Cboe Digital REST API v3.8.3

Please contact Cboe Digital sales representatives or Client Services for more information on this documentation.

Contents

1 Change History

Date	Message(s) or Section	Description
20190731		Version 1
20190809	Filters	In python, filters should be specified in the **json** argument of requests.post function, not in the **data** argument. Some new filters have been added to the different endpoints. Each token will now be valid for 60 seconds, instead of the previous 30 seconds
20190819	Trades Response	The trades response will now include 3 new fields (tcr_id, client_order_id, fix_id)
20190925	Trades Response	The trades response will now include one new field: product_code
20200130		Version 1.5
	Messages updated; Account, Balances and Trades.	New fields introduced to expose Futures information to clients (highlighted in green).
	New message added; Positions	New positions endpoint to query the positions for a given account.
20200301		Version 2.0
	Movements & Trades Filter changes	Removed asset_type filter from Movements and fee_type filter from Trades.
	New endpoints: deposit_address, linked_accounts, build_withdrawal_request and submit_withdrawal_request	A set of new endpoints to allow users to process deposits and withdrawals.
	Authentication	Removed Python 2 authentication example
20200326		Version 3.0
	New Service: Block Trades API Service	Added new endpoints to interact with the Block Trade API
	New section: Balances Calculations	New section that details balances calculations
	Funding Password Signing	Modified the javascript example for easier use
20200505		Version 3.1
	New Service: Order Management API Service	Added new endpoints to interact with the Order Management system via REST API
	Movements Endpoint	Defined possible values for Type field in the movements endpoint response
20200716		Version 3.1.1
	Clearing API Permissions	Add Table explaining permissioning in Clearing API
20200709		Version 3.2
	New endpoint: Closeouts	Add new endpoint to get Closeouts information
	Execution Report	Add AvailableBalanceData component with AvailableBalance and AvailableBalanceCurrency
	Security List	Add productCode, securityGroup, cap and floor Add securityGroup field in SecurityList request
	Linked Account	Add new field is_sen_account
	Order Mass Status Order Status Single	Add AvailableBalanceData component with AvailableBalance and AvailableBalanceCurrency. VIEW DISCLAIMER

	Balances	Add new fields closed_reserve_loss and closed_reserve_profit
20200924		Version 3.3
	Block Trades	Negotiated Time must be a unix timestamp in milliseconds
	Movements	Added key delivery to posting_summary object
	Security Status	Added marketDataID field
	Member User Permissions	Added new user permissions endpoint
	Closeouts	Updated output definitions
20201116		Version 3.4
	Security Status	Added haltReason field
20210812		Version 3.5
	Trades Endpoint	Fix typo in sample output. clearing_fees -> clearing_fee and exchange_fees -> exchange_fee
	Account Endpoint	Added new field in the response: emarket_account_number
20210826	Trades Endpoint	Fix typo in request example. Added] to close array in the filter parameter
20210812		Version 3.6
	New Order Single Supported Order Types	Added support for Market orders
20211018		Version 3.7
	Order Management	Added requestId field in request and response messages. Correlation field is deprecated and will be removed in future versions (Timeline to follow). To link requests and responses please use the requestId or the clOrdID fields.
20220516		Version 3.8
	Balances	Add available_balance field
20220707	Authentication	Remove iat from Javascript payload example
20230118	Movements Endpoint Requests Endpoint Submit Withdrawal Request	Add optional request_id field to requests and responses
20230721	SecurityList	Fixed error in the parameter name
20230725	RateLimit	Added rate limit section for Order Entry API

2 General Concepts

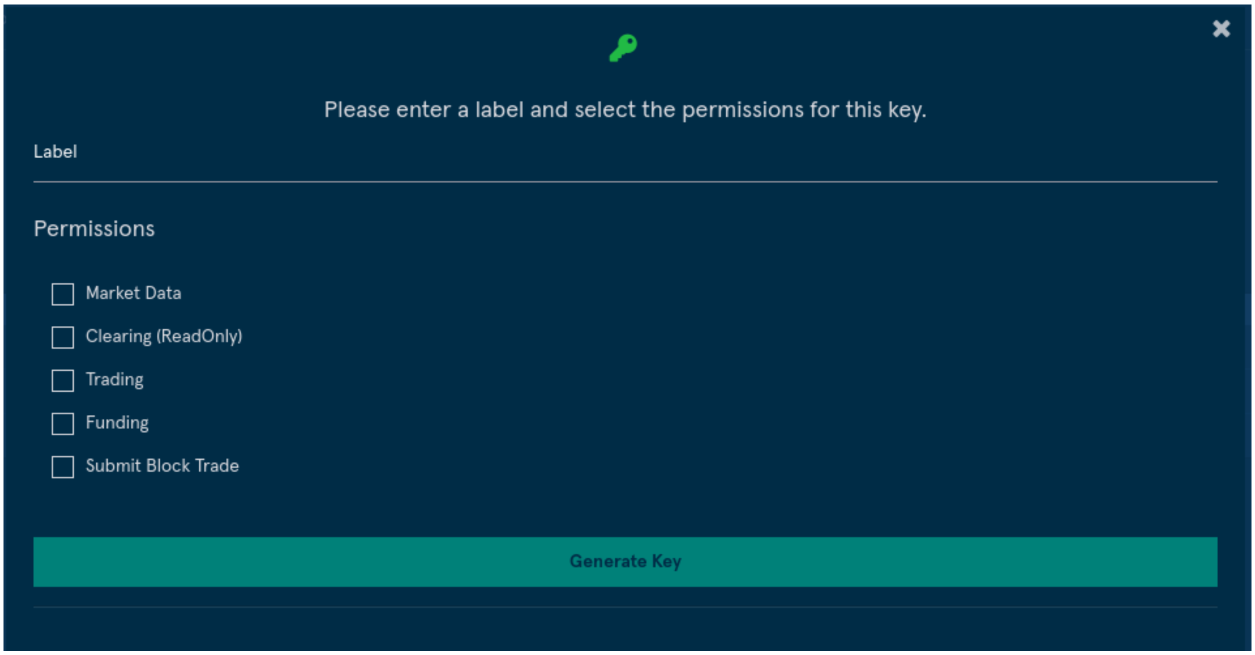
2.1 API Credentials

In order to sign your API requests, you will need to create a set of API Credentials.

From the Eris Member Portal, navigate to the dropdown next to your username in the top right of the page and select 

.

After clicking **Create New API Key** you will be asked to select the permissions you want to enable.



API Key permissions

- **Market Data:** An API key can query historical data or subscribe to real time data.
- **Trading:** Allows an API key to enter, modify and cancel orders.
- **Clearing (ReadOnly):** Allows an API key to query information about their clearing accounts.
- **Funding:** Allows an API key to initiate withdrawal requests.
- **Submit Block Trade:** Allows an API key to submit Block Trades.

When ready click **Generate Key** and you will be presented with two pieces of information that must be kept safe as they will be needed for authentication of calls to the end points and will not be shown again:

- **API key**
- **Secret**

2.2 Authentication

A json web token should be generated using the HS256 algorithm on the API key, secret and timestamp as described in the examples below. This token should be included in the header of every request.

- **Timestamp:** The authentication token requires a Unix Epoch timestamp in seconds.
- **Token Age:** Each token will only be valid for 60 seconds after the timestamp.

Notes:

- In python use the **pyjwt** package to generate the token (https://pyjwt.readthedocs.io/en/latest/).
- Note that some jwt encoding functions may return a byte array rather than a string, and some languages require explicit conversion. For example, in Python, you must use the **decode()** function.
- Be aware that there must be a blank space between **Bearer** and the token.

Javascript Example:

```
const jwt = require('jsonwebtoken');
const axios = require('axios').default;
const apiKey = '9106676d85f1163f.d1ba2efac8bc1e0a';
const secret = '31b6b61606588580';
var payload = {
 sub: apiKey
};
var token = jwt.sign(payload, secret, { algorithm: 'HS256'});
```

Python 3 Example:

```
import jwt
import time
import requests

def gen_token(secret, api_key):
   unix_timestamp = int(round(time.time()))
   payload_dict = {'sub': api_key, 'iat': unix_timestamp}
   return jwt.encode(payload_dict, secret, algorithm='HS256').decode('utf-8')

my_secret = '31b6b61606588580'
my_api_key = '9106676d85f1163fgd1ba2efac8bc1e0a'
url = 'https://clearing.erisx.com/api/v1/'
token = gen_token(my_secret, my_api_key)
requests.post(url= url + endpoint_name, headers={'Authorization': 'Bearer ' +
token}, json={}) # Be aware that there is a blank space after Bearer
```

2.3 Funding Password Signing

In order to enhance security in funding related operations, some endpoints of the Clearing API require a two step process authentication. The first authentication is based on the API credentials and the token derivation described in the section above. The second authentication is based on the generation of an encrypted signature based on the member user's Funding Password. In order to correctly perform the signature, the clearing member should follow the following steps:

- Generate a key from the funding password using the Password-Based Key Derivation Function 2 (PBKDF2) with the following parameters:
    - Hashing algorithm: SHA-256
    - Password: Clearing member user's Funding Password.
    - Salt: Auth ID for the clearing member user, which can be found in the response from the endpoint Build Withdrawal Request in the field 'auth_id'.
    - Iterations: 100,000
    - Derive Key Length: 32 bytes (256 bits).
- Generate a canonical signature for the appropriate message using the Elliptic Curve Digital Signature Algorithm (ECDSA) with the elliptic curve SECP256k1, where the key used in the signature should be the key generated in the previous step. Encoding of the signature should be in DER format.
- Encode the signature using Base58 encoding. Note that some base58 encoding functions may return a byte array rather than a string, and some languages require explicit conversion. For example, in Python, you must use the decode() function.

This signature will enable the Cboe Digital ClearingHouse to validate the funding password without the clearing member having to expose the funding password at any moment over the internet, which provides a higher layer of security for the safe keeping of the clearing member's credentials.

Javascript Example:

```
const crypto = require('crypto');
const bs58 = require('bs58');
const ecdsa = require('ecdsa');
const pbkdf2 = require('pbkdf2-sha256');
const BigInteger = require('bigi');

function sha256(str) {
  return crypto.createHash('sha256').update(str).digest();
}

function privateKeyFromPassword(authId, password) {
return pbkdf2(password, authId, 100000, 32);
}
```

```
function signMessage(message, privateKey) {
  let shaMsg = sha256(message);
  let signature = ecdsa.sign(shaMsg, BigInteger.fromBuffer(privateKey));
  return signature.toDER();
}

const privateKey = privateKeyFromPassword(auth_id, password);
const signature = bs58.encode(signMessage(request_data, privateKey));
```

Python3 Example:

```
import hashlib
import ecdsa
from ecdsa.util import sigencode_der_canonize
import base58

def privateKeyFromPassword(authId, password):
      return hashlib.pbkdf2_hmac(
          hash_name='sha256',
          password=password.encode(),
          salt=authId.encode(),
          iterations=100000,
          dklen=32)

def signMessage(message, authId, password):
      privateKey = privateKeyFromPassword(authId, password)
      sk = ecdsa.SigningKey.from_string(privateKey, curve=ecdsa.SECP256k1)
      signature = sk.sign_deterministic(
          message.encode(),
          sigencode=sigencode_der_canonize,
          hashfunc=hashlib.sha256)
      return base58.b58encode(signature).decode('ascii')

signature = signMessage(message, authId, password)
```

2.4 Filters

Some API calls allow the use of filters. These filters provide a greater level of flexibility to queries. Ultimately, providing more efficient requests and a better API experience.

The filter query has the following json type format. Multiple filters can be applied in a single request to best tailor the query. In python, filters should be given under the **json** argument of the requests.post function.

```
"filter": [{"attr": "attribute_name","op": "eq","value": "attribute_value" }]
```

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Field	Value
filter	Name of the query parameter
attr	Name of the attribute that wants to be used in the query
op	Operations present in the query: ‘eq’ - equal ‘ne’ - not equal ‘gt’ - greater than ‘gte’ - greater than or equal ‘lt’ - less than ‘lte’ - less than or equal
value	Value or array of values of the attribute to which the query will compare.

2.5 Sorting

Queries also provide the ability to sort the results using the following format.

```
"sort": [{ "attr": "attribute_name", "value": "desc" }]
```

Field	Value
sort	Name of the query parameter
attr	Name of the attribute that wants to be used in the query
value	Direction of the sort: ‘desc’ - descending or ‘asc’ - ascending

2.6 Pagination

Some requests can be paginated. The offset and limit parameters on the request allows the user to choose how many results should be included in the return message and where the results should begin.

Maximum number of results per request is 100.

These two parameters are optional and available parameters in all endpoints except in the Balances endpoint.

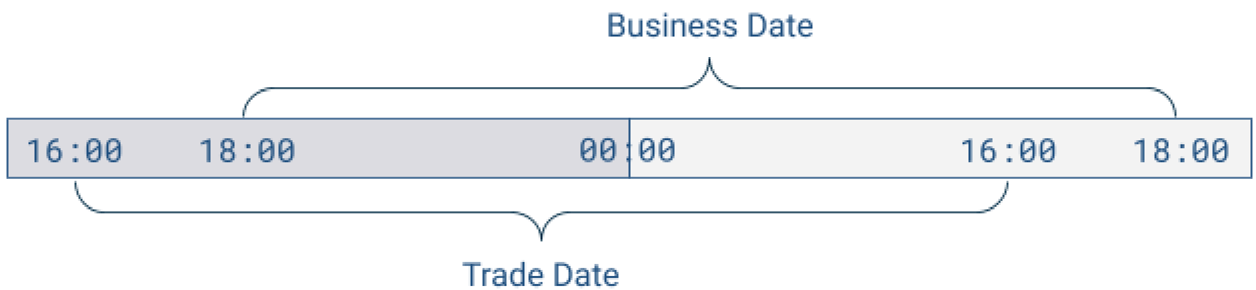
```
"offset":0, "limit":10
```

Field	Value
offset	Integer. The number of entries to skip (default: 0).
limit	Integer. Maximum number of results to be returned (default: 100).

2.7 Trade Date and Business Date

A new trade date starts at 4:00:00pm CST and finishes at 3:59:59pm CST the following day. All Exchange (trading) activity will be included in the appropriate trade date depending on the time of the activity. (I.e. trading activity at 2019-01-01 15:59:59 CST will be included in 2019-01-01 trade date but trading activity at 2019-01-01 16:00:00 CST will be included in 2019-01-02 trade date).

A new business date starts at 6:00pm CST and finishes at 5:59pm CST of the following day. All asset movement activity (Deposits, Withdrawals) will be included in the appropriate business date depending on the time of the asset movement. (I.e. a deposit made at 2019-01-01 17:59:59 CST will be included in 2019-01-01 business date but a deposit made at 2019-01-01 18:00:00 CST will be included in the 2019-01-02 business date).



The relevance of these two time frames is important for understanding the calculation of the Opening Balance in the Balances endpoint.

2.8 Rate Limiting

Requests are throttled per IP address. Limit: 4 requests in a 1 second period.

When the rate limit is exceeded, a response with status **429 -> Too Many Requests** is returned.

If the limit is exceeded the IP address will be restricted from making new requests for 60 seconds.

We highly recommend adding logic to your application to gracefully process the 429 To Many Requests message. We suggest that if the limit is breached, your application will pause for the required time in order to be within the rate limiting again. An application that repeatedly breaches the limit will keep extending the restricted period, thus, preventing your application to function correctly again.

3 Clearing API Service

This API service enables clients to interact with their Clearing accounts in order to extract data regarding their activity. All requests and responses are application/json content type.

All Clearing API endpoints are private and every request needs to be signed using the authentication method described in the Authentication section. Some endpoints require additional signing authentication as described in the Funding Password Signing section.

3.1 REST API Endpoint URL

- **Production: https://clearing.erisx.com/api/v1**
- **New Release (test): https://clearing.newrelease.erisx.com/api/v1**

3.2 Clearing API Permissions

As well as the chosen API Key permissions, selected when creating an API key, a user must have the accompanying User permissions in order to make requests to different Clearing API endpoints. The permissions for each endpoint are described in the table below.

Endpoint	API Credentials Permissions	User Permissions
accounts	Clearing (Read Only)	View Balances (to obtain a summary of account balances) Allow Trading (to obtain a list of FIX IDs)
balances	Clearing (Read Only)	View Balances
requests	Clearing (Read Only)	View Movements and View Recent Transactions
trades	Clearing (Read Only)	View Trades
movements	Clearing (Read Only)	View Movements
positions	Clearing (Read Only)	View Futures Positions
linked_accounts	Clearing (Read Only)	View SSI
deposit_address	Clearing (Read Only)	Send Deposits
build_withdrawal_request	Funding	View SSI and Request Withdrawals
submit_withdrawal_request	Funding	View SSI and Request Withdrawals

Direct Members have by default all permissions enabled. If you are an entity, please contact our Client Services team to inquire about the permissions you need.

3.3 Funds Designation

All customer funds for trading on designated contract markets (futures exchanges like Cboe Digital) must be kept apart ("segregated") from non customer funds.

Cboe Digital currently supports three funds designations:

- N: Represents “non-segregated” funds held on behalf of members trading Cboe Digital Spot products.
- P: Represents “member property” funds held on behalf of direct members trading Cboe Digital futures products.
- S: Represents “segregated” funds held on behalf of the clients of Futures Commission Merchants (FCM’s) trading Cboe Digital futures products.

3.4 Balances Calculations

As defined in the Trade Date and Business Date section, Trade Date has a different start time and end time than Business Date. This difference has certain implications in how balances are calculated and provided in response to the different Clearing API endpoints.

3.4.1 Account Endpoint balance values

The response of the accounts endpoint, provides a summary of balances for the account along with other account information. The balances reflected include all Exchange and Clearing House activities up to the moment when the API request is made. Therefore, this value will include the latest information known for the account.

3.4.2 Balances Endpoint, Opening Balance calculation

The balances endpoint, provides a more detailed view of the balances for a particular account. The opening balance is generated using a reference to the current business date. Therefore, the following rules need to be considered to understand the value provided;

- Include all asset movements (Deposits, Withdrawals, etc.) prior to the beginning of the current business date.
- Include all trading activity for the trade date prior to the current business date.

Examples

Request is within the same trade date and business date:

The Opening balance for a request on Tuesday **@ 15:50** CT will include:

- Trades prior to Monday @ 16:00 CT
- Asset movements prior to Monday @ 18:00 CT

Request is during a new trade date but still the same business date

The Opening balance for a request on Tuesday **@ 16:30** CT will include:

- Trades up to Monday @ 16:00 CT
- Asset movements prior to Monday @ 18:00 CT

Request is during a new trade date and new business date (same calendar date)

The Opening balance for a request on a Tuesday **@ 18:30** CT will include:

- Trades up to Tuesday @ 16:00 CT
- Asset movements prior to Tuesday @ 18:00 CT

3.5 Accounts Endpoint

This endpoint will return a list of all accounts a member has available to them, as well as basic balance information. More detailed balance information is returned in the getBalances endpoint.

- **HTTP Request Type:** POST
- **Endpoint:** /accounts
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs:

Field	Value	
filter (optional)	Default: `"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]`	
	account_id	Account ID
offset (optional)	Number of elements to be offset in the request for pagination purposes	
limit (optional)	Limit of elements returned in the request	

Example Requests:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/accounts",
    headers={"Authorization": "Bearer " + token},
    json={})

requests.post(
    url="https://clearing.erisx.com/api/v1/accounts",
    headers={"Authorization": "Bearer " + token},
    json={
        "filter": [{
            "attr":
                "account_id",
            "op":
                "eq",
            "value": [
                "27ff6d34-523d-476d-9ad5-edeb373b83dc"
            ]
        }],
        "offset": 0,
        "limit": 10
    })
```

Outputs

Field	Value
count	Number of member accounts found
timestamp	Time of the request
accounts	List of all available accounts
account_id	Account ID
account_number	Account Number
fix_ids	List of all available FIX Trading IDs
member_users	Member users associated with the account
balances	Balances of the account at the time of the request
cti	Customer Type Indicator (For futures accounts)
origin	Origin (For futures accounts)
emarket_account_number	Cboe Digital Exchange Account Number

Example Response:


```
{
  "count": 1,
  "timestamp": "2018-01-01T06:00:00.000Z",
  "accounts": [
    {
      "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
      "account_number": "DM-000001",
      "member_users": [
        "5c532a02f2530e906a9c065f"
      ],
      "balances": [
        {
          "asset_type": "USD",
          "amount": "100.5"
        },
        {
          "asset_type": "TBTC",
          "amount": "1.5"
        }
      ],
      "fix_ids": [
        "trading_id"
      ],
      "cti": 1,
      "origin": 2
    },
     "emarket_account_number": "abcdea"
  ]
}
```

3.6 Balances Endpoint

This endpoint will return a detailed set of balance information for a given account.

- **HTTP Request Type:** POST
- **Endpoint:** /balances
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

Field	Value
account_id	Account ID

Example Request:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/balances",
    headers={"Authorization": "Bearer " + token},
    json={"account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc"})
```

Outputs

Field	Value
account_id	Account ID
timestamp	Time of the request
report_date	Business date associated with the request
asset_type	Asset Type
opening_balance	Balance at the beginning of the corresponding business date
asset_movement	Amount of asset movements for the business date up to the time of the request.
spot_movement	Amount of Spot trade movements for the business date up to the time of the request.
closing_balance	Balance as of the time of the request.
available_balance	Balance available to withdraw
change_in_balance	Change in balance between the beginning of the request's business date and the time of the request.
exchange_fees	Exchange fees paid during the request's trade date
clearing_fees	Clearing fees paid during the request's trade date
other_fees	Other fees paid during the request's business date
realized_p_and_l	Realized Profit and Loss in Futures trades
futures_delivery	Quantity of Futures contract delivered
total_equity	Total Equity
reserved_margin	Reserved Margin for Futures positions
total_excess_deficit	Total Excess Deficit

net_liquidating_value	Net Liquidating Value
available_to_trade	Balance available to trade (does not include working orders)
reserved_ote	Reserved OTE
fd	Funds designation
closing_price	Closing price of each asset at the end of the previous trade date
closing_price_date	Trade date to which the closing price belongs
usd_value	The USD equivalent balance for each asset based on the closing price of the previous trade date from the time of the request.
closed_reserve_loss	Assets or funds reserved from closed positions which may be needed to meet obligation in Push type futures, when closed position results in a realized loss.
closed_reserve_profit	Assets or funds reserved from closed positions which may be needed to meet obligation in Push type futures, when closed position results in a realized profit.

Example Response:


```
{
    "account_id": "2678ea0f-4407-49b6-a399-a14b51cb845f",
    "timestamp": "2022-05-16T12:58:09.959Z",
    "report_date": "2022-05-16",
    "balances":
    [
        {
            "opening_balance": "1425401.2119",
            "spot_movement": "0.0",
            "exchange_fees": "0.0",
            "clearing_fees": "0.0",
            "other_fees": "0.0",
            "asset_movement": "0.0",
            "realized_p_and_l": "0.0",
            "futures_delivery": "0.0",
            "closing_balance": "1425401.2119",
            "total_equity": "1425401.2119",
            "reserved_margin": "0.0",
            "closed_reserve_profit": "0.0",
            "closed_reserve_loss": "0.0",
            "total_excess_deficit": "1425401.2119",
            "net_liquidating_value": "1425401.2119",
            "available_to_trade": "1425401.2119",
            "fd": "N",
            "asset_type": "USD",
            "reserved_ote": "0.0",
            "ote": "0.0",
            "initial_margin": "0.0",
            "maintenance_margin": "0.0",
            "closing_price": "1.0",
```

```
            "closing_price_date": "2022-02-22",
            "usd_value": "1425401.2119",
            "change_in_balance": "0.0",
            "available_balance": "1375401.2119"
        },
        {
            "opening_balance": "90.15373283",
            "spot_movement": "0.0",
            "exchange_fees": "0.0",
            "clearing_fees": "0.0",
            "other_fees": "0.0",
            "asset_movement": "0.0",
            "realized_p_and_l": "0.0",
            "futures_delivery": "0.0",
            "closing_balance": "90.15373283",
            "total_equity": "90.15373283",
            "reserved_margin": "0.0",
            "closed_reserve_profit": "0.0",
            "closed_reserve_loss": "0.0",
            "total_excess_deficit": "90.15373283",
            "net_liquidating_value": "90.15373283",
            "available_to_trade": "90.15373283",
            "fd": "N",
            "asset_type": "TBTC",
            "reserved_ote": "0.0",
            "ote": "0.0",
            "initial_margin": "0.0",
            "maintenance_margin": "0.0",
            "closing_price": "31024.2",
            "closing_price_date": "2022-05-15",
            "usd_value": "2796947.438064486",
            "change_in_balance": "0.0",
            "available_balance": "90.15373283"
        },
        {
            "opening_balance": "976.15009",
            "spot_movement": "0.0",
            "exchange_fees": "0.0",
            "clearing_fees": "0.0",
            "other_fees": "0.0",
            "asset_movement": "0.0",
            "realized_p_and_l": "0.0",
            "futures_delivery": "0.0",
            "closing_balance": "976.15009",
            "total_equity": "976.15009",
            "reserved_margin": "0.0",
            "closed_reserve_profit": "0.0",
            "closed_reserve_loss": "0.0",
            "total_excess_deficit": "976.15009",
            "net_liquidating_value": "976.15009",
```

```
        "available_to_trade": "976.15009",
        "fd": "N",
        "asset_type": "TETH",
        "reserved_ote": "0.0",
        "ote": "0.0",
        "initial_margin": "0.0",
        "maintenance_margin": "0.0",
        "closing_price": "2129.88",
        "closing_price_date": "2022-05-15",
        "usd_value": "2079082.5536892",
        "change_in_balance": "0.0",
        "available_balance": "976.15009"
    },
    {
        "opening_balance": "999.71",
        "spot_movement": "0.0",
        "exchange_fees": "0.0",
        "clearing_fees": "0.0",
        "other_fees": "0.0",
        "asset_movement": "0.0",
        "realized_p_and_l": "0.0",
        "futures_delivery": "0.0",
        "closing_balance": "999.71",
        "total_equity": "999.71",
        "reserved_margin": "0.0",
        "closed_reserve_profit": "0.0",
        "closed_reserve_loss": "0.0",
        "total_excess_deficit": "999.71",
        "net_liquidating_value": "999.71",
        "available_to_trade": "999.71",
        "fd": "N",
        "asset_type": "USDC",
        "reserved_ote": "0.0",
        "ote": "0.0",
        "initial_margin": "0.0",
        "maintenance_margin": "0.0",
        "closing_price": "1.0",
        "closing_price_date": "2022-05-15",
        "usd_value": "999.71",
        "change_in_balance": "0.0",
        "available_balance": "999.71"
    },
    {
        "opening_balance": "25.934889",
        "spot_movement": "0.0",
        "exchange_fees": "0.0",
        "clearing_fees": "0.0",
        "other_fees": "0.0",
        "asset_movement": "0.0",
        "realized_p_and_l": "0.0",
```

```
            "futures_delivery": "0.0",
            "closing_balance": "25.934889",
            "total_equity": "25.934889",
            "reserved_margin": "0.0",
            "closed_reserve_profit": "0.0",
            "closed_reserve_loss": "0.0",
            "total_excess_deficit": "25.934889",
            "net_liquidating_value": "25.934889",
            "available_to_trade": "25.934889",
            "fd": "N",
            "asset_type": "TLTC",
            "reserved_ote": "0.0",
            "ote": "0.0",
            "initial_margin": "0.0",
            "maintenance_margin": "0.0",
            "closing_price": "70.53",
            "closing_price_date": "2022-05-15",
            "usd_value": "1829.18772117",
            "change_in_balance": "0.0",
            "available_balance": "25.934889"
        },
        {
            "opening_balance": "1.2",
            "spot_movement": "0.0",
            "exchange_fees": "0.0",
            "clearing_fees": "0.0",
            "other_fees": "0.0",
            "asset_movement": "0.0",
            "realized_p_and_l": "0.0",
            "futures_delivery": "0.0",
            "closing_balance": "1.2",
            "total_equity": "1.2",
            "reserved_margin": "0.0",
            "closed_reserve_profit": "0.0",
            "closed_reserve_loss": "0.0",
            "total_excess_deficit": "1.2",
            "net_liquidating_value": "1.2",
            "available_to_trade": "1.2",
            "fd": "N",
            "asset_type": "TBCH",
            "reserved_ote": "0.0",
            "ote": "0.0",
            "initial_margin": "0.0",
            "maintenance_margin": "0.0",
            "closing_price": "213.26",
            "closing_price_date": "2022-05-15",
            "usd_value": "255.912",
            "change_in_balance": "0.0",
            "available_balance": "1.2"
        }
```

```
    ]
}
```

3.7 Movements Endpoint

This endpoint will return a detailed set of asset movements information for a given account.

- **HTTP Request Type:** POST
- **Endpoint:** /movements
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

Field	Value	
filters (optional)	Default: `"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]`	
	account_id	Account ID
	time	Start time using "op":gte or gt and End time using "op":lte or lt. If no time query is made it will return all the available data (subject to the specified limit)
offset (optional)	Number of elements to be offset in the request for pagination purposes	
limit (optional)	Limit of elements returned in the request	
Sort (optional)	Default: `"sort": [{ "attr": "time", "value": "desc"}]`	

Example Request:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/movements",
    headers={"Authorization": "Bearer " + token},
    json={
        "filter": [{
            "attr": "account_id",
            "op": "eq",
            "value": "27ff6d34-523d-476d-9ad5-edeb373b83dc"
        }, {
            "attr": "time",
            "op": "lte",
            "value": "2018-01-01T05:59:30.000Z"
        }, {
            "attr": "time",
            "op": "gte",
            "value": "2017-12-01T05:59:30.000Z"
        }],
        "sort": [{
            "attr": "time",
            "value": "asc"
        }],
        "offset": 0,
        "limit": 10
    })
```

Outputs

Field	Value
count	Number of results returned
description	Description of the asset movement
time	Timestamp of the asset movement
date	Business date of the asset movement
type	Type of the asset movement: **deposit**, **withdrawal**, **reversal**, **general**, **fee_rebate**, **delivery**
request_id	Only present if a request_id was sent in the request that originated the movement. It echoes the request_id value sent by the customer on the original request.
posting_summary	Details of the asset movement (account ID, Asset type, Key (specifies what the amount refers to), Amount and Report Date). List of available keys: ● "amount": General movement amount ● "bank_fee": Bank Fees Charged ● "clearing_fee": Clearing House Fees Charged ● "exchange_fee": Trading Fees Charged ● "other_fees": Other Fees Charged ● “delivery”: Futures delivery amount

Example Response:


```
{
   "count": 1,
   "movements": [
     {
       "description": "DEPOSIT 0.13057719 TBTC",
       "time": "2018-01-01T06:00:00.000Z",
       "type": "deposit",
       "posting_summary": [
               {
                 "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
                 "asset_type" : "TBTC",
                 "key": "notional",
                 "amount": "0.25486",
                 "report_date": "2018-01-01"
               },
               {
                 "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
                 "asset_type": "TBTC",
                 "key": "clearing_fee",
                 "amount": "0.00002549",
                 "report_date": "2018-01-01"
               },
               {
                 "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
                 "asset_type": "TBTC",
                 "key": "exchange_fee",
                 "amount": "0.00022937",
                 "report_date": "2018-01-01"
               }
             ],
           }
         ]
}
```


3.8 Trades Endpoint

This endpoint will return a set of trade information for a given account.

- **HTTP Request Type:** POST
- **Endpoint:** /trades
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

Field	Value	
filters (optional)	Default: `"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]`	
	account_id	Account ID
	time	Start time using “op”:gte or gt and End time using “op”:lte or lt. If no time query is made it will return all the available data (subject to the specified limit)
	trade_id	Trade ID
	side	Side of the trade (BUY, SELL)
	aggressor	Aggressor in the trade (Y, N)
	qty	Quantity of the trade
	px	Price of the trade
	qty_type	Base currency
	px_type	Quoted currency
	type	Types: futures, spot, delivery or reversal
offset (optional)	Number of elements to be offset in the request for pagination purposes	
limit (optional)	Limit of elements returned in the request	
Sort (optional)	Default: `"sort": [{ "attr": "time", "value": "desc"}]`	

`Example Request:`

```
requests.post(
    url="https://clearing.erisx.com/api/v1/trades",
    headers={"Authorization": "Bearer " + token},
    json={
        "filter": [{
            "attr": "account_id",
            "op": "eq",
            "value": "27ff6d34-523d-476d-9ad5-edeb373b83dc"
        }]
    }
)
```

Outputs

Field	Value
count	Number of results returned
trade_id	Trade ID of the trade
tcr_id	Trade Capture Report ID
client_order_id	Client Order ID
fix_id	FIX ID
time	Timestamp of the trade

description	Description of the trade
side	Side of the trade (BUY, SELL)
account_id	Account ID
aggressor	Aggressor of the trade (Y, N)
qty	Quantity
px	Price
clearing_fee	Clearing fee of the trade
exchange_fee	Exchange fee of the trade
product_code	Product code
qty_type	Base currency
px_type	Quote currency
fee_type	Fee currency
report_date	Business date of the trade
contract_symbol	Contract Symbol
asset_type	Asset Type
trader_type	Trade Type
record_type	Record Type
notional	Notional Amount
total_amount	Total Amount charged to the Account
trade_report_id	Trade Report ID
customer_account_ref	Customer Account Reference
product_suffix	Product Type: SP, FUT
state	State of the Trade
expiration_time	Expiration date and Time of the futures contract involved in the trade
cti	CTI
origin	Origin

Example Response:


```
{
  "count": 1,
  "trades": [
    {
      "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
      "contract_symbol": "TBTCZ9",
      "asset_type": "TBTC",
      "px_type": "USD",
      "side": "BUY",
```

```
      "trade_type": "REGULAR",
      "record_type": "T",
      "qty": "1.0",
      "px": "6994.0",
      "notional": "699.4",
      "aggressor": "Y",
      "fee_type": "USD",
      "exchange_fee": "0.001",
      "clearing_fee": "0.001",
      "total_amount": "699.402",
      "tcr_id": "477188150",
      "trade_report_id": "1125899907429878",
      "trade_id": "B2019196081HP00",
      "customer_account_ref": "buy_side",
      "fix_id": "1",
      "product_suffix": "FUT",
      "state": "posted",
      "time": "2018-01-01T06:00:00.000000Z",
      "expiration_time": "2030-01-01T06:00:00Z",
      "cti": 1,
      "origin": 1,
      "product_code": "TBTC/USD",
      "client_order_id": "1",
      "description": "BUY 1.0 TBTCZ9 @ 6994.0 USD"
    }
  ]
}
```

3.9 Requests Endpoint

This endpoint will return the asset movements requests made by the appropriate account and their current status.

- **HTTP Request Type:** POST
- **Endpoint:** /requests
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

Field	Value	
filters (optional)	Default: `"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]`	
	account_id	Account ID
	time	Start time using "op":gte or gt and End time using "op":lte or lt. If no time query is made it will return all the available data (subject to the specified limit)
	asset_type	Asset type (BTC, BCH, ETH, LTC)
	amount	Amount of the request
	transaction_type	Request type (withdrawal, deposit)
offset (optional)	Number of elements to be offset in the request for pagination purposes	
limit (optional)	Limit of elements returned in the request	
Sort (optional)	Default: `"sort": [{ "attr": "time", "value": "desc"}]`	

Example Request:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/requests",
    headers={"Authorization": "Bearer " + token},
    json={
        "filter": [{
            "attr": "account_id",
            "op": "eq",
            "value": "27ff6d34-523d-476d-9ad5-edeb373b83dc"
        }],
        "sort": [{
            "attr": "time",
            "value": "asc"
        }],
        "offset": 0,
        "limit": 10
    })
```

Outputs

Field	Value
count	Number of results returned
account_id	Account ID
dest_address	Destination Address of the request (Digital Assets Only)
time	Timestamp of the asset movement request
asset_type	Asset type
amount	Amount of the request
fee	Fees
fee_type	Fee currency
transaction_type	Transaction type (deposit, withdrawal)
state	State of the request (pending, rejected, posting)
request_id	Only present if a request_id was sent in the request that originated the movement. It echoes the request_id value sent by the customer on the original request.

Example Response:


```
{
    "count": 1,
    "requests": [
      {
        "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
        "dest_address": "2MvQsnz92K5DmKe9fd2GHPz4oRKJXoAR1m4",
        "time": "2018-01-01T06:00:10.000Z",
        "asset_type": "TBTC",
        "amount": "-0.0001",
        "fee": "-0.0000001",
        "fee_type": "TBTC",
        "transaction_type": "withdrawal",
        "state": "pending"
      }
    ]
  }
```


3.10 Positions Endpoint

This endpoint will return the list of open positions for each account.

- **HTTP Request Type:** POST
- **Endpoint:** /positions
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

Field	Value	
filters (optional)	Default: `"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]`	
	account_id	Account ID
	contract_symbols	Contract symbol
offset (optional)	Number of elements to be offset in the request for pagination purposes	
limit (optional)	Limit of elements returned in the request	
Sort (optional)	Default: `"sort": [{ "attr": "time", "value": "desc"}]`	

Example Request:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/positions",
    headers={"Authorization": "Bearer " + token},
    json={
        "filter": [
            {
                "attr": "account_id",
                "op": "eq",
                "value": "27ff6d34-523d-476d-9ad5-edeb373b83dc"
            },
            {
                "attr": "contract_symbols",
                "op": "eq",
                "value": "BTCW44"
            },
        ],
        "sort": [{
            "attr": "time",
            "value": "asc"
        }],
        "offset": 0,
        "limit": 10
    }
)
```

Outputs

Field	Value
account_id	Account ID
positions	List of Open positions
contract_symbol	Exchange Contract Symbol
contract_code	Clearing House Contract Symbol
product_code	Product Code
closing_px_date	Date utilize for the closing price

total_long	Total Long positions open for a certain contract
total_short	Total short positions open for a certain contract
total_reserve_ote	Total reserved OTE for a certain contract
expiration_time	Expiration time of the contract
position_id	Position ID
qty	Quantity
px	Price
notional	Notional
reserve_margin_s	Reserve Margin for short position
reserve_margin_l	Reserve Margin for long position
et	Expiration Time of position
customer_account_ref	Customer Account Reference
cl_ord_id	Client Order ID

Example Response:

```
[
  {
    "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
    "positions": [
      {
        "contract_symbol": "BTCUSD1W",
        "contract_code": "BTCW44",
        "product_code": "BTC",
        "closing_px_date": "2018-01-01",
        "total_long": "400.0",
        "total_short": "0.1",
        "total_reserve_ote": "0.0",
        "expiration_time": "2019-01-01T06:00:00.000Z",
        "positions": [
          {
            "position_id": "t2",
            "qty": "-2",
            "px": "6000.0",
            "notional": "6000",
            "reserve_margin_s": "0.2",
            "reserve_ote": "-2000.0",
            "et": "2018-01-01T06:00:00.000Z",
            "customer_account_ref": "customer_account_ref",
            "cl_ord_id": "cl_ord_id"
          },
          {
            "position_id": "t1",
            "qty": "1",
```

```
            "px": "4000.0",
            "notional": "-4000",
            "reserve_margin_l": "400.0",
            "reserve_ote": "1000.0",
            "et": "2018-01-01T06:00:00.000Z",
            "customer_account_ref": "customer_account_ref",
            "cl_ord_id": "cl_ord_id"
          }
        ]
      }
    ]
  }
]
```


3.11 Closeouts Endpoint

This endpoint will return the list of closeouts for each account.

- **HTTP Request Type:** POST
- **Endpoint:** /closeouts
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

<table>
<tr><th>Field</th><th colspan="2">Value</th></tr>
<tr><td rowspan="6">filters (optional)</td><td colspan="2">Default: <code>"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]</code></td></tr>
<tr><td>account_id</td><td>Account ID</td></tr>
<tr><td>closeout_id</td><td>Closeout ID</td></tr>
<tr><td>product_symbol</td><td>Product Symbol</td></tr>
<tr><td>contract_symbol</td><td>Contract symbol</td></tr>
<tr><td>time</td><td>Closeout Time. Format(yyyy-mm-ddThh:mm:ssZ)</td></tr>
<tr><td>closeout_id</td><td colspan="2">Closeout unique identifier</td></tr>
<tr><td>report_date</td><td colspan="2">Trade Date for closeout</td></tr>
<tr><td>time</td><td colspan="2">Timestamp of closeout</td></tr>
<tr><td>description</td><td colspan="2">Summary of closeout</td></tr>
<tr><td>account_id</td><td colspan="2">Account ID</td></tr>
<tr><td>account_label</td><td colspan="2">Account Label</td></tr>
<tr><td>product_symbol</td><td colspan="2">Product</td></tr>
<tr><td>contract_symbol</td><td colspan="2">Contract</td></tr>
<tr><td>contract_code</td><td colspan="2">Clearing contract code</td></tr>
</table>

qty	Quantity of closeout
expiration_time	Contract expiration time
realized	Realized PnL in closeout
closeout_items	List of positions involved in the closeout
position_id	Position ID
qty	Quantity
px	Price
notional	Notional
trade_date	Trade date when position was opened
qty_type	Quantity type
px_type	Price type
trd_type	Trade Type
trade_report_id	Trade Report ID
trade_id	Trade ID
customer_account_ref	Customer Account Reference
cl_ord_id	Client Order ID
offset (optional)	Number of elements to be offset in the request for pagination purposes
limit (optional)	Limit of elements returned in the request
Sort (optional)	Default: `"sort": [{ "attr": "time", "value": "desc"}]`

Example Request:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/closeouts",
    headers={"Authorization": "Bearer " + token},
    json={
        "filter": [
            {
                "attr": "account_id",
                "op": "eq",
                "value": "27ff6d34-523d-476d-9ad5-edeb373b83dc"
            },
            {
                "attr": "closeout_id",
                "op": "eq",
                "value": "asdvsevsvd"
            },
            {
                "attr": "product_symbol",
                "op": "eq",
                "value": "BTC"
            },
```

```
            {
                "attr": "contract_symbol",
                "op": "eq",
                "value": "BTCZ0"
            },
            {
                "attr": "time",
                "op": "ne",
                "value": "2018-01-01T06:00:00.000Z"
            },
        ],
        "sort": [{
            "attr": "time",
            "value": "asc"
        }],
        "offset": 0,
        "limit": 10
    }
)
```

Outputs

Field	Value
uuid	Unique Closeout identifier
lc	Closeout identifier
date	Date when closeout was performed
time	Date and time at which closeout was performed
description	Text description of closeout operation
state	Closeout state
account_id	Account ID
product_symbol	Product symbol
contract_symbol	Contract symbol
fd	Funds Designation
source	Source of closeout
is_delivery	Boolean, indicates whether the closeout is a result of a delivery process or not
realized	Realized P&L as a consequence of the closeout
qty	Amount of contracts that are closed out
contract_code	Clearing Contract Code
expiration_time	Expiration date of the contract
closeout_id	Unique Closeout identifier
account_label	Account label
closeout_items	Array of individual positions that are involved in the closeout

position_id	Unique Positions identifier
qty	Number of contracts from the position that are being closed out
notional	Notional Amount
px	Price
side	Side (Long/Short)
trade_date	Trade date
qty_type	Base asset
px_type	Quote asset
trd_type	Trade Type
trade_report_id	Trade Report ID
trade_id	Trade ID
cl_ord_id	Client Order ID
customer_account_ref	Customer Account Reference

Example Response:


```
{
  "count": 1427,
  "closeouts": [
    {
      "uuid": "fPwVEefQHx3LJt8LQUoRr9sZnFFjiFFUAy9Jb8x4e6s",
      "lc": 6208532,
      "date": "2020-10-04",
      "time": "2020-10-04T23:55:28.000Z",
      "description": "CLOSEOUT OF 2 BBTest1 RESULTING IN P&L 0.4 USD",
      "state": 20,
      "account_id": "7edc1585-0f49-4eba-a942-83a9561f08a1",
      "product_symbol": "BTC",
      "contract_symbol": "BTCZ0",
      "closeout_items": [
        {
          "position_id": "2_281474983551730",
          "qty": "2.0",
          "notional": "-2126.0",
          "px": "10630.0",
          "p_and_l": "0.4",
          "side": "Short",
          "trade_date": "2020-10-04",
          "qty_type": "TBTC",
          "px_type": "USD",
          "trd_type": "REGULAR",
          "trade_report_id": "1125899934206918",
          "trade_id": "2_281474983551730",
          "cl_ord_id": "fixid1-160183934805814401",
```

```
          "customer_account_ref": null
        },
        {
          "position_id": "1_281474983563783",
          "qty": "2.0",
          "notional": "2125.6",
          "px": "10628.0",
          "side": "Long",
          "trade_date": "2020-10-05",
          "qty_type": "TBTC",
          "px_type": "USD",
          "trd_type": "REGULAR",
          "trade_report_id": "1125899934255129",
          "trade_id": "1_281474983563783",
          "cl_ord_id": "fixid1-160185561253929780",
          "customer_account_ref": null
        }
      ],
      "fd": "P",
      "source": "tme",
      "is_delivery": false,
      "realized": "0.4",
      "qty": "2.0",
      "contract_code": "BTCZ0",
      "expiration_time": "2020-10-05",
      "closeout_id": "fPwVEefQHx3LJt8LQUoRr9sZnFFjiFFUAy9Jb8x4e6s",
      "account_label": "acc1"
    }
  ]
}
```


3.12 Deposit Address Endpoint

This endpoint will return the address to which a client can deposit funds for a specified digital asset.

- **HTTP Request Type:** POST
- **Endpoint:** /deposit_address
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

Field	Value
account_id	Account ID
asset_type	Asset Type

funds_designation	Types: N, P, S. (See Funds Designation section for reference)

Example Request:

```
requests.post(url="https://clearing.erisx.com/api/v1/deposit_address",
              headers={"Authorization": "Bearer " + token},
              json={"account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
                 "asset_type": "BTC",
                  "funds_designation": "N"})
```

Outputs

Field	Value
address	Address hash
asset_type	Digital Asset type
account_id	Account ID
state	Status of the request
funds_designation	Types: N, P, S. (See Funds Designation section for reference)

Example Response:

```
{
  "address": "2NFVP4gnh4j6GtW8bz2wpXijnWEJ8EAySRq",
  "asset_type": "TBTC",
  "account_id": "ac171a7c-a0de-4e8a-9ce6-8a83d7e3ddd8",
  "state": "succeeded",
  "funds_designation": "N"
}
```

3.13 Linked Account Endpoints

This endpoint will return information regarding any digital asset or bank accounts linked to the appropriate clearing member.

- **HTTP Request Type:** POST
- **Endpoint:** /linked_accounts
- **API security:** This API endpoint requires an authentication token with Clearing API read permission.

Inputs

Field	Value	
filters (optional)	Default: `"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]`	
	id	ID identifying a particular digital asset address or bank account.
	member_id	Clearing Member ID
	asset_type	Symbol corresponding to the appropriate asset

	label	Label given to the linked account when it was input into the system
	state	State of the request to add a new linked account. Valid values: pending, approved, rejected
	usable_at	Time at which the linked account is ready for the user to use
	type	Type of account. Valid values: bank, crypto, collateral
offset (optional)	Number of elements to be offset in the request for pagination purposes	
limit (optional)	Limit of elements returned in the request	

Example Request:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/linked_accounts",
    headers={"Authorization": "Bearer " + token},
    json={
        "filter": [{
            "attr": "id",
            "op": "eq",
            "value": ["5e4bef801ef35c09af0b42ce", "5e4bef911ef35c2fbf0b42d0"]
        }],
    })
```

Outputs

Field	Value
count	Count of linked accounts returned in the response
accounts	List of linked accounts
label	Label of the linked account as input in the system by the user
asset_type	Asset type of the linked account
usable_at	Time from which the linked account is usable to use
member_id	ID of the clearing member to which the linked account belongs
state	Status of the request (pending, approved, rejected)
id	ID of the linked account. This id will be the one used in the withdrawal endpoint to specify to which linked accounts the funds be withdrawn
created_at	Time at which the linked account was added to the system
type	Type of the linked account (crypto, bank or collateral)
address	For digital asset's linked accounts, address hash of the wallet
account_number	For bank accounts, last 4 digits of account number
routing_number	For bank accounts, routing number
bank_name	For bank accounts, bank name
is_sen_account	Boolean flag to indicate whether the account is part of the Silvergate

	Enterprise Network (SEN)

Example Response:


```
{ "count": 2, "accounts": [ {
      "label": "External ETH Wallet",
      "asset_type": "ETH",
      "usable_at": "2020-02-21T14:07:14.855Z",
      "member_id": "5e2b07559228bfd8841fd0ad",
      "state": "pending",
      "address": "bbbbbbb",
      "id": "5e4bef911ef35c2fbf0b42d0",
      "created_at": "2020-02-18T14:07:14.859Z",
      "type": "crypto"
    },{
      "label": "External Checking 0000",
      "asset_type": "USD",
      "usable_at": "2020-02-21T14:07:00.363Z",
      "member_id": "5e2b07559228bfd8841fd0ad",
      "state": "pending",
      "account_number": "0000",
      "routing_number": "011401533",
      "bank_name": "Chase",
      "id": "5e4bef801ef35c09af0b42ce",
      "created_at": "2020-02-18T14:07:00.365Z",
      "type": "bank"
    }]}
```

3.14 Withdrawal Request Endpoints

This section describes the procedure for a clearing member to request a withdrawal via the Clearing API. It is composed of two endpoints. First a request to an endpoint will be required where the clearing member specifies the details of the transaction, this request will return a response including all the necessary information that composes a valid transaction. A second request to the second endpoint is then required, where the user will specify the transaction message, which is the response from the first requests, signed by a secure hash of the funding password following the procedure indicated in the Funding Password Signature section.

3.14.1 Build Withdrawal Request

This endpoint will enable users to retrieve all necessary information in order to submit a withdrawal request via the Clearing API.

- **HTTP Request Type:** POST
- **Endpoint:** /build_withdrawal_request
- **API security:** This API endpoint requires an authentication token with Clearing API Funding permissions.
- **Notes:**
    - This request will not initialize a withdrawal request. It will only provide the data required to initialize a withdrawal.
    - The asset of the withdrawal will be inferred based on the Linked Account ID provided. I.e. if the clearing member specified a Linked Account ID that corresponds to a BTC linked account, the endpoint will infer that the clearing member wants to withdraw BTC.

Inputs

Field	Value
account_id	Account ID from which the withdrawal will be made
linked_account_id	Linked Account ID to which the withdrawal will be sent. This value can be found in the field 'id' from the linked_accounts endpoint response.
funds_designation	Types: N, P, S. (See Funds Designation section for reference)
amount	Amount that will be withdrawn

Example Request:

```
requests.post(
    url="https://clearing.erisx.com/api/v1/build_withdrawal_request",
    headers={"Authorization": "Bearer " + token},
    json={'account_id': '48b7d9c5-55c5-4693-b5ec-10a97f7b2333',
          'linked_account_id': '5e4bef4b1ef35c96160b42cb',
          'funds_designation': 'S',
          'amount': '0.001'})
```

Outputs

Field	Value
account_id	Account ID from which account the withdrawal will be made
auth_id	Authentication ID needed to generate the signature in the Submit Withdrawal Request endpoint
linked_account_id	Linked Account ID to which the withdrawal will be sent.
asset_type	Asset Type of the withdrawal. Inferred based on the linked_account_id provided
funds_designation	Types: N, P, S. (See Funds Designation section for reference)
amount	Amount of the withdrawal request
request_data	Base64-encoded withdrawal transaction as specified with the parameters above.

Example Response:


```
{
  "auth_id": "auth0|5e2b2eaeb9f8b40eaf22ec20",
  "account_id": "48b7d9c5-55c5-4693-b5ec-10a97f7b2333",
  "linked_account_id": "5e4bef4b1ef35c96160b42cb",
  "asset_type": "TBTC",
  "amount": "0.001",
  "funds_designation": "N",
  "request_data":
"WyI1ZTJiMDc1NTkyMjhiZmQ4ODQxZmQwYWQiLCJhdXRoMHw1ZTJiMmVhZWI5ZjhiNDBlYWYyMmVjMjAiLC
JhYWFhYWFhYSIsIlRCVEMiLCIwLjAwMSIsIjE1ODMxODk2NTk0OTYiLCI0OGI3ZDljNS01NWM1LTQ2OTMtY
jVlYy0xMGE5N2Y3YjIzMzMiLCI1ZTRiZWY0YjFlZjM1Yzk2MTYwYjQyY2IiLCJTIl0="
}
```


3.14.2 Submit Withdrawal Request

This endpoint enables users to submit a withdrawal request.

- **HTTP Request Type:** POST
- **Endpoint:** /submit_withdrawal_request
- **API security:** This API endpoint requires an authentication token with Clearing API Funding permissions as well as Funding Password signature security.

Inputs

Field	Req'd	Value
request_data	Y	Base64-encoded transaction data for the withdrawal that will be submitted. This value can be obtained from the response of the endpoint 'build_withdrawal_request' in the field 'transaction_data'
signature	Y	Signature created using the member user's funding password

		as described in the section Funding Password Signing
request_id	N	Request ID generated by the customer used for idempotency

Example Request:

```
requests.post(
      url="https://clearing.erisx.com/api/v1/submit_withdrawal_request",
      headers={"Authorization": "Bearer " + token},
      json={"request_data":
'WyI1ZTJiMDc1NTkyMjhiZmQ4ODQxZmQwYWQiLCJhdXRoMHw1ZTJiMmVhZWI5ZjhiNDBlYWYyMmVjMjAiLC
JhYWFhYWFhYSIsIlRCVEMiLCIwLjAwMSIsIjE1ODMxODk2NTk0OTYiLCI0OGI3ZDljNS01NWM1LTQ2OTMtY
jVlYy0xMGE5N2Y3YjIzMzMiLCI1ZTRiZWY0YjFlZjM1Yzk2MTYwYjQyY2IiLCJTIl0=',
           "signature":
'AN1rKvtNrCF7mWSMbQ3hc4gUtY57C8CREkRNVU3cDdE8QibHgcrvTRmnmjU1SZpX7hDcWr9r8E6Q4Z7HWF
U3JGnTuMDdHPyG4'})
```

Output

Field	Value
request_data	Transaction data for the submitted withdrawal
request_id	Only present if a request_id is present in the customer request. It echoes the value sent in the request.

Example Response:

```
{
  "request_data":
"WyI1ZTJiMDc1NTkyMjhiZmQ4ODQxZmQwYWQiLCJhdXRoMHw1ZTJiMmVhZWI5ZjhiNDBlYWYyMmVjMjAiLC
JhYWFhYWFhYSIsIlRCVEMiLCIwLjAwMSIsIjE1ODMxODk2NTk0OTYiLCI0OGI3ZDljNS01NWM1LTQ2OTMtY
jVlYy0xMGE5N2Y3YjIzMzMiLCI1ZTRiZWY0YjFlZjM1Yzk2MTYwYjQyY2IiLCJTIl0="
}
```

3.15 Member User Permissions

This endpoint will return the list of all enabled permissions for the member user.

- **HTTP Request Type:** GET
- **Endpoint:** /user
- **API security:** This API endpoint requires an authentication token with any permission.

Inputs

No inputs required

Example Request:

```
requests.get(url="https://clearing.erisx.com/api/v1/user",
             headers={"Authorization": "Bearer " + token})
```

Outputs

Field	Value
email	User email address
user_id	User ID
permissions	User action permissions
api_key_permissions	Available API Credentials creation permissions
trading_permissions	Spot and/or Futures. Each section contains the accounts permissioned to trade that asset class.

Example Response:


```
{
  "user": {
    "user_id": "1234",
    "permissions": [
      "request_withdrawals",
      "read_movements",
      "read_daily_statements",
      "close_positions",
      "read_transactions",
      "destroy_linked_asset_account",
      "read_linked_asset_account",
      "read_trading_application_data",
      "create_linked_asset_account",
      "send_deposits",
      "read_collateral_positions",
      "read_futures_positions",
      "read_balances",
      "read_trades"
    ],
    "api_key_permissions": [
      "view_market_data",
      "read_clearing_api",
      "submit_order",
      "write_clearing_api",
      "submit_block_trade"
    ],
    "trading_permissions": {
      "spot": [
        "DM-ACC1"
      ],
      "futures": [
        "DM-ACC2"
      ]
    },
    "email": "user.test@gmail.com"
  }
```

```
}
```

4 Block Trade API Service

This API service enables members to submit for processing negotiated Spot and Futures Block Trades in a programmatic way. All requests and responses are application/json content type.

All Block Trade API endpoints are private and every request needs to be signed using the authentication endpoint described in the Authentication.

4.1 REST API Endpoint URL

- **Production:** https://clearing.erisx.com/api/v1
- **New Release (test):** https://clearing.newrelease.erisx.com/api/v1

4.2 Block Trade States

A Block Trade submission can have different states during its processing life:

- **Accepted:** Block Trade has been accepted and processed in The Match Engine.
- **Cleared:** Block Trade has been cleared by The Clearing House.
- **Rejected:** Block Trade has been rejected.

4.3 Error Codes

Upon submission of a Block Trade through the Submit Block Trade Endpoint, the Block Trade can be rejected for different reasons. In that case, the system will respond with a HTTP error, the response will contain **"state"** equal to **"rejected"** and it will reflect an **"error_code"** specifying the cause of the rejection. The table below explains what each error code represents for easier interpretation:

Error Code	Rejection Type
1	Unknown Symbol
2	Invalid Quantity
3	Invalid Price
4	Invalid Negotiated Block Trade Time
5	Instrument Closed
6	Trading is Halted
7	Invalid Buyer Account ID
8	Invalid Seller Account ID
9	Buyer Account Not Enabled for Futures
10	Seller Account Not Enabled for Futures
11	Buyer Account Not Enabled for Spot
12	Seller Account Not Enabled for Spot
13	Duplicate Request

14	Buyer Missing Regulatory Field
15	Seller Missing Regulatory Field
16	Buyer Insufficient Purchasing Power
17	Seller Insufficient Purchasing Power
18	Rejected
INVALID_REQUEST	Request rejected by a different reason from the ones specified above

4.4 Duplicate Requests

The Match Engine will identify a request as a duplicate if all values specified in the request are identical to a previously sent request. If any of the values specified in the request change, it will not be considered as a duplicate anymore.

Note: If a user sends a request, which gets rejected with any error code and then the user attempts to send the exact same request again, the second request will always be rejected due to a duplicate request.

To avoid generating duplicate requests, it is recommended that the users generate new Client Order Ids on every new request, even if the request is a resubmission due to the original request being rejected.

4.5 Submit Block Trade Endpoint

This endpoint enables users to submit a Block Trade.

- **HTTP Request Type:** POST
- **Endpoint:** /submit_block_trade
- **API security:** This API endpoint requires an authentication token with Block Trade API permissions.

Inputs

Field	Value
contract_symbol	Contract Symbol
price	Price
quantity	Quantity
negotiated_time	Time at which the Block Trade was negotiated between the Buyer and Seller. Format: unix timestamp in milliseconds
sell_side	Details regarding the Seller Account
buy_side	Details regarding the Buyer Account
account_label	Account Label
cl_ord_id	Client Order ID. Max characters: 40

Customer_account_ref (conditional)	Customer Account Reference
sender_sub_id	Sender Sub ID that identifies the Trader that negotiated the Block Trade
sender_location	Sender Location that identifies the location of the Trader that negotiated the Block Trade

Example Request:

```
requests.post(
   url="https://clearing.erisx.com/api/v1/submit_block_trade",
   headers={"Authorization": "Bearer " + token},
   json={
       "contract_symbol": "BTC/USD",
       "price": "1000.0",
       "quantity": "3.0",
       "negotiated_time": 1600717386961,
       "sell_side": {
           "account_label": "DM-122221",
           "cl_ord_id": "sell_side_order",
           "customer_account_ref": "sell_side",
           "sender_sub_id": "sell_fix",
           "sender_location": "US,IL"
       },
       "buy_side": {
           "account_label": "DM-77661",
           "cl_ord_id": "buy_side_order",
           "customer_account_ref": "buy_side",
           "sender_sub_id": "buy_fix",
           "sender_location": "US,IL"
       }
   })
```

Output

Field	Value
request_id	Request ID of the Block Trade
state	State of the Block Trade submission
error_code	Rejection Error Code. See Error Codes for reference. Only on rejected requests
email	Submitter's member user email address. Only on rejected requests

Example Responses:


```
{
  "request_id": "AmZuyvUdJvoa3HshZuhyCosBSvnrxVbZfJr5RtA92EQT",
  "state": "accepted"
}
```

```
{
  "error": {
    "request_id": "AmZuyvUdJvoa3HshZuhyCosBSvnrxVbZfJr5RtA92EQT",
    "state": "rejected",
    "error_code": 1,
    "email": "user@email.com"
  }
}
```


Request Block Trade Information Endpoint

This endpoint enables users to request information regarding a previously submitted Block Trade.

- **HTTP Request Type:** POST
- **Endpoint:** /block_trade_requests
- **API security:** This API endpoint requires an authentication token with Submit Block Trade API permissions.

Inputs

<table>
<tr><th>Field</th><th colspan="2">Value</th></tr>
<tr><td rowspan="6">filters (optional)</td><td colspan="2">Default: <code>"filter": [{ "attr": "account_id", "op": "eq", "value": member_account_id }]</code></td></tr>
<tr><td>request_id</td><td>Block Trade submission request ID. Value provided in the response of the Submit Block Trade Endpoint.</td></tr>
<tr><td>contract_symbol</td><td>Contract Symbol</td></tr>
<tr><td>trade_date</td><td>Trade Date</td></tr>
<tr><td>state</td><td>State of the Block Trade. Values: accepted, cleared, rejected.</td></tr>
<tr><td>account_labels</td><td>Account Label(s)</td></tr>
<tr><td>offset (optional)</td><td colspan="2">Number of elements to be offset in the request for pagination purposes</td></tr>
<tr><td>limit (optional)</td><td colspan="2">Limit of elements returned in the request</td></tr>
<tr><td>sort (optional)</td><td colspan="2">Default: <code>"sort": [{ "attr": "time", "value": "desc"}]</code></td></tr>
</table>

`Example Request:`

```
requests.post(
   url="https://clearing.erisx.com/api/v1/block_trade_requests",
   headers={"Authorization": "Bearer " + token},
   json={
       "filter": [{
           "attr": "request_id",
           "op": "eq",
           "value": "5c267f0ee4b0974b5367fd35"
       }, {
```

```
            "attr": "contract_symbol",
            "op": "eq",
            "value": "BTC/USD"
        }, {
            "attr": "trade_date",
            "op": "eq",
            "value": "2020-01-01"
        }, {
            "attr": "state",
            "op": "eq",
            "value": "pending"
        }, {
            "attr": "account_labels",
            "op": "eq",
            "value": "27ff6d34-523d-476d-9ad5-edeb373b83dc"
        }]
    })
```

Output

Field	Value
count	Count of Block Trades that meet the query filter
block_trade_requests	List of Block Trades Requests
request_id	Block Trade submission request ID
contract_symbol	Contract Symbol
qty	Quantity
px	Price
trade_date	Trade Date
negotiated_time	Time at which the Block Trade was negotiated between the Buyer and Seller
submitted_time	Time at which the Block Trade has submitted
created_by	User who submitted the Block Trade
state	State of the Block Trade
buy_side	Details regarding the Seller Account
sell_side	Details regarding the Buyer Account
account_id	Account ID
account_label	Account Label
side	Side
customer_account_ref	Customer Account Reference
cl_ord_id	Client Order ID. Max characters: 40
sender_sub_id	Sender Sub ID that identifies the Trader that negotiated the Block Trade

sender_location	Sender Location that identifies the location of the Trader that negotiated the Block Trade
error_code	Rejection Error Code. Only in rejected Block Trades.

Example Response:


```
{
  "count": 1,
  "block_trade_requests": [
    {
      "request_id": "AmZuyvUdJvoa3HshZuhyCosBSvnrxVbZfJr5RtA92EQT",
      "contract_symbol": "BTC/USD",
      "qty": "5.0",
      "px": "8900.0",
      "trade_date": "2020-01-01",
      "negotiated_time": "2020-01-01T06:00:00.000Z",
      "submitted_time": "2020-01-01T06:00:00.000Z",
      "created_by": "carl.doe@email.com",
      "state": "pending",
      "buy_side": {
        "account_id": "27ff6d34-523d-476d-9ad5-edeb373b83dc",
        "side": "BUY",
        "customer_account_ref": "buy_side",
        "cl_ord_id": "buy_side",
        "sender_sub_id": "buy_side_fix",
        "sender_location": "IL,US"
      },
      "sell_side": {
        "account_id": "73e36d47-0fe6-4bba-84d7-d981d9f9459d",
        "side": "SELL",
        "customer_account_ref": "sell_side",
        "cl_ord_id": "sell_side",
        "sender_sub_id": "buy_side_fix",
        "sender_location": "IL,US"
      }
    }
  ]
}
```


4.6 Block Trade Volume Endpoint

This endpoint enables users to obtain information regarding the total volume that the different products have traded via Block Trades in the Cboe Digital market for the current trade date.

- **HTTP Request Type:** POST
- **Endpoint:** /block_trade_volume

- **API security:** This API endpoint requires an authentication token with Market Data API permissions.

Inputs

No inputs are required.

Example Request:

```
requests.post(
   url="https://clearing.erisx.com/api/v1/block_trade_volume",
   headers={"Authorization": "Bearer " + token},
   json={})
```

Output

Field	Value
result	List of Products
contract	Contract Symbol
volume	Total Volume
trade_date	Trade Date

Example Response:

```
[
    {
      "contract": "BTC/USD",
      "volume": "20.0",
      "trade_date": "2020-01-01"
    }
]
```

5 Order Management API Service

This API service allows for order management via RESTful API endpoints. Users can submit, modify, cancel, and query for the status of their orders. This API was designed to conform to the same data model for our FIX and Websocket endpoints.

5.1 REST API Base Endpoint URL

- **Production:** https://trade-api.erisx.com/rest-api
- **New Release (test):** https://trade-api.newrelease.erisx.com/rest-api

5.2 PartyID

A partyID is a unique identifier that identifies a user and it's tied to a particular account, it is used to identify the account that is performing an order management action.
A partyID is required for all order related messages. A Cboe Digital member may have multiple partyIDs depending on their account setup.

Users should use the Party IDs List endpoint to get a list of partIDs that they are enabled for.

5.3 ClOrderID

ClOrderID is a unique identifier which must be submitted with each new order related API call. The ClOrderID must be prepended with the intended user's PartyID. The format of the Client Order ID (**clOrderID)** must follow the convention below and be unique for the trading session.

clOrdID = PartyID-[user specified value]

The length of the clOrdID should not be more than 40 characters.

5.4 Supported Order Types

Cboe Digital supports the following order types:

- **Limit** - An order to buy or sell at a specific price or better.
- **Stop-Limit** - An order that combines the features of a stop order and a limit order. The stop price acts as a trigger to enter a limit order into the market.
- **Market** - An order to buy or sell a stated amount at the current best price.
- **Post-Only** - An order type that provides a user with a way to enter a passive order and guarantee it won't cross the bid-ask spread. This order type has become popular in markets where there is a benefit to being a maker rather than a taker of liquidity.

5.5 Time in Force

The supported time in force values are described in the following table.

Expiry Condition	Description
Day	Orders submitted with this expiry condition that have not been executed will be expired by the system at the end of the Cboe Digital trading session in which they were entered.
Good Till Cancel (GTC)	Orders with this expiry condition remain open and active until either executed or explicitly canceled by the client.
Good Till Date (GTD)	With this time in force, the submitting client specifies the date at which an order is to be expired if not already executed.
Fill or Kill (FOK)	Unless the full quantity of the order can be executed immediately at the specified price or better, an order with this expiry condition will be canceled.
Immediate or Cancel (IOC)	Orders with the expiry condition will be canceled unless a specified minimum quantity can be executed immediately at the specified price or better. Any remaining unfilled quantity is canceled.

5.6 Minimum Permitted Order Entry Size

There is a minimum permitted order entry size maintained on the Cboe Digital platform. Orders sent for amounts less than the permitted minimum order entry size will be rejected.

5.7 Timestamping / TransactTime

Messages sent by client applications will need to include TransactTime. The system will validate the value sent down to one second precision and accuracy.

Responses from the match engine will include TransactTime and will be sent with nanosecond precision. The format is YYYYMMDD-HH:MM:ss.SSSSSSSSS.

The timestamp on outgoing messages will represent the time the corresponding message was received by the FIX gateway that resulted in the update.

5.8 Rate Limiting

Once the connection is established, it will be subject to a messaging rate limit. The limit is based on token usage. The maximum number of tokens that can be used per second is 40. Every second the number of available tokens refills by an amount of 10 tokens. Different request types have different token usage, see table below for more information.

If the limit is exceeded the user will get a response back informing them that the limit has been exceeded and the request has been ignored. Requests will be accepted again after the user has enough available tokens to make the appropriate request.

Request Type	Tokens	Request Type	Tokens

AuthenticationRequest	1	NewLimitOrderSingle	1
SecurityList	20	NewStopLimitOrderSingle	1
MarketDataSubscribe	1	CancelLimitOrderSingleRequest	1
MarketDataStatus	1	CancelStopLimitOrderSingleRequest	1
MarketDataUnsubscribe	1	ReplaceLimitOrderSingleRequest	1
TopOfBookMarketDataSubscribe	1	ReplaceStopLimitOrderSingleRequest	1
TopOfBookMarketDataUnsubscribe	1	OrderMassStatusRequest	20
NewLimitOrderSingle	1	PartyListRequest	20

Example response:

```
{"requestId":"15675211888790","type":"ERROR_MESSAGE","error":"Your request used 10 tokens, which exceeded the remaining amount of your allocated tokens per second, and was ignored. Please try again later.","details":"correlation=15675211888790"}
```

5.9 Table's Legend

Req	Explanation
Y	Field is always required.
N	Field is not required.
O	Field is optional.
C	Field is conditional upon the message type and/or other field values.
F	Field is required only for Futures.

5.10 Execution Reports

Cboe Digital sends Execution Report messages to:

- Confirm the receipt of an order
- Confirm changes to an existing order
- Reply to order status messages
- Relay order fill information on active orders

In a normal workflow, Cboe Digital responds with an Execution Report message to indicate that a request has been accepted for the following requests:

- *new-order-single*
- *replace-order-single*
- *cancel-order-single*
- *cancel-all*

Cboe Digital will respond with an Execution Report indicating the status of an order for the following requests:

- *order*
- *order-mass-status*

For a multiple filled order, the ExecType (150) field reports information on the individual fill and the OrdStatus (39) field reports information on the overall order status.

Field	Req	Value
correlation	N	Alphanumeric string submitted by users or generated by Cboe Digital if user does not submit a correlation value in the request. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE clOrdID INSTEAD.**
type	Y	**ExecutionReport**
orderID	Y	Unique order identifier assigned by Cboe Digital
clOrdID	Y	*USE THIS FIELD INSTEAD OF correlation. Client assigned order id
origClOrdID	Y	Original client assigned order id submitted on the order.
execID	Y	Completed trade identifying number.
execType	Y	The execution report's type. New, Canceled, Replace, Rejected, Expired, Fill Status,Order Status
ordStatus	Y	The current state of chain of orders. **NEW**, **PARTIAL FILLED**, **FILLED**, **CANCELED**, **REPLACED**, **REJECTED**, **EXPIRED**
OrdRejReason	O	Optional when Rejected.
account	O	The clearing account name as agreed to by Cboe Digital and the client or else defaulted by the system.
symbol	Y	The order currency pair.
side	Y	Order side: **BUY** or **SELL**
orderQty	C	Order Quantity in base currency units. Present for LIMIT, STOP_LIMIT and SELL MARKET orders
cashOrderQty	C	Order quantity in quote currency units. Present for BUY MARKET orders
ordType	O	Supported values are: Limit order or Stop-Limit order
price	Y	Required for Limit orders
stopPrice	C	The price at which a stop order becomes effective.
currency	O	The currency for the amount specified in OrderQty field.
lastQty	O	Quantity bought/sold for this fill. Present when ExecType = F.
lastPrice	O	Price at which the current or last fill was made.
lastSpotRate	O	Price for the last fill. Not sent for status requests
leavesQty	Y	Amount of order open for further execution. Expressed in the same units as the orderQty or cashOrderQty that was sent in the request by the user.
cumQty	Y	Total amount of an order currently executed in a chain of partial fills.
avgPrice	O	The average price at which the order was filled or partially filled.
tradeDate	O	Trades completed after 4 pm CT show the next business day.
transactTime	O	Execution Reports will be sent with nanosecond precision - YYYYMMDD-HH:MM:SS.sssssssss
commission	O	Actual Commission (Only for Fills and Partial Fills)
commCalculated	Y	Calculated Commission
commType	Y	3 = Absolute (Total monetary amount)
commCurrency	Y	Currency Commission (USD, BTC)

minQty	O	Minimum Quantity to be filed for IOC orders.
text	O	Descriptive text message
matchingType	O	Indicates whether or not the maker's price was resting in the book at the time of the match
lastRptRequested	O	In response to the Mass Order Status request. **Y** on the last execution report to report
massStatusReqID	C	Mass status unique request ID
timeInForce	Y	How long an order remains in effect: **Day**, **Good Till Cancel**, **Good Till Date**, **FillOrKill**, **ImmediateOrCancel**
expireDate	Y	Expiry date in YYYYMMDD format.
partyIDs	O	Party ID of the account
sendingTime	O	Time at which the request was sent by the user.
accountType	F	**1**=Customer, **2**=House
custOrderCapacity	F	CTICode (customer type indicator) **1** = Member Trading for own account **2** = Clearing firm trading for its Prop Account **3** = Member trading for another member **4** = All other
targetLocationId	F	Used to identify the geographical location of the user that entered the order: [Country],[State if in US] eg; US, IL or UK
customerAccountRef	O	Customer Account Reference (FCM Back office Account)
targetSubId	F	Value used to identify the user that entered the order
postOnly	O	Indicate if the newOrderSingle is Post-Only or not. **N** = No Post-Only type. **Y** = Post-Only type.
unsolicitedCancel	O	Flag to identify if the cancel was unsolicited
availableBalanceData		Provide the member with information regarding their collateral available for trading
availableBalance	O	Collateral available for trading
availableBalanceCurrency	O	Asset type of the collateral available for trading

5.11 Request Rejected

In case a request is rejected, Cboe Digital will respond with an rejection type message, indicating that the request was rejected and specifying reject reason.

Field	Req	Value
correlation	O	Alphanumeric string submitted by users or generated by Cboe Digital if user does not submit a correlation value in the request. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE clOrdID INSTEAD.**
type	Y	Rejection Type
clOrdID	Y	*USE THIS FIELD INSTEAD OF correlation. Client assigned order id

message	O	Message indicating Reject Reason
requestType	O	Type of Response that was rejected
rejectTime	O	Time at which the rejection took place
orderID	O	Unique order identifier assigned by Cboe Digital
origClOrdID	O	Original client assigned order id submitted on the order.
ordStatus	O	The current state of chain of orders. **REJECTED**
account	O	The clearing account name as agreed to by Cboe Digital and the client or else defaulted by the system.
transactTime	O	Execution Reports will be sent with nanosecond precision - YYYYMMDD-HH:MM:SS.sssssssss
cxlRejResponseTo	O	Message type of rejected request
cxlRejReason	O	Rejection Reason
text	O	Text with description of rejection reason
targetSubId	O	Value used to identify the user that entered the order
targetLocationID	O	Used to identify the geographical location of the user that entered the order: [Country],[State if in US] eg; US, IL or UK
error	O	Error type
details	O	Details of the rejected order

Example

```
{
  "type": "OrderReject",
  "ordStatus": "REJECTED",
  "clOrdID": "Trader_A_OM-15891446998782",
  "message": "INSTRUMENT CLOSED",
  "requestType": "ExecutionReport",
  "rejectTime": "20200510-21:04:59.956"
}

 Or

{
  "type": "OrderCancelReject",
  "orderID": "281474976751461",
  "clOrdID": "Trader_A-158915190894326",
  "origClOrdID": "Trader_A-15891453855913",
  "ordStatus": "REJECTED",
  "account": null,
  "transactTime": "20200510-23:05:08.969609029",
  "cxlRejResponseTo": "ORDER_CANCEL_REPLACE_REQUEST",
  "cxlRejReason": "BROKER_EXCHANGE_OPTION",
  "text": "INVALID/MISSING FIELD - TAG 21",
  "senderSubId": null,
```

```
  "senderLocationId": null
}

Or

{
  "type": "ERROR_MESSAGE",
  "error": "Invalid symbol",
  "details": "clOrdID = Trader_A_OM-1592898202181"
}


Or

{
  "requestId": "1234",
  "type": "AuthenticationError",
  "message": "authentication failed"
}
```

5.12 New Order Single

This endpoint enables users to submit a new order into the CLOB.

- **HTTP Request Type:** POST
- **Endpoint:** /new-order-single
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

Inputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE clOrdID INSTEAD.**
clOrdID	Y	*USE THIS FIELD INSTEAD OF correlation. Must start with **partyID-**. The partyId should be a real party ID. Maximum length = 40 characters
currency	Y	The currency for the amount specified in the OrderQty.
side	Y	**BUY or SELL**
symbol	Y	Unique instrument identifier
partyID	Y	Party ID of the account
transactionTime	Y	See TransactTime description below. Time at which the order was submitted.
orderQty	C	Order Quantity in base currency units. Required for LIMIT, STOP_LIMIT and SELL MARKET orders
cashOrderQty	C	Order quantity in quote currency units. Required for BUY MARKET orders
ordType	Y	**LIMIT** or **STOP_LIMIT** or **MARKET**

price	C	Order price. Required for LIMIT and STOP_LIMIT orders
stopPrice	C	Required if ordType = STOP_LIMIT Stop price of the Stop Limit Order. For a buy order, the stop price must be set at least one tick below the limit price. For a sell order the stop price must be set at least one tick above the limit price.
timeInForce	O	**Day**, **GoodTillCancel**, **GoodTillDate,** **FillOrKill,** **ImmediateOrCancel**. MARKET orders only support ImmediateOrCancel time in force
expireDate	C	Only available for GoodTillCancel order. UTC format **YYYYMMDD**
accountType	F	**1**=Customer, **2**=House
custOrderCapacity	F	CTICode (customer type indicator) **1** = Member Trading for own account **2** = Clearing firm trading for its Prop Account **3** = Member trading for another member **4** = All other
senderLocationId	F	Used to identify the geographical location of the user that entered the order: [Country],[State if in US] eg; US, IL or UK
customerAccountRef	O	Customer Account Reference (FCM Back office Account)
senderSubId	F	Value used to identify the user that entered the order
postOnly	O	Indicate if the newOrderSingle is Post-Only or not. Not supported for Market Orders. **N** = No Post-Only type (default). **Y** = Post-Only type.

Example Request:

```
requests.post(
   url="https://trade-api.erisx.com/rest-api/new-order-single",
   headers={"Authorization": "Bearer " + token},
   json={
       "clOrdID": "Trader_A-15891446998782",
       "currency": "BTC",
       "side": "BUY",
       "symbol": "BTCM0",
       "partyID": "Trader_A",
       "transactionTime": "20200819-18:14:45.391",
       "orderQty": "2",
       "ordType": "LIMIT",
       "price": "8500",
       "timeInForce": "Day",
       "accountType": "2",
       "custOrderCapacity": "1",
       "senderLocationID": "US,IL",
       "senderSubID": "Trader1",
       "postOnly": "Y"
   })
```

Output

Example Response:


```
{
  "type": "ExecutionReport",
  "orderID": "281474982380221",
  "clOrdID": "Trader_A-15978608853912",
  "origClOrdID": "Trader_A-15978608853912",
  "execID": "281475002437073",
  "execType": "NEW",
  "ordStatus": "NEW",
  "ordRejReason": null,
  "account": "acc2",
  "symbol": "BTCU0",
  "side": "BUY",
  "orderQty": 2.0,
  "ordType": "LIMIT",
  "price": 8500.0,
  "stopPrice": 0.0,
  "currency": "BTC",
  "lastPrice": 0.0,
  "lastSpotRate": 0.0,
  "leavesQty": 2.0,
  "cumQty": 0.0,
  "avgPrice": 0.0,
  "tradeDate": null,
  "transactTime": "20200819-18:14:46.149268894",
  "sendingTime": "20200819-18:14:46.168",
  "commission": 0.0,
  "commCalculated": 0.2,
  "commType": "ABSOLUTE",
  "commCurrency": "USD",
  "minQty": 0.0,
  "text": null,
  "matchingType": null,
  "lastRptRequested": null,
  "timeInForce": "Day",
  "expireDate": "20200819",
  "lastQty": 0.0,
  "targetSubId": null,
  "targetLocationId": null,
  "custOrderCapacity": 1,
  "accountType": 2,
  "customerAccountRef": "tcr001",
  "postOnly": "N",
  "unsolicitedCancel": null,
  "availableBalanceData": [
    {
      "availableBalance": 92.34484,
      "availableBalanceCurrency": "BTC"
    },
```

```
    {
      "availableBalance": 1034806.1788,
      "availableBalanceCurrency": "USD"
    }
  ],
  "partyIDs": [
    "Trader_A"
  ]
}
```


5.13 Replace Order Single

This endpoint enables users to replace orders in the CLOB.

- **HTTP Request Type:** POST
- **Endpoint:** /replace-order-single
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

Order parameters such as price, quantity and expiry condition can be amended on an outstanding order without having to cancel and resubmit the order.

By default, orders that have been partially filled cannot be modified unless the overfill protection logic is used. See section Overfill protection. A reject message will be received if attempting to modify a partially filled order without the use of overfill protection.

When modifying an existing order the associated IDs (origClOrdID and OrderID) are required.

Inputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE clOrdID INSTEAD.**
clOrdID	Y	*USE THIS FIELD INSTEAD OF correlation. Must start with **partyID-**. The partyID should be a real party ID corresponding to the API credentials. Maximum length = 40 characters
origClOrdID	Y	Must be the client ID of the original submitted order.
orderID	Y	Must be an Cboe Digital assigned ID of the original order.
currency	Y	Quote Currency of the product
side	Y	BUY or SELL
symbol	Y	Unique instrument identifier
timeInForce	O	**Day**(Default), **GoodTillCancel**, **GoodTillDate, FillOrKill, ImmediateOrCancel**
expireDate	C	Only available for GoodTillCancel order. UTC format **YYYYMMDD**
partyID	Y	Must match the partyID- on the clOrdID
transactionTime	Y	See TransactTime description below. Time at which the order was

		submitted.
orderQty	O	Order Quantity
price	O	Order price
ordType	Y	**LIMIT** or **STOP_LIMIT**
stopPrice	C	Stop price of the Stop Limit Order. For a buy order, the stop price must be set at least one tick below the limit price. For a sell order the stop price must be set at least one tick above the limit price.
overfillProtection	O	Required when trying to modify a partially filled order to specifically request "Overfill Protection" otherwise the modification is rejected. **Y** = LeavesQty is set to requested quantity - CumQty **N** = LeavesQty is set to the quantity requested in the cancel replace message
accountType	F	**1**=Customer, **2**=House
custOrderCapacity	F	CTICode (customer type indicator) **1** = Member Trading for own account **2** = Clearing firm trading for its Prop Account **3** = Member trading for another member **4** = All other
senderLocationId	F	Used to identify the geographical location of the user that entered the order: [Country],[State if in US] eg; US, IL or UK
customerAccountRef	O	Customer Account Reference (FCM Back office Account)
senderSubId	F	Value used to identify the user that entered the order
postOnly	O	Indicate if the newOrderSingle is Post-Only or not. **N** = No Post-Only type (default). **Y** = Post-Only type.
handlInst	O	**AutomatedExecutionOrderPrivate** (default)

Example Request:

```
requests.post(
   url="https://trade-api.erisx.com/rest-api/replace-order-single",
   headers={"Authorization": "Bearer " + token},
   json={
       "clOrdID": "Trader_A-15891462613396",
       "origClOrdID": "Trader_A-15891453855913",
       "orderID": "281474976751461",
       "currency": "BTC",
       "side": "BUY",
       "symbol": "BTCM0",
       "partyID": "Trader_A",
       "transactionTime": "20200819-18:17:10.801",
       "ordType": "LIMIT",
       "handlInst": "AutomatedExecutionOrderPrivate",
       "orderQty": 3,
       "price": 8501,
       "timeInForce": "Day",
       "accountType": "2",
```

```
        "custOrderCapacity": "1",
        "senderLocationID": "US,IL",
        "senderSubID": "Trader1",
        "postOnly": "N"
    })
```

Output:

Example Response:


```
{
  "type": "ExecutionReport",
  "orderID": "281474982380221",
  "clOrdID": "Trader_A-15978610308013",
  "origClOrdID": "Trader_A-15978608853912",
  "execID": "281475002437075",
  "execType": "REPLACE",
  "ordStatus": "REPLACED",
  "ordRejReason": null,
  "account": "acc2",
  "symbol": "BTCU0",
  "side": "BUY",
  "orderQty": 3.0,
  "ordType": "LIMIT",
  "price": 8501.0,
  "stopPrice": 0.0,
  "currency": "BTC",
  "lastPrice": 0.0,
  "lastSpotRate": 0.0,
  "leavesQty": 3.0,
  "cumQty": 0.0,
  "avgPrice": 0.0,
  "tradeDate": null,
  "transactTime": "20200819-18:17:11.529873705",
  "sendingTime": "20200819-18:17:11.560",
  "commission": 0.0,
  "commCalculated": 0.3,
  "commType": "ABSOLUTE",
  "commCurrency": "USD",
  "minQty": 0.0,
  "text": null,
  "matchingType": null,
  "lastRptRequested": null,
  "timeInForce": "Day",
  "expireDate": "20200819",
  "lastQty": 0.0,
  "targetSubId": null,
  "targetLocationId": null,
```

```
  "custOrderCapacity": 1,
  "accountType": 2,
  "customerAccountRef": "tcr001",
  "postOnly": "N",
  "unsolicitedCancel": null,
  "availableBalanceData": [
    {
      "availableBalance": 92.34484,
      "availableBalanceCurrency": "BTC"
    },
    {
      "availableBalance": 1033955.7788,
      "availableBalanceCurrency": "USD"
    }
  ],
  "partyIDs": [
    "Trader_A"
  ]
}
```


5.14 Cancel Order Single

This endpoint enables users to cancel an order in the CLOB.

- **HTTP Request Type:** POST
- **Endpoint:** /cancel-order-single
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

When cancelling an existing order the associated IDs (origClOrdID and OrderID) are required.

Inputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE clOrdID INSTEAD.**
clOrdID	Y	*USE THIS FIELD INSTEAD OF correlation. Must start with **partyID-**. The partyID should be a real party ID corresponding to the API credentials. Maximum length = 40 characters
origClOrdID	Y	Must be the client ID of the original submitted order.
orderID	Y	Must be Cboe Digital assigned ID of the original order.
side	Y	BUY or SELL
symbol	Y	Unique instrument identifier
partyID	Y	Must match the partyID- on the clOrdID
transactionTime	Y	See TransactTime description below. Time at which the order was submitted.
ordType	Y	**LIMIT** or **STOP_LIMIT**

Example Request:

```
requests.post(
    url="https://trade-api.erisx.com/rest-api/cancel-order-single",
    headers={"Authorization": "Bearer " + token},
    json={
        "clOrdID": "Trader_A-15891468713728",
        "origClOrdID": "Trader_A-15891462613396",
        "orderID": "281474976751461",
        "side": "BUY",
        "symbol": "BTCM0",
        "partyID": "Trader_A",
        "transactionTime": "20200819-18:18:58.528",
        "ordType": "LIMIT"
    })
```

Outputs

Example Response:


```
{
  "type": "ExecutionReport",
  "orderID": "281474982380221",
  "clOrdID": "Trader_A-15978611385294",
  "origClOrdID": "Trader_A-15978610308013",
  "execID": "281475002437077",
  "execType": "CANCELED",
  "ordStatus": "CANCELED",
  "ordRejReason": null,
  "account": "acc2",
  "symbol": "BTCU0",
  "side": "BUY",
  "orderQty": 3.0,
  "ordType": "LIMIT",
  "price": 8501.0,
  "stopPrice": 0.0,
  "currency": "BTC",
  "lastPrice": 0.0,
  "lastSpotRate": 0.0,
  "leavesQty": 0.0,
  "cumQty": 0.0,
  "avgPrice": 0.0,
  "tradeDate": null,
  "transactTime": "20200819-18:18:59.260000000",
  "sendingTime": "20200819-18:18:59.279",
  "commission": 0.0,
  "commCalculated": 0.0,
  "commType": "ABSOLUTE",
  "commCurrency": "USD",
```

```
  "minQty": 0.0,
  "text": "USER INITIATED",
  "matchingType": null,
  "lastRptRequested": null,
  "timeInForce": "Day",
  "expireDate": "20200819",
  "lastQty": 0.0,
  "targetSubId": null,
  "targetLocationId": null,
  "custOrderCapacity": 1,
  "accountType": 2,
  "customerAccountRef": "tcr001",
  "postOnly": "N",
  "unsolicitedCancel": null,
  "availableBalanceData": [
    {
      "availableBalance": 92.34484,
      "availableBalanceCurrency": "BTC"
    },
    {
      "availableBalance": 1036506.3788,
      "availableBalanceCurrency": "USD"
    }
  ],
  "partyIDs": [
    "Trader_A"
  ]
}
```


5.15 Cancel All Orders

This endpoint enables users to cancel all working orders in the CLOB with a single request.

- **HTTP Request Type:** POST
- **Endpoint:** /cancel-all
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

When cancelling an existing order the associated IDs (origClOrdID and OrderID) are required.

Inputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE requestId INSTEAD.**
requestId	O	*USE THIS FIELD INSTEAD OF correlation. The provided request id string will be returned on the response. Use this to map requests to responses. The response type will be different from the submitted request type. Only alphanumeric (a..z,A..Z,0..9) values are allowed with a max of 40.
partyID	Y	Must match the partyID- on the clOrdID

Example Request:

```
requests.post(
    url="https://trade-api.erisx.com/rest-api/cancel-all",
    headers={"Authorization": "Bearer " + token}, json={"partyID": "trader1"})
```

Outputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE requestId INSTEAD.**
requestId	O	*USE THIS FIELD INSTEAD OF correlation. The provided request id string will be returned on the response. Use this to map requests to responses. The response type will be different from the submitted request type. Only alphanumeric (a..z,A..Z,0..9) values are allowed with a max of 40.
type	Y	CancelAllOrdersResponse
partyID	Y	Must match the partyID- on the clOrdID
message	Y	Message indicating whether the cancel all has been accepted or not. **Accepted**, **Rejected**

Example Response:

```
{
 "requestId": "5535410536258384820",
 "type": "CancelAllOrdersResponse",
 "partyId": "trader1",
 "message": "Accepted"
}
```

5.16 Order Status Single

AVAILABLE BALANCES SENT ON THE ORDER STATUS SINGLE RESPONSE REFLECT BALANCES AS OF THE TIMESTAMP AVAILABLE IN THE TRANSACTTIME FIELD. THESE BALANCES MAY NOT REFLECT THE MOST UP-TO-DATE BALANCES IF BALANCES HAVE CHANGED DUE TO NON CENTRAL LIMIT ORDER BOOK TRADING ACTIVITY AFTER THE TRANSACTION TIME TIMESTAMP. EXAMPLES OF ACTIVITY THAT MAY CAUSE NOT UP-TO-DATE BALANCES INCLUDE BUT ARE NOT LIMITED TO:

- **DEPOSITS**
- **WITHDRAWALS**
- **DELIVERIES**
- **BLOCK TRADES**

This endpoint enables users to request information by order ID. It will return the latest Execution Report known for the order ID.

Note: Non-working orders will be available for queries within the same trade date.

- **HTTP Request Type:** GET
- **Endpoint:** /order/{partyID}/{orderID}
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

Inputs

No inputs required

`Example Request:`

```
requests.get(
    url="https://trade-api.erisx.com/rest-api/order/Trader_A/281475002437077",
    headers={"Authorization": "Bearer " + token})
```

Outputs

`Example Response:`


```
{
  "type": "ExecutionReport",
  "orderID": "281474982380221",
  "clOrdID": "Trader_A-15978611385294",
  "origClOrdID": "Trader_A-15978610308013",
  "execID": "281475002437077",
  "execType": "CANCELED",
  "ordStatus": "CANCELED",
  "ordRejReason": null,
  "account": "acc2",
  "symbol": "BTCU0",
  "side": "BUY",
  "orderQty": 3.0,
  "ordType": "LIMIT",
  "price": 8501.0,
  "stopPrice": 0.0,
  "currency": "BTC",
  "lastPrice": 0.0,
  "lastSpotRate": 0.0,
  "leavesQty": 0.0,
  "cumQty": 0.0,
  "avgPrice": 0.0,
  "tradeDate": null,
  "transactTime": "20200819-18:18:59.260000000",
  "sendingTime": "20200819-18:18:59.279",
```

```
  "commission": 0.0,
  "commCalculated": 0.0,
  "commType": "ABSOLUTE",
  "commCurrency": "USD",
  "minQty": 0.0,
  "text": "USER INITIATED",
  "matchingType": null,
  "lastRptRequested": null,
  "timeInForce": "Day",
  "expireDate": "20200819",
  "lastQty": 0.0,
  "targetSubId": null,
  "targetLocationId": null,
  "custOrderCapacity": 1,
  "accountType": 2,
  "customerAccountRef": "tcr001",
  "postOnly": "N",
  "unsolicitedCancel": null,
  "availableBalanceData": [
    {
      "availableBalance": 92.34484,
      "availableBalanceCurrency": "BTC"
    },
    {
      "availableBalance": 1036506.3788,
      "availableBalanceCurrency": "USD"
    }
  ],
  "partyIDs": [
    "Trader_A"
  ]
}
```


5.17 Order Mass Status

AVAILABLE BALANCES SENT ON THE MASS ORDER STATUS RESPONSE REFLECT BALANCES AS OF THE TIMESTAMP AVAILABLE IN THE TRANSACTTIME FIELD. THESE BALANCES MAY NOT REFLECT THE MOST UP-TO-DATE BALANCES IF BALANCES HAVE CHANGED DUE TO NON CENTRAL LIMIT ORDER BOOK TRADING ACTIVITY AFTER THE TRANSACTION TIME TIMESTAMP. EXAMPLES OF ACTIVITY THAT MAY CAUSE NOT UP-TO-DATE BALANCES INCLUDE BUT ARE NOT LIMITED TO:

- **DEPOSITS**
- **WITHDRAWALS**
- **DELIVERIES**
- **BLOCK TRADES**

This endpoint enables users to request information of all working orders.

- **HTTP Request Type:** POST
- **Endpoint:** /order-mass-status
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

Inputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE requestId INSTEAD.**
requestId	O	*USE THIS FIELD INSTEAD OF correlation. The provided request id string will be returned on the response. Use this to map requests to responses. The response type will be different from the submitted request type. Only alphanumeric (a..z,A..Z,0..9) values are allowed with a max of 40.
partyID	Y	Must match the partyID- on the clOrdID

Example Request:

```
requests.post(
    url="https://trade-api.erisx.com/rest-api/order-mass-status",
    headers={"Authorization": "Bearer " + token}, json={"partyID": "Trader_A"})
```

Outputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE requestId INSTEAD.**
type	Y	**MassOrderStatus**
orderStatus	Y	List of ExecutionReports for all working orders

Example Response:

```
{
  "type": "MassOrderStatus",
  "orderStatuses": [
      {
          "type": "ExecutionReport",
          "orderID": "281474982380342",
          "clOrdID": "Trader_A-1597861577927220",
          "origClOrdID": "Trader_A-1597861577927220",
          "execID": "281475002437465",
          "execType": "ORDER_STATUS",
          "ordStatus": "NEW",
```

```
    "ordRejReason": null,
    "account": "acc1",
    "symbol": "BCH/USD",
    "side": "SELL",
    "orderQty": 0.1113,
    "ordType": "LIMIT",
    "price": 290.3,
    "stopPrice": 0.0,
    "currency": "BCH",
    "lastPrice": 0.0,
    "lastSpotRate": 0.0,
    "leavesQty": 0.1113,
    "cumQty": 0.0,
    "avgPrice": 0.0,
    "tradeDate": null,
    "transactTime": "20200819-18:26:16.706642846",
    "sendingTime": "20200819-18:26:16.726",
    "commission": 0.0,
    "commCalculated": 0.0646,
    "commType": "ABSOLUTE",
    "commCurrency": "USD",
    "minQty": 0.0,
    "text": null,
    "matchingType": null,
    "lastRptRequested": "N",
    "timeInForce": "Day",
    "expireDate": "20200819",
    "lastQty": 0.0,
    "targetSubId": null,
    "targetLocationId": null,
    "custOrderCapacity": 0,
    "accountType": 0,
    "customerAccountRef": "tcr001",
    "postOnly": "N",
    "unsolicitedCancel": null,
    "availableBalanceData": [
      {
        "availableBalance": 986.098,
        "availableBalanceCurrency": "BCH"
      },
      {
        "availableBalance": 2250638.6126,
        "availableBalanceCurrency": "USD"
      }
    ],
    "partyIDs": [
      "Trader_A"
    ]
  },
  ...
```

```
{
  "type": "ExecutionReport",
  "orderID": "281474982380346",
  "clOrdID": "Trader_A-1597861578411233",
  "origClOrdID": "Trader_A-1597861578411233",
  "execID": "281475002437487",
  "execType": "ORDER_STATUS",
  "ordStatus": "NEW",
  "ordRejReason": null,
  "account": "acc1",
  "symbol": "LTC/USD",
  "side": "BUY",
  "orderQty": 1.0112,
  "ordType": "LIMIT",
  "price": 60.5,
  "stopPrice": 0.0,
  "currency": "LTC",
  "lastPrice": 0.0,
  "lastSpotRate": 0.0,
  "leavesQty": 1.0112,
  "cumQty": 0.0,
  "avgPrice": 0.0,
  "tradeDate": null,
  "transactTime": "20200819-18:26:17.123235328",
  "sendingTime": "20200819-18:26:17.143",
  "commission": 0.0,
  "commCalculated": 0.1223,
  "commType": "ABSOLUTE",
  "commCurrency": "USD",
  "minQty": 0.0,
  "text": null,
  "matchingType": null,
  "lastRptRequested": "N",
  "timeInForce": "Day",
  "expireDate": "20200819",
  "lastQty": 0.0,
  "targetSubId": null,
  "targetLocationId": null,
  "custOrderCapacity": 0,
  "accountType": 0,
  "customerAccountRef": "tcr001",
  "postOnly": "N",
  "unsolicitedCancel": null,
  "availableBalanceData": [
    {
      "availableBalance": 1969.7406,
      "availableBalanceCurrency": "LTC"
    },
    {
      "availableBalance": 2250638.8153,
```

```
            "availableBalanceCurrency": "USD"
          }
        ],
        "partyIDs": [
          "Trader_A"
        ]
  ]
}
```


5.18 Security List

This endpoint enables users to get all available symbols.

- **HTTP Request Type:** GET
- **Endpoint:** /security-list
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

Inputs

Field	Req	Value
securityGroup	N	**ALL**: Cboe Digital will return all active instruments Other value, Cboe Digital will return all active instruments where securityGroup matches the requested value If securityGroup is not specified, Cboe Digital will only return a default subset of contracts

Example Request:

```
requests.get(
    url="https://trade-api.erisx.com/rest-api/security-list",
    headers={"Authorization": "Bearer " + token}, params={"securityGroup": "ALL" })
```

Outputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE requestId INSTEAD.**
requestId	O	*USE THIS FIELD INSTEAD OF correlation. The provided request id string will be returned on the response. Use this to map requests to responses. The response type will be different from the submitted request type. Only alphanumeric (a..z,A..Z,0..9) values are allowed with a max of 40.
type	Y	**SecuritiesResponse**
currency	Y	Currency
symbol	Y	Symbol

SecurityDesc	O	Contract Description
minTradeVol	Y	Minimum order quantity
maxTradeVol	Y	Maximum Order Quantity
roundLot	Y	Minimum order quantity increment
minPriceIncrement	Y	Minimum price increment
product	Y	Product type
cfiCode	F	CFI Code
securityType	O	Contract type
maturityMonthYear	F	Contract Maturity month and year
contractMultiplier	F	Contract multiplier
securityExchange	F	Exchange where contract is listed
activation	F	Date when contract becomes active
lastEligibleTradeDate	F	Last Trade Date for contract
maturityDate	F	Contract Maturity Date YYYYMMDD
lastTradeTime	F	Contract Last Trade Time (in UTC) on the maturity date
expiryTime	F	Contract Expiry Time (in UTC) on the maturity date
securityGroup	Y	An exchange specific name assigned to a group of related securities which may be concurrently affected by market events and actions.
productCode	Y	Groups asset based on a common contract specification
cap	O	Upper Price Boundary of a contract
floor	O	Lower Price Boundary of a contract

Example Response:


```
{
  "requestId": "foo123",
  "type": "SecuritiesResponse",
  "securities": [
       {
         "currency": "LTC",
         "symbol": "LTC/USD",
         "securityDesc": "LTC/USD",
         "minTradeVol": 0.1,
         "maxTradeVol": 999999,
         "roundLot": 0.0001,
         "minPriceIncrement": 0.05,
         "product": "COMMODITY",
         "cfiCode": null,
         "securityType": null,
         "maturityMonthYear": null,
         "contractMultiplier": null,
         "securityExchange": null,
         "activation": null,
         "lastEligableTradeDate": null,
         "maturityDate": null,
         "lastTradeTime": null,
```

```
          "expiryTime": null,
          "productCode": null,
          "securityGroup": null,
          "cap": null,
          "floor": null
        },
     ...
        {
          "currency": "ETH",
          "symbol": "ETH/USD",
          "securityDesc": "ETH/USD",
          "minTradeVol": 0.1,
          "maxTradeVol": 999999,
          "roundLot": 0.0001,
          "minPriceIncrement": 0.1,
          "product": "COMMODITY",
          "cfiCode": null,
          "securityType": null,
          "maturityMonthYear": null,
          "contractMultiplier": null,
          "securityExchange": null,
          "activation": null,
          "lastEligableTradeDate": null,
          "maturityDate": null,
          "lastTradeTime": null,
          "expiryTime": null,
          "productCode": null,
          "securityGroup": null,
          "cap": null,
          "floor": null
        }
  ]
}
```

5.19 Security Status

This endpoint enables users to status information regarding a specific contract.

- **HTTP Request Type:** GET
- **Endpoint:** /security-status
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

Inputs

Field	Req	Value
symbol	Y	Symbol

Note: For symbols that contain /, an appropriate encoding of the symbol needs to be made in order to obtain a valid URL.

Example Request:

```
requests.get(
    url="https://trade-api.erisx.com/rest-api/security-status",
    headers={"Authorization": "Bearer " + token}, params={"symbol": "BTC/USD" })
```

Outputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE requestId INSTEAD.**
requestId	O	*USE THIS FIELD INSTEAD OF correlation. The provided request id string will be returned on the response. Use this to map requests to responses. The response type will be different from the submitted request type. Only alphanumeric (a..z,A..Z,0..9) values are allowed with a max of 40.
type	Y	SecurityStatus
security	Y	Contract specification as described in Security List
securityTradingStatus	Y	Current Contract Trading Status: **READY_TO_TRADE_START_OF_SESSION**, **NOT_AVAILABLE_FOR_TRADING_END_OF_SESSION**, **TRADING_HALT**, **PRE_OPEN**
sessionEnd	Y	Status which indicates that a trading session has ended and statistics for the trading session should be reset
sendingTime	Y	Time at which the message was published from Cboe Digital
transactTime	Y	Time at which the trading engine performed an action
marketDataID	N	Sequence number which uniquely identifies all unsolicited market data messages within a trade date, for example MarketDataIncrementalRefresh, MarketDataIncrementalRefreshTrade and SecurityStatus. Messages containing the same Global Market Data ID within a Trade Date should be considered as duplicates.
haltReason	N	Denotes the reason for the Trading Halt. Present when securityTradingStatus = TRADING_HALT

Example Response:


```
{
  "type": "SecurityStatus",
  "security": {
    "currency": "BTC",
    "symbol": "BTC/USD",
    "securityDesc": "BTC/USD",
    "minTradeVol": 0.01,
    "maxTradeVol": 100000,
    "roundLot": 0.0001,
    "minPriceIncrement": 1,
    "product": "COMMODITY",
    "cfiCode": null,
    "securityType": null,
    "maturityMonthYear": null,
```

```
    "contractMultiplier": null,
    "securityExchange": null,
    "activation": null,
    "lastEligableTradeDate": null,
    "maturityDate": null,
    "lastTradeTime": null,
    "expiryTime": null,
    "productCode": null,
    "securityGroup": null,
    "cap": null,
    "floor": null
  },
  "securityTradingStatus": "READY_TO_TRADE_START_OF_SESSION",
  "sessionEnd": null,
  "requestId": "134582149605314482",
  "sendingTime": "20200818-21:40:35.633",
  "transactTime": "20200818-21:40:35.560000000",
  "marketDataID": 1234
}
```


5.20 Party IDs List

This endpoint enables users to get a list of all available Party IDs to the member user.

- **HTTP Request Type:** GET
- **Endpoint:** /party-list
- **API security:** This API endpoint requires an authentication token with Trading API permissions.

Inputs

No inputs required

Example Request:

```
requests.get(
    url="https://trade-api.erisx.com/rest-api/party-list",
    headers={"Authorization": "Bearer " + token})
```

Outputs

Field	Req	Value
correlation	O	Alphanumeric string. ***THIS FIELD IS DEPRECATED AND WILL STOP BEING SUPPORTED IN FUTURE VERSIONS. PLEASE USE requestId INSTEAD.**
requestId	O	*USE THIS FIELD INSTEAD OF correlation. The provided request id string will be returned on the response. Use this to map requests to responses. The response type will be different from the submitted request type. Only alphanumeric (a..z,A..Z,0..9) values are allowed with a max of 40.

type	Y	**PartyListResponse**
partyIds	Y	List of available trading party IDs

Example Response:


```
{
  "partyIds": [
    "trader1"
  ],
  "requestId": "9182569783680059937",
  "type": "PartyListResponse"
}
```