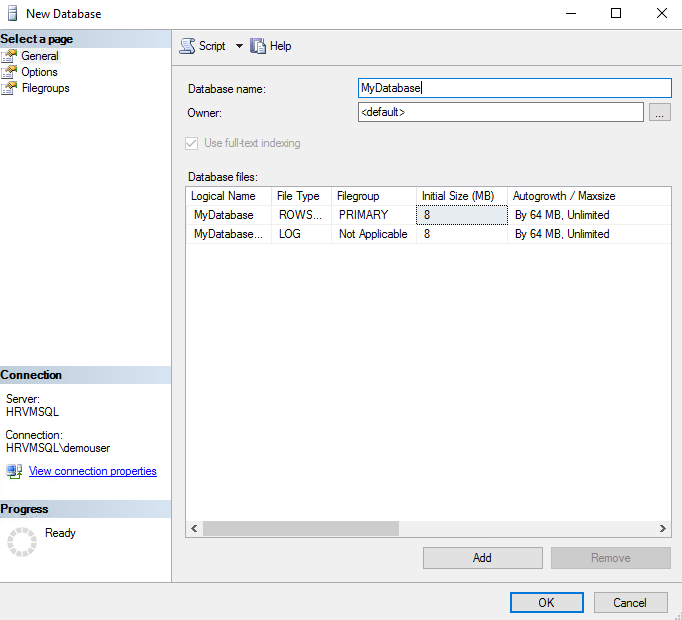
In this exercise, you will connect to your local server and migrate a database from SQL Server 2016 to Azure SQL Database.

1. Connect to the SQL Server instance on your lab machine. Expand the Databases folder, Right click on Databases Folder and Click on New Database menu item to Create New Database.

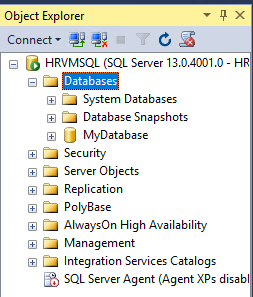


It will open new database create window.

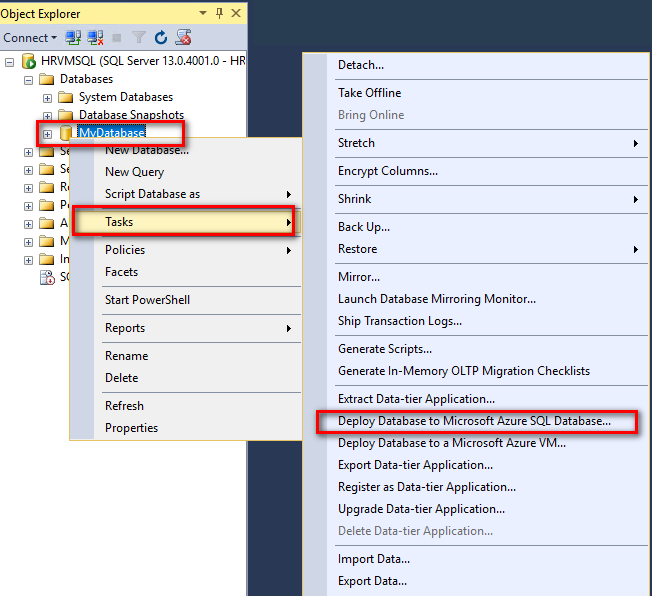
1. In Database create window provide database name “MyDatabase” and click on Ok button.



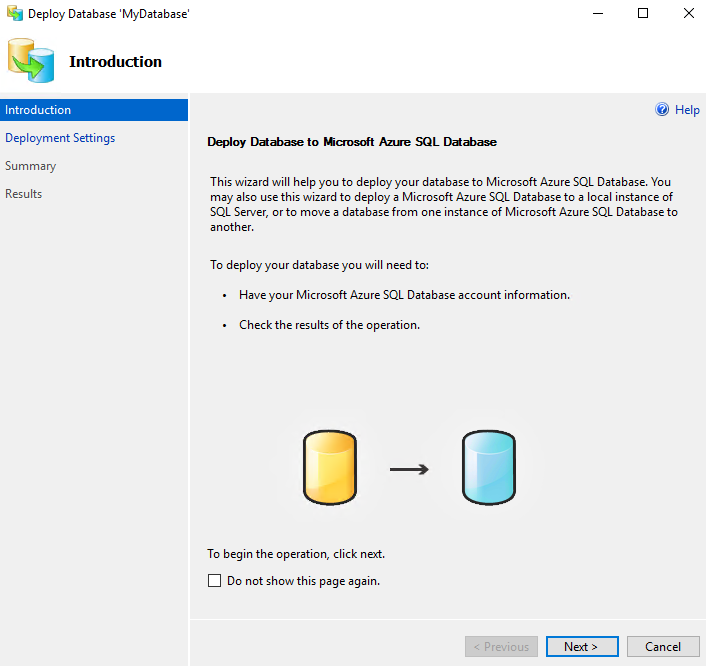
1. Expand Databases folder in Object Explorer to view your database “MyDatabase”.



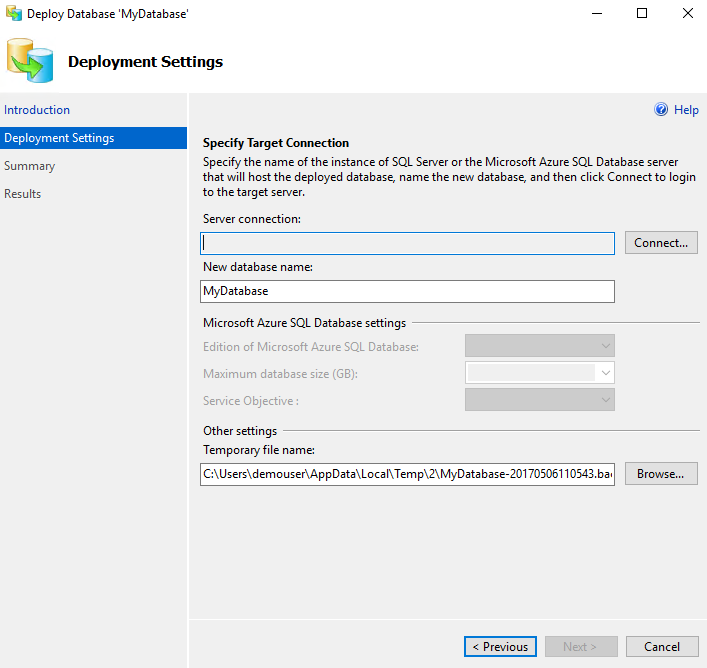
1. Right click on your newly created database, select Tasks, and click Deploy Database to Microsoft Azure SQL Database…

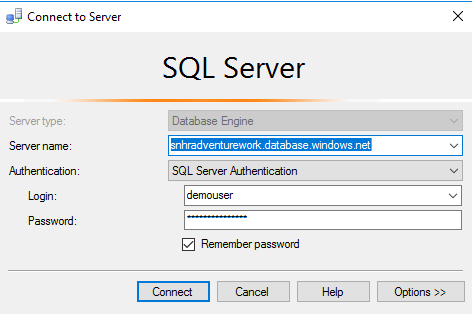


1. Click Next on the Introduction window.

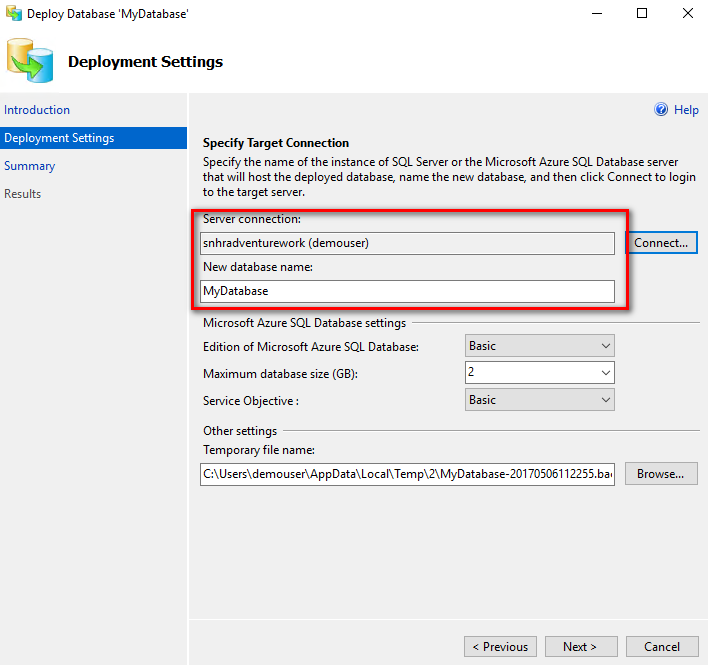


1. On the Deployment Settings window, click the Connect button and connect to your Azure SQL Server.

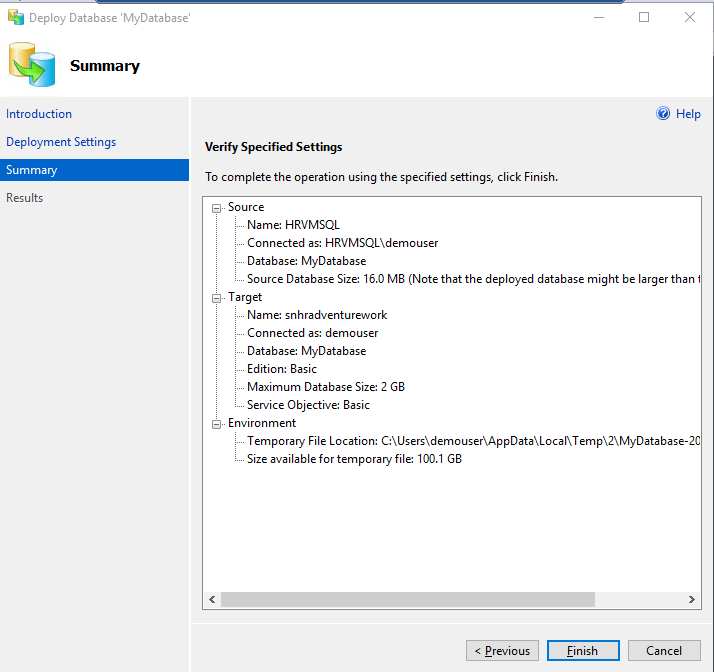




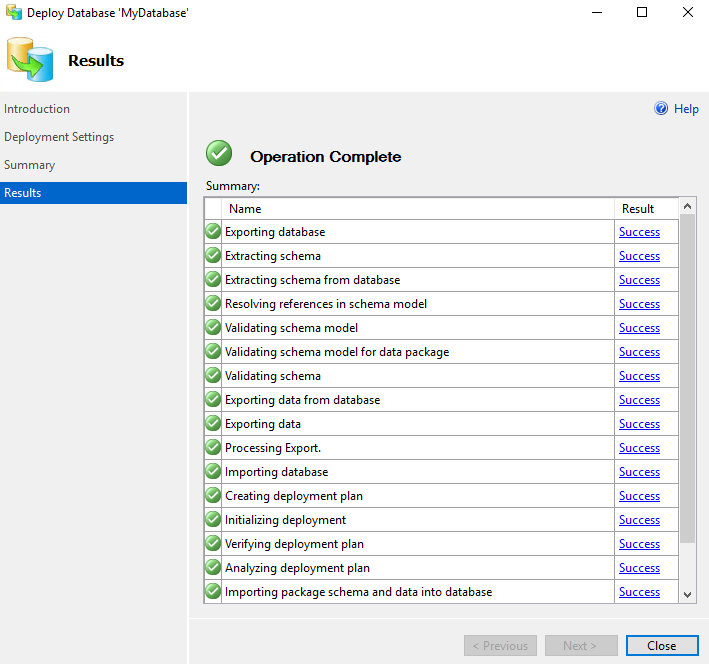
1. The rest of the Deployment Settings should auto‐populate and look similar to what you see below. Click the Next button to continue.



1. Validate your settings on the Summary window and click Finish to begin the migration.



1. Migration will take around 5 minutes to complete. When migration complete click on close button.



## Lab Summary

In this lab you created an Azure SQL Database using the Azure Portal and connected to it using SQL Server Management Studio. You then migrated an existing database hosted on a virtual machine to an Azure SQL Database.