

Spinning up a local network

Prerequisites

Namada must be installed [from source](#) in order to run a local network.

There is a script that has been written specifically for this purpose, which can be found under `MakeFile` 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 library <https://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 the `namada/genesis/localnet` directory.

Building wasm

The script will also require all `wasms` 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 called `gen_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 using make 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.

```
--num-nodes
```

OPTIONAL: To run the localnet with 2 nodes

```
--num-vals
```

```
2
```

OPTIONAL: To run the localnet with 2 validators

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 the `parameters` argument when running the script. The `parameters` 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`

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](#) [IBC Relayers](#)