
aioethereum Documentation

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DeV1doR

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Contents

1	Features	3
2	Installation	5
3	Requirements	7
4	License	9
5	Getting started	11
5.1	Getting started	11
6	API Documentation	13
6.1	aioethereum API	13
6.2	Glossary	30
7	Indices and tables	31
	Python Module Index	33

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

<i>ujson</i> 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	<i>db, eth, miner, net, personal, shh, txpool, web3</i>

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.

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.

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 `aiorethereum.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 `aiorethereum.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 `aiorethereum.AsyncIOIPCClient` and `aiorethereum.AsyncIOHTTPClient`.

admin

Admin related features

class `aiorethereum.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

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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_gettransactionbyblocknumberandindex

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

Indices and tables

- `genindex`
- `modindex`
- `search`

a

- `aiorethereum`, 13
- `aiorethereum.management.admin`, 14
- `aiorethereum.management.db`, 15
- `aiorethereum.management.debug`, 16
- `aiorethereum.management.eth`, 19
- `aiorethereum.management.miner`, 25
- `aiorethereum.management.net`, 26
- `aiorethereum.management.personal`, 26
- `aiorethereum.management.shh`, 28
- `aiorethereum.management.txpool`, 29
- `aiorethereum.management.web3`, 29

A

admin_addPeer() (aioethereum.management.admin.AdminMixin
 method), 14
 admin_datadir() (aioethereum.management.admin.AdminMixin
 method), 14
 admin_nodeInfo() (aioethereum.management.admin.AdminMixin
 method), 15
 admin_peers() (aioethereum.management.admin.AdminMixin
 method), 15
 admin_setSolc() (aioethereum.management.admin.AdminMixin
 method), 15
 admin_startRPC() (aioethereum.management.admin.AdminMixin
 method), 15
 admin_startWS() (aioethereum.management.admin.AdminMixin
 method), 15
 admin_stopRPC() (aioethereum.management.admin.AdminMixin
 method), 15
 admin_stopWS() (aioethereum.management.admin.AdminMixin
 method), 15
 AdminMixin (class in aioethereum.management.admin),
 14
 aioethereum (module), 13
 aioethereum.management.admin (module), 14
 aioethereum.management.db (module), 15
 aioethereum.management.debug (module), 16
 aioethereum.management.eth (module), 19
 aioethereum.management.miner (module), 25
 aioethereum.management.net (module), 26
 aioethereum.management.personal (module), 26
 aioethereum.management.shh (module), 28
 aioethereum.management.txpool (module), 29
 aioethereum.management.web3 (module), 29
 asyncio, 30
 AsyncIOHTTPClient (class in aioethereum), 13
 AsyncIOIPCCClient (class in aioethereum), 13

B

BaseAsyncIOClient (class in aioethereum), 14

C

create_ethereum_client() (in module aioethereum), 14

D

db_getHex() (aioethereum.management.db.DbMixin
 method), 15
 db_getString() (aioethereum.management.db.DbMixin
 method), 16
 db_putHex() (aioethereum.management.db.DbMixin
 method), 16
 db_putString() (aioethereum.management.db.DbMixin
 method), 16
 DbMixin (class in aioethereum.management.db), 15
 debug_backtraceAt() (aioethereum.management.debug.DebugMixin
 method), 16
 debug_blockProfile() (aioethereum.management.debug.DebugMixin
 method), 16
 debug_cpuProfile() (aioethereum.management.debug.DebugMixin
 method), 16
 debug_dumpBlock() (aioethereum.management.debug.DebugMixin
 method), 16
 debug_gcStats() (aioethereum.management.debug.DebugMixin
 method), 16
 debug_getBlockRlp() (aioethereum.management.debug.DebugMixin
 method), 17
 debug_goTrace() (aioethereum.management.debug.DebugMixin
 method), 17
 debug_memStats() (aioethereum.management.debug.DebugMixin
 method), 17
 debug_seedHash() (aioethereum.management.debug.DebugMixin
 method), 17
 debug_setBlockProfileRate()
 (aioethereum.management.debug.DebugMixin
 method), 17
 debug_setHead() (aioethereum.management.debug.DebugMixin
 method), 17
 debug_stacks() (aioethereum.management.debug.DebugMixin
 method), 17
 debug_startCPUProfile() (aioethereum.management.debug.DebugMixin

method), 17

debug_startGoTrace() (aiorethereum.management.debug.DebugMixin method), 20

method), 17

debug_stopCPUProfile() (aiorethereum.management.debug.DebugMixin method), 20

method), 18

debug_stopGoTrace() (aiorethereum.management.debug.DebugMixin method), 18

debug_traceBlock() (aiorethereum.management.debug.DebugMixin method), 18

debug_traceBlockByHash() (aiorethereum.management.debug.DebugMixin method), 18

debug_traceBlockByNumber() (aiorethereum.management.debug.DebugMixin method), 18

debug_traceBlockFromFile() (aiorethereum.management.debug.DebugMixin method), 18

debug_traceTransaction() (aiorethereum.management.debug.DebugMixin method), 18

debug_verbosity() (aiorethereum.management.debug.DebugMixin method), 18

debug_vmodule() (aiorethereum.management.debug.DebugMixin method), 18

debug_writeBlockProfile() (aiorethereum.management.debug.DebugMixin method), 18

debug_writeMemProfile() (aiorethereum.management.debug.DebugMixin method), 19

DebugMixin (class in aiorethereum.management.debug), 16

E

eth_accounts() (aiorethereum.management.eth.EthMixin method), 19

eth_blockNumber() (aiorethereum.management.eth.EthMixin method), 19

eth_call() (aiorethereum.management.eth.EthMixin method), 19

eth_coinbase() (aiorethereum.management.eth.EthMixin method), 19

eth_compileLLL() (aiorethereum.management.eth.EthMixin method), 19

eth_compileSerpent() (aiorethereum.management.eth.EthMixin method), 19

eth_compileSolidity() (aiorethereum.management.eth.EthMixin method), 20

eth_estimateGas() (aiorethereum.management.eth.EthMixin method), 20

eth_gasPrice() (aiorethereum.management.eth.EthMixin method), 20

eth_getBalance() (aiorethereum.management.eth.EthMixin method), 20

eth_getBlockByHash() (aiorethereum.management.eth.EthMixin method), 20

eth_getBlockByNumber() (aiorethereum.management.eth.EthMixin method), 20

eth_getBlockTransactionCountByHash() (aiorethereum.management.eth.EthMixin method), 21

eth_getBlockTransactionCountByNumber() (aiorethereum.management.eth.EthMixin method), 21

eth_getCode() (aiorethereum.management.eth.EthMixin method), 21

eth_getCompilers() (aiorethereum.management.eth.EthMixin method), 21

eth_getFilterChanges() (aiorethereum.management.eth.EthMixin method), 21

eth_getFilterLogs() (aiorethereum.management.eth.EthMixin method), 21

eth_getLogs() (aiorethereum.management.eth.EthMixin method), 21

eth_getStorageAt() (aiorethereum.management.eth.EthMixin method), 22

eth_getTransactionByBlockHashAndIndex() (aiorethereum.management.eth.EthMixin method), 22

eth_getTransactionByBlockNumberAndIndex() (aiorethereum.management.eth.EthMixin method), 22

eth_getTransactionByHash() (aiorethereum.management.eth.EthMixin method), 22

eth_getTransactionCount() (aiorethereum.management.eth.EthMixin method), 22

eth_getTransactionReceipt() (aiorethereum.management.eth.EthMixin method), 22

eth_getUncleByBlockHashAndIndex() (aiorethereum.management.eth.EthMixin method), 23

eth_getUncleByBlockNumberAndIndex() (aiorethereum.management.eth.EthMixin method), 23

eth_getUncleCountByBlockHash() (aiorethereum.management.eth.EthMixin method), 23

eth_getUncleCountByBlockNumber() (aiorethereum.management.eth.EthMixin method), 23

eth_getWork() (aiorethereum.management.eth.EthMixin method), 23

eth_hashrate() (aioreturn.management.eth.EthMixin method), 23

eth_mining() (aioreturn.management.eth.EthMixin method), 23

eth_newBlockFilter() (aioreturn.management.eth.EthMixin method), 23

eth_newFilter() (aioreturn.management.eth.EthMixin method), 24

eth_newPendingTransactionFilter() (aioreturn.management.eth.EthMixin method), 24

eth_protocolVersion() (aioreturn.management.eth.EthMixin method), 24

eth_sendRawTransaction() (aioreturn.management.eth.EthMixin method), 24

eth_sendTransaction() (aioreturn.management.eth.EthMixin method), 24

eth_sign() (aioreturn.management.eth.EthMixin method), 24

eth_submitHashrate() (aioreturn.management.eth.EthMixin method), 25

eth_submitWork() (aioreturn.management.eth.EthMixin method), 25

eth_syncing() (aioreturn.management.eth.EthMixin method), 25

eth_uninstallFilter() (aioreturn.management.eth.EthMixin method), 25

EthMixin (class in aioresreturn.management.eth), 19

M

miner_setEtherBase() (aioreturn.management.miner.MinerMixin method), 25

miner_setExtra() (aioreturn.management.miner.MinerMixin method), 26

miner_setGasPrice() (aioreturn.management.miner.MinerMixin method), 26

miner_start() (aioreturn.management.miner.MinerMixin method), 26

miner_stop() (aioreturn.management.miner.MinerMixin method), 26

MinerMixin (class in aioresreturn.management.miner), 25

N

net_listening() (aioreturn.management.net.NetMixin method), 26

net_peerCount() (aioreturn.management.net.NetMixin method), 26

net_version() (aioreturn.management.net.NetMixin method), 26

NetMixin (class in aioresreturn.management.net), 26

P

personal_ecRecover() (aioreturn.management.personal.PersonalMixin method), 26

personal_importRawKey() (aioreturn.management.personal.PersonalMixin method), 27

personal_listAccounts() (aioreturn.management.personal.PersonalMixin method), 27

personal_lockAccount() (aioreturn.management.personal.PersonalMixin method), 27

personal_newAccount() (aioreturn.management.personal.PersonalMixin method), 27

personal_sendTransaction() (aioreturn.management.personal.PersonalMixin method), 27

personal_sign() (aioreturn.management.personal.PersonalMixin method), 28

personal_unlockAccount() (aioreturn.management.personal.PersonalMixin method), 28

PersonalMixin (class in aioresreturn.management.personal), 26

pytest, 30

Python Enhancement Proposals
PEP 3156, 1, 30

R

rpc_call() (aioreturn.BaseAsyncIOClient method), 14

S

shh_addToGroup() (aioreturn.management.shh.ShhMixin method), 28

shh_getFilterChanges() (aioreturn.management.shh.ShhMixin method), 28

shh_getMessages() (aioreturn.management.shh.ShhMixin method), 28

shh_hasIdentity() (aioreturn.management.shh.ShhMixin method), 28

shh_newFilter() (aioreturn.management.shh.ShhMixin method), 28

shh_newGroup() (aioreturn.management.shh.ShhMixin method), 28

shh_newIdentity() (aioreturn.management.shh.ShhMixin method), 28

shh_post() (aioreturn.management.shh.ShhMixin method), 29

shh_uninstallFilter() (aioreturn.management.shh.ShhMixin method), 29

shh_version() (aioreturn.management.shh.ShhMixin method), 29

ShhMixin (class in aioresreturn.management.shh), 28

T

txpool_content() (aioreturn.management.txpool.TxpoolMixin

method), 29
txpool_inspect() (aiorethereum.management.txpool.TxpoolMixin
method), 29
txpool_status() (aiorethereum.management.txpool.TxpoolMixin
method), 29
TxpoolMixin (class in aiorethereum.management.txpool),
29

U

ujson, 30

W

web3_clientVersion() (aiorethereum.management.web3.Web3Mixin
method), 29
web3_sha3() (aiorethereum.management.web3.Web3Mixin
method), 29
Web3Mixin (class in aiorethereum.management.web3), 29