



Overview of

# Monero Wallet and Daemon Interfaces and Types

based on Monero Core v0.14.0.0

*Draft 1 - February 23, 2019*

JavaScript reference implementation: <https://github.com/monero-ecosystem/monero-javascript>

Document source: <https://github.com/monero-ecosystem/monero-javascript/blob/master/monero-model.xml>

Document source created and modifiable using: <https://www.draw.io/>

## Daemon Interface 1/2

MoneroDaemon
isTrusted(): boolean
getHeight(): int
getBlockId(height): string
getBlockTemplate(walletAddress, reserveSize): MoneroBlockTemplate
getLastBlockHeader(): MoneroBlockHeader
getBlockHeaderById(blockId): MoneroBlockHeader
getBlockHeaderByHeight(height): MoneroBlockHeader
getBlockHeadersByRange(startHeight, endHeight): list<MoneroBlockHeader>
getBlockById(blockId): MoneroBlock
getBlocksById(blockIds, startHeight, prune): list<MoneroBlock>
getBlockByHeight(height): MoneroBlock
getBlocksByHeight(heights): list<MoneroBlock>
getBlocksByRange(startHeight, endHeight): list<MoneroBlock>
getBlockIds(blockIds, startHeight): list<string>
getTx(txId, prune): MoneroTx
getTxs(txIds, prune): list<MoneroTx>
getTxHex(txId, prune): string
getTxHexes(txIds, prune): list<string>
getCoinbaseTxSum(height, numBlocks): MoneroCoinbaseTxSum
getFeeEstimate(graceBlocks): BigInteger
submitTxHex(txHex, doNotRelay): MoneroSubmitTxResult
relayTxById(txId): string
relayTxSById(txIds): list<string>
getTxPool(): list<MoneroTx>
getTxPoolIds(): list<string>
getTxPoolBacklog(): list<MoneroTxBacklogEntry>
getTxPoolStats(): MoneroTxPoolStats
flushTxPool(ids): list<string>
getSpentStatus(keyImage): MoneroKeyImageSpentStatus
getSpentStatuses(keyImages): list<MoneroKeyImageSpentStatus>
getOutputs(outputs): list<MoneroOutput>
getOutputHistogram(amounts, minCount, maxCount, isUnlocked, recentCutoff): list<MoneroOutputHistogramEntry>
getOutputDistribution(amounts, cumulative, startHeight, endHeight): list<MoneroOutputDistributionEntry>
getInfo(): MoneroDaemonInfo
getSyncInfo(): MoneroDaemonSyncInfo
getHardForkInfo(): MoneroDaemonHardForkInfo
getAltChains(): list<MoneroAltChain>
getAltBlockIds(): list<string>

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getDownloadLimit(): int
setDownloadLimit(limit): void
resetDownloadLimit(): int
getUploadLimit(): int
setUploadLimit(limit): void
resetUploadLimit(): int
getKnownPeers(): list<MoneroDaemonPeer>
getConnections(): list<MoneroDaemonConnection>
setOutgoingPeerLimit(limit): void
setIncomingPeerLimit(limit): void
getPeerBans(): list<MoneroBan>
setPeerBan(ban): void
setPeerBans(bans): void
startMining(address, numThreads, isBackground, ignoreBattery): void
stopMining(): void
getMiningStatus(): MoneroMiningStatus
submitBlock(blockBlob): void
submitBlocks(blockBlobs): void
checkForUpdate(path): MoneroDaemonUpdateCheckResult
downloadUpdate(path): MoneroDaemonDownloadUpdateResult
stop(): void

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Daemon Types 1/3

MoneroBlock
header: MoneroBlockHeader
hex: string
coinbase_tx: MoneroTx
txs: list<MoneroTx>
tx_ids: list<string>

MoneroDaemonInfo
version: string
num_alt_blocks: int
block_size_limit: int
block_size_median: int
block_weight_limit: int
block_weight_median: int
bootstrap_daemon_address: string
difficulty: int
cumulative_difficulty: int
free_space: int
num_offline_peers: int
num_online_peers: int
height: int
height_without_bootstrap: int
network_type: MoneroNetworkType
is_offline: boolean
num_incoming_connections: int
num_outgoing_connections: int
num_rpc_connections: int
start_timestamp: int
target: int
target_height: int
top_block_id: string
num_txs: int
num_txs_pool: int
was_bootstrap_ever_used: boolean
database_size: int
update_available: boolean

MoneroBlockHeader
id: string
height: int
timestamp: long
size: long
weight: long
long_term_weight: int
depth: long
difficulty: long
cumulative_difficulty: long
major_version: int
minor_version: int
nonce: long
num_txs: int
orphan_status: boolean
prev_id: string
reward: BigInteger
pow_hash: string

MoneroOutput
tx: MoneroTx
key_image: MoneroKeyImage
amount: BigInteger
index: int
ring_output_indices: list<int>
stealth_public_key: string

MoneroKeyImage
hex: string
signature: string

<<enumeration>> MoneroKeyImageSpentStatus
not_spent: 0
confirmed: 1
tx_pool: 2

MoneroTx
block: MoneroBlock
height: int
id: string
version: string
is_coinbase: boolean
payment_id: string
fee: BigInteger
mixin: integer
do_not_relay: boolean
is_relayed: boolean
is_confirmed: boolean
in_tx_pool: boolean
num_confirmations: int
num_estimated_blocks_until_confirmed: int
unlock_time: int
last_relayed_timestamp: int
received_timestamp: int
is_double_spend: boolean
key: string
hex: string
pruned_hex: string
prunable_hex: string
prunable_hash: string
size: int
weight: int
vins: list<MoneroOutput>
vouts: list<MoneroOutput>
output_indices: list<int>
metadata: string
common_tx_sets: ?
extra: list<int>
rct_signatures: list<string>
rct_sig_prunable: TODO
is_kept_by_block: boolean
is_failed: boolean
last_failed_height: int

Daemon Types 2/3

MoneroDaemonSyncInfo
height: int
connections: list<MoneroDaemonConnection>
spans: list<MoneroDaemonConnectionSpan>
target_height: int
next_needed_pruning_seed: int
overview: ?

MoneroDaemonConnection
peer: MoneroDaemonPeer
id: string
avg_download: int
avg_upload: int
current_download: int
current_upload: int
height: int
is_incoming: boolean
live_time: long
is_local_ip: boolean
is_local_host: boolean
num_receives: int
num_sends: int
receive_idle_time: long
send_idle_time: long
state: string
num_support_flags: int

last_failed_id: string
max_used_block_height: int
max_used_block_id: string
signatures: list<string>

MoneroDaemonPeer
id: string
address: string
host: string
port: int
is_online: boolean
last_seen_timestamp: int
pruning_seed: int

MoneroHardForkInfo
earliest_height: int
is_enabled: boolean
state: int
threshold: int
version: string
num_votes: int
window: int
voting: int

MoneroBan
host: string
ip: string
is_banned: boolean
seconds: long

MoneroSubmitTxResult
is_good: boolean
is_relayed: boolean
is_double_spend: boolean
is_fee_too_low: boolean
is_mixin_too_low: boolean
has_invalid_input: boolean
has_invalid_output: boolean
is_rct: boolean
is_overspend: boolean
is_too_big: boolean
reason: string

MoneroTxPoolStats
num_txs: int
num_not_relayed: int
num_failing: int
num_double_spends: int
num_10m: int
fee_total: BigInteger
bytes_max: int
bytes_med: int
bytes_min: int
bytes_total: int
histo: ?
histo_98pc: int
oldest_timestamp: int

MoneroBlockTemplate
block_template_blob: string
block_hashing_blob: string
difficulty: long
expected_reward: BigInteger
height: int
prev_id: string
reserved_offset: int

<<enumeration>> MoneroNetworkType
mainnet: 0
testnet: 1
stagenet: 2

MoneroMiningStatus
is_active: boolean
is_background: boolean
address: string
speed: int
num_threads: int

Daemon Types 3/3

MoneroAltChain
block_ids: list<string>
difficulty: long
height: int
length: int
main_chain_parent_block_id: string

MoneroDaemonUpdateCheckResult
is_update_available: boolean
version: string
hash: string
auto_uri: string
user_uri: string

MoneroOutputHistogramEntry
amount: BigInteger
num_instances: int
num_unlocked_instances: int
num_recent_instances: int



Extends

MoneroDaemonUpdateDownloadResult
download_path: string

MoneroCoinbaseTxSum
emission_sum: BigInteger
fee_sum: BigInteger

MoneroWallet
getSeed(): string
getMnemonic(): string
getPublicViewKey(): string
getPrivateViewKey(): string
getLanguages(): list<string>
getHeight(): int
getChainHeight(): int
getPrimaryAddress(): string
getIntegratedAddress(paymentId): MoneroIntegratedAddress
decodeIntegratedAddress(integratedAddress): MoneroIntegratedAddress
sync(startHeight, endHeight, onProgress): MoneroSyncResult
isMultisigImportNeeded(): boolean
getAccounts(includeSubaddresses): list<MoneroAccount>
getAccount(accountIdx, includeSubaddresses): MoneroAccount
createAccount(label): MoneroAccount
getSubaddresses(accountIdx, subaddressIndices): list<MoneroSubaddress>
getSubaddress(accountIdx, subaddressIdx): MoneroSubaddress
createSubaddress(accountIdx, label): MoneroSubaddress
getAddress(accountIdx, subaddressIdx): string
getAddressIndex(address): int
getBalance(accountIdx, subaddressIdx): BigInteger
getUnlockedBalance(accountIdx, subaddressIdx): BigInteger
getTxn(config): list<MoneroWalletTx>
getTransfers(config): list<MoneroTransfer>
getVouts(config): list<MoneroWalletOutput>
getKeyImages(): list<MoneroKeyImage>
importKeyImages(keyImages): MoneroKeyImageImportResult
getNewKeyImagesFromLastImport(): list<MoneroKeyImage>
send(configOrAddress, sendAmount, priority): MoneroWalletTx
sendSplit(configOrAddress, sendAmount, priority): MoneroWalletTx
sweepWallet(address): list<MoneroWalletTx>
sweepAccount(accountIdx, address): list<MoneroWalletTx>
sweepSubaddress(accountIdx, subaddressIdx, address): list<MoneroWalletTx>
sweepUnlocked(config): list<MoneroWalletTx>
sweepDust(doNotRelay): list<MoneroWalletTx>
sweepOutput(configOrAddress, keyImage, priority): list<MoneroWalletTx>
relayTx(txMetadata): MoneroWalletTx
relayTxn(txMetadata): list<MoneroWalletTx>

Wallet Interface 2/2

getTxNote(txId): string
setTxNote(txId, note): void
getTxNotes(txIds): list<string>
setTxNotes(txIds, notes): void
sign(msg): string
verify(msg, address, signature): boolean
getTxKey(txId): string
checkTxKey(txId, txKey, address): MoneroCheckTx
getTxProof(txId, address, message): string
checkTxProof(txId, address, message, signature): MoneroCheckTx
getSpendProof(txId, message): string
checkSpendProof(txId, message, signature): boolean
getReserveProofWallet(message): string
getReserveProofAccount(accountIdx, amount, message): string
checkReserveProof(address, message, signature): MoneroCheckReserve
getAddressBookEntries(entryIndices): list<MoneroAddressBookEntry>
addAddressBookEntry(address, description, paymentId): int
deleteAddressBookEntry(entryIdx): void
getTxProof(txId, address, message): string
tagAccounts(tag, accountIndices): void
untagAccounts(accountIndices): void
getAccountTags(): list<MoneroAccountTag>
setAccountTagLabel(tag, label): void
createPaymentUri(sendConfig): string
parsePaymentUri(uri): MoneroSendConfig
getOutputsHex(): string
importOutputsHex(outputsHex): int
setAttribute(key, val): void
getAttribute(key): string
startMining(numThreads, backgroundMining, ignoreBattery): void
stopMining(): void



Wallet Types 1/1

MoneroAccount
index: int
primary_address: string
label: string
balance: BigInteger
unlocked_balance: BigInteger
subaddresses: list<MoneroSubaddress>

MoneroAccountTag
tag: string
label: string
account_indices: list<int>

MoneroAddressBookEntry
index: int
address: string
payment_id: string
description: string

MoneroIntegratedAddress
standard_address: string
payment_id: string
integrated_address: string

MoneroSubaddress
account_index: int
index: int
address: string
label: string
balance: BigInteger
unlocked_balance: BigInteger
num_unspent_outputs: int
is_used: boolean

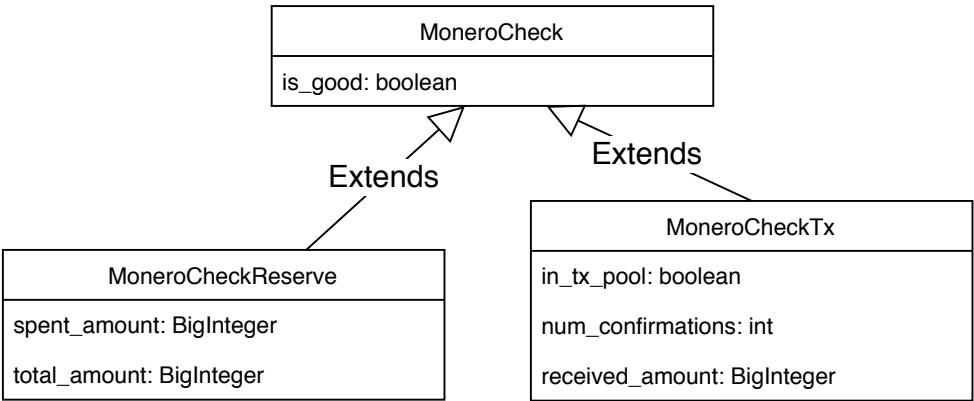
MoneroDestination
address: string
amount: BigInteger

MoneroWalletOutput extends MoneroOutput
account_index: int
subaddress_index: int
is_spent: boolean

<<enumeration>> MoneroSendPriority
default: 0
unimportant: 1
normal: 2
elevated: 3

MoneroWalletTx extends MoneroTx
incoming_amount: BigInteger
outgoing_amount: BigInteger
incoming_transfers: list<MoneroTransfer>
outgoing_transfer: MoneroTransfer
note: string

MoneroTransfer
tx: MoneroWalletTx
is_outgoing: boolean
is_incoming: boolean
address: string
account_index: int
subaddress_index: int
amount: BigInteger
destinations: list<MoneroDestination>



MoneroKeyImageImportResult
height: int
spent_amount: BigInteger
unspent_amount: BigInteger