

# TrueChain挖矿教程（docker版）

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## 安装docker

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ubuntu参考<https://blog.csdn.net/bingzhongdehuoyan/article/details/79411479>.

Mac参考[https://blog.csdn.net/jiang\\_xinxing/article/details/58025417](https://blog.csdn.net/jiang_xinxing/article/details/58025417).

Windows参考<http://www.runoob.com/docker/windows-docker-install.html>.

## 启动docker

---

```
service docker start
```

## pull初链镜像

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```
docker pull registry.cn-
hangzhou.aliyuncs.com/truechain_space/truechain_image:latest
```

## 更改镜像tag为getrue

---

```
docker tag registry.cn-hangzhou.aliyuncs.com/truechain_space/truechain_image
getrue
```

## 创建config文件

---

1. 创建truechain目录

```
mkdir truechain
```

2. 进入目录

```
cd truechain
```

3. 创建config文件，根据自己的需求配置。

1) 参与委员会竞选

```
vi config
```

将以下修改好的文件复制到config文件中

```
[Etrue]
EnableElection = true
Host = "124.251.110.179" // 将ip地址改成本机的外网ip
Etherbase = "0x58f5e2c7cf723c0e76ca1bc236bed39d2d82001d" // 此处为挖矿地址，切记设置改成自己的账户地址。
```

2) 非参与委员会竞选节点，只选择挖矿

```
vi config
```

将以下修改好的文件复制到config文件中

```
[Etrue]
Host = "124.251.110.177" // 将ip地址改成本机的公网ip
Etherbase = "0x58f5e2c7cf723c0e76ca1bc236bed39d2d82001d" // 此处为挖矿地址，切记设置改成自己的账户地址。
```

提醒：查询外网ip命令是：curl icanhazip.com

## 启动节点自动挖矿

启动挖矿的命令，根据节点的需求选择

### 参与委员会竞选节点挖矿

1. 进入truechain目录下，启动自动挖矿，根据节点需求启动命令。

1) 挖矿只挖水果

```
docker run -v $PWD:/truechain-engineering-code -it -p 30311:30311 -p 30310:30310 -p 30303:30303 -p 9215:9215 gettrue --datadir /truechain-engineering-code/data --config /truechain-engineering-code/config --testnet --mine --minefruit --election console
```

```

INFO [09-28|09:44:00.211] RLPx listener up self=enode://d002ee77cba6358f5a646064857eebe6c0952f89cca43916adc933baf7fbe8a3dd234de8a47ab952de8879c3978687cbb7044cd184df47a8aa14305a88a274e8@[::]:30303
DEBUG[09-28|09:44:00.211] Couldn't add port mapping proto=tcp ext port=30303 intport=30303 interface="UPnP or NAT-PMP" err="no UPnP or NAT-PMP router discovered"
INFO [09-28|09:44:00.213] CommitteeCh...
INFO [09-28|09:44:00.213] cannot load committeeNode config file.
INFO [09-28|09:44:00.213] CommitteeStart...
INFO [09-28|09:44:00.213] cannot load committeeNode config file.
INFO [09-28|09:44:00.213] Starting mining operation
INFO [09-28|09:44:00.213] __commit new work no fruits and fast block not start miner
Welcome to the Gettrue JavaScript console!

instance: Gettrue/v0.6.0-unstable-34dbfe43/linux-amd64/go1.9.3
coinbase: 0x58f5e2c7cf723c0e76ca1bc236bed39d2d82001d
at block: 0 (Thu, 01 Jan 1970 08:00:00 CST)
datadir: /home/ubuntu/goSpace/src/github.com/truechain/truechain-engineering-code/data
modules: admin:1.0 debug:1.0 etrue:1.0 miner:1.0 net:1.0 personal:1.0 rpc:1.0 txpool:1.0 web3:1.0

```

```

INFO [09-28|02:07:16.407] Imported new fast chain segment 1564 hash=84bebc...596d81 cache=0.00B
INFO [09-28|02:07:19.944] mine fruit to del fast block pending
INFO [09-28|02:07:26.416] Imported new fast chain segment 1566 hash=460cc2...a54d32 cache=0.00B
INFO [09-28|02:07:29.596] mine fruit to del fast block pending
INFO [09-28|02:07:32.628] 🍒 ----mined fruit
INFO [09-28|02:07:34.960] mine fruit to del fast block pending
INFO [09-28|02:07:36.413] Imported new fast chain segment 1568 hash=240eb6...e05136 cache=0.00B
INFO [09-28|02:07:36.414] star commit new work fastBlockCh
INFO [09-28|02:07:36.414] $pending Fast Blocks
INFO [09-28|02:07:36.415] ___Commit new mining work iff=666 elapsed=1.761ms
INFO [09-28|02:07:36.416] start to mine and to be consensus
INFO [09-28|02:07:39.817] mine fruit to del fast block pending
INFO [09-28|02:07:45.759] mine fruit to del fast block pending
INFO [09-28|02:07:46.562] Imported new fast chain segment 1570 hash=47fab7...c7bf16 cache=0.00B
INFO [09-28|02:07:51.305] mine fruit to del fast block pending
INFO [09-28|02:07:51.635] 🍒 ----mined fruit
INFO [09-28|02:07:56.308] mine fruit to del fast block pending
INFO [09-28|02:07:56.410] Imported new fast chain segment 1572 hash=bbe7f2...534ee4 cache=0.00B
INFO [09-28|02:07:56.410] star commit new work fastBlockCh
INFO [09-28|02:07:56.410] $pending Fast Blocks
INFO [09-28|02:07:56.412] ___Commit new mining work

blocks=2 txs=0 mgas=0.000 elapsed=661.611µs mgasps=0.000 number=
fb number=1563
blocks=2 txs=0 mgas=0.000 elapsed=554.235µs mgasps=0.000 number=
fb number=1564
number=1562 diff=1000 hash=b217a7...2bf69b signs=12
fb number=1565
blocks=2 txs=0 mgas=0.000 elapsed=684.959µs mgasps=0.000 number=
min fb num=1566 ---- max fb num=1568
number=9 txs=0 uncles=0 fruits=0 fastblock=1566 diff=588737 fd
block=9 difficulty =588737
fb number=1566
fb number=1567
blocks=2 txs=0 mgas=0.000 elapsed=615.667µs mgasps=0.000 number=
fb number=1568
number=1566 diff=666 hash=630752...76e8a4 signs=12
fb number=1569
blocks=2 txs=0 mgas=0.000 elapsed=970.881µs mgasps=0.000 number=
min fb num=1570 ---- max fb num=1572
number=9 txs=0 uncles=0 fruits=0 fastblock=1570 diff=588659 fd

```

## 2) 挖矿水果和区块

```

docker run -v $PWD:/truechain-engineering-code -it -p 30311:30311 -p 30310:30310 -p 30303:30303 -p 9215:9215 gettrue --datadir /truechain-engineering-code/data --config /truechain-engineering-code/config --testnet --mine --election console

```

## 2. 解析命令

-p 将容器中的端口映射到宿主机  
--datadir 数据存储的文件夹

--minefruit 指定挖矿只挖水果

--election 本节点参与委员会竞选

## 非参与委员会竞选节点挖矿

1.进入truechain目录下，启动自动挖矿，根据节点需求启动命令。

### 1) 挖矿只挖水果

```
docker run -v $PWD:/truechain-engineering-code -it -p 30311:30311 -p 30310:30310 -p 30303:30303 -p 9215:9215 getrue --datadir /truechain-engineering-code/data --config /truechain-engineering-code/config --testnet --mine --minefruit console
```

```
INFO [09-28|02:14:09.100] RLPX listener up                                     self=enoae://za008c/ze0/tat//08//0D04/0T4DD20a3de38
d0eb7af8f04c3b8fea7d3c3a7c82e0307f0f5df182cd9792177a038e8b8b70e679a7f615edebe9dba0440cd860[::]:30303
INFO [09-28|02:14:09.101] =====get election msg 2 CommitteeSwitchover canStart=1 shoutstart=0 mining=0
INFO [09-28|02:14:09.101] =====get election msg 1 CommitteeStart canStart=1 shoutstart=0 mining=0
INFO [09-28|02:14:09.103] start miner --miner start function
INFO [09-28|02:14:09.103] Starting mining operation
INFO [09-28|02:14:09.103] __commit new work no fruits and fast block not start miner
INFO [09-28|02:14:09.103] node not in pbft member                                committeeId=0
Welcome to the Getrue JavaScript console!

instance: Getrue/v0.8.0-unstable/linux-amd64/go1.10.4
coinbase: 0x58f5e2c7cf723c0e76ca1bc236bed39d2d82001d
at block: 0 (Tue, 25 Sep 2018 16:00:00 UTC)
datadir: /truechain-engineering-code/data
modules: admin:1.0 debug:1.0 etrue:1.0 miner:1.0 net:1.0 rpc:1.0 txpool:1.0 web3:1.0

> INFO [09-28|02:14:34.123] Peer connected success
0-unstable-4745c66c/linux-amd64/go1.10 RemoteAddr=47.92.124.238:9215           id=0cda8bf4e1cca06d conn=dyndial name=Getrue/v0.8.
INFO [09-28|02:14:34.126] Peer connected success
unstable-4745c66c/linux-amd64/go1.10 RemoteAddr=47.92.212.44:9215             id=ac3370e61fcf5c51 conn=dyndial name=Getrue/v0.8.0-
INFO [09-28|02:14:34.129] Peer connected success
unstable-4745c66c/linux-amd64/go1.10 RemoteAddr=47.92.4.244:9215              id=0101e8580b1ee536 conn=dyndial name=Getrue/v0.8.0-
INFO [09-28|02:14:34.129] Peer connected success
unstable-4745c66c/linux-amd64/go1.10 RemoteAddr=47.92.221.190:9215            id=5b1e518049e36c97 conn=dyndial name=Getrue/v0.8.0-
INFO [09-28|02:14:34.188] Peer connected success
unstable-4745c66c/linux-amd64/go1.10 RemoteAddr=47.92.164.30:9215             id=77047a2cd053c2b2 conn=dyndial name=Getrue/v0.8.0-
WARN [09-28|02:14:34.241] VerifyFreshness get pointer failed.                   fruit=9 number=1 pointer=1cad10..423f8c
INFO [09-28|02:14:34.243] validateFruit verify freshness err
b4f0

INFO [09-28|02:07:16.407] Imported new fast chain segment
1564 hash=84bebc...596d81 cache=0.00B                                         blocks=2   txs=0 mgas=0.000 elapsed=661.611µs mgasps=0.000 number=
INFO [09-28|02:07:19.944] mine fruit to del fast block pending
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1566 hash=460cc2...a54d32 cache=0.00B                                         fb number=1563
INFO [09-28|02:07:29.596] mine fruit to del fast block pending
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INFO [09-28|02:07:36.414] star commit new work fastBlockCh
INFO [09-28|02:07:36.414] Spending Fast Blocks
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fb number=1566
number=1566 diff=666     hash=630752...76e8a4 signs=12
fb number=1569
blocks=2   txs=0 mgas=0.000 elapsed=970.881µs mgasps=0.000 number=
min fb num=1570 ---- max fb num=1572
number=9   txs=0 uncles=0 fruits=0 fastblock=1570 diff=588659 fd
```

## 2) 挖矿水果和区块

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- election 本节点参与委员会竞选

## 进入节点控制台

1. 查询挖矿的coinbase地址: etrue.coinbase
2. 查询账户余额: etrue.getBalance("账户地址")//账户地址就是自己的挖矿地址
3. 停止挖矿: miner.stop()
4. 控制台重新启动挖矿, 括号内可以添加数字, 表示开启几个线程: miner.start()
5. 退出控制台并推出程序: exit