

Technology and Tools

Database - MongoDB serves as backend for this application.

Server side technologies - Express JS is the chosen server side web framework which provides support for routing with HTTP requests(REST services) and also integration with MongoDB.

Client side technologies - React JS is the front end framework used to display the User Interface. It is clubbed with Redux to store the states of the application generated in a single session. This eliminates the need to access database for every user action. EJS is the templating engine used to display html. Webpack is used to bundle the Javascript, html, css files together and build the application.

Source version control - GitHub is used as source control and Git shell for running npm commands.

Code Editor - Visual studio code is the editor which has an inbuilt terminal where npm commands were executed.

The reason behind using the above set of technology and tools is that I have been actively working with these technologies at IBM since last two years.

Functions

The application processes all 650 constituencies results as soon as the play button is selected. In the same second the results are displayed hence this removes the need to have a timer to process a list of results and show the share of votes/seats incrementally.

Considering the initial set of behaviors specified in the exercise file, the application will accept any additional result (.xml file) provided they are loaded in the MongoDB collection using “npm run loadDB”. If the file has valid contents similar to existing files then the loading should be successful and in the subsequent runs the results will be updated with new share of votes, seats and top three parties.

There is one limitation with the current implementation. The program only looks for the party codes provided in the current set of results. It won't be able to handle new party codes even if the file format is right and loaded in the DB.

When an invalid file is first tried to load, the loading program itself will fail. Hence this issue is detected in the first step itself.