

```

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech
$ cd BlockChain-Tools/geth

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/BlockChain-Tools/geth
$ ./puppeth
+-----+
| Welcome to puppeth, your Ethereum private network manager |
|
| This tool lets you create a new Ethereum network down to |
| the genesis block, bootnodes, miners and ethstats servers |
| without the hassle that it would normally entail.         |
|
| Puppeth uses SSH to dial in to remote servers, and builds |
| its network components out of Docker containers using the |
| docker-compose toolset.                                   |
+-----+

Please specify a network name to administer (no spaces, hyphens or capital letters please)
> thehwnet

Sweet, you can set this via --network=thehwnet next time!

INFO [09-25|22:43:39.922] Administering Ethereum network      name=thehwnet
WARN [09-25|22:43:39.923] No previous configurations found     path=C:\\Users\\chris\\.puppeth\\thehwnet

What would you like to do? (default = stats)
  1. Show network stats
  2. Configure new genesis
  3. Track new remote server
  4. Deploy network components
> |

```

```

What would you like to do? (default = stats)
  1. Show network stats
  2. Configure new genesis
  3. Track new remote server
  4. Deploy network components
> 2

What would you like to do? (default = create)
  1. Create new genesis from scratch
  2. Import already existing genesis
> 1

Which consensus engine to use? (default = clique)
  1. Ethash - proof-of-work
  2. Clique - proof-of-authority
> 2

How many seconds should blocks take? (default = 15)
> 5

Which accounts are allowed to seal? (mandatory at least one)

```

```
> 0xDC8D83F601c8D4441f2F2BFD5C181723c65aFf0E
> 0x
```

Which accounts should be pre-funded? (advisable at least one)

```
> 0xDC8D83F601c8D4441f2F2BFD5C181723c65aFf0E
> 0x
```

Should the precompile-addresses (0x1 .. 0xff) be pre-funded with 1 wei? (advisable yes)

```
> yes
```

Specify your chain/network ID if you want an explicit one (default = random)

```
> 419
```

INFO [09-25|22:54:46.184] Configured new genesis block

What would you like to do? (default = stats)

1. Show network stats
2. Manage existing genesis
3. Track new remote server
4. Deploy network components

```
>
```

Specify your chain/network ID if you want an explicit one (default = random)

```
> 419
```

INFO [09-25|22:54:46.184] Configured new genesis block

What would you like to do? (default = stats)

1. Show network stats
2. Manage existing genesis
3. Track new remote server
4. Deploy network components

```
> 2
```

1. Modify existing configurations
2. Export genesis configurations
3. Remove genesis configuration

```
> 2
```

Which folder to save the genesis specs into? (default = current)

Will create thehwnet.json, thehwnet-aleth.json, thehwnet-harmony.json, thehwnet-parity.json

```
>
```

```

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech
$ cd blockchain-tools/gets

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/blockchain-tools/gets
$ ./gets account new --datadir node1
INFO [09-25|23:04:02.921] Maximum peer count          ETH=50 LES=0
total=50
Your new account is locked with a password. Please give a password. Do not forge
t this password.
!! Unsupported terminal, password will be echoed.
Password: 123456789

Repeat password: 123456789

Your new key was generated

Public address of the key: 0xc0C99D944f92c68e1d6ee26169A69e7c0798ED67
Path of the secret key file: node1\keystore\UTC--2021-09-26T03-04-17.891972100Z-
-c0c99d944f92c68e1d6ee26169a69e7c0798ed67

- You can share your public address with anyone. Others need it to interact with
you.
- You must NEVER share the secret key with anyone! The key controls access to yo
ur funds!
- You must BACKUP your key file! Without the key, it's impossible to access acco
unt funds!
- You must REMEMBER your password! Without the password, it's impossible to decr
ypt the key!

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/blockchain-tools/gets
$ ./gets account new --datadir node2
bash: ./gets: command not found

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/blockchain-tools/gets
$ ./gets account new --datadir node2
INFO [09-25|23:05:09.384] Maximum peer count          ETH=50 LES=0
total=50
Your new account is locked with a password. Please give a password. Do not forge
t this password.
!! Unsupported terminal, password will be echoed.
Password: 123456789

Repeat password: 123456789

Your new key was generated

Public address of the key: 0x8df2BBd544d46786d780072dcAa898dE243706c8

```

Path of the secret key file: node2\keystore\UTC--2021-09-26T03-05-20.178556400Z--8df2bbd544d46786d780072dcaa898de243706c8

- You can share your public address with anyone. Others need it to interact with you.
- You must NEVER share the secret key with anyone! The key controls access to your funds!
- You must BACKUP your key file! Without the key, it's impossible to access account funds!
- You must REMEMBER your password! Without the password, it's impossible to decrypt the key!

```

chris@LAPTOP-EAMKNK5K MINGW64 ~
$ cd desktop/fintech/blockchain-tools/gets

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/blockchain-tools/gets
$ ./gets init thehwnet.json --datadir node1
INFO [09-25|23:08:31.676] Maximum peer count          ETH=50 LES=0
total=50
INFO [09-25|23:08:31.727] Allocated cache and file handles database=C:\\
Users\\chris\\desktop\\fintech\\blockchain-tools\\gets\\node1\\gets\\chaindata c
ache=16.00MiB handles=16
INFO [09-25|23:08:31.745] Writing custom genesis block
INFO [09-25|23:08:31.754] Persisted trie from memory database nodes=355 siz
e=50.69KiB time=3.0151ms gcnodes=0 gcsize=0.00B gctime=0s livenodes=1 livesize=0
.00B
INFO [09-25|23:08:31.755] Successfully wrote genesis state database=chai
ndata hash=15d0e0...899b53
INFO [09-25|23:08:31.755] Allocated cache and file handles database=C:\\
Users\\chris\\desktop\\fintech\\blockchain-tools\\gets\\node1\\gets\\lightchaind
ata cache=16.00MiB handles=16
INFO [09-25|23:08:31.763] Writing custom genesis block
INFO [09-25|23:08:31.768] Persisted trie from memory database nodes=355 siz
e=50.69KiB time=998.1µs gcnodes=0 gcsize=0.00B gctime=0s livenodes=1 livesize=0
.00B
INFO [09-25|23:08:31.769] Successfully wrote genesis state database=ligh
tchaindata hash=15d0e0...899b53

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/blockchain-tools/gets
$ ./gets init thehwnet.json --datadir node2
INFO [09-25|23:08:42.852] Maximum peer count          ETH=50 LES=0
total=50
INFO [09-25|23:08:42.901] Allocated cache and file handles database=C:\\
Users\\chris\\desktop\\fintech\\blockchain-tools\\gets\\node2\\gets\\chaindata c
ache=16.00MiB handles=16
INFO [09-25|23:08:42.918] Writing custom genesis block
INFO [09-25|23:08:42.925] Persisted trie from memory database nodes=355 siz
e=50.69KiB time=1.9946ms gcnodes=0 gcsize=0.00B gctime=0s livenodes=1 livesize=0
.00B
INFO [09-25|23:08:42.926] Successfully wrote genesis state database=chai
ndata hash=15d0e0...899b53
INFO [09-25|23:08:42.926] Allocated cache and file handles database=C:\\
Users\\chris\\desktop\\fintech\\blockchain-tools\\gets\\node2\\gets\\lightchaind
ata cache=16.00MiB handles=16
INFO [09-25|23:08:42.934] Writing custom genesis block
INFO [09-25|23:08:42.939] Persisted trie from memory database nodes=355 siz
e=50.69KiB time=1.9945ms gcnodes=0 gcsize=0.00B gctime=0s livenodes=1 livesize=0
.00B
INFO [09-25|23:08:42.939] Successfully wrote genesis state database=ligh
tchaindata hash=15d0e0...899b53

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/blockchain-tools/gets
$

```


```

chris@LAPTOP-EAMKNK5K MINGW64 ~/desktop/fintech/blockchain-tools/gets
$ ./gets --datadir node1 --mine --minerthreads 1
INFO [09-25|23:12:18.010] Bumping default cache on mainnet      provided=1024
updated=4096
INFO [09-25|23:12:18.011] Maximum peer count                      ETH=50 LES=0
total=50
INFO [09-25|23:12:18.063] Starting peer-to-peer node             instance=Geth
/v1.9.7-stable-a718daa6/windows-amd64/go1.13.4
INFO [09-25|23:12:18.063] Allocated trie memory caches           clean=1024.00
MiB dirty=1024.00MiB
INFO [09-25|23:12:18.063] Allocated cache and file handles       database=C:\\
Users\\chris\\desktop\\fintech\\blockchain-tools\\gets\\node1\\gets\\chaindata c
ache=2.00GiB handles=8192
INFO [09-25|23:12:18.109] Opened ancient database                database=C:\\
Users\\chris\\desktop\\fintech\\blockchain-tools\\gets\\node1\\gets\\chaindata\\
ancient
INFO [09-25|23:12:18.110] Initialised chain configuration         config="{Chai
nID: 419 Homestead: 0 DAO: <nil> DAOSupport: false EIP150: 0 EIP155: 0 EIP158: 0
Byzantium: 0 Constantinople: 0 Petersburg: 0 Istanbul: 0 Engine: clique}"
INFO [09-25|23:12:18.110] Initialising Ethereum protocol         versions="[64
63]" network=1 dbversion=<nil>
WARN [09-25|23:12:18.110] Upgrade blockchain database version    from=<nil> to
=7
INFO [09-25|23:12:18.260] Loaded most recent local header        number=0 hash
=15d0e0...899b53 td=1 age=25m58s
INFO [09-25|23:12:18.260] Loaded most recent local full block    number=0 hash
=15d0e0...899b53 td=1 age=25m58s
INFO [09-25|23:12:18.260] Loaded most recent local fast block    number=0 hash
=15d0e0...899b53 td=1 age=25m58s
INFO [09-25|23:12:18.260] Regenerated local transaction journal  transactions=
0 accounts=0
INFO [09-25|23:12:18.275] Allocated fast sync bloom              size=2.00GiB
INFO [09-25|23:12:18.276] Stored checkpoint snapshot to disk     number=0 hash
=15d0e0...899b53
INFO [09-25|23:12:18.278] Initialized fast sync bloom            items=355 err
orrate=0.000 elapsed=2.010ms
INFO [09-25|23:12:18.289] New local node record                  seq=1 id=ae73
3da4f6a784c4 ip=127.0.0.1 udp=30303 tcp=30303
INFO [09-25|23:12:18.289] Started P2P networking                 self=enode://
0ecfdd6cad30384fb507cde4ebcee9b7a62bbd22f5e18e7d1d33b04421ab047eef2c8e8feb61d335
f36c89ea30d0517feaaa1d0670b341e5906fcdabc3f3ffa81@127.0.0.1:30303
INFO [09-25|23:12:18.291] IPC endpoint opened                    url=\\\\.\\pi
pe\\gets.ipc
INFO [09-25|23:12:18.291] Transaction pool price threshold updated price=1000000
000
INFO [09-25|23:12:18.291] Transaction pool price threshold updated price=1000000
000
INFO [09-25|23:12:18.291] Etherbase automatically configured     address=0xc0C
99D944f92c68e1d6ee26169A69e7c0798ED67
INFO [09-25|23:12:18.291] Commit new mining work                 number=1 seal
hash=86a966...85bb52 uncles=0 txs=0 gas=0 fees=0 elapsed=0s
WARN [09-25|23:12:18.291] Block sealing failed                   err="unauthor
ized signer"
INFO [09-25|23:12:19.720] New local node record                  seq=2 id=ae73
3da4f6a784c4 ip=100.36.216.162 udp=30303 tcp=30303
INFO [09-25|23:12:20.747] Mapped network port                   proto=udp ext
port=30303 intport=30303 interface="UPNP IGDv2-IP2"
INFO [09-25|23:12:20.961] Mapped network port                   proto=tcp ext
port=30303 intport=30303 interface="UPNP IGDv2-IP2"

```

```
C:\PS>git clone https://github.com/ethereum/ethereum-wiki.git
$ ./.geth --datadir node2 --port 30304 --rpc --bootnodes "enode://0ecfddcad30384fb507cde4ebce9b7a62bbd22f5e18e7d1d33b04421ab047eef2c8e8feb61d335f36c89ea30d0517feaaad0670b341e5906fcd3bc3f3fa818127.0.0.1:30303"
--ipcdisable
INFO [09-25|23:17:32.161] Bumping default cache on mainnet
INFO [09-25|23:17:32.162] Maximum peer count
INFO [09-25|23:17:32.218] Starting peer-to-peer node
INFO [09-25|23:17:32.218] Allocated trie memory caches
INFO [09-25|23:17:32.218] Allocated cache and file handles
INFO [09-25|23:17:32.244] Opened ancient database
INFO [09-25|23:17:32.245] Initialised chain configuration
INFO [09-25|23:17:32.245] Initialised Ethereum protocol
INFO [09-25|23:17:32.381] Loaded most recent local header
INFO [09-25|23:17:32.382] Loaded most recent local full block
INFO [09-25|23:17:32.382] Loaded most recent local fast block
INFO [09-25|23:17:32.382] Loaded local transaction journal
INFO [09-25|23:17:32.382] Regenerated local transaction journal
INFO [09-25|23:17:32.397] Allocated fast sync bloom
INFO [09-25|23:17:32.401] Initialized fast sync bloom
INFO [09-25|23:17:32.419] New local node record
INFO [09-25|23:17:32.419] Started P2P networking
INFO [09-25|23:17:32.421] HTTP endpoint opened
INFO [09-25|23:17:34.222] New local node record
INFO [09-25|23:17:34.992] Mapped network port
INFO [09-25|23:17:34.992] Mapped network port

provided=1024 updated=4096
ETH50 LES=0 total=50
instance=Geth/v1.9.7-stable-a718da6/windows-amd64/go1.13.4
clean=1024.00MiB dirty=1024.00MiB
database=C:\Users\chris\desktop\blockchain-tools\geth\node2\geth\chaindata cache=2.00GiB handles=8192
database=C:\Users\chris\desktop\blockchain-tools\geth\node2\geth\chaindata\ancient
config={ChainID: 419 Homestead: 0 DAO: <nil> DAOSupport: false EIP150: 0 EIP155: 0 EIP158: 0 Byzantium: 0 Constantinople: 0 Petersburg: 0 Istanbul: 0 Engine: clique}
versions="[64 63]" network=1 dbversion=7
number=0 hash=15d0e0.899b53 td=1 age=31m12s
number=0 hash=15d0e0.899b53 td=1 age=31m12s
number=0 hash=15d0e0.899b53 td=1 age=31m12s
transactions=0 dropped=0
transactions=0 accounts=0
size=2.00GiB
items=355 errorrate=0.000 elapsed=3.025ms
seen1 id=ec4a18de7e290eba ip=127.0.0.1 udp=30304 tcp=30304
self=enode://acc9fe210846d4459b13cb9458584a2678a0e51cb2fd20a614e1af88c293d4def4e31a1c8d6079de94e704f3d31abaaf491efc36a28dffe763d99388cc6e01
url=http://127.0.0.1:8545 cors= *localhost
sen=2 id=ec4a18de7e290eba ip=100.36.216.162 udp=30304 tcp=30304
proto=tcp extport=30304 intport=30304 interface="UPNP IGDv1-IP1"
proto=udp extport=30304 intport=30304 interface="UPNP IGDv1-IP1"
```

 **METAMASK**

Ethereum Mainnet

Settings

General

Advanced

Contacts

Security & Privacy

Alerts

Networks

About

Ethereum Mainnet

Ropsten Test Network

Rinkeby Test Network

Goerli Test Network

Kovan Test Network

Localhost 8545

New Network

A malicious network provider can lie about the state of the blockchain and record your network activity. Only add custom networks you trust.

Network Name

thehwnet

New RPC URL

http://127.0.0.1:8545

Chain ID

419

Currency Symbol (optional)

hwcoin

Block Explorer URL (optional)

Cancel

Save

