

# NOUF ALMEKAWED

## Part I. Network configuration

```
Last login: Wed Dec 15 10:25:49 on ttys000
(base) noufn@alMBPalasbNOUFN ~ % sudo puppeth
Password:
sudo: 4294967295: invalid value
(base) noufn@alMBPalasbNOUFN ~ % 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)
> no

Sweet, you can set this via --network=no next time!

INFO [12-15|10:31:24.360] Administering Ethereum network      name=no
WARN [12-15|10:31:24.361] No previous configurations found      path=/Users/noufn/.puppeth/no

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)
> 0x8f7c9fd32CE1f2f5d33930Aa41B3e57f4845a811
> 0x47149Dd9133E55367D93F859b46d1209A3C684AC
> 0xbc5A4b466E0441e34BA05ec49A12BDffF0f5686e
> 0x

Which accounts should be pre-funded? (advisable at least one)
> 0x8f7c9fd32CE1f2f5d33930Aa41B3e57f4845a811
> 0x47149Dd9133E55367D93F859b46d1209A3C684AC
> 0xbc5A4b466E0441e34BA05ec49A12BDffF0f5686e
> 0x

Should the precompile-addresses (0x1 .. 0xff) be pre-funded with 1 wei? (advisable yes)
> no

Specify your chain/network ID if you want an explicit one (default = random)
> 1995
INFO [12-15|10:33:41.156] 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 no.json, no-aleth.json, no-harmony.json, no-parity.json
>
INFO [12-15|10:34:26.633] Saved native genesis chain spec      path=no.json
ERROR[12-15|10:34:26.633] Failed to create Aleth chain spec    err="unsupported consensus engine"
ERROR[12-15|10:34:26.633] Failed to create Parity chain spec   err="unsupported consensus engine"
INFO [12-15|10:34:26.634] Saved genesis chain spec              client=harmony path=no-harmony.json
```

```
(base) noufn@a1MBPalasbNOUFN ~ % geth init --datadir node1 no.json
INFO [12-15|10:36:35.933] Maximum peer count                ETH=50 LES=0 total=50
INFO [12-15|10:36:35.945] Allocated cache and file handles database=/Users/noufn/node1/geth/chaindata
a cache=16.00MiB handles=16
INFO [12-15|10:36:35.986] Writing custom genesis block
INFO [12-15|10:36:35.986] Persisted trie from memory database nodes=4 size=660.00B time=270.776µs gcnode
es=0 gcsz=0.00B gctime=0s livenodes=1 liveness=0.00B
INFO [12-15|10:36:35.987] Successfully wrote genesis state database=chaindata
hash=31cd9b..89a036
INFO [12-15|10:36:35.987] Allocated cache and file handles database=/Users/noufn/node1/geth/lightcha
indata cache=16.00MiB handles=16
INFO [12-15|10:36:36.030] Writing custom genesis block
INFO [12-15|10:36:36.030] Persisted trie from memory database nodes=4 size=660.00B time=158.878µs gcnode
es=0 gcsz=0.00B gctime=0s livenodes=1 liveness=0.00B
INFO [12-15|10:36:36.030] Successfully wrote genesis state database=lightchaindata
hash=31cd9b..89a036
(base) noufn@a1MBPalasbNOUFN ~ % geth init --datadir node2 no.json
INFO [12-15|10:37:36.039] Maximum peer count                ETH=50 LES=0 total=50
INFO [12-15|10:37:36.051] Allocated cache and file handles database=/Users/noufn/node2/geth/chaindata
a cache=16.00MiB handles=16
INFO [12-15|10:37:36.083] Writing custom genesis block
INFO [12-15|10:37:36.083] Persisted trie from memory database nodes=4 size=660.00B time=193.028µs gcnode
es=0 gcsz=0.00B gctime=0s livenodes=1 liveness=0.00B
INFO [12-15|10:37:36.084] Successfully wrote genesis state database=chaindata
hash=31cd9b..89a036
INFO [12-15|10:37:36.084] Allocated cache and file handles database=/Users/noufn/node2/geth/lightcha
indata cache=16.00MiB handles=16
INFO [12-15|10:37:36.118] Writing custom genesis block
INFO [12-15|10:37:36.119] Persisted trie from memory database nodes=4 size=660.00B time=299.513µs gcnode
es=0 gcsz=0.00B gctime=0s livenodes=1 liveness=0.00B
INFO [12-15|10:37:36.120] Successfully wrote genesis state database=lightchaindata
hash=31cd9b..89a036
(base) noufn@a1MBPalasbNOUFN ~ % geth init --datadir node3 no.json
INFO [12-15|10:38:08.140] Maximum peer count                ETH=50 LES=0 total=50
INFO [12-15|10:38:08.153] Allocated cache and file handles database=/Users/noufn/node3/geth/chaindata
a cache=16.00MiB handles=16
INFO [12-15|10:38:08.187] Writing custom genesis block
INFO [12-15|10:38:08.188] Persisted trie from memory database nodes=4 size=660.00B time=196.28µs gcnode
s=0 gcsz=0.00B gctime=0s livenodes=1 liveness=0.00B
INFO [12-15|10:38:08.189] Successfully wrote genesis state database=chaindata
hash=31cd9b..89a036
```

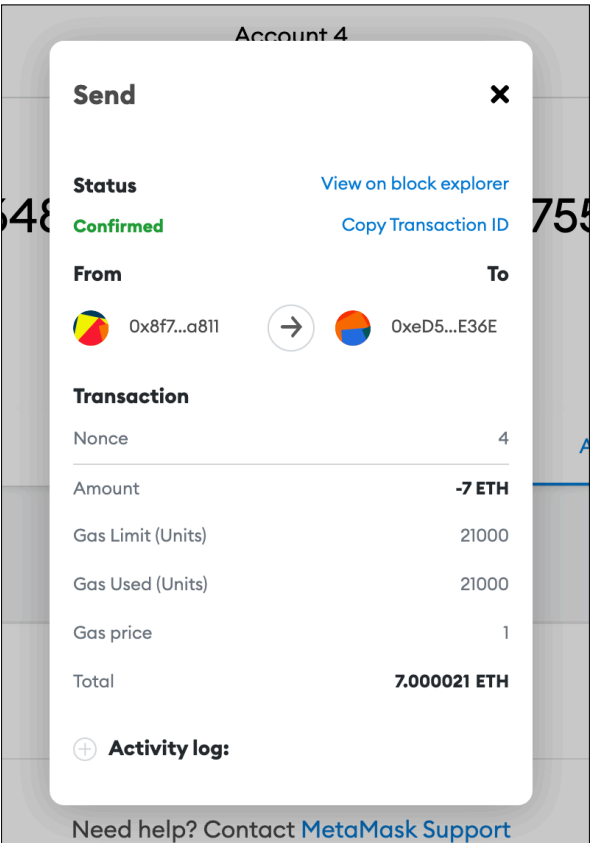
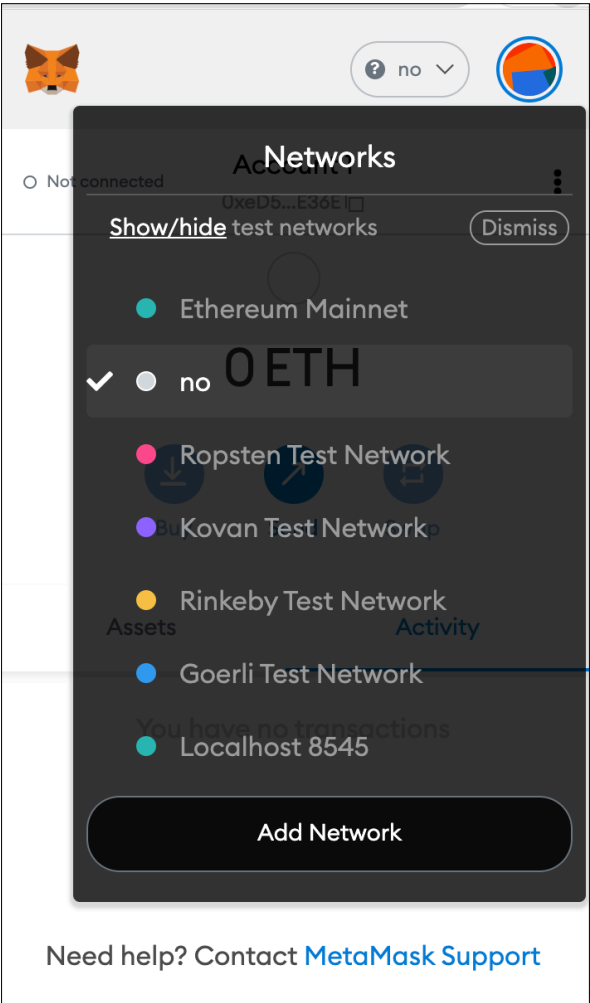
## Part 2. Launching our Network

```

last login: Wed Dec 15 10:29:30 on ttys001
(base) noufn@almbpAlasbNOUNF ~ % geth --datadir node1 --unlock "0x8f7c9fd32CE1f2f5d33930Aa41B3e57f4845a811" --mi
ne --rpc --allow-insecure-unlock
INFO [12-15] [12:29:06.987] Bumping default cache on mainnet           provided=1024 updated=4096
INFO [12-15] [12:29:06.988] Maximum peer count             ETH=50 LES=0 total=50
INFO [12-15] [12:29:07.001] Starting peer-to-peer node     instance=Geth/v1.9.7-stable-a718daa6/darwin-a
md64/go1.13.4
INFO [12-15] [12:29:07.001] Allocated trie memory caches   clean=1024.00MiB dirty=1024.00MiB
INFO [12-15] [12:29:07.002] Allocated cache and file handles database=/Users/noufn/node1/geth/chaindata ca
che=2.00GiB handles=5120
INFO [12-15] [12:29:07.130] Opened ancient database        database=/Users/noufn/node1/geth/chaindata/an
cient
INFO [12-15] [12:29:07.131] Initialised chain configuration config="{ChainID: 1995 Homestead: 0 DAO: <nil
> DAOSupport: false EIP150: 0 EIP155: 0 EIP158: 0 Byzantium: 0 Constantinople: 0 Petersburg: 0 Istanbul: 0 Engin
e: clique}"
INFO [12-15] [12:29:07.131] Initialising Ethereum protocol versions="[64 63]" network=1 dbversion=<nil>
WARN [12-15] [12:29:07.131] Upgrade blockchain database version from=<nil> to=7
INFO [12-15] [12:29:07.352] Loaded most recent local header number=0 hash=31cd9b..89a036 td=1 age=1h57m10s
INFO [12-15] [12:29:07.352] Loaded most recent local full block number=0 hash=31cd9b..89a036 td=1 age=1h57m10s
INFO [12-15] [12:29:07.352] Loaded most recent local fast block number=0 hash=31cd9b..89a036 td=1 age=1h57m10s
INFO [12-15] [12:29:07.354] Loaded local transaction journal transactions=3 dropped=3
INFO [12-15] [12:29:07.354] Regenerated local transaction journal transactions=0 accounts=0
INFO [12-15] [12:29:07.385] Allocated fast sync bloom size=2.00GiB
INFO [12-15] [12:29:07.385] Initialized fast sync bloom items=4 errorrate=0.000 elapsed=295.867µs
INFO [12-15] [12:29:07.387] Stored checkpoint snapshot to disk number=0 hash=31cd9b..89a036
INFO [12-15] [12:29:07.509] New local node record seq=6 id=73dc58ec7fb82995 ip=127.0.0.1 udp=30
303 tcp=30303
INFO [12-15] [12:29:07.510] Started P2P networking self=enode://6362c2ddd616b6a1b2d3f63a21adb91f
06d22235b77218f7be7ea6f96f5f04409c681647fc709c52e7fdd363858795cfb109549c11b3c5ab25d65a1d640f34f8c127.0.0.1:30303
INFO [12-15] [12:29:07.512] IPC endpoint opened url=/Users/noufn/node1/geth.ipc
INFO [12-15] [12:29:07.512] HTTP endpoint opened url=http://127.0.0.1:8545 cors= vhosts=
localhost
Unlocking account 0x8f7c9fd32CE1f2f5d33930Aa41B3e57f4845a811 | Attempt 1/3
Password:
Unlocking account 0x8f7c9fd32CE1f2f5d33930Aa41B3e57f4845a811 | Attempt 2/3
Password: INFO [12-15] [12:29:14.248] New local node record seq=6 id=73dc58ec7fb82995 ip=37.217
.93.225 udp=22188 tcp=30303

```

Part 3. Connecting from Metamask.



## Part 4. Launching a smart contract on our network.

MetaMask Notification

Account 1

→

New Contract

https://remix.ethereum.org

CONTRACT DEPLOYMENT

DETAILS

DATA

EDIT

Estimated gas fee

0.00026335

0.000263 ETH

Site suggested

Max fee: 0.00026335 ETH

Total

0.00026335

0.00026335

Amount + gas fee

Max amount: 0.00026335 ETH

Reject

Confirm

DEPLOY & RUN TRANSACTIONS

ENVIRONMENT

Injected Web3

Main (1) network

ACCOUNT

0xeD5...fE36E (27.9997366)

GAS LIMIT

3000000

VALUE

0

Wei

CONTRACT

Owner - contracts/2\_Owner.sol

Deploy

☐ Publish to IPFS

OR

At Address

Load contract from Address

Transactions recorded 1

2\_Owner.sol

```
1 // SPDX-License-Identifier: GPL-3.0
2
3 pragma solidity >=0.7.0 <0.9.0;
4
5 /**
6  * @title Owner
7  * @dev Set & change owner
8  */
9 contract Owner {
10
11     address private owner;
12
13     // event for EVM logging
14     event OwnerSet(address indexed oldOwner, address indexed newOwner);
15
16     // modifier to check if caller is owner
17     modifier isOwner() {
18         // If the first argument of 'require' evaluates to 'false', execution
19         // changes to the state and to Ether balances are reverted.
20         // This used to consume all gas in old EVM versions, but not any
21         // It is often a good idea to use 'require' to check if functions
22         // As a second argument, you can also provide an explanation about
23         require(msg.sender == owner, "Caller is not owner");
24     }
25
26     /**
27     * @dev Set contract deployer as owner
28     */
29     constructor() {
30         owner = msg.sender; // 'msg.sender' is sender of current call,
31     }
```

Account 1

0xeD5...E36E

27.9997 ETH

Buy

Send

Swap

Assets

Activity

Contract Deployment

Dec 16 · remix.ethereum.org

-0 ETH

-0 ETH

Need help? Contact MetaMask Support