BEFS API

for

Daily Submissions

JAN - 2023

|  |
| --- |
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# Table of Contents

Contents

[Table of Contents 2](#_Toc100743786)

[Preface 3](#_Toc100743787)

[Purpose 3](#_Toc100743788)

[Target Audience 3](#_Toc100743789)

[Organization of This Document 3](#_Toc100743790)

[Introduction 4](#_Toc100743791)

[Authorization 4](#_Toc100743792)

[Message Format 5](#_Toc100743793)

[API Endpoints 6](#_Toc100743794)

[Login / Logout 7](#_Toc100743795)

[POST /LOGIN 7](#_Toc100743796)

[POST /LOGOUT 9](#_Toc100743797)

[Holding Data 10](#_Toc100743798)

[POST / HoldingFileUpload 10](#_Toc100743799)

GET / Query\_HS\_FileUpload………………………………………………………………………………………………………………...11

GET / Error\_HS\_Download ………………………………………………………………………………………………………………….12

[Bank Balance Data 13](#_Toc100743822)

[POST / BankBalanceFileUpload 13](#_Toc100743823)

GET / Query\_BB\_FileUpload………………………………………………………………………………………………………………...14

GET / Error\_BB\_Download ………………………………………………………………………………………………………………….15

[Annexure 16](#_Toc100743834)

# 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

* Business & Tech teams at Member End

## 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. Member can push required data files of Holding Statement, & Bank Balances

# 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
    - **Last Reporting Date:**

In case of Bank Balances & Holding :- For the date / for each day of the week (except Sunday) (DD-MM-YYYY)

* + - **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.
    - **Header Keys:**
  + MEMBERCODE
  + LOGINID
  + LAST REPORTING DATE
  + TOKEN

# 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”.

* 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 |

# API Endpoints

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc*](https://befs.bseindia.com/BEFS_Service/BEFS.svc%20)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc*](https://uat.bseindia.in/BEFS_Service/BEFS.svc)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Method** | **Endpoint** | **Description** |
| 1 | POST | Login | To login and generate Token |
| 2 | POST | Logout | To logout active session |
| 3 | POST | HoldingFileUpload | To upload holding zip file |
| 4 | POST | [BankBalanceFileUpload](https://uat.bseindia.in/BEFS_Service/BEFS.svc/BankBalanceFileUpload) | To upload bank balance zip file |
| 5 | GET | Query\_HS\_FileUpload | To get status of respective acknowledgement id |
| 6 | GET | Query\_BB\_FileUpload | To get status of respective acknowledgement id |
| 7 | GET | Error\_HS\_Download | To download error file if generated |
| 8 | GET | Error\_BB\_Download | To download error file if generated |

# Login / Logout

### POST /LOGIN

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/login*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/login)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/login*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/login)

# *Note - Members need to change the password on first time login and then continue UAT. The Default password -* [*B3fs@2023*](mailto:B3fs@2023)

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 |
| **Header** | Authorization |

#### Request JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 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 | AES256 encrypted password |

*Member Code, Login Id & Password should be same as used in BEFS web portal.*

#### Request Object Structure (JSON)

*{*

*"memberCode":"1234",*

*"loginId":"1234",*

*"password":"jFzGPDTcgh5OLDhAYVSAYMTWlTPPyQ6iUae+sTWVYss="*

*}*

#### Response JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 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 (ref. Annexure) |
| 5 | Message | message | Char(250) | Corresponding messages for  success and failure |  |

#### Response Object Structure (JSON)

*{*

*"memberCode":"1234",*

*"loginId":"1234",*

*"token":"bndfg45ghjg87hjnb"*

*"errorCode":"0",*

*"message":"success"*

*}*

### POST /LOGOUT

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

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/logout*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/logout)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/logout*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/logout)

|  |  |
| --- | --- |
| **Method** | POST |
| **Request** | JSON |
| **Response** | JSON |
| **Header** | Authorization |

#### Request JSON values

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

#### Response Object Structure (JSON)

*{*

*"errorCode":"0" ,*

*"message":"success"*

*}*

# Holding Data

### POST / HoldingFileUpload

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/HoldingFileUpload*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/HoldingFileUpload%20)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/HoldingFileUpload*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/HoldingFileUpload%20)

# 

# 1. Member has to submit the Holding Statement data file on Daily basis.

# 2. The REST API used to upload the data file will be in multipart/form-data.

# 3. Standard file name pattern / nomenclature are mandatory while uploading zip file.

# 4. System will unzip the zip file received and process data validations.

# 5. Member will specify each day of the week (except Sunday) in dd-mm-yyyy format and in header as mentioned authorization.

# 6. API will give response status of file upload only.

# 7. Data validations and file processed status will be available at BEFS

# 8. If there is any error then error file will generate and available at BEFS for download.

# 9. API will provide response in JSON format.

# 10. Member has to correct and resubmit the data to Exchange.

|  |  |
| --- | --- |
| **Method** | POST |
| **Request** | multipart/form-data |
| **Response** | JSON |
| **Header** | Authorization |

#### Response JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 1 | Error Code | errorCode | Char(3) | Indicating  Success / Failure | (ref. Annexure) |
| 2 | Message | message | Char(250) | Corresponding  messages for success and failure |  |
| 3 | Acknowledgement Id | acknowledgeId | Char(50) | Acknowledgement id for successful file upload | 0 – Failure  Others – Unique id for successful file upload |

#### Response Object Structure (JSON)

*{*

*"errorCode":"906”,*

*"message":"File uploaded successfully.",*

*"acknowledgeId":"123456"*

*}*

*or*

*{*

*"errorCode":"902”,*

*"message":"Invalid file naming convention ( zip or csv ).",*

*"acknowledgeId":"0"*

*}*

### GET / Query\_HS\_FileUpload

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/Query\_HS\_FileUpload/{acknowledgeId}*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/Query_HS_FileUpload/%7backnowledgeId%7d%20)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/Query\_HS\_FileUpload/{acknowledgeId}*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/Query_HS_FileUpload/%7backnowledgeId%7d%20)

# Member can check status of uploaded file based on acknowledgement id received while file upload.

|  |  |
| --- | --- |
| **Method** | GET |
| **Request** | Acknowledgement id as mentioned in URL |
| **Response** | JSON |
| **Header** | Authorization |

#### Response JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 1 | Error Code | errorCode | Char(3) | Indicating  Success / Failure | (ref. Annexure) |
| 2 | Message | message | Char(250) | Corresponding  messages for success and failure |  |

#### Response Object Structure (JSON)

*{*

*"errorCode":"907”,*

*"message":" File is under process."*

*}*

*or*

*{*

*"errorCode":"908”,*

*"message":" File processed successfully."*

*}*

*or*

*{*

*"errorCode":"909”,*

*"message":" File processed with error. Kindly download error file."*

*}*

*or*

*{*

*"errorCode":"910”,*

*"message":" File is rejected by admin."*

*}*

*or*

*{*

*"errorCode":"911”,*

*"message":"Invalid acknowledge id."*

*}*

### GET / Error\_HS\_Download

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/Error\_HS\_FileUpload/{acknowledgeId}*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/Error_HS_FileUpload/%7backnowledgeId%7d%20)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/Error\_HS\_FileUpload/{acknowledgeId}*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/Error_HS_FileUpload/%7backnowledgeId%7d%20)

# Member can download error file *if generated* of uploaded file based on acknowledgement id received while file upload.

# Error files will be given in “.zip” format.

|  |  |
| --- | --- |
| **Method** | GET |
| **Request** | Acknowledgement id as mentioned in URL |
| **Response** | JSON |
| **Header** | Authorization |

#### Response JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 1 | Error Code | errorCode | Char(3) | Indicating  Success / Failure | Success – zip file  Failure - (ref. Annexure) |
| 2 | Message | message | Char(250) | Corresponding  messages for success and failure |  |

#### Response Object Structure (JSON)

*{*

*"errorCode":"801”,*

*"message":" Invalid Header."*

*}*

*or*

*{*

*"errorCode":"911”,*

*"message":"Invalid acknowledge id."*

*}*

# 

# Bank Balance Data

### POST / BankBalanceFileUpload

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/BankBalanceFileUpload*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/BankBalanceFileUpload)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/BankBalanceFileUpload*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/BankBalanceFileUpload%20)

# 1. Member has to submit the Bank Balance data file on Daily basis.

# 2. The REST API used to upload the data file will be in multipart/form-data.

# 3. Standard file name pattern / nomenclature are mandatory while uploading zip file.

# 4. System will unzip the zip file received and process data validations.

# 5. Member will specify ( each day of the week (except Sunday) in dd-mm-yyyy format and in header as mentioned authorization.

# 6. API will give response status of file upload only.

# 7. Data validations and file processed status will be available at BEFS

# 8. If there is any error then error file will generate and available at BEFS for download.

# 9. API will provide response in JSON format.

# 10. Member has to correct and resubmit the data to Exchange.

|  |  |
| --- | --- |
| **Method** | POST |
| **Request** | multipart/form-data |
| **Response** | JSON |
| **Header** | Authorization |

#### Response JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 1 | Error Code | errorCode | Char(3) | Indicating  Success / Failure | (ref. Annexure) |
| 2 | Message | message | Char(250) | Corresponding  messages for success and failure |  |
| 3 | Acknowledgement Id | acknowledgeId | Char(50) | Acknowledgement id for successful file upload | 0 – Failure  Others – Unique id for successful file upload |

#### Response Object Structure (JSON)

*{*

*"errorCode":"906”,*

*"message":"File uploaded successfully.",*

*"acknowledgeId":"123456"*

*}*

*or*

*{*

*"errorCode":"902”,*

*"message":"Invalid file naming convention ( zip or csv ).",*

*"acknowledgeId":"0"*

*}*

### GET / Query\_BB\_FileUpload

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/Query\_BB\_FileUpload/{acknowledgeId}*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/Query_BB_FileUpload/%7backnowledgeId%7d%20)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/Query\_BB\_FileUpload/{acknowledgeId}*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/Query_BB_FileUpload/%7backnowledgeId%7d%20)

# Member can check status of uploaded file based on acknowledgement id received while file upload.

|  |  |
| --- | --- |
| **Method** | GET |
| **Request** | Acknowledgement id as mentioned in URL |
| **Response** | JSON |
| **Header** | Authorization |

#### Response JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 1 | Error Code | errorCode | Char(3) | Indicating  Success / Failure | (ref. Annexure) |
| 2 | Message | message | Char(250) | Corresponding  messages for success and failure |  |

#### Response Object Structure (JSON)

*{*

*"errorCode":"907”,*

*"message":" File is under process."*

*}*

*or*

*{*

*"errorCode":"908”,*

*"message":" File processed successfully."*

*}*

*or*

*{*

*"errorCode":"909”,*

*"message":" File processed with error. Kindly download error file."*

*}*

*or*

*{*

*"errorCode":"910”,*

*"message":" File is rejected by admin."*

*}*

*or*

*{*

*"errorCode":"911”,*

*"message":"Invalid acknowledge id."*

*}*

### GET / Error\_BB\_Download

URLs:

*Production:-* [*https://befs.bseindia.com/BEFS\_Service/BEFS.svc/Error\_BB\_FileUpload/{acknowledgeId}*](https://befs.bseindia.com/BEFS_Service/BEFS.svc/Error_BB_FileUpload/%7backnowledgeId%7d%20)

*UAT:-* [*https://uat.bseindia.in/BEFS\_Service/BEFS.svc/Error\_BB\_FileUpload/{acknowledgeId}*](https://uat.bseindia.in/BEFS_Service/BEFS.svc/Error_BB_FileUpload/%7backnowledgeId%7d%20)

# Member can download error file *if generated* of uploaded file based on acknowledgement id received while file upload.

# Error files will be given in “.zip” format.

|  |  |
| --- | --- |
| **Method** | GET |
| **Request** | Acknowledgement id as mentioned in URL |
| **Response** | JSON |
| **Header** | Authorization |

#### Response JSON values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Field Description** | **Field Name** | **Data Type** | **Description** | **Expected Values and**  **Validations** |
| 1 | Error Code | errorCode | Char(3) | Indicating  Success / Failure | Success – zip file  Failure - (ref. Annexure) |
| 2 | Message | message | Char(250) | Corresponding  messages for success and failure |  |

#### Response Object Structure (JSON)

*{*

*"errorCode":"801”,*

*"message":"Invalid Header."*

*}*

*or*

*{*

*"errorCode":"911”,*

*"message":"Invalid acknowledge id."*

*}*

# Annexure

Below are message codes and description.

|  |  |
| --- | --- |
| **Code** | **Description** |
| 601 | Success |
| 602 | General Error |
| 605 | Something went wrong |
| 701 | Invalid credentials |
| 702 | User is disabled |
| 801 | Invalid Header |
| 803 | Kindly check Auth token. Token is wrong or Token has expired |
| 805 | Kindly first submit data for previous Day |
| 901 | Member PAN no not proper / not available |
| 902 | Invalid file naming convention ( zip or csv ) |
| 903 | Invalid files/file type in zip file. Only one CSV file is allowed. |
| 904 | Kindly browse file. Empty file is not allowed to upload. |
| 905 | File already exists. Kindly upload new file. |
| 906 | File uploaded successfully. |
| 907 | File is under process. |
| 908 | File processed successfully. |
| 909 | File processed with error. Kindly download error file. |
| 910 | File is rejected by admin. |
| 911 | Invalid acknowledge id. |
| 931 | Not allowed to upload data because valid accessible days are expired |

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