Lab Answer Key: Module 7: Microsoft Azure Databases

Lab: Creating a SQL Database in Azure

Exercise 1: Create a new Azure SQL database in Azure and configure SQL Server firewall rules

Task 1: Create a new Azure SQL database by using the Azure Portal

1. On MIA-CL1, start Internet Explorer, browse to **http://portal.azure.com <http://portal.azure.com>**, and when prompted, sign in by using the Microsoft account that is either the Service Administrator or Co-Administrator of your Azure subscription.
2. In the **Hub** vertical menu on the left, click **New**.
3. On the **New** blade, click **Databases**.
4. On the **Databases** blade, click **SQL Database**.
5. On the **SQL database** blade, specify the following settings:

    - Database name: **testDB**
    - Subscription: *your subscription*
    - Resource group: **Create** n **ew**
    - New resource group name: **testRG**
    - Select source: **Blank database**
    - Pricing tier: **S0 Standard**
    - Collation: **SQL_Latin1_General_CP1_CI_AS**

6. In the **Server** section, click **Configure required settings**.

7. On the **Server** blade, ensure that **Create a new server** is selected.

8. On the **New server** blade, enter the following settings, and then click **Select**:

- Server name: *Any valid unique name*
- Server admin login: **Student**
- Password: **Pa$$w0rd**
- Confirm password: **Pa$$w0rd**
- Location: *An Azure region close to the location of your lab computer*
- Leave any other remaining settings with their default values.

9. On the **SQL database** blade, ensure that **Pin to dashboard** is selected, and then click **Create**. Wait for the SQL database to be created.

10. Once the new database gets created, the Azure portal automatically displays its **Settings** blade.

Task 2: Configure an Azure SQL Server firewall rule by using Azure Portal

1. In the Azure portal, scroll to the left to the **testDB** blade and click the name of the server under the Server name label to open the blade representing the server.
2. On the **server** blade, click **Show firewall settings**.
3. On the **Firewall settings** blade, click **Add client IP**.
4. In the **START IP** column of the newly added firewall rule, set the last two numbers, separated by a period, to **0.0**.
5. In the **END IP** column of the newly added firewall rule, set the last two numbers, separated by a period, to **255.255**.
6. Click **Save**.

   > **Note:** It might take up to five minutes for this change to take effect.

> **Result**: After completing this exercise, you should have created a Microsoft Azure SQL database named testDB on a new server with a name of your choice. You will have also configured Microsoft SQL Server firewall rules in Azure, which allow connectivity from your on-premises management tools and applications to the newly created SQL database in Azure.

Exercise 2: Manage content of an Azure SQL database by using SQL Server Management Studio

Task 1: Add a table to an Azure SQL Database by using SQL Server Management Studio

1. On MIA-CL1, start SQL Server 2014 Management Studio by clicking its shortcut in the taskbar.

2. In the **Connect to Server** dialog box, specify the following settings (replace _server*name* with the unique name you specified when creating your SQL Database server in the previous exercise), and then click **Connect**:

   - Server type: **Database Engine**

   - Server name: **_server*name*.database.windows.net**

   - Authentication: **SQL Server Authentication**

   - Login: **Student**

   - Password: **Pa$$w0rd**

3. If the connection attempt fails indicating that the client IP address is not allowed to access the server, note the IP address in the error message. Switch to Internet Explorer and, on the **Firewall settings** blade, create a new rule by specifying the following settings and then clicking **Save**:

   - RULE NAME: ClientIPAddressMod7

   - START IP: *IP address that you noted in the error message*

   - END IP: *IP address that you noted in the error message*

     > **Note:** Note that it might take up to five minutes for this change to take effect.

1. In SQL Server Management Studio, in Object Explorer, under the server name, expand **Databases**, and then verify that the **testDB** database is listed.
2. Right-click the **testDB** database node, and then click **New Query** in the context menu.
3. In the new query pane, type in the following Transact-SQL statement, and then click **Execute**:

```
CREATE TABLE dbo.testTable
(
id integer identity primary key,
dataval nvarchar(50)
);
GO
```

4. In Object Explorer, expand the **testDB** node, expand the **Tables** folder and verify that **dbo.testTable** is listed (if not, right-click **Tables**, and then click **Refresh**).
5. Leave the SQL Server Management Studio open for the next task

Task 2: Add data to a table of a SQL database in Azure by using SQL Server Management Studio.

1. Click **New Query**, enter the following Transact-SQL code in the new query pane, and then click **Execute** to insert 100 rows containing automatically generated globally unique identifier (GUID) values into the table:

```
INSERT INTO dbo.testTable
VALUES
(newid());
GO 100
```

2. Leave the SQL Server Management Studio open for the next task.

Task 3: Query a table of an Azure SQL database in Azure by using SQL Server Management Studio

1. In Object Explorer, right-click **dbo.testTable**, in the context menu click **Script Table as**, **,** click **SELECT To**, and then click **New Query Editor Window**. This generates a Transact-SQL query that retrieves data from the table.
2. On the toolbar, in the **Available Databases** list, ensure that **testDB** is selected, and then click **Execute**.
3. View the query results and verify that a table of **id** and **dataval** values is returned.
4. Close SQL Server Management Studio and Internet Explorer. Do not save changes when prompted.

Task 4: Prepare for the next module

When you are finished with the lab, do not revert the virtual machines. Please keep all of the VMs running. The VMs in their current state are required for the next module.

> **Result**: After completing this exercise, you should have created a test table in the SQL database in Azure named testDB on an existing SQL Server in Azure with a name of your choice, populated it with sample data, and queried its content.

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