How to Publish ASP.NET Core MVC/Web API application to Azure and Consume it using jQuery

In this tutorial I'm going to show how to:

- Create a SQL Database
- Create a .Net Core Web API App and .Net Core Web App
- Deploy Web API to Azure
- Deploy Web App to Azure
- Consume the Web API using jQuery

You can find the complete source code here:

https://github.com/patricksameerajayalath/Net-Core-WebAPI

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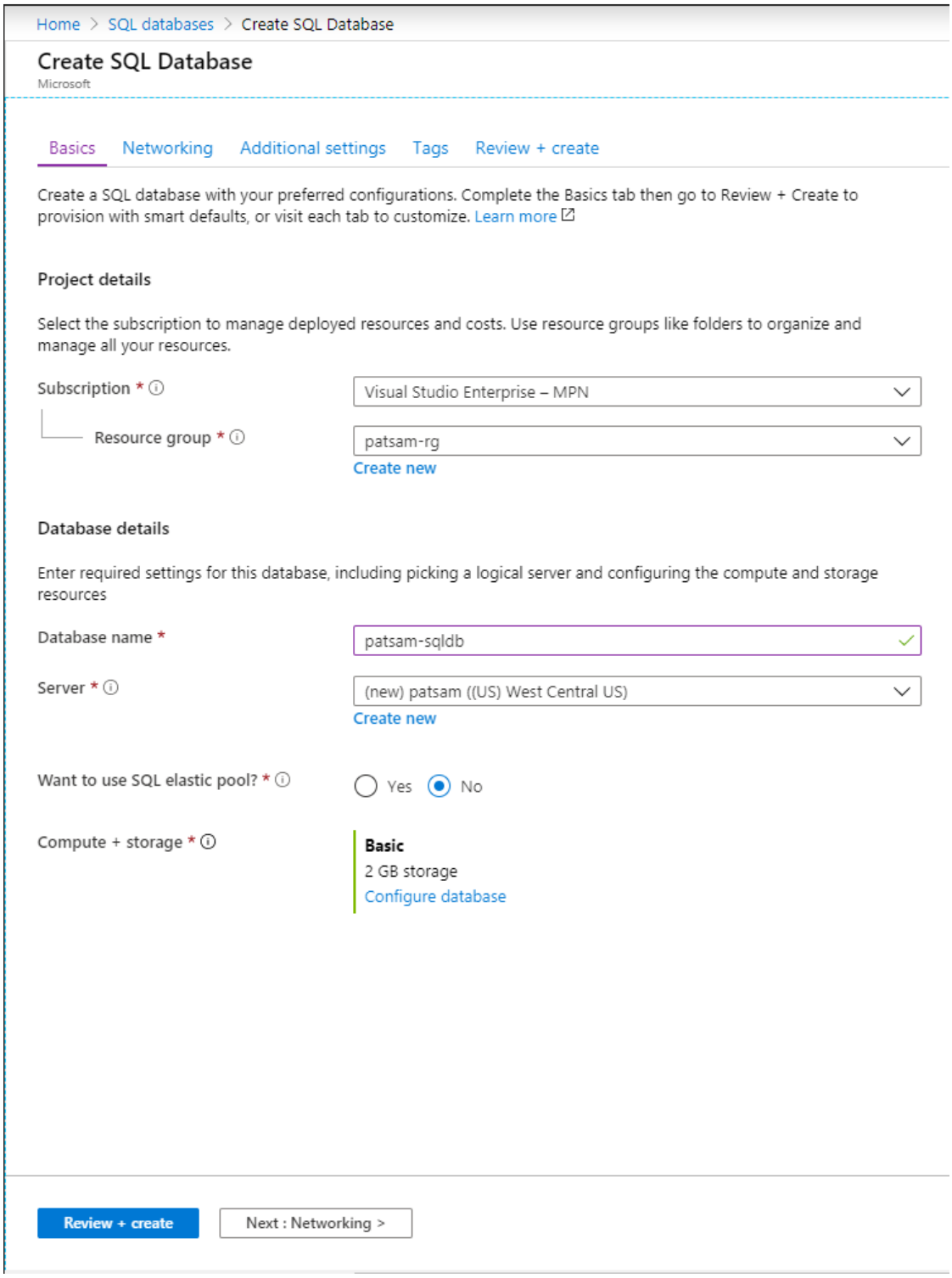
Step 01: Create a SQL Database

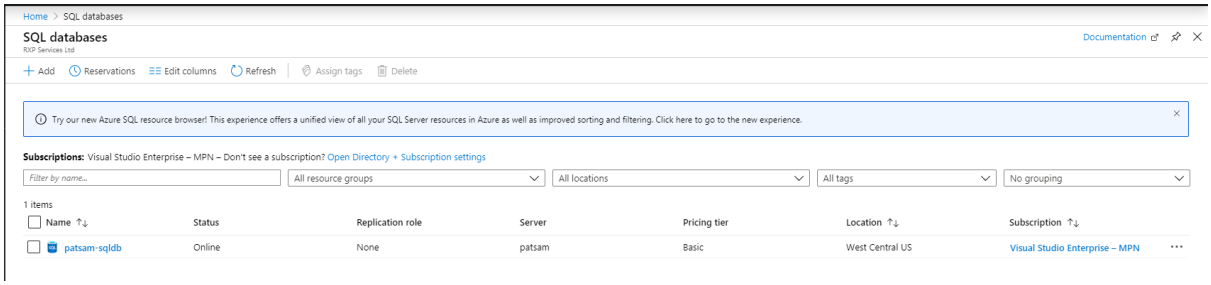
We are going to create new SQL Database and add a table called Employee. We will be having bellow structure for an employee.

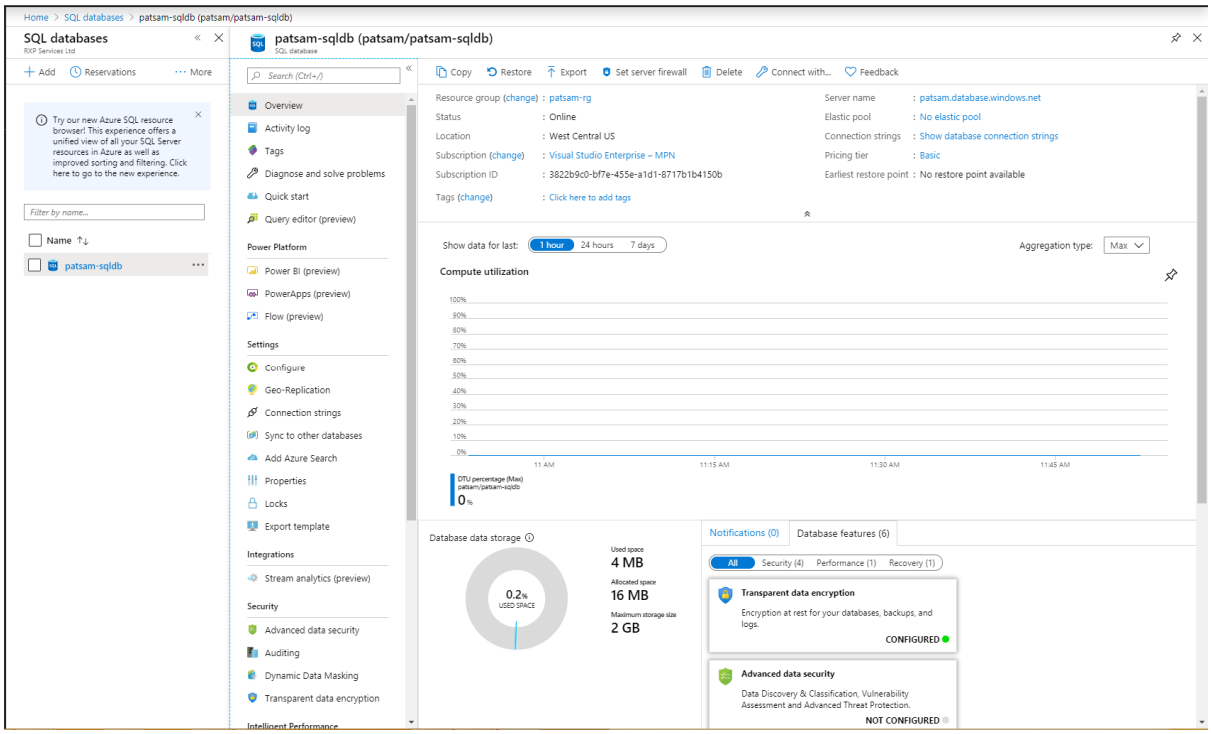
Column Name	Type
Name	String
Age	Int
DOB	Date
Manager	Bool

Create a SQL Database.

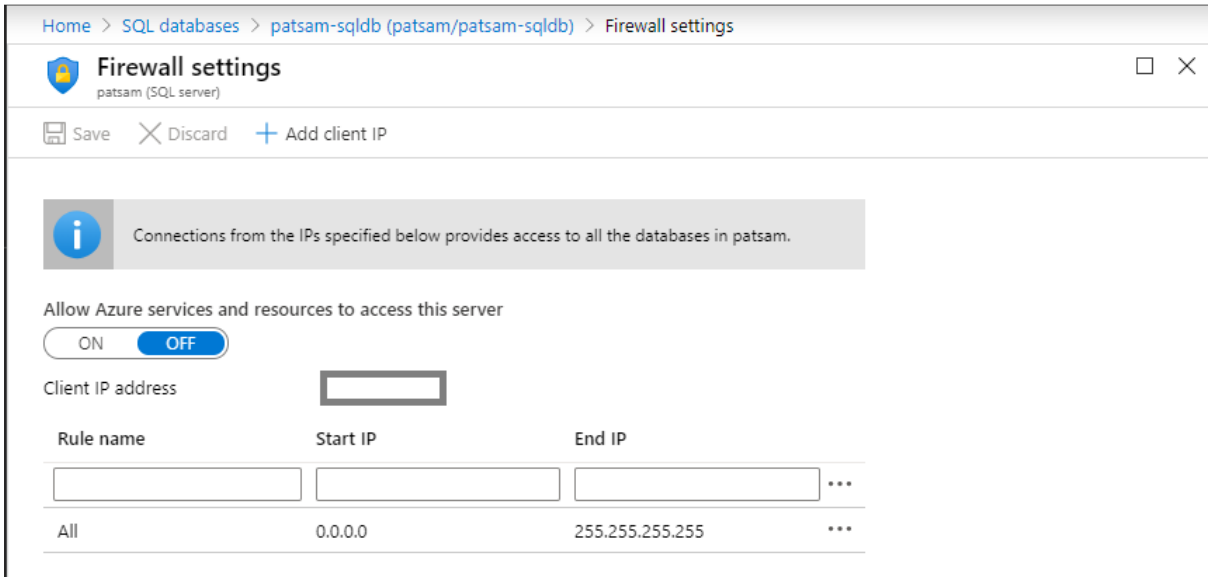
- Resource group: patsam-rg
- Database name: patsam-sqldb
- Server: patsam
- Region: Central US







Configure the Firewall settings to allow accessing it.



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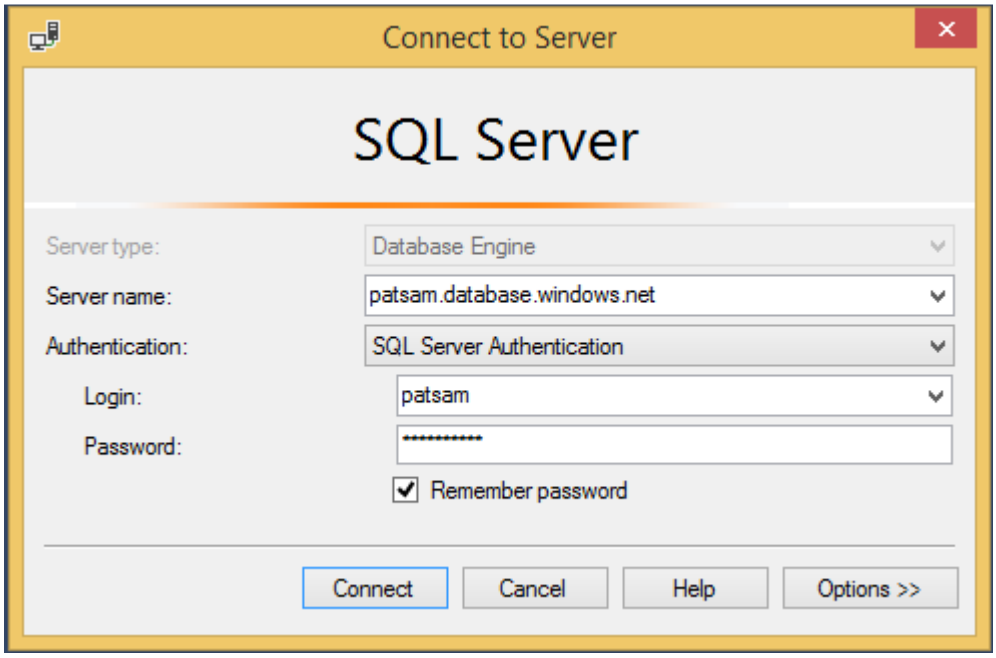
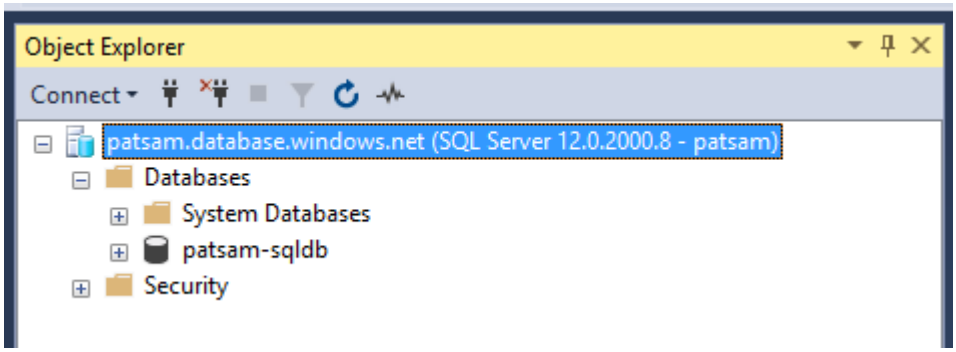
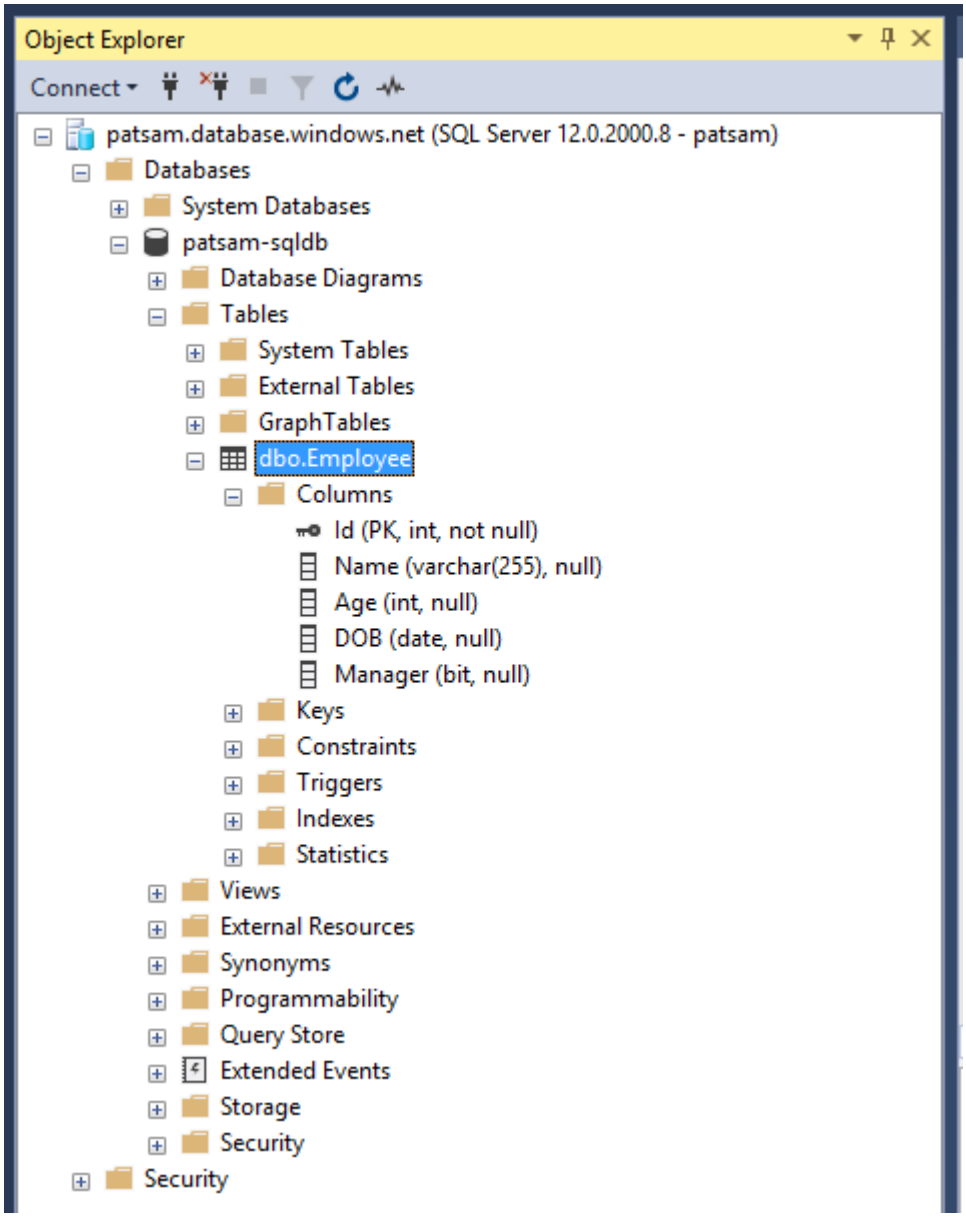
Connect to the Database through SQL Server Management Studio.





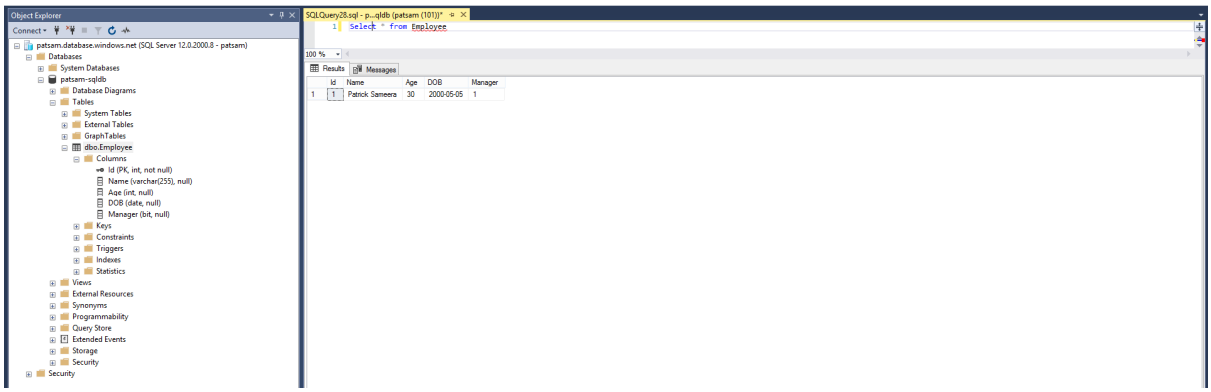
Next create a new table called Employee.

```
CREATE TABLE Employee (
    Id Int IDENTITY(1,1) PRIMARY KEY,
    Name Varchar(255),
    Age Int,
    DOB Date,
    Manager Bit
);
```



Insert some data to the table.

```
Insert Into Employee
Values ('Patrick Sameera', 30, '05/05/2000', 1)
```



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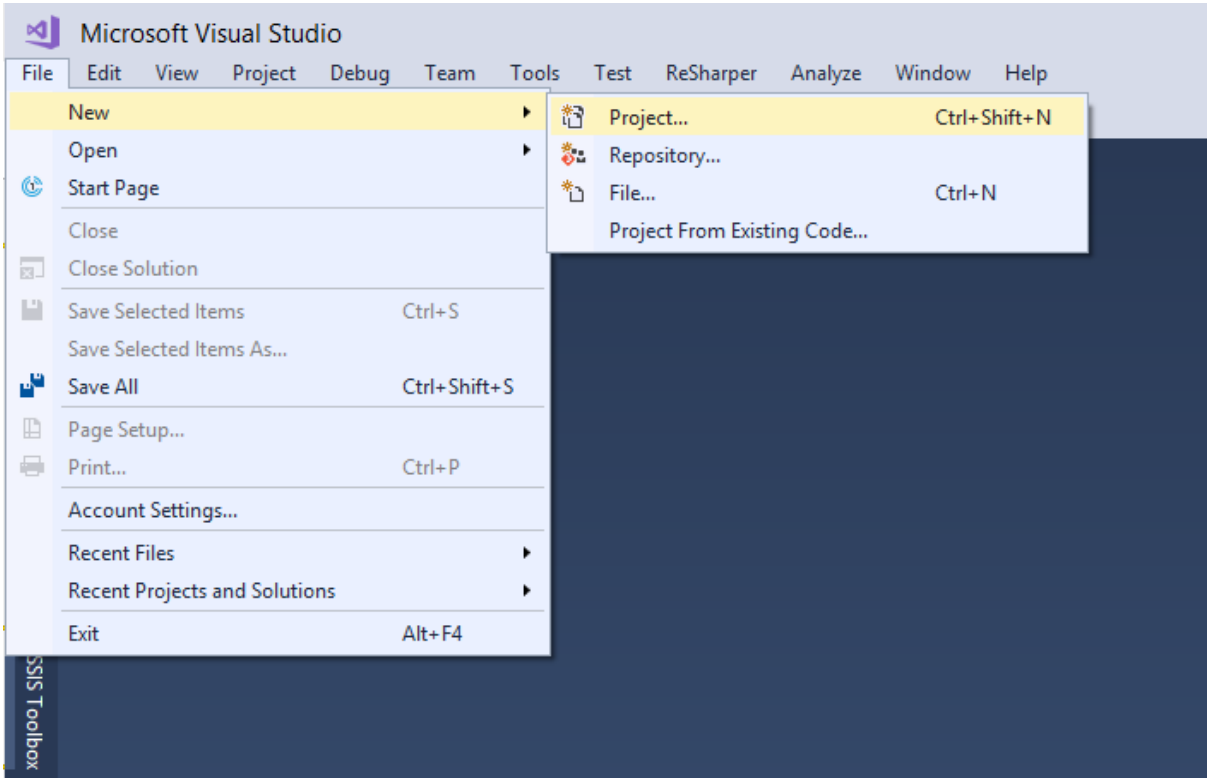
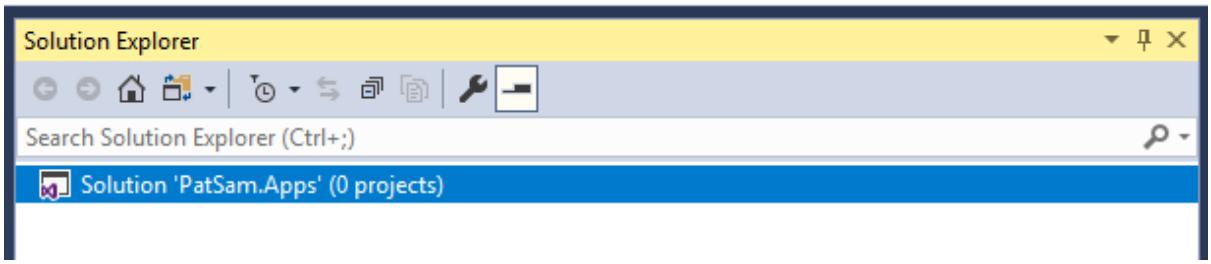
Step 02: Create a .Net Core Web API App and .Net Core Web App

First, we need to create an empty Project.





Under that we are going to create 3 projects.

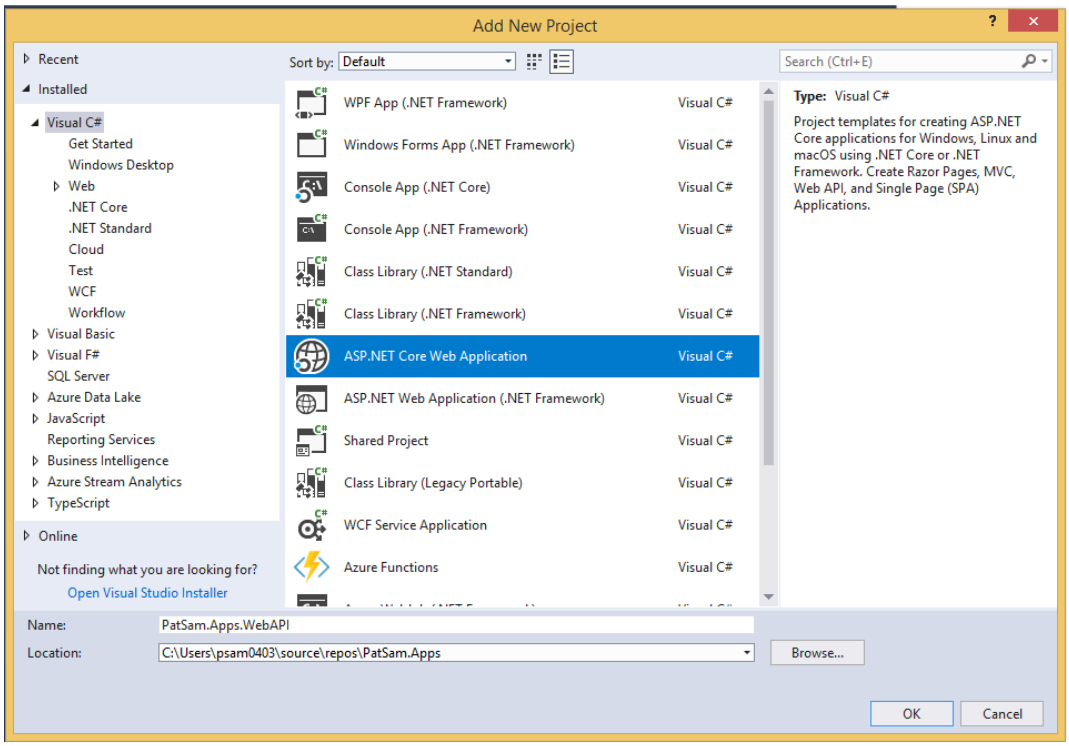
- API/PatSam.Apps.WebAPI
- Shared/PatSam.Apps.Data
- Web/PatSam.Apps.Web

Create 3 folders under that.

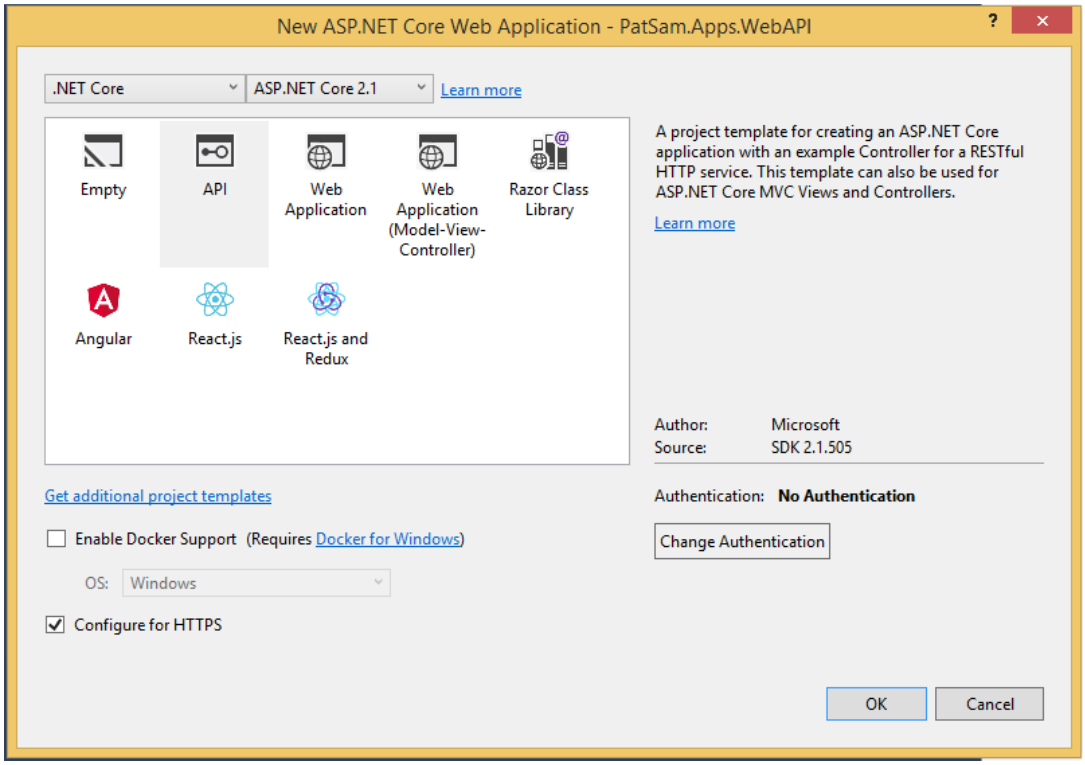
- API
- Shared
- Web

Under API folder create a ASP.NET Core Web Application.

- PatSam.Apps.WebAPI

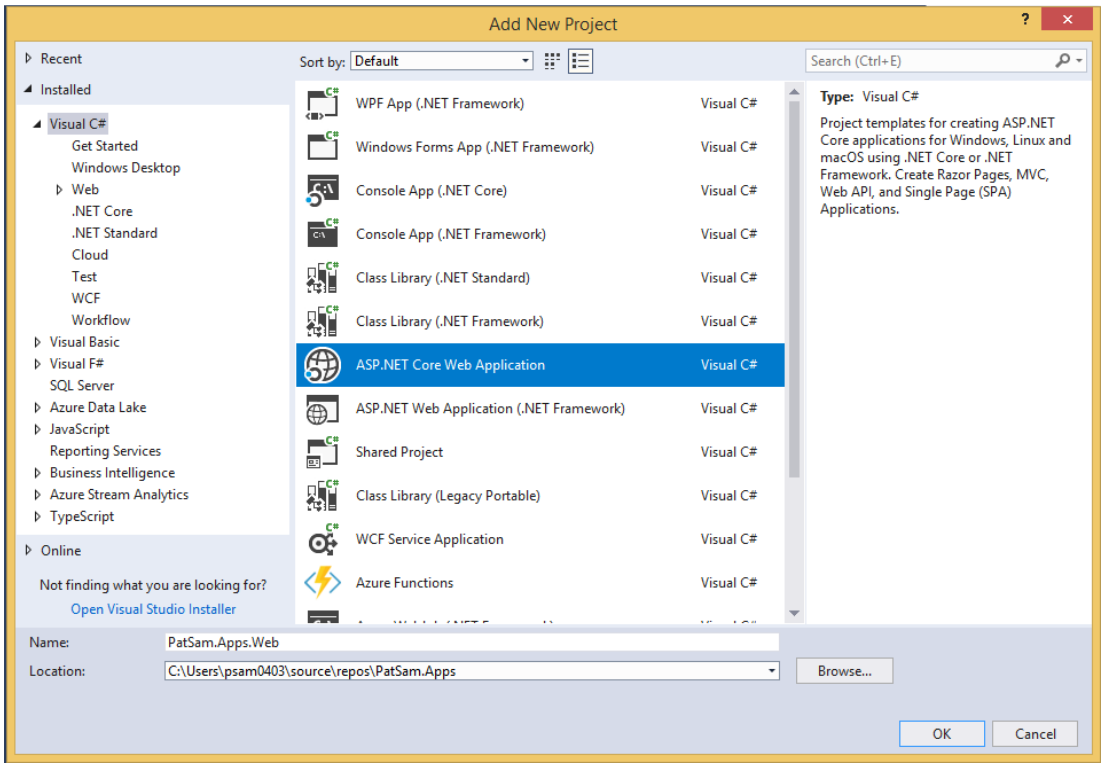


- ASP.NET Core 2.1
- API

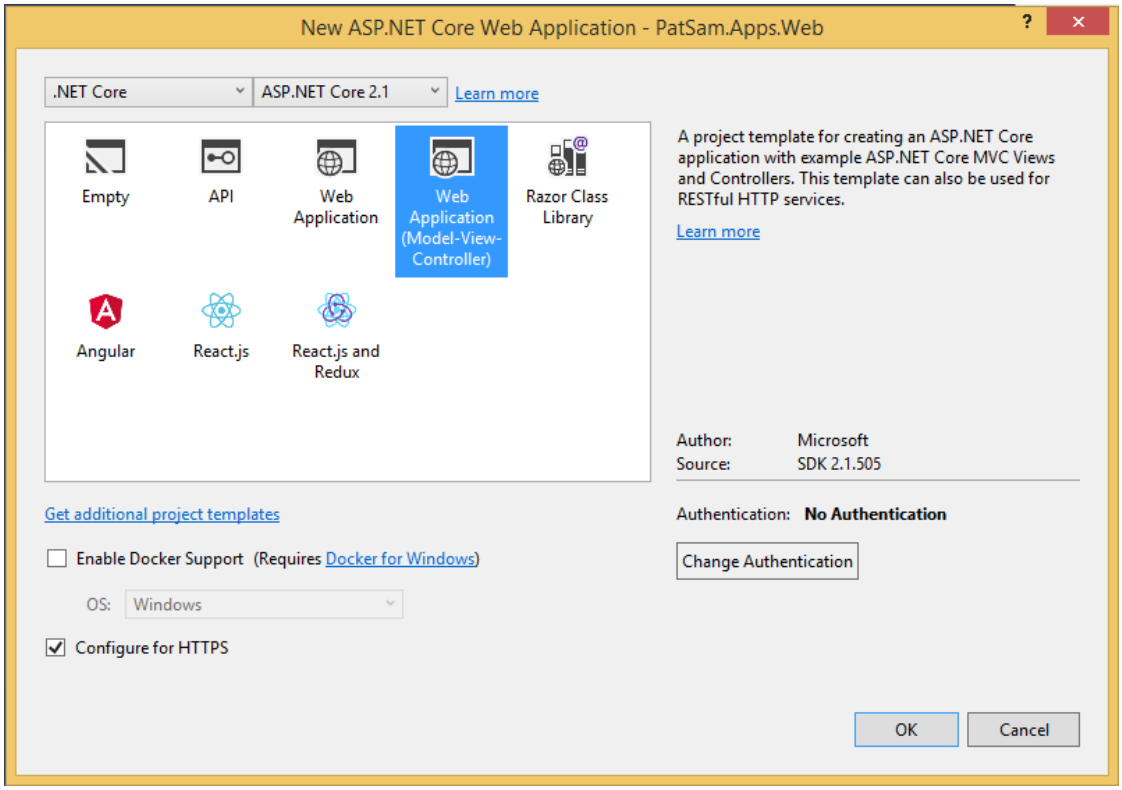


Under Web folder create a ASP.NET Core Web Application.

- PatSam.Apps.Data



- ASP.NET Core 2.1
- Web Application (MVC)



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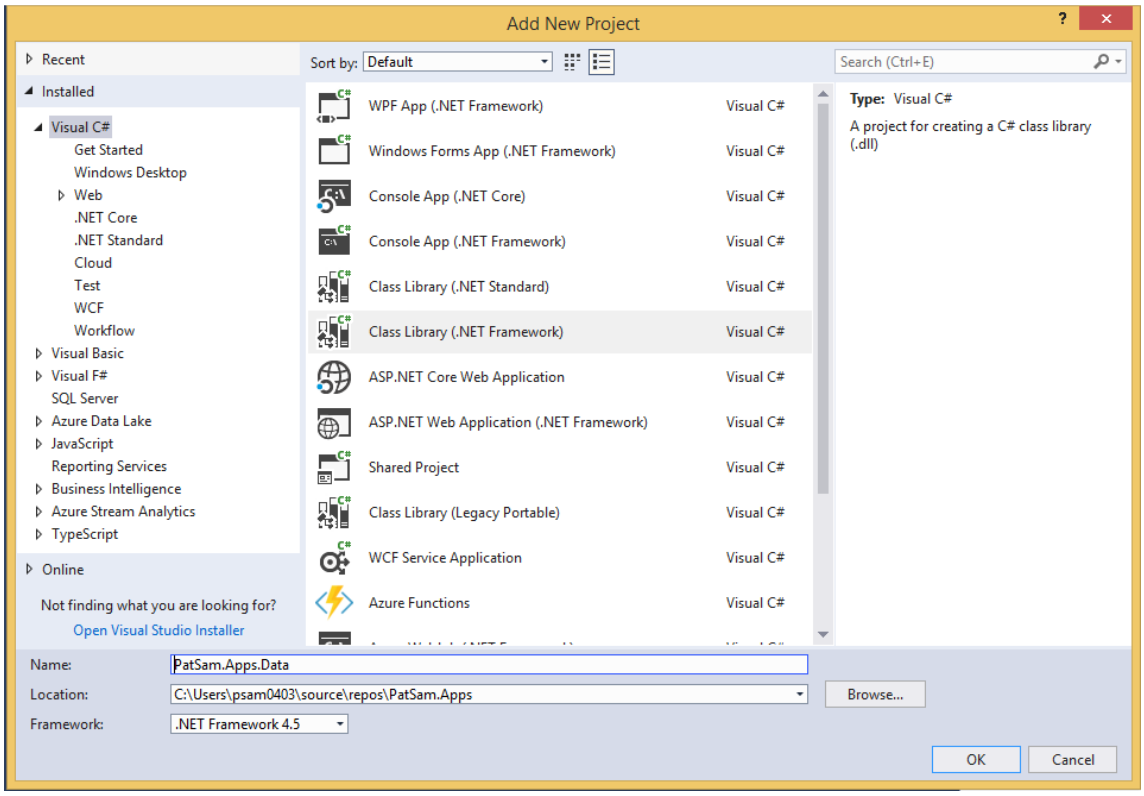
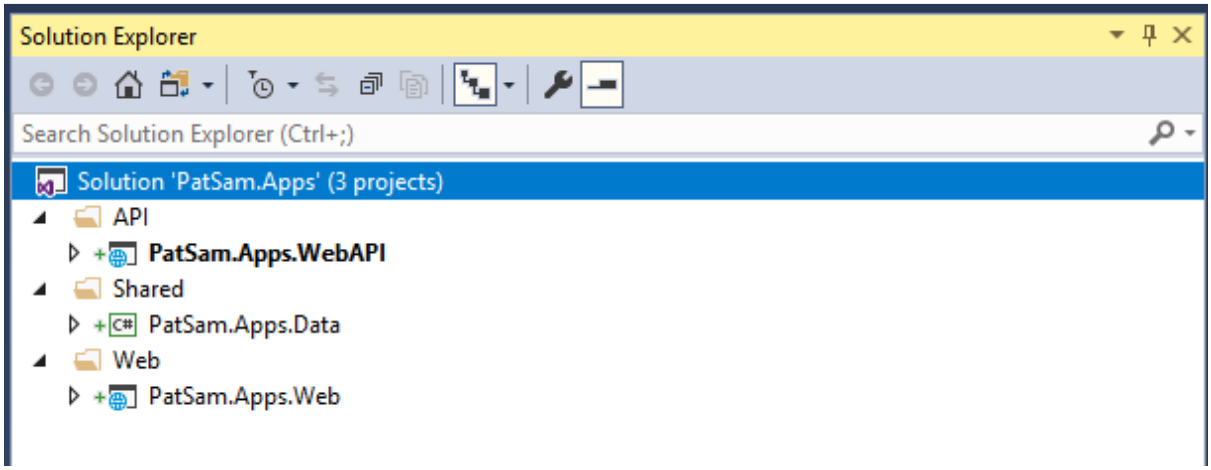
Under Shared folder create a .Net Class Library.

- PatSam.Apps.Data



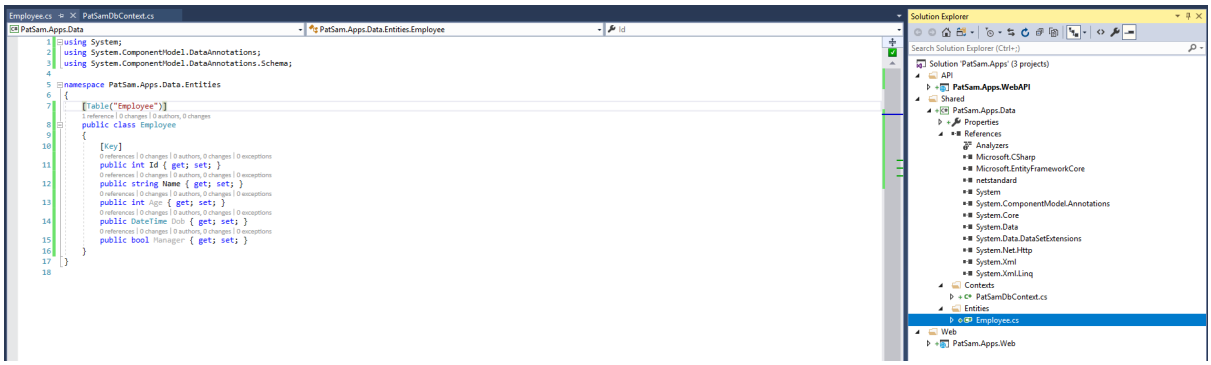
At the end we should have bellow structure.



PatSam.Apps.Data

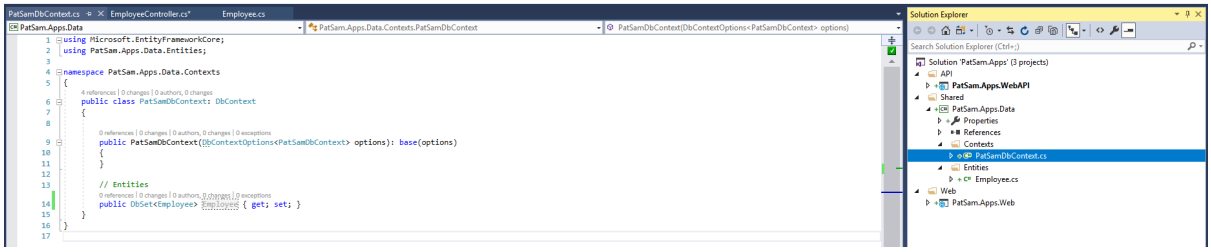
Under project Shared/PatSam.Apps.Data, create a folder called Entities and inside that create file called Employee.cs and add bellow code.

https://github.com/patricksameerajayalath/Net-Core-WebAPI/blob/master/PatSam.Apps.Data/Entities/Employee.cs



Under project Shared/PatSam.Apps.Data, create a folder called Contexts and inside that create file called PatSamDBContext.cs and add bellow code.

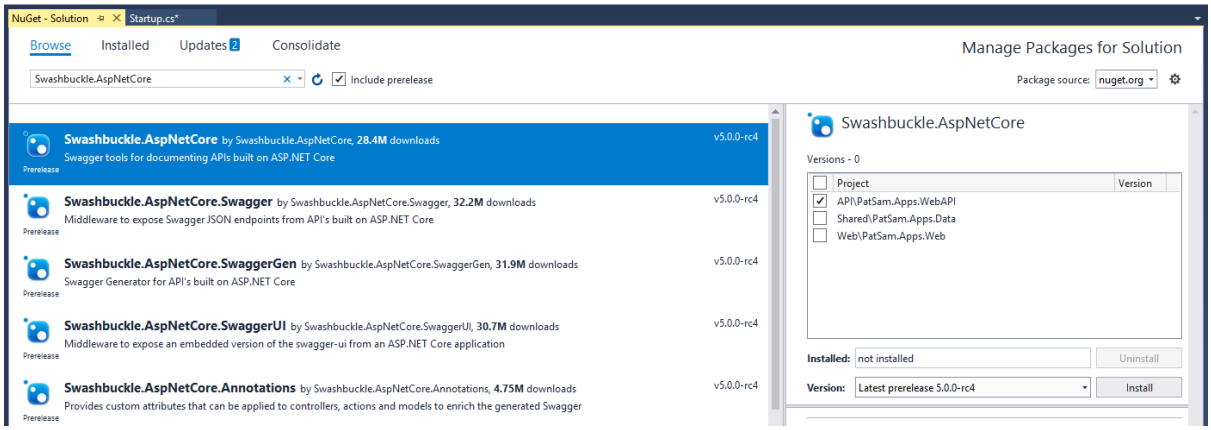
https://github.com/patricksameerajayalath/Net-Core-WebAPI/blob/master/PatSam.Apps.Data/Contexts/PatSamDbContext.cs



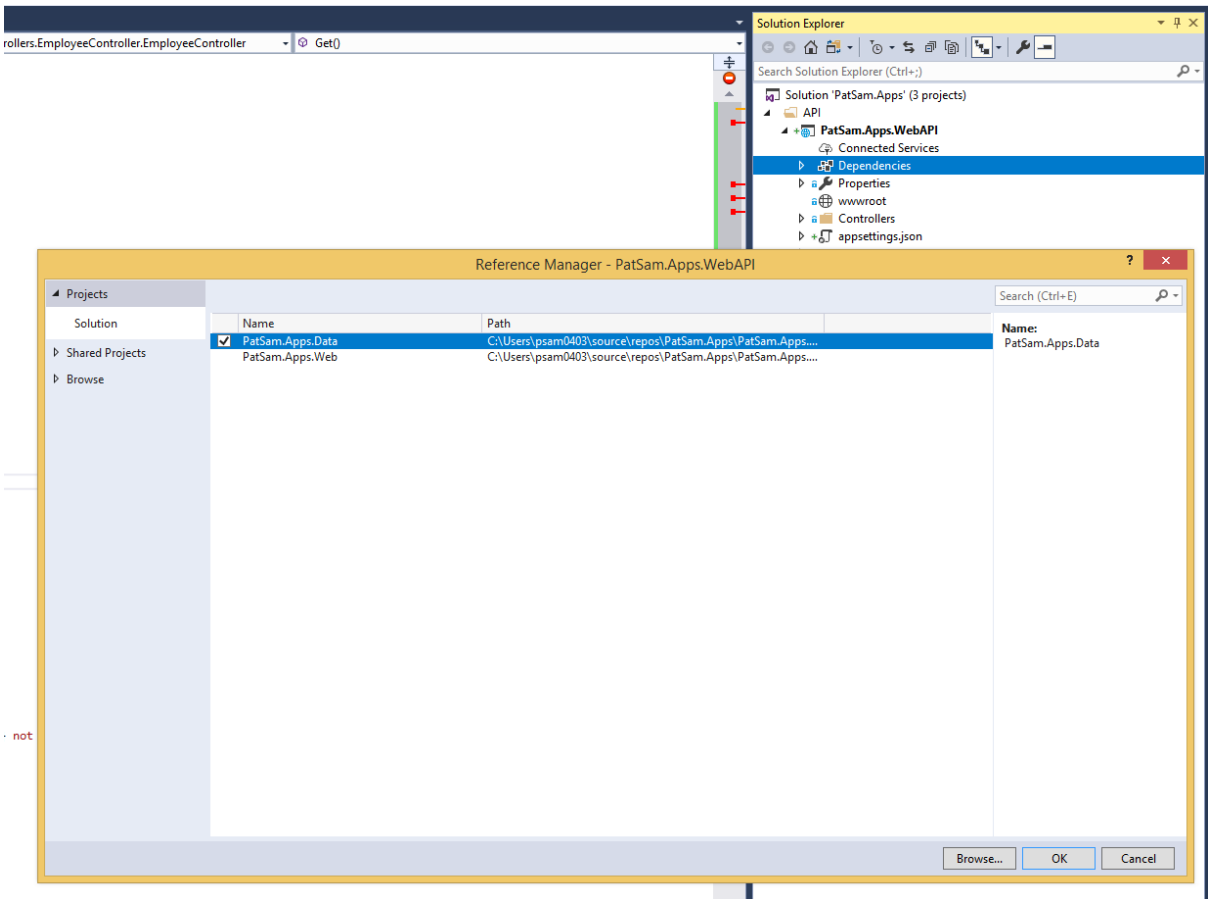
PatSam.Apps.WebAPI

Make sure to to install Swashbuckle.AspNeCore through NuGet on PatSam.Apps.WebAPI. This helps us to test out the Web API easyly through Swagger.

- Tick “Include prerelase ticked”
- Swashbuckle.AspNetCore -Version 5.0.0-rc4



Then add the PatSam.Apps.Data DLL reference to the PatSam.Apps.WebAPI project.



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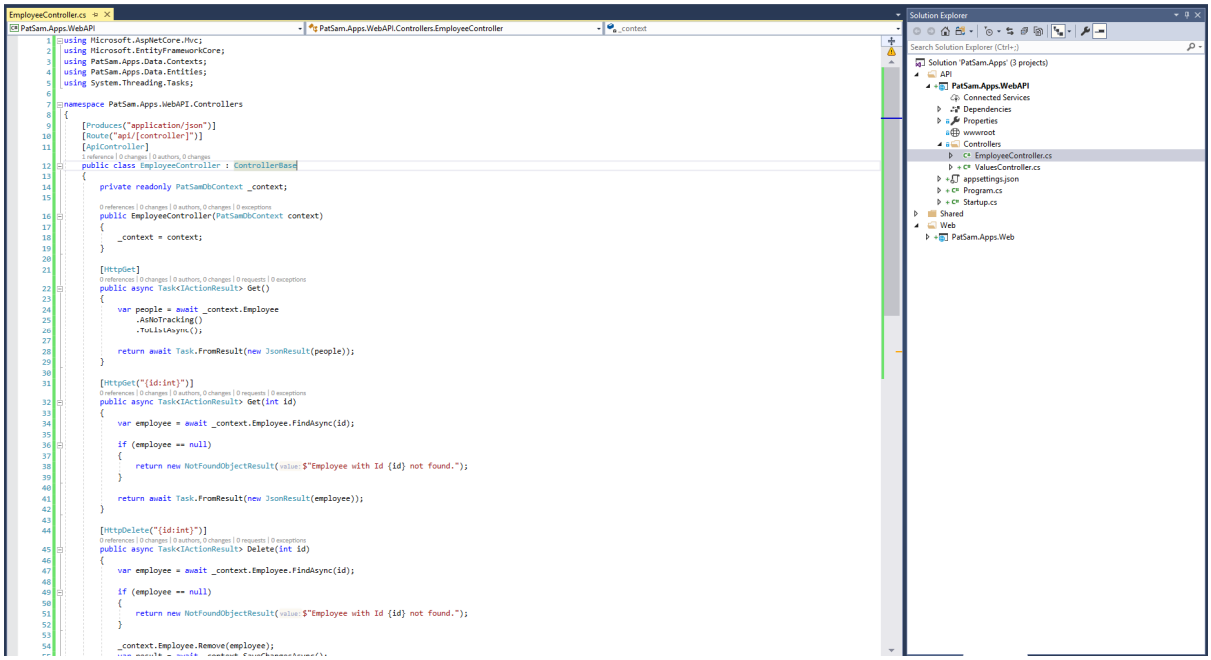
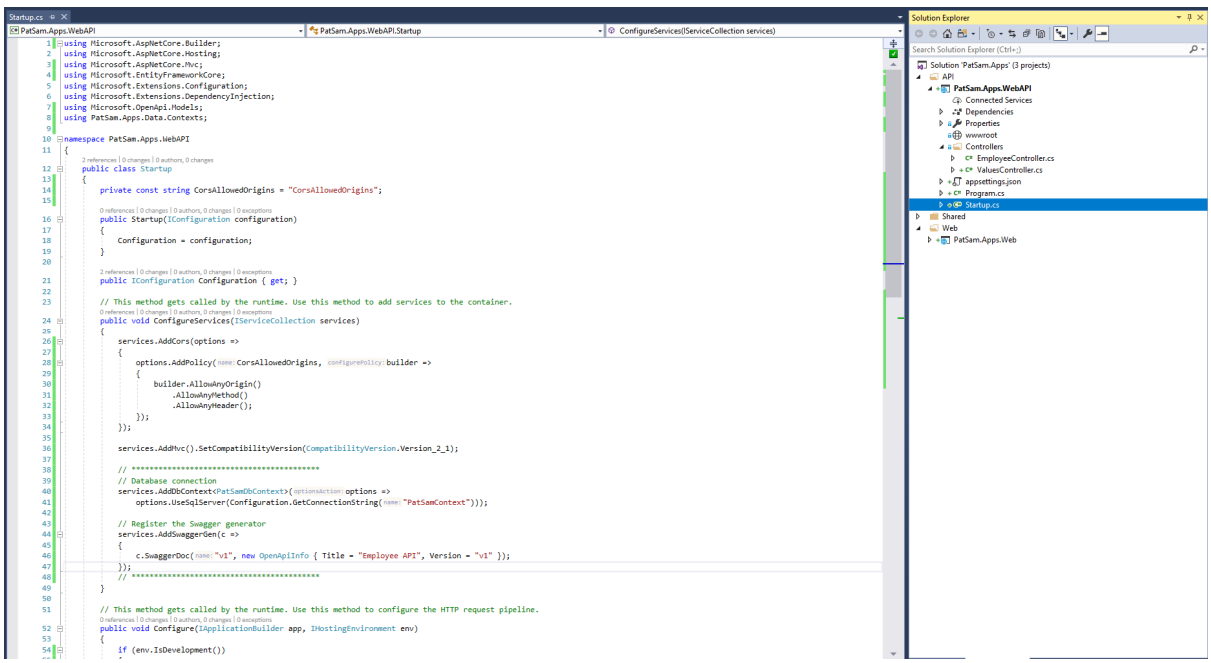
Under project Shared/PatSam.Apps.WebAPI, under the folder Controllers and create file called EmployeeController.cs and add bellow code.

https://github.com/patricksameerajayalath/Net-Core-WebAPI/blob/master/PatSam.Apps.WebAPI/Controllers/EmployeeController.cs



Do bellow changes in Startup.cs

https://github.com/patricksameerajayalath/Net-Core-WebAPI/blob/master/PatSam.Apps.WebAPI/Startup.cs



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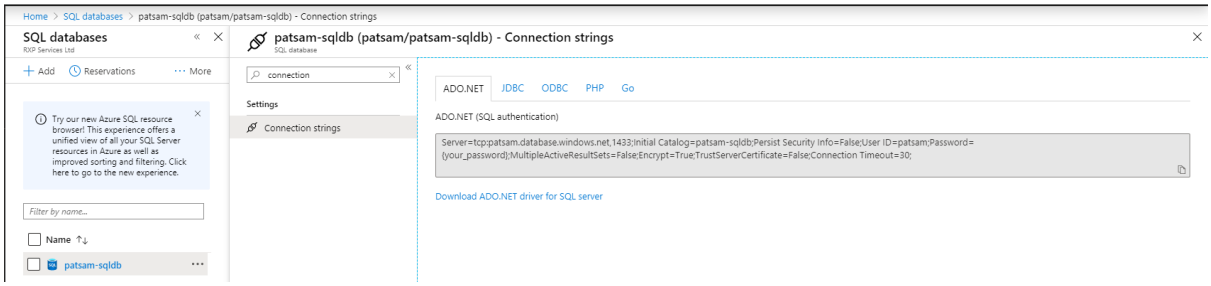
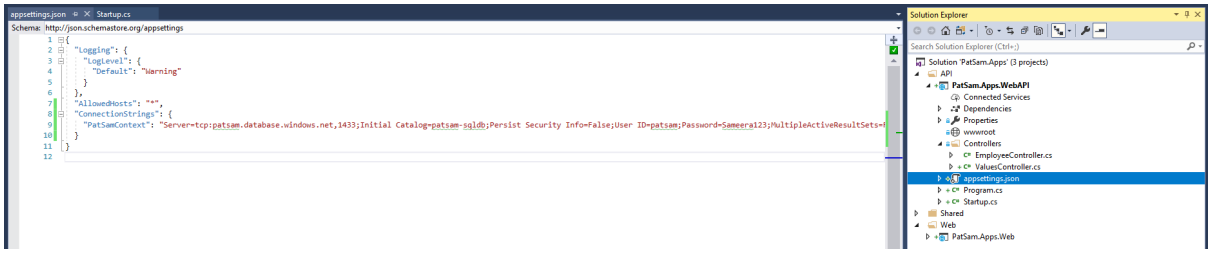
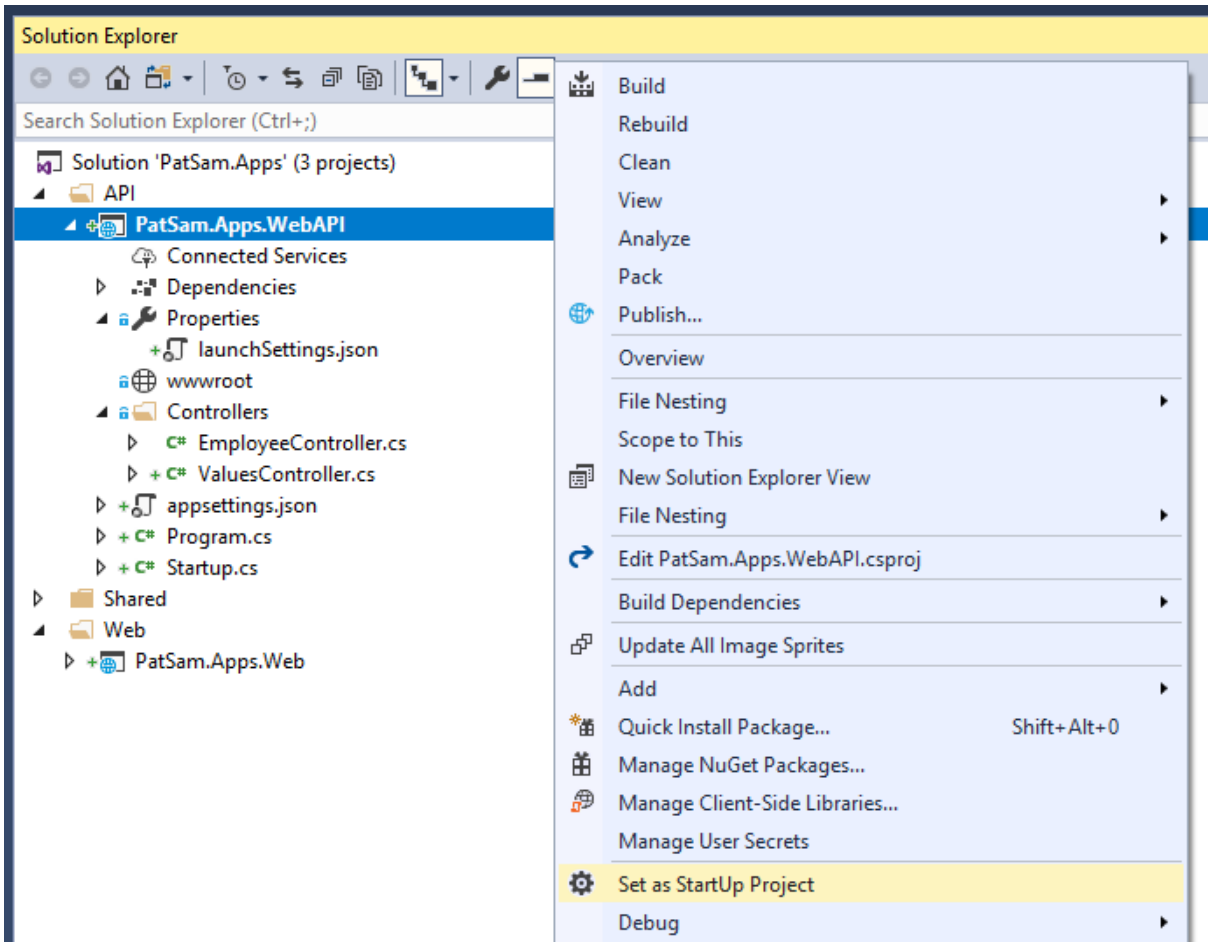
Add the Database connection string to the appsettings.json file.

https://github.com/patricksameerajayalath/Net-Core-WebAPI/blob/master/PatSam.Apps.WebAPI/appsettings.json





Clean build the solution and set PatSam.Apps.WebAPI – Set as Startup Project and run it.



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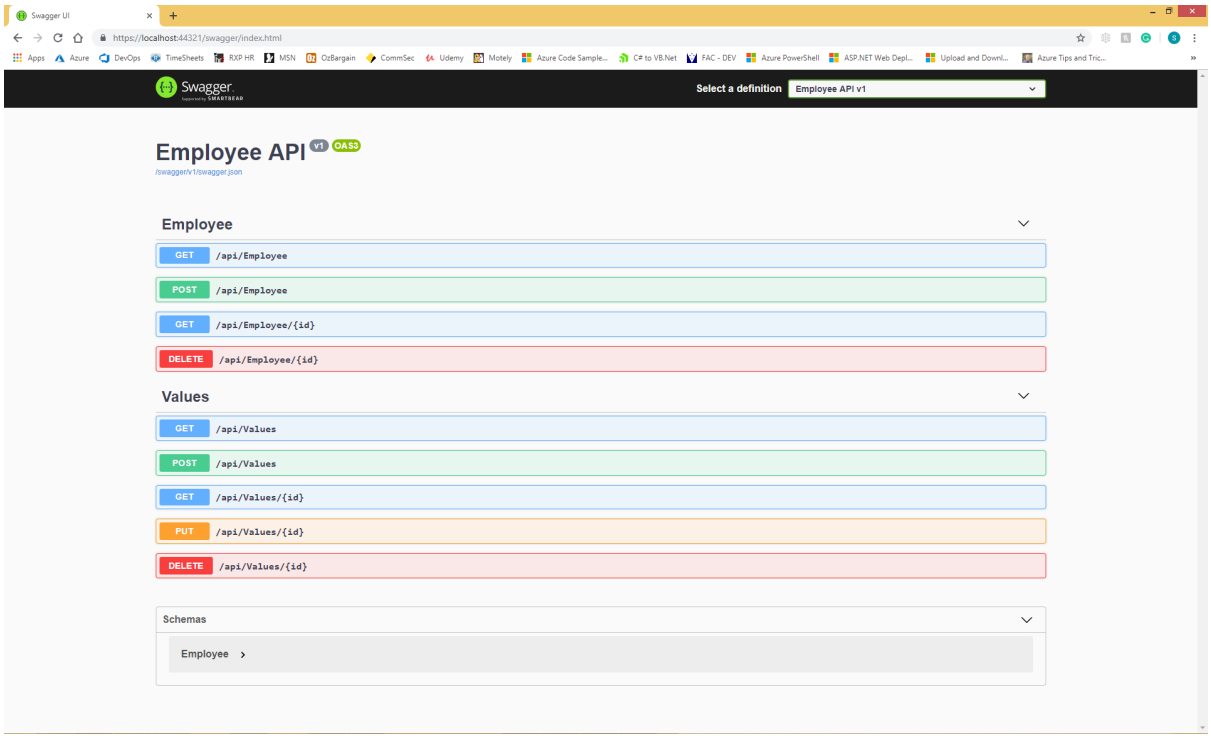
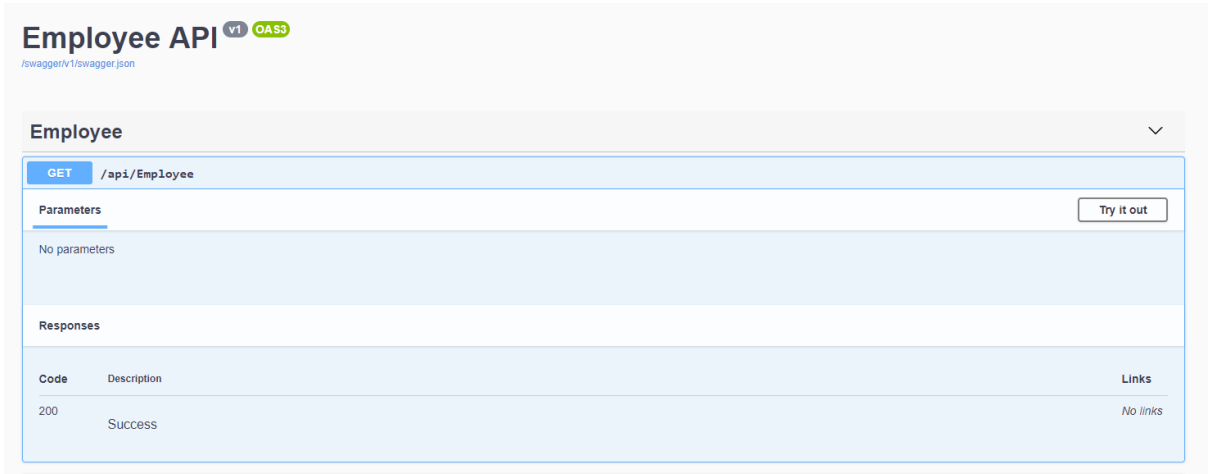
Browse bellow URL:

https://localhost:44321/swagger/index.html



Click on GET /api/Employee and click on Try it out.



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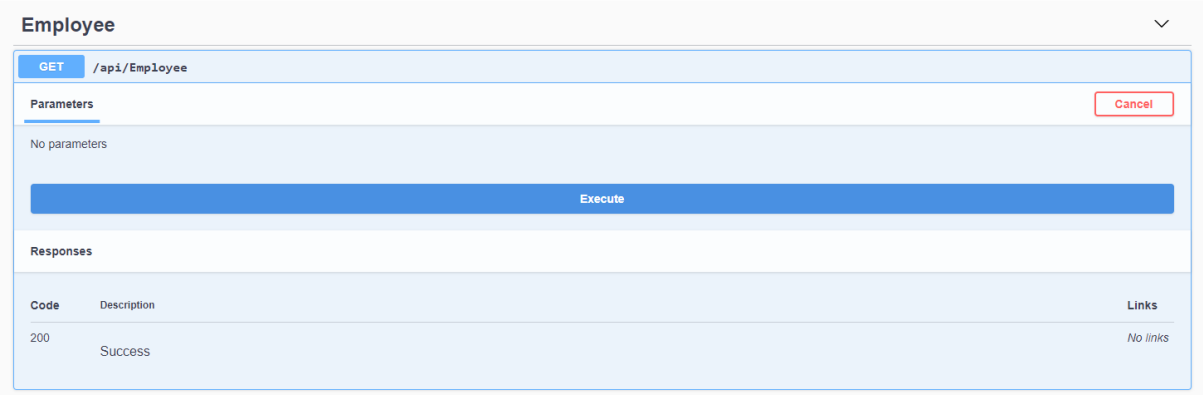
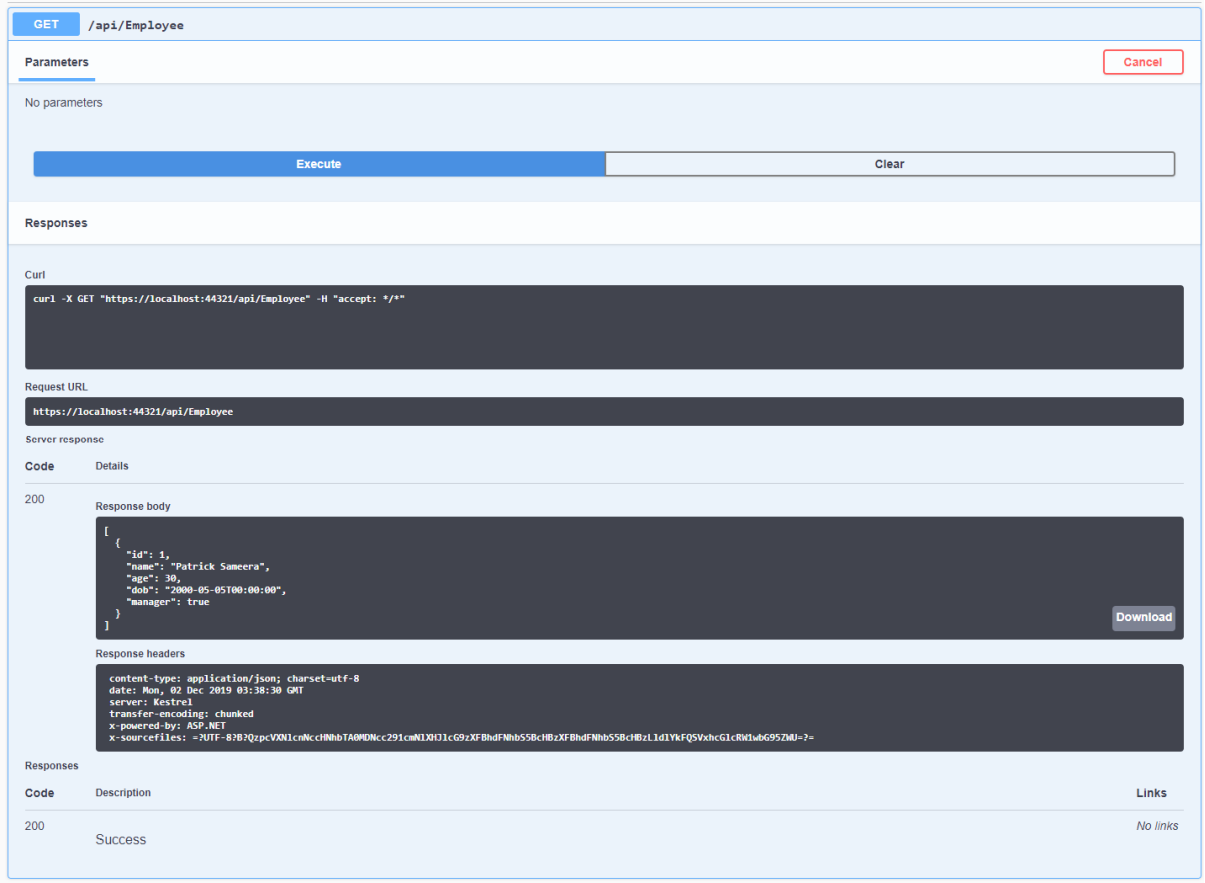
Click on Execute.



It will call the service.



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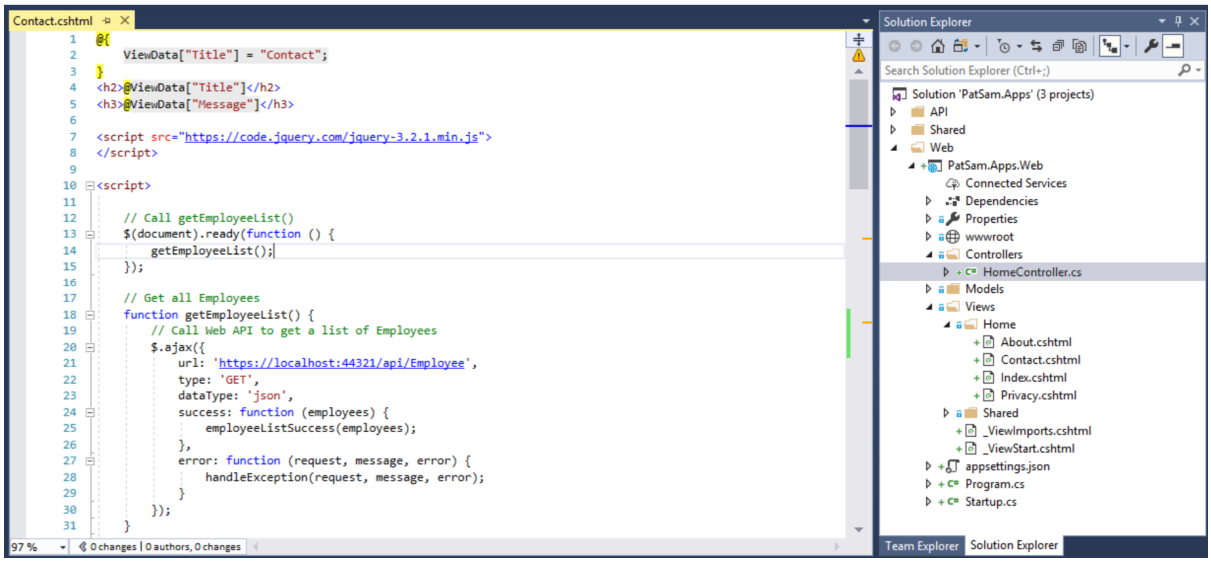
PatSam.Apps.Web

We will be using jQuery AJAX Http Calls to call the Web API and bind data to the page.

We are going to retrive the data from the Web API and display the data in Contact.cshtml page. Copy bellow code in to Contact.cshtml page.

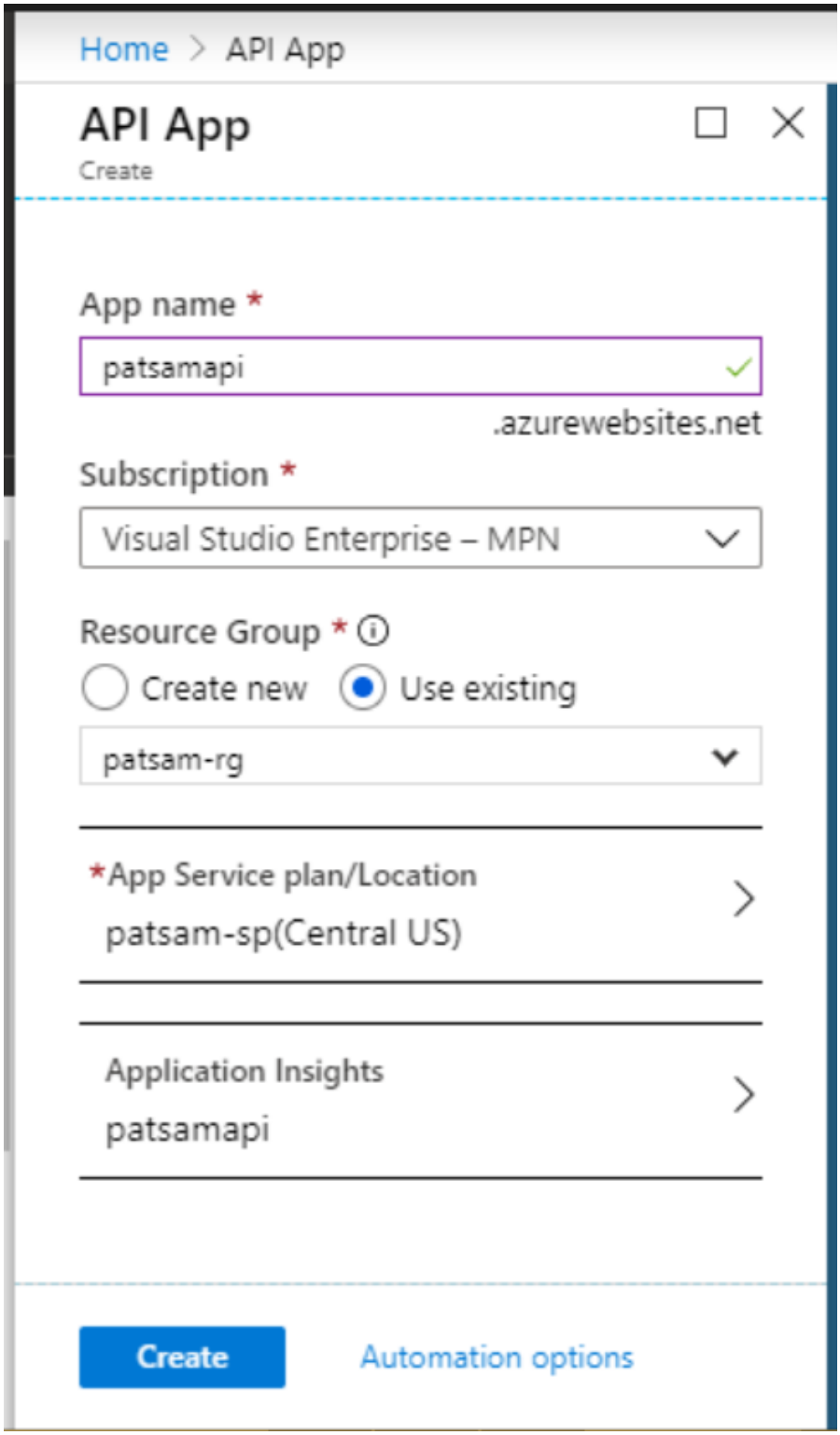
https://github.com/patricksameerajayalath/Net-Core-WebAPI/blob/master/PatSam.Apps.Web/Views/Home/Contact.cshtml



Step 03: Deploy Web API to Azure

Create API App.

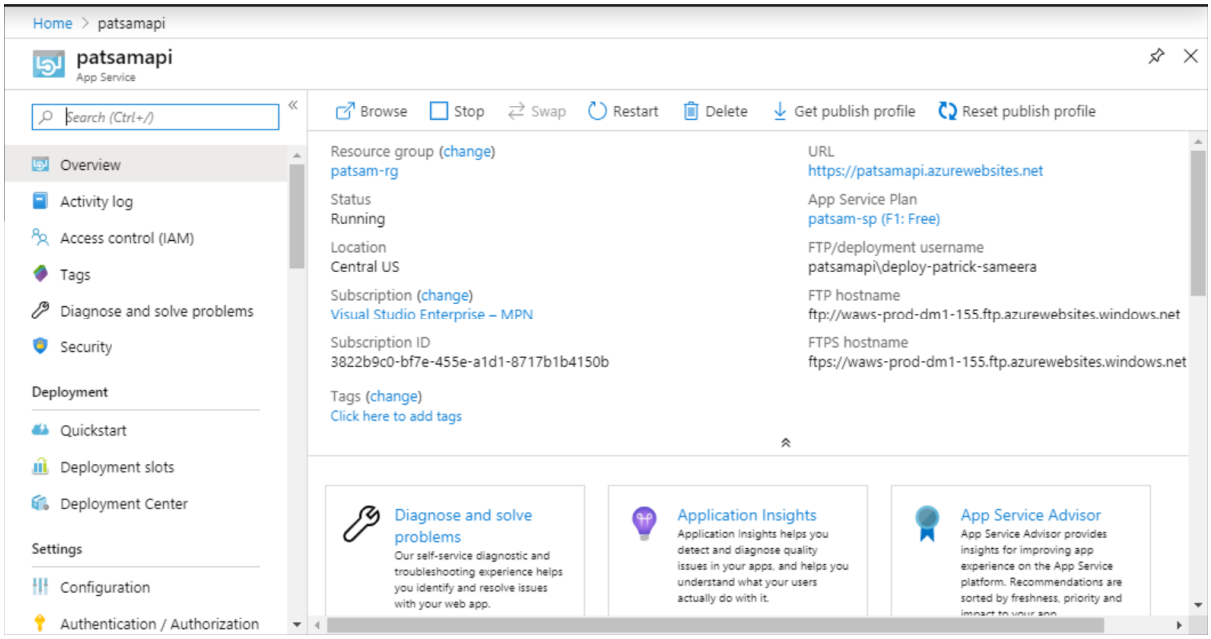
- Reaource group: patsam-rg (exisiting)
- App service plan: patsam-sp (exisiting)



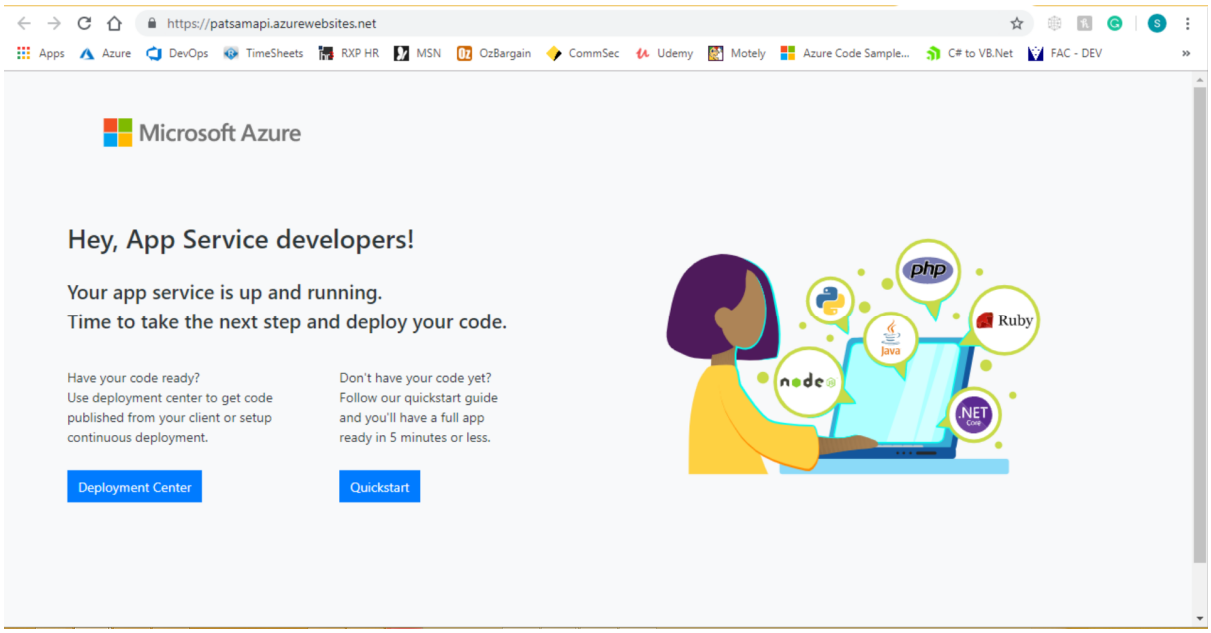
Once the API App got created sucessfully go inside the resource.

Click Browse to API App.

https://patsamapi.azurewebsites.net



Make sure it works properly.



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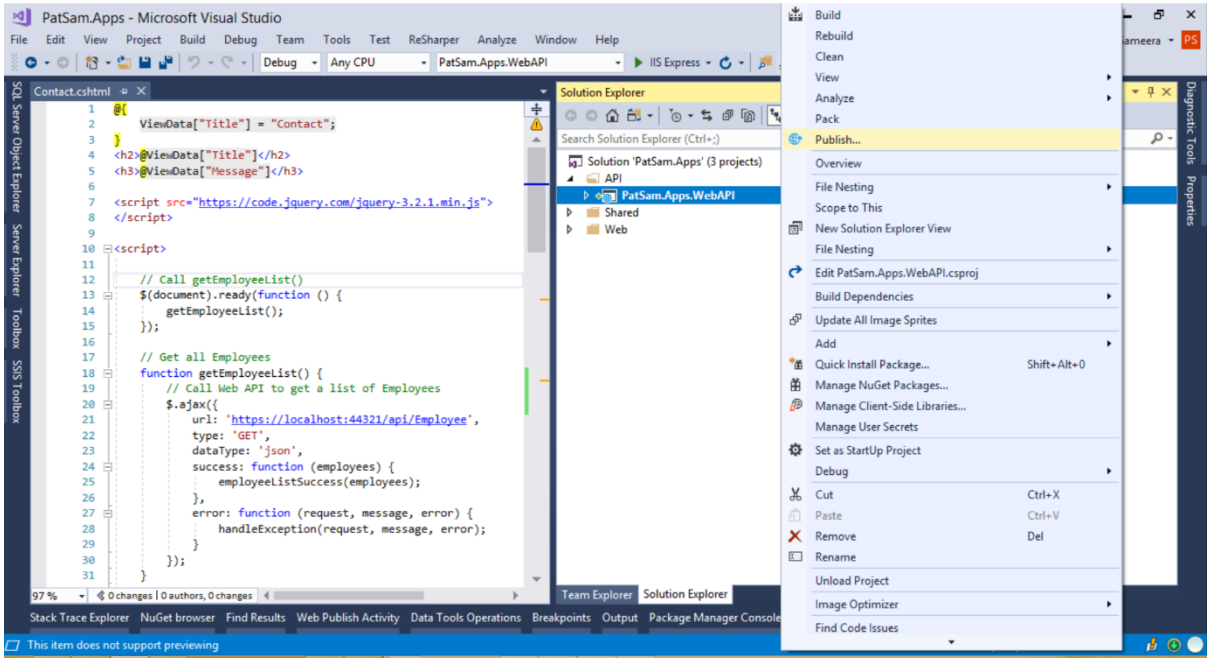
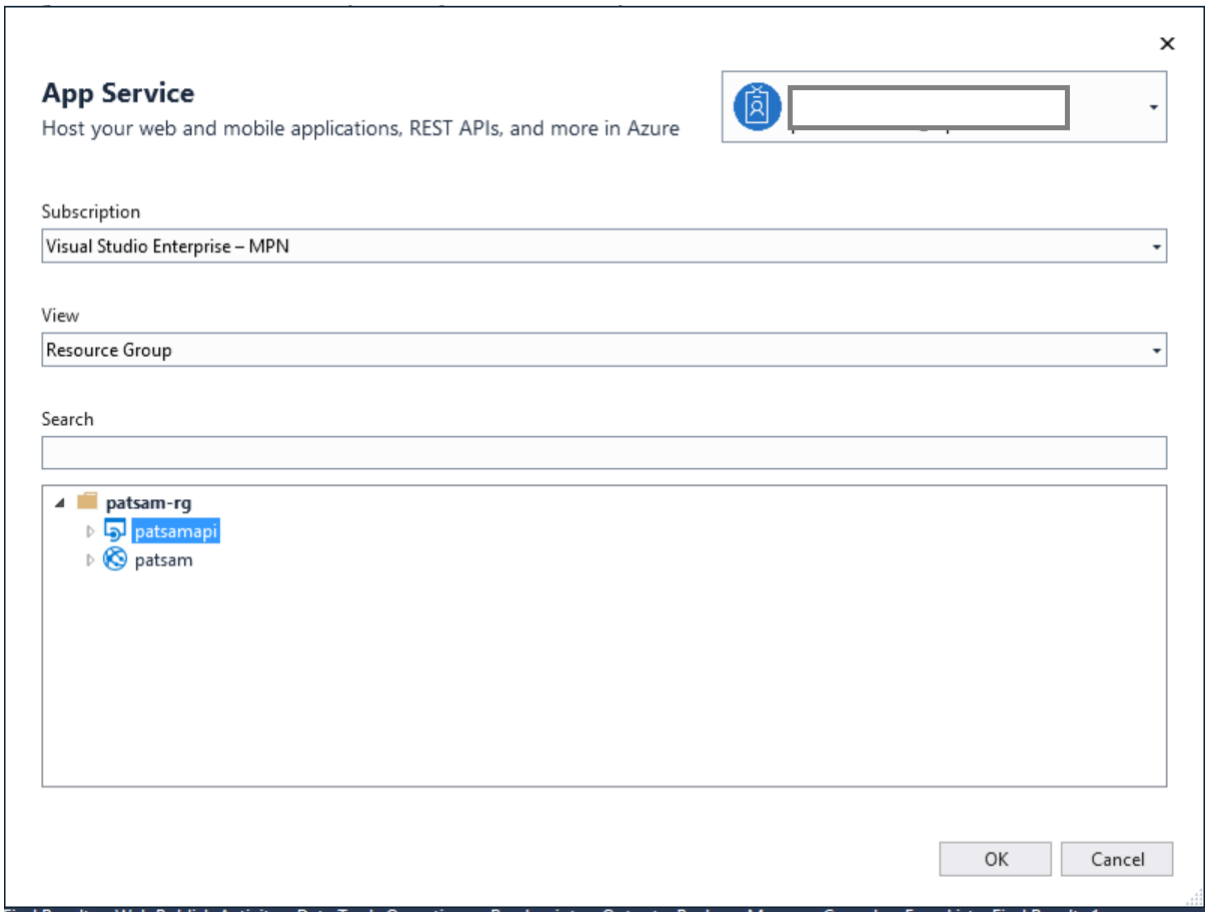
Next publish the Web API to the newly created API App.

- PatSam.App.WebAPI



Select the API App we created earlier.



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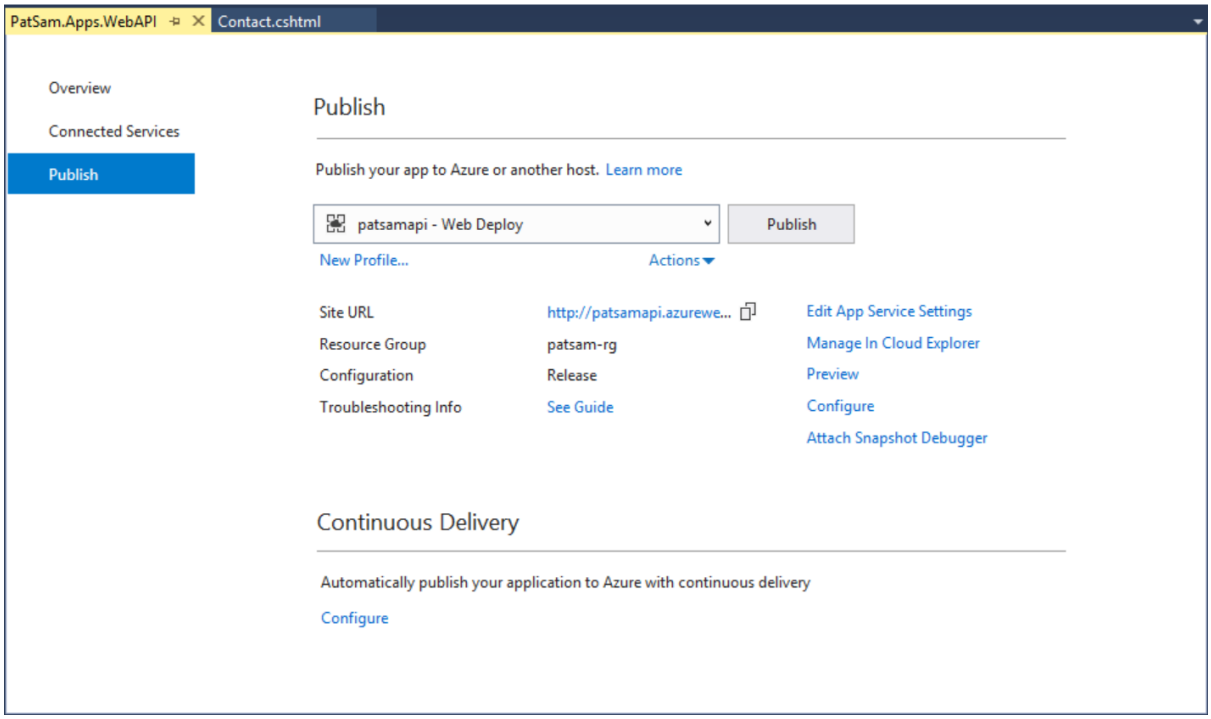
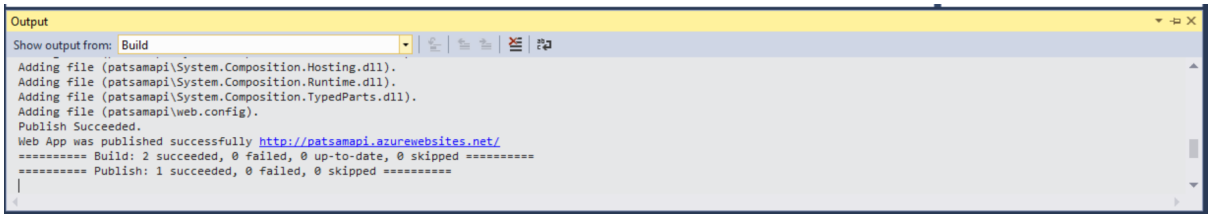
Once the profile been set publish it.

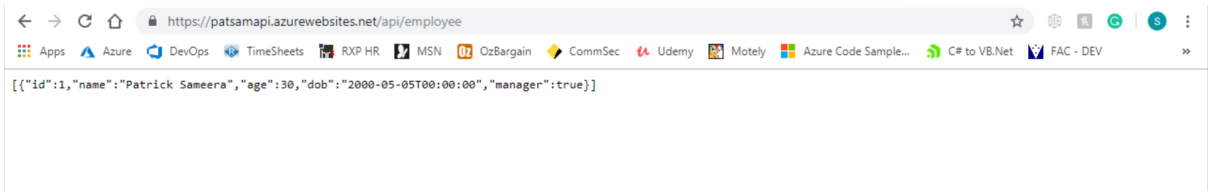


Make sure it gets published sucessfully.



Make sure the Web API works fine after the publish.

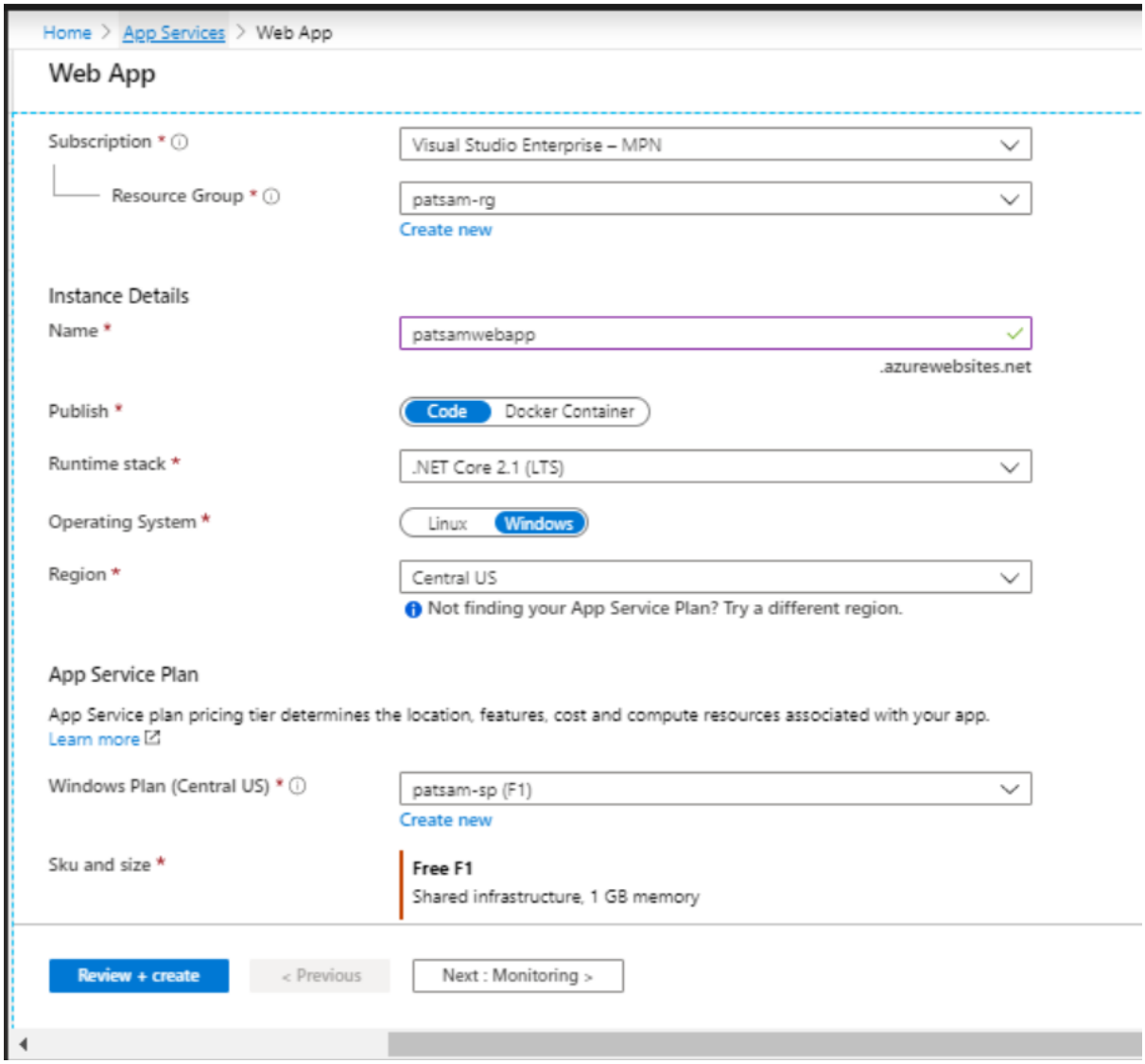
https://patsamapi.azurewebsites.net/api/employee



Step 04: Deploy Web App to Azure

Create Web App.

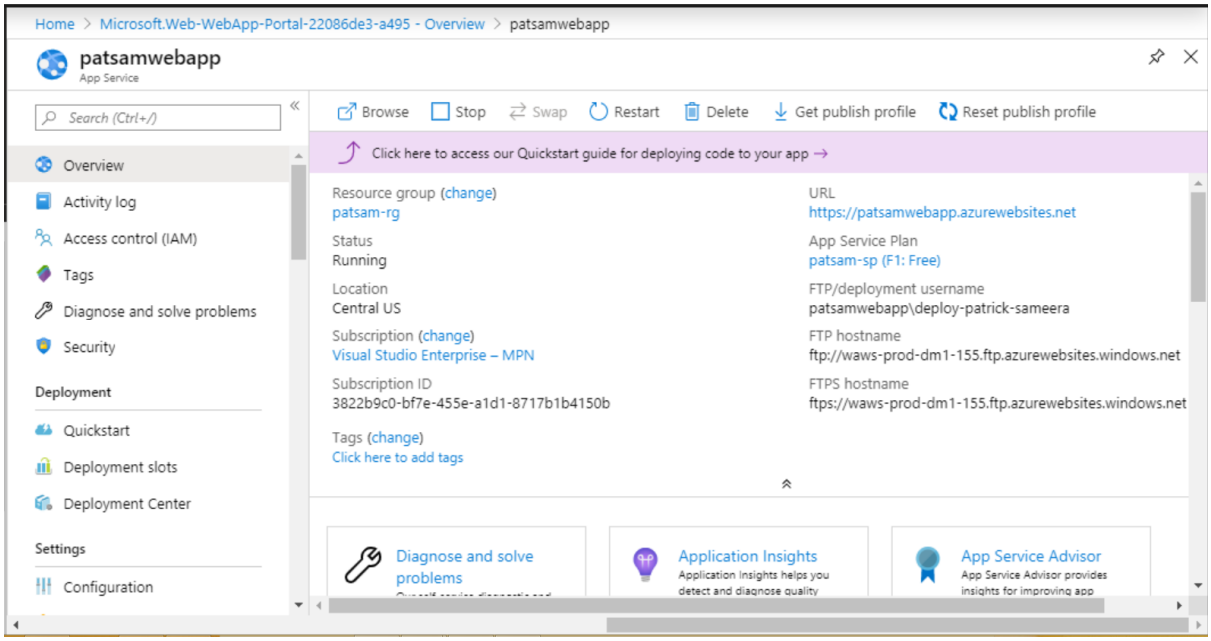
- Reaource group: patsam-rg (exisiting)
- App service plan: patsam-sp (exisiting)
- .Net Core 2.1

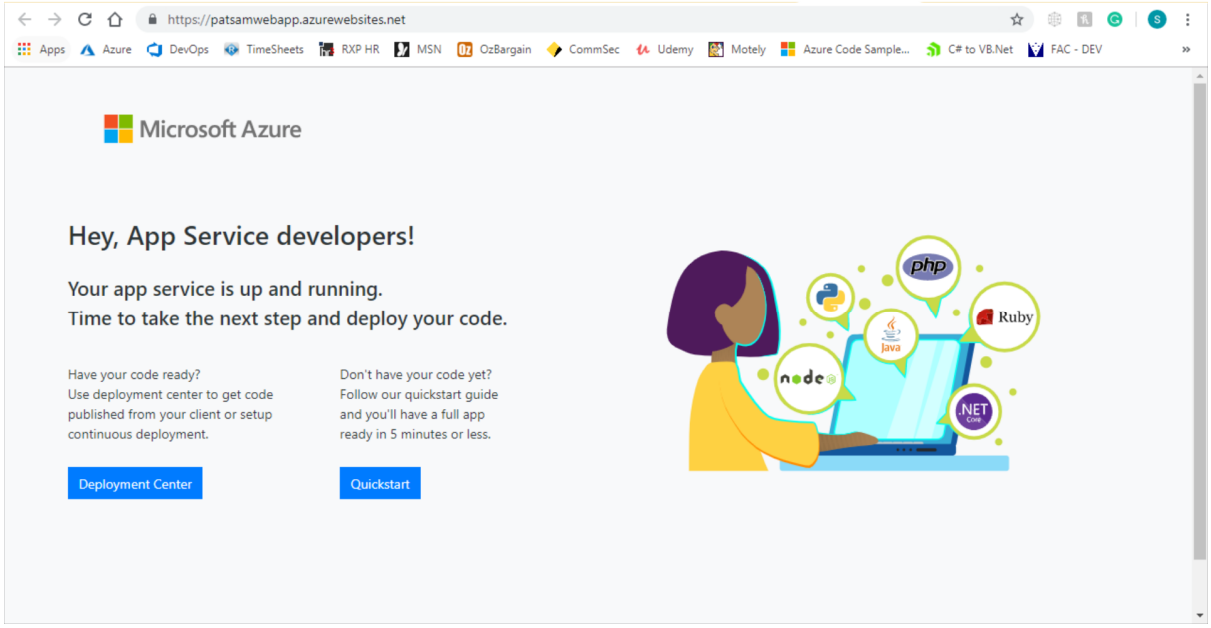


Once the Web App got created sucessfully go inside the resource.

Click Browse to Web App.

https://patsamwebapp.azurewebsites.net/



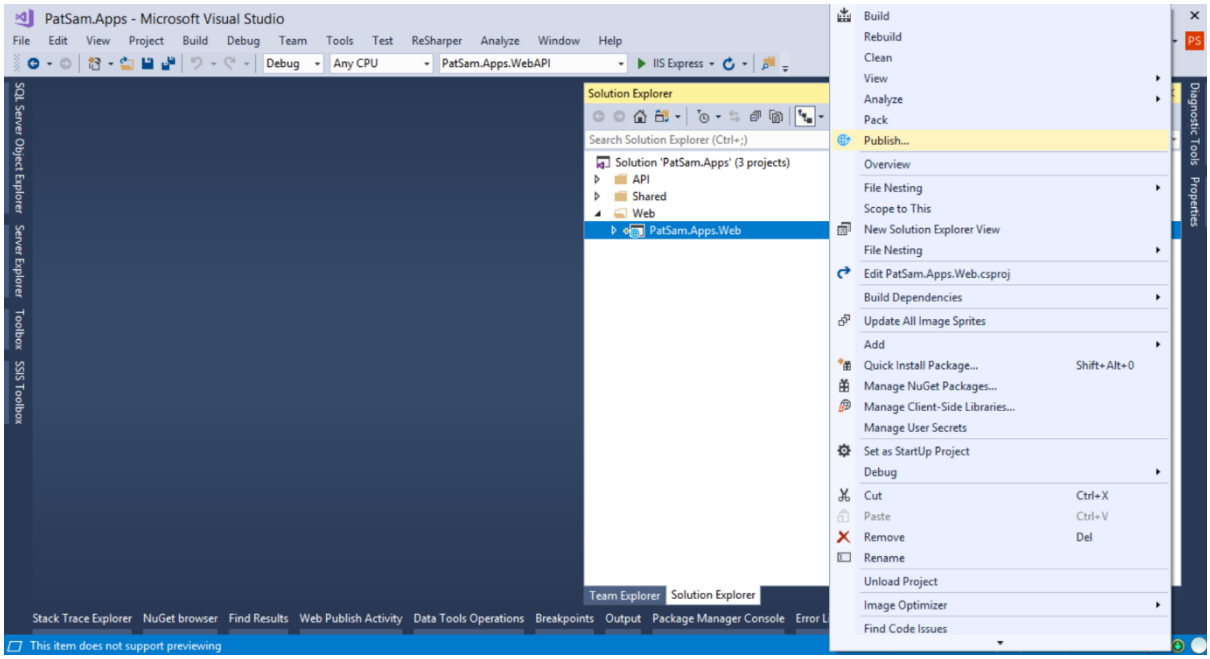


Before the publish next we need change the Web API URL on the Contact.cshtml page.

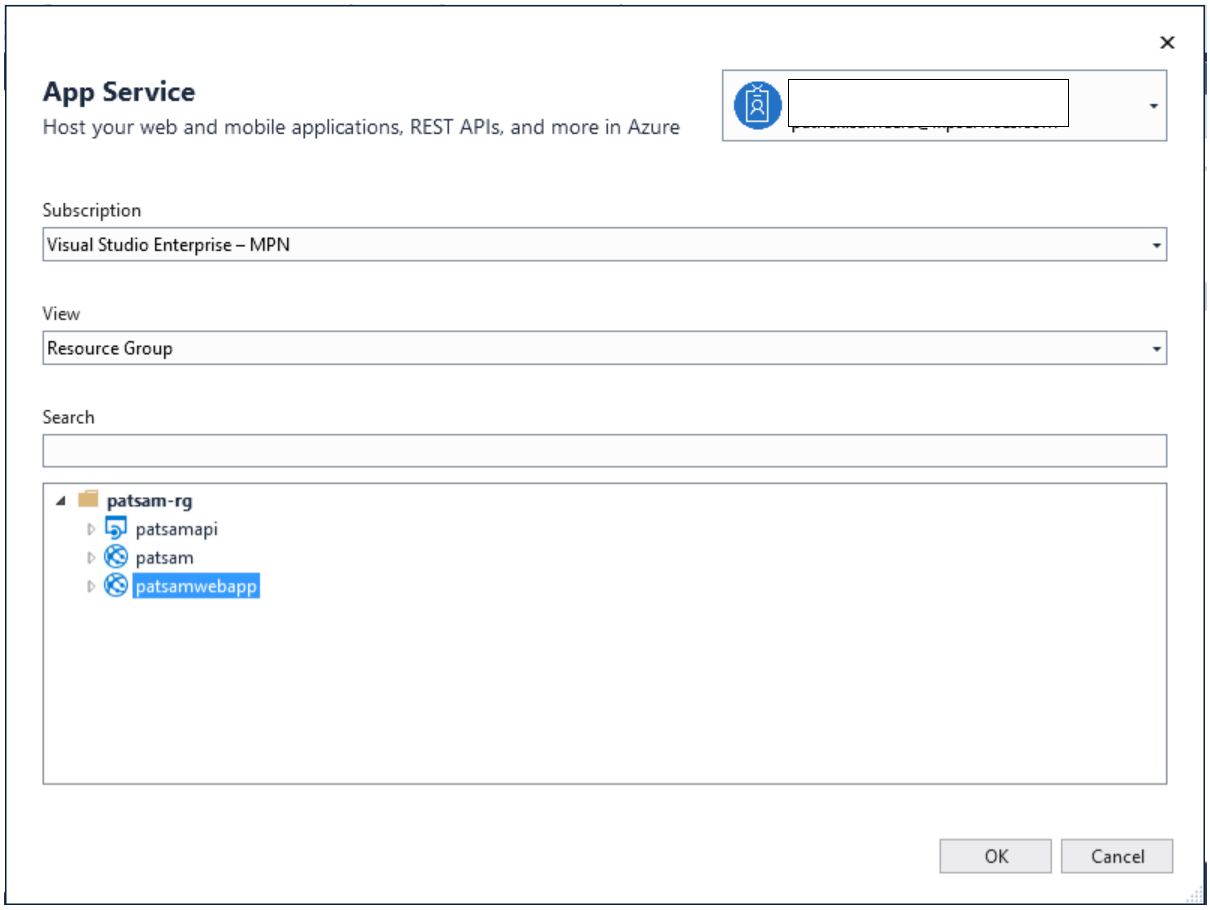
https://patsamapi.azurewebsites.net/api/employee

Next publish the web app to the newly created Web App.

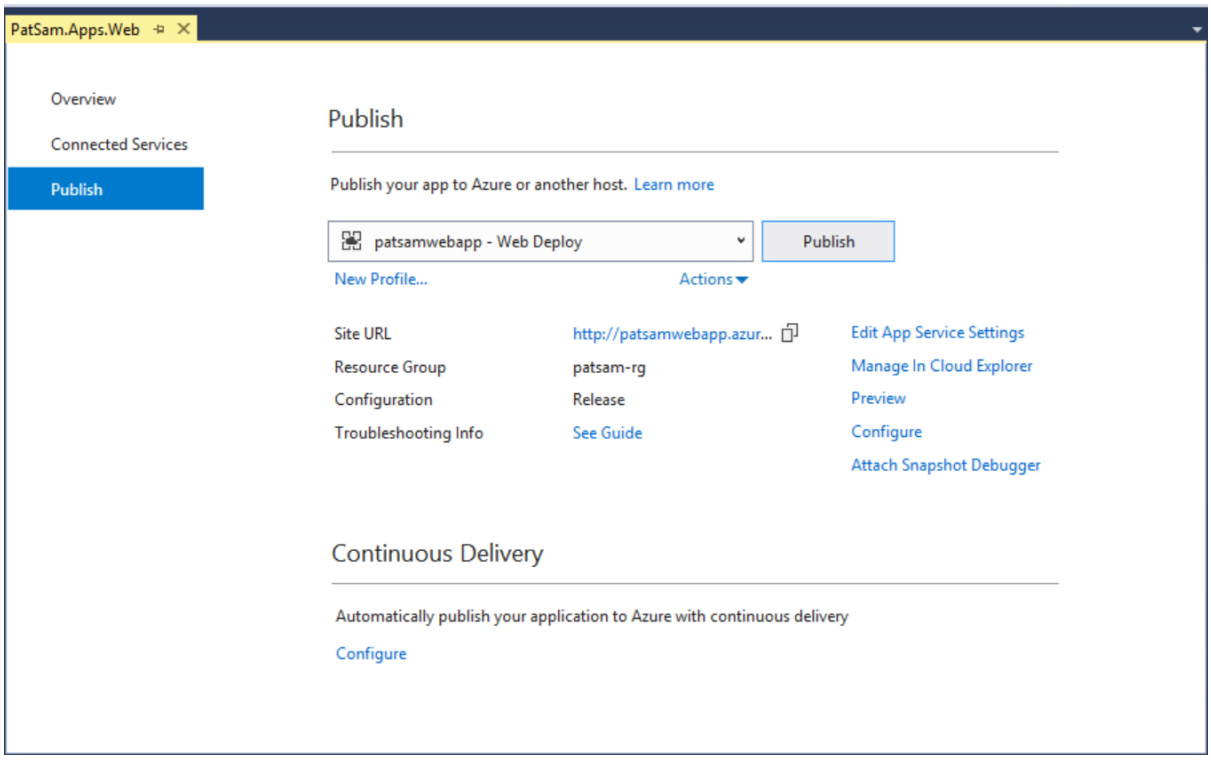
- PatSam.App.Web



Select the Web App we created earlier.



Once the profile been set publish it.



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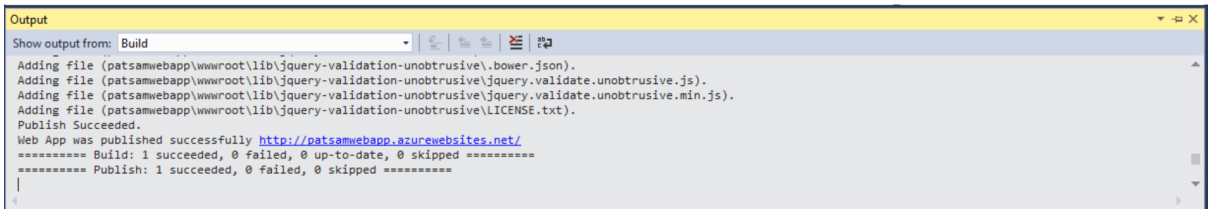
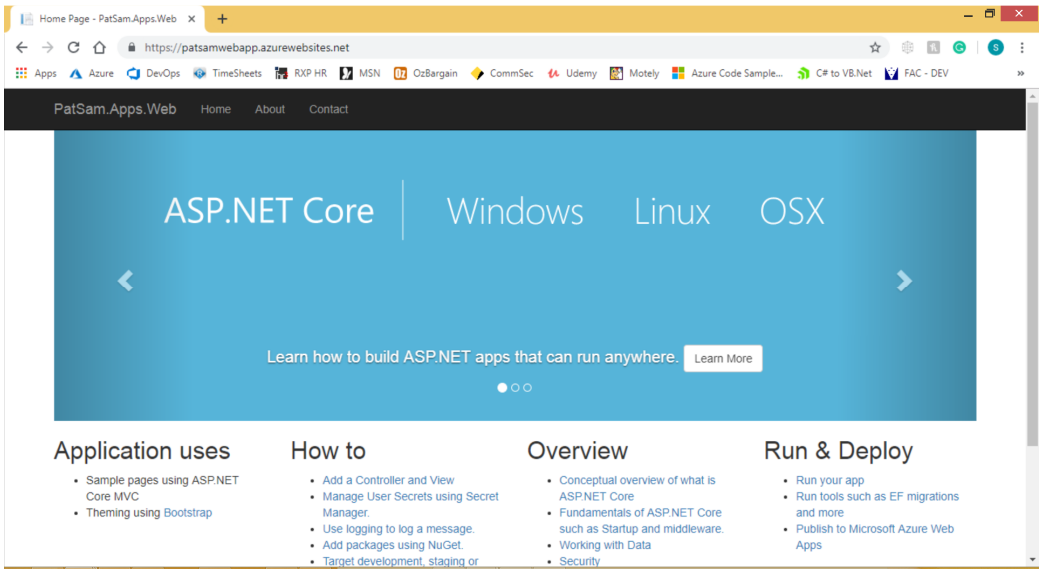
Make sure it gets published sucessfully.



Browse the Web App after the publish.

https://patsamwebapp.azurewebsites.net/



Click on Contact link.

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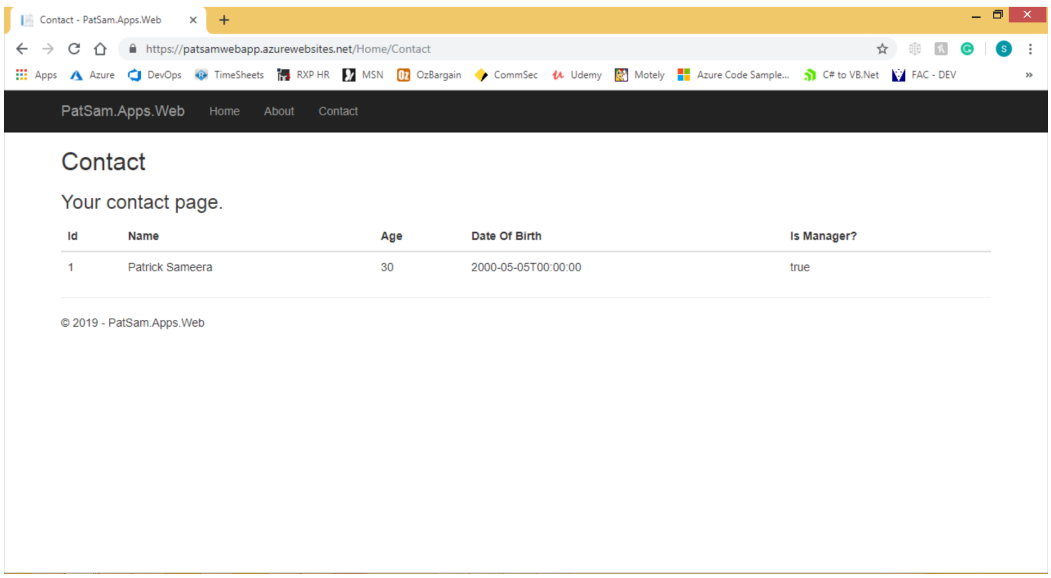

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