

Table of Contents

Setup Smart Contract	1
Deploy and Running Smart Contract on Comdex Chain	2

Setup Smart Contract

1. install rust using below command
 - a. `curl --proto '=https' --tlsv1.2 -sSf https://sh.rustup.rs | sh`
 - b. `rustup default stable`
 - c. `rustup target add wasm32-unknown-unknown`
2. install cargo-generate require for bootstrapping new Cosmwasm smart contract
 - a. `cargo install cargo-generate --features vendored-openssl`
3. install cargo-run-script to optimize the smart contract
 - a. `cargo install cargo-run-script`
4. To write the small smart contract, can follow below terra docs

```
https://docs.terra.money/Tutorials/Smart-contracts/Write-smart-contract.html#start-with-a-template
```

Note

This terra docs smart contract is in old version, update the version of cosmwasm libraries in `rust.toml` file

5. To compile the smart contract, run the below command inside the smart contract directory

```
cargo wasm
```

6. Before deploying the smart contract, optimize the smart contract using below command

```
docker run --rm -v "$(pwd)":/code \
--mount type=volume,source="$(basename "$(pwd)")_cache",target=/code/target \
--mount type=volume,source=registry_cache,target=/usr/local/cargo/registry \
cosmwasm/rust-optimizer:0.12.4
```

7. verify the `.wasm` file created in the artifacts directory.

Deploy and Running Smart Contract on Comdex Chain

1. Set below variables before deploying

```
export RPC="http://127.0.0.1:26657"
export NODE=(--node $RPC)
export CHAIN_ID=my-chain
export TXFLAG=($NODE --chain-id $CHAIN_ID --gas-prices 0.025validatortoken --gas
auto --gas-adjustment 1.3)
```

2. To Deploy smart contract use below command

```
comdex tx wasm store artifacts/my_first_contract.wasm --from my-account $TXFLAG -y
--output json
```

3. To Instantiate the smart contract use below command

```
comdex tx wasm instantiate 1 '{"count":0}' --from my-account $TXFLAG -y
```

4. To execute the smart contract use below command

```
comdex tx wasm execute comdex18vd8fpwxzck93qlwghaj6arh4p7c5n89md6mqr
'{"increment":{}}' --from my-account $TXFLAG -y
```

5. To query the smart contract use below command

```
comdex query wasm contract-store comdex18vd8fpwxzck93qlwghaj6arh4p7c5n89md6mqr
'{"get_count":{}}'
```

6. In app.toml file add below configuration

```
[wasm]
# The maximum gas amount can be spent for contract query.
# The contract query will invoke contract execution vm,
# so we need to restrict the max usage to prevent DoS attack
contract-query-gas-limit = "3000000"
# The flag to specify whether print contract logs or not
contract-debug-mode = "false"
# The WASM VM memory cache size in MiB not bytes
contract-memory-cache-size = "100"
```

Note contract_address = comdex18vd8fpwxzck93qlwghaj6arh4p7c5n89md6mqr -