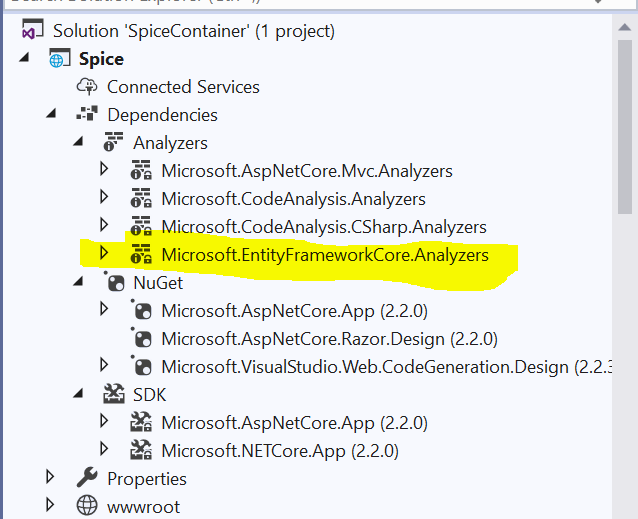
**Spice Projects Note:**

1. When Creating the Project ensure to choose asp.net core and Individual Authentication.
2. Go to startup.cs and edit the connection string with short name such as asp-Spice of data base that you want to create, highlighted below (dark)



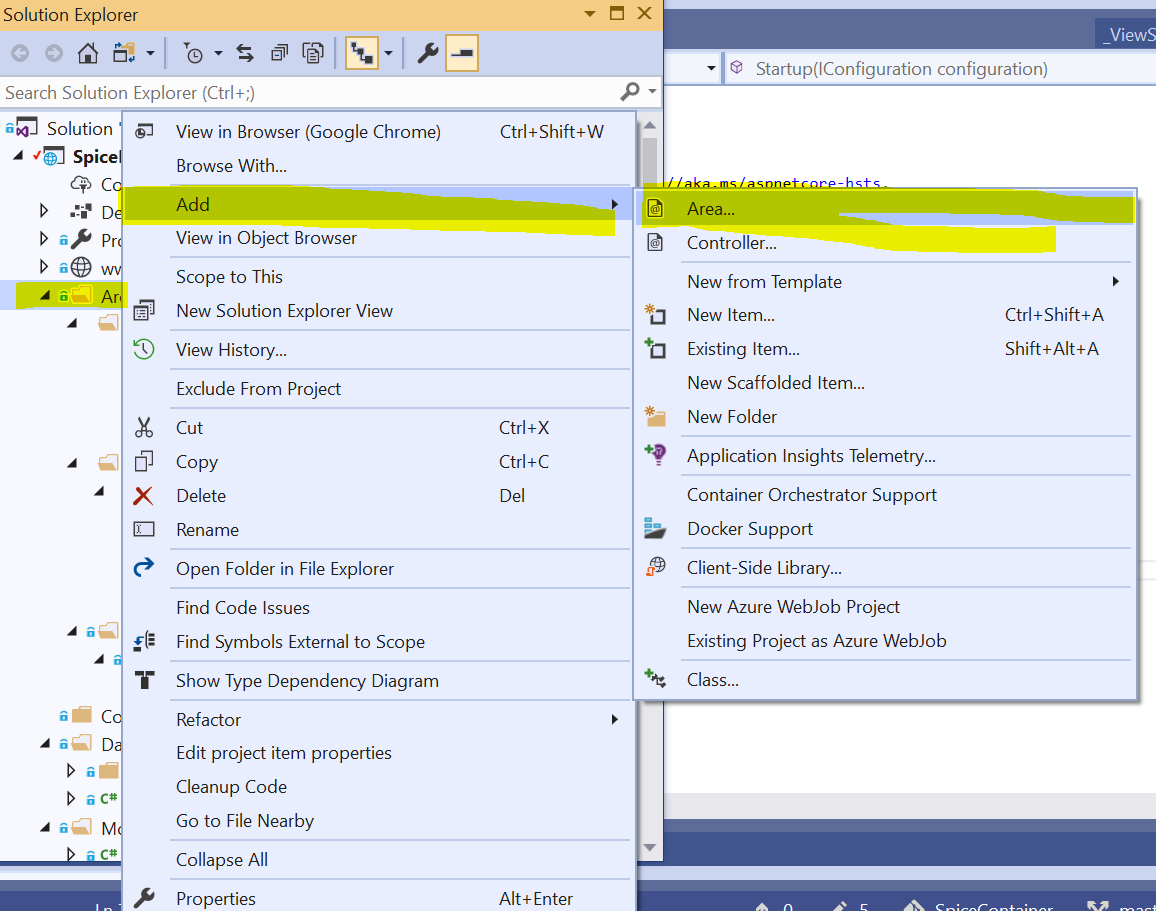
1. Open NuGet Console and type update-database, it will create database in server, If it cannot something is wrong, I have not installed any Entitiy frame work for it to work. Make sure to change the sql server name in connection, highlighted above in yellow.

The above is necessary otherwise you may experience Entitiy framework errors. These packages are installed by default. See below and it works an it works with additional packages.



Creating Separate Areas for both Admin and Customer.

1. Right click and create two areas for each one (Customer and Admin)

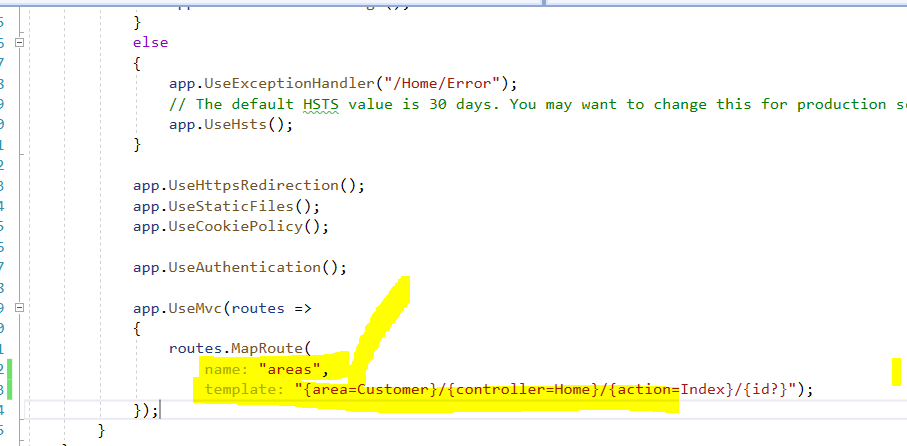


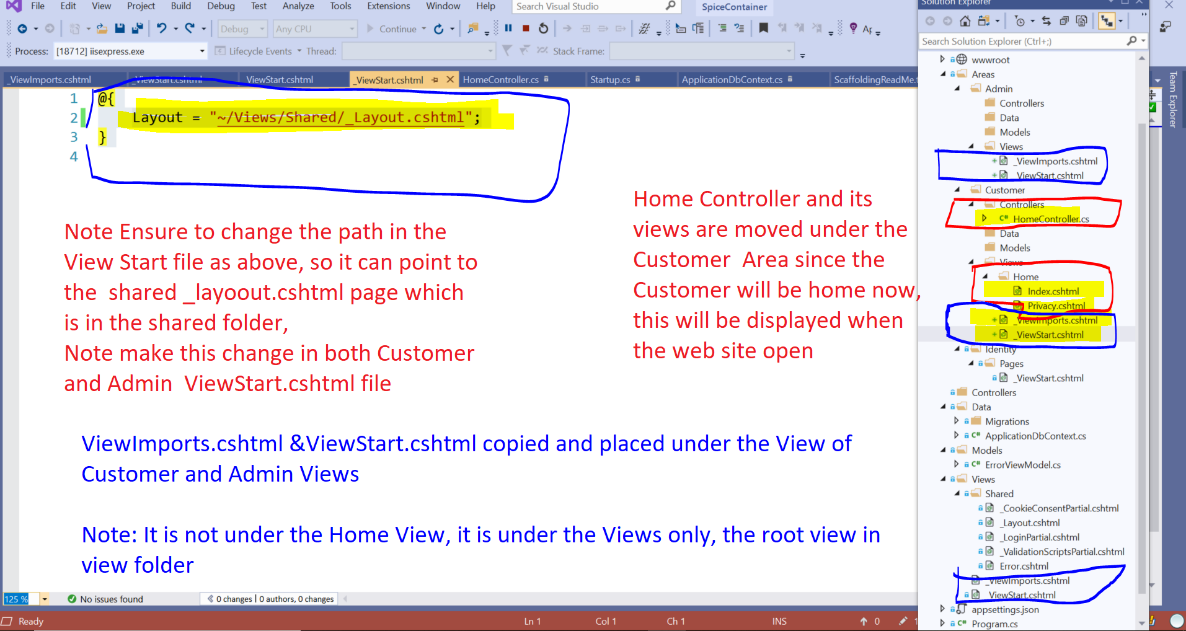
1. You can actually can make one home, make the customer, in the startup file , in the starteup file replace it with original as the following:

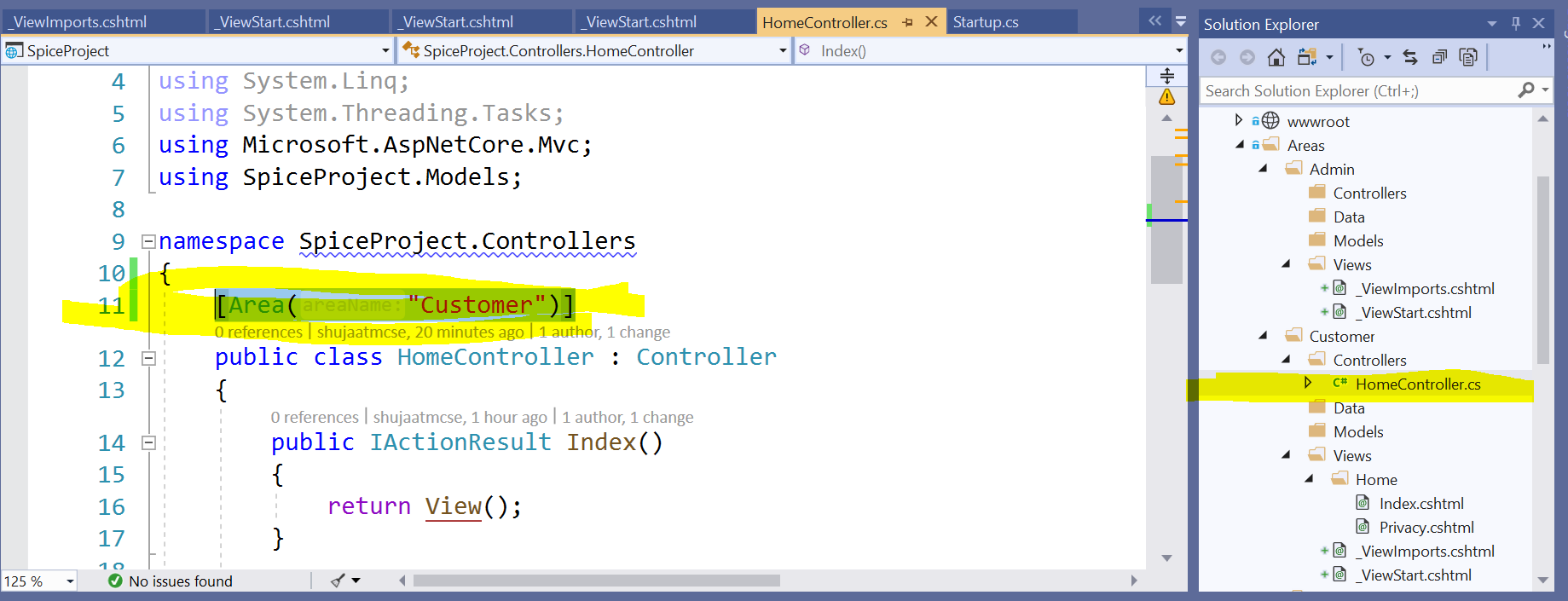
routes.MapRoute(

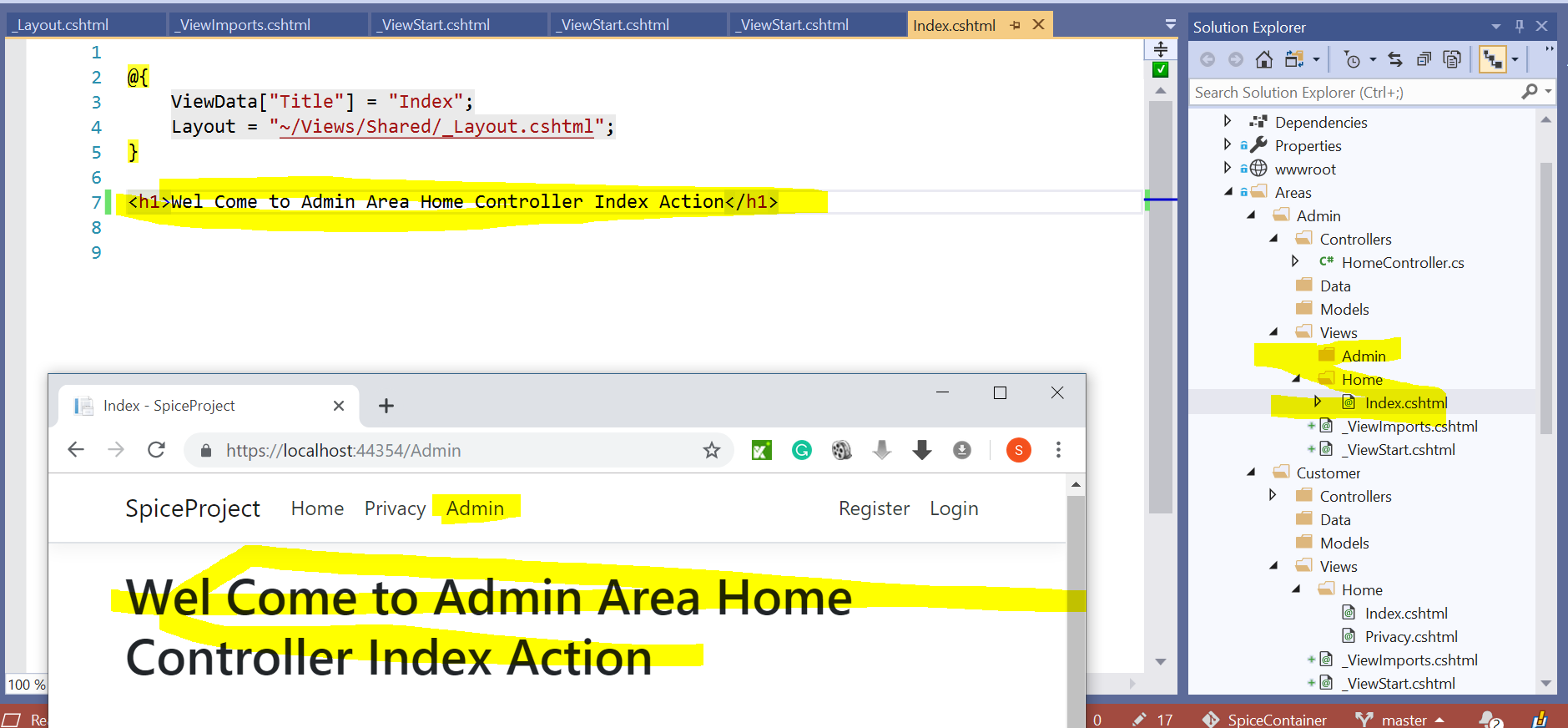
name: "areas",

template: "{area=Customer}/{controller=Home}/{action=Index}/{id?}");

1. 
2. Now you need to have the views and separate controller in both customer and admin. Example for customer is shown below: You may not need to copy the ViewStart.cshtml as it work without this as well.



1. Now we need to tell the Home Controller which we moved to Customer about the Area. Hence do it as below: Add [Area(“Customer”)]
2. 
3. Below is a screen shot that shown the admin controller as well.



The complete code is on github with commits [**Customer&AdminAreaWithReadMeFile**](https://github.com/shujaatmcse/SpiceProject/commit/58e5c0de4b6745a8979f8e822eb71c2a5231481b)

Migration/Model/DBSet.

To create the Category model do the following:

1. create the Category Model Class in Model folder.
2. In your ApplicationDBContext.cs add : public DbSet<Category> Categories { get; set; }
3. At Nuget Console type: add-migration MainCategoryAddedFirstMigration
4. Type: Update-database

To add a forgien Key in the Code first approach, see example below how the parent class is referenced in the sub class.

public class SubCategory

{

public int Id { get; set; }

public string Name { get; set; }

[Required]

[Display(Name = "Category")]

public int CategoryId { get; set; }

[ForeignKey("CategoryId")] // Category is refenced to the Id of Category in //Category class, each sub category can belong to a category, the Category class

// is referenced after the virtual word.

public virtual Category Category { get; set; }

}

//The Category Class: Note the Id in Category class is just Id

public class Category

{

[Key]

public int Id { get; set; }

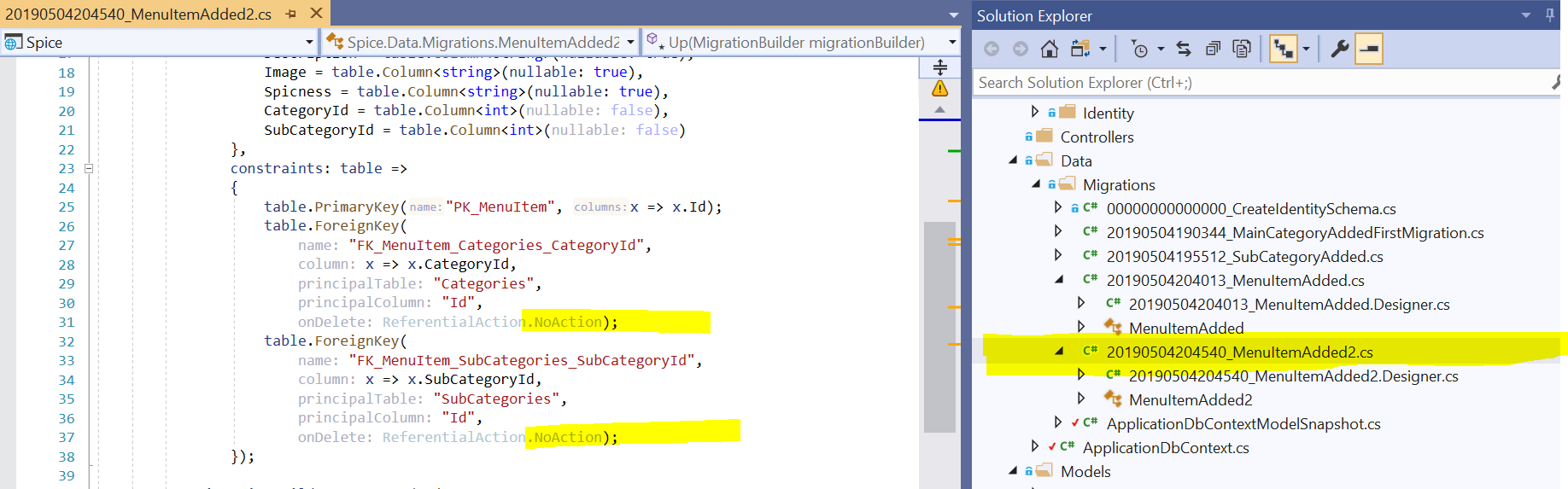
[Required]

public string Name { get; set; }

}

**Adding the Enum for MenuItem and its detail members:**

you can get an error when updating the database at Nuget Console , so go to the context detail file and change the casecad to NoAction, then rerun the update-database command. See example below



The error is because of Forgien Key constraint, if parent deleted what will the child do.

For Adding Enum: The Html.getEnumList must be used in the view.

<div class="form-group"><**label** **asp-for**="Spycness" class="control-label"></**label**>

<**select** **asp-for**="Spycness" class="form-control"**aspitems**="Html.GetEnumSelectList<MenuItem.Espicy>()"></**select**></div>

Below is a complete class of MenuItem.

public class MenuItem

{

public int Id { get; set; }

public string Name { get; set; }

public string Description { get; set; }

public string Image { get; set; }

//Enum Start

public string Spycness { get; set; } // We will use this as Input in View & this field is saved in DATABASE

public enum Espicy { Na=0, NotSpicy=1, Spicy=2, HotSpicy=3} //This will be Html.get Elments

//End,

public decimal Price { get; set; }

//referencing Category

public int CategoryId { get; set; }

[ForeignKey("CategoryId")]

public Category Category { get; set; }

//referencing Sub Category

public int SubCategoryId { get; set; }

[ForeignKey("SubCategoryId")]

public SubCategory SubCategory { get; set; }

}

**Enum on View…**

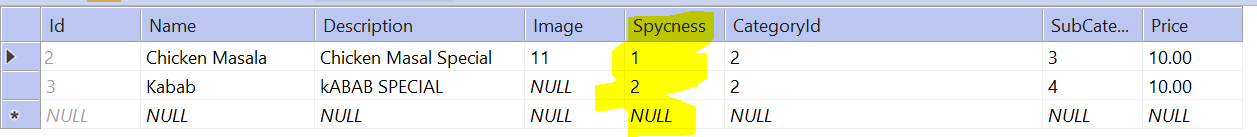
<div class="form-group">

<**label** **asp-for**="Spycness" class="control-label"></**label**>

<**select** **asp-for**="Spycness" class="form-control" **asp-items**="Html.GetEnumSelectList<MenuItem.Espicy>()"></**select**>

</div>

**Enum in DataBase**



**Rich Text Editor in the Menu Page:**

On the page it self such as on the Menu Create Action Page make sure to include this.

@section Scripts

{

<script>tinymce.init({

selector:'textarea', plugins: "lists", menubar: 'file edit format'});</script>}

//Note Don’t include only text area, you have to include plugins, and menubar

In the Main

In the \_Layout.cshtml page, In Include Enviroment add below, note it has API Key for localhost, You will need another key for domain name from the tiny.

<script src="https://cloud.tinymce.com/5/tinymce.min.js?apiKey=koc6wzmfpb6p8drpyd2uoymbfpgbywp5ysjd75wr8buorhut"> </script>

**Just Viewing the Rich text**

<dd class="col-sm-10">

@Html.Raw(Model.Description)

</dd>

**Changing the SubCategory Select Option when Main Category is changed**

1. If you are expecting JSON data then your controller should have an action which returns data in json format.In this example see the controller action below:

public/\* JsonResult\*/ async Task<IActionResult> GetSubCategories(int? CategoryIdInController)

{

if (CategoryIdInController == null)

{

return NotFound();

}

var subCategory = await \_context.SubCategories

.Include(s => s.Category).Where(c=>c.CategoryId== CategoryIdInController).ToListAsync();

if (subCategory == null)

{

return NotFound();

}

return Json(new SelectList(subCategory, "Id", "Name"));

}

}

1. In View you will basically have 2 select lists, One main which will be populated by default and the other one will be papulated based on the selction of main Category.

Code for main Category:

<div class="form-group">

<**label** **asp-for**="CategoryId" class="control-label"></**label**>

<**select** id="CategoryId" **asp-for**="CategoryId" class="form-control" **asp-items**="ViewBag.CategoryId" onchange="GetSubCategory()">

<**option**>Please Select One</**option**>

</**select**>

</div>

1. **Code for subcategory**

<div class="form-group">

<**label** **asp-for**="SubCategoryId" class="control-label"></**label**>

<**select** id="SubCategoryId" **asp-for**="SubCategoryId" class="form-control">

<**option** >Please select one</**option**>

</**select**>

</div>

The AJAX, JQUERY AND JS Code to make it work.

@\*Really important to understand how you can get different select list using, jquery, js and ajax.\*@

<script src="http://ajax.googleapis.com/ajax/libs/jqueryui/1.8/jquery-ui.min.js"></script>

@\*Ajax plugin is needed, it will work even without adding the above becouase it is in the\_leyout page\*@

@\*This is added to check the wiring of Jquery , if it works.\*@

<script type="text/javascript">

$(document).ready(function(){

$("#msgid").html("This is Hello World from JQuery");

});

@\*@\* When the Category changes, we want to get the list of subcategory

hence using java script for this purpose\*@

function GetSubCategory() {

//alert("main category selected"); /\*again to check wiring that we can successfully call the function when category is changed.\*/

console.log("Sub category function called on Category change");

$.ajax({

url: '@Url.Action("GetSubCategories", "MenuItems")', /\*In the url.action we write the action and then controller\*/

contentType: "application/json; charset=utf-8", //the type of content

datatype: "Json", // Make sure you know you are getting the data in return in the json format, try tocheck it by postman

//Gethttps://localhost:44362/Admin/MenuItems/GetSubCategories the data format will be like [{ value:1, text}, {value:2, text: cat name}, {etc}]

// You can also send/receive data in other formats

data: { CategoryIdInController: $(CategoryId).val() },// Here we write the Id in the controller action and the one we are sending.I have selected the Id from DOM using Jquery

success: function (data) {

$('#SubCategoryId').empty();/\* To make the sub category list empty, make sure you call this method in correct syntax way\*/

$('#SubCategoryId').append("<option value= 0>Please select one </option>");

var k = 0;

while (k < data.length) {

$('#SubCategoryId').append("<option value=" +data[k].value+">" +data[k].text+"</option>"); // This syntax

k++;

//The syntax above is extremely crucial , make sure you write it in the correct way, otherwise will go crazy.

console.log("value" + data[k].value);

console.log("text" + data[k].value);

}

},

error: function(reponse) {

alert("error : No Category found " + reponse);

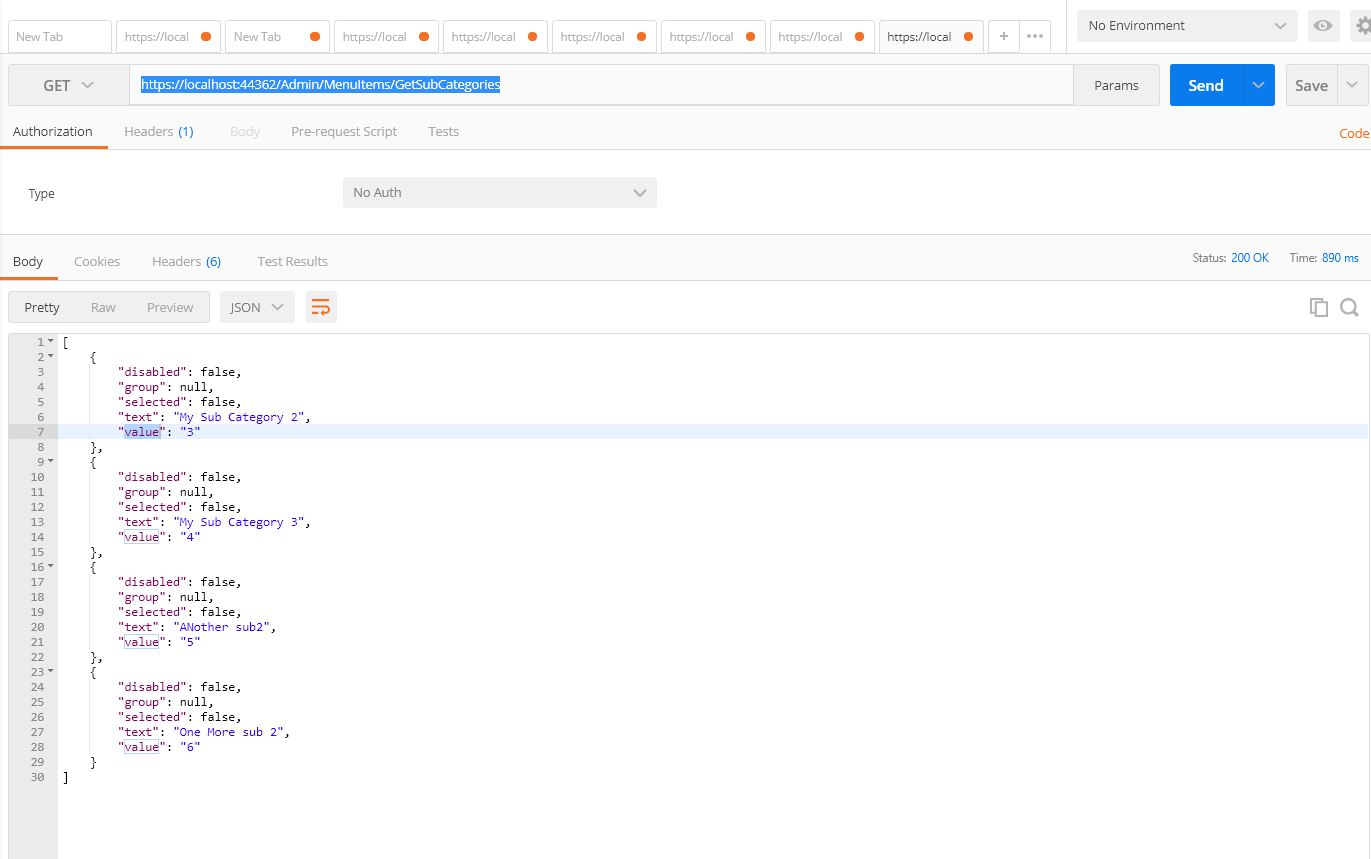
}

});

}

</script>

The Screen shot of postman, for this to work you action controller should not require Id, so remove the where condition in the GetSubCategories method in Menu item Controller.



**Image/Picture Saving/displaying from/to Database:**

<**form** method="post" enctype="multipart/form-data">

<**div** **asp-validation-summary**="All" class="text-danger"></**div**>

<div class="form-group">

<**label** **asp-for**="Name" class="control-label"></**label**>

<**input** **asp-for**="Name" class="form-control" />

<**span** **asp-validation-for**="Name" class="text-danger"></**span**>

</div>

<div class="form-group row">

<div class="col-2">

<**label** **asp-for**="Picture" class="col-form-label"></**label**>

</div>

<div class="col-5">

<input type="file" id="projectImage" name="files" multiple class="form-control" />

</div>

</div>

</**form**>

Note: Pay attention to the yellow highlighted requirements. Above is for Coupon Create Page for saving image into Database.

**Creating /Saving into Database**

[HttpPost]

[ValidateAntiForgeryToken]

//Reciving of the method is default such as Bind, Model etc

public async Task<IActionResult> Create([Bind("Id,Name,CoupnType,Discount,MinimumAmount,Picture,IsActive")] Coupon coupon)

{//If Model state is Valid

if (ModelState.IsValid)

{

var files = HttpContext.Request.Form.Files;

if (files.Count > 0)

{

byte[] p1 = null;

using (var fs1 = files[0].OpenReadStream())

{

using (var ms1 = new MemoryStream())

{

fs1.CopyTo(ms1);

p1 = ms1.ToArray();

}

coupon.Picture = p1;

}

\_context.Add(coupon);

await \_context.SaveChangesAsync();

return RedirectToAction(nameof(Index));

}

}

//If model state is not valid.

return View(coupon);

}

Note: The Yellow Marked section needs to be noted

**Displaying Image/ Detail Page**

/ GET: Admin/Coupons/Details/5 Nothing special

public async Task<IActionResult> Details(int? id)

{

if (id == null)

{

return NotFound();

}

var coupon = await \_context.Coupon

.FirstOrDefaultAsync(m => m.Id == id);

if (coupon == null)

{

return NotFound();

}

return View(coupon);

}

**View/ Detail View Below will display the image:**

@if (Model.Picture.Count() > 0)

{

<div class=" col-12 border">

@{

var base64 = Convert.ToBase64String(Model.Picture);

var imgsrc = string.Format("data:image/jpg;base64,{0}", base64);

}

<img src="@imgsrc" height="100" width="600" />

</div>

}

**// Rest of the action would be like this**

<div class="col-12 pt-4">

<fieldset disabled>

<div class="form-group row">

<div class="col-2">

<**label** **asp-for**="Name" class="custom-label"></**label**>

</div>

<div class="col-5">

<**input** **asp-for**="Name" class="form-control" />

</div>

</div>

Note: Other fields as may be needed

</fieldset>

</div>

Displaying different coupons Images every 2 seconds

@\*Note you are calling here the count Method, so make sure you type it as ..Count()>0, with braces\*@

@if (Model.Coupon.ToList().Count() > 0)

{

<div class="border">

@\*the data interval determine how quickly the copon should be displayed.\*@

<div class="carousel" data-ride="carousel" data-interval="1000">

@for (int i = 0; i < Model.Coupon.Count(); i++)

{

if (i == 0)

{

<div class="carousel-item active">

@{

var base64 = Convert.ToBase64String(Model.Coupon.ToList()[0].Picture);

var imgsrc = string.Format("data:image/jpg;base64,{0}", base64);

}

@\*Below we are now actually display image.\*@

<img src="@imgsrc" height="50" class="d-block w-100" />

</div>

}

else

{// it will displayed when not active.

<div class="carousel-item">

@{

var base64 = Convert.ToBase64String(Model.Coupon.ToList()[i].Picture);

var imgsrc = string.Format("data:image/jpg;base64,{0}", base64);

}

<img src="@imgsrc" height="50" class="d-block w-100" />

</div>

}

}

</div>

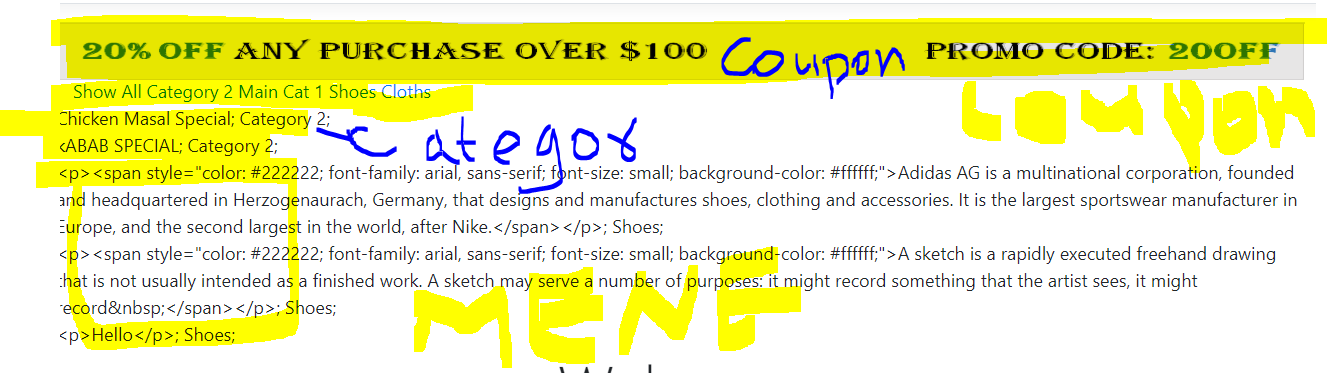
</div>

}

**ViewModel**

If you are creating you may need to have iEnumerables/List of the various model that you want to combine in one model.

See the landing page example, where want to have Categories, MenuItem, and Coupons, hence



namespace Spice.ViewModel

{

public class LandingPageViewModel

{

public IEnumerable<MenuItem> MenuItem { get; set; }

public IEnumerable<Coupon> Coupon { get; set; }

public IEnumerable<Category> Category { get; set; }

}

}

**Using it in Controller action,**

//Reciving Category Id, Optional

public async Task<IActionResult> Index( int ? Id)

{

LandingPageViewModel vm = new LandingPageViewModel();

MenuItem menu = new MenuItem();

//Id is received when a specific Category is selected.Its the category Id

if (Id != null)

{// Checking first if the Id is a genuian

var menuItems = await \_context.MenuItem.Include(s => s.SubCategory).Include(c => c.Category).Where(c => c.CategoryId == Id).ToListAsync();

if (menuItems == null)

{

return NotFound();

}

else// If a specific category has been selected

{

vm.Category = await \_context.Categories.ToListAsync();

//Will display coupons/offers which currently active, adminstrator will the oppertunity to activate/deactivate coupns

vm.Coupon = await \_context.Coupon.Where(a => a.IsActive == true).ToListAsync();

vm.MenuItem = menuItems;

return View(vm);

}

}

else// If No Id has been received(no specifi slection), all menuitems are deiplayed

{

//Retrieving list of only those copons which are active.

vm.Category = await \_context.Categories.ToListAsync();

vm.Coupon = await \_context.Coupon.Where(a => a.IsActive == true).ToListAsync();

//Note use the include where there is a relationship involove.

vm.MenuItem = await \_context.MenuItem.Include(c => c.Category).Include(s => s.SubCategory).ToListAsync();

}

return View(vm);

}

**In View/Page**

**Note: Below is for Catgory and menu selection, the coupon imga code is up under images.**

@model Spice.ViewModel.LandingPageViewModel

@{

ViewData["Title"] = "Home Page";

}

<div class="container">

<**a** **asp-action**="Index" **asp-controller**="Home" >Show All</**a**>

@foreach (var item in Model.Category)

{

<**a** **asp-action**="Index" **asp-route-id**="@item.Id">@item.Name</**a**>

}

</div>

<div class=" container">

@foreach (var menu in Model.MenuItem)

{

<div class=" row">

@menu.Description;

@menu.Category.Name;

</div>

}

</div>

**Image/Picture Saving on server & path in Database:**

private readonly ApplicationDbContext \_context;

//Step1 in Controller dependency injection, include the ASP.NETCore hosting enviroment.

private readonly IHostingEnvironment \_hostingEnvironment;

public MenuItemsController(ApplicationDbContext context, IHostingEnvironment hostingEnvironment)

{

\_context = context;

//Step1 in Controller, include the ASP.NETCore hosting enviroment.

\_hostingEnvironment = hostingEnvironment;

}

[HttpPost]

[ValidateAntiForgeryToken]

//Here we are saving file on server not on into DB, th ereceiving is as usual

public async Task<IActionResult> Create([Bind("Id,Name,Description,Image,Spycness,Price,CategoryId,SubCategoryId")] MenuItem menu)

{

// If Modle is valid

if (ModelState.IsValid)

{

// lets save the model first to the database.

//We made a copy of the object, so when it is saved into DB, it will have the Id assign to it.

var newMenuItem = menu;

\_context.Add(newMenuItem);

await \_context.SaveChangesAsync();

// declare the root path ,, wich is www

string webRootPath = \_hostingEnvironment.WebRootPath;

// files variable

var files = HttpContext.Request.Form.Files;

//if user has uploaded file

if (files.Count > 0)

{

// Creating Path where you want the image to be saved, it will be to root folder wwww

var path = Path.Combine(webRootPath, @"images\Products\");

// Get the extension of the uploaded file i.e Jpg

var extension = Path.GetExtension(files[0].FileName);

// Creating the actual file in the specified directory/path with Model.Id & its extension, you may choose it with diffrent id as you plan

using (var filesStream = new FileStream(Path.Combine(path, newMenuItem.Id + extension), FileMode.Create))

{

//Copying single file

files[0].CopyTo(filesStream);

}

//Saving Path of the Image into Database

newMenuItem.Image = @"\images\Products\" + newMenuItem.Id + extension;

}

//no file was uploaded, so use default image which is on the server, note the sc is just a path.

else

{

// This will copy the default file and save it with Id name

//var uploads = Path.Combine(webRootPath, @"images\" + SC.DefaultFoodImage);

//System.IO.File.Copy(uploads, webRootPath + @"\images\Products\" + newMenuItem.Id + ".png");

////Saving Path of the Image into Database

//newMenuItem.Image = @"\images\Products\" + newMenuItem.Id + ".png";

// Instead of copying the default file again and again, you could point to the defualt file once only

// Hence no need to copy

newMenuItem.Image = @"\images\" + SC.DefaultFoodImage;

}

await \_context.SaveChangesAsync();

return RedirectToAction(nameof(Index));

}

// If Model is not Valid

ViewData["CategoryId"] = new SelectList(\_context.Categories, "Id", "Name", menu.CategoryId);

ViewData["SubCategoryId"] = new SelectList(\_context.SubCategories, "Name", "Name", menu.SubCategoryId);

return View(menu);

}

**In View Create Action:**

@model Spice.Models.MenuItem

@{

ViewData["Title"] = "Create";

Layout = "~/Views/Shared/\_Layout.cshtml";

}

<h1>Create</h1>

<h4>MenuItem</h4>

<hr />

<div class="row">

<div class="col-md-4">

@\*change the form method to include support for sending files as per below line\*@

<**form** method="post" **asp-action**="Create" enctype="multipart/form-data">

<**div** **asp-validation-summary**="ModelOnly" class="text-danger"></**div**>

<div class="form-group">

<**label** **asp-for**="Name" class="control-label"></**label**>

<**input** **asp-for**="Name" class="form-control" />

<**span** **asp-validation-for**="Name" class="text-danger"></**span**>

</div>

…………………………………………………

……………….etc………………………….

<div class="form-group">

<**label** **asp-for**="Image" class="control-label"></**label**>

@\*make sure to add the line as below to pass images espcialy type="file" name="files"\*@

<**input** **type**="file" **name**="files" **asp-for**="Image" class="form-control" />

<**span** **asp-validation-for**="Image" class="text-danger"></**span**>

</div>

</**form**>

**On Detail View/ Just Viewing of Image**

<dd class="col-sm-10">

<img src="@Model.Image" width="600" height="400" style="border-radius:5px;border:1px solid #bbb9b9;" />

@\*@Html.DisplayFor(model => model.Image)\*@

</dd>

**In controller for delete action.**

// POST: Admin/MenuItems/Delete/5

[HttpPost, ActionName("Delete")]

[ValidateAntiForgeryToken]

public async Task<IActionResult> DeleteConfirmed(int id)

{

var menuItem = await \_context.MenuItem.FindAsync(id);

string webRootPath = \_hostingEnvironment.WebRootPath;

if (menuItem != null)

{

//Checking if the MenuItem has a default image/picture or one was uploaded by user.

//We do not want to delete the default image on server as this will be used by menuitem

//as default when user does't upload one

//Path of the item in Db

var menuItemPathInDb = menuItem.Image.ToString().TrimStart('\\');

// The default image path on server

var pathOnServer = (@"images\" + SC.DefaultFoodImage);

// If there both path are not the same then we want to delete the image

// so we only delete the user uploaded image.

if (menuItemPathInDb != pathOnServer)

{

var imagePath = Path.Combine(webRootPath, menuItemPathInDb);

if (System.IO.File.Exists(imagePath))

{

System.IO.File.Delete(imagePath);

}

}

\_context.MenuItem.Remove(menuItem);

await \_context.SaveChangesAsync();

return RedirectToAction(nameof(Index));

}

return RedirectToAction(nameof(Index));

}

**Adding the Unlock and Locking functionality for users:** We need to create to method in user controller for locking and unlocking the user and then do the necessary things in View:

**// For locking the user**

public async Task<IActionResult> Lock(string Id)

{

if (Id == null)

{

return NotFound();

}

var UserInDb = await \_context.ApplicationUser.FirstOrDefaultAsync(u => u.Id == Id);

if (UserInDb== null)

{

return NotFound();

}

// Note that we adding year and assigning it to it property , the lockoutEnd is not a method but rather a property

UserInDb.LockoutEnd = DateTime.Now.AddYears(1000);

await \_context.SaveChangesAsync();

return RedirectToAction(nameof(Index));

}

**public async Task<IActionResult> UnLock(string Id)**

{

if (Id == null)

{

return NotFound();

}

var UserInDb = await \_context.ApplicationUser.FirstOrDefaultAsync(u => u.Id == Id);

if (UserInDb == null)

{

return NotFound();

}

**// Just setting the value to current time**

**UserInDb.LockoutEnd = DateTime.Now;**

**await \_context.SaveChangesAsync();**

**return RedirectToAction(nameof(Index));**

}

**In View since , it is mostly in Idex page with in foreach**

<th>

User Status

</th>

@foreach(var item in Model){

@\*Note: We are refrencing ITEM below not USER\*@

<td>

@if (item.LockoutEnd == null || item.LockoutEnd < DateTime.Now)

{

<**a** **asp-action**="Lock" **asp-route-id**="@item.Id" class="btn btn-success"><i class="fas fa-lock-open"></i></**a**>

}

else

{

<**a** **asp-action**="UnLock" **asp-route-id**="@item.Id" class="btn btn-danger text-white"><i class="fas fa-lock"></i></**a**>

}

</td>

}

**Authorization, Authentication:** Authentication is identifying the user by loggin in , authorization to see if the user has access to those resources.

To add authorization on top of the controller write

**[Authorize(Roles = SC.ManagerRole)]** we added to all the controller in Authorization.

**Showing or not Show nav-link to user.**

**Just start by @if (User.IsInRole(SC.Manager){**

**i.e put the Whole Li or Div within it.**

**}**

**You can user OR condition extra, In this project we put the Whole Administration Link in it.**