

Dash Wallet Integration

Dash Core v0.12.3.x (<https://github.com/dashpay/dash/releases>) is a fork of Bitcoin and the majority of functionality included in the Dash Core Daemon can be integrated in a similar manner. Key differences relate to customizations to existing JSON-RPC commands to support unique functionalities such as InstantSend. These differences, as well as more general information, is summarized below:

1. **General Information:** Dash is a “Proof of Work” blockchain with attributes similar to that of Bitcoin.
 - a. Block Time: ~2.6 Minutes per Block
 - b. Blockchain Confirmations: 6 Confirmations (or 1 in the case of InstantSend)
 - c. Github Source: <https://github.com/dashpay/dash>
 - d. Release Link: <https://github.com/dashpay/dash/releases>
2. **JSON-RPC Interface:** The majority of Bitcoin JSON-RPC commands are unchanged making integration into existing systems relatively straightforward. For a complete listing of RPC commands see: <https://dash-docs.github.io/en/developer-guide>.

It's worth noting that several key Transaction-related JSON-RPC commands have been modified to support InstantSend through the addition of a “InstantLock” field and are listed below:

- a. GetTransaction: <https://dash-docs.github.io/en/developer-reference#gettransaction>
 - b. ListTransactions: <https://dash-docs.github.io/en/developer-reference#listtransactions>
 - c. ListSinceBlock: <https://dash-docs.github.io/en/developer-reference#listsinceblock>
3. **Block Hashing Algorithm:** Dash uses the “X11” algorithm in place of SHA256 used in Bitcoin. It's important to note, however, that this only affects the hashing of the Block itself. All other internals utilize SHA256 hashes (transactions, merkle root, etc) which allows for most existing libraries to work in the Dash ecosystem.
4. **Supporting Libraries:** Due to the aforementioned differences in Hashing Algorithm only minor adjustments are required before using Bitcoin libraries on the Dash network. The most popular libraries have already been ported to Dash which has enabled support for most major programming languages. These resources are outlined in the “Dash Software Development Kits” section of this document.

Dash Software Development Kits (SDKs)

Software Development Kits are used to accelerate the design and development of a product for the Dash Network. Generally speaking, these resources can either be used to form transactions and/or perform various wallet services.

- **NodeJS / JavaScript:** Bitcore (Dashcore)
Documentation: <https://bitcore.io/api/lib>
Repository: <https://github.com/dashevo/dashcore-lib>
- **PHP:** Bitcoin-PHP
Documentation: <https://github.com/Bit-Wasp/bitcoin-php/blob/master/doc/Introduction.md>
Repository: <https://github.com/Bit-Wasp/bitcoin-php>
- **Python:** PyCoin
Documentation: <https://media.readthedocs.org/pdf/pycoin/latest/pycoin.pdf>
Repository: <https://github.com/richardkiss/pycoin>
- **Java:** DashJ
Documentation: <https://bitcoinj.github.io/getting-started>
Repository: <https://github.com/HashEngineering/dashj>
- **.NET:** NBitcoin
Documentation: <https://programmingblockchain.gitbooks.io/programmingblockchain/content/>
Repository: <https://github.com/MetacoSA/NBitcoin>