

BlockchainHub - Feature #8

Evaluate MultiChain

07.09.2016 20:10 - didi

Status:	New	Due date:
Priority:	Normal	
Assignee:		
Target version:		
Description		
MultiChain is a fork of Bitcoin, with changes making it easy to deploy arbitrary / private blockchains with custom configuration. Also see "this nice overview by Roderik": https://labs.kunstmaan.be/blog/hands-on-with-multichain		
At the moment only binaries are available, but they promise to open source it soon.		
"Instructions": http://www.multichain.com/getting-started/		

History

#1 - 07.09.2016 20:31 - didi

- Description updated

Since the *getting started* example assumes 2 hosts (server running the blockchain and a connecting client), I quickly fired up a CT (id 106) multichain.d10r.net.

```
root@multichain:~/multichain# multichain-util create c2
MultiChain utilities build 1.0 alpha 23 protocol 10005
```

Blockchain parameter set was successfully generated.
You can edit it in /root/.multichain/c2/params.dat before running multichaind for the first time.

To generate blockchain please run "multichaind c2 -daemon".
root@multichain:~/multichain# multichaind c2 -daemon

MultiChain Core Daemon build 1.0 alpha 23 protocol 10005

```
MultiChain server starting
Looking for genesis block...
Genesis block found
New users can connect to this node using
multichaind c2@192.168.2.106:7763
```

Node started

Note: Since this is a CT without global IP, the port was forwarded on the host:

```
iptables -A PREROUTING -t nat -i eth0 -p tcp -m tcp --dport 7763 -j DNAT --to-destination 192.168.2.106:7763
```

Now on a client:

```
multichaind c2@multichain.d10r.net:7763
```

MultiChain Core Daemon build 1.0 alpha 23 protocol 10005

Retrieving blockchain parameters from the seed node multichain.d10r.net:7763 ...
Blockchain successfully initialized.

Please ask blockchain admin or user having activate permission to let you connect and/or transact:
multichain-cli c2 grant 1a439FKtj9jTgrJJ4y2E5wKx2iU92TxooHXUo6 connect
multichain-cli c2 grant 1a439FKtj9jTgrJJ4y2E5wKx2iU92TxooHXUo6 connect,send,receive

Btw. it looks like the port may be chosen somewhat randomly (?). Which makes sense if more then 1 chains should run alongside.

#2 - 07.09.2016 20:59 - didi

- Tracker changed from Bug to Feature
- Description updated

wallet address: @1a439FKtj9jTgrJJ4y2E5wKx2iU92TxooHXUo6@

```
root@multichain:~/multichain# ./multichain-cli c2 grant 1a439FKtj9jTgrJJ4y2E5wKx2iU92TxooHXUo6 connect,send,receive
{"method":"grant","params":["1a439FKtj9jTgrJJ4y2E5wKx2iU92TxooHXUo6","connect,send,receive"],"id":1,"chain_name":"c2"}
```

425edde1a362a14d3a91e5d707ace3d4c242b951761b0c1340a06e33020270b5

didi@birne:~/src/multichain\$ multichaind [c2@multichain.d10r.net](https://c2@multichain.d10r.net:7763):7763

MultiChain Core Daemon build 1.0 alpha 23 protocol 10005

Retrieving blockchain parameters from the seed node multichain.d10r.net:7763 ...
New users can connect to this node using
multichaind [c2@192.168.0.155](https://c2@192.168.0.155:7763):7763

Node started

Now I went on with chapter 3 of the guide, *Some commands in interactive mode*. Everything works fine as expected.

Where to go from here?

I could build a simple web app which interacts with the blockchain.

This may also be a good moment to take a look at the "Bitcoin API": https://en.bitcoin.it/wiki/Original_Bitcoin_client/API_calls_list which MultiChain extends.

Then find out if it would be suited for the BP demo.

#3 - 12.09.2016 11:47 - didi

Roderik also created a docker based demo :-)

Trying... <https://labs.kunstmaan.be/blog/open-sourcing-a-php-library-and-docker-development-images-for-multichain>

didi@birne:~/src/multichain\$ docker-compose up

```
...
explorer_1 | failed to load /root/.multichain/multichain.conf: [Errno 2] No such file or directory: u'/root/.multichain/multichain.conf'
explorer_1 | catch_up_rpc: abort
explorer_1 | Skipping datadir /root/.multichain/: [Errno 2] No such file or directory: u'/root/.multichain/blocks/blk00000.dat'
explorer_1 | Traceback (most recent call last):
explorer_1 |   File "/usr/lib/python2.7/wsgiref/handlers.py", line 85, in run
explorer_1 |     self.result = application(self.environ, self.start_response)
explorer_1 |   File "/root/.local/lib/python2.7/site-packages/Mce/abe.py", line 317, in call
explorer_1 |     handler(page)
explorer_1 |   File "/root/.local/lib/python2.7/site-packages/Mce/abe.py", line 494, in handle_chains
explorer_1 |     '$("#recenttx").load(\' + page[\'dotdot\'] + urllib.quote(name, safe=) + \' /recent?random=\' + Math.random().toString() )\'
explorer_1 | UnboundLocalError: local variable 'name' referenced before assignment
```

explorer_1 | 127.0.0.1 - - [07/Sep/2016 21:09:06] "GET / HTTP/1.1" 500 59

:-{

Trying another version: <https://raw.githubusercontent.com/Kunstmaan/hands-on-with-multichain/master/docker-compose.yml>