**Trading platform Application**

**Linked skills:** Reactjs/Vuejs/Angular, NodeJS, WebSocket, HTML, CSS, etc.

**System context:**

A banking company needs to build a trading data management UI, for trader to manage their real-time trading records. You will need to help them to build this UI.

**Business features:**

* The web page should contain a table for display with 10 columns of trading information, including: (Trade id, trade name, trade symbol, current price, last price, trader name, trend, update time, create time, trade status)
* The web page will be receiving streaming data with the latest changes for the trades
* The data will be update in high frequency, the gaps between each update are between 500ms to 1000ms, and each time should be different.
* Each update should contain 1 to 10 record changes, and each time should be different.
* There are two types of updates to the records, add new record and update existing record
* In each update, could be either add record or update record or both.
* For new added data, it should be having an identical trade id with others information of this trade
* For updating an existing data, the record of the matched trade id should be updated with given new data
* For the updated record, if the current price is higher than the last price, the trend column should be ↑, otherwise should be ↓. If the current price is equal to the last price, the trend should be –
* For the records trend to be in ↑, the background color of this table row should turn to red, and fade back to default color in 1 second, same animation for ↓ in green and grey for –
* You can define any default color for the table rows yourself
* New added row will be in yellow background and fade back to default color in 1 second
* The table row should be in the length of infinity, and the web page should be able to adapt
* User can right click on any row of the table, to open a context menu, with two actions in the menu. Remove current row or highlight current row
* Removal on one row should delete this row of record immediately
* Highlighting a row will turn this row into blue in background as default
* Right click on the highlighted row show have the options of cancel highlight and remove current row
* On the Top and the bottom of the page, should display the total amount of rows displayed in the table

**Technical requirements:**

* The back-end streaming service of this application could be mocked or any method that you prefer
* In your application, you should demonstrate the best practices of performance optimization with high quality of code standard
* Your code should be tested with unit tests and integration tests
* Proper code quality management must be considered
* Your application could be written with Reactjs/Vuejs/Angular
* You table should run smoothly with 10000+ records
* Here is an example of a streaming data from the server: (You can have others format or other ways that you prefer):

[

{“action”: “ADD”, “data”: {“trade\_id”: “123”, …}},

{“action”: “UPDATE”, “trade\_id": “234”, “data”: {“current\_price”: 10.1, …}},

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* [Optional] Typescript is preferred

**Design and Documentation requirements:**

* Development environment setup manual
* Document your tech stack selections with justifications
* [Optional] System architecture diagram
* [Optional] Deployment design diagram
* [Optional] Database design diagram