

# Rectangle Drawing App

The Rectangle Drawing App is a web application built using Angular for the frontend and C# (ASP.NET Core) for the backend. It allows users to draw rectangles on a canvas, resize them using mouse interactions, and display the perimeter of the figure. The app also integrates with JSON files to store and update rectangle dimensions.

## Features

Initial Dimensions from JSON

- Load initial dimensions of the SVG figure from a JSON file.

Resizable Figures

- Enable users to resize the figure using mouse interactions.

Perimeter Display

- Display the perimeter of the figure near the drawing area.

JSON File Update

- Update the JSON file with new dimensions after resizing.

## Technologies Used

- Frontend: Angular, TypeScript, HTML, CSS
- Backend: ASP.NET Core (C#), JSON
- Tools: Visual Studio Code, Visual Studio, Postman (for API testing)

## Installation and Setup

Navigate to the `RectangleAPI` folder and run the ASP.NET Core Web API project. Open the Angular app in the `rectangle-drawing-app` folder and install dependencies using `npm install`.

Update the backend API base URL in the frontend `config.json` file.

Start the Angular development server using `ng serve`.

Access the app in your browser at `http://localhost:4200`.

## Backend API Endpoints

- `GET /rectangle/initial-dimensions`: Retrieve initial dimensions from the JSON file.
- `PUT /rectangle/update-dimensions`: Update JSON file with new dimensions after resizing.

## Usage

Launch the app in your browser.

Draw rectangles on the canvas by clicking and dragging the mouse.

Resize the rectangles by dragging their edges.

The perimeter of the figure will be displayed near the drawing area.

After resizing, the JSON file will be automatically updated with the new dimensions.

Implemented error messages on failed load and save from API.

## Additional Notes

- Check the console for any error messages or logs during testing.