Installing Nethermind

Nethermind can be installed in several ways:

- Via a package manager
- As a standalone download
- As a Docker container
- By building from source code

Prerequisites

info Does not apply to Docker distributions. Before installing Nethermind, your specific platform might need the following prerequisites.

- Linux
- Windows
- macOS

On Linux systems, Snappy is a required dependency. Below are the installation instructions for the supported distros.

Ubuntu and Debian-based distros

sudo

apt-get

install libsnappy-dev

CentOS, Fedora, and RHEL-like distros

sudo dnf install snappy On RHEL-like systems, Nethermind also requires the following symlink to bzip2:

sudo

ln

-s

` find /usr/lib64/ -type f -name

"libbz2.so.1*" ` /usr/lib64/libbz2.so.1.0 Although the modern versions of Windows are bundled with a recent version ofMicrosoft Visual C++ Redistributable , in some cases, it may need an update:

winget install Microsoft . VCRedist . 2015+ . x64 None

Package managers

Package managers are the easiest and fastest way of installing Nethermind.

tip If you're using a package manager, it's highly recommended to set the-dd, --datadir flag to specify the data directory. Otherwise, Nethermind will use the default data directory where the package is installed, which may not be preserved on further updates or uninstall. * Linux * Windows * macOS

On Ubuntu and other Linux distros supporting PPA, Nethermind can be installed via Launchpad PPA.

First, add the Nethermind repository:

sudo add-apt-repository ppa:nethermindeth/nethermind note If the command is not found, run:

sudo

apt-get

install software-properties-common Then, install Nethermind as follows:

sudo

apt-get update sudo

apt-get

install nethermind On Windows, Nethermind can be installed via Windows Package Manager as follows:

winget install nethermind On macOS, Nethermind can be installed via Homebrew.

First, add the Nethermind repository:

brew tap nethermindeth/nethermind Then, install Nethermind as follows:

brew install nethermind For further instructions, seeRunning Nethermind .

Standalone downloads

Standalone downloads give users more flexibility by allowing them to install a specific version of Nethermind, choose the installation location, and prevent automatic updates.

Standalone downloads are available onGitHub Releases and atdownloads.nethermind.io as ZIP archives for x64 and AArch64 (ARM64) CPU architectures for Linux, Windows, and macOS.

Confuguring as a Linux service

To install Nethermind as a Linux service, see thenethermind.service unit file as an example. As it's configured to run Nethermind as the specific user and group and looks for the executable in a predefined location, the following steps need to be fulfilled:

note Any of these steps can be omitted by replacing them with corresponding changes in the unit file. For instance, if you want to run Nethermind as a different user, change theUser andGroup options in the unit file. 1. Create a new user and group:

Create a new user and group

sudo

useradd

-m

-s /bin/bash nethermind

Increase the maximum number of open files

sudo

bash

-c

'echo "nethermind soft nofile 100000" > /etc/security/limits.d/nethermind.conf' sudo

bash

-c

'echo "nethermind hard nofile 100000" >> /etc/security/limits.d/nethermind.conf'

Switch to the nethermind user

sudo

su

-l nethermind

Create required directories

Note that the home directory (~) is now /home/nethermind

mkdir ~/build mkdir ~/data 1. Download Nethermind 2. and extract the package contents to the~/build 3. directory. 4. Configure options in the~/.env 5. file:

~/.env

Required

NETHERMIND_CONFIG

"mainnet"

Optional

NETHERMIND_HEALTHCHECKSCONFIG_ENABLED

"true" Now, let's set up the Linux service:

Download the unit file

curl

-L https://raw.githubusercontent.com/NethermindEth/nethermind/master/scripts/nethermind.service -o nethermind.service

Move the unit file to the systemd directory

sudo

mv nethermind.service /etc/systemd/system

Reload the systemd daemon

sudo systemctl daemon-reload

Start the service

sudo systemctl start nethermind

Optionally, enable the service to start on boot

sudo systemctl enable nethermind To ensure the service is up and running, check its status as follows:

sudo systemctl status nethermind To monitor the Nethermind output, run:

journalctl -u nethermind -f For further instructions, seeRunning Nethermind .

Docker container

The Docker images of Nethermind are available onDocker Hub .

This registry provides production versions of Nethermind with two types of tags:

- nethermind/nethermind:latest
- is the latest version of Nethermind (the default tag)
- nethermind/nethermind:
- is the specific version of Nethermind where

- is the actual version of Nethermind.

To download the image from the registry, run:

docker pull nethermind/nethermind Starting a node is achieved by:

docker run -it nethermind/nethermind The following ports are exposed by default:

- 8545
- : TCP, for the JSON-RPC interface
- 8551
- : TCP, for the consensus client JSON-RPC interface
- 30303
- : TCP and UDP, for P2P networking

tip It's highly recommended to mount data volumes as the Nethermind's data directories to ensure the synced data is preserved between the container restarts. The following volume mount points are available by default:

- /nethermind/nethermind_db
- : used to store the database
- /nethermind/logs
- : used to store the logs
- /nethermind/keystore
- : used to store the keys

To mount separate volumes for each directory listed above, run:

docker run -it

\ --mount

type

bind,source

path/to/db,target

/nethermind/nethermind_db \ --mount

type

bind,source

path/to/logs,target

/nethermind/logs \ --mount

type

bind,source

path/to/keystore,target

/nethermind/keystore \ nethermind/nethermind Alternatively, a single volume can be specified as the Nethermind data directory as follows:

docker run -it

\ --mount

type

bind,source

path/to/data_dir,target

/nethermind/data_dir \ nethermind/nethermind -dd /nethermind/data_dir Note that any Nethermind-specific configuration option can be specified at the end. For instance, the-dd option in this case. For further instructions, seeRunning Nethermind .

To build the Docker image yourself, seeBuilding Docker image .

Running Nethermind

Important * Aconsensus client * of your choice must be running before you start Nethermind. * Please check out thesecurity considerations * before using Nethermind for critical operations. Nethermind is mainly controlled by command line options (aka arguments or flags).

The full list of options can be displayed by running:

nethermind -h For instance, to launch the client with the default configuration for the Mainnet and custom data directory, run:

nethermind -c mainnet -dd path/to/data/dir For detailed info about the available configuration options, seeConfiguration .

Supported networks

To run Nethermind on a specific network, use the-c, --config command line option. Currently, the following networks are supported out of the box:

- Ethereum
- - Mainnet
- - Goerli
- - (testnet)
- - Holesky
- - (testnet)
- - Sepolia
- - (testnet)
- Base
- - Base Mainnet
- - Base Goerli
- - (testnet)
- - Base Sepolia
- - (testnet)
- Energy Web Chain
- - Energy Web
- - Volta
- - (testnet)
- Gnosis Chain
- - Gnosis

-
  - Chiado
-
  - (testnet)
- Optimism
-
  - OP Mainnet
-
  - OP Goerli
-
  - (testnet)
-
  - OP Sepolia
-
  - (testnet) Edit this page Last updatedonFeb 17, 2024 Previous System requirements Next Consensus clients