

How to become a validator on Ethereum Serenity Phase 0 Test Network

Based on the instruction on <https://prylabs.net/participate>

Recommended specifications

These hardware specifications are recommended, but not required to run the Prysm client.

- Processor: Intel Core i7-4770 or AMD FX-8310 or better
- Memory: 8GB RAM
- Storage: 100GB available space SSD
- Internet: Broadband connection

I am using a using a mac book pro with Core i7, 8GB Memory, and 50 GB storage available.

Before you start, you need to [have git installed](#)

Then, go through the following six steps.

1. Get Prysm

On mac, open terminal, copy and run the following commands

```
mkdir prysm && cd prysm
curl
https://raw.githubusercontent.com/prysmaticlabs/prysm/master/prysm.sh -
-output prysm.sh && chmod +x prysm.sh
```

2. Get GöETH — Test ether

This has no real value, only for test.

I am doing this with Firefox. First, get Metamask for Fox.

2

Get GöETH — Test ether

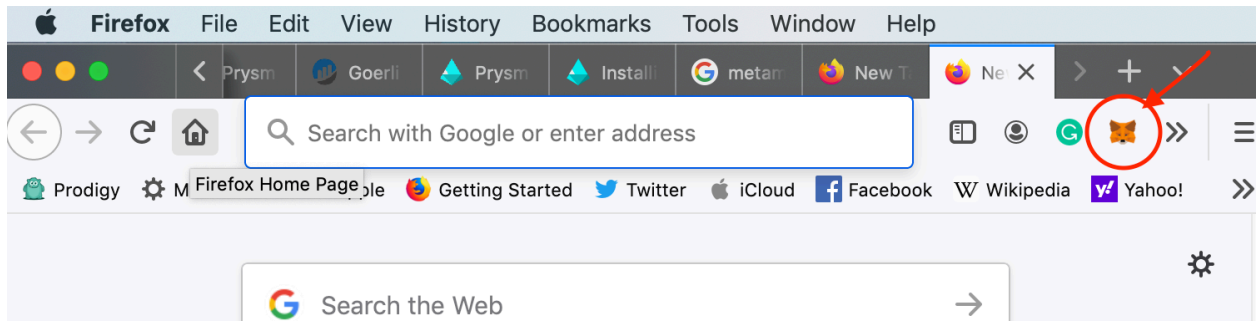
This test network leverages the Goerli test network to simulate validator deposits on a proof-of-work chain.

First, choose a web3 provider.

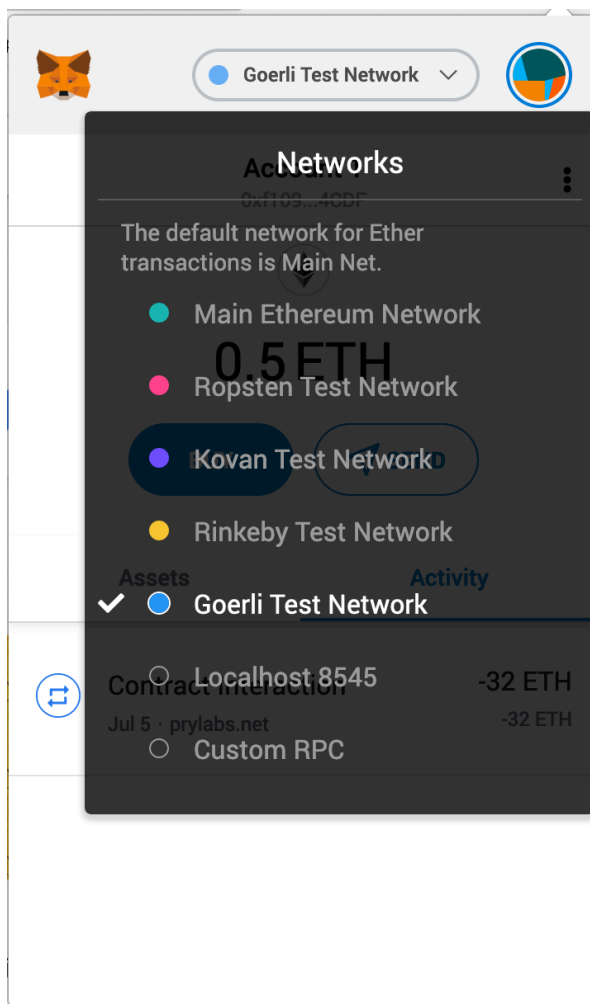
 METAMASK



You should see Metamask added to the Firefox.



Click on Metamask symbol to change the default network into Goerli Test Network.



Click on METAMASK to get test ether.

2 Get G  ETH — Test ether

This test network leverages the Goerli test network to simulate validator deposits on a proof-of-work chain.

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2 Get G  ETH — Test ether

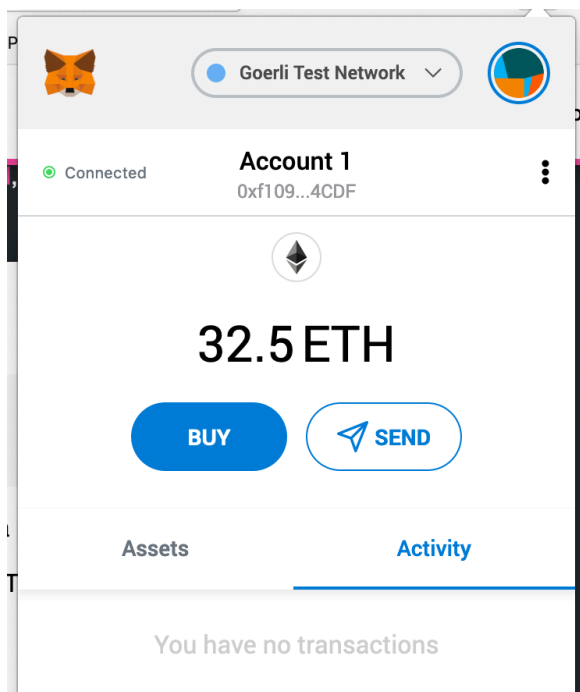
This test network leverages the Goerli test network to simulate validator deposits on a proof-of-work chain.

You are 0xf109599A8eEA1F980aE56a08F4b63d2323144CDF and you have 0.499999999997113408 G  ETH.

To deposit as a validator you'll need at least 32.0 G  ETH.

Need G  ETH?

Click on Need G  ETH, you METAMASK wallet should receive 32.5 ether within minutes.



3. Generate a validator public / private key
Under directory Prysm in terminal, run the following command:

```
./prysm.sh validator accounts create
```

You will get the following:

[2020-07-05 13:22:40] INFO accounts: Account creation complete! Copy and paste the raw c
issuing a transaction into the ETH1.0 deposit contract to activate your validator client

=====Deposit Data=====

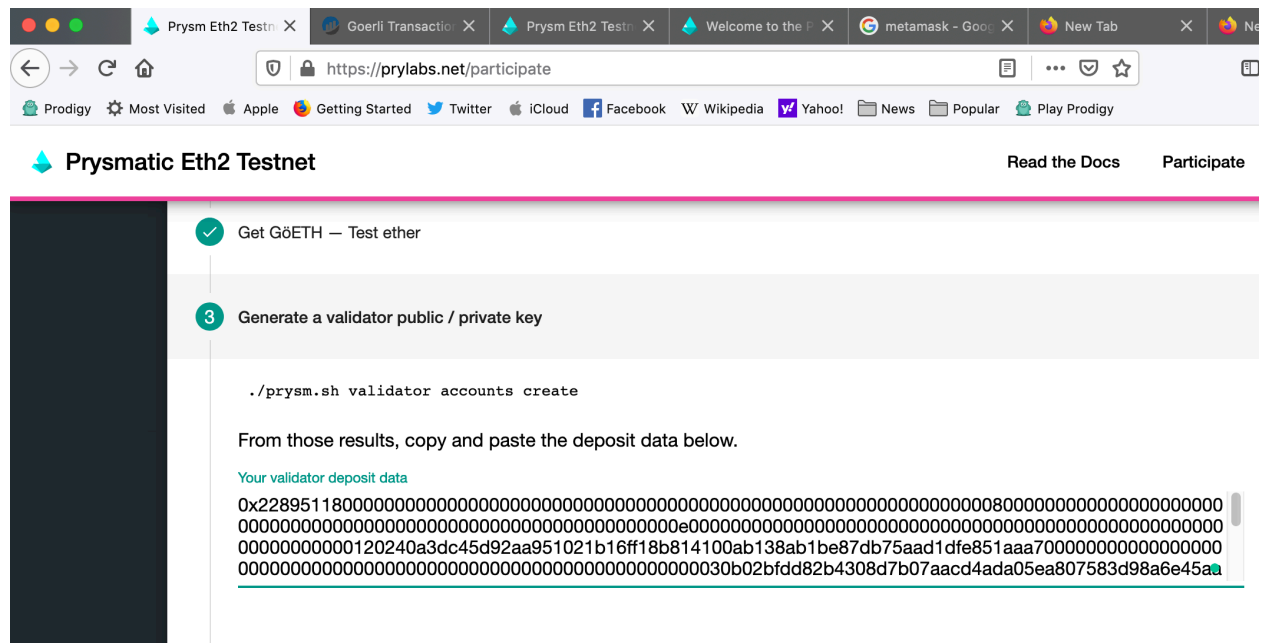
[illegible]

Enter the above deposit data into step 3 on <https://prylabs.net/participate>

[2020-07-05 13:22:40] INFO accounts: Public key:

0xb02bfdd82b4308d7b07aacd4ada05ea807583d98a6e45aa1d6cfa13bec596950d7eb5018a

Copy deposit data to web browser.



4. Start your beacon chain & validator clients

You'll need two terminals for this step.

```
./prysm.sh beacon-chain
```

```
./prysm.sh validator
```

The beacon-chain terminal

```
prysm — prysm.sh — 102x29

~/prysm — prysm.sh
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xce616294... 42471/156340 - estimated time remaining 47m12s blocksPerSecond=40.2 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xdab99844... 42472/156340 - estimated time remaining 47m9s blocksPerSecond=40.2 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0x4f5f66fc... 42473/156340 - estimated time remaining 47m5s blocksPerSecond=40.3 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xaa2c37a8... 42474/156340 - estimated time remaining 47m1s blocksPerSecond=40.4 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0x78a20401... 42475/156340 - estimated time remaining 46m58s blocksPerSecond=40.4 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xb8edf7ee... 42476/156340 - estimated time remaining 46m54s blocksPerSecond=40.5 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xe0d75de... 42477/156340 - estimated time remaining 46m51s blocksPerSecond=40.5 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xc7a3865b... 42478/156340 - estimated time remaining 46m47s blocksPerSecond=40.5 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0x1c7a7fba... 42479/156340 - estimated time remaining 46m44s blocksPerSecond=40.6 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xf16866cb... 42480/156340 - estimated time remaining 46m40s blocksPerSecond=40.6 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0x45a5305d... 42482/156340 - estimated time remaining 46m37s blocksPerSecond=40.7 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0x03171840... 42484/156340 - estimated time remaining 46m34s blocksPerSecond=40.8 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0xc221390e... 42485/156340 - estimated time remaining 46m30s blocksPerSecond=40.8 peers=31
[2020-07-05 15:25:34] INFO initial-sync: Processing block 0x1a2df670... 42486/156340 - estimated time remaining 46m27s blocksPerSecond=40.9 peers=31
```

The validator terminal

A screenshot of a macOS terminal window titled "prysm - prysm.sh — 102x29". The terminal displays a series of log entries from a script named "validator.py". Each entry consists of a timestamp in ISO format (YYYY-MM-DD HH:MM:SS), followed by the word "INFO" in green, and then the message "Waiting for beacon node to sync to latest chain head". The timestamps range from 2020-07-05 15:22:36 to 2020-07-05 15:25:18, with most entries occurring every 10 seconds. The terminal interface includes standard macOS window controls at the top left and a search icon at the top right. The background of the terminal has a dark theme with light-colored text.

```
[2020-07-05 15:22:36] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:22:42] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:22:48] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:22:54] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:00] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:06] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:12] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:18] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:24] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:30] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:36] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:42] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:48] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:23:54] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:00] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:06] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:12] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:18] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:24] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:30] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:36] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:42] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:48] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:24:54] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:25:00] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:25:06] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:25:12] INFO validator: Waiting for beacon node to sync to latest chain head
[2020-07-05 15:25:18] INFO validator: Waiting for beacon node to sync to latest chain head
```

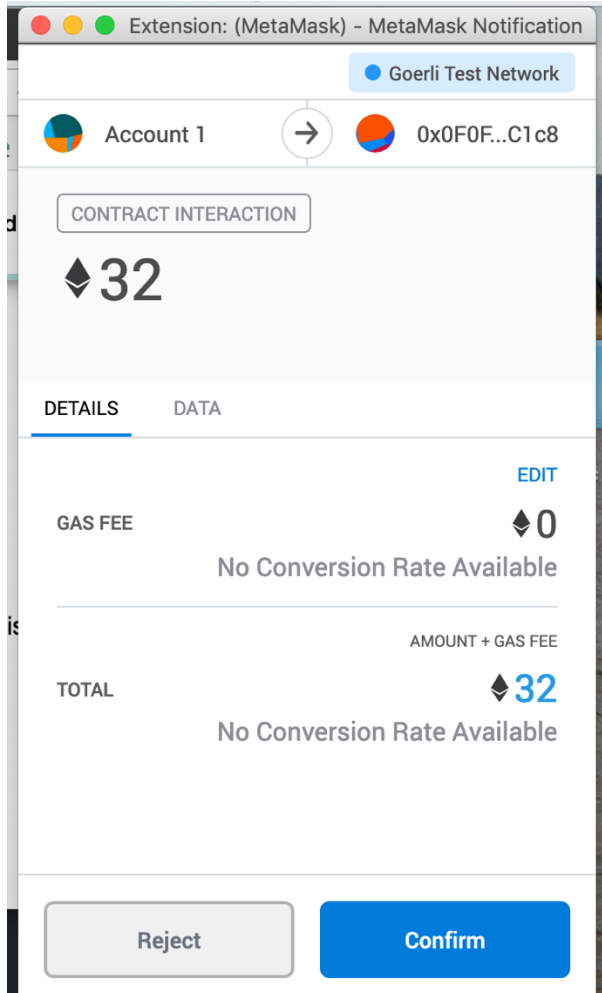
5. Send a validator deposit

5 Send a validator deposit

Now that you have everything running, make the validator deposit into the deposit contract. This transaction sends your deposit data and the deposit G  ETH to initiate a new validator into the system.

Make deposit

Click Make deposit, you will switch to METAMASK. Click confirm to transfer 32 eth.



6. Wait for your validator assignment

6 Wait for your validator assignment

Now, once your validator is up and running - you just have to wait for its activation! This process takes about 4-5 hours. You do not have to leave this window open after you submit your transaction. You can see the progress of your transaction on goerli.etherscan.io. You can also follow the current beacon chain in Bittfly's block explorer: <https://beaconcha.in> or on <https://beacon.etherscan.io>. Additionally, we recommend registering your node on [eth2stats](#).

Once you get assigned, you'll be able to see how your validator performs its responsibility of creating or voting on blocks as well as earning any rewards throughout its lifecycle. Your beacon chain client must be synced for the validator assignment to be seen by your validator client. If you leave your validator offline for a while, it will begin to accrue penalties from the network for being idle. Wanna learn more about Prysm and the state of the testnet? Join our discord channel [here](#) to chat!

Click on goerli.etherscan.io to see the transaction details.

The screenshot shows a web browser window with the address bar displaying <https://goerli.etherscan.io/tx/0x3e70747b145cdd15602a5079754392f11f07811f7ffaa16a7c410982067b230a>. The page has tabs for 'Overview', 'Event Logs (1)', and 'State Changes'. A red warning message at the top states: '[This is a Goerli Testnet transaction only]'. The transaction details are as follows:

Transaction Hash:	0x3e70747b145cdd15602a5079754392f11f07811f7ffaa16a7c410982067b230a
Status:	Success
Block:	2995434 (236 Block Confirmations)
Timestamp:	59 mins ago (Jul-05-2020 10:18:52 PM +UTC)
From:	0xf109599a8eea1f980ae56a08f4b63d2323144cdf
To:	Contract 0x0f0f0c0530007361933eab5db97d09acdd6c1c8 (Prysm Beacon Contract)
Beacon Chain Deposit:	Validator PubKey 0xb02bfdd82b4308d7b07aacd4ada05ea807583d98a6e45aa1d6cfa13bec596950d7eb5018e2236bc3
Value:	32 Ether (\$0.00)
Transaction Fee:	0.00000000000288 Ether (\$0.000000)

The end!

It takes hours for beacon node to sync to latest chain head and more time for deposit to be observed by beacon node

```

.. slot=157298
[2020-07-05 18:37:02] INFO blockchain: Finished applying state transition attestations=68 a
shings=0 voluntaryExits=0
[2020-07-05 18:37:12] INFO blockchain: Synced new block block=0x65753106... epoch=4915 fina
.. slot=157299
[2020-07-05 18:37:12] INFO blockchain: Finished applying state transition attestations=112 ;
ashings=0 voluntaryExits=0
[2020-07-05 18:37:25] INFO blockchain: Synced new block block=0xd06d5e0b... epoch=4915 fina
.. slot=157300
[2020-07-05 18:37:25] INFO blockchain: Finished applying state transition attestations=128 ;
ashings=0 voluntaryExits=0
[2020-07-05 18:37:33] INFO p2p: Peer Disconnected activePeers=28 peer=16Uiu2HAmShDRQAC4VHDg
[2020-07-05 18:37:36] INFO blockchain: Synced new block block=0x59cd6508... epoch=4915 fina
.. slot=157301
[2020-07-05 18:37:36] INFO blockchain: Finished applying state transition attestations=75 a
shings=0 voluntaryExits=0
[2020-07-05 18:37:43] INFO p2p: Peer Connected activePeers=29 direction=Outbound multiAddr=
ShDRQAC4VHDgQHiRxtw5JBtEVZvHgNDA7yAYziLzY5FY peer=16Uiu2HAmShDRQAC4VHDgQHiRxtw5JBtEVZvHgNDA7
[2020-07-05 18:38:01] INFO blockchain: Synced new block block=0x00d3051e... epoch=4915 fina
.. slot=157303
[2020-07-05 18:38:01] INFO blockchain: Finished applying state transition attestations=116 ;
ashings=0 voluntaryExits=0
[2020-07-05 18:38:11] INFO p2p: Peer Disconnected activePeers=28 peer=16Uiu2HAKvDJV2wMEgLVE
[2020-07-05 18:38:14] INFO blockchain: Synced new block block=0x881d4ee0... epoch=4915 fina
.. slot=157304
[2020-07-05 18:38:14] INFO blockchain: Finished applying state transition attestations=122 ;
ashings=0 voluntaryExits=0

```