**Custom Stock Ticker API**

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**About API\_StockTicker**

API\_StockTicker is an API that allows the user to customize a GUI that shows the stock price for VOO, the Vanguard S&P Index ETF. Choose your favorite colors and fonts, then click the “Update Quote” button to refresh the price. Quickly check if the stock price is higher or lower for the day by seeing if the price is red or green. The price of VOO gives a great snapshot of how the stock market is doing day-to-day, and with your custom GUI, you’ll love following the market!

This document outlines the capabilities of API\_StockTicker. Below is a table explaining the methods available in the API.

| **Method Name** | **Return Type** | **Args** | **Description** |
| --- | --- | --- | --- |
| **showScene()** | Scene | BorderPane pane, int w, int h | Creates a Scene with the given height and width. |
| **backgroundColor()** | void | BorderPane pane, String hexColor | Sets the color of the BorderPane to the user’s choice of hexadecimal color. **For String hexColor parameter, only use the hexadecimal color code (ex: “#FFFFFF”).** |
| **setTitleFont()** | Text | VBox titlePane, String font, int size, Color c | Displays and specifies the font, size, and color of the **title** text. |
| **displayOpen()** | Text | VBox titlePane, String font, int size, Color c | Displays and specifies the font, size, and color of the **opening price** text. |
| **displayInitialQuote()** | Text | StackPane center | Displays the **initial quote** of VOO. User does not have the ability to change the color of the quote. The quote will either be red or green based on the day’s price fluctuations. |
| **displayUpdateButton()** | Button | BorderPane pane, StackPane center, String hexColor | Displays the “Update Quote” button with the user’s chosen color and adds functionality of the button. **For String hexColor parameter, only use the hexadecimal color code (ex: “#FFFFFF”).** |
| **SRC()**  Private method | StockReaderClient | None | Returns a generic object of the StockReaderClient class. |
| **SRO()**  Private method | StockReaderOpen | None | Returns a generic object of the StockReaderOpen class. |
| **priceDifference()**  Private method | double | None | Creates current and opening price objects from SRC() and SRO(), then parses their String values into double values. Returns the difference of the current and opening prices. |
| **quoteText()**  Private method | Text | None | Converts current quote into a formatted text object and determines if text color should be red or green based on the difference value from priceDifference(). Returns the quote text object. |

There are two additional classes that are utilized by API\_StockTicker for functionality relating to the stock price. The following table describes these classes for informational purposes, but the user has no interaction with these classes.

| **Class Name** | **Function** | **Methods** |
| --- | --- | --- |
| **StockReaderOpen** | Uses the Jsoup API to scrape the opening price (updated daily) of VOO stock. Objects of this class can be converted to a String of the opening price. | **StockReaderOpen()**  Constructor that assigns the global open variable to getOpen()  **getOpen()**  Scrapes CNBC for the opening price and returns opening price as a String  **currentOpen()**  Returns global String open  **toString()**  Overrides toString method and formats opening quote as a String |
| **StockReaderClient** | Uses the Jsoup API to scrape the current price (updated every few seconds) of VOO stock. Objects of this class can be converted to a String of the current price. | **StockReaderClient()**  Constructor that assigns the global quote variable to getQuote()  **getQuote()**  Scrapes CNBC for the current quote and returns current quote as a String  **currentQuote()**  Returns global String quote  **toString()**  Overrides toString method and formats current quote as a String |

**Included Files**

1. **API\_StockTicker.java** - The API. Do not change anything in this file.
2. **StockTickerTemplate.java** - The file that inherits from API\_StockTicker. Follow the comments labeled “TODO:” to customize your Stock Ticker GUI.
3. **StockTickerDemo.java** - Example program that makes use of API\_StockTicker.

**Example Results**

(Note: the price is red in these images because the market was down the day the images were produced, but try on a day where the market is up, and the price will be green!)



