aioethereum Documentation

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DeV1doR

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Ethereum RPC client library for the (**PEP 3156**) Python event loop.

The library is intended to provide simple and clear interface to Ethereum node based on *asyncio*.

CHAPTER 1

Features

ujson support	Yes
High-level APIs	Yes
HTTP support	Yes
Unix domain socket (IPC) support	Yes
SSL/TLS support	Yes
Tested CPython versions	*3.4, 3.5, 3.6*
Tested Geth versions	*1.7.0*
Implemented RPC apis	*db, eth, miner, net, personal, shh, txpool, web3*

CHAPTER 2

Installation

The easiest way to install aioethereum is by using the package on PyPi:

```
pip install aioethereum
```

CHAPTER 3

Requirements

- Python 3.3 and *asyncio* or Python 3.4+
- *ujson*

CHAPTER 4

License

The aioethereum is offered under MIT license.

CHAPTER 5

Getting started

5.1 Getting started

This part of the documentation is a quick start for writing applications that interact with the client for ethereum nodes (geth, parity, etc.)

5.1.1 Basic API description

This client provides APIs from:

- https://github.com/ethereum/wiki/wiki/JSON-RPC
- https://github.com/ethereum/go-ethereum/wiki/Management-APIs

It is simple http(s)/unix connector for ethereum node which implements standart RPC methods.

CHAPTER 6

API Documentation

6.1 aioethereum API

Documentation related to various APIs available in this package.

6.1.1 aioethereum

class aioethereum.**AsyncIOHTTPClient**(*host='127.0.0.1'*, *port=8545*, *tls=False*, *timeout=60*, ***, *loop=None*)

Bases: aioethereum.client.BaseAsyncIOClient, aioethereum.management.RpcMixin

Creates AsyncIOHTTPClient client to communicate via HTTP(s).

Parameters

- **host** (*str*) – Host on ethereum node
- **port** (*int*) – Port on ethereum node
- **tls** (*bool*) – Use SSL connection
- **timeout** (*int*) – Total time of timeout call
- **loop** (EventLoop) – An optional *event loop* instance (uses asyncio.get_event_loop() if not specified).

Returns *AsyncIOHTTPClient* instance.

class aioethereum.**AsyncIOIPCClient**(*reader*, *writer*, *unix_path*, *timeout=60*, ***, *loop=None*)

Bases: aioethereum.client.BaseAsyncIOClient, aioethereum.management.RpcMixin

Creates AsyncIOIPCClient client to communicate via IPC.

Parameters

- **reader** (asyncio.streams.StreamReader) – Instance of the stream reader
- **writer** (asyncio.streams.StreamWriter) – Instance of the stream writer

- **unix_path** (*str*) – Unix domain path
- **timeout** (*int*) – An optional total time of timeout call
- **loop** (EventLoop) – An optional *event loop* instance (uses `asyncio.get_event_loop()` if not specified).

Returns `AsyncIOIPCClient` instance.

class aioethereum.**BaseAsyncIOClient**

Bases: `abc.ABC`

Abstract class for creating client.

rpc_call(*method*, *params=None*, *id_=None*)

Implements RPC 2.0 call to node server.

Parameters

- **method** (*str*) – RPC node method
- **params** (*list*) – Input params for method
- **id** (*str or int*) – ID of current request

Returns *Response from RPC*

coroutine aioethereum.**create_ethereum_client**(*uri*, *timeout=60*, ***, *loop=None*)

Create client to ethereum node based on schema.

Parameters

- **uri** (*str*) – Host on ethereum node
- **timeout** (*int*) – An optional total time of timeout call
- **loop** (EventLoop) – An optional *event loop* instance (uses `asyncio.get_event_loop()` if not specified).

Returns `BaseAsyncIOClient` instance.

6.1.2 management

This package contains all high level features of the `aioethereum.AsyncIOIPCClient` and `aioethereum.AsyncIOHTTPClient`.

admin

Admin related features

class aioethereum.management.admin.**AdminMixin**

Bases: `object`

coroutine admin_addPeer(*url*)

https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_addpeer

Parameters **url** (*str*) – Enode url of peer

Return type bool

coroutine admin_datadir()

https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_datadir

Returns path

Return type str

coroutine admin_nodeInfo()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_nodeinfo

Returns info

Return type dict

coroutine admin_peers()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_peers

Returns info

Return type list

coroutine admin_setSolc(*path='/usr/bin/solc'*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_setsolc

NOT AVAILABLE

coroutine admin_startRPC(*host='localhost'*, *port=8545*, *cors=None*, *apis=None*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_startrpc

Parameters

- **host** (*str*) – Network interface to open the listener socket (optional)
- **port** (*int*) – Network port to open the listener socket (optional)
- **cors** (*str*) – Cross-origin resource sharing header to use (optional)
- **apis** (*str*) – API modules to offer over this interface (optional)

Return type bool

coroutine admin_startWS(*host='localhost'*, *port=8546*, *cors=None*, *apis=None*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_startws

Parameters

- **host** (*str*) – Network interface to open the listener socket (optional)
- **port** (*int*) – Network port to open the listener socket (optional)
- **cors** (*str*) – Cross-origin resource sharing header to use (optional)
- **apis** (*str*) – API modules to offer over this interface (optional)

Return type bool

coroutine admin_stopRPC()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_stoprpc

Return type bool

coroutine admin_stopWS()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#admin_stopws

Return type bool

db

Db related features

class aioethereum.management.db.**DbMixin**
Bases: object

db_getHex(*db_name*, *key*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#db_gethex

DEPRECATED

coroutine db_getString(*db_name*, *key*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#db_getstring

DEPRECATED

coroutine db_putHex(*db_name*, *key*, *value*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#db_puthex

DEPRECATED

coroutine db_putString(*db_name*, *key*, *value*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#db_putstring

DEPRECATED

debug

Debug related features

class aioethereum.management.debug.**DebugMixin**
Bases: object

coroutine debug_backtraceAt(*filename_line*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_backtraceat

Parameters **filename_line** (*str*) – Filename and its line for debugging

Return type None

coroutine debug_blockProfile(*file*, *seconds*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_blockprofile

Parameters

- **file** (*str*) – Log file path
- **seconds** (*int*) – Seconds for profile capturing

Return type None

coroutine debug_cpuProfile(*file*, *seconds*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_cpuprofile

Parameters

- **file** (*str*) – Log file path
- **seconds** (*int*) – Seconds for profile capturing

Return type None

coroutine debug_dumpBlock(*number*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_dumpblock

Parameters **number** (*int*) – Block number

Returns accounts

Return type dict

coroutine debug_gcStats()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_gcstats

Returns https://golang.org/pkg/runtime/debug/#GCStats

Return type dict

coroutine debug_getBlockRlp(*number*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_getblockrlp

Parameters **number** (*int*) – Block number

Returns RLP

Return type str

coroutine debug_goTrace(*file*, *seconds*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_gotrace

Parameters

- **file** (*str*) – Log file path
- **seconds** (*int*) – Seconds for profile capturing

Return type None

coroutine debug_memStats()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_memstats

Returns https://golang.org/pkg/runtime/debug/#MemStats

Return type dict

coroutine debug_seedHash(*number*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_seedhash

Parameters **number** (*int*) – Block number

Returns hash

Return type str or error

coroutine debug_setBlockProfileRate(*rate*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_sethead

Parameters **rate** (*int*) – Rate of goroutine block (samples/sec)

Return type None

coroutine debug_setHead(*number*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_sethead

Parameters **number** (*int*) – Block number

Return type None

coroutine debug_stacks()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_stacks

Return type str

coroutine debug_startCPUProfile(*file*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_startcpuprofile

Parameters **file** (*str*) – Log file path

Return type None

coroutine debug_startGoTrace(*file*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_startgotrace

Parameters **file** (*str*) – Log file path

Return type None

coroutine debug_stopCPUProfile()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_stopcpuprofile

Return type None

coroutine debug_stopGoTrace()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_stopgotrace

Return type None

coroutine debug_traceBlock(*block_rlp*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_traceblock

TODO: Add more description for params

Return type dict

coroutine debug_traceBlockByHash(*bhash*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_traceblockbyhash

Parameters **bhash** (*str*) – Block hash

Return type dict

coroutine debug_traceBlockByNumber(*number*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_traceblockbynumber

Parameters **number** (*int*) – Block number

Return type dict

coroutine debug_traceBlockFromFile(*file*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_traceblockfromfile

Parameters **file** (*str*) – Log file path

Return type dict

coroutine debug_traceTransaction(*txhash*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_tracetransaction

Parameters **txhash** (*str*) – Transaction hash

Return type dict

coroutine debug_verbosity(*level*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_verbosity

Parameters **level** (*int*) – Debug lvl

Return type None

coroutine debug_vmodule(*pattern*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_vmodule

Parameters **pattern** (*str*) – Logging verbosity pattern

Return type None

coroutine debug_writeBlockProfile(*file*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_writeblockprofile

Parameters **file** (*str*) – Log file path

Return type None

coroutine debug_writeMemProfile(*file*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#debug_writememprofile

Parameters **file** (*str*) – Log file path

Return type None

eth

Eth related features

class aioethereum.management.eth.**EthMixin**
Bases: object

coroutine eth_accounts()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_accounts

Returns accounts

Return type list

coroutine eth_blockNumber()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_blocknumber

Returns bnumber

Return type int

coroutine eth_call(*from_*, *to=None*, *gas=None*, *gas_price=None*, *value=None*, *data=None*, *block='latest'*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_call

Parameters

- **from** (*str*) – From account address
- **to** (*str*) – To account address (optional)
- **gas** (*int*) – Gas amount for current transaction (optional)
- **gas_price** (*int*) – Gas price for current transaction (optional)
- **value** (*int*) – Amount of ether to send (optional)
- **data** (*hex*) – Additional data for transaction (optional)
- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

Return type str

coroutine eth_coinbase()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_coinbase

Returns address

Return type str

coroutine eth_compileLLL(*code*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_compilelll

DEPRECATED

coroutine eth_compileSerpent(*code*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_compileserpent

DEPRECATED

coroutine eth_compileSolidity(*code*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_compilesolidity

DEPRECATED

coroutine eth_estimateGas(*from_*, *to=None*, *gas=None*, *gas_price=None*, *value=None*, *data=None*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_estimategas

Parameters

- **from** (*str*) – From account address
- **to** (*str*) – To account address (optional)
- **gas** (*int*) – Gas amount for current transaction (optional)
- **gas_price** (*int*) – Gas price for current transaction (optional)
- **value** (*int*) – Amount of ether to send (optional)
- **data** (*hex*) – Additional data for transaction (optional)

Returns gas amount

Return type int

coroutine eth_gasPrice()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_gasprice

Returns wei

Return type int

coroutine eth_getBalance(*address*, *block='latest'*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getbalance

Parameters

- **address** (*str*) – Account address
- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

Returns wei

Return type int

coroutine eth_getBlockByHash(*bhash*, *tx_objects=True*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getblockbyhash

Parameters

- **bhash** (*str*) – Block hash
- **tx_objects** (*bool*) – Return txs full object (optional)

Returns block

Return type dict or None

coroutine eth_getBlockByNumber(*block='latest'*, *tx_objects=True*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getblockbynumber

Parameters

- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)
- **tx_objects** (*bool*) – Return txs full object (optional)

Returns block

Return type dict or None

coroutine eth_getBlockTransactionCountByHash(*bhash*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getblocktransactioncountbyhash

Parameters **bhash** (*str*) – Block hash

Returns count

Return type int or None

coroutine eth_getBlockTransactionCountByNumber(*block='latest'*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getblocktransactioncountbynumber

Parameters **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

Returns count

Return type int

coroutine eth_getCode(*address*, *block='latest'*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getcode

Parameters

- **address** (*str*) – Address of contract
- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

Returns code

Return type str

coroutine eth_getCompilers()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getcompilers

DEPRECATED

coroutine eth_getFilterChanges(*filter_id*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getfilterchanges

Parameters **filter_id** (*str*) – Id of created filter

Returns logs

Return type list

coroutine eth_getFilterLogs(*filter_id*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getfilterlogs

Parameters **filter_id** (*str*) – Id of created filter

Returns logs

Return type list

coroutine eth_getLogs(*from_block='latest'*, *to_block='latest'*, *address=None*, *topics=None*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getlogs

Parameters

- **from_block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

- **to_block** (*int or BLOCK_TAGS*) – Block tag or number (optional)
- **address** (*str*) – Contract address (optional)
- **topics** (*list*) – Topics (optional)

Returns logs

Return type list

coroutine eth_getStorageAt(*address*, *position=0*, *block='latest'*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getstorageat

Parameters

- **address** (*str*) – Storage address
- **position** (*int*) – Position in storage (optional)
- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

Return type int

coroutine eth_getTransactionByBlockHashAndIndex(*bhash*, *index=0*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_gettransactionbyblockhashandindex

Parameters

- **bhash** (*str*) – Block hash
- **index** (*int*) – Index position (optional)

coroutine eth_getTransactionByBlockNumberAndIndex(*block='latest'*, *index=0*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_gettransactionblocknumberandindex

Parameters

- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)
- **index** (*int*) – Index position (optional)

Returns transaction

Return type dict or None

coroutine eth_getTransactionByHash(*txhash*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_gettransactionbyhash

Parameters **txhash** (*str*) – Transaction hash

Returns transaction

Return type dict or None

coroutine eth_getTransactionCount(*address*, *block='latest'*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_gettransactioncount

Parameters

- **address** (*str*) – Account address
- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

Returns count

Return type int

coroutine eth_getTransactionReceipt(*txhash*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_gettransactionreceipt

Parameters **txhash** (*str*) – Transaction hash

Returns transaction

Return type dict or None

coroutine eth_getUncleByBlockHashAndIndex(*bhash*, *index=0*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getunclebyblockhashandindex

Parameters

- **bhash** (*str*) – Block hash
- **index** (*int*) – Index position (optional)

Returns block

Return type dict or None

coroutine eth_getUncleByBlockNumberAndIndex(*block='latest'*, *index=0*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getunclebyblocknumberandindex

Parameters

- **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)
- **index** (*int*) – Index position (optional)

Returns block

Return type dict or None

coroutine eth_getUncleCountByBlockHash(*bhash*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getunclecountbyblockhash

Parameters **bhash** (*str*) – Block hash

Returns count

Return type int or None

coroutine eth_getUncleCountByBlockNumber(*block='latest'*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getunclecountbyblocknumber

Parameters **block** (*int or BLOCK_TAGS*) – Block tag or number (optional)

Returns count

Return type int

coroutine eth_getWork()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_getwork

Returns work

Return type list

coroutine eth_hashrate()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_hashrate

Returns hashrate

Return type int

coroutine eth_mining()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_mining

Return type bool

coroutine eth_newBlockFilter()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_newblockfilter

Returns filter_id

Return type str

coroutine eth_newFilter(*from_block='latest', to_block='latest', address=None, topics=None*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_newfilter

Parameters

- **from_block** (*int or BLOCK_TAGS*) – Block tag or number (optional)
- **to_block** (*int or BLOCK_TAGS*) – Block tag or number (optional)
- **address** (*str*) – Contract address (optional)
- **topics** (*list*) – Topics (optional)

Returns filter_id

Return type str

coroutine eth_newPendingTransactionFilter()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_newpendingtransactionfilter

Returns filter_id

Return type str

coroutine eth_protocolVersion()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_protocolversion

Return type int

coroutine eth_sendRawTransaction(*data*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_sendrawtransaction

Parameters **data** (*str*) – Signed transaction data

Returns txhash

Return type str

coroutine eth_sendTransaction(*from_, to=None, gas=None, gas_price=None, value=None, data=None, nonce=None*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_sendtransaction

Parameters

- **from** (*str*) – From account address
- **to** (*str*) – To account address (optional)
- **gas** (*int*) – Gas amount for current transaction (optional)
- **gas_price** (*int*) – Gas price for current transaction (optional)
- **value** (*int*) – Amount of ether to send (optional)
- **data** (*hex*) – Additional data for transaction (optional)
- **nonce** (*int*) – Unique nonce for transaction (optional)

Returns txhash

Return type str

coroutine eth_sign(*address*, *data*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_sign

Parameters

- **address** (*str*) – Account address
- **data** (*str*) – Message to sign

Returns signature

Return type str

coroutine eth_submitHashrate(*hashrate*, *id_*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_submithashrate

Parameters

- **hashrate** (*str*) – Hash rate
- **id** (*str*) – Random hex

Returns success

Return type bool

coroutine eth_submitWork(*nonce*, *header*, *mix_digest*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_submitwork

Parameters

- **nonce** (*int*) – Nonce of work
- **header** (*str*) – Pow-hash header
- **mix_digest** (*str*) – Mix digest

Returns success

Return type bool

coroutine eth_syncing()
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_syncing

Returns sync status or false

Return type dict or bool

coroutine eth_uninstallFilter(*filter_id*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#eth_uninstallfilter

Parameters **filter_id** (*str*) – Id of created filter

Returns success

Return type bool

miner

Miner related features

class aioethereum.management.miner.**MinerMixin**
Bases: object

coroutine miner_setEtherBase(*address*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#miner_setetherbase

NOT AVAILABLE

coroutine miner_setExtra(*data*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#miner_setextra

Parameters **data** (*str*) – Extra data a miner can include when miner blocks

Return type bool

coroutine miner_setGasPrice(*number*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#miner_setgasprice

Parameters **number** (*int*) – Minimal accepted gas price when mining transactions

Return type bool

coroutine miner_start(*number*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#miner_start

Parameters **number** (*int*) – CPU mining process with the given number of threads

Return type None

coroutine miner_stop()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#miner_stop

Return type bool

net

Net related features

class aioethereum.management.net.**NetMixin**
Bases: object

coroutine net_listening()
https://github.com/ethereum/wiki/wiki/JSON-RPC#net_listening

Return type bool

coroutine net_peerCount()
https://github.com/ethereum/wiki/wiki/JSON-RPC#net_peercount

Return type int

coroutine net_version()
https://github.com/ethereum/wiki/wiki/JSON-RPC#net_version

Return type str

personal

Personal related features

class aioethereum.management.personal.**PersonalMixin**
Bases: object

coroutine personal_ecRecover(*message*, *signature*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_ecrecover

Parameters

- **message** (*str*) – Message for sign
- **password** (*str*) – Signature of account (optional)

Returns address

Return type str

coroutine personal_importRawKey(*keydata*, *passphrase*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_importrawkey

Parameters

- **keydata** (*str*) – Unencrypted private key
- **passphrase** (*str*) – Passphrase of private key

Returns address

Return type hex

coroutine personal_listAccounts()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_listaccounts

Returns addresses

Return type list

coroutine personal_lockAccount(*address*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_lockaccount

Parameters **address** (*str*) – Account address

Return type bool

coroutine personal_newAccount(*passphrase=None*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_newaccount

Parameters **passphrase** (*str*) – Passphrase of account (optional)

Returns address

Return type str

coroutine personal_sendTransaction(*from_*, *to=None*, *gas=None*, *gas_price=None*, *value=None*, *data=None*, *nonce=None*, *passphrase=None*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_sendtransaction

Parameters

- **from** (*str*) – From account address
- **to** (*str*) – To account address (optional)
- **gas** (*int*) – Gas amount for current transaction (optional)
- **gas_price** (*int*) – Gas price for current transaction (optional)
- **value** (*int*) – Amount of ether to send (optional)
- **data** (*hex*) – Additional data for transaction (optional)
- **nonce** (*int*) – Unique nonce for transaction (optional)
- **passphrase** (*str*) – Passphrase of account (optional)

Returns txhash

Return type str

coroutine personal_sign(*message*, *account*, *password=None*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_sign

Parameters

- **message** (*str*) – Message for sign
- **account** (*str*) – Account address
- **password** (*str*) – Password of account (optional)

Returns signature

Return type str

coroutine personal_unlockAccount(*address*, *passphrase=None*, *duration=None*)
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#personal_unlockaccount

Parameters

- **address** (*str*) – Account address
- **passphrase** (*str*) – Passphrase of account (optional)
- **duration** (*int*) – Duration to be unlocked (optional)

Return type bool

shh

Shh related features

class aioethereum.management.shh.**ShhMixin**
Bases: object

coroutine shh_addToGroup()
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_addtogroup

DEPRECATED

coroutine shh_getFilterChanges(*filter_id*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_getfilterchanges

DEPRECATED

coroutine shh_getMessages(*filter_id*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_getmessages

DEPRECATED

coroutine shh_hasIdentity(*address*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_hasidentity

DEPRECATED

coroutine shh_newFilter(*to=None*, **, topics*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_newfilter

DEPRECATED

coroutine shh_newGroup()
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_newgroup

DEPRECATED

coroutine shh_newIdentity()
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_newidentity

DEPRECATED

coroutine shh_post(*from_=None*, *to=None*, ***, *topics*, *payload*, *priority*, *ttl*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_post

coroutine shh_uninstallFilter(*filter_id*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_uninstallfilter

DEPRECATED

coroutine shh_version()
https://github.com/ethereum/wiki/wiki/JSON-RPC#shh_version

Return type float

txpool

Txpool related features

class aioethereum.management.txpool.**TxpoolMixin**
Bases: object

coroutine txpool_content()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#txpool_content

Return type dict

coroutine txpool_inspect()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#txpool_inspect

Return type dict

coroutine txpool_status()
https://github.com/ethereum/go-ethereum/wiki/Management-APIs#txpool_status

Return type dict

web3

Web3 related features

class aioethereum.management.web3.**Web3Mixin**
Bases: object

coroutine web3_clientVersion()
https://github.com/ethereum/wiki/wiki/JSON-RPC#web3_clientversion

Returns version

Return type str

coroutine web3_sha3(*data*)
https://github.com/ethereum/wiki/wiki/JSON-RPC#web3_sha3

Parameters **data** (*str*) – Data for hashing

Returns Keccak-256

Return type str

6.2 Glossary

asyncio Reference implementation of **PEP 3156**

See https://pypi.python.org/pypi/asyncio

pytest A mature full-featured Python testing tool. See http://pytest.org/latest/

ujson UltraJSON is an ultra fast JSON encoder and decoder written in pure C with bindings for Python 2.5+ and 3. ujson.

See https://pypi.python.org/pypi/ujson

CHAPTER 7

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