EXAMPLE: How to build a dYdX Orderbook

Author: Lawrence Chiu (lawrence@dydx.exchange)

Twitter: https://twitter.com/LawrenceChiu14

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Tested on: Ubuntu Server 20.04.4 LTS

We will build the dYdX orderbook with 3 programs:

1) dydxob.py (the orderbook builder).

2) dydxtrades (the last-trade monitor), and

3) dydxob2.py (the orderbook displayer)

All programs are available at https://github.com/chiwalfrm/dydxexamples

PART 1: dydxob.py

1. First, create a 1GB ramdisk and mount it as /mnt/ramdisk/ as this program will write a LOT of files continuously. Also create two folders asks/ and bids/ on the ramdisk.

```
$ sudo mount -t tmpfs -o rw,size=1G tmpfs /mnt/ramdisk
$ sudo chmod 777 /mnt/ramdisk
$ mkdir /mnt/ramdisk/asks /mnt/ramdisk/bids
```

2. Next, start the dydxob.py program. Note that this creates 'price' files in the directories asks/ and bids/. These price files contain two elements: the 'size' at that price, and the 'offset' of the price. The -u option to python tells python not to buffer

```
-u Force the stdout and stderr streams to be unbuffered.  This option
has no effect on the stdin stream.
```

```
$ nohup python3 -u dydxob.py > /mnt/ramdisk/dydxob.log 2>&1 &
```

3. The program will now run continuously updating order book prices, sizes, and offsets. Note that the log file /tmp/randisk/dydxob.log can get extremely large and will need truncation every so often. You can do this with the command:

```
$ cat /dev/null > /mnt/ramdisk/dydxob.log
```

PART 2: dydxtrades.py

1. Start the dydxtrades.py program. Note that this constantly updates the file /mnt/ramdisk/lasttrade with the price and side (BUY or SELL) of the last trade.

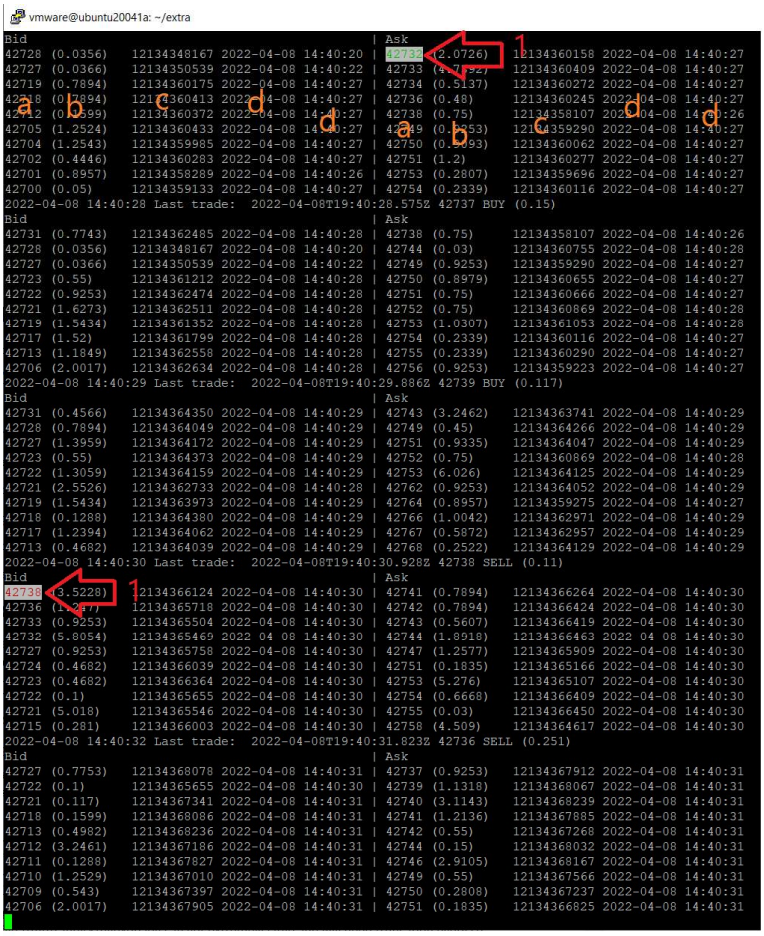
```
$ nohup python3 -u dydxtrades.py  > /mnt/ramdisk/dydxtrades.log 2>&1 &
```

2. The program will now run continuously updating the lasttrade price and side.

PART 3: dydxob2.py

1. Finally, start the dydxob2.py program. This will display and continuously update the order book on your screen.

```
$ python3 -u dydxob2.py
```



1. Colored entries indicate when the last-traded price matches with bid/ask.

a) bid (left) or ask (right) price

b) size

c) offset number

d) date and time of that price