

```
[rickey@vultr testhop]$ ./HOP.lnx -v  
1.0.0_gr
```

1. Please make sure the version number is 1.0.0\_gr

2. Install BAS

2.1 Copy BAS to server

2.2 Start BAS: `nohup ./BAS> bas.log 2>&1 &`

```
[rickey@vultr ~]$ tail -f bas.log  
nohup: ignoring input  
  
>>>>>>>>>BAS start at pid(15800)<<<<<<<<<<
```

2.3 Check whether BAS has started `tail -f bas.log` correctly. If there is no error, it means it has started correctly.

3. Install Pool

3.1 Check if the version number is 1.0.0\_gr

3.2 Initialize Pool

`./Pool init -p 123`

Where -p represents a password that is required to save the created wallet.

3.3 Change the system configuration,

`vim .pool/conf.json`

Modify "basip" to: 167.179.75.39

Modify "ethereum/3" to:

```
{  
    "id": 3,  
    "apiUrl": "https://ropsten.infura.io/v3/  
d64d364124684359ace20feae1f9ac20",  
    "paymentService": "0x72d5f9f633f537f87ef7415b8bdbfa438d0a1a6c",  
    "token": "0xad44c8493de3fe2b070f33927a315b50da9a0e25"  
}
```

[illegible]

As shown in the figure after modification:

### 3.4 Register Pool to BAS

```
./Pool bas -e "jpv2@hop.com" -n "jpv2_gr" -p 123 -i 198.13.57.160 -u http://jpv2.hop.com
```

Where -i represents the IP address of the external network interface of the Pool

```
[rickey@piratepoolv2 ~]$ ./Pool bas -h
TODO:..

Usage:
  Pool bas [flags]

Flags:
  -b, --bas string      BAS IP to save and query, default from conf file
  -e, --email string    email for contacting pool's administrator
  -h, --help            help for bas
  -n, --name string     pool name
  -p, --password string Pool's block chain password'
  -i, --pool-ip string  Pool's ip for it's block chain address
  -u, --url string      website address for pool

[rickey@piratepoolv2 ~]$ ./Pool bas -e "jpv2@hop.com" -n "jpv2_gr" -p 123 -i 198.13.57.160 -u http://jpv2.hop.com
198.13.57.160 16
conf init success

+++++
+PoolVersion: 1.0.0_gr+
+DebugMode: false+
+LogLevel: INFO+
+Token:
+++++
+NetworkID: 1+
+EthApiUrl: https://mainnet.infura.io/v3/fe5ffffba0bf46bb9dc27fd5e04cd6cb+
+MicroPaySys: 0xBAbAbabAbabaBAbAbABabaBAbAbaBaBAbABaBa+
+Token: 0xa57c4e2B4C3ef8C796a17438197087F3B4189FE9+
+++++
+
+++++

log init success
0xA5226f019847fAac5bcdce67667E1d8f61e8Eac1 20
reg success!
```

The command succeeded screenshot as follows:

### 3.5 Transfer appropriate eth as gas, transfer at least 330 HOP for pool registration

```
[rickey@piratepoolv2 ~]$ cat .pool/wallet.json
{
  "version": 1,
  "mainAddress": "0xa5226f019847faac5bcdce67667e1d8f61e8eac1",
  "crypto": {
    "cipher": "aes-128-ctr",
    "ciphertext": "ef4c242927dabf7c204df11da86a458776384b0391e0b980399621a34a4819e3",
    "cipherparams": {
      "iv": "a250cb901ce41d14b319a582d5d8c4da"
    },
    "kdf": "scrypt",
    "kdfparams": {
      "dklen": 32,
      "n": 262144,
      "p": 1,
      "r": 8,
      "salt": "0b6ba2948cca1876d09404ca42c716c04fea803b35fcab26e1730234cb695758"
    },
    "mac": "e2015cca59daddc685d78a940619a71c010b05fff90f6d2c7f8eebcfc5af01cd"
  },
  "subAddress": "H0HKZbWqGB7r8EVhm2FYuQNTTBQ9PmzpK7XLb5B8biFh3A",
  "subCipher": "2n8iuunvD8kWD82iEdMLrnfcAxa4GcUu9NKTE7DAyjpibvZNSwcAisueBMYNDQPAm2NnoHydv75R2uP"
}
[rickey@piratepoolv2 ~]$
```

### 3.5.1 Check Pool's Ethereum address:

Where mainAddress is the Ethereum address of Pool

### 3.5.2 Check the ETH and HOP tokens transferred to the Pool

./Pool eth balance -d

As shown in the figure, hop balance represents HOP tokens and eth balance represents ETH

```
[rickey@piratepoolv2 ~]$ ./Pool eth balance -d
conf init success

+++++
+PoolVersion: 1.0.0_gr+
+DebugMode: true+
+LogLevel: INFO+
+Token:
+++++
+NetworkID: 3+
+EthApiUrl: https://ropsten.infura.io/v3/d64d364124684359ace20feae1f9ac20+
+MicroPaySys: 0x72D5f9f633f537F87Ef7415B8Bdbfa438D0a1a6c+
+Token: 0xAd44c8493dE3FE2B070f33927A315b50Da9a0e25+
+++++
+
+++++

log init success
0xA5226f019847fAac5bcdce67667E1d8f61e8Eac1
main address:-> 0xA5226f019847fAac5bcdce67667E1d8f61e8Eac1
payer address:-> 0xA5226f019847fAac5bcdce67667E1d8f61e8Eac1
hop address:-> H0HKZbWqGB7r8EVhm2FYuQNTTBQ9PmzpK7XLb5B8biFh3A
official web:-> http://jpv2.hop.com
pool's name:-> jpv2_gr
pool's email:-> jpv2@hop.com
hop balance:-> 60000000000000000000
eth balance:-> 5000000000000000000
contract approved:-> 0
```

### 3.6 Register Pool to the contract

./Pool -d -t 300

Where -t represents the HOP value mortgaged to the contract, which must be greater than or equal to 300.

```
[rickey@piratepoolv2 ~]$ ./Pool eth reg -d -t 300
conf init success

+++++
+PoolVersion: 1.0.0_gr+
+DebugMode: true+
+LogLevel: INFO+
+Token:
+++++
+NetworkID: 3+
+EthApiUrl: https://ropsten.infura.io/v3/d64d364124684359ace20feae1f9ac20+
+MicroPaySys: 0x72D5f9f633f537F87Ef7415B8Bdbfa438D0a1a6c+
+Token: 0xAd44c8493dE3FE2B070f33927A315b50Da9a0e25+
+++++
+
+++++

log init success
Password=>
Approving .....
0x57db34be4727d2d374e1c067e05631012f19c0d241f6d9e11dec77452071aa1b

Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Approve success.....
registering.....
register success
0xc934b0f8ae3bf9ce8ed91e9b4a6ecef2d61e59a5360fbad376e00d32f8035c82
```

The command line will prompt for a password, enter the password and press Enter. The result is shown in the figure:

### 3.7 Start Pool

nohup ./Pool -d -p123> pool.log 2>&1 &

Where -p is the wallet password

3.8 Check the log to see if there is any error. If there is no error, it means that it started normally.

```

nohup: ignoring input
conf init success

+++++
+PoolVersion: 1.0.0_gr+
+DebugMode: true+
+LogLevel: INFO+
+Token:
+++++
+NetworkID: 3+
+EthApiUrl: https://ropsten.infura.io/v3/d64d364124684359ace20feae1f9ac20+
+MicroPaySys: 0x72D5f9f633f537F87Ef7415B8Bdbfa438D0a1a6c+
+Token: 0xAd44c8493dE3FE2B070f33927A315b50Da9a0e25+
+++++
+
+++++

log init success
load from db start: DBTxDataKey_0x72D5f9f633f537F87Ef7415B8Bdbfa438D0a1a6c_
load from db limit: DBTxDataKey_0xffffffffffffffffffffffffffffffffffffffff_

>>>11-23/09:08:41 mchain.go:134          newChain          [NOTI] Create micro chain sync worker s

Log service starting...

>>>>>>>>>miner pool start at pid(3400220)<<<<<<<<<
try to start batch MinerEvent
try to start watch MinerEvent
try to start batch PoolClaim
try to start watch PoolClaim
try to start watch Charge
try to start batch Charge
starting batch Charge
start sync server
add handle /auth/token
add handle /auth/verify
add handle /pool/basic
add handle /miner/count
add handle /miner/info
add handle /user/count
add handle /user/info
2020/11/23 09:08:42 Pool Management Web Server Start at: :42888
starting batch MinerEvent

```

tail -f pool.log

#### 4. Install Miner

##### 4.1 Initialization

./HOP init -p 123

```

[rickey@vultrguest ~]$ ./HOP.lnx init -p 123
Create wallet success!

```

Where -p represents a password that is required to save the created wallet. as the picture shows:

##### 4.2 Modify the configuration file

vim .hop/conf.json

Modify "BAS" to 167.179.75.39

Other configurations are as follows:

```

"apiUrl": "https://ropsten.infura.io/v3/d64d364124684359ace20feae1f9ac20",
"paymentService": "0x72d5f9f633f537f87ef7415b8bdbfa438d0a1a6c",

```

"token": "0xad44c8493de3fe2b070f33927a315b50da9a0e25"

```
[rickey@vultrguest ~]$ cat .hop/conf.hop
{
  "BAS": "167.179.75.39",
  "id": 3,
  "apiUrl": "https://ropsten.infura.io/v3/d64d364124684359ace20feae1f9ac20",
  "paymentService": "0x72d5f9f633f537f87ef7415b8bdbfa438d0a1a6c",
  "token": "0xad44c8493de3fe2b070f33927a315b50da9a0e25"
}[rickey@vultrguest ~]$
```

The modified result as shown in the figure:

#### 4.3 Register Miner on BAS

`./HOP bas -l "jpv2-tk" -m 139.180.194.58 -p123`

where `-l` represents the location information of the miner, which can be filled in at most eight bytes, and `-m` represents the external network service address of the miner.

```
[rickey@vultrguest ~]$ ./HOP.lnx bas -l "jpv2-tk" -m 139.180.194.58 -p123
139.180.194.58 16
reg success!
```

After registration, as shown in the figure below, the registration is successful:

#### 4.4 Check Miner address:

`./HOP show address`

```
[rickey@vultrguest ~]$ ./HOP.lnx show address
0xD3F558a17eE1AabE0780fEc07313929d1CD67F9E
H02ZLZYEpwV7iJMt9EdN8tzc51V8MDXQsHBtoS5xuJfrzj
0x172463f937f9097d29418c03bc6155e17fd7bf0acc2809e7b2c0a4105674d838
```

As shown below:

the first line is the Ethereum address, and the second line is the micropayment address, which is used to register to Ethereum.

#### 4.5 Register on Ethereum

Copy the micro-payment address on the miner, switch to the pool, and use the command on the pool to register the miner to Ethereum.

Command Line:

`./Pool eth join -d -p123 -s H02ZLZYEpwV7iJMt9EdN8tzc51V8MDXQsHBtoS5xuJfrzj -t 30`

Where `-s` represents the micropayment address of the miner, and `-t` represents the hop tokens that the miner needs to mortgage

The command operation is shown in the figure below:

```

[rickey@piratepoolv2 ~]$ ./Pool eth join -d -p123 -s H02ZLZYEpwV7iJMt9EdN8tzC51V8MDXQsHBtoS5xuJfrzj -t 30
conf init success

+++++
+PoolVersion: 1.0.0_gr+
+DebugMode: true+
+LogLevel: INFO+
+Token:
+++++
+NetworkID: 3+
+EthApiUrl: https://ropsten.infura.io/v3/d64d364124684359ace20feae1f9ac20+
+MicroPaySys: 0x72D5f9f633f537F87Ef7415B8Bdbfa438D0a1a6c+
+Token: 0xAd44c8493dE3FE2B070f33927A315b50Da9a0e25+
+++++
+
+++++

log init success
Approving .....
0x627fa7434465a7ca9467658d16ff395a5a5e3688720a964ae0463a7800c2b439

Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Tx is in process: not found
Approve success.....
Joining pool.....
join success
0xb751a735bcfe83cac1f13dc05d3c566417738f35db5d25917101892c032597af

```

#### 4.6 Start the miner

nohup ./HOP.lnx -p123 >hop.log 2>&1 &

```

[rickey@vultrguest ~]$ nohup ./HOP.lnx -p123 >hop.log 2>&1 &
[1] 2055806
[rickey@vultrguest ~]$ tail -f hop.log

```

#### 4.7 Check whether the miner has started successfully

```

[rickey@vultrguest ~]$ tail -f hop.log
+++++
+NetworkID: 3+
+EthApiUrl: https://ropsten.infura.io/v3/d64d364124684359ace20feae1f9ac20+
+MicroPaySys: 0x72D5f9f633f537F87Ef7415B8Bdbfa438D0a1a6c+
+Token: 0xAd44c8493dE3FE2B070f33927A315b50Da9a0e25+
+++++

log init success

>>>>>>>>>miner start at pid(2055806)<<<<<<<<<

```