

Stock Dividend Simulator

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@<https://github.com/rarose67/stocks-java.git>

Description

I wanted to make a website where a user could take a stock that gives a dividend undetermined how many shares of that stock they would have after reinvesting the dividends for so many years. This website will give users the ability to create a portfolio of different positions and allow them to project the value of that portfolio out a given number of years. I have seen other sites where users can determine the amount of income given by dividends, but these sites don't allow projection into the future.



Features

- User login: Users will be able to create accounts and log in to the application.
- Database: The application stores the users different stock positions, balance information, and years projected.
- Search: The user will able to search for stocks by symbol, name, price, dividend, yield, and dividend date.
- Data projection: The app will simulate dividend reinvestment by using the current price data to project what the future price might be based on a random number generator.
- API interface: Retrieve stock data via IEX API



Planning - User Stories

- As a user can view a list of available stocks.
- A user can search for stocks to add to my portfolio.
- A user can add a new position to a portfolio
- A user can login to the application.
- A user can simulate the trading of stocks for a given number of years.



Planning - Database

Tables:

- Position - the # of shares, reinvestment info, and previous run data.
- Portfolio - Contains a list of positions, the overall value of the portfolio, and the amount cash left over.
- User - username, password, email

Other models:

- Stock - holds stock data from API



Technology Stack

- Java
- Spring/boot
- Thymeleaf
- MySQL
- JavaScript
- Native SQL queries
- Bootstrap



Demo



What I Learned

- How to send a get request to an API
- How to retrieve and parse JSON data
- How to create a complex search form based on multiple parameters
- How to write multiple types of queries (both HQL and SQL)
- How to create, access, and delete cookies
- How to use Javascript to change the values of HTML properties



What's Next

- Pagination
- Learn how to do query at application startup (not when access the site through the controller)
- jQuery

