

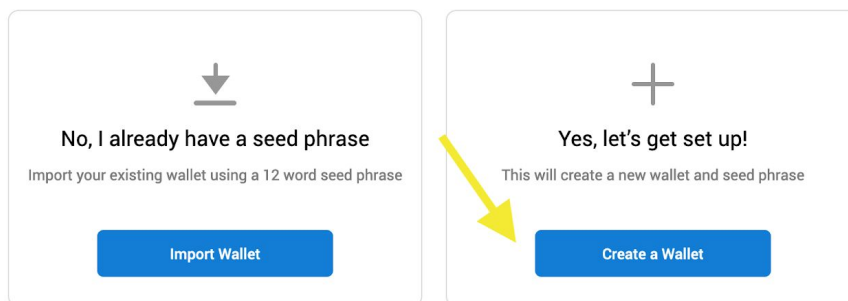
Setup to run Maestro

Objective: The following guide will help you setup your environment to run Maestro. For this guide you will need access to the internet, keep in mind some networks may prevent you from downloading certain dependencies.

1. **Download Firefox** browser and install ([mozilla.org](https://www.mozilla.org))
2. **Download metamask** extension
<https://addons.mozilla.org/en-US/firefox/addon/ether-metamask/>
 - a. Once metamask is downloaded click “create a wallet”



New to MetaMask?



- b. create a password



< Back

Create Password

New Password (min 8 chars)

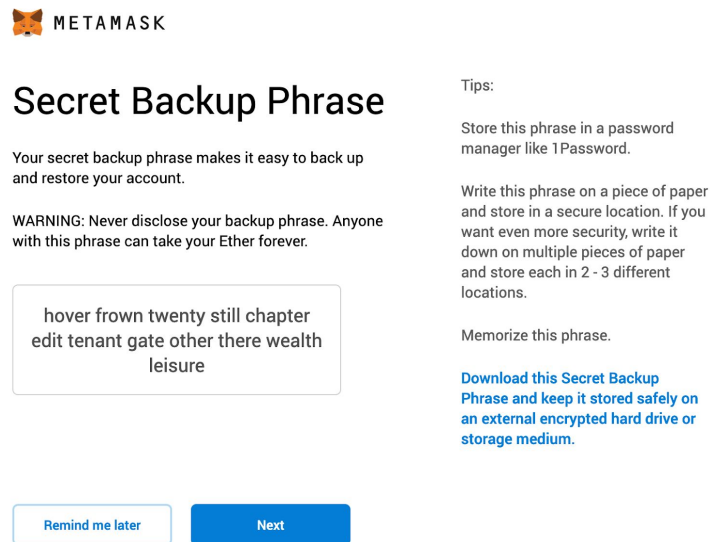
Confirm Password



I have read and agree to the [Terms of Use](#)

Create

- c. Save the secret backup phrase in case you lose your password



The image shows the Metamask 'Secret Backup Phrase' screen. At the top is the Metamask logo. The main heading is 'Secret Backup Phrase'. Below it, a text block explains that the phrase is used to back up and restore the account. A warning states: 'WARNING: Never disclose your backup phrase. Anyone with this phrase can take your Ether forever.' A box contains the backup phrase: 'hover frown twenty still chapter edit tenant gate other there wealth leisure'. To the right, under 'Tips:', it advises storing the phrase in a password manager, writing it on paper in a secure location, and memorizing it. A blue link says 'Download this Secret Backup Phrase and keep it stored safely on an external encrypted hard drive or storage medium.' At the bottom are two buttons: 'Remind me later' and 'Next'.

SECRET BACKUP PHRASE

Your secret backup phrase makes it easy to back up and restore your account.

WARNING: Never disclose your backup phrase. Anyone with this phrase can take your Ether forever.

hover frown twenty still chapter
edit tenant gate other there wealth
leisure

Tips:

Store this phrase in a password manager like 1Password.

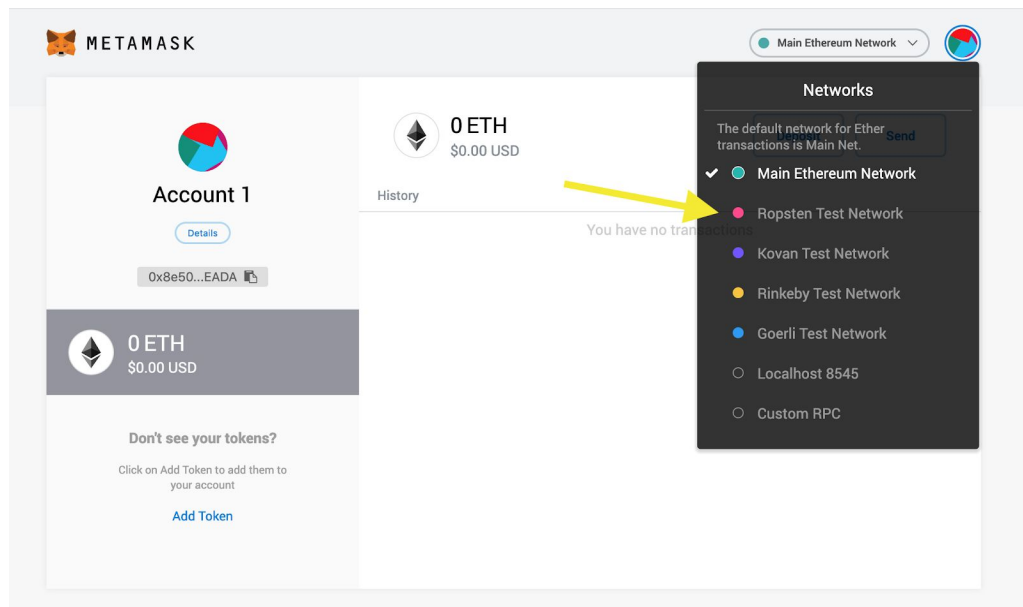
Write this phrase on a piece of paper and store in a secure location. If you want even more security, write it down on multiple pieces of paper and store each in 2 - 3 different locations.

Memorize this phrase.

[Download this Secret Backup Phrase and keep it stored safely on an external encrypted hard drive or storage medium.](#)

[Remind me later](#) [Next](#)

- d. Now that metamask is up and running switch to the ropsten test network



The image shows the Metamask interface. On the left, 'Account 1' is displayed with a balance of 0 ETH (\$0.00 USD). A yellow arrow points from the 'History' section to the 'Networks' dropdown menu on the right. The 'Networks' menu is open, showing a list of networks: 'Main Ethereum Network' (selected with a checkmark), 'Ropsten Test Network', 'Kovan Test Network', 'Rinkeby Test Network', 'Goerli Test Network', 'Localhost 8545', and 'Custom RPC'. The 'Main Ethereum Network' is currently selected.

Account 1

0 ETH
\$0.00 USD

History

You have no transactions

Networks

The default network for Ethereum transactions is Main Net.

- ✓ Main Ethereum Network
- Ropsten Test Network
- Kovan Test Network
- Rinkeby Test Network
- Goerli Test Network
- Localhost 8545
- Custom RPC

- e. Drip some ether from: <https://faucet.metamask.io/>
- f. Click "request 1 ether from faucet"

MetaMask Ether Faucet

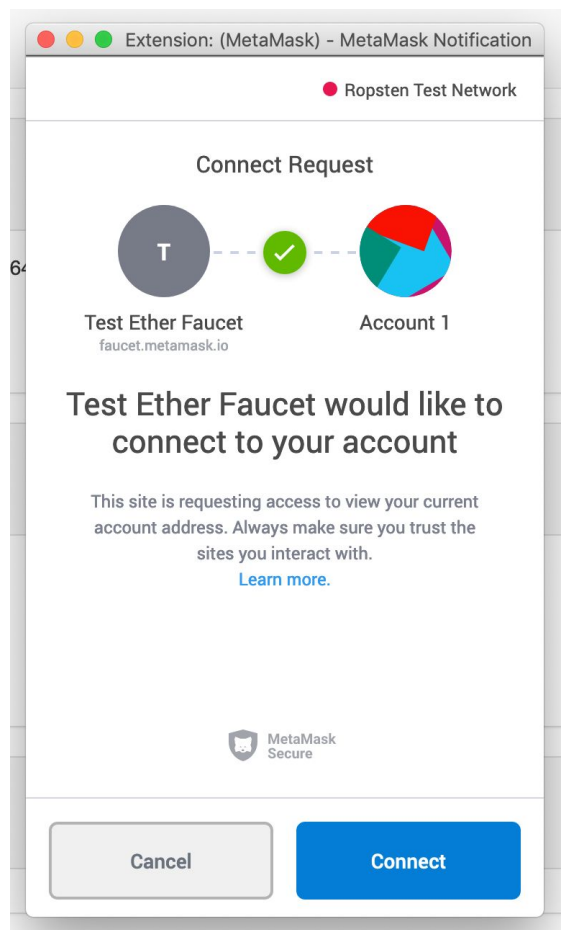
faucet

address: 0x81b7e08f65bdf5648606c89998a9cc8164397647
balance: 93999061.94 ether

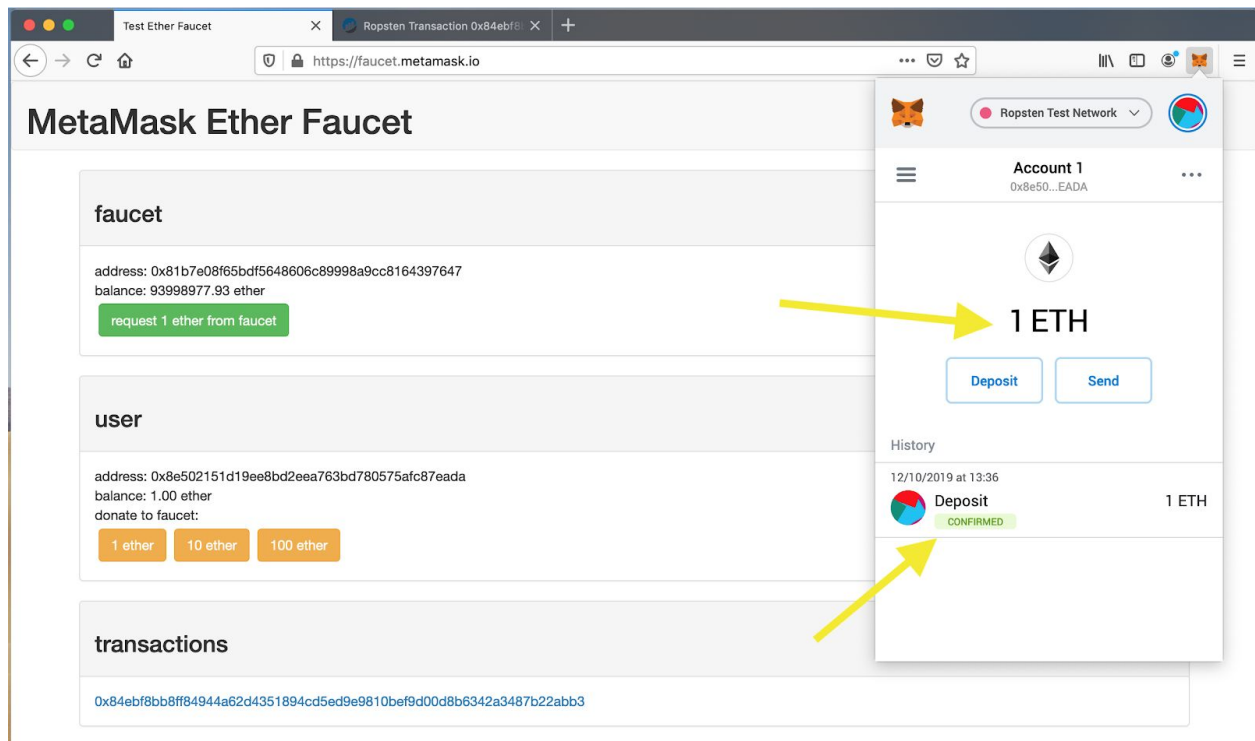
request 1 ether from faucet

user

- g. You should get a popup asking you whether you'd like to connect the faucet to your account



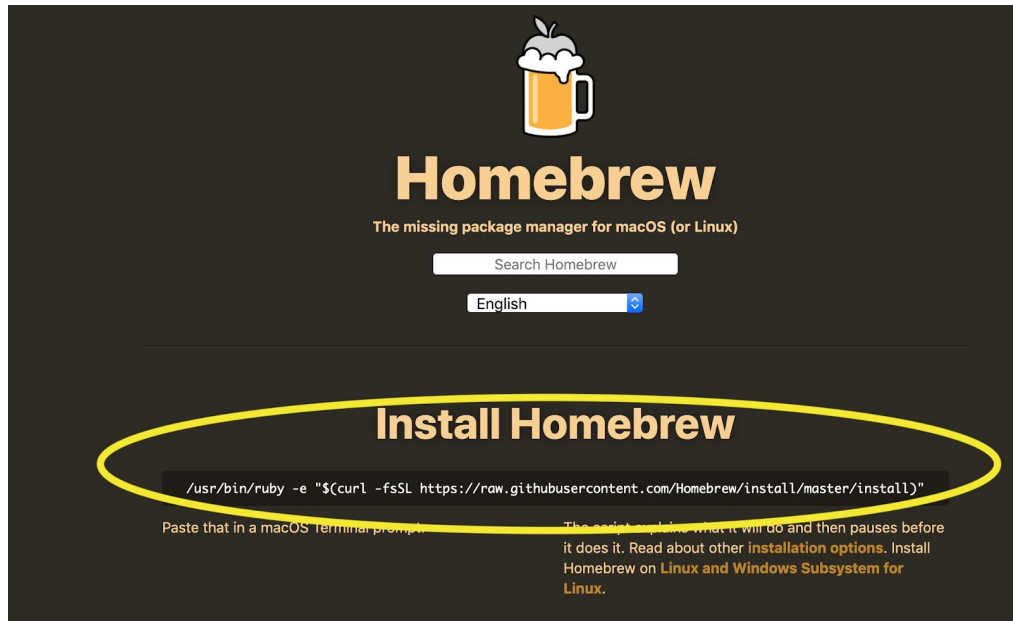
- h. click connect
- i. If the transaction is successful you should see the following in metamask, keep in mind the transaction may take a couple of minutes to process



- j. You can repeat the process of requesting more ether if you do not have enough ether to run transactions

3. Install homebrew

- a. In order to install homebrew you first need to open *terminal* application on your mac
- a. Next, go to: <http://brew.sh>
- b. copy the link and paste it into terminal



- c. hit return in terminal

```
/usr/local/share/zsh/site-functions/_brew
/usr/local/etc/bash_completion.d/brew
/usr/local/Homebrew
==> The following new directories will be created:
/usr/local/bin
/usr/local/etc
/usr/local/include
/usr/local/lib
/usr/local/sbin
/usr/local/share
/usr/local/var
/usr/local/opt
/usr/local/share/zsh
/usr/local/share/zsh/site-functions
/usr/local/var/homebrew
/usr/local/var/homebrew/linked
/usr/local/Cellar
/usr/local/Caskroom
/usr/local/Homebrew
/usr/local/Frameworks
==> The Xcode Command Line Tools will be installed.
Press RETURN to continue or any other key to abort
```

- d. enter your computer password if prompted, you will not see the password fill in as you type it but once you type the computer password hit enter
- e. It may take a few minutes to install, once installation is complete, you should see "installation successful" in the terminal application

```

endencies-path
==> Downloading https://homebrew.bintray.com/bottles-portable-ruby/portable-ruby-2.6.3
.mavericks.bottle.tar.gz
##### 100.0%
==> Pouring portable-ruby-2.6.3.mavericks.bottle.tar.gz
==> Homebrew is run entirely by unpaid volunteers. Please consider donating:
https://github.com/Homebrew/brew#donations
==> Tapping homebrew/core
Cloning into '/usr/local/Homebrew/Library/Taps/homebrew/homebrew-core'...
remote: Enumerating objects: 5104, done.
remote: Counting objects: 100% (5104/5104), done.
remote: Compressing objects: 100% (4900/4900), done.
remote: Total 5104 (delta 50), reused 314 (delta 8), pack-reused 0
Receiving objects: 100% (5104/5104), 4.15 MiB | 6.89 MiB/s, done.
Resolving deltas: 100% (50/50), done.
Checking out files: 100% (5121/5121), done.
Tapped 2 commands and 4886 formulae (5,146 files, 12.8MB).
Already up-to-date.
==> Installation successful!

==> Homebrew has enabled anonymous aggregate formulae and cask analytics.
Read the analytics documentation (and how to opt-out) here:
https://docs.brew.sh/Analytics

==> Homebrew is run entirely by unpaid volunteers. Please consider donating:
https://github.com/Homebrew/brew#donations
==> Next steps:
- Run `brew help` to get started
- Further documentation:
https://docs.brew.sh
mustafas-mbp:~ Akram$

```

4. Install Geth

a. Type the following in terminal:

i. `brew tap ethereum/ethereum`

```

Mustafas-MacBook-Pro:~ Akram$ brew tap ethereum/ethereum
==> Tapping ethereum/ethereum
Cloning into '/usr/local/Homebrew/Library/Taps/ethereum/homebrew-ethereum'...
fatal: unable to access 'https://github.com/ethereum/homebrew-ethereum/': Failed to connect to github.com port 443: Connection refused
Error: Failure while executing; `git clone https://github.com/ethereum/homebrew-ethereum /usr/local/Homebrew/Library/Taps/ethereum/homebrew-ethereum --depth=1` exited with 128.
Mustafas-MacBook-Pro:~ Akram$ brew tap ethereum/ethereum
Updating Homebrew...
==> Auto-updated Homebrew!
Updated 1 tap (homebrew/core).
==> Updated Formulae
bup                                frotz                             pdnsrec                          traefik@1

==> Tapping ethereum/ethereum
Cloning into '/usr/local/Homebrew/Library/Taps/ethereum/homebrew-ethereum'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 9 (delta 2), reused 2 (delta 0), pack-reused 0
Unpacking objects: 100% (9/9), done.
Warning: Aleth (formerly cpp-ethereum) has been removed from Homebrew. Please install binary releases from https://github.com/ethereum/aleth/releases.
Tapped 4 formulae (38 files, 36.8KB).
Mustafas-MacBook-Pro:~ Akram$

```

b. After the above command processes type the following

i. `brew install ethereum`

```
Mustafas-MacBook-Pro:~ Akram$ brew install ethereum
Updating Homebrew...
==> Auto-updated Homebrew!
Updated 1 tap (homebrew/core).
==> Updated Formulae
nsd                                                                    phpstan

==> Downloading https://homebrew.bintray.com/bottles/ethereum-1.9.9.mojave.bottle.tar.g
==> Downloading from https://akamai.bintray.com/ab/ab1b11ce6e0223524972556ba611ea9627db
##### 100.0%
==> Pouring ethereum-1.9.9.mojave.bottle.tar.gz
🍺 /usr/local/Cellar/ethereum/1.9.9: 19 files, 281.1MB
Mustafas-MacBook-Pro:~ Akram$
```

c. Now that both those commands successfully ran, we can then run the geth client


i. Type: `geth --syncmode light console` and hit enter

ii. You should see the following: ensure that at the top of terminal it says “geth --syncmode light console”



```
Akram — geth --syncmode light console — 135x28
Mustafas-MacBook-Pro:~ Akram$ geth --syncmode light console
INFO [12-10|19:25:38.669] Dropping default light client cache
INFO [12-10|19:25:38.670] Maximum peer count
INFO [12-10|19:25:38.708] Starting peer-to-peer node
INFO [12-10|19:25:38.708] Allocated cache and file handles
00MiB handles=5120
INFO [12-10|19:25:38.764] Writing default main-net genesis block
INFO [12-10|19:25:39.188] Persisted trie from memory database
nodes=12356 size=1.79MiB time=87.143606ms gcnodes=0 gcsz=0.00B gct
ime=0s livenodes=1 livesize=0.00B
INFO [12-10|19:25:39.188] Initialised chain configuration
config="{\"ChainID\": 1, \"Homestead\": 1150000, \"DAO\": 1920000, \"DAOSupport\": true, \"Constantinople\": 7280000, \"Petersburg\": 7280000, \"Istanbul\": 9069000, \"Muir
EIP150\": 2463000, \"EIP155\": 2675000, \"EIP158\": 2675000, \"Byzantium\": 4370000, \"Glacier\": 9200000, \"Engine\": \"ethash\"}"
INFO [12-10|19:25:39.189] Disk storage enabled for ethash caches
dir=/Users/Akram/Library/Ethereum/geth/ethash count=3
INFO [12-10|19:25:39.189] Disk storage enabled for ethash DAGs
dir=/Users/Akram/Library/Ethereum/geth/ethash count=2
INFO [12-10|19:25:39.189] Added trusted checkpoint
block=9043967 hash=831592.61abd4
INFO [12-10|19:25:39.190] Loaded most recent local header
number=0 hash=d4e567.cb8fa3 td=17179869184 age=50y8m0ld
INFO [12-10|19:25:39.190] Configured checkpoint registrar
address=0x9a9070028361f7AAbE83f2F2Dc07F82C4a98A02a signers=5 thresh
ld=2
net=enode://1509e90f29738aca8cd39a0ed685e344b117248b5f92e1782a33b6
163cf136519ce1e50d8defe2c70985207cb8cac8278c5dfcd936504ecd00f8db2f89511@[:]:30303
WARN [12-10|19:25:39.238] Light client mode is an experimental feature
seq=1 id=1b3befce132edd93 ip=127.0.0.1 udp=30303 tcp=30303
INFO [12-10|19:25:39.239] New local node record
self=enode://1509e90f29738aca8cd39a0ed685e344b117248b5f92e1782a33b6
INFO [12-10|19:25:39.240] Started P2P networking
url=/Users/Akram/Library/Ethereum/geth.ipc
INFO [12-10|19:25:39.241] IPC endpoint opened
reqid=3 t=19.683µs err="mining is not supported in light mode"
WARN [12-10|19:25:39.334] Served eth_coinbase
Welcome to the Geth JavaScript console!
```

iii. This terminal window will continue syncing with the blockchain and you should see it importing new blocks as it syncs



```
Akram — geth --syncmode light console — 135x28
9h16m
INFO [12-10|19:28:01.432] Generating ethash verification cache
epoch=302 percentage=93 elapsed=3.016s
INFO [12-10|19:28:01.682] Generated ethash verification cache
epoch=302 elapsed=3.266s
INFO [12-10|19:28:02.112] Imported new block headers
epoch=302 elapsed=651.482ms number=9044735 hash=7a66fd...364244 age=1w
7h38m
count=384 elapsed=639.611ms number=9045119 hash=fbf4f5...af26bf age=1w
5h57m
count=192 elapsed=353.782ms number=9045311 hash=2177af...29db9f age=1w
5h8m
count=576 elapsed=1.006s number=9045887 hash=a2ac21...05c4d7 age=1w
2h43m
count=960 elapsed=1.532s number=9046847 hash=5c899e...cd8eb6 age=6d
INFO [12-10|19:28:07.551] Imported new block headers
count=192 elapsed=287.140ms number=9047039 hash=449e9d...53ff86 age=6d
22h37m
count=1152 elapsed=1.681s number=9048191 hash=ae0f41...5bc41f age=6
21h46m
count=1344 elapsed=2.034s number=9049535 hash=5d147c...3a6d4c age=6
d10h44m
count=192 elapsed=325.103ms number=9049727 hash=5b2303...830445 age=6
INFO [12-10|19:28:11.605] Imported new block headers
count=2848 elapsed=3.021s number=9051775 hash=ff4a8...b11fa7 age=6
d10h52m
count=64 elapsed=116.347ms number=9051839 hash=2941f5...0c0899 age=6
INFO [12-10|19:28:11.948] Imported new block headers
count=768 elapsed=1.467s number=9052607 hash=d621b9...99d859 age=5
d10h4m
d21h46m
```

- iv. Keep this terminal window open and running
- v. If you shut down your computer or close this window at a future point, you can reinstate it by typing `geth --syncmode light console` in a terminal window