

C# Web Development Basics

Exam Preparation – MeTube

MeTube is like YouTube, “ama ne bash” like an old Bulgarian Sage once said. You have been tasked to implement this application for literally no money, by the richest man on earth. 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 application needs to support **2 entities**:

User

- Has an **Username**
- Has a **Password**
- Has an **Email**
- Has **Tubes** (a collection of **tubes**)

Tube

- Has a **Title**
- Has an **Author**
- Has an **Description**
- Has an **Youtube Id** – This Id is only for the **youtube video**. It is not the **Entity's id**.
- Has **Views** (an **integer**, by default – 0)
- Has an **Uploader** (a **User**).

Implement the entities with the **correct datatypes**, and implement **repositories** for them.

Template Requirements

Index Template (logged out user)

MeTube™

HomeLoginRegister

Welcome to MeTube™!

The simplest, easiest to use, most comfortable Multimedia Application.

[Login](#) if you have an account or [Register](#) now and start tubing.

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Login Template (logged out user)

MeTube™

HomeLoginRegister

Login

Username

Password

Login

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Register Template (logged out user)

MeTube™

HomeLoginRegister

Register

Username

Password

Confirm Password

Email

Register


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Home Template (logged in user)


MeTube™

HomeProfileUploadLogout


Welcome, \$(username)




Key User Requirements
Roko




Key User Requirements
Roko




Key User Requirements
Roko



Key User Requirements
Roko



Key User Requirements
Roko



Key User Requirements
Roko

Profile Template (logged in user)

MeTube™

HomeProfileUploadLogout

@Pesho
(pesho@gmail.com)

#	Title	Author	Actions
1	Key User Requirements	Roko	Details
2	Key User Requirements	Roko	Details
3	Key User Requirements	Roko	Details


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Tube Details Template (logged in user)

MeTube™

HomeProfileUploadLogout

Run This Show



Kat Deluna

151835 Views

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris at tellus mi. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Suspendisse imperdiet id diam ut fermentum. Proin imperdiet felis et mattis convallis. Cras magna velit, congue quis tellus ac, mollis dignissim urna. Morbi aliquet tellus in sem dictum, eu volutpat dolor mattis. Duis molestie dui sit amet pretium gravida. Nunc eget risus pretium, accumsan felis a, luctus magna. Nunc eu ultricies arcu. Aliquam luctus, metus a commodo elementum, neque purus ullamcorper erat, id faucibus velit odio eleifend massa. Vivamus id erat laoreet, ullamcorper nibh et, sollicitudin lorem.

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Tube Upload Template (logged in user)

MeTube™

HomeProfileUploadLogout

Upload

Title

Author

Youtube Link

Description

Upload

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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 for you to write. 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**
- **View** the **Index** page.

The **application** should provide **Users** (logged in) with the functionality to:

- **Logout**
- **View all Tubes** (Home page)
 - The **Home** page holds **image thumbnails**.
- **View** their **Profile** (Clicking on [**Profile**] button on **Home** page)
 - **Only** the **Tubes** uploaded by the **User** should be **viewed**.
 - The **username** and the **email** of the **user** should be viewed in the **format specified** in the screenshots above.
- **View details** about **Tube**
 - (Clicking on a **Tube**'s picture on **Home** page)
 - (Clicking on the [**Details**] button on **Profile** page)
 - **Each time** you view **details** about a **Tube**, you should **increment** it's **views** by **1**.
 - The **Details** page holds a **video iframe**.
- Upload a Tube.
 - The upload is done with a **youtube video link**.

- (Example: “<https://www.youtube.com/watch?v=uGhKqb2Ow3E>”)
- The last segment of the video is its id - **uGhKqb2Ow3E**.
- You can use that **id** to **extract** the **thumbnail**, in order to view it on the **Home** page.
- You can use that **id** to **create** an **iframe**, in order to view it on the **Details** page.

The **application** should **store** its **data** into a **MSSQL** database, using **EF 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.
- **Guest** (not logged in) users can access **Login** page.
- **Guest** (not logged in) users can access **Register** page.
- **Users** (logged in) can access **Home** page.
- **Users** (logged in) can access **Profile** page.
- **Users** (logged in) can access **Upload** functionality.
- **Users** (logged in) can access **Details** functionality.
- **Users** (logged in) can access **Logout** functionality.

Framework Requirements

Extend the given skeleton (Web Server, MVC Framework), by adding a validation before the mapping of the binding model. The validation result should be accessed by adding it as a parameter to a controller action.

The validation should be a class, which holds a map of errors which happened during the mapping of the binding model and the **request body**.

The validation should be very simple, for example – “**Mapping of the \”title\” field failed.**”. You don’t need to have custom messages, annotations or type & value limitations.

Scoring

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

Database Requirements – 10 points.

Template Requirements – 30 points.

Functional Requirements – 40 points.

Security Requirements – 10 points.

Framework Requirements – 10 points.