**!** 4.1 (latest) English

**T** Filter topics

- > Getting Started
- > Startup Templates
- Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and **Deleting Books**
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → 6: Authors: Domain layer
    - → 7: Authors: Database <u>Integration</u>
    - → 8: Authors: Application Layer
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → Migrating from the ASP.NET <u>Boilerplate</u>
- > Fundamentals
- > Infrastructure
- > Architecture
- > API
- > User Interface
- Data Access
- > Real Time
- **→** <u>Testing</u>
- > <u>Samples</u>
- > Application Modules
- > Release Information
- > Reference
- → Contribution Guide



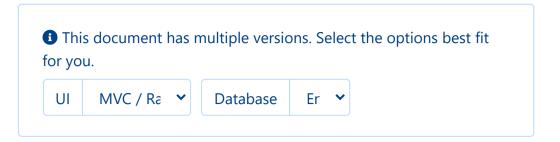




**Edit** Last edit: 12/13/2020

Share on: 💆 in 🖸

In this document



## Web Application Development **Tutorial - Part 9: Authors: User** Interface

### **About This Tutorial**

In this tutorial series, you will build an ABP based web application named Acme. BookStore. This application is used to manage a list of books and their authors. It is developed using the following technologies:

- Entity Framework Core as the ORM provider.
- MVC / Razor Pages as the UI Framework.

This tutorial is organized as the following parts;

- Part 1: Creating the server side
- Part 2: The book list page
- Part 3: Creating, updating and deleting books
- Part 4: Integration tests
- Part 5: Authorization
- Part 6: Authors: Domain layer
- Part 7: Authors: Database Integration
- Part 8: Authors: Application Layer
- Part 9: Authors: User Interface (this part)
- Part 10: Book to Author Relation

### Download the Source Code

This tutorial has multiple versions based on your **UI** and **Database** preferences. We've prepared a few combinations of the source code to be downloaded:

- MVC (Razor Pages) UI with EF Core
- Blazor UI with EF Core
- Angular UI with MongoDB

### Introduction

This part explains how to create a CRUD page for the Author entity introduced in the previous parts.

### The Authors List Page

Create a new razor page, Index.cshtml under the Pages/Authors folder of the Acme. BookStore. Web project and change the content as given below.

\$\mathbb{P}\$ 4.1 (latest) English

**T** Filter topics

- > Getting Started
- > Startup Templates
- **∨** Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and Deleting Books
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → <u>6</u>: Authors: Domain layer
    - → 7: Authors: Database
      Integration
    - → <u>8: Authors: Application Layer</u>
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > Fundamentals
- > Infrastructure
- > Architecture
- > API
- > User Interface
- Data Access
- > Real Time
- → <u>Testing</u>
- > <u>Samples</u>
- > Application Modules
- > Release Information
- > Reference
- **→ Contribution Guide**

#### Index.cshtml

```
@page
@using Acme.BookStore.Localization
@using Acme.BookStore.Permissions
@using Acme.BookStore.Web.Pages.Authors
@using Microsoft.AspNetCore.Authorization
@using Microsoft.Extensions.Localization
@inject IStringLocalizer<BookStoreResource> L
@inject IAuthorizationService AuthorizationService
@model IndexModel
@section scripts
    <abp-script src="/Pages/Authors/Index.js"/>
<abp-card>
    <abp-card-header>
        <abp-row>
            <abp-column size-md="_6">
                <abp-card-title>@L["Authors"]</abp-card</pre>
            </abp-column>
            <abp-column size-md="_6" class="text-right"
                @if (await AuthorizationService
                    .IsGrantedAsync(BookStorePermission
                    <abp-button id="NewAuthorButton"
                                text="@L["NewAuthor"].V
                                 icon="plus"
                                 button-type="Primary"/>
            </abp-column>
        </abp-row>
    </abp-card-header>
    <abp-card-body>
        <abp-table striped-rows="true" id="AuthorsTable
    </abp-card-body>
</abp-card>
```

This is a simple page similar to the Books page we had created before. It imports a JavaScript file which will be introduced below.

#### IndexModel.cshtml.cs

## In this document

Share on :  $\bigvee$  in  $\square$ 

\$\mathbb{Y}\$ 4.1 (latest)
English

**T** Filter topics

> **Getting Started** 

> Startup Templates

**∨** Tutorials

- Web Application Development
  - → 1: Creating the Server Side
  - → 2: The Book List Page
  - → 3: Creating, Updating and Deleting Books
  - → <u>4: Integration Tests</u>
  - → <u>5: Authorization</u>
  - → <u>6</u>: Authors: Domain layer
  - → 7: Authors: Database
    Integration
  - → <u>8: Authors: Application Layer</u>
  - → 9: Authors: User Interface
  - → 10: Book to Author Relation
- → Community Articles
- → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > Fundamentals
- > <u>Infrastructure</u>
- > Architecture
- > <u>API</u>
- > <u>User Interface</u>
- > Data Access
- > Real Time
- → <u>Testing</u>
- > <u>Samples</u>
- > Application Modules
- > Release Information
- > Reference
- **→ Contribution Guide**

```
using Microsoft.AspNetCore.Mvc.RazorPages;

namespace Acme.BookStore.Web.Pages.Authors
{
    public class IndexModel : PageModel
    {
        public void OnGet()
        {
        }
    }
}
```

In this document

Share on: 🤟 in\_ ☑

Index.js

\$\mathbb{P}\$ 4.1 (latest) English

**T** Filter topics

#### > Getting Started

#### > Startup Templates

- **∨** Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and Deleting Books
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → <u>6: Authors: Domain layer</u>
    - → 7: Authors: Database Integration
    - → <u>8: Authors: Application Layer</u>
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > Fundamentals
- > Infrastructure
- > Architecture
- > <u>API</u>
- > User Interface
- Data Access
- > Real Time
- → <u>Testing</u>
- > <u>Samples</u>
- > Application Modules
- > Release Information
- > <u>Reference</u>
- **→ Contribution Guide**

```
$(function () {
    var 1 = abp.localization.getResource('BookStore');
    var createModal = new abp.ModalManager(abp.appPath
    var editModal = new abp.ModalManager(abp.appPath +
    var dataTable = $('#AuthorsTable').DataTable(
        abp.libs.datatables.normalizeConfiguration({
            serverSide: true,
            paging: true,
            order: [[1, "asc"]],
            searching: false,
            scrollX: true,
            ajax: abp.libs.datatables.createAjax(acme.b
            columnDefs: [
                    title: l('Actions'),
                    rowAction: {
                        items:
                                     text: l('Edit'),
                                     visible:
                                         abp.auth.isGran
                                     action: function (d
                                         editModal.open(
                                 },
                                 {
                                     text: 1('Delete'),
                                     visible:
                                         abp.auth.isGran
                                     confirmMessage: fun
                                         return 1(
                                             'AuthorDele
                                             data.record
                                         );
                                     },
                                     action: function (d
                                         acme.bookStore.
                                             .delete(dat
                                             .then(funct
                                                 abp.not
                                                      1(
                                                 );
                                                 dataTab
                                             });
                },
                    title: 1('Name'),
                    data: "name"
                },
                    title: l('BirthDate'),
                    data: "birthDate",
                    render: function (data) {
                         return luxon
                             .DateTime
```

**T** Filter topics

- > Getting Started
- > Startup Templates
- **∨** Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and Deleting Books
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → <u>6: Authors: Domain layer</u>
    - → 7: Authors: Database
      <a href="Integration">Integration</a>
    - → <u>8: Authors: Application Layer</u>
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > **Fundamentals**
- > Infrastructure
- > Architecture
- > <u>API</u>
- > User Interface
- Data Access
- > Real Time
- → <u>Testing</u>
- > Samples
- > **Application Modules**
- > Release Information
- > Reference
- → Contribution Guide

```
.fromISO(data, {
                                 locale: abp.localizatio
                             }).toLocaleString();
        })
    );
    createModal.onResult(function () {
        dataTable.ajax.reload();
    });
    editModal.onResult(function () {
        dataTable.ajax.reload();
    });
    $('#NewAuthorButton').click(function (e) {
        e.preventDefault();
        createModal.open();
    });
});
```

Briefly, this JavaScript page;

- Creates a Data table with Actions, Name and BirthDate columns.
  - Actions column is used to add *Edit* and *Delete* actions.
  - BirthDate provides a render function to format the
     DateTime value using the <u>luxon</u> library.
- Uses the abp.ModalManager to open Create and Edit modal forms.

This code is very similar to the Books page created before, so we will not explain it more.

#### Localizations

This page uses some localization keys we need to declare. Open the en.json file under the Localization/BookStore folder of the Acme.BookStore.Domain.Shared project and add the following entries:

```
"Menu:Authors": "Authors",

"Authors": "Authors",

"AuthorDeletionConfirmationMessage": "Are you sure to d

"BirthDate": "Birth date",

"NewAuthor": "New author"
```

Notice that we've added more keys. They will be used in the next sections.

#### Add to the Main Menu

Open the BookStoreMenuContributor.cs in the Menus folder of the Acme.BookStore.Web project and add the following code in the end of the ConfigureMainMenuAsync method:

**T** Filter topics

- > Getting Started
- > Startup Templates
- Tutorials
  - Web Application Development

English

- → 1: Creating the Server Side
- → 2: The Book List Page
- → 3: Creating, Updating and Deleting Books
- → <u>4: Integration Tests</u>
- → <u>5: Authorization</u>
- → <u>6: Authors: Domain layer</u>
- → 7: Authors: Database
  Integration
- → 8: Authors: Application Layer
- → 9: Authors: User Interface
- → 10: Book to Author Relation
- → Community Articles
- → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > Fundamentals
- > Infrastructure
- > Architecture
- > API
- > User Interface
- > Data Access
- > Real Time
- **→** Testing
- > <u>Samples</u>
- > Application Modules
- > Release Information
- > <u>Reference</u>
- **→ Contribution Guide**

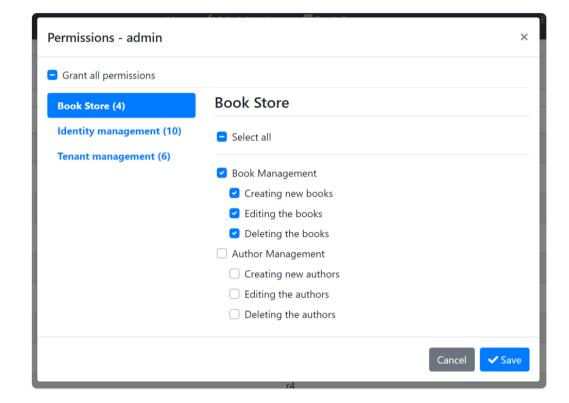
```
if (await context.IsGrantedAsync(BookStorePermissions.A
{
    bookStoreMenu.AddItem(new ApplicationMenuItem(
        "BooksStore.Authors",
        1["Menu:Authors"],
        url: "/Authors"
    ));
}
```

# In this document

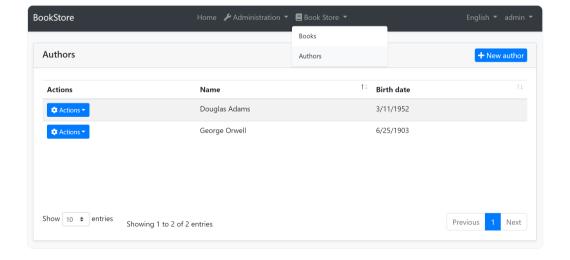
Share on :  $\bigvee$  in  $\square$ 

### **Run the Application**

Run and login to the application. **You can not see the menu item since you don't have permission yet.** Go to the Identity/Roles page, click to the *Actions* button and select the *Permissions* action for the **admin role**:



As you see, the admin role has no *Author Management* permissions yet. Click to the checkboxes and save the modal to grant the necessary permissions. You will see the *Authors* menu item under the *Book Store* in the main menu, after **refreshing the page**:



The page is fully working except *New author* and *Actions/Edit* since we haven't implemented them yet.

**Tip**: If you run the .DbMigrator console application after defining a new permission, it automatically grants these new permissions to the admin role and you don't need to manually grant the permissions yourself.



- > Getting Started
- > Startup Templates
- **∨** Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and Deleting Books
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → <u>6: Authors: Domain layer</u>
    - → 7: Authors: Database Integration
    - → 8: Authors: Application Layer
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > **Fundamentals**
- > Infrastructure
- > Architecture
- > API
- > User Interface
- > Data Access
- > Real Time
- → <u>Testing</u>
- > Samples
- > **Application Modules**
- > Release Information
- > Reference
- → Contribution Guide

### **Create Modal**

Create a new razor page, CreateModal.cshtml under the Pages/Authors folder of the Acme.BookStore.Web project and change the content as given below.

## In this document

Share on :  $\bigvee$  in  $\square$ 

#### CreateModal.cshtml

```
@page
@using Acme.BookStore.Localization
@using Acme.BookStore.Web.Pages.Authors
@using Microsoft.Extensions.Localization
@using Volo.Abp.AspNetCore.Mvc.UI.Bootstrap.TagHelpers.
@model CreateModalModel
@inject IStringLocalizer<BookStoreResource> L
@{
    Layout = null;
<form asp-page="/Authors/CreateModal">
    <abp-modal>
        <abp-modal-header title="@L["NewAuthor"].Value"</pre>
        <abp-modal-body>
            <abp-input asp-for="Author.Name" />
            <abp-input asp-for="Author.BirthDate" />
            <abp-input asp-for="Author.ShortBio" />
        </abp-modal-body>
        <abp-modal-footer buttons="@(AbpModalButtons.Ca</pre>
    </abp-modal>
</form>
```

We had used <u>dynamic forms</u> of the ABP Framework for the books page before. We could use the same approach here, but we wanted to show how to do it manually. Actually, not so manually, because we've used <u>abp-input</u> tag helper in this case to simplify creating the form elements.

You can definitely use the standard Bootstrap HTML structure, but it requires to write a lot of code. abp-input automatically adds validation, localization and other standard elements based on the data type.

#### CreateModal.cshtml.cs

\$\mathbb{P}\$ 4.1 (latest)
English

**T** Filter topics

- > Getting Started
- > Startup Templates
- **∨** Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and Deleting Books
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → <u>6</u>: Authors: Domain layer
    - → 7: Authors: Database
      Integration
    - → <u>8: Authors: Application Layer</u>
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > **Fundamentals**
- > Infrastructure
- > Architecture
- > <u>API</u>
- > User Interface
- > Data Access
- > Real Time
- → <u>Testing</u>
- > Samples
- > **Application Modules**
- > Release Information
- > Reference
- → Contribution Guide

```
using System;
using System.ComponentModel.DataAnnotations;
using System.Threading.Tasks;
using Acme.BookStore.Authors;
using Microsoft.AspNetCore.Mvc;
using Volo.Abp.AspNetCore.Mvc.UI.Bootstrap.TagHelpers.F
namespace Acme.BookStore.Web.Pages.Authors
{
    public class CreateModalModel : BookStorePageModel
        [BindProperty]
        public CreateAuthorViewModel Author { get; set;
        private readonly IAuthorAppService _authorAppSe
        public CreateModalModel(IAuthorAppService autho
            _authorAppService = authorAppService;
        public void OnGet()
            Author = new CreateAuthorViewModel();
        public async Task<IActionResult> OnPostAsync()
            var dto = ObjectMapper.Map<CreateAuthorView</pre>
            await _authorAppService.CreateAsync(dto);
            return NoContent();
        public class CreateAuthorViewModel
            [Required]
            [StringLength(AuthorConsts.MaxNameLength)]
            public string Name { get; set; }
            [Required]
            [DataType(DataType.Date)]
            public DateTime BirthDate { get; set; }
            [TextArea]
            public string ShortBio { get; set; }
```

This page model class simply injects and uses the IAuthorAppService to create a new author. The main difference between the book creation model class is that this one is declaring a new class,

CreateAuthorViewModel, for the view model instead of re-using the CreateAuthorDto.

The main reason of this decision was to show you how to use a different model class inside the page. But there is one more benefit: We added two attributes to the class members, which were not present in the CreateAuthorDto:

In this document

Share on :  $\bigvee$  in  $\square$ 

#### > Getting Started

#### > Startup Templates

#### Tutorials

Web Application Development

English

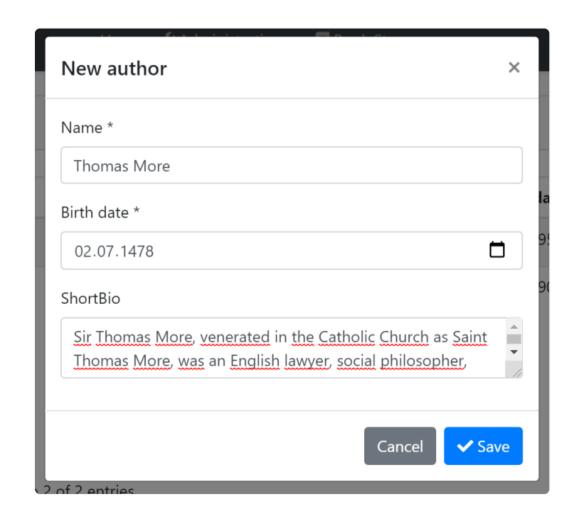
- → 1: Creating the Server Side
- → 2: The Book List Page
- → 3: Creating, Updating and Deleting Books
- → <u>4: Integration Tests</u>
- → <u>5: Authorization</u>
- → <u>6: Authors: Domain layer</u>
- → 7: Authors: Database Integration
- → <u>8: Authors: Application Layer</u>
- → 9: Authors: User Interface
- → 10: Book to Author Relation
- → Community Articles
- → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > **Fundamentals**
- > Infrastructure
- > Architecture
- > API
- > User Interface
- Data Access
- > Real Time
- → <u>Testing</u>
- > <u>Samples</u>
- > Application Modules
- > Release Information
- > Reference
- **→ Contribution Guide**

```
• Added [DataType(DataType.Date)] attribute to the BirthDate which shows a date picker on the UI for this property.
```

• Added [TextArea] attribute to the ShortBio which shows a multiline text area instead of a standard textbox.

In this way, you can specialize the view model class based on your UI requirements without touching to the DTO. As a result of this decision, we have used <code>ObjectMapper</code> to map <code>CreateAuthorViewModel</code> to <code>CreateAuthorDto</code>. To be able to do that, you need to add a new mapping code to the <code>BookStoreWebAutoMapperProfile</code> constructor:

"New author" button will work as expected and open a new model when you run the application again:



## **Edit Modal**

English



#### > Getting Started

#### > Startup Templates

- **∨** Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and Deleting Books
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → <u>6</u>: Authors: Domain layer
    - → 7: Authors: Database
      Integration
    - → <u>8: Authors: Application Layer</u>
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > **Fundamentals**
- > Infrastructure
- > Architecture
- > API
- > User Interface
- > Data Access
- > Real Time
- → **Testing**
- > Samples
- > Application Modules
- > Release Information
- > Reference
- → Contribution Guide

# Create a new razor page, EditModal.cshtml under the Pages/Authors folder of the Acme.BookStore.Web project and change the content as given below.

## In this

document

Share on :  $\bigvee$  in  $\square$ 

#### **EditModal.cshtml**

```
@page
@using Acme.BookStore.Localization
@using Acme.BookStore.Web.Pages.Authors
@using Microsoft.Extensions.Localization
@using Volo.Abp.AspNetCore.Mvc.UI.Bootstrap.TagHelpers.
@model EditModalModel
@inject IStringLocalizer<BookStoreResource> L
    Layout = null;
<form asp-page="/Authors/EditModal">
    <abp-modal>
        <abp-modal-header title="@L["Update"].Value"></</pre>
        <abp-modal-body>
            <abp-input asp-for="Author.Id" />
            <abp-input asp-for="Author.Name" />
            <abp-input asp-for="Author.BirthDate" />
            <abp-input asp-for="Author.ShortBio" />
        </abp-modal-body>
        <abp-modal-footer buttons="@(AbpModalButtons.Ca</pre>
    </abp-modal>
</form>
```

#### EditModal.cshtml.cs

\$\mathbb{P}\$ 4.1 (latest) English

**T** Filter topics

#### > Getting Started

#### > Startup Templates

- **∨** Tutorials
  - Web Application Development
    - → 1: Creating the Server Side
    - → 2: The Book List Page
    - → 3: Creating, Updating and Deleting Books
    - → <u>4: Integration Tests</u>
    - → <u>5: Authorization</u>
    - → <u>6</u>: Authors: Domain layer
    - → 7: Authors: Database Integration
    - → 8: Authors: Application Layer
    - → 9: Authors: User Interface
    - → 10: Book to Author Relation
  - → Community Articles
  - → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > **Fundamentals**
- > Infrastructure
- > Architecture
- > API
- > User Interface
- > Data Access
- > Real Time
- → <u>Testing</u>
- > Samples
- > Application Modules
- > Release Information
- > <u>Reference</u>
- **→ Contribution Guide**

```
using System;
using System.ComponentModel.DataAnnotations;
using System.Threading.Tasks;
using Acme.BookStore.Authors;
using Microsoft.AspNetCore.Mvc;
using Volo.Abp.AspNetCore.Mvc.UI.Bootstrap.TagHelpers.F
namespace Acme.BookStore.Web.Pages.Authors
{
    public class EditModalModel : BookStorePageModel
        [BindProperty]
        public EditAuthorViewModel Author { get; set; }
        private readonly IAuthorAppService _authorAppSe
        public EditModalModel(IAuthorAppService authorA
            _authorAppService = authorAppService;
        public async Task OnGetAsync(Guid id)
            var authorDto = await _authorAppService.Get
            Author = ObjectMapper.Map<AuthorDto, EditAu
        public async Task<IActionResult> OnPostAsync()
            await _authorAppService.UpdateAsync(
                Author. Id,
                ObjectMapper.Map<EditAuthorViewModel, U
            );
            return NoContent();
        public class EditAuthorViewModel
            [HiddenInput]
            public Guid Id { get; set; }
            [Required]
            [StringLength(AuthorConsts.MaxNameLength)]
            public string Name { get; set; }
            [Required]
            [DataType(DataType.Date)]
            public DateTime BirthDate { get; set; }
            [TextArea]
            public string ShortBio { get; set; }
}
```

This class is similar to the CreateModal.cshtml.cs while there are some main differences;

- **9** 4.1 (latest)
- **T** Filter topics
- > Getting Started
- > Startup Templates
- Tutorials
  - Web Application Development

English

- → 1: Creating the Server Side
- → 2: The Book List Page
- → 3: Creating, Updating and Deleting Books
- → <u>4: Integration Tests</u>
- → <u>5: Authorization</u>
- → <u>6: Authors: Domain layer</u>
- → 7: Authors: Database
  Integration
- → <u>8: Authors: Application Layer</u>
- → 9: Authors: User Interface
- → 10: Book to Author Relation
- → Community Articles
- → <u>Migrating from the ASP.NET</u> <u>Boilerplate</u>
- > **Fundamentals**
- > Infrastructure
- > Architecture
- > API
- > User Interface
- Data Access
- > Real Time
- → <u>Testing</u>
- > <u>Samples</u>
- > **Application Modules**
- > Release Information
- > Reference
- → Contribution Guide

• Uses the IAuthorAppService.GetAsync(...) method to get the editing author from the application layer.

 EditAuthorViewModel has an additional Id property which is marked with the [HiddenInput] attribute that creates a hidden input for this property.

This class requires to add two object mapping declarations to the BookStoreWebAutoMapperProfile class:

That's all! You can run the application and try to edit an author.

### The Next Part

See the <u>next part</u> of this tutorial.

In this document

Share on :  $\bigvee$  in  $\square$