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Preface

Purpose

This document describes the protocol for Web API based communication and messaging between exchanges and Members. The document serves as a common guide for developing and testing interfaces between systems at Exchange and Members.

Target Audience

- Member can Upload Holding Details of their clients

Organization of This Document

This document is organized as follows:

Chapters	Description
Introduction	Overview of the document covering security features of the API and online messaging guidelines
Exchange API	This chapter gives details of the API's exposed by exchanges. These API's will be consumed by Members.

Introduction

API's will be provided as REST endpoints accessible over internet using HTTPS protocol. All messages in the online API's will be in JSON format.

Authorization

- The API consumer application is expected to send following headers (case-sensitive) in every API HTTP request.
 - **Member Code** : Member Code of member
 - **Login ID**: Login ID of member
 - **Token**: A unique identifier generated for all successful login.
 - The API provider is not required to provide any header in its response.
 - Token will have expiry of 60 minutes.

Message Format

- Messages will be in JSON.
- Following headers need to be provided in all API calls
 - **Content-Type**: Header value should be "application/json"
- Path parameters and query parameters in the URL's must be encoded using percentage encoding. (Refer http://www.w3schools.com/tags/ref_urlencode.asp for details)
- All request and response messages are in JSON (JavaScript Object Notation) format. (Refer <http://www.json.org/> for details).
- Some of the key specifications related to JSON and standards followed for the API's are as follows
 - JSON is built on 2 structures. Object or Map containing key value pairs and an ordered list of values.
 - A value could be Boolean (true/false), number, decimal, String or a structure (List or Object).
 - Object or key value pair structure consists of keys which are strings and values of any of the above types. E.g. {"ClientCode": "Test1", "PanNo": "ABCDE1234F"}
 - List contains list of Clients. E.g. ["Test1", "Test2", "Test3"]
 - A Boolean has only 2 values true or false.
 - String values are enclosed in single quote or double quotes. e.g. "ClientCode", "PanNo"
 - Numbers and decimals are represented without any thousand - separator character. Decimal indicator is dot (".")
 - All dates, times and date times are represented as strings and in Indian standard time. Dates are formatted using format "DD-MM-YYYY". Time are formatted as "hh24:mm:ss". Date times are formatted as "DD-MM-YYYY hh24:mm:ss".
 - Request Payload will be compressed by gzip.

- All API's can throw errors in form of a common error response JSON

Field	Type	Description
Errorcode	Number	98=System level error 99=Message not in format
Errormsg	Char(250)	Error Message

Login / Logout

POST /LOGIN

This API validates the user credentials. On successful login, a unique token will be provided per request and session will be established with user's system. In subsequent requests API calls this token should be passed in HTTP header "Authorization" as mentioned in general guidelines.

Method	POST
Request	JSON
Response	JSON

Request JSON values

Sr. No.	Field Description	Field Name	Data Type	Description	Expected Values
1	Member Code	memberCode	Char(10)	Member's Clearing No / Member Code	
2	Login Id	loginId	Char(16)	Login id of member's user	
3	Password	password	Char(50)	Password of member's user	

Member Code, Login Id & Password should be same as used in NSE Member Portal (connect2nse).

Request Object Structure (JSON)

```
{
  "memberCode": "1234",
  "loginId": "1234",
  "password": "pass@_2019"
}
```

Response JSON values

Sr. No.	Field Description	Field Name	Data Type	Description	Expected Values
1	Member Code	memberCode	Char(10)	Member's Clearing No / Member Code	
2	Login Id	loginId	Char(16)	Login id of member's user	
3	Token	token	Char(50)	Unique Token for Session	
4	Error Code	errorCode	Char(3)	Indicating Success / Failure	0 – Success Others – Failure
5	Message	message	Char(250)	Corresponding messages for success and failure	

Response Object Structure (JSON)

```
{
  "memberCode": "1234",
  "loginId": "1234",
  "token": "bndfg45ghjg87hjn",
  "errorCode": "0",
  "message": "success"
}
```

POST /LOGOUT

This API closes the current session and gets the user logged off.

Method	POST
Request	JSON
Response	JSON

Request JSON values

Sr. No.	Field Description	Field Name	Data Type	Description	Expected Values
1	Member Code	memberCode	Char(10)	Member's Clearing No / Member Code	
2	Login Id	loginId	Char(16)	Login id of member's user	

Request Object Structure (JSON)

```
{
  "memberCode": "1234",
  "loginId": "1234",
}
```

Response JSON values

Sr. No.	Field Description	Field Name	Data Type	Description	Expected Values and
1	Error Code	errorCode	Char(3)	Indicating Success / Failure	0 – Success Others – Failure
2	Message	message	Char(250)	Corresponding messages for success and failure	

Response Object Structure (JSON)

```
{
  "errorCode": "0" ,
  "message": "success"
}
```

Holding Data

POST /UPLOAD_HOLDING

This API will allow member to submit Holding Details of their clients to the Exchange where member can

- Add New Details
- Delete Existing Details

Method	POST
Request	JSON
Response	JSON

Request JSON values

NOTE: holdingData is Array of objects in JSON

Sr. No.	Field Description	Field Name	Data Type	Size	Description	Expected Values and Validation	Type of field	Remarks
1	Member PAN	memberPan	Characters	10	Member PAN	Basic PAN level Validations	Header field. Only once per request	
2	Last Week Date	lastWeekDay	Characters	10	Last date of the week for which holding details are being uploaded	DD-MM-YYYY	Header field. Only once per request	
3	Week Day	weekDay	Characters	10		DD-MM-YYYY	Header field. Only once per request	
4	DMAT	dmat	Characters	16	Client Dmat details		Details. Repeated for every row	
5	Account Type	accountType	Characters	12	Client Account Type	POOL, CM COLL, OWN, EPI, CLNTBENE-MTF, TM COLL, TM COLL-MTF, CLNT UNPAID, CLNT COLL	Details. Repeated for every row	
6	UCC	ucc	Characters	20	Unique Client Code		Details. Repeated for every row	
7	Client Name	clientName	Characters	150	Client Name		Details. Repeated for every row	
8	PAN	pan	Characters	10	Client PAN	Basic PAN level Validations	Details. Repeated for every row	
9	ISIN	isin	Characters	12	ISIN		Details. Repeated for every row	

10	Security Type	securityType	Characters	4	Security Type	EQ, MF, BOND, DEBT, PREF, IDR, WT	Details. Repeated for every row	
11	Total Pledge Quantity	totalPldgQty	Number	20	Total Pledged Quantity	CHECK : UPTO 3 Decimals	Details. Repeated for every row	
12	Free Balance Quantity	freeBalQty	Number	20	Free Balance Quantity	CHECK : UPTO 3 Decimals	Details. Repeated for every row	
13	Total Quantity	totalQty	Number	20	Total Quantity	CHECK : UPTO 3 Decimals	Details. Repeated for every row	
14	Action	action	Characters	1		A - Add D – Delete	Details. Repeated for every row	

Note: Only Add and Delete functionality will be provided.

Request Object Structure (JSON)

```
{
  "memberPan": "ABCDE1234F",
  "lastWeekDay": "07-06-2019",
  "weekDay": "03-06-2019",
  "holdingData": [
    {
      "dmat": "1200010156568800",
      "accountType": "POOL",
      "ucc": "dummy",
      "clientName": "client name 1",
      "pan": "ABCFD1234G",
      "isin": "INE000AB1000",
      "securityType": "EQ",
      "totalPldgQty": 0,
      "freeBalQty": 10,
      "totalQty": 10,
      "action": "A"
    },
    {
      "dmat": "1200110156568800",
      "accountType": "EPI",
      "ucc": "dummy1",
      "clientName": "client name 2",
      "pan": "ABCFD7894G",
      "isin": "INE001VN1000",
      "securityType": "BOND",
      "totalPldgQty": 0,
      "freeBalQty": 10,
      "totalQty": 10,
      "action": "D"
    }
  ]
}
```

Note: Details records count is restricted to 10000 records (This will reduce number of request)

Request JSON values

Sr. No.	Field Description	Field Name	Data Type	Size	Description	Expected Values and Validation	Type of field	Remarks
1	Member PAN	memberPan	Characters	10	Member PAN		Header field. Only once per request	
2	Last Week Date	lastWeekDay	Characters	10	Last date of the week for which holding details are being uploaded		Header field. Only once per request	
3	Week Day	weekDay	Characters	10			Header field. Only once per request	
4	DMAT	dmat	Characters	16	Client Dmat details		Details. Repeated for every row	
5	Account Type	accountType	Characters	12	Client Account Type		Details. Repeated for every row	
6	UCC	ucc	Characters	20	Unique Client Code		Details. Repeated for every row	
7	Client Name	clientName	Characters	150	Client Name		Details. Repeated for every row	
8	PAN	pan	Characters	10	Client PAN		Details. Repeated for every row	
9	ISIN	isin	Characters	12	ISIN		Details. Repeated for every row	
10	Security Type	securityType	Characters	4	Security Type		Details. Repeated for every row	
11	Total Pledge Quantity	totalPldgQty	Number	20	Total Pledged Quantity		Details. Repeated for every row	
12	Free Balance Quantity	freeBalQty	Number	20	Free Balance Quantity		Details. Repeated for every row	

13	Total Quantity	totalQty	Number	20	Total Quantity		Details. Repeated for every row	
14	Action	action	Characters	1			Details. Repeated for every row	
15	Error Code	errorCode	Characters	3	Response status code	1 – File Success 0 – File Failure	Header field. Only once per response	
16	Message	message	Characters	500	Response Status message	Message will include Success and Failure messages	Details. Repeated for every row	
17	Header Message	headerMessage	Characters	500		Message will include success or failure message of header data.	Header field. Only once per response	

Response Object Structure (JSON)

```
{
  "memberPan": "ABCDE1234F",
  "lastWeekDay": "07-06-2019",
  "weekDay": "03-06-2019",
  "holdingData": [
    {
      "dmat": "1200010156568800",
      "accountType": "POOL",
      "ucc": "dummy",
      "clientName": "client name 1",
      "pan": "ABCFD1234G",
      "isin": "INE000AB1000",
      "securityType": "EQ",
      "totalPldgQty": 0,
      "freeBalQty": 10,
      "totalQty": 10,
      "action": "A",
      "message": "success"
    },
    {
      "dmat": "1200110156568800",
      "accountType": "EPI",
      "ucc": "dummy1",
      "clientName": "client name 2",
      "pan": "ABCFD7894G",
      "isin": "INE001VN1000",
      "securityType": "BOND",
      "totalPldgQty": 0,
      "freeBalQty": 10,
      "totalQty": 10,
      "action": "D",
      "message": "pan pattern is not valid"
    }
  ],
  "errorCode": "1",
  "headerMessage": "request success"
}
```

POST /UPLOAD_NIL_Sub

This API will allow member to submit NIL submission for Trading Members.

- Add New Details

Method	POST
Request	JSON
Response	JSON

Request JSON Structure

Sr. No.	Field Description	Field Name	Data Type	Size	Description	Expected Values and Validation	Type of field	Remarks
1	Member PAN	memberPan	Characters	10		Basic PAN level Validations	Header field. Only once per request	
2	Last Week Date	lastWeekDay	Characters	10	Last date of the week for which holding details are being uploaded	DD-MM-YYYY	Header field. Only once per request	
3	Week Day	weekDay	Characters	10		DD-MM-YYYY	Header field. Only once per request	
4	Unique Client Code (UCC)	ucc	Characters	20				
5	Client Pan	cpan	Characters	10		Basic PAN level validations		

Request Object Structure (JSON)

```
{
  "memberPan": "ABCDE1234F",
  "lastWeekDay": "07-06-2019",
  "weekDay": "03-06-2019",
  "holdingData": [
    {
      "ucc": "1200010156568800",
      "cpan": "ABCDE1234S"
    },
    {
      "ucc": "1200010156568800",
      "cpan": "VBCDE1234S"
    }
  ]
}
```

Response JSON Structure

Sr. No.	Field Description	Field Name	Data Type	Size	Description	Expected Values and Validation	Type of field	Remarks
1	Member PAN	memberPan	Characters	10			Header field. Only once per request	
2	Last Week Date	lastWeekDay	Characters	10	Last date of the week for which holding details are being uploaded		Header field. Only once per request	
3	Week Day	weekDay	Characters	10			Header field. Only once per request	
4	Unique Client Code (UCC)	ucc	Characters	20				
5	Client Pan	cpan	Characters	10				
6	Error Code	errorCode	Characters	3	Response status code	1 – File Success 0 – File Failure	Header field. Only once per response	
7	Message	message	Characters	500	Response status message	Message will include Success and Failure messages	Details. Repeated for every row	
8	Header Message	headerMessage	Characters	500		Message will include success or failure message of header data.	Header field. Only once per response	

Response Object Structure (JSON)

```

{
  "memberPan": "ABCDE1234F",
  "lastWeekDay": "07-06-2019",
  "weekDay": "06-03-2019",
  "holdingData": [
    {
      "ucc": "1200010156568800",
      "cpan": "ABCDE1234S",
      "message": "success"
    },
    {
      "ucc": "1200010156568800",
      "cpan": "VBCDE1234S",
      "message": "success"
    }
  ],
  "errorCode": "1",
  "headerMessage": "success"
}

```

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