Task 2 - API tests | GET request /planatery/earth/assets

```
Note:
the test names in the document match the tests in the collection
curl present in the tests is from the postman collection
test collection is performed automatically (test run files)
it is a good practice to wrap all variables in variables
```

Resource link {{baseUrl}}: https://api.nasa.gov/

POSTMAN collection & env variables:

- **Positive tests**

  Assets - Possitive path.postman_collection.json

  - Test run ✅

    Assets - Possitive path.postman_test_run.json

- **Negative tests**

  Assets - Negative path.postman_collection.json

  - Test run ✅

    Assets - Negative path.postman_test_run.json

- **Environmental variables**

  Nasa Open APIs.postman_environment.json

Precondition | Before testing:

- navigate to https://api.nasa.gov/ to create account
  - Provide First, Last Name and Email
  - After Signup API key will be provided on your email address
  - Set API key to Authorisation tab
- **mandatory Params**: api_key, lat, lon, date
- **NOT mandatory Params**: dim (can't be null), address, dataset, cloud_score

Table of content:

Negative tests

Get Assets - without Auth

Given that I am Nasa user

And I didn't provide authorisation

When I submit get request with all correct params

Then I shouldn't be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2018-01-01&dim=0
```

Response like:

```
{
    "error": {
        "code": "API_KEY_MISSING",
        "message": "No api_key was supplied. Get one at https://api.nasa.gov:443"
    }
}
```

Assertion:

- Response status 403 Forbidden
- Error key value and error message

Get Assets - api_key empty value (null)

Given that I am Nasa user

And I provided authorisation without value

When I submit get request with all correct params

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2018-01-01&dim=0
```

Response like:

```
{
    "error": {
        "code": "API_KEY_MISSING",
        "message": "No api_key was supplied. Get one at https://api.nasa.gov:443"
    }
}
```

Assertion:

- Response status 403 Forbidden
- Error key value and error message

Get Assets - api_key fake value

Given that I am Nasa user

And I provided authorisation fake value/ wrong api key

When I submit get request with all correct params

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2018-01-01&dim=0
```

Response like:

```
{
    "error": {
        "code": "API_KEY_INVALID",
        "message": "An invalid api_key was supplied. Get one at https://api.nasa.gov:443"
    }
}
```

Assertion:

- Response status 403 Forbidden
- Error key value and error message

Get Assets without LAT Params

Given that I am authorised Nasa user

When I submit request without LAT Params

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lon=-95.33&date=2018-01-01&dim=0.10&api_ke
```

Response like:

```
{
    "msg": "Internal Service Error",
    "service_version": "v5000"
}
```

Assertion:

- Response status 500 Internal Server Error
    - (This is ok because it’s API for practice, but message should be precise.
    - **Like:** `400 Bad request - lat param is a mandatory key field`)

Get Assets with NULL value for LAT Params

Given that I am authorised Nasa user

When I submit request with LAT Params with value NULL

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=null&lon=-95.33&date=2018-01-01&dim=0.
```

Response like:

```
{
    "msg": "could not convert string to float: 'null'. Allowed request fields for earth/imagery method
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets with EMPTY value for LAT Params

Given that I am authorised Nasa user

When I submit request with LAT Params as a EMPTY value

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=&lon=-95.33&date=2018-01-01&dim=0.10&a
```

Response like:

```
{
    "msg": "could not convert string to float: ''. Allowed request fields for earth/imagery method are
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets without LON Params

Given that I am authorised Nasa user

When I submit request without LON Params

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&date=2018-01-01&dim=0.10&api_key
```

Response like:

```
{
    "msg": "Internal Service Error",
    "service_version": "v5000"
}
```

Assertion:

- Response status 500 Internal Server Error
    - (This is ok because it’s API for practice, but message should be precise.
    - **Like:** `400 Bad request - lon param is a mandatory key field`)

Get Assets with NULL value for LON Params

Given that I am authorised Nasa user

When I submit request with LON Params with value NULL

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=null&date=2018-01-01&dim=0.1
```

Response like:

```
{
    "msg": "could not convert string to float: 'null'. Allowed request fields for earth/imagery method
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets with EMPTY value for LON Params

Given that I am authorised Nasa user

When I submit request with LON Params as a EMPTY value

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=&date=2018-01-01&dim=0.10&ap
```

Response like:

```
{
    "msg": "could not convert string to float: ''. Allowed request fields for earth/imagery method are
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets without DATE Params

Given that I am authorised Nasa user

When I submit request without DATE Params

Then I shouldn't be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&dim=0.10&api_key=gMnc
```

Response like:

```
{
    "msg": "No imagery for specified date.",
    "service_version": "v5000"
}
```

Assertion:

- Response status 404 Not Found
  - (This is ok because it's API for practice, but message should be precise.
  - **Like:** `400 Bad request - date param is a mandatory key field`)

Get Assets with NULL value for DATE Params

Given that I am authorised Nasa user

When I submit request with DATE Params as a NULL value

Then I shouldn't be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=null&dim=0.10&ap
```

Response like:

```
{
    "msg": "time data 'null' does not match format '%Y-%m-%d'. Allowed request fields for earth/imagery
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets with EMPTY value for DATE Params

Given that I am authorised Nasa user

When I submit request with DATE Params as a EMPTY value

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=&dim=0.10&api_ke
```

Response like:

```
{
    "msg": "time data '' does not match format '%Y-%m-%d'. Allowed request fields for earth/imagery met
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets with date future date value

Given that I am authorised Nasa user

When I submit request with DATE Params as a FUTURE DATE value

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=45&lon=152&date=2028-01-01&dim=0.10&ap
```

Response like:

```
{
    "msg": "No imagery for specified date.",
    "service_version": "v5000"
}
```

Assertion:

- Response status 404 Not Found
    - (This is ok because it’s API for practice, but message should be precise.
    - **Like:** `400 Bad request - date param can't be value for future date`)

Get Assets - wrong date format (month)

Given that I am authorised Nasa user

When I submit request with DATE Params with wrong date format for month

Then I shouldn’t be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2018-13-01&dim=0
```

Response like:

```
{
    "msg": "time data '2018-13-01' does not match format '%Y-%m-%d'. Allowed request fields for earth/i
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets - wrong date 29.02.2018. (day)

Given that I am authorised Nasa user

When I submit request with DATE Params with wrong date format for day

Then I shouldn't be able to get data

➡️ **note**: 29.02.2018. ❌ | 29.02.2020. ✅

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2018-02-29&dim=0
```

Response like:

```
{
    "msg": "day is out of range for month. Allowed request fields for earth/imagery method are 'lat', '
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets - wrong date data type

Given that I am authorised Nasa user

When I submit request with DATE Params with wrong date data type

(String instead of Date in format '%Y-%m-%d')

Then I shouldn't be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=datum&dim=0.10&a
```

Response like:

```
{
    "msg": "time data 'datum' does not match format '%Y-%m-%d'. Allowed request fields for earth/imager
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets with LAT < -90

Given that I am authorised Nasa user

When I submit request with LAT Params with wrong value

Then I shouldn't be able to get data

➡️ note: LAT value can be from -90 to +90

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=-91&lon=-95.33&date=2018-01-01&dim=0.1
```

Response like:

```
{
    "msg": "No imagery for specified date.",
    "service_version": "v5000"
}
```

Assertion:

- Response status 404 Not Found
  - (This is ok because it's API for practice, but message should be precise.
  - **Like:** `400 Bad request - date param can't be out of borders from -90 to +90`)

Get Assets with LAT > +90

Given that I am authorised Nasa user

When I submit request with LAT Params with wrong value

Then I shouldn't be able to get data

➡️ note: LAT value can be from -90 to +90

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=%2B91&lon=-95.33&date=2018-01-01&dim=0
```

Response like:

```
{
    "msg": "No imagery for specified date.",
    "service_version": "v5000"
}
```

Assertion:

- Response status 404 Not Found
  - (This is ok because it's API for practice, but message should be precise.
  - **Like:** `400 Bad request - date param can't be out of borders from -90 to +90`)

Get Assets with LON < -180

Given that I am authorised Nasa user

When I submit request with LAT Params with wrong value

Then I shouldn't be able to get data

➡️ note: LON value can be from -180 to +180

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-181&date=2018-01-01&dim=0.1
```

Response like:

```
{
    "msg": "No imagery for specified date.",
    "service_version": "v5000"
}
```

Assertion:

- Response status 404 Not Found
    - (This is ok because it's API for practice, but message should be precise.
    - **Like:** `400 Bad request - date param can't be out of borders from -180 to +180`)

Get Assets with LON > +180

Given that I am authorised Nasa user

When I submit request with LAT Params with wrong value

Then I shouldn't be able to get data

> ➡️ note: LON value can be from -180 to +180

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=%2B181&date=2018-01-01&dim=0
```

Response like:

```
{
    "msg": "No imagery for specified date.",
    "service_version": "v5000"
}
```

Assertion:

- Response status 404 Not Found
    - (This is ok because it's API for practice, but message should be precise.
    - **Like:** `400 Bad request - date param can't be out of borders from -180 to +180`)

Get Assets by using ',' instead of '.' for LAT or LON

Given that I am authorised Nasa user

When I submit request with LAT or LON Params with wrong format

Then I shouldn't be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29%2C78&lon=-95.33&date=2018-01-01&dim
```

Response like:

```
{
    "msg": "could not convert string to float: '29,78'. Allowed request fields for earth/imagery method
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets - with fake ID

Given that I am authorised Nasa user

When I submit request with fake ID

(although the id is added to the response by the backend)

Then I shouldn't be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=54&lon=-95.33&date=2018-01-01&address=
```

Response like:

```
{
    "msg": "Bad Request incorrect field passed. Allowed request fields for earth/imagery method are 'la
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets - with null ID

Given that I am authorised Nasa user

When I submit request with value `null` for ID

(although the id is added to the response by the backend)

Then I shouldn't be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=54&lon=-95.33&date=2018-01-01&address=
```

Response like:

```
{
    "msg": "Bad Request incorrect field passed. Allowed request fields for earth/imagery method are 'la
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Get Assets - with resource NULL

Given that I am authorised Nasa user

When I submit request with value `null` for resource

Then I shouldn't be able to get data

```
note: (resource can’t be null → object)
"resource": {
    "dataset": "",
    "planet": ""
  }
```

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=54&lon=-95.33&date=2018-01-01&dim=0.1&
```

Response like:

```
{
    "msg": "Bad Request incorrect field passed. Allowed request fields for earth/imagery method are 'la
    "service_version": "v5000"
}
```

Assertion:

- Response status 400 Bad Request

Positve tests

Get Assets

Given that I am authorised Nasa user

When I submit request with all correct values for Params (lat, lon, date, dim)

Then I should be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2018-01-01&dim=0
```

Response like:

```
{
    "date": "2018-01-03T16:50:46.890000",
    "id": "LANDSAT/LC08/C01/T1_SR/LC08_025039_20180103",
    "resource": {
        "dataset": "LANDSAT/LC08/C01/T1_SR",
        "planet": "earth"
    },
    "service_version": "v5000",
    "url": "https://earthengine.googleapis.com/v1alpha/projects/earthengine-legacy/thumbnails/78ef0163a
}
```

Assertion:

- Response status 200 OK
- We got response for planet earth
- JSON format
- All keys have values

Get Assets - with NULL values for: cloud_score, dataset, address

Given that I am authorised Nasa user

When I submit request with all correct values for Params (lat, lon, date, dim)

And NULL values for Params (cloud_score, dataset, address)

Then I should be able to get data

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=54&lon=-95.33&date=2018-01-01&dim=0.1&
```

Response like:

```
{
    "cloud_score": null,
    "date": "2018-01-22T17:14:45.670000",
    "id": "LANDSAT/LC08/C01/T1_SR/LC08_030022_20180122",
    "resource": {
        "dataset": "null",
        "planet": "earth"
    },
    "service_version": "v5000",
    "url": "https://earthengine.googleapis.com/v1alpha/projects/earthengine-legacy/thumbnails/7f883f5fc
}
```

Assertion:

- Response status 200 OK
- We got response for planet earth
- JSON format
- All keys have values
- `"cloud_score": null` AND `"dataset": "null"` are able to set to null

Get Assets - without DIM Params

Given that I am authorised Nasa user

When I submit request with all correct values for Params (lat, lon, date)

And exclude dim param from request

Then I should be able to get data

> ➡️ note: because DIM is not mandatory value and response provides the closest available image for that area

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2018-01-01&api_k
```

Response like:

```
{
    "date": "2018-01-03T16:50:46.890000",
    "id": "LANDSAT/LC08/C01/T1_SR/LC08_025039_20180103",
    "resource": {
        "dataset": "LANDSAT/LC08/C01/T1_SR",
        "planet": "earth"
    },
    "service_version": "v5000",
    "url": "https://earthengine.googleapis.com/v1alpha/projects/earthengine-legacy/thumbnails/80cb61d2f
}
```

Assertion:

- Response status 200 OK
- Response for planet Earth
- JSON format
- All keys have values

Get Assets - correct date 29.02.2020.

Given that I am authorised Nasa user

When I submit request with all correct values for Params (lat, lon, date, dim)

  And provide correct date/year for 29.02.

Then I should be able to get data

> ➡️ **note**: 29.02.2018. ❌ | 29.02.2020. ✅

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=29.78&lon=-95.33&date=2020-02-29&dim=0
```

Response like:

```
{
    "date": "2020-02-26T16:51:01.413000",
    "id": "LANDSAT/LC08/C01/T1_SR/LC08_025040_20200226",
    "resource": {
        "dataset": "LANDSAT/LC08/C01/T1_SR",
        "planet": "earth"
    },
    "service_version": "v5000",
    "url": "https://earthengine.googleapis.com/v1alpha/projects/earthengine-legacy/thumbnails/7225490dc
}
```

Assertion:

- Response status 200 OK
- Response for planet Earth
- JSON format
- All keys have values

Get Assets - dim 100

Given that I am authorised Nasa user

When I submit request with all correct values for Params (lat, lon, date, dim)

  And I provide a value 100 for dim

Then I should be able to get data for desired dim

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=45&lon=152&date=2018-01-01&dim=100&api
```

Response like:

```
{
    "date": "2018-01-01T00:28:44.490000",
    "id": "LANDSAT/LC08/C01/T1_SR/LC08_100025_20180101",
    "resource": {
        "dataset": "LANDSAT/LC08/C01/T1_SR",
        "planet": "earth"
    },
    "service_version": "v5000",
    "url": "https://earthengine.googleapis.com/v1alpha/projects/earthengine-legacy/thumbnails/3f0fcc4c7
}
```

Assertion:

- Response status 200 OK
- Verify that url for img dim 100 is working by GET url ⇒ status 200 OK

Get Assets - dim 40

Given that I am authorised Nasa user

When I submit request with all correct values for Params (lat, lon, date, dim)

And I provide a value 40 for dim

Then I should be able to get data for desired dim

GET request like (curl):

```
curl --location 'https://api.nasa.gov/planetary/earth/assets?lat=45&lon=152&date=2018-01-01&dim=40&api_
```

Response like:

```
{
    "date": "2018-01-01T00:28:44.490000",
    "id": "LANDSAT/LC08/C01/T1_SR/LC08_100025_20180101",
    "resource": {
        "dataset": "LANDSAT/LC08/C01/T1_SR",
        "planet": "earth"
    },
    "service_version": "v5000",
    "url": "https://earthengine.googleapis.com/v1alpha/projects/earthengine-legacy/thumbnails/9f4610b3b
}
```

Assertion:

- Response status 200 OK
- Verify that url for img dim 40 is working by GET url ⇒ status 200 OK
- Assert that dim 100 and dim 40 have different `url` (postman/tests)
- Assert that dim 100 and dim 40 have the same `id` (postman/tests)