# Solution M4: Azure for Developers

## Tasks

One possible solution, using the Azure Portal, may include the following steps:

#### Database

* Open a browser tab, navigate to <https://portal.azure.com> and login
* Navigate to **Resource Groups** and create a new one, for example **Homework-M4**
* Enter the resource group and click the **+ Add** button
* Search for **Azure SQL** and press **Enter** or click on the **SQL Database** option in the **Popular** list
* For **Database name** enter **dbhw**
* Click on the **Create new** link under **Server** to create a new database server
* Enter **srvhw** for **Server name**
* Enter **demosa** for **Server admin login**
* Enter **DemoPassword-2020** for **Password** and retype it in the **Confirm password** field
* Set the appropriate **Location.** For example, **West Europe**
* Confirm server settings with the **OK** button
* Change **Compute + storage** plan by clicking on the **Configure database**
* Select the **Basic** plan and confirm with the **Apply** button
* Click on the **Next: Networking** button
* For **Connectivity method** select **Public endpoint**
* Switch to **Yes** both **Allow Azure services** and **Add current client IP address**
* Click **Review + create** and then click **Create** to create both the database server and database itself
* Once the database is created, navigate to its **Overview** screen
* Click on the **Query editor (preview)** item in the left menu
* Enter the credentials you specified during the database creation process
* Execute the following statement to prepare the table:

CREATE TABLE Names (

 ID INT IDENTITY(1,1),

 SubmissionTime datetime DEFAULT getdate(),

 SubmittedName VARCHAR(50),

 PRIMARY KEY (ID))

* Navigate to **Connection strings**
* Copy the string under the **ADO.NET** tab

#### Function App

* Now, return to the home screen
* Next, enter in the search bar **function app** text and press **Enter**
* Then, click on the **+ Add** button
* Make sure that the resource group is set to the one created earlier
* For **Function App name** use **fahw**
* Make sure that the **Publish** is set to **Code**
* Change **Runtime stack** to **.NET Core**
* Set the **Region** to **West Europe**
* Click **Next: Hosting**
* Accept the default values
* Click **Next: Monitoring**
* Accept the default values
* Click **Review + create** and then **Create**
* Once the creation is done, click on **Go to resource**
* Click on **Configuration** under **Settings** section
* Switch to **Function runtime settings**
* Change the **Runtime version** to **~2**
* Click on the **Save** button
* Click **Continue**
* Click on the **Functions** option under **Functions** section
* Click the **+ Add** button
* Select the **HTTP trigger** option
* Enter **HWFunction** in the **New Function** field
* Click the **Create Function** button
* Switch to **Code + Test**
* Change the code to this:

#r "Newtonsoft.Json"

using System.Net;

using Microsoft.AspNetCore.Mvc;

using Microsoft.Extensions.Primitives;

using Newtonsoft.Json;

using System.Data.SqlClient;

public static async Task<IActionResult> Run(HttpRequest req, ILogger log)

{

log.LogInformation("C# HTTP trigger function processed a request.");

string constr = "Server=tcp:srvhw.database.windows.net,1433;Initial Catalog=dbhw;Persist Security Info=False;User ID=demosa;Password=DemoPassword-2020;MultipleActiveResultSets=False;Encrypt=True;TrustServerCertificate=False;Connection Timeout=30;";

string sqltext;

string name = req.Query["name"];

string requestBody = await new StreamReader(req.Body).ReadToEndAsync();

dynamic data = JsonConvert.DeserializeObject(requestBody);

name = name ?? data?.name;

if (name != null)

{

using (SqlConnection conn = new SqlConnection(constr))

{

conn.Open();

// Insert a row

sqltext = "INSERT INTO Names (SubmittedName) VALUES ('" + name + "')";

using (SqlCommand cmd = new SqlCommand(sqltext, conn))

{

await cmd.ExecuteNonQueryAsync();

}

// Query the database

sqltext = "SELECT SubmittedName, MIN(SubmissionTime), COUNT(SubmittedName) FROM Names WHERE SubmittedName='" + name + "' GROUP BY SubmittedName";

using (SqlCommand cmd = new SqlCommand(sqltext, conn))

{

SqlDataReader reader = cmd.ExecuteReader();

if (reader.HasRows)

{

reader.Read();

return (ActionResult)new OkObjectResult(String.Format("{0} was inserted first on {1} and is found {2} time(s)", reader[0], reader[1], reader[2]));

}

else

return (ActionResult)new OkObjectResult("Nothing found for " + name);

}

}

}

else

return new BadRequestObjectResult("Please pass a name on the query string or in the request body");

}

* Click the **Save** button
* Click on **Test/Run** button
* Accept the proposed values and click **Run**
* You should see a message that **Azure** was inserted recently and that there is only 1 record found
* Repeat the procedure a few times
* Click on the **Get function URL** and test the function in a browser tab

## A Reminder

Do not forget to remove the resources created during the homework solution practice. The easiest option to accomplish this would be to delete the resource group