dYdX v4 Software: How to set up a full node

Document updated: Nov 9, 2023
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Version: 1.7

Update History

Version 1.7: Added things you can do with a full node section
Version 1.6: Added alternative links for RPC and Snapshots
Version 1.5: Updated for Mainnet, Removed testnet information
Version 1.4: Updated for Testnet #4
Version 1.3: Added two more alternative validators to generate the genesis.json file
Version 1.2: Added Polkachu's snapshot instructions Sep 12, 2023
Version 1.1: Updated for dydx-testnet-3 Sep 12, 2023
Version 1: Initial Aug 17, 2023

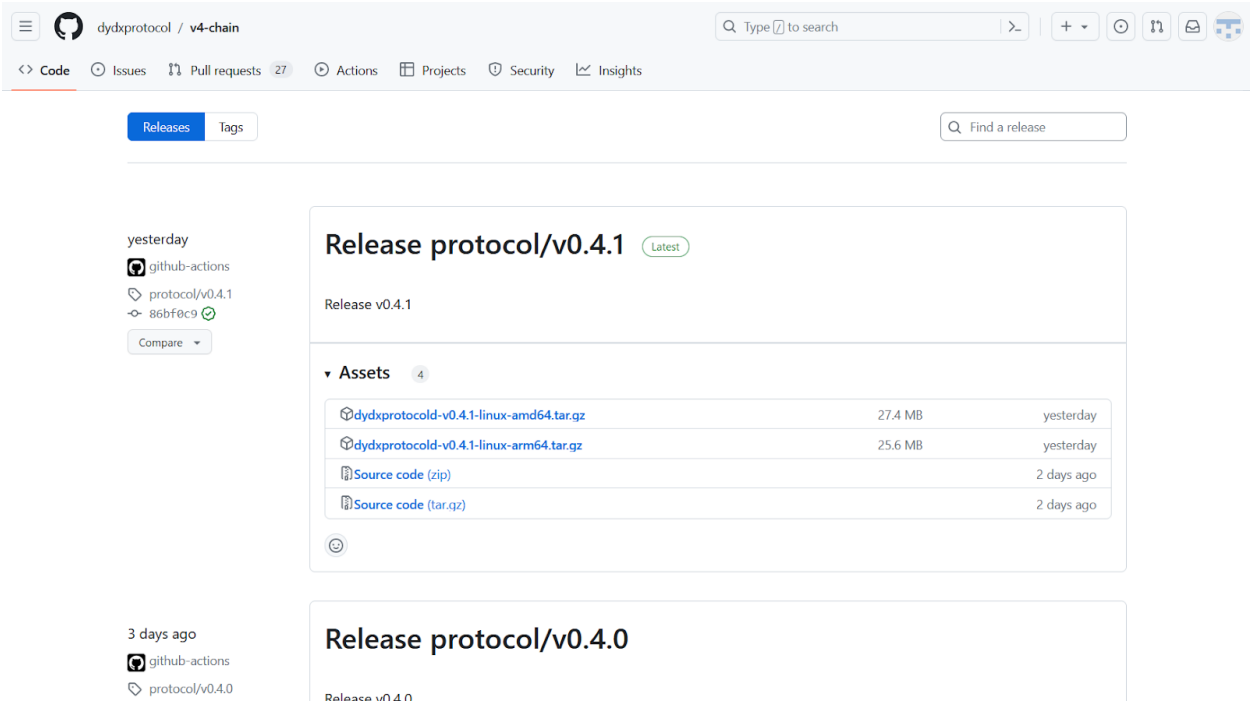
Pre-requisite

1. Linux (Ubuntu Server 22.04.3 recommended)
2. 8-cpu (ARM or x86_64), 64 GB RAM, 500 GB SSD NVME Storage

Get the dydxprotocold binary and initialize the data directory

1. From https://github.com/dydxprotocol/v4-chain/releases/ | Look for the "protocol" assets.

2. For example, as of 10/19/2023, this was the correct binary to use:



3. Download, extract, and rename the binary to dydxprotocold. Move it to a directory in your $PATH. Now, initialize the data directory (create the directory first if it doesn't exist). Note in the example below, chain-id=dydx-mainnet-1, the data directory=/home/vmware/.dydx-mainnet-1, and the nickname for the full node is 'mydydxfullnodemainnnet':

```
dydxprotocold init --chain-id=dydx-mainnet-1
--home=/home/vmware/.dydx-mainnet-1 mydydxfullnodemainnet
```

Get the latest applicable genesis.json file and install

1. Use `curl https://dydx-rpc.lavenderfive.com/genesis | python3 -c 'import json,sys;print(json.dumps(json.load(sys.stdin)["result"]["genesis"], indent=2))' > genesis.json` to get the applicable Genesis state of the network
2. Copy the applicable genesis.json file to the data directory's config/ directory
3. (Alternatives): If the RPC endpoint above does not work, there are these alternatives:
    a. https://dydx-dao-rpc.polkachu.com/genesis
    b. https://dydx-mainnet-full-rpc.public.blastapi.io/genesis
    c. https://dydx-ops-rpc.kingnodes.com/genesis
    d. https://dydx.rpc.kjnodes.com/genesis
    e. https://rpc.dydx.nodestake.top/genesis
    f. https://dydx-mainnet-rpc.autostake.com:443/genesis
    g. https://dydxprotocol-rpc.genznodes.dev/genesis

h. Also check https://docs.dydx.trade/networks/network1/resources under “RPC endpoints → RPC”

Install Bware’s snapshot (optional but saves days)

1. From https://bwarelabs.com/snapshots/dydx
2. Download and extract (using “lz4 -dc < *snapshotfile.tar.lz4* | tar xf -”) the snapshot contents in the data directory (make sure you are in the data directory before running the tar command). Important: The data directory (/home/vmware/.dydx-mainnet-1/ in our example) contains another data/ directory.
3. (Alternatives): If the above is not available, there are these alternatives:
    a. https://polkachu.com/tendermint_snapshots/dydx
    b. https://services.lavenderfive.com/mainnet/dydx/snapshot
    c. https://services.kjnodes.com/mainnet/dydx/snapshot
    d. https://nodestake.top/dydx
    e. https://autostake.com/networks/dydx/#services
    f. https://genznodes.dev/resources/snapshot/dydx
    g. Also check https://docs.dydx.trade/networks/network1/resources under “Snapshot service → Snapshots”

Start the full node

1. Start the full node. Note that you may need to change the p2p.seeds parameter depending on the applicable v4 software blockchain network – you can find an example on this page under “Seed nodes”: https://docs.dydx.trade/networks/network1/resources

```
nohup dydxprotocold start
--p2p.seeds="ade4d8bc8cbe014af6ebdf3cb7b1e9ad36f412c0@seeds.polkachu.c
om:23856,65b740ee326c9260c30af1f044e9cda63c73f7c1@seeds.kingnodes.net:
23856,f04a77b92d0d86725cdb2d6b7a7eb0eda8c27089@dydx-mainnet-seed.bware
labs.com:36656,20e1000e88125698264454a884812746c2eb4807@seeds.lavender
five.com:23856,c2c2fcb5e6e4755e06b83b499aff93e97282f8e8@tenderseed.ccv
alidators.com:26401,4f20c3e303c9515051b6276aeb89c0b88ee79f8f@seed.dydx
.cros-nest.com:26656,a9cae4047d5c34772442322b10ef5600d8e54900@dydx-mai
nnet-seednode.allthatnode.com:26656,802607c6db8148b0c68c8a9ec1a86fd3ba
606af6@64.227.38.88:26656,400f3d9e30b69e78a7fb891f60d76fa3c73f0ecc@dyd
x.rpc.kjnodes.com:17059,4c30c8a95e26b07b249813b677caab28bf0c54eb@rpc.d
ydx.nodestake.top:666,ebc272824924ea1a27ea3183dd0b9ba713494f83@dydx-ma
innet-seed.autostake.com:27366" --home=/home/vmware/.dydx-mainnet-1
--non-validating-full-node=true > /tmp/fullnodemainnet.log 2>&1 &
```

2. You can tail the log to see the progress.

```
tail -f /tmp/fullnodemainnet.log
```

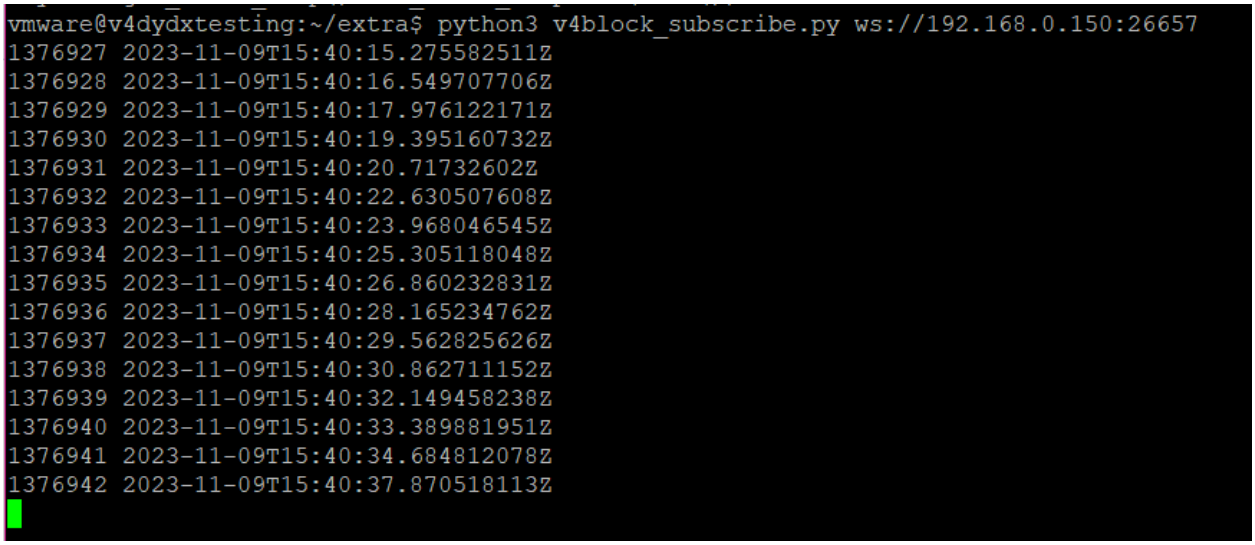
4. The full node is now syncing. To determine whether the full node is caught up with the chain head, please check the applicable block explorer to determine when it reaches the current block – an example block explorer is shown on https://www.mintscan.io/dydx

Things you can do with the full node

1. GET CURRENT BLOCK: You can get the current block with this program https://github.com/chiwalfrm/dydxexamples/blob/main/v4block_subscribe.py Run it with the full node IP address and port 26657:

```
python3 v4block_subscribe.py ws://<IPADDRESS>:26657
```

Where <IPADDRESS> is the IP address of your full node.



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