Smart Bill

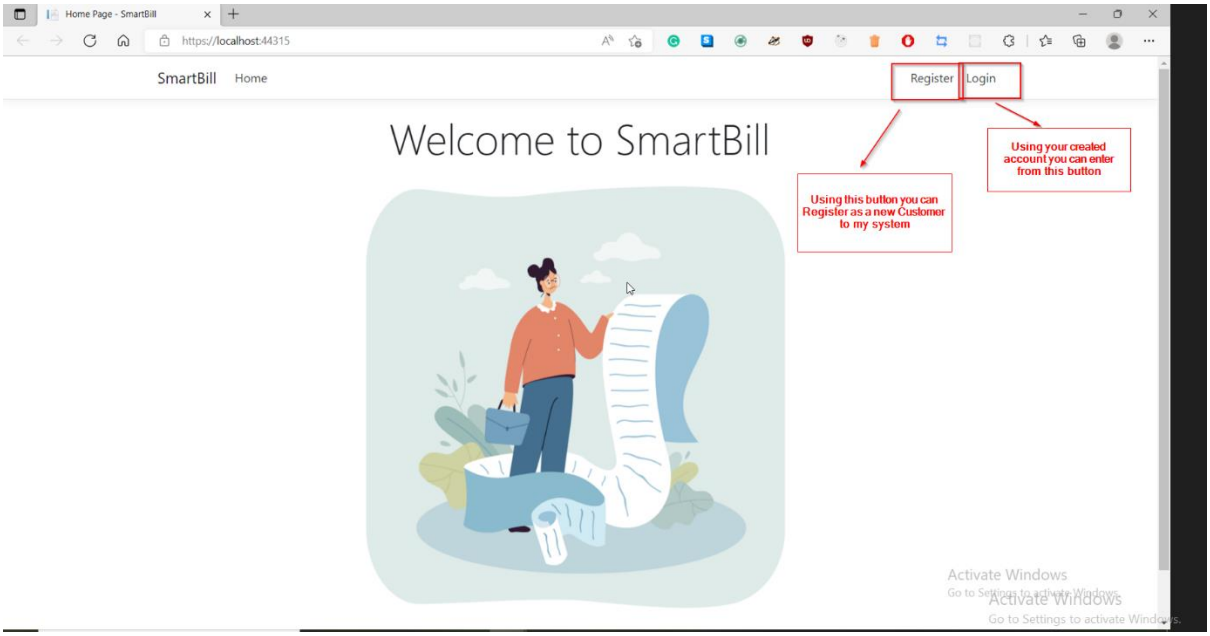
Note to TÖDEB Team: I know that you have many candidates that you want to see their projects, and that is not easy at all. So, to help you I have thought about making this pdf file with some of the instructions about my project. I Hope you an enjoyable time 😊.

Background Information: this project is made in 20 days and that was after taking a strong education in TÖDEB Bootcamp in .Net Technology with our great teacher Mr.Murat Kurtboğan who has experience in this field for around 9 years. It was about 7 weeks full of information and energy with a fantastic group in a very collaborative environment. And I cannot talk about this Bootcamp without thanking Patika education company that prepared for all of it. So, thanks them all. In Addition, the main topics that we worked on them in those weeks were:

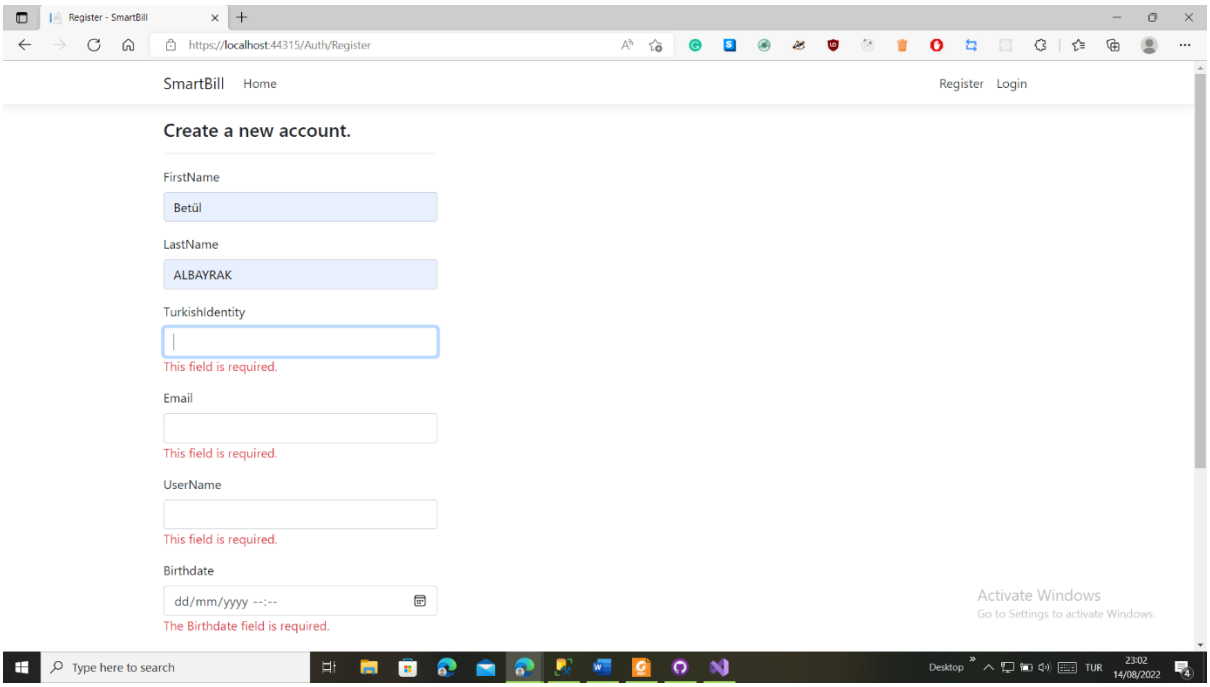
- Being a Team - Agile – Scrum
- Solid Design Principles
- dependency injection
- MiddleWare
- ORM - MicroOrm Concept(EF Core - Dapper)
- Clean Code Principles
- SQL in Detail
- Project design in Corporate Architecture
- N - Tier(Business - Services - Data layers)
- Repository Pattern Implementation
- Token Based Authentication(JWT)
- API Filters
- In Memory Caching
- Distributed Cache
- Application Tests as xUnit

Background Information about this project: my project is built using the best practice of each strategy used. It is a website that helps people with managing their bills by being a connection between customers and admins. Admins create and assign bills to customers, then customers get their bills and pay them with many features. Now in detail, I will show and explain my project step by step.

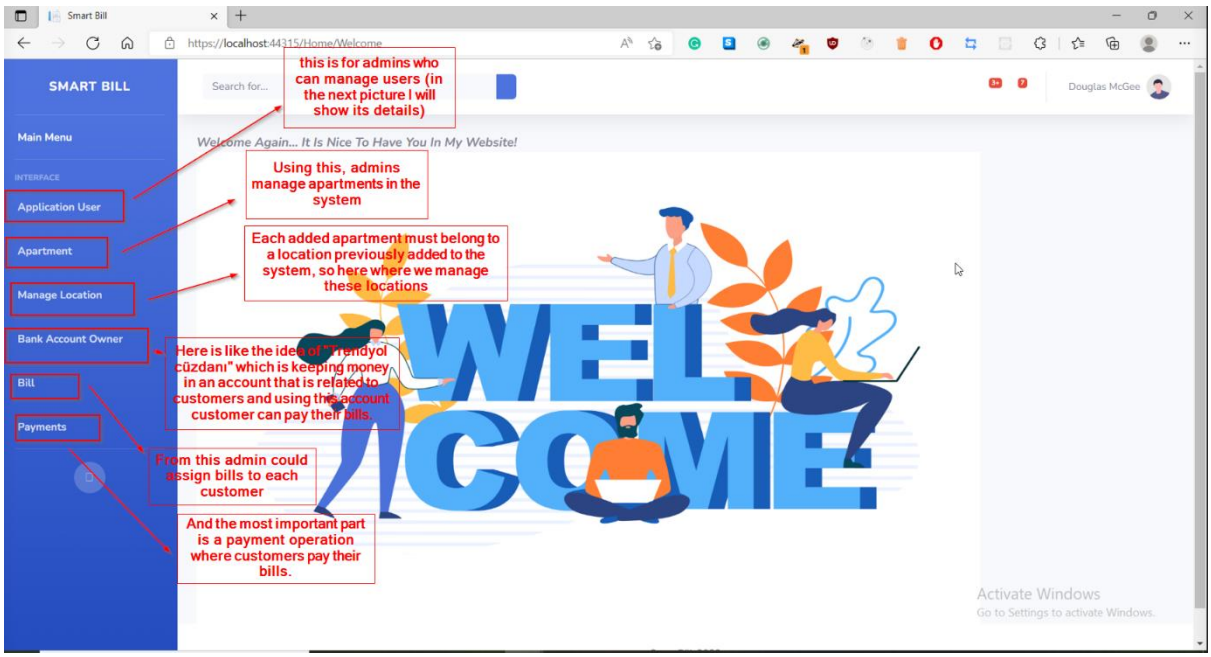
1) .1


Home Page - SmartBill
https://localhost:44315
SmartBill
Home
Register
Login
Welcome to SmartBill
Using your created account you can enter from this button
Using this button you can Register as a new Customer to my system
Activate Windows
Go to Settings to activate Windows.

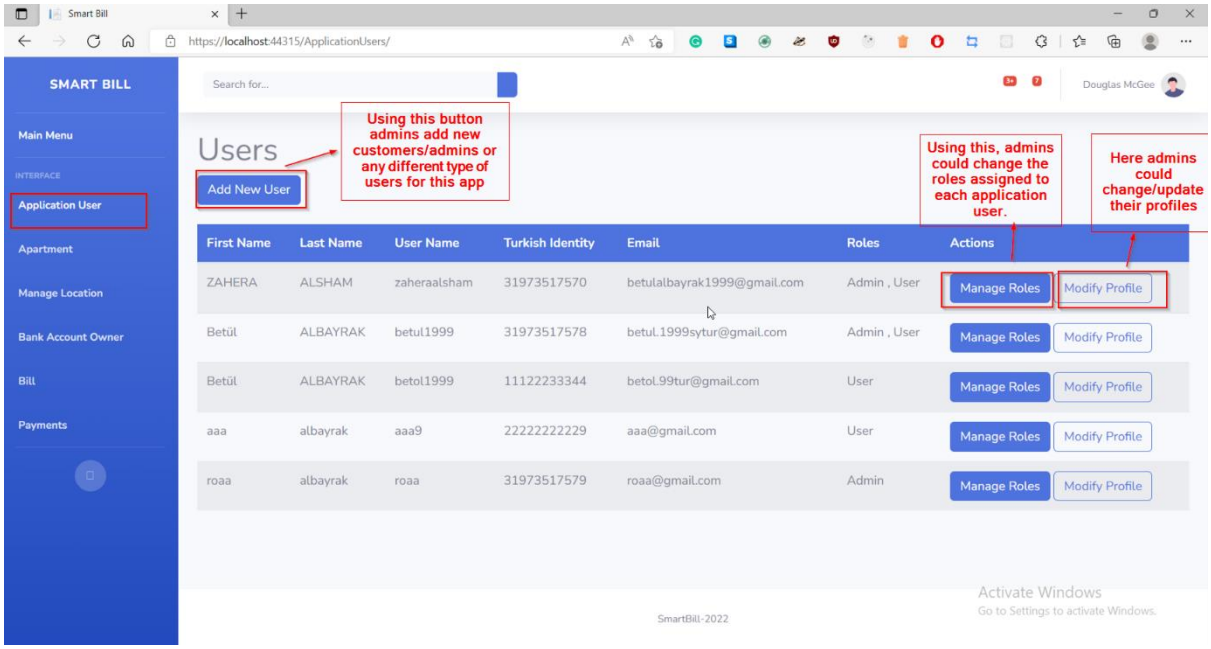
2) 2.


Register - SmartBill
https://localhost:44315/Auth/Register
SmartBill
Home
Register
Login
Create a new account.
FirstName
Betül
LastName
ALBAYRAK
TurkishIdentity
This field is required.
Email
This field is required.
UserName
This field is required.
Birthdate
dd/mm/yyyy --:--
The Birthdate field is required.
Activate Windows
Go to Settings to activate Windows.
Type here to search
Desktop
TUR
23:02
14/08/2022

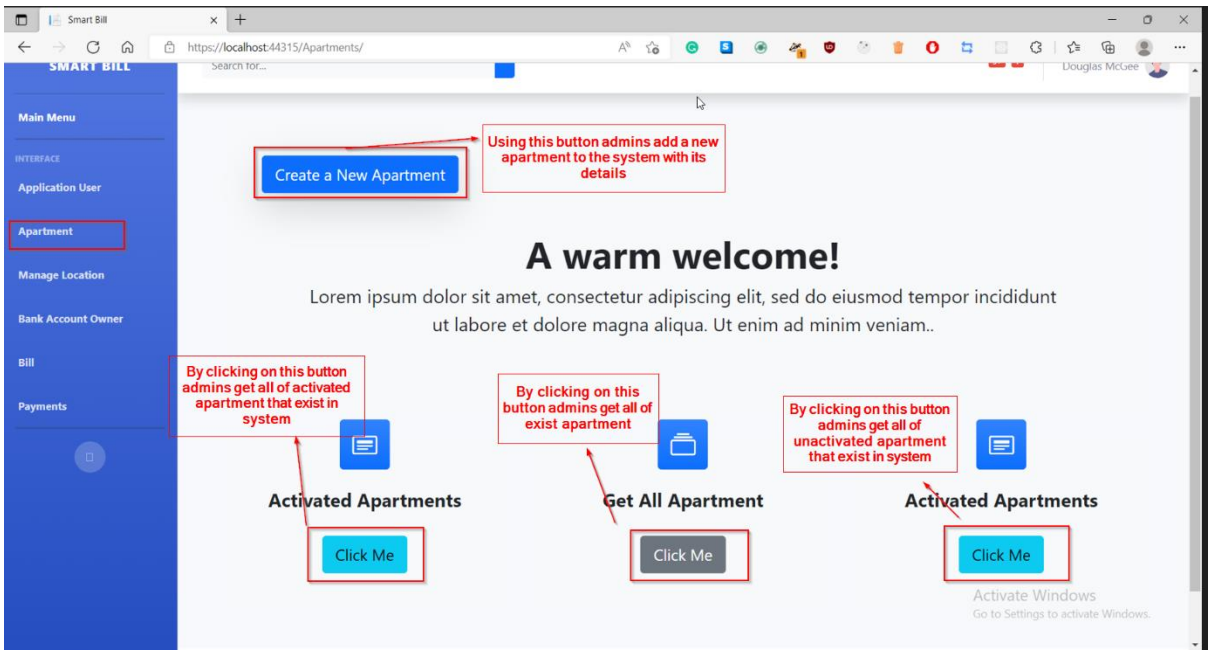
3) 3.


Smart Bill
https://localhost:44315/Home/Welcome
SMART BILL
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Search for...
Douglas McGee
Welcome Again... It Is Nice To Have You In My Website!
this is for admins who can manage users (in the next picture I will show its details)
Using this, admins manage apartments in the system
Each added apartment must belong to a location previously added to the system, so here where we manage these locations
Here is like the idea of "Trendyol cüzdanı" which is keeping money in an account that is related to customers and using this account customer can pay their bills.
From this admin could assign bills to each customer
And the most important part is a payment operation where customers pay their bills.
WEL COME
Activate Windows
Go to Settings to activate Windows.

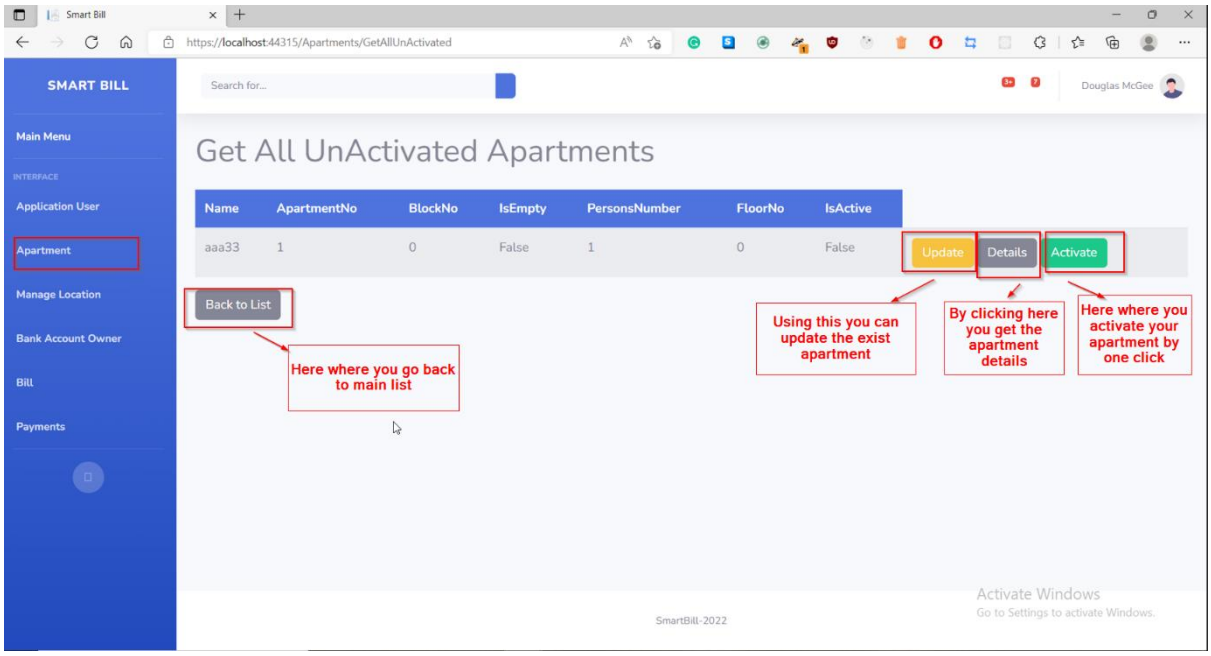
4) 4.


Smart Bill
https://localhost:44315/ApplicationUsers/
SMART BILL
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Search for...
Douglas McGee
Users
Add New User
Using this button admins add new customers/admins or any different type of users for this app
Using this, admins could change the roles assigned to each application user.
Here admins could change/update their profiles
First Name
Last Name
User Name
Turkish Identity
Email
Roles
Actions
ZAHERA
ALSHAM
zaheraalsham
31973517570
betulalbayrak1999@gmail.com
Admin , User
Manage Roles
Modify Profile
Betül
ALBAYRAK
betul1999
31973517578
betul.1999sytur@gmail.com
Admin , User
Manage Roles
Modify Profile
Betül
ALBAYRAK
betol1999
11122233344
betol.99tur@gmail.com
User
Manage Roles
Modify Profile
aaa
albayrak
aaa9
22222222229
aaa@gmail.com
User
Manage Roles
Modify Profile
roaa
albayrak
roaa
31973517579
roaa@gmail.com
Admin
Manage Roles
Modify Profile
SmartBill-2022
Activate Windows
Go to Settings to activate Windows.

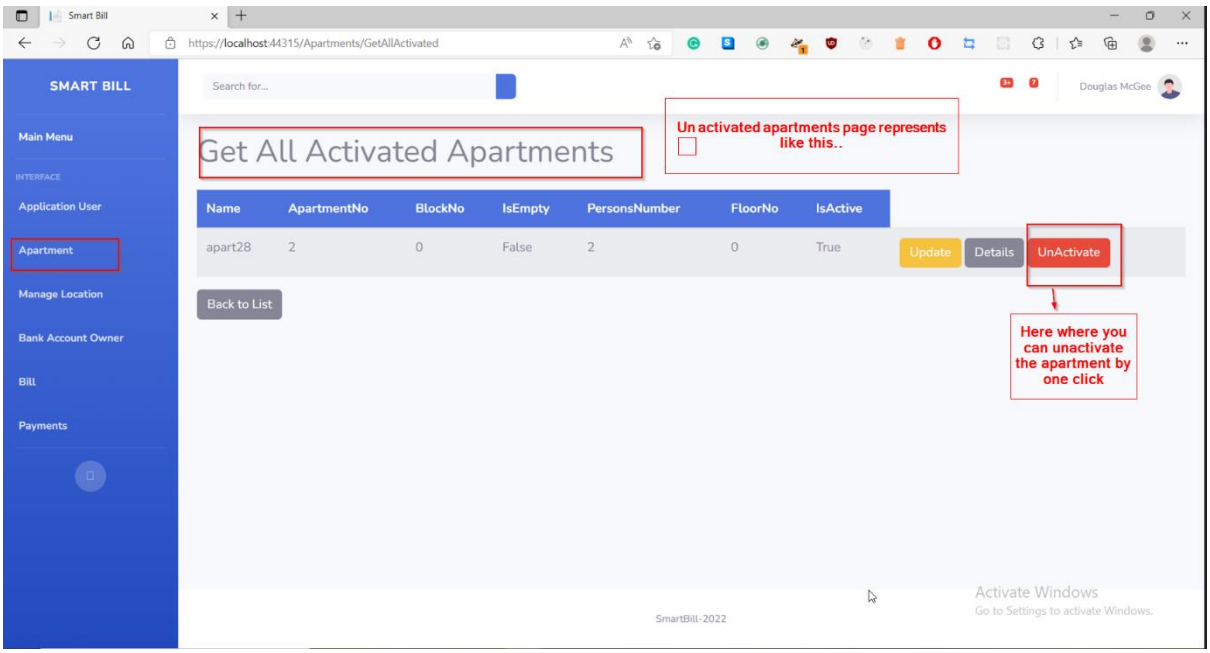
5) 5.


Smart Bill
https://localhost:44315/Apartments/
SMART BILL
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Create a New Apartment
Using this button admins add a new apartment to the system with its details
A warm welcome!
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam..
By clicking on this button admins get all of activated apartment that exist in system
Activated Apartments
Click Me
By clicking on this button admins get all of exist apartment
Get All Apartment
Click Me
By clicking on this button admins get all of unactivated apartment that exist in system
Activated Apartments
Click Me
Activate Windows
Go to Settings to activate Windows.

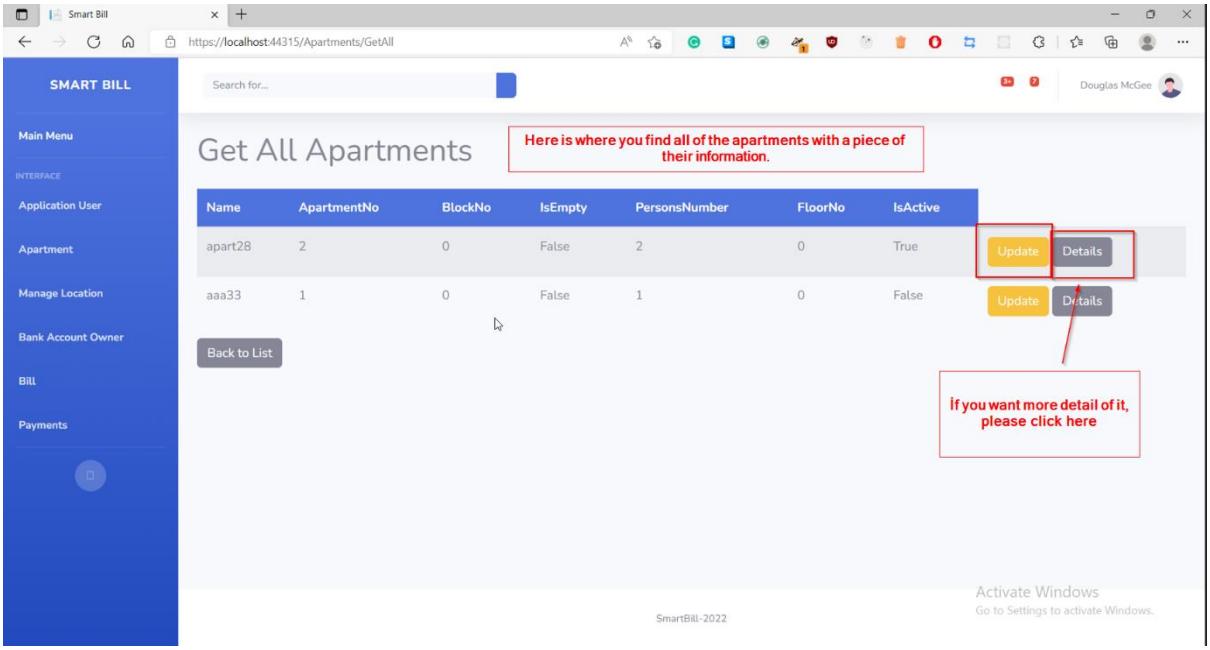
6) 6.


Smart Bill
https://localhost:44315/Apartments/GetAllUnActivated
SMART BILL
Search for...
Douglas McGee
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Get All UnActivated Apartments
Name
ApartmentNo
BlockNo
IsEmpty
PersonsNumber
FloorNo
IsActive
aaa33
1
0
False
1
0
False
Update
Details
Activate
Back to List
Here where you go back to main list
Using this you can update the exist apartment
By clicking here you get the apartment details
Here where you activate your apartment by one click
SmartBill-2022
Activate Windows
Go to Settings to activate Windows.

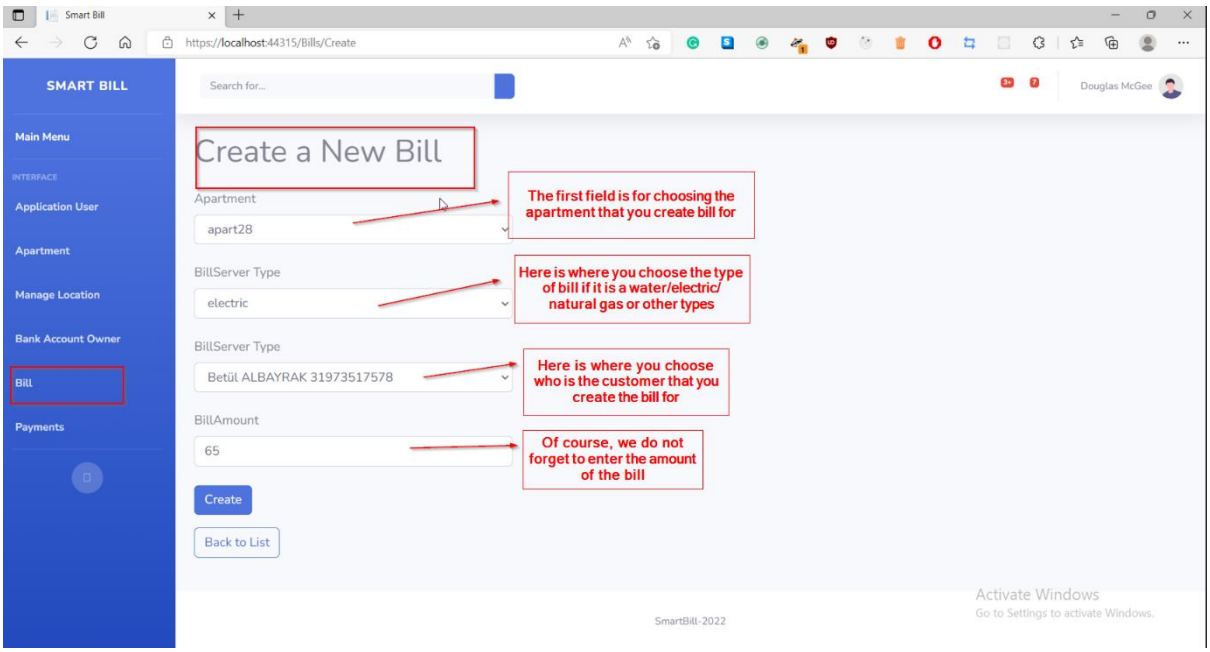
7) 7.


Smart Bill
https://localhost:44315/Apartments/GetAllActivated
SMART BILL
Search for...
Douglas McGee
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Get All Activated Apartments
Un activated apartments page represents like this..
Name
ApartmentNo
BlockNo
IsEmpty
PersonsNumber
FloorNo
IsActive
apart28
2
0
False
2
0
True
Update
Details
UnActivate
Back to List
Here where you can unactivate the apartment by one click
SmartBill-2022
Activate Windows
Go to Settings to activate Windows.

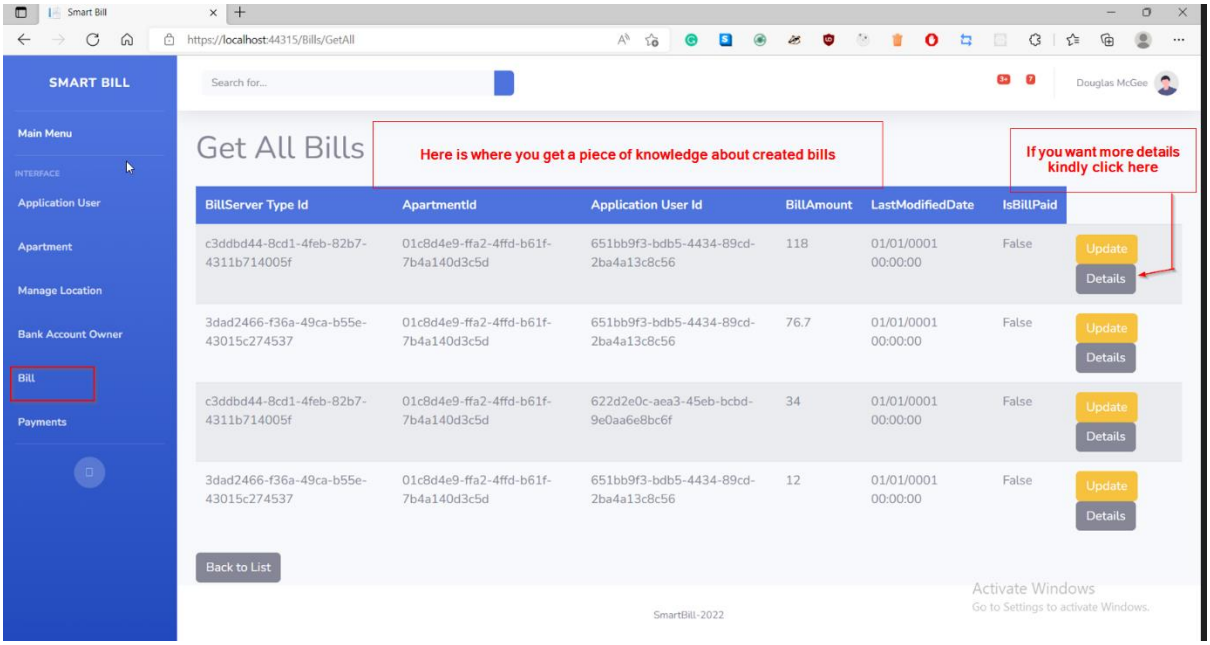
8) 8.


Smart Bill
https://localhost:44315/Apartments/GetAll
SMART BILL
Search for...
Douglas McGee
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Get All Apartments
Here is where you find all of the apartments with a piece of their information.
Name
ApartmentNo
BlockNo
IsEmpty
PersonsNumber
FloorNo
IsActive
apart28
2
0
False
2
0
True
Update
Details
aaa33
1
0
False
1
0
False
Update
Details
Back to List
If you want more detail of it, please click here
SmartBill-2022
Activate Windows
Go to Settings to activate Windows.

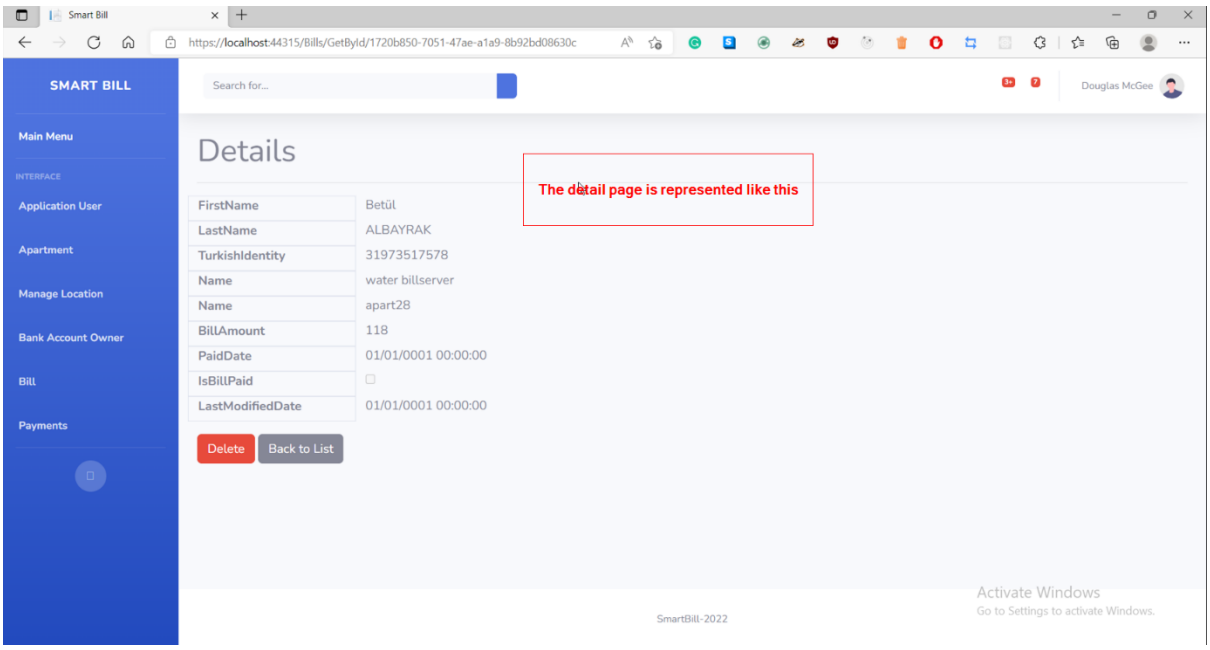
9) 9.


Smart Bill
https://localhost:44315/Bills/Create
SMART BILL
Search for...
Douglas McGee
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Create a New Bill
Apartment
apart28
The first field is for choosing the apartment that you create bill for
BillServer Type
electric
Here is where you choose the type of bill if it is a water/electric/ natural gas or other types
BillServer Type
Betül ALBAYRAK 31973517578
Here is where you choose who is the customer that you create the bill for
BillAmount
65
Of course, we do not forget to enter the amount of the bill
Create
Back to List
SmartBill-2022
Activate Windows
Go to Settings to activate Windows.

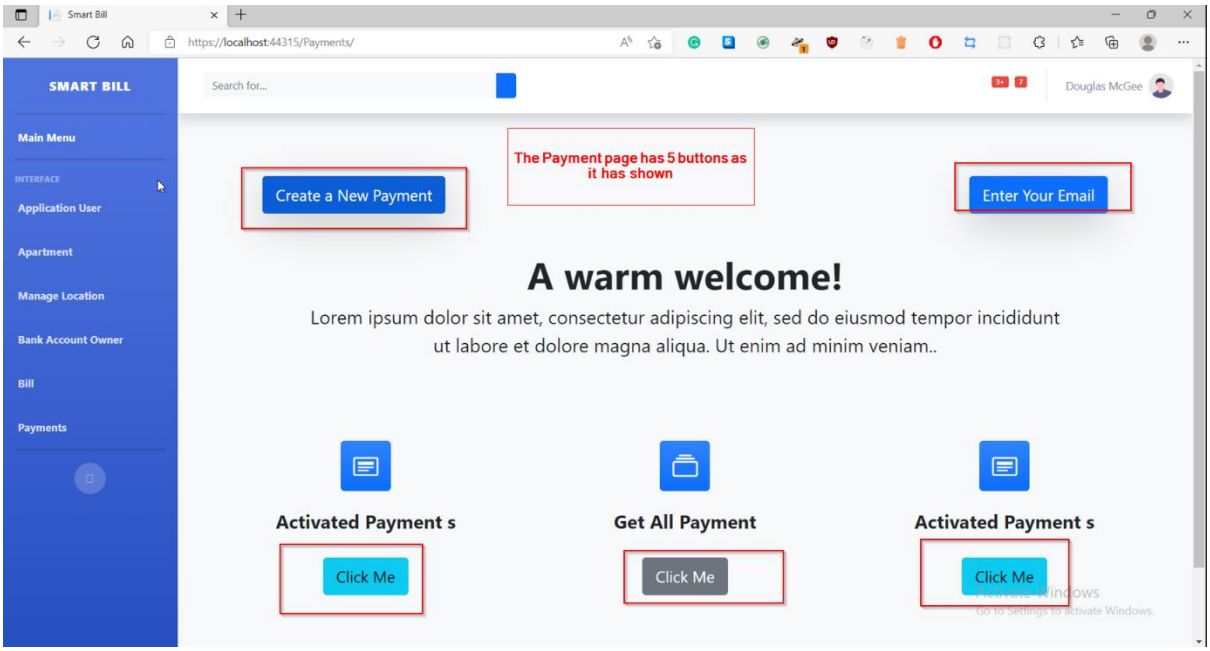
10) 10.


Smart Bill
https://localhost:44315/Bills/GetAll
SMART BILL
Search for...
Douglas McGee
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Get All Bills
Here is where you get a piece of knowledge about created bills
If you want more details kindly click here
BillServer Type Id
ApartmentId
Application User Id
BillAmount
LastModifiedDate
IsBillPaid
c3ddbd44-8cd1-4feb-82b7-4311b714005f
01c8d4e9-ffa2-4ffd-b61f-7b4a140d3c5d
651bb9f3-bdb5-4434-89cd-2ba4a13c8c56
118
01/01/0001 00:00:00
False
Update
Details
3dad2466-f36a-49ca-b55e-43015c274537
01c8d4e9-ffa2-4ffd-b61f-7b4a140d3c5d
651bb9f3-bdb5-4434-89cd-2ba4a13c8c56
76.7
01/01/0001 00:00:00
False
Update
Details
c3ddbd44-8cd1-4feb-82b7-4311b714005f
01c8d4e9-ffa2-4ffd-b61f-7b4a140d3c5d
622d2e0c-aea3-45eb-bcbd-9e0aa6e8bc6f
34
01/01/0001 00:00:00
False
Update
Details
3dad2466-f36a-49ca-b55e-43015c274537
01c8d4e9-ffa2-4ffd-b61f-7b4a140d3c5d
651bb9f3-bdb5-4434-89cd-2ba4a13c8c56
12
01/01/0001 00:00:00
False
Update
Details
Back to List
SmartBill-2022
Activate Windows
Go to Settings to activate Windows.

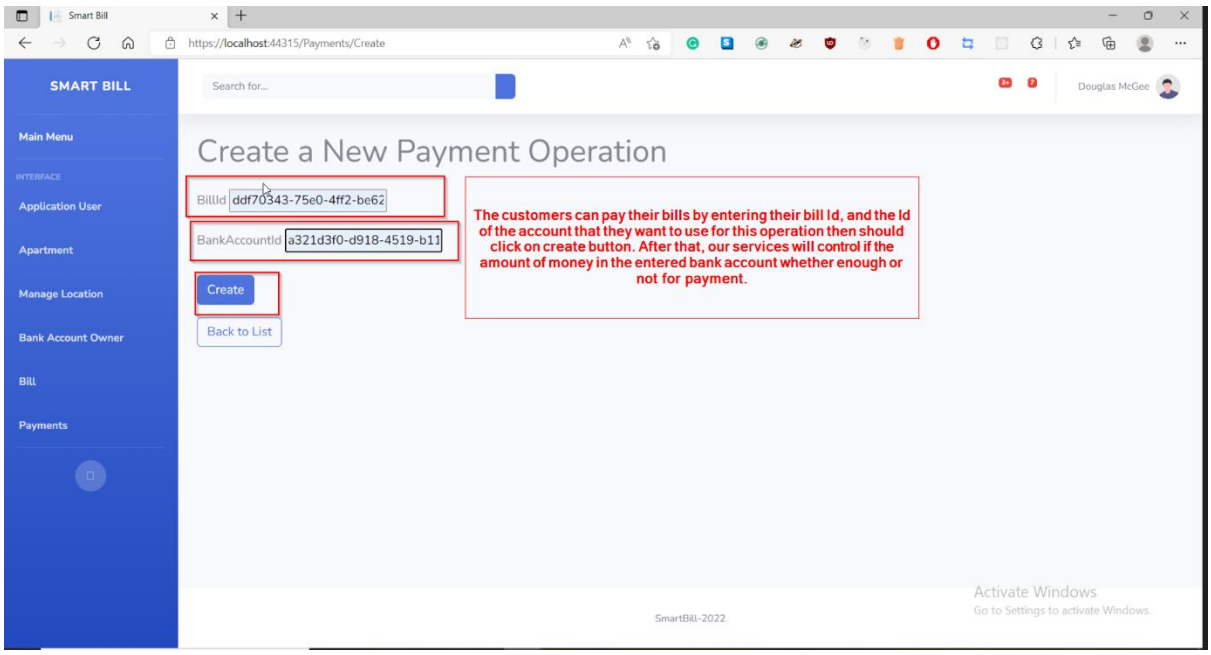
11) 11.


Smart Bill
https://localhost:44315/Bills/GetById/1720b850-7051-47ae-a1a9-8b92bd08630c
SMART BILL
Search for...
Douglas McGee
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
Details
The detail page is represented like this
FirstName Betül
LastName ALBAYRAK
TurkishIdentity 31973517578
Name water billserver
Name apart28
BillAmount 118
PaidDate 01/01/0001 00:00:00
IsBillPaid
LastModifiedDate 01/01/0001 00:00:00
Delete
Back to List
Activate Windows
Go to Settings to activate Windows.
SmartBill-2022

12) 12.

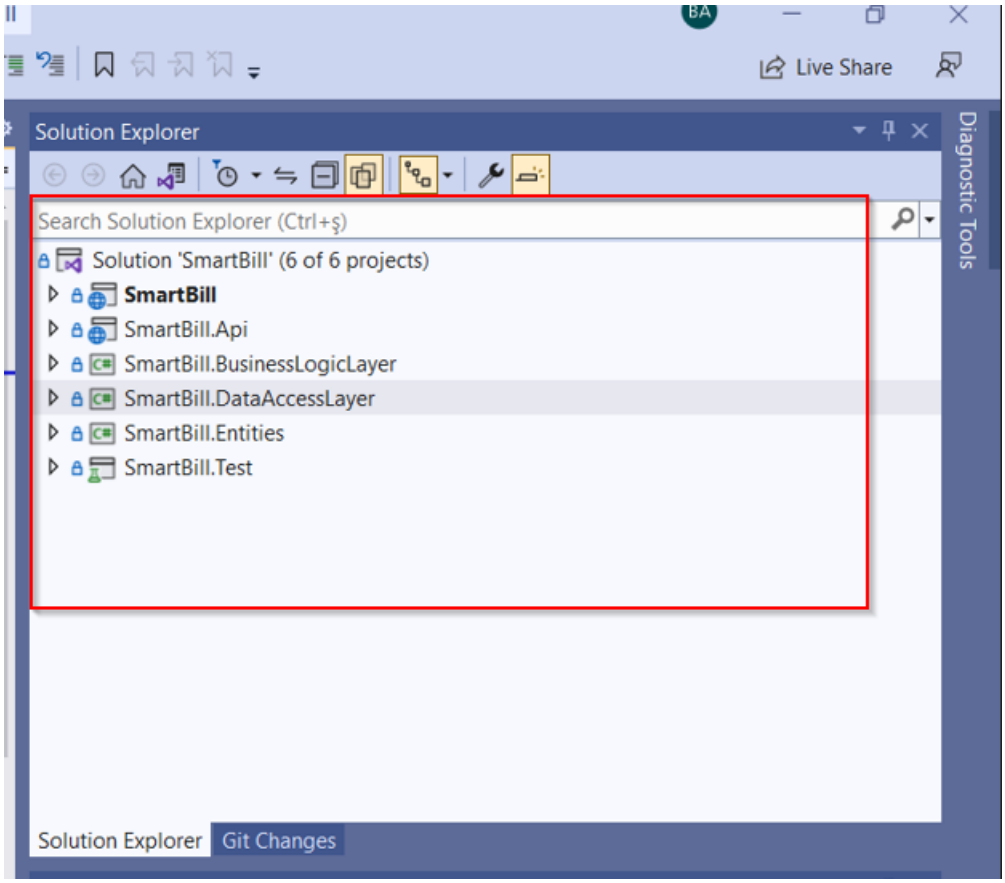

Smart Bill
https://localhost:44315/Payments/
SMART BILL
Search for...
Douglas McGee
Main Menu
INTERFACE
Application User
Apartment
Manage Location
Bank Account Owner
Bill
Payments
The Payment page has 5 buttons as it has shown
Create a New Payment
Enter Your Email
A warm welcome!
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam..
Activated Payment s
Click Me
Get All Payment
Click Me
Activated Payment s
Click Me
Activate Windows
Go to Settings to activate Windows.

13) 13.



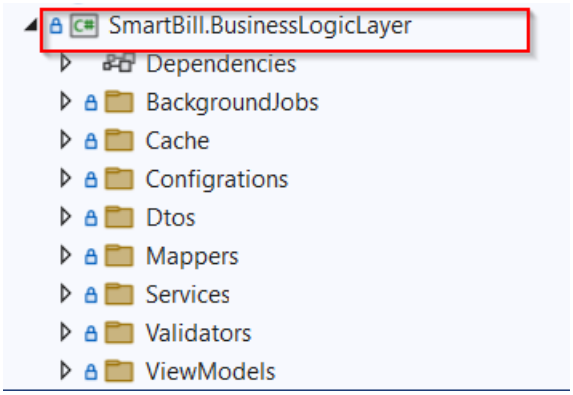
Now let's take a look to technical part:

1- The architecture that is used in the project is N-tier Architecture as follows.

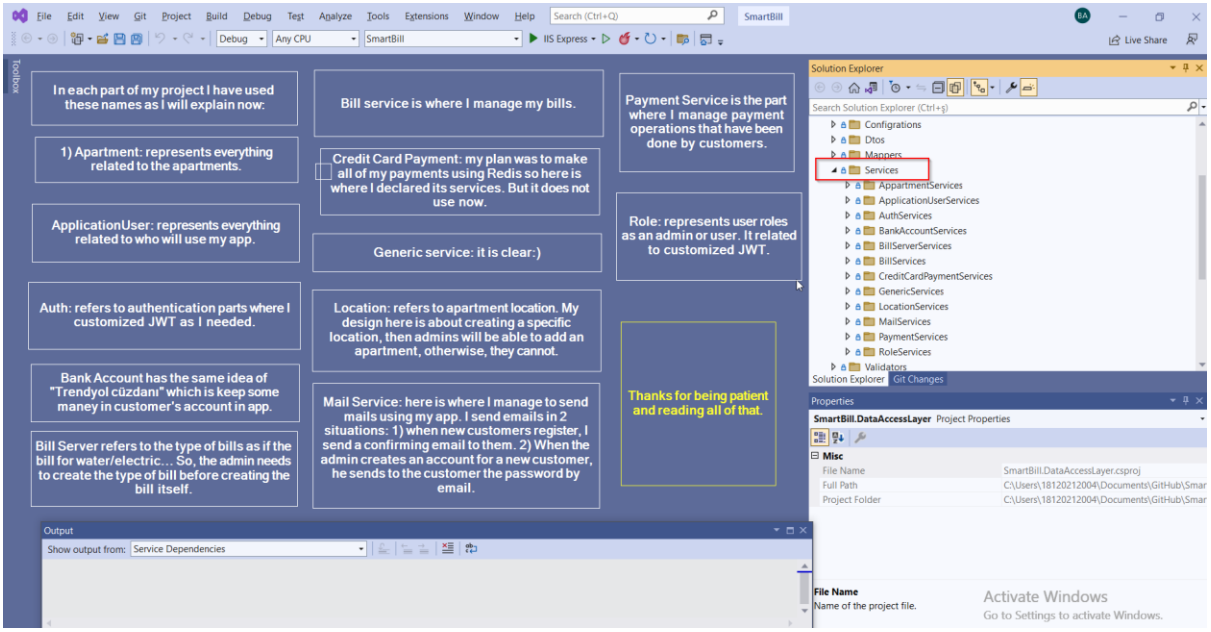


1- **Presentation layer:** SamrtBill and SmartBill.API are my presentation layers. SmartBill is built as an MVC project, and the second one builds as a web API. The aim of using two different presentation layers was to be able to have different servers of database providers. SmartBill connected with MSSQL server, however SmartBill.Api connected with Redis(MongoDB). But in my project, I faced a problem with the MongoDB part and did not have enough time to fix it so, as a solution I completed using MSSQL with SmartBill.

2- **Bussiness Logic Layer:** Here where I communicate with the data access layer and the presentation layer and make the logical decision and evaluations for the system. So, in this layer I worked on as following:



And each one of them has an Inner division as this:



3- **DataAccess Layer:** contains methods that assist the Business Access Layer in writing business logic, whether the functions are linked to accessing or manipulating data. Here my major goal is to interface with the database and the Business Access Layer in our project. So, I kept my Repository files in this layers.

4- **Entities:** contains all of classes that will reflect to Database.

5- **Test:** in this layer, I make my tests for each part of the system using xUnit. But because I didn't have enough time, I could not complete them. Wait me to the next version to see all of them done :).

- To have more detail and see my clean code you can reach to code sources.

THE END