Start Besu

Nodes can connect to Ethereum Mainnet and public testnets.

Use thebesu command with the required command line options to start a node.

Prerequisites

Besu installed

Local block data

When connecting to a network other than the network previously connected to, you must either delete the local block data or use the--data-path option to specify a different data directory.

To delete the local block data, delete thedatabase directory in thebesu/build/distribution/besu-directory.

Genesis configuration

Besu specifies the genesis configuration, and sets the network ID and bootnodes when connecting toGoerli ,Sepolia , andMainnet .

info The Ropsten, Rinkeby, and Kiln testnets are deprecated. When you specify--network=dev , Besu uses the development mode genesis configuration with a fixed low difficulty. A node started with--network=dev has an empty bootnodes list by default.

The genesis files defining the genesis configurations are in theBesu source files .

To define a genesis configuration, create a genesis file (for example,genesis.json) and specify the file using the--genesis-file option.

Syncing and storage

By default, Besu syncs to the current state of the blockchain usingfast sync in:

- Networks specified using--network
- except for thedev
- development network.
- Ethereum Mainnet.

We recommend usingsnap sync for a faster sync, by starting Besu with--sync-mode=SNAP .

By default, Besu stores data in theForest of Tries format. We recommend usingBonsai Tries for lower storage requirements, by starting Besu with--data-storage-format=BONSAI .

Run a node for testing

To run a node that mines blocks at a rate suitable for testing purposes:

besu --network=dev --miner-enabled --miner-coinbase=0xfe3b557e8fb62b89f4916b721be55ceb828dbd73 --rpc-http-cors-origins="all" --host-allowlist="*" --rpc-ws-enabled --rpc-http-enabled --data-path=/tmp/tmpDatdir You can also use the followingconfiguration file on the command line to start a node with the same options as above:

network

"dev" miner-enabled = true miner-coinbase = "0xfe3b557e8fb62b89f4916b721be55ceb828dbd73" rpc-http-cors-origins = ["all"] host-allowlist = ["*"] rpc-ws-enabled = true rpc-http-enabled = true data-path = "/tmp/tmpdata-path" Warning The following settings are a security risk in production environments:

- Enabling the HTTP JSON-RPC service (--rpc-http-enabled
-) and setting--rpc-http-host
- to 0.0.0.0 exposes the RPC connection on your node to any remote connection.
- Setting--host-allowlist
- to"*"
- allows JSON-RPC API access from any host.

- Setting--rpc-http-cors-origins
- to"all"
- or"*"
- allows cross-origin resource sharing (CORS) access from any domain.

Run a node on Goerli testnet

To run a node onGoerli specifying a data directory:

besu --network=goerli --data-path=/ Where and are the path and directory to save the Goerli chain data to.

See theguide on connecting to a testnet for more information.

Run a node on Holesky testnet

To run a node onHolesky specifying a data directory:

besu --network=holesky --data-path=/ Where and are the path and directory to save the Holesky chain data to.

See theguide on connecting to a testnet for more information.

Run a node on Sepolia testnet

To run a node onSepolia specifying a data directory:

besu --network=sepolia --data-path=/ Where and are the path and directory to save the Sepolia chain data to.

See theguide on connecting to a testnet for more information.

Run a node on Ethereum Mainnet

To run a node on the Ethereum Mainnet:

besu To run a node on Mainnet with the HTTP JSON-RPC service enabled and available for localhost only:

besu --rpc-http-enabled See theguide on connecting to Mainnet for more information.

Confirm node is running

If you started Besu with the--rpc-http-enabled option, usecURL to callJSON-RPC API methods to confirm the node is running.

- eth_chainId
- returns the chain ID of the network.
- curl -X POST --data '{"jsonrpc":"2.0","method":"eth_chainId","params":[],"id":1}' localhost:8545
- eth_syncing
- returns the starting, current, and highest block.
- curl -X POST --data '{"jsonrpc":"2.0","method":"eth_syncing","params":[],"id":1}' localhost:8545
- For example, after connecting to Mainnet,eth_syncing
- will return something similar to:
- {
- "jsonrpc": "2.0",
- "id": 1,
- "result": {
- "startingBlock": "0x0",
- "currentBlock": "0x2d0",
- "highestBlock": "0x66c0"
- }
- } Edit this page Last updatedonApr 18, 2024 Previous Install binary distribution Next Connect to a network overview