This README provides instructions on how to set up and run the E-commerce API, an application for calculating the total cost of a list of watches. It also outlines the approach taken and potential areas for improvement.

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Setup and Run the Application

Prerequisites

- .NET 5 SDK
- Visual Studio, Visual Studio Code, or any preferred code editor

Steps

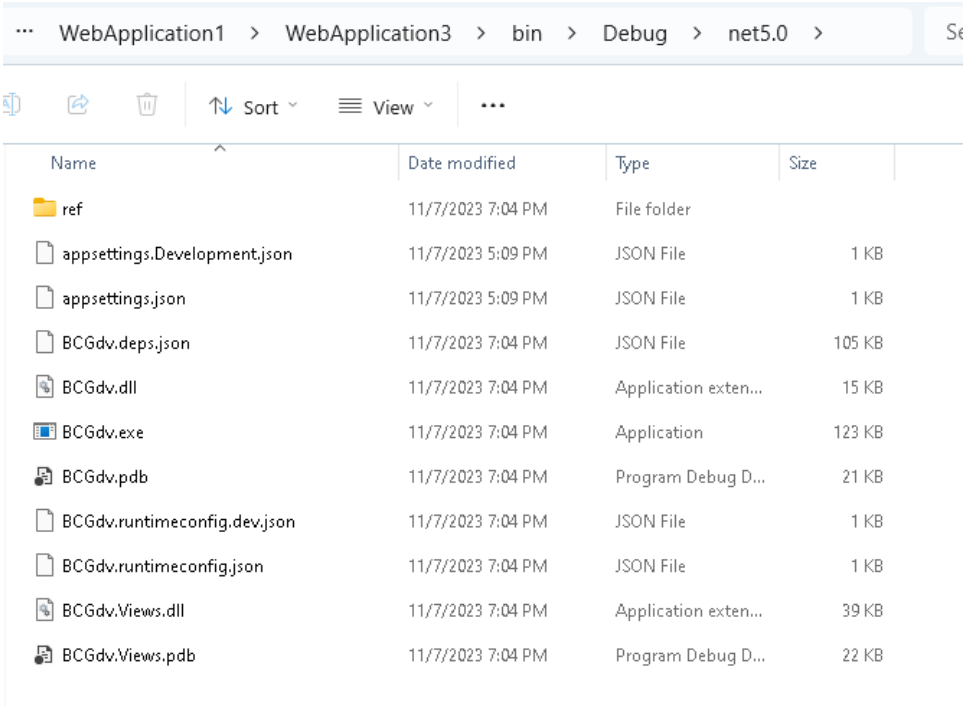
1. Unzip the zip file.

2. Open the Project:

   Open the project in your preferred code editor.
3. Build and Run:

   Build and run the project by using the built-in tools in your code editor.

   Expected output example:

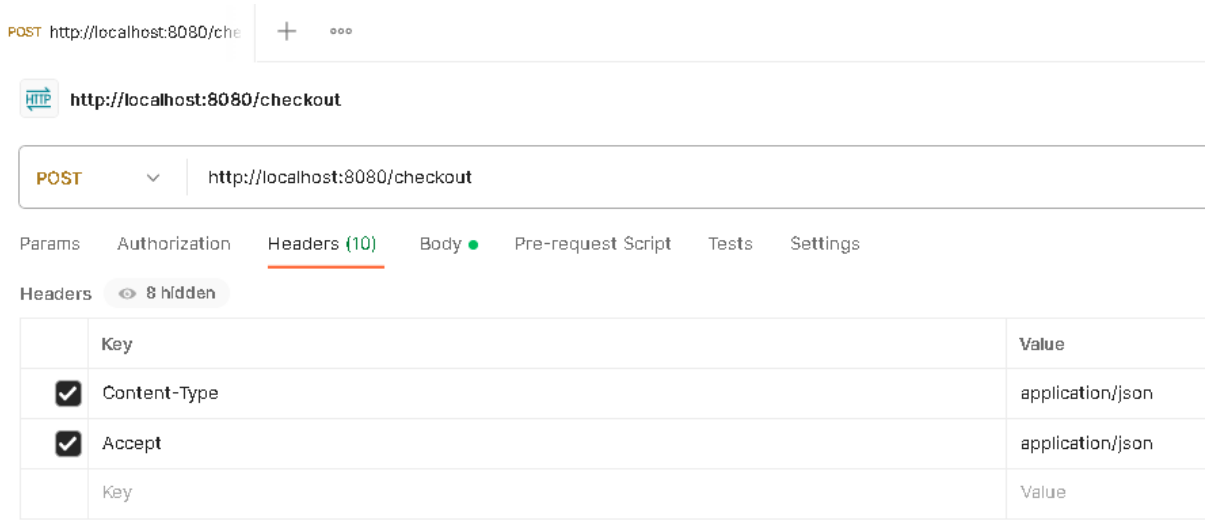


4. API Endpoint:

   The API will be accessible at http://localhost:8080/checkout.

5. Use API:

You can make POST requests to the /checkout endpoint with a list of watch IDs to calculate the total cost.



Example

- example1

```
[
"001",
"001",
"001"
]
```

Expected results:

```
{
    "price": 200
}
```

- Example2:

```
[
"001",
"001",
"001",
"002",
"002",
"003",
"004"
]
```

Output:

```
{
    "price": 400
}
```

Approach

- Framework: The application is built using ASP.NET Core, a robust and cross-platform framework for building web APIs.
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- Data Structure: A watch catalog is defined in the “CheckoutController” with watch details such as ID, unit price, and discount rules.
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- API Endpoint: The /checkout endpoint accepts a POST request with a list of watch IDs, calculates the total cost, and returns the result.
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- Discount Logic: A custom discount calculation logic is implemented based on the discount rules provided.
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- Testing: The application includes unit tests to verify the correctness of individual components and ensure that the discount logic works as expected.

Potential Improvements

- Error Handling: Implement comprehensive error handling to provide meaningful error responses to clients when issues occur.

- Authentication and Authorization: Add authentication and authorization mechanisms to secure the API.

Git commit history

I did not use git this time.

Automated testing

Automated testing is an important part of the solution.
Unit Tests: Unit tests are included to ensure the correctness of individual components, including the discount calculation logic.