Token contract

Brief

- the total_supply is 5 billion, max_supply is 15 billion.
- It is a token contract which is to
  - ☑ create tokens with issuer & max_supply
  - ☑ issue tokens to issuer only
  - ☑ retire tokens from supply
  - ☑ transfer tokens from one account to another
  - ☑ open account with even zero balance
  - ☑ close account with zero balance

About

- contract name - `toetoken`
- contract's account name - `toe1111token`
- action
  - `create`
  - `issue`
  - `retire`
  - `transfer`
  - `open`
  - `close`
- table
  - `stats`
  - `accounts`

Compile

```
$ eosio-cpp vigortoken.cpp -o vigortoken.wasm
Warning, empty ricardian clause file
Warning, empty ricardian clause file
Warning, action <create> does not have a ricardian contract
Warning, action <issue> does not have a ricardian contract
Warning, action <retire> does not have a ricardian contract
Warning, action <transfer> does not have a ricardian contract
Warning, action <open> does not have a ricardian contract
Warning, action <close> does not have a ricardian contract
Warning, action <create> does not have a ricardian contract
Warning, action <issue> does not have a ricardian contract
Warning, action <retire> does not have a ricardian contract
Warning, action <transfer> does not have a ricardian contract
Warning, action <open> does not have a ricardian contract
Warning, action <close> does not have a ricardian contract
```

Deploy

- deploy contract

```
$ cleost set contract trpm111token ./
Reading WASM from
/mnt/f/Coding/github_repos/eosio_tropium_contracts/tropiumtoken/tropiumtok
en.wasm...
Publishing contract...
executed transaction:
3ad34ba072a42c1dc881f99f1458a4da07b8cfba2f3f4737300661da444a7525  7016
bytes  767 us
#         eosio <= eosio::setcode
{"account":"trpm111token","vmtype":0,"vmversion":0,"code":"0061736d0100000
001a0011b60000060017e00600...
#         eosio <= eosio::setabi
{"account":"trpm111token","abi":"0e656f73696f3a3a6162692f312e3100080761636
36f756e7400010762616c616e6e6...
warning: transaction executed locally, but may not be confirmed by the
network yet              ]
```

- Adding eosio.code to permissions (for inline actions)

```
$ cleost set account permission trpm111token active --add-code
executed transaction:
be0f656bff17c776eb3ab851fe9d3eb42b41a35732681e4b762f733c0099c279  184
bytes  172 us
#         eosio <= eosio::updateauth
{"account":"trpm111token","permission":"active","parent":"owner","auth":
{"threshold":1,"keys":[{"key...
warning: transaction executed locally, but may not be confirmed by the
network yet              ]
```

Testing

Action - `create`

- create the token 1 M tokens for 10 years. Total 10 M tokens

```
$ cleost push action trpm111token create '["tropiumchain",
"15000000000.0000 TRPM"]' -p trpm
111token@active
executed transaction:
977c3910058acbc23a3d9c85292b75ab05078c0ab495e57f557b3b3bcde8a063   120
bytes   152 us
#  trpm111token <= trpm111token::create
{"issuer":"tropiumchain","maximum_supply":"15000000000.0000 TRPM"}
warning: transaction executed locally, but may not be confirmed by the
network yet            ]
```

  - View the table `stat` after this operation

```
$ cleost get table trpm111token TRPM stat
{
  "rows": [{
      "supply": "0.0000 TRPM",
      "max_supply": "15000000000.0000 TRPM",
      "issuer": "tropiumchain"
    }
  ],
  "more": false,
  "next_key": ""
}
```

Action - `issue`

- issue 5 B to issuer - `tropiumchain`

```
$ cleost push action trpm111token issue '["tropiumchain", "5000000000.0000
TRPM", "issue 5 Billions tokens"]' -p tropiumchain@active
executed transaction:
c79ae107a26e4593bad0a97f2d6d273ff56aad17c04f5ff195f77a49a6cd9fae   136
bytes   192 us
#  trpm111token <= trpm111token::issue
{"to":"tropiumchain","quantity":"1000000.0000 TRPM","memo":"issue 1M
tokens"}
warning: transaction executed locally, but may not be confirmed by the
network yet            ]
```

  - View the table `stat` after this operation

```
$ cleost get table trpm111token TRPM stat
{
  "rows": [{
      "supply": "5000000000.0000 TRPM",
      "max_supply": "15000000000.0000 TRPM",
      "issuer": "tropiumchain"
    }
  ],
  "more": false,
  "next_key": ""
}
```

- view the table `accounts`

```
$ cleost get table trpm111token tropiumchain accounts
{
  "rows": [{
      "balance": "5000000000.0000 TRPM"
    }
  ],
  "more": false,
  "next_key": ""
}
```

Action - `transfer`

- issuer - `tropiumchain` transfer some 10% of total 5B tokens i.e. 500,000,000 for ICO distribution to contract ac - `trpm11111ico` (after the contract was deployed)

```
$ cleost push action trpm111token transfer '["tropiumchain",
"trpm11111ico", "500000000.0000 TRPM", "transfer TRPM tokens for entire
ICO"]' -p tropiumchain@active
executed transaction:
98c43779a97bf785565d2cd4ff72eb33b869dc3ef2806ac60e7461e21187fd1b   160
bytes   218 us
#   trpm111token <= trpm111token::transfer
{"from":"tropiumchain","to":"trpm11111ico","quantity":"500000000.0000
TRPM","memo":"transfer TRPM to...
#   tropiumchain <= trpm111token::transfer
{"from":"tropiumchain","to":"trpm11111ico","quantity":"500000000.0000
TRPM","memo":"transfer TRPM to...
#   trpm11111ico <= trpm111token::transfer
{"from":"tropiumchain","to":"trpm11111ico","quantity":"500000000.0000
TRPM","memo":"transfer TRPM to...
warning: transaction executed locally, but may not be confirmed by the
network yet           ]
```

  - view the table of `tropiumchain`

```
$ cleost get table trpm111token tropiumchain accounts
{
  "rows": [{
      "balance": "4500000000.0000 TRPM"
    }
  ],
  "more": false,
  "next_key": ""
}
```

- view the table of `tropium11ico`

```
$ cleost get table trpm111token trpm11111ico accounts
{
  "rows": [{
      "balance": "500000000.0000 TRPM"
    }
  ],
  "more": false,
  "next_key": ""
}
```