
beem Documentation

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Contents

1	About this Library	3
2	Quickstart	5
3	General	7
4	Indices and tables	199
	Python Module Index	201
	Index	203

Steem/Hive is a blockchain-based rewards platform for publishers to monetize content and grow community.

It is based on *Graphene* (tm), a blockchain technology stack (i.e. software) that allows for fast transactions and ascalable blockchain solution. In case of Steem/Hive, it comes with decentralized publishing of content.

The beem library has been designed to allow developers to easily access its routines and make use of the network without dealing with all the related blockchain technology and cryptography. This library can be used to do anything that is allowed according to the Steem/Hive blockchain protocol.

CHAPTER 1

About this Library

The purpose of *beem* is to simplify development of products and services that use the Steem blockchain. It comes with

- its own (bip32-encrypted) wallet
- RPC interface for the Blockchain backend
- JSON-based blockchain objects (accounts, blocks, prices, markets, etc)
- a simple to use yet powerful API
- transaction construction and signing
- push notification API
- *and more*

CHAPTER 2

Quickstart

Note:

All methods that construct and sign a transaction can be given the `account=` parameter to identify the user that is going to be affected by this transaction, e.g.:

- the source account in a transfer
- the account that buys/sells an asset in the exchange
- the account whose collateral will be modified

Important, If no `account` is given, then the `default_account` according to the settings in `config` is used instead.

```
from beem import Steem
steem = Steem()
steem.wallet.unlock("wallet-passphrase")
account = Account("test", steem_instance=steem)
account.transfer("<to>", "<amount>", "<asset>", "<memo>")
```

```
from beem.blockchain import Blockchain
blockchain = Blockchain()
for op in blockchain.stream():
    print(op)
```

```
from beem.block import Block
print(Block(1))
```

```
from beem.account import Account
account = Account("test")
print(account.balances)
for h in account.history():
    print(h)
```

```
from beem.steem import Steem
stm = Steem()
stm.wallet.wipe(True)
stm.wallet.create("wallet-passphrase")
stm.wallet.unlock("wallet-passphrase")
stm.wallet.addPrivateKey("512345678")
stm.wallet.lock()
```

```
from beem.market import Market
market = Market("SBD:STEEM")
print(market.ticker())
market.steem.wallet.unlock("wallet-passphrase")
print(market.sell(300, 100) # sell 100 STEEM for 300 STEEM/SBD
```

3.1 Installation

The minimal working python version is 2.7.x. or 3.4.x

beem can be installed parallel to python-steem.

For Debian and Ubuntu, please ensure that the following packages are installed:

```
sudo apt-get install build-essential libssl-dev python-dev curl
```

For Fedora and RHEL-derivatives, please ensure that the following packages are installed:

```
sudo yum install gcc openssl-devel python-devel
```

For OSX, please do the following:

```
brew install openssl  
export CFLAGS="-I$(brew --prefix openssl)/include $CFLAGS"  
export LDFLAGS="-L$(brew --prefix openssl)/lib $LDFLAGS"
```

For Termux on Android, please install the following packages:

```
pkg install clang openssl-dev python-dev
```

Install pip (<https://pip.pypa.io/en/stable/installing/>):

```
curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py  
python get-pip.py
```

Signing and Verify can be fasten (200 %) by installing cryptography. Install cryptography with pip:

```
pip install -U cryptography
```

Install beem with pip:

```
pip install -U beem
```

Sometimes this does not work. Please try:

```
pip3 install -U beem
```

or:

```
python -m pip install beem
```

3.1.1 Manual installation

You can install beem from this repository if you want the latest but possibly non-compiling version:

```
git clone https://github.com/holgern/beem.git
cd beem
python setup.py build
python setup.py install --user
```

Run tests after install:

```
pytest
```

3.1.2 Installing beem with conda-forge

Installing beem from the conda-forge channel can be achieved by adding conda-forge to your channels with:

```
conda config --add channels conda-forge
```

Once the conda-forge channel has been enabled, beem can be installed with:

```
conda install beem
```

Signing and Verify can be fasten (200 %) by installing cryptography:

```
conda install cryptography
```

3.1.3 Enable Logging

Add the following for enabling logging in your python script:

```
import logging
log = logging.getLogger(__name__)
logging.basicConfig(level=logging.INFO)
```

When you want to see only critical errors, replace the last line by:

```
logging.basicConfig(level=logging.CRITICAL)
```

3.2 Quickstart

3.2.1 Hive/Steem blockchain

Nodes for using beem with the Hive blockchain can be set by the command line tool with:

```
beempy updatenodes --hive
```

Nodes for the Steem blockchain are set with

```
beempy updatenodes
```

Hive nodes can be set in a python script with

```
from beem import Steem
from beem.nodelist import NodeList
nodelist = NodeList()
nodelist.update_nodes()
nodes = nodelist.get_nodes(hive=True)
hive = Steem(node=nodes)
print(hive.is_hive)
```

Steem nodes can be set in a python script with

```
from beem import Steem
from beem.nodelist import NodeList
nodelist = NodeList()
nodelist.update_nodes()
nodes = nodelist.get_nodes(hive=False)
hive = Steem(node=nodes)
print(hive.is_hive)
```

3.2.2 Steem

The steem object is the connection to the Steem/Hive blockchain. By creating this object different options can be set.

Note: All init methods of beem classes can be given the `steem_instance=` parameter to assure that all objects use the same steem object. When the `steem_instance=` parameter is not used, the steem object is taken from `get_shared_steem_instance()`.

`beem.instance.shared_steem_instance()` returns a global instance of steem. It can be set by `beem.instance.set_shared_steem_instance()` otherwise it is created on the first call.

```
from beem import Steem
from beem.account import Account
stm = Steem()
account = Account("test", steem_instance=stm)
```

```
from beem import Steem
from beem.account import Account
from beem.instance import set_shared_steem_instance
stm = Steem()
```

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```
set_shared_steem_instance(stm)
account = Account("test")
```

3.2.3 Wallet and Keys

Each account has the following keys:

- Posting key (allows accounts to post, vote, edit, resteeem and follow/mute)
- Active key (allows accounts to transfer, power up/down, voting for witness, ...)
- Memo key (Can be used to encrypt/decrypt memos)
- Owner key (The most important key, should not be used with beem)

Outgoing operation, which will be stored in the steem blockchain, have to be signed by a private key. E.g. Comment or Vote operation need to be signed by the posting key of the author or upvoter. Private keys can be provided to beem temporary or can be stored encrypted in a sql-database (wallet).

Note: Before using the wallet the first time, it has to be created and a password has to set. The wallet content is available to beem.py and all python scripts, which have access to the sql database file.

Creating a wallet

`steem.wallet.wipe(True)` is only necessary when there was already an wallet created.

```
from beem import Steem
steem = Steem()
steem.wallet.wipe(True)
steem.wallet.unlock("wallet-passphrase")
```

Adding keys to the wallet

```
from beem import Steem
steem = Steem()
steem.wallet.unlock("wallet-passphrase")
steem.wallet.addPrivateKey("xxxxxxx")
steem.wallet.addPrivateKey("xxxxxxx")
```

Using the keys in the wallet

```
from beem import Steem
steem = Steem()
steem.wallet.unlock("wallet-passphrase")
account = Account("test", steem_instance=steem)
account.transfer("<to>", "<amount>", "<asset>", "<memo>")
```

Private keys can also set temporary

```
from beem import Steem
steem = Steem(keys=["xxxxxxxxx"])
account = Account("test", steem_instance=steem)
account.transfer("<to>", "<amount>", "<asset>", "<memo>")
```

3.2.4 Receiving information about blocks, accounts, votes, comments, market and witness

Receive all Blocks from the Blockchain

```
from beem.blockchain import Blockchain
blockchain = Blockchain()
for op in blockchain.stream():
    print(op)
```

Access one Block

```
from beem.block import Block
print(Block(1))
```

Access an account

```
from beem.account import Account
account = Account("test")
print(account.balances)
for h in account.history():
    print(h)
```

A single vote

```
from beem.vote import Vote
vote = Vote(u"@gtg/ffdhu-gtg-witness-log|gandalf")
print(vote.json())
```

All votes from an account

```
from beem.vote import AccountVotes
allVotes = AccountVotes("gtg")
```

Access a post

```
from beem.comment import Comment
comment = Comment("@gtg/ffdhu-gtg-witness-log")
print(comment["active_votes"])
```

Access the market

```
from beem.market import Market
market = Market("SBD:STEEM")
print(market.ticker())
```

Access a witness

```
from beem.witness import Witness
witness = Witness("gtg")
print(witness.is_active)
```

3.2.5 Sending transaction to the blockchain

Sending a Transfer

```
from beem import Steem
steem = Steem()
steem.wallet.unlock("wallet-passphrase")
account = Account("test", steem_instance=steem)
account.transfer("null", 1, "SBD", "test")
```

Upvote a post

```
from beem.comment import Comment
from beem import Steem
steem = Steem()
steem.wallet.unlock("wallet-passphrase")
comment = Comment("@gtg/ffdhg-gtg-witness-log", steem_instance=steem)
comment.upvote(weight=10, voter="test")
```

Publish a post to the blockchain

```
from beem import Steem
steem = Steem()
steem.wallet.unlock("wallet-passphrase")
steem.post("title", "body", author="test", tags=["a", "b", "c", "d", "e"], self_
↳ vote=True)
```

Sell STEEM on the market

```
from beem.market import Market
from beem import Steem
steem.wallet.unlock("wallet-passphrase")
market = Market("SBD:STEEM", steem_instance=steem)
print(market.ticker())
market.steem.wallet.unlock("wallet-passphrase")
print(market.sell(300, 100)) # sell 100 STEEM for 300 STEEM/SBD
```

3.3 Tutorials

3.3.1 Bundle Many Operations

With Steem, you can bundle multiple operations into a single transactions. This can be used to do a multi-send (one sender, multiple receivers), but it also allows to use any other kind of operation. The advantage here is that the user can be sure that the operations are executed in the same order as they are added to the transaction.

A block can only include one vote operation and one comment operation from each sender.


```

from pprint import pprint
from beem import Steem
from beem.account import Account
from beem.comment import Comment
from beem.instance import set_shared_steem_instance

# not a real working key
wif = "5KQwrPbwdL6PhXujxW37FSSQZlJiwsST4cqQzDeyXtP79zkvFD3"

stm = Steem(
    bundle=True, # Enable bundle broadcast
    # nobroadcast=True, # Enable this for testing
    keys=[wif],
)
# Set stm as shared instance
set_shared_steem_instance(stm)

# Account and Comment will use now stm
account = Account("test")

# Post
c = Comment("@gtg/witness-gtg-log")

account.transfer("test1", 1, "STEEM")
account.transfer("test2", 1, "STEEM")
account.transfer("test3", 1, "SBD")
# Upvote post with 25%
c.upvote(25, voter=account)

pprint(stm.broadcast())

```

3.3.2 Use nobroadcast for testing

When using *nobroadcast=True* the transaction is not broadcasted but printed.

```

from pprint import pprint
from beem import Steem
from beem.account import Account
from beem.instance import set_shared_steem_instance

# Only for testing not a real working key
wif = "5KQwrPbwdL6PhXujxW37FSSQZlJiwsST4cqQzDeyXtP79zkvFD3"

# set nobroadcast always to True, when testing
testnet = Steem(
    nobroadcast=True, # Set to false when want to go live
    keys=[wif],
)
# Set testnet as shared instance
set_shared_steem_instance(testnet)

# Account will use now testnet
account = Account("test")

pprint(account.transfer("test1", 1, "STEEM"))

```

When executing the script above, the output will be similar to the following:

```
Not broadcasting anything!
{'expiration': '2018-05-01T16:16:57',
 'extensions': [],
 'operations': [['transfer',
                  {'amount': '1.000 STEEM',
                   'from': 'test',
                   'memo': '',
                   'to': 'test1'}]],
 'ref_block_num': 33020,
 'ref_block_prefix': 2523628005,
 'signatures': [
  ↳ '1f57da50f241e70c229ed67b5d61898e792175c0f18ae29df8af414c46ae91eb5729c867b5d7dcc578368e7024e414c23'
  ↳ '']]
```

3.3.3 Clear BlockchainObject Caching

Each BlockchainObject (Account, Comment, Vote, Witness, Amount, ...) has a global cache. This cache stores all objects and could lead to increased memory consumption. The global cache can be cleared with a `clear_cache()` call from any BlockchainObject.

```
from pprint import pprint
from beem.account import Account

account = Account("test")
pprint(str(account._cache))
account1 = Account("test1")
pprint(str(account._cache))
pprint(str(account1._cache))
account.clear_cache()
pprint(str(account._cache))
pprint(str(account1._cache))
```

3.3.4 Simple Sell Script

```
from beem import Steem
from beem.market import Market
from beem.price import Price
from beem.amount import Amount

# Only for testing not a real working key
wif = "5KQwrPbwdL6PhXujxW37FSSQZ1JiwsST4cqQzDeyXtP79zkvFD3"

#
# Instantiate Steem (pick network via API node)
#
steem = Steem(
    nobroadcast=True, # <--- set this to False when you want to fire!
    keys=[wif]        # <--- use your real keys, when going live!
)

#
# This defines the market we are looking at.
```

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```

# The first asset in the first argument is the *quote*
# Sell and buy calls always refer to the *quote*
#
market = Market("SBD:STEEM",
    steem_instance=steem
)

#
# Sell an asset for a price with amount (quote)
#
print(market.sell(
    Price(100.0, "STEEM/SBD"),
    Amount("0.01 SBD")
))

```

3.3.5 Sell at a timely rate

```

import threading
from beem import Steem
from beem.market import Market
from beem.price import Price
from beem.amount import Amount

# Only for testing not a real working key
wif = "5KQwrPbwdL6PhXujxW37FSSQZlJiwsST4cqQzDeyXtP79zkvFD3"

def sell():
    """ Sell an asset for a price with amount (quote)
    """
    print(market.sell(
        Price(100.0, "SBD/STEEM"),
        Amount("0.01 STEEM")
    ))

    threading.Timer(60, sell).start()

if __name__ == "__main__":
    #
    # Instantiate Steem (pick network via API node)
    #
    steem = Steem(
        nobroadcast=True, # <--- set this to False when you want to fire!
        keys=[wif]        # <--- use your real keys, when going live!
    )

    #
    # This defines the market we are looking at.
    # The first asset in the first argument is the *quote*
    # Sell and buy calls always refer to the *quote*
    #
    market = Market("STEEM:SBD",
        steem_instance=steem
    )

```

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```
sell()
```

3.3.6 Batch api calls on AppBase

Batch api calls are possible with AppBase RPC nodes. If you call a Api-Call with `add_to_queue=True` it is not submitted but stored in `rpc_queue`. When a call with `add_to_queue=False` (default setting) is started, the complete queue is sendd at once to the node. The result is a list with replies.

```
from beem import Steem
stm = Steem("https://api.steemit.com")
stm.rpc.get_config(add_to_queue=True)
stm.rpc.rpc_queue
```

```
[{'method': 'condenser_api.get_config', 'jsonrpc': '2.0', 'params': [], 'id': 6}]
```

```
result = stm.rpc.get_block({"block_num":1}, api="block", add_to_queue=False)
len(result)
```

```
2
```

3.3.7 Account history

Lets calculate the curation reward from the last 7 days:

```
from datetime import datetime, timedelta
from beem.account import Account
from beem.amount import Amount

acc = Account("gtg")
stop = datetime.utcnow() - timedelta(days=7)
reward_vests = Amount("0 VESTS")
for reward in acc.history_reverse(stop=stop, only_ops=["curation_reward"]):
    reward_vests += Amount(reward['reward'])
curation_rewards_SP = acc.steem.vests_to_sp(reward_vests.amount)
print("Rewards are %.3f SP" % curation_rewards_SP)
```

Lets display all Posts from an account:

```
from beem.account import Account
from beem.comment import Comment
from beem.exceptions import ContentDoesNotExistsException
account = Account("holger80")
c_list = {}
for c in map(Comment, account.history(only_ops=["comment"])):
    if c.permlink in c_list:
        continue
    try:
        c.refresh()
    except ContentDoesNotExistsException:
        continue
    c_list[c.permlink] = 1
```

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```
if not c.is_comment():
    print("%s " % c.title)
```

3.3.8 Transactionbuilder

Sign transactions with beem without using the wallet and build the transaction by hand. Example with one operation with and without the wallet:

```
from beem import Steem
from beem.transactionbuilder import TransactionBuilder
from beembase import operations
stm = Steem()
# Uncomment the following when using a wallet:
# stm.wallet.unlock("secret_password")
tx = TransactionBuilder(stem_instance=stm)
op = operations.Transfer(**{"from": 'user_a',
                           "to": 'user_b',
                           "amount": '1.000 SBD',
                           "memo": 'test 2'})

tx.appendOps(op)
# Comment appendWif out and uncomment appendSigner when using a stored key from the
↳ wallet
tx.appendWif('5.....') # `user_a`
# tx.appendSigner('user_a', 'active')
tx.sign()
tx.broadcast()
```

Example with signing and broadcasting two operations:

```
from beem import Steem
from beem.transactionbuilder import TransactionBuilder
from beembase import operations
stm = Steem()
# Uncomment the following when using a wallet:
# stm.wallet.unlock("secret_password")
tx = TransactionBuilder(stem_instance=stm)
ops = []
op = operations.Transfer(**{"from": 'user_a',
                           "to": 'user_b',
                           "amount": '1.000 SBD',
                           "memo": 'test 2'})

ops.append(op)
op = operations.Vote(**{"voter": v,
                       "author": author,
                       "permlink": permlink,
                       "weight": int(percent * 100)})

ops.append(op)
tx.appendOps(ops)
# Comment appendWif out and uncomment appendSigner when using a stored key from the
↳ wallet
tx.appendWif('5.....') # `user_a`
# tx.appendSigner('user_a', 'active')
tx.sign()
tx.broadcast()
```

3.4 beempy CLI

beempy is a convenient CLI utility that enables you to manage your wallet, transfer funds, check balances and more.

3.4.1 Using the Wallet

beempy lets you leverage your BIP38 encrypted wallet to perform various actions on your accounts.

The first time you use *beempy*, you will be prompted to enter a password. This password will be used to encrypt the *beempy* wallet, which contains your private keys.

You can change the password via *changewalletpassphrase* command.

```
beempy changewalletpassphrase
```

From this point on, every time an action requires your private keys, you will be prompted to enter this password (from CLI as well as while using *steem* library).

To bypass password entry, you can set an environment variable UNLOCK.

```
UNLOCK=mysecretpassword beempy transfer <recipient_name> 100 STEEM
```

3.4.2 Using a key json file

A *key_file.json* can be used to provide private keys to *beempy*:

```
{
  "account_a": {"posting": "5xx", "active": "5xx"},
  "account_b": {"posting": "5xx"},
}
```

with

```
beempy --key key_file.json command
```

When set, the wallet cannot be used.

3.4.3 Common Commands

First, you may like to import your Steem account:

```
beempy importaccount
```

You can also import individual private keys:

```
beempy addkey <private_key>
```

Listing accounts:

```
beempy listaccounts
```

Show balances:

```
beempy balance account_name1 account_name2
```

Sending funds:

```
beempy transfer --account <account_name> <recipient_name> 100 STEEM memo
```

Upvoting a post:

```
beempy upvote --account <account_name> https://steemit.com/funny/@mynameisbrian/the-
↪content-stand-a-comic
```

3.4.4 Setting Defaults

For a more convenient use of `beempy` as well as the `beem` library, you can set some defaults. This is especially useful if you have a single Steem account.

```
beempy set default_account test
beempy set default_vote_weight 100

beempy config
+-----+-----+
| Key           | Value   |
+-----+-----+
| default_account | test    |
| default_vote_weight | 100    |
+-----+-----+
```

If you've set up your *default_account*, you can now send funds by omitting this field:

```
beempy transfer <recipient_name> 100 STEEM memo
```

3.4.5 Commands

beempy

```
beempy [OPTIONS] COMMAND1 [ARGS]... [COMMAND2 [ARGS]...]...
```

Options

- n, --node** <node>
URL for public Steem API (e.g. <https://api.steemit.com>)
- o, --offline**
Prevent connecting to network
- d, --no-broadcast**
Do not broadcast
- p, --no-wallet**
Do not load the wallet
- x, --unsigned**
Nothing will be signed

- l, --create-link**
Creates steemconnect/hivesigner links from all broadcast operations
- s, --steem**
Connect to the Steem blockchain
- h, --hive**
Connect to the Hive blockchain
- k, --keys <keys>**
JSON file that contains account keys, when set, the wallet cannot be used.
- t, --token**
Uses a hivesigner/steemconnect token to broadcast (only broadcast operation with posting permission)
- e, --expires <expires>**
Delay in seconds until transactions are supposed to expire(defaults to 60)
- v, --verbose <verbose>**
Verbosity
- version**
Show the version and exit.

about

About beempy

```
beempy about [OPTIONS]
```

addkey

Add key to wallet

When no [OPTION] is given, a password prompt for unlocking the wallet and a prompt for entering the private key are shown.

```
beempy addkey [OPTIONS]
```

Options

- unsafe-import-key <unsafe_import_key>**
Private key to import to wallet (unsafe, unless shell history is deleted afterwards)

addtoken

Add key to wallet

When no [OPTION] is given, a password prompt for unlocking the wallet and a prompt for entering the private key are shown.

```
beempy addtoken [OPTIONS] NAME
```


Options

--unsafe-import-token <unsafe_import_token>
Private key to import to wallet (unsafe, unless shell history is deleted afterwards)

Arguments

NAME
Required argument

allow

Allow an account/key to interact with your account

foreign_account: The account or key that will be allowed to interact with account. When not given, password will be asked, from which a public key is derived. This derived key will then interact with your account.

```
beem allow [OPTIONS] [FOREIGN_ACCOUNT]
```

Options

--permission <permission>
The permission to grant (defaults to “posting”)

-a, --account <account>
The account to allow action for

--weight <weight>
The weight to use instead of the (full) threshold. If the weight is smaller than the threshold, additional signatures are required

--threshold <threshold>
The permission’s threshold that needs to be reached by signatures to be able to interact

Arguments

FOREIGN_ACCOUNT
Optional argument

approvewitness

Approve a witnesses

```
beem approvewitness [OPTIONS] WITNESS
```

Options

-a, --account <account>
Your account

Arguments

WITNESS

Required argument

balance

Shows balance

```
beempy balance [OPTIONS] [ACCOUNT]...
```

Arguments

ACCOUNT

Optional argument(s)

beneficiaries

Set beneficiaries

```
beempy beneficiaries [OPTIONS] AUTHORPERM [BENEFICIARIES]...
```

Arguments

AUTHORPERM

Required argument

BENEFICIARIES

Optional argument(s)

broadcast

broadcast a signed transaction

```
beempy broadcast [OPTIONS]
```

Options

--file <file>

Load transaction from file. If “-“, read from stdin (defaults to “-“)

buy

Buy STEEM/HIVE or SBD/HBD from the internal market

Limit buy price denoted in (SBD per STEEM or HBD per HIVE)

```
beempy buy [OPTIONS] AMOUNT ASSET [PRICE]
```

Options

-a, --account <account>
Buy with this account (defaults to “default_account”)

--orderid <orderid>
Set an orderid

Arguments

AMOUNT
Required argument

ASSET
Required argument

PRICE
Optional argument

cancel

Cancel order in the internal market

```
beempy cancel [OPTIONS] ORDERID
```

Options

-a, --account <account>
Sell with this account (defaults to “default_account”)

Arguments

ORDERID
Required argument

changekeys

Changes all keys for the specified account Keys are given in their public form. Asks for the owner key for broadcasting the op to the chain.

```
beempy changekeys [OPTIONS] ACCOUNT
```

Options

- owner** <owner>
Main owner public key - when not given, a passphrase is used to create keys.
- active** <active>
Active public key - when not given, a passphrase is used to create keys.
- posting** <posting>
posting public key - when not given, a passphrase is used to create keys.
- memo** <memo>
Memo public key - when not given, a passphrase is used to create keys.
- i, --import-pub** <import_pub>
Load public keys from file.

Arguments

ACCOUNT
Required argument

changerecovery

Changes the recovery account with the owner key (needs 30 days to be active)

```
beempy changerecovery [OPTIONS] NEW_RECOVERY_ACCOUNT
```

Options

- a, --account** <account>
Change the recovery account from this account

Arguments

NEW_RECOVERY_ACCOUNT
Required argument

changewalletpassphrase

Change wallet password

```
beempy changewalletpassphrase [OPTIONS]
```

claimaccount

Claim account for claimed account creation.

```
beempy claimaccount [OPTIONS] CREATOR
```

Options

- fee** <fee>
When fee is 0 (default) a subsidized account is claimed and can be created later with `create_claimed_account`
- n, --number** <number>
Number of subsidized accounts to be claimed (default = 1), when fee = 0 STEEM

Arguments

- CREATOR**
Required argument

claimreward

Claim reward balances

By default, this will claim all outstanding balances.

```
beempy claimreward [OPTIONS] [ACCOUNT]
```

Options

- reward_steem** <reward_steem>
Amount of STEEM/HIVE you would like to claim
- reward_sbd** <reward_sbd>
Amount of SBD/HBD you would like to claim
- reward_vests** <reward_vests>
Amount of VESTS you would like to claim
- claim_all_steem**
Claim all STEEM/HIVE, overwrites `reward_steem`
- claim_all_sbd**
Claim all SBD/HBD, overwrites `reward_sbd`
- claim_all_vests**
Claim all VESTS, overwrites `reward_vests`

Arguments

- ACCOUNT**
Optional argument

config

Shows local configuration

```
beempy config [OPTIONS]
```

convert

Convert SBD/HBD to Steem/Hive (takes a week to settle)

```
beempy convert [OPTIONS] AMOUNT
```

Options

-a, --account <account>
Powerup from this account

Arguments

AMOUNT
Required argument

createwallet

Create new wallet with a new password

```
beempy createwallet [OPTIONS]
```

Options

--wipe
Wipe old wallet without prompt.

curation

Lists curation rewards of all votes for authorperm

When authorperm is empty or “all”, the curation rewards for all account votes are shown.

authorperm can also be a number. e.g. 5 is equivalent to the fifth account vote in the given time duration (default is 7 days)

```
beempy curation [OPTIONS] [AUTHORPERM]
```

Options

-a, --account <account>
Show only curation for this account

-m, --limit <limit>
Show only the first minutes

-v, --min-vote <min_vote>
Show only votes higher than the given value

-w, --max-vote <max_vote>
Show only votes lower than the given value

- x, --min-performance** <min_performance>
Show only votes with performance higher than the given value in HBD/SBD
- y, --max-performance** <max_performance>
Show only votes with performance lower than the given value in HBD/SBD
- payout** <payout>
Show the curation for a potential payout in SBD as float
- e, --export** <export>
Export results to HTML-file
- s, --short**
Show only Curation without sum
- l, --length** <length>
Limits the permalink character length
- p, --permalink**
Show the permalink for each entry
- t, --title**
Show the title for each entry
- d, --days** <days>
Limit shown rewards by this amount of days (default: 7), max is 7 days.

Arguments

AUTHORPERM

Optional argument

currentnode

Sets the currently working node at the first place in the list

```
beem.py currentnode [OPTIONS]
```

Options

- version**
Returns only the raw version value
- url**
Returns only the raw url value

customjson

Broadcasts a custom json

First parameter is the custom json id, the second field is a json file or a json key value combination e.g. beem.py customjson -a holger80 dw-heist username holger80 amount 100

```
beem.py customjson [OPTIONS] JSONID [JSON_DATA]...
```

Options

- a, --account** <account>
The account which broadcasts the custom_json
- t, --active**
When set, the active key is used for broadcasting

Arguments

JSONID
Required argument

JSON_DATA
Optional argument(s)

delegate

Delegate (start delegating VESTS to another account)

amount is in VESTS / Steem

```
beem.py delegate [OPTIONS] AMOUNT TO_ACCOUNT
```

Options

- a, --account** <account>
Delegate from this account

Arguments

AMOUNT
Required argument

TO_ACCOUNT
Required argument

delete

delete a post/comment

POST is @author/permlink

```
beem.py delete [OPTIONS] POST
```

Options

- a, --account** <account>
Voter account name

Arguments

POST

Required argument

delkey

Delete key from the wallet

PUB is the public key from the private key which will be deleted from the wallet

```
beempy delkey [OPTIONS] PUB
```

Options

--confirm

Please confirm!

Arguments

PUB

Required argument

delprofile

Delete a variable in an account's profile

```
beempy delprofile [OPTIONS] VARIABLE...
```

Options

-a, --account <account>
delprofile as this user

Arguments

VARIABLE

Required argument(s)

delproxy

Delete your witness/proposal system proxy

```
beempy delproxy [OPTIONS]
```

Options

-a, --account <account>
Your account

deltoken

Delete name from the wallet

name is the public name from the private token which will be deleted from the wallet

```
beempy deltoken [OPTIONS] NAME
```

Options

--confirm
Please confirm!

Arguments

NAME
Required argument

disallow

Remove allowance an account/key to interact with your account

```
beempy disallow [OPTIONS] [FOREIGN_ACCOUNT]
```

Options

--permission <permission>
The permission to grant (defaults to “posting”)

-a, --account <account>
The account to disallow action for

--threshold <threshold>
The permission’s threshold that needs to be reached by signatures to be able to interact

Arguments

FOREIGN_ACCOUNT
Optional argument

disapprovewitness

Disapprove a witnesses

```
beempy disapprovewitness [OPTIONS] WITNESS
```

Options

-a, --account <account>
Your account

Arguments

WITNESS
Required argument

download

Download body with yaml header

```
beempy download [OPTIONS] [PERMLINK]...
```

Options

-a, --account <account>
Account are you posting from

-s, --save
Saves markdown in current directoy as date_permalink.md

-e, --export <export>
Export markdown to given a md-file name

Arguments

PERMLINK
Optional argument(s)

downvote

Downvote a post/comment

POST is @author/permlink

```
beempy downvote [OPTIONS] POST
```

Options

- a, --account** <account>
Voter account name
- w, --weight** <weight>
Downvote weight (from 0.1 to 100.0)

Arguments

POST
Required argument

featureflags

Get the account's feature flags.

The request has to be signed by the requested account or an admin account.

```
beempy featureflags [OPTIONS] [ACCOUNT]
```

Options

- s, --signing-account** <signing_account>
Signing account, when empty account is used.

Arguments

ACCOUNT
Optional argument

follow

Follow another account

```
beempy follow [OPTIONS] FOLLOW
```

Options

- a, --account** <account>
Follow from this account
- what** <what>
Follow these objects (defaults to ["blog"])

Arguments

FOLLOW
Required argument

follower

Get information about followers

```
beempy follower [OPTIONS] [ACCOUNT]...
```

Arguments

ACCOUNT

Optional argument(s)

following

Get information about following

```
beempy following [OPTIONS] [ACCOUNT]...
```

Arguments

ACCOUNT

Optional argument(s)

importaccount

Import an account using a passphrase

```
beempy importaccount [OPTIONS] ACCOUNT
```

Options

--roles <roles>

Import specified keys (owner, active, posting, memo).

Arguments

ACCOUNT

Required argument

info

Show basic blockchain info

General information about the blockchain, a block, an account, a post/comment and a public key

```
beempy info [OPTIONS] [OBJECTS]...
```

Arguments

OBJECTS

Optional argument(s)

interest

Get information about interest payment

```
beempy interest [OPTIONS] [ACCOUNT]...
```

Arguments

ACCOUNT

Optional argument(s)

keygen

Creates a new random BIP39 key or password based key and prints its derived private key and public key. The generated key is not stored. Can also be used to create new keys for an account. Can also be used to derive account keys from a password or BIP39 wordlist

```
beempy keygen [OPTIONS]
```

Options

- l, --import-word-list**
Imports a BIP39 wordlist and derives a private and public key
- s, --strength <strength>**
Defines word list length for BIP39 (default = 256).
- p, --passphrase**
Sets a BIP39 passphrase
- m, --path <path>**
Sets a path for BIP39 key creations. When path is set, network, role, account_keys, account and sequence is not used
- n, --network <network>**
Network index, when using BIP39, 0 for steem and 13 for hive, (default is 13)
- r, --role <role>**
Defines the key role for BIP39 when a single key is generated (default = owner).
- k, --account-keys**
Derives four BIP39 keys for each role
- s, --sequence <sequence>**
Sequence key number, when using BIP39 (default is 0)
- a, --account <account>**
account name for password based key generation or sequence number for BIP39 key, default = 0

- i, --import-password**
Imports a password and derives all four account keys
- c, --create-password**
Creates a new password and derives four account keys from it
- w, --wif <wif>**
Defines how many times the password is replaced by its WIF representation for password based keys (default = 0).
- u, --export-pub <export_pub>**
Exports the public account keys to a json file for account creation or keychange
- e, --export <export>**
The results are stored in a text file and will not be shown

listaccounts

Show stored accounts

```
beempy listaccounts [OPTIONS]
```

listkeys

Show stored keys

```
beempy listkeys [OPTIONS]
```

listtoken

Show stored token

```
beempy listtoken [OPTIONS]
```

mute

Mute another account

```
beempy mute [OPTIONS] MUTE
```

Options

- a, --account <account>**
Mute from this account
- what <what>**
Mute these objects (defaults to ["ignore"])

Arguments

MUTE

Required argument

muter

Get information about muter

```
beempy muter [OPTIONS] [ACCOUNT]...
```

Arguments

ACCOUNT

Optional argument(s)

muting

Get information about muting

```
beempy muting [OPTIONS] [ACCOUNT]...
```

Arguments

ACCOUNT

Optional argument(s)

newaccount

Create a new account Default setting is that a fee is paid for account creation Use `--create-claimed-account` for free account creation

Please use keygen and set public keys

```
beempy newaccount [OPTIONS] ACCOUNTNAME
```

Options

-a, --account <account>

Account that pays the fee or uses account tickets

--owner <owner>

Main public owner key - when not given, a passphrase is used to create keys.

--active <active>

Active public key - when not given, a passphrase is used to create keys.

--memo <memo>

Memo public key - when not given, a passphrase is used to create keys.

- posting** <posting>
posting public key - when not given, a passphrase is used to create keys.
- w, --wif** <wif>
Defines how many times the password is replaced by its WIF representation for password based keys (default = 0).
- c, --create-claimed-account**
Instead of paying the account creation fee a subsidized account is created.
- i, --import-pub** <import_pub>
Load public keys from file.

Arguments

ACCOUNTNAME

Required argument

nextnode

Uses the next node in list

```
beempy nextnode [OPTIONS]
```

Options

- results**
Shows result of changing the node.

notifications

Show notifications of an account

```
beempy notifications [OPTIONS] [ACCOUNT]
```

Options

- l, --limit** <limit>
Limits shown notifications
- a, --all**
Show all notifications (when not set, only unread are shown)
- m, --mark_as_read**
Broadcast a mark all as read custom json
- r, --replies**
Show only replies
- t, --mentions**
Show only mentions
- f, --follows**
Show only follows

- v, --votes**
Show only upvotes
- b, --reblogs**
Show only reblogs

Arguments

ACCOUNT
Optional argument

openorders

Show open orders

```
beempy openorders [OPTIONS] [ACCOUNT]
```

Arguments

ACCOUNT
Optional argument

orderbook

Obtain orderbook of the internal market

```
beempy orderbook [OPTIONS]
```

Options

- chart**
Enable charting
- l, --limit <limit>**
Limit number of returned open orders (default 25)
- show-date**
Show dates
- w, --width <width>**
Plot width (default 75)
- h, --height <height>**
Plot height (default 15)
- ascii**
Use only ascii symbols

parsewif

Parse a WIF private key without importing

```
beempy parsewif [OPTIONS]
```

Options

--unsafe-import-key <unsafe_import_key>
WIF key to parse (unsafe, unless shell history is deleted afterwards)

pending

Lists pending rewards

```
beempy pending [OPTIONS] [ACCOUNTS]...
```

Options

-s, --only-sum
Show only the sum

-p, --post
Show pending post payout

-c, --comment
Show pending comments payout

-v, --curation
Shows pending curation

-l, --length <length>
Limits the permalink character length

-a, --author
Show the author for each entry

-e, --permalink
Show the permalink for each entry

-t, --title
Show the title for each entry

-d, --days <days>
Limit shown rewards by this amount of days (default: 7), max is 7 days.

-f, --from <_from>
Start day from which on rewards are shown (default: 0), max is 7 days.

Arguments

ACCOUNTS

Optional argument(s)

permissions

Show permissions of an account

```
beempy permissions [OPTIONS] [ACCOUNT]
```

Arguments

ACCOUNT

Optional argument

pingnode

Returns the answer time in milliseconds

```
beempy pingnode [OPTIONS]
```

Options

--raw

Returns only the raw value

--sort

Sort all nodes by ping value

--remove

Remove node with errors from list

--threading

Use a thread for each node

post

broadcasts a post/comment. All image links which links to a file will be uploaded. The yaml header can contain:

— title: your title tags: tag1,tag2 community: hive-100000 beneficiaries: beempy:5%,holger80:5% —

```
beempy post [OPTIONS] MARKDOWN_FILE
```

Options

-a, --account <account>

Account are you posting from

-t, --title <title>

Title of the post

-p, --permlink <permlink>

Manually set the permlink (optional)

-g, --tags <tags>

A komma separated list of tags to go with the post.

- r, --reply_identifier** <reply_identifier>
Identifier of the parent post/comment, when set a comment is broadcasted
- c, --community** <community>
Name of the community (optional)
- b, --beneficiaries** <beneficiaries>
Post beneficiaries (komma separated, e.g. a:10%,b:20%)
- d, --percent-steem-dollars** <percent_steem_dollars>
50% SBD /50% SP is 10000 (default), 100% SP is 0
- m, --max-accepted-payout** <max_accepted_payout>
Default is 1000000.000 [SBD]
- n, --no-parse-body**
Disable parsing of links, tags and images
- e, --no-patch-on-edit**
Disable patch posting on edits (when the permalink already exists)

Arguments

MARKDOWN_FILE
Required argument

power

Shows vote power and bandwidth

```
beempy power [OPTIONS] [ACCOUNT]...
```

Arguments

ACCOUNT
Optional argument(s)

powerdown

Power down (start withdrawing VESTS from Steem POWER)

amount is in VESTS

```
beempy powerdown [OPTIONS] AMOUNT
```

Options

-a, --account <account>
Powerup from this account

Arguments

AMOUNT

Required argument

powerdownroute

Setup a powerdown route

```
beempy powerdownroute [OPTIONS] TO
```

Options

--percentage <percentage>

The percent of the withdraw to go to the “to” account

-a, --account <account>

Powerup from this account

--auto_vest

Set to true if the from account should receive the VESTS asVESTS, or false if it should receive them as STEEM/HIVE.

Arguments

TO

Required argument

powerup

Power up (vest STEEM/HIVE as STEEM/HIVE POWER)

```
beempy powerup [OPTIONS] AMOUNT
```

Options

-a, --account <account>

Powerup from this account

--to <to>

Powerup this account

Arguments

AMOUNT

Required argument

pricehistory

Show price history

```
beempy pricehistory [OPTIONS]
```

Options

- w, --width** <width>
Plot width (default 75)
- h, --height** <height>
Plot height (default 15)
- ascii**
Use only ascii symbols

reblog

Reblog an existing post

```
beempy reblog [OPTIONS] IDENTIFIER
```

Options

- a, --account** <account>
Reblog as this user

Arguments

IDENTIFIER
Required argument

reply

replies to a comment

```
beempy reply [OPTIONS] AUTHORPERM BODY
```

Options

- a, --account** <account>
Account are you posting from
- t, --title** <title>
Title of the post

Arguments

AUTHORPERM

Required argument

BODY

Required argument

rewards

Lists received rewards

```
beempy rewards [OPTIONS] [ACCOUNTS]...
```

Options

-s, --only-sum

Show only the sum

-p, --post

Show post payout

-c, --comment

Show comments payout

-v, --curation

Shows curation

-l, --length <length>

Limits the permalink character length

-a, --author

Show the author for each entry

-e, --permalink

Show the permalink for each entry

-t, --title

Show the title for each entry

-d, --days <days>

Limit shown rewards by this amount of days (default: 7)

Arguments

ACCOUNTS

Optional argument(s)

sell

Sell STEEM/HIVE or SBD/HBD from the internal market

Limit sell price denoted in (SBD per STEEM) or (HBD per HIVE)


```
beempy sell [OPTIONS] AMOUNT ASSET [PRICE]
```

Options

-a, --account <account>
Sell with this account (defaults to “default_account”)

--orderid <orderid>
Set an orderid

Arguments

AMOUNT
Required argument

ASSET
Required argument

PRICE
Optional argument

set

Set default_account, default_vote_weight or nodes

set [key] [value]

Examples:

Set the default vote weight to 50 %: set default_vote_weight 50

```
beempy set [OPTIONS] KEY VALUE
```

Arguments

KEY
Required argument

VALUE
Required argument

setprofile

Set a variable in an account’s profile

```
beempy setprofile [OPTIONS] [VARIABLE] [VALUE]
```

Options

-a, --account <account>
setprofile as this user

-p, --pair <pair>
“Key=Value” pairs

Arguments

VARIABLE
Optional argument

VALUE
Optional argument

setproxy

Set your witness/proposal system proxy

```
beempy setproxy [OPTIONS] PROXY
```

Options

-a, --account <account>
Your account

Arguments

PROXY
Required argument

sign

Sign a provided transaction with available and required keys

```
beempy sign [OPTIONS]
```

Options

-i, --file <file>
Load transaction from file. If “-“, read from stdin (defaults to “-“)

-o, --outfile <outfile>
Load transaction from file. If “-“, read from stdin (defaults to “-“)

ticker

Show ticker

```
beempy ticker [OPTIONS]
```

Options

-i, --sbd-to-steem
Show ticker in SBD/STEEM

tradehistory

Show price history

```
beempy tradehistory [OPTIONS]
```

Options

-d, --days <days>
Limit the days of shown trade history (default 7)

--hours <hours>
Limit the intervall history intervall (default 2 hours)

-i, --sbd-to-steem
Show ticker in SBD/STEEM

-l, --limit <limit>
Limit number of trades which is fetched at each intervall point (default 100)

-w, --width <width>
Plot width (default 75)

-h, --height <height>
Plot height (default 15)

--ascii
Use only ascii symbols

transfer

Transfer SBD/HD STEEM/HIVE

```
beempy transfer [OPTIONS] TO AMOUNT ASSET [MEMO]
```

Options

-a, --account <account>
Transfer from this account

Arguments

TO
Required argument

AMOUNT
Required argument

ASSET
Required argument

MEMO
Optional argument

unfollow

Unfollow/Unmute another account

```
beempy unfollow [OPTIONS] UNFOLLOW
```

Options

-a, --account <account>
UnFollow/UnMute from this account

Arguments

UNFOLLOW
Required argument

updatememokey

Update an account's memo key

```
beempy updatememokey [OPTIONS]
```

Options

-a, --account <account>
The account to updatememokey action for

--key <key>
The new memo key

updatenodes

Update the nodelist from @fullnodeupdate

```
beempy updatenodes [OPTIONS]
```

Options

- s, --show**
Prints the updated nodes
- h, --hive**
Switch to HIVE blockchain, when set to true.
- e, --steem**
Switch to STEEM nodes, when set to true.
- t, --test**
Do change the node list, only print the newest nodes setup.
- only-https**
Use only https nodes.
- only-wss**
Use only websocket nodes.

uploadimage

```
beempy uploadimage [OPTIONS] IMAGE
```

Options

- a, --account <account>**
Account name
- n, --image-name <image_name>**
Image name

Arguments

IMAGE
Required argument

upvote

Upvote a post/comment
POST is @author/permlink

```
beempy upvote [OPTIONS] POST
```

Options

- w, --weight <weight>**
Vote weight (from 0.1 to 100.0)
- a, --account <account>**
Voter account name

Arguments

POST

Required argument

userdata

Get the account's email address and phone number.

The request has to be signed by the requested account or an admin account.

```
beempy userdata [OPTIONS] [ACCOUNT]
```

Options

-s, --signing-account <signing_account>
Signing account, when empty account is used.

Arguments

ACCOUNT

Optional argument

verify

Returns the public signing keys for a block

```
beempy verify [OPTIONS] [BLOCKNUMBER]
```

Options

-t, --trx <trx>
Show only one transaction number

-u, --use-api
Uses the get_potential_signatures api call

Arguments

BLOCKNUMBER

Optional argument

votes

List outgoing/incoming account votes

```
beempy votes [OPTIONS] [ACCOUNT]
```

Options

- direction** <direction>
in or out
- o, --outgoing**
Show outgoing votes
- i, --incoming**
Show incoming votes
- d, --days** <days>
Limit shown vote history by this amount of days (default: 2)
- e, --export** <export>
Export results to TXT-file

Arguments

- ACCOUNT**
Optional argument

walletinfo

Show info about wallet

```
beempy walletinfo [OPTIONS]
```

Options

- u, --unlock**
Unlock wallet
- l, --lock**
Lock wallet

witness

List witness information

```
beempy witness [OPTIONS] WITNESS
```

Arguments

- WITNESS**
Required argument

witnesscreate

Create a witness

```
beempy witnesscreate [OPTIONS] WITNESS PUB_SIGNING_KEY
```

Options

```
--maximum_block_size <maximum_block_size>
    Max block size

--account_creation_fee <account_creation_fee>
    Account creation fee

--sbd_interest_rate <sbd_interest_rate>
    SBD interest rate in percent

--url <url>
    Witness URL
```

Arguments

```
WITNESS
    Required argument

PUB_SIGNING_KEY
    Required argument
```

witnessdisable

Disable a witness

```
beempy witnessdisable [OPTIONS] WITNESS
```

Arguments

```
WITNESS
    Required argument
```

witnessenable

Enable a witness

```
beempy witnessenable [OPTIONS] WITNESS SIGNING_KEY
```

Arguments

```
WITNESS
    Required argument
```


SIGNING_KEY

Required argument

witnesses

List witnesses

```
beempy witnesses [OPTIONS] [ACCOUNT]
```

Options**--limit** <limit>

How many witnesses should be shown

Arguments**ACCOUNT**

Optional argument

witnessfeed

Publish price feed for a witness

```
beempy witnessfeed [OPTIONS] WITNESS [WIF]
```

Options**-b, --base** <base>

Set base manually, when not set the base is automatically calculated.

-q, --quote <quote>

Steem quote manually, when not set the base is automatically calculated.

--support-pegSupports peg adjusting the quote, is overwritten by `--set-quote!`**Arguments****WITNESS**

Required argument

WIF

Optional argument

witnessproperties

Update witness properties of witness WITNESS with the witness signing key WIF

```
beem.py witnessproperties [OPTIONS] WITNESS WIF
```

Options

--account_creation_fee <account_creation_fee>
Account creation fee (float)

--account_subsidy_budget <account_subsidy_budget>
Account subsidy per block

--account_subsidy_decay <account_subsidy_decay>
Per block decay of the account subsidy pool

--maximum_block_size <maximum_block_size>
Max block size

--sbd_interest_rate <sbd_interest_rate>
SBD interest rate in percent

--new_signing_key <new_signing_key>
Set new signing key

--url <url>
Witness URL

Arguments

WITNESS
Required argument

WIF
Required argument

witnessupdate

Change witness properties

```
beem.py witnessupdate [OPTIONS]
```

Options

--witness <witness>
Witness name

--maximum_block_size <maximum_block_size>
Max block size

--account_creation_fee <account_creation_fee>
Account creation fee

--sbd_interest_rate <sbd_interest_rate>
SBD interest rate in percent

--url <url>
Witness URL

--signing_key <signing_key>
 Signing Key

3.4.6 beempy -help

You can see all available commands with `beempy --help`

```

~ % beempy --help
Usage: cli.py [OPTIONS] COMMAND1 [ARGS]... [COMMAND2 [ARGS]...]...

Options:
  -n, --node TEXT          URL for public Steem API (e.g.
                           https://api.steemit.com)
  -o, --offline            Prevent connecting to network
  -d, --no-broadcast       Do not broadcast
  -p, --no-wallet          Do not load the wallet
  -x, --unsigned           Nothing will be signed
  -e, --expires INTEGER    Delay in seconds until transactions are supposed to
                           expire (defaults to 60)
  -v, --verbose INTEGER    Verbosity
  --version                Show the version and exit.
  --help                   Show this message and exit.

Commands:
  addkey                  Add key to wallet When no [OPTION] is given,...
  allow                   Allow an account/key to interact with your...
  approvewitness          Approve a witnesses
  balance                 Shows balance
  broadcast                broadcast a signed transaction
  buy                     Buy STEEM or SBD from the internal market...
  cancel                  Cancel order in the internal market
  changewalletpassphrase  Change wallet password
  claimreward             Claim reward balances By default, this will...
  config                  Shows local configuration
  convert                  Convert STEEMDollars to Steem (takes a week...
  createwallet             Create new wallet with a new password
  currentnode             Sets the currently working node at the first...
  delkey                   Delete key from the wallet PUB is the public...
  delprofile              Delete a variable in an account's profile
  disallow                Remove allowance an account/key to interact...
  disapprovewitness       Disapprove a witnesses
  downvote                Downvote a post/comment POST is...
  follow                  Follow another account
  follower                Get information about followers
  following               Get information about following
  importaccount            Import an account using a passphrase
  info                    Show basic blockchain info General...
  interest                 Get information about interest payment
  listaccounts             Show stored accounts
  listkeys                Show stored keys
  mute                    Mute another account
  muter                   Get information about muter
  muting                  Get information about muting
  newaccount               Create a new account
  nextnode                Uses the next node in list
  openorders              Show open orders
  orderbook               Obtain orderbook of the internal market

```

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parsewif	Parse a WIF private key without importing
permissions	Show permissions of an account
pingnode	Returns the answer time in milliseconds
power	Shows vote power and bandwidth
powerdown	Power down (start withdrawing VESTS from...
powerdownroute	Setup a powerdown route
powerup	Power up (vest STEEM as STEEM POWER)
pricehistory	Show price history
resteen	Resteen an existing post
sell	Sell STEEM or SBD from the internal market...
set	Set default_account, default_vote_weight or ...
setprofile	Set a variable in an account's profile
sign	Sign a provided transaction with available...
ticker	Show ticker
tradehistory	Show price history
transfer	Transfer SBD/STEEM
unfollow	Unfollow/Unmute another account
updatememokey	Update an account's memo key
upvote	Upvote a post/comment POST is ...
votes	List outgoing/incoming account votes
walletinfo	Show info about wallet
witnesscreate	Create a witness
witnesses	List witnesses
witnessupdate	Change witness properties

3.5 Configuration

The pysteem library comes with its own local configuration database that stores information like

- API node URLs
- default account name
- the encrypted master password
- the default voting weight
- if keyring should be used for unlocking the wallet

and potentially more.

You can access those variables like a regular dictionary by using

```
from beem import Steem
steem = Steem()
print(steem.config.items())
```

Keys can be added and changed like they are for regular dictionaries.

If you don't want to load the `beem.steem.Steem` class, you can load the configuration directly by using:

```
from beem.storage import configStorage as config
```

It is also possible to access the configuration with the commandline tool *beem*:

```
beem config
```

3.5.1 API node URLs

The default node URLs which will be used when *node* is *None* in *beem.steem.Steem* class is stored in *config["nodes"]* as string. The list can be get and set by:

```
from beem import Steem
steem = Steem()
node_list = steem.get_default_nodes()
node_list = node_list[1:] + [node_list[0]]
steem.set_default_nodes(node_list)
```

beempy can also be used to set nodes:

```
beempy set nodes wss://steemd.privex.io
beempy set nodes "['wss://steemd.privex.io', 'wss://gtg.steem.house:8090']"
```

The default nodes can be reset to the default value. When the first node does not answer, steem should be set to the offline mode. This can be done by:

```
beempy -o set nodes ""
```

or

```
from beem import Steem
steem = Steem(offline=True)
steem.set_default_nodes("")
```

3.5.2 Default account

The default account name is used in some functions, when no account name is given. It is also used in *beempy* for all account related functions.

```
from beem import Steem
steem = Steem()
steem.set_default_account("test")
steem.config["default_account"] = "test"
```

or by beempy with

```
beempy set default_account test
```

3.5.3 Default voting weight

The default vote weight is used for voting, when no vote weight is given.

```
from beem import Steem
steem = Steem()
steem.config["default_vote_weight"] = 100
```

or by beempy with

```
beempy set default_vote_weight 100
```

3.5.4 Setting password_storage

The password_storage can be set to:

- environment, this is the default setting. The master password for the wallet can be provided in the environment variable *UNLOCK*.
- keyring (when set with beem, it asks for the wallet password)

```
beem set password_storage environment
beem set password_storage keyring
```

Environment variable for storing the master password

When *password_storage* is set to *environment*, the master password can be stored in *UNLOCK* for unlocking automatically the wallet.

Keyring support for beem and wallet

In order to use keyring for storing the wallet password, the following steps are necessary:

- Install keyring: *pip install keyring*
- Change *password_storage* to *keyring* with *beem* and enter the wallet password.

It also possible to change the password in the keyring by

```
python -m keyring set beem wallet
```

The stored master password can be displayed in the terminal by

```
python -m keyring get beem wallet
```

When keyring is set as *password_storage* and the stored password in the keyring is identically to the set master password of the wallet, the wallet is automatically unlocked everytime it is used.

Testing if unlocking works

Testing if the master password is correctly provided by keyring or the *UNLOCK* variable:

```
from beem import Steem
steem = Steem()
print(steem.wallet.locked())
```

When the output is False, automatic unlocking with keyring or the *UNLOCK* variable works. It can also tested by beem with

```
beem walletinfo --test-unlock
```

When no password prompt is shown, unlocking with keyring or the *UNLOCK* variable works.

3.6 Api Definitions

3.6.1 condenser_api

broadcast_block

not implemented

broadcast_transaction

```
from beem.transactionbuilder import TransactionBuilder
t = TransactionBuilder()
t.broadcast()
```

broadcast_transaction_synchronous

```
from beem.transactionbuilder import TransactionBuilder
t = TransactionBuilder()
t.broadcast()
```

get_account_bandwidth

```
from beem.account import Account
account = Account("test")
account.get_account_bandwidth()
```

get_account_count

```
from beem.blockchain import Blockchain
b = Blockchain()
b.get_account_count()
```

get_account_history

```
from beem.account import Account
acc = Account("steemit")
for h in acc.get_account_history(1,0):
    print(h)
```

get_account_reputations

```
from beem.blockchain import Blockchain
b = Blockchain()
for h in b.get_account_reputations():
    print(h)
```

get_account_votes

```
from beem.account import Account
acc = Account("gtg")
for h in acc.get_account_votes():
    print(h)
```

get_active_votes

```
from beem.vote import ActiveVotes
acc = Account("gtg")
post = acc.get_feed(0,1)[0]
a = ActiveVotes(post["authorperm"])
a.printAsTable()
```

get_active_witnesses

```
from beem.witness import Witnesses
w = Witnesses()
w.printAsTable()
```

get_block

```
from beem.block import Block
print(Block(1))
```

get_block_header

```
from beem.block import BlockHeader
print(BlockHeader(1))
```

get_blog

```
from beem.account import Account
acc = Account("gtg")
for h in acc.get_blog():
    print(h)
```

get_blog_authors

```
from beem.account import Account
acc = Account("gtg")
for h in acc.get_blog_authors():
    print(h)
```


get_blog_entries

```
from beem.account import Account
acc = Account("gtg")
for h in acc.get_blog_entries():
    print(h)
```

get_chain_properties

```
from beem import Steem
stm = Steem()
print(stm.get_chain_properties())
```

get_comment_discussions_by_payout

```
from beem.discussions import Query, Comment_discussions_by_payout
q = Query(limit=10)
for h in Comment_discussions_by_payout(q):
    print(h)
```

get_config

```
from beem import Steem
stm = Steem()
print(stm.get_config())
```

get_content

```
from beem.account import Account
from beem.comment import Comment
acc = Account("gtg")
post = acc.get_feed(0,1)[0]
print(Comment(post["authorperm"]))
```

get_content_replies

```
from beem.account import Account
from beem.comment import Comment
acc = Account("gtg")
post = acc.get_feed(0,1)[0]
c = Comment(post["authorperm"])
for h in c.get_replies():
    print(h)
```

get_conversion_requests

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_conversion_requests())
```

get_current_median_history_price

```
from beem import Steem
stm = Steem()
print(stm.get_current_median_history())
```

get_discussions_by_active

```
from beem.discussions import Query, Discussions_by_active
q = Query(limit=10)
for h in Discussions_by_active(q):
    print(h)
```

get_discussions_by_author_before_date

```
from beem.discussions import Query, Discussions_by_author_before_date
for h in Discussions_by_author_before_date(limit=10, author="gtg"):
    print(h)
```

get_discussions_by_blog

```
from beem.discussions import Query, Discussions_by_blog
q = Query(limit=10)
for h in Discussions_by_blog(q):
    print(h)
```

get_discussions_by_cashout

```
from beem.discussions import Query, Discussions_by_cashout
q = Query(limit=10)
for h in Discussions_by_cashout(q):
    print(h)
```

get_discussions_by_children

```
from beem.discussions import Query, Discussions_by_children
q = Query(limit=10)
for h in Discussions_by_children(q):
    print(h)
```

get_discussions_by_comments

```
from beem.discussions import Query, Discussions_by_comments
q = Query(limit=10, start_author="steemit", start_permlink="firstpost")
for h in Discussions_by_comments(q):
    print(h)
```

get_discussions_by_created

```
from beem.discussions import Query, Discussions_by_created
q = Query(limit=10)
for h in Discussions_by_created(q):
    print(h)
```

get_discussions_by_feed

```
from beem.discussions import Query, Discussions_by_feed
q = Query(limit=10, tag="steem")
for h in Discussions_by_feed(q):
    print(h)
```

get_discussions_by_hot

```
from beem.discussions import Query, Discussions_by_hot
q = Query(limit=10, tag="steem")
for h in Discussions_by_hot(q):
    print(h)
```

get_discussions_by_promoted

```
from beem.discussions import Query, Discussions_by_promoted
q = Query(limit=10, tag="steem")
for h in Discussions_by_promoted(q):
    print(h)
```

get_discussions_by_trending

```
from beem.discussions import Query, Discussions_by_trending
q = Query(limit=10, tag="steem")
for h in Discussions_by_trending(q):
    print(h)
```

get_discussions_by_votes

```
from beem.discussions import Query, Discussions_by_votes
q = Query(limit=10)
for h in Discussions_by_votes(q):
    print(h)
```

get_dynamic_global_properties

```
from beem import Steem
stm = Steem()
print(stm.get_dynamic_global_properties())
```

get_escrow

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_escrow())
```

get_expiring_vesting_delegations

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_expiring_vesting_delegations())
```

get_feed

```
from beem.account import Account
acc = Account("gtg")
for f in acc.get_feed():
    print(f)
```

get_feed_entries

```
from beem.account import Account
acc = Account("gtg")
for f in acc.get_feed_entries():
    print(f)
```

get_feed_history

```
from beem import Steem
stm = Steem()
print(stm.get_feed_history())
```

get_follow_count

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_follow_count())
```

get_followers

```
from beem.account import Account
acc = Account("gtg")
for f in acc.get_followers():
    print(f)
```

get_following

```
from beem.account import Account
acc = Account("gtg")
for f in acc.get_following():
    print(f)
```

get_hardfork_version

```
from beem import Steem
stm = Steem()
print(stm.get_hardfork_properties()["hf_version"])
```

get_key_references

```
from beem.account import Account
from beem.wallet import Wallet
acc = Account("gtg")
w = Wallet()
print(w.getAccountFromPublicKey(acc["posting"]["key_auths"][0][0]))
```

get_market_history

```
from beem.market import Market
m = Market()
for t in m.market_history():
    print(t)
```

get_market_history_buckets

```
from beem.market import Market
m = Market()
for t in m.market_history_buckets():
    print(t)
```

get_next_scheduled_hardfork

```
from beem import Steem
stm = Steem()
print(stm.get_hardfork_properties())
```

get_open_orders

```
from beem.market import Market
m = Market()
print(m.accountopenorders(account="gtg"))
```

get_ops_in_block

```
from beem.block import Block
b = Block(2e6, only_ops=True)
print(b)
```

get_order_book

```
from beem.market import Market
m = Market()
print(m.orderbook())
```

get_owner_history

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_owner_history())
```

get_post_discussions_by_payout

```
from beem.discussions import Query, Post_discussions_by_payout
q = Query(limit=10)
for h in Post_discussions_by_payout(q):
    print(h)
```

get_potential_signatures

```
from beem.transactionbuilder import TransactionBuilder
from beem.blockchain import Blockchain
b = Blockchain()
block = b.get_current_block()
trx = block.json()["transactions"][0]
t = TransactionBuilder(trx)
print(t.get_potential_signatures())
```

get_reblogged_by

```

from beem.account import Account
from beem.comment import Comment
acc = Account("gtg")
post = acc.get_feed(0,1)[0]
c = Comment(post["authorperm"])
for h in c.get_reblogged_by():
    print(h)

```

get_recent_trades

```

from beem.market import Market
m = Market()
for t in m.recent_trades():
    print(t)

```

get_recovery_request

```

from beem.account import Account
acc = Account("gtg")
print(acc.get_recovery_request())

```

get_replies_by_last_update

```

from beem.discussions import Query, Replies_by_last_update
q = Query(limit=10, start_author="steemit", start_permlink="firstpost")
for h in Replies_by_last_update(q):
    print(h)

```

get_required_signatures

```

from beem.transactionbuilder import TransactionBuilder
from beem.blockchain import Blockchain
b = Blockchain()
block = b.get_current_block()
trx = block.json()["transactions"][0]
t = TransactionBuilder(trx)
print(t.get_required_signatures())

```

get_reward_fund

```

from beem import Steem
stm = Steem()
print(stm.get_reward_funds())

```

get_savings_withdraw_from

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_savings_withdrawals(direction="from"))
```

get_savings_withdraw_to

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_savings_withdrawals(direction="to"))
```

get_state

```
from beem.comment import RecentByPath
for p in RecentByPath(path="promoted"):
    print(p)
```

get_tags_used_by_author

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_tags_used_by_author())
```

get_ticker

```
from beem.market import Market
m = Market()
print(m.ticker())
```

get_trade_history

```
from beem.market import Market
m = Market()
for t in m.trade_history():
    print(t)
```

get_transaction

```
from beem.blockchain import Blockchain
b = Blockchain()
print(b.get_transaction("6fde0190a97835ea6d9e651293e90c89911f933c"))
```


get_transaction_hex

```
from beem.blockchain import Blockchain
b = Blockchain()
block = b.get_current_block()
trx = block.json()["transactions"][0]
print(b.get_transaction_hex(trx))
```

get_trending_tags

```
from beem.discussions import Query, Trending_tags
q = Query(limit=10, start_tag="steemit")
for h in Trending_tags(q):
    print(h)
```

get_version

not implemented

get_vesting_delegations

```
from beem.account import Account
acc = Account("gtg")
for v in acc.get_vesting_delegations():
    print(v)
```

get_volume

```
from beem.market import Market
m = Market()
print(m.volume24h())
```

get_withdraw_routes

```
from beem.account import Account
acc = Account("gtg")
print(acc.get_withdraw_routes())
```

get_witness_by_account

```
from beem.witness import Witness
w = Witness("gtg")
print(w)
```

get_witness_count

```
from beem.witness import Witnesses
w = Witnesses()
print(w.witness_count)
```

get_witness_schedule

```
from beem import Steem
stm = Steem()
print(stm.get_witness_schedule())
```

get_witnesses

not implemented

get_witnesses_by_vote

```
from beem.witness import WitnessesRankedByVote
for w in WitnessesRankedByVote():
    print(w)
```

lookup_account_names

```
from beem.account import Account
acc = Account("gtg", full=False)
print(acc.json())
```

lookup_accounts

```
from beem.account import Account
acc = Account("gtg")
for a in acc.get_similar_account_names(limit=100):
    print(a)
```

lookup_witness_accounts

```
from beem.witness import ListWitnesses
for w in ListWitnesses():
    print(w)
```

verify_account_authority

disabled and not implemented

verify_authority

```

from beem.transactionbuilder import TransactionBuilder
from beem.blockchain import Blockchain
b = Blockchain()
block = b.get_current_block()
trx = block.json()["transactions"][0]
t = TransactionBuilder(trx)
t.verify_authority()
print("ok")

```

3.7 Modules

3.7.1 beem Modules

beem.account

class `beem.account.Account` (*account*, *full=True*, *lazy=False*, *blockchain_instance=None*, ***kwargs*)

Bases: `beem.blockchainobject.BlockchainObject`

This class allows to easily access Account data

Parameters

- **account_name** (*str*) – Name of the account
- **blockchain_instance** (*Steem/Hive*) – Hive or Steem instance
- **lazy** (*bool*) – Use lazy loading
- **full** (*bool*) – Obtain all account data including orders, positions, etc.
- **hive_instance** (*Hive*) – Hive instance
- **steem_instance** (*Steem*) – Steem instance

Returns Account data

Return type dictionary

Raises `beem.exceptions.AccountDoesNotExistsException` – if account does not exist

Instances of this class are dictionaries that come with additional methods (see below) that allow dealing with an account and its corresponding functions.

```

>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("gtg", blockchain_instance=stm)
>>> print(account)
<Account gtg>
>>> print(account.balances)

```

Note: This class comes with its own caching function to reduce the load on the API server. Instances of this class can be refreshed with `Account.refresh()`. The cache can be cleared with `Account.clear_cache()`

allow (*foreign*, *weight=None*, *permission='posting'*, *account=None*, *threshold=None*, ***kwargs*)

Give additional access to an account by some other public key or account.

Parameters

- **foreign** (*str*) – The foreign account that will obtain access
- **weight** (*int*) – (optional) The weight to use. If not define, the threshold will be used. If the weight is smaller than the threshold, additional signatures will be required. (defaults to threshold)
- **permission** (*str*) – (optional) The actual permission to modify (defaults to `posting`)
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)
- **threshold** (*int*) – (optional) The threshold that needs to be reached by signatures to be able to interact

approvewitness (*witness*, *account=None*, *approve=True*, ***kwargs*)

Approve a witness

Parameters

- **witness** (*list*) – list of Witness name or id
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

available_balances

List balances of an account. This call returns instances of `beem.amount.Amount`.

balances

Returns all account balances as dictionary

blog_history (*limit=None*, *start=-1*, *reblogs=True*, *account=None*)

Stream the blog entries done by an account in reverse time order.

Note: RPC nodes keep a limited history of entries for the user blog. Older blog posts of an account may not be available via this call due to these node limitations.

Parameters

- **limit** (*int*) – (optional) stream the latest *limit* blog entries. If unset (default), all available blog entries are streamed.
- **start** (*int*) – (optional) start streaming the blog entries from this index. *start=-1* (default) starts with the latest available entry.
- **reblogs** (*bool*) – (optional) if set *True* (default) reblogs / resteems are included. If set *False*, reblogs/resteems are omitted.
- **account** (*str*) – (optional) the account to stream blog entries for (defaults to `default_account`)

blog_history_reverse example:

```
from beem.account import Account
from beem import Steem
from beem.nodelist import NodeList
nodelist = NodeList()
nodelist.update_nodes()
stm = Steem(node=nodelist.get_hive_nodes())
acc = Account("steemitblog", blockchain_instance=stm)
for post in acc.blog_history(limit=10):
    print(post)
```

cancel_transfer_from_savings (*request_id*, *account=None*, ***kwargs*)

Cancel a withdrawal from ‘savings’ account.

Parameters

- **request_id** (*str*) – Identifier for tracking or cancelling the withdrawal
- **account** (*str*) – (optional) the source account for the transfer if not default_account

change_recovery_account (*new_recovery_account*, *account=None*, ***kwargs*)

Request a change of the recovery account.

Note: It takes 30 days until the change applies. Another request within this time restarts the 30 day period. Setting the current recovery account again cancels any pending change request.

Parameters

- **new_recovery_account** (*str*) – account name of the new recovery account
- **account** (*str*) – (optional) the account to change the recovery account for (defaults to default_account)

claim_reward_balance (*reward_steem=0*, *reward_sbd=0*, *reward_vests=0*, *account=None*, ***kwargs*)

Claim reward balances. By default, this will claim all outstanding balances. To bypass this behaviour, set desired claim amount by setting any of *reward_steem*, *reward_sbd* or *reward_vests*.

Parameters

- **reward_steem** (*str*) – Amount of STEEM you would like to claim.
- **reward_sbd** (*str*) – Amount of SBD you would like to claim.
- **reward_vests** (*str*) – Amount of VESTS you would like to claim.
- **account** (*str*) – The source account for the claim if not default_account is used.

comment_history (*limit=None*, *start_permlink=None*, *account=None*)

Stream the comments done by an account in reverse time order.

Note: RPC nodes keep a limited history of user comments for the user feed. Older comments may not be available via this call due to these node limitations.

Parameters

- **limit** (*int*) – (optional) stream the latest *limit* comments. If unset (default), all available comments are streamed.
- **start_permlink** (*str*) – (optional) start streaming the comments from this permlink. *start_permlink=None* (default) starts with the latest available entry.
- **account** (*str*) – (optional) the account to stream comments for (defaults to *default_account*)

`comment_history_reverse` example:

```
from beem.account import Account
from beem import Steem
from beem.nodelist import NodeList
nodelist = NodeList()
nodelist.update_nodes()
stm = Steem(node=nodelist.get_hive_nodes())
acc = Account("ned", blockchain_instance=stm)
for comment in acc.comment_history(limit=10):
    print(comment)
```

convert (*amount*, *account=None*, *request_id=None*)
Convert SteemDollars to Steem (takes 3.5 days to settle)

Parameters

- **amount** (*float*) – amount of SBD to convert
- **account** (*str*) – (optional) the source account for the transfer if not *default_account*
- **request_id** (*str*) – (optional) identifier for tracking the conversion

curation_stats ()
Returns the curation reward of the last 24h and 7d and the average of the last 7 days

Returns Account curation

Return type dictionary

Sample output:

```
{
  '24hr': 0.0,
  '7d': 0.0,
  'avg': 0.0
}
```

delegate_vesting_shares (*to_account*, *vesting_shares*, *account=None*, ***kwargs*)
Delegate SP to another account.

Parameters

- **to_account** (*str*) – Account we are delegating shares to (delegatee).
- **vesting_shares** (*str*) – Amount of VESTS to delegate eg. *10000 VESTS*.
- **account** (*str*) – The source account (delegator). If not specified, *default_account* is used.

disallow (*foreign*, *permission='posting'*, *account=None*, *threshold=None*, ***kwargs*)
Remove additional access to an account by some other public key or account.

Parameters

- **foreign** (*str*) – The foreign account that will obtain access
- **permission** (*str*) – (optional) The actual permission to modify (defaults to `posting`)
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)
- **threshold** (*int*) – The threshold that needs to be reached by signatures to be able to interact

disapprove_witness (*witness*, *account=None*, ***kwargs*)

Disapprove a witness

Parameters

- **witness** (*list*) – list of Witness name or id
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

ensure_full ()

Ensure that all data are loaded

estimate_virtual_op_num (*blocktime*, *stop_diff=0*, *max_count=100*)

Returns an estimation of an virtual operation index for a given time or blockindex

Parameters

- **blocktime** (*int*, *datetime*) – start time or start block index from which account operation should be fetched
- **stop_diff** (*int*) – Sets the difference between last estimation and new estimation at which the estimation stops. Must not be zero. (default is 1)
- **max_count** (*int*) – sets the maximum number of iterations. -1 disables this (default 100)

```
utc = pytz.timezone('UTC')
start_time = utc.localize(datetime.utcnow()) - timedelta(days=7)
acc = Account("gtg")
start_op = acc.estimate_virtual_op_num(start_time)

b = Blockchain()
start_block_num = b.get_estimated_block_num(start_time)
start_op2 = acc.estimate_virtual_op_num(start_block_num)
```

```
acc = Account("gtg")
block_num = 21248120
start = t.time()
op_num = acc.estimate_virtual_op_num(block_num, stop_diff=1, max_count=10)
stop = t.time()
print(stop - start)
for h in acc.get_account_history(op_num, 0):
    block_est = h["block"]
    print(block_est - block_num)
```

feed_history (*limit=None*, *start_author=None*, *start_permlink=None*, *account=None*)

Stream the feed entries of an account in reverse time order.

Note: RPC nodes keep a limited history of entries for the user feed. Older entries may not be available via this call due to these node limitations.

Parameters

- **limit** (*int*) – (optional) stream the latest *limit* feed entries. If unset (default), all available entries are streamed.
- **start_author** (*str*) – (optional) start streaming the replies from this author. *start_permlink=None* (default) starts with the latest available entry. If set, *start_permlink* has to be set as well.
- **start_permlink** (*str*) – (optional) start streaming the replies from this permlink. *start_permlink=None* (default) starts with the latest available entry. If set, *start_author* has to be set as well.
- **account** (*str*) – (optional) the account to get replies to (defaults to *default_account*)

`comment_history_reverse` example:

```
from beem.account import Account
from beem import Steem
from beem.nodelist import NodeList
nodelist = NodeList()
nodelist.update_nodes()
stm = Steem(node=nodelist.get_hive_nodes())
acc = Account("ned", blockchain_instance=stm)
for reply in acc.feed_history(limit=10):
    print(reply)
```

follow (*other*, *what*=['blog'], *account*=None)

Follow/Unfollow/Mute/Unmute another account's blog

Parameters

- **other** (*str*) – Follow this account
- **what** (*list*) – List of states to follow. ['blog'] means to follow other, [] means to unfollow/unmute other, ['ignore'] means to ignore other, (defaults to ['blog'])
- **account** (*str*) – (optional) the account to allow access to (defaults to *default_account*)

getSimilarAccountNames (*limit*=5)

Deprecated, please use `get_similar_account_names`

get_account_bandwidth (*bandwidth_type*=1, *account*=None)

get_account_history (*index*, *limit*, *order*=-1, *start*=None, *stop*=None, *use_block_num*=True, *only_ops*=[], *exclude_ops*=[], *raw_output*=False)

Returns a generator for individual account transactions. This call can be used in a `for` loop.

Parameters

- **index** (*int*) – first number of transactions to return
- **limit** (*int*) – limit number of transactions to return
- **start** (*int*, *datetime*) – start number/date of transactions to return (*optional*)

- **stop** (*int*, *datetime*) – stop number/date of transactions to return (*optional*)
- **use_block_num** (*bool*) – if true, start and stop are block numbers, otherwise virtual OP count numbers.
- **only_ops** (*array*) – Limit generator by these operations (*optional*)
- **exclude_ops** (*array*) – Exclude these operations from generator (*optional*)
- **batch_size** (*int*) – internal api call batch size (*optional*)
- **order** (*int*) – 1 for chronological, -1 for reverse order
- **raw_output** (*bool*) – if False, the output is a dict, which includes all values. Otherwise, the output is list.

Note: only_ops and exclude_ops takes an array of strings: The full list of operation ID's can be found in beembase.operationids.ops. Example: ['transfer', 'vote']

get_account_posts (*sort='feed'*, *account=None*, *observer=None*, *raw_data=False*)

Returns account feed

get_account_votes (*account=None*, *start_author=""*, *start_permlink=""*)

Returns all votes that the account has done

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_account_votes()
```

get_balance (*balances*, *symbol*)

Obtain the balance of a specific Asset. This call returns instances of *beem.amount.Amount*. Available balance types:

- “available”
- “saving”
- “reward”
- “total”

Parameters

- **balances** (*str*) – Defines the balance type
- **symbol** (*str*, *dict*) – Can be “SBD”, “STEEM” or “VESTS”

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
```

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```
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_balance("rewards", "HBD")
0.000 HBD
```

get_balances()

Returns all account balances as dictionary

Returns Account balances**Return type** dictionary

Sample output:

```
{
  'available': [102.985 STEEM, 0.008 SBD, 146273.695970 VESTS],
  'savings': [0.000 STEEM, 0.000 SBD],
  'rewards': [0.000 STEEM, 0.000 SBD, 0.000000 VESTS],
  'total': [102.985 STEEM, 0.008 SBD, 146273.695970 VESTS]
}
```

get_bandwidth()

Returns used and allocated bandwidth

Return type dictionary

Sample output:

```
{
  'used': 0,
  'allocated': 2211037
}
```

get_blog(start_entry_id=0, limit=100, raw_data=False, short_entries=False, account=None)

Returns the list of blog entries for an account

Parameters

- **start_entry_id** (*int*) – default is 0
- **limit** (*int*) – default is 100
- **raw_data** (*bool*) – default is False
- **short_entries** (*bool*) – when set to True and raw_data is True, get_blog_entries is used instead of get_blog
- **account** (*str*) – When set, a different account name is used (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("steemit", blockchain_instance=stm)
>>> account.get_blog(0, 1)
[<Comment @steemit/firstpost>]
```

get_blog_authors (*account=None*)

Returns a list of authors that have had their content reblogged on a given blog account

Parameters **account** (*str*) – When set, a different account name is used (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("gtg", blockchain_instance=stm)
>>> account.get_blog_authors()
```

get_blog_entries (*start_entry_id=0, limit=100, raw_data=True, account=None*)

Returns the list of blog entries for an account

Parameters

- **start_entry_id** (*int*) – default is 0
- **limit** (*int*) – default is 100
- **raw_data** (*bool*) – default is False
- **account** (*str*) – When set, a different account name is used (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("steemit", blockchain_instance=stm)
>>> entry = account.get_blog_entries(0, 1, raw_data=True)[0]
>>> print("%s - %s - %s" % (entry["author"], entry["permlink"], entry["blog
↳"]))
steemit - firstpost - steemit
```

get_conversion_requests (*account=None*)

Returns a list of SBD conversion request

Parameters **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
```

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```
>>> account.get_conversion_requests()
[]
```

get_creator()

Returns the account creator or *None* if the account was mined

get_curation_reward(days=7)

Returns the curation reward of the last *days* days

Parameters *days* (*int*) – limit number of days to be included int the return value

get_downvote_manabar()

Return downvote manabar

get_downvoting_power(with_regeneration=True)

Returns the account downvoting power in the range of 0-100%

get_effective_vesting_shares()

Returns the effective vesting shares

get_escrow(escrow_id=0, account=None)

Returns the escrow for a certain account by id

Parameters

- **escrow_id** (*int*) – Id (only pre appbase)
- **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_escrow(1234)
[]
```

get_expiring_vesting_delegations(after=None, limit=1000, account=None)

Returns the expirations for vesting delegations.

Parameters

- **after** (*datetime*) – expiration after (only for pre appbase nodes)
- **limit** (*int*) – limits number of shown entries (only for pre appbase nodes)
- **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
```

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```
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_expiring_vesting_delegations()
[]
```

get_feed (*start_entry_id=0, limit=100, raw_data=False, short_entries=False, account=None*)

Returns a list of items in an account's feed

Parameters

- **start_entry_id** (*int*) – default is 0
- **limit** (*int*) – default is 100
- **raw_data** (*bool*) – default is False
- **short_entries** (*bool*) – when set to True and raw_data is True, get_feed_entries is used instead of get_feed
- **account** (*str*) – When set, a different account name is used (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("steemit", blockchain_instance=stm)
>>> account.get_feed(0, 1, raw_data=True)
[]
```

get_feed_entries (*start_entry_id=0, limit=100, raw_data=True, account=None*)

Returns a list of entries in an account's feed

Parameters

- **start_entry_id** (*int*) – default is 0
- **limit** (*int*) – default is 100
- **raw_data** (*bool*) – default is False
- **short_entries** (*bool*) – when set to True and raw_data is True, get_feed_entries is used instead of get_feed
- **account** (*str*) – When set, a different account name is used (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("steemit", blockchain_instance=stm)
```

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```
>>> account.get_feed_entries(0, 1)
[]
```

get_follow_count (*account=None*)

get_followers (*raw_name_list=True, limit=100*)

Returns the account followers as list

get_following (*raw_name_list=True, limit=100*)

Returns who the account is following as list

get_manabar ()

Return manabar

get_manabar_recharge_time (*manabar, recharge_pct_goal=100*)

Returns the account mana recharge time in minutes

Parameters

- **manabar** (*dict*) – manabar dict from `get_manabar()` or `get_rc_manabar()`
- **recharge_pct_goal** (*float*) – mana recovery goal in percentage (default is 100)

get_manabar_recharge_time_str (*manabar, recharge_pct_goal=100*)

Returns the account manabar recharge time as string

Parameters

- **manabar** (*dict*) – manabar dict from `get_manabar()` or `get_rc_manabar()`
- **recharge_pct_goal** (*float*) – mana recovery goal in percentage (default is 100)

get_manabar_recharge_timedelta (*manabar, recharge_pct_goal=100*)

Returns the account mana recharge time as timedelta object

Parameters

- **manabar** (*dict*) – manabar dict from `get_manabar()` or `get_rc_manabar()`
- **recharge_pct_goal** (*float*) – mana recovery goal in percentage (default is 100)

get_muters (*raw_name_list=True, limit=100*)

Returns the account muters as list

get_mutings (*raw_name_list=True, limit=100*)

Returns who the account is muting as list

get_notifications (*only_unread=True, limit=100, raw_data=False, account=None*)

Returns account notifications

Parameters

- **only_unread** (*bool*) – When True, only unread notifications are shown
- **limit** (*int*) – When set, the number of shown notifications is limited (max limit = 100)
- **raw_data** (*bool*) – When True, the raw data from the api call is returned.
- **account** (*str*) – (optional) the account for which the notification should be received to (defaults to `default_account`)

get_owner_history (*account=None*)

Returns the owner history of an account.

Parameters **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_owner_history()
[]
```

get_rc()

Return RC of account

get_rc_manabar()

Returns current_mana and max_mana for RC

get_recharge_time (*voting_power_goal=100, starting_voting_power=None*)

Returns the account voting power recharge time in minutes

Parameters

- **voting_power_goal** (*float*) – voting power goal in percentage (default is 100)
- **starting_voting_power** (*float*) – returns recharge time if current voting power is the provided value.

get_recharge_time_str (*voting_power_goal=100, starting_voting_power=None*)

Returns the account recharge time as string

Parameters

- **voting_power_goal** (*float*) – voting power goal in percentage (default is 100)
- **starting_voting_power** (*float*) – returns recharge time if current voting power is the provided value.

get_recharge_timedelta (*voting_power_goal=100, starting_voting_power=None*)

Returns the account voting power recharge time as timedelta object

Parameters

- **voting_power_goal** (*float*) – voting power goal in percentage (default is 100)
- **starting_voting_power** (*float*) – returns recharge time if current voting power is the provided value.

get_recovery_request (*account=None*)

Returns the recovery request for an account

Parameters **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
```

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```
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_recovery_request()
[]
```

get_reputation()

Returns the account reputation in the (steemit) normalized form

get_savings_withdrawals (*direction='from', account=None*)

Returns the list of savings withdrawls for an account.

Parameters

- **account** (*str*) – When set, a different account is used for the request (Default is object account name)
- **direction** (*str*) – Can be either from or to (only non appbase nodes)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_savings_withdrawals()
[]
```

get_similar_account_names (*limit=5*)

Returns limit account names similar to the current account name as a list

Parameters **limit** (*int*) – limits the number of accounts, which will be returned

Returns Similar account names as list

Return type list

This is a wrapper around `beem.blockchain.Blockchain.get_similar_account_names()` using the current account name as reference.

get_steem_power (*onlyOwnSP=False*)

Returns the account steem power

get_tags_used_by_author (*account=None*)

Returns a list of tags used by an author.

Parameters **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type list**get_token_power** (*only_own_vests=False*)

Returns the account Hive/Steem power (amount of staked token + delegations)

get_vesting_delegations (*start_account="", limit=100, account=None*)

Returns the vesting delegations by an account.

Parameters

- **account** (*str*) – When set, a different account is used for the request (Default is object account name)
- **start_account** (*str*) – delegatee to start with, leave empty to start from the first by name
- **limit** (*int*) – maximum number of results to return

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_vesting_delegations()
[]
```

get_vests (*only_own_vests=False*)

Returns the account vests

get_vote (*comment*)

Returns a vote if the account has already voted for comment.

Parameters **comment** (*str*, *Comment*) – can be a Comment object or a authorpermlink

get_vote_pct_for_SBD (*sbd*, *post_rshares=0*, *voting_power=None*, *steem_power=None*, *not_broadcasted_vote=True*)

Returns the voting percentage needed to have a vote worth a given number of SBD.

If the returned number is bigger than 10000 or smaller than -10000, the given SBD value is too high for that account

Parameters **sbd** (*str*, *int*, *amount.Amount*) – The amount of SBD in vote value

get_vote_pct_for_vote_value (*token_units*, *post_rshares=0*, *voting_power=None*, *token_power=None*, *not_broadcasted_vote=True*)

Returns the voting percentage needed to have a vote worth a given number of Hive/Steem token units

If the returned number is bigger than 10000 or smaller than -10000, the given SBD value is too high for that account

Parameters **token_units** (*str*, *int*, *amount.Amount*) – The amount of HBD/SBD in vote value

get_voting_power (*with_regeneration=True*)

Returns the account voting power in the range of 0-100%

get_voting_value (*post_rshares=0*, *voting_weight=100*, *voting_power=None*, *token_power=None*, *not_broadcasted_vote=True*)

Returns the account voting value in Hive/Steem token units

get_voting_value_SBD (*post_rshares=0*, *voting_weight=100*, *voting_power=None*, *steem_power=None*, *not_broadcasted_vote=True*)

Returns the account voting value in SBD

get_withdraw_routes (*account=None*)

Returns the withdraw routes for an account.

Parameters **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type list

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("beem.app", blockchain_instance=stm)
>>> account.get_withdraw_routes()
[]
```

has_voted (*comment*)

Returns if the account has already voted for comment

Parameters **comment** (*str*, *Comment*) – can be a Comment object or a authorpermlink

history (*start=None*, *stop=None*, *use_block_num=True*, *only_ops=[]*, *exclude_ops=[]*, *batch_size=1000*, *raw_output=False*)

Returns a generator for individual account transactions. The earliest operation will be first. This call can be used in a for loop.

Parameters

- **start** (*int*, *datetime*) – start number/date of transactions to return (*optional*)
- **stop** (*int*, *datetime*) – stop number/date of transactions to return (*optional*)
- **use_block_num** (*bool*) – if true, start and stop are block numbers, otherwise virtual OP count numbers.
- **only_ops** (*array*) – Limit generator by these operations (*optional*)
- **exclude_ops** (*array*) – Exclude these operations from generator (*optional*)
- **batch_size** (*int*) – internal api call batch size (*optional*)
- **raw_output** (*bool*) – if False, the output is a dict, which includes all values. Otherwise, the output is list.

Note: only_ops and exclude_ops takes an array of strings: The full list of operation ID's can be found in beembase.operationids.ops. Example: ['transfer', 'vote']

```
acc = Account("gtg")
max_op_count = acc.virtual_op_count()
# Returns the 100 latest operations
acc_op = []
for h in acc.history(start=max_op_count - 99, stop=max_op_count, use_block_
↳ num=False):
    acc_op.append(h)
len(acc_op)
```

```
100
```

```
acc = Account("test")
max_block = 21990141
# Returns the account operation inside the last 100 block. This can be empty.
acc_op = []
```

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```

for h in acc.history(start=max_block - 99, stop=max_block, use_block_
↳num=True):
    acc_op.append(h)
len(acc_op)

```

0

```

acc = Account("test")
start_time = datetime(2018, 3, 1, 0, 0, 0)
stop_time = datetime(2018, 3, 2, 0, 0, 0)
# Returns the account operation from 1.4.2018 back to 1.3.2018
acc_op = []
for h in acc.history(start=start_time, stop=stop_time):
    acc_op.append(h)
len(acc_op)

```

0

history_reverse (*start=None, stop=None, use_block_num=True, only_ops=[], exclude_ops=[], batch_size=1000, raw_output=False*)

Returns a generator for individual account transactions. The latest operation will be first. This call can be used in a for loop.

Parameters

- **start** (*int, datetime*) – start number/date of transactions to return. If negative the virtual_op_count is added. (*optional*)
- **stop** (*int, datetime*) – stop number/date of transactions to return. If negative the virtual_op_count is added. (*optional*)
- **use_block_num** (*bool*) – if true, start and stop are block numbers, otherwise virtual OP count numbers.
- **only_ops** (*array*) – Limit generator by these operations (*optional*)
- **exclude_ops** (*array*) – Exclude these operations from generator (*optional*)
- **batch_size** (*int*) – internal api call batch size (*optional*)
- **raw_output** (*bool*) – if False, the output is a dict, which includes all values. Otherwise, the output is list.

Note: only_ops and exclude_ops takes an array of strings: The full list of operation ID's can be found in beembase.operationids.ops. Example: ['transfer', 'vote']

```

acc = Account("gtg")
max_op_count = acc.virtual_op_count()
# Returns the 100 latest operations
acc_op = []
for h in acc.history_reverse(start=max_op_count, stop=max_op_count - 99, use_
↳block_num=False):
    acc_op.append(h)
len(acc_op)

```

```
100
```

```
max_block = 21990141
acc = Account("test")
# Returns the account operation inside the last 100 block. This can be empty.
acc_op = []
for h in acc.history_reverse(start=max_block, stop=max_block-100, use_block_
↪ num=True):
    acc_op.append(h)
len(acc_op)
```

```
0
```

```
acc = Account("test")
start_time = datetime(2018, 4, 1, 0, 0, 0)
stop_time = datetime(2018, 3, 1, 0, 0, 0)
# Returns the account operation from 1.4.2018 back to 1.3.2018
acc_op = []
for h in acc.history_reverse(start=start_time, stop=stop_time):
    acc_op.append(h)
len(acc_op)
```

```
0
```

interest()

Calculate interest for an account

Parameters **account** (*str*) – Account name to get interest for

Return type dictionary

Sample output:

```
{
    'interest': 0.0,
    'last_payment': datetime.datetime(2018, 1, 26, 5, 50, 27, tzinfo=<UTC>),
    'next_payment': datetime.datetime(2018, 2, 25, 5, 50, 27, tzinfo=<UTC>),
    'next_payment_duration': datetime.timedelta(-65, 52132, 684026),
    'interest_rate': 0.0
}
```

is_fully_loaded

Is this instance fully loaded / e.g. all data available?

Return type bool

json()

json_metadata

list_all_subscriptions (*account=None*)

Returns all subscriptions

mark_notifications_as_read (*last_read=None, account=None*)

Broadcast a mark all notification as read custom_json

Parameters

- **last_read** (*str*) – When set, this datestring is used to set the mark as read date

- **account** (*str*) – (optional) the account to broadcast the custom_json to (defaults to `default_account`)

mute (*mute*, *account=None*)

Mute another account

Parameters

- **mute** (*str*) – Mute this account
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

name

Returns the account name

print_info (*force_refresh=False*, *return_str=False*, *use_table=False*, ***kwargs*)

Prints import information about the account

profile

Returns the account profile

refresh ()

Refresh/Obtain an account's data from the API server

rep

Returns the account reputation

reply_history (*limit=None*, *start_author=None*, *start_permalink=None*, *account=None*)

Stream the replies to an account in reverse time order.

Note: RPC nodes keep a limited history of entries for the replies to an author. Older replies to an account may not be available via this call due to these node limitations.

Parameters

- **limit** (*int*) – (optional) stream the latest *limit* replies. If unset (default), all available replies are streamed.
- **start_author** (*str*) – (optional) start streaming the replies from this author. *start_permalink=None* (default) starts with the latest available entry. If set, *start_permalink* has to be set as well.
- **start_permalink** (*str*) – (optional) start streaming the replies from this permalink. *start_permalink=None* (default) starts with the latest available entry. If set, *start_author* has to be set as well.
- **account** (*str*) – (optional) the account to get replies to (defaults to `default_account`)

comment_history_reverse example:

```
from beem.account import Account
acc = Account("ned")
for reply in acc.reply_history(limit=10):
    print(reply)
```

reward_balances

saving_balances

set_withdraw_vesting_route (*to*, *percentage=100*, *account=None*, *auto_vest=False*, ***kwargs*)

Set up a vesting withdraw route. When vesting shares are withdrawn, they will be routed to these accounts based on the specified weights.

Parameters

- **to** (*str*) – Recipient of the vesting withdrawal
- **percentage** (*float*) – The percent of the withdraw to go to the ‘to’ account.
- **account** (*str*) – (optional) the vesting account
- **auto_vest** (*bool*) – Set to true if the ‘to’ account should receive the VESTS as VESTS, or false if it should receive them as STEEM. (defaults to `False`)

setproxy (*proxy=*”, *account=None*)

Set the witness and proposal system proxy of an account

Parameters

- **proxy** (*str* or `Account`) – The account to set the proxy to (Leave empty for removing the proxy)
- **account** (*str* or `Account`) – The account the proxy should be set for

sp

Returns the accounts Steem Power

total_balances

tp

Returns the accounts Hive/Steem Power

transfer (*to*, *amount*, *asset*, *memo=*”, *account=None*, ***kwargs*)

Transfer an asset to another account.

Parameters

- **to** (*str*) – Recipient
- **amount** (*float*) – Amount to transfer
- **asset** (*str*) – Asset to transfer
- **memo** (*str*) – (optional) Memo, may begin with # for encrypted messaging
- **account** (*str*) – (optional) the source account for the transfer if not `default_account`

Transfer example:

```
from beem.account import Account
from beem import Steem
active_wif = "5xxxx"
stm = Steem(keys=[active_wif])
acc = Account("test", blockchain_instance=stm)
acc.transfer("test1", 1, "STEEM", "test")
```

transfer_from_savings (*amount*, *asset*, *memo*, *request_id=None*, *to=None*, *account=None*, ***kwargs*)

Withdraw SBD or STEEM from ‘savings’ account.

Parameters

- **amount** (*float*) – STEEM or SBD amount

- **asset** (*float*) – ‘STEEM’ or ‘SBD’
- **memo** (*str*) – (optional) Memo
- **request_id** (*str*) – (optional) identifier for tracking or cancelling the withdrawal
- **to** (*str*) – (optional) the source account for the transfer if not `default_account`
- **account** (*str*) – (optional) the source account for the transfer if not `default_account`

transfer_to_savings (*amount, asset, memo, to=None, account=None, **kwargs*)

Transfer SBD or STEEM into a ‘savings’ account.

Parameters

- **amount** (*float*) – STEEM or SBD amount
- **asset** (*float*) – ‘STEEM’ or ‘SBD’
- **memo** (*str*) – (optional) Memo
- **to** (*str*) – (optional) the source account for the transfer if not `default_account`
- **account** (*str*) – (optional) the source account for the transfer if not `default_account`

transfer_to_vesting (*amount, to=None, account=None, **kwargs*)

Vest STEEM

Parameters

- **amount** (*float*) – Amount to transfer
- **to** (*str*) – Recipient (optional) if not set equal to `account`
- **account** (*str*) – (optional) the source account for the transfer if not `default_account`

type_id = 2

unfollow (*unfollow, account=None*)

Unfollow/Unmute another account’s blog

Parameters

- **unfollow** (*str*) – Unfollow/Unmute this account
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

update_account_jsonmetadata (*metadata, account=None, **kwargs*)

Update an account’s profile in `json_metadata` using the posting key

Parameters

- **metadata** (*dict*) – The new metadata to use
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

update_account_keys (*new_password, account=None, **kwargs*)

Updates all account keys

This method does **not** add any private keys to your wallet but merely changes the public keys.

Parameters

- **new_password** (*str*) – is used to derive the owner, active, posting and memo key
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

update_account_metadata (*metadata*, *account=None*, ***kwargs*)

Update an account's profile in `json_metadata`

Parameters

- **metadata** (*dict*) – The new metadata to use
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

update_account_profile (*profile*, *account=None*, ***kwargs*)

Update an account's profile in `json_metadata`

Parameters

- **profile** (*dict*) – The new profile to use
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

Sample profile structure:

```
{
  'name': 'Holger',
  'about': 'beem Developer',
  'location': 'Germany',
  'profile_image': 'https://cl.staticflickr.com/5/4715/38733717165_
↪7070227c89_n.jpg',
  'cover_image': 'https://farm1.staticflickr.com/894/26382750057_69f5c8e568.
↪jpg',
  'website': 'https://github.com/holgern/beem'
}
```

```
from beem.account import Account
account = Account("test")
profile = account.profile
profile["about"] = "test account"
account.update_account_profile(profile)
```

update_memo_key (*key*, *account=None*, ***kwargs*)

Update an account's memo public key

This method does **not** add any private keys to your wallet but merely changes the memo public key.

Parameters

- **key** (*str*) – New memo public key
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

verify_account_authority (*keys*, *account=None*)

Returns true if the signers have enough authority to authorize an account.

Parameters

- **keys** (*list*) – public key

- **account** (*str*) – When set, a different account is used for the request (Default is object account name)

Return type dictionary

```
>>> from beem.account import Account
>>> from beem import Hive
>>> from beem.nodelist import NodeList
>>> nodelist = NodeList()
>>> nodelist.update_nodes()
>>> stm = Hive(node=nodelist.get_hive_nodes())
>>> account = Account("steemit", blockchain_instance=stm)
>>> print(account.verify_account_authority([
↪ "STM7Q2rLBqzPzFeteQZewv9Lu3NLE69fZoLeL6YK59t7UmssCBNTU"])) ["valid"])
False
```

virtual_op_count (*until=None*)

Returns the number of individual account transactions

Return type list

vp

Returns the account voting power in the range of 0-100%

withdraw_vesting (*amount*, *account=None*, ***kwargs*)

Withdraw VESTS from the vesting account.

Parameters

- **amount** (*float*) – number of VESTS to withdraw over a period of 13 weeks
- **account** (*str*) – (optional) the source account for the transfer if not default_account

```
class beem.account.Accounts (name_list, batch_limit=100, lazy=False, full=True,
                             blockchain_instance=None, **kwargs)
```

Bases: *beem.account.AccountsObject*

Obtain a list of accounts

Parameters

- **name_list** (*list*) – list of accounts to fetch
- **batch_limit** (*int*) – (optional) maximum number of accounts to fetch per call, defaults to 100
- **blockchain_instance** (*Steem/Hive*) – Steem() or Hive() instance to use when accessing a RPCcreator = Account(creator, blockchain_instance=self)

```
class beem.account.AccountsObject
```

Bases: list

printAsTable ()

print_summarize_table (*tag_type='Follower'*, *return_str=False*, ***kwargs*)

beem.aes

```
class beem.aes.AESCipher (key)
```

Bases: object

A classical AES Cipher. Can use any size of data and any size of password thanks to padding. Also ensure the coherence and the type of the data with a unicode to byte converter.

decrypt (*enc*)

encrypt (*raw*)

static str_to_bytes (*data*)

beem.amount

```
class beem.amount.Amount (amount, asset=None, fixed_point_arithmetic=False,  
                           new_apibase_format=True, blockchain_instance=None, **kwargs)
```

Bases: dict

This class deals with Amounts of any asset to simplify dealing with the tuple:

`(amount, asset)`

Parameters

- **args** (*list*) – Allows to deal with different representations of an amount
- **amount** (*float*) – Let's create an instance with a specific amount
- **asset** (*str*) – Let's you create an instance with a specific asset (symbol)
- **fixed_point_arithmetic** (*boolean*) – when set to True, all operation are fixed point operations and the amount is always be rounded down to the precision
- **steem_instance** (*Steem*) – Steem instance

Returns All data required to represent an Amount/Asset

Return type dict

Raises **ValueError** – if the data provided is not recognized

Way to obtain a proper instance:

- args can be a string, e.g.: “1 SBD”
- args can be a dictionary containing amount and asset_id
- args can be a dictionary containing amount and asset
- args can be a list of a float and str (symbol)
- args can be a list of a float and a *beem.asset.Asset*
- amount and asset are defined manually

An instance is a dictionary and comes with the following keys:

- amount (float)
- symbol (str)
- asset (instance of *beem.asset.Asset*)

Instances of this class can be used in regular mathematical expressions (+-*/%) such as:

```

from beem.amount import Amount
from beem.asset import Asset
a = Amount("1 STEEM")
b = Amount(1, "STEEM")
c = Amount("20", Asset("STEEM"))
a + b
a * 2
a += b
a /= 2.0

```

```

2.000 STEEM
2.000 STEEM

```

amount

Returns the amount as float

amount_decimal

Returns the amount as decimal

asset

Returns the asset as instance of `steem.asset.Asset`

copy()

Copy the instance and make sure not to use a reference

json()**symbol**

Returns the symbol of the asset

tuple()

`beem.amount.check_asset(other, self, stm)`

`beem.amount.quantize(amount, precision)`

beem.asciichart

```

class beem.asciichart.AsciiChart (height=None, width=None, offset=3, placeholder='{ :8.2f} ',
                                  charset='utf8')

```

Bases: `object`

Can be used to plot price and trade history

Parameters

- **height** (*int*) – Height of the plot
- **width** (*int*) – Width of the plot
- **offset** (*int*) – Offset between tick strings and y-axis (default is 3)
- **placeholder** (*str*) – Defines how the numbers on the y-axes are formatted (default is '{ :8.2f}')
- **charset** (*str*) – sets the charset for plotting, utf8 or ascii (default: utf8)

adapt_on_series (*series*)

Calculates the minimum, maximum and length from the given list

Parameters **series** (*list*) – time series to plot

```
from beem.asciichart import AsciiChart
chart = AsciiChart()
series = [1, 2, 3, 7, 2, -4, -2]
chart.adapt_on_series(series)
chart.new_chart()
chart.add_axis()
chart.add_curve(series)
print(str(chart))
```

add_axis()

Adds a y-axis to the canvas

```
from beem.asciichart import AsciiChart
chart = AsciiChart()
series = [1, 2, 3, 7, 2, -4, -2]
chart.adapt_on_series(series)
chart.new_chart()
chart.add_axis()
chart.add_curve(series)
print(str(chart))
```

add_curve(*series*)

Add a curve to the canvas

Parameters *series* (*list*) – List with float data points

```
from beem.asciichart import AsciiChart
chart = AsciiChart()
series = [1, 2, 3, 7, 2, -4, -2]
chart.adapt_on_series(series)
chart.new_chart()
chart.add_axis()
chart.add_curve(series)
print(str(chart))
```

clear_data()

Clears all data

new_chart(*minimum=None, maximum=None, n=None*)

Clears the canvas

```
from beem.asciichart import AsciiChart
chart = AsciiChart()
series = [1, 2, 3, 7, 2, -4, -2]
chart.adapt_on_series(series)
chart.new_chart()
chart.add_axis()
chart.add_curve(series)
print(str(chart))
```

plot(*series, return_str=False*)

All in one function for plotting

```
from beem.asciichart import AsciiChart
chart = AsciiChart()
series = [1, 2, 3, 7, 2, -4, -2]
chart.plot(series)
```

set_parameter (*height=None, offset=None, placeholder=None*)
Can be used to change parameter

beem.asset

class beem.asset.**Asset** (*asset, lazy=False, full=False, blockchain_instance=None, **kwargs*)
Bases: *beem.blockchainobject.BlockchainObject*

Deals with Assets of the network.

Parameters

- **Asset** (*str*) – Symbol name or object id of an asset
- **lazy** (*bool*) – Lazy loading
- **full** (*bool*) – Also obtain bitasset-data and dynamic asset dat
- **steem_instance** (*Steem*) – Steem instance

Returns All data of an asset

Note: This class comes with its own caching function to reduce the load on the API server. Instances of this class can be refreshed with `Asset.refresh()`.

asset

precision

refresh()

Refresh the data from the API server

symbol

type_id = 3

beem.block

class beem.block.**Block** (*block, only_ops=False, only_virtual_ops=False, full=True, lazy=False, blockchain_instance=None, **kwargs*)
Bases: *beem.blockchainobject.BlockchainObject*

Read a single block from the chain

Parameters

- **block** (*int*) – block number
- **steem_instance** (*Steem*) – Steem instance
- **lazy** (*bool*) – Use lazy loading
- **only_ops** (*bool*) – Includes only operations, when set to True (default: False)
- **only_virtual_ops** (*bool*) – Includes only virtual operations (default: False)

Instances of this class are dictionaries that come with additional methods (see below) that allow dealing with a block and its corresponding functions.

When `only_virtual_ops` is set to True, `only_ops` is always set to True.

In addition to the block data, the block number is stored as `self["id"]` or `self.identifier`.

refresh()

Even though blocks never change, you freshly obtain its contents from an API with this method

time()

Return a datetime instance for the timestamp of this block

beem.blockchain

```
class beem.blockchain.Blockchain(blockchain_instance=None, mode='irreversible',
                                  max_block_wait_repetition=None,
                                  data_refresh_time_seconds=900, **kwargs)
```

Bases: object

This class allows to access the blockchain and read data from it

Parameters

- **blockchain_instance** (*Steem*) – Steem instance
- **mode** (*str*) – (default) Irreversible block (*irreversible*) or actual head block (*head*)
- **max_block_wait_repetition** (*int*) – maximum wait repetition for next block where each repetition is *block_interval* long (default is 3)

This class let's you deal with blockchain related data and methods. Read blockchain related data:

Read current block and blockchain info

```
print(chain.get_current_block())
print(chain.blockchain.info())
```

Monitor for new blocks. When *stop* is not set, monitoring will never stop.

```
blocks = []
current_num = chain.get_current_block_num()
for block in chain.blocks(start=current_num - 99, stop=current_num):
    blocks.append(block)
len(blocks)
```

```
100
```

or each operation individually:

```
ops = []
current_num = chain.get_current_block_num()
for operation in chain.ops(start=current_num - 99, stop=current_num):
    ops.append(operation)
```

awaitTxConfirmation (*transaction*, *limit=10*)

Returns the transaction as seen by the blockchain after being included into a block

Parameters

- **transaction** (*dict*) – transaction to wait for
- **limit** (*int*) – (optional) number of blocks to wait for the transaction (default: 10)

Note: If you want instant confirmation, you need to instantiate class: *beem.blockchain.Blockchain* with *mode="head"*, otherwise, the call will wait until confirmed in an irreversible block.

Note: This method returns once the blockchain has included a transaction with the **same signature**. Even though the signature is not usually used to identify a transaction, it still cannot be forfeited and is derived from the transaction content and thus identifies a transaction uniquely.

block_time (*block_num*)

Returns a datetime of the block with the given block number.

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

block_timestamp (*block_num*)

Returns the timestamp of the block with the given block number as integer.

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

blocks (*start=None, stop=None, max_batch_size=None, threading=False, thread_num=8, only_ops=False, only_virtual_ops=False*)

Yields blocks starting from *start*.

Parameters

- **start** (*int*) – Starting block
- **stop** (*int*) – Stop at this block
- **max_batch_size** (*int*) – only for appbase nodes. When not None, batch calls of are used. Cannot be combined with threading
- **threading** (*bool*) – Enables threading. Cannot be combined with batch calls
- **thread_num** (*int*) – Defines the number of threads, when *threading* is set.
- **only_ops** (*bool*) – Only yield operations (default: False). Cannot be combined with *only_virtual_ops=True*.
- **only_virtual_ops** (*bool*) – Only yield virtual operations (default: False)

Note: If you want instant confirmation, you need to instantiate class:*beem.blockchain.Blockchain* with *mode="head"*, otherwise, the call will wait until confirmed in an irreversible block.

find_change_recovery_account_requests (*accounts*)

Find pending *change_recovery_account* requests for one or more specific accounts.

Parameters **accounts** (*str/list*) – account name or list of account names to find *change_recovery_account* requests for.

Returns list of *change_recovery_account* requests for the given account(s).

Return type list

```
>>> from beem.blockchain import Blockchain
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> blockchain = Blockchain(blockchain_instance=stm)
>>> ret = blockchain.find_change_recovery_account_requests('bott')
```

find_rc_accounts (*name*)

Returns the RC parameters of one or more accounts.

Parameters **name** (*str*) – account name to search rc params for (can also be a list of accounts)

Returns RC params

Return type list

```
>>> from beem.blockchain import Blockchain
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> blockchain = Blockchain(blockchain_instance=stm)
>>> ret = blockchain.find_rc_accounts(["test"])
>>> len(ret) == 1
True
```

get_account_count()

Returns the number of accounts

get_account_reputations (*start=""*, *stop=""*, *steps=1000.0*, *limit=-1*, ***kwargs*)

Yields account reputation between start and stop.

Parameters

- **start** (*str*) – Start at this account name
- **stop** (*str*) – Stop at this account name
- **steps** (*int*) – Obtain *steps* ret with a single call from RPC

get_all_accounts (*start=""*, *stop=""*, *steps=1000.0*, *limit=-1*, ***kwargs*)

Yields account names between start and stop.

Parameters

- **start** (*str*) – Start at this account name
- **stop** (*str*) – Stop at this account name
- **steps** (*int*) – Obtain *steps* ret with a single call from RPC

get_current_block (*only_ops=False*, *only_virtual_ops=False*)

This call returns the current block

Parameters

- **only_ops** (*bool*) – Returns block with operations only, when set to True (default: False)
- **only_virtual_ops** (*bool*) – Includes only virtual operations (default: False)

Note: The block number returned depends on the `mode` used when instantiating from this class.

get_current_block_num()

This call returns the current block number

Note: The block number returned depends on the `mode` used when instantiating from this class.

get_estimated_block_num (*date*, *estimateForwards=False*, *accurate=True*)

This call estimates the block number based on a given date

Parameters **date** (*datetime*) – block time for which a block number is estimated

Note: The block number returned depends on the `mode` used when instantiating from this class.

```
>>> from beem.blockchain import Blockchain
>>> from datetime import datetime
>>> blockchain = Blockchain()
>>> block_num = blockchain.get_estimated_block_num(datetime(2019, 6, 18, 5, 8,
↳ 27))
>>> block_num == 33898184
True
```

get_similar_account_names (*name*, *limit=5*)

Returns limit similar accounts with name as list

Parameters

- **name** (*str*) – account name to search similars for
- **limit** (*int*) – limits the number of accounts, which will be returned

Returns Similar account names as list

Return type list

```
>>> from beem.blockchain import Blockchain
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> blockchain = Blockchain(blockchain_instance=stm)
>>> ret = blockchain.get_similar_account_names("test", limit=5)
>>> len(ret) == 5
True
```

get_transaction (*transaction_id*)

Returns a transaction from the blockchain

Parameters **transaction_id** (*str*) – transaction_id

get_transaction_hex (*transaction*)

Returns a hexdump of the serialized binary form of a transaction.

Parameters **transaction** (*dict*) – transaction

static hash_op (*event*)

This method generates a hash of blockchain operation.

is_irreversible_mode ()

list_change_recovery_account_requests (*start=""*, *limit=1000*, *order='by_account'*)

List pending *change_recovery_account* requests.

Parameters

- **start** (*str/list*) – Start the listing from this entry. Leave empty to start from the beginning. If *order* is set to *by_account*, *start* has to be an account name. If *order* is set to *by_effective_date*, *start* has to be a list of [effective_on, account_to_recover], e.g. *start=['2018-12-18T01:46:24', 'bott']*.
- **limit** (*int*) – maximum number of results to return (default and maximum: 1000).
- **order** (*str*) – valid values are “by_account” (default) or “by_effective_date”.

Returns list of *change_recovery_account* requests.

Return type list

```
>>> from beem.blockchain import Blockchain
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> blockchain = Blockchain(blockchain_instance=stm)
>>> ret = blockchain.list_change_recovery_account_requests(limit=1)
```

ops (*start=None, stop=None, only_virtual_ops=False, **kwargs*)

Blockchain.ops() is deprecated. Please use Blockchain.stream() instead.

ops_statistics (*start, stop=None, add_to_ops_stat=None, with_virtual_ops=True, verbose=False*)

Generates statistics for all operations (including virtual operations) starting from *start*.

Parameters

- **start** (*int*) – Starting block
- **stop** (*int*) – Stop at this block, if set to None, the *current_block_num* is taken
- **add_to_ops_stat** (*dict*) – if set, the result is added to *add_to_ops_stat*
- **verbose** (*bool*) – if True, the current block number and timestamp is printed

This call returns a dict with all possible operations and their occurrence.

stream (*opNames=[], raw_ops=False, *args, **kwargs*)

Yield specific operations (e.g. comments) only

Parameters

- **opNames** (*array*) – List of operations to filter for
- **raw_ops** (*bool*) – When set to True, it returns the unmodified operations (default: False)
- **start** (*int*) – Start at this block
- **stop** (*int*) – Stop at this block
- **max_batch_size** (*int*) – only for appbase nodes. When not None, batch calls of are used. Cannot be combined with *threading*
- **threading** (*bool*) – Enables threading. Cannot be combined with batch calls
- **thread_num** (*int*) – Defines the number of threads, when *threading* is set.
- **only_ops** (*bool*) – Only yield operations (default: False) Cannot be combined with *only_virtual_ops=True*
- **only_virtual_ops** (*bool*) – Only yield virtual operations (default: False)

The dict output is formatted such that *type* carries the operation type. Timestamp and *block_num* are taken from the block the operation was stored in and the other keys depend on the actual operation.

Note: If you want instant confirmation, you need to instantiate class:*beem.blockchain.Blockchain* with *mode="head"*, otherwise, the call will wait until confirmed in an irreversible block.

output when *raw_ops=False* is set:

```
{
  'type': 'transfer',
  'from': 'johngreenfield',
  'to': 'thundercurator',
```

(continues on next page)

(continued from previous page)

```

    'amount': '0.080 SBD',
    'memo': 'https://steemit.com/lofi/@johnngreenfield/lofi-joji-yeah-right',
    '_id': '6d4c5f2d4d8ef1918acae4a8dce34f9da384786',
    'timestamp': datetime.datetime(2018, 5, 9, 11, 23, 6, tzinfo=<UTC>),
    'block_num': 22277588, 'trx_num': 35, 'trx_id':
↪ 'cf11b2ac8493c71063ec121b2e8517ab1e0e6bea'
}

```

output when `raw_ops=True` is set:

```

{
    'block_num': 22277588,
    'op':
        [
            'transfer',
            {
                'from': 'johnngreenfield', 'to': 'thundercurator',
                'amount': '0.080 SBD',
                'memo': 'https://steemit.com/lofi/@johnngreenfield/lofi-
↪ joji-yeah-right'
            }
        ],
    'timestamp': datetime.datetime(2018, 5, 9, 11, 23, 6, tzinfo=<UTC>)
}

```

wait_for_and_get_block (*block_number*, *blocks_waiting_for=None*, *only_ops=False*,
only_virtual_ops=False, *block_number_check_cnt=-1*,
last_current_block_num=None)

Get the desired block from the chain, if the current head block is smaller (for both head and irreversible) then we wait, but a maximum of `blocks_waiting_for * max_block_wait_repetition` time before failure.

Parameters

- **block_number** (*int*) – desired block number
- **blocks_waiting_for** (*int*) – difference between `block_number` and current head and defines how many blocks we are willing to wait, positive int (default: `None`)
- **only_ops** (*bool*) – Returns blocks with operations only, when set to `True` (default: `False`)
- **only_virtual_ops** (*bool*) – Includes only virtual operations (default: `False`)
- **block_number_check_cnt** (*int*) – limit the number of retries when greater than -1
- **last_current_block_num** (*int*) – can be used to reduce the number of `get_current_block_num()` api calls

class `beem.blockchain.Pool` (*thread_count*, *batch_mode=True*, *exception_handler=<function default_handler>*)

Bases: `object`

Pool of threads consuming tasks from a queue

abort (*block=False*)

Tell each worker that its done working

alive ()

Returns `True` if any threads are currently running

```

done ()
    Returns True if not tasks are left to be completed

enqueue (func, *args, **kargs)
    Add a task to the queue

idle ()
    Returns True if all threads are waiting for work

join ()
    Wait for completion of all the tasks in the queue

results (sleep_time=0)
    Get the set of results that have been processed, repeatedly call until done

run (block=False)
    Start the threads, or restart them if you've aborted

class beem.blockchain.Worker (name, queue, results, abort, idle, exception_handler)
    Bases: threading.Thread

    Thread executing tasks from a given tasks queue

    run ()
        Thread work loop calling the function with the params

beem.blockchain.default_handler (name, exception, *args, **kwargs)

```

beem.blockchainobject

```

class beem.blockchainobject.BlockchainObject (data, klass=None, space_id=1,
                                                object_id=None, lazy=False,
                                                use_cache=True, id_item=None,
                                                blockchain_instance=None, *args,
                                                **kwargs)

    Bases: dict

    cache ()

    static clear_cache ()

    clear_cache_from_expired_items ()

    get_cache_auto_clean ()

    get_cache_expiration ()

    getcache (id)

    iscached (id)

    items () → a set-like object providing a view on D's items

    json ()

    set_cache_auto_clean (auto_clean)

    set_cache_expiration (expiration)

    space_id = 1

    test_valid_objectid (i)

    testid (id)

```

```
type_id = None
type_ids = []
class beem.blockchainobject.ObjectCache(initial_data={},          default_expiration=10,
                                         auto_clean=True)
    Bases: dict
    clear_expired_items()
    get(key, default)
        Return the value for key if key is in the dictionary, else default.
```

beem.blockchaininstance

```
class beem.blockchaininstance.BlockChainInstance(node="", rpcuser=None, rpc-
                                                  password=None, debug=False,
                                                  data_refresh_time_seconds=900,
                                                  **kwargs)
```

Bases: object

Connect to a Graphene network.

Parameters

- **node** (*str*) – Node to connect to (*optional*)
- **rpcuser** (*str*) – RPC user (*optional*)
- **rpcpassword** (*str*) – RPC password (*optional*)
- **nobroadcast** (*bool*) – Do **not** broadcast a transaction! (*optional*)
- **unsigned** (*bool*) – Do **not** sign a transaction! (*optional*)
- **debug** (*bool*) – Enable Debugging (*optional*)
- **keys** (*array, dict, string*) – Predefine the wif keys to shortcut the wallet database (*optional*)
- **wif** (*array, dict, string*) – Predefine the wif keys to shortcut the wallet database (*optional*)
- **offline** (*bool*) – Boolean to prevent connecting to network (defaults to `False`) (*optional*)
- **expiration** (*int*) – Delay in seconds until transactions are supposed to expire (*optional*) (default is 30)
- **blocking** (*str*) – Wait for broadcasted transactions to be included in a block and return full transaction (can be “head” or “irreversible”)
- **bundle** (*bool*) – Do not broadcast transactions right away, but allow to bundle operations. It is not possible to send out more than one vote operation and more than one comment operation in a single broadcast (*optional*)
- **appbase** (*bool*) – Use the new appbase rpc protocol on nodes with version 0.19.4 or higher. The settings has no effect on nodes with version of 0.19.3 or lower.
- **num_retries** (*int*) – Set the maximum number of reconnects to the nodes before NumRetriesReached is raised. Disabled for -1. (default is -1)
- **num_retries_call** (*int*) – Repeat num_retries_call times a rpc call on node error (default is 5)

- **timeout** (*int*) – Timeout setting for https nodes (default is 60)
- **use_sc2** (*bool*) – When True, a steemconnect object is created. Can be used for broadcast posting op or creating hot_links (default is False)
- **steemconnect** (*SteemConnect*) – A SteemConnect object can be set manually, set use_sc2 to True
- **custom_chains** (*dict*) – custom chain which should be added to the known chains

Three wallet operation modes are possible:

- **Wallet Database:** Here, the steemlibs load the keys from the locally stored wallet SQLite database (see `storage.py`). To use this mode, simply call `Steem()` without the `keys` parameter
- **Providing Keys:** Here, you can provide the keys for your accounts manually. All you need to do is add the wif keys for the accounts you want to use as a simple array using the `keys` parameter to `Steem()`.
- **Force keys:** This more is for advanced users and requires that you know what you are doing. Here, the `keys` parameter is a dictionary that overwrite the `active`, `owner`, `posting` or `memo` keys for any account. This mode is only used for *foreign* signatures!

If no node is provided, it will connect to default nodes of <http://geo.steem.pl>. Default settings can be changed with:

```
steem = Steem(<host>)
```

where `<host>` starts with `https://`, `ws://` or `wss://`.

The purpose of this class it to simplify interaction with Steem.

The idea is to have a class that allows to do this:

```
>>> from beem import Steem
>>> steem = Steem()
>>> print(steem.get_blockchain_version())
```

This class also deals with edits, votes and reading content.

Example for adding a custom chain:

```
from beem import Steem
stm = Steem(node=["https://mytstnet.com"], custom_chains={"MYTESTNET":
    {'chain_assets': [{'asset': 'SBD', 'id': 0, 'precision': 3, 'symbol': 'SBD'},
                      {'asset': 'STEEM', 'id': 1, 'precision': 3, 'symbol': 'STEEM'}
    ],
    {'asset': 'VESTS', 'id': 2, 'precision': 6, 'symbol': 'VESTS'}
    ],
    'chain_id': '79276aea5d4877d9a25892eaa01b0adf019d3e5cb12a97478df3298ccdd01674',
    'min_version': '0.0.0',
    'prefix': 'MTN'}
    )
```

backed_token_symbol

get the current chains symbol for SBD (e.g. “TBD” on testnet)

broadcast (*tx=None*)

Broadcast a transaction to the Steem network

Parameters **tx** (*tx*) – Signed transaction to broadcast

chain_params**claim_account** (*creator*, *fee=None*, ***kwargs*)

Claim account for claimed account creation.

When fee is 0 STEEM/HIVE a subsidized account is claimed and can be created later with `create_claimed_account`. The number of subsidized account is limited.

Parameters

- **creator** (*str*) – which account should pay the registration fee (RC or STEEM/HIVE) (defaults to `default_account`)
- **fee** (*str*) – when set to 0 STEEM (default), claim account is paid by RC

clear ()**clear_data** ()

Clears all stored blockchain parameters

comment_options (*options*, *identifier*, *beneficiaries=[]*, *account=None*, ***kwargs*)

Set the comment options

Parameters

- **options** (*dict*) – The options to define.
- **identifier** (*str*) – Post identifier
- **beneficiaries** (*list*) – (optional) list of beneficiaries
- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

For the options, you have these defaults::

```
{
    "author": "",
    "permink": "",
    "max_accepted_payout": "1000000.000 SBD",
    "percent_steem_dollars": 10000,
    "allow_votes": True,
    "allow_curation_rewards": True,
}
```

connect (*node=""*, *rpcuser=""*, *rpcpassword=""*, ***kwargs*)

Connect to Steem network (internal use only)

create_account (*account_name*, *creator=None*, *owner_key=None*, *active_key=None*, *memo_key=None*, *posting_key=None*, *password=None*, *additional_owner_keys=[]*, *additional_active_keys=[]*, *additional_posting_keys=[]*, *additional_owner_accounts=[]*, *additional_active_accounts=[]*, *additional_posting_accounts=[]*, *storekeys=True*, *store_owner_key=False*, *json_meta=None*, ***kwargs*)

Create new account on Steem

The brainkey/password can be used to recover all generated keys (see `beemgraphenebase.account` for more details).

By default, this call will use `default_account` to register a new name `account_name` with all keys being derived from a new brain key that will be returned. The corresponding keys will automatically be installed in the wallet.

Warning: Don't call this method unless you know what you are doing! Be sure to understand what this method does and where to find the private keys for your account.

Note: Please note that this imports private keys (if password is present) into the wallet by default when nobroadcast is set to False. However, it **does not import the owner key** for security reasons by default. If you set store_owner_key to True, the owner key is stored. Do NOT expect to be able to recover it from the wallet if you lose your password!

Note: Account creations cost a fee that is defined by the network. If you create an account, you will need to pay for that fee!

Parameters

- **account_name** (*str*) – (**required**) new account name
- **json_meta** (*str*) – Optional meta data for the account
- **owner_key** (*str*) – Main owner key
- **active_key** (*str*) – Main active key
- **posting_key** (*str*) – Main posting key
- **memo_key** (*str*) – Main memo_key
- **password** (*str*) – Alternatively to providing keys, one can provide a password from which the keys will be derived
- **additional_owner_keys** (*array*) – Additional owner public keys
- **additional_active_keys** (*array*) – Additional active public keys
- **additional_posting_keys** (*array*) – Additional posting public keys
- **additional_owner_accounts** (*array*) – Additional owner account names
- **additional_active_accounts** (*array*) – Additional active account names
- **storekeys** (*bool*) – Store new keys in the wallet (default: True)
- **creator** (*str*) – which account should pay the registration fee (defaults to default_account)

Raises **AccountExistsException** – if the account already exists on the blockchain

```
create_claimed_account (account_name, creator=None, owner_key=None, active_key=None,
memo_key=None, posting_key=None, password=None, additional_owner_keys=[],
additional_active_keys=[], additional_posting_keys=[], additional_owner_accounts=[],
additional_active_accounts=[], additional_posting_accounts=[],
storekeys=True, store_owner_key=False, json_meta=None, combine_with_claim_account=False, fee=None, **kwargs)
```

Create new claimed account on Steem

The brainkey/password can be used to recover all generated keys (see [beemgraphenebase.account](#) for more details).

By default, this call will use `default_account` to register a new name `account_name` with all keys being derived from a new brain key that will be returned. The corresponding keys will automatically be installed in the wallet.

Warning: Don't call this method unless you know what you are doing! Be sure to understand what this method does and where to find the private keys for your account.

Note: Please note that this imports private keys (if password is present) into the wallet by default when `nobroadcast` is set to `False`. However, it **does not import the owner key** for security reasons by default. If you set `store_owner_key` to `True`, the owner key is stored. Do NOT expect to be able to recover it from the wallet if you lose your password!

Note: Account creations cost a fee that is defined by the network. If you create an account, you will need to pay for that fee!

Parameters

- **account_name** (*str*) – (**required**) new account name
- **json_meta** (*str*) – Optional meta data for the account
- **owner_key** (*str*) – Main owner key
- **active_key** (*str*) – Main active key
- **posting_key** (*str*) – Main posting key
- **memo_key** (*str*) – Main memo_key
- **password** (*str*) – Alternatively to providing keys, one can provide a password from which the keys will be derived
- **additional_owner_keys** (*array*) – Additional owner public keys
- **additional_active_keys** (*array*) – Additional active public keys
- **additional_posting_keys** (*array*) – Additional posting public keys
- **additional_owner_accounts** (*array*) – Additional owner account names
- **additional_active_accounts** (*array*) – Additional active account names
- **storekeys** (*bool*) – Store new keys in the wallet (default: `True`)
- **combine_with_claim_account** (*bool*) – When set to `True`, a `claim_account` operation is additionally broadcasted
- **fee** (*str*) – When `combine_with_claim_account` is set to `True`, this parameter is used for the `claim_account` operation
- **creator** (*str*) – which account should pay the registration fee (defaults to `default_account`)

Raises **`AccountExistsException`** – if the account already exists on the blockchain

custom_json (*id*, *json_data*, *required_auths*=[], *required_posting_auths*=[], ***kwargs*)
Create a custom json operation

Parameters

- **id** (*str*) – identifier for the custom json (max length 32 bytes)
- **json_data** (*json*) – the json data to put into the custom_json operation
- **required_auths** (*list*) – (optional) required auths
- **required_posting_auths** (*list*) – (optional) posting auths

Note: While required_auths and required_posting_auths are both optional, one of the two are needed in order to send the custom json.

```
steem.custom_json("id", "json_data",
required_posting_auths=['account'])
```

finalizeOp (*ops, account, permission, **kwargs*)

This method obtains the required private keys if present in the wallet, finalizes the transaction, signs it and broadcasts it

Parameters

- **ops** (*list, GrapheneObject*) – The operation (or list of operations) to broadcast
- **account** (*Account*) – The account that authorizes the operation
- **permission** (*string*) – The required permission for signing (active, owner, posting)
- **append_to** (*TransactionBuilder*) – This allows to provide an instance of TransactionBuilder (see `Steem.new_tx()`) to specify where to put a specific operation.

Note: append_to is exposed to every method used in the Steem class

Note: If ops is a list of operation, they all need to be signable by the same key! Thus, you cannot combine ops that require active permission with ops that require posting permission. Neither can you use different accounts for different operations!

Note: This uses `Steem.txbuffer()` as instance of `beem.transactionbuilder.TransactionBuilder`. You may want to use your own txbuffer

get_api_methods ()

Returns all supported api methods

get_apis ()

Returns all enabled apis

get_block_interval (*use_stored_data=True*)

Returns the block interval in seconds

get_blockchain_name (*use_stored_data=True*)

Returns the blockchain version

get_blockchain_version (*use_stored_data=True*)

Returns the blockchain version

get_chain_properties (*use_stored_data=True*)

Return witness elected chain properties

Properties::

```
{
  'account_creation_fee': '30.000 STEEM',
  'maximum_block_size': 65536,
  'sbd_interest_rate': 250
}
```

get_config (*use_stored_data=True*)

Returns internal chain configuration.

Parameters *use_stored_data* (*bool*) – If True, the cached value is returned

get_current_median_history (*use_stored_data=True*)

Returns the current median price

Parameters *use_stored_data* (*bool*) – if True, stored data will be returned. If stored data are empty or old, *refresh_data()* is used.

get_default_nodes ()

Returns the default nodes

get_dust_threshold (*use_stored_data=True*)

Returns the vote dust threshold

get_dynamic_global_properties (*use_stored_data=True*)

This call returns the *dynamic global properties*

Parameters *use_stored_data* (*bool*) – if True, stored data will be returned. If stored data are empty or old, *refresh_data()* is used.

get_feed_history (*use_stored_data=True*)

Returns the *feed_history*

Parameters *use_stored_data* (*bool*) – if True, stored data will be returned. If stored data are empty or old, *refresh_data()* is used.

get_hardfork_properties (*use_stored_data=True*)

Returns Hardfork and *live_time* of the hardfork

Parameters *use_stored_data* (*bool*) – if True, stored data will be returned. If stored data are empty or old, *refresh_data()* is used.

get_median_price (*use_stored_data=True*)

Returns the current median history price as Price

get_network (*use_stored_data=True, config=None*)

Identify the network

Parameters *use_stored_data* (*bool*) – if True, stored data will be returned. If stored data are empty or old, *refresh_data()* is used.

Returns Network parameters

Return type dictionary

get_rc_cost (*resource_count*)

Returns the RC costs based on the *resource_count*

get_reserve_ratio ()

This call returns the *reserve ratio*

get_resource_params()

Returns the resource parameter

get_resource_pool()

Returns the resource pool

get_reward_funds (*use_stored_data=True*)

Get details for a reward fund.

Parameters *use_stored_data* (*bool*) – if True, stored data will be returned. If stored data are empty or old, *refresh_data()* is used.

get_witness_schedule (*use_stored_data=True*)

Return witness elected chain properties

hardfork

info (*use_stored_data=True*)

Returns the global properties

is_connected()

Returns if rpc is connected

is_hive

is_steem

move_current_node_to_front()

Returns the default node list, until the first entry is equal to the current working node url

newWallet (*pwd*)

Create a new wallet. This method is basically only calls *beem.wallet.Wallet.create()*.

Parameters *pwd* (*str*) – Password to use for the new wallet

Raises *WalletExists* – if there is already a wallet created

new_tx (**args, **kwargs*)

Let's obtain a new txbuffer

Returns id of the new txbuffer

Return type int

post (*title, body, author=None, permalink=None, reply_identifier=None, json_metadata=None, comment_options=None, community=None, app=None, tags=None, beneficiaries=None, self_vote=False, parse_body=False, **kwargs*)

Create a new post. If this post is intended as a reply/comment, *reply_identifier* needs to be set with the identifier of the parent post/comment (eg. *@author/permlink*). Optionally you can also set *json_metadata*, *comment_options* and upvote the newly created post as an author. Setting category, tags or community will override the values provided in *json_metadata* and/or *comment_options* where appropriate.

Parameters

- **title** (*str*) – Title of the post
- **body** (*str*) – Body of the post/comment
- **author** (*str*) – Account are you posting from
- **permalink** (*str*) – Manually set the permalink (defaults to None). If left empty, it will be derived from title automatically.
- **reply_identifier** (*str*) – Identifier of the parent post/comment (only if this post is a reply/comment).

- **json_metadata** (*str*, *dict*) – JSON meta object that can be attached to the post.
- **comment_options** (*dict*) – JSON options object that can be attached to the post.

Example:

```
comment_options = {
    'max_accepted_payout': '1000000.000 SBD',
    'percent_steem_dollars': 10000,
    'allow_votes': True,
    'allow_curation_rewards': True,
    'extensions': [[0, {
        'beneficiaries': [
            {'account': 'account1', 'weight': 5000},
            {'account': 'account2', 'weight': 5000},
        ]
    }]]
}
```

Parameters

- **community** (*str*) – (Optional) Name of the community we are posting into. This will also override the community specified in *json_metadata* and the category
- **app** (*str*) – (Optional) Name of the app which are used for posting when not set, beem/<version> is used
- **tags** (*str*, *list*) – (Optional) A list of tags to go with the post. This will also override the tags specified in *json_metadata*. The first tag will be used as a ‘category’ when community is not specified. If provided as a string, it should be space separated.
- **beneficiaries** (*list*) – (Optional) A list of beneficiaries for posting reward distribution. This argument overrides beneficiaries as specified in *comment_options*.

For example, if we would like to split rewards between account1 and account2:

```
beneficiaries = [
    {'account': 'account1', 'weight': 5000},
    {'account': 'account2', 'weight': 5000}
]
```

Parameters

- **self_vote** (*bool*) – (Optional) Upvote the post as author, right after posting.
- **parse_body** (*bool*) – (Optional) When set to True, all mentioned users, used links and images are put into users, links and images array inside *json_metadata*. This will override provided links, images and users inside *json_metadata*. Hashtags will added to tags until its length is below five entries.

prefix

refresh_data (*chain_property*, *force_refresh=False*, *data_refresh_time_seconds=None*)

Read and stores steem blockchain parameters If the last data refresh is older than *data_refresh_time_seconds*, data will be refreshed

Parameters

- **force_refresh** (*bool*) – if True, a refresh of the data is enforced

- **data_refresh_time_seconds** (*float*) – set a new minimal refresh time in seconds

set_default_account (*account*)

Set the default account to be used

set_default_nodes (*nodes*)

Set the default nodes to be used

set_default_vote_weight (*vote_weight*)

Set the default vote weight to be used

set_password_storage (*password_storage*)

Set the password storage mode.

When set to “no”, the password has to be provided each time. When set to “environment” the password is taken from the UNLOCK variable

When set to “keyring” the password is taken from the python keyring module. A wallet password can be stored with `python -m keyring set beem wallet password`

Parameters password_storage (*str*) – can be “no”, “keyring” or “environment”

sign (*tx=None, wifs=[], reconstruct_tx=True*)

Sign a provided transaction with the provided key(s)

Parameters

- **tx** (*dict*) – The transaction to be signed and returned
- **wifs** (*string*) – One or many wif keys to use for signing a transaction. If not present, the keys will be loaded from the wallet as defined in “missing_signatures” key of the transactions.
- **reconstruct_tx** (*bool*) – when set to False and tx is already constructed, it will not be reconstructed and already added signatures remain

switch_blockchain (*blockchain, update_nodes=False*)

Switches the connected blockchain. Can be either hive or steem.

Parameters

- **blockchain** (*str*) – can be “hive” or “steem”
- **update_nodes** (*bool*) – When true, the nodes are updated, using `NodeList.update_nodes()`

token_symbol

get the current chains symbol for STEEM (e.g. “TESTS” on testnet)

tx()

Returns the default transaction buffer

txbuffer

Returns the currently active tx buffer

unlock (**args, **kwargs*)

Unlock the internal wallet

update_account (*account, owner_key=None, active_key=None, memo_key=None, posting_key=None, password=None, additional_owner_keys=[], additional_active_keys=[], additional_posting_keys=[], additional_owner_accounts=[], additional_active_accounts=[], additional_posting_accounts=None, storekeys=True, store_owner_key=False, json_meta=None, **kwargs*)

Update account

The brainkey/password can be used to recover all generated keys (see `beemgraphenebase.account` for more details).

The corresponding keys will automatically be installed in the wallet.

Warning: Don't call this method unless you know what you are doing! Be sure to understand what this method does and where to find the private keys for your account.

Note: Please note that this imports private keys (if password is present) into the wallet by default when `nobroadcast` is set to `False`. However, it **does not import the owner key** for security reasons by default. If you set `store_owner_key` to `True`, the owner key is stored. Do NOT expect to be able to recover it from the wallet if you lose your password!

Parameters

- **account_name** (*str*) – (required) account name
- **json_meta** (*str*) – Optional updated meta data for the account
- **owner_key** (*str*) – Main owner (public) key
- **active_key** (*str*) – Main active (public) key
- **posting_key** (*str*) – Main posting (public) key
- **memo_key** (*str*) – Main memo (public) key
- **password** (*str*) – Alternatively to providing keys, one can provide a password from which the keys will be derived
- **additional_owner_keys** (*array*) – Additional owner public keys
- **additional_active_keys** (*array*) – Additional active public keys
- **additional_posting_keys** (*array*) – Additional posting public keys
- **additional_owner_accounts** (*array*) – Additional owner account names
- **additional_active_accounts** (*array*) – Additional active account names
- **storekeys** (*bool*) – Store new keys in the wallet (default: `True`)

Raises `AccountExistsException` – if the account already exists on the blockchain

update_proposal_votes (*proposal_ids*, *approve*, *account=None*, ***kwargs*)

Update proposal votes

Parameters

- **proposal_ids** (*list*) – list of proposal ids
- **approve** (*bool*) – True/False
- **account** (*str*) – (optional) witness account name

vest_token_symbol

get the current chains symbol for VESTS

vests_to_rshares (*vests*, *voting_power*=10000, *vote_pct*=10000, *subtract_dust_threshold*=True, *use_stored_data*=True)

Obtain the r-shares from vests

Parameters

- **vests** (*number*) – vesting shares
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)

vote (*weight*, *identifier*, *account*=None, ***kwargs*)

Vote for a post

Parameters

- **weight** (*float*) – Voting weight. Range: -100.0 - +100.0.
- **identifier** (*str*) – Identifier for the post to vote. Takes the form @author/permlink.
- **account** (*str*) – (optional) Account to use for voting. If *account* is not defined, the *default_account* will be used or a *ValueError* will be raised

witness_set_properties (*wif*, *owner*, *props*, *use_condenser_api*=True)

Set witness properties

Parameters

- **wif** (*str*) – Private signing key
- **props** (*dict*) – Properties
- **owner** (*str*) – witness account name

Properties::

```
{
  "account_creation_fee": x,
  "account_subsidy_budget": x,
  "account_subsidy_decay": x,
  "maximum_block_size": x,
  "url": x,
  "sbd_exchange_rate": x,
  "sbd_interest_rate": x,
  "new_signing_key": x
}
```

witness_update (*signing_key*, *url*, *props*, *account*=None, ***kwargs*)

Creates/updates a witness

Parameters

- **signing_key** (*str*) – Public signing key
- **url** (*str*) – URL
- **props** (*dict*) – Properties
- **account** (*str*) – (optional) witness account name

Properties::

```
{
    "account_creation_fee": "3.000 STEEM",
    "maximum_block_size": 65536,
    "sbd_interest_rate": 0,
}
```

beem.comment

class beem.comment.**Comment** (*authorperm*, *use_tags_api=True*, *full=True*, *lazy=False*,
blockchain_instance=None, ***kwargs*)
Bases: *beem.blockchainobject.BlockchainObject*

Read data about a Comment/Post in the chain

Parameters

- **authorperm** (*str*) – identifier to post/comment in the form of @author/permlink
- **use_tags_api** (*boolean*) – when set to False, list_comments from the database_api is used
- **blockchain_instance** (*Steem*) – *beem.steem.Steem* instance to use when accessing a RPC

```
>>> from beem.comment import Comment
>>> from beem.account import Account
>>> from beem import Steem
>>> stm = Steem()
>>> acc = Account("gtg", blockchain_instance=stm)
>>> authorperm = acc.get_blog(limit=1)[0]["authorperm"]
>>> c = Comment(authorperm)
>>> postdate = c["created"]
>>> postdate_str = c.json()["created"]
```

author

authorperm

body

category

curation_penalty_compensation_SBD()

Returns The required post payout amount after 15 minutes which will compensate the curation penalty, if voting earlier than 15 minutes

delete (*account=None*, *identifier=None*)

Delete an existing post/comment

Parameters

- **account** (*str*) – (optional) Account to use for deletion. If *account* is not defined, the *default_account* will be taken or a *ValueError* will be raised.
- **identifier** (*str*) – (optional) Identifier for the post to delete. Takes the form @author/permlink. By default the current post will be used.

Note: A post/comment can only be deleted as long as it has no replies and no positive rshares on it.

depth**downvote** (*weight=100, voter=None*)

Downvote the post

Parameters

- **weight** (*float*) – (optional) Weight for posting (-100.0 - +100.0) defaults to -100.0
- **voter** (*str*) – (optional) Voting account

edit (*body, meta=None, replace=False*)

Edit an existing post

Parameters

- **body** (*str*) – Body of the reply
- **meta** (*json*) – JSON meta object that can be attached to the post. (optional)
- **replace** (*bool*) – Instead of calculating a *diff*, replace the post entirely (defaults to `False`)

estimate_curation_SBD (*vote_value_SBD, estimated_value_SBD=None*)

Estimates curation reward

Parameters

- **vote_value_SBD** (*float*) – The vote value in SBD for which the curation should be calculated
- **estimated_value_SBD** (*float*) – When set, this value is used for calculate the curation. When not set, the current post value is used.

get_all_replies (*parent=None*)

Returns all content replies

get_author_rewards ()

Returns the author rewards.

Example:

```
{
  'pending_rewards': True,
  'payout_SP': 0.912 STEEM,
  'payout_SBD': 3.583 SBD,
  'total_payout_SBD': 7.166 SBD
}
```

get_beneficiaries_pct ()

Returns the sum of all post beneficiaries in percentage

get_curation_penalty (*vote_time=None*)

If post is less than 5 minutes old, it will incur a curation reward penalty.

Parameters **vote_time** (*datetime*) – A vote time can be given and the curation penalty is calculated regarding the given time (default is `None`) When set to `None`, the current date is used.

Returns Float number between 0 and 1 (0.0 -> no penalty, 1.0 -> 100 % curation penalty)

Return type float

get_curation_rewards (*pending_payout_SBD=False, pending_payout_value=None*)

Returns the curation rewards. The split between creator/curator is currently 50%/50%.

Parameters

- **pending_payout_SBD** (*bool*) – If True, the rewards are returned in SBD and not in STEEM (default is False)
- **pending_payout_value** (*float, str*) – When not None this value instead of the current value is used for calculating the rewards

pending_rewards is True when the post is younger than 7 days. *unclaimed_rewards* is the amount of curation_rewards that goes to the author (self-vote or votes within the first 30 minutes). *active_votes* contains all voter with their curation reward.

Example:

```
{
  'pending_rewards': True, 'unclaimed_rewards': 0.245 STEEM,
  'active_votes': {
    'leprechaun': 0.006 STEEM, 'timcliff': 0.186 STEEM,
    'st3llar': 0.000 STEEM, 'crokkon': 0.015 STEEM, 'feedyourminnows': 0.
↪003 STEEM,
    'isnochys': 0.003 STEEM, 'loshcat': 0.001 STEEM, 'greenorange': 0.000_
↪STEEM,
    'gustodian': 0.123 STEEM, 'jpphotography': 0.002 STEEM, 'thinkingmind
↪': 0.001 STEEM,
    'oups': 0.006 STEEM, 'mattockfs': 0.001 STEEM, 'holger80': 0.003_
↪STEEM, 'michaelizer': 0.004 STEEM,
    'flugschwein': 0.010 STEEM, 'ulisessabeque': 0.000 STEEM, 'hakancelik
↪': 0.002 STEEM, 'sbi2': 0.008 STEEM,
    'zcool': 0.000 STEEM, 'steemhq': 0.002 STEEM, 'rowdiya': 0.000 STEEM,
↪'curator-tier-1-2': 0.012 STEEM
  }
}
```

get_parent (*children=None*)

Returns the parent post with depth == 0

get_reblogged_by (*identifier=None*)

Shows in which blogs this post appears

get_replies (*raw_data=False, identifier=None*)

Returns content replies

Parameters **raw_data** (*bool*) – When set to False, the replies will be returned as Comment class objects

get_rewards ()

Returns the total_payout, author_payout and the curator payout in SBD. When the payout is still pending, the estimated payout is given out.

Note: Potential beneficiary rewards were already deducted from the *author_payout* and the *total_payout*

Example::

```
{
  'total_payout': 9.956 SBD,
  'author_payout': 7.166 SBD,
  'curator_payout': 2.790 SBD
}
```

get_vote_with_curation (*voter=None, raw_data=False, pending_payout_value=None*)
Returns vote for voter. Returns None, if the voter cannot be found in *active_votes*.

Parameters

- **voter** (*str*) – Voter for which the vote should be returned
- **raw_data** (*bool*) – If True, the raw data are returned
- **pending_payout_SBD** (*float, str*) – When not None this value instead of the current value is used for calculating the rewards

get_votes (*raw_data=False*)
Returns all votes as ActiveVotes object

id

is_comment ()
Returns True if post is a comment

is_main_post ()
Returns True if main post, and False if this is a comment (reply).

is_pending ()
Returns if the payout is pending (the post/comment is younger than 7 days)

json ()

json_metadata

parent_author

parent_permlink

permlink

refresh ()

reply (*body, title="", author="", meta=None*)
Reply to an existing post

Parameters

- **body** (*str*) – Body of the reply
- **title** (*str*) – Title of the reply post
- **author** (*str*) – Author of reply (optional) if not provided *default_user* will be used, if present, else a *ValueError* will be raised.
- **meta** (*json*) – JSON meta object that can be attached to the post. (optional)

reesteem (*identifier=None, account=None*)
Resteem a post

Parameters

- **identifier** (*str*) – post identifier (@<account>/<permlink>)

- **account** (*str*) – (optional) the account to allow access to (defaults to `default_account`)

reward

Return the estimated total SBD reward.

time_elapsed()

Returns a `timedelta` on how old the post is.

title**type_id = 8****upvote** (*weight=100, voter=None*)

Upvote the post

Parameters

- **weight** (*float*) – (optional) Weight for posting (-100.0 - +100.0) defaults to +100.0
- **voter** (*str*) – (optional) Voting account

vote (*weight, account=None, identifier=None, **kwargs*)

Vote for a post

Parameters

- **weight** (*float*) – Voting weight. Range: -100.0 - +100.0.
- **account** (*str*) – (optional) Account to use for voting. If `account` is not defined, the `default_account` will be used or a `ValueError` will be raised
- **identifier** (*str*) – Identifier for the post to vote. Takes the form `@author/permlink`.

```
class beem.comment.RankedPosts (sort='trending', tag="", observer="", lazy=False, full=True,  
                                blockchain_instance=None, **kwargs)
```

Bases: `list`

Obtain a list of ranked posts

Parameters

- **account** (*str*) – Account name
- **blockchain_instance** (`Steem`) – `Steem()` instance to use when accessing a RPC

```
class beem.comment.RecentByPath (path='trending', category=None, lazy=False, full=True,  
                                blockchain_instance=None, **kwargs)
```

Bases: `list`

Obtain a list of posts recent by path

Parameters

- **account** (*str*) – Account name
- **blockchain_instance** (`Steem`) – `Steem()` instance to use when accessing a RPC

```
class beem.comment.RecentReplies (author, skip_own=True, lazy=False, full=True,  
                                blockchain_instance=None, **kwargs)
```

Bases: `list`

Obtain a list of recent replies

Parameters

- **author** (*str*) – author

- **skip_own** (*bool*) – (optional) Skip replies of the author to him/herself. Default: True
- **blockchain_instance** (*Steem*) – Steem() instance to use when accessing a RPC

beem.conveyor

class beem.conveyor.Conveyor (*url='https://conveyor.steemit.com', blockchain_instance=None, **kwargs*)

Bases: object

Class to access Steemit Conveyor instances: <https://github.com/steemit/conveyor>

Description from the official documentation:

- Feature flags: “Feature flags allows our apps (condenser mainly) to hide certain features behind flags.”
- User data: “Conveyor is the central point for storing sensitive user data (email, phone, etc). No other services should store this data and should instead query for it here every time.”
- User tags: “Tagging mechanism for other services, allows defining and assigning tags to accounts (or other identifiers) and querying for them.”

Not contained in the documentation, but implemented and working:

- Draft handling: saving, listing and removing post drafts consisting of a post title and a body.

The underlying RPC authentication and request signing procedure is described here: <https://github.com/steemit/rpc-auth>

get_feature_flag (*account, flag, signing_account=None*)

Test if a specific feature flag is set for an account. The request has to be signed by the requested account or an admin account.

Parameters

- **account** (*str*) – requested account
- **flag** (*str*) – flag to be tested
- **signing_account** (*str*) – (optional) account to sign the request. If unset, *account* is used.

Example:

```
from beem import Steem
from beem.conveyor import Conveyor
s = Steem(keys=["5JPOSTINGKEY"])
c = Conveyor(blockchain_instance=s)
print(c.get_feature_flag('accountname', 'accepted_tos'))
```

get_feature_flags (*account, signing_account=None*)

Get the account’s feature flags. The request has to be signed by the requested account or an admin account.

Parameters

- **account** (*str*) – requested account
- **signing_account** (*str*) – (optional) account to sign the request. If unset, *account* is used.

Example:

```
from beem import Steem
from beem.conveyor import Conveyor
s = Steem(keys=["5JPOSTINGKEY"])
c = Conveyor(blockchain_instance=s)
print(c.get_feature_flags('accountname'))
```

get_user_data (*account*, *signing_account=None*)

Get the account's email address and phone number. The request has to be signed by the requested account or an admin account.

Parameters

- **account** (*str*) – requested account
- **signing_account** (*str*) – (optional) account to sign the request. If unset, *account* is used.

Example:

```
from beem import Steem
from beem.conveyor import Conveyor
s = Steem(keys=["5JPOSTINGKEY"])
c = Conveyor(blockchain_instance=s)
print(c.get_user_data('accountname'))
```

healthcheck ()

Get the Conveyor status

Sample output:

```
{
  'ok': True, 'version': '1.1.1-4d28e36-1528725174',
  'date': '2018-07-21T12:12:25.502Z'
}
```

list_drafts (*account*)

List all saved drafts from *account*

Parameters **account** (*str*) – requested account

Sample output:

```
{
  'jsonrpc': '2.0', 'id': 2, 'result': [
    {'title': 'draft-title', 'body': 'draft-body',
     'uuid': '06497e1e-ac30-48cb-a069-27e1672924c9'}
  ]
}
```

prehash_message (*timestamp*, *account*, *method*, *params*, *nonce*)

Prepare a hash for the Conveyor API request with SHA256 according to <https://github.com/steemit/rpc-auth> Hashing of *second* is then done inside *ecdsasig.sign_message()*.

Parameters

- **timestamp** (*str*) – valid iso8601 datetime ending in “Z”
- **account** (*str*) – valid steem blockchain account name
- **method** (*str*) – Conveyor method name to be called
- **param** (*bytes*) – base64 encoded request parameters

- **nonce** (*bytes*) – random 8 bytes

remove_draft (*account, uuid*)

Remove a draft from the Conveyor database

Parameters

- **account** (*str*) – requested account
- **uuid** (*str*) – draft identifier as returned from *list_drafts*

save_draft (*account, title, body*)

Save a draft in the Conveyor database

Parameters

- **account** (*str*) – requested account
- **title** (*str*) – draft post title
- **body** (*str*) – draft post body

set_user_data (*account, params, signing_account=None*)

Set the account's email address and phone number. The request has to be signed by an admin account.

Parameters

- **account** (*str*) – requested account
- **param** (*dict*) – user data to be set
- **signing_account** (*str*) – (optional) account to sign the request. If unset, *account* is used.

Example:

```
from beem import Steem
from beem.conveyor import Conveyor
s = Steem(keys=["5JADMINPOSTINGKEY"])
c = Conveyor(blockchain_instance=s)
userdata = {'email': 'foo@bar.com', 'phone': '+123456789'}
c.set_user_data('accountname', userdata, 'adminaccountname')
```

beem.discussions

```
class beem.discussions.Comment_discussions_by_payout (discussion_query, lazy=False,
                                                         use_appbase=False,
                                                         raw_data=False,
                                                         blockchain_instance=None,
                                                         **kwargs)
```

Bases: list

Get comment_discussions_by_payout

Parameters

- **discussion_query** (*Query*) – Defines the parameter for searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```
from beem.discussions import Query, Comment_discussions_by_payout
q = Query(limit=10)
for h in Comment_discussions_by_payout(q):
    print(h)
```

```
class beem.discussions.Discussions(lazy=False, use_appbase=False,
                                   blockchain_instance=None, **kwargs)
```

Bases: object

Get Discussions

Parameters `blockchain_instance` (`Steem`) – Steem instance

get_discussions (`discussion_type`, `discussion_query`, `limit=1000`, `raw_data=False`)

Get Discussions

Parameters

- **discussion_type** (`str`) – Defines the used discussion query
- **discussion_query** (`Query`) – Defines the parameter for searching posts
- **raw_data** (`bool`) – returns list of comments when False, default is False

```
from beem.discussions import Query, Discussions
query = Query(limit=51, tag="steemit")
discussions = Discussions()
count = 0
for d in discussions.get_discussions("tags", query, limit=200):
    print("%d. " % (count + 1)) + str(d)
    count += 1
```

```
class beem.discussions.Discussions_by_active(discussion_query, lazy=False,
                                              use_appbase=False, raw_data=False,
                                              blockchain_instance=None, **kwargs)
```

Bases: list

get_discussions_by_active

Parameters

- **discussion_query** (`Query`) – Defines the parameter searching posts
- **use_appbase** (`bool`) – use condenser call when set to False, default is False
- **raw_data** (`bool`) – returns list of comments when False, default is False
- **blockchain_instance** (`Steem`) – Steem() instance to use when accessing a RPC

```
from beem.discussions import Query, Discussions_by_active
q = Query(limit=10)
for h in Discussions_by_active(q):
    print(h)
```

```
class beem.discussions.Discussions_by_author_before_date (author="",
                                                         start_permalink="",
                                                         before_date='1970-
                                                         01-01T00:00:00',
                                                         limit=100, lazy=False,
                                                         use_appbase=False,
                                                         raw_data=False,
                                                         blockchain_instance=None,
                                                         **kwargs)
```

Bases: list

Get Discussions by author before date

Note: To retrieve discussions before date, the time of creation of the discussion @author/start_permalink must be older than the specified before_date parameter.

Parameters

- **author** (*str*) – Defines the author (*required*)
- **start_permalink** (*str*) – Defines the permalink of a starting discussion
- **before_date** (*str*) – Defines the before date for query
- **limit** (*int*) – Defines the limit of discussions
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```
from beem.discussions import Query, Discussions_by_author_before_date
for h in Discussions_by_author_before_date(limit=10, author="gtg"):
    print(h)
```

```
class beem.discussions.Discussions_by_blog (discussion_query, lazy=False,
                                             use_appbase=False, raw_data=False,
                                             blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions by blog

Parameters

- **discussion_query** (*Query*) – Defines the parameter searching posts, tag must be set to a username
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```
from beem.discussions import Query, Discussions_by_blog
q = Query(limit=10)
for h in Discussions_by_blog(q):
    print(h)
```

```
class beem.discussions.Discussions_by_cashout (discussion_query, lazy=False,
                                                use_appbase=False, raw_data=False,
                                                blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions_by_cashout. This query seems to be broken at the moment. The output is always empty.

Parameters

- **discussion_query** ([Query](#)) – Defines the parameter searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** ([Steem](#)) – Steem instance

```
from beem.discussions import Query, Discussions_by_cashout
q = Query(limit=10)
for h in Discussions_by_cashout(q):
    print(h)
```

```
class beem.discussions.Discussions_by_children (discussion_query, lazy=False,
                                                use_appbase=False, raw_data=False,
                                                blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions by children

Parameters

- **discussion_query** ([Query](#)) – Defines the parameter searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** ([Steem](#)) – Steem instance

```
from beem.discussions import Query, Discussions_by_children
q = Query(limit=10)
for h in Discussions_by_children(q):
    print(h)
```

```
class beem.discussions.Discussions_by_comments (discussion_query, lazy=False,
                                                use_appbase=False, raw_data=False,
                                                blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions by comments

Parameters

- **discussion_query** ([Query](#)) – Defines the parameter searching posts, start_author and start_permalink must be set.
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** ([Steem](#)) – Steem instance

```
from beem.discussions import Query, Discussions_by_comments
q = Query(limit=10, start_author="steemit", start_permlink="firstpost")
for h in Discussions_by_comments(q):
    print(h)
```

```
class beem.discussions.Discussions_by_created(discussion_query, lazy=False,
                                              use_appbase=False, raw_data=False,
                                              blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions_by_created

Parameters

- **discussion_query** ([Query](#)) – Defines the parameter for searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** ([Steem](#)) – Steem instance

```
from beem.discussions import Query, Discussions_by_created
q = Query(limit=10)
for h in Discussions_by_created(q):
    print(h)
```

```
class beem.discussions.Discussions_by_feed(discussion_query, lazy=False,
                                           use_appbase=False, raw_data=False,
                                           blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions by feed

Parameters

- **discussion_query** ([Query](#)) – Defines the parameter searching posts, tag must be set to a username
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** ([Steem](#)) – Steem instance

```
from beem.discussions import Query, Discussions_by_feed
q = Query(limit=10, tag="steem")
for h in Discussions_by_feed(q):
    print(h)
```

```
class beem.discussions.Discussions_by_hot(discussion_query, lazy=False,
                                           use_appbase=False, raw_data=False,
                                           blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions by hot

Parameters

- **discussion_query** ([Query](#)) – Defines the parameter searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False

- **blockchain_instance** (*Steem*) – Steem instance

```
from beem.discussions import Query, Discussions_by_hot
q = Query(limit=10, tag="steem")
for h in Discussions_by_hot(q):
    print(h)
```

```
class beem.discussions.Discussions_by_promoted (discussion_query, lazy=False,
                                                use_appbase=False, raw_data=False,
                                                blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions by promoted

Parameters

- **discussion_query** (*Query*) – Defines the parameter searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```
from beem.discussions import Query, Discussions_by_promoted
q = Query(limit=10, tag="steem")
for h in Discussions_by_promoted(q):
    print(h)
```

```
class beem.discussions.Discussions_by_trending (discussion_query, lazy=False,
                                                use_appbase=False, raw_data=False,
                                                blockchain_instance=None, **kwargs)
```

Bases: list

Get Discussions by trending

Parameters

- **discussion_query** (*Query*) – Defines the parameter for searching posts
- **blockchain_instance** (*Steem*) – Steem instance
- **raw_data** (*bool*) – returns list of comments when False, default is False

```
from beem.discussions import Query, Discussions_by_trending
q = Query(limit=10, tag="steem")
for h in Discussions_by_trending(q):
    print(h)
```

```
class beem.discussions.Discussions_by_votes (discussion_query, lazy=False,
                                              use_appbase=False, raw_data=False,
                                              blockchain_instance=None, **kwargs)
```

Bases: list

Get discussions_by_votes

Parameters

- **discussion_query** (*Query*) – Defines the parameter searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```

from beem.discussions import Query, Discussions_by_votes
q = Query(limit=10)
for h in Discussions_by_votes(q):
    print(h)

```

```

class beem.discussions.Post_discussions_by_payout (discussion_query,      lazy=False,
                                                    use_appbase=False,
                                                    raw_data=False,
                                                    blockchain_instance=None,
                                                    **kwargs)

```

Bases: list

Get post_discussions_by_payout

Parameters

- **discussion_query** (*Query*) – Defines the parameter for searching posts
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```

from beem.discussions import Query, Post_discussions_by_payout
q = Query(limit=10)
for h in Post_discussions_by_payout(q):
    print(h)

```

```

class beem.discussions.Query (limit=0,    tag="",    truncate_body=0,    filter_tags=[],    se-
                                lect_authors=[],    select_tags=[],    start_author=None,
                                start_permlink=None,    start_tag=None,    parent_author=None,
                                parent_permlink=None,    start_parent_author=None,    be-
                                fore_date=None, author=None)

```

Bases: dict

Query to be used for all discussion queries

Parameters

- **limit** (*int*) – limits the number of posts
- **tag** (*str*) – tag query
- **truncate_body** (*int*) –
- **filter_tags** (*array*) –
- **select_authors** (*array*) –
- **select_tags** (*array*) –
- **start_author** (*str*) –
- **start_permlink** (*str*) –
- **start_tag** (*str*) –
- **parent_author** (*str*) –
- **parent_permlink** (*str*) –
- **start_parent_author** (*str*) –
- **before_date** (*str*) –

- **author** (*str*) – Author (see `Discussions_by_author_before_date`)

```
from beem.discussions import Query
query = Query(limit=10, tag="steemit")
```

```
class beem.discussions.Replies_by_last_update (discussion_query, lazy=False,
                                                use_appbase=False, raw_data=False,
                                                blockchain_instance=None, **kwargs)
```

Bases: list

Returns a list of replies by last update

Parameters

- **discussion_query** (*Query*) – Defines the parameter searching posts
start_parent_author and start_permlink must be set.
- **use_appbase** (*bool*) – use condenser call when set to False, default is False
- **raw_data** (*bool*) – returns list of comments when False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```
from beem.discussions import Query, Replies_by_last_update
q = Query(limit=10, start_parent_author="steemit", start_permlink="firstpost")
for h in Replies_by_last_update(q):
    print(h)
```

```
class beem.discussions.Trending_tags (discussion_query, lazy=False, use_appbase=False,
                                       blockchain_instance=None, **kwargs)
```

Bases: list

Returns the list of trending tags.

Parameters

- **discussion_query** (*Query*) – Defines the parameter searching posts, start_tag can be set.
:param bool use_appbase: use condenser call when set to False, default is False
- **blockchain_instance** (*Steem*) – Steem instance

```
from beem.discussions import Query, Trending_tags
q = Query(limit=10, start_tag="")
for h in Trending_tags(q):
    print(h)
```

beem.exceptions

exception `beem.exceptions.AccountDoesNotExistException`

Bases: Exception

The account does not exist

exception `beem.exceptions.AccountExistsException`

Bases: Exception

The requested account already exists

exception `beem.exceptions.AssetDoesNotExistException`

Bases: Exception

The asset does not exist

exception `beem.exceptions.BatchedCallsNotSupported`
Bases: `Exception`
Batch calls do not work

exception `beem.exceptions.BlockDoesNotExistsException`
Bases: `Exception`
The block does not exist

exception `beem.exceptions.BlockWaitTimeExceeded`
Bases: `Exception`
Wait time for new block exceeded

exception `beem.exceptions.ContentDoesNotExistsException`
Bases: `Exception`
The content does not exist

exception `beem.exceptions.InsufficientAuthorityError`
Bases: `Exception`
The transaction requires signature of a higher authority

exception `beem.exceptions.InvalidAssetException`
Bases: `Exception`
An invalid asset has been provided

exception `beem.exceptions.InvalidMemoKeyException`
Bases: `Exception`
Memo key in message is invalid

exception `beem.exceptions.InvalidMessageSignature`
Bases: `Exception`
The message signature does not fit the message

exception `beem.exceptions.InvalidWifError`
Bases: `Exception`
The provided private Key has an invalid format

exception `beem.exceptions.MissingKeyError`
Bases: `Exception`
A required key couldn't be found in the wallet

exception `beem.exceptions.NoWalletException`
Bases: `Exception`
No Wallet could be found, please use `beem.wallet.Wallet.create()` to create a new wallet

exception `beem.exceptions.NoWriteAccess`
Bases: `Exception`
Cannot store to sqlite3 database due to missing write access

exception `beem.exceptions.OfflineHasNoRPCEException`
Bases: `Exception`
When in offline mode, we don't have RPC

exception `beem.exceptions.RPCConnectionRequired`

Bases: `Exception`

An RPC connection is required

exception `beem.exceptions.VestingBalanceDoesNotExistsException`

Bases: `Exception`

Vesting Balance does not exist

exception `beem.exceptions.VoteDoesNotExistsException`

Bases: `Exception`

The vote does not exist

exception `beem.exceptions.VotingInvalidOnArchivedPost`

Bases: `Exception`

The transaction requires signature of a higher authority

exception `beem.exceptions.WalletExists`

Bases: `Exception`

A wallet has already been created and requires a password to be unlocked by means of `beem.wallet.Wallet.unlock()`.

exception `beem.exceptions.WalletLocked`

Bases: `Exception`

Wallet is locked

exception `beem.exceptions.WitnessDoesNotExistsException`

Bases: `Exception`

The witness does not exist

exception `beem.exceptions.WrongMasterPasswordException`

Bases: `Exception`

The password provided could not properly unlock the wallet

exception `beem.exceptions.WrongMemoKey`

Bases: `Exception`

The memo provided is not equal the one on the blockchain

beem.hive

class `beem.hive.Hive` (`node=""`, `rpcuser=None`, `rpcpassword=None`, `debug=False`,
`data_refresh_time_seconds=900`, `**kwargs`)

Bases: `beem.blockchaininstance.BlockChainInstance`

Connect to the Hive network.

Parameters

- **node** (*str*) – Node to connect to (*optional*)
- **rpcuser** (*str*) – RPC user (*optional*)
- **rpcpassword** (*str*) – RPC password (*optional*)
- **nobroadcast** (*bool*) – Do **not** broadcast a transaction! (*optional*)
- **unsigned** (*bool*) – Do **not** sign a transaction! (*optional*)

- **debug** (*bool*) – Enable Debugging (*optional*)
- **keys** (*array, dict, string*) – Predefine the wif keys to shortcut the wallet database (*optional*)
- **wif** (*array, dict, string*) – Predefine the wif keys to shortcut the wallet database (*optional*)
- **offline** (*bool*) – Boolean to prevent connecting to network (defaults to `False`) (*optional*)
- **expiration** (*int*) – Delay in seconds until transactions are supposed to expire (*optional*) (default is 30)
- **blocking** (*str*) – Wait for broadcasted transactions to be included in a block and return full transaction (can be “head” or “irreversible”)
- **bundle** (*bool*) – Do not broadcast transactions right away, but allow to bundle operations. It is not possible to send out more than one vote operation and more than one comment operation in a single broadcast (*optional*)
- **appbase** (*bool*) – Use the new appbase rpc protocol on nodes with version 0.19.4 or higher. The settings has no effect on nodes with version of 0.19.3 or lower.
- **num_retries** (*int*) – Set the maximum number of reconnects to the nodes before NumRetriesReached is raised. Disabled for -1. (default is -1)
- **num_retries_call** (*int*) – Repeat num_retries_call times a rpc call on node error (default is 5)
- **timeout** (*int*) – Timeout setting for https nodes (default is 60)
- **use_hs** (*bool*) – When True, a hivesigner object is created. Can be used for broadcast posting op or creating hot_links (default is False)
- **hivesigner** (`HiveSigner`) – A HiveSigner object can be set manually, set use_hs to True
- **custom_chains** (*dict*) – custom chain which should be added to the known chains

Three wallet operation modes are possible:

- **Wallet Database:** Here, the beemlibs load the keys from the locally stored wallet SQLite database (see `storage.py`). To use this mode, simply call `Hive()` without the `keys` parameter
- **Providing Keys:** Here, you can provide the keys for your accounts manually. All you need to do is add the wif keys for the accounts you want to use as a simple array using the `keys` parameter to `Steem()`.
- **Force keys:** This more is for advanced users and requires that you know what you are doing. Here, the `keys` parameter is a dictionary that overwrite the `active`, `owner`, `posting` or `memo` keys for any account. This mode is only used for *foreign* signatures!

If no node is provided, it will connect to default nodes from `beem.NodeList`. Default settings can be changed with:

```
hive = Hive(<host>)
```

where `<host>` starts with `https://`, `ws://` or `wss://`.

The purpose of this class it to simplify interaction with Steem.

The idea is to have a class that allows to do this:

```
>>> from beem import Hive
>>> hive = Hive()
>>> print(hive.get_blockchain_version())
```

This class also deals with edits, votes and reading content.

Example for adding a custom chain:

```
from beem import Hive
stm = Hive(node=["https://mytstnet.com"], custom_chains={"MYTESTNET":
    {'chain_assets': [{ 'asset': 'HBD', 'id': 0, 'precision': 3, 'symbol': 'HBD'},
    ↪                      { 'asset': 'STEEM', 'id': 1, 'precision': 3, 'symbol': 'STEEM'
    ↪                      },
    ↪                      { 'asset': 'VESTS', 'id': 2, 'precision': 6, 'symbol': 'VESTS'
    ↪                      } ]},
    'chain_id': '79276aea5d4877d9a25892eaa01b0adf019d3e5cb12a97478df3298ccdd01674'
    ↪,
    'min_version': '0.0.0',
    'prefix': 'MTN'}
    )
```

chain_params

get_hbd_per_rshares (*not_broadcasted_vote_rshares=0, use_stored_data=True*)

Returns the current rshares to HBD ratio

get_hive_per_mvest (*time_stamp=None, use_stored_data=True*)

Returns the MVEST to HIVE ratio

Parameters **time_stamp** (*int*) – (optional) if set, return an estimated HIVE per MVEST ratio for the given time stamp. If unset the current ratio is returned (default). (can also be a datetime object)

get_network (*use_stored_data=True, config=None*)

Identify the network

Parameters **use_stored_data** (*bool*) – if True, stored data will be returned. If stored data are empty or old, `refresh_data()` is used.

Returns Network parameters

Return type dictionary

hardfork

hbd_symbol

get the current chains symbol for HBD (e.g. “TBD” on testnet)

hbd_to_rshares (*hbd, not_broadcasted_vote=False, use_stored_data=True*)

Obtain the r-shares from HBD

Parameters

- **hbd** (*str, int, amount.Amount*) – HBD
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote). Only impactful for very high amounts of HBD. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

hbd_to_vote_pct (*hbd*, *post_rshares*=0, *hive_power*=None, *vests*=None, *voting_power*=10000, *not_broadcasted_vote*=True, *use_stored_data*=True)

Obtain the voting percentage for a desired HBD value for a given Hive Power or vesting shares and voting power Give either Hive Power or vests, not both. When the output is greater than 10000 or smaller than -10000, the HBD value is too high.

Returns the required voting percentage (100% = 10000)

Parameters

- **hbd** (*str*, *int*, *amount.Amount*) – desired HBD value
- **hive_power** (*number*) – Hive Power
- **vests** (*number*) – vesting shares
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote). Only impactful for very high amounts of HBD. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

hive_symbol

get the current chains symbol for HIVE (e.g. “TESTS” on testnet)

hp_to_hbd (*hp*, *post_rshares*=0, *voting_power*=10000, *vote_pct*=10000, *not_broadcasted_vote*=True, *use_stored_data*=True)

Obtain the resulting HBD vote value from Hive power

Parameters

- **hive_power** (*number*) – Hive Power
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote).

Only impactful for very big votes. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

hp_to_rshares (*hive_power*, *post_rshares*=0, *voting_power*=10000, *vote_pct*=10000, *use_stored_data*=True)

Obtain the r-shares from Hive power

Parameters

- **hive_power** (*number*) – Hive Power
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)

hp_to_vests (*hp*, *timestamp*=None, *use_stored_data*=True)

Converts HP to vests

Parameters

- **hp** (*float*) – Hive power to convert
- **timestamp** (*datetime*) – (Optional) Can be used to calculate the conversion rate from the past

is_hive

rshares_to_hbd (*rshares*, *not_broadcasted_vote=False*, *use_stored_data=True*)

Calculates the current HBD value of a vote

rshares_to_vote_pct (*rshares*, *post_rshares=0*, *hive_power=None*, *vests=None*, *voting_power=10000*, *use_stored_data=True*)

Obtain the voting percentage for a desired rshares value for a given Hive Power or vesting shares and voting_power Give either hive_power or vests, not both. When the output is greater than 10000 or less than -10000, the given absolute rshares are too high

Returns the required voting percentage (100% = 10000)

Parameters

- **rshares** (*number*) – desired rshares value
- **hive_power** (*number*) – Hive Power
- **vests** (*number*) – vesting shares
- **voting_power** (*int*) – voting power (100% = 10000)

vests_symbol

get the current chains symbol for VESTS

vests_to_hbd (*vests*, *post_rshares=0*, *voting_power=10000*, *vote_pct=10000*, *not_broadcasted_vote=True*, *use_stored_data=True*)

Obtain the resulting HBD vote value from vests

Parameters

- **vests** (*number*) – vesting shares
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote).

Only impactful for very big votes. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

vests_to_hp (*vests*, *timestamp=None*, *use_stored_data=True*)

Converts vests to HP

Parameters

- **vests/float vests** (*amount.Amount*) – Vests to convert
- **timestamp** (*int*) – (Optional) Can be used to calculate the conversion rate from the past

vests_to_rshares (*vests*, *post_rshares=0*, *voting_power=10000*, *vote_pct=10000*, *subtract_dust_threshold=True*, *use_stored_data=True*)

Obtain the r-shares from vests

Parameters

- **vests** (*number*) – vesting shares
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)

- **vote_pct** (*int*) – voting percentage (100% = 10000)

beem.hivesigner

class beem.hivesigner.HiveSigner (*blockchain_instance=None, *args, **kwargs*)

Bases: object

Parameters **scope** (*str*) – comma separated string with scopes login,offline,vote,comment,delete_comment,comment_options,custom_json,claim_reward_balance

```
# Run the login_app in examples and login with a account
from beem import Steem
from beem.HiveSigner import HiveSigner
from beem.comment import Comment
hs = HiveSigner(client_id="beem.app")
steem = Steem(HiveSigner=hs)
steem.wallet.unlock("supersecret-passphrase")
post = Comment("author/permlink", blockchain_instance=steem)
post.upvote(voter="test") # replace "test" with your account
```

Examples for creating HiveSigner urls for broadcasting in browser:

```
from beem import Steem
from beem.account import Account
from beem.HiveSigner import HiveSigner
from pprint import pprint
steem = Steem(nobroadcast=True, unsigned=True)
hs = HiveSigner(blockchain_instance=steem)
acc = Account("test", blockchain_instance=steem)
pprint(hs.url_from_tx(acc.transfer("test1", 1, "HIVE", "test")))
```

```
'https://hivesigner.com/sign/transfer?from=test&to=test1&amount=1.000+HIVE&
↳memo=test'
```

```
from beem import Steem
from beem.transactionbuilder import TransactionBuilder
from beembase import operations
from beem.HiveSigner import HiveSigner
from pprint import pprint
stm = Steem(nobroadcast=True, unsigned=True)
hs = HiveSigner(blockchain_instance=stm)
tx = TransactionBuilder(blockchain_instance=stm)
op = operations.Transfer(**{"from": 'test',
                           "to": 'test1',
                           "amount": '1.000 HIVE',
                           "memo": 'test'})
tx.appendOps(op)
pprint(hs.url_from_tx(tx.json()))
```

```
'https://hivesigner.com/sign/transfer?from=test&to=test1&amount=1.000+HIVE&
↳memo=test'
```

broadcast (*operations, username=None*)

Broadcast an operation

Sample operations:

```
[
  [
    'vote', {
      'voter': 'gandalf',
      'author': 'gtg',
      'permlink': 'steem-pressure-4-need-for-speed',
      'weight': 10000
    }
  ]
]
```

create_hot_sign_url (*operation*, *params*, *redirect_uri=None*)

Creates a link for broadcasting an operation

Parameters

- **operation** (*str*) – operation name (e.g.: vote)
- **params** (*dict*) – operation dict params
- **redirect_uri** (*str*) – Redirects to this uri, when set

get_access_token (*code*)

get_login_url (*redirect_uri*, ***kwargs*)

Returns a login url for receiving token from HiveSigner

headers

me (*username=None*)

Calls the me function from HiveSigner

```
from beem.HiveSigner import HiveSigner
hs = HiveSigner()
hs.steem.wallet.unlock("supersecret-passphrase")
hs.me(username="test")
```

refresh_access_token (*code*, *scope*)

revoke_token (*access_token*)

set_access_token (*access_token*)

Is needed for *broadcast()* and *me()*

set_username (*username*, *permission='posting'*)

Set a username for the next *broadcast()* or *me()* operation. The necessary token is fetched from the wallet

update_user_metadata (*metadata*)

url_from_tx (*tx*, *redirect_uri=None*)

Creates a link for broadcasting an operation

Parameters

- **tx** (*dict*) – includes the operation, which should be broadcast
- **redirect_uri** (*str*) – Redirects to this uri, when set

beem.imageuploader

```
class beem.imageuploader.ImageUploader(base_url='https://steemitimages.com',  
                                         challenge='ImageSigningChallenge',  
                                         blockchain_instance=None, **kwargs)
```

Bases: object

upload (*image, account, image_name=None*)
Uploads an image

Parameters

- **image** (*str, bytes*) – path to the image or image in bytes representation which should be uploaded
- **account** (*str*) – Account which is used to upload. A posting key must be provided.
- **image_name** (*str*) – optional

```
from beem import Steem
from beem.imageuploader import ImageUploader
stm = Steem(keys=["5xxx"]) # private posting key
iu = ImageUploader(blockchain_instance=stm)
iu.upload("path/to/image.png", "account_name") # "private posting key belongs_
↳ to account_name
```

beem.instance

```
class beem.instance.SharedInstance
```

Bases: object

Singelton for the Steem Instance

```
config = {}
```

```
instance = None
```

beem.instance.clear_cache()
Clear Caches

beem.instance.set_shared_blockchain_instance (*blockchain_instance*)
This method allows us to override default steem instance for all users of `SharedInstance.instance`.

Parameters **blockchain_instance** (*Steem*) – Steem instance

beem.instance.set_shared_config (*config*)
This allows to set a config that will be used when calling `shared_steem_instance` and allows to define the configuration without requiring to actually create an instance

beem.instance.set_shared_hive_instance (*hive_instance*)
This method allows us to override default steem instance for all users of `SharedInstance.instance`.

Parameters **hive_instance** (*Hive*) – Hive instance

beem.instance.set_shared_steem_instance (*steem_instance*)
This method allows us to override default steem instance for all users of `SharedInstance.instance`.

Parameters **steem_instance** (*Steem*) – Steem instance

beem.instance.shared_blockchain_instance()
This method will initialize `SharedInstance.instance` and return it. The purpose of this method is to have offer single default steem instance that can be reused by multiple classes.

```
from beem.account import Account
from beem.instance import shared_steem_instance

account = Account("test")
# is equivalent with
account = Account("test", blockchain_instance=shared_steem_instance())
```

`beem.instance.shared_hive_instance()`

This method will initialize `SharedInstance.instance` and return it. The purpose of this method is to have offer single default steem instance that can be reused by multiple classes.

```
from beem.account import Account
from beem.instance import shared_hive_instance

account = Account("test")
# is equivalent with
account = Account("test", blockchain_instance=shared_hive_instance())
```

`beem.instance.shared_steem_instance()`

This method will initialize `SharedInstance.instance` and return it. The purpose of this method is to have offer single default steem instance that can be reused by multiple classes.

```
from beem.account import Account
from beem.instance import shared_steem_instance

account = Account("test")
# is equivalent with
account = Account("test", blockchain_instance=shared_steem_instance())
```

beem.market

class `beem.market.Market` (*base=None, quote=None, blockchain_instance=None, **kwargs*)

Bases: `dict`

This class allows to easily access Markets on the blockchain for trading, etc.

Parameters

- **blockchain_instance** (`Steem`) – Steem instance
- **base** (`Asset`) – Base asset
- **quote** (`Asset`) – Quote asset

Returns Blockchain Market

Return type dictionary with overloaded methods

Instances of this class are dictionaries that come with additional methods (see below) that allow dealing with a market and its corresponding functions.

This class tries to identify **two** assets as provided in the parameters in one of the following forms:

- `base` and `quote` are valid assets (according to `beem.asset.Asset`)
- `base:quote` separated with `:`
- `base/quote` separated with `/`
- `base-quote` separated with `-`

Note: Throughout this library, the `quote` symbol will be presented first (e.g. STEEM:SBD with STEEM being the quote), while the `base` only refers to a secondary asset for a trade. This means, if you call `beem.market.Market.sell()` or `beem.market.Market.buy()`, you will sell/buy **only quote** and obtain/pay **only base**.

accountopenorders (*account=None, raw_data=False*)

Returns open Orders

Parameters

- **account** (*Account*) – Account name or instance of Account to show orders for in this market
- **raw_data** (*bool*) – (optional) returns raw data if set True, or a list of Order() instances if False (defaults to False)

static btc_usd_ticker (*verbose=False*)

Returns the BTC/USD price from bitfinex, gdax, kraken, okcoin and bitstamp. The mean price is weighted by the exchange volume.

buy (*price, amount, expiration=None, killfill=False, account=None, orderid=None, returnOrderId=False*)

Places a buy order in a given market

Parameters

- **price** (*float*) – price denoted in base/quote
- **amount** (*number*) – Amount of quote to buy
- **expiration** (*number*) – (optional) expiration time of the order in seconds (defaults to 7 days)
- **killfill** (*bool*) – flag that indicates if the order shall be killed if it is not filled (defaults to False)
- **account** (*string*) – Account name that executes that order
- **returnOrderId** (*string*) – If set to “head” or “irreversible” the call will wait for the tx to appear in the head/irreversible block and add the key “orderid” to the tx output

Prices/Rates are denoted in ‘base’, i.e. the SBD_STEEM market is priced in STEEM per SBD.

Example: in the SBD_STEEM market, a price of 300 means a SBD is worth 300 STEEM

Note: All prices returned are in the **reversed** orientation as the market. I.e. in the STEEM/SBD market, prices are SBD per STEEM. That way you can multiply prices with *1.05* to get a +5%.

Warning: Since buy orders are placed as limit-sell orders for the base asset, you may end up obtaining more of the buy asset than you placed the order for. Example:

- You place an order to buy 10 SBD for 100 STEEM/SBD
- This means that you actually place a sell order for 1000 STEEM in order to obtain **at least** 10 SBD
- If an order on the market exists that sells SBD for cheaper, you will end up with more than 10 SBD

cancel (*orderNumbers*, *account=None*, ***kwargs*)

Cancels an order you have placed in a given market. Requires only the “orderNumbers”.

Parameters **orderNumbers** (*int*, *list*) – A single order number or a list of order numbers

get_string (*separator=':'*)

Return a formatted string that identifies the market, e.g. STEEM:SBD

Parameters **separator** (*str*) – The separator of the assets (defaults to :)

static hive_btc_ticker ()

Returns the HIVE/BTC price from bittrex and upbit. The mean price is weighted by the exchange volume.

hive_usd_implied ()

Returns the current HIVE/USD market price

market_history (*bucket_seconds=300*, *start_age=3600*, *end_age=0*, *raw_data=False*)

Return the market history (filled orders).

Parameters

- **bucket_seconds** (*int*) – Bucket size in seconds (see *returnMarketHistoryBuckets()*)
- **start_age** (*int*) – Age (in seconds) of the start of the window (default: 1h/3600)
- **end_age** (*int*) – Age (in seconds) of the end of the window (default: now/0)
- **raw_data** (*bool*) – (optional) returns raw data if set True

Example:

```
{
  'close_sbd': 2493387,
  'close_steem': 7743431,
  'high_sbd': 1943872,
  'high_steem': 5999610,
  'id': '7.1.5252',
  'low_sbd': 534928,
  'low_steem': 1661266,
  'open': '2016-07-08T11:25:00',
  'open_sbd': 534928,
  'open_steem': 1661266,
  'sbd_volume': 9714435,
  'seconds': 300,
  'steem_volume': 30088443
}
```

market_history_buckets ()

orderbook (*limit=25*, *raw_data=False*)

Returns the order book for SBD/STEEM market.

Parameters **limit** (*int*) – Limit the amount of orders (default: 25)

Sample output (*raw_data=False*):

```
{
  'asks': [
    380.510 STEEM 460.291 SBD @ 1.209669 SBD/STEEM,
    53.785 STEEM 65.063 SBD @ 1.209687 SBD/STEEM
  ],
  'bids': [
```

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```

    0.292 STEEM 0.353 SBD @ 1.208904 SBD/STEEM,
    8.498 STEEM 10.262 SBD @ 1.207578 SBD/STEEM
  ],
  'asks_date': [
    datetime.datetime(2018, 4, 30, 21, 7, 24, tzinfo=<UTC>),
    datetime.datetime(2018, 4, 30, 18, 12, 18, tzinfo=<UTC>)
  ],
  'bids_date': [
    datetime.datetime(2018, 4, 30, 21, 1, 21, tzinfo=<UTC>),
    datetime.datetime(2018, 4, 30, 20, 38, 21, tzinfo=<UTC>)
  ]
}

```

Sample output (raw_data=True):

```

{
  'asks': [
    {
      'order_price': {'base': '8.000 STEEM', 'quote': '9.618 SBD
      ↪'},
      'real_price': '1.202250000000000004',
      'steem': 4565,
      'sbd': 5488,
      'created': '2018-04-30T21:12:45'
    }
  ],
  'bids': [
    {
      'order_price': {'base': '10.000 SBD', 'quote': '8.333 STEEM
      ↪'},
      'real_price': '1.20004800192007677',
      'steem': 8333,
      'sbd': 10000,
      'created': '2018-04-30T20:29:33'
    }
  ]
}

```

Note: Each bid is an instance of class *beem.price.Order* and thus carries the keys *base*, *quote* and *price*. From those you can obtain the actual amounts for sale

recent_trades (*limit=25, raw_data=False*)

Returns the order book for a given market. You may also specify “all” to get the orderbooks of all markets.

Parameters

- **limit** (*int*) – Limit the amount of orders (default: 25)
- **raw_data** (*bool*) – when False, FilledOrder objects will be returned

Sample output (raw_data=False):

```

[
  (2018-04-30 21:00:54+00:00) 0.267 STEEM 0.323 SBD @ 1.209738 SBD/
  ↪STEEM,
  (2018-04-30 20:59:30+00:00) 0.131 STEEM 0.159 SBD @ 1.213740 SBD/
  ↪STEEM,

```

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```
(2018-04-30 20:55:45+00:00) 0.093 STEEM 0.113 SBD @ 1.215054 SBD/
↪STEEM,
(2018-04-30 20:55:30+00:00) 26.501 STEEM 32.058 SBD @ 1.209690 SBD/
↪STEEM,
(2018-04-30 20:55:18+00:00) 2.108 STEEM 2.550 SBD @ 1.209677 SBD/
↪STEEM,
]
```

Sample output (raw_data=True):

```
[
  {
    'date': '2018-04-30T21:02:45', 'current_pays': '0.235 SBD', 'open_
↪pays': '0.194 STEEM'},
    {
    'date': '2018-04-30T21:02:03', 'current_pays': '24.494 SBD',
↪'open_pays': '20.248 STEEM'},
    {
    'date': '2018-04-30T20:48:30', 'current_pays': '175.464 STEEM',
↪'open_pays': '211.955 SBD'},
    {
    'date': '2018-04-30T20:48:30', 'current_pays': '0.999 STEEM',
↪'open_pays': '1.207 SBD'},
    {
    'date': '2018-04-30T20:47:54', 'current_pays': '0.273 SBD', 'open_
↪pays': '0.225 STEEM'},
  ]
```

Note: Each bid is an instance of `beem.price.Order` and thus carries the keys `base`, `quote` and `price`. From those you can obtain the actual amounts for sale

sell (*price*, *amount*, *expiration=None*, *killfill=False*, *account=None*, *orderid=None*, *returnOrderId=False*)
Places a sell order in a given market

Parameters

- **price** (*float*) – price denoted in base/quote
- **amount** (*number*) – Amount of quote to sell
- **expiration** (*number*) – (optional) expiration time of the order in seconds (defaults to 7 days)
- **killfill** (*bool*) – flag that indicates if the order shall be killed if it is not filled (defaults to False)
- **account** (*string*) – Account name that executes that order
- **returnOrderId** (*string*) – If set to “head” or “irreversible” the call will wait for the tx to appear in the head/irreversible block and add the key “orderid” to the tx output

Prices/Rates are denoted in ‘base’, i.e. the SBD_STEEM market is priced in STEEM per SBD.

Example: in the SBD_STEEM market, a price of 300 means a SBD is worth 300 STEEM

Note: All prices returned are in the **reversed** orientation as the market. I.e. in the STEEM/SBD market, prices are SBD per STEEM. That way you can multiply prices with *1.05* to get a +5%.

static steem_btc_ticker()

Returns the STEEM/BTC price from bittrex, binance, huobi and upbit. The mean price is weighted by the exchange volume.

steem_usd_implied()

Returns the current STEEM/USD market price

ticker (*raw_data=False*)

Returns the ticker for all markets.

Output Parameters:

- **latest**: Price of the order last filled
- **lowest_ask**: Price of the lowest ask
- **highest_bid**: Price of the highest bid
- **sbd_volume**: Volume of SBD
- **steem_volume**: Volume of STEEM
- **percent_change**: 24h change percentage (in %)

Note: Market is STEEM:SBD and prices are SBD per STEEM!

Sample Output:

```
{
  'highest_bid': 0.30100226633322913,
  'latest': 0.0,
  'lowest_ask': 0.3249636958897082,
  'percent_change': 0.0,
  'sbd_volume': 108329611.0,
  'steem_volume': 355094043.0
}
```

trade_history (*start=None, stop=None, intervall=None, limit=25, raw_data=False*)

Returns the trade history for the internal market

This function allows to fetch a fixed number of trades at fixed intervall times to reduce the call duration time. E.g. it is possible to receive the trades from the last 7 days, by fetching 100 trades each 6 hours.

When intervall is set to None, all trades are received between start and stop. This can take a while.

Parameters

- **start** (*datetime*) – Start date
- **stop** (*datetime*) – Stop date
- **intervall** (*timedelta*) – Defines the intervall
- **limit** (*int*) – Defines how many trades are fetched at each intervall point
- **raw_data** (*bool*) – when True, the raw data are returned

trades (*limit=100, start=None, stop=None, raw_data=False*)

Returns your trade history for a given market.

Parameters

- **limit** (*int*) – Limit the amount of orders (default: 100)
- **start** (*datetime*) – start time
- **stop** (*datetime*) – stop time

volume24h (*raw_data=False*)

Returns the 24-hour volume for all markets, plus totals for primary currencies.

Sample output:

```
{
  "STEEM": 361666.63617,
  "SBD": 1087.0
}
```

beem.memo

class beem.memo.Memo (*from_account=None, to_account=None, blockchain_instance=None, **kwargs*)

Bases: object

Deals with Memos that are attached to a transfer

Parameters

- **from_account** (*Account*) – Account that has sent the memo
- **to_account** (*Account*) – Account that has received the memo
- **blockchain_instance** (*Steem*) – Steem instance

A memo is encrypted with a shared secret derived from a private key of the sender and a public key of the receiver. Due to the underlying mathematics, the same shared secret can be derived by the private key of the receiver and the public key of the sender. The encrypted message is perturbed by a nonce that is part of the transmitted message.

```
from beem.memo import Memo
m = Memo("steem.eu", "wallet.xeroc")
m.steem.wallet.unlock("secret")
enc = (m.encrypt("foobar"))
print(enc)
>> {'nonce': '17329630356955254641', 'message': '8563e2bb2976e0217806d642901a2855
↪ '}
print(m.decrypt(enc))
>> foobar
```

To decrypt a memo, simply use

```
from beem.memo import Memo
m = Memo()
m.steem.wallet.unlock("secret")
print(m.decrypt(op_data["memo"]))
```

if *op_data* being the payload of a transfer operation.

Memo Keys

In Steem, memos are AES-256 encrypted with a shared secret between sender and receiver. It is derived from the memo private key of the sender and the memo public key of the receiver.

In order for the receiver to decode the memo, the shared secret has to be derived from the receiver's private key and the sender's public key.

The memo public key is part of the account and can be retrieved with the *get_account* call:


```
get_account <accountname>
{
  [...]
  "options": {
    "memo_key": "GPH5TPTziKkLexhVKsQKtSpo4bAv5RnB8oXcG4sMHEwCcTf3r7dqE",
    [...]
  },
  [...]
}
```

while the memo private key can be dumped with *dump_private_keys*

Memo Message

The take the following form:

```
{
  "from": "GPH5mgup8evDqMnT86L7scVebRYDC2fwAWmygPEUL43LjstQegYCC",
  "to": "GPH5Ar4j53kFWuEZQ9XhxbAja4YXMPJ2EnUg5QcrdeMFYUNMMNJbe",
  "nonce": "13043867485137706821",
  "message": "d55524c37320920844ca83bb20c8d008"
}
```

The fields *from* and *to* contain the memo public key of sender and receiver. The *nonce* is a random integer that is used for the seed of the AES encryption of the message.

Encrypting a memo

The high level memo class makes use of the beem wallet to obtain keys for the corresponding accounts.

```
from beem.memo import Memo
from beem.account import Account

memoObj = Memo(
    from_account=Account(from_account),
    to_account=Account(to_account)
)
encrypted_memo = memoObj.encrypt(memo)
```

Decoding of a received memo

```
from getpass import getpass
from beem.block import Block
from beem.memo import Memo

# Obtain a transfer from the blockchain
block = Block(23755086)           # block
transaction = block["transactions"][3]  # transactions
op = transaction["operations"][0]      # operation
op_id = op[0]                     # operation type
op_data = op[1]                   # operation payload

# Instantiate Memo for decoding
memo = Memo()

# Unlock wallet
memo.unlock_wallet(getpass())

# Decode memo
```

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```
# Raises exception if required keys not available in the wallet
print(memo.decrypt(op_data["transfer"]))
```

decrypt (*memo*)

Decrypt a memo

Parameters **memo** (*str*) – encrypted memo message**Returns** encrypted memo**Return type** *str***encrypt** (*memo*, *bts_encrypt=False*)

Encrypt a memo

Parameters **memo** (*str*) – clear text memo message**Returns** encrypted memo**Return type** *str***unlock_wallet** (**args*, ***kwargs*)

Unlock the library internal wallet

beem.message

class beem.message.**Message** (*message*, *blockchain_instance=None*, ***kwargs*)

Bases: object

sign (*account=None*, ***kwargs*)

Sign a message with an account's memo key

Parameters **account** (*str*) – (optional) the account that owns the bet (defaults to *default_account*)**Returns** the signed message encapsulated in a known format**verify** (***kwargs*)

Verify a message with an account's memo key

Parameters **account** (*str*) – (optional) the account that owns the bet (defaults to *default_account*)**Returns** True if the message is verified successfully**Raises** *InvalidMessageSignature* – if the signature is not ok

beem.nodelist

class beem.nodelist.**NodeList**

Bases: list

Returns HIVE/STEEM nodes as list

```
from beem.nodelist import NodeList
n = NodeList()
nodes_urls = n.get_nodes()
```

get_hive_nodes (*testnet=False*, *not_working=False*, *wss=True*, *https=True*)

Returns hive only nodes as list

Parameters

- **testnet** (*bool*) – when True, testnet nodes are included
- **not_working** (*bool*) – When True, all nodes including not working ones will be returned

get_nodes (*hive=False, exclude_limited=False, dev=False, testnet=False, testnetdev=False, wss=True, https=True, not_working=False, normal=True, appbase=True*)
Returns nodes as list

Parameters

- **hive** (*bool*) – When True, only HIVE nodes will be returned
- **exclude_limited** (*bool*) – When True, limited nodes are excluded
- **dev** (*bool*) – when True, dev nodes with version 0.19.11 are included
- **testnet** (*bool*) – when True, testnet nodes are included
- **testnetdev** (*bool*) – When True, testnet-dev nodes are included
- **not_working** (*bool*) – When True, all nodes including not working ones will be returned
- **normal** (*bool*) – deprecated
- **appbase** (*bool*) – deprecated

get_steem_nodes (*testnet=False, not_working=False, wss=True, https=True*)
Returns steem only nodes as list

Parameters

- **testnet** (*bool*) – when True, testnet nodes are included
- **not_working** (*bool*) – When True, all nodes including not working ones will be returned

get_testnet (*testnet=True, testnetdev=False*)
Returns testnet nodes

update_nodes (*weights=None, blockchain_instance=None, **kwargs*)
Reads metadata from fullnodeupdate and recalculates the nodes score

Parameters **weight** (*list, dict*) – can be used to weight the different benchmarks

```
from beem.nodelist import NodeList
nl = NodeList()
weights = [0, 0.1, 0.2, 1]
nl.update_nodes(weights)
weights = {'block': 0.1, 'history': 0.1, 'apicall': 1, 'config': 1}
nl.update_nodes(weights)
```

beem.notify

class beem.notify.**Notify** (*on_block=None, only_block_id=False, blockchain_instance=None, keep_alive=25, **kwargs*)
Bases: events.events.Events

Notifications on Blockchain events.

This modules allows you to be notified of events taking place on the blockchain.

Parameters

- **on_block** (*fmt*) – Callback that will be called for each block received
- **blockchain_instance** (*Steem*) – Steem instance

Example

```
from pprint import pprint
from beem.notify import Notify

notify = Notify(
    on_block=print,
)
notify.listen()
```

close()

Cleanly close the Notify instance

listen()

This call initiates the listening/notification process. It behaves similar to `run_forever()`.

process_block (*message*)**reset_subscriptions** (*accounts=[]*)

Change the subscriptions of a running Notify instance

beem.price

class `beem.price.FilledOrder` (*order, blockchain_instance=None, **kwargs*)

Bases: `beem.price.Price`

This class inherits `beem.price.Price` but has the `base` and `quote` Amounts not only be used to represent the price (as a ratio of base and quote) but instead has those amounts represent the amounts of an actually filled order!

Parameters **blockchain_instance** (*Steem*) – Steem instance

Note: Instances of this class come with an additional `date` key that shows when the order has been filled!

json()

class `beem.price.Order` (*base, quote=None, blockchain_instance=None, **kwargs*)

Bases: `beem.price.Price`

This class inherits `beem.price.Price` but has the `base` and `quote` Amounts not only be used to represent the price (as a ratio of base and quote) but instead has those amounts represent the amounts of an actual order!

Parameters **blockchain_instance** (*Steem*) – Steem instance

Note: If an order is marked as deleted, it will carry the ‘deleted’ key which is set to `True` and all other data be `None`.

class `beem.price.Price` (*price=None, base=None, quote=None, base_asset=None, blockchain_instance=None, **kwargs*)

Bases: `dict`

This class deals with all sorts of prices of any pair of assets to simplify dealing with the tuple:

`(quote, base)`

each being an instance of `beem.amount.Amount`. The amount themselves define the price.

Note: The price (floating) is derived as `base/quote`

Parameters

- **args** (*list*) – Allows to deal with different representations of a price
- **base** (*Asset*) – Base asset
- **quote** (*Asset*) – Quote asset
- **blockchain_instance** (*Steem*) – Steem instance

Returns All data required to represent a price

Return type dictionary

Way to obtain a proper instance:

- args is a str with a price and two assets
- args can be a floating number and base and quote being instances of `beem.asset.Asset`
- args can be a floating number and base and quote being instances of str
- args can be dict with keys price, base, and quote (*graphene balances*)
- args can be dict with keys base and quote
- args can be dict with key receives (filled orders)
- args being a list of [quote, base] both being instances of `beem.amount.Amount`
- args being a list of [quote, base] both being instances of str (amount symbol)
- base and quote being instances of `beem.asset.Amount`

This allows instantiations like:

- `Price("0.315 SBD/STEEM")`
- `Price(0.315, base="SBD", quote="STEEM")`
- `Price(0.315, base=Asset("SBD"), quote=Asset("STEEM"))`
- `Price({"base": {"amount": 1, "asset_id": "SBD"}, "quote": {"amount": 10, "asset_id": "SBD"}})`
- `Price(quote="10 STEEM", base="1 SBD")`
- `Price("10 STEEM", "1 SBD")`
- `Price(Amount("10 STEEM"), Amount("1 SBD"))`
- `Price(1.0, "SBD/STEEM")`

Instances of this class can be used in regular mathematical expressions (+-*/%) such as:

```
>>> from beem.price import Price
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> Price("0.3314 SBD/STEEM", blockchain_instance=stm) * 2
0.662804 SBD/STEEM
>>> Price(0.3314, "SBD", "STEEM", blockchain_instance=stm)
0.331402 SBD/STEEM
```

as_base (*base*)

Returns the price instance so that the base asset is base.

Note: This makes a copy of the object!

```
>>> from beem.price import Price
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> Price("0.3314 SBD/STEEM", blockchain_instance=stm).as_base("STEEM")
3.017483 STEEM/SBD
```

as_quote (*quote*)

Returns the price instance so that the quote asset is quote.

Note: This makes a copy of the object!

```
>>> from beem.price import Price
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> Price("0.3314 SBD/STEEM", blockchain_instance=stm).as_quote("SBD")
3.017483 STEEM/SBD
```

copy () → a shallow copy of D

invert ()

Invert the price (e.g. go from SBD/STEEM into STEEM/SBD)

```
>>> from beem.price import Price
>>> from beem import Steem
>>> stm = Steem("https://api.steemit.com")
>>> Price("0.3314 SBD/STEEM", blockchain_instance=stm).invert()
3.017483 STEEM/SBD
```

json ()

market

Open the corresponding market

Returns Instance of *beem.market.Market* for the corresponding pair of assets.

symbols ()

beem.price.check_asset (*other, self, stm*)

beem.rc

```
class beem.rc.RC (blockchain_instance=None, **kwargs)
```

```
    Bases: object
```

```
    account_create_dict (account_create_dict)
```

```
        Calc RC costs for account create
```

```
    account_update_dict (account_update_dict)
```

```
        Calc RC costs for account update
```

```
    claim_account (tx_size=300)
```

```
        Claim account
```

```
    comment (tx_size=1000, permink_length=10, parent_permink_length=10)
```

```
        Calc RC for a comment
```

```
    comment_dict (comment_dict)
```

```
        Calc RC costs for a comment dict object
```

```
        Example for calculating RC costs
```

```
from beem.rc import RC
comment_dict = {
    "permink": "test", "author": "holger80",
    "body": "test", "parent_permink": "",
    "parent_author": "", "title": "test",
    "json_metadata": {"foo": "bar"}
}

rc = RC()
print (rc.comment_from_dict (comment_dict))
```

```
    create_claimed_account_dict (create_claimed_account_dict)
```

```
        Calc RC costs for claimed account create
```

```
    custom_json (tx_size=444, follow_id=False)
```

```
    custom_json_dict (custom_json_dict)
```

```
        Calc RC costs for a custom_json
```

```
        Example for calculating RC costs
```

```
from beem.rc import RC
from collections import OrderedDict
custom_json_dict = {
    "json": [
        "reblog", OrderedDict([("account", "xeroc"), (
↪ "author", "chainsquad"),
                                ("permink", "streemian-
↪ com-to-open-its-doors-and-offer-a-20-discount")
        ])
    ],
    "required_auths": [],
    "required_posting_auths": ["xeroc"],
    "id": "follow"
}

rc = RC()
print (rc.comment (custom_json_dict))
```

get_authority_byte_count (*auth*)

get_resource_count (*tx_size*, *execution_time_count*, *state_bytes_count=0*,
new_account_op_count=0, *market_op_count=0*)

Creates the resource_count dictionary based on tx_size, state_bytes_count, new_account_op_count and market_op_count

get_tx_size (*op*)

Returns the tx size of an operation

transfer (*tx_size=290*, *market_op_count=1*)

Calc RC of a transfer

transfer_dict (*transfer_dict*)

Calc RC costs for a transfer dict object

Example for calculating RC costs

```
from beem.rc import RC
from beem.amount import Amount
transfer_dict = {
    "from": "foo", "to": "baar",
    "amount": Amount("111.110 STEEM"),
    "memo": "Fooo"
}

rc = RC()
print(rc.comment(transfer_dict))
```

vote (*tx_size=210*)

Calc RC for a vote

vote_dict (*vote_dict*)

Calc RC costs for a vote

Example for calculating RC costs

```
from beem.rc import RC
vote_dict = {
    "voter": "foobara", "author": "foobarc",
    "permlink": "foobard", "weight": 1000
}

rc = RC()
print(rc.comment(vote_dict))
```

beem.snapshot

class beem.snapshot.**AccountSnapshot** (*account*, *account_history=[]*,
blockchain_instance=None, ***kwargs*)

Bases: list

This class allows to easily access Account history

Parameters

- **account_name** (*str*) – Name of the account
- **blockchain_instance** (*Steem*) – Steem instance

build (*only_ops=[]*, *exclude_ops=[]*, *enable_rewards=False*, *enable_out_votes=False*, *enable_in_votes=False*)

Builds the account history based on all account operations

Parameters

- **only_ops** (*array*) – Limit generator by these operations (*optional*)
- **exclude_ops** (*array*) – Exclude these operations from generator (*optional*)

build_curation_arrays (*end_date=None*, *sum_days=7*)

Build curation arrays

build_rep_arrays ()

Build reputation arrays

build_sp_arrays ()

Builds the own_sp and eff_sp array

build_vp_arrays ()

Build vote power arrays

get_account_history (*start=None*, *stop=None*, *use_block_num=True*)

Uses account history to fetch all related ops

Parameters

- **start** (*int*, *datetime*) – start number/date of transactions to return (*optional*)
- **stop** (*int*, *datetime*) – stop number/date of transactions to return (*optional*)
- **use_block_num** (*bool*) – if true, start and stop are block numbers, otherwise virtual OP count numbers.

get_data (*timestamp=None*, *index=0*)

Returns snapshot for given timestamp

get_ops (*start=None*, *stop=None*, *use_block_num=True*, *only_ops=[]*, *exclude_ops=[]*)

Returns ops in the given range

parse_op (*op*, *only_ops=[]*, *enable_rewards=False*, *enable_out_votes=False*, *enable_in_votes=False*)

Parse account history operation

reset ()

Resets the arrays not the stored account history

search (*search_str*, *start=None*, *stop=None*, *use_block_num=True*)

Returns ops in the given range

update (*timestamp*, *own*, *delegated_in=None*, *delegated_out=None*, *steem=0*, *sbd=0*)

Updates the internal state arrays

Parameters

- **timestamp** (*datetime*) – datetime of the update
- **own** (*amount.Amount*, *float*) – vests
- **delegated_in** (*dict*) – Incoming delegation
- **delegated_out** (*dict*) – Outgoing delegation
- **steem** (*amount.Amount*, *float*) – steem
- **sbd** (*amount.Amount*, *float*) – sbd

update_in_vote (*timestamp*, *weight*, *op*)

update_out_vote (*timestamp, weight*)

update_rewards (*timestamp, curation_reward, author_vests, author_steem, author_sbd*)

beem.steem

class beem.steem.Steem (*node="", rpcuser=None, rpcpassword=None, debug=False,*
*data_refresh_time_seconds=900, **kwargs*)

Bases: *beem.blockchaininstance.BlockChainInstance*

Connect to the Steem network.

Parameters

- **node** (*str*) – Node to connect to (*optional*)
- **rpcuser** (*str*) – RPC user (*optional*)
- **rpcpassword** (*str*) – RPC password (*optional*)
- **nobroadcast** (*bool*) – Do **not** broadcast a transaction! (*optional*)
- **unsigned** (*bool*) – Do **not** sign a transaction! (*optional*)
- **debug** (*bool*) – Enable Debugging (*optional*)
- **keys** (*array, dict, string*) – Predefine the wif keys to shortcut the wallet database (*optional*)
- **wif** (*array, dict, string*) – Predefine the wif keys to shortcut the wallet database (*optional*)
- **offline** (*bool*) – Boolean to prevent connecting to network (defaults to `False`) (*optional*)
- **expiration** (*int*) – Delay in seconds until transactions are supposed to expire (*optional*) (default is 30)
- **blocking** (*str*) – Wait for broadcasted transactions to be included in a block and return full transaction (can be “head” or “irreversible”)
- **bundle** (*bool*) – Do not broadcast transactions right away, but allow to bundle operations. It is not possible to send out more than one vote operation and more than one comment operation in a single broadcast (*optional*)
- **appbase** (*bool*) – Use the new appbase rpc protocol on nodes with version 0.19.4 or higher. The settings has no effect on nodes with version of 0.19.3 or lower.
- **num_retries** (*int*) – Set the maximum number of reconnects to the nodes before NumRetriesReached is raised. Disabled for -1. (default is -1)
- **num_retries_call** (*int*) – Repeat num_retries_call times a rpc call on node error (default is 5)
- **timeout** (*int*) – Timeout setting for https nodes (default is 60)
- **use_sc2** (*bool*) – When True, a steemconnect object is created. Can be used for broadcast posting op or creating hot_links (default is False)
- **steemconnect** (*SteemConnect*) – A SteemConnect object can be set manually, set use_sc2 to True
- **custom_chains** (*dict*) – custom chain which should be added to the known chains

Three wallet operation modes are possible:

- **Wallet Database:** Here, the steemlibs load the keys from the locally stored wallet SQLite database (see `storage.py`). To use this mode, simply call `Steem()` without the `keys` parameter
- **Providing Keys:** Here, you can provide the keys for your accounts manually. All you need to do is add the wif keys for the accounts you want to use as a simple array using the `keys` parameter to `Steem()`.
- **Force keys:** This more is for advanced users and requires that you know what you are doing. Here, the `keys` parameter is a dictionary that overwrite the `active`, `owner`, `posting` or `memo` keys for any account. This mode is only used for *foreign* signatures!

If no node is provided, it will connect to default nodes of <http://geo.steem.pl>. Default settings can be changed with:

```
steem = Steem(<host>)
```

where `<host>` starts with `https://`, `ws://` or `wss://`.

The purpose of this class it to simplify interaction with Steem.

The idea is to have a class that allows to do this:

```
>>> from beem import Steem
>>> steem = Steem()
>>> print(steem.get_blockchain_version())
```

This class also deals with edits, votes and reading content.

Example for adding a custom chain:

```
from beem import Steem
stm = Steem(node=["https://mytstnet.com"], custom_chains={"MYTESTNET":
    {'chain_assets': [{'asset': 'SBD', 'id': 0, 'precision': 3, 'symbol': 'SBD'},
                      {'asset': 'STEEM', 'id': 1, 'precision': 3, 'symbol': 'STEEM'}
    ],
    {'asset': 'VESTS', 'id': 2, 'precision': 6, 'symbol': 'VESTS'}
    ],
    'chain_id': '79276aea5d4877d9a25892eaa01b0adf019d3e5cb12a97478df3298ccdd01674',
    'min_version': '0.0.0',
    'prefix': 'MTN'}
)
```

chain_params

get_network (*use_stored_data=True, config=None*)

Identify the network

Parameters *use_stored_data* (*bool*) – if True, stored data will be returned. If stored data are empty or old, `refresh_data()` is used.

Returns Network parameters

Return type dictionary

get_sbd_per_rshares (*not_broadcasted_vote_rshares=0, use_stored_data=True*)

Returns the current rshares to SBD ratio

get_steem_per_mvest (*time_stamp=None, use_stored_data=True*)

Returns the MVEST to STEEM ratio

Parameters **time_stamp** (*int*) – (optional) if set, return an estimated STEEM per MVEST ratio for the given time stamp. If unset the current ratio is returned (default). (can also be a datetime object)

hardfork

is_steem

rshares_to_sbd (*rshares*, *not_broadcasted_vote=False*, *use_stored_data=True*)

Calculates the current SBD value of a vote

rshares_to_vote_pct (*rshares*, *post_rshares=0*, *steem_power=None*, *vests=None*, *voting_power=10000*, *use_stored_data=True*)

Obtain the voting percentage for a desired rshares value for a given Steem Power or vesting shares and voting_power Give either steem_power or vests, not both. When the output is greater than 10000 or less than -10000, the given absolute rshares are too high

Returns the required voting percentage (100% = 10000)

Parameters

- **rshares** (*number*) – desired rshares value
- **steem_power** (*number*) – Steem Power
- **vests** (*number*) – vesting shares
- **voting_power** (*int*) – voting power (100% = 10000)

sbd_symbol

get the current chains symbol for SBD (e.g. “TBD” on testnet)

sbd_to_rshares (*sbd*, *not_broadcasted_vote=False*, *use_stored_data=True*)

Obtain the r-shares from SBD

Parameters

- **sbd** (*str*, *int*, *amount.Amount*) – SBD
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote). Only impactful for very high amounts of SBD. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

sbd_to_vote_pct (*sbd*, *post_rshares=0*, *steem_power=None*, *vests=None*, *voting_power=10000*, *not_broadcasted_vote=True*, *use_stored_data=True*)

Obtain the voting percentage for a desired SBD value for a given Steem Power or vesting shares and voting power Give either Steem Power or vests, not both. When the output is greater than 10000 or smaller than -10000, the SBD value is too high.

Returns the required voting percentage (100% = 10000)

Parameters

- **sbd** (*str*, *int*, *amount.Amount*) – desired SBD value
- **steem_power** (*number*) – Steem Power
- **vests** (*number*) – vesting shares
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote). Only impactful for very high amounts of SBD. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

sp_to_rshares (*steem_power*, *post_rshares=0*, *voting_power=10000*, *vote_pct=10000*,
use_stored_data=True)
 Obtain the r-shares from Steem power

Parameters

- **steem_power** (*number*) – Steem Power
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)

sp_to_sbd (*sp*, *post_rshares=0*, *voting_power=10000*, *vote_pct=10000*, *not_broadcasted_vote=True*,
use_stored_data=True)
 Obtain the resulting SBD vote value from Steem power

Parameters

- **steem_power** (*number*) – Steem Power
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote).

Only impactful for very big votes. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

sp_to_vests (*sp*, *timestamp=None*, *use_stored_data=True*)
 Converts SP to vests

Parameters

- **sp** (*float*) – Steem power to convert
- **timestamp** (*datetime*) – (Optional) Can be used to calculate the conversion rate from the past

steem_symbol
 get the current chains symbol for STEEM (e.g. “TESTS” on testnet)

vests_symbol
 get the current chains symbol for VESTS

vests_to_rshares (*vests*, *post_rshares=0*, *voting_power=10000*, *vote_pct=10000*, *subtract_dust_threshold=True*, *use_stored_data=True*)
 Obtain the r-shares from vests

Parameters

- **vests** (*number*) – vesting shares
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)

vests_to_sbd (*vests*, *post_rshares=0*, *voting_power=10000*, *vote_pct=10000*,
not_broadcasted_vote=True, *use_stored_data=True*)
 Obtain the resulting SBD vote value from vests

Parameters

- **vests** (*number*) – vesting shares
- **post_rshares** (*int*) – rshares of post which is voted
- **voting_power** (*int*) – voting power (100% = 10000)
- **vote_pct** (*int*) – voting percentage (100% = 10000)
- **not_broadcasted_vote** (*bool*) – not_broadcasted or already broadcasted vote (True = not_broadcasted vote).

Only impactful for very big votes. Slight modification to the value calculation, as the not_broadcasted vote rshares decreases the reward pool.

vests_to_sp (*vests*, *timestamp=None*, *use_stored_data=True*)

Converts vests to SP

Parameters

- **vests/float vests** (*amount.Amount*) – Vests to convert
- **timestamp** (*int*) – (Optional) Can be used to calculate the conversion rate from the past

beem.steemconnect

class beem.steemconnect.**SteemConnect** (*blockchain_instance=None*, **args*, ***kwargs*)

Bases: object

Parameters **scope** (*str*) – comma separated string with scopes login,offline,vote,comment,delete_comment,comment_options,custom_json,claim_reward_balance

```
# Run the login_app in examples and login with a account
from beem import Steem
from beem.steemconnect import SteemConnect
from beem.comment import Comment
sc2 = SteemConnect(client_id="beem.app")
steem = Steem(steemconnect=sc2)
steem.wallet.unlock("supersecret-passphrase")
post = Comment("author/permlink", blockchain_instance=steem)
post.upvote(voter="test") # replace "test" with your account
```

Examples for creating steemconnect v2 urls for broadcasting in browser:

```
from beem import Steem
from beem.account import Account
from beem.steemconnect import SteemConnect
from pprint import pprint
steem = Steem(nobroadcast=True, unsigned=True)
sc2 = SteemConnect(blockchain_instance=steem)
acc = Account("test", blockchain_instance=steem)
pprint(sc2.url_from_tx(acc.transfer("test1", 1, "STEEM", "test")))
```

```
'https://steemconnect.com/sign/transfer?from=test&to=test1&amount=1.000+STEEM&
↳memo=test'
```

```

from beem import Steem
from beem.transactionbuilder import TransactionBuilder
from beembase import operations
from beem.steemconnect import SteemConnect
from pprint import pprint
stm = Steem(nobroadcast=True, unsigned=True)
sc2 = SteemConnect(blockchain_instance=stm)
tx = TransactionBuilder(blockchain_instance=stm)
op = operations.Transfer(**{"from": 'test',
                           "to": 'test1',
                           "amount": '1.000 STEEM',
                           "memo": 'test'})

tx.appendOps(op)
pprint(sc2.url_from_tx(tx.json()))

```

```

'https://steemconnect.com/sign/transfer?from=test&to=test1&amount=1.000+STEEM&
↪memo=test'

```

broadcast (*operations*, *username=None*)

Broadcast an operation

Sample operations:

```

[
  [
    'vote', {
      'voter': 'gandalf',
      'author': 'gtg',
      'permlink': 'steem-pressure-4-need-for-speed',
      'weight': 10000
    }
  ]
]

```

create_hot_sign_url (*operation*, *params*, *redirect_uri=None*)

Creates a link for broadcasting an operation

Parameters

- **operation** (*str*) – operation name (e.g.: vote)
- **params** (*dict*) – operation dict params
- **redirect_uri** (*str*) – Redirects to this uri, when set

get_access_token (*code*)

get_login_url (*redirect_uri*, ***kwargs*)

Returns a login url for receiving token from steemconnect

headers

me (*username=None*)

Calls the me function from steemconnect

```

from beem.steemconnect import SteemConnect
sc2 = SteemConnect()
sc2.steem.wallet.unlock("supersecret-passphrase")
sc2.me(username="test")

```

refresh_access_token (*code*, *scope*)

revoke_token (*access_token*)

set_access_token (*access_token*)

Is needed for *broadcast()* and *me()*

set_username (*username*, *permission*='posting')

Set a username for the next *broadcast()* or *me()* operation. The necessary token is fetched from the wallet

update_user_metadata (*metadata*)

url_from_tx (*tx*, *redirect_uri*=None)

Creates a link for broadcasting an operation

Parameters

- **tx** (*dict*) – includes the operation, which should be broadcast
- **redirect_uri** (*str*) – Redirects to this uri, when set

beem.storage

class beem.storage.Configuration

Bases: *beem.storage.DataDir*

This is the configuration storage that stores key/value pairs in the *config* table of the SQLite3 database.

blockchain = 'hive'

checkBackup ()

Backup the SQL database every 7 days

config_defaults = {'client_id': '', 'default_chain': 'hive', 'hot_sign_redirect_uri': ''}

create_table ()

Create the new table in the SQLite database

delete (*key*)

Delete a key from the configuration store

exists_table ()

Check if the database table exists

get (*key*, *default*=None)

Return the key if exists or a default value

items ()

odelist = [{'url': 'https://api.steemit.com', 'version': '0.20.2', 'type': 'appbase'}]

Default configuration

nodes = ['https://anyx.io', 'http://anyx.io', 'https://api.hivekings.com', 'https://api.hivekings.com']

class beem.storage.DataDir

Bases: *object*

This class ensures that the user's data is stored in its OS preprotected user directory:

OSX:

- ~/Library/Application Support/<AppName>

Windows:

- C:\Documents and Settings<User>\Application Data\Local Settings\<AppAuthor>\<AppName>

- *C:\Documents and Settings<User>\Application Data<AppAuthor>\<AppName>*

Linux:

- *~/.local/share/<AppName>*

Furthermore, it offers an interface to generated backups in the *backups/* directory every now and then.

appauthor = 'beem'

appname = 'beem'

clean_data (*backupdir*='backups')

Delete files older than 70 days

data_dir = '/home/docs/.local/share/beem'

mkdir_p ()

Ensure that the directory in which the data is stored exists

recover_with_latest_backup (*backupdir*='backups')

Replace database with latest backup

refreshBackup ()

Make a new backup

sqlDataBaseFile = '/home/docs/.local/share/beem/beem.sqlite'

sqlite3_backup (*backupdir*)

Create timestamped database copy

sqlite3_copy (*src*, *dst*)

Copy sql file from src to dst

storageDatabase = 'beem.sqlite'

class beem.storage.**Key**

Bases: *beem.storage.DataDir*

This is the key storage that stores the public key and the (possibly encrypted) private key in the *keys* table in the SQLite3 database.

add (*wif*, *pub*)

Add a new public/private key pair (correspondence has to be checked elsewhere!)

Parameters

- **pub** (*str*) – Public key
- **wif** (*str*) – Private key

create_table ()

Create the new table in the SQLite database

delete (*pub*)

Delete the key identified as *pub*

Parameters **pub** (*str*) – Public key

exists_table ()

Check if the database table exists

getPrivateKeyForPublicKey (*pub*)

Returns the (possibly encrypted) private key that corresponds to a public key

Parameters **pub** (*str*) – Public key

The encryption scheme is BIP38

getPublicKeys (*prefix='STM'*)

Returns the public keys stored in the database

updateWif (*pub, wif*)

Change the wif to a pubkey

Parameters

- **pub** (*str*) – Public key
- **wif** (*str*) – Private key

wipe (*sure=False*)

Purge the entire wallet. No keys will survive this!

class beem.storage.**MasterPassword** (*password*)

Bases: object

The keys are encrypted with a Masterpassword that is stored in the configurationStore. It has a checksum to verify correctness of the password

changePassword (*newpassword*)

Change the password

config_key = 'encrypted_master_password'

This key identifies the encrypted master password stored in the confiration

decryptEncryptedMaster ()

Decrypt the encrypted masterpassword

decrypted_master = ''

deriveChecksum (*s*)

Derive the checksum

getEncryptedMaster ()

Obtain the encrypted masterkey

newMaster ()

Generate a new random masterpassword

password = ''

saveEncrytpedMaster ()

Store the encrypted master password in the configuration store

static wipe (*sure=False*)

Remove all keys from configStorage

class beem.storage.**Token**

Bases: [beem.storage.DataDir](#)

This is the token storage that stores the public username and the (possibly encrypted) token in the *token* table in the SQLite3 database.

add (*name, token*)

Add a new public/private token pair (correspondence has to be checked elsewhere!)

Parameters

- **name** (*str*) – Public name
- **token** (*str*) – Private token

create_table()

Create the new table in the SQLite database

delete(name)

Delete the key identified as *name*

Parameters **name** (*str*) – Public name

exists_table()

Check if the database table exists

getPublicNames()

Returns the public names stored in the database

getTokenForPublicName(name)

Returns the (possibly encrypted) private token that corresponds to a public name

Parameters **pub** (*str*) – Public name

The encryption scheme is BIP38

updateToken(name, token)

Change the token to a name

Parameters

- **name** (*str*) – Public name
- **token** (*str*) – Private token

wipe(sure=False)

Purge the entire wallet. No keys will survive this!

`beem.storage.get_default_config_storage()`

`beem.storage.get_default_key_storage()`

`beem.storage.get_default_token_storage()`

beem.transactionbuilder

```
class beem.transactionbuilder.TransactionBuilder(tx={}, use_condenser_api=True,
                                                  blockchain_instance=None,
                                                  **kwargs)
```

Bases: dict

This class simplifies the creation of transactions by adding operations and signers. To build your own transactions and sign them

Parameters

- **tx** (*dict*) – transaction (Optional). If not set, the new transaction is created.
- **expiration** (*int*) – Delay in seconds until transactions are supposed to expire (*optional*) (default is 30)
- **steem_instance** (*Steem*) – If not set, `shared_blockchain_instance()` is used

```
from beem.transactionbuilder import TransactionBuilder
from beembase.operations import Transfer
from beem import Steem
wif = "5KQwrPbwdL6PhXujxW37FSSQZ1JiwsST4cqQzDeyXtP79zkvFD3"
stm = Steem(nobroadcast=True, keys={'active': wif})
```

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```
tx = TransactionBuilder(steem_instance=stm)
transfer = {"from": "test", "to": "test1", "amount": "1 STEEM", "memo": ""}
tx.appendOps(Transfer(transfer))
tx.appendSigner("test", "active") # or tx.appendWif(wif)
signed_tx = tx.sign()
broadcast_tx = tx.broadcast()
```

addSigningInformation (*account, permission, reconstruct_tx=False*)

This is a private method that adds side information to a unsigned/partial transaction in order to simplify later signing (e.g. for multisig or coldstorage)

Not needed when “appendWif” was already or is going to be used

FIXME: Does not work with owner keys!

Parameters **reconstruct_tx** (*bool*) – when set to False and tx is already constructed, it will not be reconstructed and already added signatures remain

appendMissingSignatures ()

Store which accounts/keys are supposed to sign the transaction

This method is used for an offline-signer!

appendOps (*ops, append_to=None*)

Append op(s) to the transaction builder

Parameters **ops** (*list*) – One or a list of operations

appendSigner (*account, permission*)

Try to obtain the wif key from the wallet by telling which account and permission is supposed to sign the transaction. It is possible to add more than one signer.

appendWif (*wif*)

Add a wif that should be used for signing of the transaction.

Parameters **wif** (*string*) – One wif key to use for signing a transaction.

broadcast (*max_block_age=-1*)

Broadcast a transaction to the steem network. Returns the signed transaction and clears itself after broadcast.

Clears itself when broadcast was not successful.

Parameters **max_block_age** (*int*) – parameter only used for appbase ready nodes

clear ()

Clear the transaction builder and start from scratch

clearWifs ()

Clear all stored wifs

constructTx (*ref_block_num=None, ref_block_prefix=None*)

Construct the actual transaction and store it in the class’s dict store

get_parent ()

TransactionBuilders don’t have parents, they are their own parent

get_potential_signatures ()

Returns public key from signature

get_required_signatures (*available_keys=[]*)

Returns public key from signature

get_transaction_hex()
Returns a hex value of the transaction

is_empty()
Check if ops is empty

json (*with_prefix=False*)
Show the transaction as plain json

list_operations()
List all ops

set_expiration(p)
Set expiration date

sign (*reconstruct_tx=True*)
Sign a provided transaction with the provided key(s) One or many wif keys to use for signing a transaction. The wif keys can be provided by “appendWif” or the signer can be defined “appendSigner”. The wif keys from all signer that are defined by “appendSigner will be loaded from the wallet.

Parameters reconstruct_tx (*bool*) – when set to False and tx is already constructed, it will not be reconstructed and already added signatures remain

verify_authority()
Verify the authority of the signed transaction

beem.utils

beem.utils.addTzInfo (*t, timezone='UTC'*)
Returns a datetime object with tzinfo added

beem.utils.assets_from_string (*text*)
Correctly split a string containing an asset pair.

Splits the string into two assets with the separator being one of the following: :, /, or -.

beem.utils.construct_authorperm (**args*)
Create a post identifier from comment/post object or arguments. Examples:

```
>>> from beem.utils import construct_authorperm
>>> print(construct_authorperm('username', 'permlink'))
@username/permlink
>>> print(construct_authorperm({'author': 'username', 'permlink':
↪ 'permlink'}))
@username/permlink
```

beem.utils.construct_authorpermvoter (**args*)
Create a vote identifier from vote object or arguments. Examples:

```
>>> from beem.utils import construct_authorpermvoter
>>> print(construct_authorpermvoter('username', 'permlink', 'voter'))
@username/permlink|voter
>>> print(construct_authorpermvoter({'author': 'username', 'permlink':
↪ 'permlink', 'voter': 'voter'}))
@username/permlink|voter
```

beem.utils.derive_beneficiaries (*beneficiaries*)

`beem.utils.derive_permalink` (*title*, *parent_permalink=None*, *parent_author=None*,
max_permalink_length=256, *with_suffix=True*)
Derive a permalink from a comment title (for root level comments) or the parent permalink and optionally the parent author (for replies).

`beem.utils.derive_tags` (*tags*)

`beem.utils.findall_patch_hunks` (*body=None*)

`beem.utils.formatTime` (*t*)
Properly Format Time for permlinks

`beem.utils.formatTimeFromNow` (*secs=0*)
Properly Format Time that is *x* seconds in the future

Parameters *secs* (*int*) – Seconds to go in the future (*x*>0) or the past (*x*<0)

Returns Properly formatted time for Graphene (%Y-%m-%dT%H:%M:%S)

Return type str

`beem.utils.formatTimeString` (*t*)
Properly Format Time for permlinks

`beem.utils.formatTimedelta` (*td*)
Format timedelta to String

`beem.utils.formatToTimeStamp` (*t*)
Returns a timestamp integer

Parameters *t* (*datetime*) – datetime object

Returns Timestamp as integer

`beem.utils.load_dirty_json` (*dirty_json*)

`beem.utils.make_patch` (*a*, *b*, *n=3*)

`beem.utils.parse_time` (*block_time*)
Take a string representation of time from the blockchain, and parse it into datetime object.

`beem.utils.remove_from_dict` (*obj*, *keys=[]*, *keep_keys=True*)
Prune a class or dictionary of all but keys (keep_keys=True). Prune a class or dictionary of specified keys.(keep_keys=False).

`beem.utils.reputation_to_score` (*rep*)
Converts the account reputation value into the reputation score

`beem.utils.resolve_authorperm` (*identifier*)
Correctly split a string containing an authorperm.

Splits the string into author and permalink with the following separator: /.

Examples:

```
>>> from beem.utils import resolve_authorperm
>>> author, permalink = resolve_authorperm('https://d.tube/#!/v/pottlund/
↳m5cqkd1a')
>>> author, permalink = resolve_authorperm("https://steemit.com/witness-
↳category/@gtg/24lfrm-gtg-witness-log")
>>> author, permalink = resolve_authorperm("@gtg/24lfrm-gtg-witness-log")
>>> author, permalink = resolve_authorperm("https://busy.org/@gtg/24lfrm-
↳gtg-witness-log")
```

`beem.utils.resolve_authorpermvoter(identifier)`

Correctly split a string containing an authorpermvoter.

Splits the string into author and permLink with the following separator: / and |.

`beem.utils.resolve_root_identifier(url)`

`beem.utils.sanitize_permalink(permlink)`

`beem.utils.seperate_yaml_dict_from_body(content)`

beem.vote

class `beem.vote.AccountVotes` (*account*, *start=None*, *stop=None*, *raw_data=False*, *lazy=False*, *full=False*, *blockchain_instance=None*, ***kwargs*)

Bases: `beem.vote.VotesObject`

Obtain a list of votes for an account Lists the last 100+ votes on the given account.

Parameters

- **account** (*str*) – Account name
- **steem_instance** (`Steem`) – Steem() instance to use when accesing a RPC

class `beem.vote.ActiveVotes` (*authorperm*, *lazy=False*, *full=False*, *blockchain_instance=None*, ***kwargs*)

Bases: `beem.vote.VotesObject`

Obtain a list of votes for a post

Parameters

- **authorperm** (*str*) – authorperm link
- **steem_instance** (`Steem`) – Steem() instance to use when accesing a RPC

class `beem.vote.Vote` (*voter*, *authorperm=None*, *full=False*, *lazy=False*, *blockchain_instance=None*, ***kwargs*)

Bases: `beem.blockchainobject.BlockchainObject`

Read data about a Vote in the chain

Parameters

- **authorperm** (*str*) – perm link to post/comment
- **steem_instance** (`Steem`) – Steem() instance to use when accesing a RPC

```
>>> from beem.vote import Vote
>>> from beem import Steem
>>> stm = Steem()
>>> v = Vote("@gtg/steem-pressure-4-need-for-speed|gandalf", steem_instance=stm)
```

authorperm

json()

percent

refresh()

rep

reputation

```
rshares
sbd
time
type_id = 11
votee
voter
weight
class beem.vote.VotesObject
    Bases: list
    get_list (var='voter', voter=None, votee=None, start=None, stop=None, start_percent=None,
              stop_percent=None, sort_key='time', reverse=True)
    get_sorted_list (sort_key='time', reverse=True)
    printAsTable (voter=None, votee=None, start=None, stop=None, start_percent=None,
                  stop_percent=None, sort_key='time', reverse=True, allow_refresh=True, re-
                  turn_str=False, **kwargs)
    print_stats (return_str=False, **kwargs)
```

beem.wallet

```
class beem.wallet.Wallet (blockchain_instance=None, *args, **kwargs)
    Bases: object
```

The wallet is meant to maintain access to private keys for your accounts. It either uses manually provided private keys or uses a SQLite database managed by `storage.py`.

Parameters

- **rpc** (*SteemNodeRPC*) – RPC connection to a Steem node
- **keys** (*array, dict, str*) – Predefine the wif keys to shortcut the wallet database

Three wallet operation modes are possible:

- **Wallet Database:** Here, beem loads the keys from the locally stored wallet SQLite database (see `storage.py`). To use this mode, simply call `beem.steem.Steem` without the `keys` parameter
- **Providing Keys:** Here, you can provide the keys for your accounts manually. All you need to do is add the wif keys for the accounts you want to use as a simple array using the `keys` parameter to `beem.steem.Steem`.
- **Force keys:** This more is for advanced users and requires that you know what you are doing. Here, the `keys` parameter is a dictionary that overwrite the `active`, `owner`, `posting` or `memo` keys for any account. This mode is only used for *foreign* signatures!

A new wallet can be created by using:

```
from beem import Steem
steem = Steem()
steem.wallet.wipe(True)
steem.wallet.create("supersecret-passphrase")
```

This will raise `beem.exceptions.WalletExists` if you already have a wallet installed.

The wallet can be unlocked for signing using


```
from beem import Steem
steem = Steem()
steem.wallet.unlock("supersecret-passphrase")
```

A private key can be added by using the `addPrivateKey()` method that is available **after** unlocking the wallet with the correct passphrase:

```
from beem import Steem
steem = Steem()
steem.wallet.unlock("supersecret-passphrase")
steem.wallet.addPrivateKey("5xxxxxxxxxxxxxxxxxxxxxx")
```

Note: The private key has to be either in hexadecimal or in wallet import format (wif) (starting with a 5).

MasterPassword = None

addPrivateKey (*wif*)

Add a private key to the wallet database

Parameters *wif* (*str*) – Private key

addToken (*name*, *token*)

changePassphrase (*new_pwd*)

Change the passphrase for the wallet database

clear_local_keys ()

Clear all manually provided keys

clear_local_token ()

Clear all manually provided token

configStorage = None

create (*pwd*)

Alias for `newWallet()`

Parameters *pwd* (*str*) – Passphrase for the created wallet

created ()

Do we have a wallet database already?

decrypt_token (*enc_token*)

decrypt a wif key

decrypt_wif (*encwif*)

decrypt a wif key

deriveChecksum (*s*)

Derive the checksum

encrypt_token (*token*)

Encrypt a token key

encrypt_wif (*wif*)

Encrypt a wif key

getAccount (*pub*)

Get the account data for a public key (first account found for this public key)

Parameters *pub* (*str*) – Public key

getAccountFromPrivateKey (*wif*)

Obtain account name from private key

getAccountFromPublicKey (*pub*)

Obtain the first account name from public key

Parameters *pub* (*str*) – Public key

Note: this returns only the first account with the given key. To get all accounts associated with a given public key, use `getAccountsFromPublicKey()`.

getAccounts ()

Return all accounts installed in the wallet database

getAccountsFromPublicKey (*pub*)

Obtain all account names associated with a public key

Parameters *pub* (*str*) – Public key

getActiveKeyForAccount (*name*)

Obtain owner Active Key for an account from the wallet database

getActiveKeysForAccount (*name*)

Obtain list of all owner Active Keys for an account from the wallet database

getAllAccounts (*pub*)

Get the account data for a public key (all accounts found for this public key)

Parameters *pub* (*str*) – Public key

getKeyForAccount (*name*, *key_type*)

Obtain *key_type* Private Key for an account from the wallet database

Parameters

- **name** (*str*) – Account name
- **key_type** (*str*) – key type, has to be one of “owner”, “active”, “posting” or “memo”

getKeyType (*account*, *pub*)

Get key type

Parameters

- **account** (*Account*, *dict*) – Account data
- **pub** (*str*) – Public key

getKeysForAccount (*name*, *key_type*)

Obtain a List of *key_type* Private Keys for an account from the wallet database

Parameters

- **name** (*str*) – Account name
- **key_type** (*str*) – key type, has to be one of “owner”, “active”, “posting” or “memo”

getMemoKeyForAccount (*name*)

Obtain owner Memo Key for an account from the wallet database

getOwnerKeyForAccount (*name*)

Obtain owner Private Key for an account from the wallet database

getOwnerKeysForAccount (*name*)

Obtain list of all owner Private Keys for an account from the wallet database

getPostingKeyForAccount (*name*)

Obtain owner Posting Key for an account from the wallet database

getPostingKeysForAccount (*name*)

Obtain list of all owner Posting Keys for an account from the wallet database

getPrivateKeyForPublicKey (*pub*)

Obtain the private key for a given public key

Parameters **pub** (*str*) – Public Key

getPublicKeys ()

Return all installed public keys

getPublicNames ()

Return all installed public token

getTokenForAccountName (*name*)

Obtain the private token for a given public name

Parameters **name** (*str*) – Public name

keyMap = {}

keyStorage = None

keys = {}

lock ()

Lock the wallet database

locked ()

Is the wallet database locked?

masterpassword = None

newWallet (*pwd*)

Create a new wallet database

Parameters **pwd** (*str*) – Passphrase for the created wallet

prefix

removeAccount (*account*)

Remove all keys associated with a given account

Parameters **account** (*str*) – name of account to be removed

removePrivateKeyFromPublicKey (*pub*)

Remove a key from the wallet database

Parameters **pub** (*str*) – Public key

removeTokenFromPublicName (*name*)

Remove a token from the wallet database

Parameters **name** (*str*) – token to be removed

rpc

setKeys (*loadkeys*)

This method is strictly only for in memory keys that are passed to Wallet/Steem with the `keys` argument

setToken (*loadtoken*)

This method is strictly only for in memory token that are passed to Wallet/Steem with the `token` argument

token = {}

tokenStorage = None

tryUnlockFromEnv ()

Try to fetch the unlock password from UNLOCK environment variable and keyring when no password is given.

unlock (pwd=None)

Unlock the wallet database

unlocked ()

Is the wallet database unlocked?

wipe (sure=False)

Purge all data in wallet database

beem.witness

class beem.witness.**GetWitnesses** (name_list, batch_limit=100, lazy=False, full=True, blockchain_instance=None, **kwargs)

Bases: *beem.witness.WitnessesObject*

Obtain a list of witnesses

Parameters

- **name_list** (*list*) – list of witnesses to fetch
- **batch_limit** (*int*) – (optional) maximum number of witnesses to fetch per call, defaults to 100
- **steem_instance** (*Steem*) – Steem() instance to use when accessing a RPCcreator = Witness(creator, steem_instance=self)

```
from beem.witness import GetWitnesses
w = GetWitnesses(["gtg", "jesta"])
print(w[0].json())
print(w[1].json())
```

class beem.witness.**ListWitnesses** (from_account="", limit=100, lazy=False, full=False, blockchain_instance=None, **kwargs)

Bases: *beem.witness.WitnessesObject*

List witnesses ranked by name

Parameters

- **from_account** (*str*) – Witness name from which the lists starts (default = "")
- **limit** (*int*) – Limits the number of shown witnesses (default = 100)
- **steem_instance** (*Steem*) – Steem instance to use when accessing a RPC

```
>>> from beem.witness import ListWitnesses
>>> ListWitnesses(from_account="gtg", limit=100)
<ListWitnesses gtg>
```

class beem.witness.**Witness** (owner, full=False, lazy=False, blockchain_instance=None, **kwargs)

Bases: *beem.blockchainobject.BlockchainObject*

Read data about a witness in the chain

Parameters

- **account_name** (*str*) – Name of the witness
- **steem_instance** (*Steem*) – Steem instance to use when accessing a RPC

```
>>> from beem.witness import Witness
>>> Witness("gtg")
<Witness gtg>
```

account

feed_publish (*base, quote=None, account=None*)

Publish a feed price as a witness.

Parameters

- **base** (*float*) – USD Price of STEEM in SBD (implied price)
- **quote** (*float*) – (optional) Quote Price. Should be 1.000 (default), unless we are adjusting the feed to support the peg.
- **account** (*str*) – (optional) the source account for the transfer if not self["owner"]

is_active

json()

refresh()

type_id = 3

update (*signing_key, url, props, account=None*)

Update witness

Parameters

- **signing_key** (*str*) – Signing key
- **url** (*str*) – URL
- **props** (*dict*) – Properties
- **account** (*str*) – (optional) witness account name

Properties::

```
{
    "account_creation_fee": x,
    "maximum_block_size": x,
    "sbd_interest_rate": x,
}
```

class beem.witness.**Witnesses** (*lazy=False, full=True, blockchain_instance=None, **kwargs*)

Bases: *beem.witness.WitnessesObject*

Obtain a list of **active** witnesses and the current schedule

Parameters **steem_instance** (*Steem*) – Steem instance to use when accessing a RPC

```
>>> from beem.witness import Witnesses
>>> Witnesses()
<Witnesses >
```

refresh()

```
class beem.witness.WitnessesObject
```

Bases: list

```
get_votes_sum()
```

```
printAsTable (sort_key='votes', reverse=True, return_str=False, **kwargs)
```

```
class beem.witness.WitnessesRankedByVote (from_account="", limit=100, lazy=False,
                                          full=False, blockchain_instance=None,
                                          **kwargs)
```

Bases: *beem.witness.WitnessesObject*

Obtain a list of witnesses ranked by Vote

Parameters

- **from_account** (*str*) – Witness name from which the lists starts (default = "")
- **limit** (*int*) – Limits the number of shown witnesses (default = 100)
- **steem_instance** (*Steem*) – Steem instance to use when accessing a RPC

```
>>> from beem.witness import WitnessesRankedByVote
>>> WitnessesRankedByVote(limit=100)
<WitnessesRankedByVote >
```

```
class beem.witness.WitnessesVotedByAccount (account, lazy=False, full=True,
                                           blockchain_instance=None, **kwargs)
```

Bases: *beem.witness.WitnessesObject*

Obtain a list of witnesses which have been voted by an account

Parameters

- **account** (*str*) – Account name
- **steem_instance** (*Steem*) – Steem instance to use when accessing a RPC

```
>>> from beem.witness import WitnessesVotedByAccount
>>> WitnessesVotedByAccount("gtg")
<WitnessesVotedByAccount gtg>
```

3.7.2 beemapi Modules

beemapi.exceptions

```
exception beemapi.exceptions.ApiNotSupported
```

Bases: *beemapi.exceptions.RPCError*

```
exception beemapi.exceptions.CallRetriesReached
```

Bases: Exception

CallRetriesReached Exception. Only for internal use

```
exception beemapi.exceptions.FollowApiNotEnabled
```

Bases: *beemapi.exceptions.RPCError*

```
exception beemapi.exceptions.InvalidEndpointUrl
```

Bases: Exception

```
exception beemapi.exceptions.MissingRequiredActiveAuthority
```

Bases: *beemapi.exceptions.RPCError*

```

exception beemapi.exceptions.NoAccessApi
    Bases: beemapi.exceptions.RPCError

exception beemapi.exceptions.NoApiWithName
    Bases: beemapi.exceptions.RPCError

exception beemapi.exceptions.NoMethodWithName
    Bases: beemapi.exceptions.RPCError

exception beemapi.exceptions.NumRetriesReached
    Bases: Exception
    NumRetriesReached Exception.

exception beemapi.exceptions.RPCConnection
    Bases: Exception
    RPCConnection Exception.

exception beemapi.exceptions.RPCError
    Bases: Exception
    RPCError Exception.

exception beemapi.exceptions.RPCErrorDoRetry
    Bases: Exception
    RPCErrorDoRetry Exception.

exception beemapi.exceptions.TimeoutException
    Bases: Exception

exception beemapi.exceptions.UnauthorizedError
    Bases: Exception
    UnauthorizedError Exception.

exception beemapi.exceptions.UnhandledRPCError
    Bases: beemapi.exceptions.RPCError

exception beemapi.exceptions.UnkownKey
    Bases: beemapi.exceptions.RPCError

exception beemapi.exceptions.UnnecessarySignatureDetected
    Bases: Exception

exception beemapi.exceptions.VotedBeforeWaitTimeReached
    Bases: Exception

exception beemapi.exceptions.WorkingNodeMissing
    Bases: Exception

beemapi.exceptions.decodeRPCErrorMsg(e)
    Helper function to decode the raised Exception and give it a python Exception class

```

beemapi.graphenerpc

Note: This is a low level class that can be used in combination with GrapheneClient

This class allows to call API methods exposed by the witness node via websockets. It does **not** support notifications and is not run asynchronously.

graphennewsrpc.

class beemapi.graphenewrpc.GrapheneRPC (*urls, user=None, password=None, **kwargs*)
Bases: object

This class allows to call API methods synchronously, without callbacks.

It logs warnings and errors.

Parameters

- **urls** (*str*) – Either a single Websocket/Http URL, or a list of URLs
- **user** (*str*) – Username for Authentication
- **password** (*str*) – Password for Authentication
- **num_retries** (*int*) – Try x times to num_retries to a node on disconnect, -1 for indefinitely (default is 100)
- **num_retries_call** (*int*) – Repeat num_retries_call times a rpc call on node error (default is 5)
- **timeout** (*int*) – Timeout setting for https nodes (default is 60)
- **autoconnect** (*bool*) – When set to false, connection is performed on the first rpc call (default is True)
- **use_condenser** (*bool*) – Use the old condenser_api rpc protocol on nodes with version 0.19.4 or higher. The settings has no effect on nodes with version of 0.19.3 or lower.
- **custom_chains** (*dict*) – custom chain which should be added to the known chains

Available APIs:

- database
- network_node
- network_broadcast

Usage:

```
from beemapi.graphenewrpc import GrapheneRPC
ws = GrapheneRPC("wss://steemd.pevo.science", "", "")
print(ws.get_account_count())

ws = GrapheneRPC("https://api.steemit.com", "", "")
print(ws.get_account_count())
```

Note: This class allows to call methods available via websocket. If you want to use the notification subsystem, please use GrapheneWebsocket instead.

error_cnt

error_cnt_call

get_network (*props=None*)

Identify the connected network. This call returns a dictionary with keys chain_id, core_symbol and prefix

get_request_id ()

Get request id.

get_use_appbase()
Returns True if appbase ready and appbase calls are set

is_appbase_ready()
Check if node is appbase ready

next()
Switches to the next node url

num_retries

num_retries_call

request_send(payload)

rpcclose()
Close Websocket

rpconnect(next_url=True)
Connect to next url in a loop.

rpcexec(payload)
Execute a call by sending the payload.

Parameters **payload(json)** – Payload data

Raises

- **ValueError** – if the server does not respond in proper JSON format
- **RPCEError** – if the server returns an error

rpclogin(user, password)
Login into Websocket

version_string_to_int(network_version)

ws_send(payload)

class beemapi.graphenerpc.**SessionInstance**

Bases: object

Singelton for the Session Instance

instance = None

beemapi.graphenerpc.**create_ws_instance**(use_ssl=True, enable_multithread=True)
Get websocket instance

beemapi.graphenerpc.**set_session_instance**(instance)
Set session instance

beemapi.graphenerpc.**shared_session_instance**()
Get session instance

beemapi.node

class beemapi.node.**Node**(url)
Bases: object

class beemapi.node.**Nodes**(urls, num_retries, num_retries_call)
Bases: list

Stores Node URLs and error counts

disable_node()
Disable current node

error_cnt

error_cnt_call

export_working_nodes()

increase_error_cnt()
Increase node error count for current node

increase_error_cnt_call()
Increase call error count for current node

next()

node

num_retries_call_reached

reset_error_cnt()
Set node error count for current node to zero

reset_error_cnt_call()
Set call error count for current node to zero

set_node_urls(urls)

sleep_and_check_retries(errorMsg=None, sleep=True, call_retry=False, showMsg=True)
Sleep and check if num_retries is reached

url

working_nodes_count

beemapi.noderpc

class beemapi.noderpc.NodeRPC(*args, **kwargs)

Bases: [beemapi.graphenepc.GrapheneRPC](#)

This class allows to call API methods exposed by the witness node via websockets / rpc-json.

Parameters

- **urls** (*str*) – Either a single Websocket/Http URL, or a list of URLs
- **user** (*str*) – Username for Authentication
- **password** (*str*) – Password for Authentication
- **num_retries** (*int*) – Try x times to num_retries to a node on disconnect, -1 for indefinitely
- **num_retries_call** (*int*) – Repeat num_retries_call times a rpc call on node error (default is 5)
- **timeout** (*int*) – Timeout setting for https nodes (default is 60)
- **use_condenser** (*bool*) – Use the old condenser_api rpc protocol on nodes with version 0.19.4 or higher. The settings has no effect on nodes with version of 0.19.3 or lower.

get_account (*name*, **kwargs)

Get full account details from account name

Parameters **name** (*str*) – Account name

rpcexec (*payload*)

Execute a call by sending the payload. It makes use of the GrapheneRPC library. In here, we mostly deal with Steem specific error handling

Parameters **payload** (*json*) – Payload data

Raises

- **ValueError** – if the server does not respond in proper JSON format
- **RPCError** – if the server returns an error

set_next_node_on_empty_reply (*next_node_on_empty_reply=True*)

Switch to next node on empty reply for the next rpc call

beemapi.websocket

This class allows subscribe to push notifications from the Steem node.

```
from pprint import pprint
from beemapi.websocket import NodeWebsocket

ws = NodeWebsocket (
    "wss://gtg.steem.house:8090",
    accounts=["test"],
    on_block=print,
)

ws.run_forever()
```

```
class beemapi.websocket.NodeWebsocket (urls, user="", password="", only_block_id=False,
                                         on_block=None, keep_alive=25, num_retries=-1,
                                         timeout=60, *args, **kwargs)
```

Create a websocket connection and request push notifications

Parameters

- **urls** (*str*) – Either a single Websocket URL, or a list of URLs
- **user** (*str*) – Username for Authentication
- **password** (*str*) – Password for Authentication
- **keep_alive** (*int*) – seconds between a ping to the backend (defaults to 25seconds)

After instantiating this class, you can add event slots for:

- **on_block**

which will be called accordingly with the notification message received from the Steem node:

```
ws = NodeWebsocket (
    "wss://gtg.steem.house:8090",
)
ws.on_block += print
ws.run_forever()
```

__NodeWebsocket__set_subscriptions ()

set subscriptions ot on_block function

__events__ = ['on_block']

__getattr__ (*name*)
Map all methods to RPC calls and pass through the arguments

__init__ (*urls*, *user*=", *password*=", *only_block_id*=False, *on_block*=None, *keep_alive*=25, *num_retries*=-1, *timeout*=60, **args*, ***kwargs*)
Initialize self. See help(type(self)) for accurate signature.

__module__ = 'beemapi.websocket '

_ping ()
Send keep_alive request

cancel_subscriptions ()
cancel_all_subscriptions removed from api

close ()
Closes the websocket connection and waits for the ping thread to close

get_request_id ()
Generates next request id

on_close (*ws*)
Called when websocket connection is closed

on_error (*ws*, *error*)
Called on websocket errors

on_message (*ws*, *reply*, **args*)
This method is called by the websocket connection on every message that is received. If we receive a notice, we hand over post-processing and signalling of events to `process_notice`.

on_open (*ws*)
This method will be called once the websocket connection is established. It will

- login,
- register to the database api, and
- subscribe to the objects defined if there is a callback/slot available for callbacks

process_block (*data*)
This method is called on notices that need processing. Here, we call the `on_block` slot.

reset_subscriptions (*accounts*=[])
Reset subscriptions

rpcexec (*payload*)
Execute a call by sending the payload.

Parameters *payload* (*json*) – Payload data

Raises

- **ValueError** – if the server does not respond in proper JSON format
- **RPCEError** – if the server returns an error

run_forever ()
This method is used to run the websocket app continuously. It will execute callbacks as defined and try to stay connected with the provided APIs

stop ()
Stop running Websocket

3.7.3 beembase Modules

beembase.memo

`beembase.memo.decode_memo(priv, message)`

Decode a message with a shared secret between Alice and Bob

Parameters

- **priv** (`PrivateKey`) – Private Key (of Bob)
- **message** (`base58encoded`) – Encrypted Memo message

Returns Decrypted message

Return type `str`

Raises `ValueError` – if message cannot be decoded as valid UTF-8 string

`beembase.memo.decode_memo_bts(priv, pub, nonce, message)`

Decode a message with a shared secret between Alice and Bob

Parameters

- **priv** (`PrivateKey`) – Private Key (of Bob)
- **pub** (`PublicKey`) – Public Key (of Alice)
- **nonce** (`int`) – Nonce used for Encryption
- **message** (`bytes`) – Encrypted Memo message

Returns Decrypted message

Return type `str`

Raises `ValueError` – if message cannot be decoded as valid UTF-8 string

`beembase.memo.encode_memo(priv, pub, nonce, message, **kwargs)`

Encode a message with a shared secret between Alice and Bob

Parameters

- **priv** (`PrivateKey`) – Private Key (of Alice)
- **pub** (`PublicKey`) – Public Key (of Bob)
- **nonce** (`int`) – Random nonce
- **message** (`str`) – Memo message

Returns Encrypted message

Return type `hex`

`beembase.memo.encode_memo_bts(priv, pub, nonce, message)`

Encode a message with a shared secret between Alice and Bob

Parameters

- **priv** (`PrivateKey`) – Private Key (of Alice)
- **pub** (`PublicKey`) – Public Key (of Bob)
- **nonce** (`int`) – Random nonce
- **message** (`str`) – Memo message

Returns Encrypted message

Return type hex

`beembase.memo.get_shared_secret(priv, pub)`

Derive the share secret between `priv` and `pub`

Parameters

- **priv** (`Base58`) – Private Key
- **pub** (`Base58`) – Public Key

Returns Shared secret

Return type hex

The shared secret is generated such that:

$$\text{Pub}(\text{Alice}) * \text{Priv}(\text{Bob}) = \text{Pub}(\text{Bob}) * \text{Priv}(\text{Alice})$$

`beembase.memo.init_aes(shared_secret, nonce)`

Initialize AES instance

Parameters

- **shared_secret** (`hex`) – Shared Secret to use as encryption key
- **nonce** (`int`) – Random nonce

Returns AES instance and checksum of the encryption key

Return type length 2 tuple

`beembase.memo.init_aes_bts(shared_secret, nonce)`

Initialize AES instance

Parameters

- **shared_secret** (`hex`) – Shared Secret to use as encryption key
- **nonce** (`int`) – Random nonce

Returns AES instance

Return type AES

beembase.objects

class `beembase.objects.Amount(d, prefix='STM')`

Bases: `object`

class `beembase.objects.Beneficiaries(*args, **kwargs)`

Bases: `beemgraphenebase.objects.GrapheneObject`

class `beembase.objects.Beneficiary(*args, **kwargs)`

Bases: `beemgraphenebase.objects.GrapheneObject`

class `beembase.objects.CommentOptionExtensions(o)`

Bases: `beemgraphenebase.types.Static_variant`

Serialize Comment Payout Beneficiaries.

Parameters **beneficiaries** (`list`) – A `static_variant` containing beneficiaries.

Example:

```
[0,
  {'beneficiaries': [
    {'account': 'furion', 'weight': 10000}
  ]}
]
```

class beembase.objects.**ExchangeRate** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

class beembase.objects.**Extension** (d)
 Bases: *beemgraphenebase.types.Array*

class beembase.objects.**Memo** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

class beembase.objects.**Operation** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.Operation*

getOperationNameForId (i)
 Convert an operation id into the corresponding string

json ()

operations ()

class beembase.objects.**Permission** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

class beembase.objects.**Price** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

class beembase.objects.**SocialActionCommentCreate** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

class beembase.objects.**SocialActionCommentDelete** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

class beembase.objects.**SocialActionCommentUpdate** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

class beembase.objects.**SocialActionVariant** (o)
 Bases: *beemgraphenebase.types.Static_variant*

class beembase.objects.**WitnessProps** (*args, **kwargs)
 Bases: *beemgraphenebase.objects.GrapheneObject*

beembase.objecttypes

beembase.objecttypes.**object_type** = {'account': 2, 'account_history': 18, 'block_summary'
 Object types for object ids

beembase.operationids

beembase.operationids.**getOperationNameForId** (i)
 Convert an operation id into the corresponding string

beembase.operationids.**ops** = ['vote', 'comment', 'transfer', 'transfer_to_vesting', 'withdra
 Operation ids

beembase.operations

`beembase.operationids.getOperationNameForId(i)`

Convert an operation id into the corresponding string

`beembase.operationids.ops = ['vote', 'comment', 'transfer', 'transfer_to_vesting', 'withdr`

Operation ids

beembase.signedtransactions

class `beembase.signedtransactions.Signed_Transaction(*args, **kwargs)`

Bases: `beemgraphenebase.signedtransactions.Signed_Transaction`

Create a signed transaction and offer method to create the signature

Parameters

- **refNum** (*num*) – parameter `ref_block_num` (see `beembase.transactions.getBlockParams()`)
- **refPrefix** (*num*) – parameter `ref_block_prefix` (see `beembase.transactions.getBlockParams()`)
- **expiration** (*str*) – expiration date
- **operations** (*array*) – array of operations
- **custom_chains** (*dict*) – custom chain which should be added to the known chains

`add_custom_chains(custom_chain)`

`getKnownChains()`

`getOperationKlass()`

`sign(wifkeys, chain='STEEM')`

Sign the transaction with the provided private keys.

Parameters

- **wifkeys** (*array*) – Array of wif keys
- **chain** (*str*) – identifier for the chain

`verify(pubkeys=[], chain='STEEM', recover_parameter=False)`

Returned pubkeys have to be checked if they are existing

beembase.transactions

`beembase.transactions.getBlockParams(ws)`

Auxiliary method to obtain `ref_block_num` and `ref_block_prefix`. Requires a websocket connection to a witness node!

3.7.4 beemgraphenebase Modules

beemgraphenebase.account

class `beemgraphenebase.account.Address(address=None, pubkey=None, prefix='STM')`

Bases: `object`

Address class

This class serves as an address representation for Public Keys.

Parameters

- **address** (*str*) – Base58 encoded address (defaults to None)
- **pubkey** (*str*) – Base58 encoded pubkey (defaults to None)
- **prefix** (*str*) – Network prefix (defaults to STM)

Example:

```
Address("STMFN9r6VYzBK8EKtMewfNbfiGCr56pHDBFi")
```

derive256address_with_version (*version=56*)

Derive address using RIPEMD160 (SHA256 (x)) and adding version + checksum

derivsha256address ()

Derive address using RIPEMD160 (SHA256 (x))

derivsha512address ()

Derive address using RIPEMD160 (SHA512 (x))

get_public_key ()

Returns the pubkey

class beemgraphenebase.account.**BrainKey** (*brainkey=None, sequence=0*)

Bases: object

Brainkey implementation similar to the graphene-ui web-wallet.

Parameters

- **brainkey** (*str*) – Brain Key
- **sequence** (*int*) – Sequence number for consecutive keys

Keys in Graphene are derived from a seed brain key which is a string of 16 words out of a predefined dictionary with 49744 words. It is a simple single-chain key derivation scheme that is not compatible with BIP44 but easy to use.

Given the brain key, a private key is derived as:

```
privkey = SHA256(SHA512(brainkey + " " + sequence))
```

Incrementing the sequence number yields a new key that can be regenerated given the brain key.

get_blind_private ()

Derive private key from the brain key (and no sequence number)

get_brainkey ()

Return brain key of this instance

get_private ()

Derive private key from the brain key and the current sequence number

get_private_key ()

get_public ()

get_public_key ()

next_sequence ()

Increment the sequence number by 1

normalize (*brainkey*)

Correct formatting with single whitespace syntax and no trailing space

suggest (*word_count=16*)

Suggest a new random brain key. Randomness is provided by the operating system using `os.urandom()`.

class beemgraphenebase.account.**Mnemonic**

Bases: object

BIP39 mnemonic implementation

check (*mnemonic*)

Checks the mnemonic word list is valid :param list mnemonic: mnemonic word list with lenght of 12, 15, 18, 21, 24 :returns: True, when valid

check_word (*word*)

expand (*mnemonic*)

Expands all words given in a list

expand_word (*prefix*)

Expands a word when sufficient chars are given

Parameters **prefix** (*str*) – first chars of a valid dict word

generate (*strength=128*)

Generates a word list based on the given strength

Parameters **strength** (*int*) – initial entropy strength, must be one of [128, 160, 192, 224, 256]

classmethod **normalize_string** (*txt*)

Normalizes strings

to_entropy (*words*)

to_mnemonic (*data*)

classmethod **to_seed** (*mnemonic, passphrase=""*)

Returns a seed based on bip39

Parameters

- **mnemonic** (*str*) – string containing a valid mnemonic word list
- **passphrase** (*str*) – optional, passphrase can be set to modify the returned seed.

class beemgraphenebase.account.**MnemonicKey** (*word_list=None, passphrase="", account_sequence=0, key_sequence=0, prefix='STM'*)

Bases: object

This class derives a private key from a BIP39 mnemonic implementation

generate_mnemonic (*passphrase="", strength=256*)

get_path ()

get_private ()

Derive private key from the account_sequence, the role and the key_sequence

get_private_key ()

get_public ()

get_public_key ()

```

next_account_sequence ()
    Increment the account sequence number by 1

next_sequence ()
    Increment the key sequence number by 1

set_mnemonic (word_list, passphrase=")

set_path (path)

set_path_BIP32 (path)

set_path_BIP44 (account_sequence=0,      chain_sequence=0,      key_sequence=0,      hard-
                  ened_address=True)

set_path_BIP48 (network_index=13, role='owner', account_sequence=0, key_sequence=0)

class beemgraphenebase.account.PasswordKey (account, password, role='active', pre-
                                             fix='STM')
    Bases: object

    This class derives a private key given the account name, the role and a password. It leverages the technology of
    Brainkeys and allows people to have a secure private key by providing a passphrase only.

get_private ()
    Derive private key from the account, the role and the password

get_private_key ()

get_public ()

get_public_key ()

normalize (seed)
    Correct formatting with single whitespace syntax and no trailing space

class beemgraphenebase.account.PrivateKey (wif=None, prefix='STM')
    Bases: beemgraphenebase.account.PublicKey

    Derives the compressed and uncompressed public keys and constructs two instances of PublicKey:

        Parameters

        • wif (str) – Base58check-encoded wif key

        • prefix (str) – Network prefix (defaults to STM)

    Example:

    PrivateKey("5HqUkGuo62BfcJU5vNhTXKJR XuUi9QSE6jp8C3uBJ2BVHtB8WSd")

    Compressed vs. Uncompressed:

    • PrivateKey("w-i-f").pubkey: Instance of PublicKey using compressed key.

    • PrivateKey("w-i-f").pubkey.address: Instance of Address using compressed key.

    • PrivateKey("w-i-f").uncompressed: Instance of PublicKey using uncompressed key.

    • PrivateKey("w-i-f").uncompressed.address: Instance of Address using uncompressed
      key.

child (offset256)
    Derive new private key from this key and a sha256 “offset”

compressedpubkey ()
    Derive uncompressed public key

```

derive_from_seed (*offset*)

Derive private key using “generate_from_seed” method. Here, the key itself serves as a *seed*, and *offset* is expected to be a sha256 digest.

derive_private_key (*sequence*)

Derive new private key from this private key and an arbitrary sequence number

get_public_key ()

Returns the pubkey

get_secret ()

Get sha256 digest of the wif key.

class beemgraphenebase.account.**PublicKey** (*pk*, *prefix*='STM')

Bases: [beemgraphenebase.account.Address](#)

This class deals with Public Keys and inherits Address.

Parameters

- **pk** (*str*) – Base58 encoded public key
- **prefix** (*str*) – Network prefix (defaults to STM)

Example:

```
PublicKey("STM6UtYWWs3rkZGV8JA86qrgkG6tyFksgECefKE1MiH4HkLD8PFGL")
```

Note: By default, graphene-based networks deal with **compressed** public keys. If an **uncompressed** key is required, the method `unCompressed()` can be used:

```
PublicKey("xxxxx").unCompressed()
```

compressed ()

Derive compressed public key

get_public_key ()

Returns the pubkey

point ()

Return the point for the public key

unCompressed ()

Derive uncompressed key

beemgraphenebase.account.**binary_search** (*a*, *x*, *lo*=0, *hi*=None)

beemgraphenebase.base58

class beemgraphenebase.base58.**Base58** (*data*, *prefix*='GPH')

Bases: object

Base58 base class

This class serves as an abstraction layer to deal with base58 encoded strings and their corresponding hex and binary representation throughout the library.

Parameters

- **data**(*hex, wif, bip38 encrypted wif, base58 string*) – Data to initialize object, e.g. pubkey data, address data, ...
- **prefix**(*str*) – Prefix to use for Address/PubKey strings (defaults to GPH)

Returns Base58 object initialized with data

Return type *Base58*

Raises **ValueError** – if data cannot be decoded

- **bytes**(Base58): Returns the raw data
- **str**(Base58): Returns the readable Base58CheckEncoded data.
- **repr**(Base58): Gives the hex representation of the data.
- **format**(Base58, *_format*): Formats the instance according to *_format*
 - "btc": prefixed with 0x80. Yields a valid btc address
 - "wif": prefixed with 0x00. Yields a valid wif key
 - "bts": prefixed with BTS
 - etc.

```
beemgraphenebase.base58.b58decode(v)
beemgraphenebase.base58.b58encode(v)
beemgraphenebase.base58.base58CheckDecode(s, skip_first_bytes=True)
beemgraphenebase.base58.base58CheckEncode(version, payload)
beemgraphenebase.base58.base58decode(base58_str)
beemgraphenebase.base58.base58encode(hexstring)
beemgraphenebase.base58.doublesha256(s)
beemgraphenebase.base58.gphBase58CheckDecode(s)
beemgraphenebase.base58.gphBase58CheckEncode(s)
beemgraphenebase.base58.log = <Logger beemgraphenebase.base58 (WARNING)>
    Default Prefix
beemgraphenebase.base58.ripemd160(s)
```

beemgraphenebase.bip32

```
class beemgraphenebase.bip32.BIP32Key(secret, chain, depth, index, fpr, public=False, test-
                                     net=False)
```

Bases: object

Address()

Return compressed public key address

CKDpriv(*i*)

Create a child key of index 'i'.

If the most significant bit of 'i' is set, then select from the hardened key set, otherwise, select a regular child key.

Returns a BIP32Key constructed with the child key parameters, or None if *i* index would result in an invalid key.

CKDpub (*i*)

Create a publicly derived child key of index '*i*'.

If the most significant bit of '*i*' is set, this is an error.

Returns a BIP32Key constructed with the child key parameters, or None if index would result in invalid key.

ChainCode ()

Return chain code as string

ChildKey (*i*)

Create and return a child key of this one at index '*i*'.

The index '*i*' should be summed with BIP32_HARDEN to indicate to use the private derivation algorithm.

ExtendedKey (*private=True, encoded=True*)

Return extended private or public key as string, optionally base58 encoded

Fingerprint ()

Return key fingerprint as string

Identifier ()

Return key identifier as string

P2WPKHoP2SHAddress ()

Return P2WPKH over P2SH segwit address

PrivateKey ()

Return private key as string

PublicKey ()

Return compressed public key encoding

SetPublic ()

Convert a private BIP32Key into a public one

WalletImportFormat ()

Returns private key encoded for wallet import

dump ()

Dump key fields mimicking the BIP0032 test vector format

static fromEntropy (*entropy, public=False, testnet=False*)

Create a BIP32Key using supplied entropy \geq MIN_ENTROPY_LEN

static fromExtendedKey (*xkey, public=False*)

Create a BIP32Key by importing from extended private or public key string

If public is True, return a public-only key regardless of input type.

hmac (*data*)

Calculate the HMAC-SHA512 of input data using the chain code as key.

Returns a tuple of the left and right halves of the HMAC

beemgraphenebase.bip32.**parse_path** (*nstr*)

beemgraphenebase.bip32.**test** ()

beemgraphenebase.bip38

exception beemgraphenebase.bip38.SaltException

Bases: Exception

beemgraphenebase.bip38.decrypt(*encrypted_privkey*, *passphrase*)

BIP0038 non-ec-multiply decryption. Returns WIF privkey.

Parameters

- **encrypted_privkey** (*Base58*) – Private key
- **passphrase** (*str*) – UTF-8 encoded passphrase for decryption

Returns BIP0038 non-ec-multiply decrypted key

Return type *Base58*

Raises *SaltException* – if checksum verification failed (e.g. wrong password)

beemgraphenebase.bip38.encrypt(*privkey*, *passphrase*)

BIP0038 non-ec-multiply encryption. Returns BIP0038 encrypted privkey.

Parameters

- **privkey** (*Base58*) – Private key
- **passphrase** (*str*) – UTF-8 encoded passphrase for encryption

Returns BIP0038 non-ec-multiply encrypted wif key

Return type *Base58*

beemgraphenebase.ecdsasig

beemgraphenebase.ecdsasig.compressedPubkey(*pk*)

beemgraphenebase.ecdsasig.recoverPubkeyParameter(*message*, *digest*, *signature*, *pubkey*)

Use to derive a number that allows to easily recover the public key from the signature

beemgraphenebase.ecdsasig.recover_public_key(*digest*, *signature*, *i*, *message=None*)

Recover the public key from the the signature

beemgraphenebase.ecdsasig.sign_message(*message*, *wif*, *hashfn=<built-in function openssl_sha256>*)

Sign a digest with a wif key

Parameters *wif* (*str*) – Private key in

beemgraphenebase.ecdsasig.verify_message(*message*, *signature*, *hashfn=<built-in function openssl_sha256>*, *recover_parameter=None*)

beemgraphenebase.objects

class beemgraphenebase.objects.GrapheneObject(*data=None*)

Bases: object

Core abstraction class

This class is used for any JSON reflected object in Graphene.

- `instance.__json__()`: encodes data into json format
- `bytes(instance)`: encodes data into wire format

- `str(instances)`: dumps json object as string

```
json()
toJson()
class beemgraphenebase.objects.Operation(op)
    Bases: object
    getOperationNameForId(i)
        Convert an operation id into the corresponding string
    operations()
beemgraphenebase.objects.isArgsThisClass(self, args)
```

beemgraphenebase.objecttypes

```
beemgraphenebase.objecttypes.object_type = {'OBJECT_TYPE_COUNT': 3, 'account': 2, 'base': 1}
Object types for object ids
```

beemgraphenebase.operations

```
beemgraphenebase.operationids.operations = {'demooperation': 0}
Operation ids
```

beemgraphenebase.signedtransactions

```
class beemgraphenebase.signedtransactions.Signed_Transaction(*args, **kwargs)
    Bases: beemgraphenebase.objects.GrapheneObject
    Create a signed transaction and offer method to create the signature

    Parameters
    • refNum (num) – parameter ref_block_num (see beembase.transactions.getBlockParams())
    • refPrefix (num) – parameter ref_block_prefix (see beembase.transactions.getBlockParams())
    • expiration (str) – expiration date
    • operations (array) – array of operations

    derSigToHexSig(s)
        Format DER to HEX signature

    deriveDigest(chain)

    getChainParams(chain)

    getKnownChains()

    getOperationKlass()

    id
        The transaction id of this transaction

    sign(wifkeys, chain=None)
        Sign the transaction with the provided private keys.
```


Parameters

- **wifkeys** (*array*) – Array of wif keys
- **chain** (*str*) – identifier for the chain

verify (*pubkeys=[]*, *chain=None*, *recover_parameter=False*)

Returned pubkeys have to be checked if they are existing

3.8 Contributing to beem

We welcome your contributions to our project.

3.8.1 Repository

The repository of beem is currently located at:

<https://github.com/holgern/beem>

3.8.2 Flow

This project makes heavy use of [git flow](#). If you are not familiar with it, then the most important thing for your to understand is that:

pull requests need to be made against the develop branch

3.8.3 How to Contribute

0. Familiarize yourself with [contributing on github](#)
1. Fork or branch from the master.
2. Create commits following the commit style
3. Start a pull request to the master branch
4. Wait for a @holger80 or another member to review

3.8.4 Issues

Feel free to submit issues and enhancement requests.

3.8.5 Contributing

Please refer to each project's style guidelines and guidelines for submitting patches and additions. In general, we follow the "fork-and-pull" Git workflow.

1. **Fork** the repo on GitHub
2. **Clone** the project to your own machine
3. **Commit** changes to your own branch
4. **Push** your work back up to your fork

5. Submit a **Pull request** so that we can review your changes

Note: Be sure to merge the latest from “upstream” before making a pull request!

3.8.6 Copyright and Licensing

This library is open sources under the MIT license. We require your to release your code under that license as well.

3.9 Support and Questions

Help and discussion channel for beem can be found here:

- <https://discord.gg/4HM592V>

3.10 Indices and Tables

- [genindex](#)
- [modindex](#)

CHAPTER 4

Indices and tables

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

b

- `beem.account`, 71
- `beem.aes`, 93
- `beem.amount`, 94
- `beem.asciichart`, 95
- `beem.asset`, 97
- `beem.block`, 97
- `beem.blockchain`, 99
- `beem.blockchaininstance`, 106
- `beem.blockchainobject`, 105
- `beem.comment`, 118
- `beem.conveyor`, 123
- `beem.discussions`, 125
- `beem.exceptions`, 132
- `beem.hive`, 134
- `beem.hivesigner`, 139
- `beem.imageuploader`, 141
- `beem.instance`, 141
- `beem.market`, 142
- `beem.memo`, 148
- `beem.message`, 150
- `beem.nodelist`, 150
- `beem.notify`, 151
- `beem.price`, 152
- `beem.rc`, 155
- `beem.snapshot`, 156
- `beem.steem`, 158
- `beem.steemconnect`, 162
- `beem.storage`, 164
- `beem.transactionbuilder`, 167
- `beem.utils`, 169
- `beem.vote`, 171
- `beem.wallet`, 172
- `beem.witness`, 176
- `beemapi.exceptions`, 178
- `beemapi.graphenerpc`, 179
- `beemapi.node`, 181
- `beemapi.noderpc`, 182
- `beembase.memo`, 185

- `beembase.objects`, 186
- `beembase.objecttypes`, 187
- `beembase.operationids`, 188
- `beembase.signedtransactions`, 188
- `beembase.transactions`, 188
- `beemgraphenebase.account`, 188
- `beemgraphenebase.base58`, 192
- `beemgraphenebase.bip32`, 193
- `beemgraphenebase.bip38`, 195
- `beemgraphenebase.ecdsasig`, 195
- `beemgraphenebase.objects`, 195
- `beemgraphenebase.objecttypes`, 196
- `beemgraphenebase.operationids`, 196
- `beemgraphenebase.signedtransactions`, 196

Symbols

- account_creation_fee
 - <account_creation_fee>
 - beemply-witnesscreate command line option, [52](#)
 - beemply-witnessproperties command line option, [54](#)
 - beemply-witnessupdate command line option, [54](#)
- account_subsidy_budget
 - <account_subsidy_budget>
 - beemply-witnessproperties command line option, [54](#)
- account_subsidy_decay
 - <account_subsidy_decay>
 - beemply-witnessproperties command line option, [54](#)
- active <active>
 - beemply-changekeys command line option, [24](#)
 - beemply-newaccount command line option, [36](#)
- ascii
 - beemply-orderbook command line option, [38](#)
 - beemply-pricehistory command line option, [43](#)
 - beemply-tradehistory command line option, [47](#)
- auto_vest
 - beemply-powerdownroute command line option, [42](#)
- chart
 - beemply-orderbook command line option, [38](#)
- claim_all_sbd
 - beemply-claimreward command line option, [25](#)
- claim_all_steem
 - beemply-claimreward command line option, [25](#)
- claim_all_vests
 - beemply-claimreward command line option, [25](#)
- confirm
 - beemply-delkey command line option, [29](#)
 - beemply-deltoken command line option, [30](#)
- direction <direction>
 - beemply-votes command line option, [51](#)
- fee <fee>
 - beemply-claimaccount command line option, [25](#)
- file <file>
 - beemply-broadcast command line option, [22](#)
- hours <hours>
 - beemply-tradehistory command line option, [47](#)
- key <key>
 - beemply-updatememokey command line option, [48](#)
- limit <limit>
 - beemply-witnesses command line option, [53](#)
- maximum_block_size
 - <maximum_block_size>
 - beemply-witnesscreate command line option, [52](#)
 - beemply-witnessproperties command line option, [54](#)
 - beemply-witnessupdate command line option, [54](#)
- memo <memo>
 - beemply-changekeys command line option, [24](#)
 - beemply-newaccount command line option, [36](#)

-new_signing_key <new_signing_key>
 beempy-witnessproperties command
 line option, [54](#)

-only-https
 beempy-updatenodes command line
 option, [49](#)

-only-wss
 beempy-updatenodes command line
 option, [49](#)

-orderid <orderid>
 beempy-buy command line option, [23](#)
 beempy-sell command line option, [45](#)

-owner <owner>
 beempy-changekeys command line
 option, [24](#)
 beempy-newaccount command line
 option, [36](#)

-payout <payout>
 beempy-curation command line
 option, [27](#)

-percentage <percentage>
 beempy-powerdownroute command line
 option, [42](#)

-permission <permission>
 beempy-allow command line option, [21](#)
 beempy-disallow command line
 option, [30](#)

-posting <posting>
 beempy-changekeys command line
 option, [24](#)
 beempy-newaccount command line
 option, [36](#)

-raw
 beempy-pingnode command line
 option, [40](#)

-remove
 beempy-pingnode command line
 option, [40](#)

-results
 beempy-nextnode command line
 option, [37](#)

-reward_sbd <reward_sbd>
 beempy-claimreward command line
 option, [25](#)

-reward_steem <reward_steem>
 beempy-claimreward command line
 option, [25](#)

-reward_vests <reward_vests>
 beempy-claimreward command line
 option, [25](#)

-roles <roles>
 beempy-importaccount command line
 option, [33](#)

-sbd_interest_rate <sbd_interest_rate>
 beempy-witnesscreate command line
 option, [52](#)
 beempy-witnessproperties command
 line option, [54](#)
 beempy-witnessupdate command line
 option, [54](#)

-show-date
 beempy-orderbook command line
 option, [38](#)

-signing_key <signing_key>
 beempy-witnessupdate command line
 option, [54](#)

-sort
 beempy-pingnode command line
 option, [40](#)

-support-peg
 beempy-witnessfeed command line
 option, [53](#)

-threading
 beempy-pingnode command line
 option, [40](#)

-threshold <threshold>
 beempy-allow command line option, [21](#)
 beempy-disallow command line
 option, [30](#)

-to <to>
 beempy-powerup command line option,
 [42](#)

-unsafe-import-key <unsafe_import_key>
 beempy-addkey command line option,
 [20](#)
 beempy-parsewif command line
 option, [39](#)

-unsafe-import-token
 <unsafe_import_token>
 beempy-addtoken command line
 option, [21](#)

-url
 beempy-currentnode command line
 option, [27](#)

-url <url>
 beempy-witnesscreate command line
 option, [52](#)
 beempy-witnessproperties command
 line option, [54](#)
 beempy-witnessupdate command line
 option, [54](#)

-version
 beempy command line option, [20](#)
 beempy-currentnode command line
 option, [27](#)

-weight <weight>
 beempy-allow command line option, [21](#)

-what <what>

- beem-py-follow command line option, [32](#)
- beem-py-mute command line option, [35](#)
- wipe
 - beem-py-createwallet command line option, [26](#)
- witness <witness>
 - beem-py-witnessupdate command line option, [54](#)
- a, -account <account>
 - beem-py-allow command line option, [21](#)
 - beem-py-approve-witness command line option, [21](#)
 - beem-py-buy command line option, [23](#)
 - beem-py-cancel command line option, [23](#)
 - beem-py-change-recovery command line option, [24](#)
 - beem-py-convert command line option, [26](#)
 - beem-py-curation command line option, [26](#)
 - beem-py-custom-json command line option, [28](#)
 - beem-py-delegate command line option, [28](#)
 - beem-py-delete command line option, [28](#)
 - beem-py-del-profile command line option, [29](#)
 - beem-py-del-proxy command line option, [30](#)
 - beem-py-disallow command line option, [30](#)
 - beem-py-disapprove-witness command line option, [31](#)
 - beem-py-download command line option, [31](#)
 - beem-py-downvote command line option, [32](#)
 - beem-py-follow command line option, [32](#)
 - beem-py-keygen command line option, [34](#)
 - beem-py-mute command line option, [35](#)
 - beem-py-new-account command line option, [36](#)
 - beem-py-post command line option, [40](#)
 - beem-py-powerdown command line option, [41](#)
 - beem-py-powerdown-route command line option, [42](#)
 - beem-py-powerup command line option, [42](#)
 - beem-py-reblog command line option, [43](#)
 - beem-py-reply command line option, [43](#)
 - beem-py-sell command line option, [45](#)
 - beem-py-set-profile command line option, [46](#)
 - beem-py-set-proxy command line option, [46](#)
 - beem-py-transfer command line option, [47](#)
 - beem-py-unfollow command line option, [48](#)
 - beem-py-update-memo-key command line option, [48](#)
 - beem-py-upload-image command line option, [49](#)
 - beem-py-upvote command line option, [49](#)
- a, -all
 - beem-py-notifications command line option, [37](#)
- a, -author
 - beem-py-pending command line option, [39](#)
 - beem-py-rewards command line option, [44](#)
- b, -base <base>
 - beem-py-witness-feed command line option, [53](#)
- b, -beneficiaries <beneficiaries>
 - beem-py-post command line option, [41](#)
- b, -reblogs
 - beem-py-notifications command line option, [38](#)
- c, -comment
 - beem-py-pending command line option, [39](#)
 - beem-py-rewards command line option, [44](#)
- c, -community <community>
 - beem-py-post command line option, [41](#)
- c, -create-claimed-account
 - beem-py-new-account command line option, [37](#)
- c, -create-password
 - beem-py-keygen command line option, [35](#)
- d, -days <days>
 - beem-py-curation command line option, [27](#)
 - beem-py-pending command line option, [39](#)
 - beem-py-rewards command line option, [44](#)

beempy-tradehistory command line option, [47](#)
beempy-votes command line option, [51](#)
-d, -no-broadcast
beempy command line option, [19](#)
-d, -percent-steem-dollars
 <percent_steem_dollars>
beempy-post command line option, [41](#)
-e, -expires <expires>
beempy command line option, [20](#)
-e, -export <export>
beempy-curation command line option, [27](#)
beempy-download command line option, [31](#)
beempy-keygen command line option, [35](#)
beempy-votes command line option, [51](#)
-e, -no-patch-on-edit
beempy-post command line option, [41](#)
-e, -permlink
beempy-pending command line option, [39](#)
beempy-rewards command line option, [44](#)
-e, -steem
beempy-updatenodes command line option, [49](#)
-f, -follows
beempy-notifications command line option, [37](#)
-f, -from <_from>
beempy-pending command line option, [39](#)
-g, -tags <tags>
beempy-post command line option, [40](#)
-h, -height <height>
beempy-orderbook command line option, [38](#)
beempy-pricehistory command line option, [43](#)
beempy-tradehistory command line option, [47](#)
-h, -hive
beempy command line option, [20](#)
beempy-updatenodes command line option, [49](#)
-i, -file <file>
beempy-sign command line option, [46](#)
-i, -import-password
beempy-keygen command line option, [34](#)
-i, -import-pub <import_pub>
beempy-changekeys command line option, [24](#)
beempy-newaccount command line option, [37](#)
-i, -incoming
beempy-votes command line option, [51](#)
-i, -sbd-to-steem
beempy-ticker command line option, [47](#)
beempy-tradehistory command line option, [47](#)
-k, -account-keys
beempy-keygen command line option, [34](#)
-k, -keys <keys>
beempy command line option, [20](#)
-l, -create-link
beempy command line option, [19](#)
-l, -import-word-list
beempy-keygen command line option, [34](#)
-l, -length <length>
beempy-curation command line option, [27](#)
beempy-pending command line option, [39](#)
beempy-rewards command line option, [44](#)
-l, -limit <limit>
beempy-notifications command line option, [37](#)
beempy-orderbook command line option, [38](#)
beempy-tradehistory command line option, [47](#)
-l, -lock
beempy-walletinfo command line option, [51](#)
-m, -limit <limit>
beempy-curation command line option, [26](#)
-m, -mark_as_read
beempy-notifications command line option, [37](#)
-m, -max-accepted-payout
 <max_accepted_payout>
beempy-post command line option, [41](#)
-m, -path <path>
beempy-keygen command line option, [34](#)
-n, -image-name <image_name>
beempy-uploadimage command line option, [49](#)
-n, -network <network>
beempy-keygen command line option,

- 34
- n, -no-parse-body
beempy-post command line option, 41
- n, -node <node>
beempy command line option, 19
- n, -number <number>
beempy-claimaccount command line option, 25
- o, -offline
beempy command line option, 19
- o, -outfile <outfile>
beempy-sign command line option, 46
- o, -outgoing
beempy-votes command line option, 51
- p, -no-wallet
beempy command line option, 19
- p, -pair <pair>
beempy-setprofile command line option, 46
- p, -passphrase
beempy-keygen command line option, 34
- p, -permlink
beempy-curation command line option, 27
- p, -permlink <permlink>
beempy-post command line option, 40
- p, -post
beempy-pending command line option, 39
- beempy-rewards command line option, 44
- q, -quote <quote>
beempy-witnessfeed command line option, 53
- r, -replies
beempy-notifications command line option, 37
- r, -reply_identifier
<reply_identifier>
beempy-post command line option, 40
- r, -role <role>
beempy-keygen command line option, 34
- s, -only-sum
beempy-pending command line option, 39
- beempy-rewards command line option, 44
- s, -save
beempy-download command line option, 31
- s, -sequence <sequence>
beempy-keygen command line option, 34
- s, -short
beempy-curation command line option, 27
- s, -show
beempy-updatenodes command line option, 49
- s, -signing-account <signing_account>
beempy-featureflags command line option, 32
- beempy-userdata command line option, 50
- s, -steem
beempy command line option, 20
- s, -strength <strength>
beempy-keygen command line option, 34
- t, -active
beempy-customjson command line option, 28
- t, -mentions
beempy-notifications command line option, 37
- t, -test
beempy-updatenodes command line option, 49
- t, -title
beempy-curation command line option, 27
- beempy-pending command line option, 39
- beempy-rewards command line option, 44
- t, -title <title>
beempy-post command line option, 40
- beempy-reply command line option, 43
- t, -token
beempy command line option, 20
- t, -trx <trx>
beempy-verify command line option, 50
- u, -export-pub <export_pub>
beempy-keygen command line option, 35
- u, -unlock
beempy-walletinfo command line option, 51
- u, -use-api
beempy-verify command line option, 50
- v, -curation
beempy-pending command line option, 39

beem.py-rewards command line option,
44

-v, -min-vote <min_vote>
beem.py-curation command line
option, 26

-v, -verbose <verbose>
beem.py command line option, 20

-v, -votes
beem.py-notifications command line
option, 38

-w, -max-vote <max_vote>
beem.py-curation command line
option, 26

-w, -weight <weight>
beem.py-downvote command line
option, 32
beem.py-upvote command line option,
49

-w, -width <width>
beem.py-orderbook command line
option, 38
beem.py-pricehistory command line
option, 43
beem.py-tradehistory command line
option, 47

-w, -wif <wif>
beem.py-keygen command line option,
35
beem.py-newaccount command line
option, 37

-x, -min-performance <min_performance>
beem.py-curation command line
option, 27

-x, -unsigned
beem.py command line option, 19

-y, -max-performance <max_performance>
beem.py-curation command line
option, 27

`__NodeWebsocket__set_subscriptions()`
(*beemapi.websocket.NodeWebsocket* method),
183

`__events__` (*beemapi.websocket.NodeWebsocket* at-
tribute), 183

`__getattr__()` (*beemapi.websocket.NodeWebsocket*
method), 183

`__init__()` (*beemapi.websocket.NodeWebsocket*
method), 184

`__module__` (*beemapi.websocket.NodeWebsocket* at-
tribute), 184

`_ping()` (*beemapi.websocket.NodeWebsocket* method),
184

A

`abort()` (*beem.blockchain.Pool* method), 104

ACCOUNT

beem.py-balance command line option,
22

beem.py-changekeys command line
option, 24

beem.py-claimreward command line
option, 25

beem.py-featureflags command line
option, 32

beem.py-follower command line
option, 33

beem.py-following command line
option, 33

beem.py-importaccount command line
option, 33

beem.py-interest command line
option, 34

beem.py-muter command line option, 36

beem.py-muting command line option,
36

beem.py-notifications command line
option, 38

beem.py-openorders command line
option, 38

beem.py-permissions command line
option, 40

beem.py-power command line option, 41

beem.py-userdata command line
option, 50

beem.py-votes command line option, 51

beem.py-witnesses command line
option, 53

account (*beem.witness.Witness* attribute), 177

Account (*class in beem.account*), 71

`account_create_dict()` (*beem.rc.RC* method),
155

`account_update_dict()` (*beem.rc.RC* method),
155

AccountDoesNotExistsException, 132

AccountExistsException, 132

ACCOUNTNAME

beem.py-newaccount command line
option, 37

`accountopenorders()` (*beem.market.Market*
method), 143

ACCOUNTS

beem.py-pending command line option,
39

beem.py-rewards command line option,
44

Accounts (*class in beem.account*), 93

AccountSnapshot (*class in beem.snapshot*), 156

AccountsObject (*class in beem.account*), 93

AccountVotes (*class in beem.vote*), 171

- ActiveVotes (class in *beem.vote*), 171
- adapt_on_series() (*beem.asciichart.AsciiChart* method), 95
- add() (*beem.storage.Key* method), 165
- add() (*beem.storage.Token* method), 166
- add_axis() (*beem.asciichart.AsciiChart* method), 96
- add_curve() (*beem.asciichart.AsciiChart* method), 96
- add_custom_chains() (*beem-base.signedtransactions.Signed_Transaction* method), 188
- addPrivateKey() (*beem.wallet.Wallet* method), 173
- Address (class in *beemgraphenebase.account*), 188
- Address() (*beemgraphenebase.bip32.BIP32Key* method), 193
- addSigningInformation() (*beem.transactionbuilder.TransactionBuilder* method), 168
- addToken() (*beem.wallet.Wallet* method), 173
- addTzInfo() (in module *beem.utils*), 169
- AESCipher (class in *beem.aes*), 93
- alive() (*beem.blockchain.Pool* method), 104
- allow() (*beem.account.Account* method), 72
- AMOUNT
- beem-py-buy command line option, 23
 - beem-py-convert command line option, 26
 - beem-py-delegate command line option, 28
 - beem-py-powerdown command line option, 42
 - beem-py-powerup command line option, 42
 - beem-py-sell command line option, 45
 - beem-py-transfer command line option, 48
- amount (*beem.amount.Amount* attribute), 95
- Amount (class in *beem.amount*), 94
- Amount (class in *beembase.objects*), 186
- amount_decimal (*beem.amount.Amount* attribute), 95
- ApiNotSupported, 178
- appauthor (*beem.storage.DataDir* attribute), 165
- appendMissingSignatures() (*beem.transactionbuilder.TransactionBuilder* method), 168
- appendOps() (*beem.transactionbuilder.TransactionBuilder* method), 168
- appendSigner() (*beem.transactionbuilder.TransactionBuilder* method), 168
- appendWif() (*beem.transactionbuilder.TransactionBuilder* method), 168
- appname (*beem.storage.DataDir* attribute), 165
- approvewitness() (*beem.account.Account* method), 72
- as_base() (*beem.price.Price* method), 154
- as_quote() (*beem.price.Price* method), 154
- AsciiChart (class in *beem.asciichart*), 95
- ASSET
- beem-py-buy command line option, 23
 - beem-py-sell command line option, 45
 - beem-py-transfer command line option, 48
- asset (*beem.amount.Amount* attribute), 95
- asset (*beem.asset.Asset* attribute), 97
- Asset (class in *beem.asset*), 97
- AssetDoesNotExistException, 132
- assets_from_string() (in module *beem.utils*), 169
- author (*beem.comment.Comment* attribute), 118
- AUTHORPERM
- beem-py-beneficiaries command line option, 22
 - beem-py-curation command line option, 27
 - beem-py-reply command line option, 44
- authorperm (*beem.comment.Comment* attribute), 118
- authorperm (*beem.vote.Vote* attribute), 171
- available_balances (*beem.account.Account* attribute), 72
- awaitTxConfirmation() (*beem.blockchain.Blockchain* method), 99
- ## B
- b58decode() (in module *beemgraphenebase.base58*), 193
- b58encode() (in module *beemgraphenebase.base58*), 193
- backed_token_symbol (*beem.blockchaininstance.BlockChainInstance* attribute), 107
- balances (*beem.account.Account* attribute), 72
- Base58 (class in *beemgraphenebase.base58*), 192
- base58CheckDecode() (in module *beem-graphenebase.base58*), 193
- base58CheckEncode() (in module *beem-graphenebase.base58*), 193
- base58decode() (in module *beem-graphenebase.base58*), 193
- base58encode() (in module *beem-graphenebase.base58*), 193
- BatchedCallsNotSupported, 132
- beem.account (module), 71
- beem.aes (module), 93
- beem.amount (module), 94
- beem.asciichart (module), 95
- beem.asset (module), 97
- beem.block (module), 97

beem.blockchain (*module*), 99
beem.blockchaininstance (*module*), 106
beem.blockchainobject (*module*), 105
beem.comment (*module*), 118
beem.conveyor (*module*), 123
beem.discussions (*module*), 125
beem.exceptions (*module*), 132
beem.hive (*module*), 134
beem.hivesigner (*module*), 139
beem.imageuploader (*module*), 141
beem.instance (*module*), 141
beem.market (*module*), 142
beem.memo (*module*), 148
beem.message (*module*), 150
beem.nodelist (*module*), 150
beem.notify (*module*), 151
beem.price (*module*), 152
beem.rc (*module*), 155
beem.snapshot (*module*), 156
beem.steem (*module*), 158
beem.steemconnect (*module*), 162
beem.storage (*module*), 164
beem.transactionbuilder (*module*), 167
beem.utils (*module*), 169
beem.vote (*module*), 171
beem.wallet (*module*), 172
beem.witness (*module*), 176
beemapi.exceptions (*module*), 178
beemapi.graphenerpc (*module*), 179
beemapi.node (*module*), 181
beemapi.noderpc (*module*), 182
beembase.memo (*module*), 185
beembase.objects (*module*), 186
beembase.objecttypes (*module*), 187
beembase.operationids (*module*), 188
beembase.signedtransactions (*module*), 188
beembase.transactions (*module*), 188
beemgraphenebase.account (*module*), 188
beemgraphenebase.base58 (*module*), 192
beemgraphenebase.bip32 (*module*), 193
beemgraphenebase.bip38 (*module*), 195
beemgraphenebase.ecdsasig (*module*), 195
beemgraphenebase.objects (*module*), 195
beemgraphenebase.objecttypes (*module*), 196
beemgraphenebase.operationids (*module*), 196
beemgraphenebase.signedtransactions (*module*), 196
beempy command line option
 -i, -import-pub <import_pub>, 24
 ACCOUNT, 24
 -act, -active <active>, 24
 -amount, -amount <amount>, 23
 -asset, -asset <asset>, 23
 -price, -price <price>, 23
 -orderid, -orderid <orderid>, 23
 -a, -account <account>, 23
 AMOUNT, 23
 ASSET, 23
 PRICE, 23
beempy-cancel command line option
 -a, -account <account>, 23
 ORDERID, 23
beempy-changekeys command line option
 -active <active>, 24
 -memo <memo>, 24
 -owner <owner>, 24
 -posting <posting>, 24
 -i, -import-pub <import_pub>, 24
 ACCOUNT, 24
beempy-changerecovery command line option
 -a, -account <account>, 24
 NEW_RECOVERY_ACCOUNT, 24
 -x, -unsigned, 19
 -v, -verbose <verbose>, 20
 -t, -token, 20
 -s, -steem, 20
 -p, -no-wallet, 19
 -o, -offline, 19
 -n, -node <node>, 19
 -l, -create-link, 19
beempy-addkey command line option
 -unsafe-import-key
 <unsafe_import_key>, 20
beempy-addtoken command line option
 -unsafe-import-token
 <unsafe_import_token>, 21
 NAME, 21
beempy-allow command line option
 -permission <permission>, 21
 -threshold <threshold>, 21
 -weight <weight>, 21
 -a, -account <account>, 21
 FOREIGN_ACCOUNT, 21
beempy-approvewitness command line option
 -a, -account <account>, 21
 WITNESS, 22
beempy-balance command line option
 ACCOUNT, 22
beempy-beneficiaries command line option
 AUTHORPERM, 22
 BENEFICIARIES, 22
beempy-broadcast command line option
 -file <file>, 22
beempy-buy command line option
 -orderid <orderid>, 23
 -a, -account <account>, 23
 AMOUNT, 23
 ASSET, 23
 PRICE, 23
beempy-cancel command line option
 -a, -account <account>, 23
 ORDERID, 23
beempy-changekeys command line option
 -active <active>, 24
 -memo <memo>, 24
 -owner <owner>, 24
 -posting <posting>, 24
 -i, -import-pub <import_pub>, 24
 ACCOUNT, 24
beempy-changerecovery command line option
 -a, -account <account>, 24
 NEW_RECOVERY_ACCOUNT, 24

beem-claimaccount command line option
 -fee <fee>, 25
 -n, -number <number>, 25
 CREATOR, 25

beem-claimreward command line option
 -claim_all_sbd, 25
 -claim_all_steem, 25
 -claim_all_vests, 25
 -reward_sbd <reward_sbd>, 25
 -reward_steem <reward_steem>, 25
 -reward_vests <reward_vests>, 25
 ACCOUNT, 25

beem-convert command line option
 -a, -account <account>, 26
 AMOUNT, 26

beem-createwallet command line option
 -wipe, 26

beem-curation command line option
 -payout <payout>, 27
 -a, -account <account>, 26
 -d, -days <days>, 27
 -e, -export <export>, 27
 -l, -length <length>, 27
 -m, -limit <limit>, 26
 -p, -permlink, 27
 -s, -short, 27
 -t, -title, 27
 -v, -min-vote <min_vote>, 26
 -w, -max-vote <max_vote>, 26
 -x, -min-performance
 <min_performance>, 27
 -y, -max-performance
 <max_performance>, 27
 AUTHORPERM, 27

beem-currentnode command line option
 -url, 27
 -version, 27

beem-customjson command line option
 -a, -account <account>, 28
 -t, -active, 28
 JSON_DATA, 28
 JSONID, 28

beem-delegate command line option
 -a, -account <account>, 28
 AMOUNT, 28
 TO_ACCOUNT, 28

beem-delete command line option
 -a, -account <account>, 28
 POST, 29

beem-delkey command line option
 -confirm, 29
 PUB, 29

beem-delfile command line option
 -a, -account <account>, 29
 VARIABLE, 29

beem-delproxy command line option
 -a, -account <account>, 30

beem-deltoken command line option
 -confirm, 30
 NAME, 30

beem-disallow command line option
 -permission <permission>, 30
 -threshold <threshold>, 30
 -a, -account <account>, 30
 FOREIGN_ACCOUNT, 30

beem-disapprovewitness command line option
 -a, -account <account>, 31
 WITNESS, 31

beem-download command line option
 -a, -account <account>, 31
 -e, -export <export>, 31
 -s, -save, 31
 PERMLINK, 31

beem-downvote command line option
 -a, -account <account>, 32
 -w, -weight <weight>, 32
 POST, 32

beem-featureflags command line option
 -s, -signing-account
 <signing_account>, 32
 ACCOUNT, 32

beem-follow command line option
 -what <what>, 32
 -a, -account <account>, 32
 FOLLOW, 32

beem-follower command line option
 ACCOUNT, 33

beem-following command line option
 ACCOUNT, 33

beem-importaccount command line option
 -roles <roles>, 33
 ACCOUNT, 33

beem-info command line option
 OBJECTS, 34

beem-interest command line option
 ACCOUNT, 34

beem-keygen command line option
 -a, -account <account>, 34
 -c, -create-password, 35
 -e, -export <export>, 35
 -i, -import-password, 34
 -k, -account-keys, 34
 -l, -import-word-list, 34

-m, -path <path>, 34
-n, -network <network>, 34
-p, -passphrase, 34
-r, -role <role>, 34
-s, -sequence <sequence>, 34
-s, -strength <strength>, 34
-u, -export-pub <export_pub>, 35
-w, -wif <wif>, 35
beem-mute command line option
-what <what>, 35
-a, -account <account>, 35
MUTE, 36
beem-muter command line option
ACCOUNT, 36
beem-muting command line option
ACCOUNT, 36
beem-newaccount command line option
-active <active>, 36
-memo <memo>, 36
-owner <owner>, 36
-posting <posting>, 36
-a, -account <account>, 36
-c, -create-claimed-account, 37
-i, -import-pub <import_pub>, 37
-w, -wif <wif>, 37
ACCOUNTNAME, 37
beem-nextnode command line option
-results, 37
beem-notifications command line option
-a, -all, 37
-b, -reblogs, 38
-f, -follows, 37
-l, -limit <limit>, 37
-m, -mark_as_read, 37
-r, -replies, 37
-t, -mentions, 37
-v, -votes, 38
ACCOUNT, 38
beem-openorders command line option
ACCOUNT, 38
beem-orderbook command line option
-ascii, 38
-chart, 38
-show-date, 38
-h, -height <height>, 38
-l, -limit <limit>, 38
-w, -width <width>, 38
beem-parsewif command line option
-unsafe-import-key
 <unsafe_import_key>, 39
beem-pending command line option
-a, -author, 39
-c, -comment, 39
-d, -days <days>, 39
-e, -permlink, 39
-f, -from <_from>, 39
-l, -length <length>, 39
-p, -post, 39
-s, -only-sum, 39
-t, -title, 39
-v, -curation, 39
ACCOUNTS, 39
beem-permissions command line option
ACCOUNT, 40
beem-pingnode command line option
-raw, 40
-remove, 40
-sort, 40
-threading, 40
beem-post command line option
-a, -account <account>, 40
-b, -beneficiaries <beneficiaries>, 41
-c, -community <community>, 41
-d, -percent-steem-dollars
 <percent_steem_dollars>, 41
-e, -no-patch-on-edit, 41
-g, -tags <tags>, 40
-m, -max-accepted-payout
 <max_accepted_payout>, 41
-n, -no-parse-body, 41
-p, -permlink <permlink>, 40
-r, -reply_identifier
 <reply_identifier>, 40
-t, -title <title>, 40
MARKDOWN_FILE, 41
beem-power command line option
ACCOUNT, 41
beem-powerdown command line option
-a, -account <account>, 41
AMOUNT, 42
beem-powerdownroute command line option
-auto_vest, 42
-percentage <percentage>, 42
-a, -account <account>, 42
TO, 42
beem-powerup command line option
-to <to>, 42
-a, -account <account>, 42
AMOUNT, 42
beem-pricehistory command line option
-ascii, 43
-h, -height <height>, 43
-w, -width <width>, 43
beem-reblog command line option

-a, -account <account>, 43
 IDENTIFIER, 43
 beemreply command line option
 -a, -account <account>, 43
 -t, -title <title>, 43
 AUTHORPERM, 44
 BODY, 44
 beempyrewards command line option
 -a, -author, 44
 -c, -comment, 44
 -d, -days <days>, 44
 -e, -permlink, 44
 -l, -length <length>, 44
 -p, -post, 44
 -s, -only-sum, 44
 -t, -title, 44
 -v, -curation, 44
 ACCOUNTS, 44
 beempysell command line option
 -orderid <orderid>, 45
 -a, -account <account>, 45
 AMOUNT, 45
 ASSET, 45
 PRICE, 45
 beemset command line option
 KEY, 45
 VALUE, 45
 beemsetprofile command line option
 -a, -account <account>, 46
 -p, -pair <pair>, 46
 VALUE, 46
 VARIABLE, 46
 beemsetproxy command line option
 -a, -account <account>, 46
 PROXY, 46
 beemsign command line option
 -i, -file <file>, 46
 -o, -outfile <outfile>, 46
 beemticker command line option
 -i, -sbd-to-steem, 47
 beemtradehistory command line option
 -ascii, 47
 -hours <hours>, 47
 -d, -days <days>, 47
 -h, -height <height>, 47
 -i, -sbd-to-steem, 47
 -l, -limit <limit>, 47
 -w, -width <width>, 47
 beemtransfer command line option
 -a, -account <account>, 47
 AMOUNT, 48
 ASSET, 48
 MEMO, 48
 TO, 48
 beempyunfollow command line option
 -a, -account <account>, 48
 UNFOLLOW, 48
 beempyupdatememokey command line option
 -key <key>, 48
 -a, -account <account>, 48
 beempyupdatenodes command line option
 -only-https, 49
 -only-wss, 49
 -e, -steem, 49
 -h, -hive, 49
 -s, -show, 49
 -t, -test, 49
 beempyuploadimage command line option
 -a, -account <account>, 49
 -n, -image-name <image_name>, 49
 IMAGE, 49
 beempyupvote command line option
 -a, -account <account>, 49
 -w, -weight <weight>, 49
 POST, 50
 beempyuserdata command line option
 -s, -signing-account
 <signing_account>, 50
 ACCOUNT, 50
 beempyverify command line option
 -t, -trx <trx>, 50
 -u, -use-api, 50
 BLOCKNUMBER, 50
 beempyvotes command line option
 -direction <direction>, 51
 -d, -days <days>, 51
 -e, -export <export>, 51
 -i, -incoming, 51
 -o, -outgoing, 51
 ACCOUNT, 51
 beempywalletinfo command line option
 -l, -lock, 51
 -u, -unlock, 51
 beempywitness command line option
 WITNESS, 51
 beempywitnesscreate command line option
 -account_creation_fee
 <account_creation_fee>, 52
 -maximum_block_size
 <maximum_block_size>, 52
 -sbd_interest_rate
 <sbd_interest_rate>, 52
 -url <url>, 52
 PUB_SIGNING_KEY, 52
 WITNESS, 52

beem-py-witnessdisable command line option
WITNESS, 52

beem-py-witnessenable command line option
SIGNING_KEY, 52
WITNESS, 52

beem-py-witnesses command line option
-limit <limit>, 53
ACCOUNT, 53

beem-py-witnessfeed command line option
-support-peg, 53
-b, -base <base>, 53
-q, -quote <quote>, 53
WIF, 53
WITNESS, 53

beem-py-witnessproperties command line option
-account_creation_fee
 <account_creation_fee>, 54
-account_subsidy_budget
 <account_subsidy_budget>, 54
-account_subsidy_decay
 <account_subsidy_decay>, 54
-maximum_block_size
 <maximum_block_size>, 54
-new_signing_key <new_signing_key>, 54
-sbd_interest_rate
 <sbd_interest_rate>, 54
-url <url>, 54
WIF, 54
WITNESS, 54

beem-py-witnessupdate command line option
-account_creation_fee
 <account_creation_fee>, 54
-maximum_block_size
 <maximum_block_size>, 54
-sbd_interest_rate
 <sbd_interest_rate>, 54
-signing_key <signing_key>, 54
-url <url>, 54
-witness <witness>, 54

BENEFICIARIES
 beem-py-beneficiaries command line option, 22

Beneficiaries (class in *beembase.objects*), 186

Beneficiary (class in *beembase.objects*), 186

binary_search() (in module *beem-graphenebase.account*), 192

BIP32Key (class in *beemgraphenebase.bip32*), 193

Block (class in *beem.block*), 97

block_num (*beem.block.Block* attribute), 98

block_num (*beem.block.BlockHeader* attribute), 98

block_time() (*beem.blockchain.Blockchain* method), 100

block_timestamp() (*beem.blockchain.Blockchain* method), 100

blockchain (*beem.storage.Configuration* attribute), 164

Blockchain (class in *beem.blockchain*), 99

BlockChainInstance (class in *beem.blockchaininstance*), 106

BlockchainObject (class in *beem.blockchainobject*), 105

BlockDoesNotExistsException, 133

BlockHeader (class in *beem.block*), 98

BLOCKNUMBER
 beem-py-verify command line option, 50

blocks() (*beem.blockchain.Blockchain* method), 100

BlockWaitTimeExceeded, 133

blog_history() (*beem.account.Account* method), 72

BODY
 beem-py-reply command line option, 44

body (*beem.comment.Comment* attribute), 118

BrainKey (class in *beemgraphenebase.account*), 189

broadcast() (*beem.blockchaininstance.BlockChainInstance* method), 107

broadcast() (*beem.hivesigner.HiveSigner* method), 139

broadcast() (*beem.steemconnect.SteemConnect* method), 163

broadcast() (*beem.transactionbuilder.TransactionBuilder* method), 168

btc_usd_ticker() (*beem.market.Market* static method), 143

build() (*beem.snapshot.AccountSnapshot* method), 156

build_curation_arrays() (*beem.snapshot.AccountSnapshot* method), 157

build_rep_arrays() (*beem.snapshot.AccountSnapshot* method), 157

build_sp_arrays() (*beem.snapshot.AccountSnapshot* method), 157

build_vp_arrays() (*beem.snapshot.AccountSnapshot* method), 157

buy() (*beem.market.Market* method), 143

C

cache() (*beem.blockchainobject.BlockchainObject* method), 105

CallRetriesReached, 178

`cancel()` (*beem.market.Market method*), 143
`cancel_subscriptions()` (*beemapi.websocket.NodeWebsocket method*), 184
`cancel_transfer_from_savings()` (*beem.account.Account method*), 73
`category` (*beem.comment.Comment attribute*), 118
`chain_params` (*beem.blockchaininstance.BlockChainInstance attribute*), 107
`chain_params` (*beem.hive.Hive attribute*), 136
`chain_params` (*beem.steem.Steem attribute*), 159
`ChainCode()` (*beemgraphenebase.bip32.BIP32Key method*), 194
`change_recovery_account()` (*beem.account.Account method*), 73
`changePassphrase()` (*beem.wallet.Wallet method*), 173
`changePassword()` (*beem.storage.MasterPassword method*), 166
`check()` (*beemgraphenebase.account.Mnemonic method*), 190
`check_asset()` (*in module beem.amount*), 95
`check_asset()` (*in module beem.price*), 154
`check_word()` (*beem-graphenebase.account.Mnemonic method*), 190
`checkBackup()` (*beem.storage.Configuration method*), 164
`child()` (*beemgraphenebase.account.PrivateKey method*), 191
`ChildKey()` (*beemgraphenebase.bip32.BIP32Key method*), 194
`CKDpriv()` (*beemgraphenebase.bip32.BIP32Key method*), 193
`CKDpub()` (*beemgraphenebase.bip32.BIP32Key method*), 194
`claim_account()` (*beem.blockchaininstance.BlockChainInstance method*), 108
`claim_account()` (*beem.rc.RC method*), 155
`claim_reward_balance()` (*beem.account.Account method*), 73
`clean_data()` (*beem.storage.DataDir method*), 165
`clear()` (*beem.blockchaininstance.BlockChainInstance method*), 108
`clear()` (*beem.transactionbuilder.TransactionBuilder method*), 168
`clear_cache()` (*beem.blockchainobject.BlockchainObject static method*), 105
`clear_cache()` (*in module beem.instance*), 141
`clear_cache_from_expired_items()` (*beem.blockchainobject.BlockchainObject method*), 105
`clear_data()` (*beem.asciichart.AsciiChart method*), 96
`clear_data()` (*beem.blockchaininstance.BlockChainInstance method*), 108
`clear_expired_items()` (*beem.blockchainobject.ObjectCache method*), 106
`clear_local_keys()` (*beem.wallet.Wallet method*), 173
`clear_local_token()` (*beem.wallet.Wallet method*), 173
`clearWifs()` (*beem.transactionbuilder.TransactionBuilder method*), 168
`close()` (*beem.notify.Notify method*), 152
`close()` (*beemapi.websocket.NodeWebsocket method*), 184
`Comment` (*class in beem.comment*), 118
`comment()` (*beem.rc.RC method*), 155
`comment_dict()` (*beem.rc.RC method*), 155
`Comment_discussions_by_payout` (*class in beem.discussions*), 125
`comment_history()` (*beem.account.Account method*), 73
`comment_options()` (*beem.blockchaininstance.BlockChainInstance method*), 108
`CommentOptionExtensions` (*class in beem-base.objects*), 186
`compressed()` (*beem-graphenebase.account.PublicKey method*), 192
`compressedpubkey()` (*beem-graphenebase.account.PrivateKey method*), 191
`compressedPubkey()` (*in module beem-graphenebase.ecdsasig*), 195
`config` (*beem.instance.SharedInstance attribute*), 141
`config_defaults` (*beem.storage.Configuration attribute*), 164
`config_key` (*beem.storage.MasterPassword attribute*), 166
`configStorage` (*beem.wallet.Wallet attribute*), 173
`Configuration` (*class in beem.storage*), 164
`connect()` (*beem.blockchaininstance.BlockChainInstance method*), 108
`construct_authorperm()` (*in module beem.utils*), 169
`construct_authorpermvoter()` (*in module beem.utils*), 169
`constructTx()` (*beem.transactionbuilder.TransactionBuilder method*), 168
`ContentDoesNotExistsException`, 133
`convert()` (*beem.account.Account method*), 74
`Conveyor` (*class in beem.conveyor*), 123
`copy()` (*beem.amount.Amount method*), 95
`copy()` (*beem.price.Price method*), 154

- create() (*beem.wallet.Wallet method*), 173
 create_account() (*beem.blockchaininstance.BlockChainInstance method*), 108
 create_claimed_account() (*beem.blockchaininstance.BlockChainInstance method*), 109
 create_claimed_account_dict() (*beem.rc.RC method*), 155
 create_hot_sign_url() (*beem.hivesigner.HiveSigner method*), 140
 create_hot_sign_url() (*beem.steemconnect.SteemConnect method*), 163
 create_table() (*beem.storage.Configuration method*), 164
 create_table() (*beem.storage.Key method*), 165
 create_table() (*beem.storage.Token method*), 166
 create_ws_instance() (in module *beemapi.graphenerpc*), 181
 created() (*beem.wallet.Wallet method*), 173
 CREATOR
 beem-py-claimaccount command line option, 25
 curation_penalty_compensation_SBD() (*beem.comment.Comment method*), 118
 curation_stats() (*beem.account.Account method*), 74
 custom_json() (*beem.blockchaininstance.BlockChainInstance method*), 110
 custom_json() (*beem.rc.RC method*), 155
 custom_json_dict() (*beem.rc.RC method*), 155
- ## D
- data_dir (*beem.storage.DataDir attribute*), 165
 DataDir (class in *beem.storage*), 164
 decode_memo() (in module *beembase.memo*), 185
 decode_memo_bts() (in module *beembase.memo*), 185
 decodeRPCErrorMsg() (in module *beemapi.exceptions*), 179
 decrypt() (*beem.aes.AESCipher method*), 94
 decrypt() (*beem.memo.Memo method*), 150
 decrypt() (in module *beemgraphenebase.bip38*), 195
 decrypt_token() (*beem.wallet.Wallet method*), 173
 decrypt_wif() (*beem.wallet.Wallet method*), 173
 decrypted_master (*beem.storage.MasterPassword attribute*), 166
 decryptEncryptedMaster() (*beem.storage.MasterPassword method*), 166
 default_handler() (in module *beem.blockchain*), 105
 delegate_vesting_shares() (*beem.account.Account method*), 74
 delete() (*beem.comment.Comment method*), 118
 delete() (*beem.storage.Configuration method*), 164
 delete() (*beem.storage.Key method*), 165
 delete() (*beem.storage.Token method*), 167
 depth (*beem.comment.Comment attribute*), 119
 derive256address_with_version() (*beem-graphenebase.account.Address method*), 189
 derive_beneficiaries() (in module *beem.utils*), 169
 derive_from_seed() (*beem-graphenebase.account.PrivateKey method*), 191
 derive_permalink() (in module *beem.utils*), 169
 derive_private_key() (*beem-graphenebase.account.PrivateKey method*), 192
 derive_tags() (in module *beem.utils*), 170
 deriveChecksum() (*beem.storage.MasterPassword method*), 166
 deriveChecksum() (*beem.wallet.Wallet method*), 173
 deriveDigest() (*beem-graphenebase.signedtransactions.Signed_Transaction method*), 196
 derivesha256address() (*beem-graphenebase.account.Address method*), 189
 derivesha512address() (*beem-graphenebase.account.Address method*), 189
 derSigToHexSig() (*beem-graphenebase.signedtransactions.Signed_Transaction method*), 196
 disable_node() (*beemapi.node.Nodes method*), 181
 disallow() (*beem.account.Account method*), 74
 disapprovewitness() (*beem.account.Account method*), 75
 Discussions (class in *beem.discussions*), 126
 Discussions_by_active (class in *beem.discussions*), 126
 Discussions_by_author_before_date (class in *beem.discussions*), 126
 Discussions_by_blog (class in *beem.discussions*), 127
 Discussions_by_cashout (class in *beem.discussions*), 127
 Discussions_by_children (class in *beem.discussions*), 128
 Discussions_by_comments (class in *beem.discussions*), 128
 Discussions_by_created (class in *beem.discussions*), 129
 Discussions_by_feed (class in *beem.discussions*), 129

Discussions_by_hot (class in *beem.discussions*), 129

Discussions_by_promoted (class in *beem.discussions*), 130

Discussions_by_trending (class in *beem.discussions*), 130

Discussions_by_votes (class in *beem.discussions*), 130

done() (*beem.blockchain.Pool* method), 104

doublesha256() (in module *beem-graphenebase.base58*), 193

downvote() (*beem.comment.Comment* method), 119

dump() (*beemgraphenebase.bip32.BIP32Key* method), 194

E

edit() (*beem.comment.Comment* method), 119

encode_memo() (in module *beembase.memo*), 185

encode_memo_bts() (in module *beembase.memo*), 185

encrypt() (*beem.aes.AESCipher* method), 94

encrypt() (*beem.memo.Memo* method), 150

encrypt() (in module *beemgraphenebase.bip38*), 195

encrypt_token() (*beem.wallet.Wallet* method), 173

encrypt_wif() (*beem.wallet.Wallet* method), 173

enqueue() (*beem.blockchain.Pool* method), 105

ensure_full() (*beem.account.Account* method), 75

error_cnt (*beemapi.graphenerpc.GrapheneRPC* attribute), 180

error_cnt (*beemapi.node.Nodes* attribute), 182

error_cnt_call (*beemapi.graphenerpc.GrapheneRPC* attribute), 180

error_cnt_call (*beemapi.node.Nodes* attribute), 182

estimate_curation_SBD() (*beem.comment.Comment* method), 119

estimate_virtual_op_num() (*beem.account.Account* method), 75

ExchangeRate (class in *beembase.objects*), 187

exists_table() (*beem.storage.Configuration* method), 164

exists_table() (*beem.storage.Key* method), 165

exists_table() (*beem.storage.Token* method), 167

expand() (*beemgraphenebase.account.Mnemonic* method), 190

expand_word() (*beem-graphenebase.account.Mnemonic* method), 190

export_working_nodes() (*beemapi.node.Nodes* method), 182

ExtendedKey() (*beemgraphenebase.bip32.BIP32Key* method), 194

Extension (class in *beembase.objects*), 187

F

feed_history() (*beem.account.Account* method), 75

feed_publish() (*beem.witness.Witness* method), 177

FilledOrder (class in *beem.price*), 152

finalizeOp() (*beem.blockchaininstance.BlockChainInstance* method), 111

find_change_recovery_account_requests() (*beem.blockchain.Blockchain* method), 100

find_rc_accounts() (*beem.blockchain.Blockchain* method), 100

findall_patch_hunks() (in module *beem.utils*), 170

Fingerprint() (*beemgraphenebase.bip32.BIP32Key* method), 194

FOLLOW

beempy-follow command line option, 32

follow() (*beem.account.Account* method), 76

FollowApiNotEnabled, 178

FOREIGN_ACCOUNT

beempy-allow command line option, 21

beempy-disallow command line option, 30

formatTime() (in module *beem.utils*), 170

formatTimedelta() (in module *beem.utils*), 170

formatTimeFromNow() (in module *beem.utils*), 170

formatTimeString() (in module *beem.utils*), 170

formatToTimeStamp() (in module *beem.utils*), 170

fromEntropy() (*beemgraphenebase.bip32.BIP32Key* static method), 194

fromExtendedKey() (*beem-graphenebase.bip32.BIP32Key* static method), 194

G

generate() (*beemgraphenebase.account.Mnemonic* method), 190

generate_mnemonic() (*beem-graphenebase.account.MnemonicKey* method), 190

get() (*beem.blockchainobject.ObjectCache* method), 106

get() (*beem.storage.Configuration* method), 164

get_access_token() (*beem.hivesigner.HiveSigner* method), 140

get_access_token() (*beem.steemconnect.SteemConnect* method), 163

get_account() (*beemapi.noderpc.NodeRPC* method), 182

get_account_bandwidth() (*beem.account.Account* method), 76

get_account_count() (*beem.blockchain.Blockchain* method), 101

`get_account_history()` (*beem.account.Account method*), 76

`get_account_history()` (*beem.snapshot.AccountSnapshot method*), 157

`get_account_posts()` (*beem.account.Account method*), 77

`get_account_reputations()` (*beem.blockchain.Blockchain method*), 101

`get_account_votes()` (*beem.account.Account method*), 77

`get_all_accounts()` (*beem.blockchain.Blockchain method*), 101

`get_all_replies()` (*beem.comment.Comment method*), 119

`get_api_methods()` (*beem.blockchaininstance.BlockChainInstance method*), 111

`get_apis()` (*beem.blockchaininstance.BlockChainInstance method*), 111

`get_author_rewards()` (*beem.comment.Comment method*), 119

`get_authority_byte_count()` (*beem.rc.RC method*), 155

`get_balance()` (*beem.account.Account method*), 77

`get_balances()` (*beem.account.Account method*), 78

`get_bandwidth()` (*beem.account.Account method*), 78

`get_beneficiaries_pct()` (*beem.comment.Comment method*), 119

`get_blind_private()` (*beem-graphenebase.account.BrainKey method*), 189

`get_block_interval()` (*beem.blockchaininstance.BlockChainInstance method*), 111

`get_blockchain_name()` (*beem.blockchaininstance.BlockChainInstance method*), 111

`get_blockchain_version()` (*beem.blockchaininstance.BlockChainInstance method*), 111

`get_blog()` (*beem.account.Account method*), 78

`get_blog_authors()` (*beem.account.Account method*), 78

`get_blog_entries()` (*beem.account.Account method*), 79

`get_brainkey()` (*beem-graphenebase.account.BrainKey method*), 189

`get_cache_auto_clean()` (*beem.blockchainobject.BlockchainObject method*), 105

`get_cache_expiration()` (*beem.blockchainobject.BlockchainObject method*), 105

`get_chain_properties()` (*beem.blockchaininstance.BlockChainInstance method*), 111

`get_config()` (*beem.blockchaininstance.BlockChainInstance method*), 112

`get_conversion_requests()` (*beem.account.Account method*), 79

`get_creator()` (*beem.account.Account method*), 80

`get_curation_penalty()` (*beem.comment.Comment method*), 119

`get_curation_reward()` (*beem.account.Account method*), 80

`get_curation_rewards()` (*beem.comment.Comment method*), 120

`get_current_block()` (*beem.blockchain.Blockchain method*), 101

`get_current_block_num()` (*beem.blockchain.Blockchain method*), 101

`get_current_median_history()` (*beem.blockchaininstance.BlockChainInstance method*), 112

`get_data()` (*beem.snapshot.AccountSnapshot method*), 157

`get_default_config_storage()` (in module *beem.storage*), 167

`get_default_key_storage()` (in module *beem.storage*), 167

`get_default_nodes()` (*beem.blockchaininstance.BlockChainInstance method*), 112

`get_default_token_storage()` (in module *beem.storage*), 167

`get_discussions()` (*beem.discussions.Discussions method*), 126

`get_downvote_manabar()` (*beem.account.Account method*), 80

`get_downvoting_power()` (*beem.account.Account method*), 80

`get_dust_threshold()` (*beem.blockchaininstance.BlockChainInstance method*), 112

`get_dynamic_global_properties()` (*beem.blockchaininstance.BlockChainInstance method*), 112

`get_effective_vesting_shares()` (*beem.account.Account method*), 80

`get_escrow()` (*beem.account.Account method*), 80

`get_estimated_block_num()` (*beem.blockchain.Blockchain method*), 101

`get_expiring_vesting_delegations()` (*beem.account.Account method*), 80

`get_feature_flag()` (*beem.conveyor.Conveyor*

- method*), 123
- `get_feature_flags()` (*beem.conveyor.Conveyor method*), 123
- `get_feed()` (*beem.account.Account method*), 81
- `get_feed_entries()` (*beem.account.Account method*), 81
- `get_feed_history()` (*beem.blockchaininstance.BlockChainInstance method*), 112
- `get_follow_count()` (*beem.account.Account method*), 82
- `get_followers()` (*beem.account.Account method*), 82
- `get_following()` (*beem.account.Account method*), 82
- `get_hardfork_properties()` (*beem.blockchaininstance.BlockChainInstance method*), 112
- `get_hbd_per_rshares()` (*beem.hive.Hive method*), 136
- `get_hive_nodes()` (*beem.nodelist.NodeList method*), 150
- `get_hive_per_mvest()` (*beem.hive.Hive method*), 136
- `get_list()` (*beem.vote.VotesObject method*), 172
- `get_login_url()` (*beem.hivesigner.HiveSigner method*), 140
- `get_login_url()` (*beem.steemconnect.SteemConnect method*), 163
- `get_manabar()` (*beem.account.Account method*), 82
- `get_manabar_recharge_time()` (*beem.account.Account method*), 82
- `get_manabar_recharge_time_str()` (*beem.account.Account method*), 82
- `get_manabar_recharge_timedelta()` (*beem.account.Account method*), 82
- `get_median_price()` (*beem.blockchaininstance.BlockChainInstance method*), 112
- `get_muters()` (*beem.account.Account method*), 82
- `get_mutings()` (*beem.account.Account method*), 82
- `get_network()` (*beem.blockchaininstance.BlockChainInstance method*), 112
- `get_network()` (*beem.hive.Hive method*), 136
- `get_network()` (*beem.steem.Steem method*), 159
- `get_network()` (*beemapi.graphenerpc.GrapheneRPC method*), 180
- `get_nodes()` (*beem.nodelist.NodeList method*), 151
- `get_notifications()` (*beem.account.Account method*), 82
- `get_ops()` (*beem.snapshot.AccountSnapshot method*), 157
- `get_owner_history()` (*beem.account.Account method*), 82
- `get_parent()` (*beem.comment.Comment method*), 120
- `get_parent()` (*beem.transactionbuilder.TransactionBuilder method*), 168
- `get_path()` (*beemgraphenebase.account.MnemonicKey method*), 190
- `get_potential_signatures()` (*beem.transactionbuilder.TransactionBuilder method*), 168
- `get_private()` (*beem-graphenebase.account.BrainKey method*), 189
- `get_private()` (*beem-graphenebase.account.MnemonicKey method*), 190
- `get_private()` (*beem-graphenebase.account.PasswordKey method*), 191
- `get_private_key()` (*beem-graphenebase.account.BrainKey method*), 189
- `get_private_key()` (*beem-graphenebase.account.MnemonicKey method*), 190
- `get_private_key()` (*beem-graphenebase.account.PasswordKey method*), 191
- `get_public()` (*beemgraphenebase.account.BrainKey method*), 189
- `get_public()` (*beem-graphenebase.account.MnemonicKey method*), 190
- `get_public()` (*beem-graphenebase.account.PasswordKey method*), 191
- `get_public_key()` (*beem-graphenebase.account.Address method*), 189
- `get_public_key()` (*beem-graphenebase.account.BrainKey method*), 189
- `get_public_key()` (*beem-graphenebase.account.MnemonicKey method*), 190
- `get_public_key()` (*beem-graphenebase.account.PasswordKey method*), 191
- `get_public_key()` (*beem-graphenebase.account.PrivateKey method*), 192
- `get_public_key()` (*beem-graphenebase.account.PublicKey method*), 192
- `get_rc()` (*beem.account.Account method*), 83

`get_rc_cost()` (*beem.blockchaininstance.BlockChainInstance method*), 172
method), 112
`get_rc_manabar()` (*beem.account.Account method*), 83
`get_reblogged_by()` (*beem.comment.Comment method*), 120
`get_recharge_time()` (*beem.account.Account method*), 83
`get_recharge_time_str()` (*beem.account.Account method*), 83
`get_recharge_timedelta()` (*beem.account.Account method*), 83
`get_recovery_request()` (*beem.account.Account method*), 83
`get_replies()` (*beem.comment.Comment method*), 120
`get_reputation()` (*beem.account.Account method*), 84
`get_request_id()` (*beemapi.graphenerpc.GrapheneRPC method*), 180
`get_request_id()` (*beemapi.websocket.NodeWebsocket method*), 184
`get_required_signatures()` (*beem.transactionbuilder.TransactionBuilder method*), 168
`get_reserve_ratio()` (*beem.blockchaininstance.BlockChainInstance method*), 112
`get_resource_count()` (*beem.rc.RC method*), 156
`get_resource_params()` (*beem.blockchaininstance.BlockChainInstance method*), 112
`get_resource_pool()` (*beem.blockchaininstance.BlockChainInstance method*), 113
`get_reward_funds()` (*beem.blockchaininstance.BlockChainInstance method*), 113
`get_rewards()` (*beem.comment.Comment method*), 120
`get_savings_withdrawals()` (*beem.account.Account method*), 84
`get_sbd_per_rshares()` (*beem.steem.Steem method*), 159
`get_secret()` (*beem-graphenebase.account.PrivateKey method*), 192
`get_shared_secret()` (*in module beem-base.memo*), 186
`get_similar_account_names()` (*beem.account.Account method*), 84
`get_similar_account_names()` (*beem.blockchain.Blockchain method*), 102
`get_sorted_list()` (*beem.vote.VotesObject method*), 172
`get_steem_nodes()` (*beem.nodelist.NodeList method*), 151
`get_steem_per_mvest()` (*beem.steem.Steem method*), 159
`get_steem_power()` (*beem.account.Account method*), 84
`get_string()` (*beem.market.Market method*), 144
`get_tags_used_by_author()` (*beem.account.Account method*), 84
`get_testnet()` (*beem.nodelist.NodeList method*), 151
`get_token_power()` (*beem.account.Account method*), 84
`get_transaction()` (*beem.blockchain.Blockchain method*), 102
`get_transaction_hex()` (*beem.blockchain.Blockchain method*), 102
`get_transaction_hex()` (*beem.transactionbuilder.TransactionBuilder method*), 168
`get_tx_size()` (*beem.rc.RC method*), 156
`get_use_appbase()` (*beemapi.graphenerpc.GrapheneRPC method*), 180
`get_user_data()` (*beem.conveyor.Conveyor method*), 124
`get_vesting_delegations()` (*beem.account.Account method*), 84
`get_vests()` (*beem.account.Account method*), 85
`get_vote()` (*beem.account.Account method*), 85
`get_vote_pct_for_SBD()` (*beem.account.Account method*), 85
`get_vote_pct_for_vote_value()` (*beem.account.Account method*), 85
`get_vote_with_curation()` (*beem.comment.Comment method*), 121
`get_votes()` (*beem.comment.Comment method*), 121
`get_votes_sum()` (*beem.witness.WitnessesObject method*), 178
`get_voting_power()` (*beem.account.Account method*), 85
`get_voting_value()` (*beem.account.Account method*), 85
`get_voting_value_SBD()` (*beem.account.Account method*), 85
`get_withdraw_routes()` (*beem.account.Account method*), 85
`get_witness_schedule()` (*beem.blockchaininstance.BlockChainInstance method*), 113
`getAccount()` (*beem.wallet.Wallet method*), 173
`getAccountFromPrivateKey()` (*beem.wallet.Wallet method*), 173

[getAccountFromPublicKey\(\)](#) (*beem.wallet.Wallet method*), 174
[getAccounts\(\)](#) (*beem.wallet.Wallet method*), 174
[getAccountsFromPublicKey\(\)](#) (*beem.wallet.Wallet method*), 174
[getActiveKeyForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getActiveKeysForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getAllAccounts\(\)](#) (*beem.wallet.Wallet method*), 174
[getBlockParams\(\)](#) (*in module beem-base.transactions*), 188
[getcache\(\)](#) (*beem.blockchainobject.BlockchainObject method*), 105
[getChainParams\(\)](#) (*beem-graphenebase.signedtransactions.Signed_Transaction method*), 196
[getEncryptedMaster\(\)](#) (*beem.storage.MasterPassword method*), 166
[getKeyForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getKeysForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getKeyType\(\)](#) (*beem.wallet.Wallet method*), 174
[getKnownChains\(\)](#) (*beem-base.signedtransactions.Signed_Transaction method*), 188
[getKnownChains\(\)](#) (*beem-graphenebase.signedtransactions.Signed_Transaction method*), 196
[getMemoKeyForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getOperationClass\(\)](#) (*beem-base.signedtransactions.Signed_Transaction method*), 188
[getOperationClass\(\)](#) (*beem-graphenebase.signedtransactions.Signed_Transaction method*), 196
[getOperationNameForId\(\)](#) (*beem-base.objects.Operation method*), 187
[getOperationNameForId\(\)](#) (*beem-graphenebase.objects.Operation method*), 196
[getOperationNameForId\(\)](#) (*in module beem-base.operationids*), 188
[getOwnerKeyForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getOwnerKeysForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getPostingKeyForAccount\(\)](#) (*beem.wallet.Wallet method*), 174
[getPostingKeysForAccount\(\)](#) (*beem.wallet.Wallet method*), 175
[getPrivateKeyForPublicKey\(\)](#) (*beem.storage.Key method*), 165
[getPrivateKeyForPublicKey\(\)](#) (*beem.wallet.Wallet method*), 175
[getPublicKeys\(\)](#) (*beem.storage.Key method*), 166
[getPublicKeys\(\)](#) (*beem.wallet.Wallet method*), 175
[getPublicNames\(\)](#) (*beem.storage.Token method*), 167
[getPublicNames\(\)](#) (*beem.wallet.Wallet method*), 175
[getSimilarAccountNames\(\)](#) (*beem.account.Account method*), 76
[getTokenForAccountName\(\)](#) (*beem.wallet.Wallet method*), 175
[getTokenForPublicName\(\)](#) (*beem.storage.Token method*), 167
[GetWitnesses](#) (*class in beem.witness*), 176
[gphBase58CheckDecode\(\)](#) (*in module beem-graphenebase.base58*), 193
[gphBase58CheckEncode\(\)](#) (*in module beem-graphenebase.base58*), 193
[GrapheneObject](#) (*class in beem-graphenebase.objects*), 195
[GrapheneRPC](#) (*class in beemapi.graphenerpc*), 180

H

[hardfork](#) (*beem.blockchaininstance.BlockChainInstance attribute*), 113
[hardfork](#) (*beem.hive.Hive attribute*), 136
[hardfork](#) (*beem.steem.Steem attribute*), 160
[has_voted\(\)](#) (*beem.account.Account method*), 86
[hash_op\(\)](#) (*beem.blockchain.Blockchain static method*), 102
[hbd_symbol](#) (*beem.hive.Hive attribute*), 136
[hbd_to_rshares\(\)](#) (*beem.hive.Hive method*), 136
[hbd_to_vote_pct\(\)](#) (*beem.hive.Hive method*), 136
[headers](#) (*beem.hivesigner.HiveSigner attribute*), 140
[headers](#) (*beem.steemconnect.SteemConnect attribute*), 163
[healthcheck\(\)](#) (*beem.conveyor.Conveyor method*), 124
[history\(\)](#) (*beem.account.Account method*), 86
[history_reverse\(\)](#) (*beem.account.Account method*), 87
[Hive](#) (*class in beem.hive*), 134
[hive_btc_ticker\(\)](#) (*beem.market.Market static method*), 144
[hive_symbol](#) (*beem.hive.Hive attribute*), 137
[hive_usd_implied\(\)](#) (*beem.market.Market method*), 144
[HiveSigner](#) (*class in beem.hivesigner*), 139
[hmac\(\)](#) (*beemgraphenebase.bip32.BIP32Key method*), 194

hp_to_hbd() (*beem.hive.Hive method*), 137
hp_to_rshares() (*beem.hive.Hive method*), 137
hp_to_vests() (*beem.hive.Hive method*), 137

I

id (*beem.comment.Comment attribute*), 121
id (*beemgraphenebase.signedtransactions.Signed_Transaction attribute*), 196
IDENTIFIER
 beem-py-reblog command line option, 43
Identifier() (*beemgraphenebase.bip32.BIP32Key method*), 194
idle() (*beem.blockchain.Pool method*), 105
IMAGE
 beem-py-uploadimage command line option, 49
ImageUploader (*class in beem.imageuploader*), 141
increase_error_cnt() (*beemapi.node.Nodes method*), 182
increase_error_cnt_call() (*beemapi.node.Nodes method*), 182
info() (*beem.blockchaininstance.BlockChainInstance method*), 113
init_aes() (*in module beembase.memo*), 186
init_aes_bts() (*in module beembase.memo*), 186
instance (*beem.instance.SharedInstance attribute*), 141
instance (*beemapi.graphenerpc.SessionInstance attribute*), 181
InsufficientAuthorityError, 133
interest() (*beem.account.Account method*), 88
InvalidAssetException, 133
InvalidEndpointUrl, 178
InvalidMemoKeyException, 133
InvalidMessageSignature, 133
InvalidWifiError, 133
invert() (*beem.price.Price method*), 154
is_active (*beem.witness.Witness attribute*), 177
is_appbase_ready() (*beemapi.graphenerpc.GrapheneRPC method*), 181
is_comment() (*beem.comment.Comment method*), 121
is_connected() (*beem.blockchaininstance.BlockChainInstance method*), 113
is_empty() (*beem.transactionbuilder.TransactionBuilder method*), 169
is_fully_loaded (*beem.account.Account attribute*), 88
is_hive (*beem.blockchaininstance.BlockChainInstance attribute*), 113
is_hive (*beem.hive.Hive attribute*), 137

is_irreversible_mode() (*beem.blockchain.Blockchain method*), 102
is_main_post() (*beem.comment.Comment method*), 121
is_pending() (*beem.comment.Comment method*), 121
is_steem (*beem.blockchaininstance.BlockChainInstance attribute*), 113
is_steem (*beem.steem.Steem attribute*), 160
isArgsThisClass() (*in module beem-graphenebase.objects*), 196
iscached() (*beem.blockchainobject.BlockchainObject method*), 105
items() (*beem.blockchainobject.BlockchainObject method*), 105
items() (*beem.storage.Configuration method*), 164

J

join() (*beem.blockchain.Pool method*), 105
json() (*beem.account.Account method*), 88
json() (*beem.amount.Amount method*), 95
json() (*beem.block.Block method*), 98
json() (*beem.block.BlockHeader method*), 98
json() (*beem.blockchainobject.BlockchainObject method*), 105
json() (*beem.comment.Comment method*), 121
json() (*beem.price.FilledOrder method*), 152
json() (*beem.price.Price method*), 154
json() (*beem.transactionbuilder.TransactionBuilder method*), 169
json() (*beem.vote.Vote method*), 171
json() (*beem.witness.Witness method*), 177
json() (*beembase.objects.Operation method*), 187
json() (*beemgraphenebase.objects.GrapheneObject method*), 196
JSON_DATA
 beem-py-customjson command line option, 28
json_metadata (*beem.account.Account attribute*), 88
json_metadata (*beem.comment.Comment attribute*), 121
json_operations (*beem.block.Block attribute*), 98
json_transactions (*beem.block.Block attribute*), 98
JSON_TRANSACTION
 beem-py-customjson command line option, 28

K

KEY
 beem-py-set command line option, 45
Key (*class in beem.storage*), 165
keyMap (*beem.wallet.Wallet attribute*), 175
keys (*beem.wallet.Wallet attribute*), 175

keyStorage (*beem.wallet.Wallet attribute*), 175

L

list_all_subscriptions() (*beem.account.Account method*), 88
 list_change_recovery_account_requests() (*beem.blockchain.Blockchain method*), 102
 list_drafts() (*beem.conveyor.Conveyor method*), 124
 list_operations() (*beem.transactionbuilder.TransactionBuilder method*), 169
 listen() (*beem.notify.Notify method*), 152
 ListWitnesses (*class in beem.witness*), 176
 load_dirty_json() (*in module beem.utils*), 170
 lock() (*beem.wallet.Wallet method*), 175
 locked() (*beem.wallet.Wallet method*), 175
 log (*in module beemgraphenebase.base58*), 193

M

make_patch() (*in module beem.utils*), 170
 mark_notifications_as_read() (*beem.account.Account method*), 88
 MARKDOWN_FILE
 beem-post command line option, 41
 market (*beem.price.Price attribute*), 154
 Market (*class in beem.market*), 142
 market_history() (*beem.market.Market method*), 144
 market_history_buckets() (*beem.market.Market method*), 144
 MasterPassword (*beem.wallet.Wallet attribute*), 173
 masterpassword (*beem.wallet.Wallet attribute*), 175
 MasterPassword (*class in beem.storage*), 166
 me() (*beem.hivesigner.HiveSigner method*), 140
 me() (*beem.steemconnect.SteemConnect method*), 163
 MEMO
 beem-post command line option, 48
 Memo (*class in beem.memo*), 148
 Memo (*class in beembase.objects*), 187
 Message (*class in beem.message*), 150
 MissingKeyError, 133
 MissingRequiredActiveAuthority, 178
 mkdir_p() (*beem.storage.DataDir method*), 165
 Mnemonic (*class in beemgraphenebase.account*), 190
 MnemonicKey (*class in beemgraphenebase.account*), 190
 move_current_node_to_front() (*beem.blockchaininstance.BlockChainInstance method*), 113
 MUTE
 beem-post command line option, 36
 mute() (*beem.account.Account method*), 89

N

NAME
 beem-post command line option, 21
 beem-post command line option, 30
 name (*beem.account.Account attribute*), 89
 new_chart() (*beem.asciichart.AsciiChart method*), 96
 NEW_RECOVERY_ACCOUNT
 beem-post command line option, 24
 new_tx() (*beem.blockchaininstance.BlockChainInstance method*), 113
 newMaster() (*beem.storage.MasterPassword method*), 166
 newWallet() (*beem.blockchaininstance.BlockChainInstance method*), 113
 newWallet() (*beem.wallet.Wallet method*), 175
 next() (*beemapi.graphenerpc.GrapheneRPC method*), 181
 next() (*beemapi.node.Nodes method*), 182
 next_account_sequence() (*beem-graphenebase.account.MnemonicKey method*), 191
 next_sequence() (*beem-graphenebase.account.BrainKey method*), 189
 next_sequence() (*beem-graphenebase.account.MnemonicKey method*), 191
 NoAccessApi, 178
 NoApiWithName, 179
 node (*beemapi.node.Nodes attribute*), 182
 Node (*class in beemapi.node*), 181
 nodelist (*beem.storage.Configuration attribute*), 164
 NodeList (*class in beem.nodelist*), 150
 NodeRPC (*class in beemapi.noderpc*), 182
 nodes (*beem.storage.Configuration attribute*), 164
 Nodes (*class in beemapi.node*), 181
 NodeWebsocket (*class in beemapi.websocket*), 183
 NoMethodWithName, 179
 normalize() (*beemgraphenebase.account.BrainKey method*), 189
 normalize() (*beem-graphenebase.account.PasswordKey method*), 191
 normalize_string() (*beem-graphenebase.account.Mnemonic class method*), 190
 Notify (*class in beem.notify*), 151
 NoWalletException, 133
 NoWriteAccess, 133

`num_retries` (*beemapi.graphenerpc.GrapheneRPC attribute*), 181

`num_retries_call` (*beemapi.graphenerpc.GrapheneRPC attribute*), 181

`num_retries_call_reached` (*beemapi.node.Nodes attribute*), 182

`NumRetriesReached`, 179

O

`object_type` (in module *beembase.objecttypes*), 187

`object_type` (in module *beem-graphenebase.objecttypes*), 196

`ObjectCache` (class in *beem.blockchainobject*), 106

OBJECTS

- `beem-py-info` command line option, 34

`OfflineHasNoRPCException`, 133

`on_close()` (*beemapi.websocket.NodeWebsocket method*), 184

`on_error()` (*beemapi.websocket.NodeWebsocket method*), 184

`on_message()` (*beemapi.websocket.NodeWebsocket method*), 184

`on_open()` (*beemapi.websocket.NodeWebsocket method*), 184

`Operation` (class in *beembase.objects*), 187

`Operation` (class in *beemgraphenebase.objects*), 196

`operations` (*beem.block.Block attribute*), 98

`operations` (in module *beem-graphenebase.operationids*), 196

`operations()` (*beembase.objects.Operation method*), 187

`operations()` (*beemgraphenebase.objects.Operation method*), 196

`ops` (in module *beembase.operationids*), 188

`ops()` (*beem.blockchain.Blockchain method*), 103

`ops_statistics()` (*beem.block.Block method*), 98

`ops_statistics()` (*beem.blockchain.Blockchain method*), 103

`Order` (class in *beem.price*), 152

`orderbook()` (*beem.market.Market method*), 144

ORDERID

- `beem-py-cancel` command line option, 23

P

`P2WPKHoP2SHAddress()` (*beem-graphenebase.bip32.BIP32Key method*), 194

`parent_author` (*beem.comment.Comment attribute*), 121

`parent_permlink` (*beem.comment.Comment attribute*), 121

`parse_op()` (*beem.snapshot.AccountSnapshot method*), 157

`parse_path()` (in module *beemgraphenebase.bip32*), 194

`Parse_time()` (in module *beem.utils*), 170

`password` (*beem.storage.MasterPassword attribute*), 166

`PasswordKey` (class in *beemgraphenebase.account*), 191

`percent` (*beem.vote.Vote attribute*), 171

`Permission` (class in *beembase.objects*), 187

PERMLINK

- `beem-py-download` command line option, 31

`permlink` (*beem.comment.Comment attribute*), 121

`plot()` (*beem.asciichart.AsciiChart method*), 96

`point()` (*beemgraphenebase.account.PublicKey method*), 192

`Pool` (class in *beem.blockchain*), 104

POST

- `beem-py-delete` command line option, 29
- `beem-py-downvote` command line option, 32
- `beem-py-upvote` command line option, 50

`post()` (*beem.blockchaininstance.BlockChainInstance method*), 113

`Post_discussions_by_payout` (class in *beem.discussions*), 131

`precision` (*beem.asset.Asset attribute*), 97

`prefix` (*beem.blockchaininstance.BlockChainInstance attribute*), 114

`prefix` (*beem.wallet.Wallet attribute*), 175

`prehash_message()` (*beem.conveyor.Conveyor method*), 124

PRICE

- `beem-py-buy` command line option, 23
- `beem-py-sell` command line option, 45

`Price` (class in *beem.price*), 152

`Price` (class in *beembase.objects*), 187

`print_info()` (*beem.account.Account method*), 89

`print_stats()` (*beem.vote.VotesObject method*), 172

`print_summarize_table()` (*beem.account.AccountsObject method*), 93

`printAsTable()` (*beem.account.AccountsObject method*), 93

`printAsTable()` (*beem.vote.VotesObject method*), 172

`printAsTable()` (*beem.witness.WitnessesObject method*), 178

`PrivateKey` (class in *beemgraphenebase.account*), 191

`PrivateKey()` (*beemgraphenebase.bip32.BIP32Key method*), 194

- process_block() (*beem.notify.Notify method*), 152
- process_block() (*beemapi.websocket.NodeWebsocket method*), 184
- profile (*beem.account.Account attribute*), 89
- PROXY
- beem-py-setproxy command line option, 46
- PUB
- beem-py-delkey command line option, 29
- PUB_SIGNING_KEY
- beem-py-witnesscreate command line option, 52
- PublicKey (*class in beemgraphenebase.account*), 192
- PublicKey() (*beemgraphenebase.bip32.BIP32Key method*), 194
- ## Q
- quantize() (*in module beem.amount*), 95
- Query (*class in beem.discussions*), 131
- ## R
- RankedPosts (*class in beem.comment*), 122
- RC (*class in beem.rc*), 155
- recent_trades() (*beem.market.Market method*), 145
- RecentByPath (*class in beem.comment*), 122
- RecentReplies (*class in beem.comment*), 122
- recover_public_key() (*in module beem-graphenebase.ecdsasig*), 195
- recover_with_latest_backup() (*beem.storage.DataDir method*), 165
- recoverPubkeyParameter() (*in module beem-graphenebase.ecdsasig*), 195
- refresh() (*beem.account.Account method*), 89
- refresh() (*beem.asset.Asset method*), 97
- refresh() (*beem.block.Block method*), 98
- refresh() (*beem.block.BlockHeader method*), 98
- refresh() (*beem.comment.Comment method*), 121
- refresh() (*beem.vote.Vote method*), 171
- refresh() (*beem.witness.Witness method*), 177
- refresh() (*beem.witness.Witnesses method*), 177
- refresh_access_token() (*beem.hivesigner.HiveSigner method*), 140
- refresh_access_token() (*beem.steemconnect.SteemConnect method*), 163
- refresh_data() (*beem.blockchaininstance.BlockChainInstance method*), 114
- refreshBackup() (*beem.storage.DataDir method*), 165
- remove_draft() (*beem.conveyor.Conveyor method*), 125
- remove_from_dict() (*in module beem.utils*), 170
- removeAccount() (*beem.wallet.Wallet method*), 175
- removePrivateKeyFromPublicKey() (*beem.wallet.Wallet method*), 175
- removeTokenFromPublicName() (*beem.wallet.Wallet method*), 175
- rep (*beem.account.Account attribute*), 89
- rep (*beem.vote.Vote attribute*), 171
- Replies_by_last_update (*class in beem.discussions*), 132
- reply() (*beem.comment.Comment method*), 121
- reply_history() (*beem.account.Account method*), 89
- reputation (*beem.vote.Vote attribute*), 171
- reputation_to_score() (*in module beem.utils*), 170
- request_send() (*beemapi.graphenerpc.GrapheneRPC method*), 181
- reset() (*beem.snapshot.AccountSnapshot method*), 157
- reset_error_cnt() (*beemapi.node.Nodes method*), 182
- reset_error_cnt_call() (*beemapi.node.Nodes method*), 182
- reset_subscriptions() (*beem.notify.Notify method*), 152
- reset_subscriptions() (*beemapi.websocket.NodeWebsocket method*), 184
- resolve_authorperm() (*in module beem.utils*), 170
- resolve_authorpermvoter() (*in module beem.utils*), 170
- resolve_root_identifier() (*in module beem.utils*), 171
- resteem() (*beem.comment.Comment method*), 121
- results() (*beem.blockchain.Pool method*), 105
- revoke_token() (*beem.hivesigner.HiveSigner method*), 140
- revoke_token() (*beem.steemconnect.SteemConnect method*), 164
- reward (*beem.comment.Comment attribute*), 122
- reward_balances (*beem.account.Account attribute*), 89
- ripemd160() (*in module beemgraphenebase.base58*), 193
- rpc (*beem.wallet.Wallet attribute*), 175
- rpcclose() (*beemapi.graphenerpc.GrapheneRPC method*), 181
- rpccconnect() (*beemapi.graphenerpc.GrapheneRPC method*), 181
- RPCCConnection, 179
- RPCCConnectionRequired, 133
- RPCError, 179
- RPCErrorDoRetry, 179

`rpcexec()` (*beemapi.graphenerpc.GrapheneRPC method*), 181

`rpcexec()` (*beemapi.noderpc.NodeRPC method*), 182

`rpcexec()` (*beemapi.websocket.NodeWebsocket method*), 184

`rpclogin()` (*beemapi.graphenerpc.GrapheneRPC method*), 181

`rshares` (*beem.vote.Vote attribute*), 171

`rshares_to_hbd()` (*beem.hive.Hive method*), 138

`rshares_to_sbd()` (*beem.steem.Steem method*), 160

`rshares_to_vote_pct()` (*beem.hive.Hive method*), 138

`rshares_to_vote_pct()` (*beem.steem.Steem method*), 160

`run()` (*beem.blockchain.Pool method*), 105

`run()` (*beem.blockchain.Worker method*), 105

`run_forever()` (*beemapi.websocket.NodeWebsocket method*), 184

S

`SaltException`, 195

`sanitize_permalink()` (*in module beem.utils*), 171

`save_draft()` (*beem.conveyor.Conveyor method*), 125

`saveEncryptedMaster()` (*beem.storage.MasterPassword method*), 166

`saving_balances` (*beem.account.Account attribute*), 89

`sbd` (*beem.vote.Vote attribute*), 172

`sbd_symbol` (*beem.steem.Steem attribute*), 160

`sbd_to_rshares()` (*beem.steem.Steem method*), 160

`sbd_to_vote_pct()` (*beem.steem.Steem method*), 160

`search()` (*beem.snapshot.AccountSnapshot method*), 157

`sell()` (*beem.market.Market method*), 146

`seperate_yaml_dict_from_body()` (*in module beem.utils*), 171

`SessionInstance` (*class in beemapi.graphenerpc*), 181

`set_access_token()` (*beem.hivesigner.HiveSigner method*), 140

`set_access_token()` (*beem.steemconnect.SteemConnect method*), 164

`set_cache_auto_clean()` (*beem.blockchainobject.BlockchainObject method*), 105

`set_cache_expiration()` (*beem.blockchainobject.BlockchainObject method*), 105

`set_default_account()` (*beem.blockchaininstance.BlockChainInstance method*), 115

`set_default_nodes()` (*beem.blockchaininstance.BlockChainInstance method*), 115

`set_default_vote_weight()` (*beem.blockchaininstance.BlockChainInstance method*), 115

`set_expiration()` (*beem.transactionbuilder.TransactionBuilder method*), 169

`set_mnemonic()` (*beem-graphenebase.account.MnemonicKey method*), 191

`set_next_node_on_empty_reply()` (*beemapi.noderpc.NodeRPC method*), 183

`set_node_urls()` (*beemapi.node.Nodes method*), 182

`set_parameter()` (*beem.asciichart.AsciiChart method*), 96

`set_password_storage()` (*beem.blockchaininstance.BlockChainInstance method*), 115

`set_path()` (*beemgraphenebase.account.MnemonicKey method*), 191

`set_path_BIP32()` (*beem-graphenebase.account.MnemonicKey method*), 191

`set_path_BIP44()` (*beem-graphenebase.account.MnemonicKey method*), 191

`set_path_BIP48()` (*beem-graphenebase.account.MnemonicKey method*), 191

`set_session_instance()` (*in module beemapi.graphenerpc*), 181

`set_shared_blockchain_instance()` (*in module beem.instance*), 141

`set_shared_config()` (*in module beem.instance*), 141

`set_shared_hive_instance()` (*in module beem.instance*), 141

`set_shared_steem_instance()` (*in module beem.instance*), 141

`set_user_data()` (*beem.conveyor.Conveyor method*), 125

`set_username()` (*beem.hivesigner.HiveSigner method*), 140

`set_username()` (*beem.steemconnect.SteemConnect method*), 164

`set_withdraw_vesting_route()` (*beem.account.Account method*), 89

`setKeys()` (*beem.wallet.Wallet method*), 175

`setproxy()` (*beem.account.Account method*), 90

`SetPublic()` (*beemgraphenebase.bip32.BIP32Key method*), 194

- [setToken\(\)](#) (*beem.wallet.Wallet method*), 175
[shared_blockchain_instance\(\)](#) (in module *beem.instance*), 141
[shared_hive_instance\(\)](#) (in module *beem.instance*), 142
[shared_session_instance\(\)](#) (in module *beemapi.graphenerpc*), 181
[shared_steem_instance\(\)](#) (in module *beem.instance*), 142
[SharedInstance](#) (class in *beem.instance*), 141
[sign\(\)](#) (*beem.blockchaininstance.BlockChainInstance method*), 115
[sign\(\)](#) (*beem.message.Message method*), 150
[sign\(\)](#) (*beem.transactionbuilder.TransactionBuilder method*), 169
[sign\(\)](#) (*beembase.signedtransactions.Signed_Transactions method*), 188
[sign\(\)](#) (*beemgraphenebase.signedtransactions.Signed_Transactions method*), 196
[sign_message\(\)](#) (in module *beem-graphenebase.ecdsasig*), 195
[Signed_Transaction](#) (class in *beem-base.signedtransactions*), 188
[Signed_Transaction](#) (class in *beem-graphenebase.signedtransactions*), 196
[SIGNING_KEY](#)
 beem-py-witnessenable command line option, 52
[sleep_and_check_retries\(\)](#) (*beemapi.node.Nodes method*), 182
[SocialActionCommentCreate](#) (class in *beem-base.objects*), 187
[SocialActionCommentDelete](#) (class in *beem-base.objects*), 187
[SocialActionCommentUpdate](#) (class in *beem-base.objects*), 187
[SocialActionVariant](#) (class in *beembase.objects*), 187
[sp](#) (*beem.account.Account attribute*), 90
[sp_to_rshares\(\)](#) (*beem.steem.Steem method*), 160
[sp_to_sbd\(\)](#) (*beem.steem.Steem method*), 161
[sp_to_vests\(\)](#) (*beem.steem.Steem method*), 161
[space_id](#) (*beem.blockchainobject.BlockchainObject attribute*), 105
[sqlDataBaseFile](#) (*beem.storage.DataDir attribute*), 165
[sqlite3_backup\(\)](#) (*beem.storage.DataDir method*), 165
[sqlite3_copy\(\)](#) (*beem.storage.DataDir method*), 165
[Steem](#) (class in *beem.steem*), 158
[steem_btc_ticker\(\)](#) (*beem.market.Market static method*), 146
[steem_symbol](#) (*beem.steem.Steem attribute*), 161
[steem_usd_implied\(\)](#) (*beem.market.Market method*), 147
[SteemConnect](#) (class in *beem.steemconnect*), 162
[stop\(\)](#) (*beemapi.websocket.NodeWebsocket method*), 184
[storageDatabase](#) (*beem.storage.DataDir attribute*), 165
[str_to_bytes\(\)](#) (*beem.aes.AESCipher static method*), 94
[stream\(\)](#) (*beem.blockchain.Blockchain method*), 103
[suggest\(\)](#) (*beemgraphenebase.account.BrainKey method*), 190
[switch_blockchain\(\)](#) (*beem.blockchaininstance.BlockChainInstance method*), 115
[symbol](#) (*beem.amount.Amount attribute*), 95
[symbol](#) (*beem.asset.Asset attribute*), 97
[symbolize\(\)](#) (*beem.price.Price method*), 154
- ## T
- [test\(\)](#) (in module *beemgraphenebase.bip32*), 194
[test_valid_objectid\(\)](#) (*beem.blockchainobject.BlockchainObject method*), 105
[testid\(\)](#) (*beem.blockchainobject.BlockchainObject method*), 105
[ticker\(\)](#) (*beem.market.Market method*), 147
[time](#) (*beem.vote.Vote attribute*), 172
[time\(\)](#) (*beem.block.Block method*), 98
[time\(\)](#) (*beem.block.BlockHeader method*), 99
[time_elapsed\(\)](#) (*beem.comment.Comment method*), 122
[TimeoutException](#), 179
[title](#) (*beem.comment.Comment attribute*), 122
[TO](#)
 beem-py-powerdownroute command line option, 42
 beem-py-transfer command line option, 48
[TO_ACCOUNT](#)
 beem-py-delegate command line option, 28
[to_entropy\(\)](#) (*beem-graphenebase.account.Mnemonic method*), 190
[to_mnemonic\(\)](#) (*beem-graphenebase.account.Mnemonic method*), 190
[to_seed\(\)](#) (*beemgraphenebase.account.Mnemonic class method*), 190
[toJson\(\)](#) (*beemgraphenebase.objects.GrapheneObject method*), 196
[token](#) (*beem.wallet.Wallet attribute*), 175
[Token](#) (class in *beem.storage*), 166

`token_symbol` (*beem.blockchaininstance.BlockChainInstance* attribute), 115

`tokenStorage` (*beem.wallet.Wallet* attribute), 175

`total_balances` (*beem.account.Account* attribute), 90

`tp` (*beem.account.Account* attribute), 90

`trade_history()` (*beem.market.Market* method), 147

`trades()` (*beem.market.Market* method), 147

`TransactionBuilder` (class *beem.transactionbuilder*), 167

`transactions` (*beem.block.Block* attribute), 98

`transfer()` (*beem.account.Account* method), 90

`transfer()` (*beem.rc.RC* method), 156

`transfer_dict()` (*beem.rc.RC* method), 156

`transfer_from_savings()` (*beem.account.Account* method), 90

`transfer_to_savings()` (*beem.account.Account* method), 91

`transfer_to_vesting()` (*beem.account.Account* method), 91

`Trending_tags` (class in *beem.discussions*), 132

`tryUnlockFromEnv()` (*beem.wallet.Wallet* method), 176

`tuple()` (*beem.amount.Amount* method), 95

`tx()` (*beem.blockchaininstance.BlockChainInstance* method), 115

`txbuffer` (*beem.blockchaininstance.BlockChainInstance* attribute), 115

`type_id` (*beem.account.Account* attribute), 91

`type_id` (*beem.asset.Asset* attribute), 97

`type_id` (*beem.blockchainobject.BlockchainObject* attribute), 105

`type_id` (*beem.comment.Comment* attribute), 122

`type_id` (*beem.vote.Vote* attribute), 172

`type_id` (*beem.witness.Witness* attribute), 177

`type_ids` (*beem.blockchainobject.BlockchainObject* attribute), 106

`unlock()` (*beem.blockchaininstance.BlockChainInstance* method), 115

`unlock()` (*beem.wallet.Wallet* method), 176

`unlock_wallet()` (*beem.memo.Memo* method), 150

`unlock_wallet()` (*beem.wallet.Wallet* method), 176

`UnnecessarySignatureDetected`, 179

`update()` (*beem.snapshot.AccountSnapshot* method), 157

`update()` (*beem.witness.Witness* method), 177

`update_account()` (*beem.blockchaininstance.BlockChainInstance* method), 115

`update_account_jsonmetadata()` (*beem.account.Account* method), 91

`update_account_keys()` (*beem.account.Account* method), 91

`update_account_metadata()` (*beem.account.Account* method), 92

`update_account_profile()` (*beem.account.Account* method), 92

`update_in_vote()` (*beem.snapshot.AccountSnapshot* method), 157

`update_memo_key()` (*beem.account.Account* method), 92

`update_nodes()` (*beem.nodelist.NodeList* method), 151

`update_out_vote()` (*beem.snapshot.AccountSnapshot* method), 157

`update_proposal_votes()` (*beem.blockchaininstance.BlockChainInstance* method), 116

`update_rewards()` (*beem.snapshot.AccountSnapshot* method), 158

`update_user_metadata()` (*beem.hivesigner.HiveSigner* method), 140

`update_user_metadata()` (*beem.steemconnect.SteemConnect* method), 164

`updateToken()` (*beem.storage.Token* method), 167

`updateWif()` (*beem.storage.Key* method), 166

`upload()` (*beem.imageuploader.ImageUploader* method), 141

`upvote()` (*beem.comment.Comment* method), 122

`url` (*beemapi.node.Nodes* attribute), 182

`url_from_tx()` (*beem.hivesigner.HiveSigner* method), 140

`url_from_tx()` (*beem.steemconnect.SteemConnect* method), 164

U

`UnauthorizedError`, 179

`unCompressed()` (*beem-graphenebase.account.PublicKey* method), 192

UNFOLLOW

beem-unfollow command line option, 48

`unfollow()` (*beem.account.Account* method), 91

`UnhandledRPCError`, 179

`UnkownKey`, 179

`unlock()` (*beem.blockchaininstance.BlockChainInstance* method), 115

`unlock()` (*beem.wallet.Wallet* method), 176

`unlock_wallet()` (*beem.memo.Memo* method), 150

V

VALUE

beem-set command line option, 45

beem-setprofile command line option, 46

VARIABLE

beem-delprofile command line option, 29

- beem-py-setprofile command line option, 46
- verify() (*beem.message.Message* method), 150
- verify() (*beembase.signedtransactions.Signed_Transaction* method), 188
- verify() (*beemgraphenebase.signedtransactions.Signed_Transaction* method), 197
- verify_account_authority() (*beem.account.Account* method), 92
- verify_authority() (*beem.transactionbuilder.TransactionBuilder* method), 169
- verify_message() (in module *beem-graphenebase.ecdsasig*), 195
- version_string_to_int() (*beemapi.graphenerpc.GrapheneRPC* method), 181
- vest_token_symbol (*beem.blockchaininstance.BlockChainInstance* attribute), 116
- VestingBalanceDoesNotExistsException, 134
- vests_symbol (*beem.hive.Hive* attribute), 138
- vests_symbol (*beem.steem.Steem* attribute), 161
- vests_to_hbd() (*beem.hive.Hive* method), 138
- vests_to_hp() (*beem.hive.Hive* method), 138
- vests_to_rshares() (*beem.blockchaininstance.BlockChainInstance* method), 116
- vests_to_rshares() (*beem.hive.Hive* method), 138
- vests_to_rshares() (*beem.steem.Steem* method), 161
- vests_to_sbd() (*beem.steem.Steem* method), 161
- vests_to_sp() (*beem.steem.Steem* method), 162
- virtual_op_count() (*beem.account.Account* method), 93
- volume24h() (*beem.market.Market* method), 147
- Vote (class in *beem.vote*), 171
- vote() (*beem.blockchaininstance.BlockChainInstance* method), 117
- vote() (*beem.comment.Comment* method), 122
- vote() (*beem.rc.RC* method), 156
- vote_dict() (*beem.rc.RC* method), 156
- VotedBeforeWaitTimeReached, 179
- VoteDoesNotExistsException, 134
- votee (*beem.vote.Vote* attribute), 172
- voter (*beem.vote.Vote* attribute), 172
- VotesObject (class in *beem.vote*), 172
- VotingInvalidOnArchivedPost, 134
- vp (*beem.account.Account* attribute), 93
- Wallet (class in *beem.wallet*), 172
- WalletExists, 134
- WalletImportFormat() (*beem-graphenebase.bip32.BIP32Key* method), 194
- Transaction, 134
- weight (*beem.vote.Vote* attribute), 172
- WIF
 - beem-py-witnessfeed command line option, 53
 - beem-py-witnessproperties command line option, 54
- wipe() (*beem.storage.Key* method), 166
- wipe() (*beem.storage.MasterPassword* static method), 166
- wipe() (*beem.storage.Token* method), 167
- wipe() (*beem.wallet.Wallet* method), 176
- withdraw_vesting() (*beem.account.Account* method), 93
- WITNESS
 - beem-py-approvewitness command line option, 22
 - beem-py-disapprovewitness command line option, 31
 - beem-py-witness command line option, 51
 - beem-py-witnesscreate command line option, 52
 - beem-py-witnessdisable command line option, 52
 - beem-py-witnessenable command line option, 52
 - beem-py-witnessfeed command line option, 53
 - beem-py-witnessproperties command line option, 54
- Witness (class in *beem.witness*), 176
- witness_set_properties() (*beem.blockchaininstance.BlockChainInstance* method), 117
- witness_update() (*beem.blockchaininstance.BlockChainInstance* method), 117
- WitnessDoesNotExistsException, 134
- Witnesses (class in *beem.witness*), 177
- WitnessesObject (class in *beem.witness*), 177
- WitnessesRankedByVote (class in *beem.witness*), 178
- WitnessesVotedByAccount (class in *beem.witness*), 178
- WitnessProps (class in *beembase.objects*), 187
- Worker (class in *beem.blockchain*), 105
- working_nodes_count (*beemapi.node.Nodes* attribute), 182
- WorkingNodeMissing, 179

W

- wait_for_and_get_block() (*beem.blockchain.Blockchain* method), 104

`WrongMasterPasswordException`, [134](#)
`WrongMemoKey`, [134](#)
`ws_send()` (*beemapi.graphenerpc.GrapheneRPC*
 method), [181](#)