

# Zaino State – The Zcash Indexing Library v0.2.0

Zaino-state provides a high-performance chain fetch and transaction submission service for Zcash. Designed to handle high-concurrency workloads, it offers all the functionality non-validator clients - such as wallets and block explorers - need to interact with the Zcash blockchain, without the overhead of integrating with a full node (validator).

## Future Enhancements:

- Lightweight gRPC Backend: Enabling light (standalone) wallets to leverage Zaino's unified indexing service.
- Nym Backend Integration: Allowing clients to obfuscate their identities from Zcash servers.
- Darkside Testing Mode: Providing an alternative testing environment to lightwalletd's darkside mode.
- Remote ReadStateService: Enabling remote deployment with Zebiad.

<b>IndexerService</b> <InnerService>	<b>IndexerServiceSubscriber</b> <InnerServiceSubscriber>	<b>Mempool</b>	<b>BlockCache</b>
<ul style="list-style-type: none"><li>- InnerServices:</li><li>- FetchService</li><li>- StateService</li><li>- Contains:</li><li>- JsonRpcConnector</li><li>- Mempool</li><li>- ReadStateService (*StateService)</li><li>- BlockCache (*FetchService)</li><li>- AtomicStatus</li><li>- Implements traits:</li><li>- ZcashService</li></ul>	<ul style="list-style-type: none"><li>- InnerServiceSubscribers:</li><li>- FetchServiceSubscriber</li><li>- StateServiceSubscriber</li><li>- Contains:</li><li>- JsonRpcConnector</li><li>- MempoolSubscriber</li><li>- ReadStateService (*StateService)</li><li>- BlockCacheSubscriber (*FetchService)</li><li>- AtomicStatus</li><li>- Implements traits:</li><li>- ZcashIndexer</li><li>- LightwalletIndexer</li></ul>	<ul style="list-style-type: none"><li>- Contains:</li><li>- JsonRpcConnector</li><li>- Broadcast &lt;Txid, RawTransaction&gt;</li><li>- AtomicStatus</li><li>- Methods:</li><li>- spawn, subscriber, status, close.</li><li>- Subscriber Methods:</li><li>- get_mempool</li><li>- get_filtered_mempool</li><li>- get_mempool_stream</li><li>- status</li></ul>	<ul style="list-style-type: none"><li>- Contains:</li><li>- JsonRpcConnector</li><li>- NonFinalisedState</li><li>- FinalisedState</li><li>- AtomicStatus</li><li>- Methods:</li><li>- spawn, subscriber, status, close.</li><li>- Subscriber Methods:</li><li>- get_compact_block</li><li>- get_compact_block_nullifiers</li><li>- get_chain_height</li><li>- status</li></ul>
<b>NonFinalisedState</b>	<b>FinalisedState</b>	<b>Internal Modules</b>	<b>Traits</b>
<ul style="list-style-type: none"><li>- Contains:</li><li>- JsonRpcConnector</li><li>- Broadcast &lt;Height, Hash&gt;</li><li>- Broadcast &lt;Hash, CompactBlock&gt;</li><li>- AtomicStatus</li><li>- Methods:</li><li>- spawn, subscriber, status, wait_on_server, close.</li><li>- Subscriber Methods:</li><li>- get_compact_block</li><li>- get_chain_height</li><li>- contains_heights_or_hashes</li><li>- status</li></ul>	<ul style="list-style-type: none"><li>- Contains:</li><li>- JsonRpcConnector</li><li>- LMDB Environment &lt;ZainoDB&gt;</li><li>- LMDB Database &lt;Height, Hash&gt;</li><li>- LMDB Database &lt;Hash, CompactBlock&gt;</li><li>- AtomicStatus</li><li>- Methods:</li><li>- spawn, subscriber, status, close.</li><li>- Subscriber Methods:</li><li>- get_compact_block</li><li>- status</li></ul>	<ul style="list-style-type: none"><li>- config (pub):</li><li>- Configuration structs and logic.</li><li>- error (pub):</li><li>- Custom error types.</li><li>- status (pub):</li><li>- Thread safe status implementation.</li><li>- stream (pub):</li><li>- gRPC streaming types.</li><li>- broadcast:</li><li>- A thread-safe broadcaster.</li><li>- utils:</li><li>- Build and metadata fetch logic.</li></ul>	<ul style="list-style-type: none"><li>- ZcashService:</li><li>- Functionality required by IndexerService InnerServices.</li><li>- ZcashIndexer:</li><li>- Zcash RPC definitions.</li><li>- LightwalletIndexer</li><li>- Lightwallet gRPC Definitions.</li></ul>

IndexerService Method Call / Result

