**ULIP Integration Requirement Document**

Version No.: 1.0

Date: 05/07/2021

Project Name: ULIP

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Revision History

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| --- | --- | --- | --- | --- |
| Version | Date | Author | Reviewer | Significant Changes |
| 1.0 | 15/07/2021 | Ravindra Singh Parihar |  | Baseline Version |
| 1.0 | 01/09/2021 | Hasan Mhad Khan |  | Updated |

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# 

# Introduction

## Purpose

The purpose of this document is to define and provide details for accessing API for

Freight Operations Information System (FOIS) system information (such as track and monitor the movement of wagons, locomotives and unit trains) from ULIP system.

This document details the following points:

1. **Data Integration between FOIS and ULIP web service**: Identification of operational points where data integration between FOIS and ULIP web service will be needed.
2. **Technical Approach** for performing Data Integration

# The Overall Description

User will share the information such as **FNR Number** based on data send by user ULIP system will call respective **FOIS API** for accessing information.

Following are the point for accessing FOIS information: -

1. This API will share details based on FNR number.
2. ULIP will expose API for getting data from FOIS API.
3. **FOIS** API will take FNR number from user and get data from FOIS API.

## Data Integration **between** FOIS System and ULIP application

User will share information to ULIP system based on data shared ULIP will provide data to user.

## FOIS/01

This API will take the **FNR** number and connect with FOIS API to get data.

Request Attribute.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No.** | **Field Name** | **Field Description** | **Format** | **Required/Not – Required** | **Length** |
| 1 | **fnrnumber** | FNR(freight name record) number for consignment tracking | [0-9]{11} | Required | 11 |

### Technical Approach

1. All the data will be shared through rest web services.
2. ULIP system will provide **FNR number** for which fois detail is required.
3. FOIS API will share details of fnr number which exist in FOIS system in JSON format.
4. ULIP system will provide the data in JSON Object format in response body.

**Example:**

FNR number **21013108749** is shared by ULIP system, then ULIP system will make a request to FOIS API.

**Request:**

The request must be of the following format, where fnr number is passed within the URL body in JSON format.

[https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FOIS/01](https://www.ldbstaging.co.in/ulip/v1.0.0/FOIS/01)

{

    "fnrnumber": "21030407355"

}

**Curl URL**

curl --location --request POST '[https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FOIS/01](https://www.ldbstaging.co.in/ulip/v1.0.0/FOIS/01)’ \

--header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJ0ZXN0MSIsImlhdCI6MTYzMDQ4NTY5MywiYXBwcyI6ImRhdGFwdXNoIn0.dWnnwihLmfcgjdErMlzNwyXTmJTAGuTE5w0Xq05IPyhBISxThOvgHTCTNbtJg\_PaGgg9bmWatdHkhOADN3xq3Q' \

--header 'Accept: application/json' \

--header 'Content-Type: application/json' \

--data-raw '{

    "fnrnumber": "00000023000"

}'

For obtaining authentication token, refer [Section 1.4](#_Data_Transmission_&)

**Response:**

**{**

**"response": [**

**{**

**"response": {**

**"stationFrom": " IN-PLANT YARD OF(PARSA KANTE MINE) M/S.SRCPL(PSRS) ",**

**"fnrNo": "21030407355",**

**"stationTo": "Chhabara Thermal Power Station(PCMC)",**

**"lastRepLocn": "Chhabara Thermal Power Station(PCMC)",**

**"lastRepStts": "AR",**

**"currentStatus": "REACHED AT DESTINATION ON 04:30 03-02-2021",**

**"newFnr": "",**

**"etaDstn": "04:30 03-02-2021"**

**},**

**"responseStatus": "SUCCESS"**

**}**

**],**

**"error": "false",**

**"code": "200",**

**"message": "Success"**

**}**

**Status Code 200**: FOIS data response

**Status Code 400**: Bad request (Invalid json syntax, invalid json key)

**Status Code 401 or 403**: Unauthenticated or Unauthorized

**Status Code 500**: Some internal server error occurred

**Status Code 502**: Server is not responding.

## Data Transmission & Authentication Mechanism

All data exchange would be done over secure HTTP (HTTPS). Request from ULIP's system would be made in FOIS system through a data exchange URL that has following form:

[https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FOIS/01](https://www.ldbstaging.co.in/ulip/v1.0.0/FOIS/01)

body

{

    "fnrnumber": "21030407355"

}

Access to above data exchange URL would be authorized by use of a security mechanism implemented by the ULIP system. It is as follows:

* First time access: It would require a username and password [which would be shared with user beforehand]. Once user hit with valid user id and password, ULIP system will return a basic authorization token to user, using that token user will communicate with ULIP system until token will not get expired.

Brief summary of HTTP Basic Authentication is as follows:

First time when User will hit ULIP secured API through username and password for access token as follow-

***curl --location --request POST 'https://www.ulip.dpiit.gov.in/ulip/v1.0.0/user/login' \***

***--header 'Accept: application/json' \***

***--header 'Content-Type: application/json' \***

***--data-raw '{***

***"username": "xxxxx",***

***"password": "xxxxx@123"***

***}'***

**Authorization:**

***Bearer eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJpbnRlcmNvbnQiLCJpYXQiOjE1ODU1NjYyMzcsImFwcHMiOiJkYXRhcHVzaCJ9.jb-23DbkWpz-3ptsuuZofzH-ce7jd0xR5WlkFfBPO\_Dzjop01dSx9OamqsjsgUAryLUPtUDiMX07oHG4L2AfFQ***

Upon successful authentication, the user would be logged into the ULIP system and get an access token. Though this token user can communicate with ULIP. This token has expiry time which represent user session. The session time out for the same to be fixed hour, generally it is for 30 minutes. If there is no request coming from user for 30 minutes, then session (token) will be expired and user need to re authenticate.

Using The above token, user can request ULIP system for FOIS details as follow -

curl --location --request POST 'https://www.ulip.dpiit.gov.in/ulip/v1.0.0/user/login' \

--header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJ0ZXN0MSIsImlhdCI6MTYzMDQ4NTY5MywiYXBwcyI6ImRhdGFwdXNoIn0.dWnnwihLmfcgjdErMlzNwyXTmJTAGuTE5w0Xq05IPyhBISxThOvgHTCTNbtJg\_PaGgg9bmWatdHkhOADN3xq3Q' \

--header 'Accept: application/json' \

--header 'Content-Type: application/json' \

--data-raw '{

    "fnrnumber": "00000023000"

}'