

Lab Manual- Create Sample DotNet MVC Web App and Store in Github

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1 OBJECTIVE

In this Lab, we will discuss how we can create a HelloWorld app with ASP.NET Core 3.1 using Visual Studio Code. We will learn how to create an ASP.NET Core MVC application, how to create a new Controller, how to create a new View, and how to run the HelloWorld app, etc.

2 PRE-REQUISISTE

- Accounts in Azure
- A local Computer with 4 CPU, 16 GB RAM, 200 GB disk space
- .NET Core 3.1 SDK
- Visual Studio Code


3 Create an ASP.NET Core MVC Application

3.1 Create your app

A simple application written in C# that prints **Hello, World!** to the console
Create a directory in DOS Console and also go inside it

Md mvcdemo

Cd mvcdemo

 Command Prompt

```
C:\az204>md mvcdemo
```

```
C:\az204>cd mvcdemo
```

```
C:\az204\mvcdemo>
```

- In your command prompt, run the following command to create your app:

dotnet new mvc -o MVCDemoApp

```
C:\az204>cd mvcdemo

C:\az204\mvcdemo>dotnet new mvc -o MVCDemoApp
The template "ASP.NET Core Web App (Model-View-Controller)" was created successfully.
This template contains technologies from parties other than Microsoft, see https://aka.ms/dotnet-templates

Processing post-creation actions...
Running 'dotnet restore' on MVCDemoApp\MVCDemoApp.csproj...
  Determining projects to restore...
  Restored C:\az204\mvcdemo\MVCDemoApp\MVCDemoApp.csproj (in 143 ms).

Restore succeeded.

C:\az204\mvcdemo>
```

[Note] What do these commands mean?

The **dotnet new MVC** command creates a new “ASP.NET Core MVC Web Application”, the application contains basic boilerplate files and directory. Then, navigate to the new directory created by the previous command:

- In your command prompt, run the following command to go inside newly created App

cd MVCDemoApp

```
C:\az204>md mvcdemo

C:\az204>cd mvcdemo

C:\az204\mvcdemo>dotnet new mvc -o MVCDemoApp
The template "ASP.NET Core Web App (Model-View-Controller)" was created successfully.
This template contains technologies from parties other than Microsoft, see https://aka.ms/dotnet-templates

Processing post-creation actions...
Running 'dotnet restore' on MVCDemoApp\MVCDemoApp.csproj...
  Determining projects to restore...
  Restored C:\az204\mvcdemo\MVCDemoApp\MVCDemoApp.csproj (in 143 ms).

Restore succeeded.

C:\az204\mvcdemo>cd MVCDemoApp
C:\az204\mvcdemo\MVCDemoApp>
```

- Now open **Code** . to Launch VS Code Editor

```
Command Prompt

C:\az204>md mvcdemo

C:\az204>cd mvcdemo

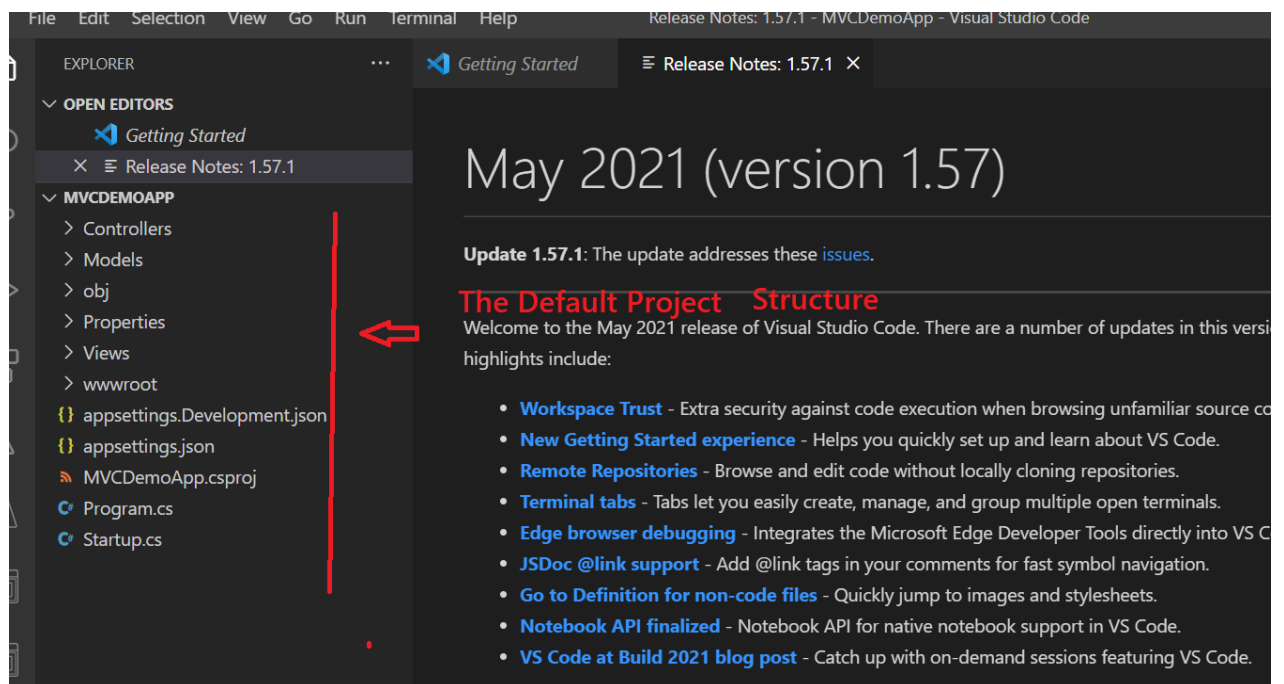
C:\az204\mvcdemo>dotnet new mvc -o MVCDemoApp
The template "ASP.NET Core Web App (Model-View-Controller)" was created successfully.
This template contains technologies from parties other than Microsoft.

Processing post-creation actions...
Running 'dotnet restore' on MVCDemoApp\MVCDemoApp.csproj...
Determining projects to restore...
Restored C:\az204\mvcdemo\MVCDemoApp\MVCDemoApp.csproj (1.0.0) in 1.00 sec.

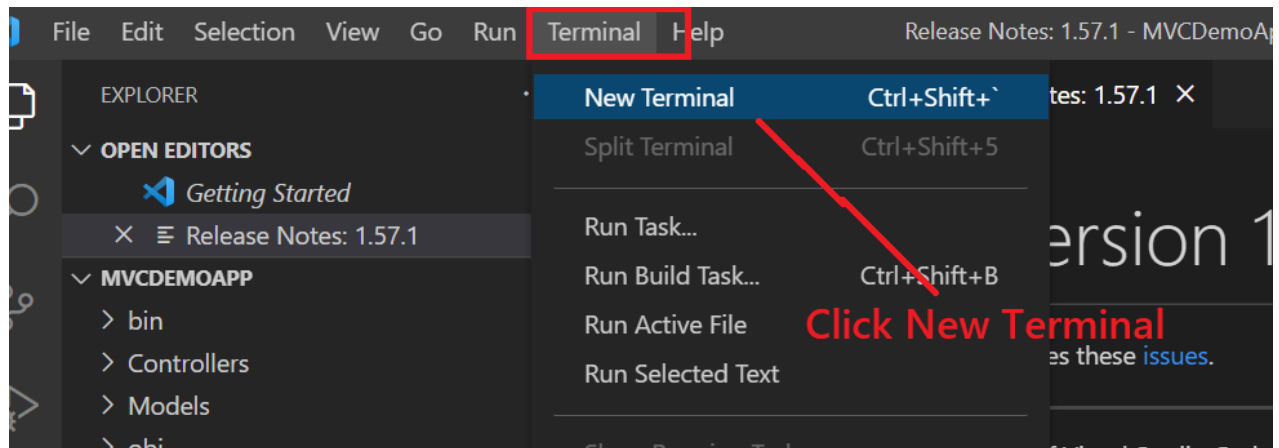
Restore succeeded.

C:\az204\mvcdemo>cd MVCDemoApp
C:\az204\mvcdemo\MVCDemoApp>code .
```

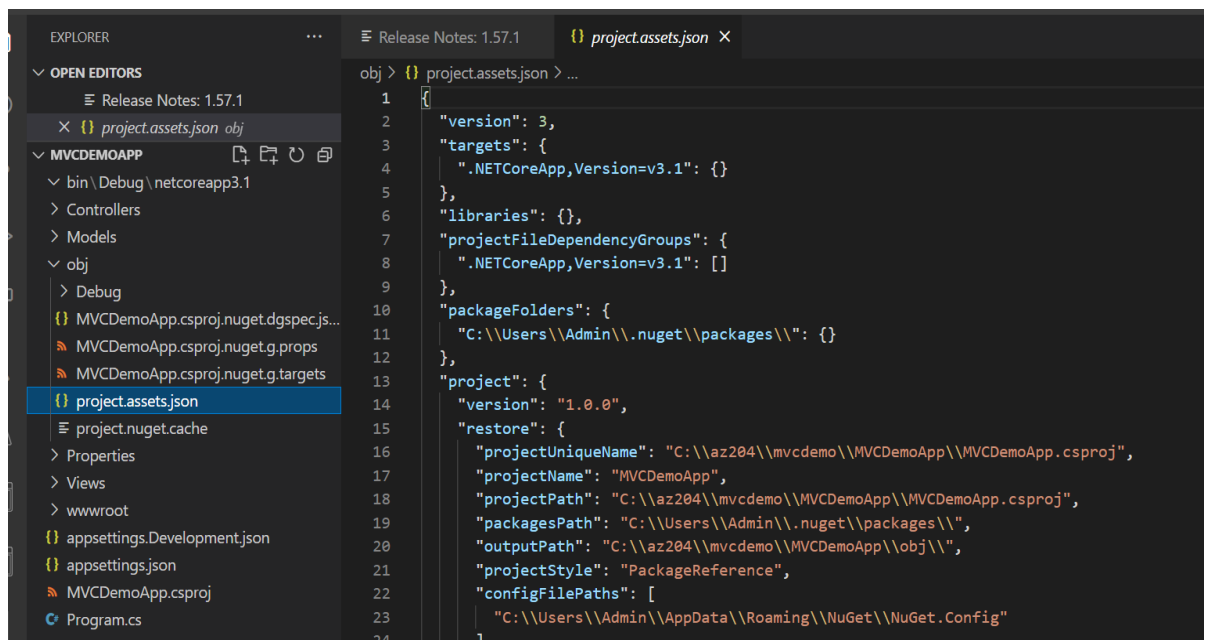
- It Open the project in VS Code Editor



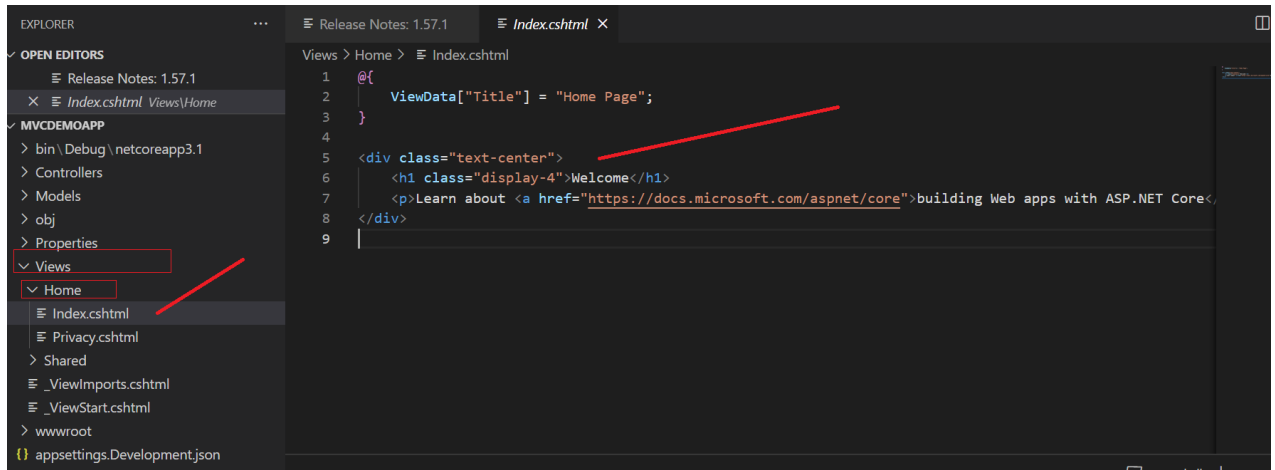
- Now go to Terminal and Click new terminal



- You Can also see the project details



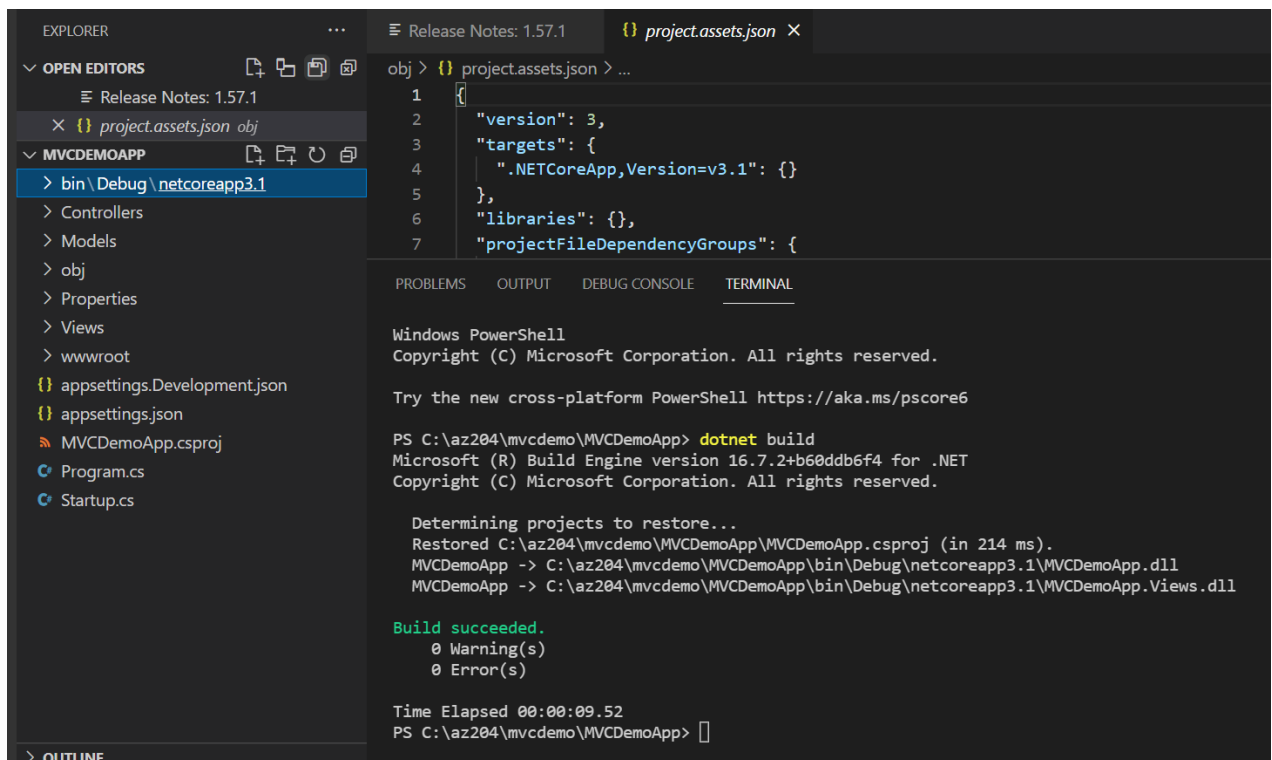
- The main file in the **MVCDemoApp** folder is **View\home\index.cshtml**. By default, it already contains the necessary code to write "**Hello World!**" to the Console.

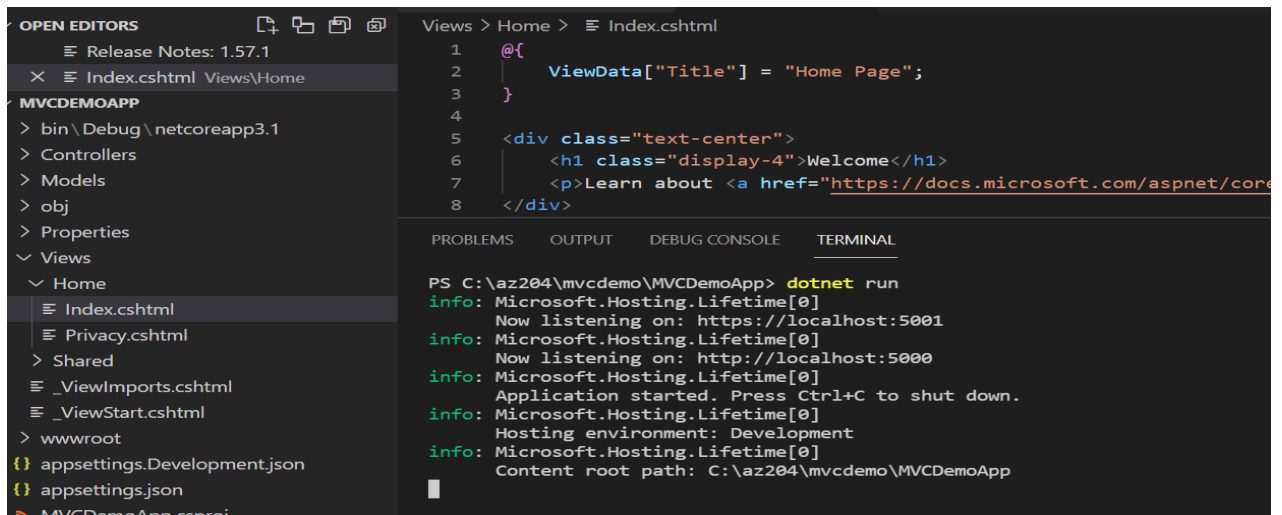


3.2 Build and Run Your App

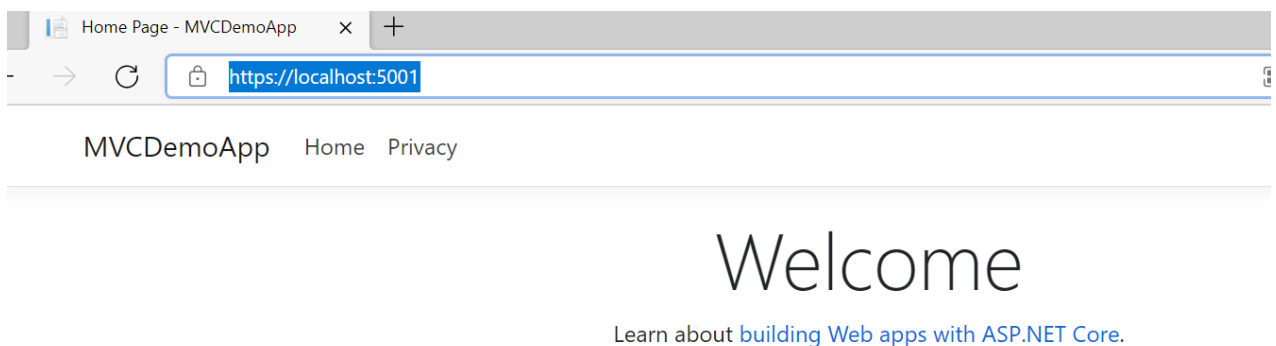
- Now we are going to Build the program (Build compiles the source code into a (hopefully) runnable application)

Dotnet Build



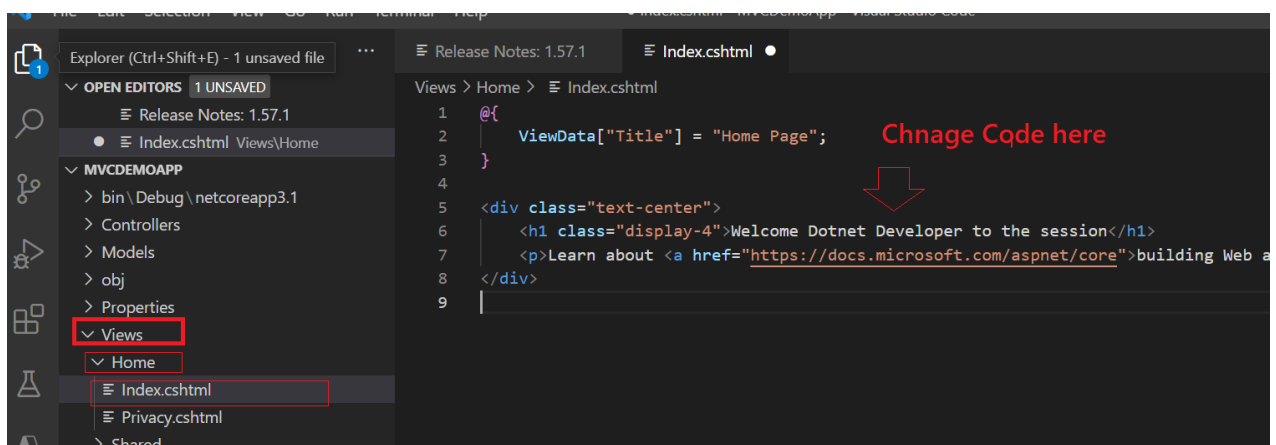


- Now you see it show the URL like <https://localhost:5001> , just launch it in browser and You will see the default browser. You May get the certificate effort so just ignore it.

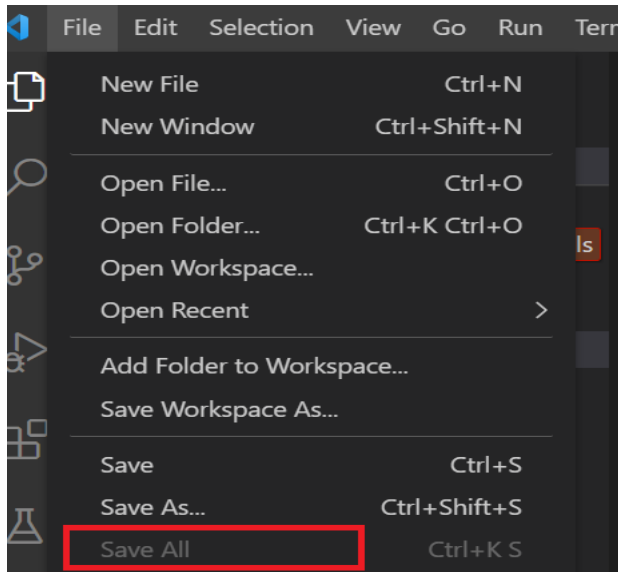


3.3 Update Your App

Now lets make small changes in code. For that we go to Program.cs and add some line in Println statement



Now save – File → Save All



Press **CTRL+C** to end the running server

Now again Build and Run the Code.

DotNet Build

```
Application is shutting down...
PS C:\az204\mvcdemo\MVCDemoApp> dotnet build
Microsoft (R) Build Engine version 16.7.2+b60ddb6f4 for .NET
Copyright (C) Microsoft Corporation. All rights reserved.

Determining projects to restore...
All projects are up-to-date for restore.
MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\netcoreapp3.1\MVCDemoApp.dll
MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\netcoreapp3.1\MVCDemoApp.Views.dll

Build succeeded.
    0 Warning(s)
    0 Error(s)

Time Elapsed 00:00:05.20
```

DotNet Run

The screenshot shows the Visual Studio Code interface. The Explorer pane on the left displays the project structure for 'MVCDEMOAPP', including folders like 'bin', 'Controllers', 'Models', 'obj', 'Properties', 'Views', and 'Home'. The 'Index.cshtml' file is selected under 'Views > Home'. The main editor shows the content of 'Index.cshtml', which includes a Razor view with a title 'Home Page' and a welcome message. The Terminal pane at the bottom shows the output of the 'dotnet run' command, indicating the application is running on https://localhost:5001 and http://localhost:5000.

```
1 @{
2     ViewData["Title"] = "Home Page";
3 }
4
5 <div class="text-center">
6     <h1 class="display-4">Welcome Dotnet Developer to the session</h1>
7     <p>Learn about <a href="https://docs.microsoft.com/aspnet/core">building
8 </div>
9
```

```
PS C:\az204\mvcdemo\MVCDemoApp> dotnet run
info: Microsoft.Hosting.Lifetime[0]
      Now listening on: https://localhost:5001
info: Microsoft.Hosting.Lifetime[0]
      Now listening on: http://localhost:5000
info: Microsoft.Hosting.Lifetime[0]
      Application started. Press Ctrl+C to shut down.
info: Microsoft.Hosting.Lifetime[0]
      Hosting environment: Development
info: Microsoft.Hosting.Lifetime[0]
      Content root path: C:\az204\mvcdemo\MVCDemoApp
```

Now Refresh the web



Welcome Dotnet Developer to the session

Learn about [building Web apps with ASP.NET Core](https://docs.microsoft.com/aspnet/core).

4 Push the Code to Source Code Repository (Github)

4.1 Create a Repo in Github

- Goto Github and click New Repo
- Type the Reponame as **MVCDemoApp**
- Type some description
- Without clicking the any other check box


Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner *

Repository name *

Repo Name

 bipeensinha ▾

/


MVCDemoApp ✓

Great repository names are short and memorable. Need inspiration? How about [glowing-system?](#)


Description (optional)

Description

This Demo of DotNet MVC

☒  **Public**

Anyone on the internet can see this repository. You choose who can commit.

☐  **Private**

You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

☐ **Add a README file**

This is where you can write a long description for your project. [Learn more.](#)

☐ **Add .gitignore**

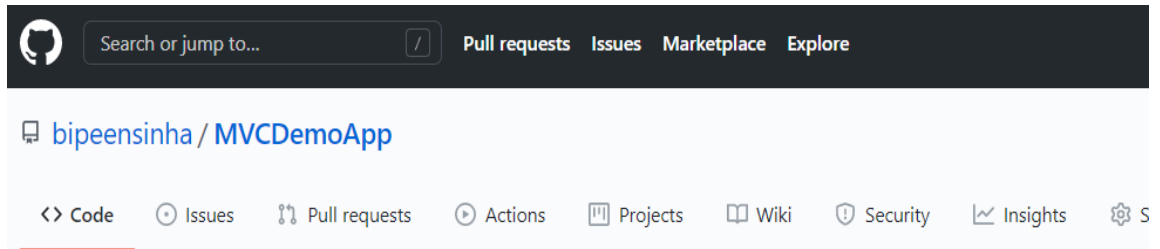
Choose which files not to track from a list of templates. [Learn more.](#)

☐ **Choose a license**

A license tells others what they can and can't do with your code. [Learn more.](#)

Create repository

- Click **Create Repository**



Quick setup — if you've done this kind of thing before

[Set up in Desktop](#) or [HTTPS](#) [SSH](#) <https://github.com/bipeensinha/MVCDemoApp.git>

Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository includ

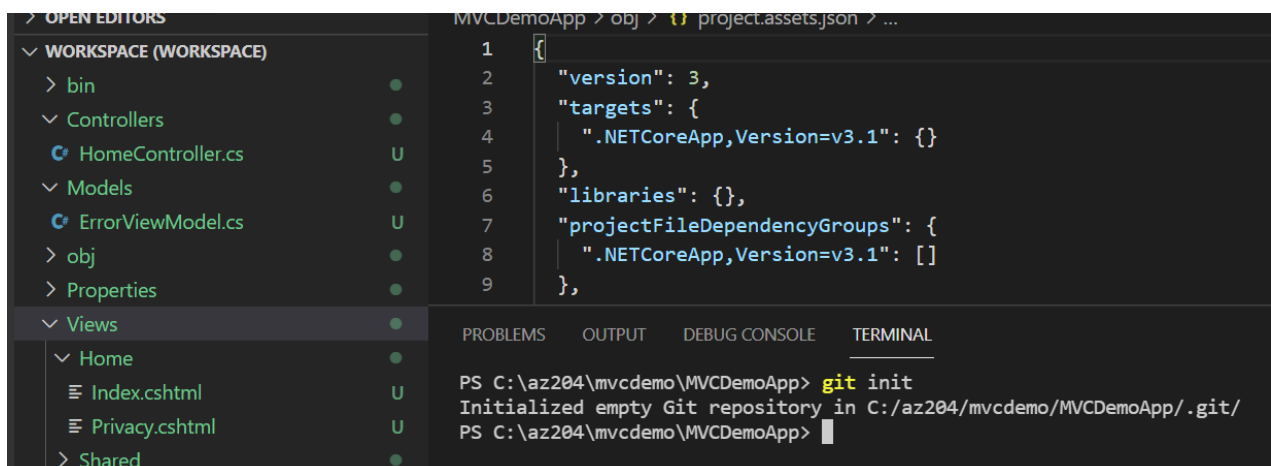
...or create a new repository on the command line

```
echo "# MVCDemoApp" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/bipeensinha/MVCDemoApp.git
git push -u origin main
```

4.2 Initialize Local Repo and Push the code to Github

- On the local VS Code terminal type below command

Git Init



- Now add the code to git Queue with git add . (where . (dot) represent everything in current directory)

Git add .

The screenshot shows the Visual Studio Code interface. On the left, the Explorer pane shows a project structure with folders like bin, Controllers, Models, obj, Properties, and Views. The Views folder is expanded, showing files like Index.cshtml, Privacy.cshtml, and Shared. The main editor area shows the content of project.assets.json, which includes version, targets, libraries, and projectFileDependencyGroups. The bottom panel shows the TERMINAL window with the following commands and output:

```
PS C:\az204\mvcdemo\MVCDemoApp> git init
Initialized empty Git repository in C:/az204/mvcdemo/MVCDemoApp/.git/
PS C:\az204\mvcdemo\MVCDemoApp> git add .
warning: LF will be replaced by CRLF in appsettings.Development.json.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in bin/Debug/netcoreapp3.1/appsettings.Development.json.
The file will have its original line endings in your working directory
PS C:\az204\mvcdemo\MVCDemoApp>
```

- Now copy the git remote origin command from github and past it here. It is going to tell your git agent installed your laptop that which repo to push the code

git remote add origin <https://github.com/bipeensinha/myapp.git>

The screenshot shows the GitHub repository page for [bipeensinha / MVCDemoApp](https://github.com/bipeensinha/MVCDemoApp). The page has tabs for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, and Insights. Below the repository name, there is a section titled "Quick setup — if you've done this kind of thing before" with buttons for "Set up in Desktop", "HTTPS", and "SSH". The "SSH" button is selected, and the URL <https://github.com/bipeensinha/MVCDemoApp.git> is displayed. Below this, there is a section titled "...or create a new repository on the command line" with a code block containing the following commands:

```
echo "# MVCDemoApp" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/bipeensinha/MVCDemoApp.git
git push -u origin main
```

The command `git remote add origin https://github.com/bipeensinha/MVCDemoApp.git` is highlighted with a red box.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\az204\myApp> git init
Initialized empty Git repository in C:/az204/myApp/.git/
PS C:\az204\myApp> git add .
PS C:\az204\myApp> git remote add origin https://github.com/bipeensinha/myapp.git
```

- Now commit the code to Github queue

git commit -m "first commit"

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\az204\myApp> git commit -m "First Update"
[master (root-commit) ab9d4e3] First Update
25 files changed, 256 insertions(+)
create mode 100644 Program.cs
create mode 100644 bin/Debug/netcoreapp3.1/myApp.deps.json
create mode 100644 bin/Debug/netcoreapp3.1/myApp.dll
create mode 100644 bin/Debug/netcoreapp3.1/myApp.exe
create mode 100644 bin/Debug/netcoreapp3.1/myApp.pdb
create mode 100644 bin/Debug/netcoreapp3.1/myApp.runtimeconfig.dev.json
create mode 100644 bin/Debug/netcoreapp3.1/myApp.runtimeconfig.json
create mode 100644 myApp.csproj
create mode 100644 obj/Debug/netcoreapp3.1/.NETCoreApp,Version=v3.1.Assembly
create mode 100644 obj/Debug/netcoreapp3.1/myApp.AssemblyInfo.cs
create mode 100644 obj/Debug/netcoreapp3.1/myApp.AssemblyInfoInputs.cache
create mode 100644 obj/Debug/netcoreapp3.1/myApp.assets.cache
create mode 100644 obj/Debug/netcoreapp3.1/myApp.csproj.AssemblyReference.ca
```

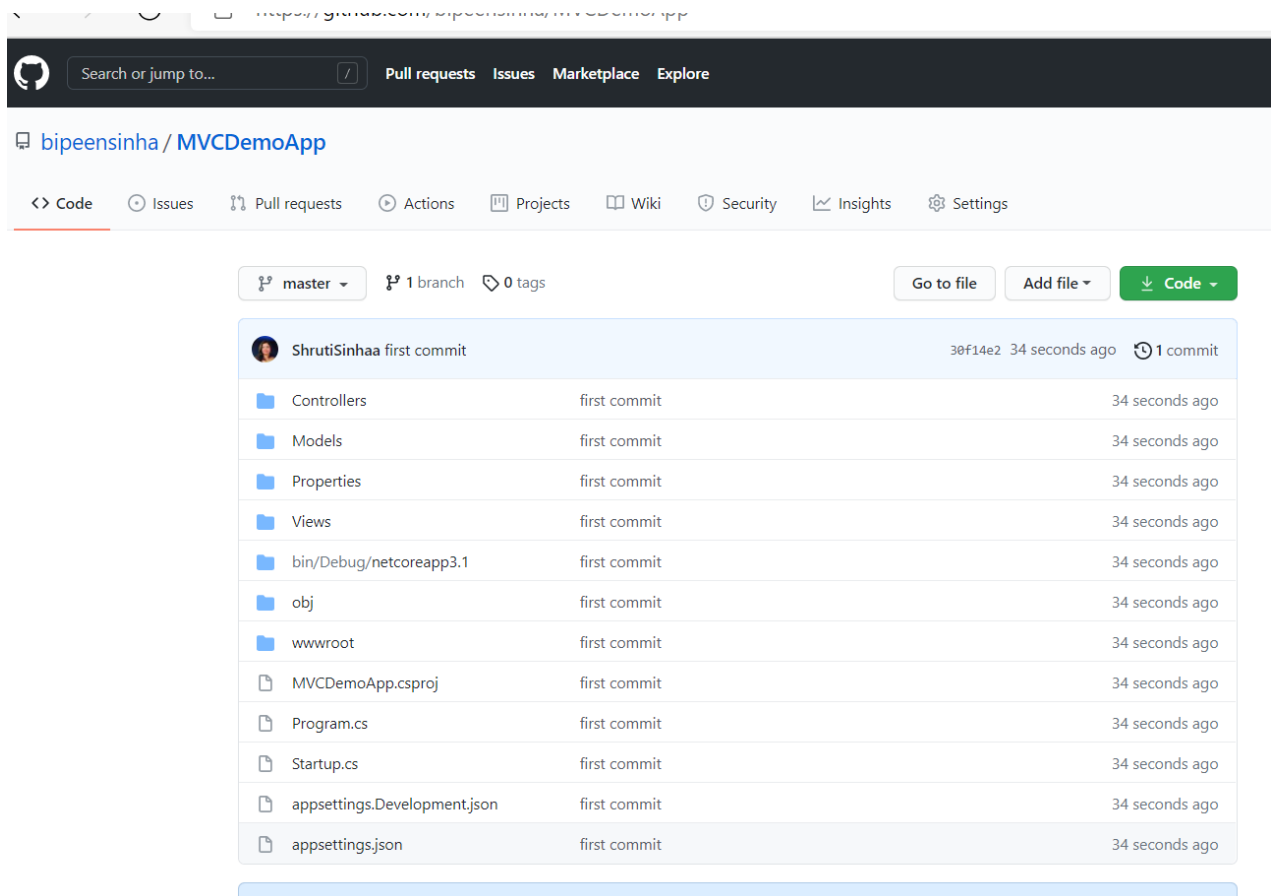
- Now Push the code to Github Repository

git push -all

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\az204\mvcdemo\MVCDemoApp> git push --all
Enumerating objects: 120, done.
Counting objects: 100% (120/120), done.
Delta compression using up to 4 threads
Compressing objects: 100% (102/102), done.
Writing objects: 100% (120/120), 851.02 KiB | 3.34 MiB/s, done.
Total 120 (delta 20), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (20/20), done.
To https://github.com/bipeensinha/MVCDemoApp.git
 * [new branch]      master -> master
PS C:\az204\mvcdemo\MVCDemoApp> █
```

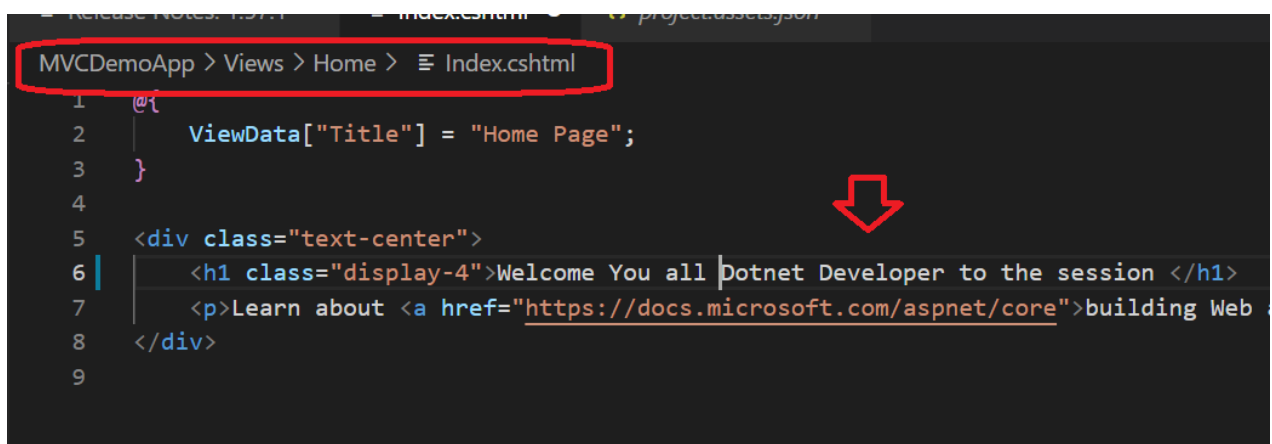
- Now go to github Portal , Refresh it and check you have your code there.



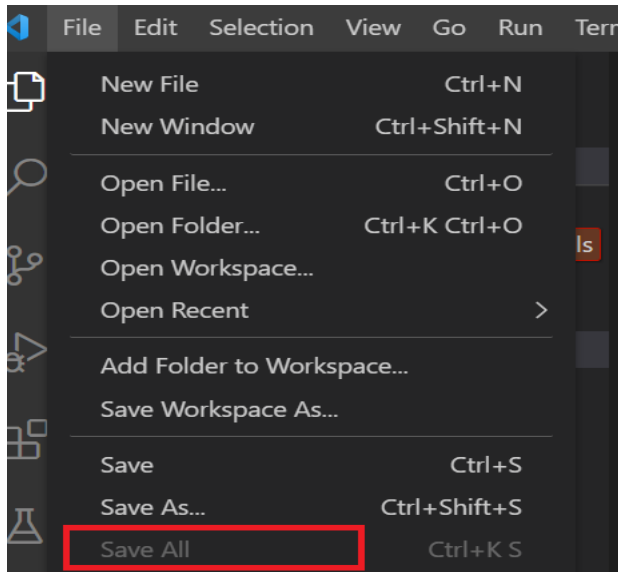
5 Update the Code and Push again to Repository (Github)

5.1 Update Your App

Now lets make small changes in code. For that we go to Program.cs and add some line in **Println statement**



Now save – **File → Save All**



Now again Build Code.

DotNet Build

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\az204\mvcdemo\MVCDemoApp> dotnet build
Microsoft (R) Build Engine version 16.7.2+b60ddb6f4 for .NET
Copyright (C) Microsoft Corporation. All rights reserved.

Determining projects to restore...
Restored C:\az204\mvcdemo\MVCDemoApp\MVCDemoApp.csproj (in 217 ms).
MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\netcoreapp3.1\MVCDemoApp.dll
MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\netcoreapp3.1\MVCDemoApp.Views.dll

Build succeeded.
    0 Warning(s)
    0 Error(s)

Time Elapsed 00:00:02.79
```

- Now add the code to git Queue with git add . (where . (dot) represent everything in current directory)

Git add .


```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

PS C:\az204\mvcdemo\MVCDemoApp> dotnet build
Microsoft (R) Build Engine version 16.7.2+b60ddb6f4 for .
Copyright (C) Microsoft Corporation. All rights reserved.

    Determining projects to restore...
    Restored C:\az204\mvcdemo\MVCDemoApp\MVCDemoApp.csproj
    MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\net
    MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\net

Build succeeded.
    0 Warning(s)
    0 Error(s)

Time Elapsed 00:00:02.79
PS C:\az204\mvcdemo\MVCDemoApp> git add .
PS C:\az204\mvcdemo\MVCDemoApp> █
```

- Now commit the code to Github queue

```
git commit -m "Second commit"
```

```

PS C:\az204\mvcdemo\MVCDemoApp> dotnet build
Microsoft (R) Build Engine version 16.7.2+b60ddb6f4 for .NET
Copyright (C) Microsoft Corporation. All rights reserved.

Determining projects to restore...
Restored C:\az204\mvcdemo\MVCDemoApp\MVCDemoApp.csproj (in 217 ms).
MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\netcoreapp3.1\MVCDemoApp.dll
MVCDemoApp -> C:\az204\mvcdemo\MVCDemoApp\bin\Debug\netcoreapp3.1\MVCDemoApp.exe

Build succeeded.
    0 Warning(s)
    0 Error(s)

Time Elapsed 00:00:02.79
PS C:\az204\mvcdemo\MVCDemoApp> git add .
PS C:\az204\mvcdemo\MVCDemoApp> git commit -m "second commit"
[master 54929ce] second commit
 3 files changed, 7 insertions(+), 7 deletions(-)
PS C:\az204\mvcdemo\MVCDemoApp>

```

- Now Push the code to Github Repository

Git push --all

```

PS C:\az204\mvcdemo\MVCDemoApp> git push --all
Enumerating objects: 15, done.
Counting objects: 100% (15/15), done.
Delta compression using up to 4 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (8/8), 862 bytes | 431.00 KiB/s, done.
Total 8 (delta 4), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (4/4), completed with 4 local objects.
To https://github.com/bipeensinha/MVCDemoApp.git
 30f14e2..54929ce master -> master

```

- Now go to github Portal, Refresh it and check you have your code there.

master MVCDemoApp / Views / Home / Index.cshtml

ShrutiSinhaa second commit Latest commit

1 contributor

8 lines (7 sloc) | 272 Bytes

```
1 @{
2     ViewData["Title"] = "Home Page";
3 }
4
5 <div class="text-center">
6     <h1 class="display-4">Welcome You all Dotnet Developer to the session </h1>
7     <p>Learn about <a href="https://docs.microsoft.com/aspnet/core">building Web apps with ASP.NET Core</a>.</p>
8 </div>
```