Ethereum Client Installation

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Genesis File

```json
1  {
2      "config": {
3          "chainId": 5777,
4          "homesteadBlock": 0,
5          "eip150Block": 0,
6          "eip155Block": 0,
7          "eip158Block": 0,
8          "byzantiumBlock": 0,
9          "constantinopleBlock": 0,
10         "petersburgBlock": 0,
11         "ethash": {}
12     },
13     "gasLimit": "0x47b760",
14     "difficulty": "0x44",
15     "alloc": {}
16  }
```

Initialize the network by initializing the genesis file

```
Select C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19043.1237]
(c) Microsoft Corporation. All rights reserved.

C:\Users\abhir\Music\EthereunmTest>geth --datadir data init genesis.json
INFO [09-23|20:32:25.993] Maximum peer count                       ETH=50 LES=0 total=50
INFO [09-23|20:32:26.021] Set global gas cap                       cap=50,000,000
INFO [09-23|20:32:26.027] Allocated cache and file handles         database=C:\Users\abhir\Music\EthereunmTest\data\geth\chaindata cache=16.00MiB handles=16
INFO [09-23|20:32:26.517] Writing custom genesis block
INFO [09-23|20:32:26.527] Persisted trie from memory database      nodes=0 size=0.00B time=0s gcnodes=0 gcsize=0.00B gctime=0s livenodes=1 livesize=0.00B
INFO [09-23|20:32:26.594] Successfully wrote genesis state         database=chaindata hash=a52950..55bbb6
INFO [09-23|20:32:26.603] Allocated cache and file handles         database=C:\Users\abhir\Music\EthereunmTest\data\geth\lightchaindata cache=16.00MiB handles=16
INFO [09-23|20:32:27.308] Writing custom genesis block
INFO [09-23|20:32:27.313] Persisted trie from memory database      nodes=0 size=0.00B time=0s gcnodes=0 gcsize=0.00B gctime=0s livenodes=1 livesize=0.00B
INFO [09-23|20:32:27.340] Successfully wrote genesis state         database=lightchaindata hash=a52950..55bbb6

C:\Users\abhir\Music\EthereunmTest>
```

Creating Ethereum Wallet Address

```
C:\Users\abhir\Music\EthereunmTest>
C:\Users\abhir\Music\EthereunmTest>geth --datadir data account new
INFO [09-23|20:35:25.416] Maximum peer count                       ETH=50 LES=0 total=50
Your new account is locked with a password. Please give a password. Do not forget this password.
Password:
Repeat password:

Your new key was generated

Public address of the key:   0xF7555109D6f08498036130AAe7705538E8919edE
Path of the secret key file: data\keystore\UTC--2021-09-23T15-05-35.486199200Z--f7555109d6f08498036130aae7705538e8919ede

- 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!


C:\Users\abhir\Music\EthereunmTest>
```

Starting the network

Staring the mining process

```
Microsoft Windows [Version 10.0.19043.1237]
(c) Microsoft Corporation. All rights reserved.

C:\Users\abhir\Music\EthereunmTest>geth attach ipc:\\.\pipe\geth.ipc
Welcome to the Geth JavaScript console!

instance: Geth/ABC/v1.10.8-stable-26675454/windows-amd64/go1.16.4
coinbase: 0xf7555109d6f08498036130aae7705538e8919ede
at block: 0 (Thu Jan 01 1970 05:30:00 GMT+0530 (IST))
 datadir: C:\Users\abhir\Music\EthereunmTest\data
 modules: admin:1.0 debug:1.0 eth:1.0 ethash:1.0 miner:1.0 net:1.0 personal:1.0 rpc:1.0 txpool:1.0 web3:1.0

To exit, press ctrl-d
> miner.start()
null
```

Mining process started

Terminating the mining process

```
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C:\Users\abhir\Music\EthereunmTest>geth attach ipc:\\.\pipe\geth.ipc
Welcome to the Geth JavaScript console!

instance: Geth/ABC/v1.10.8-stable-26675454/windows-amd64/go1.16.4
coinbase: 0xf7555109d6f08498036130aae7705538e8919ede
at block: 0 (Thu Jan 01 1970 05:30:00 GMT+0530 (IST))
 datadir: C:\Users\abhir\Music\EthereunmTest\data
 modules: admin:1.0 debug:1.0 eth:1.0 ethash:1.0 miner:1.0 net:1.0 personal:1.0 rpc:1.0 txpool:1.0 web3:1.0

To exit, press ctrl-d
> miner.start()
null
> miner.stop()
null
>
```

Mining process terminated

```
INFO [09-23|20:58:13.853] Generating DAG in progress               epoch=0 percentage=82 elapsed=2m19.343s
INFO [09-23|20:58:15.338] Generating DAG in progress               epoch=0 percentage=83 elapsed=2m20.828s
INFO [09-23|20:58:16.933] Generating DAG in progress               epoch=0 percentage=84 elapsed=2m22.423s
INFO [09-23|20:58:18.366] Generating DAG in progress               epoch=0 percentage=85 elapsed=2m23.856s
INFO [09-23|20:58:19.848] Generating DAG in progress               epoch=0 percentage=86 elapsed=2m25.338s
INFO [09-23|20:58:21.437] Generating DAG in progress               epoch=0 percentage=87 elapsed=2m26.927s
INFO [09-23|20:58:23.075] Generating DAG in progress               epoch=0 percentage=88 elapsed=2m28.565s
INFO [09-23|20:58:24.782] Generating DAG in progress               epoch=0 percentage=89 elapsed=2m30.271s
INFO [09-23|20:58:26.450] Generating DAG in progress               epoch=0 percentage=90 elapsed=2m31.940s
INFO [09-23|20:58:28.073] Generating DAG in progress               epoch=0 percentage=91 elapsed=2m33.563s
INFO [09-23|20:58:29.792] Generating DAG in progress               epoch=0 percentage=92 elapsed=2m35.282s
INFO [09-23|20:58:31.295] Generating DAG in progress               epoch=0 percentage=93 elapsed=2m36.784s
INFO [09-23|20:58:32.756] Generating DAG in progress               epoch=0 percentage=94 elapsed=2m38.245s
INFO [09-23|20:58:34.361] Generating DAG in progress               epoch=0 percentage=95 elapsed=2m39.850s
INFO [09-23|20:58:35.862] Generating DAG in progress               epoch=0 percentage=96 elapsed=2m41.351s
INFO [09-23|20:58:37.311] Generating DAG in progress               epoch=0 percentage=97 elapsed=2m42.800s
INFO [09-23|20:58:38.769] Generating DAG in progress               epoch=0 percentage=98 elapsed=2m44.258s
INFO [09-23|20:58:41.024] Generating DAG in progress               epoch=0 percentage=99 elapsed=2m46.514s
INFO [09-23|20:58:41.033] Generated ethash verification cache      epoch=0 elapsed=2m46.523s
```