한 번에 끝내는
블록체인 개발 A to Z

Chapter 3

Name Service Program

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Develop Name Service Program 2

Create

Create an empty name record.

The address of the name record is a program-derived address with the following seeds to ensure uniqueness.

- SHA256(HASH_PREFIX, `name`)
- Account class
- Parent name record address

If this is a child record, the parent record’s owner must approve by signing

Create - Accounts

Accounts expected by this instruction

Property	Name	Program-Derived Account	System Account
[]	System Program	N	Y
[writable, signer]	Funding Account	N	Y
[writable]	Name Record	Y	N
[]	Account Owner	N	Y
[signer, (optional)]	Account class	N	Y
[(optional)]	Parent Name Record	Y	N
[signer, (optional)]	Owner of Parent Name Record	N	Y

Create - inputs

- hashed_name: Vec<u8>
  => SHA256 of the (HASH_PREFIX + Name) of the record to create, hashing is done off-chain

- lamports: u64
  => Number of lampposts to fund the name record with

- space: u32
  => Number of bytes of memory to allocate in addition to the `NameRecordHeader`

Update

Update the data in a name record

There are three possible input scenarios

- Account owner is signer
- Class account is signer
- Parent owner is signer

If this is a child record, the class or parent record’s owner or record’s owner must approve it by signing

Update - Accounts

Accounts expected by this instruction

Case	Property	Name	Program-Derived Account	System Account
Case 1	[writable]	Name record to be updated	Y	N
Case 1	[signer]	Account owner	N	Y
Case 2	[writable]	Name record to be updated	Y	N
Case 2	[signer]	Account class	N	Y
Case 3	[writable]	Name record to be updated	Y	N
Case 3	[signer]	Parent name account owner	N	Y
Case 3	[(optional)]	Parent name record	Y	N

Update - inputs

- offset: u32
  => offset of data in the account data area

- data: Vec<u8>
  => data to insert into the account data area

Transfer

Transfer ownership of a name record

There are three possible input scenarios

- Account owner is signer
- Class account is signer
- Parent owner is signer

If this is a child record, (the class or parent record’s owner) and record’s owner must approve it by signing

Transfer - Accounts

Accounts expected by this instruction

Case	Property	Name	Program-Derived Account	System Account
Case 1	[writable]	Name record to be transferred	Y	N
Case 1	[signer]	Account owner	N	Y
Case 2	[writable]	Name record to be transferred	Y	N
Case 2	[signer]	Account owner	N	Y
Case 2	[signer]	Account class	N	Y
Case 3	[writable]	Name record to be transferred	Y	N
Case 3	[signer]	Account owner	N	Y
Case 3	[signer]	Parent name account owner	N	Y
Case 3	[(optional)]	Parent name record	Y	N

Transfer - inputs

- new_owner: Pubkey
  => recipient of the record

Delete

Delete a name record

Any lampposts remaining in the name record will be transferred to the refund account

Delete - Accounts

Accounts expected by this instruction

Property	Name	Program-Derived Account	System Account
[writable]	Name record to be deleted	Y	N
[signer]	Account owner	N	Y
[writable]	Refund account	N	Y