Contents

About the Client:

Your client 'Digital Traders' is opening up a new show room for selling of mobile phones and wants to have a web application for invoice processing.

Data Dictionary

Below are some examples of data stored in the database.

Product

Field Name	Description
id	Auto generated number
title	Name/title of the product
description	Desription of the product
pur_price	Purchase price as per purchase invoice
sale_price	Selling price fixed by 'Digital Traders'
cur_stock	Current stock available
tax	GST in %
brand	Brand of the product
processor	Processer in the mobile
RAM	RAM capacity in GB
ROM	ROM capacity in GB
primary_cam	Primary Camera Capacity in MP
front_cam	Front (selfi) Camera Capacity in MP
battery	Battery capacity in mAh

Brand

ID	Brand Name
1	SAMSUNG
2	Moto

Product

ID	Product Title	Description	Sale Price
1	SAMSUNG Galaxy S21	SAMSUNG Galaxy S21 5G Android Cell Phone 128GB Silver	20829
2	Moto G Power 2021	Moto G Power | 2021 | 3-Day battery | 4/64GB | Grey	12249

Customer

ID	Customer Name	Customer Phone	Customer Email	Address
1	Donna F. Pulliam	954-219-3172	Donna.Pulliam@mail.com	34, North Street, CA
2	Fred E. Hickey	281-345-1706	Fred.Hickey@mail.com	New Aparts, AJ Park, NJ

Sales Invoice

InvoiceNum	Invoice Date	Customer ID	Product	Qty	Rate
1	05 May 2021	1	1	3	20829
2	07 July 2021	2	2	1	12249

Requirement - 1

Create an Asp.Net MVC web application (Application 1 – DigiTrade.Invoicing') for generating the invoice for your client with the following information.

Your technical lead has suggested using SQL Server for maintaining the data. And below is the database structure provided by your lead.

Add menus or button for the below:
Customer   Brand   Product   Sales Invoice

'Digital Traders' a Niche Player to the market and wants to enhance their business with other biggest leading online shopping stores like Flipkart, Amazon India.

'GreatShopping' is one of the leading online shopping stores and has billions of customers using their website. 'Digital Traders' has entered into an agreement with GreatShopping to sell their stock through the online shopping website of 'GreatShopping.

Now 'Digital Traders' needs to share their current stock information with 'GreatShopping' so that GreatShopping will be able to include the stock of 'Digital Traders' in their website.

'Digital Traders' agreed to sell their mobile phones to GS 10% less of their Selling price. So 'Digital Traders' need to share their product details with the following information to GS.

id	Auto generated number
title	Name/title of the product
description	Desription of the product
sale_price	10% less of the Selling price fixed by 'Digital

	Traders'
cur_stock	Current stock available
tax	GST in %
brand	Brand of the product
processor	Processer in the mobile
RAM	RAM capacity in GB
ROM	ROM capacity in GB
primary_cam	Primary Camera Capacity in MP
front_cam	Front (selfi) Camera Capacity in MP
battery	Battery capacity in mAh

Requirement – 2

Create an application (Application 2 – DigiTrade.API') to create ASP.Net Web API to GreatShopping to share the above product information of their stock.
The Web API should be secured (authenticated) with credential.
<Baseurl>/api/products will return products json response
<Baseurl>/api/products/5 will return product json response

Requirement – 3

Also create a Asp.Net MVC demo application to consume the API
Application3 – DigiTrade.Demo' - Call the api with credential
1) Listing all products (http://localhost:4323/api/products)
2) Only one product by id (http://localhost:4323/api/products/3)
of Application2 – DigiTrade.API.
Need to deserialize the json result and get the object before displaying.
And display the results in screen.

Get Products

ID	Product Title	Description	Sale Price	Cur. Stock
1	SAMSUNG Galaxy S21	SAMSUNG Galaxy S21 5G Android Cell Phone 128GB Silver	18,809.1	
2	Moto G Power 2021	Moto G Power | 2021 | 3-Day battery | 4/64GB | Grey	11,024.1	

Or

ID	Product Title	Description	Sale Price	Cur. Stock	
1	SAMSUNG Galaxy S21	SAMSUNG Galaxy S21 5G Android Cell	18,809.1		Details
2	Moto G Power 2021	Moto G Power | 2021 | 3-Day battery	11,024.1		Details

- ASP.Net MVC application

- Code First Approach

- Exception Handling – Application should never throw server side error

- Handle http errors

- Logging – Info and Error

date & time   -   Info - Current stock details shared with GreatShopping
date & time   -   Error - Cannot process your request due to an error. Please contact administrator.

- Sending Email to – robot.techie@gmail.com

Applications developed should follow the below practices:

- Proper **comments** should be provided in all your programs.

- Variable naming should be explanatory.

Data to store	Best naming of the variable	Poor naming (not accepted)
Employee First Name	empFirstName emp_first_name empFName	str name eName fName
Account Number	accountNumber accountNo accNumber accNo	an ano can acno

- The **validation** should be done for every input data in all your programs.

BEST Practices:

1. Proper commenting

2. Naming convention

3. Identify reusable code and create necessary functions

4. Try to leverage lambda functions

5. Try to use generator (yield) for functions

6. Create modules having generic functions used for multiple projects. (Library projects)

7. Try to use tuple where ever possible instead of list

8. Do not hard-code values. Values should be from config file.

9. Exception handling and display proper error message in the screen and log error & send email

10. Import only specific namespace / class / function which is required. Avoid importing unnecessary module.

11. Try to use value types than reference types. (Use structure than class)

*Note: Programs which do not follow the above practices will be rejected.