

# 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](#) [\[](#)