



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> |

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

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 |
| getTxs(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 |
| relayTxs(txMetadatas): 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 |

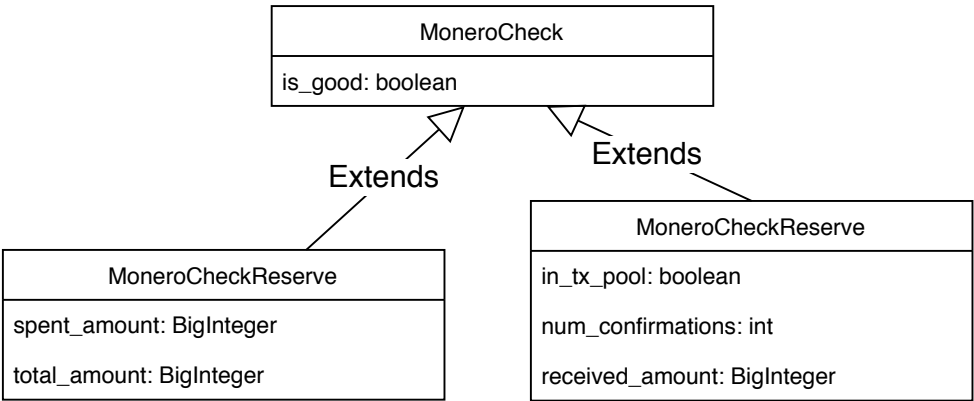
| MoneroDestination |
|--------------------|
| address: string |
| amount: BigInteger |

| 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 |