API Documentation for NCMS FO

Version 2.1

August 2025

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Version Control

Version	Date	Description
1.0	15th Dec 2022	V1.0
1.1	24th Feb 2023	Changed token generation URL for production
1.2	6th Feb 2023	CP Trade filter added
1.3	29th Aug 2023	Action API Download Enhancement – Additional Fields added
1.4	7th Sept 2023	NCMS FO API Phase 2 Enhancements
1.5	15th April 2024	NCMS FO API updated message method, changed the search filter, changed the response of cp-modification and approval and rejection
1.6	24th April 2024	Added new API to provide "Approve All" request. Added 0001 error code.
2.0	12th Jun 2024	• "Transcodes" section has been renamed to "Reference Codes". • Added new API "Combined Trades & Actions Inquiry (ALL/TMTRADES/CPTRADES)" to download Trades & Actions in same request. • New Action Types added. • Subsection "Clearing Corporation ID" added under "Reference Codes" • Existing Trade Inquiry and Action Inquiry is being discontinued.
2.1	27th Dec 2024	• New filter ERRORACT added in /trd-act-inquiry to download all the actions which have errors. • Description of transcode 9001
2.2	22th Aug 2025	• API UAT URL changes • Description for token expiry time corrected • Included "Cancel Trade" in the Trade Status reference master

1 Background

Currently trading system transfers online trades data to NSE Clearing Management System (NCMS) server.

NCMS client application residing at the members end sends periodical request to pull the data from the server. Maximum 'N' number of records (parameterized at server) are sent to the client application for each request. Currently trade data available on the NCMS server is accessible only to the NCMS client application.

It is proposed to expose an API to our members for trade and actions (any modifications performed on trades) inquiry for FO segment.

This document covers the technical specifications for various operations involved at both NCL as well as at member end.

- Following operations aspects are covered in this document:

#	Operation	Endpoints	Purpose
5.0	Login [Handshake]	/token	To authenticate the client
6.1	Combined Trade & Action Inquiry	/ncms-fo/trd-act-inquiry	To disseminate trades & actions information data
6.2	Approval Rejection	/ncms-fo/approval-rejection	Endpoint for approval/rejection of trades
6.3	CP Modification	/ncms-fo/cp-modification	Endpoint for cp modification of trades
6.4	Approve All	/ncms-fo/approve-all	Endpoint for approval of all trades

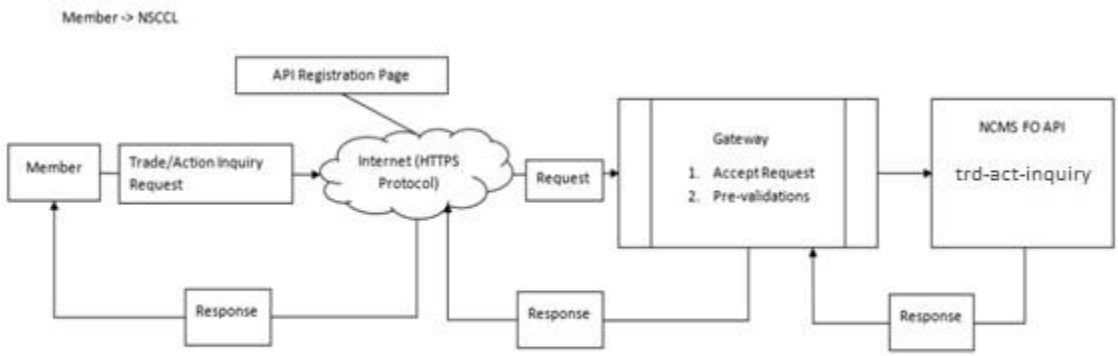
- Technical Specifications
- Log-in Workflow
- Message Structures

2 Data Flow Diagram

➔ API Registration

- Members can register by providing the member code, member name, email address and IP from which they will be accessing the IP.
- On successful registration, an email will be sent to the email address provided with the Consumer Key and Consumer Secret.

➔ API Call Workflow



3 Technology Specification

- Communication Protocol: HTTPS over internet.
- Request/Response Exchange Format: JSON (JavaScript Object Notation).
- Data Format: CSV (Comma Separated Values).
- Security Framework: Security Framework supports OAuth 2.0 specifications.

4 API Registration

- Member will need to provide information as described below for registration:
  - Member Code
  - Member Name
  - IP Address
  - Email Address
- Once this information is provided, the member specific Consumer Key and Consumer Secret will be generated and sent to the registered email address.
- Once the member receives the Consumer Key and Consumer Secret, they can start using the API.

5 Log-In Workflow

Requesting a "Token"

A consumer application needs to send a HTTPS POST request to the following URLs:

UAT: https://uat.connect2nsccl.com/token

Production/LIVE: https://www.connect2nse.com/ncms-token

➔ Sample Request

```
POST /auth/token HTTP/1.1
Host: www.connect2nse.com

Content-Type: application/x-www-form-urlencoded
Authorization: Basic aGRmYzpoZGZjc2VjcmV0
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

grant_type=client_credentials
```

➔ Response Structure

API AUTHENTICATION REQUEST STRUCTURE (GET TOKEN)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	Authorization	String	Will be of format: Basic <member_credentials> Where, member_credentials is a base64 encoding of the following data: cons_key:cons_secret	Basic aGRmYzpoZGZjc2VjcmV0
2	nonce	String	An N-once value, that uniquely identifies each request sent to server. Has to be a base64 encoding of the following data: ddMMyyyyHHmmssSSS:<6-digit random number>	MjAwMTIwMTcxNjEyMjE1OTE6
3	grant_type	String	Value MUST be set to "client_credentials".	client_credentials

➔ Sample Response

```
HTTP/1.1 200 OK
Content-Type: application/json
Pragma: no-cache{
    "access_token": "ee1073de-45d0-4040-b9c2-eddfa80280c0",
    "token_type": "bearer",
    "expires_in": "3600",
    "scope": "api_scope"
}
```

Note: Field expires_in is the value in seconds for token expiry and it will be decrease in every request after time passes.

6 Request/Response Structure (JSON)

As part of API Specifications Version 2.0 new end point for Combined Trades & Actions download is being introduced. Kindly refer to sub-section 6.1 below for the specifications of the same.

Kindly note that the following endpoints as available in Ver. 1.6 will be discontinued after Version 2.0 is rolled out,

UAT: ~~https://www.devconnect2nse.com/ncms-fo/trades-inquiry~~

Production/LIVE: ~~https://www.connect2nse.com/ncms-fo/trades-inquiry~~

UAT: ~~https://www.devconnect2nse.com/ncms-fo/actions-inquiry~~

Production/LIVE: ~~https://www.connect2nse.com/ncms-fo/actions-inquiry~~

6.1 Combined Trades & Actions Inquiry (ALLTRDACT|TMTRDACT|CPTRDACT|ERRORACT)

UAT: https://uat.connect2nsccl.com/ncms-fo/trd-act-inquiry

Production/LIVE: https://www.connect2nse.com/ncms-fo/trd-act-inquiry

Request Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	version	String	API version	1.0
2	data.msgId	String	Unique request number for the each request <CODE><YYYYMMDD><nnnnnnn>	0000120131014000 00001

Request Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
			• MEMBERCODE – Member code (Length : 5) • YYYYMMDD – Date format • nnnnnnn – Sequence no. starting from one i.e. For first request of the day, it should be (0000001).	
2	data.dataformat	String	Request data format : Response data format	CSV:CSV
3	data. trdactInquiry	CSV	Data Structure specified below	0,ALLTRDACT,,

Trade + Action Inquiry Request Packet Structure (data.trdactInquiry)				
Field Name	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
seqNo	Sequence till where server had sent the information in the previous request. For first download request of the day, it should be 0.	long	8	0
srchFilter	Search Filter	String	50	• ALLTRDACT – All Trades & Actions • TMTRDACT – Clearing Member to view trades & actions as a Trading Member (Only applicable to Clearing Members) • CPTRDACT – Clearing Member to view only CP Trades & Actions (Only applicable to Clearing Members) • ERRRORACT-All the failure action performed
fill1	Filler	String	10	
fill2	Filler	String	10	

Sample request call (ALLTRDACT)

```
POST /api/ncms-fo/trade-action-inquiry HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

{
"version": "1.0",
"data":
{
"msgId": "00001201310140000001",
"dataFormat": "CSV:CSV",
```

```
"trdactInquiry": "0,ALLTRDACT,,"
}
}
```

Sample request call (TMTRDACT Trades & Actions)

```
POST /api/ncms-fo/trd-act-inquiry HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

{
"version": "1.0",
"data": {
"msgId": "00001201310140000001",
"dataFormat": "CSV:CSV",
" trdactInquiry": "0,TMTRDACT,,"
}
}
```

NOTE: This filter is applicable to Clearing Members that want to view only the trades & actions that they have performed as a Trading Member.

Sample request call (CPTRDACT Trades & Actions)

```
POST /api/ncms-fo/trd-acts-inquiry HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

{
"version": "1.0",
"data": {
"msgId": "00001201310140000001",
"dataFormat": "CSV:CSV",
" trdactInquiry": "0,CPTRDACT,,"
}
}
```

NOTE: This filter is applicable to Clearing Members that want to view CP trades and actions only.

Sample request call (ERRORACT Actions)

```
POST /api/ncms-fo/trd-acts-inquiry HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

{
"version": "1.0",
"data": {
"msgId": "00001201310140000001",
"dataFormat": "CSV:CSV",
" trdactInquiry": "0,ERRORACT,,"
}
}
```

NOTE: This filter is applicable to identify the failure actions only.

➔ Response Structure

Response Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	status	String	Response status	success/error
2	messages.code	String	Refer Section "Message based response code".	01010000
3	data.msgId	String	Unique request number sent in request.	000012013101400000 01
4	data.trdactInquiry	CSV	Data Structure specified below	Refer Sample Response.

Trade + Action Inquiry Response Packet Structure (data.trdactInquiry)				
Field Name	**Description**	**Data Type**	**Size (in bytes)**	**Remarks**
Control Record				
sysinfoResData	System Info Response Structure	System Info Response Structure	Size of (System Info Response Structure)	Structure details give below
trdActResData	Trades + Actions Response Data Structure	Response Data Structure	Size of Response Data Structure	Structure details give below

➔ Trade + Action Response Data Structure

Trades Response Data Structure(ALLTRDACT|TMTRDACT|CPTRDACT)				
Field Name	**Description**	**Data Type**	**Size (in bytes)**	**Sample/Remarks**
maxSeqNo	Max sequence number sent in response	long	8	523764
noOfRec	Count of trades sent in the response	int	4	5
Data Records				
tradeActionOutput	Array Of Trade Structure	Array Of Trade Structure	Size of (Array Of Trade Structure)	Structure details given below

Array Of Trade Structure (tradeActionOutput ALLTRDACT|TMTRDACT|CPTRDACT)					
Sr No.	**Field Name**	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
1	seqNo	Unique Sequence Number	long	8	2014127

Array Of Trade Structure (tradeActionOutput ALLTRDACT|TMTRDACT|CPTRDACT)					
Sr No.	**Field Name**	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
2	mkt	Market Type. Refer Section "Reference Codes"	string	1	1
3	trdNo	Trade Number	long	8	91114327
4	trdTm	Trade Time in Jiffy Format	long	8	87841606323214
5	tkn	Token	int	4	42401
6	trdQty	Trade Quantity	Int	4	200
7	trdPrc	Trade Price in paise	int	4	1295
8	bsFlg	Buy Sell Flag. Refer Section "Reference Codes"	string	1	2
9	ordNo	Order Number	double	8	1100000000435542
10	brnCd	Branch Code	int	4	3
11	usrId	User Id	int	4	31908
12	proCli	Client Type. Refer Section "Reference Codes"	short	2	2
13	cliActNo	Client account number	string	20	07714
14	cpCd	Custodial participant Id	string	12	07714
15	remarks	Remarks	string	25	
16	actTyp	Activity Type. Refer Section "Reference Codes"	short	2	2
17	TCd	Transaction Code. Refer Section "Reference Codes"	short	2	6001
18	ordTm	Order Time in milliseconds from 1980	long	8	1340356541
19	booktype	Book Type. Refer Section "Reference Codes"	short	2	1
20	oppTmCd	Opposite Broker Id	string	1	
21	ctclId	CTCL code	double	8	110005129066000
22	status	Trade Status. Refer Section "Reference Codes"	string	1	P
23	TmCd	Member Code	string	5	07714
24	sym	Symbol	string	10	NIFTY
25	ser	Series	string	2	
26	inst	Instrument	string	6	OPTIDX
27	expDt	Expiry Date (in milliseconds from 1980)	int	4	1340461800
28	strPrc	Strike Price in paise	int	4	1510000
29	optType	Option Type for Option Contract. Refer Section "Reference Codes"	string	2	PE
30	exchangeID	Exchange Code. Refer section "Exchange Code"	int	2	1
31	tradeUniqID	Trade Unique ID	long	20	42401911143271
32	errCd	Action Response error code	short	2	Refer Section "Async Response codes".
33	actDtTm	Action Date Time	int	4	Date time in milliseconds from 1980
34	actId	Action Type	short	2	Refer Section "Reference Codes"

Array Of Trade Structure (tradeActionOutput ALLTRDACT|TMTRDACT|CPTRDACT)					
Sr No.	**Field Name**	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
35	trdTime	Trade time	int	4	Date time in milliseconds from 1980
36	cmCd	Primary Member Code of the Clearing Member	string	5	07714
37	ccId	Clearing Corporation ID for Clearing Member of Trading Member	short	2	Refer Section "CC IDs"

Note: 1. In addition to Original Trade (Transaction Code: 6001), all other actions including Approval-rejection and CP trade actions will be available as part of the trade & action inquiry response (Transaction Code: 9001). For list of transaction codes, kindly refer to the sub-section "Transaction Code" in the "Reference Codes" section.

2. Following fields will be populated blank for transcode 9001:

TA_ACCNO, TA_GIVEUP

3. Following fields will be populated zero for transcode 9001:

TA_EXPDT, TA_SPRC, TA_MKT, TA_ACTTYPE, TA_ORDERNO, TA_PRO_CLI, TA_DEALERID, TA_ORD_TIME, TA_BOOK_TYPE, TA_NNF, TA_BRNCD

Please refer above fields from original trade.

Trades Response Data Structure(ERRORACT)				
Field Name	**Description**	**Data Type**	**Size (in bytes)**	**Sample/Remarks**
maxSeqNo	Max sequence number sent in response	long	8	523764
noOfRec	Count of trades sent in the response	int	4	5
Data Records				
tradeActionOutput	Array Of Trade Structure	Array Of Trade Structure	Size of (Array Of Trade Structure)	Structure details given below

Array Of Trade Structure (tradeActionOutput ERRORACT)					
Sr No.	**Field Name**	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
1	seqNo	Unique Sequence Number	long	8	145760
2	mkt	Market Type. Refer Section "Reference Codes"	string	1	
3	trdNo	Trade Number	long	8	630143511
4	trdTm	Trade Time in Jiffy Format	long	8	0
5	tkn	Token	int	4	44998

Array Of Trade Structure (tradeActionOutput ERRORACT)					
Sr No.	**Field Name**	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
6	trdQty	Trade Quantity	Int	4	60
7	trdPrc	Trade Price in paise	int	4	22500
8	bsFlg	Buy Sell Flag. Refer Section "Reference Codes"	string	1	1
9	ordNo	Order Number	double	8	0
10	brnCd	Branch Code	int	4	0
11	usrId	User Id	int	4	0
12	proCli	Client Type. Refer Section "Reference Codes"	short	2	0
13	cliActNo	Client account number	string	20	
14	cpCd	Custodial participant Id	string	12	Z4760126I
15	remarks	Remarks	string	25	
16	actTyp	Activity Type. Refer Section "Reference Codes"	short	2	0
17	TCd	Transaction Code. Refer Section "Reference Codes"	short	2	0
18	ordTm	Order Time in milliseconds from 1980	long	8	0
19	booktype	Book Type. Refer Section "Reference Codes"	short	2	0
20	oppTmCd	Opposite Broker Id	string	1	
21	ctclId	CTCL code	double	8	
22	status	Trade Status. Refer Section "Reference Codes"	string	1	
23	TmCd	Member Code	string	5	90084
24	sym	Symbol	string	10	
25	ser	Series	string	2	
26	inst	Instrument	string	6	
27	expDt	Expiry Date (in milliseconds from 1980)	int	4	0
28	strPrc	Strike Price in paise	int	4	0
29	optType	Option Type for Option Contract. Refer Section "Reference Codes"	string	2	
30	exchangeID	Exchange Code. Refer section "Exchange Code"	int	2	1
31	tradeUniqID	Trade Unique ID	long	20	449986301435111
32	errCd	Action Response error code	short	2	Refer Section "Async Response codes".
33	actDtTm	Action Date Time	int	4	Date time in milliseconds from 1980
34	actId	Action Type	short	2	Refer Section "Reference Codes"
35	trdTime	Trade time	int	4	Date time in milliseconds from 1980
36	cmCd	Primary Member Code of the Clearing Member	string	5	90084

Array Of Trade Structure (tradeActionOutput ERRORACT)					
Sr No.	**Field Name**	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
37	ccId	Clearing Corporation ID for Clearing Member of Trading Member	short	2	Refer Section “CC IDs”
38	msgId	Value of field data.msgId provided in request	string	20	00001201310140000001

Note:
Following fields will be populated blank for **ERRORACT** filter:
Mkt, cliActNo, remarks, oppTmCd, ctclId, status, sym, ser, ser, optType

Following fields will be populated zero for **ERRORACT** filter:
trdTm, ordNo, brnCd, usrId, proCli, actTyp, TCd, ordTm, booktype, expDt, strPrc

➔ System Info Response Structure

System Info Response Structure (sysinfoResData)				
Field Name	**Description**	**Data Type**	**Size (in bytes)**	**Sample**
mktSts	Market Status Refer Section “Reference Codes”	Short	2	1
currTrdDate	Current Trade Date (YYYYMMDD)	long	8	20220919
sfill1	Filler	String	10	
sfill2	Filler	String	10	

➔ Sample Response(ALLTRDACT|TMTRDACT|CPTRDACT)

Control Record Record Separator Trade Data Record Action Data Record


```
{
	"status": "success",
	"messages": {
		"code": "01010000"
		},
	"data": {
		"msgId": "00001201310140000001",
		"tradeActionInquiry":"1,20220919,,,2513977,13197^523760,1,911143
		27,91612702319650,42401,200,1295,2,2300000000056750,3,10000,2,CL
		I1111,00001,,2,6001,1340356541,1,,400013021197777,P,00001,NIFTY,
		,OPTIDX,1398522600,1510000,PE,1,42401911143271,0,1397898700,1,13
		97898700,00001,1^523761,1,91114327,91612702319750,58945,400,1423
```

```
                95,1,2300000000066157,3,10000,1,CPCLI001,CP0000000001,,2,6001,13
                97898900,1,,400013021197777,P,00001,INFY,,FUTSTK,1398522600,-1,X
                X,1,589458830001411,0,1397898900,1,1397898900,00001,1^523762,1,8
                83000141,91612702319750,58945,400,142395,1,2300000000066157,10,3
                1908,1,CLI001,CP0000000001,,2,,1397898900,1,,400013021196012,P,1
                4665,INFY,,FUTSTK,1398522600,-1,XX,1,589458830001411,0,140196877
                2,6,1397898900,14665,1^523763,1,883000141,91612702319750,58945,4
                00,142395,1,2300000000066157,10,31908,1,CLI001,CITI00000002,,101
                ,,1397898900,1,,400013021196012,P,14665,INFY,,FUTSTK,1398522600,
                -1,XX,1,589458830001411,0,1401968772,8,1397898900,14665,1^523764
                ,1,883000141,91612702319750,58945,400,142395,1,2300000000066157,
                10,31908,1,CLI001,CITI00000002,,2,,1397898900,1,,400013021196012
                ,A,14665,INFY,,FUTSTK,1398522600,-1,XX,1,589458830001411,0,14019
                68946,4,1397898900,14665,1”
                }
}
```

➔ Sample Response(ERRORACT)

Control Record Record Separator Failure action Record

```
{
    "status": "success",
    "messages": {
        "code": "01010000"
    },
    "data": {
        "tradeActionInquiry": "0,20241113,,,24774166,4327^
      145760,,630143511,0,44998,60,22500,1,0,0,0,0,,Z4760126I,,0,0,0,0,,,,90
084,,,,0,0,,1,449986301435111,0,1415954279,4,1411118140,90084,1^
      145802,,630143529,0,44998,75,22500,1,0,0,0,0,,Z4760126I,,0,0,0,0,,,,90
084,,,,0,0,,1,449986301435291,0,1415954279,4,1411118140,90084,1",
        "msgId": "900842024060300000005"
    }
}
```

6.2 Approval/Rejection

UAT: **https://uat.connect2nsccl.com/ncms-fo/approval-rejection**

Production/LIVE: https://www.connect2nse.com/ncms-fo/approval-rejection

➔ Request Structure

Request Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	version	String	API version	1.0
2	data.msgId	String	Unique request number for the each request <CODE><YYYYMMDD><nnnnnnn> • MEMBERCODE – Member code (Length : 5) • YYYYMMDD – Date format • nnnnnnn – Sequence no. starting from one i.e. For first request of the day, it should be (0000001).	0808120131014000 0001
3	data.isApproval	Char	Approval request or Rejection Request	Y – Approval N – Rejection
4	data.appRejData	JSON	Array of Approval or Rejection structure	Max 15000 records allowed per messageID. Structure details given below

Approval/Rejection Request Packet Structure				
Field Name	**Description**	**Data Type**	**Size (in bytes)**	**Remarks**
seqNo	Sequence number of trade	long	8	7760
trdNo	Trade Number	long	8	900000607
bsFlag	Buy/Sell Flag. Refer section “Buy Sell Flag”	Short	2	2
uniqId	Trade Unique ID	String	15	357009000006071

➔ Sample request call (Approval Request)

```
POST /api/ncms-fo/approval-rejection HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

{
    "version": "1.0",
    "data": {
        "msgId": "08081201310140000001",
        "isApproval": "Y",
        "appRejData": [
            {
                "seqNo": 7760,
                "trdNo": 900000607,
                "bsFlag": 2,
                "uniqId": "357009000006071"
            },
            {
                "seqNo": 7767,
                "trdNo": 960000383,
                "bsFlag": 2,
                "uniqId": "351579600003831"
            }
        ]
    }
}
```

➔ Sample request call (Rejection Request)

```
POST /api/ncms-fo/approval-rejection HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3
{
    "version": "1.0",
    "data": {
        "msgId": "08081201310140000001",
        "isApproval": "N",
        "appRejData": [
            {
                "seqNo": 7760,
                "trdNo": 900000607,
                "bsFlag": 2,
                "uniqId": "357009000006071"
            },
            {
                "seqNo": 7767,
                "trdNo": 960000383,
```

```
                "bsFlag": 2,
                "uniqId": "351579600003831"
            }
        ]
    }
}
```

➔ Response Structure

Response Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	status	String	Response status	success/error
2	messages.success	String	message	Request submitted successfully.
3	data.code	String	Refer Section “Message based response code”.	01010000

➔ Sample Acknowledgement Response

```
{
    "status": "Success",
    "messages": {
    "success":” Request submitted successfully.”
},
    "data": {
        "code": "01010000"
    }
}
```

6.3 CP Modification

UAT: **https://uat.connect2nsccl.com/ncms-fo/cp-modification**

Production/LIVE: https://www.connect2nse.com/ncms-fo/cp-modification

➔ Request Structure

Request Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	version	String	API version	1.0
2	data.msgId	String	Unique request number for the each request <CODE><YYYYMMDD><nnnnnnn> • MEMBERCODE – Member code (Length : 5) • YYYYMMDD – Date format • nnnnnnn – Sequence no. starting from one i.e. For first request of the day, it should be (0000001).	0808120131014 0000001
4	data. cpModData	JSON	Array of CP Modification structure	Max 15000 records allowed per messageID. Structure details given below

CP Modification Request Packet Structure				
Field Name	**Description**	**Data Type**	**Size (in bytes)**	**Remarks**
seqNo	Sequence number of trade	long	8	421523
orderNo	Order number	long	12	2600000001529687
trdNo	Trade Number	long	8	960025162
bsFlag	Buy/Sell Flag. Refer section “Buy Sell Flag”	Short	2	1
newCPCode	New CP code	String	12	AN074612I
oldCPCode	Old CP code	String	12	CITI00005680
uniqId	Trade Unique ID	String	15	137761960025162 1

➔ Sample request call (cp trade to cp trade modification)

```
POST /api/ncms-fo/cp-modification HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

{
    "version": "1.0",
    "data": {
        "msgId": "08081202404180001016",
        "dataFormat": "",
        "cpModData": [
            {
                "seqNo": 421523,
                "orderNo": "2600000001529687",
                "trdNo": 960025162,
                "bsFlg": 1,
                "newCPCode": "AN074612I",
                "oldCPCode": "CITI00005680",
                "uniqId": "1377619600251621"
            }
        ]
    }
}
```

➔ Sample request call (cp trade to client trade modification)

```
POST /api/ncms-fo/cp-modification HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3


{
    "version": "1.0",
    "data": {
        "msgId": "08081202404180001016",
        "dataFormat": "",
        "cpModData": [
            {
                "seqNo": 421523,
                "orderNo": "2600000001529687",
                "trdNo": 960025162,
                "bsFlg": 1,
                "newCPCode": "",
                "oldCPCode": "CITI00005680",
```

```
                "uniqId": "1377619600251621"
            }
        ]
    }
}
```

➔ Sample request call (client trade to cp trade modification)

```
POST /api/ncms-fo/cp-modification HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3

{
    "version": "1.0",
    "data": {
        "msgId": "08081202404180001016",
        "dataFormat": "",
        "cpModData": [
            {
                "seqNo": 421523,
                "orderNo": "2600000001529687",
                "trdNo": 960025162,
                "bsFlg": 1,
                "newCPCode": "AN074612I",
                "oldCPCode": "",
                "uniqId": "1377619600251621"
            }
        ]
    }
}
```

➔ Response Structure

Response Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	status	String	Response status	success/error
2	messages.success	String	Message	Request submitted successfully
3	data.code	String	Refer Section “Message based response code”.	01010000

➔ Sample Acknowledgement Response

```
{
    "status": "Success",
    "messages": {
    "success": " Request submitted successfully."
},
    "data": {
        "code": "01010000"
    }
}
```

6.4 Approve All

UAT: **https://uat.connect2nsccl.com/ncms-fo/approve-all**

Production/LIVE: https://www.connect2nse.com/ncms-fo/approve-all

➔ Request Structure

Request Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	version	String	API version	1.0
2	data			

➔ Sample request call

```
POST /api/ncms-fo/approve-all HTTP/1.1
Host: www.connect2nse.com
Authorization: Bearer 3f64e567-04f9-43b8-9d24-e99856b24151
nonce: MjAwMTIwMTcxNjEyMjE1OTE6ODk0MjY3
{
  "version": "1.0",
  "data": {
        "msgId": "08081202404180001016",
        "memCode": "08081"
  }
}
```

➔ Response Structure

Response Data Payload (JSON)				
Sr. No.	**Parameter Name**	**Data Type**	**Description**	**Sample Value**
1	status	String	Response status	success/error
2	messages.success	String	Message	Request submitted successfully
3	data.code	String	Refer Section “Message based response code”.	01010000

➔ Sample Acknowledgement Response

```
{
    "status": "Success",
    "messages": {
    "success": " Request submitted successfully."
},
    "data": {
        "code": "01010000"
    }
}
```

- Workflow
  - Trade/Action download works on sequence number basis present in individual trade/action response packet (*seqNo*).
  - The sequence number signifies the sequence of events for a single trade/action lifecycle. Every event occurred with respect to a particular trade/action will have a new sequence number.
  - On trades/actions download request, maximum trades/actions sequence number available should be sent. If there are no trades/actions present, the sequence number sent should be 0. API shall interpret the request and will fetch “n” number of trades/actions, whose trades/actions sequence number is greater than that sent by client. The fetched trades will be sent back to client in response.
  - The trades/actions received by client in response packet are to be stored at client end. On subsequent trades/actions download request, client should again send the maximum trades/actions sequence number available with them that was returned as part of the control record in the previous request.

7 Reference Codes

7.1 Market Type

Code	Description
1	Normal
2	Odd Lot
3	Spot
4	Auction
5	Call Auction 1
6	Call Auction 2

7.2 Market Status

Code	Description
1	Preopen shutdown
2	Normal Market Preopen ended
3	Open Msg
4	Close Msg
5	Closing Start
6	Closing End

7.3 Transaction Code

Code	Description
6001	Original Trade
5525	Trade Modification Approval
5565	Control Trade Modification
5520	Trade Cancellation Approval
5560	Control Trade Cancellation
5530	Trade Cancellation Rejection
5445	Trade Modification (Client Modification)
5440	Trade Cancellation
9001	CP Actions (Approvals/Rejections/Modifications)

7.4 Activity Type

Code	Description
2	Original Trade
7	Trade Cancellation
101	Buy Participant modification
102	Sell Participant modification
103	Buy & Sell Participant modification
104	Quantity modification
105	Buy Account No. modification
106	Sell Account No. modification
107	Buy & Sell Account No. modification

Code	Description
109	Buy Trade Cancellation due to modification
110	Sell Participant Cancellation due to modification
111	Buy & Sell Trade Cancellation due to modification

7.5 Book Type

Code	Description
1	Regular Lot
2	Special Terms
3	Stop Loss / MIT
4	Negotiated Trade
5	Odd Lot
6	Spot
7	Auction
11	Call Auction 1
12	Call Auction 2

7.6 Client Type

Code	Description
1	Cli
2	Pro

7.7 Buy Sell Flag

Code	Description
1	BUY
2	SELL

7.8 Trade Status

Code	Description
P	Pending
R	Reject
A	Approve
C	Cancel Trade/Modified Trade

7.9 Option Type

Code	Description
CA	Call American
PA	Put American
CE	Call European
PE	Put European
XX	Future Stocks/Future Index
FF	Future Stocks/Future Index

7.10 Is Approval Flag

Code	Description
1	Approve
0	Reject

7.11 Action Type

Code	Description
1	Original Trade
2	Buy SI Generated
3	Sell SI Generated
4	AppRej Buy Approval
5	AppRej Sell Approval
6	Buy Side CP Modification (Old CP)
7	Sell Side CP Modification (Old CP)
8	Buy Side CP Modification (New CP)
9	Sell Side CP Modification (New CP)
14	AppRej Buy Rejected
15	AppRej Sell Rejected
16	Buy SI Cancelled
17	Sell SI Cancelled
20	Approval/Rejection Window is closed
22	Approve All window is closed
23	Buy CM is not matching
24	Sell CM is not matching
25	AppRej action is already done
26	Approve All action is already done
27	Approve All process window is open
28	AppRej record is locked
29	Approve All process is already running

7.12 Exchange Code

Code	Description
1	NSE
2	BSE
3	MSE

7.13 Clearing Corporation ID

Code	Description
1	NCL
2	ICCL
3	MCCIL

8 Response Codes

There can be two types of response codes

- HTTP response codes
- Message based response codes
- Async response codes

8.1 HTTP response code

- HTTP responses shall be generated during login with success or failure status
- HTTP response shall also be generated in case of any authentication/input validation failure of the message.

HTTP response codes are as follows:

HTTP Response Codes			
Sr. No.	**Reason**	**Meaning**	**HTTP Response Code**
1	SUCCESS	Request was handled successfully	200
2	UNKNOWN_ERROR	Internal Server Error: Internal server error has occurred in our platform	500
3	SVC_UNAVAILABLE	The server is currently unable to handle the request due to a temporary overloading or maintenance of the server	503
4	METHOD_NOT_ALLOWED	Unsupported HTTP method: A request was made for a resource using a request method not supported by that resource (e.g. using POST instead of GET)	405
5	BAD REQUEST	PARAMETER_ABSENT – There's a required parameter which is not present in the request	400
6	BAD REQUEST	DATA_INVALID – The data is not in correct format and not recognized by our system	400
7	BAD REQUEST	DATA_FORMAT_REJECTED – Unsupported Data format parameter value	400
8	UNAUTHORIZED: Failed to authenticate the request	CONSUMER_KEY_UNKNOWN – The provided Consumer Key (API key) is not registered in our system OR service is not registered	401
9	UNAUTHORIZED: Failed to authenticate the request	TOKEN_INVALID – The provided token is not registered in our system	401
10	UNAUTHORIZED: Failed to authenticate the request	UNAUTHORIZED: • Unauthorized requestor IP address • API access disabled	401

HTTP Response Codes			
Sr. No.	**Reason**	**Meaning**	**HTTP Response Code**
11	PERMISSION_DENIED	Subscriber has temporarily disallowed access to his private data	403
12	The requested URL was not found	The requested URL was not found	404
13	REQUEST_NOT_FOUND	Registered request not found	570

8.2 Message based response code

- Message based response code shall be populated in the field "code" of the JSON response message
- It shall be of below format
  - First four characters (Field Identifier): refers to specific field or the entire message
  - Next characters (Validation code): refers to specific validation failure or success. Success code shall be populated only on successful acceptance of the message.

Field Identifier is as follows:

Sr. No.	Module	Field Name	Field Identifier
1	Entire Message	NA	0101
2	Input Data Parameter	msgId	0102
3	Input Data Parameter	isApproval	0109
4	Input Data Parameter	seqNo	0107
5	Input Data Parameter	srchFilter	0108
6	Input Data Parameter	noOfRec	0110
7	Input Data Parameter	appRejData	0111
8	Input Data Parameter	trdNo	0112
9	Input Data Parameter	bsFlag	0113
10	Input Data Parameter	uniqId	0114

Validation codes are as follows:

Sr. No.	Validation	Validation Type	Validation Code	Validation performed on Field
1	Submitted to server successfully	Message Level	0000	Entire Message
2	Duplicate request received	Message Level	0001	Entire Message

Sr. No.	Validation	Validation Type	Validation Code	Validation performed on Field
3	All HTTP status codes	HTTP error codes	HTTP Response codes. Refer section "HTTP Response Code".	Entire Message
4	Mismatch in control and data record	Message Level	0200	Entire Message
5	Minimum Required Length	Generic	0201	msgId
6	Maximum Required Length	Generic	0202	msgId, max records count for CP modification and approval rejection
7	Mandatory field	Generic	0204	msgId, isApproval, noOfRec, seqNo, srchFilter, trdDate, appRejData, trdNo, seqNo, isApproval, uniqId, bsFlag, dataFormat
8	Data Format like Message Id / Date Format	Generic	0206	msgId, trdDate
9	Minimum allowed value	Generic	0207	seqNo, noOfRec, trdno, bsFlag
10	Maximum allowed value	Generic	0208	noOfRec, bsFlag
11	Invalid Value	Generic	0209	seqNo, isApproval, srchFilter, trdDate, trdno
12	Not Authorized Request	Generic	0210	App/Rej request by TM, CP mod request by PCM
12	System Error	Generic	0241	NA
13	Service Unavailable	Generic	0242	NA
14	Request Parsing Error: Invalid Request Structure	Generic	0243	NA
15	New cp code and old cp code equal while CP modification	Generic	0244	oldCPCode, newCPCpde

8.3 Sample example for success or failure code

Example for Generic Error Code

Let's assume that msgId field holds value ABCD201340402132165, which turns out to be an error "Invalid Data Format". Error Code that will be generated is as shown below:

Field Identifier: 0102

Validation Code: 0206

code = combination of “Field Identifier” and “Validation Code” = 01020206

Example for Field Error Code

Let’s assume that seqNo field holds value -1, which turns out to be an error “Minimum allowed value”. Error Code that will be generated is as shown below:
Field Identifier: 0107
Validation Code: 0207

code = combination of “Field Identifier” and “Validation Code” =01070207

Example for Success code (Submitted to server successfully)

Let’s assume that message for approval/rejection is successful, success code that will be generated is as shown below:
Field Identifier: 0101 (which is the identifier of the entire message)
Validation Code: 0000

code = combination of “Field Identifier” and “Validation Code” =01010000

Example for HTTP error code

Let’s assume that the invalid request scenario due to UNAUTHORIZED Access Request, error code that will be generated is as shown below:
Field Identifier: 0101 (which is the identifier of the entire message)
Validation Code: 401

code = combination of “Field Identifier” and “Validation Code” =0101401

Note:
For HTTP error code the above code will not be valid for every response. It will be valid only if there is an error in request header other than this it will populate HTTP code only.

8.4 Async response code

Async response code shall be populated in the field “errCd” of the message

Error	Error Code
Success	0
System in wrong state	1
Invalid Contract	2
Invalid Participant	3
Trade not found	4
Trade already cancelled	5
System Error	6
Trade already approved	7
Trade already rejected	8

Error	Error Code
Outstanding alert	9
Invalid user	10
Invalid data	11
Clearing Member is in VC mode. Trade Approval/Rejection not allowed.	12
Clearing Member is Disabled. Trade Approval/Rejection not allowed.	13
Not Latest Trade	-12
Approve All request rejected-Invalid market status	-19
Invalid Seq No	-20
Invalid Clearing Member	-21
Invalid CP code	-22
Invalid buy/sell flag	-23
Invalid instrument	-24
Invalid symbol	-25
Invalid strike price	-26
Invalid expiry date	-27
Invalid option type	-28
Invalid trade quantity	-29
Invalid trade price	-30
Invalid order number	-31
Invalid trade number	-32
Invalid broker id	-33
Already submitted	-50
Already approved	-51
Already rejected	-52

9 Contingency

In case of any failure such as network, application, high bandwidth utilization at NSE or the MEMBER end, login workflow should be re-initiated.

10 Usage Guidelines

a) Members should limit requests to 15 seconds between each request.
b) Members can send requests to the API between 6:30 AM to 5 AM next day. Kindly note that NCMS services shall not be available between 5 AM to 6:30 AM due to maintenance activity.
c) Failure to adhere to the above guidelines will result in removal of IP from whitelist which means that member will not be able to access the API until IP is re-added to the whitelist.