



Lab 3 – Azure Functions and DevOps

In this lab, you will familiarize yourself with Azure DevOps Build and Release Templates.

Objective

In this lab, you will build an Azure Function locally, push the code to a repository, create and execute a build template, and do a release.



Prerequisites

- Azure Subscription
- Azure DevOps

Steps

To build the solution in this lab, you have to follow the steps described in this section. From a high-level view the steps are:

- Create a project in Azure DevOps
- Create an Azure Function and test the Function Locally
- Add Unittests and run the test project
- Push code to Azure DevOps
- Create and execute a build template
- Create and execute a release template

Lab duration: **45 minutes**.

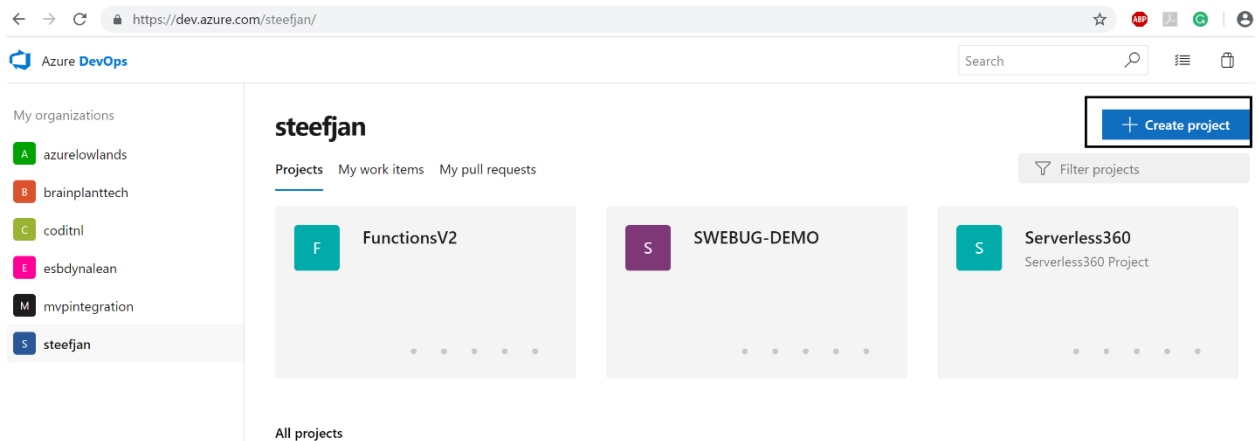
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Step 1 - Create an Azure DevOps Project

The very first step in this lab is

1. Go to <https://azure.microsoft.com/en-us/services/devops/>.
2. Create an account or sign in.
3. In the top right corner click + **Create Project**.




4. A new pane will appear.
5. Fill a descriptive name and description and click **Create**.


Create new project




Project name *

Description




Visibility




Public ⓘ

Anyone on the internet can view the project. Certain features like TFVC are not supported.



Private

Only people you give access to will be able to view this project.



Public projects are disabled for your organization. You can turn on public visibility with [organization policies](#).

✓ Advanced

Create

Cancel

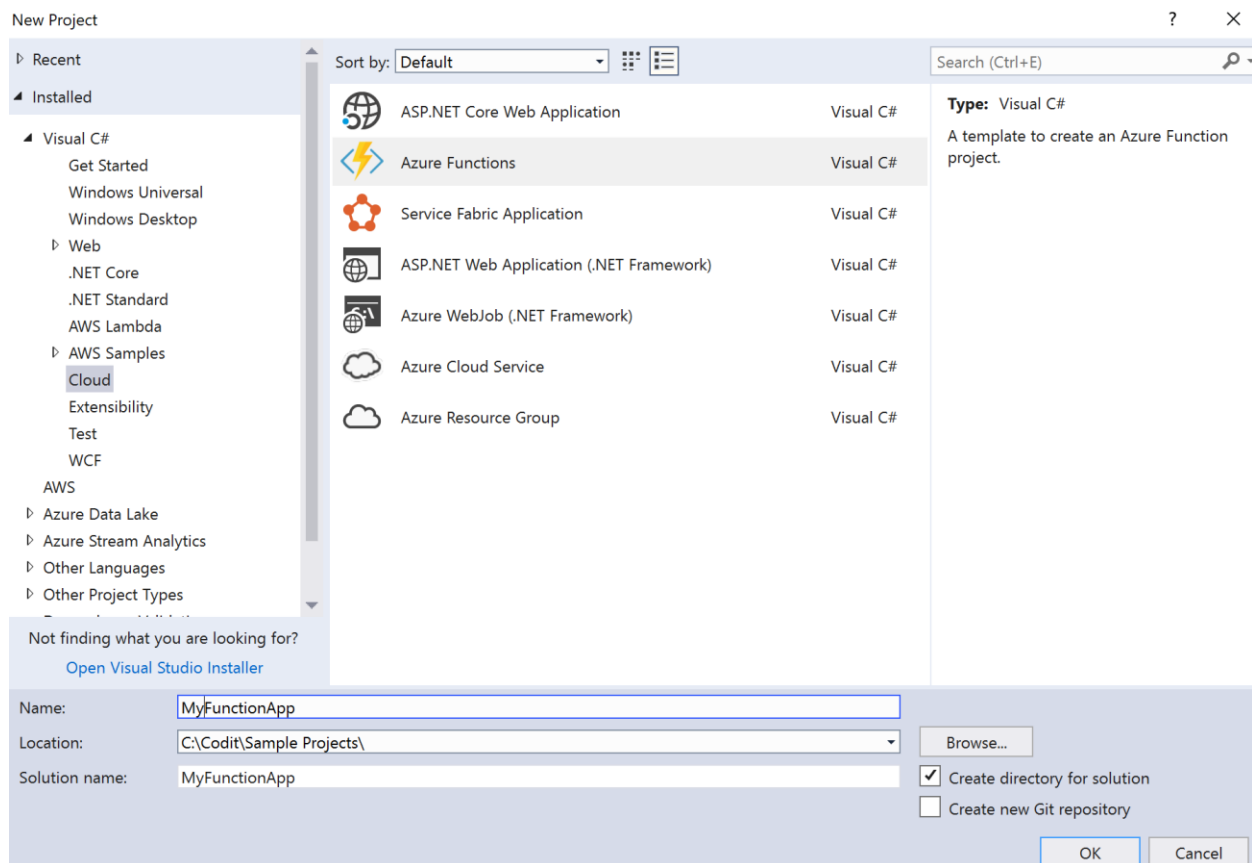
6. You have now a project in Azure DevOps.



Step 2 - Create an Azure Function and test locally

In this step we will create a Function in Visual Studio 2017.

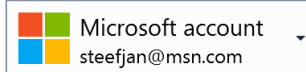
1. Open Visual Studio 2017.
2. Select **File --> New --> Project**
3. In the New Project Pane, select **Cloud**.
4. Subsequently, choose **Azure Functions**.
5. Provide a name, choose the correct path, and solution name.



6. Click **Ok**.
7. Choose Azure Functions V2.
8. For Storage Account choose **Browse**.
9. Pick a storage account from earlier lab or create a new one.

Storage Account

Scalable, durable cloud storage, backup, and recovery solutions for any data, big or small



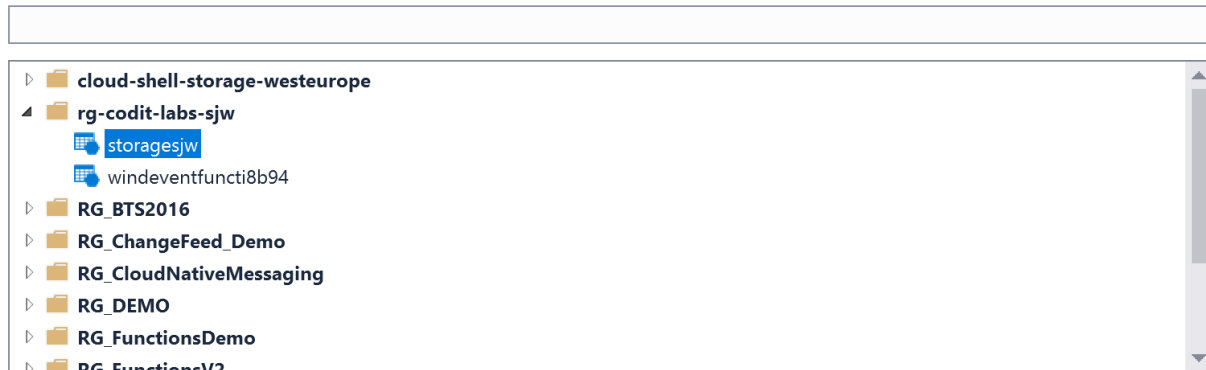
Subscription

Azure Free Trial

View

Resource Group

Search




OK Cancel

10. Click **Ok**.
11. Choose the **HTTP Trigger Template** and click **Ok**.
12. Click **Team Explorer** on the right side of Visual Studio.
13. Click manage connections.
14. Click Connect to a project.
15. It will show the repositories belonging to your account.
16. Select the project you created in step 1 and click **Connect**.












Connect to a Project

Showing hosted repositories for:

 steefjan@msn.com (Microsoft account) ▾

Add TFS Server ▾ | Refresh

Type here to filter the list 🔍

- ▶  azurelowlands.visualstudio.com
- ▶  brainplanttech.visualstudio.com
- ▶  coditnl.visualstudio.com
- ▶  esbdynalean.visualstudio.com
- ▶  mvpintegration.visualstudio.com
- ▲  steefjan.visualstudio.com
 - ▶  Demo
 - ▶  FunctionAppBlob
 - ▶  FunctionsV2
 - ▶  Serverless360
 - ▶  SWEBUG-DEMO

Connect ▾

Cancel

17. Right click solution and choose add to source control.
18. Rename function1.cs to ConvertWindSpeedToBeaufort.cs.
19. Copy the following code/past the following code above your namespace

```
using Microsoft.AspNetCore.Http;  
using Microsoft.AspNetCore.Mvc;  
using Microsoft.Azure.WebJobs;  
using Microsoft.Azure.WebJobs.Extensions.Http;  
using Microsoft.Azure.WebJobs.Host;  
using Newtonsoft.Json;  
using System;  
using System.Collections.Generic;  
using System.IO;
```

```
using System.Linq;
```

20. Copy the following code below your namespace:

```
public static class ConvertWindSpeedToBeaufort
{
    [FunctionName("ConvertWindSpeedToBeaufort")]
    public static IActionResult Run([HttpTrigger(AuthorizationLevel.Function,
"get", "post", Route = null)]HttpRequest req, TraceWriter log)
    {
        var json = new StreamReader(req.Body).ReadToEnd();
        WindSpeedData data = null;
        var content = string.Empty;

        try
        {
            data = JsonConvert.DeserializeObject<WindSpeedData>(json);

            //Initialize beaufort scale
            var beaufort = 0;

            var cases = new Dictionary<Func<double, bool>, Action>
            {
                { x => x < 0.2 , () => beaufort = 0} ,
                { x => x < 1.5 , () => beaufort = 1} ,
                { x => x < 3.3 , () => beaufort = 2} ,
                { x => x < 5.4 , () => beaufort = 3} ,
                { x => x < 7.9 , () => beaufort = 4} ,
                { x => x < 10.7, () => beaufort = 5} ,
                { x => x < 13.8, () => beaufort = 6} ,
                { x => x < 17.1, () => beaufort = 7} ,
                { x => x < 20.7, () => beaufort = 8} ,
                { x => x < 24.4, () => beaufort = 9} ,
                { x => x < 28.4, () => beaufort = 10} ,
                { x => x < 32.6, () => beaufort = 11} ,
                { x => x > 32.7, () => beaufort = 12}
            };

            cases.First(kvp => kvp.Key(data.WindSpeed)).Value();

            data.Beaufort = beaufort;

            content = JsonConvert.SerializeObject(data, Formatting.Indented);

            log.Info($"Response messagebody : " + content);
        }
        catch (Exception e)
        {
            data = null;
            log.Info($"Function call error message : " + e.Message);
        }

        log.Info($"Function call with Request messagebody : " + json);

        return data != null
            ? (ActionResult)new OkObjectResult(content)
            : new BadRequestObjectResult("Please pass the correct request body!");
    }
}
```




```
}  
}
```

21. Add a class to the project and name it WindSpeedData.cs
22. Copy the following code below the namespace:

```
public class WindSpeedData  
{  
    public string Location { get; set; }  
    public double WindSpeed { get; set; }  
    public int Beaufort { get; set; }  
}
```

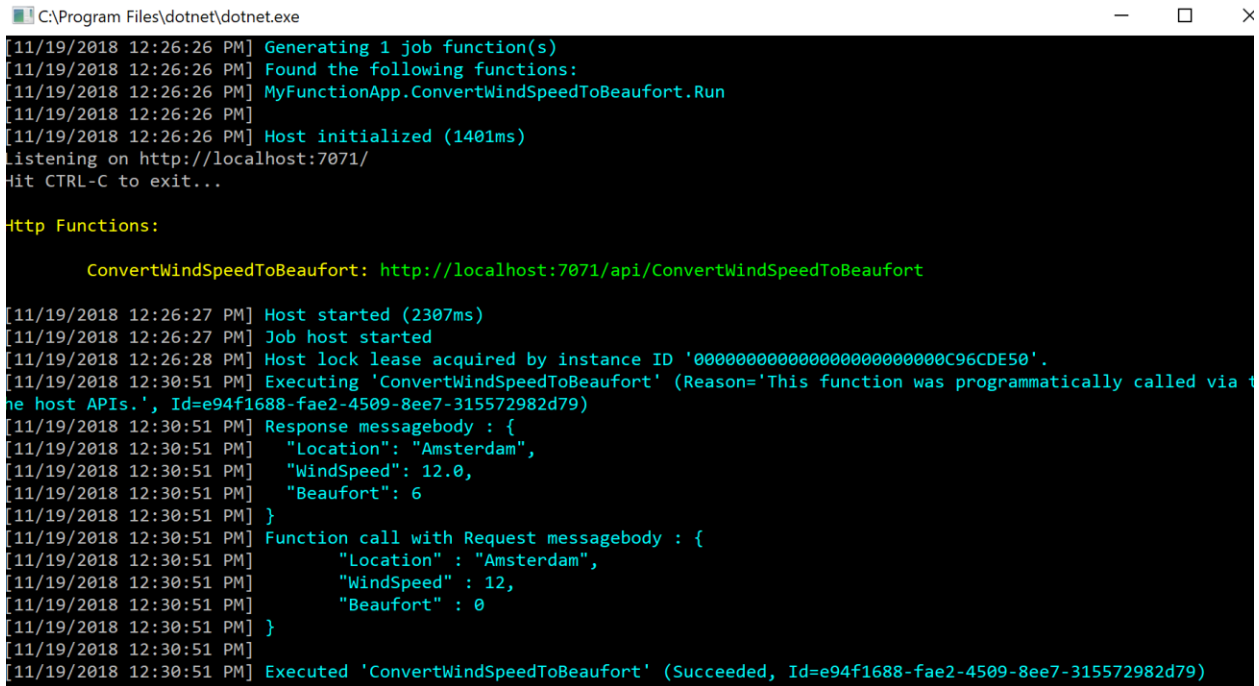
23. Build the project.
24. Run the project.
25. Copy the endpoint <http://localhost:7071/api/ConvertWindSpeedToBeaufort>
26. Open Postman, and create a POST to the URL
27. Use the following payload:

```
{  
    "Location" : "Amsterdam",  
    "WindSpeed" : 12,  
    "Beaufort" : 0  
}
```

28. Click Send.
29. You will get the following response:

```
{  
    "Location": "Amsterdam",  
    "WindSpeed": 12.0,  
    "Beaufort": 6  
}
```

30. Observe the console window that fired up after running the function.

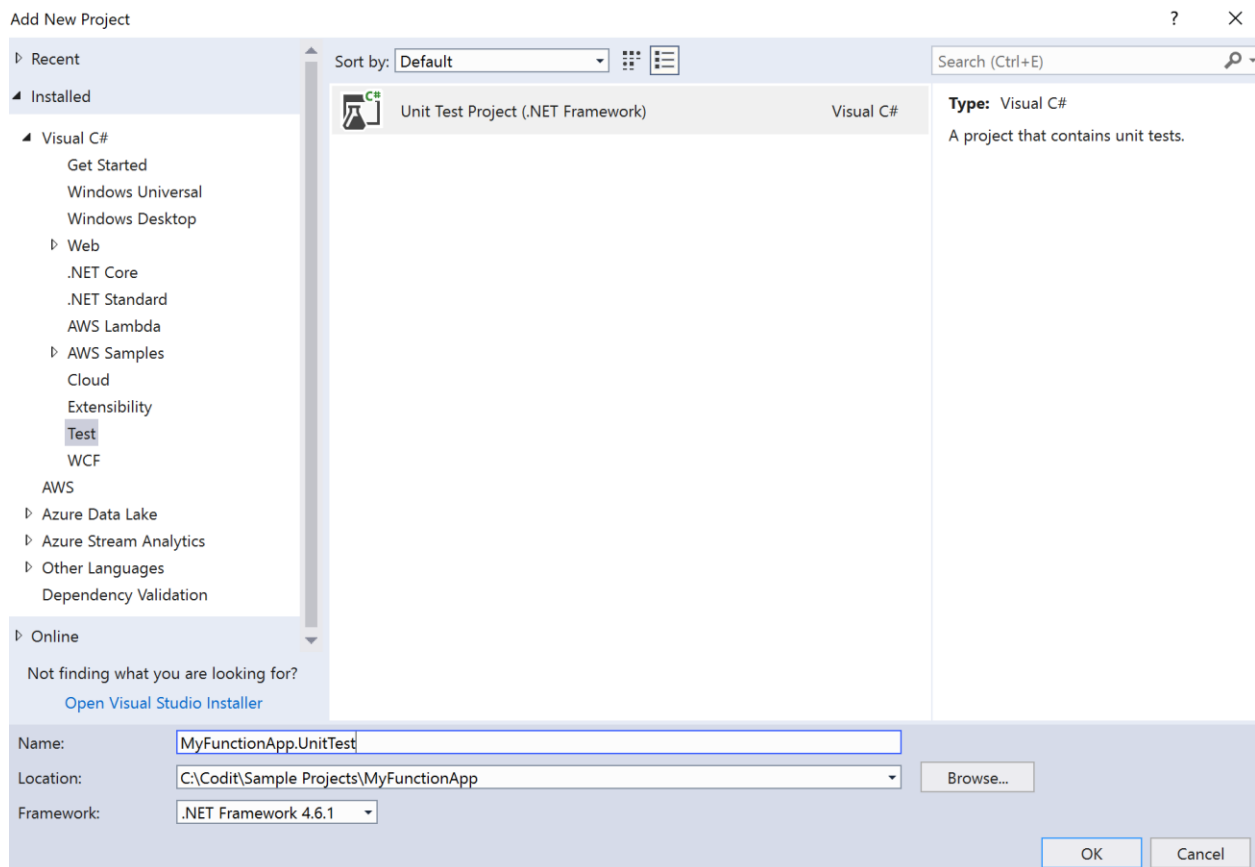




Step 3 - Add Unittests and run the test project

In this step we will add a unit test project and a couple of tests.

1. Add a project to the existing project you created in step 2 by right clicking the solution --> Add -> New Project
2. In the New Project Pane, select **Test**.
3. Choose **Unit Test Project**.
4. Specify a descriptive name, and choose the right location.



5. Click **Ok**.
6. Right Click the newly added test project and choose New Folder
7. Name it FunctionTestHelper
8. Rightclick the folder and add New Item.
9. Choose Class and name it FunctionTest.cs.
10. Past the following code above the namespace:

```
using Microsoft.AspNetCore.Http;  
using Microsoft.AspNetCore.Http.Internal;  
using Microsoft.Azure.WebJobs;  
using Microsoft.Azure.WebJobs.Host;  
using Microsoft.Extensions.Primitives;  
using Moq;
```



```
using System;
using System.Collections.Generic;
using System.IO;
using System.Threading;
using System.Threading.Tasks;
```

11. And the following code below the namespace:

```
public abstract class FunctionTest
{
    protected TraceWriter log = new VerboseDiagnosticsTraceWriter();

    public HttpRequest HttpRequestSetup(Dictionary<String, StringValues> query,
string body)
    {
        var reqMock = new Mock<HttpRequest>();

        reqMock.Setup(req => req.Query).Returns(new QueryCollection(query));
        var stream = new MemoryStream();
        var writer = new StreamWriter(stream);
        writer.Write(body);
        writer.Flush();
        stream.Position = 0;
        reqMock.Setup(req => req.Body).Returns(stream);
        return reqMock.Object;
    }
}

public class AsyncCollector<T> : IAsyncCollector<T>
{
    public readonly List<T> Items = new List<T>();

    public Task AddAsync(T item, CancellationToken cancellationToken =
default(CancellationToken))
    {
        Items.Add(item);

        return Task.FromResult(true);
    }

    public Task FlushAsync(CancellationToken cancellationToken =
default(CancellationToken))
    {
        return Task.FromResult(true);
    }
}
```

12. Rightclick the folder and add New Item.
13. Choose Class and name it FunctionTest.cs.
14. Above the namespace past the following code:

```
using Microsoft.Azure.WebJobs.Host;
```



```
using System.Diagnostics;
```

15. Below the namespace paste the following code:

```
public class VerboseDiagnosticsTraceWriter : TraceWriter
{
    public VerboseDiagnosticsTraceWriter() : base(TraceLevel.Verbose)
    {
    }
    public override void Trace(TraceEvent traceEvent)
    {
        Debug.WriteLine(traceEvent.Message);
    }
}
```

16. Right click test project and choose manage nuget packages.
17. Find Castle.core and install it.
18. Next find Microsoft.AspNetCore and choose version 2.0.1 and install.
19. Next find Microsoft.Azure.WebJobs and choose version 3.0.0-beta5 (note in the search check the **include prereleases**) and install it.
20. Next, find Microsoft.AspNetCore.Mvc and choose version 2.0.2 and install it.
21. Lastly, find Moq and choose version 4.10 and install it.
22. Rename UnitTest1.cs to UnitTestConvertWindSpeedData.cs
23. Next copy the following code above the namespace:

```
using Microsoft.AspNetCore.Mvc;
using Microsoft.Extensions.Primitives;
using Microsoft.VisualStudio.TestTools.UnitTesting;
using Newtonsoft.Json;
using System;
using System.Collections.Generic;
```

24. And the following code below the namespace:

```
[TestClass]
public class UnitTestConvertWindSpeedData : FunctionTestHelper.FunctionTest
{
    [TestMethod]
    public void CanConvertLowWindSpeed()
    {
        //Arrange
        var windSpeedRequest = new WindSpeedData
        {
            WindSpeed = 8.0,
            Beaufort = 0,
            Location = "Amsterdam"
        };

        //Act
```

```
var query = new Dictionary<String, StringValues>();
var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
var responseObject = (JsonObjectResult)result;

//Assert
var resultResponse = new WindSpeedData
{
    WindSpeed = 8.0,
    Beaufort = 5,
    Location = "Amsterdam"
};
var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertWindSpeedToBeaufort3()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 4.0,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (JsonObjectResult)result;

    //Assert
    var resultResponse = new WindSpeedData
    {
        WindSpeed = 4.0,
        Beaufort = 3,
        Location = "Amsterdam"
    };
    var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
    Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
```

```
public void CanConvertWindSpeedToBeaufort4()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 7.5,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (OkObjectResult)result;

    //Assert
    var resultResponse = new WindSpeedData
    {
        WindSpeed = 7.5,
        Beaufort = 4,
        Location = "Amsterdam"
    };
    var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
    Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertWindSpeedToBeaufort6()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 12.0,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (OkObjectResult)result;

    //Assert
```

```
var resultResponse = new WindSpeedData
{
    WindSpeed = 12.0,
    Beaufort = 6,
    Location = "Amsterdam"
};
var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertWindSpeedToBeaufort7()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 15.0,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (JsonObjectResult)result;

    //Assert
    var resultResponse = new WindSpeedData
    {
        WindSpeed = 15.0,
        Beaufort = 7,
        Location = "Amsterdam"
    };
    var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
    Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertWindSpeedToBeaufort8()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 19.0,
        Beaufort = 0,
```



```
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (OkObjectResult)result;

    //Assert
    var resultResponse = new WindSpeedData
    {
        WindSpeed = 19.0,
        Beaufort = 8,
        Location = "Amsterdam"
    };
    var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
    Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertWindSpeedToBeaufort9()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 23.0,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (OkObjectResult)result;

    //Assert
    var resultResponse = new WindSpeedData
    {
        WindSpeed = 23.0,
        Beaufort = 9,
        Location = "Amsterdam"
    };
    var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
```

```
Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertWindSpeedToBeaufort10()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 28.0,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (JsonObjectResult)result;

    //Assert
    var resultResponse = new WindSpeedData
    {
        WindSpeed = 28.0,
        Beaufort = 10,
        Location = "Amsterdam"
    };
    var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
    Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertWindSpeedToBeaufort11()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 30.0,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);
```

```
var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
var responseObject = (JsonObjectResult)result;

//Assert
var resultResponse = new WindSpeedData
{
    WindSpeed = 30.0,
    Beaufort = 11,
    Location = "Amsterdam"
};
var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertHighWindSpeed()
{
    //Arrange
    var windSpeedRequest = new WindSpeedData
    {
        WindSpeed = 75.8,
        Beaufort = 0,
        Location = "Amsterdam"
    };

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (JsonObjectResult)result;

    //Assert
    var resultResponse = new WindSpeedData
    {
        WindSpeed = 75.8,
        Beaufort = 12,
        Location = "Amsterdam"
    };
    var resultBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
    Assert.AreEqual(resultBody, responseObject.Value);
}

[TestMethod]
public void CanConvertNegativeWindSpeed()
{
    //Arrange
```

```

var windSpeedRequest = new WindSpeedData
{
    WindSpeed = -10,
    Beaufort = 0,
    Location = "Amsterdam"
};

//Act
var query = new Dictionary<String, StringValues>();
var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
var responseObject = (JsonObjectResult)result;

//Assert
var resultResponse = new WindSpeedData
{
    WindSpeed = -10,
    Beaufort = 0,
    Location = "Amsterdam"
};
var responseBody = JsonConvert.SerializeObject(resultResponse, Formatting.Indented);
Assert.AreEqual(responseBody, responseObject.Value);
}

[TestMethod]
public void CanNotConvertWindSpeed()
{
    //Arrange
    var windSpeedRequest =
        "{\r\n  \"Location\": \"Amsterdam\", \r\n  \"WindSpeed\": , \r\n  \"Beaufort\": 0\r\n}";

    //Act
    var query = new Dictionary<String, StringValues>();
    var body = JsonConvert.SerializeObject(windSpeedRequest, Formatting.Indented);

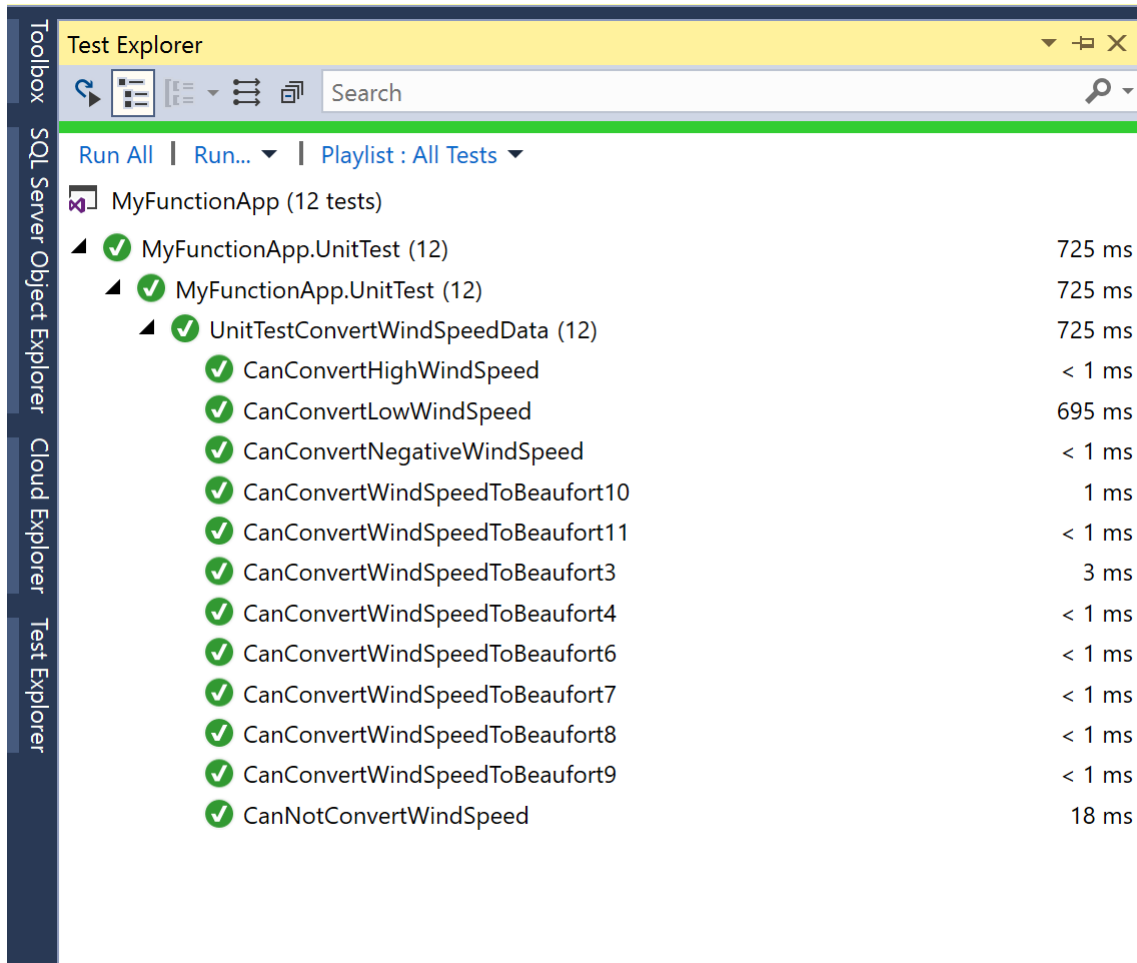
    var result = ConvertWindSpeedToBeaufort.Run(HttpRequestSetup(query, body), log);
    var responseObject = (BadRequestObjectResult)result;

    //Assert
    Assert.AreEqual("Please pass the correct request body!", responseObject.Value);
}
}

```

25. Right click Test project and add reference to your Function App project.
26. Build the test project.
27. In the Test menu item choose Run --> All tests.

28. Examine the results in the Test Explorer.



Test Explorer

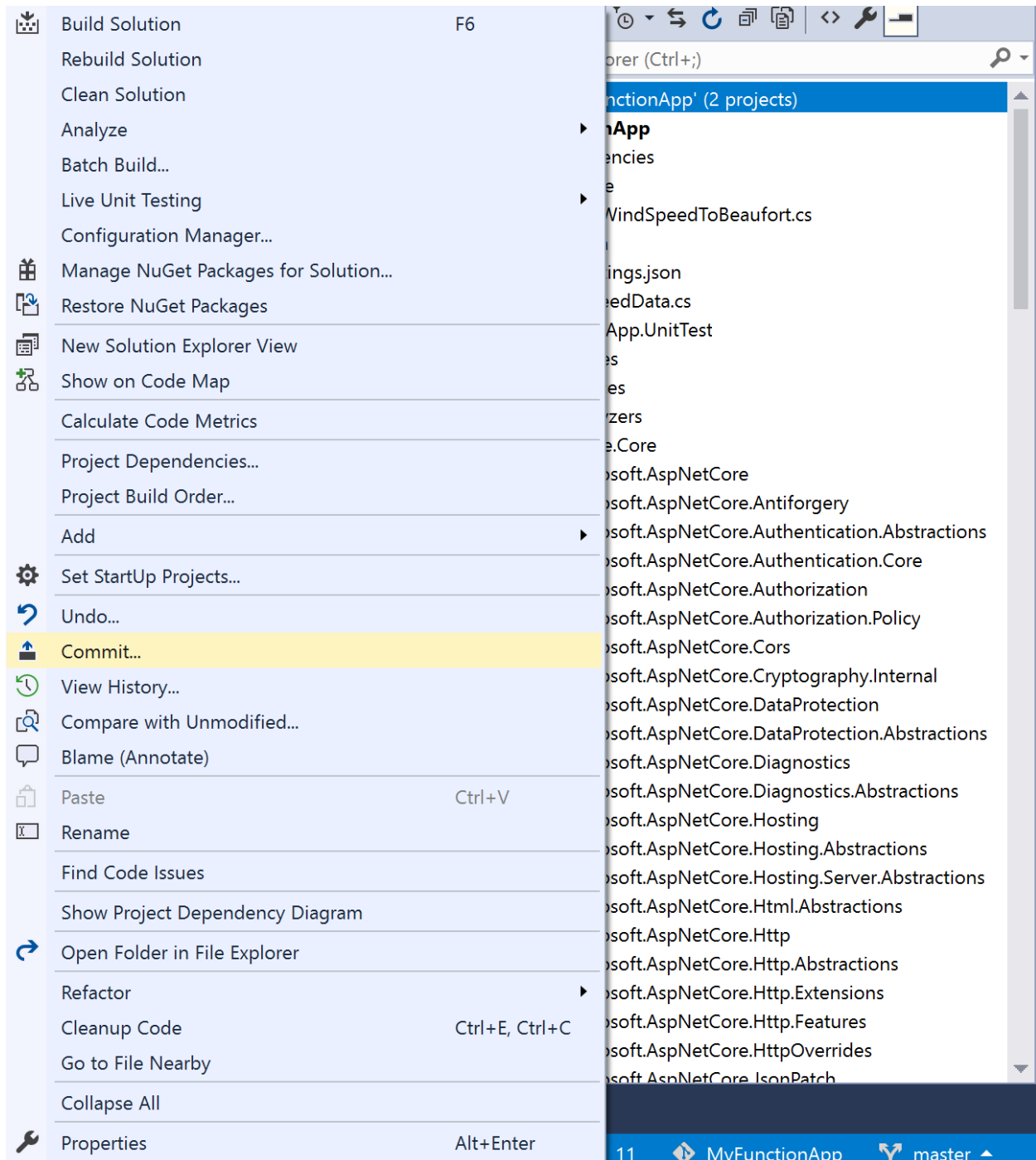
Run All | Run... | Playlist : All Tests

- MyFunctionApp (12 tests)
 - MyFunctionApp.UnitTest (12) 725 ms
 - MyFunctionApp.UnitTest (12) 725 ms
 - UnitTestConvertWindSpeedData (12) 725 ms
 - CanConvertHighWindSpeed < 1 ms
 - CanConvertLowWindSpeed 695 ms
 - CanConvertNegativeWindSpeed < 1 ms
 - CanConvertWindSpeedToBeaufort10 1 ms
 - CanConvertWindSpeedToBeaufort11 < 1 ms
 - CanConvertWindSpeedToBeaufort3 3 ms
 - CanConvertWindSpeedToBeaufort4 < 1 ms
 - CanConvertWindSpeedToBeaufort6 < 1 ms
 - CanConvertWindSpeedToBeaufort7 < 1 ms
 - CanConvertWindSpeedToBeaufort8 < 1 ms
 - CanConvertWindSpeedToBeaufort9 < 1 ms
 - CanNotConvertWindSpeed 18 ms

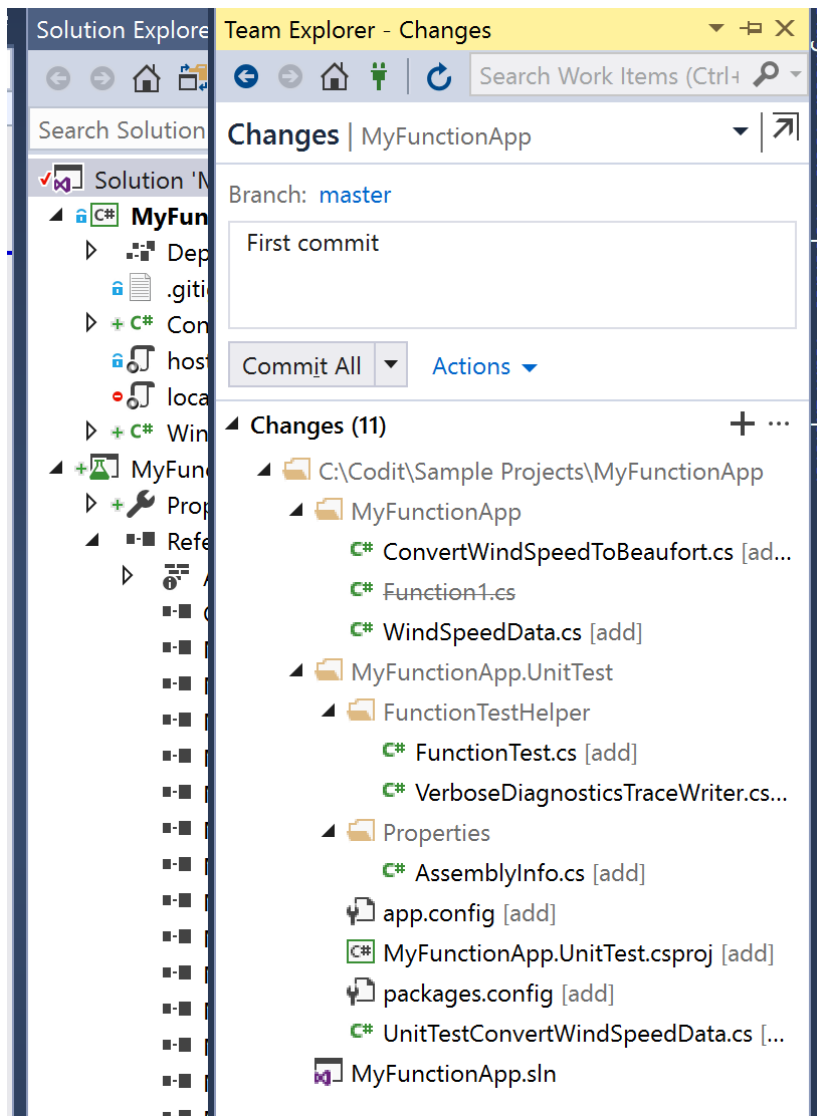
Step 4 – Push the project to Azure DevOps

In this step you will commit the code to your local repository and subsequently push it to Azure DevOps project.

1. Right click the solution and choose commit.



2. In the pane that will appear, add comment.

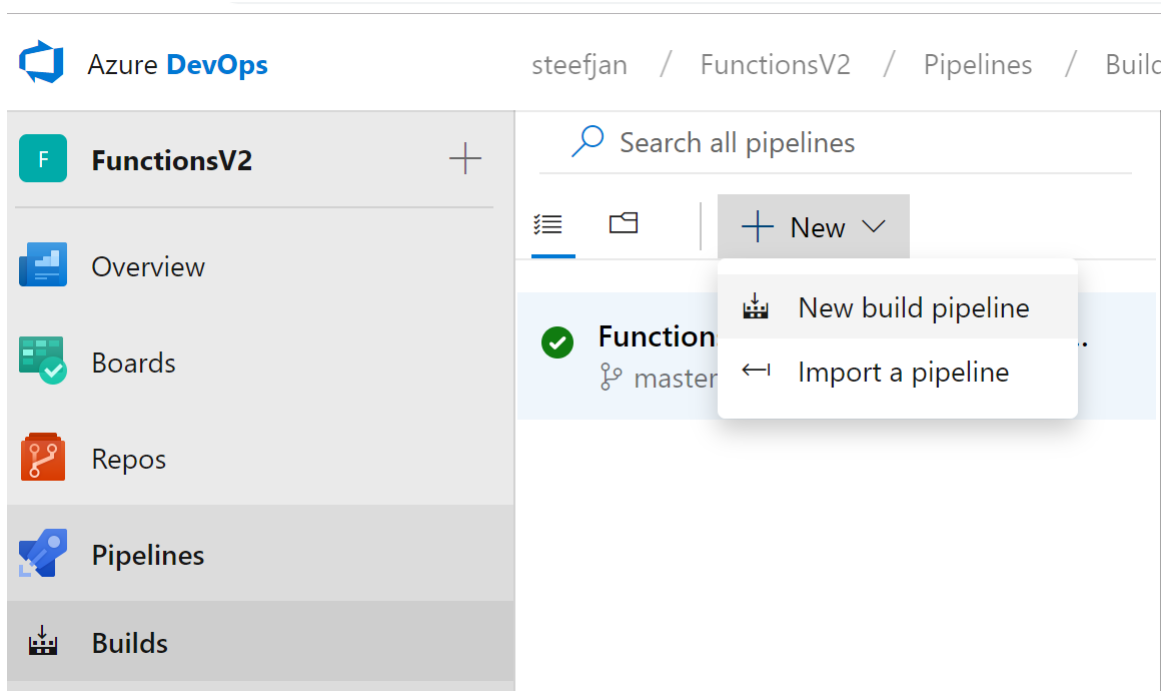


3. Click Commit All.
4. Next click Sync.
5. In outgoing commits click push. The branch (master) will be pushed to the Azure DevOps project.

Step 5 - Create and execute a build template



The code is build and tested locally. Next you pushed it to Azure DevOps. We will now create a build template.


1. Go to Azure DevOps.
2. Click Pipelines in the left hand pane.
3. Click New Build Pipeline.





4. Select your repository


Select a source



Azure Repos Git


GitHub


GitHub Enterprise


Subversion


Bitbucket Cloud


External Git

Team project

 FunctionsV2 

Repository

 FunctionsV2 


Default branch for manual and scheduled builds

 master 

5. Choose Azure Repos Git, you team project, repository, and branch.
6. Choose Azure Web App for ASP.NET.



Select a template

Or start with an  **Empty job**

 Search

experience. [Learn more](#)

Featured



.NET Desktop

Build and test a .NET or Windows classic desktop solution.



Android

Build, test, sign, and align an Android APK.



ASP.NET

Build and test an ASP.NET web application.



Azure Web App for ASP.NET

Build, package, test, and deploy an ASP.NET Azure Web App.

Apply

7. In Azure Subscription click Manage
8. Now you will have to create a managed connection i.e. service principle. You can do this from DevOps portal.
9. This connection is necessary to have appropriate right for the build template.
10. In the template set the connection to the correct Azure Subscription and choose the correct app service i.e. a function app you create earlier (lab 6).
11. In the Build solution step – MS Build Arguments paste the following:

```
/p:DeployOnBuild=true /p:WebPublishMethod=Package /p:PackageAsSingleFile=true  
/p:SkipInvalidConfigurations=true  
/p:DesktopBuildPackageLocation="$(build.artifactstagingdirectory)\WebApp.zip"  
/p:DeployIisAppPath="Default Web Site"
```

12. In the Test Assemblies – Test files paste the following:

```
**\$(BuildConfiguration)\*test*.dll  
!**\obj\**
```

13. Click Save and Queue. The build template will now execute.
14. Click the build tlink hat will appear.
15. A new pane will appear where you can follow the build process.



Logs Summary Tests Edit Stop build ...

Agent job 1 Job

Started: 11/19/2018, 2:37:22 PM

Pool: Hosted VS2017 · Agent: Hosted Agent

46s

✓ Initialize Agent · succeeded	1s
✓ Initialize job · succeeded	8s
✓ Checkout · succeeded	13s
✓ Use NuGet 4.4.1 · succeeded	<1s

NuGet restore 22s

```
*****
Starting: NuGet restore
*****
=====
Task       : NuGet
Description: Restore, pack, or push NuGet packages, or run a NuGet command. Supports NuGet.org and authenticated feeds like Package Management and MyGet. Uses NuGet.exe and works with .NET Framework apps. For .NET Core and .NET Standard apps, use the .NET Core task.
Version    : 2.0.48
Author     : Microsoft Corporation
Help       : [More Information](https://go.microsoft.com/fwlink/?LinkID=613747)
=====
SYSTEMVSSCONNECTION exists true
SYSTEMVSSCONNECTION exists true
[command]C:\Windows\system32\chcp.com 65001
Active code page: 65001
Detected NuGet version 4.4.1.4656 / 4.4.1
SYSTEMVSSCONNECTION exists true
Saving NuGet.config to a temporary config file.
[command]C:\hostedtoolcache\windows\NuGet\4.4.1\x64\nuget.exe sources Add -NonInteractive -Name NuGetOrg -Source https://api.nuget.org/v3/index.json -ConfigFile D:\a\1\NuGet\tempNuGet_31.config
```

... > FunctionsV2-Azure Web App f...

Tasks Variables Triggers Options Retention History Save & queue Discard Summary Queue ...

Pipeline Build pipeline

Get sources FunctionsV2 master

Agent job 1 Run on agent

Use NuGet 4.4.1 NuGet Tool Installer

NuGet restore NuGet

Build solution ***.sln Visual Studio Build

VsTest - testAssemblies Visual Studio Test

Azure App Service Deploy: functionsv2app Azure App Service Deploy

Publish symbols path Index Sources & Publish Symbols

Publish Artifact: drop Publish Build Artifacts

View YAML

Name * FunctionsV2-Azure Web App for ASP.NET-CI

Agent pool * Hosted VS2017 Pool information Manage

Parameters * Unlink all

Solution * ***.sln

Azure subscription * Azure Free Trial (0bf166ac-9aa8-4597-bb2a-a845afe01415) Manage

Scoped to resource group 'RG_FunctionsV2'

App service name * functionsv2app



16. Once the build is complete you will get an email.

[Build succeeded] FunctionsV2-ASP.NET Core (.NET Framework)-CI -
FunctionsV2:master - FunctionsV2 - 0065f9fb



Azure DevOps <azuredevops@microsoft.com>

2:42 PM



To: steefjan@msn.com



Azure **DevOps**

✓ BUILD #20181119.1 SUCCEEDED

FunctionsV2-ASP.NET Core (.NET Framework)- CI

Ran for 5 minutes

[View results](#)



Step 6 - Create and execute a release template

In the final step of this lab we will build a release template based on our build (step 5) and execute it.

1. In the left hand pane select release pipeline.
2. Click New release pipeline.
3. Choose Azure App Service deployment.

Select a template

Or start with an  **Empty job**

Search

Featured



Azure App Service deployment

Deploy your application to Azure App Service. Choose from Web App on Windows, Linux, containers, Function Apps, or WebJobs.

Apply

4. Click **Apply**.
5. Click Add artifact, which is the build from step 5.



All pipelines > New release pipeline (1)

Pipeline Tasks Variables Retention Options History

Artifacts | + Add

Add an artifact

Schedule not set

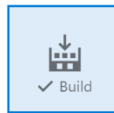
Stages | + Add

Stage 1

1 job, 1 task

Add an artifact

Source type



4 more artifact types

Project *

FunctionsV2

Source (build pipeline) *

FunctionsV2-ASP.NET Core (.NET Framework)-CI

Default version *

Specify at the time of release creation

Source alias *

_FunctionsV2-ASP.NET Core (.NET Framework)-CI

The artifacts published by each version will be available for deployment in release pipelines. Select the version when you create a release. For automatically triggered releases, the latest version will be chosen.

- Click **Add**.
- Go to stage 1 and select **Deploy Azure App Service Task**.
- Set the parameters to correct Azure Subscription.
- Set the correct App Type and App Service Name.

Stage name

Stage 1

Parameters | Unlink all

Azure subscription * | Manage

Azure Free Trial (0bf166ac-9aa8-4597-bb2a-a845afe01415)

Scoped to resource group 'RG_FunctionsV2'

App type

Function App

App service name *

functionsv2app

- Create a release.



11. Observe the release progress.

↑ New release pipeline > Release-1 > Stage 1 ✓ Succeeded

← Pipeline Tasks Variables **Logs** Tests | ☁ Deploy ⏸ Cancel ↻ Refresh ↓ Download all logs ✎ Edit release ↗

Deployment process
Succeeded

✓ **Run on agent**
Succeeded

Run on agent Started: 9/26/2018, 10:01:16 PM
Pool: Hosted VS2017 · Agent: Hosted Agent ... 1m 3s

✓ Initialize Agent · succeeded	1s
✓ Initialize job · succeeded	3s
✓ Download artifact - _FunctionsV2-ASP.NET Core (.NET Framework... · succeeded	4s
✓ Deploy Azure App Service · succeeded	54s

