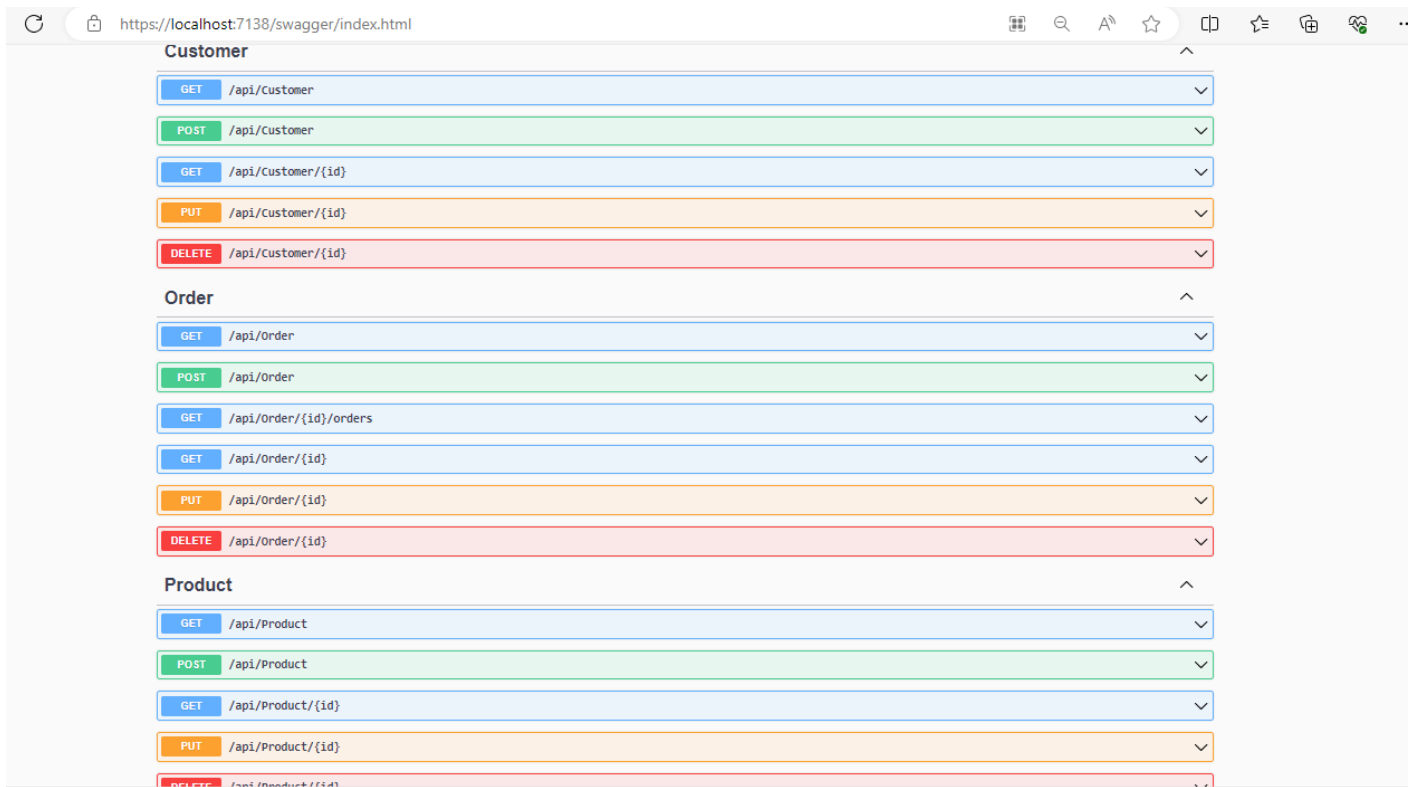# LACONICS

.Net Web API Project

25 January 2024 2024

I.   **Set Up a New .NET Web API Project:** The project has been built with ASP.Net Core 7.

II. **Configure necessary NuGet packages for Entity Framework:**

- Microsoft.EntityFrameworkCore.SqlServer
- Microsoft.EntityFrameworkCore.Tools

III. **Design and Implement Entities:** Classes (customer, order, product) with required properties have been built. *Find the classes in the Models >> Domain folder*.

IV. **Develop Repository Interfaces:** Interfaces (ICustomerRepository, IOrderRepository, IProductRepository) along with respective asynchronous methods for actions have been created.

V.   **Implement Repositories with Entity Framework:** Repositories have been implemented in the same folder, but classes are named (SQLCustomerRepository, SQLOrderRepository, SQLProductRepository).

VI. **Create and Configure DbContext:** Configured dbContext is found in the 'LaconicsDatabaseContext.cs' file within the Data folder. DbSet properties for each entity have been defined, along with annotations.

VII. **Implement Dependency Injection:** Dependency injection for the dbContext class and repositories has been defined in the main program using the .NET Core built-in container.

VIII. **Develop RESTful Web API Endpoints:** CRUD operations have been implemented with controllers for each class, located in the controller folder. Proper routing and HTTP verb usage are ensured:

- GET: Used for retrieving data.
- POST: Used for creating new resources.
- PUT: Used for updating existing resources.
- DELETE: Used for deleting resources.

IX. **Enable and Configure Swagger:** Swagger has been configured using NuGet Package Manager Console to install the Swashbuckle.AspNetCore package.

X.   **A brief guide on how to run the application and test the endpoints using Swagger:**

   i.   *Execute the application (Run);* the application will open, and the API will be accessible on a specific port. In my case (https://localhost:7138/)

ii. *Testing Endpoints with Swagger:* After accessing Swagger at this URL

https://localhost:7138/swagger/index.html, the port may vary for each environment. Upon

accessing Swagger, a list of endpoints created in the background will be visible, along with

request and response type details. To execute an endpoint:

- Click on an endpoint to expand its details.

- Click on the "Try it out" button.

- Enter any required parameters in the input fields.

- Click on the "Execute" button to send a request to the API. After executing the

request, details of the HTTP request and server response will be visible.

Result:

/api/Customer | /api/Customer

Response body

```
[
  {
    "id": "a48a6de9-d89a-498e-bb29-08dc1d385a04",
    "firstname": "test",
    "lastname": "test",
    "email": "test@gmail.com"
  },
  {
    "id": "9fbc39a7-2b3f-4cbf-4564-08dc1d4b84cb",
    "firstname": "Denalda",
    "lastname": "Bali",
    "email": "denaldabali@gmail.com"
  },
  {
    "id": "090a5ffe-8b0e-4720-4566-08dc1d4b84cb",
    "firstname": "hara",
    "lastname": "dmtr",
    "email": "hara@something.com"
  },
  {
    "id": "d97245f8-035e-4eb8-ab3d-08dc1d5f8aa4",
    "firstname": "hra",
    "lastname": "dmt",
    "email": "dmt@hr.com"
  }
]
```

Got →

Response headers

```
content-type: application/json; charset=utf-8
date: Thu,25 Jan 2024 04:39:58 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	Success	No links

POST	/api/Customer	∧

Parameters   Cancel   Reset

No parameters

Request body   application/json ∨

Post →

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "firstname": "hra",
  "lastname": "dmt",
  "email": "dmt@hr.com"
}
```

LACONICS.WebApi-Documentation.docx [Compatibility Mode] - Word

/api/Order/{id}/orders

GET	/api/Order/{id}/orders	∧

Parameters   Cancel

Name	Description

id * required
string($uuid)
(path)

`090A5FFE-8B0E-4720-4566-08DC1D4B84C`

Execute   Clear

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7138/api/Order/090A5FFE-8B0E-4720-4566-08DC1D4B84CB/orders' \
  -H 'accept: */*'
```

Request URL

```
https://localhost:7138/api/Order/090A5FFE-8B0E-4720-4566-08DC1D4B84CB/orders
```

Server response

Code	Details
200	Response body

```
[
  {
    "orderId": "ed23e958-2d03-46b3-728f-08dc1d4f5845",
    "customerId": "090a5ffe-8b0e-4720-4566-08dc1d4b84cb",
    "date": "2024-01-25T02:36:22.605",
    "totalAmount": 500,
    "products": []
  },
  {
    "orderId": "0dd99fd4-add7-44f38-7290-08dc1d4f5845",
    "customerId": "090a5ffe-8b0e-4720-4566-08dc1d4b84cb",
    "date": "2024-01-25T02:51:27.911",
    "totalAmount": 2000,
    "products": []
  },
  {
    "orderId": "fb2bddf1-5443-458a-7291-08dc1d4f5845",
    "customerId": "090a5ffe-8b0e-4720-4566-08dc1d4b84cb",
    "date": "2024-01-25T02:51:27.911",
    "totalAmount": 2000,
    "products": []
  }
]
```

/api/Product

Product

GET /api/Product

Parameters

No parameters

Execute	Clear

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7138/api/Product' \
  -H 'accept: */*'
```

Request URL

```
https://localhost:7138/api/Product
```

Server response

Code	Details
200	**Response body**

```
[
  {
    "productId": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
    "productName": "test",
    "price": 100,
    "orderId": "3fa85f64-5717-4562-b3fc-2c963f66afa6"
  }
]
```

Response headers

```
content-type: application/json; charset=utf-8
date: Thu,25 Jan 2024 04:45:20 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	Success	*No links*