

Fall 2023 Assignment 4 – Security & Testing

PROG 36944 – ASSIGNMENT 4

Total Marks = 100

Note: Read all the requirements of the assignment before starting it, so you are aware of required screen shots.

Summary

Congratulations! You have been given a lucrative contract to build the ASP.NET Core MVC Web Site to manage Trucking System.

The basic idea of this application is to introduce proper security into your ongoing application of Truck Management System.

Instructions

[50]

Hint: Follow the Example from the class like Security Example using Identity.

1. You can create a new project with [YOUR_INITIALS]_SECURITY.
2. You will be adding new controller in your application which will handle the action functions for adding, deleting, updating, and viewing the users.
3. You will be also adding controller in your application which will handle the action functions for adding, deleting, updating, and viewing the roles assigned to the users. (Minimum two roles are requiring one for Admin and one for Driver)
4. Update your controllers that you have created for Truck and Routes action functions. In order that only user who has admin role should be able to add, delete and update a truck and a route. Admin should also be only responsible to add a truck into a workshop.
5. Your user with driver role should only be able to view truck and route available to it. Your Admin user should be able to view all the trucks and routes and driver who are assigned for particular truck with routes.
6. Upon selecting the available truck and route to the user driver the driver can click and button and start the route.
7. Driver user should be able to request for a particular repair on a truck and submit the request to the admin.

Note: Students are allowed to make the design in any better way.

Once your security is implemented and all the functionalities are done.

8. Create a C# Unit Test Project named: [YOUR_INITIALS]_LAB5.Tests (ex. MA_LAB5.Tests) that:
 - a) Write a Unit Test that uses the Web API Product controller to Add a Truck. [10]
 - b) Write a Unit Test that uses the Web API Product controller to Get a Truck. [10]
 - c) Write a Unit Test that uses the Web API Product controller to Delete a Truck. [10]
 - d) Take a screenshot that shows the test code for the above tests.

- e) Refactor the MVC Product Controller from assignment 4 so that it utilizes the Repository Pattern instead of directly accessing the database. [10]
- f) Refactor the MVC Product Controller from assignment 4 so that it utilizes the Dependency Injection Pattern instead of directly referencing the Repository class. [10]

Hint: follow the example we did in the class for testing. You can use the Moq framework as well.

Notes:

1. **All assignment shall be submitted by the deadline.** Late submissions will be penalized with 10% per day for up to 3 calendar days after which the assignment cannot be submitted anymore. **An email must be sent** should you choose to submit a late assignment. If no such emails are received no extensions will be granted and the assignment will be graded as zero..
2. This assignment shall be **completed individually**. Remember that completing the assignment by yourself will ensure your success on the midterm and final exam. See the [Academic Honesty at Sheridan](#).
3. Submission is done in electronic format **using the SLATE DropBox**. **DO NOT email your submission.**