DOCUMENTATION

Description:

Our website is a real-time stock market data web application that retrieves live stock market data from APIs and presents it to users in an easily comprehensible format. It provides up-to-date information on stock prices, volume, market trends, and other relevant data. The application prioritizes user security and privacy, incorporating features like user authentication and robust security measures to safeguard sensitive information. With its intuitive design, investors can conveniently monitor and track their investments. Additionally, the web application is designed to be responsive, ensuring a seamless user experience across various devices.

Web application is developed using a combination of front-end technologies, back-end programming languages, APIs for data retrieval, databases for data storage, and security measures to protect user information.

- Front-end popular programming languages like HTML, CSS, and JavaScript are utilized to create the user interface and handle the presentation layer. JavaScript frameworks such as React, Angular, or Vue.js may be employed to enhance interactivity and provide a smoother user experience.

- CSS media queries and flexible layouts are utilized to adapt the application's layout and functionality based on the user's device screen size & achieved through responsive web design techniques.

- APIs used for real-time data retrieval, server-side programming languages like Java, or Node.js are commonly used. These languages have libraries and frameworks that simplify API integration and data manipulation. Additionally, databases like MongoDB are often utilized to store and manage user data or any other required information.

- To ensure user authentication and security, techniques like password hashing, encryption, and secure communication protocols (such as HTTPS) are implemented. User authentication can be achieved through technologies like OAuth, JWT (JSON Web Tokens), or session management.

Working after the APIs activate:

1. API Integration:
   - ⇒ The server-side function sends the API request to the Alpha Vantage APIs, including the stock symbol or company name.
   - ⇒ The API server receives the request and processes it.
   - ⇒ The Alpha Vantage APIs have various endpoints to retrieve different types of stock market data, such as stock prices, volume, market trends, etc.

⇒ The API server fetches the requested data from its database or real-time data sources.

2. API Response:
   ⇒ Once the API server processes the request and retrieves the requested data, it formulates a response.
   ⇒ The response includes the requested stock market data, which is typically returned in a structured format like JSON.
   ⇒ The API server sends the response back to the server-side function in the web application.

3. Server-side Function:
   ⇒ The server-side function receives the API response from the Alpha Vantage APIs.
   ⇒ It processes the response, extracting the relevant stock market data.
   ⇒ The server-side function may also perform additional computations or data manipulation as required.

4. Response to Front-end:
   ⇒ The server-side function formulates a response to send back to the front-end of the web application.
   ⇒ The response typically includes the extracted stock market data in a structured format like JSON.
   ⇒ The server-side function sends the response back to the front-end.

5. Front-end Update:
   ⇒ The JavaScript function on the front-end receives the response from the server-side function.
   ⇒ It updates the UI of the web application with the retrieved stock market data.
   ⇒ The data is displayed in the appropriate areas of the UI, such as stock prices, volume, market trends, etc.

Acknowledgment:

Our Real Stock Web Application is truly based on Alpha Vantage APIs. All the essential data is retrieved by this API-key:

https://www.alphavantage.co/query?function=TIME_SERIES_INTRADAY&symbol={company}&interval=1min&apikey=BISVRY1BEA866C4O

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