한 번에 끝내는
블록체인 개발 A to Z

How to Develop Solana Contract?

Hello World

Install Dependencies

* Install node
* Install 9pm
* Install Rust v1.59 from https://rustup.rs/ (nightly)
* Install Solana v1.8.14 or later from https://docs.solana.com/cli/install-solana-cli-tools

Configure CLI

```
yys  ~  solana config set --url http://127.0.0.1:8899
Config File: /Users/yun/.config/solana/cli/config.yml
RPC URL: http://127.0.0.1:8899
WebSocket URL: ws://127.0.0.1:8900/ (computed)
Keypair Path: /Users/yun/.config/solana/id.json
Commitment: confirmed
```

```
yys  ~  solana-keygen new
Generating a new keypair

For added security, enter a BIP39 passphrase

NOTE! This passphrase improves security of the recovery seed phrase NOT the
keypair file itself, which is stored as insecure plain text

BIP39 Passphrase (empty for none):

Wrote new keypair to /Users/yun/.config/solana/id.json
================================================================
pubkey: Gb2GjLDJAgbpmsb9363PCGFJy5iwKzTZKSP451SKVRMm
================================================================
Save this seed phrase and your BIP39 passphrase to recover your new keypair:
any wave speak exit gift run cry avocado claw excess wash skirt
================================================================
```

Start local Solana cluster

```
yys   ~   solana-test-validator
--faucet-sol argument ignored, ledger already exists
Ledger location: test-ledger
Log: test-ledger/validator.log
·· Initializing...
Identity: HeXk29AC3yonoPXkFJrg4kXns7VsPz9UUWGXJD2czAZq
Genesis Hash: J8br9jrYMrePBsAbLh2Hw7SZ4jwMiBcSBWbRiCkLUG6G
Version: 1.10.35
Shred Version: 12250
Gossip Address: 127.0.0.1:1024
TPU Address: 127.0.0.1:1027
JSON RPC URL: http://127.0.0.1:8899
·· 00:00:04 ¦ Processed Slot: 396 ¦ Confirmed Slot: 396 ¦ Finalized Slot: 363 ¦ Full Snapshot Slot: 301 ¦ Incremental Snapshot Slot: - ¦ Transa
```

```
x yys   ~   solana  logs
Streaming transaction logs. Confirmed commitment
```

```
x yys   ~/Workspace/example-helloworld   master   solana balance
0 SOL
  yys   ~/Workspace/example-helloworld   master   solana airdrop 10
Requesting airdrop of 10 SOL

Signature: 5qvanM4UMGw6xKKodfpNNpk1dhkR3YpZZg5xMHz1brwHmbKoLHv2TSrjQtwHdpXi3PivdWGwyvfzwUDzmHoWePaQ

10 SOL
  yys   ~/Workspace/example-helloworld   master   solana balance
10 SOL
  yys   ~/Workspace/example-helloworld   master
```

Hello World Example

$ git clone https://github.com/solana-labs/example-helloworld

$ cd example-helloworld

$ npm install # install dependencies

$ npm run build:program-rust

```
yys  ~/Workspace   git clone https://github.com/solana-labs/example-helloworld

Cloning into 'example-helloworld'...
remote: Enumerating objects: 1237, done.
remote: Counting objects: 100% (1237/1237), done.
remote: Compressing objects: 100% (376/376), done.
remote: Total 1237 (delta 835), reused 1191 (delta 810), pack-reused 0
Receiving objects: 100% (1237/1237), 1.11 MiB | 4.68 MiB/s, done.
Resolving deltas: 100% (835/835), done.
```

Hello World Example (2)

$ npm run build:program-rust # build on-chain program

$ solana program deploy dist/program/helloworld.so # deploy the on-chain program

$ npm run start # start JS client

```
 x yys   ~/Workspace/example-helloworld   ⑂ master   solana program deploy dist/program/helloworld.so # deploy the on-chain program
Program Id: 3bwwKWwyinV6QKKE74RcpHNCDWNuNSbG3eHcLebjcHzP

 yys   ~/Workspace/example-helloworld   ⑂ master   npm start

> helloworld@0.0.1 start
> ts-node src/client/main.ts

Let's say hello to a Solana account...
Connection to cluster established: http://127.0.0.1:8899 { 'feature-set': 483097211, 'solana-core': '1.10.35' }
Using account Gb2GjLDJAgbpmsb9363PCGFJy5iwKzTZKSP451SKVRMm containing 9.3695618 SOL to pay for fees
Using program 3bwwKWwyinV6QKKE74RcpHNCDWNuNSbG3eHcLebjcHzP
Creating account DKA5x9mxvNHQNwcwUhnh9thyAFcrWLuVKeZsxbe4LErn to say hello to
Saying hello to DKA5x9mxvNHQNwcwUhnh9thyAFcrWLuVKeZsxbe4LErn
DKA5x9mxvNHQNwcwUhnh9thyAFcrWLuVKeZsxbe4LErn has been greeted 1 time(s)
Success
```

Lets check code implementation