Spinning up a local network

Prerequisites

Namada must be installedfrom source in order to run a local network.

There is a script that has been written specifically for this purpose, which can be found underMakeFile in the root directory.

Installing script dependencies

The script has some dependencies that must be installed in order to run it successfully:

1. python3 must be installed.
2. toml Python pip libraryhttps://pypi.org/project/toml/(opens in a new tab)
3. must be installed.

The script will require a set of genesis configuration files, which are TOML files that specify the parameters of the network. All of these files can be found in thenamada/genesis/localnet directory.

Building wasm

The script will also require allwasm files for transactions to be built. This can be done by running the following command (whilst in the namada directory):

make

build-wasm-scripts

Running the script

The script is calledgen_localnet.py and can be run with the following command:

Ensure you are in the root of the namada repository directory

python3

./scripts/gen_localnet.py The script also takes a number of positional arguments that can be supplied. These are:

-h, --help show this help message and exit --localnet-dir LOCALNET_DIR The localnet directory containing the genesis templates. -m MODE, --mode MODE The mode to run the localnet in. Can be release or debug, defaults to debug. --epoch-length EPOCH_LENGTH The epoch length in seconds, defaults to parameters.toml value. --max-validator-slots MAX_VALIDATOR_SLOTS The maximum number of validators, defaults to parameters.toml value. --params PARAMS A string representation of a dictionary of parameters to update in the parameters.toml. Must be of the same format. For example, a MacOS user would run something along the lines of:

Assuming pwd == root of namada repository

python3

./scripts/gen_localnet.py \ --localnet-dir genesis/localnet \ --mode release

Assuming the binaries were built usingmake build-release \ --parameters

'{"parameters": {"max_expected_time_per_block": 10}, "pos_params": {"pipeline_len": 5}}'

In order to change max_expected_time_per_block to 10 seconds from the default 30, and the pipeline length to 5 epochs from the default 2.

Modifying the genesis configuration file

The genesis configuration can be modified in two ways. One is to change the contents of the toml file directly. The other is to use theparameters argument when running the script. Theparameters argument takes a string representation of a dictionary of parameters to update in the parameters.toml. The format of the string must be the same as the format of the dictionary in the toml file.

Running the ledger

After the script has been run, all of the necessary folders will have been set up to run the chain. The ledger can be run through the familiar command:

./target/release/namada

ledger

Assuming the binaries were built using make build-release

ð¡ If you receive the errorFailed to construct Namada chain context... , then you need to set the variableNAMADA_BASE_DIR . For example:

export NAMADA_BASE_DIR = / (pwd) /.namada/validator-0

or pass it as the parameter --base-dir

./target/release/namada

ledger

--base-dir= "(pwd)/.namada/validator-0"

Cleaning up

After the local network has fulfilled its purpose, it can be cleaned up by running the following commands found in the cleanup function of the script:

killall

namadan

delete the base_dir/chain_id directory

Pre-genesis participants Utils