

Setting up a Celestia light node

This tutorial will guide you through setting up a Celestia light node, which will allow you to perform data availability sampling (DAS) on Celestia's data availability (DA) network.

Overview of light nodes

Light nodes ensure data availability. This is the most common way to interact with Celestia networks.

Light nodes have the following behavior:

1. They listen for ExtendedHeaders
2. , i.e. wrapped "raw" headers, that notify Celestia nodes of new block headers and relevant DA metadata.
3. They perform DAS on the received headers

Hardware requirements

The following minimum hardware requirements are recommended for running a light node:

- Memory: 500 MB RAM (minimum)
- CPU: Single Core
- Disk: 50 GB SSD Storage
- Bandwidth: 56 Kbps for Download / 56 Kbps for Upload

Setting up your light node

This tutorial was performed on an Ubuntu Linux 20.04 (LTS) x64 instance machine.

Set up dependencies on the [setting up environment](#) page.

Install celestia-node

Install the celestia binary by [building and installing celestia-node](#) .

Initialize the light node

Run the following command:

```
Mainnet Beta
```

```
Mocha
```

```
Arabica sh celestia
```

```
light
```

```
init celestia
```

```
light
```

```
init sh celestia
```

```
light
```

```
init
```

```
--p2p.network
```

```
mocha celestia
```

```
light
```

```
init
```

```
--p2p.network
```

```
mocha sh celestia
```

```
light
```

```
init
```

```
--p2p.network
```

```
arabica celestia
```

```
light
```

```
init
```

```
--p2p.network
```

arabica The output in your terminal will show the location of your node store and config. It will also show confirmation that the node store has been initialized.

Start the light node

Start the light node with a connection to a validator node's gRPC endpoint (which is usually exposed on port 9090):

In order for access to the ability to get and submit state-related information, such as the ability to submit `PayForBlobs` transactions, or query for the node's account balance, a gRPC endpoint of a validator (core) node must be passed as directed below.

Refer to [the ports section of the celestia-node troubleshooting page](#) for information on which ports are required to be open on your machine.

To start the light node with a connection to a validator node's gRPC endpoint (which is usually exposed on port 9090):

```
sh celestia
```

```
light
```

```
start
```

```
--core.ip
```

```
< UR I
```

```
--p2p.network
```

```
< network k
```

```
celestia
```

```
light
```

```
start
```

```
--core.ip
```

```
< UR I
```

```
--p2p.network
```

```
< network k
```

```
TIP
```

You do not need to declare a network for Mainnet Beta. Refer to [the chain ID section on the troubleshooting page for more information](#) Using an RPC of your own, or one from the [list on the Mocha testnet page](#) or [list on the Arabica devnet page](#) , start your node.

For example, your command might look something like this for Mocha:

```
sh celestia
```

```
light
```

```
start
```

```
--core.ip
```

```
rpc-mocha.pops.one
--p2p.network
mocha celestia
light
start
--core.ip
rpc-mocha.pops.one
--p2p.network
mocha Or for Arabica:
sh celestia
light
start
--core.ip
validator-1.celestia-arabica-11.com
\ --p2p.network
arabica celestia
light
start
--core.ip
validator-1.celestia-arabica-11.com
\ --p2p.network
arabica
```

Keys and wallets

You can create your key for your node by running the following command with the [cel-key utility](#) in the celestia-node directory:

```
sh ./cel-key
add
< key-name
--keyring-backend
test
\ --node.type
light
--p2p.network
< network
./cel-key
add
< key-name
--keyring-backend
```

test

\ --node.type

light

--p2p.network

< network k

You can start your light node with the key created above by running the following command:

Mainnet Beta

Mocha

Arabica sh celestia

light

start

--keyring.accname

my_celes_key

\ --core.ip

consensus.lunaroasis.net celestia

light

start

--keyring.accname

my_celes_key

\ --core.ip

consensus.lunaroasis.net sh celestia

light

start

--keyring.accname

my_celes_key

\ --core.ip

rpc-mocha.pops.one

--p2p.network

mocha celestia

light

start

--keyring.accname

my_celes_key

\ --core.ip

rpc-mocha.pops.one

--p2p.network

mocha sh celestia

```
light
start
--keyring.accname
my_celes_key
\ --core.ip
validator-1.celestia-arabica-11.com
\ --p2p.network
arabica celestia
light
start
--keyring.accname
my_celes_key
\ --core.ip
validator-1.celestia-arabica-11.com
\ --p2p.network
```

arabica Once you start the light node, a wallet key will be generated for you. You will need to fund that address with testnet tokens to pay for PayForBlob transactions.

You can [find the address using the RPC CLI](#) or by running the following command in the celestia-node directory:

```
sh ./cel-key
list
--node.type
light
--keyring-backend
test
\ --p2p.network
< network k
    ./cel-key
list
--node.type
light
--keyring-backend
test
\ --p2p.network
< network k
```

Testnet tokens

You have two networks to get testnet tokens from:

- [Arabica devnet](#)
- [Mocha testnet](#)

You can request funds to your wallet address using the following command in Discord:

console request request Where is the celestia1** address generated when you created the wallet.

Optional: run the light node with a custom key

In order to run a light node using a custom key:

1. The custom key must exist inside the celestia light node directory at the correct path (default: ~/.celestia-light/keys/keyring-test
2.)
3. The name of the custom key must be passed upon start
4. , like so:

Mainnet Beta

Arabica

Mocha sh celestia

light

start

--core.ip

< UR I

\ --keyring.accname

< name-of-custom-key

\ celestia

light

start

--core.ip

< UR I

\ --keyring.accname

< name-of-custom-key

\ sh celestia

light

start

--core.ip

< UR I

\ --keyring.accname

< name-of-custom-key

\ --p2p.network

arabica celestia

light

start

--core.ip

< UR I

\ --keyring.accname

```
< name-of-custom-key
\ --p2p.network
arabica sh celestia
light
start
--core.ip
< URL
\ --keyring.accname
< name-of-custom-key
\ --p2p.network
mocha celestia
light
start
--core.ip
< URL
\ --keyring.accname
< name-of-custom-key
\ --p2p.network
mocha
```

Optional: start light node with SystemD

Follow [the tutorial on setting up the light node as a background process with SystemD](#).

Data availability sampling

With your light node running, you can check out [this tutorial on submitting PayForBlob transactions](#). [\[Edit this page on GitHub\]](#) Last updated: [Previous page Arabica devnet](#) [Next page Full node](#) [\[\]](#)