

# ASP.NET Fundamentals Exam – 16 August 2023

## SoftUniBazar

Problems for the exam for the ["ASP.NET Core Fundamentals"](#) course @ SoftUni

**SoftUniBazar** is an online platform that the students of SoftUni use to sell and buy different useful items.

## 1. Technological Requirements and Overview

- Use the provided skeleton – **SoftUniBazar\_Skeleton**. All of the needed packages have been installed.

**The Technological Requirements are ABSOLUTE. If you do not follow them, you will NOT be scored for other Requirements.**

The provided skeleton consists of:

- **Areas/Identity/Pages** – you have to scaffold Identity here
- **Controllers** – you should implement the controllers logic here
- **Data** – you should hold the entities models here
- **Models** – you should implement the models here
- **Views** – you are provided with the needed views. Your task is to implement some logic regarding the logged-in/logged-out user
- **appsettings.json** – don't forget to change the your **connection string**
- **Program.cs** – you should fulfil the security and password requirements here

**NOTE:** You should seed the database with provided in advance data regarding the **Category** entity. In order to do this, remove the comments from the block of code in the **protected override void OnModelCreating(ModelBuilder builder)** method of the **DbContext**.

**NOTE: Don't forget to uncomment the code inside the views while you implement your logic.**

Now that you know the **Technological Requirements**, let us see what the **Functional Requirements** are.

## 2. Identity Requirements

You should **scaffold Identity** and use the **default IdentityUser**.

Remove the unnecessary code from the **Login.cshtml** and **Register.cshtml** files and leave only the needed code in order for the app to be functioning correctly.

**NOTE: Don't worry about the views' style – once you scaffold Identity and remove the unnecessary code, the Login and Register pages should look like shown below. Don't add any classes to the views of those two pages!**

The **password** requirements for the **IdentityUser** are the following:

- Require confirmed account: **false**
- Require digits: **false**
- Require non-alphanumeric characters: **false**
- Required uppercase letters: **false**

### 3. Database Requirements

The **Database of SoftUniBazar**:

#### Ad

- Has **Id** – a unique **integer**, **Primary Key**
- Has **Name** – a **string** with min length **5** and max length **25 (required)**
- Has **Description** – a **string** with min length **15** and max length **250 (required)**
- Has **Price** – a **decimal (required)**
- Has **OwnerId** – a **string (required)**
- Has **Owner** – an **IdentityUser (required)**
- Has **ImageUrl** – a **string (required)**
- Has **CreatedOn** – a **DateTime** with format "**yyyy-MM-dd H:mm**" **(required)** (the **DateTime** format is recommended, if you are having troubles with this one, you are free to use another one)
- Has **CategoryId** – an **integer, foreign key (required)**
- Has **Category** – a **Category (required)**

#### Category

- Has **Id** – a unique **integer**, **Primary Key**
- Has **Name** – a **string** with min length **3** and max length **15 (required)**
- Has **Ads** – a collection of type **Ad**

#### AdBuyer

- **BuyerId** – a **string, Primary Key, foreign key (required)**
- **Buyer** – **IdentityUser**
- **AdId** – an **integer, Primary Key, foreign key (required)**
- **Ad** – **Ad**

Implement the entities with the **correct datatypes** and their **relations**.

Feel free to use the new syntax for realization of the many-to-many relation without a mapping table.

## 4. Page Requirements

### Index Page (logged-out user)



## Login Page (logged-out user)

[SoftUniBazar](#) [Home](#) [Register](#) [Login](#)

# Log in

Use a local account to log in.

[Log in](#)

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## Register Page (logged-out user)

SoftUniBazar

Home

Register

Login

# Register

## Create a new account.

Email

Password

Confirm password

Register

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/Ad/All (logged-in user, creator of the ad)


SoftUniBazar

Home All Ads Add an Ad My Cart

Hello guest@softuni.bg! Logout

## Selected Ads for You

Flowers



**Added on:** 05-08-2023 21:16

**Category:** Home

**Description:** I have three flowers for selling. They love sunlight and need watering three times a week.

**Price:** 15.00 BGN

**Seller:** guest@softuni.bg

Edit the Ad

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**NOTE:** If the user is **logged in** and tries to go to the **Home page**, the application must redirect them to the **/Ad/All**.

/Ad/All (logged-in user, not creator of an ad)


SoftUniBazar

HomeAll AdsAdd an AdMy Cart

Hello softuni@softuni.bg!Logout

## Selected Ads for You

### Flowers



**Added on:** 05-08-2023 21:16  
**Category:** Home  
**Description:** I have three flowers for selling. They love sunlight and need watering three times a week.  
**Price:** 15.00 BGN  
**Seller:** guest@softuni.bg

Add to Cart

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**NOTE:** If the user is **logged in** and tries to go to the **Home page**, the application must redirect them to the **/Ad/All**.


SoftUniBazar

HomeAll AdsAdd an AdMy Cart

Hello softuni@softuni.bg!Logout

## My Cart

### Flowers



**Added on:** 05-08-2023 21:16

**Category:** Home

**Description:** I have three flowers for selling. They love sunlight and need watering three times a week.

**Price:** 15.00 BGN

**Seller:**

Remove from Cart

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**NOTE:** the **DateTime** format is recommended, if you are having troubles with the one in the image, you are **free** to use **another** one.



SoftUniBazar

HomeAll AdsAdd an AdMy Cart

Hello softuni@softuni.bg!Logout

Create a New Ad

Name

Description

Image URL

Price

0.00

Category

Books

Add

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**NOTE:** the **DateTime** format is recommended, if you are having troubles with the one in the image, you are **free** to use **another** one.

## /Ad/Edit/{id} (logged-in user)

SoftUniBazar

Home All Ads Add an Ad My Cart

Hello guest@softuni.bg! Logout

### Edit an Ad

Name

Flowers

Description

I have three flowers for selling. They love sunlight and need watering three times a week.

Image URL

https://media.istockphoto.com/id/1268045137/photo/potted-snake-plants-inside-a-beautiful-r

Price

15.00

Category

Home

Edit

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**NOTE:** the **DateTime** format is recommended, if you are having troubles with the one in the image, you are **free** to use **another** one.

**NOTE:** The little calendar icons in the example views are NOT required.

## /Ad/AddToCart?id={id} (logged-in user)

Adds the selected ad to the user's collection of ads. If the ad is already in their collection, it shouldn't be added. If everything is successful, the user must be redirected to the their collection **"/Ad/Cart"** page.

## /Ad/RemoveFromCart?id={id} (logged-in user)

Removes the selected ad from the user's collection of ads. If everything is successful, the user must be redirected to home **"/Ad/All"** page.

**NOTE:** The templates should look **EXACTLY** as shown above.

## 5. Functionality

The functionality of the **SoftUniBazar** Platform is very simple.

### Users

**Guests** can **Register**, **Login** and view the **Index Page**.

**Users** can **add ads** and **edit ads only they have added**.

**Users** can see **added ads** by all **users** on the **Home Page (/Ad/All)**.

If the user is the creator of the ad, they can see the **[Edit]** button. If the user is not the creator of the ad, they can add the ad to their cart.

### Ads

**Ads** can be **added** by **users**. All created **ads** are visualized on the **Home Page (/Ad/All)**.

**Ads** are visualized on the **Home Page (/Ad/All)** with **some** of their information.

**Ads** are visualized on the **Home Page (/Ad/All)** with one buttons:

- If the user **IS** the **creator** of the ad – **[Edit]**;
- If the user **IS NOT** the **creator** of the ad – **[Add to Cart]**

The **[Edit]** button displays a new page with a form, filled in with **all** of the **info** for the **selected ad**. Users can change this info and save it.

The **[Add to Cart]** button adds the **ad** to the **user's** collection of **ad**, **unless it is already added**.

**Users** have a **My Cart** page where only the **ads** in their collection are visualized.

- The **[Remove from Cart]** button **removes** the **ad** from the **user's** collection of **ads**.

### Redirections

- Upon successful **Login** of an **IdentityUser**, you should be redirected to the **/Ad/All**.
- Upon successful **Creation** of an **Ad**, you should be redirected to the **/Ad/All**.
- Upon successful **Adding** an **Ad** to the **User's** collection, should be redirected to the **/Ad/Cart**.
- Upon successful **Editing** of an **Ad**, you should be redirected to the **/Ad/All**.
- Upon successful **Removal** of an **Ad** from the **User's** collection, should be redirected to the **/Ad/All**.
- If a **User** tries to **add** an **already added ad** to their **collection**, they should be redirected to **/Ad/All** (or just a page refresh).
- Upon successful **Logout** of a **User**, you should be redirected to the **Index Page**.
- If any of the **validations** in the POST forms **don't pass**, **redirect** to the **same page (reload/refresh it)**.

## 6. Security

The **Security** section mainly describes access requirements. Configurations about which users can access specific functionalities and pages:

- **Guest** (not logged in) users can access the **Index** page.
- **Guest** (not logged in) users can access the **Login** page.
- **Guest** (not logged in) users can access the **Register** page.

- **Guests** (not logged in) cannot access **Users-only** pages.
- **Users** (logged in) cannot access **Guest** pages.
- **Users** (logged in) can access the **Ad/Add** page and functionality.
- **Users** (logged in) can access the **Ad/Edit** page and functionality.
- **Users** (logged in) can access the **Ad/All** page.
- **Users** (logged in) can access the **My Cart** page.
- **Users** (logged in) can access **Logout** functionality.
- **Users** (logged in) cannot access the **Ad/Edit** page of an **Ad** that have another user as a creator.

## 7. Code Quality

Make sure you provide the best architecture possible. Structure your code into different classes, follow the principles of high-quality code (**SOLID**). You will be scored for the **Code Quality** and **Architecture** of your project.

## 8. Scoring

**Identity Requirements – 5 points**

**Database Requirements – 10 points**

**Template Requirements – 10 points**

**Functionality – 50 points**

**Security – 5 points**

**Code Quality – 10 points**

**Data Validation – 10 points**