**CTC钱包适配指南**

**（V1.0.4）**

2018-05-30

[1 系统环境软硬件需求 5](#_Toc515456401)

[2 如何启动RPC服务端监听 5](#_Toc515456402)

[3 基本操作指令 5](#_Toc515456403)

[3.1 接口请求响应 5](#_Toc515456404)

[3.1.1 Request 5](#_Toc515456405)

[3.1.2 Response 6](#_Toc515456406)

[3.1.2.1 Response成功 6](#_Toc515456407)

[3.1.2.2 Response失败 6](#_Toc515456408)

[3.2 通用的Response失败说明 7](#_Toc515456409)

[3.2.1 未登录 7](#_Toc515456410)

[3.2.2 钱包未打开 8](#_Toc515456411)

[3.2.3 钱包未解锁 8](#_Toc515456412)

[3.3 Rpc登录 9](#_Toc515456413)

[3.3.1 Response成功 9](#_Toc515456414)

[3.3.2 Response错误： 9](#_Toc515456415)

[3.3.2.1.1 用户名错误 9](#_Toc515456416)

[3.3.2.1.2 密码错误 10](#_Toc515456417)

[3.4 获取区块最新高度 11](#_Toc515456418)

[3.4.1 Response成功 11](#_Toc515456419)

[3.5 获取区块信息 11](#_Toc515456420)

[3.5.1 Response成功 11](#_Toc515456421)

[3.6 创建钱包 12](#_Toc515456422)

[3.6.1 Response成功 13](#_Toc515456423)

[3.6.2 Response失败 13](#_Toc515456424)

[3.6.2.1 未登录 13](#_Toc515456425)

[3.6.2.2 密码低于8位 13](#_Toc515456426)

[3.6.2.3 无效的钱包名称 14](#_Toc515456427)

[3.6.2.4 钱包已经存在 15](#_Toc515456428)

[3.7 打开钱包（钱包已经存在） 16](#_Toc515456429)

[3.7.1 Response成功 17](#_Toc515456430)

[3.7.2 Response失败 17](#_Toc515456431)

[3.7.2.1 未登录 17](#_Toc515456432)

[3.7.2.2 钱包不存在 17](#_Toc515456433)

[3.8 解锁钱包 18](#_Toc515456434)

[3.8.1 Response成功 19](#_Toc515456435)

[3.8.2 Response 失败 19](#_Toc515456436)

[3.8.2.1 未登录 19](#_Toc515456437)

[3.8.2.2 钱包未打开 19](#_Toc515456438)

[3.8.2.3 解锁时间设置过大 19](#_Toc515456439)

[3.8.2.4 密码错误 20](#_Toc515456440)

[3.9 创建账户 21](#_Toc515456441)

[3.9.1 Response成功 22](#_Toc515456442)

[3.9.2 Response 失败 22](#_Toc515456443)

[3.9.2.1 未登录 22](#_Toc515456444)

[3.9.2.2 钱包未打开 22](#_Toc515456445)

[3.9.2.3 钱包未解锁 22](#_Toc515456446)

[3.9.2.4 无效的账户名称 22](#_Toc515456447)

[3.9.2.5 账户已经存在 24](#_Toc515456448)

[3.10 查询钱包内账户的地址 25](#_Toc515456449)

[3.10.1 Response 成功 25](#_Toc515456450)

[3.10.2 Response 失败 25](#_Toc515456451)

[3.10.2.1 未登录 25](#_Toc515456452)

[3.10.2.2 钱包未打开 25](#_Toc515456453)

[3.10.2.3 账户不存在 26](#_Toc515456454)

[3.11 判断地址是否合法 27](#_Toc515456455)

[3.11.1 Response 成功 27](#_Toc515456456)

[3.11.1.1 地址合法 27](#_Toc515456457)

[3.11.1.2 地址不合法 28](#_Toc515456458)

[3.11.2 Response 失败 28](#_Toc515456459)

[3.11.2.1 未登录 28](#_Toc515456460)

[3.11.2.2 钱包未打开 28](#_Toc515456461)

[3.11.2.3 地址解析错误 28](#_Toc515456462)

[3.12 账户转账 29](#_Toc515456463)

[3.12.1 Response 成功 29](#_Toc515456464)

[3.12.2 Response 失败 31](#_Toc515456465)

[3.12.2.1 未登录 31](#_Toc515456466)

[3.12.2.2 钱包未打开 31](#_Toc515456467)

[3.12.2.3 钱包未解锁 32](#_Toc515456468)

[3.12.2.4 资产标识不存在 33](#_Toc515456469)

[3.12.2.5 取钱账户不存在 34](#_Toc515456470)

[3.12.2.6 转账到账户地址不存在 36](#_Toc515456471)

[3.12.2.7 余额不足 38](#_Toc515456472)

[3.13 交易记录查询 41](#_Toc515456473)

[3.13.1 Response 成功 41](#_Toc515456474)

[3.13.1.1 有交易记录 41](#_Toc515456475)

[3.13.1.2 有账户没有交易记录 45](#_Toc515456476)

[3.13.1.3 账户不存在 45](#_Toc515456477)

[3.13.2 Response 失败 45](#_Toc515456478)

[3.13.2.1 未登录 45](#_Toc515456479)

[3.13.2.2 钱包未打开 45](#_Toc515456480)

[3.13.2.3 资产标识不存在 46](#_Toc515456481)

[3.14 获取指定区块的全部交易信息 47](#_Toc515456482)

[3.14.1 Response 成功 48](#_Toc515456483)

[3.14.1.1 有交易记录 48](#_Toc515456484)

[3.14.1.2 没有交易记录 49](#_Toc515456485)

[3.15 账户余额查询 50](#_Toc515456486)

[3.15.1 Response 成功 50](#_Toc515456487)

[3.15.1.1 账户存在 50](#_Toc515456488)

[3.15.1.2 账户不存在 50](#_Toc515456489)

[3.15.2 Response 失败: 50](#_Toc515456490)

[3.15.2.1 未登录 50](#_Toc515456491)

[3.15.2.2 钱包未打开 50](#_Toc515456492)

[3.16 根据balanceid获取地址 50](#_Toc515456493)

[3.16.1 Response 成功 51](#_Toc515456494)

[3.16.1 Response 失败 51](#_Toc515456495)

[3.16.1.1 balanceid不存在 51](#_Toc515456496)

[3.17 交易是否上链 52](#_Toc515456497)

[3.17.1 Response 成功 52](#_Toc515456498)

[3.17.2 Response 失败 55](#_Toc515456499)

[3.17.2.1 交易号错误 55](#_Toc515456500)

[4 注意事项 56](#_Toc515456501)

[附：终端命令行模式下常用指令 56](#_Toc515456502)

# 系统环境软硬件需求

操作系统：Ubuntu 16.04 LTS64位系统（Windows7以上 64位版本，MacOS）

硬件：内存16GB+ 硬盘100GB+

交易所及其他中心化应用系统通过rpc方式访问底层钱包

# 如何启动RPC服务端监听

启动Tcp-JsonRpc模式

命令行中启动ctc\_formal带上如下参数

ctc\_formal --rpcuser RPC服务用户名 --rpcpassword RPC服务密码 --rpcendpoint IP地址:TCP端口号 --httpdendpoint IP地址:HTTP端口号 --server --data-dir 数据目录

参数：

--rpcuser JSON RPC服务用户名

--rpcpassword JSON RPC服务密码

--rpcendpoint JSON RPC服务IP端口

--httpdendpoint HTTP JSON RPC服务IP端口

--server 激活JSON RPC服务

--data-dir 数据目录（该目录保存钱包账户信息，删除后私钥也被删除，请及时备份私钥信息）

示例：

ctc\_formal --rpcuser ctcrpc --rpcpassword Cwl19910230 --rpcendpoint 127.0.0.1:50066 --httpdendpoint 127.0.0.1:50067 --server --data-dir "/ctc\_data/"

# 基本操作指令

## 接口请求响应

### Request

{"method":"","id":””,jsonrpc":"2.0","params":[]}

method：请求方法 例如：login

id：请求标识（响应时的id值与该值对应） 可以使用时间戳数据，例如” 20180517134424944”

jsonrpc：版本号目前采用2.0

params：请求参数

### Response

#### Response成功

{"id":"20180517134424944","result":”” }

id：响应标识（与请求标识对应）

result：成功的响应结果（返回格式见下文具体的接口说明）

#### Response失败

{"id": "20180517134917910",”error”:””}

id: 响应标识（与请求标识对应）

error：失败的响应结果

例如：

{

"id": "20180517210939297",

"error": {

"message": "unspecified",

"code": 0,

"data": {

"code": 0,

"name": "exception",

"message": "unspecified",

"stack": [{

"context": {

"level": "error",

"file": "RpcServer.cpp",

"line": 1483,

"method": "ctccore::rpc::detail::RpcServerImpl::verify\_json\_connection\_is\_authenticated",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T13:09:39"

},

"format": "The RPC connection must be logged in before executing this command",

"data": {}

}]

}

}

}

错误解析：error子域data的 code、message、 stack子域中的format

code：错误码

message：错误消息

format：详细错误消息

## 通用的Response失败说明

以下失败类型可能会出现在“创建钱包“、“打开钱包“、“解锁钱包“、“创建账户“、“查询钱包内账户地址“、“账户转账“、“交易记录查询“、“账户余额查询“、“交易是否上链“ 等接口的请求响应中，在此统一说明。

各接口对应的特定的失败类型将在后续接口说明中分别具体说明。

### 未登录

{

"id": "20180517210939297",

"error": {

"message": "unspecified",

"code": 0,

"data": {

"code": 0,

"name": "exception",

"message": "unspecified",

"stack": [{

"context": {

"level": "error",

"file": "RpcServer.cpp",

"line": 1483,

"method": "ctccore::rpc::detail::RpcServerImpl::verify\_json\_connection\_is\_authenticated",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T13:09:39"

},

"format": "The RPC connection must be logged in before executing this command",

"data": {}

}]

}

}

}

### 钱包未打开

{

"id": "20180517212809281",

"error": {

"message": "unspecified",

"code": 0,

"data": {

"code": 0,

"name": "exception",

"message": "unspecified",

"stack": [{

"context": {

"level": "error",

"file": "RpcServer.cpp",

"line": 1488,

"method": "ctccore::rpc::detail::RpcServerImpl::verify\_wallet\_is\_open",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T13:28:09"

},

"format": "The wallet must be open before executing this command",

"data": {}

}]

}

}

}

### 钱包未解锁

{

"id": "20180517213501328",

"error": {

"message": "unspecified",

"code": 0,

"data": {

"code": 0,

"name": "exception",

"message": "unspecified",

"stack": [{

"context": {

"level": "error",

"file": "RpcServer.cpp",

"line": 1493,

"method": "ctccore::rpc::detail::RpcServerImpl::verify\_wallet\_is\_unlocked",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T13:35:01"

},

"format": "The wallet's spending key must be unlocked before executing this command",

"data": {}

}]

}

}

}

## Rpc登录

调用前提:必须开启tcp-jsonrpc模式，并且设置了用户名和密码

请求方法：login请求参数：rpc 用户名、 rpc 密码

Request:

{"method":"login","id":20180517134424944,"jsonrpc":"2.0","params":["ctcrpc","Cwl19910230"]}

### Response成功

{"id":"20180517134424944","result":true}

### **Response错误**

##### 用户名错误

{

"id": "20180517134917910",

"error": {

"message": "Assert Exception",

"code": 0,

"data": {

"code": 10,

"name": "assert\_exception",

"message": "Assert Exception",

"stack": [{

"context": {

"level": "error",

"file": "RpcServer.cpp",

"line": 1522,

"method": "ctccore::rpc::detail::RpcServerImpl::login",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T05:49:18"

},

"format": "params[0].as\_string() == \_config.rpc\_user: ",

"data": {}

}]

}

}

}

##### 密码错误

{

"id": "20180517135236477",

"error": {

"message": "Assert Exception",

"code": 0,

"data": {

"code": 10,

"name": "assert\_exception",

"message": "Assert Exception",

"stack": [{

"context": {

"level": "error",

"file": "RpcServer.cpp",

"line": 1523,

"method": "ctccore::rpc::detail::RpcServerImpl::login",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T05:52:36"

},

"format": "params[1].as\_string() == \_config.rpc\_password: ",

"data": {}

}]

}

}

}

## 获取区块最新高度

调用前提：无

请求方法：blockchain\_get\_block\_count

请求参数：无

Request:

{"method":"blockchain\_get\_block\_count","id":20180530150656077,"jsonrpc":"2.0","params":[]}

### Response成功

{"id":"20180530150656077","result":292381}

result：区块最新高度

## 获取区块信息

调用前提：无

请求方法：info

请求参数：无

Request: {"method":"info","id":20180523092052345,"jsonrpc":"2.0","params":[]}

### Response成功

{

"id": "20180523092052345",

"result": {

"blockchain\_head\_block\_num": 229825,

"blockchain\_head\_block\_age": 2,

"blockchain\_head\_block\_timestamp": "2018-05-23T01:20:50",

"blockchain\_head\_block\_id": "94be16ad31089df0e6bd3cce433e6c079c567abe",

"blockchain\_average\_delegate\_participation": "100.00000000000000000",

"blockchain\_confirmation\_requirement": 1,

"blockchain\_share\_supply": "90183860000000000",

"blockchain\_blocks\_left\_in\_round": 20,

"blockchain\_next\_round\_time": 198,

"blockchain\_next\_round\_timestamp": "2018-05-23T01:24:10",

"blockchain\_random\_seed": "5bb6c5bf4ed8baddaeff711ccd1c382209252c28",

"client\_data\_dir": "C:/Users/zhangzhen/AppData/Roaming/CTC",

"client\_version": "CTC",

"network\_num\_connections": 3,

"network\_num\_connections\_max": 200,

"ntp\_time": null,

"ntp\_time\_error": null,

"wallet\_open": false,

"wallet\_unlocked": null,

"wallet\_unlocked\_until": null,

"wallet\_unlocked\_until\_timestamp": null,

"wallet\_last\_scanned\_block\_timestamp": null,

"wallet\_scan\_progress": null,

"wallet\_block\_production\_enabled": null,

"wallet\_next\_block\_production\_time": null,

"wallet\_next\_block\_production\_timestamp": null

}

}

返回参数：

"blockchain\_head\_block\_num": 区块号,

"blockchain\_head\_block\_age": 当前最大块的产生的时长,

"blockchain\_head\_block\_timestamp": "当前块产生的时间",

"blockchain\_head\_block\_id": "当前块ID",

"blockchain\_average\_delegate\_participation": "代理参与率 ",

"blockchain\_confirmation\_requirement": 区块确认周期,

"blockchain\_share\_supply": "CTC发行量",

"blockchain\_blocks\_left\_in\_round":本轮出块还有多少剩余,

"blockchain\_next\_round\_time":距下一轮出块剩余时间,

"blockchain\_next\_round\_timestamp": "下一轮出块开始时间",

"blockchain\_random\_seed": "当前轮出块",

"client\_data\_dir": "本地客户端数据存放路径",

"client\_version": "CTC",

"network\_num\_connections": 当前连接数,

"network\_num\_connections\_max": 当前客户端最大连接数,

"ntp\_time": NTP获取时间戳,

"ntp\_time\_error": NTP时间休正参数,

"wallet\_open": 钱包是否打开,

"wallet\_unlocked": 钱包是否解锁,

"wallet\_unlocked\_until": 钱包解锁持续秒数,

"wallet\_unlocked\_until\_timestamp": 钱包下次锁定时间,

"wallet\_last\_scanned\_block\_timestamp": 钱包上一次扫描时间,

"wallet\_scan\_progress": 钱包扫描线程数,

"wallet\_block\_production\_enabled": 钱包是否产快,

"wallet\_next\_block\_production\_time": 钱包内下一轮产快时间,

"wallet\_next\_block\_production\_timestamp": 钱包内下一轮产快时间戳

## 创建钱包

调用前提:rpc登录

注：成功创建钱包后，钱包默认是打开的，并且解锁时长是60分钟，超过60分钟时钱包重新锁定。可以通过wallet\_unlock方法自定义解锁时长。

请求方法：wallet\_create 请求参数：创建钱包名称（小写英文字符开头、只能是小写英文字符、数字或中划线、最长63位）、创建密码（长度不低于8位）

Request:

{"method":"wallet\_create","id":20180517140651383,"jsonrpc":"2.0",

"params":["cwlbb123","cwl19910230"]}

### **Response成功**

{"id":"20180517140651383","result":null}

### **Response失败**

#### 未登录

参照3.2.1

#### 密码低于8位

{

"id": "20180517231629067",

"error": {

"message": "password too short",

"code": 0,

"data": {

"code": 20015,

"name": "password\_too\_short",

"message": "password too short",

"stack": [{

"context": {

"level": "error",

"file": "WalletApi.cpp",

"line": 83,

"method": "ctccore::client::detail::ClientImpl::wallet\_create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T15:16:29"

},

"format": "",

"data": {}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2336,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T15:16:29"

},

"format": "",

"data": {}

}]

}

}

}

#### 无效的钱包名称

{

"id": "20180517141141320",

"error": {

"message": "invalid account name",

"code": 0,

"data": {

"code": 20017,

"name": "invalid\_name",

"message": "invalid account name",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1024,

"method": "ctccore::wallet::Wallet::create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:11:41"

},

"format": "Invalid name for a wallet!",

"data": {

"wallet\_name": "cwlbb123\_"

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1050,

"method": "ctccore::wallet::Wallet::create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:11:41"

},

"format": "Unable to create wallet '${wallet\_name}'",

"data": {

"wallet\_name": "cwlbb123\_"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2336,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:11:41"

},

"format": "",

"data": {}

}]

}

}

}

#### 钱包已经存在

{

"id": "20180517141240360",

"error": {

"message": "wallet already exists",

"code": 0,

"data": {

"code": 20003,

"name": "wallet\_already\_exists",

"message": "wallet already exists",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1028,

"method": "ctccore::wallet::Wallet::create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:12:40"

},

"format": "Wallet name already exists!",

"data": {

"wallet\_name": "cwlbb123"

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1050,

"method": "ctccore::wallet::Wallet::create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:12:40"

},

"format": "Unable to create wallet '${wallet\_name}'",

"data": {

"wallet\_name": "cwlbb123"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2336,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:12:40"

},

"format": "",

"data": {}

}]

}

}

}

## 打开钱包（钱包已经存在）

调用前提:rpc登录

请求方法：wallet\_open 请求参数：打开钱包名称

Request:

{"method":"wallet\_open","id":20180517142746758,"jsonrpc":"2.0","params":["cwlbb77"]}

### Response成功

:{"id":"20180517142746758","result":null}

### **Response失败**

#### 未登录

参照3.2.1

#### 钱包不存在

{

"id": "20180517142958093",

"error": {

"message": "wallet does not exist",

"code": 0,

"data": {

"code": 20004,

"name": "no\_such\_wallet",

"message": "wallet does not exist",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1063,

"method": "ctccore::wallet::Wallet::open",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:29:58"

},

"format": "No such wallet exists!",

"data": {

"wallet\_name": "cwlbb7722123"

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1085,

"method": "ctccore::wallet::Wallet::open",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:29:58"

},

"format": "",

"data": {

"wallet\_name": "cwlbb7722123"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2298,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_open",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:29:58"

},

"format": "",

"data": {}

}]

}

}

}

## 解锁钱包

调用前提：钱包打开

请求方法：wallet\_unlock请求参数：解锁时长（单位秒，最大可以设置630720000秒。如果超过这个时间 钱包会重新锁定。再次使用wallet\_unlock方法 自定义打开时间）、 密码

Request:

{"method":"wallet\_unlock","id":20180517144003773,"jsonrpc":"2.0",

"params":["99999999","cwl1991020"]}

### Response成功

{"id":"20180517144003773","result":null}

### **Response 失败**

#### 未登录

参照3.2.1

#### 钱包未打开

参照3.2.2

#### 解锁时间设置过大

{

"id": "20180517215706462",

"error": {

"message": "invalid timeout",

"code": 0,

"data": {

"code": 20020,

"name": "invalid\_timeout",

"message": "invalid timeout",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1290,

"method": "ctccore::wallet::Wallet::unlock",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T13:57:06"

},

"format": "Timeout too large!",

"data": {

"max\_timeout\_seconds": 2768401871

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1324,

"method": "ctccore::wallet::Wallet::unlock",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T13:57:06"

},

"format": "",

"data": {

"timeout\_seconds": 3999999999

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2768,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_unlock",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T13:57:06"

},

"format": "",

"data": {}

}]

}

}

}

#### **密码错误**

{

"id": "20180517173253517",

"error": {

"message": "invalid password",

"code": 0,

"data": {

"code": 20001,

"name": "invalid\_password",

"message": "invalid password",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1302,

"method": "ctccore::wallet::Wallet::unlock",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T09:32:53"

},

"format": "Invalid password!",

"data": {}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1324,

"method": "ctccore::wallet::Wallet::unlock",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T09:32:53"

},

"format": "",

"data": {

"timeout\_seconds": 99999999

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2768,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_unlock",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T09:32:53"

},

"format": "",

"data": {}

}]

}

}

}

## 创建账户

调用前提：钱包解锁

请求方法：wallet\_account\_create请求参数：待创建的用户名（小写英文字符开头、只能是小写英文字符、数字或中划线、最长63位）

Request:

{"method":"wallet\_account\_create","id":20180517144818773,"jsonrpc":"2.0",

"params":["cwlaccount4321"]}

### Response成功

{"id":"20180517144818773","result":"CJ32kd2FqDYACt7zr7fz3tstTF8KWXmKUv"}

result: 创建账户地址

### **Response 失败**

#### 未登录

参照3.2.1

#### 钱包未打开

参照3.2.2

#### 钱包未解锁

参照3.2.3

#### 无效的账户名称

{

"id": "20180517145807300",

"error": {

"message": "invalid account name",

"code": 0,

"data": {

"code": 20017,

"name": "invalid\_name",

"message": "invalid account name",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1437,

"method": "ctccore::wallet::Wallet::create\_account",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:58:07"

},

"format": "Invalid account name!",

"data": {

"account\_name": "cwlaccount——"

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1463,

"method": "ctccore::wallet::Wallet::create\_account",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:58:07"

},

"format": "",

"data": {

"account\_name": "cwlaccount——"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2924,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_account\_create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:58:07"

},

"format": "",

"data": {}

}]

}

}

}

#### 账户已经存在

{

"id": "20180517145507714",

"error": {

"message": "invalid account name",

"code": 0,

"data": {

"code": 20017,

"name": "invalid\_name",

"message": "invalid account name",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1446,

"method": "ctccore::wallet::Wallet::create\_account",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:55:07"

},

"format": "This name is already in your wallet!",

"data": {}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1463,

"method": "ctccore::wallet::Wallet::create\_account",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:55:07"

},

"format": "",

"data": {

"account\_name": "cwlaccount4321"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2924,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_account\_create",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T06:55:07"

},

"format": "",

"data": {}

}]

}

}

}

## 查询钱包内账户的地址

请求方法：wallet\_get\_account\_public\_address 请求参数：账户名

Request:

{"method":"wallet\_get\_account\_public\_address","id":20180517150216550,"jsonrpc":"2.0",

"params":["wlaccount88"]}

### **Response 成功**

{"id":"20180517150216550","result":"CVkft9Tcm5ivCrS6kQWxRhLiEA1QbyeXXk"}

Result：账户地址

### **Response 失败**

#### 未登录

参照3.2.1

#### 钱包未打开

参照3.2.2

#### 账户不存在

{

"id": "20180517220745386",

"error": {

"message": "unknown account",

"code": 0,

"data": {

"code": 20006,

"name": "unknown\_account",

"message": "unknown account",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 1585,

"method": "ctccore::wallet::Wallet::get\_account",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:07:45"

},

"format": "Unknown account name!",

"data": {

"account\_name": "wlaccount23132423sdfwe4234"

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 1604,

"method": "ctccore::wallet::Wallet::get\_account",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:07:45"

},

"format": "",

"data": {}

}, {

"context": {

"level": "warn",

"file": "WalletApi.cpp",

"line": 1227,

"method": "ctccore::client::detail::ClientImpl::wallet\_get\_account\_public\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:07:45"

},

"format": "",

"data": {

"account\_name": "wlaccount23132423sdfwe4234"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 3565,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_get\_account\_public\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:07:45"

},

"format": "",

"data": {}

}]

}

}

}

## 判断地址是否合法

调用前提：钱包打开

请求方法：wallet\_check\_address

请求参数：待校验的地址

Request:

{"method":"wallet\_check\_address","id":20180530142836601,"jsonrpc":"2.0",

"params":["CZ35LexSddgq6DgH3VTPPWzT13MTzuqARN"]}

### **Response 成功**

#### 地址合法

{"id":"20180530143029254","result":true}

#### 地址不合法

{"id":"20180530143109876","result":false}

### **Response 失败**

#### 未登录

参照3.2.1

#### 钱包未打开

参照3.2.2

#### 地址解析错误

{

"id": "20180530143229613",

"error": {

"message": "Parse Error",

"code": 0,

"data": {

"code": 4,

"name": "parse\_error\_exception",

"message": "Parse Error",

"stack": [{

"context": {

"level": "error",

"file": "base58.cpp",

"line": 621,

"method": "fc::from\_base58",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-30T06:32:29"

},

"format": "Unable to decode base58 string ${base58\_str}",

"data": {

"base58\_str": "CbNDfboKcjMAvkWRuvk6HcWSASv3b3YjJe8e21078b48c84b159ac0526918c388e"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2896,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_check\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-30T06:32:29"

},

"format": "",

"data": {}

}]

}

}

}

## 账户转账

调用前提：钱包解锁，钱包内有账户

请求方法：wallet\_transfer\_to\_address

请求参数：转账金额、 转账资产类型（CTC）、取钱账户、 转账到账户的地址、info、备注信息

Request:

{"method":"wallet\_transfer\_to\_address","id":20180517150833029,"jsonrpc":"2.0",

"params":["23","CTC","cwlaccount517","CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ","infoxinx","beizhuxinx"]}

### **Response 成功**

{

"id": "20180517150833029",

"result": {

"index": 0,

"entry\_id": "9a724455119eff62607c6a04f99728dfff44c604",

"block\_num": 0,

"is\_virtual": false,

"is\_confirmed": false,

"is\_market": false,

"trx": {

"expiration": "2018-05-17T08:08:29",

"info": [

["1", "infoxinx"]

],

"sub\_account": "",

"sub\_inport\_asset": {

"amount": 0,

"asset\_id": 0

},

"operations": [{

"type": "withdraw\_op\_type",

"data": {

"balance\_id": "CLgedWcoMyrQbwjwZcyBZwQM2VEpGMgrwJ",

"amount": 2301000000,

"claim\_input\_data": ""

}

}, {

"type": "deposit\_op\_type",

"data": {

"amount": 2300000000,

"condition": {

"asset\_id": 0,

"slate\_id": 0,

"type": "withdraw\_signature\_type",

"balance\_type": "withdraw\_common\_type",

"data": {

"owner": "CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ"

}

}

}

}, {

"type": "imessage\_memo\_op\_type",

"data": {

"imessage": "beizhuxinx"

}

}],

"result\_trx\_type": "origin\_transaction",

"result\_trx\_id": "0000000000000000000000000000000000000000",

"signatures": ["207a2e5d1e4b787b4865e0e6dc836c671760d97df647a14144babf74862f2df859701ed5d4927d2fe227244edc79e86a89961df0a48f02fd4063864d0afb87fdc0"]

},

"ledger\_entries": [{

"from\_account": "C8TQCUMtQ1cn3FTbax5hU9Vuoq4XGdjDnJShXv5RhcvF2Ht7uFA",

"to\_account": "C6Z9LSx6NLwCMFaVLtQ1jaALyVToxaXzLJyRQNAySqweEFdN3ee",

"amount": {

"amount": 2300000000,

"asset\_id": 0

},

"memo": "beizhuxinx"

}],

"fee": {

"amount": 1000000,

"asset\_id": 0

},

"created\_time": "2018-05-17T07:08:29",

"received\_time": "2018-05-17T07:08:29",

"extra\_addresses": ["CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ"],

"trx\_data": ""

}

}

返回参数:

index: 保留字段

entry\_id: 交易单号(重要)

block\_num: 块号

is\_virtual: 保留字段

is\_confirmed: 是否确认

is\_market: 保留字段

trx: 结构体类型名

### **Response 失败**

#### 未登录

参照3.2.1

#### 钱包未打开

参照3.2.2

#### 钱包未解锁

{

"id": "20180517234504871",

"error": {

"message": "Assert Exception",

"code": 0,

"data": {

"code": 10,

"name": "assert\_exception",

"message": "Assert Exception",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 3705,

"method": "ctccore::wallet::Wallet::transfer\_asset\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T15:45:04"

},

"format": "is\_unlocked(): Wallet not unlock!",

"data": {}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 3815,

"method": "ctccore::wallet::Wallet::transfer\_asset\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T15:45:04"

},

"format": "",

"data": {

"real\_amount\_to\_transfer": "1",

"amount\_to\_transfer\_symbol": "",

"from\_account\_name": "cwlaccount517",

"to\_address": "CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ",

"memo\_message": ""

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 3049,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_transfer\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T15:45:04"

},

"format": "",

"data": {}

}]

}

}

}

#### 资产标识不存在

{

"id": "20180517224857080",

"error": {

"message": "Assert Exception",

"code": 0,

"data": {

"code": 10,

"name": "assert\_exception",

"message": "Assert Exception",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 3706,

"method": "ctccore::wallet::Wallet::transfer\_asset\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:48:57"

},

"format": "my->\_blockchain->is\_valid\_symbol(amount\_to\_transfer\_symbol): Invalid asset symbol",

"data": {}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 3815,

"method": "ctccore::wallet::Wallet::transfer\_asset\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:48:57"

},

"format": "",

"data": {

"real\_amount\_to\_transfer": "2",

"amount\_to\_transfer\_symbol": "a",

"from\_account\_name": "cwlaccount517",

"to\_address": "CHHUkEZ8i4Q9msHGtUMq7fJySbL3Tn8bqZ",

"memo\_message": ""

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 3049,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_transfer\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:48:57"

},

"format": "",

"data": {}

}]

}

}

}

#### 取钱账户不存在

{

"id": "20180517221223376",

"error": {

"message": "Assert Exception",

"code": 0,

"data": {

"code": 10,

"name": "assert\_exception",

"message": "Assert Exception",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 3707,

"method": "ctccore::wallet::Wallet::transfer\_asset\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:12:23"

},

"format": "my->is\_receive\_account(from\_account\_name): Invalid account name",

"data": {}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 3815,

"method": "ctccore::wallet::Wallet::transfer\_asset\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:12:23"

},

"format": "",

"data": {

"real\_amount\_to\_transfer": "2",

"amount\_to\_transfer\_symbol": "CTC",

"from\_account\_name": "cwlaccount5173",

"to\_address": "CQWxiu96TdP562XsuAVD1sabQwR7T72d3k",

"memo\_message": ""

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 3049,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_transfer\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:12:23"

},

"format": "",

"data": {}

}]

}

}

}

#### 转账到账户地址不存在

{

"id": "20180517221532552",

"error": {

"message": "Out of Range",

"code": 0,

"data": {

"code": 8,

"name": "out\_of\_range\_exception",

"message": "Out of Range",

"stack": [{

"context": {

"level": "error",

"file": "datastream.cpp",

"line": 6,

"method": "fc::detail::throw\_datastream\_range\_error",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:15:32"

},

"format": "${method} datastream of length ${len} over by ${over}",

"data": {

"method": "read",

"len": 25,

"over": -24

}

}, {

"context": {

"level": "warn",

"file": "raw.hpp",

"line": 123,

"method": "fc::raw::unpack",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:15:32"

},

"format": "fc::array<type,length>",

"data": {

"type": "char",

"length": 33

}

}, {

"context": {

"level": "warn",

"file": "raw.hpp",

"line": 279,

"method": "fc::raw::detail::unpack\_object\_visitor<class fc::datastream<char const \*>,struct ctccore::consensus::PublicKeyType::BinaryKey>::operator ()",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:15:32"

},

"format": "Error unpacking field ${field}",

"data": {

"field": "data"

}

}, {

"context": {

"level": "warn",

"file": "raw.hpp",

"line": 519,

"method": "fc::raw::unpack",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:15:32"

},

"format": "error unpacking ${type}",

"data": {

"type": "ctccore::consensus::PublicKeyType::BinaryKey"

}

}, {

"context": {

"level": "warn",

"file": "raw.hpp",

"line": 551,

"method": "fc::raw::unpack",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:15:32"

},

"format": "error unpacking ${type}",

"data": {

"type": "ctccore::consensus::PublicKeyType::BinaryKey"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 3049,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_transfer\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:15:32"

},

"format": "",

"data": {}

}]

}

}

}

#### 余额不足

{

"id": "20180517152647857",

"error": {

"message": "insufficient funds",

"code": 0,

"data": {

"code": 20010,

"name": "insufficient\_funds",

"message": "insufficient funds",

"stack": [{

"context": {

"level": "error",

"file": "Wallet.cpp",

"line": 252,

"method": "ctccore::wallet::detail::WalletImpl::withdraw\_to\_transaction",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T07:26:47"

},

"format": "",

"data": {

"required": "100.01000000 CTC",

"available": "28.99000000 CTC",

"balance\_entrys": [

["cwlaccount517", [{

"condition": {

"asset\_id": 0,

"slate\_id": 0,

"type": "withdraw\_signature\_type",

"balance\_type": "withdraw\_common\_type",

"data": {

"owner": "CHHUkEZ8i4Q9msHGtUMq7fJySbL3Tn8bqZ"

}

},

"balance": 2899000000,

"deposit\_date": "2018-05-17T03:41:08",

"last\_update": "2018-05-17T07:08:30",

"meta\_data": null

}]]

]

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 253,

"method": "ctccore::wallet::detail::WalletImpl::withdraw\_to\_transaction",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T07:26:47"

},

"format": "",

"data": {

"amount\_to\_withdraw": {

"amount": "10001000000",

"asset\_id": 0

},

"from\_account\_name": "cwlaccount517",

"trx": {

"expiration": "1970-01-01T00:00:00",

"info": [

["1", "infoxinx"]

],

"sub\_account": "",

"sub\_inport\_asset": {

"amount": 0,

"asset\_id": 0

},

"operations": [{

"type": "withdraw\_op\_type",

"data": {

"balance\_id": "CLgedWcoMyrQbwjwZcyBZwQM2VEpGMgrwJ",

"amount": 2899000000,

"claim\_input\_data": ""

}

}],

"result\_trx\_type": "origin\_transaction",

"result\_trx\_id": "0000000000000000000000000000000000000000",

"signatures": []

},

"required\_signatures": ["CHHUkEZ8i4Q9msHGtUMq7fJySbL3Tn8bqZ"]

}

}, {

"context": {

"level": "warn",

"file": "Wallet.cpp",

"line": 3815,

"method": "ctccore::wallet::Wallet::transfer\_asset\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T07:26:47"

},

"format": "",

"data": {

"real\_amount\_to\_transfer": "100",

"amount\_to\_transfer\_symbol": "CTC",

"from\_account\_name": "cwlaccount517",

"to\_address": "CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ",

"memo\_message": "beizhuxinx"

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 3049,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_transfer\_to\_address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T07:26:47"

},

"format": "",

"data": {}

}]

}

}

}

## 交易记录查询

调用前提：钱包打开,钱包内有账户

请求方法：wallet\_account\_transaction\_history

请求参数：账户名称（为空的情况是查询当前钱包内所有账户的记录）、 资产标识（为空的情况是查询当前钱包所有资产的记录）、 返回的交易数量上限默认值是0，0代表没有限制、 开始查询的block编号，默认值为0（包含）、 结束的block编号默认值为-1，代表着返回到当前块的交易（包含）

Request:

{"method":"wallet\_account\_transaction\_history","id":20180517153307898,"jsonrpc":"2.0",

"params":["cwlaccount517","CTC",0,0,-1]}

### **Response 成功**

#### 有交易记录

注1：共有四种情况

1. from 和 to 地址都有账户的有两条记录（第一条是from账户的出账信息，第二条是to账户的入账信息）。to地址是 查询的账户名称，不显示手续费
2. 交易记录仅仅to有账户的 有一条记录，是to账户的入帐信息。不显示手续费
3. from 和 to 地址都有账户的有两条记录（第一条是from账户的出账信息，第二条是to账户的入账信息）。from地址是 查询的账户名称，显示手续费
4. 交易记录仅仅 from有账户的 有一条记录，是from账户的出帐信息。显示手续费

注2：手续费。查询的账户名称为空时 都显示手续费。

第一种情况：from和to地址都有账户有两条记录。to地址是查询账户的名称，不显示手续费

{

"id": "20180517155038815",

"result": [{

"is\_virtual": false,

"is\_confirmed": true,

"is\_market": false,

"is\_market\_cancel": false,

"trx\_id": "09ee4ea3a0619d4a53a251f2a5b648c1b2c36cea",

"block\_num": 178621,

"block\_position": 0,

"trx\_type": 0,

"ledger\_entries": [{

"from\_account": "wlaccount88",

"from\_account\_name": "",

"to\_account": "CHHUkEZ8i4Q9msHGtUMq7fJySbL3Tn8bqZ",

"to\_account\_name": "",

"amount": {

"amount": 401000000,

"asset\_id": 0

},

"memo": "",

"running\_balances": []

}, {

"from\_account": "wlaccount88",

"from\_account\_name": "",

"to\_account": "cwlaccount517",

"to\_account\_name": "",

"amount": {

"amount": 400000000,

"asset\_id": 0

},

"memo": "depoist to CHHUkEZ8i4Q9msHGtUMq7fJySbL3Tn8bqZ",

"running\_balances": []

}],

"fee": {

"amount": 0,

"asset\_id": 0

},

"timestamp": "2018-05-17T03:06:43",

"expiration\_timestamp": "2018-05-17T04:06:43"

},

第二种情况：交易记录仅仅to有账户的 有一条记录，是to账户的入帐信息。不显示手续费

{

"is\_virtual": false,

"is\_confirmed": true,

"is\_market": false,

"is\_market\_cancel": false,

"trx\_id": "344c2c2bc6be9203ca1616f569a3ab8eb291aea6",

"block\_num": 178718,

"block\_position": 0,

"trx\_type": 0,

"ledger\_entries": [{

"from\_account": "CQWxiu96TdP562XsuAVD1sabQwR7T72d3k",

"from\_account\_name": "",

"to\_account": "cwlaccount517",

"to\_account\_name": "",

"amount": {

"amount": 1100000000,

"asset\_id": 0

},

"memo": "gpkw",

"running\_balances": []

}],

"fee": {

"amount": 0,

"asset\_id": 0

},

"timestamp": "2018-05-17T03:23:00",

"expiration\_timestamp": "2018-05-17T04:22:58"

},

第三种情况：from和to地址都有账户有两条记录。from地址是查询账户的名称，显示手续费

{

"is\_virtual": false,

"is\_confirmed": true,

"is\_market": false,

"is\_market\_cancel": false,

"trx\_id": "5c49b1687f04238191f786ca97d312948b2bd6d9",

"block\_num": 180281,

"block\_position": 0,

"trx\_type": 0,

"ledger\_entries": [{

"from\_account": "cwlaccount517",

"from\_account\_name": "",

"to\_account": "CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ",

"to\_account\_name": "",

"amount": {

"amount": 701000000,

"asset\_id": 0

},

"memo": "",

"running\_balances": []

}, {

"from\_account": "cwlaccount517",

"from\_account\_name": "",

"to\_account": "cwlaccount02",

"to\_account\_name": "",

"amount": {

"amount": 700000000,

"asset\_id": 0

},

"memo": "depoist to CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ",

"running\_balances": []

}],

"fee": {

"amount": 1000000,

"asset\_id": 0

},

"timestamp": "2018-05-17T07:43:24",

"expiration\_timestamp": "2018-05-17T08:43:24"

} ,

第四种情况：交易记录仅仅 from有账户的 有一条记录，是from账户的出帐信息。显示手续费

{

"is\_virtual": false,

"is\_confirmed": true,

"is\_market": false,

"is\_market\_cancel": false,

"trx\_id": "f37b14d1bf2e6a527f933548d0ccb21bbb498578",

"block\_num": 180408,

"block\_position": 0,

"trx\_type": 0,

"ledger\_entries": [{

"from\_account": "cwlaccount517",

"from\_account\_name": "",

"to\_account": "CQWxiu96TdP562XsuAVD1sabQwR7T72d3k",

"to\_account\_name": "",

"amount": {

"amount": 201000000,

"asset\_id": 0

},

"memo": "",

"running\_balances": []

}],

"fee": {

"amount": 1000000,

"asset\_id": 0

},

"timestamp": "2018-05-17T08:04:34",

"expiration\_timestamp": "2018-05-17T09:04:34"

}]

}

返回参数:

trx\_id: 交易单号

block\_num: 块号

ledger\_entries：交易信息

fee：手续费信息

#### 有账户没有交易记录

{"id":"20180517161751093","result":[]}

#### 账户不存在

{"id":"20180519164458501","result":[]}

### **Response 失败**

#### 未登录

参照3.2.1

#### 钱包未打开

参照3.2.2

#### 资产标识不存在

{

"id": "20180517223629793",

"error": {

"message": "invalid asset symbol",

"code": 0,

"data": {

"code": 20024,

"name": "invalid\_asset\_symbol",

"message": "invalid asset symbol",

"stack": [{

"context": {

"level": "error",

"file": "TransactionLedger.cpp",

"line": 1542,

"method": "ctccore::wallet::Wallet::get\_transaction\_history",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:36:29"

},

"format": "Invalid asset symbol!",

"data": {

"asset\_symbol": "a"

}

}, {

"context": {

"level": "warn",

"file": "TransactionLedger.cpp",

"line": 1618,

"method": "ctccore::wallet::Wallet::get\_transaction\_history",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:36:29"

},

"format": "",

"data": {}

}, {

"context": {

"level": "warn",

"file": "TransactionLedger.cpp",

"line": 1924,

"method": "ctccore::wallet::Wallet::get\_pretty\_transaction\_history",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:36:29"

},

"format": "",

"data": {}

}, {

"context": {

"level": "warn",

"file": "WalletApi.cpp",

"line": 1260,

"method": "ctccore::client::detail::ClientImpl::wallet\_account\_transaction\_history",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:36:29"

},

"format": "",

"data": {}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 2584,

"method": "ctccore::rpc\_stubs::CommonApiClient::wallet\_account\_transaction\_history",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T14:36:29"

},

"format": "",

"data": {}

}]

}

}

}

## 获取指定区块的全部交易信息

调用前提：无

请求方法：blockchain\_get\_block\_transactions

请求参数：区块ID或者区块编号

Request:

{"method":"blockchain\_get\_block\_transactions","id":20180530143848845,"jsonrpc":"2.0",

"params":["178957"]}

### **Response 成功**

#### 有交易记录

{

"id": "20180530143848845",

"result": [

["4d1324d7d198c138d1abc940d688c525d1adda51", {

"trx": {

"expiration": "2018-05-17T05:02:45",

"sub\_account": "",

"sub\_inport\_asset": {

"amount": 0,

"asset\_id": 0

},

"operations": [{

"type": "withdraw\_op\_type",

"data": {

"balance\_id": "CWGYvm7BKFSipW2AQ2GT5hSiDVH7wV3HTE",

"amount": 1101000000,

"claim\_input\_data": ""

}

}, {

"type": "deposit\_op\_type",

"data": {

"amount": 1100000000,

"condition": {

"asset\_id": 0,

"slate\_id": 0,

"type": "withdraw\_signature\_type",

"balance\_type": "withdraw\_common\_type",

"data": {

"owner": "CHHUkEZ8i4Q9msHGtUMq7fJySbL3Tn8bqZ"

}

}

}

}],

"result\_trx\_type": "origin\_transaction",

"result\_trx\_id": "0000000000000000000000000000000000000000",

"signatures": ["2003c7ab6e76002625864b0d9396df5a2469d75d7ffab8d66a9e16d1e81192a896285d9bc9a3e17c5485473adbd7e2f37ad36a333f2054d18e486464c35e2bf8dd"]

},

"signed\_keys": [],

"deposits": [

[0, 1100000000]

],

"withdraws": [

[0, 1101000000]

],

"contract\_address": "",

"yield": [],

"deltas": [

[0, [

[0, -1101000000]

]],

[1, [

[0, 1100000000]

]]

],

"required\_fees": {

"amount": 0,

"asset\_id": 0

},

"alt\_fees\_paid": {

"amount": 0,

"asset\_id": 0

},

"balance": [

[0, 1000000]

],

"delegate\_vote\_deltas": [],

"imessage\_length": 0,

"skipexec": true,

"chain\_location": {

"block\_num": 178957,

"trx\_num": 0

}

}]

]

}

#### 没有交易记录

{"id":"20180530145115714","result":[]}

## 账户余额查询

调用前提：钱包打开,钱包内有账户

请求方法：wallet\_account\_balance请求参数：账户名

Request:

{"method":"wallet\_account\_balance","id":20180517161157829,"jsonrpc":"2.0",

"params":["cwlaccount517"]}

### **Response 成功**

#### 账户存在

{"id":"20180517161157829","result":[["cwlaccount517",[[0,1997000000]]]]}

返回参数result: 账户，资产类型，当前余额

#### 账户不存在

{"id":"20180517161349692","result":[]}

### **Response 失败**:

#### 未登录

参照3.2.1

#### 钱包未打开

参照3.2.2

## 交易是否上链

调用前提：交易发起后隔一段时间进行请求

请求方法：blockchain\_get\_transaction

请求参数：交易id、 是否精确查找，默认false（false时 匹配规则是前8位匹配）

Request:

{"method":"blockchain\_get\_transaction","id":20180517162347398,"jsonrpc":"2.0",

"params":["9a724455119eff62607c6a04f99728dfff44c604","false"]}

### **Response 成功**

{

"id": "20180517162347398",

"result": ["9a724455119eff62607c6a04f99728dfff44c604", {

"trx": {

"expiration": "2018-05-17T08:08:29",

"info": [

["1", "infoxinx"]

],

"sub\_account": "",

"sub\_inport\_asset": {

"amount": 0,

"asset\_id": 0

},

"operations": [{

"type": "withdraw\_op\_type",

"data": {

"balance\_id": "CLgedWcoMyrQbwjwZcyBZwQM2VEpGMgrwJ",

"amount": 2301000000,

"claim\_input\_data": ""

}

}, {

"type": "deposit\_op\_type",

"data": {

"amount": 2300000000,

"condition": {

"asset\_id": 0,

"slate\_id": 0,

"type": "withdraw\_signature\_type",

"balance\_type": "withdraw\_common\_type",

"data": {

"owner": "CWoDazT7zfvCYfcb3kZTLYdcRBPQKqvCJZ"

}

}

}

}, {

"type": "imessage\_memo\_op\_type",

"data": {

"imessage": "beizhuxinx"

}

}],

"result\_trx\_type": "origin\_transaction",

"result\_trx\_id": "0000000000000000000000000000000000000000",

"signatures": ["207a2e5d1e4b787b4865e0e6dc836c671760d97df647a14144babf74862f2df859701ed5d4927d2fe227244edc79e86a89961df0a48f02fd4063864d0afb87fdc0"]

},

"signed\_keys": [],

"deposits": [

[0, 2300000000]

],

"withdraws": [

[0, 2301000000]

],

"contract\_address": "",

"yield": [],

"deltas": [

[0, [

[0, -2301000000]

]],

[1, [

[0, 2300000000]

]]

],

"required\_fees": {

"amount": 0,

"asset\_id": 0

},

"alt\_fees\_paid": {

"amount": 0,

"asset\_id": 0

},

"balance": [

[0, 1000000]

],

"delegate\_vote\_deltas": [],

"imessage\_length": 10,

"skipexec": true,

"chain\_location": {

"block\_num": 180072,

"trx\_num": 0

}

}]

}

返回参数:

交易id

trx: 详细交易数据

signed\_keys: 签名

deposits: 入账资产

withdraws: 出账资产

yield: 保留参数

deltas: 保留参数

required\_fees: 保留字段

alt\_fees\_paid: 保留字段

balance: 保留字段

delegate\_vote\_deltas: 保留参数

imessage\_length: 备注长度

chain\_location: 交易位置结构体

如果查询到交易说明该交易已经上链

### **Response 失败**

#### 交易号错误

{

"id": "20180517162956021",

"error": {

"message": "Assert Exception",

"code": 0,

"data": {

"code": 10,

"name": "assert\_exception",

"message": "Assert Exception",

"stack": [{

"context": {

"level": "error",

"file": "BlockchainApi.cpp",

"line": 284,

"method": "ctccore::client::detail::ClientImpl::blockchain\_get\_transaction",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T08:29:56"

},

"format": "entry.valid(): Transaction not found!",

"data": {}

}, {

"context": {

"level": "warn",

"file": "BlockchainApi.cpp",

"line": 286,

"method": "ctccore::client::detail::ClientImpl::blockchain\_get\_transaction",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T08:29:56"

},

"format": "",

"data": {

"transaction\_id\_prefix": "19a724455119eff62607c6a04f99728dfff44c604",

"exact": false

}

}, {

"context": {

"level": "warn",

"file": "CommonApiClient.cpp",

"line": 505,

"method": "ctccore::rpc\_stubs::CommonApiClient::blockchain\_get\_transaction",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-17T08:29:56"

},

"format": "",

"data": {}

}]

}

}

}

## 根据balanceid获取地址

调用前提：无

请求方法：wallet\_account\_balance请求参数：账户名

Request:

{"method":"blockchain\_get\_balance","id":20180530145744995,"jsonrpc":"2.0","params":["CWGYvm7BKFSipW2AQ2GT5hSiDVH7wV3HTE"]}

### **Response 成功**

{

"id": "20180530145744995",

"result": {

"condition": {

"asset\_id": 0,

"slate\_id": 0,

"type": "withdraw\_signature\_type",

"balance\_type": "withdraw\_common\_type",

"data": {

"owner": "CQWxiu96TdP562XsuAVD1sabQwR7T72d3k"

}

},

"balance": "5230562812",

"deposit\_date": "2018-05-27T18:33:32",

"last\_update": "2018-05-28T14:43:20",

"meta\_data": null

}

}

### **Response 失败**

#### balanceid不存在

{

"id": "20180530145936688",

"error": {

"message": "invalid address",

"code": 0,

"data": {

"code": 30028,

"name": "invalid\_address",

"message": "invalid address",

"stack": [{

"context": {

"level": "error",

"file": "Address.cpp",

"line": 26,

"method": "ctccore::consensus::Address::Address",

"hostname": "",

"thread\_name": "th\_a",

"timestamp": "2018-05-30T06:59:36"

},

"format": "invalid address ${a}",

"data": {

"a": "CWGYvm7BKFSipW2AQ2GT5hSiDVH7wV3HTA"

}

}]

}

}

}

# 注意事项

1. 返回值中的时间都是标准格林尼治时间
2. 返回值中的金额是带精度的金额，需要缩小100000000倍才是真正的金额，比如转账1个CTC，那么在返回值中标示为100000000
3. http json rpc调用时调用地址形式为：http://rpcuser:rpcpassword@IP:端口/rpc
4. http响应结果的Header头中会有Authorization参数，在后续请求中需要在请求的Header将该参数传回，否则服务会返回401错误

# 附：终端命令行模式下常用指令

1.创建钱包

wallet\_create testwallet 12345678

参数：钱包名称 钱包密码

2.打开钱包

wallet\_open testwallet

参数：钱包名称

3.创建账号

wallet\_account\_create testaccount

参数：账户名称

4.导入私钥

import\_key 私钥 testaccount1 true

参数：私钥 本地不存在的账户名称 是否创建账户

5.列出钱包下所有账号

wallet\_list\_accounts

6.列出账号地址

wallet\_get\_account\_public\_address testaccount

参数：账户名称

7.导出私钥

wallet\_dump\_private\_key 地址或公钥

参数：地址或公钥

8.查询余额

wallet\_account\_balance testaccount

参数：默认或者查询账户名称

9.查询交易记录

wallet\_account\_transaction\_history testaccount

参数：默认或者查询账户名称