

Clearing Terminal Web API specification *Version 1.5*

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1. General provisions

1.1. Web API principles

Clearing Terminal Web API is based on RESTful API principles, using the following standard HTTP methods:

- GET, data retrieving;
- POST, data adding;
- PUT, data change;
- DELETE, data deletion;
- HEAD, automatically handled by the shell;
- OPTIONS, automatically handled by the shell.

The object structure of the Clearing Terminal is described in a separate XSD scheme, which is the supplement to the given specification.

1.2. Clearing Terminal Uniform Resource Locator (URL) structure

The Clearing Terminal Web API can be accessed via standard HTTPS protocol. Uniform Resource Locator (URL) has the following structure:

HOST | BASE | VER | RESOURCE | [RES_PAR] | [SUBRESOURCE] | [SRES_PAR]

Where

HOST – server path;

BASE – application basic path;

VER – API version;

RESOURCE – resource locator;

RES_PAR – resource parameters;

SUBRESOURCE - - subresource relative path;

SRES_PAR – subresource parameters.

URL sample:

[https://api.moex.com/ct/v1/SCodes/00121:](https://api.moex.com/ct/v1/SCodes/00121)

https – protocol type

api.moex.com – HOST

/ct – BASE, application path

/v1 – VER, version

/scodes – RESOURCE, locator to the resource containing settlement account numbers;

/00121 – RES_PAR, resource parameter, i.e. Settlement account number.

HTTP request header setting

1.3. HTTP requests header fields

Clearing Terminal Web API uses the following fields in headers of all incoming requests:

Parameter name	Details
Accept-Language	Desirable language of reply messages: <ul style="list-style-type: none"> • ru • en
Content-type	application/xml
X_HTTP_MOEX_PASSPORT_ID	Token, identifying the user. Is used by the Clearing Terminal for the user authentication (basicAuth).
X_HTTP_MOEX_ROLES	List of roles (groups), divided by comma, assigned to the user
X_HTTP_MOEX_USER_AGENT	Client software. Is used by the Clearing Terminal for recognition of requests received from the trading terminal. Adjustable parameter is defined in the Clearing System, which value is set as User-Agent, corresponding to the trading terminal.
X_HTTP_MOEX_UNICODE	Universal member identifier.

1.4. HTTP requests settings that return lists

The Clearing Terminal Web API uses the following standard HTTP parameters for requests that return lists:

Parameter name	Default value	Details
Limit	50	Number of object retrieving per single operation. Applicable for requests sent via trading terminal. Value -1 removes the restriction on number of retrieving records.
Offset	0	Offset of the first object in retrieving data set against the first object in the input data set.
Sort		Object sort order. Object sort order. Contains list of fields divided by comma, specifying the retrieving data sort order, i.e.: sort=[+ -]field_1,..., [+ -]field_n. For sample of a request retrieving sorted data please see: https://api.moex.com/ct/v1/clr-clients?sort=name,-code
pattern		Конвертированный (URL-encoded) шаблон для отбора записей, соответствующих указанному в pattern регулярному выражению
field name=value		Multi-purpose filter applied to any XSD-specified attribute, except Link element attributes. Condition category for string type fields is LIKE, with exact equation for all other field types. If the field name is defined with the mistake, filter is not applied.

setting=value		For additional sort settings applicable for a certain resource see 3.5 Ошибка! Источник ссылки не найден.
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The Clearing Terminal Web API parameters are processed as follows:

- The request parameters inside URI are placed after symbol ‘?’;
- Parameter should be specified as set of name/value pairs, i.e.: name1=value1&name2=value2&name3=value3..;
- All parameter names are case-sensitive;
- All parameter-specified sort orders are applied simultaneously (via AND);
- If a parameter has not been set, than this parameter will not be applied for sorting;
- In production and debug modes, if a non-existing parameter has been erroneously set, the system returns the ‘Error 400 Bad request’ message.

1.5. HTTP requests fields

Clearing Terminal Web API requests of the POST, PUT, DELETE types may include the following parameters:

Parameter	Default value	Details
X_CT_MOEX_UI	0	If there is value different from 0 in this field, mode “User Interface” is set in the http request head when processing it. Specific of this mode is that there is an opportunity to submit request, which contains one digital signature instead of two mandatory ones, to such request status “Waiting for signature” is assigned in the mode “User Interface”, in the standard mode such request will be denied with the 620 code

1.6. CT HTTP reply messages fields

Clearing Terminal Web API requests of the POST, PUT, DELETE type may include the following parameters:

Parameter	Default value	Details
X_CT_MOEX_Error-Code		If reply message contains http error code 400 (bad request), code of the applicable error is defined
X_CT_MOEX_Request_ID		Unique request identifier, assigned by the sever

1.7. HATEOAS (Hypermedia as the Engine of Application State) approach

In order to build a HATEOAS-compliant API, there are some RFC 5988-compatible LINK elements integrated into the retrieving data structure. These elements contain absolute links (href) to related Web API resources along with relation type (rel) specified in hyperlink. Depending on element type (unique object/list of objects), the following related hyperlink types are allowed:

Relation type, rel	Object type obtained via GET	Details
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first	list	Link to the first page of list
prev	list	Link to the previous page of list
next	list	Link to the next page of list
last	list	Link to the last page of list
self	element	Self-link
Asset	element	Link to the related asset
Market	element	Link to the related market
Bic	element	Link to the related RCBIC number
FirmID	element	Link to the related trading identifier
TrdAcc	element	Link to the related trade account
SCode	element	Link to the related Settlement account
Account	element	Link to the related collateral account

1.8. Returning lists via paging approach

The Clearing Terminal resources that return object lists use consistent data paging approach. In object model, types of that objects always contain postfix 'List'. The restrictions for number of returning records, including initial record, can be specified with request parameters 'limit', 'offset' (for details, **Ошибка! Источник ссылки не найден.**). Each list contains element set of type 'link', containing links to the related sampling pages (for details, 0).

Sample of a request that returns clearing ledgers 61 to 100:

<https://api.moex.com/ct/v1/clr-clients?limit=40,offset=60>

The total number of records in list (not paged) will be returned in header field 'X-Total-count'.

1.9. Return codes for HTTP requests

Below is the list of return codes for incoming HTTP requestss to Clearing Terminal. The list is subdivided into two tables, i.e.:

- Request type GET;
- Request types POST, PUT, DELETE.

Return codes for requests of type GET:

Code	Details
200	Success
204	No Content
400	Bad request, reply field X_CT_MOEX_Error-Code contains applicahble error code
401	Unauthorised
403	Forbidden. The client does not have sufficient rights for this request

405	The method is not supported for this resource
415	Unsupported data type
422	Invalid document body
500	Internal server error
501	Not implemented
Applicable errors codes:	
600	Invalid request date
603	Invalid Clearing participant code (UNICODE)

Return codes for requests of types POST, PUT, DELETE:

Code	Details
202	Accepted
204	Request successfully processed without content return
400	Bad request, reply field X_CT_MOEX_Error-Code contains applicahble error code
401	Unauthorised
403	Forbidden. The client does not have sufficient rights for this request
405	Method is not supported for this resource
407	Proxy authentication required
409	Conflict
415	Unsupported data type (provision format)
422	Invalid document body
500	Internal server error
501	Not implemented
Applicable errors codes:	
600	Invalid request date
601	Outcoming number is not unique
602	Недопустимый тип запроса Invalid request type
603	Неверный код (UNICODE) Участника клиринга Invalid Clearing participant code (UNICODE)
604	Invalid settlement account %SCODE%
610	Signature check failed: invalid canonicalization algorithm

611	Signature check failed: invalid additional transformation algorithm
612	Signature check failed: invalid hash values creation algorithm
613	Signature check failed: invalid signature algorithm
614	Signature check failed: invalid hash function value
615	Signature check failed: certificate not found
616	Signature check failed: certificate expired
617	Signature check failed: invalid signature
618	Signature check failed: cryptography error
619	Signature check failed: certificate owner does not have required rights
620	Signature check failed: signatures number requirement not met
621	Request not found
622	Invalid request status
623	Signature check failed: document signed by the serial_number certificate more than once

1.10. Requests processing aspects of the Clearing Terminal

The data processed by the Clearing Terminal are subdivided into public and personal (the data belonging to a certain Clearing member, i.e. lists of IDs, settlement accounts, collateral transfer requests, etc.).

When processing personal data requests, the Clearing Terminal applies implicit filter, which allows to select data related to a certain Clearing member specified within field UNICODE of HTTP request header. So that, a Clearing member's personal data are protected from being viewed by another Clearing Member.

Clearing Terminal operations are always related to the current trading day, which, in turn, relates to the calendar day of the Clearing Terminal's server. Please note that processing of requests of types POST, PUT, DELETE, with the date value in field DocDate different from that of the current trading day, is not allowed.

Data returned by the Clearing Terminal in reply to requests of type GET meet the following conditions:

- Reference data are always up-to-date with the current trading day of the Clearing Terminal;
- If a request does not contain any date values, the returned historical information (date-related data) includes:
 - All incomplete documents;
 - All complete documents, both processed and rejected, related to the current trading day of the Clearing Terminal.
- It is still allowed to obtain data for the previous trading days, if only the request parameters explicitly relate to the following resources:
 - Transactions journal, /accounts/{Account}/{OperDate}/statement;
 - Collateral return requests, /asset-returns;
 - Collateral transfer requests, /asset-transfers;

- Profile transfer requests, /profile-transfers;
- Requests submitted via the Clearing Terminal, /reqs;
- Incoming documents to a Clearing member, /out-docs.

2. Resource structure of the Clearing Terminal

The table below contains information on the Clearing Terminal Web API resources and their methods. All data-changing requests sent from a Clearing participant to the Clearing Terminal are listed in column Notes and are marked in bold. A request of the given type should be applied as electronic documents signed by authorised official(s).

The formats of representations listed in the table below are included in a separate XSD file, which is supplement to the given document.

Path (URI)	Method	Representation ¹	Details
Reference data			
/account-kinds	GET	ct:AccountKindList	Individual accounts types
/account-kinds/{AccountKind}	GET	ct:AccountKind	Individual account type
/assets	GET	ct:AssetList	Assets
/assets/{Asset}	GET	ct:Asset	Asset
/assets/{Asset}/markets	GET	ct:AssetMarketList	Markets available for the chosen asset
/bic	GET	ct:BicList	BIC reference book
/bic/{Bic}	GET	ct:Bic	Information on the bank from BIC reference book
/bic-swift	GET	ct:BicSwiftList	BIC SWIFT reference book
/bic-swift/{BicSwift}	GET	ct:BicSwift	Information on the bank from BIC SWIFT reference book
/errors	GET	ct:ErrorList	Errors list
/errors/{Code}	GET	ct:Error	Information on error
/markets	GET	ct:MarketList	Market sections list
/markets/{Market}	GET	ct:Market	Market section
/markets/{Market}/assets	GET	ct:MarketAssetList	Assets available on the Market section
/markets/{Market}/tariffs	GET	ct:TariffList	Tariff fees
/markets/{Market}/trdacc-params/{TrdAccParam}	GET	ct:TrdAccParamValues	Possible values of trade account parameter
/oper-kinds	GET	ct:OperKindList	Kinds of transactions

¹ The column contains representation returned in reply to GET request, or transmitted within POST, PUT, DELETE request body.

/oper-kinds/{OperKind}	GET	ct:OperKind	Transaction kind
/sys/params	GET	ct:SysParamsList	Clearing System parameters
/sys/params/{SysParam}	GET	ct:SysParam	Clearing System parameter
/tran-types	GET	ct:TranTypeList	Types of transactions
/tran-types/{TranType}	GET	ct:TranType	Transaction type
/user	GET	ct:User	Current user information
Clearing Member			
/member	GET	ct:Member	Clearing Member information
/member/params	GET	ct:MemberParamsList	Clearing Member parameters
/member/params/{MemberParam}	GET	ct:MemberParam	Clearing Member parameter
/member/params/{MemberParam}	PUT	ed:MemberParamSet	Request for Clearing Member parameter change
/member-params/{MemberParam}	GET	ct:MemberParamValues	Possible values of the Clearing Member parameter
/funds	GET	ct:FundList	Required amounts of the Default Fund contribution and Collateral for stress
Identifiers (trading)			
/firmids	GET	ct:FirmIDList	Clearing Member Identifiers list
/firmids/report/pdf	GET	Pdf file	Clearing Member Identifiers list in the Adobe pdf format
/firmids/report/xls	GET	Excel file	Clearing Member Identifiers list in the MS Excel format
/firmids/{Market}/{FirmID}	GET	ct:FirmID	Clearing Member Identifier
/firmids/{Market}/{FirmID}/tariffs	GET	ct:FirmIDTariffList	Tariffs
/firmids/{Market}/{FirmID}/tariffs/{TariffKind}	GET	ct:FirmIDTariff	Tariff
/firmids/{Market}/{FirmID}/trdacc	GET	ct:TrdAccList	Trade accounts list
/firmids/{Market}/{FirmID}/trdacc/pdf	GET	Pdf file	Trade accounts list in the Adobe pdf format
/firmids/{Market}/{FirmID}/trdacc/xls	GET	Excel file	Trade accounts list in the MS Excel format
/firmids/{Market}/{FirmID}/trdacc/{TrdAcc}	GET	ct:TrdAcc	Trade account data
/firmids/{Market}/{FirmID}/trdacc/{TrdAcc}/params	GET	ct:TrdAccParamsList	Trade account parameters

/firmids/{Market}/{FirmID}/trdacc/{TrdAcc}/params/{TrdAccParam}	GET	ct:TrdAccParam	Trade account parameter
Sub-accounts Clusters, Derivatives market			
/brokers	GET	ct:BrokerList	Sub-accounts Clusters (Derivatives market)
/brokers/report/pdf	GET	Pdf file	Sub-accounts Clusters in the Adobe pdf format
/brokers/report/xls	GET	Excel file	Sub-accounts Clusters in the MS Excel format
/brokers/{Broker}	GET	ct:Broker	Sub-accounts Cluster
/brokers/{Broker}/morning-trades	PUT	ed:BrokerMorningTradesSet	Request for restricting start time for execution of trades with the Clearing House under the Sub-accounts Cluster
Clearing registers sections, Derivatives market			
/clr-clients	GET	ct:ClrClientList	Client sections of the clearing register
/clr-clients/report/pdf	GET	Pdf file	Client sections of the clearing register in the Adobe pdf format
/clr-clients/report/xls	GET	Excel file	Client sections of the clearing register in the MS Excel format
/clr-clients/{ClrNum}	GET	ct:ClrClient	Client section of the clearing register
Settlement Accounts			
/scodes	GET	ct:SCodeList	List of registered Settlement Accounts
/scodes/ext	GET	ct:SCodeExtList	List of registered Settlement Accounts with the expanded data on connected markets
/scodes/ext/{SCode}	GET	ct:SCodeExt	Information on the Settlement Account with the expanded data on connected markets
/scodes/report/pdf	GET	Pdf file	List of registered Settlement Accounts in the Adobe pdf format
/scodes/repost/xls	GET	Excel file	List of registered Settlement Accounts in the MS Excel
/scodes/{SCode}	GET	ct:SCode	Settlement Account
/scodes/{SCode}/common-nsd-account	PUT	ed:SCodeCommonNSDAccountSet	Request for changing Settlement Account parameters (in regards to NCC-NSD account)

/scodes/{SCode}/early-settle	PUT	ed:SCodeEarlySettleSet	Request for the execution of early settlement
/scodes/{SCode}/early-settle-ord	PUT	ed:SCodeEarlySettleOrdSet	Standing Instruction to execute early settlement
/scodes/{SCode}/early-trades	PUT	ed:SCodeEarlyTradesSet	Request for early exit from trading
/scodes/{SCode}/early-trades-ord	PUT	ed:SCodeEarlyTradesOrdSet	Standing Instruction to execute early exit from trading
/scodes/{SCode}/sp	PUT	ed:SCodeSPSet	Request for the assignment of the Unified Pool feature to the Settlement Account
/scodes/{SCode}/markets	GET	ct:SCodeMarketList	Market sections, Settlement Account is authorized for
/scodes/{SCode}/markets	POST	ed:SCodeSPMarketAdd	Request for changing scope of action of the Unified Pool Settlement Account
/scodes/{SCode}/morning-trades	PUT	ed:SCodeMorningTradesSet	Request for restricting start time for execution of trades with the Clearing House under the Settlement Account
/scodes/{SCode}/level2/{Market}	GET	ct:SCodeL2List	Trade Accounts of the 2 nd level list
/scodes/{SCode}/level2/{Market}/{SCode2}	GET	ct:SCodeL2	Trade Account of the 2 nd level
/scodes/{SCode}/pay-props	GET	ct:SCodePayPropList	Account for collateral return details assigned to the Settlement Account
/scodes/{SCode}/pay-props	POST	ed:PayPropAttach	Request for setting correspondence of the Account for collateral return to the Settlement Account
/scodes/{SCode}/pay-props/{PayProp}	GET	ct:SCodePayProp	Account for collateral return detail assigned to the Settlement Account
/scodes/{SCode}/pay-props/{PayProp}	DELETE	ed:PayPropDetach	Request for cancellation of the correspondence between Account for collateral return and the Settlement Account
/scodes/{SCode}/asset-returns	GET	ct:AssetReturnOrdList	Standing instructions to return collateral
/scodes/{SCode}/asset-returns	POST	ed:AssetReturnOrd	Standing instruction to return collateral
/scodes/{SCode}/asset-returns/{Asset}	GET	ct:AssetReturnOrd	Standing instruction to return collateral
/scodes/{SCode}/asset-returns/{Asset}	DELETE	ed:AssetReturnOrdDel	Request for cancellation of the standing instruction to return collateral

/scodes/{SCode}/asset-deposit	GET	ct:AssetDepositList	Requests for depositing
/scodes/{SCode }/asset-deposit	POST	ed:AssetDeposit	Request for depositing
/scodes/{SCode}/asset-deposit/{Asset}	GET	ct:AssetDeposit	Request for depositing
/scodes/{SCode}/asset-deposit/{Asset}	PUT	ed:AssetDeposit	Request for depositing
/scodes/{SCode}/asset-deposit/{Asset}	DELETE	ed:AssetDepositDel	Request for cancellation of the request for depositing
/scodes/{SCode}/asset-deposit-ord	GET	ct:AssetDepositOrdList	Depositing Standing instructions
/scodes/{SCode}/asset-deposit-ord	POST	ed:AssetDepositOrd	Depositing Standing instruction
/scodes/{SCode}/asset-deposit-ord/{Asset}	GET	ct:AssetDepositOrd	Receive Depositing Standing instruction
/scodes/{SCode}/asset-deposit-ord/{Asset}	PUT	ed:AssetDepositOrd	Depositing Standing instruction
/scodes/{SCode}/asset-deposit-ord/{Asset}	DELETE	ed:AssetDepositOrdDel	Request for cancellation of the Depositing Standing instruction
Collateral accounts			
/accounts	GET	ct:AccountList	Collateral accounts
/accounts/report/pdf	GET	Pdf file	Collateral accounts in the Adobe pdf format
/accounts/report/xls	GET	Excel file	Collateral accounts in the MS Excel format
/accounts/{Account}	GET	ct:Account	Collateral account information
/accounts/{Account }/{OperDate }	GET	ct:TurnoverBalance	Turnover balance
/accounts/{Account }/{OperDate }/statement	GET	ct:AccountStatement	Transactons journal under account per day
/accounts/{Account }/{OperDate }/statement	POST	ed:AccountStatementReq	Request for the cash flow statement
/accounts/{Account}/balances	GET	ct:TurnoverBalanceList	Turnover on account
Accounts for collateral return (payment details)			
/pay-props	GET	ct:PayPropList	List of registered details of Accounts for collateral return
/pay-props/report/pdf	GET	Pdf file	List of registered details of Accounts for collateral return in the Adobe pdf format
/pay-props/report/xls	GET	Excel file	List of registered details of Accounts for collateral return in the MS Excel format
/pay-props	POST	ed:PayPropAdd	Request for registration of the Account for collateral return details
/pay-props/{PayProp}	GET	ct:PayProp	Account for collateral return details

/pay-props/{PayProp}	PUT	ed:PayPropEdit	Request for changing details of the Account for collateral return
/pay-props/{PayProp}	DELETE	ed:PayPropRemove	Request for annulment of registration of the Account for collateral return details
Collateral return			
/asset-returns	GET	ct:AssetReturnList	Collateral return requests
/asset-returns/report/pdf	GET	Pdf file	Collateral return requests in the Adobe pdf format
/asset-returns/report/xls	GET	Excel file	Collateral return requests in the MS Excel format
/asset-returns	POST	ed:AssetReturn	Request for collateral return
/asset-returns/{Req}	GET	ct:AssetReturn	Request for collateral return
/asset-returns/{Req}	DELETE	ed:AssetReturnDel	Request for cancellation of the collateral return request
Collateral transfer			
/asset-transfers	GET	ct:AssetTransferList	Collateral transfer requests
/asset-transfers/report/pdf	GET	Pdf file	Collateral transfer requests in the Adobe pdf format
/asset-transfers/report/xls	GET	Excel file	Collateral transfer requests in the MS Excel format
/asset-transfers	POST	ed:AssetTransfer	Request for collateral transfer
/asset-transfers/{Req}	GET	ct:AssetTransfer	Request for collateral transfer
/asset-transfers/{Req}	DELETE	ed:AssetTransferDel	Request for cancellation of the request for collateral transfer
Asset profile transfer			
/profile-transfers	GET	ct:ProfileTransferList	Asset profile transfer requests
/profile-transfers/report/pdf	GET	Pdf file	Asset profile transfer requests in the Adobe pdf format
/profile-transfers/report/xls	GET	Excel file	Asset profile transfer requests in the MS Excel format
/profile-transfers	POST	ed:ProfileTransfer	Request for asset profile transfer
/profile-transfers/{Req}	GET	ct:ProfileTransfer	Request for asset profile transfer

/profile-transfers/{Req}	DELETE	ed:ProfileTransferDel	Request for cancellation of the Request for asset profile transfer
Clearing Terminal – Clearing Members’ requests			
/reqs	GET	ct:ReqList	Requests submitted via Clearing Terminal for the last operating day
/reqs/report/pdf	GET	Pdf file	Requests submitted via Clearing Terminal for the last operating day in the Adobe pdf format
/reqs/report/xls	GET	Excel file	Requests submitted via Clearing Terminal for the last operating day in the MS Excel format
/reqs/last-number	GET	ct:ReqLastNum	Last number of the submitted request on the current settlement day
/reqs/{DocDate}	GET	ct:ReqTotal	Requests submitted via Clearing Terminal for the defined operating day
/reqs/{DocDate}/last-number	GET	ct:ReqLastNum	Last number of the submitted request on the settlement day
/reqs/{DocDate}/total-docs	GET	ct:ReqTotal	Total number of documents being processed
/reqs/{DocDate/DocNum}	GET	ct:Req	Request submitted via the Clearing Terminal
/reqs/{DocDate/DocNum}/TariffSet	PUT	ed:TariffSet	Signing request for choosing tariff fee
/reqs/{DocDate/DocNum}/SCodeEarlySettleSet	PUT	ed:SCodeEarlySettleSet	Signing request for the execution of early settlement
/reqs/{DocDate/DocNum}/SCodeEarlySettleOrdSet	PUT	ed:SCodeEarlySettleOrdSet	Signing standing instruction to execute early settlement
/reqs/{DocDate/DocNum}/SCodeEarlyTradesSet	PUT	ed:SCodeEarlyTradesSet	Signing request for early exit from trading
/reqs/{DocDate/DocNum}/SCodeEarlyTradesOrdSet	PUT	ed:SCodeEarlyTradesOrdSet	Singing standing instruction to execute early exit from trading
/reqs/{DocDate/DocNum}/SCodeDel	PUT	ed:SCodeDel	Signing request for the Settlement Account closure
/reqs/{DocDate/DocNum}/SCodeSPMarketAdd	PUT	ed:SCodeSPMarketAdd	Signing request for changing scope of action of the Unified Pool Settlement Account
/reqs/{DocDate/DocNum}/PayPropAttach	PUT	ed:PayPropAttach	Signing request for setting correspondence of the Account for collateral return to the Settlement Account

/reqs/{ DocDate/DocNum}/PayPropDetach	PUT	ed:PayPropDetach	Signing request for cancellation of correspondence between the Account for collateral return and the Settlement Account
/reqs/{ DocDate/DocNum}/AssetReturnOrd	PUT	ed:AssetReturnOrd	Signing standing instruction to return collateral
/reqs/{ DocDate/DocNum}/AssetReturnOrdDel	PUT	ed:AssetReturnOrdDel	Signing request for cancellation of the standing instruction to return collateral
/reqs/{ DocDate/DocNum}/AssetDeposit	PUT	ed:AssetDeposit	Signing request for depositing
/reqs/{ DocDate/DocNum}/AssetDepositDel	PUT	ed:AssetDepositDel	Signing request for the cancellation of the request for depositing
/reqs/{ DocDate/DocNum}/AssetDepositOrd	PUT	ed:AssetDepositOrd	Signing depositing standing instruction
/reqs/{ DocDate/DocNum}/AssetDepositOrdDel	PUT	ed:AssetDepositOrdDel	Signing request for the cancellation of the depositing standing instruction
/reqs/{ DocDate/DocNum}/AccountStatementReq	PUT	ed:AccountStatementReq	Signing request for the cash flow statement
/reqs/{ DocDate/DocNum}/PayPropAdd	PUT	ed:PayPropAdd	Signing request for the registration of the Account for collateral return details
/reqs/{ DocDate/DocNum}/PayPropEdit	PUT	ed:PayPropEdit	Signing request for changing details of the Account for collateral return
/reqs/{ DocDate/DocNum}/PayPropRemove	PUT	ed:PayPropRemove	Signing request for the annulment of the registration of the Account for collateral return details
/reqs/{ DocDate/DocNum}/AssetReturn	PUT	ed:AssetReturn	Signing request for collateral return
/reqs/{ DocDate/DocNum}/AssetReturnDel	PUT	ed:AssetReturnDel	Signing request for cancellation of the request for collateral return
/reqs/{ DocDate/DocNum}/AssetTransfer	PUT	ed:AssetTransfer	Signing request for collateral transfer
/reqs/{ DocDate/DocNum}/AssetTransferDel	PUT	ed:AssetTransferDel	Signing request for the cancellation of the request for collateral transfer
/reqs/{ DocDate/DocNum}/ProfileTransfer	PUT	ed:ProfileTransfer	Signing request for asset profile transfer
/reqs/{ DocDate/DocNum}/ProfileTransferDel	PUT	ed:ProfileTransferDel	Signing request for the cancellation of the request for asset profile transfer
/reqs/{ DocDate/DocNum}	DELETE		Request cancellation
Clearing Terminal – incomin documents to the Clearing Member			

/out-docs	GET	ct:OutDocList	Incoming documents for the last operating day
/out-docs/report/pdf	GET	Pdf file	Incoming documents for the last operating day in the Adobe pdf format
/out-docs/report/xls	GET	Excel file	Incoming documents for the last operating day in the MS Excel format
/out-docs/{DocDate}	GET	ct:OutDocList	Incoming documents for the defined operating day
/out-docs/{DocDate}/total-docs	GET	ct:OutDocTotal	Total number of incoming documents
/out-docs/{DocNum}/Advice	GET	oed:Advice	Incoming document – Advice
/out-docs/{DocNum}/Receipt	GET	oed:Receipt	Incoming document – Receipt
/out-docs/{DocNum}/Statement	GET	oed:Statement	Incoming document – Statement
/out-docs/{DocNum}/report	GET		Receiving html representation of the incoming document
/out-docs/{DocNum}/report/pdf	GET	Pdf file	Receiving pdf representation of the incoming document
/out-docs/xslt	GET	ct:OutDocXSLTList	Receiving list of files of styles which convert incoming documents into html
/out-docs/xslt/{FileName}	GET	Xslt file	Receiving xsl file by name

3. Clearing Terminal request patterns

3.1. Markets list

Request:

GET http://api.moex.com/ct/v1/markets

Reply:

200 OK

```
<?xml version="1.0" encoding="UTF-8"?>
<ct:MarketList xmlns:ct="urn:moex-com:ncc:ct" xmlns:ObjTypes="urn:moex-com:ncc:ObjTypes">
  <ct:Link Href="http://api.moex.com/ct/v1/markets" Rel="self"/>
  <ct:Market Market="CO" Name="Зерно" SPIndicator="false">
    <ct:Link Href="http://api.moex.com/ct/v1/markets/CO" Rel="self"/>
  </ct:Market>
</ct:MarketList>
```



```

</ct:Market>
<ct:Market Market="CU" Name="Валютный" SPIndicator="true">
  <ct:Link Href="http://api.moex.com/ct/v1/markets/CU" Rel="self"/>
</ct:Market>
<ct:Market Market="EQ" Name="Фондовый" SPIndicator="true">
  <ct:Link Href="http://api.moex.com/ct/v1/markets/EQ" Rel="self"/>
</ct:Market>
<ct:Market Market="FU" Name="Срочный" SPIndicator="true">
  <ct:Link Href="http://api.moex.com/ct/v1/markets/FU" Rel="self"/>
</ct:Market>
</ct:MarketList>

```

3.2. Assets for Derivatives market

Request:

```
GET http://api.moex.com/ct/v1/markets/FU/assets
```

Reply:

200 OK

```

<?xml version="1.0" encoding="UTF-8"?>
<ct:MarketAssetList xmlns:ct="urn:moex-com:ncc:ct" xmlns:ObjTypes="urn:moex-com:ncc:ObjTypes">
  <ct:Link Href="http://api.moex.com/ct/v1/markets/FU/assets" Rel="self"/>
  <ct:MarketAsset Asset="RUB" Kind="N" Descr="Российские рубли" AssetTransferIndicator="true" ProfileTransferIndicator="true"/>
  <ct:MarketAsset Asset="USD" Kind="F" Descr="Доллары США" AssetTransferIndicator="true" ProfileTransferIndicator="true"/>
</ct:MarketAssetList>

```

3.3. Settlement codes for Securities Market

Request:

```
GET http://api.moex.com/ct/v1/scodes?Market=EQ
```

Reply:

200 OK

```

<?xml version="1.0" encoding="UTF-8"?>
<ct:SCodeList xmlns:ct="urn:moex-com:ncc:ct" xmlns:ObjTypes="urn:moex-com:ncc:ObjTypes">
  <ct:Link Href="http://api.moex.com/ct/v1/scodes?Market=EQ" Rel="self"/>
  <ct:SCodeBrief SCode="01387" Type="D" Kind="O" SPIndicator="false" Status="N">
    <ct:Link Href="http://api.moex.com/ct/v1/scodes/01387" Rel="self"/>
  </ct:SCodeBrief>
</ct:SCodeList>

```

```

</ct:SCodeBrief>
<ct:SCodeBrief SCode="01978" Type="L" Kind="O" SPIndicator="false" Status="N">
  <ct:Link Href="http://api.moex.com/ct/v1/scodes/01978" Rel="self"/>
</ct:SCodeBrief>
<ct:SCodeBrief SCode="06252" Type="S" Kind="O" SPIndicator="false" Status="N">
  <ct:Link Href="http://api.moex.com/ct/v1/scodes/06252" Rel="self"/>
</ct:SCodeBrief>
<ct:SCodeBrief SCode="08797" Type="S" Kind="F" SPIndicator="false" Status="N">
  <ct:Link Href="http://api.moex.com/ct/v1/scodes/08797" Rel="self"/>
</ct:SCodeBrief>
</ct:SCodeList>

```

3.4. Request for collateral transfer

Request:

```
POST http://api.moex.com/ct/v1/asset-transfers
```

```
Content-Type:application/xml
```

```
|
```

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<ed:AssetTransfer DocTime="12:01:00" DocDate="2017-07-20" DocNum="7109" Amount="19419" SCodeDb="00555" SCodeCr="00553" Member="7654321012"
Asset="USD" DocTypeId="AssetTransfer" xsi:schemaLocation="urn:moex-com:ncc:ed edAsset.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ed="urn:moex-com:ncc:ed">
```

```
  <ed:AmountListCr>
```

```
    <ed:AmountListItem CRegId="MC0100100011" Amount="10000"/>
```

```
    <ed:AmountListItem CRegId="MC0100100012" Amount="9419"/>
```

```
  </ed:AmountListCr>
```

```
</ed:AssetTransfer>
```

Reply:

```
202 Accepted
```

3.5. Advice

Script 1:

30420840231000214442 account is opened for the clearing member to record individual clearing collateral. It is required to get all advices for the operating day (9 of January 2020).

Step 1. Get all advices for the 9 of January 2020 under 30420840231000214442 account in the order of their arrival:

Request:

GET http://api.moex.com/ct/v1/out-docs?DocTypeId=Advice&Account=30420840231000214442&sort=DocNum

Reply:

200 OK

```
<?xml version="1.0" encoding="UTF-8"?>
<ct:OutDocList xmlns:ct="urn:moex-com:ncc:ct" xmlns:ObjTypes="urn:moex-com:ncc:ObjTypes">
  <ct:Link Href="http://10.50.144.10:7031/ct/v1/out-docs?DocTypeId=Advice&Account=30420840231000214442&sort=DocNum" Rel="self"/>
  <ct:OutDocBrief DocDate="2020-01-09" DocNum="24250" DocTypeId="Advice" DocTime="00:00:00" Status="OD_SIGN"/>
  <ct:OutDocBrief DocDate="2020-01-09" DocNum="24251" DocTypeId="Advice" DocTime="00:00:00" Status="OD_SIGN"/>
</ct:OutDocList>
```

Step 2. In respect of each record, given in the advice list, we form request for receiving document according to its number:

Request 1:

GET http://api.moex.com/ct/v1/out-docs/24250/Advice

Reply:

200 OK

```
<?xml version="1.0" encoding="UTF-8"?>
<oed:Advice xmlns:oed="urn:moex-com:ncc:oed" xmlns:ObjTypes="urn:moex-com:ncc:ObjTypes" xmlns:ds="http://www.w3.org/2000/09/xmldsig#" DocDate="2020-01-09" DocTime="00:00:00" DocNum="24250" DocTypeId="Advice" Member="0061900000" MemberName="JSC &quot; Romashka&quot;" Lang="en" Trans="43253780433" TransKind="01" OperKind="916" DC="C" Sum="150087" SCode="14442" Account="30420840231000214442" AccountKind="Cover" AccountName="ФР, Акционерное общество &quot;Инвестиционная компания &quot;Ромашка&quot;; - индивидуальное обеспечение" Asset="USD" TransDate="2020-01-09" Details="/BNF/SC 14442. Individual collateral funds transfer in accordance with Clearing Rules. No VAT."/>
```

Request 2:

GET http://api.moex.com/ct/v1/out-docs/24251/Advice

Reply:

200 OK

```
<?xml version="1.0" encoding="UTF-8"?>
<oed:Advice xmlns:oed="urn:moex-com:ncc:oed" xmlns:ObjTypes="urn:moex-com:ncc:ObjTypes" xmlns:ds="http://www.w3.org/2000/09/xmldsig#" DocDate="2020-01-09" DocTime="00:00:00" DocNum="24251" DocTypeId="Advice" Member="0061900000" MemberName="JSC &quot; Romashka&quot;" Lang="en" Trans="43253780434" TransKind="01" OperKind="916" DC="C" Sum="1000000" SCode="14442" Account="30420840231000214442" AccountKind="Cover" AccountName="ФР, Акционерное
```

*общество "Инвестиционная компания "Ромашка"; - индивидуальное обеспечение" Asset="USD" TransDate="2020-01-09" Details="/BNF/SC 14442.
Individual collateral funds transfer in accordance with Clearing Rules. No VAT."/>*

Script 2:

Clearing Member has received advice № 24250 dated 9 of January 2020, it is required to get its html representation for the further print.

Step 1. Get report form according to the advice number:

Request:

GET http://api.moex.com/ct/v1/out-docs/24250/report

Reply:

200 OK

NOTICE ♦ 24250 OF COLLATERAL ACCOUNT DEBIT AND CREDIT

Clearing Member name: JSC "FINAM"

Clearing Member code: 0061900000

Field	Data
Bank Operation Code	916
Account	
Value Date	09.01.2020
Currency	USD
Credit	150,087.00

4. Additional selection parameters for lists

Below is a table containing request parameters available for GET methods (objects lists returning), which allow to specify some additional selectional conditions. If a parameter is missing its value, no additional selectional condition will be applied.

The possible request parameters in the table below are provided for URI format:

Path (URI)	Object	Parameter	Representation
/assets	Assets	Asset kind	Kind
/assets/{Asset}/markets	Assets available for the Market sector	Collateral transfer	AssetTransferIndicator
		Profile transfer	ProfileTransferIndicator
/markets	Market sections		
/markets/{Market}/assets	Assets available for the Market section	Collateral transfer	AssetTransferIndicator=true
		Profile transfer	ProfileTransferIndicator=true
/markets/{Market}/tariffs	Tariffs	Tariff fee kind	Kind
/bic	BIC		
/bic-swift	BIC SWIFT		
/funds	Default Funds	Market section	Market
/firmids	Trading identifiers	Market section	Market
/firmids/{Market}/{FirmID}/tariffs	Identifiers fee tariffs		
/firmids/{Market}/{FirmID}/trdacc	Trade accounts	Type	Type
		Kind	Kind
		Status	Status
		Unified collateral pool	SPIndicator=true
/firmids/{Market}/{FirmID}/trdacc/{TrdAcc}/params	Trade Accounts parameters		
/brokers	Sub-accounts Clusters	SC	SCode
		Type	Type
		Status	Status
		Unified Collateral Pool	SPIndicator=true
		Morning trading	MorningTrade=(true false)
/clr-clients	Clearing registers sections	SC	SCode
		Status	Status
		Clearing register number	ClrNum

		Filter is set on coincidence from the beginning of a line: like "VAL%"	
/scodes	Settlement accounts	SA	SCode
		Type	Type
		Kind	Kind
		Unified collateral pool	SPIndicator=true
		Market section	Market
		Status	Status
/scodes/{SCode}/markets	Market sections, the Settlement code is authorised for		
/scodes/{SCcode}/params	Settlement Accounts parameters		
/scodes/{SCcode}/level2/{Market}	Settlement Accounts of the 2 nd level	Settlement Account of the 2 nd level	
/scodes/{SCcode}/pay-props	Payment details	Currency	Asset
		Status	Status
		BIC, applied to the following fields: <ul style="list-style-type: none"> • benBic • bbankBic • ibankBic bic	BIC
		Account, applied to the following fields: <ul style="list-style-type: none"> • benAccount • bbankAccount • ibankAccount • correspAcc • personalAcc clientPersonalAcc	Account

		ITN, applied to the following fields: <ul style="list-style-type: none"> inn clientInn	INN
/scodes/{SCcode}/asset-returns	Standing instructions to return collateral		
/scodes/{SCcode}/asset-deposit	Request for depositing		
/scodes/{SCcode}/asset-deposit-ord	Depositing standing instructions		
/accounts	Collateral accounts	Settlement Account	SCode
		Market section	Market
		Currency	Asset
		Status: opened/closed	Status={0 1}
		Kind	Kind
/accounts/{Account}/balances	Turnover on account	From the date, >=OperDate	from
		To the date, <=OperDate	to
/accounts/{Account}/{OperDate}/statement	Transactions journal		
/pay-props	Payment details	Settlement Account	SCode
		Settlement Account, denial	SCode!
		Currency	Asset
		BIC, applicable to the following fields: <ul style="list-style-type: none"> benBic bbankBic ibankBic bic 	BIC
		Account, applicable to the following fields: <ul style="list-style-type: none"> benAccount bbankAccount 	Account

		<ul style="list-style-type: none"> • ibankAccount • correspAcc • personalAcc • clientPersonalAcc 	
		INN, applicable to the following fields: <ul style="list-style-type: none"> • inn • clientInn 	INN
		Status, accurately, status field	Status
/asset-returns	Requests for collateral return	Currency	Asset
		Settlement Account	SCode
		Market section	Market
		Status	Status
		ID, accurately	Req
		Outgoing document number, accurately	DocNum
		Sum,	Amount
		Execution method	Exec
/asset-transfers	Requests for collateral transfer	Currency	Asset
		Settlement Account	SCode
		Market section	Market
		Status	Status
		ID	Req
		Outgoing document number	DocNum
		Sum	Amount
/profile-transfers	Requests for profile transfer	Currency	Asset
		Settlement Account	SCode
		Trade Account	TrdAcc
		Market section	Market

		Status	Status
		ID	Req
		Outgoing document number	DocNum
/reqs	Requests submitted via the Clearing Terminal	Kind	DocTypeId
		Status	Status
		Accepted by the Clearing System	EnteredCS
		Currency	Asset
		Market	Market
		SA	SCode
		from the date	from
		to the date	to
/out-docs /out-docs/{DocDate}	Incoming documents towards the Clearing Member	Document number	DocNum
		Kind	DocTypeId
		Initial document date	InitDocDate ²
		Initial document number	InitDocNum
		Account number	Account
		SA	SCode
		Currency	Asset
		Market	Market
		from the date	from
		to the date	to

² Parameters InitDocDate, InitDocNum are used to retrieve incoming documents according to the Clearing member's request attributes.