**MVC 5 Membership Website**

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# Resources placed in folder

Training\Books Videos\Building MVC 5 Membership Html 5 Css3

# Created the project with

1. VS 2019
2. Asp.Net Framework 4.7.2
3. MVC 5
4. Individual User Accounts
5. SSL unchecked
6. Microsoft OWIN
7. Razor Pages 3
8. Web Pages 3

# App\_Start Folder



App-start has the config cs files for bundling, filter identity, route and start up files. All if these are classed inside the global.asax file.



Default route is specified inside the RouteConfig.cs file.

## BundleConfig.cs

Here we will create the bundles which will be then added to the \_Layout.cshtml file or individual pages.

### V1.0 Initial File

using System.Web;

using System.Web.Optimization;

namespace Web.Memberships

{

public class BundleConfig

{

// For more information on bundling, visit https://go.microsoft.com/fwlink/?LinkId=301862

public static void RegisterBundles(BundleCollection bundles)

{

bundles.Add(new ScriptBundle("~/bundles/jquery").Include(

"~/Scripts/jquery-{version}.js"));

bundles.Add(new ScriptBundle("~/bundles/jqueryval").Include(

"~/Scripts/jquery.validate\*"));

// Use the development version of Modernizr to develop with and learn from. Then, when you're

// ready for production, use the build tool at https://modernizr.com to pick only the tests you need.

bundles.Add(new ScriptBundle("~/bundles/modernizr").Include(

"~/Scripts/modernizr-\*"));

bundles.Add(new ScriptBundle("~/bundles/bootstrap").Include(

"~/Scripts/bootstrap.js"));

bundles.Add(new StyleBundle("~/Content/css").Include(

"~/Content/bootstrap.css",

"~/Content/site.css"));

}

}

}

### V1.1 Adding Sitejs Bundle

This entry to create the Site specific js bundle and then add the AiteAdminMenu js to the bundle created via step [Adding SiteAdminMenu.js to BundleConfig](#_Add_SiteAdmin.js_to) below.



Once the bundle is created then Add it to the \_Layout.cshtml file

# Content Folder

This is where we will put in the resources like images, js and css.

Please create the Documents, Images and Logos folder and then moved the files into this folder.

# Adding the Admin Menu

Admin menu will be created inside the Views\Shared folder in the root and added to the \_layout.cshtml file

## \_Layout.cshtml

All the menus are in this file and we will keep on building on it.

### V1.0 Initial File

<!DOCTYPE html>

<html>

<head>

<meta charset="utf-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>@ViewBag.Title - My ASP.NET Application</title>

@Styles.Render("~/Content/css")

@Scripts.Render("~/bundles/modernizr")

</head>

<body>

<div class="navbar navbar-inverse navbar-fixed-top">

<div class="container">

<div class="navbar-header">

<button type="button" class="navbar-toggle" data-toggle="collapse" data-target=".navbar-collapse">

<span class="icon-bar"></span>

<span class="icon-bar"></span>

<span class="icon-bar"></span>

</button>

<a class="navbar-brand" href="/Home/Index/">

<img src="~/Content/Logos/membership-icon-30x152.png" class="visible-xs" />

<img src="~/Content/Logos/membership-icon-45x184.png" class="hidden-xs" />

</a>

</div>

<div class="navbar-collapse collapse">

<ul class="nav navbar-nav">

<li>@Html.ActionLink("Home", "Index", "Home")</li>

<li>@Html.ActionLink("About", "About", "Home")</li>

<li>@Html.ActionLink("Contact", "Contact", "Home")</li>

</ul>

@Html.Partial("\_LoginPartial")

</div>

</div>

</div>

<div class="container body-content">

@RenderBody()

<hr />

<footer>

<p>&copy; @DateTime.Now.Year - My ASP.NET Application</p>

</footer>

</div>

@Scripts.Render("~/bundles/jquery")

@Scripts.Render("~/bundles/bootstrap")

@RenderSection("scripts", required: false)

</body>

</html>

### V1.1 Adding Admin Menu

This step is part of [\_SiteAdminMenuPartial.cshtml](#__SiteAdminMenuPartial.cshtml) below.



### V1.2 Adding SiteJs bundle

We first created the js file to toggle admin menu via step [SiteAdminMenu.js](#_SiteAdminMenu.js) below.

Then we created the [bundle](#_V1.1_Adding_Sitejs) entry above.

And finally we need to add the bundle to the \_Layout.cshtml file.



## \_SiteAdminMenuPartial.cshtml

Create the menu file inside Views\Shared folder and then will add it to the [\_Layout.cshtml (v1.1)](#_V1.1_Adding_Admin) file.

Right click the Shared folder and add view. Under the options select “Create as a partial view” check box and name it per the heading above. This will be a dropdown menu so will need to

1. add the bootstrap class dropdown.
2. and an attribute “data-admin-menu” which we will target via jquery to open the menu.
3. And finally will add the partial view to the [\_layout.cshtml (V1.1)](#_V1.1_Adding_Admin) file.
4. Do note that Admin link will have down arrow so adding a span and applying classes “glyphicon glyphicon-chevron-down”. Important thing to note is that you shouldn’t be placing anything inside the span tag.
5. We’ll then place another UL block and apply the “dropdown-menu” class and will give it the role of “menu”.

### V1.0 Admin Menu Initial

<li class="dropdown" data-admin-menu>

<a href="#">

Admin

<span class="glyphicon glyphicon-chevron-down"></span>

</a>

<ul class="dropdown-menu" role="menu">

<li class="dropdown-header">Minor Entities</li>

<li class="divider" />

<li><a href="/Admin/Section">&nbsp;&nbsp;Section</a></li>

<li><a href="/Admin/Part">&nbsp;&nbsp;Part</a></li>

<li><a href="/Admin/ItemType">&nbsp;&nbsp;Item Type</a></li>

<li><a href="/Admin/ProductType">&nbsp;&nbsp;Product Type</a></li>

<li><a href="/Admin/ProductLinkText"> &nbsp;&nbsp;Product Link Text</a></li>

<li class="divider" />

<li class="dropdown-header">Major Entities</li>

<li class="divider" />

<li><a href="/Admin/Item">&nbsp;&nbsp;Item</a></li>

<li><a href="/Admin/Product">&nbsp;&nbsp;Product</a></li>

<li><a href="/Admin/Subscription"> &nbsp;&nbsp;Subscription</a></li>

<li class="divider" />

<li class="dropdown-header">Connector Entities</li>

<li class="divider" />

<li><a href="/Admin/ProductItem">&nbsp;&nbsp;Product Item</a></li>

<li><a href="/Admin/SubscriptionProduct"> &nbsp;&nbsp;Subscription Product</a></li>

<li class="divider" />

<li class="dropdown-header">Users & Subscriptions</li>

<li class="divider" />

<li><a href="/Account"> &nbsp;&nbsp;Users & Subscriptions</a></li>

</ul>

</li>

## Opening and Closing the Menu

We’ll do it via javascript file

1. Right click the Scripts folder and add javascript file
2. Name it SiteAdminMenu.js.
3. We will toggle the open class when we’ll hover over the menu.
4. Then we’ll create the bundle
5. And finally will add the bundle to the \_Layout.cshtml file

### SiteAdminMenu.js

$(function () {

//target the li that has the attribute data-admin-menu

//we'll toggle the class open, to open and close the menu

$('li[data-admin-menu]').hover(function () {

$(this).toggleClass('open');

});

});

#### Add SiteAdmin.js to BundleConfig

Check [BundleConfig (V1.1)](#_V1.1_Adding_Sitejs) for details

And then will need to add the bundle to the [\_layout.cshtml (V1.2)](#_V1.2_Adding_SiteJs) above.

At this point run the app and hover over/out the Admin menu to see the affect.

# Creating the Database

* Database table classes are in Entities folder.
* Check Entities diagram inside the App\_Code folder for details.
* Please refer to the Admin Menu. We have Major/Minor/Connector entities. Entities diagram clearly depict this schema.
* We’ll be using the localDB which will be hosted inside the App\_Data folder.
* We’ll be following the Code First approach

## Database Name Web.Config

Open the Web.Config and change the DefaultConnection. Name it whatever you like but make sure that you both highlighted pieces.



## Package Manager Console

Next we’ll issue commands to perform the actions to create the DB for us. Open PackageManager Console or type Package and then issue the commands.





### Command enable-migrations



* Above didn’t create any thing in the App\_Data folder but it did add Migration folder in the root with file Migrations.cs file
* For the purpose of tutorial, we’ll do automatic database migrations. Open the Migrations.cs file and make following two changes. Please read the comment for each property.
  + make AutoMaticMigrationsEnabled = true
  + and add AutomaticMigrationDataLossAllowed and make it true as well.



* Migrations help you seed and revert back if needed. If you scroll down you’ll see the Seed method. Will work with it little later.

### Command update-database [Create Database]

Every time you make a change you need to issue this command.



If you click on ShowAllFiles you’ll see the MembershipDB created.



If you double click the MembershipsDB, it will open in the ServerExplorer and you’ll see the following tables added.



## Adding Table/Entities

We’ll create the classes in the Entities folder.

### Item Related Tables/Entities

#### Section Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as Section.

//If we don't do this then the table will get created with name Sections.

[Table("Section")]

public class Section

{

//specify the Id as Identity column with sequence starting from 1

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(255)]

[Required]

public string Title { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

#### Part Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as Part.

//If we don't do this then the table will get created with name Parts.

[Table("Part")]

public class Part

{

//specify the Id as Identity column with sequence starting from 1

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(255)]

[Required]

public string Title { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

#### ItemType Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as ItemType.

//If we don't do this then the table will get created with name ItemTypes.

[Table("ItemType")]

public class ItemType

{

//specify the Id as Identity column with sequence starting from 1

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(255)]

[Required]

public string Title { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

#### Item Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

using System.Web.Mvc;

namespace Web.Memberships.Entities

{

//specify the table name as Item.

//If we don't do this then the table will get created with name Items.

[Table("Item")]

public class Item

{

//specify the Id as Identity column with sequence starting from 1

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(255)]

[Required]

public string Title { get; set; }

[MaxLength(2048)]

public string Description { get; set; }

[MaxLength(1024)]

public string Url { get; set; }

[MaxLength(1024)]

[DisplayName("Image Url")]

public string ImageUrl { get; set; }

[AllowHtml]

public string HTML { get; set; }

//only getter

public string HTMLShort => HTML == null || HTML.Length < 50 ? HTML : HTML.Substring(0, 50);

[DefaultValue(0)]

[DisplayName("Wait Days")]

public int WaitDays { get; set; }

public int ProductId { get; set; }

public int ItemTypeId { get; set; }

public int SectionId { get; set; }

public int PartId { get; set; }

public bool IsFree { get; set; }

public ICollection<ItemType> ItemTypes { get; set; }

[DisplayName("Sections")]

public ICollection<Section> Sections { get; set; }

[DisplayName("Parts")]

public ICollection<Part> Parts { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

### Product Related Tables/Entities

#### Product Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as Product.

//If we don't do this then the table will get created with name Products.

[Table("Product")]

public class Product

{

//specify the Id as Identity column with sequence starting from 1

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(255)]

[Required]

public string Title { get; set; }

[MaxLength(2048)]

public string Description { get; set; }

[MaxLength(1024)]

public string ImageUrl { get; set; }

public int ProductLinkTextId { get; set; }

public int ProductTypeId { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

#### ProductType Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as ProductLinkText.

//If we don't do this then the table will get created with name ProductLinkTexts.

[Table("ProductLinkText")]

public class ProductLinkText

{

//specify the Id as Identity column with sequence starting from 1

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(25)]

[Required]

public string Title { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

#### ProductLinkText Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as ProductLinkText.

//If we don't do this then the table will get created with name ProductLinkTexts.

[Table("ProductLinkText")]

public class ProductLinkText

{

//specify the Id as Identity column with sequence starting from 1

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(25)]

[Required]

public string Title { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

### Subscription Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as Subscription.

//If we don't do this then the table will get created with name Subscriptions.

[Table("Subscription")]

public class Subscription

{

[DatabaseGenerated(DatabaseGeneratedOption.Identity)]

public int Id { get; set; }

[MaxLength(255)]

[Required]

public string Title { get; set; }

[MaxLength(2048)]

public string Description { get; set; }

[MaxLength(20)]

[DisplayName("Registration Code")]

public string RegistrationCode { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

### ProductItem Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as ProductItem.

//If we don't do this then the table will get created with name ProductItem.

[Table("ProductItem")]

public class ProductItem

{

//specify the Id as Identity column with sequence starting from 1

[Required]

[Key, Column(Order = 1)]

public int ProductId { get; set; }

[Required]

[Key, Column(Order = 2)]

public int ItemId { get; set; }

[NotMapped]

public int OldProductId { get; set; }

[NotMapped]

public int OldItemId { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

### SubscriptionProduct Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as Part.

//If we don't do this then the table will get created with name Parts.

[Table("SubscriptionProduct")]

public class SubscriptionProduct

{

//we have a composite primary key

[Required]

[Key, Column(Order = 1)]

public int ProductId { get; set; }

[Required]

[Key, Column(Order = 2)]

public int SubscriptionId { get; set; }

[NotMapped]

public int OldProductId { get; set; }

[NotMapped]

public int OldSubscriptionId { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

### UserSubscription Table/Entity

using System;

using System.Collections.Generic;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Linq;

using System.Web;

namespace Web.Memberships.Entities

{

//specify the table name as UserSubscription.

//If we don't do this then the table will get created with name UserSubscription.

public class UserSubscription

{

//we have a composite primary key

[Required]

[Key, Column(Order = 1)]

public int SubscriptionId { get; set; }

[Required]

[Key, Column(Order = 2)]

[MaxLength(128)]

public string UserId { get; set; }

public DateTime? StartDate { get; set; }

public DateTime? EndDate { get; set; }

}

}

Next we need to tell entity framework to use this class as [Code First](#_Code_First_Approach) to create the table.

## Code First Approach

We need to tell the entity framework to use the classes created for the [tables/entities](#_Adding_Table/Entities) above to use to create the tables.

Open the Models folder and then open Identity Models and add the following properties to ApplicationDbContext class.

public class ApplicationDbContext : IdentityDbContext<ApplicationUser>

{

public ApplicationDbContext()

: base("DefaultConnection", throwIfV1Schema: false)

{

}

public static ApplicationDbContext Create()

{

return new ApplicationDbContext();

}

//We need to add property for each class to create the table for as DbSet

//also the property name will be used to query the table using linq.

//Items

public DbSet<Section> Sections { get; set; }

public DbSet<Part> Parts { get; set; }

public DbSet<ItemType> ItemTypes { get; set; }

public DbSet<Item> Items { get; set; }

//Products

public DbSet<Product> Products { get; set; }

public DbSet<ProductType> ProductTypes { get; set; }

public DbSet<ProductLinkText> ProductLinkTexts { get; set; }

//Subscription

public DbSet<Subscription> Subscriptions { get; set; }

//ProductItem

public DbSet<ProductItem> ProductItems { get; set; }

//SubscriptionProduct

public DbSet<SubscriptionProduct> SubscriptionProducts { get; set; }

//UserSubscription

public DbSet<UserSubscription> UserSubscriptions { get; set; }

}

## Update Database Command

Issue update [database-command](#_Command_update-database_[Create) after creating all the [entities](#_Adding_Table/Entities) and [Code First](#_Code_First_Approach) ApplicationDbContext properties to create the database.

Go to server explorer and you’ll see the new tables created.



## Modifying AspNetUser Table

We’ll add four additional columns to it.

* FirstName
* LastName
* IsActive
* RegistrationDate

Open IdentityModel.cs inside the Models folder and update the ApplicationUser class.

using System;

using System.ComponentModel;

using System.ComponentModel.DataAnnotations;

using System.ComponentModel.DataAnnotations.Schema;

using System.Data.Entity;

using System.Security.Claims;

using System.Threading.Tasks;

using Microsoft.AspNet.Identity;

using Microsoft.AspNet.Identity.EntityFramework;

using Web.Memberships.Entities;

public class ApplicationUser : IdentityUser

{

[MaxLength(100)]

[Required]

public string FirstName { get; set; }

[MaxLength(100)]

[Required]

public string LastName { get; set; }

[DefaultValue(false)]

[Required]

public bool IsActive { get; set; }

[DefaultValue(typeof(DateTime), "")]

[Required]

public DateTime RegistrationDate { get; set; }

public async Task<ClaimsIdentity> GenerateUserIdentityAsync(UserManager<ApplicationUser> manager)

{

// Note the authenticationType must match the one defined in CookieAuthenticationOptions.AuthenticationType

var userIdentity = await manager.CreateIdentityAsync(this, DefaultAuthenticationTypes.ApplicationCookie);

// Add custom user claims here

return userIdentity;

}

}

Next we need to tell entity framework to update the table.

Open the package manager Console and run “update-database” command just like when we did [Code First](#_Code_First_Approach_1) action when creating the tables.

Open server explorer and refresh the AspNetUsers table to see the columns added.



# Areas

Add the new areas in VS 2019 by right clicking on the project and then adding a new scaffolding item and selecting area.





* Admin