

# C# Web Development Basics

## Regular Exam – CHUSHKA

**CHUSHKA** (Central Hierarchically-Universal Sales Host Kickstarter Application) is a universal web application for selling products, like a web shop. You have been tasked to implement this application by the **Codex Input / Output** organization. There are several requirements you must follow in the implementation.

### Technological Requirements

- Use the **Web Server**
- Use the **MVC Framework**
- Use **Entity Framework**

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

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

### Database Requirements

The **Database** of the **CHUSHKA** application needs to support **3 entities**:

#### User

- Has an **Id** – (of course) an **integer**
- Has an **Username**
- Has a **Password**
- Has a **Full Name**
- Has an **Email**
- Has an **Role** – can be one of the following values ("**User**", "**Admin**")

#### Product

- Has a **Name**
- Has a **Price** – think of the right data type here
- Has a **Description**
- Has a **Type** – can be one of the following values ("**Food**", "**Domestic**", "**Health**", "**Cosmetic**", "**Other**")

#### Order

- Has an **Id** – a **String (GUID)**
- Has a **Product** – a **Product**
- Has a **Client** – an **User**
- Has an **Ordered On** – a **DateTime**

Implement the entities with the **correct datatypes**.

# Template Requirements

## Guest Templates

These are the **templates** and **functionalities**, accessible by **Guests** (logged out users).

### Index Template (route = “/”) (logged out user)

CHUSHKA Home Login Register

## Welcome to Chushka Universal Web Shop

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Login if you have an account.  
Register if you don't.

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### Login Template (route = “/users/login”) (logged out user)

CHUSHKA Home Login Register

## Login

Username

Username...

Password

Password...

Login

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## Register Template (route = “/users/register”) (logged out user)

CHUSHKA

Home

Login

Register

Register

Username

Username...

Password

Password...

Confirm Password

Confirm Password...

Full name

Full Name...

Email

Email...

Register

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## User Templates

These are the **templates** and **functionalities**, accessible by **Users** (logged in users with **Role - User**).

### LoggedIn Index Template (route=“/”) (logged in user)

**NOTE: Products** on this page have their **description substringed** to the **50th symbol**, and then accompanied by 3 dots “...”

CHUSHKA

Home

Logout

Greetings, Pesho!

Feel free to view and order any of our products.

Chushkopek

A universal tool for peking chushkas.

\$500

Chushkopek

A universal tool for peking chushkas.

\$500

Chushkopek

A universal tool for peking chushkas.

\$500

Chushkopek

A universal tool for peking chushkas.

\$500

Chushkopek

A universal tool for peking chushkas.

\$500

Injektoplqktor

A universal tool for basically everything. It's ba...

\$1.56

Injektoplqktor

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\$1.56

Injektoplqktor

A universal tool for basically everything. It's ba...

\$1.56

Injektoplqktor

A universal tool for basically everything. It's ba...

\$1.56

Something

Something

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## Product Details Template (route="/products/details?id={id}") (logged in user)

CHUSHKA

Home

Logout

Chushkopek

Type: DomesticPrice: \$500

Description

A universal tool for peking chushkas.

Actions

Order

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## Admin Templates

These are the **templates** and **functionalities**, accessible by **Admins** (logged in users with **Role - Admin**).

## Admin Index Template (route="/") (logged in admin)

**NOTE: Products** on this page have their **description substringed** to the **50th symbol**, and then accompanied by 3 dots "..."

CHUSHKA

Home

Create Product

All Orders

Logout

Greetings, admin!

Enjoy your work today!

Chushkopek

A universal tool for peking chushkas.

\$500

Chushkopek

A universal tool for peking chushkas.

\$500

Chushkopek

A universal tool for peking chushkas.

\$500

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A universal tool for basically everything. It's ba...

\$1.56

Injektoplqktor

A universal tool for basically everything. It's ba...

\$1.56

Something

Something

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Prod. Details Admin Temp. (route="/products/details?id={id}") (logged in admin)

CHUSHKA

Home

Create Product

All Orders

Logout

Chushkopek

Type: DomesticPrice: \$500

Description

A universal tool for peking chushkas.

Actions

OrderEditDelete

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Product Create Template (route="/products/create") (logged in admin)

CHUSHKA

Home

Create Product

All Orders

Logout

Create Product

Name

Name...

Price

Price...

Description

Description...

Product Type

☐ Food

☐ Domestic

☐ Health

☐ Cosmetic

☒ Other

Create

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## Product Edit Template (route="/products/edit?id={id}") (logged in admin)

CHUSHKA

Home

Create Product

All Orders

Logout

### Edit Product

Name

Chushkopek

Price

500

Description

A universal tool for peking chushkas.

Product Type

☐ Food

☒ Domestic

☐ Health

☐ Cosmetic

☐ Other

Edit

Cancel

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## Product Delete Template (route="/products/delete?id={id}") (logged in admin)

CHUSHKA

Home

Create Product

All Orders

Logout

### Delete Product

Name

Chushkopek

Price

500

Description

A universal tool for peking chushkas.

Product Type

☐ Food

☒ Domestic

☐ Health

☐ Cosmetic

☐ Other

Delete

Cancel

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## All Orders Template (route="/orders/all") (logged in admin)

CHUSHKA Home Create Product All Orders Logout				
All Orders				
#	Order ID	Customer	Product	Ordered On
1	c57019d0-a9bc-40f3-b73b-89fc6a101fd	Pesho	Chushkopek	15:30 21/12/2012
2	c57019d0-a9bc-40f3-b73b-89fc6a101fd	admin	Injektoplqktor	15:30 21/12/2012

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Some of the templates have been given to you in the application skeleton, but the others will be for you to implement, so make sure you implement them correctly. You can use the given ones as helpers.

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

**NOTE:** The templates do **NOT** require additional **CSS**. Only **bootstrap** and the **given css** are enough.

## Functional Requirements

The **Functionality Requirements** describe the functionality that the **Application** must support.

The **application** should provide **Guest** (not logged in) users with the functionality to **login**, **register** and **view** the **Index** page.

The **application** should provide **Users** (logged in) with the functionality to **logout**, and **view all products**, and **order a Product** (clicking on the **[Order]** button on the **Product Details** page).

The **application** should provide **Admins** (logged in) with the functionality to **logout**, and **view all products**, **order a Product**, **create a Product**, **edit a Product**, **delete a Product**, and **view all Orders**.

### Users

When you register a new **User**, it should be assigned with a **role** – **User**.

**NOTE:** To test your **Admin functionality**, make one user an **Admin** through the database, or make the **first registered** user – an **Admin**.

### Products

Upon clicking on the **rectangular object** holding the data about a certain **Product** on the **User Index** and **Admin Index** pages, you should be redirected to its **Details** page.

Upon **ordering a Product**, an **Order** should be **created** and **persisted**.

The **application** should **store** its **data** into a **MSSQL** database, using **Entity Framework Core**.

## Security Requirements

The **Security Requirements** are mainly access requirements. Configurations about which users can access specific functionalities and pages.

- **Guest** (not logged in) users can access **Index** page and functionality.
- **Guest** (not logged in) users can access **Login** page and functionality.
- **Guest** (not logged in) users can access **Register** page and functionality.
- **Users** (logged in) can access **User LoggedIn Index** page and functionality.
- **Users** (logged in) can access **User Product Details** page and functionality.
- **Users** (logged in) can access the **Order Product** functionality.
- **Users** (logged in) can access **Logout** functionality.
- **Admins** (logged in) can access **every functionality** a **normal** logged in **User** can.
- **Admins** (logged in) can access **Admin LoggedIn Index** page and functionality.
- **Admins** (logged in) can access the **Admin Product Details** page and functionality.
- **Admins** (logged in) can access the **Product Create** page and functionality.
- **Admins** (logged in) can access the **Product Edit** page and functionality.
- **Admins** (logged in) can access the **Product Delete** page and functionality.
- **Admins** (logged in) can access the **All Orders** page and functionality.

## Scoring

This section describes how the scoring of the Exam Preparation will be made.

**Database Requirements – 15 points.**

**Template Requirements – 25 points.**

**Functional Requirements – 50 points.**

**Security Requirements – 10 points.**