



# IronPdf Guide with .NET Core

Version 2019.8.9

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## Introduction

Adding Pdf file generation in ASP.Net MVC project is a cumbersome task; also converting MVC views, HTML file, and online web pages to Pdf is a very hard and complex problem,

<-- Text in introduction part -->

And you can visit <http://www.ironpdf.com> for more information.

You can download sample project from GitHub  
(<https://github.com/magedo93/IronSoftware.git>)

## Document Organization

- Chapter 1 Install IronPdf: this part describes How to install IronPdf to existing project.
- Chapter 2 Convert to pdf: this part describes different methods to create Pdf from different sources like (URL, HTML, MVC views) and different advanced options that we can use for different output pdf settings,  
Also how to deploy your project to different images (Linux, windows)
- Chapter 3 Working with Pdf Document: this part describes how to different manipulation capabilities on created pdf files like adding headers or footers, merge files, add STAMP and other features.
- Summery  
brief conclusion about what we have learned in this document
- Appendix (A) Dockers: this part describes what is dockers and how to use it
- About author  
brief about document author

## Chapter 1: Install IronPdf

IronPdf can be installed and used on all of .NET projects type like windows application, ASP.NET MVC and .Net Core Application.

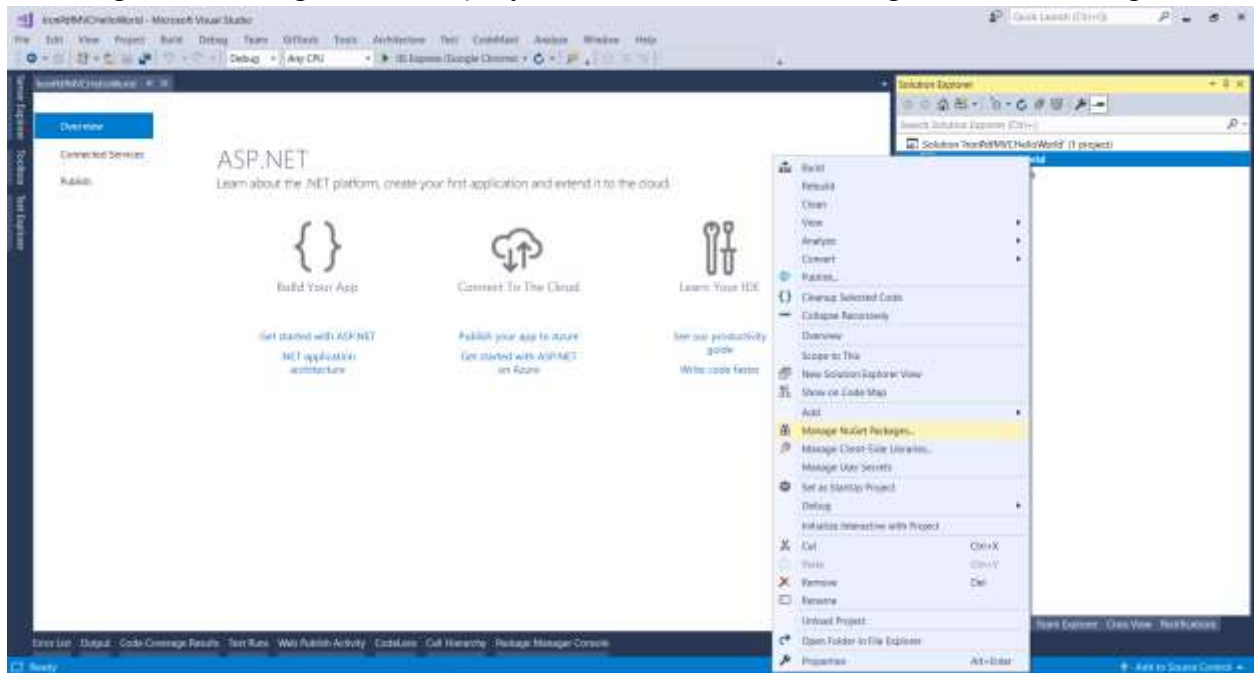
To add IronPdf library to the project we have two ways, from Visual studio editor install using NuGet or command line using package console manager as following: -

### Install using NuGet

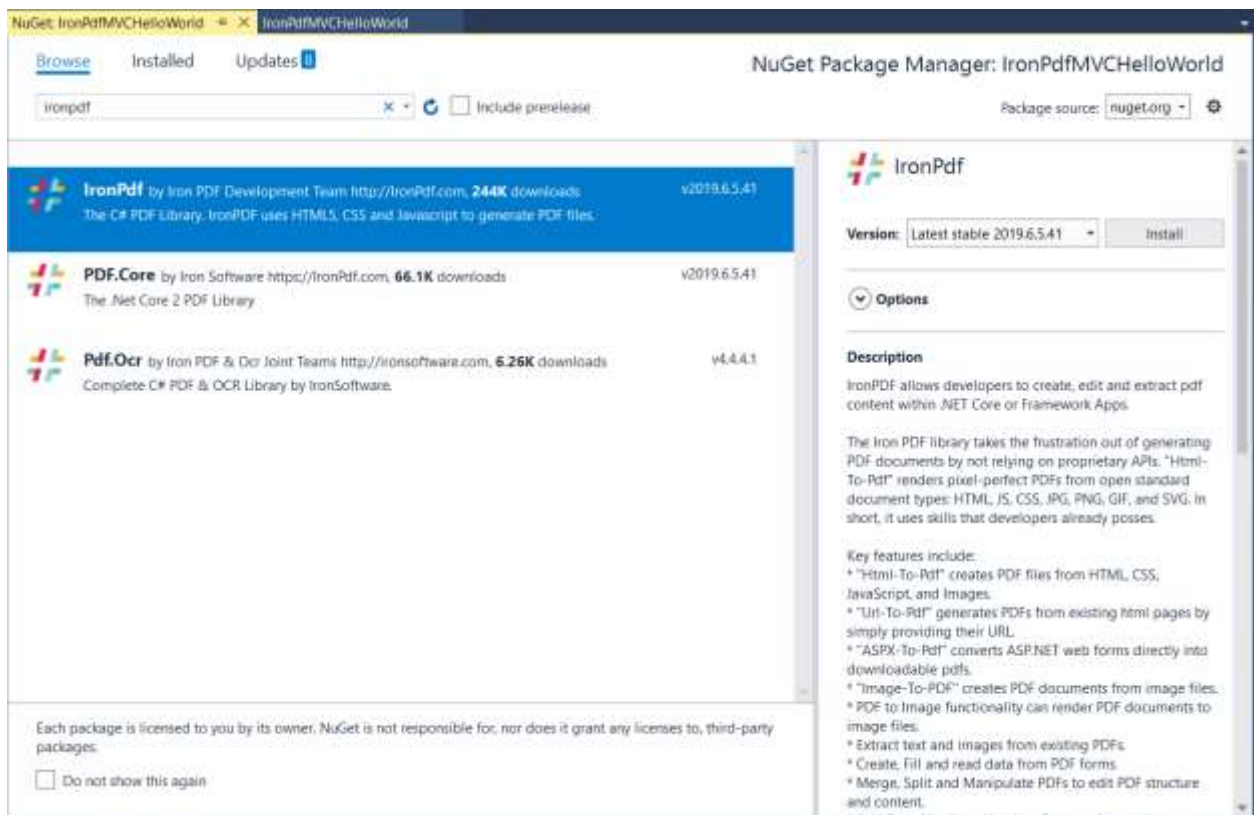
To add IronPdf library to our project using NuGet we can do it using visualized interface (NuGet Package Manager) or by command using Package Manager Console as following: -

## Using NuGet Package Manager

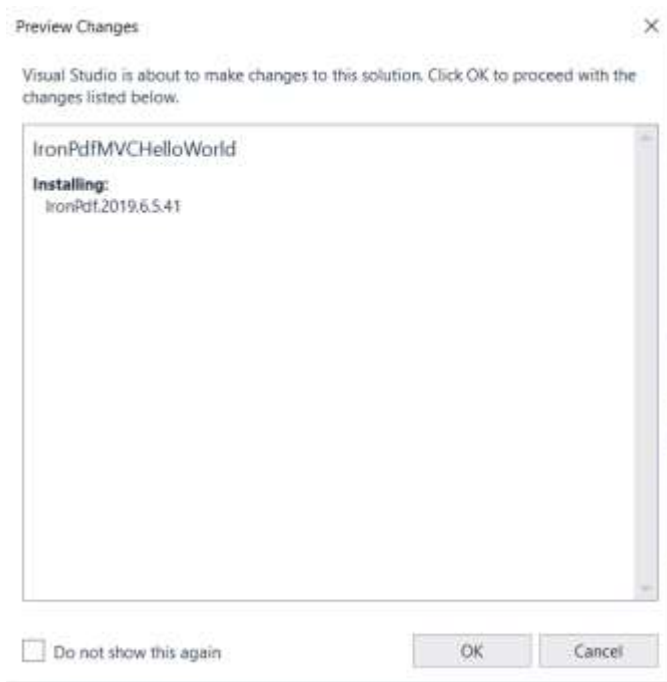
1- Using mouse -> right click on project name -> Select manage NuGet Package



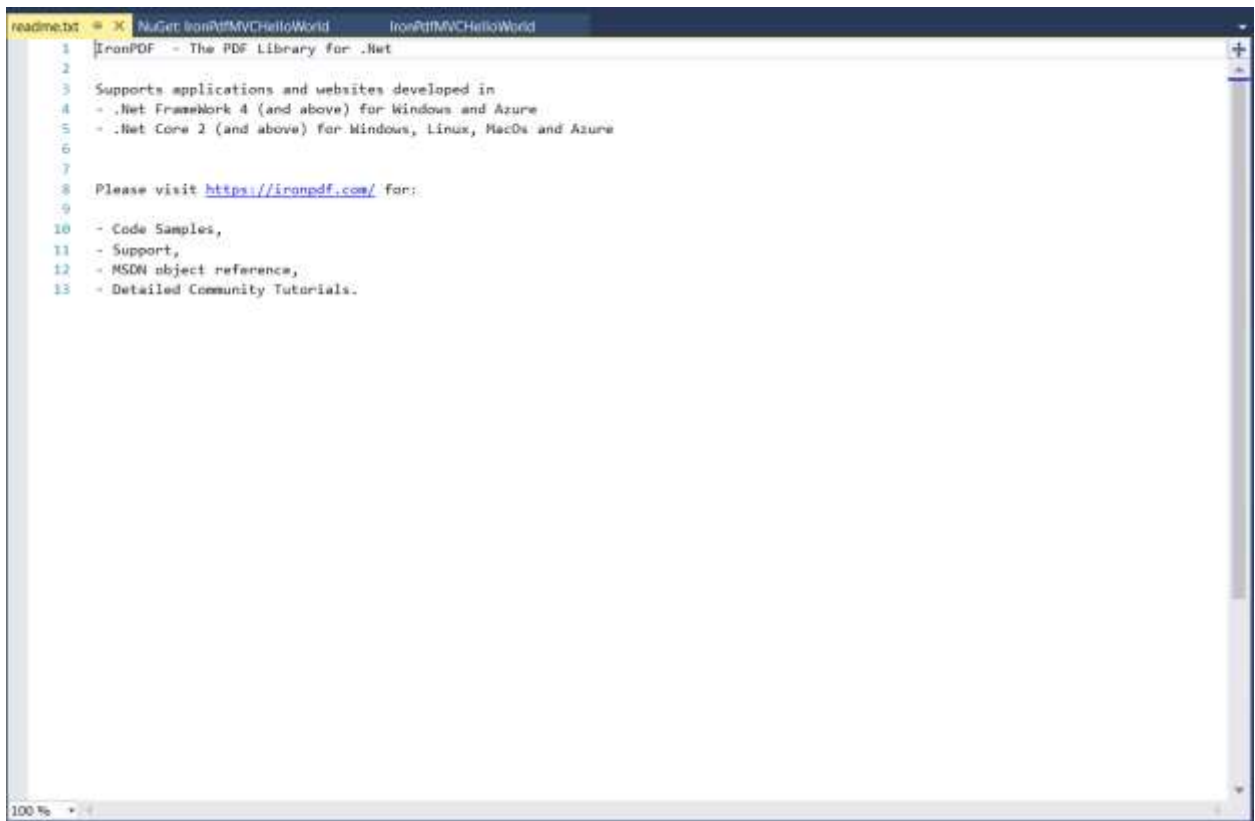
2- From brows tab -> search for IronPdf -> Install



### 3- Click Ok

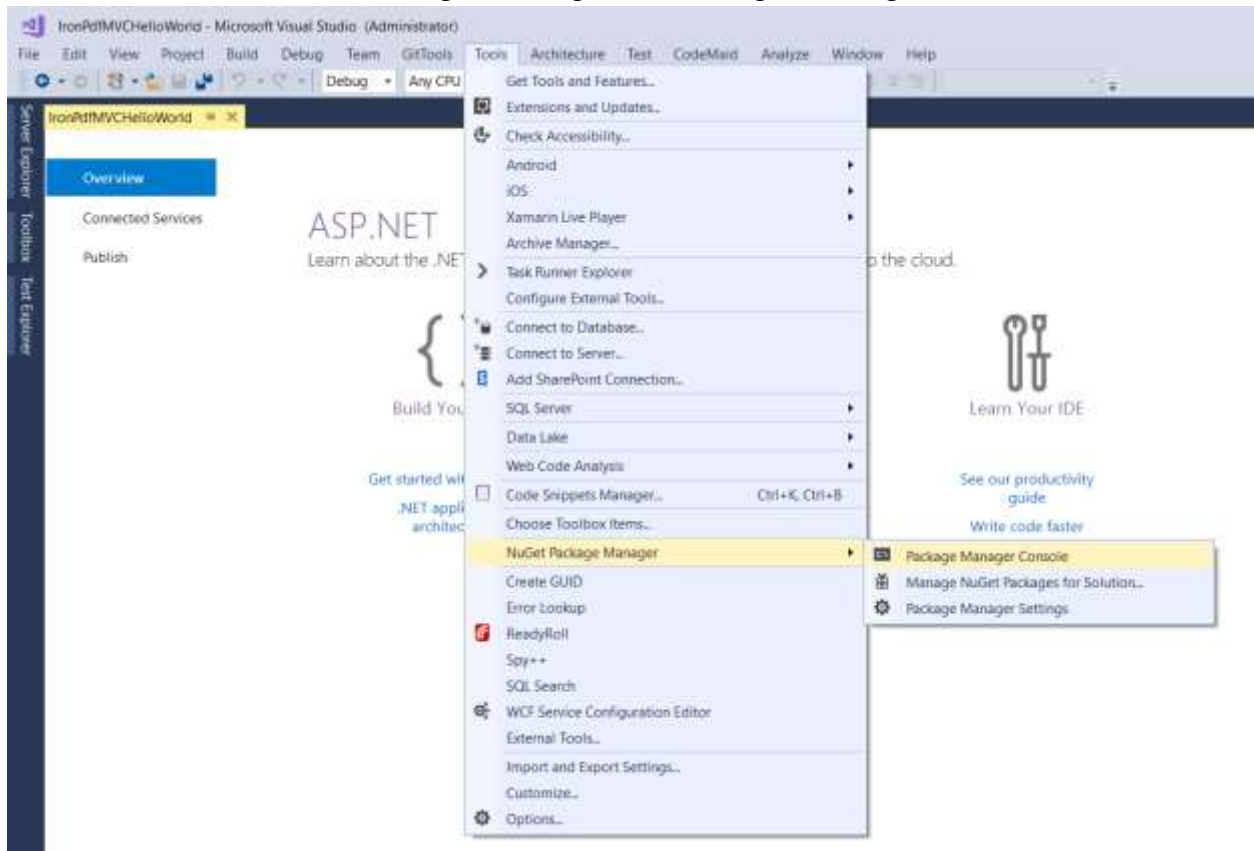


### 4- And we are Done

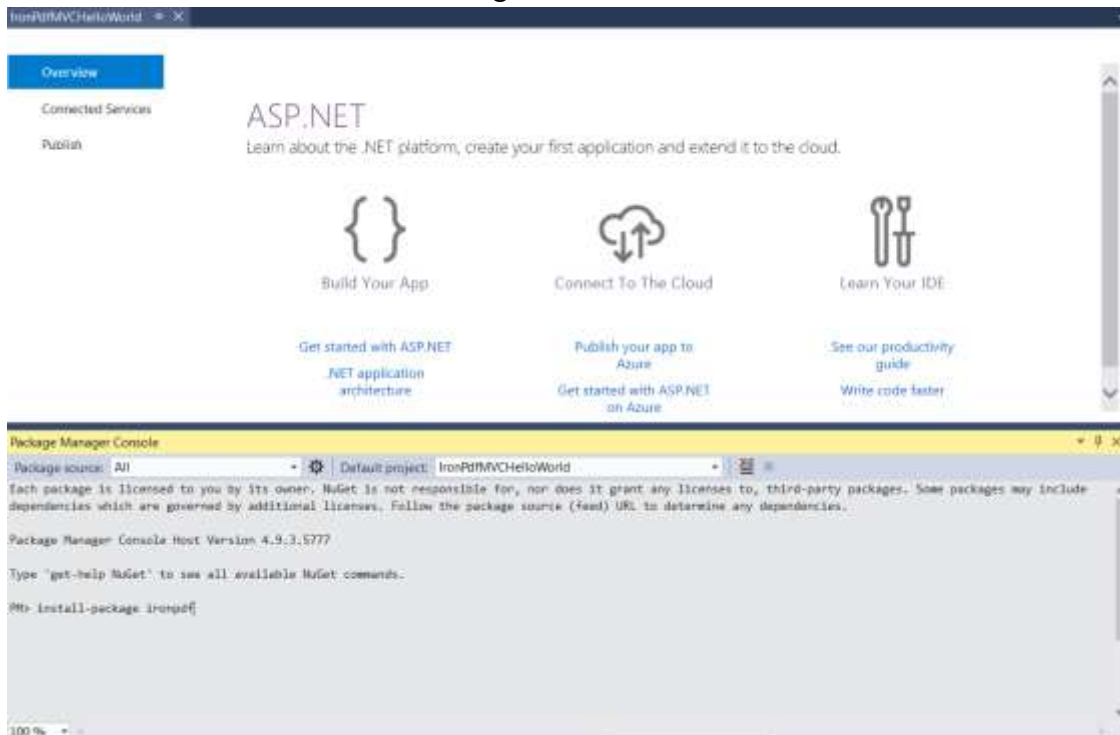


## Using NuGet Package Console manager

1- From tools -> NuGet Package Manager -> Package Manager Console



2- Run command -> Install-Package IronPdf



We can now practice by implementing Hello World using .NET Core Console Application and another Hello world using .NET Core Web Application

### Sample 1: HelloWorldConsole Console Application

Open visual studio => new => project

### Sample 2: HelloWorldCore .Net Core Web Application

## Chapter 2: Convert to Pdf

### Convert online website to Pdf

#### Sample: ConvertUrlToPdf console application

Follow coming steps to create new Asp.NET MVC Project

- 1- Open visual studio



## 2- Choose Create new project

### Get started



#### Clone or check out code

Get code from an online repository like GitHub or Azure DevOps



#### Open a project or solution

Open a local Visual Studio project or .sln file



#### Open a local folder

Navigate and edit code within any folder



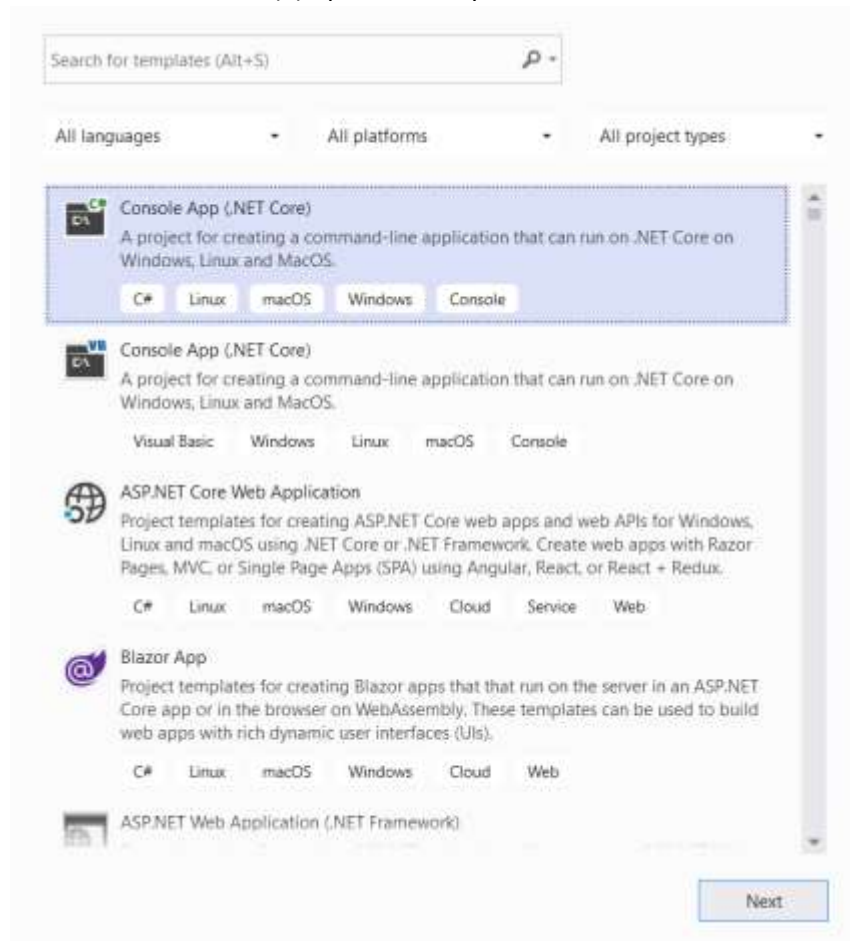
#### Create a new project

Choose a project template with code scaffolding to get started

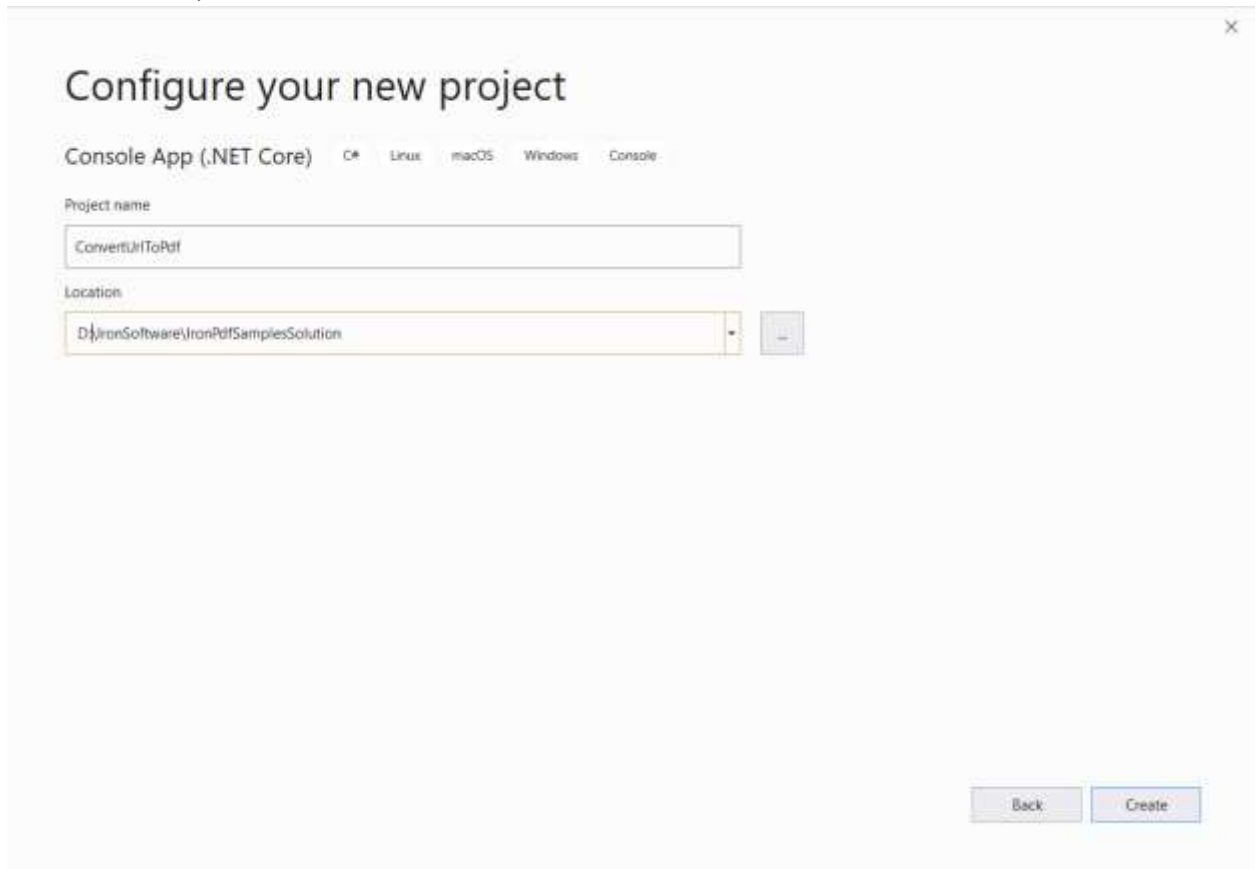
[Continue without code →](#)



### 3- Choose Console App (.NET Core)



- 4- Give our sample name "ConvertUrlToPdf" and click create



Configure your new project

Console App (.NET Core) C# Linux macOS Windows Console

Project name

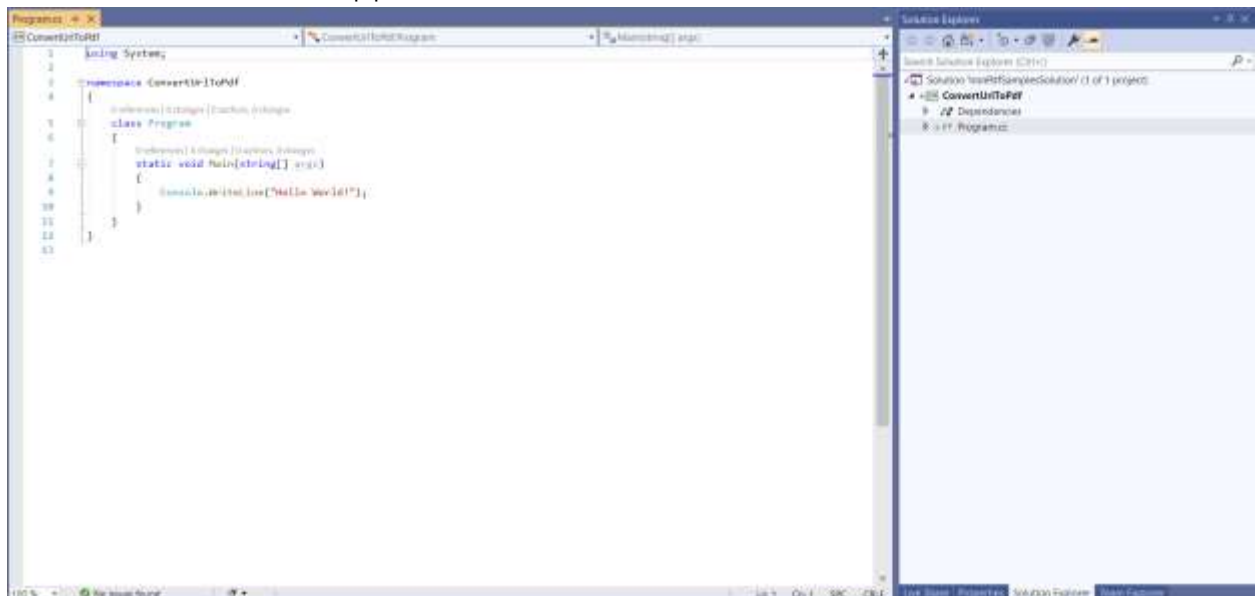
ConvertUrlToPdf

Location

D:\IronSoftware\IronPdfSamplesSolution

Back Create

- 5- Now we have console application created



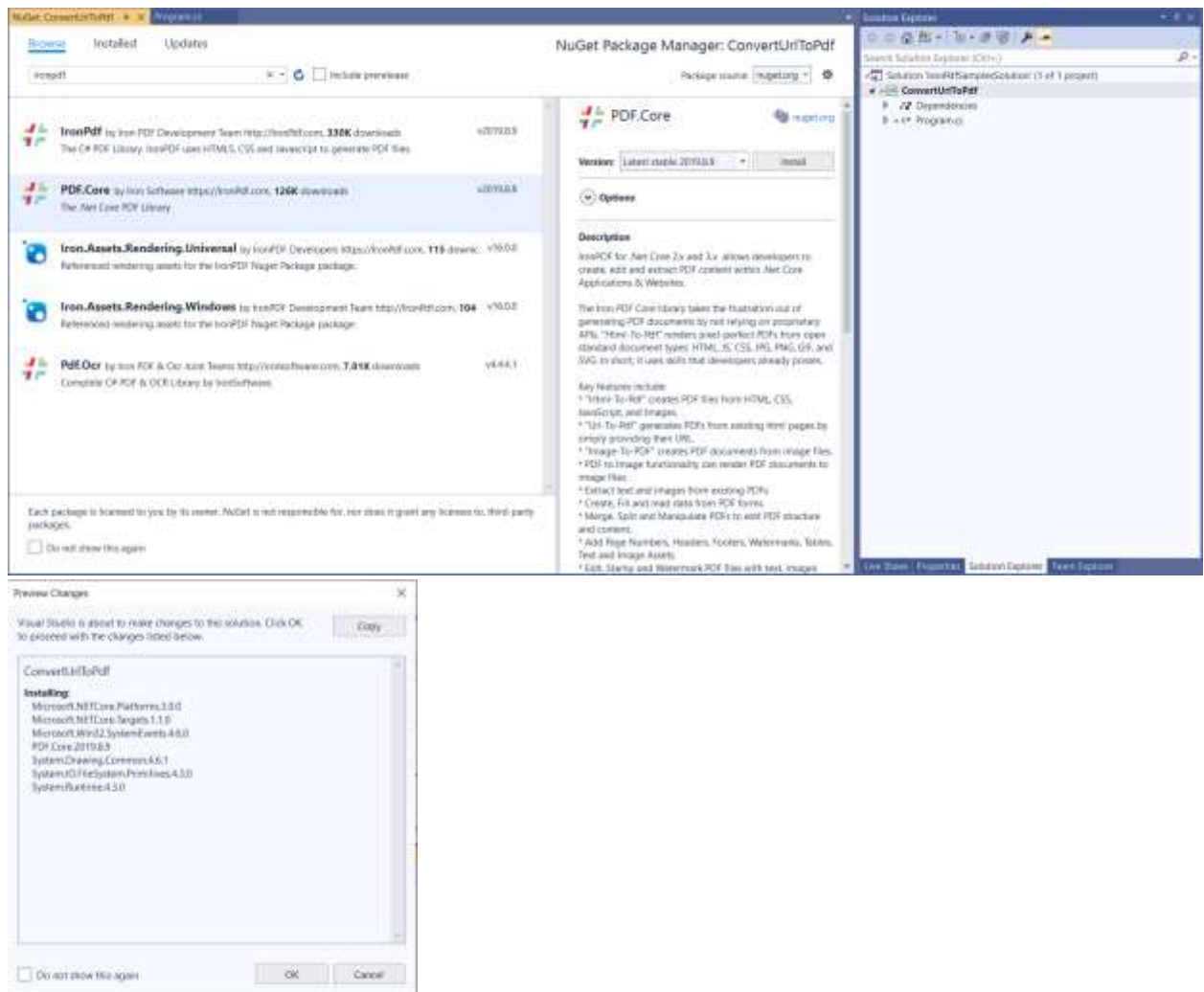
```
1 using System;
2
3 namespace ConvertUrlToPdf
4 {
5     class Program
6     {
7         static void Main(string[] args)
8         {
9             Console.WriteLine("Hello World!");
10        }
11    }
12 }
13
```

Solution Explorer

Solution IronPdfSamplesSolution (1 of 1) projects

- ConvertUrlToPdf
- Dependencies
- Program.cs

6- Add IronPdf => click install



7- Add our first few lines that render Wikipedia website main page to pdf

```
static void Main(string[] args)
{
    Console.WriteLine("Hello World!");
    var render = new IronPdf.HtmlToPdf();
    var doc = render.RenderUrlAsPdf("https://www.wikipedia.org/");
    doc.SaveAs($"{AppDomain.CurrentDomain.BaseDirectory}\\wiki.pdf");
}
```

8- Run and check created file wiki.pdf



## Convert HTML to Pdf

Sample: ConvertHTMLToPdf Console application

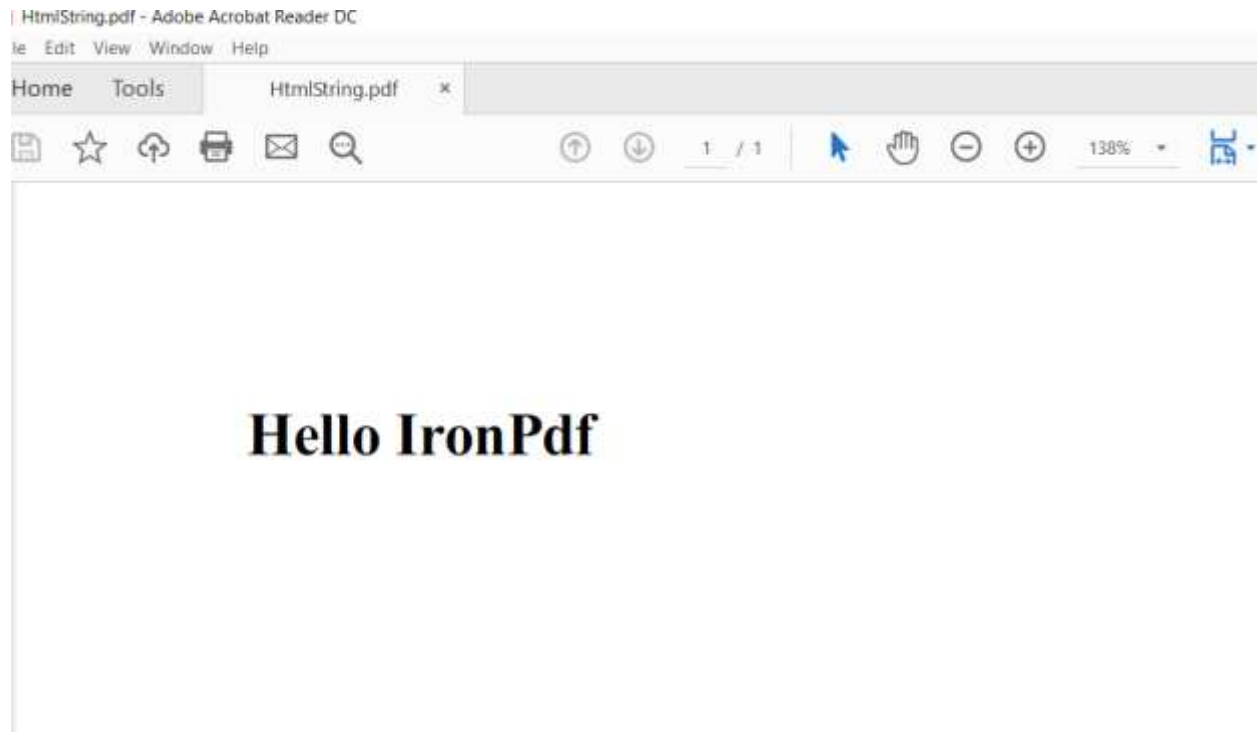
To render HTML to Pdf we have 2 way

- 1- Write html into string then render it
- 2- Write html into file and pass it path to ironPdf to render it

Rendering html string sample code like

```
static void Main(string[] args)
{
    var render = new IronPdf.HtmlToPdf();
    var doc = render.RenderHtmlAsPdf("<h1>Hello IronPdf</h1>");
    doc.SaveAs($"{AppDomain.CurrentDomain.BaseDirectory}\\HtmlString.pdf");
}
```

Result pdf like



## Convert MVC view to Pdf

### Sample: TicketsApps .NET Core MVC Application

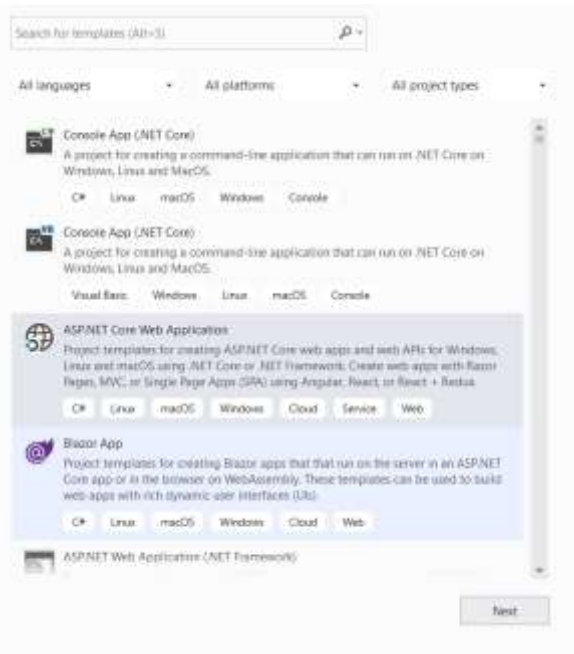
Let's implement real life example I'll choose online ticketing site you open the site and navigate to book ticket then fill required information's then you get your copy as downloadable pdf file so let's go.

We will go through this step: -

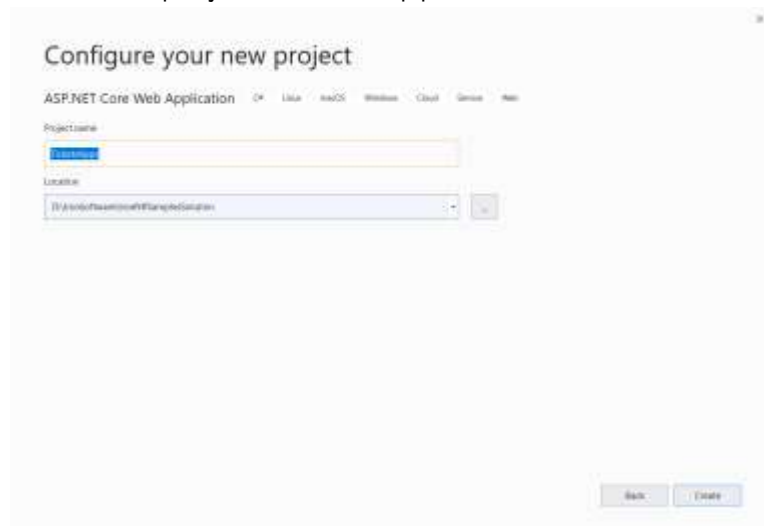
- 1- Create client object model
- 2- Create client services (add, view)
- 3- Add pages (Register, view)
- 4- Download pdf ticket

So now I'll start by creating client object model

## 1- Choose ASP.NET core web applications

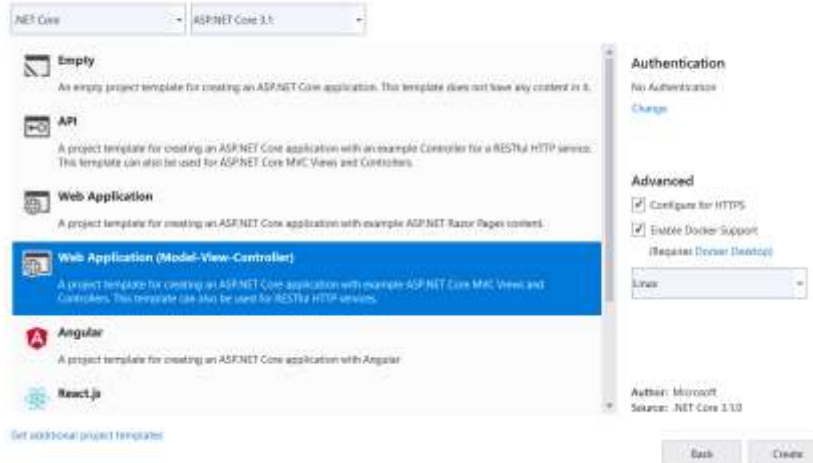


## 2- Name the project "TicketsApps"

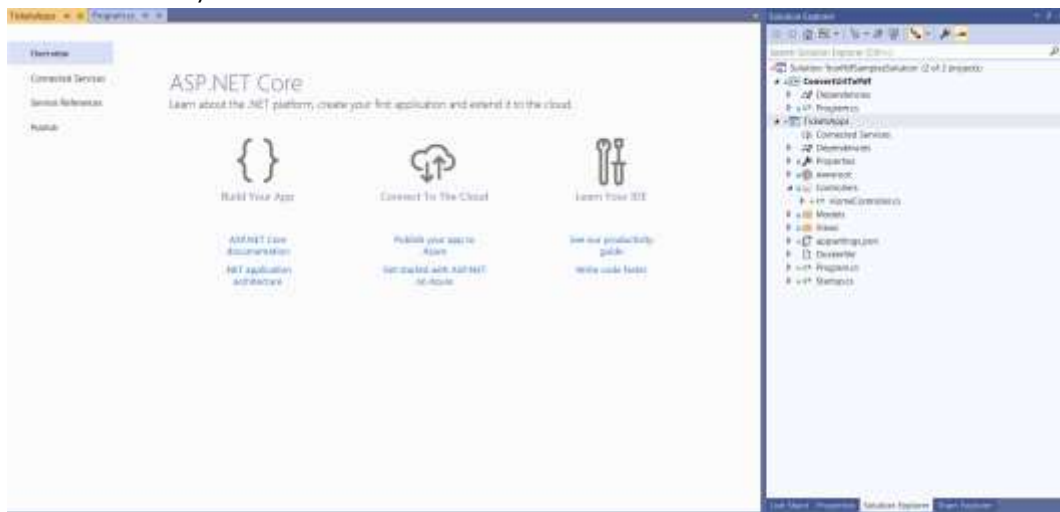


- 3- Choose “.NET Core”, “ASP.NET core 3.1” , “Web Application (Model-View-Controller)” , check enable docker and choose Linux Image

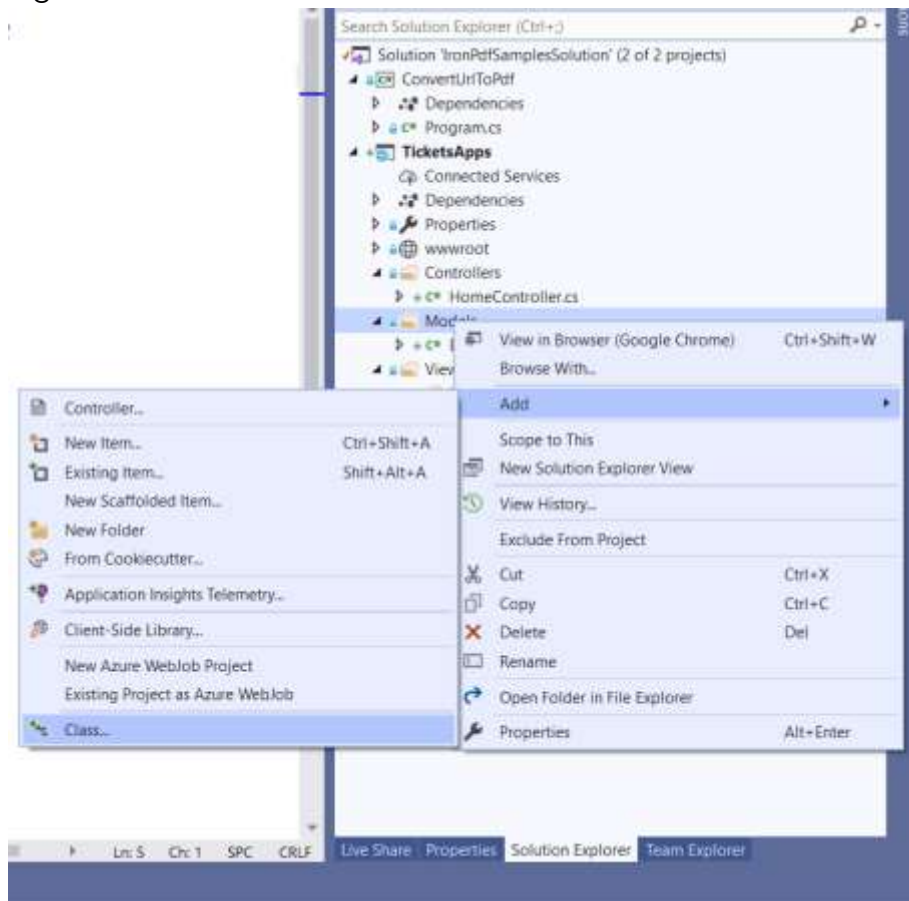
## Create a new ASP.NET Core web application



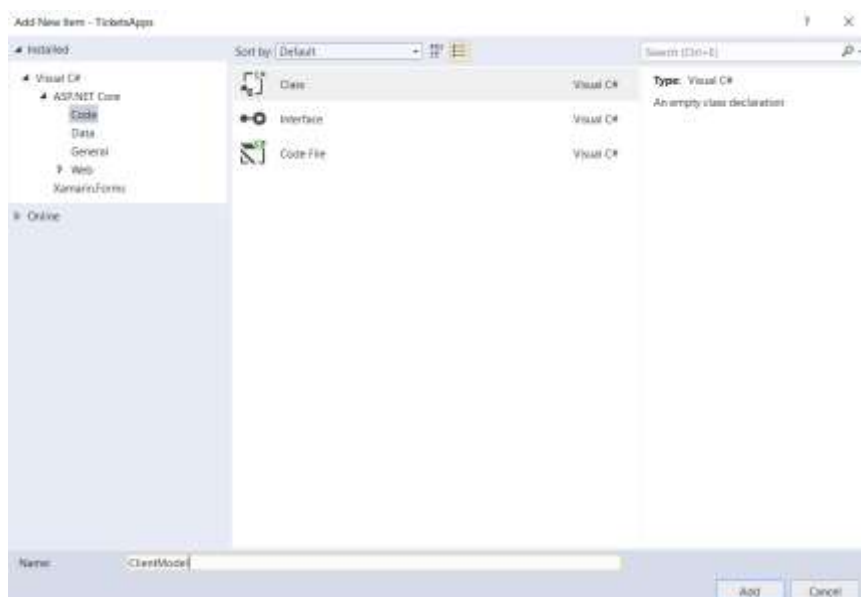
- 4- Now it's ready



- 5- Right click on models' folders choose to add choose class



- 6- Name the model "ClientModel" then click add



- 7- add to ClientModel attributes Name , phone and email and make them all required by adding required attribute over them as follow



```

public class ClientModel
{
    [Required]
    public string Name { get; set; }
    [Required]
    public string Phone { get; set; }
    [Required]
    public string Email { get; set; }
}

```

8- Step 2 add services

- a. Create folder and with name "services"
- b. Then add class with name "ClientServices"
- c. add static object of type "ClientModel" to use it as repository
- d. add two functions one for saving client to repository and 2<sup>nd</sup> to get saved clients

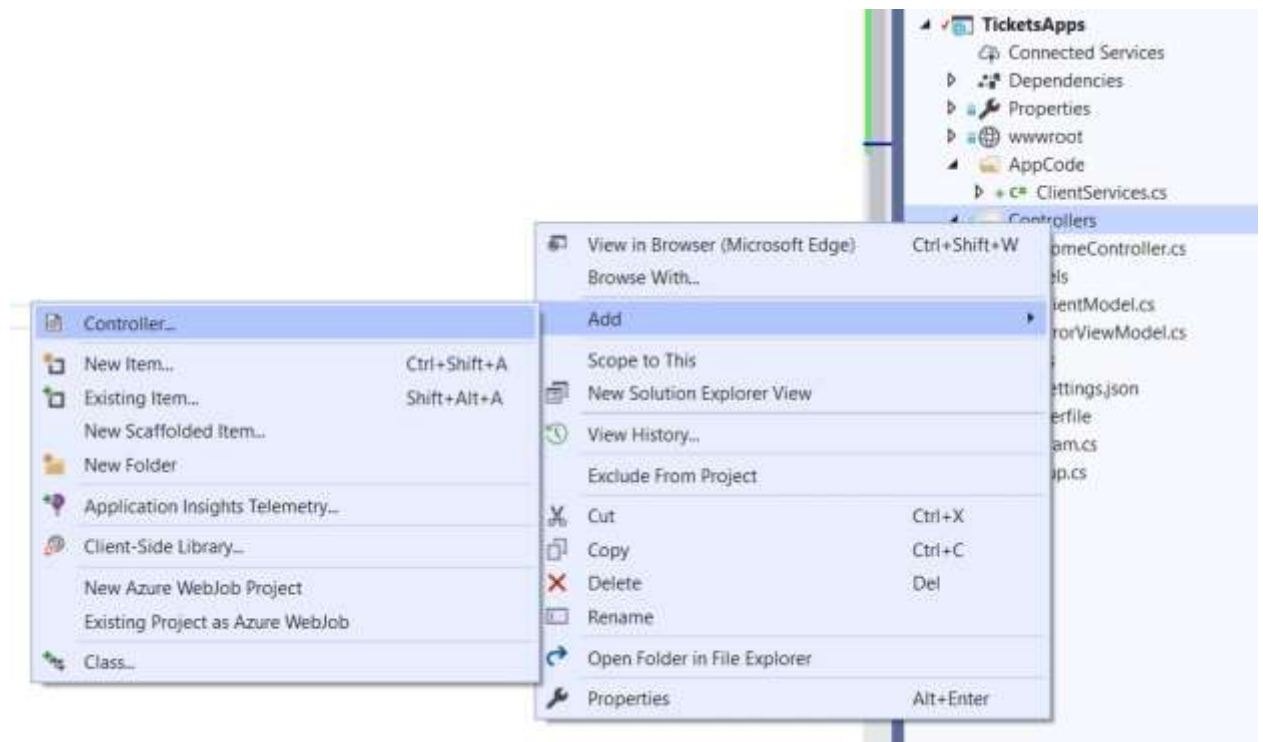
```

public class ClientServices
{
    private static ClientModel _clientModel;
    public static void AddClient(ClientModel clientModel)
    {
        _clientModel = clientModel;
    }
    public static ClientModel GetClient()
    {
        return _clientModel;
    }
}

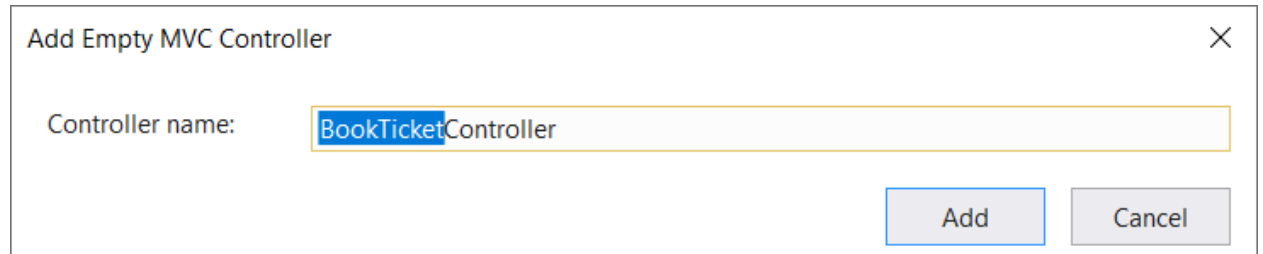
```

9- 3<sup>rd</sup> steps book your ticket page

10- From solution explorer right click over controller folder choose add then choose controller



11- Name it BookTicketController



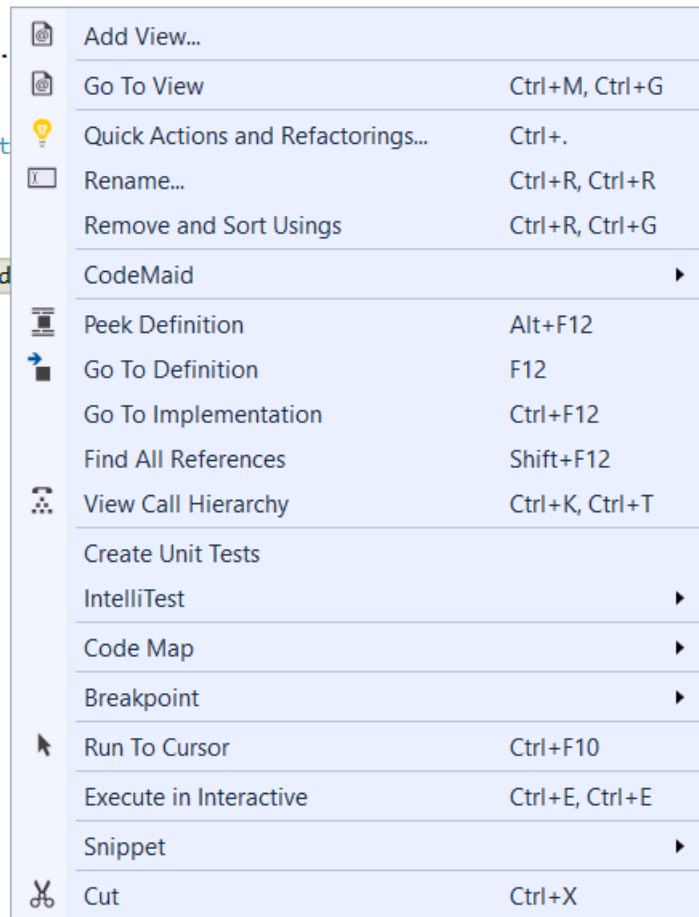
12- Right click on index function (or we called it action) and choose add view to add html

```

using System.Linq;
using System.Web;
using System.Web.Mvc;

namespace IronPdfMVCHelloWorld
{
    0 references
    public class BookTicketCont
    {
        // GET: BookTicket
        0 references
        public ActionResult Index
        {
            return View();
        }
    }
}

```



13- Set view name "index" then click add

Add View

View name:

Template:

Model class:

Options:

☐ Create as a partial view

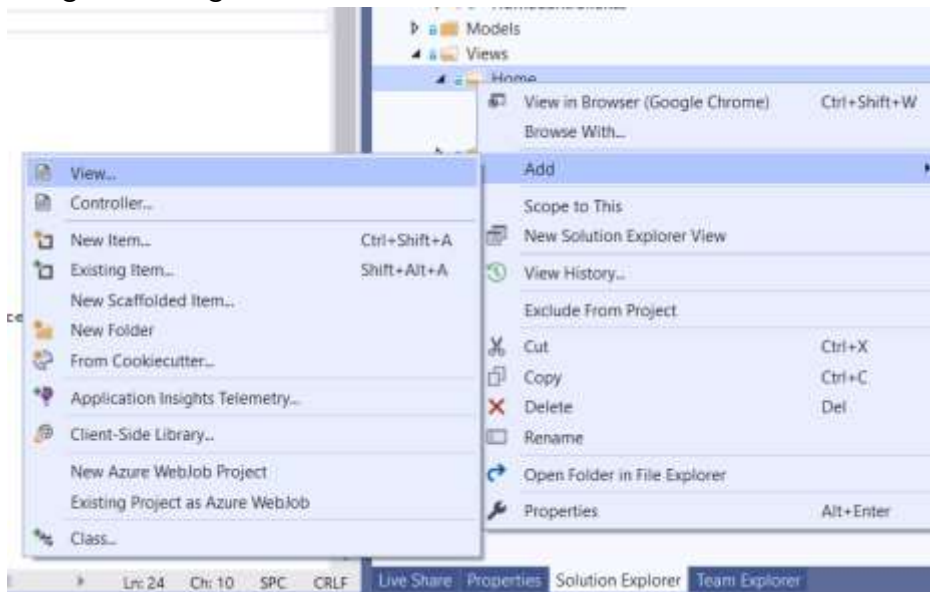
☒ Reference script libraries

☒ Use a layout page:

(Leave empty if it is set in a Razor \_viewstart file)

Add Cancel

14- using mouse right click over folder views -> Home and select home



## 15- add index view

Add MVC View

View name:

Index

Template:

Empty (without model)

Model class:

Options:

☐ Create as a partial view

☐ Reference script libraries

☒ Use a layout page:

...

(Leave empty if it is set in a Razor \_viewstart file)

Add

Cancel

## 16- update html as follow

```
@model IronPdfMVCHelloWorld.Models.ClientModel
@{
    ViewBag.Title = "Book Ticket";
}

<h2>Index</h2>

@using (Html.BeginForm())
{
    <div class="form-horizontal">
        @Html.ValidationSummary(true, "", new { @class = "text-danger" })
        <div class="form-group">
            @Html.LabelFor(model => model.Name, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.Name, new { htmlAttributes = new {
@class = "form-control" } })
                @Html.ValidationMessageFor(model => model.Name, "", new { @class =
"text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.Phone, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.Phone, new { htmlAttributes = new {
@class = "form-control" } })
            </div>
        </div>
    </div>
}
```

```

        @Html.ValidationMessageFor(model => model.Phone, "", new { @class
= "text-danger" })
    </div>
</div>
<div class="form-group">
    @Html.LabelFor(model => model.Email, htmlAttributes: new { @class =
"control-label col-md-2" })
    <div class="col-md-10">
        @Html.EditorFor(model => model.Email, new { htmlAttributes = new {
@class = "form-control" } })
        @Html.ValidationMessageFor(model => model.Email, "", new { @class
= "text-danger" })
    </div>
</div>
<div class="form-group">
    <div class="col-md-10 pull-right">
        <button type="submit" value="Save" class="btn btn-sm">
            <i class="fa fa-plus"></i>
            <span>
                Save
            </span>
        </button>
    </div>
</div>
</div>
}

```

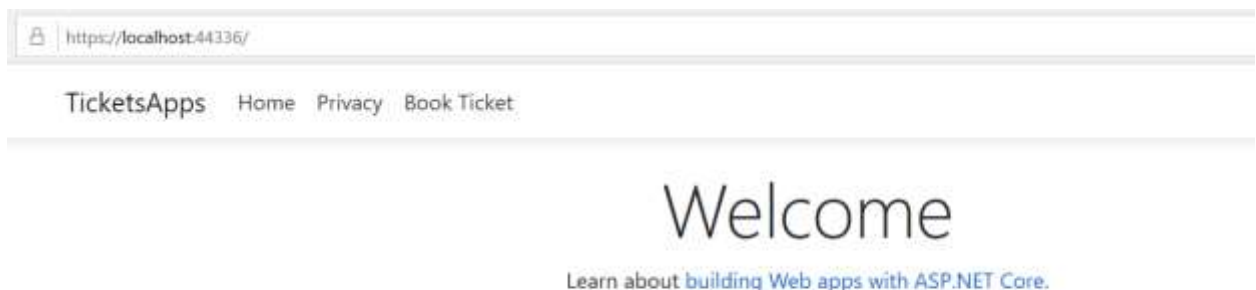
17- add link to BookTicket Page to enable our website visitors to navigate to our new booking page by updating layout exist in path (view-> shared-> layout.html)

```

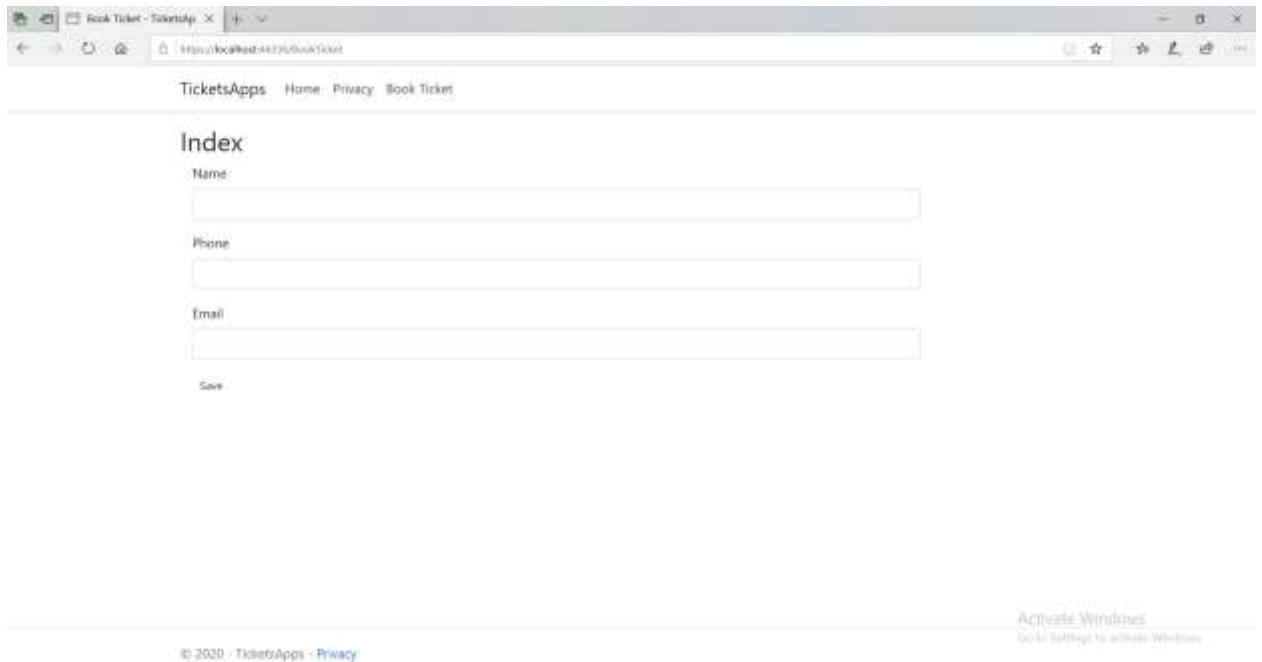
<li><a class="nav-link text-dark" asp-area="" asp-controller="BookTicket" asp-
action="Index">Book Ticket</a></li>

```

18- result should be looks like this



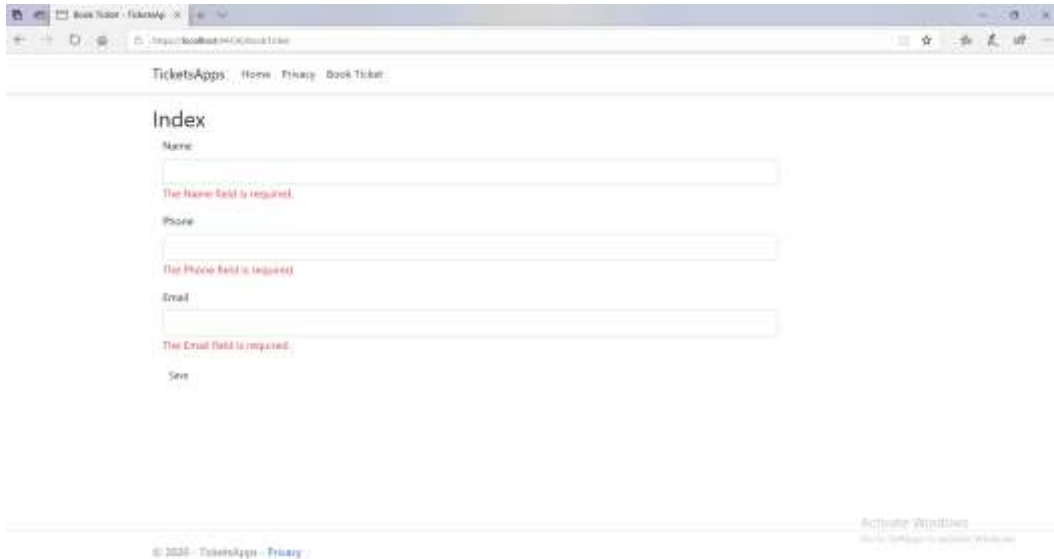
19- Navigate to book ticket page by clicking on its link you should find it look like this



- 20- Now let's add the action that will validate and save the book information
- 21- Add another index action with the attribute [HttpPost] to inform MVC engine that this action is for submitting data, I validate the sent model if it valid code will redirect the visitor to TicketView Page if not a valid visitor will receive error validation messages on screen.

```
[HttpPost]
public ActionResult Index(ClientModel model)
{
    if (ModelState.IsValid)
    {
        ClientServices.AddClient(model);
        Return RedirectToAction("TicketView");
    }
    return View(model);
}
```

18.1 Sample of error messages



22- add TicketView to display our ticket

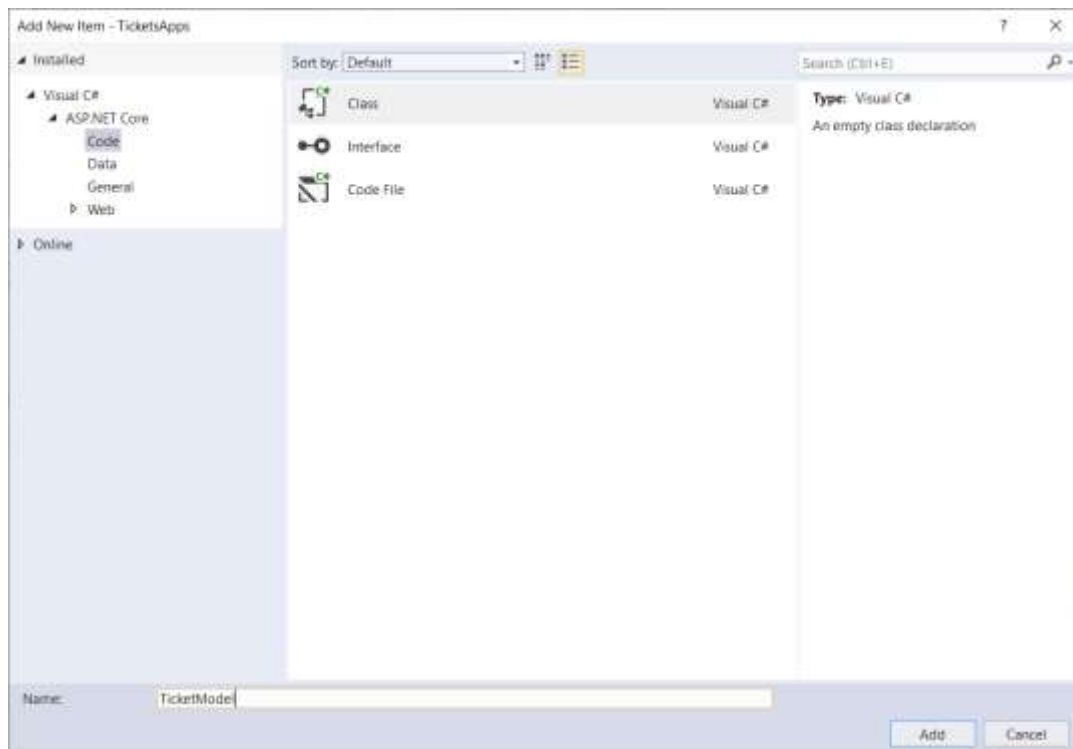
```
public ActionResult TicketView()
{
    var ticket = ClientServices.GetClient();
    return View(ticket);
}
```

23- Add its view

24- This view will host Ticket partial view that is responsible to display the ticket and will be used later to print Ticket



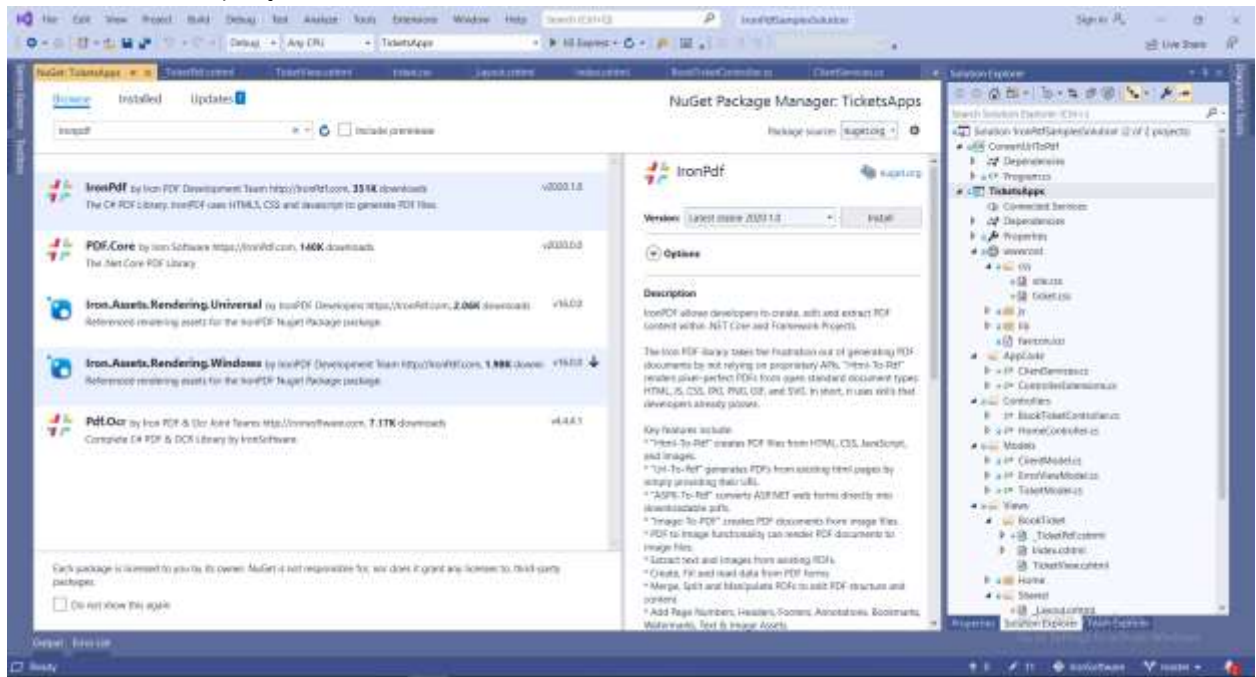
## 25- Add ticket model



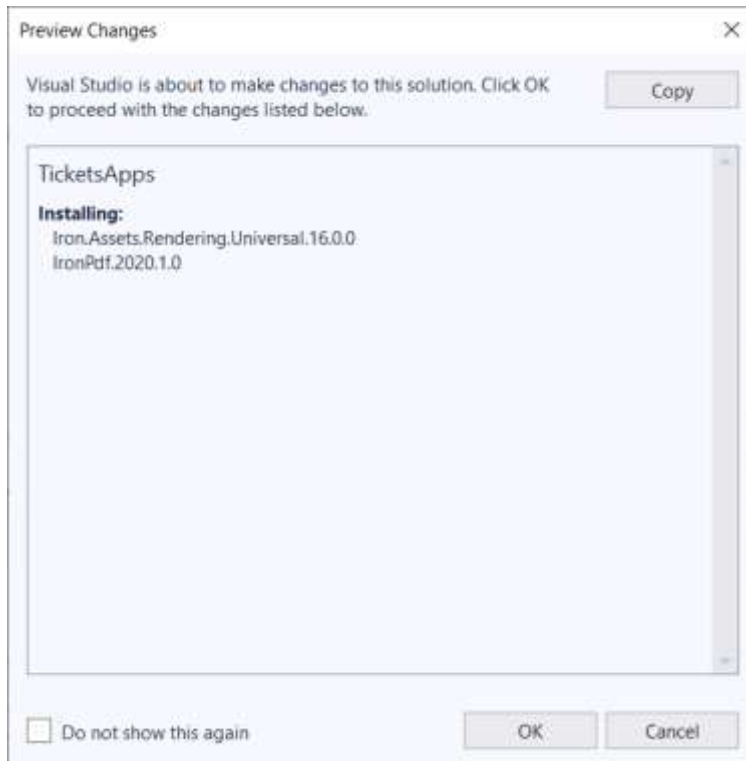
## 26- Ticket model code as follow

```
public class TicketModel : ClientModel
{
    public int TicketNumber { get; set; }
    public DateTime TicketDate { get; set; }
}
```

## 27- Add ironPdf to project



## 28- Click ok



## 29- Add TicketView post method that will handle button download

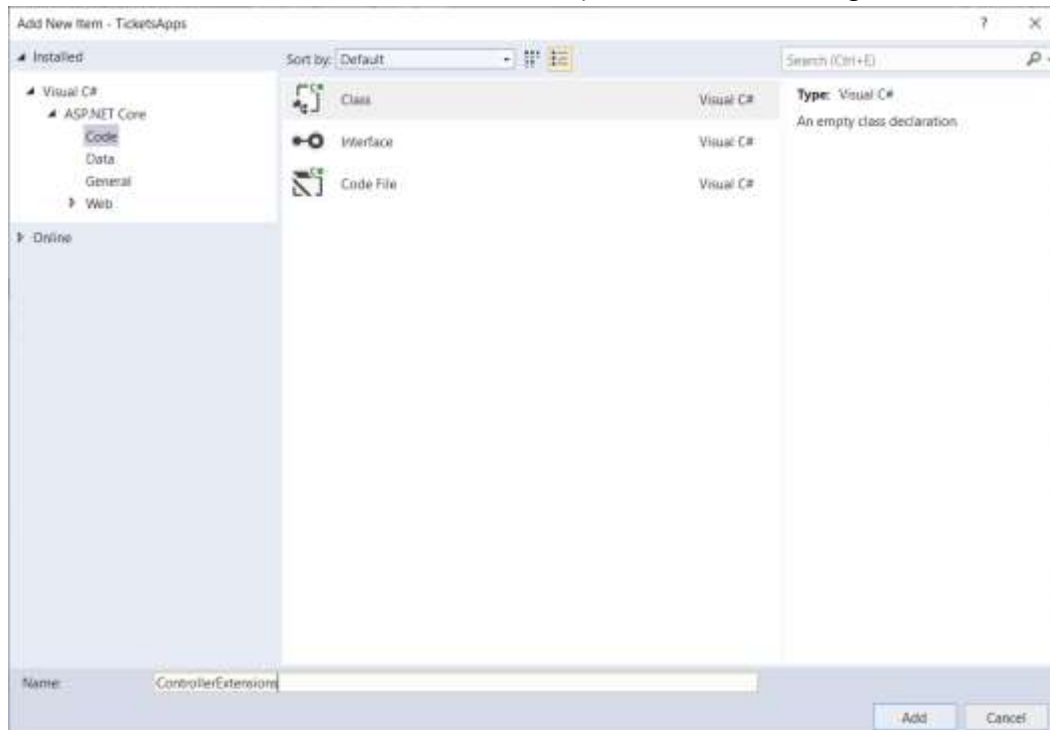
```
[HttpPost]
public ActionResult TicketView(TicketModel model)
{
```

```

        IronPdf.Installation.TempFolderPath =
        $"{_host.ContentRootPath}/irontemp/";
        IronPdf.Installation.LinuxAndDockerDependenciesAutoConfig = true;
        var html = this.RenderViewAsync("_TicketPdf", model);
        var ironPdfRender = new IronPdf.HtmlToPdf();
        var pdfDoc = ironPdfRender.RenderHtmlAsPdf(html.Result);
        return File(pdfDoc.Stream.ToArray(), "application/pdf");
    }

```

30- Add controller extension that will render partial view to string



31- Extension code as follow

```

public static class ControllerExtensions
{
    public static async Task<string> RenderViewAsync<TModel>(this Controller
controller, string viewName, TModel model, bool partial = false)
    {
        if (string.IsNullOrEmpty(viewName))
        {
            viewName =
controller.ControllerContext.ActionDescriptor.ActionName;
        }

        controller.ViewData.Model = model;

        using (var writer = new StringWriter())
        {

```

```

        IViewEngine viewEngine =
controller.HttpContext.RequestServices.GetService(typeof(ICompositeViewEngine)) as
ICompositeViewEngine;
        ViewEngineResult viewResult =
viewEngine.FindView(controller.ControllerContext, viewName, !partial);

        if (viewResult.Success == false)
        {
            return $"A view with the name {viewName} could not be found";
        }

        ViewContext viewContext = new ViewContext(
            controller.ControllerContext,
            viewResult.View,
            controller.ViewData,
            controller.TempData,
            writer,
            new HtmlHelperOptions()
        );

        await viewResult.View.RenderAsync(viewContext);

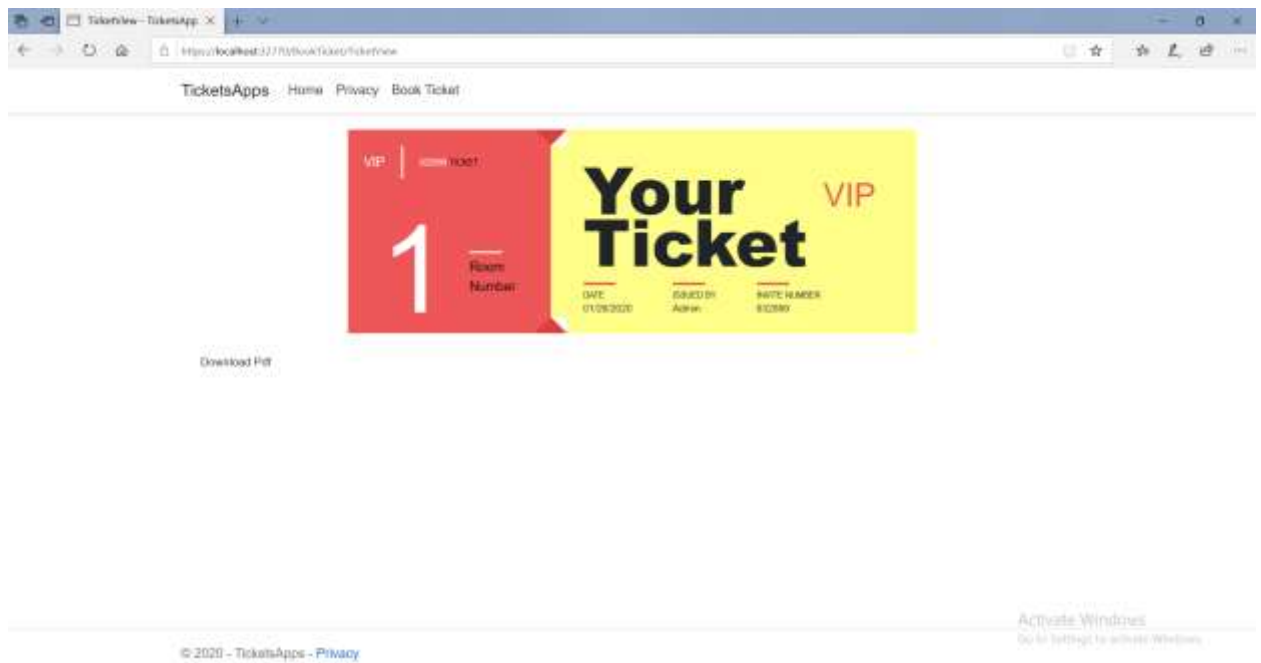
        return writer.GetStringBuilder().ToString();
    }
}

```

32- Now run and file ticket information then click save

The screenshot shows a web browser window with the address bar displaying 'http://localhost:20770/BookTicket'. The page title is 'TicketsApps' and the navigation bar includes 'Home', 'Privacy', and 'Book Ticket'. The main content area is titled 'Index' and contains a form with three input fields: 'Name' (containing 'ahmed abdelmagd'), 'Phone' (containing '2548987'), and 'Email' (containing 'sample@domain.com'). Each field has a blue border and a small 'x' icon on the right. Below the fields is a 'Save' button. The footer of the page includes '© 2020 - TicketsApps - Privacy' and 'Arctium Windows'.

### 33- View ticket

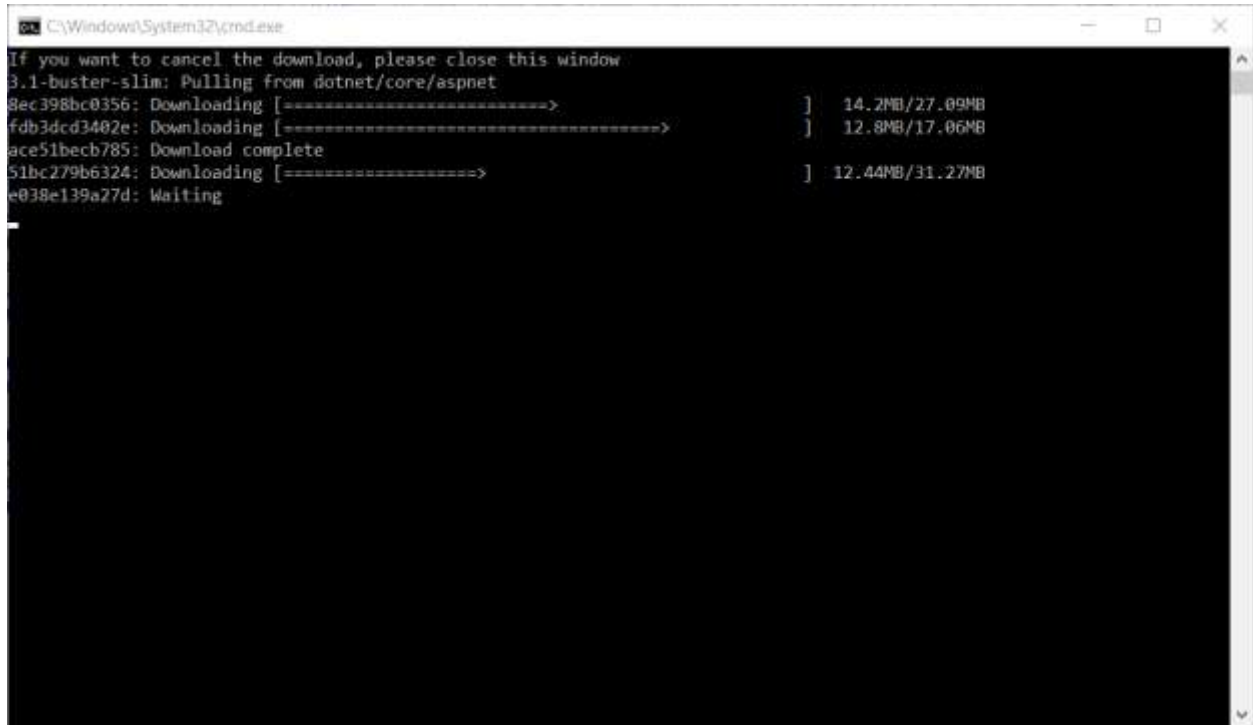


34- To download ticket as pdf click download you will get Pdf contain the ticket

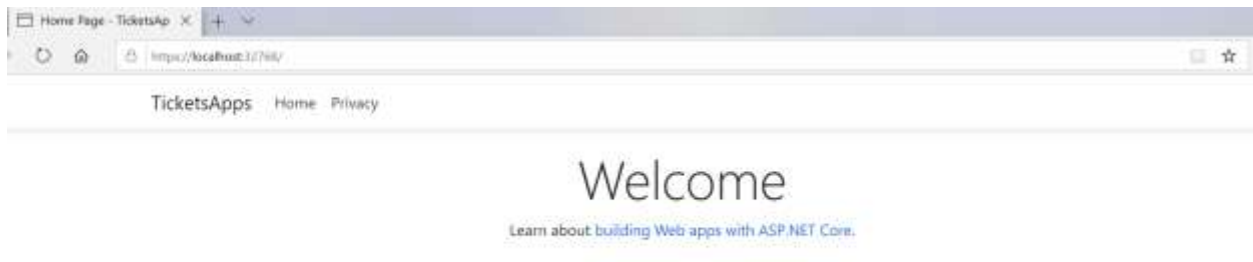
### Advanced options

## Chapter 3: Work with Dockers

Run into Linux container



```
C:\Windows\System32\cmd.exe
If you want to cancel the download, please close this window
3.1-buster-slim: Pulling from dotnet/core/aspnet
8ec398bc0356: Downloading [=====] 14.2MB/27.09MB
fdb3dcd3402e: Downloading [=====] 12.8MB/17.06MB
ace51becb785: Download complete
51bc279b6324: Downloading [=====] 12.44MB/31.27MB
e038e139a27d: Waiting
```



Run into windows container

## Chapter 4: Working with Pdf Document

Open Pdf

Merge Pdf

Add Header Or footer to Pdf

Pdf security

Pdf extraction and conversions

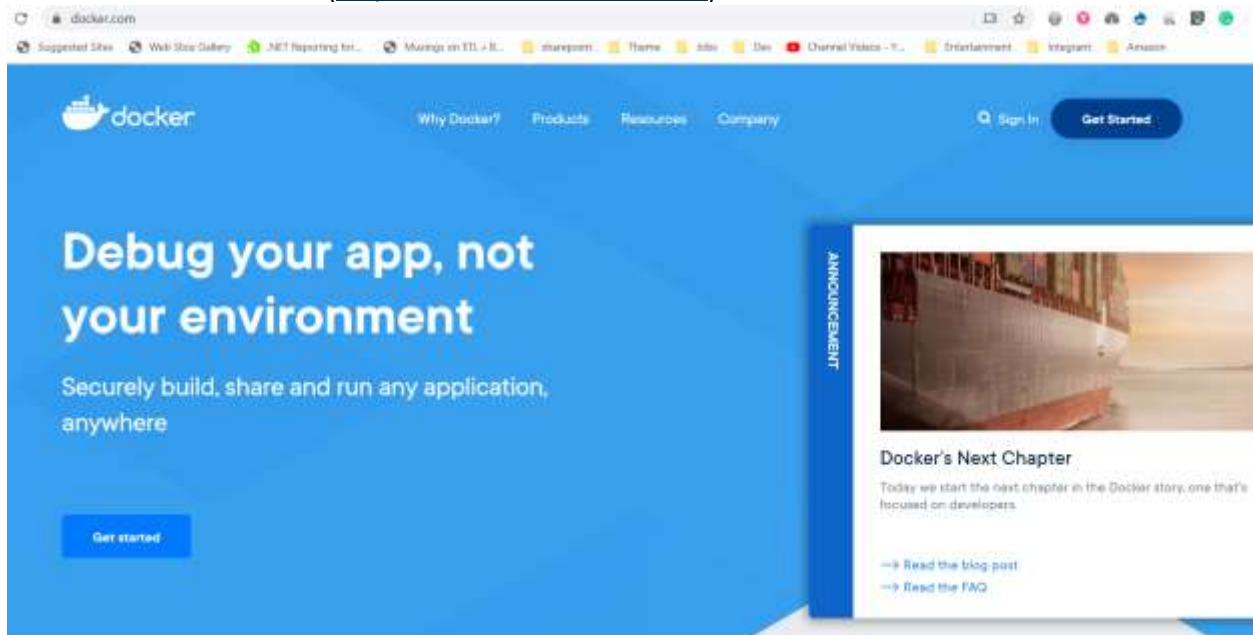
## Summary

## Appendix (A)

What is Docker

Install Docker

Go to Docker website (<https://www.docker.com/>)



Click Get started



Click download for mac and windows





## Create a Docker ID.

Already have an account? [Sign In](#)

☐ Send me occasional product updates and announcements.

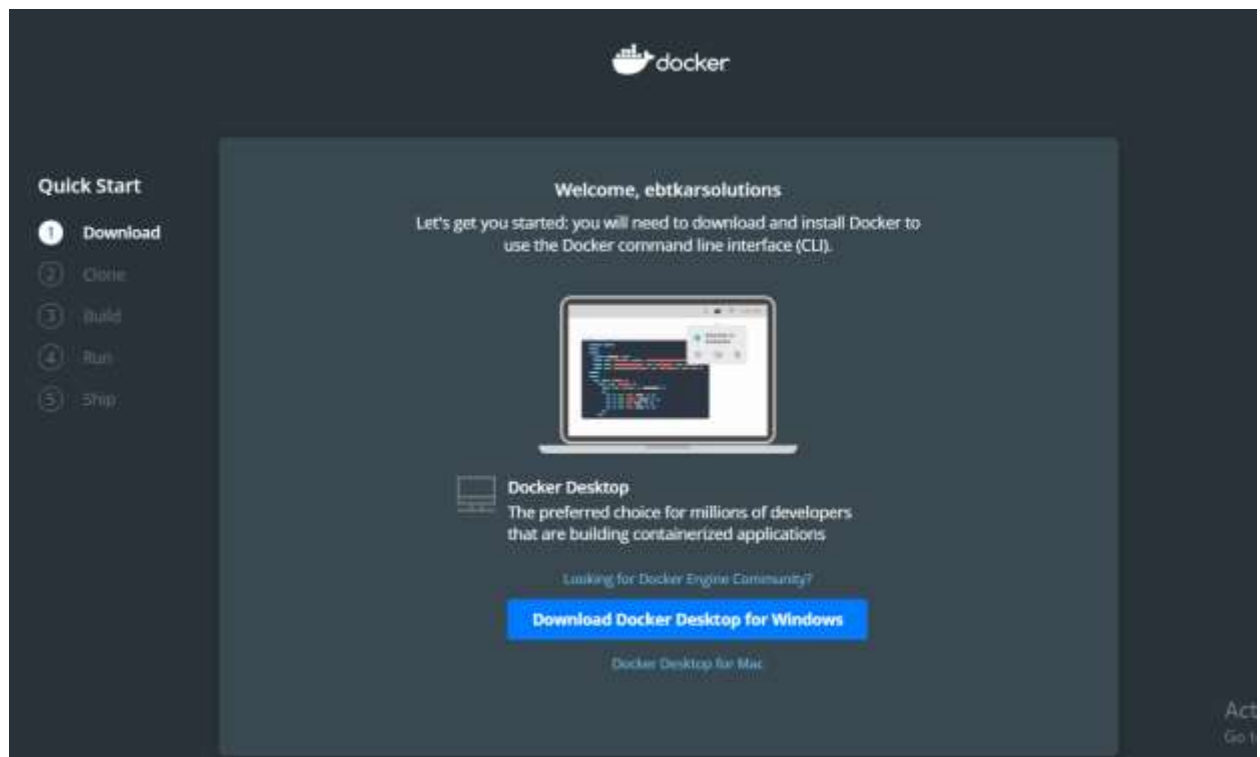
☐ I'm not a robot

The reCAPTCHA logo, which consists of a blue circular icon with a white 'C' and a blue arrow, followed by the text "reCAPTCHA" and "Privacy - Terms" in a small font.

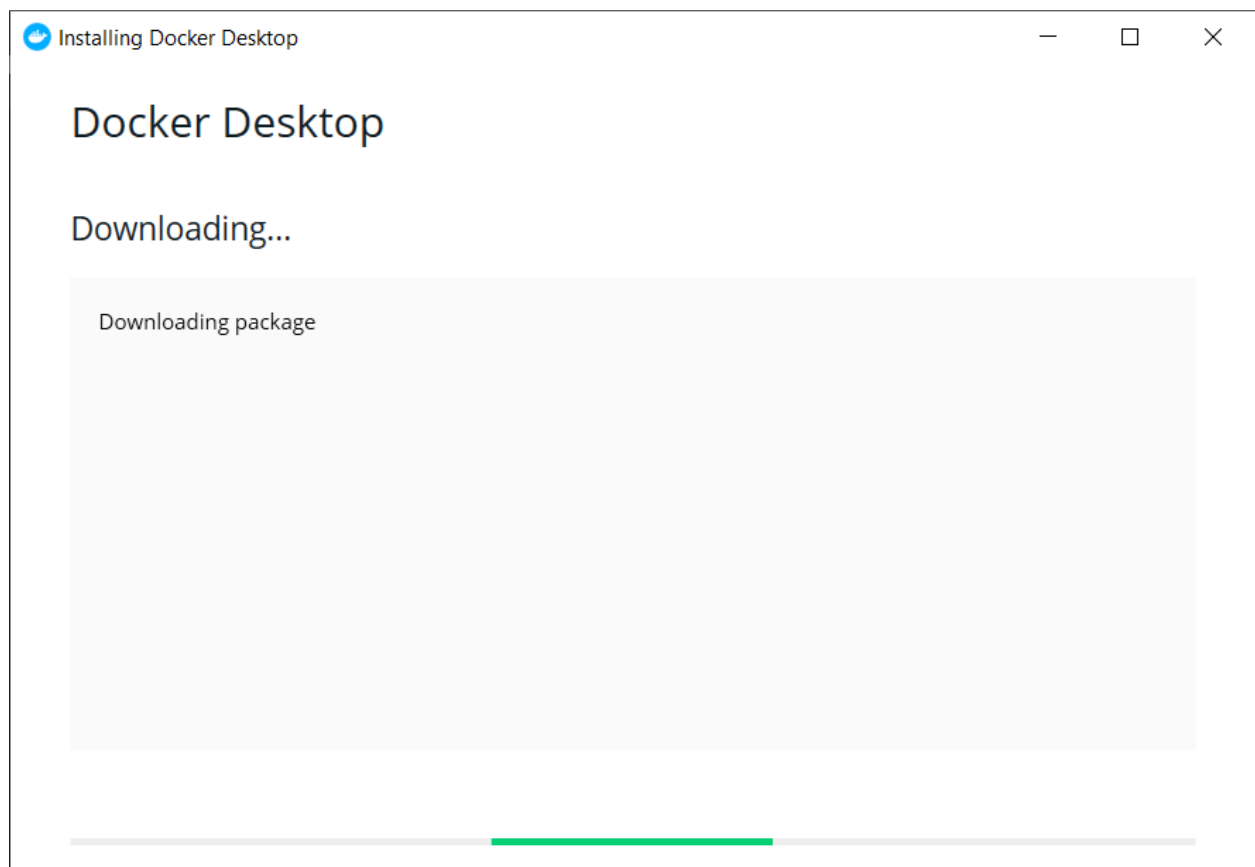
**Sign Up**

By creating an account, you agree to the [Terms of Service](#),  
[Privacy Policy](#), and [Data Processing Terms](#).

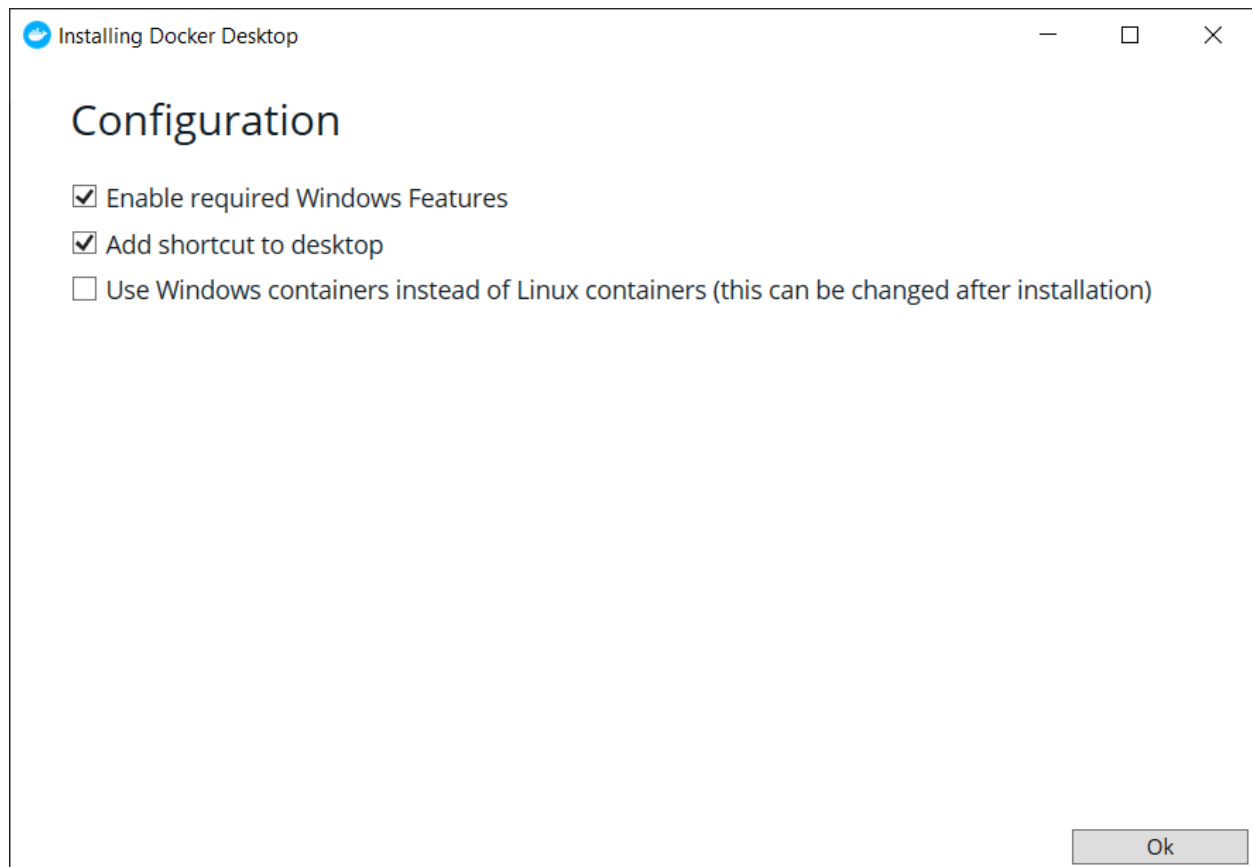
Signup for free then login



Download Docker for windows



Start installing Docker.

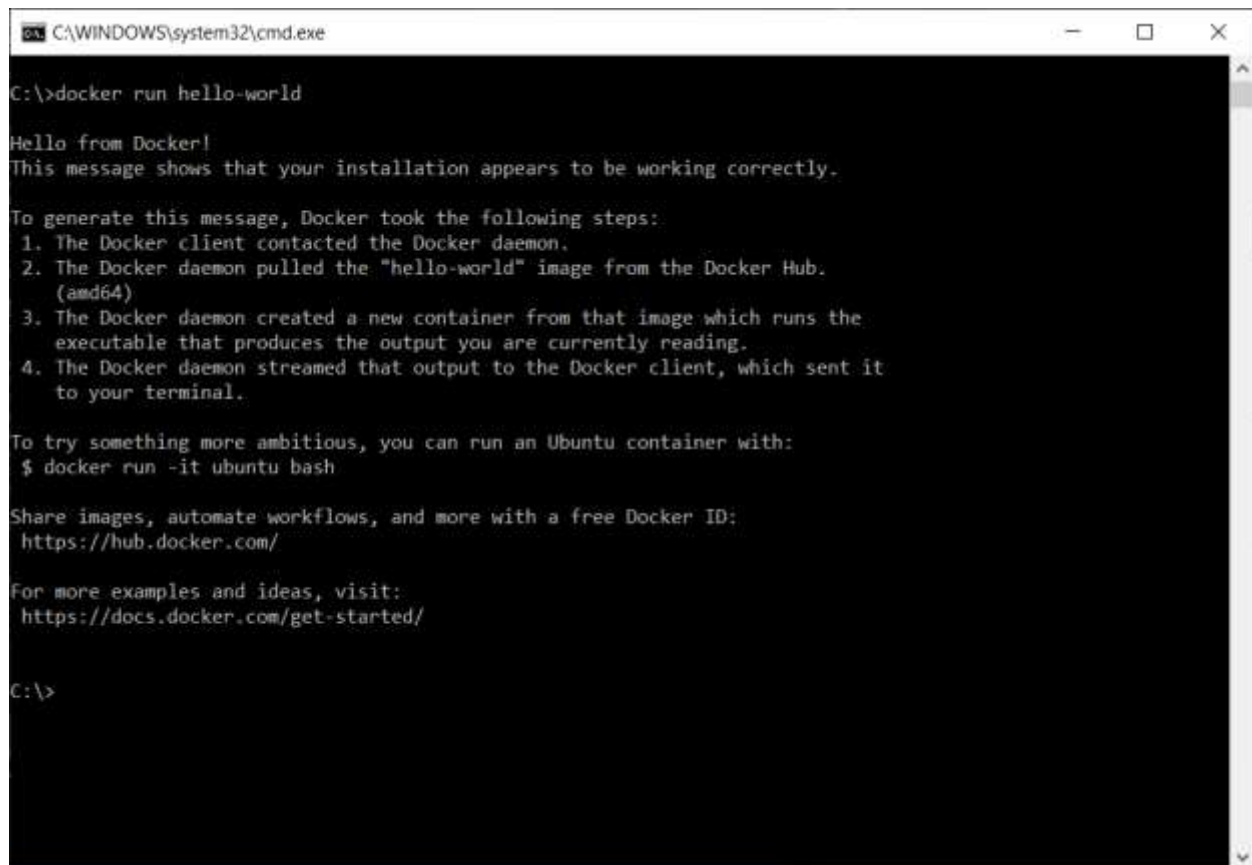


It will require restart and after restart machine login to Docker



Now you can run Docker hello world by opening windows command line or powershell script and write

## Docker run hello-world



```
CA\WINDOWS\system32\cmd.exe
C:\>docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

C:\>
```

Now this is list of most important command line that help you

- docker images => To list all available images on this machine
- docker ps => to list all running containers
- docker ps -a => to list all containers

## References

- 1- Dockize and asp.net core application  
<https://docs.docker.com/engine/examples/dotnetcore/>
- 2- Introduction to .NET and Docker  
<https://docs.microsoft.com/en-us/dotnet/core/docker/introduction>
- 3- Containerize a .NET Core app  
<https://docs.microsoft.com/en-us/dotnet/core/docker/build-container>
- 4- Docker  
<https://www.docker.com/>

## Author



**Ahmed Aboelmagd** is a Full-stack experienced and certified Microsoft technology specialist with 12+ year's experience in IT and Software development, delivered 15+ successful project in many size scales from small to an enterprise for industries like (tourism, educational, manufacturing, etc.)