Common REST Interface

Get the block information

API Functions

API： Get block information

API Address URL: /v1/block/detail

Response Format

JSON

Request Method

POST

Request Parameters :

Parameter	Mandatory	Type	Default Value	Description
block_num	FALSE	uint64	Null	Block number
block_hash	FALSE	string	Null	Block hash value

Note：block_num、block_hash can only choice one of them; If not given in either，it will returns block information of "block 0" in default。

Response Fields :

Parameter	Type	Description
errcode	uint32	Error code，0-succeed，others please refer to the error code chapter.
msg	string	response description
result	jsonObject	response result
block_num	uint64	Block number
prev_block_hash	string	Previous Block hash value
block_hash	string	Current Block hash value
cursor_block_label	uint32	Current block identity
block_time	uint64	Generate time of the block
trx_merkle_root	string	Merkle root value，The hash value of all transactions packaged by the block
delegate	string	Producer name
delegate_sign	string	Producer signature
trxs	jsonArray	The list of transactions packaged in the current block, as described in the response field in the "Query Transaction information" section

Field changes

- Null

   API Smple

   Address：http://127.0.0.1:8689/v1/block/detail

- Request:

```
{
    "block_num": 32,
    "block_hash":
"405a6fb8b91a055a7a4cf007451ce0b31ea6626cb2d56ec050b126701fbf093d"
}
```

- Response:

```
HTTP/1.1 200 OK

{
    "errcode": 0,
```

```
        "msg": "success",
        "result": {
            "prev_block_hash":
    "1b345401d8f859c05e37b5ccacd39ff5b4a21615b63f9b96edb59352a3e54e82",
            "block_num": 32,
            "block_hash":
    "405a6fb8b91a055a7a4cf007451ce0b31ea6626cb2d56ec050b126701fbf093d",
            "cursor_block_label": 532613437,
            "block_time": 1537259127,
            "trx_merkle_root":
    "85f9d2fbe1d3c0a217e10932899b6f73b24fafe59a006406ed65d7e4a39a7416",
            "delegate": "bottos",
            "delegate_sign":
    "41c25998e7d432527f07ae5c10c5c30a4873e9519c29cb02e7f46e3a8e238baf47748efe3f24db3ff3
    630305441b1d24c5d0ba796b3332a8b8fd3fca4efc4cfb",
            "trxs": [
                {
                    "version": 1,
                    "cursor_num": 31,
                    "cursor_label": 2749714050,
                    "lifetime": 1537259224,
                    "sender": "bottos",
                    "contract": "bottos",
                    "method": "newaccount",
                    "param": {
                        "name": "testtest",
                        "pubkey":
    "0454f1c2223d553aa6ee53ea1ccea8b7bf78b8ca99f3ff622a3bb3e62dedc712089033d6091d7729965
    47bc071022ca2838c9e86dec29667cf740e5c9e654b6127f"
                    },
                    "sig_alg": 1,
                    "signature":
    "c85fd25af493cbb6a79870ce0fc602acc892664ca17e2c646aff0332ca6db7787beeb7e5d8553de8e4
    b83bdf7b227762fedf9e3674888893f18bf31f0b05d622"
                }
            ]
        }
    }
```

Get Block Header Information

API Function

API Description： Get block header information

APIAddress

URL: /v1/block/height

Response Format

JSON

Request Format

GET

Request Parameter :

Parameter	Mandatory	Type	Default Value	Description
Null				

Response Fields :

Parameter	Type	Description
errcode	uint32	Error code，0-Succeed，others refer to error code chapter
msg	string	response description
result	jsonObject	response result
head_block_num	uint64	Block number
head_block_hash	string	Previous Block hash value
head_block_time	uint64	Generating time of block
head_block_delegate	string	Producer of block
cursor_label	uint32	Block identity
last_consensus_block_num	uint32	Irreversible Block's number
chain_id	string	Chain ID，The chain_id must be the same for all nodes in the same chain

Fields Changes

- Null

  API Sample

Address：http://127.0.0.1:8689/v1/block/height

- Request:

```
Null
```

- Response:

```
HTTP/1.1 200 OK
{
    "errcode": 0,
    "msg": "",
```

```
    "result": {
        "head_block_num": 87,
        "head_block_hash":
"b34806eefc77b88743ab447f43658bf229fd4e5cd9452340e21f3995a5d2054b",
        "head_block_time": 1534213225,
        "head_block_delegate": "alsephina",
        "cursor_label": 2782004555,
        "last_consensus_block_num": 64,
        "chain_id":
"4b97b92d2c78bcffe95ebd3067565c73a2931b39d5eb7234b11816dcec54761a"
    }
}
```

Send the transaction information

API Function

API Description： Send the transaction information

APIAddress

URL: /v1/transaction/send

Response Format

JSON

Request Format

POST

Request Parameter：

Parameter	Mandatory	Type	Default Value	Description
version	TRUE	uint32	1	Version number of block chain
cursor_num	TRUE	uint64	Null	Latest block number，getting by querying header block
cursor_label	TRUE	uint32	Null	Latest block identity，get by querying the block header
lifetime	TRUE	uint64	Null	Transaction exipired time，by ways of getting block header, plus a certain delay，it is recommanded to delay by 100 seconds
sender	TRUE	string	Null	Sender
contract	TRUE	string	Null	Contract name
method	TRUE	string	Null	Contract method
param	TRUE	string	Null	Business parameter, hexadecimal string
sig_alg	TRUE	uint32	1	Sign algorism
signature	TRUE	string	Null	Signature value

Response Fields：

Parameter	Type	Description
errcode	uint32	Error code，0-Succeed，others refer to error code chapter
msg	string	response description
result	jsonObject	response result
trx_hash	string	Hash value of each transaction
trx	jsonObject	Transaction details
version	uint32	Version number of block chain
cursor_num	uint64	Latest block number，get by querying the block header
cursor_label	uint32	Latest block label，get by querying the block header
lifetime	uint64	Transaction expired time，by ways of getting block header, plus a certain delay
sender	string	Sender
contract	string	Contract name
method	string	Contract method
param	string	Business parameter，hexadecimal string
sig_alg	uint32	Sign algorism
signature	string	Signature value

Fields Changes

- Null

  API Sample

Address：http://127.0.0.1:8689/v1/transaction/send

- Request:

```
{
    "version": 1,
    "cursor_num": 719,
    "cursor_label": 2997806499,
    "lifetime": 1534143531,
    "sender": "bottos",
    "contract": "bottos",
    "method": "newaccount",
    "param":
"dc0002da0009757365727465737431da0082303464303735383830303536343838613938 64613365 64
32346237666132656533061623864383464343764623534366333663138316137363462 61336661 31653
83237396637363434303963333431646530316230303830656231616165656239353303 96637393 2333535
32306137356533343234343239313434623433633313034 62",
    "sig_alg": 1,
    "signature":
"f0069bc363a55dc22207c75d15cc75524bf4950159130c6bf385f6f1ca877177362ad5ab51108e7f39
6043e3aee7058f1ca6a40fd6c79a8483e439d2e2bccf2c"
}
```

- Response:

```
HTTP/1.1 200 OK
{
    "errcode": 0,
    "msg": "trx receive succ",
    "result": {
        "trx": {
            "version": 1,
            "cursor_num": 719,
            "cursor_label": 2997806499,
            "lifetime": 1534143531,
            "sender": "delta",
            "contract": "bottos",
            "method": "newaccount",
            "param":
"dc0002da0009757365727465737431da0082303464303735383830303536343838613938 64613365 64
32346237666132656533061623864383464343764623534366333663138316137363462 61336661 31653
83237396637363434303963333431646530316230303830656231616165656239353303 96637393 2333535
32306137356533343234343239313434623433633313034 62",
            "sig_alg": 1,
            "signature":
"f0069bc363a55dc22207c75d15cc75524bf4950159130c6bf385f6f1ca877177362ad5ab51108e7f39
6043e3aee7058f1ca6a40fd6c79a8483e439d2e2bccf2c"
        },
        "trx_hash":
"1815f4d4dfb52b88fb445efc255a5be6275fc3ad694f802c01c40644f09b651f"
    }
}
```

Query Transaction Information

API Function

API Description：Query transaction information

APIAddress

URL: /v1/transaction/get

Response Format

JSON

Request Format

POST

Request Parameter :

Parameter	Mandatory	Type	Default Value	Description
trx_hash	TRUE	string	Null	Hash value of each transaction

Response Fields :

Parameter	Type	Description
errcode	uint32	Error code，0-Succeed，others refer to error code chapter
msg	string	response description
result	jsonObject	response result
version	uint32	Version number of block chain
cursor_num	uint64	Latest block number，get by querying the block header
cursor_lab	uint32	Latest label of block，get by querying the block header
lifetime	uint64	Transaction expired time，by ways of getting block header, plus a certain delay
sender	string	Sender
contract	string	Contract name
method	string	Contract method
param	jsonObject	Business Parameter
sig_alg	uint32	Sign algorism
signature	string	Signature value

Fields Changes

- Null

API Sample

Address : http://127.0.0.1:8689/v1/transaction/get

- Request:

```
{
    "trx_hash": "85f9d2fbe1d3c0a217e10932899b6f73b24fafe59a006406ed65d7e4a39a7416"
}
```

- Response:

```
 HTTP/1.1 200 OK
{
    "errcode": 0,
    "msg": "success",
    "result": {
        "version": 1,
        "cursor_num": 31,
        "cursor_label": 2749714050,
        "lifetime": 1537259224,
        "sender": "bottos",
        "contract": "bottos",
        "method": "newaccount",
        "param": {
            "name": "testtest",
            "pubkey":
"0454f1c2223d553aa6ee53ea1ccea8b7bf78b8ca99f3ff622a3bb3e62dedc712089033d6091d772965
47bc071022ca2838c9e86dec29667cf740e5c9e654b6127f"
        },
        "sig_alg": 1,
        "signature":
"c85fd25af493cbb6a79870ce0fc602acc892664ca17e2c646aff0332ca6db7787beeb7e5d8553de8e4
b83bdf7b227762fedf9e3674888893f18bf31f0b05d622"
    }
}
```

Query Data Based on Keywords

API Function

API Description : Query data based on keywords

APIAddress

URL: /v1/common/query

Response Format

JSON

Request Parameter :

Parameter	Mandatory	Type	Default Value	Description
contract	TRUE	string	Null	Contract name
object	TRUE	string	Null	Contract table name
key	TRUE	string	Null	The keyword for querying

Response Fields :

Parameter	Type	Description
errcode	uint32	Error code，0-Succeed，others refer to error code chapter
msg	string	response description
result	jsonObject	response result
contract	string	Contract name
object	string	Contract table name
key	string	The keyword for querying
value	uint32	Queried value

Fields Changes

- Null

  API Sample

Address：http://127.0.0.1:8689/v1/common/query

- Request:

```
{
    "contract":"bottostoken",
    "object":"DTO",
    "key":"aaa"
}
```

- Response:

```
 HTTP/1.1 200 OK
{
  "errcode": 0,
  "msg": "",
  "result": {
        "contract": "bottostoken",
        "object": "DTO",
        "key": "aaa",
        "value": "dc0001cf000000ba43b74000"
  }
}
```

Serialization Of Business Data

API Function

API Description: Serialize the business data, and the JSON converts to a hexadecimal string as the Parm field value in the "Send the transaction information request".

APIAddress

URL: /v1/common/jsontobin

Response Format

JSON

Request Format

POST

Request Parameter :

Parameter	Mandatory	Type	Default Value	Description
contract	TRUE	string	Null	Contract name
object	TRUE	string	Null	Contract table name
key	TRUE	string	Null	The keyword for querying

Response Fields :

Parameter	Type	Description
errcode	uint32	Error code , 0-Succeed , others refer to error code chapter
msg	string	response description
result	jsonObject	response result
contract	string	Contract name
object	string	Contract table name
key	string	The keyword for querying
value	uint32	Queried value

Fields Changes

- Null

  API Sample

> Address : <<http://127.0.0.1:8689/v1/common/jsontobin>

- Request:

```
{
  "account_name": "testtest",
  "public_key":
"0454f1c2223d553aa6ee53ea1ccea8b7bf78b8ca99f3ff622a3bb3e62dedc712089033d6091d77296547bc
071022ca2838c9e86dec29667cf740e5c9e654b6127f"
}
```

- Response:

```
 HTTP/1.1 200 OK
{
  "errcode": 0,
  "msg": "",
  "result": {
        "contract": "bottostoken",
        "object": "DTO",
        "key": "aaa",
        "value": "dc0001cf000000ba43b74000"
  }
}
```

Query Accounts Information**

API Function

Request Parameter：

Parameter	Mandatory	Type	Default Value	Description
account_name	TRUE	string	Null	Account name

Response Fields：

Parameter	Type	Description
errcode	uint32	Error code，0-Succeed，others refer to error code chapter
msg	string	response description
result	jsonObject	response result
account_name	string	Account name
pubkey	string	Public key
balance	string	Token value，
staked_balance	string	Staked token value
unStaking_balance	string	Under unstakeing token value
unStaking_time	uint64	Unstake token timestamp（Unix timestamp）

Note：balance、staked_balance、unStaking_balance, the summary value of that three is the total token value of the change account.

Fields Changes

- Null

  API Sample

Address：http://127.0.0.1:8689/v1/account/info

- Request:

```
{
    "account_name":"delta"
}
```

- Response:

```
 HTTP/1.1 200 OK
{
    "errcode": 0,
    "msg": "success",
    "result": {
        "account_name": "testtest",
        "pubkey":
"0454f1c2223d553aa6ee53ea1ccea8b7bf78b8ca99f3ff622a3bb3e62dedc712089033d6091d77296547bc
071022ca2838c9e86dec29667cf740e5c9e654b6127f",
        "balance": "0",
        "staked_balance": "0",
        "unStaking_balance": "0",
        "unStaking_time": 0
    }
}
```

Query Contract ABI

API Function

API Description： Query contract ABI

APIAddress

URL: /v1/contract/abi

Response Format

JSON

Request Format

POST

Request Parameter :

Parameter	Mandatory	Type	Default Value	Description
contract	TRUE	string	Null	Contract name

Response Fields :

Parameter	Type	Description
errcode	uint32	Error code，0-Succeed，others refer to error code chapter
msg	string	response description
result	jsonObject	response result
types	jsonObject	reserved field
structs	jsonArray	The struct list of method which included in the contract
name	string	struct name，typically the custom contract method name aliases
base	string	Father method，usually be Null
fields	jsonObject	method's inputting parameters' structs
name	string	Parameter-1，take a registered account as an example：Account name
pubkey	string	Parameter-2，take a registered account as an example：Public key
actions	jsonArray	The method included in the contract
action_name	string	Contract method name，relate to "Send the transaction information"'s request parameter's method value
type	string	Same as name, the struct name, typically the custom contract method name aliases
tables	jsonArray	Describe how the contract data is stored, defining the table name, Type,key value, Type,value Type. Built-in contract the field is null
table_name	string	Table name for contract storage
index_type	string	Index Type，default is string
key_names	jsonArray	Key value for contract data storage
key_types	jsonArray	key value's Type，default is string
type	string	Value values corresponding to contract data key, usually be structs

Fields Changes

- Null

  API Sample

> Address：<<http://127.0.0.1:8689/v1/contract/abi>>

- Request:

```
{
    "contract":"bottos"
}
```

- Response:

```
 HTTP/1.1 200 OK
{
    "errcode": 0,
    "msg": "success",
    "result": {
        "actions": [
            {
                "action_name": "newaccount",
                "type": "NewAccount"
            },
            {
                "action_name": "transfer",
                "type": "Transfer"
            },
            {
                "action_name": "grantcredit",
                "type": "GrantCredit"
            },
            {
                "action_name": "cancelcredit",
                "type": "CancelCredit"
            },
            {
                "action_name": "transferfrom",
                "type": "TransferFrom"
            },
            {
                "action_name": "deploycode",
                "type": "DeployCode"
            },
            {
                "action_name": "deployabi",
                "type": "DeployABI"
            },
            {
                "action_name": "regdelegate",
                "type": "RegDelegate"
            },
            {
                "action_name": "unregdelegate",
                "type": "UnregDelegate"
            },
            {
                "action_name": "votedelegate",
                "type": "VoteDelegate"
```

```
        },
        {
            "action_name": "stake",
            "type": "Stake"
        },
        {
            "action_name": "unstake",
            "type": "Unstake"
        },
        {
            "action_name": "claim",
            "type": "Claim"
        },
        {
            "action_name": "setdelegate",
            "type": "SetDelegate"
        },
        {
            "action_name": "blkprodtrans",
            "type": "BlkProdTrans"
        }
    ],
    "structs": [
        {
            "base": "",
            "fields": {
                "name": "string",
                "pubkey": "string"
            },
            "name": "NewAccount"
        },
        {
            "base": "",
            "fields": {
                "from": "string",
                "to": "string",
                "value": "uint256"
            },
            "name": "Transfer"
        },
        {
            "base": "",
            "fields": {
                "description": "string",
                "location": "string",
                "name": "string",
                "pubkey": "string"
            },
            "name": "SetDelegate"
        },
        {
            "base": "",
            "fields": {
```

```
            "limit": "uint256",
            "name": "string",
            "spender": "string"
        },
        "name": "GrantCredit"
    },
    {
        "base": "",
        "fields": {
            "name": "string",
            "spender": "string"
        },
        "name": "CancelCredit"
    },
    {
        "base": "",
        "fields": {
            "from": "string",
            "to": "string",
            "value": "uint256"
        },
        "name": "TransferFrom"
    },
    {
        "base": "",
        "fields": {
            "contract": "string",
            "contract_code": "bytes",
            "vm_type": "uint8",
            "vm_version": "uint8"
        },
        "name": "DeployCode"
    },
    {
        "base": "",
        "fields": {
            "contract": "string",
            "contract_abi": "bytes"
        },
        "name": "DeployABI"
    },
    {
        "base": "",
        "fields": {
            "description": "string",
            "location": "string",
            "name": "string",
            "pubkey": "string"
        },
        "name": "RegDelegate"
    },
    {
        "base": "",
```

```
            "fields": {
                "name": "string"
            },
            "name": "UnregDelegate"
        },
        {
            "base": "",
            "fields": {
                "delegate": "string",
                "voteop": "uint8",
                "voter": "string"
            },
            "name": "VoteDelegate"
        },
        {
            "base": "",
            "fields": {
                "amount": "uint256"
            },
            "name": "Stake"
        },
        {
            "base": "",
            "fields": {
                "amount": "uint256"
            },
            "name": "Unstake"
        },
        {
            "base": "",
            "fields": {
                "amount": "uint256"
            },
            "name": "Claim"
        },
        {
            "base": "",
            "fields": {
                "actblknum": "uint64"
            },
            "name": "BlkProdTrans"
        }
    ],
    "tables": null,
    "types": null
}
}
```

Query contract code

API Function

API Description：Query contract code

URL: /v1/contract/code

Response Format

JSON

Request Format

POST

Request Parameter :

Parameter	Mandatory	Type	Default Value	Description
contract	TRUE	string	Null	Contract name

Response Fields :

Parameter	Type	Description
errcode	uint32	Error code，0-succeed，others refer to error code chapters
msg	string	response description
result	jsonObject	response result

Fields Changes

- Null

API sample

Address：<http://127.0.0.1:8689/v1/contract/code >

- Request:

```
{
    "contract":"usermng"
}
```

- Response:

```
 HTTP/1.1 200 OK
{
    "errcode": 0,
    "msg": "",
    "result":
```

"7b0a2020227479706573223a205b5d2c0a202022737472756374733a205b7b0a202020202020226e
616d65223a202255736572496e666f222c0a2020202020202262617365223a2022222c0a20202020202
0226669656c6473223a207b0a202020202020202020202020226469646964223a2022737472696e67222c0a
2020202020202020202022696e666f223a2022737472696e67220a2020202020202020207d0a202020207
d2c7b0a202020202020226e616d65223a2022557365724c6f67696e222c0a2020202020202262617365
223a2022222c0a202020202020226669656c6473223a207b0a20202020202020202020202022757365724e6
16d65223a2022737472696e67222c0a2020202020202020202020227261e646f4e756d223a2022756
96e743332220a2020202020202020207d0a202020207d2c7b0a202020202020226e616d65223a20225573736
572426173654e666f222c0a2020202020202262617365223a2022222c0a2020202020202266669656c
6473223a207b0a202020202020202020202022696e666f223a2022737472696e67220a20202020202020202
07d0a202020207d0a20205d2c0a202022616374696f6e73223a205b7b0a2020202020202616374696f6f
6e5f6e616d65223a20227265677573657222222c0a202020202020202274797065223a202255736572496e6
66f220a202020207d2c7b0a2020202020202022616374696f6e5f6e616d65223a2022757365726c6f6769
6e222c0a202020202020202274797065223a2022557365724c6f67696e220a202020207d0a20205d2c0a2
020227461626c6573223a205b7b0a20202020202020227461626c655f6e616d65223a2022757365727272265
67696e666f222c0a20202020202022696e6465785f74797065223a2022737472696e67222c0a2020202
02020226b65795f6e616d6573223a205b0a20202020202020202226469646964220a2020202020205d2c
0a202020202020226b65795f7479706573223a205b0a2020202020202020202273747262696e67220a20202
02020205d2c0a20202020202022747970653223a202255736572657242617365496e666f220a202020207d0a
20205d0a7d0a"

```
}
```

Query All Producers

API Functions

API Description： Query all producers

APIAddress

URL: /v1/delegate/getall

Response Format

JSON

Request Format

POST

Request Parameter：

Parameter	Mandatory	Type	Default Value	Description
limit	TRUE	uint32	Null	Query numbers
start	TRUE	uint32	0	Query start number

Response Fields：

Parameter	Type	Description
errcode	uint32	Error code , 0-Succeed , others refer to error code chapter
msg	string	response description
result	jsonArray	response result
account_name	string	Account name
public_key	string	Public key
location	string	Node geolocation information, such as "shanghai,china"
desc	string	Node descriptions

Fields Changes

- Null

    API Sample

Address : <http://127.0.0.1:8689/v1/delegate/getall >

- Request:

```
{
    "limit": 10,
    "start": 0
}
```

- Response:

```
 HTTP/1.1 200 OK
{
    "errcode": 0,
    "msg": "success",
    "result":  [
        {
            "account_name": "adhil",
            "report_key":
"0454f1c2223d553aa6ee53ea1ccea8b7bf78b8ca99f3ff622a3bb3e62dedc712089033d6091d772965
47bc071022ca2838c9e86dec29667cf740e5c9e654b6127f",
            "location": "shanghai,china",
            "desc": "",
            "last_slot": 1029945,
            "total_missed": 0,
            "last_confirmed_block_num": 32,
            "active": true
        },
        {
```

```
            "account_name": "albireo",
            "report_key":
"0454f1c2223d553aa6ee53ea1ccea8b7bf78b8ca99f3ff622a3bb3e62dedc712089033d6091d772965
47bc071022ca2838c9e86dec29667cf740e5c9e654b6127f",
            "location": "",
            "desc": "",
            "last_slot": 1026356,
            "total_missed": 123,
            "last_confirmed_block_num": 10,
            "active": false
        }
    ]
}
```