**ULIP Integration Document**

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Project Name: ULIP

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Revision History

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# 

# Introduction

## Purpose

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

transaction details from NETC Fastag (National Electronic Toll Collection) system from ULIP system.

This document details the following points:

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

# The Overall Description

User will share the information such as vehicle registration number based on data send by user ULIP system will call **FASTag** API for accessing information.

Following are the point for accessing vehicle information: -

1. This API will share data based on information provided by user.
2. ULIP will expose API for getting data from FASTAG API.
3. **FASTAG/01** API will take vehicle registration number from user and get data from FASTAG API.

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

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

## FASTAG/01

This API will take **Vehicle registration number** and connect with FASTAG API to get data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No.** | **Field Name** | **Field Description** | **Format** | **Required/Not – Required** | **Length** |
| 1 | **vehiclenumber** | Vehicle registration number as available in FASTAG system. | ^[A-Z0-9]{5,11}$ | Required | 11 |

### Technical Approach

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

*NOTE: Data related to VRN will be available for the next 3 days.*

*Example: the first transaction happens on 1rdJan (data will be available for 3rd Jan, on 4th Jan no data will be available regarding the previous transaction i.e. 1st Jan)*

**Example:**

Vehicle registration number **GA060000** is shared by ULIP system, then FASTAG-integration will make a request to FASTAG API.

**Request:**

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

[**https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FASTAG/01**](https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FASTAG/01)

{

"vehiclenumber": "GA060000"

}

**Curl URL**

curl --location --request POST 'https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FASTAG/01' \

--header 'Authorization: Bearer eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJ0ZXN0IiwiaWF0IjoxNjMwNTAyNDI1LCJhcHBzIjoiZGF0YXB1c2gifQ.C7nHJJvr2h7UEufpnDOBUPkHCCCDoNtVg5iK5Dw7uEgxqHYxJkPGnkoNcy02oj7JYHQzDcHfEpvbVenUMdvl\_A' \

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

--header 'Accept: application/json' \

--data-raw '{

"vehiclenumber": "GA060000"

}'

For obtaining authentication token, refer [Section 1.6](#_Data_Transmission_&)

**Response**

To acknowledge the above request, ULIP will send the below response -

1. **In case of invalid format**
2. **Invalid vehicle number**

{

    "response": null,

    "error": "true",

    "code": "400",

    "message": "Data format failed OR wrong value entered at:  vehiclenumber. Format should follow  ^[A-Z0-9]{5,11}$"

}

1. **In case of vehicle number does not exist in FASTAG system**

{

    "response": [

        {

            "response": {

                "result": "FAILURE",

                "respCode": "000",

                "ts": "2022-02-15T11:34:31",

                "vehicle": {

                    "errCode": "740"

                }

            },

            "responseStatus": "SUCCESS"

        }

    ],

    "error": "false",

    "code": "200",

    "message": "Success"

}

1. **In case vehicle number exist**

{

"response": [

{

"response": {

"result": "SUCCESS",

"respCode": "000",

"ts": "2021-11-01T19:20:47",

"vehicle": {

"errCode": "000",

"vehltxnList": {

"totalTagsInMsg": "2",

"msgNum": "1",

"totalTagsInresponse": "2",

"totalMsg": "1",

"txn": [

{

"readerReadTime": "2021-10-30 12:26:09.0",

"seqNo": "68d47e2d-c10f-4f57-b12a-2dfb547ce5c8",

"laneDirection": "N",

"tollPlazaGeocode": "11.0001,11.0001",

"tollPlazaName": "GMR Chillakallu Toll Plaza",

"vehicleType": "VC7",

"vehicleRegNo": "MH19JK3923"

},

{

"readerReadTime": "2021-10-30 12:41:23.0",

"seqNo": "6361cf5f-8ddd-46dd-9593-0aa0e1fd5780",

"laneDirection": "N",

"tollPlazaGeocode": "11.0001,11.0001",

"tollPlazaName": "GMR Chillakallu Toll Plaza",

"vehicleType": "VC7",

"vehicleRegNo": "MH19JK3923"

}

]

}

}

},

"responseStatus": "SUCCESS"

}

],

"error": "false",

"code": "200",

"message": "Success"

}

**Status Code 200**: vehicle 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 FASTAG system through a data exchange URL that has following form:

<https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FASTAG/01>

**Body:**

{

"vehiclenumber": "GA060000"

}

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": "xxxx",

"password": "xxxx@123"

}'

**Authorization:**

***Bearer***

***eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJ0ZXN0MSIsImlhdCI6MTYyNTIzMDQyNywiYXBwcyI6ImRhdGFwdXNoIn0.rhumwWJ8BWeeHe9CYmIV1UKyJk-kLHA\_ovX5Zi2OwxEv-td-KpxnfbKDI\_8FZsOoggqx3Al-Du1y2qMoUD7uzA'***

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 vehicle details as follow -

***curl -X POST \***

[***https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FASTAG/01***](https://www.ulip.dpiit.gov.in/ulip/v1.0.0/FASTAG/01)

***\***

***-H 'accept: application/json' \***

***-H 'authorization: Bearer eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiJ0ZXN0MSIsImlhdCI6MTYyNTIzMDQyNywiYXBwcyI6ImRhdGFwdXNoIn0.rhumwWJ8BWeeHe9CYmIV1UKyJk-kLHA\_ovX5Zi2OwxEv-td-KpxnfbKDI\_8FZsOoggqx3Al-Du1y2qMoUD7uzA' \***

***-H 'cache-control: no-cache' \***

***-H 'content-type: application/json' \***

***-H 'postman-token: 8e8a19a4-ea1e-6373-f616-e2e4af9a1338' \***

***-d '{ "vehiclenumber": "GA060000" }'***