How to run a Classic node

Do you need to run a Classic node?

Arbitrum One has been upgraded to Nitro, the latest Arbitrum tech stack. "Arbitrum Classic" is our term for the old, pre-Nitro tech stack. The Nitro node databases have the raw data of all blocks, including pre-Nitro blocks. However, Nitro nodes cannot execute anything on pre-Nitro blocks. You need an Arbitrum Classic archive node to execute data on pre-Nitro blocks.

The following commands are supported when running an Arbitrum Classic archive node:

- eth_call
- eth_estimateGas
- eth_getBalance
- eth_getCode
- eth_getTransactionCount
- eth_getStorageAt

Note that Arbitrum Nova and Arbitrum Sepolia started as a Nitro chain, so they don't have classic blocks.

Required artifacts

- Latest Docker Image:offchainlabs/arb-node:v1.4.5-e97c1a4
- Latest classic snapshot for Arbitrum One:https://snapshot.arbitrum.foundation/arb1/classic-archive.tar

Required parameters

- --l1.url=
-
  - Must provide standard Ethereum node RPC endpoint.
- --node.chain-id=
-
  - Must use42161
-
  - for Arbitrum One

Important ports

- RPC:8547
- WebSocket:8548

Putting it all together

- When running docker image, an external volume should be mounted to persist the database across restarts. The mount point should be/home/user/.arbitrum/mainnet
- .
- Here is an example of how to run a classic archive node for Arbitrum One (only needed for archive requests on pre-Nitro blocks, so you'll probably want to enable the archive mode in your nitro node as well):

docker run --rm -it -v /some/local/dir/arbitrum-mainnet/:/home/user/.arbitrum/mainnet -p 0.0 .0.0:8547:8547 -p 0.0 .0.0:8548:8548 offchainlabs/arb-node:v1.4.5-e97c1a4 --l1.url = https://l1-node:8545 --node.chain-id = 42161 --l2.disable-upstream

Note on permissions

- The Docker image is configured to run as non-root UID 1000. This means if you are running in Linux and you are getting permission errors when trying to run the docker image, run this command to allow all users to update the persistent folders.

mkdir /some/local/dir/arbitrum-mainnet chmod -fR 777 /some/local/dir/arbitrum-mainnet

Optional parameters

We show here a list of the parameters that are most commonly used when running a Classic node. You can also use the flag--help for a full comprehensive list of the available parameters.

- --core.cache.timed-expire

-
  - Defaults to20m
-
  - , or 20 minutes. Age of oldest blocks to hold in cache so that disk lookups are not required
- --node.rpc.max-call-gas
-
  - Maximum amount of gas that a node will use in call, default is5000000
- --core.checkpoint-gas-frequency
-
  - Defaults to1000000000
-
  - . Amount of gas between saving checkpoints to disk. When making archive queries node has to load closest previous checkpoint and then execute up to the requested block. The farther apart the checkpoints, the longer potential execution required. However, saving checkpoints more often slows down the node in general.
- --node.cache.allow-slow-lookup
-
  - When this option is present, will load old blocks from disk if not in memory cache
-
  - If archive support is desired, recommend using--node.cache.allow-slow-lookup --core.checkpoint-gas-frequency=156250000
- --node.rpc.tracing.enable
-
  - Note that you also need to have a database populated with an archive node if you want to trace previous transactions
-
  - This option enables the ability to call a tracing api which is inspired by the parity tracing API with some differences* Example:curl http://arbnode -X POST -H "Content-Type: application/json" -d '{"jsonrpc":"2.0","method":"arbtrace_call","params":[{"to": "0x6b175474e89094c44da98b954eedeac495271d0f","data": "0x70a08231000000000000000000000006E0d01A76C3Cf4288372a29124A26D4353EE51BE"},["trace"], "latest"],"id":67}'
-
  - Thetrace_*
-
  - methods are renamed toarbtrace_*
-
  - , excepttrace_rawTransaction
-
  - is not supported
-
  - Onlytrace
-
  - type is supported.vmTrace
-
  - andstateDiff
-
  - types are not supported
-
  - The self-destruct opcode is not included in the trace. To get the list of self-destructed contracts, you can provide thedeletedContracts
-
  - parameter to the method

Feed relay

- Arbitrum classic does not communicate with Nitro sequencer, so the classic relay is no longer usedEdit this page Last updatedonMar 19, 2024 Previous How to run a validatorNext How to configure a Data Availability Committee: Introduction