**Customer Management System (CMS)**

**Overview**

The Customer Management System (CMS) is a web application designed to manage customer information. It features user authentication, CRUD operations for customers, and a responsive UI built with React. The backend is powered by ASP.NET Core and uses a SQL Server database.

**Prerequisites**

Before running the application, ensure you have the following installed:

* [.NET SDK](https://dotnet.microsoft.com/download) (version 8.0 or higher)
* [Node.js](https://nodejs.org/) (version 18.0 or higher)
* [SQL Server](https://www.microsoft.com/en-us/sql-server/sql-server-downloads) or SQL Server LocalDB
* [Yarn](https://yarnpkg.com/) or [npm](https://www.npmjs.com/) (for managing JavaScript packages)

**Configuration**

**Backend Configuration**

**appsettings.Development.json**

json

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{

"Logging": {

"LogLevel": {

"Default": "Information",

"Microsoft.AspNetCore": "Information"

}

},

"ConnectionStrings": {

"app-conn": "Data Source=(localdb)\\MSSQLLocalDB;Initial Catalog=CMS\_DB;Integrated Security=True;Encrypt=False;Trust Server Certificate=True;"

},

"JWT": {

"Key": "4RZhHq/dbW/coiQNA1SBHiEmJclw5nBin7zBqbyLfLQ=4RZhHq/dbW/coiQNA1SBHiEmJclw5nBin7zBqbyLfLQ=",

"Issure": "SecureApi",

"Audience": "SecureApiUser",

"DurationInDays": 30

}

}

**Seed.cs**

Use this class to seed initial data into your database:

csharp

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public class Seed

{

public static void Initialize(IServiceProvider serviceProvider)

{

using (var context = new YourDbContext(

serviceProvider.GetRequiredService<DbContextOptions<YourDbContext>>()))

{

// Check if the database is already seeded

if (context.Customers.Any())

{

return; // DB has been seeded

}

context.Customers.AddRange(

new Customer { /\* Initialization data here \*/ }

);

context.SaveChanges();

}

}

}

**Frontend Configuration**

**.env.local**

Create a .env.local file in the root of your frontend project and add the following environment variables:

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NEXT\_PUBLIC\_API\_URL=http://localhost:5001

**Installation**

**Backend**

1. Clone the repository:

bash

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git clone https://github.com/raedalifarhan/customer-management-system.git

1. Navigate to the backend directory:

bash

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cd customer-management-system/API

1. Restore the dependencies:

bash

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dotnet restore

1. Apply any migrations:

bash

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dotnet ef database update

1. Run the application:

bash

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dotnet run

**Frontend**

1. Navigate to the frontend directory:

bash

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cd customer-management-system/client

1. Install the dependencies:

bash

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yarn install

# or

npm install

1. Start the development server:

bash

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yarn dev

# or

npm run dev

**Running the Application**

* The backend will be available at https://localhost:5001/.
* The frontend will be available at http://localhost:3000/.

**Building for Production**

**Backend**

1. Publish the application:

bash

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dotnet publish -c Release

1. Deploy the contents of the bin/Release/net8.0/publish directory to your production server.

**Frontend**

1. Build the production assets:

bash

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yarn build

# or

npm run build

1. Deploy the contents of the .next directory to your production server.

**Troubleshooting**

* **Database Connection Issues**: Ensure your SQL Server instance is running and the connection string in appsettings.Development.json is correct.
* **API Not Responding**: Verify that the backend service is running and accessible. Check the logs for any errors.
* **Frontend Build Errors**: Ensure all environment variables are set correctly in .env.local and dependencies are properly installed.

**Contributing**

1. Fork the repository.
2. Create a new branch (git checkout -b feature/your-feature).
3. Commit your changes (git commit -am 'Add new feature').
4. Push to the branch (git push origin feature/your-feature).
5. Create a new Pull Request.

**License**

This project is licensed under the MIT License - see the LICENSE file for details.

**Acknowledgments**

* [React](https://reactjs.org/)
* [Next.js](https://nextjs.org/)
* [ASP.NET Core](https://dotnet.microsoft.com/apps/aspnet)
* [Flowbite](https://flowbite.com/)