Hermes

Hermes - Rust Relayer (Informal Systems)

Official documentation:https://hermes.informal.systems/documentation

1. Install Rust Dependencies

You will needrust ,build-essential andgit installed to follow these instructions:

```

Copy

# rust:

curl--proto'=https'--tlsv1.2-sSfhttps://sh.rustup.rs|sh

# build-essential:

sudoapt-getinstallbuild-essential-y

# git:

sudoaptinstallgit-all-y

```

1. Building Hermes

For preparation, we will create a dedicated user to run Hermes. Following command will also create home directory for the new user.

```

Copy sudouseradd-m-d/ibc/hermeshermes

```

We will next switch to the hermes user and create a directory where we will compile the relayer software.Open the generated~/.relayer/config/config.yaml file,

```

Copy sudosudo-uhermes-s mkdir/ibc/hermes/source mkdir/ibc/hermes/bin cd/ibc/hermes/source

```

Now is time to clone the source repository and build it. Note that we need to checkout the latest release.

```

Copy gitclonehttps://github.com/informalsystems/ibc-rs.githermes cdhermes gitcheckoutv0.9.0 cargobuild--release cptarget/release/hermes~/bin cd

```

Next we will check that the newly built hermes version is the correct one:

```

Copy hermes@demo:~bin/hermesversion Nov0415:52:48.299INFOThreadId(01)usingdefaultconfigurationfrom'/ibc/hermes/.hermes/config.toml' hermes0.9.0

```

1. Configuring Hermes

Choose your favourite editor and edit the following configuration template to mach your setup. There are features like telemetry and rest API that you can enable, but they are not necessary, so they are left out from this tutorial.

Open config

```

Copy nano HOME/.hermes/config.toml

```

Edit the config

```

Copy [mode.clients] enabled=true refresh=true misbehaviour=false

[mode.connections] enabled=true

[mode.channels] enabled=true

[mode.packets] enabled=true

[[chains]] id='secret-4' rpc_addr='http://127.0.0.1:26657' websocket_addr='ws://127.0.0.1:26657/websocket' grpc_addr='http://127.0.0.1:9090' rpc_timeout='10s' account_prefix='secret' key_name='secret-relayer' store_prefix='ibc' default_gas=350000 max_gas=1500000 gas_multiplier=1.2 max_msg_num=30 max_tx_size=2097152 clock_drift='5s' max_block_time='30s' trusting_period='14days' memo_prefix='' [chains.trust_threshold] numerator='1' denominator='3' [chains.gas_price] price=0.1 denom='uscrt' [chains.packet_filter] policy='allow' list=[ ['transfer','channel-1'],#osmosis ] [chains.address_type] derivation='cosmos'

[[chains]] id='osmosis-1' rpc_addr='http://127.0.0.1:26557' websocket_addr='ws://127.0.0.1:26557/websocket' grpc_addr='http://127.0.0.1:9091' rpc_timeout='10s' account_prefix='osmo' key_name='osmosis-relayer' store_prefix='ibc' default_gas=500000 max_gas=1500000 gas_multiplier=1.2 max_msg_num=20 max_tx_size=209715 clock_drift='20s' max_block_time='10s' trusting_period='10days' memo_prefix='' [chains.trust_threshold] numerator='1' denominator='3' [chains.gas_price] price=0.0025 denom='uosmo' [chains.packet_filter] policy='allow' list=[ ['transfer','channel-88'], ] [chains.address_type] derivation='cosmos'

```

Want to relay for all/more existing connections on secret? -- check the channel database You can validate the configuration with following:

```

Copy hermes@Demo:~bin/hermes-c.hermes/config.tomlconfigvalidate Success:"validation passed successfully"

```

1. Setting Up Wallets

We will need to create a new wallet, import it, and ultimately fund it. Note the unique derivation paths for secret.

```

Copy hermes-c.hermes/config.tomlkeysrestoresecret-4-m"mnemonics"-n"secret-relayer"-p"m/44'/529'/0'/0/0"

hermes-c.hermes/config.tomlkeysrestoreosmosis-1-m"mnemonics"-n"osmosis-relayer"

```

If you want to make sure the keys got imported, you can check them with following command:

```

Copy bin/hermeskeyslistsecret-4

```

1. Testing the setup

Let's do a quick test to see things work properly.

Validate your~/.hermes/config.toml file by running:

```

Copy hermes config validate

```

Perform a health check:

```

Copy hermes health-check

```

You should see a similar output as the one below:

```

Copy INFO ThreadId(01) [secret-4] chain is healthy INFO ThreadId(01) [osmosis-1] chain is healthy

```

1. Run hermes

```

Copy bin/hermesstart

```

Once we see things load up correctly and there are no fatal errors, we can break out of hermes withctrl-c .

Configuring systemd

Now we will setup hermes to be run by systemd, and to start automatically on reboots.

Create the following configuration to/etc/systemd/system/hermes.service

```

Copy [Unit] Description=Hermes IBC relayer ConditionPathExists=/ibc/hermes/hermes After=network.target secret-node.service cosmos.service osmo.service

[Service] Type=simple User=hermes WorkingDirectory=/ibc/hermes ExecStart=/ibc/hermes/hermes start Restart=always RestartSec=2

[Install] WantedBy=multi-user.target

```

Then we will start hermes with the newly created service and enable it. Note that this step is done from your normal user account that has sudo privileges, so no longer as hermes.

```

Copy sudosystemctlstarthermes.service sudosystemctlenablehermes.service

```