

Approach Paper: Voting Application

Objective: To build a voting application which will have 3 tabs as follows

1. Candidate – Here candidates can be added, and list of candidates will be displayed.
2. Voter – Here voter can be added, and list of voters will be displayed.
3. Voting – Here voter can cast their vote to their candidate by selecting their name and candidate name from dropdown.

Technology Stack:

1. **Backend: ASP.NET Core web API, Entity Framework core, SQL server**
2. **Frontend: Angular 17 (no standalone)**

Key Features:

Additional Features and Assumptions:

- A voter can only cast his/her vote only once.
- Separate tabs given for every features

Architecture Explanation: Client-server where client side is built on angular 17 and server side is on .Net core web API.

Backend Architecture: Backend Architecture is a layered architecture with generic repository. Main project call the service layer and service layer call the repository where database operation code is written using entity framework. DTO is used to transfer data from main project model to entity

Frontend Architecture: Frontend architecture is a simple service based architecture where inside the shared service, the API calling code is written.

Steps to Run the Application:

Backend: Directly click on run button on Visual studio (Version 2022)

Frontend: On terminal, write `ng serve -o` to build and launch application on browser

Coding Guidelines and Validation: Have used dependency injection for loose coupling between the modules and generic repository to minimize the adding separate repositories. Used model validations using `data.annotation` name space.

For front end also the dependency injection is used and a common shared service is called for calling API.

Conclusion: The application is working properly. It is showing candidates list with vote counts in the first tab, in second tab list of voter and hasvote flag is showing and in last tab voting can be done by selecting candidate and voter name from dropdowns.