

NodeTask

Portfolio API

A portfolio tracking API which allows adding/deleting/updating trades and can do basic return calculations etc.

For simplicity assume that there will be only one portfolio and one user.

The portfolio is essentially a collection of stocks, each stock having multiple trades (buy/sell). Each trade can have only one stock, a quantity and a date.

Example portfolio:

RELIANCE:

BUY 100@900 10/04/2015
SELL 50@1000 10/05/2015
BUY 100@850 10/06/2015

HDFCBANK:

BUY 200@1000 11/05/2015
SELL 100 @800 12/07/2015

Holdings:

RELIANCE: 150 @ 875.5 (Avg of all buys)
HDFCBANK: 100 @ 1000

API

Models

- Stock - just an alphanumeric id. Just pick any random strings for now, you do not need to create the whole stock collection. Use yahoo finance if you're feeling adventurous
- Trade - Should capture a date, price, type (buy/sell)
- Portfolio - an aggregation over stocks and trades

Functionality

- Retrieve the portfolio
- Add/delete/modify trades
- Get the average buying price, cumulative return

Calculate the average buying price as the average of all buys disregarding sells.

The cumulative return requires the initial and current price. The initial price should be on the trade and you can get the current price using third party APIs like google or yahoo finance.

Routes

Route		Method	Params	Response
/portfolio	/	GET	-	Return the entire portfolio with trades
	/holdings	GET	-	Get holdings in an aggregate view
	/returns	GET	-	Get cumulative returns
	/addTrade	POST	trade	-
	/updateTrade	POST	trade	-
	/removeTrade	POST	trade	-

This is just a guideline, you are free to make changes/additions as long as the basic functionality is captured.

Expected response (JSON) -

```
{
  success: boolean,
  data: object
}
```

We would prefer if you use Nodejs, MongoDB. Other databases are fine if you can think of compelling reasons.

Suggested: Mongoose ORM, Express framework, POSTman for testing

Write code as you normally would. Things to remember -

- Modular code looks good
- Comments help
- Nodejs likes asynchronous

If you are just getting started with Nodejs, have a look at scotch.io tutorials, or search youtube for getting started with MEAN stack.

Feel free to use any additional tools that help you with the task or you feel would improve the overall app. Also, please work on a brief write up detailing design decisions, tests you would run and possible improvements you would have made.