Build an EF and ASP.NET Core 2.1 App HOL

Lab 0

Welcome to the Build an Entity Framework Core 2.1 and ASP.NET Core 2.1 Application in a Day Hands-On Lab. Prior to starting the rest of the workshop, you must have Visual Studio 2017 15.8+, the .NET Core 2.1+ SDK, .NET Core 2.1+ runtime, and SQL Server 2014+ (Express or better) installed. This lab walks you through the installation process.

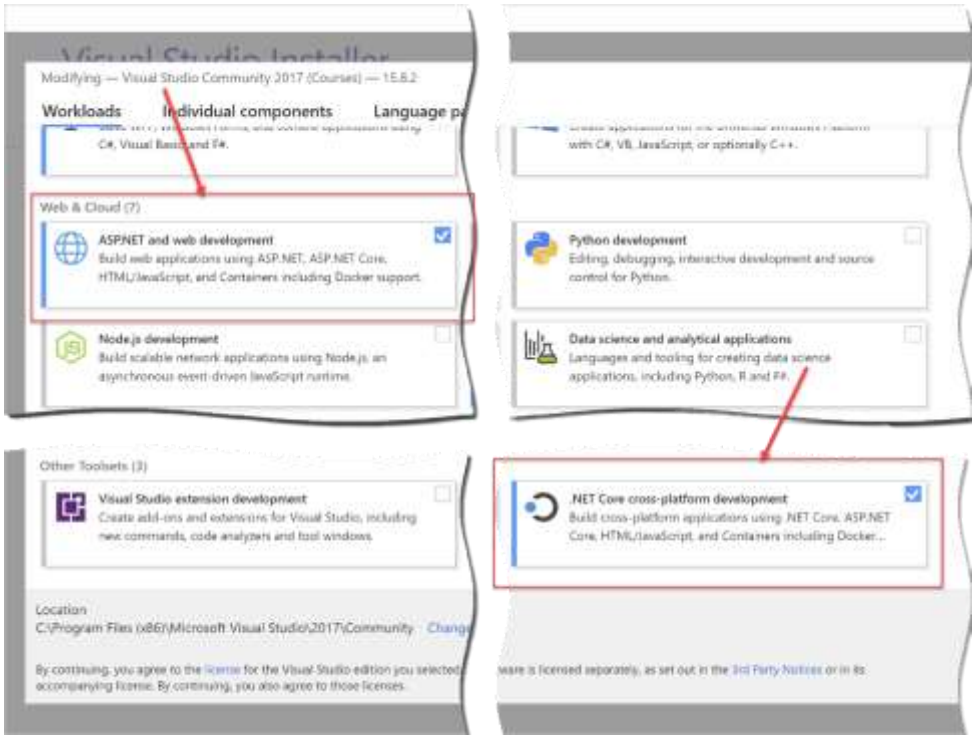
Part 0: Permissions

You must have admin permissions on your machine to complete this hands-on lab.

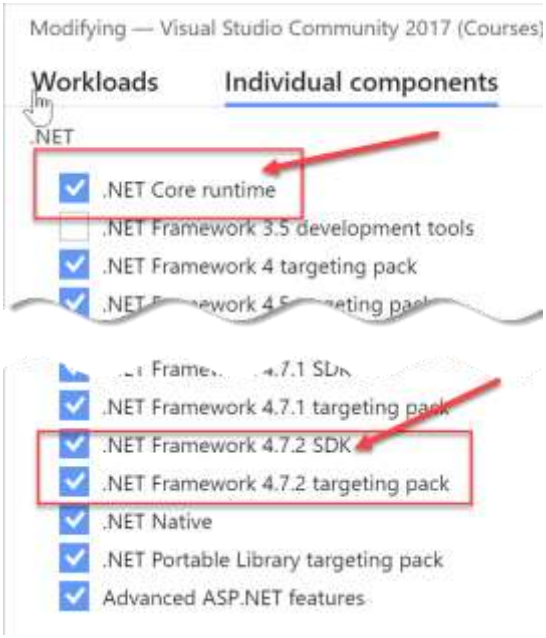
Part 1: Installing the Prerequisites

Step 1: Download and install Visual Studio 2017 15.8+

1) Download Visual Studio 2017 15.8+ (any edition) from the Visual Studio home page: https://www.visualstudio.com/en-us/visual-studio-homepage-vs.aspx
    a) The Community Edition is free, and has everything you need to complete this Hands-On Lab
2) Start the installer
    a) The new installation experience has separate workloads based on what type of work you intend to do. For this lab, select the "**ASP.NET and web development**" workload as well as the "**.NET Core cross-platform development**" workloads.



b) Select the Individual Components menu at the top of the installation screen, and check:
   i) .NET Core runtime
   ii) .NET Framework 4.7.2 SDK
   iii) .NET Framework 4.7.2 targeting pack



Step 2: Download/Install SQL Server Management Studio (SSMS)

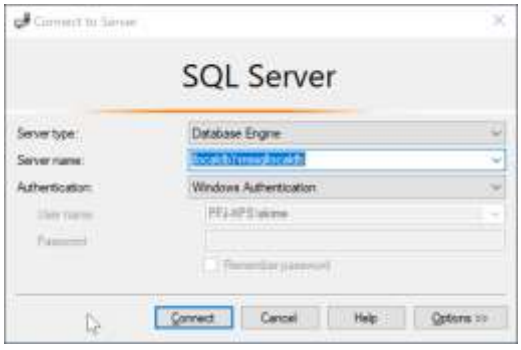
This is not required for the workshop, but makes it easier to work with the database.

1) Download and install SQL Server Management Studio 17.8.1 from https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-2017
   a) This is a free tool from Microsoft

Step 3: Confirm installation of LocalDb

LocalDb is a special version of SQL Server Express that is installed with Visual Studio 2017

1) Open SQL Server Management Studio
2) When prompted to connect to a database enter **(localdb)\mssqllocaldb** for the server name, and **Windows Authentication**, like this:



3) If you can connect, open a new query window and enter:

```
Select @@version
```

4) This returns the version of SQL Server that is installed as (localdb). If it is 2014 or 2016, no changes need to be made in the lab. If the version is SQL Server 2017, you will need to update the connection strings in the subsequent labs (this is covered later)

5) If you chose to use SQL Server LocalDb 2017, you need to install the latest cumulative update for SQL Server 2017 (at least CU6 or greater). The install for CU10 is located here:

```
https://www.microsoft.com/en-us/download/details.aspx?id=56128
```

Step 4: [Optional] Download and install the SQL Server 2016 Express

1) Download the SQL Server 2016 Express Edition from https://www.microsoft.com/en-us/download/details.aspx?id=54284

2) NOTE: If you choose to use SQL Server 2017 Express, you will need to update the connection strings in the subsequent labs (this is covered later) and install the latest Cumulative Update located here:

```
https://www.microsoft.com/en-us/download/details.aspx?id=56128
```

Step 5: Install/Confirm .NET Core Runtime and SDK

1) Download and install the latest .NET Core SDK and Runtime from http://dot.net.

2) Open a command window and type:

```
where dotnet
```

3) After unpacking some files, it should respond with:

```
C:\Program Files\dotnet\dotnet.exe
```

4) You might also see the following (not required for this course):

```
C:\Program Files (x86)\dotnet\dotnet.exe
```

5) Check the version of the .NET Core SDK and Command Line Interface (CLI) by entering:

```
dotnet --info
```

6) The response will be (at the time of this writing):

```
.NET Core SDK (reflecting any global.json):
 Version:   2.1.402
 Commit:    3599f217f4

Runtime Environment:
 OS Name:     Windows
 OS Version:  10.0.17134
 OS Platform: Windows
 RID:         win10-x64
 Base Path:   C:\Program Files\dotnet\sdk\2.1.401\

Host (useful for support):
  Version: 2.1.4
  Commit:  85255dde3e
.NET Core SDKs installed:
  2.1.402 [C:\Program Files\dotnet\sdk]

.NET Core runtimes installed:
  Microsoft.AspNetCore.All 2.1.4 [C:\Program Files\dotnet\shared\Microsoft.AspNetCore.All]
  Microsoft.AspNetCore.App 2.1.4 [C:\Program Files\dotnet\shared\Microsoft.AspNetCore.App]
  Microsoft.NETCore.App 2.1.4 [C:\Program Files\dotnet\shared\Microsoft.NETCore.App]
```

7) The Microsoft.AspNetCore.All metapackage leverages the .NET Runtime store to trim down the portable deployment size of applications. It contains most everything needed for ASP.NET Core 2.0x applications (including Entity Framework Core). Note: It is for versions 2.0 (not recommended for 2.1+, which uses Microsoft.AspNetCore.App).

8) Microsoft.AspNetCore.App leverages the ASP.NET Core shared framework. Any assets in the ASP.NET Core shared framework will not be deployed with your app, and are pre-compiled for better application startup time. Microsoft.AspNetCore.App also uses version roll-forward to work with later versions of the 2.x framework installed on the target machine.

Summary

These are all of the tools you need to complete this Hands-on Lab.