NAVTECH CODING ASSESSMENT SOLUTIONS

Here I am using Database First Approach of Entity Framework(Version 6+).Web API to make a demo structure of an Customers,Orders and Products to execute the given tasks.

Architecture

It has 5 tables to execute the normalization in database tables with an effort to create a structured sequence.

(i).Customers :- This table stores the customer data and acts as a master table for Customer_Id column Order_Details table.

(ii).Product_details:- This table consists of product details and acts as a master table for ProductId in item_table.

(iii).Order_details contains the details of an order like CustomerId,Delivery_Slot, Order_Time etc.

(iv)Item_table is an table which stores the items in different orders with column Order_Id,Product_Id and Quantity.

(v).Delivery_Slots :- It stores the timings of different delivery slots available.

We are using MVC approach in this api.In first step we will make add a ADO.Net Entity Data Model

Right Click Model->Add->ADO.Net Entity Data Model->EF designer From Database->New Connection->Microsoft SQL Server

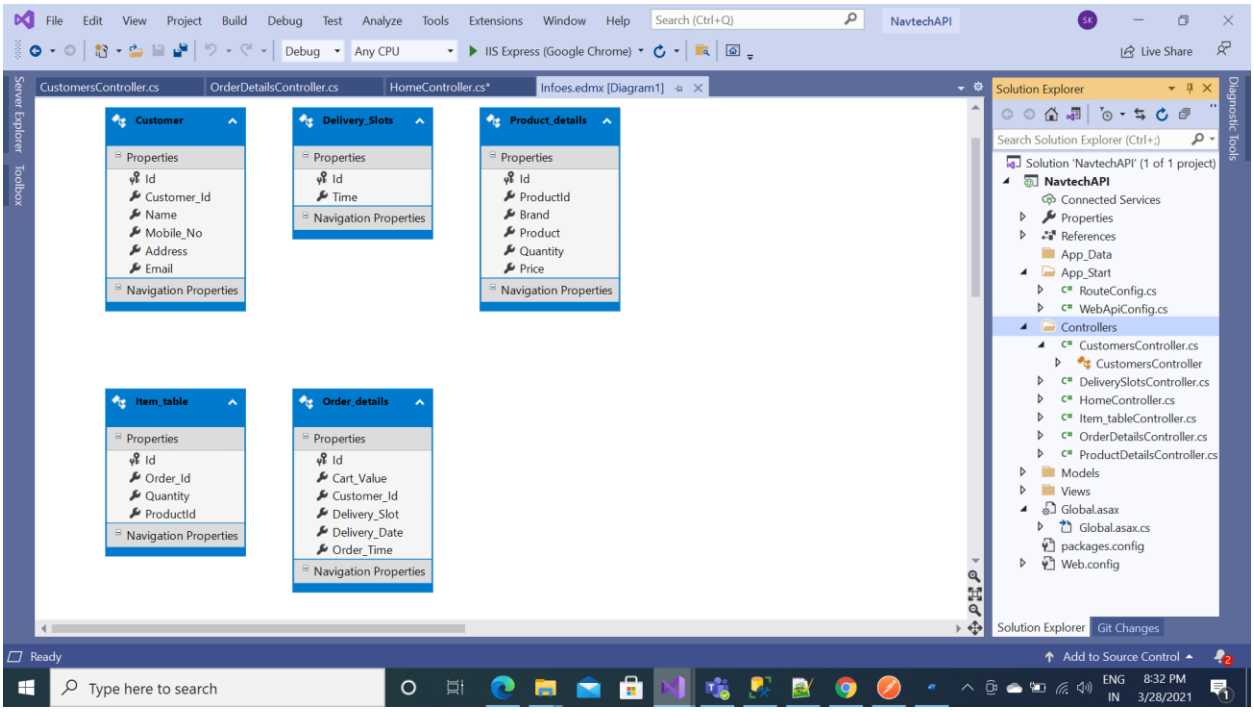
In next Step we will add a controller for every table from 1 to 4(Delivery_Slots has fixed set of Values).

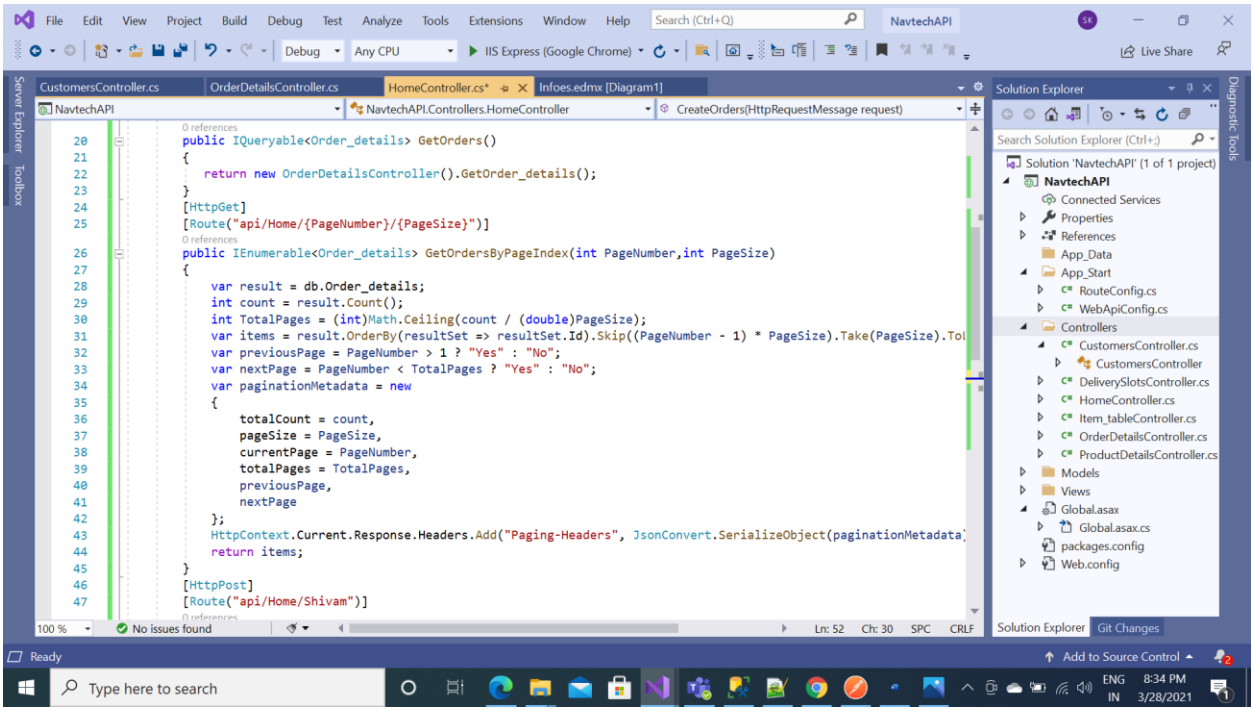
Right Click Controller->Add->Controller->Web API 2 Controller with actions ,using Entity Framework->Add->Add(Select Model Class w r t table and other things)

Now after all the controllers are made create a HomeController

Right Click Controller->Add->Controller->MVC 5 Controller Empty->Add

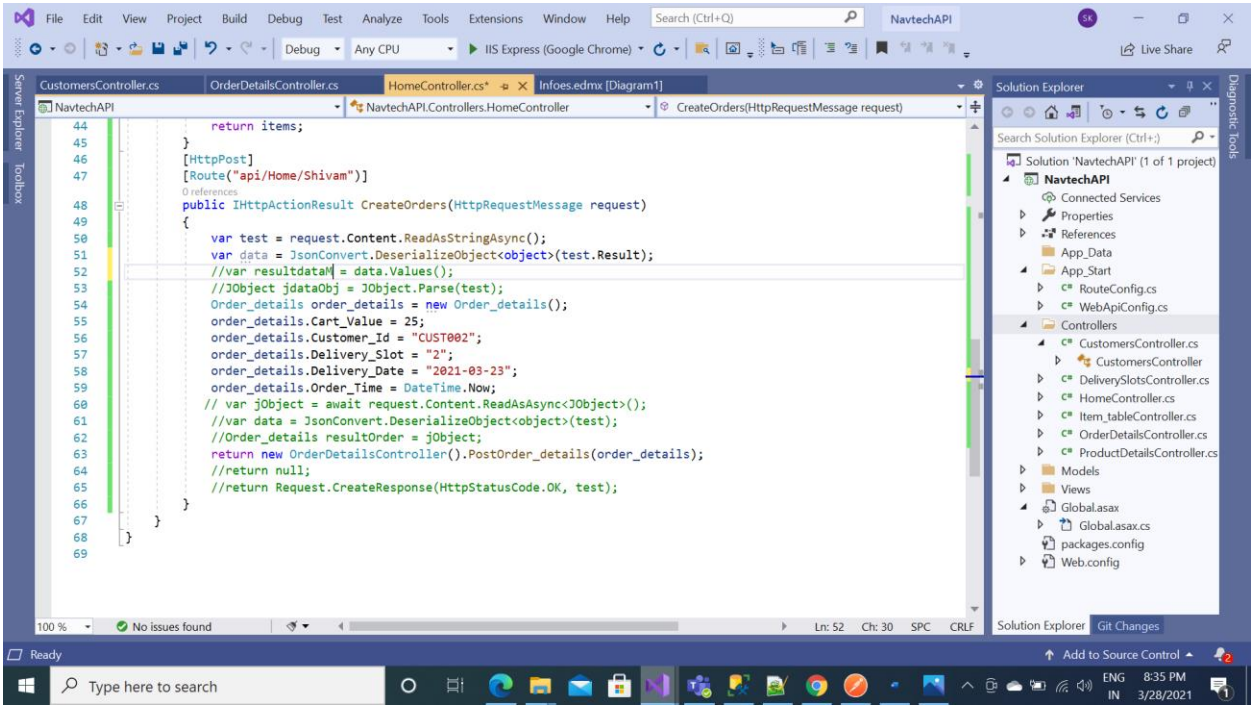
Now inside the Home Controller Start Coding for every method needed.I am giving images of the EF Model Page(infoes.edmx) and HomeController.



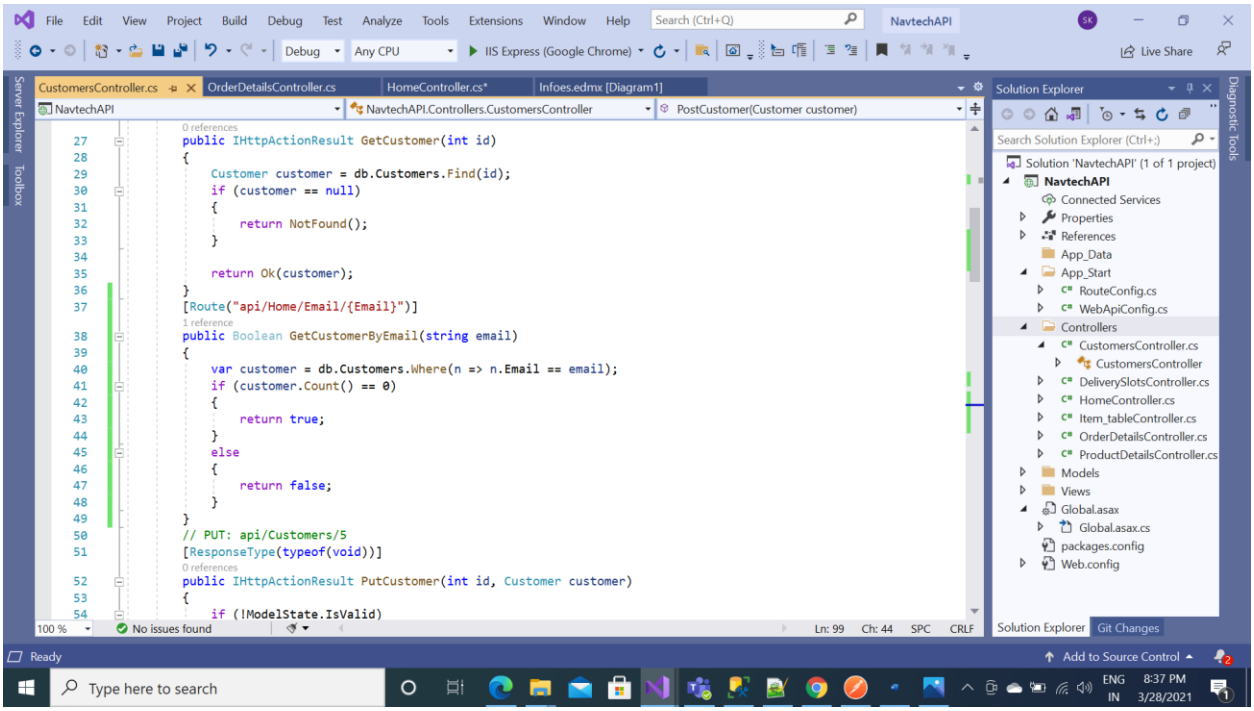


The above screenshot shows the method of GetOrders and GetOrders by PageSize and PageIndex.

I have achieved this



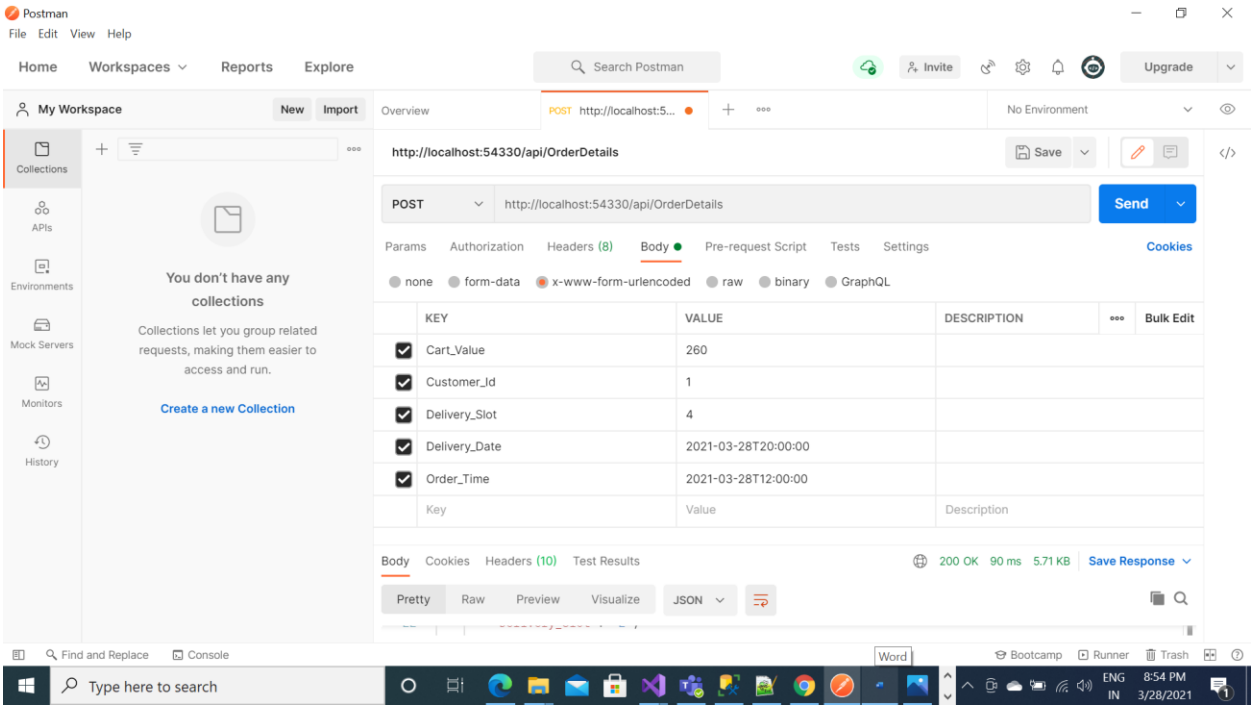
This above screenshot contains the CreateOrder Method

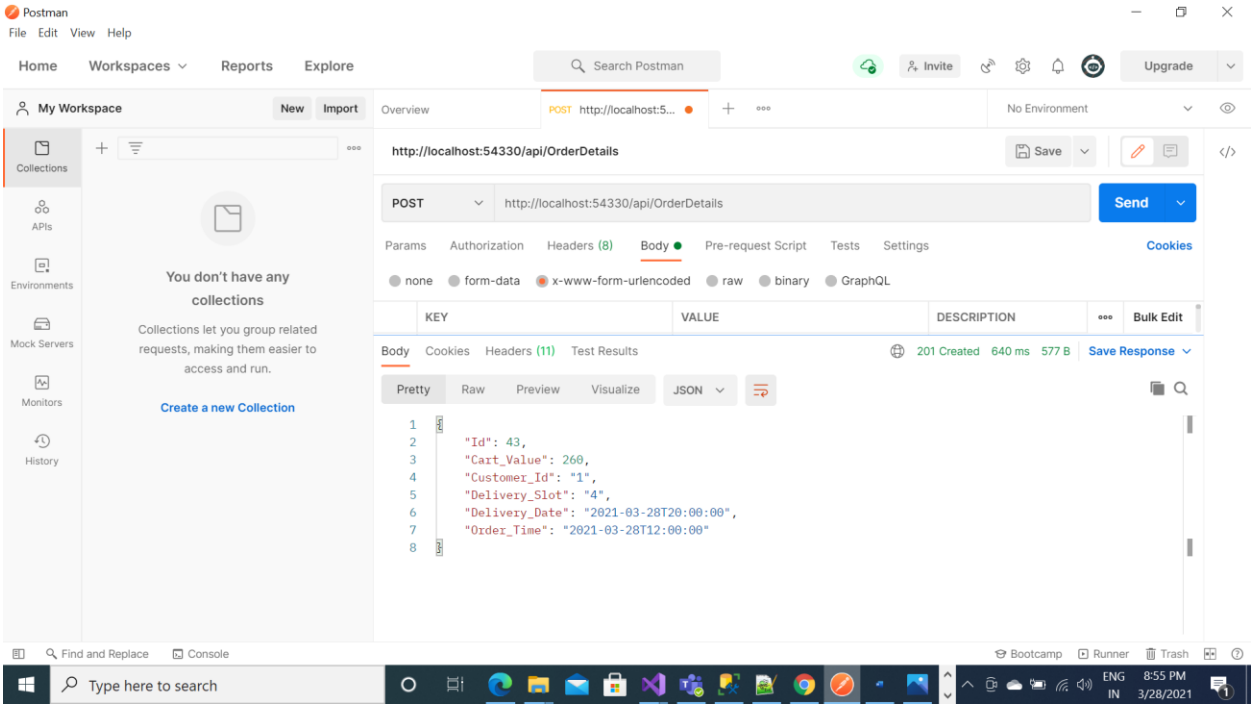


This screenshot shows getcustomerbyemail method.

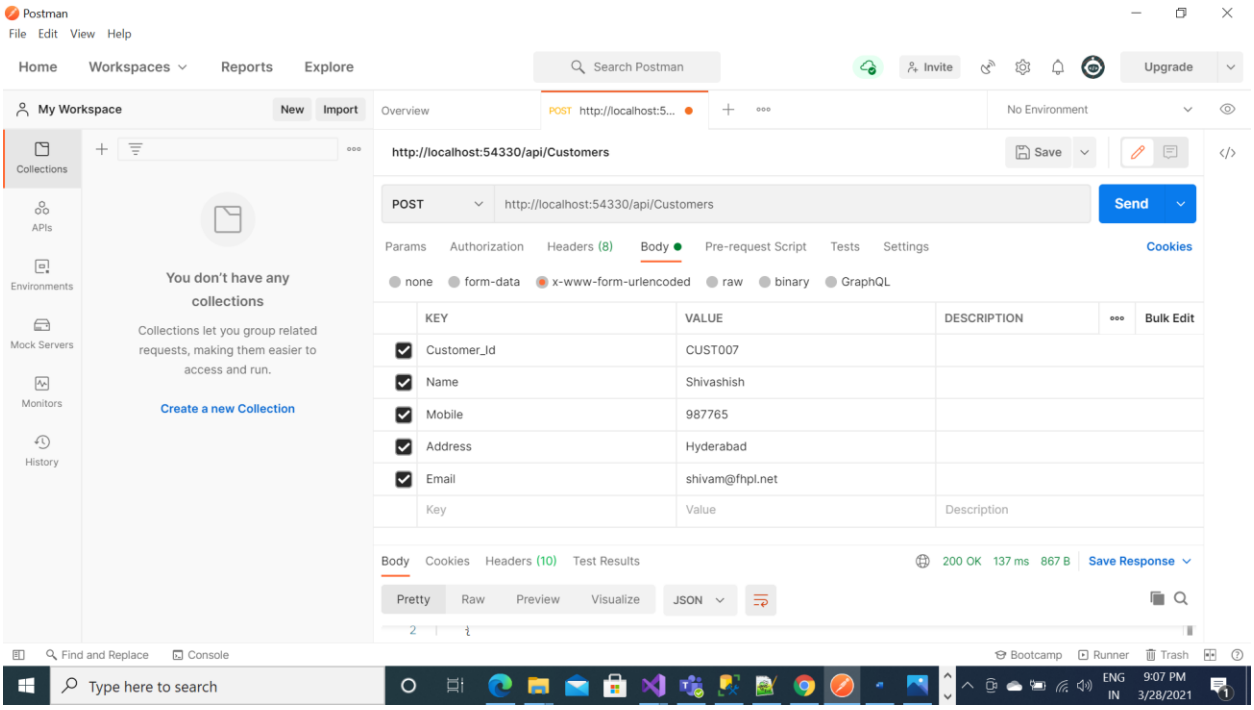
APPROACH

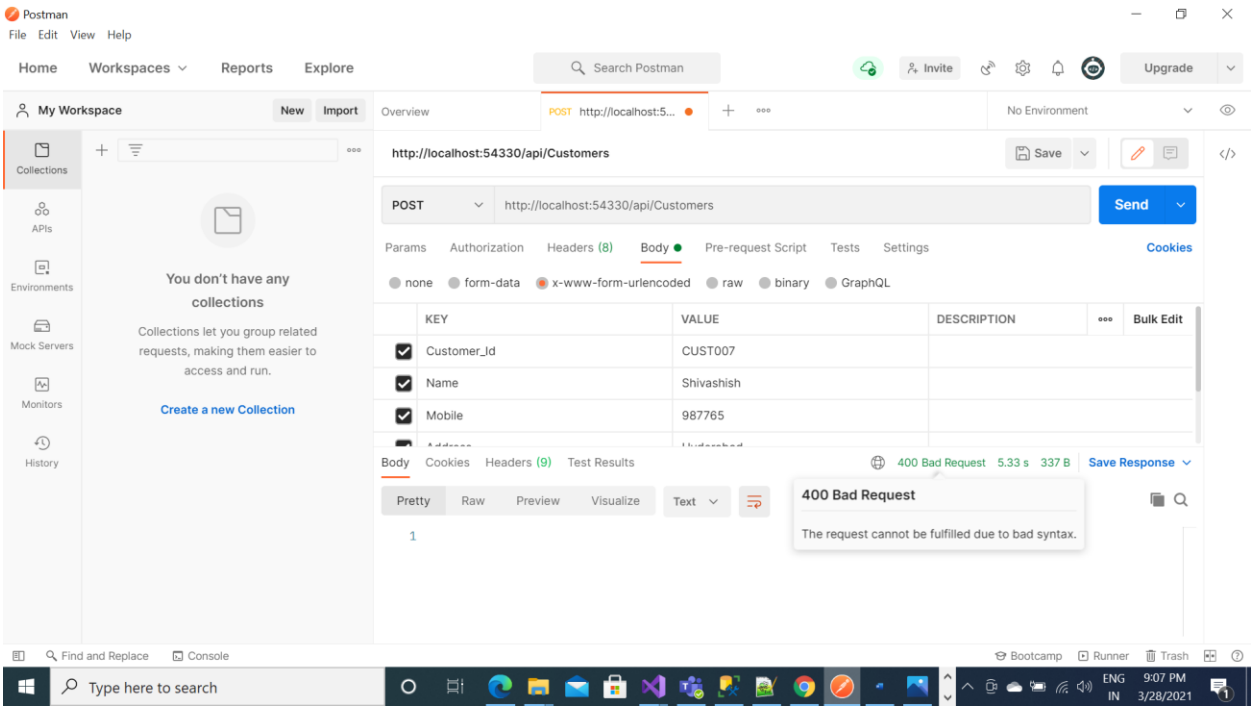
(I)Create Orders(Order shall have order information and items):- I am able to create the order with all the specified information by using the post method in OrderDetails Controller.

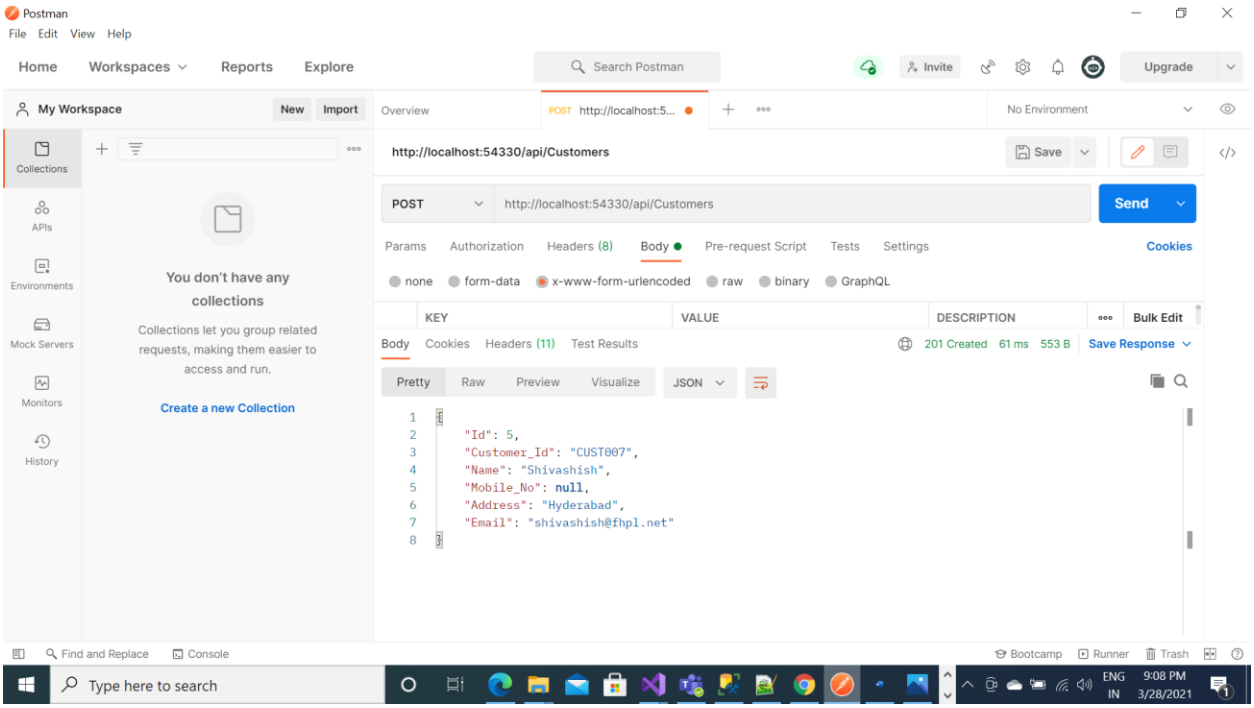




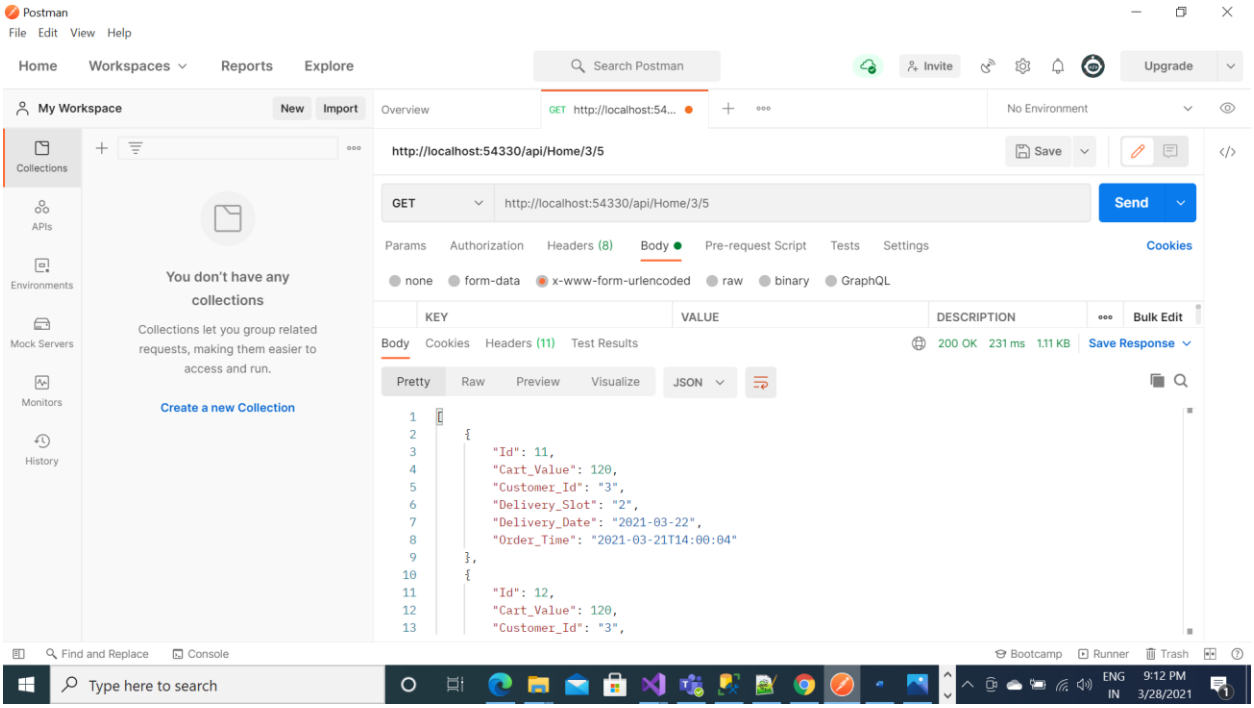
(ii)CreateCustomers(System Shall not allow to allow new customer with already existing Email):- This is done by creating another supplementary method GetCustomerByEmail(string email) which will be called from the PostCustomer method with string as parameter and return type bool.It returns true when email exists when not it will return false.







(iii)Retrieve Order List by PageIndex and PageSize



It is fetching records from 11 to 15 which will the third page with page size = 5.(Page 1 will have 1 to 5 Page 2 will have 6 to 10)

ISSUES FACED

(i) For Create Orders,I tried to take a jSON input like this


```
[
  {
    "Cart_Value": 25,
    "Customer_Id": "CUST002",
    "Delivery_Slot": "2",
    "Delivery_Date": "2021-03-23",
    "Order_Time": "2021-03-28T15:31:49.143",
    "Items":{
      "ProductId":4,
      "Quantity": 2
    }
  }
]
```


And Insert the Order Details in Order Table and Items in the Item table this I din't found any way to execute.In Home Controller there is a method CreateOrders made by me where I am able to read the request but extracting the data from the request body and passing it to the respective API methods was giving errors which I had googled and tried various ways but still need some guidance to achieve it.

(ii)Second issue I faced was that I knew I can achieve the first issue with Stored Procedure,I wrote the Stored Procedure as well but in the EF model created I was not able to select the views and the stored procedures.I googled the issue and got that the login I am using may not have the permission for these actions but I was able to carry the update and execute the stored procedures from SSMS with the default login.

(iii) Other than these also I faced various issues at different levels because I didn't had much experience in writing API's Only helped in writing once or twice to seniors but I was able to resolve all of them by googling it and reading microsoft documentations of different methods for proper implementation.

(iv) While I can put different layers other than MVC default layers if needed for big projects by adding folders and class library in the project ,It was not needed for this project.I don't know to write unit tests for API's.