Run an Alfajores Full Node

How to run a full node on the Alfajores Network using a prebuilt Docker image.

What is a Full Node?

Full nodes play a special purpose in the Celo ecosystem, acting as a bridge between the mobile wallets (running as light clients) and the validator nodes.

tip If you'd prefer a simple, one click hosted setup for running a node on one of the major cloud providers (AWS and GCP), checkout ourhosted nodes documentation. info If you would like to keep up-to-date with all the news happening in the Celo community, including validation, node operation and governance, please sign up to ourCelo Signal mailing list .

You can add theCelo Signal public calendar as well which has relevant dates.

Prerequisites

- You have Docker installed.
- If you don’t have it already, follow the instructions hereGet Started with Docker
- . It will involve creating or signing in with a Docker account, downloading a desktop app, and then launching the app to be able to use the Docker CLI. If you are running on a Linux server, follow the instructions for your distrohere
- . You may be required to run Docker withsudo
- depending on your installation environment.

info Code you'll see on this page is bash commands and their output.

When you see text in angle brackets <>, replace them and the text inside with your own value of what it refers to. Don't include the <> in the command.

Celo Networks

First we are going to setup the environment variables required forAlfajores network. Run:

export

CELO_IMAGE

us.gcr.io/celo-org/geth:alfajores

Pull the Celo Docker image

We're going to use a Docker image containing the Celo node software in this tutorial.

If you are re-running these instructions, the Celo Docker image may have been updated, and it's important to get the latest version.

docker pull CELO_IMAGE

Set up a data directory

First, create the directory that will store your node's configuration and its copy of the blockchain. This directory can be named anything you'd like, but here's a default you can use. The commands below create a directory and then navigate into it. The rest of the steps assume you are running the commands from inside this directory.

mkdir celo-data-dir cd celo-data-dir

Create an account and get its address

In this step, you'll create an account on the network. If you've already done this and have an account address, you can skip this and move on to configuring your node.

Run the command to create a new account:

docker run -v

PWD :/root/.celo --rm

-it

CELO_IMAGE account new It will prompt you for a passphrase, ask you to confirm it, and then will output your account address:Public address of the key:

Save this address to an environment variables, so that you can reference it below (don't include the braces):

export

CELO_ACCOUNT_ADDRESS

< YOUR-ACCOUNT-ADDRESS

> info This environment variable will only persist while you have this terminal window open. If you want this environment variable to be available in the future, you can add it to your~/.bash_profile

Start the node

This command specifies the settings needed to run the node, and gets it started.

docker run --name celo-fullnode -d

--restart unless-stopped --stop-timeout 300

-p

127.0 .0.1:8545:8545 -p

127.0 .0.1:8546:8546 -p

30303 :30303 -p

30303 :30303/udp -v

PWD :/root/.celo CELO_IMAGE

--verbosity

3

--syncmode full --http

--http.addr

0.0 .0.0 --http.api eth,net,web3,debug,admin,personal --light.serve

90

--light.maxpeers

1000

--maxpeers

1100

--etherbase

CELO_ACCOUNT_ADDRESS

--alfajores

--datadir /root/.celo You'll start seeing some output. After a few minutes, you should see lines that look like this. This means your node has started syncing with the network and is receiving blocks.

INFO [07-16|14:04:24.924] Imported new chain segment blocks=139 txs=319 mgas=61.987 elapsed=8.085s mgasps=7.666 number=406 hash=9acf16…4fddc8 age=6h58m44s cache=1.51mB INFO [07-16|14:04:32.928] Imported new chain segment blocks=303 txs=179 mgas=21.837 elapsed=8.004s mgasps=2.728 number=709 hash=8de06a…77bb92 age=6h33m37s cache=1.77mB INFO [07-16|14:04:40.918] Imported new chain segment blocks=411 txs=0 mgas=0.000

elapsed=8.023s mgasps=0.000 number=1120 hash=3db22a…9fa95a age=5h59m30s cache=1.92mB INFO [07-16|14:04:48.941] Imported new chain segment blocks=335 txs=0 mgas=0.000 elapsed=8.023s mgasps=0.000 number=1455 hash=7eb3f8…32ebf0 age=5h31m43s cache=2.09mB INFO [07-16|14:04:56.944] Imported new chain segment blocks=472 txs=0 mgas=0.000 elapsed=8.003s mgasps=0.000 number=1927 hash=4f1010…1414c1 age=4h52m31s cache=2.34mB You will have fully synced with the network once you have pulled the latest block number, which you can lookup by visiting at theAlfajores Network Stats or [Alfajores Block Explorer]](https://alfajores-blockscout.celo-testnet.org/) pages.

danger Security : The command line above includes the parameter--http.addr 0.0.0.0 which makes the Celo Blockchain software listen for incoming RPC requests on all network adaptors. Exercise extreme caution in doing this when running outside Docker, as it means that any unlocked accounts and their funds may be accessed from other machines on the Internet. In the context of running a Docker container on your local machine, this together with thedocker -p flags allows you to make RPC calls from outside the container, i.e from your local host, but not from outside your machine. Read more aboutDocker Networking here.

Command Line Interface

Once the full node is running, it can serve theCommand Line Interface toolcelocli . For example:

npm

install

-g @celo/celocli .. . celocli node:synced true celocli account:new .. .

Light Client Serving

Light clients may connect to you as people run theCelo Mobile Wallet . Thelight.serve parameter defines the percentage of time this node should spend serving light clients. Valid values are 0-100. If this node is having trouble catching up to the current block, dropping this to a lower percentage may help. Thelight.maxpeers andmaxpeers parameters set limits on the number of light clients and full node peers that the node will accept. Edit this page Previous Run a Celo Full NodeNext Run a Baklava Full Node