

B4 - Computer Numerical Analysis – Trade

B-CNA-410

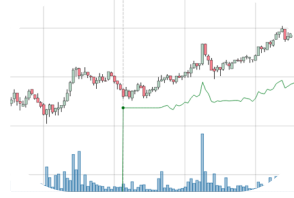
Trade

Bootstrap





Let's play around the trading environment that will be in use for the main project and implement simple client bots that receive and parse information, make a simple forecast and issue a sell/buy order accordingly.



STEP 1 - A FIRST DUMB BOT

First of all, be sure that you have ai-bot-workspace setup (there's a small guide alongside the project subject).



You can find a starter bot [here](#) that basically buy one type of currency whatever the market is. However, this bot is really bad, since at some point it tries to perform an illegal operation and then collapses, causing you to lose everything.

In the language of your choice, write an elementary bot that only performs this operation ten times, then passes until the end.



Make sure you respect carefully the syntax so the server understands your orders.
Damn it.

Once your bot is ready, just tell the server how to find it.

STEP 2 - KNOW YOUR STOCKS

You have your first bot, but no thrill so far...

Let's add some essential features:

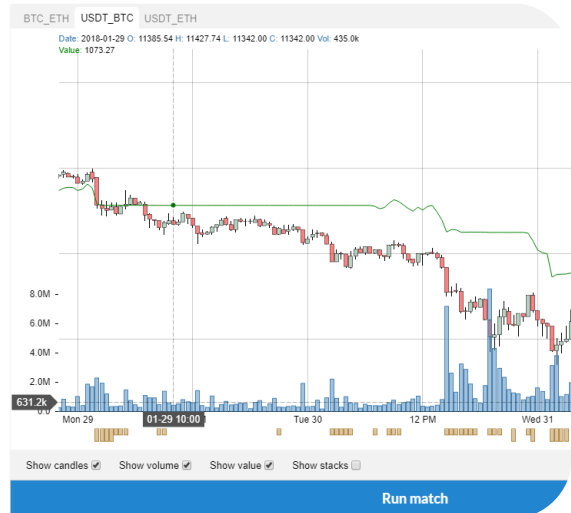
- store the amount of currency you own in the beginning, according to the settings messages from the server,
- when issuing an sell/buy order, fix the amount of currency you sell to half of your current stockpile, so there won't be any trouble,
- naturally, update the stacks according to your operations.



Don't forget the transaction fees when updating!

Now, your bot should be able to hold firm and never crash... but still lose a bunch of money overall.

```
engine stdout Engine stderr Bot 1 log Bot 1 stderr Bot 2 log Bot 2 stderr
update game next_candles BTC_ETH,151680600,0.09255044,0.09165985,0.09243373,0.09196156,100.
update game stacks BTC:0.04552919,ETH:0.50155794,USDT:0.00
action order 2000
Output from your bot: "buy BTC_ETH 0.24628017283901235"
update game next_candles BTC_ETH,151680600,0.09255044,0.09165985,0.09243373,0.09196156,100.
update game stacks BTC:0.02276460,ETH:0.74734555,USDT:0.00
action order 2000
Output from your bot: "pass"
update game next_candles BTC_ETH,1516807800,0.09231139,0.09181263,0.09196163,0.09199983,84.3
update game stacks BTC:0.02276460,ETH:0.74734555,USDT:0.00
action order 2000
Output from your bot: "pass"
update game next_candles BTC_ETH,1516809600,0.0923107,0.0917,0.0919998,0.09216498,61.9049395
update game stacks BTC:0.02276460,ETH:0.74734555,USDT:0.00
action order 2000
Output from your bot: "sell USDT_ETH 0.373672775;sell USDT_BTC 0.0113823"
update game next_candles BTC_ETH,1516811400,0.0923816,0.09195003,0.09216492,0.09206503,36.22
update game stacks BTC:0.01138230,ETH:0.37367278,USDT:502.34
action order 2000
Output from your bot: "sell USDT_ETH 0.18683639;sell USDT_BTC 0.00569115"
update game next_candles BTC_ETH,1516813200,0.09242552,0.09206576,0.09207601,0.09228988,40.3
update game stacks BTC:0.00569115,ETH:0.18683639,USDT:755.31
action order 2000
Output from your bot: "sell USDT_BTC 0.002845575"
update game next_candles BTC_ETH,1516815000,0.09254,0.09223,0.09228988,0.092539,49.05841422;
update game stacks BTC:0.00284557,ETH:0.18683639,USDT:786.50
action order 2000
Output from your bot: "sell USDT_BTC 0.001422785"
update game next_candles BTC_ETH,1516816800,0.09259009,0.09213314,0.092539,0.0923369,68.1739
update game stacks BTC:0.00142279,ETH:0.18683639,USDT:802.29
action order 2000
Output from your bot: "pass"
update game next_candles BTC_ETH,1516818600,0.09259009,0.09216054,0.09226015,0.09245358,34.9
```





STEP 3 - PARSE AND PREDICT

To move ahead, we need to use market information to predict future outcomes.



Yes indeed, it does mean a bit of work.

Write a third bot (or upgrade your previous one), which performs the following actions:

- store the 'candles' as soon as they are provided,
- when asked to act, if bitcoins are on the rise (according to the last two values), buy as much as you can. Otherwise, sell.



Organize cleverly your code to clearly separate what handles interfacing with ai-bot-workspace and what addresses your AI.

Congratulations! Your environment is now fully set up.

You can now proceed to the interesting part of the project: artificial intelligence.