



**GAEL SYSTEMS**

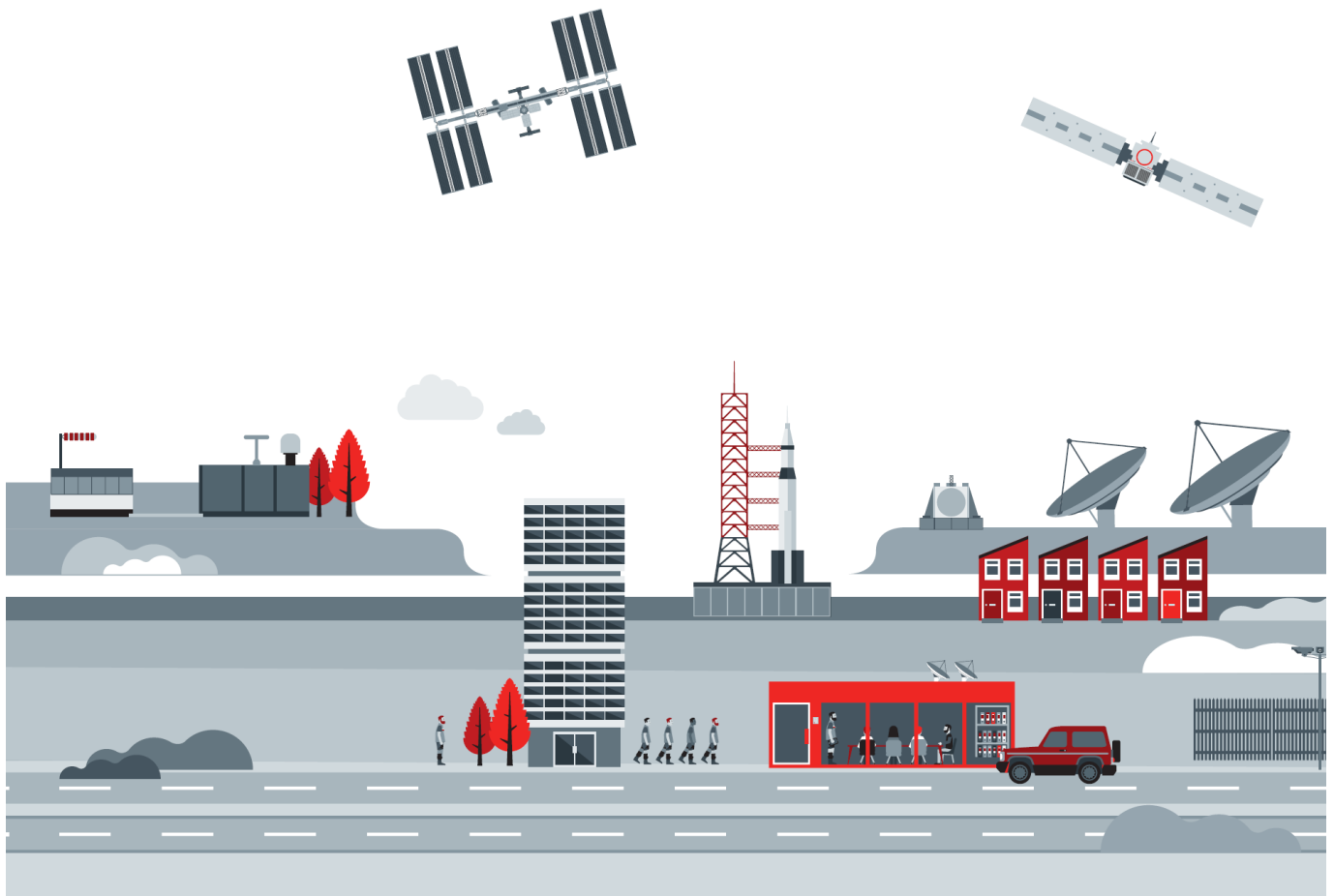
Earth Observation Data Solutions

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# Collaborative Data Hub Software

## GSS STAC Catalogue Interface Control Document



Reference: GAEL-P311-GSS-CDH-STAC Catalogue Data Access – ICD

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1.1	25/09/2024	<ul style="list-style-type: none"> <li>Add information about an option for Nodes</li> </ul>	Nodes exploration
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## 1. Introduction

### 1.1 Scope

This document applies to the GAEL Store Service and is maintained within the service “*Collaborative Data Hub Software Maintenance and Evolution Services for Digital Twin Earth*” hereinafter called “the Collaborative service”.

### 1.2 Purpose

The purpose of this document is to describe all essential information to make full use of the GSS software using STAC (SpatioTemporal Asset Catalog) API. The target audience of this document therefore are System administrators that will install the GSS software and manage it and end-users.

This manual includes a description of the functions implemented by GSS and alternate modes of operation, and step-by-step procedures for system access and use.

In particular, it describes (and dedicates a specific section to):

- How to use STAC API

### 1.3 Document applicability

Here below we provide a cross check between the version of this document, and the relevant GSS milestone.

ICD	DHS Milestone
v1.6	DHS#7 (GSS Suite v2.1.1)

### 1.4 Reference Documents

Ref.	Title	Reference and Version
RD-1	Collaborative Data Hub Software GSS Software Design Document	GAEL_P311 – GSS-CDH-SDD, v2.1.2
RD-2	Collaborative Data Hub Software GSS Administration Manual	GAEL-P311-GSS - Collaborative Data Hub Software GSS Administration Manual_2.1.2
RD-4	COPE-SERCO-TN-21-1229 - Keycloak Installation and Configuration Manual	COPE-SERCO-TN-21-1229 - Keycloak Installation and Configuration Manual, v2.5

## 1.5 Acronyms and Abbreviations

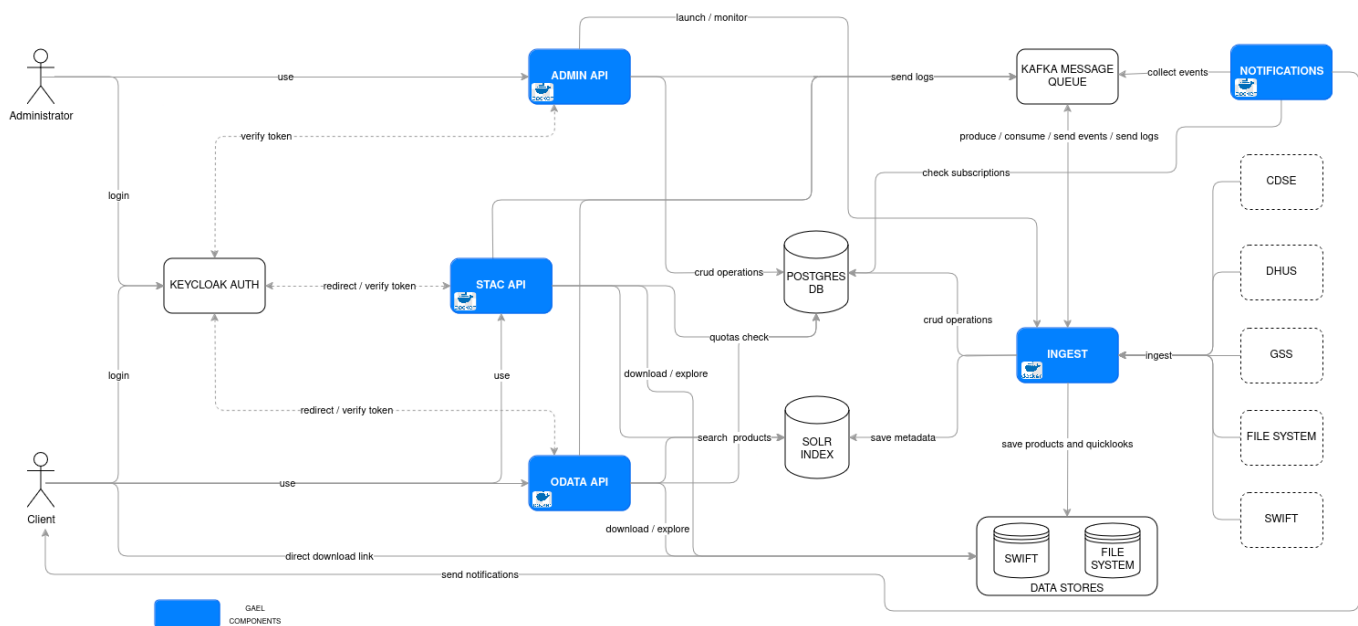
Acronym	Definition
API	Application Programming Interface
CDSE	Copernicus Data Space Ecosystem
DHuS	Data Hub Service
EO	Earth Observation
ESA	European Space Agency
GS	Ground Segment
GSS	Gael Store Service
HTTP	Hypertext Transfer Protocol Secure
HTTPS	Hypertext Transfer Protocol Secure
ICD	Interface Control Document
OData	Open Data Protocol
RD	Reference Document
STAC	SpatioTemporal Asset Catalog
UUID	Universally unique identifier

## 2. GSS STAC API Overview

The SpatioTemporal Asset Catalog (STAC) specification is designed to formulate a uniform language for geospatial data, making it readily searchable and queryable. STAC has been constructed to be basic, adaptable, and expandable. STAC is a system of JSON files that reference other JSON files, with each JSON file adhering to a particular core specification depending on which STAC component it is portraying. This fundamental JSON format can also be modified to accommodate varying needs, making the STAC specification highly flexible and adaptable. The complete STAC specification is accessible on GitHub. For more technical reference, consult the STAC Specification on GitHub: <https://github.com/radianteearth/stac-spec/>

### 2.1 STAC API Context

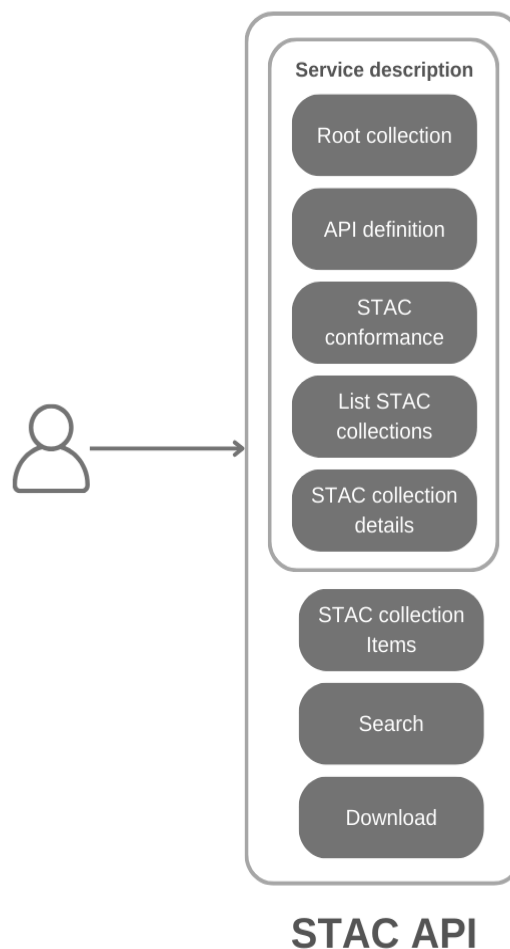
STAC-API (SpatioTemporal Asset Catalog API) provides a set of endpoints and operations for querying STAC catalog, collections, and items, making it easier to find and access relevant data. STAC-API is a metadata element that provides essential information about the spatial and temporal extent, projection, coordinate reference system (CRS), and other relevant details of a dataset.



## 2.2 Basic User Scenario

The following shows some features proposed by STAC API :

- An admin or an end-user obtains a token to authenticate.
- With access to a valid token, the end-user can proceed to fetch the STAC catalog or collection.
- Once the catalog is fetched, the end-user can retrieve specific STAC items within the collection.
- The collection Item is presented as JSON.



The first group of commands allows to describe the service (API definition, Collections, Conformance ...)

Items are the products contained in collections. So, the users can make the following operations : display details, search (with filters and sort), download.

A detailed description is available in section 3 of this document.



## 2.3 Authorization and Authentication

The API supports OAuth 2.0 for authentication. It is a powerful and useful security system which offers scalability. User's access tokens can be refreshed by authorization server. And then, clients use access tokens to reach API delivery point.

To use OAuth2 authentication through command line:

- Request a token:

```
curl -d 'client_id=<keycloak_client>' -d 'username=***' -d 'password=***' -d 'grant_type=password' "https://<keycloak_url>/auth/realms/<keycloak_realm>/protocol/openid-connect/token"
```

You will obtain a JSON response containing the access\_token

- Use the token in the request:

```
curl -X GET -H 'authorization: Bearer <access_token>' -H 'content-type: application/json' "http://<server.url>:<server.port>/<context-path>/stac/search"
```

## 3. STAC API Catalog Access Endpoints

STAC API endpoints are the URLs that you can use to interact with a STAC catalog, collection, or item. The endpoints provide various operations for searching, filtering, and retrieving data. Here are the most common STAC API endpoints:

- **Root endpoint:** This is the base URL of the STAC API. It returns a JSON object with information about the API, such as the version and available endpoints.
- **Collection endpoint:** This endpoint allows users to retrieve information about a specific STAC collection.
- **Item endpoint:** This endpoint allows users to retrieve information about a specific STAC item.
- **Search endpoint:** This endpoint allows users to search for STAC items based on various criteria, such as bounding box, time interval, or other keywords. This endpoint is accessible with GET and POST requests.

For a detailed information about stac-api spec, endpoints and extensions, please consider the following specifications: <https://stacspec.org/en/about/stac-spec/> and <https://github.com/radianteearth/stac-api-spec>

Table 1. STAC API Endpoints - Describes all available resources in STAC API implementation :

Endpoint	Description
/stac	Returns a STAC catalog.
/stac/api	OpenAPI definition.
/stac/conformance	Information about standards to which the API conforms.
/stac/search	Filter through all products across all collections.
/stac/collections	A list of collections exposed by the catalog.
/stac/collections/<collectionId>	A single collection.
/stac/collections/<collectionId>/items	A feature collection of item objects in collection.
/stac/collections/<collectionId>/items/<itemId>	A specific item in a collection.

 Table 2. STAC API Collections - Query Options for filtering items of a collection  
 (/stac/collections/<collectionId>/items) :

Query Option	Description	Example
bbox	Requested bounding box.	bbox=-180,0,180,90
datetime	The datetime query option is used to filter search results based on a specific time range. It allows users to specify a start and end date and time, and only items that fall within that range will be included in the results.	datetime=2024-08-24T08:56:25.026503Z datetime=datetimeFrom/datetimeTo : • datetime=2024-10-08T05:27:31.622747Z/2024-10-16T21:22:53.650131Z datetime=datetimeFrom/ : • datetime=2024-10-09T05:27:31.622747Z/ datetime=datetimeTo/ : • datetime=/2024-10-09T05:27:31.622747Z

intersects	Searches items by performing intersection between their geometry and provided GeoJSON geometry.	intersects={"type":"Polygon","coordinates":[[[-180,0],[-180,90],[180,90],[180,0]]]}
ids	Array of Item ids to return.	ids=name1,name2
limit	The maximum number of results to return (page size).	limit=10 If not precised, the default value is 20
page	Page the number, used to iterate across all items	page=4 If not precised, the default value is 100
sortby	The sortby allows the user to define the fields by which to sort results. Only string, numeric, and datetime attributes of Item (id and collection only) or Item properties may be used to sort results.	Sortby orders are : <ul style="list-style-type: none"> <li>- : descending order</li> <li>+ : ascending order</li> </ul> Examples : <ul style="list-style-type: none"> <li>sortby=-id</li> <li>sortby=properties.updated</li> <li>sortby=-properties.updated, +id</li> <li>sortby=properties.published</li> <li>sortby=+properties.start_datetime</li> <li>sortby=+properties.end_datetime</li> <li>sortby=properties.published</li> <li>sortby=properties.id, id</li> <li>sortby=properties.online</li> <li>sortby=properties.origin_date</li> <li>sortby=properties.file:size</li> </ul> Default value : -properties.updated

Table 3. STAC API Search - Query Options for filtering items in the /stac/search endpoint :

Query Option	Description	Example
bbox	Requested bounding box.	bbox=-180,0,180,90
datetime	The datetime query option is used to filter search results based on a specific time range. It allows users to specify a start and end date and time, and only items that fall	datetime=2024-08-24T08:56:25.026503Z datetime=datetimeFrom/datetimeTo :

	within that range will be included in the results.	<ul style="list-style-type: none"> <li>datetime=2024-10-08T05:27:31.622747Z/2024-10-16T21:22:53.650131Z</li> </ul> datetime=datetimeFrom/ : <ul style="list-style-type: none"> <li>datetime=2024-10-09T05:27:31.622747Z/</li> </ul> datetime=datetimeTo/ : <ul style="list-style-type: none"> <li>datetime=/2024-10-09T05:27:31.622747Z</li> </ul>
intersects	Searches items by performing intersection between their geometry and provided GeoJSON geometry.	intersects={"type":"Polygon","coordinates":[[[-180,0],[-180,90],[180,90],[180,0]]]}
ids	Array of Item ids to return.	ids=name1,name2
collections	Array of one or more Collection IDs that each matching Item must be in	collections=SENTINEL-2
limit	The maximum number of results to return (page size).	limit=10 If not precised, the default value is 20
page	Page the number, used to iterate across all items	page=4 If not precised, the default value is 100
sortby	The sortby allows the user to define the fields by which to sort results. Only string, numeric, and datetime attributes of Item (id and collection only) or Item properties may be used to sort results.	Sortby orders are : <ul style="list-style-type: none"> <li>- : descending order</li> <li>+ : ascending order</li> </ul> Examples : <ul style="list-style-type: none"> <li>sortby=-id</li> <li>sortby=properties.updated</li> <li>sortby=-properties.updated, +id</li> <li>sortby=properties.published</li> <li>sortby=+properties.start_datetime</li> <li>sortby=+properties.end_datetime</li> <li>sortby=properties.published</li> <li>sortby=properties.id, id</li> <li>sortby=properties.online</li> <li>sortby=properties.origin_date</li> <li>sortby=properties.file:size</li> </ul>

		Default value : -properties.updated
--	--	-------------------------------------

### 3.1 STAC Item Entity (Product)

The following is a representation of a STAC item (product) in JSON format:

```
{
  "type": "Feature",
  "stac_version": "1.1.0",
  "id":
  "S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
  "geometry": {
    "type": "Polygon",
    "coordinates": [
      [
        [ 61.7358, 68.5212 ], [ 66.768, 70.5419 ], [ 72.9408, 72.4351 ], [ 80.4355,
        74.0999 ], [ 89.4056, 75.4539 ], [ 89.4227, 75.4659 ], [ 89.1403, 75.6159 ], [ 88.2839,
        76.0247 ], [ 87.4305, 76.4386 ], [ 86.4979, 76.8412 ], [ 85.5165, 77.2363 ], [ 84.464,
        77.6387 ], [ 83.3754, 78.0293 ], [ 82.1651, 78.4116 ], [ 80.8962, 78.7963 ], [ 79.5476,
        79.173 ], [ 78.1043, 79.5427 ], [ 76.5528, 79.9059 ], [ 74.8769, 80.2641 ], [ 73.086,
        80.6118 ], [ 71.168, 80.9468 ], [ 69.1078, 81.2687 ], [ 66.8814, 81.581 ], [ 64.4676,
        81.8846 ], [ 61.8967, 82.1643 ], [ 59.1476, 82.4396 ], [ 56.2228, 82.6868 ], [ 53.0366,
        82.924 ], [ 49.6834, 83.1251 ], [ 46.1542, 83.3059 ], [ 42.4124, 83.4582 ], [ 38.5307,
        83.5819 ], [ 34.4846, 83.6904 ], [ 30.3426, 83.7474 ], [ 26.1454, 83.7852 ], [ 21.9498,
        83.7781 ], [ 21.953, 83.7694 ], [ 22.5179, 81.1685 ], [ 22.6484, 78.5571 ], [ 22.5846,
        75.9444 ], [ 22.4204, 73.374 ], [ 24.0306, 73.3599 ], [ 25.6032, 73.3274 ], [ 27.2014,
        73.294 ], [ 28.7652, 73.2455 ], [ 30.3454, 73.1675 ], [ 31.8747, 73.0934 ], [ 33.4248,
        73.0108 ], [ 34.9489, 72.915 ], [ 36.4426, 72.7967 ], [ 37.9263, 72.683 ], [ 39.3904,
        72.5446 ], [ 40.8222, 72.4077 ], [ 42.269, 72.2491 ], [ 43.6599, 72.0879 ], [ 45.0231,
        71.9163 ], [ 46.3581, 71.7357 ], [ 47.6708, 71.5448 ], [ 48.9676, 71.3423 ], [ 50.2299,
        71.1326 ], [ 51.459, 70.9154 ], [ 52.6643, 70.6892 ], [ 53.8489, 70.4539 ], [ 54.9918,
        70.2123 ], [ 56.1463, 69.9678 ], [ 57.2224, 69.7115 ], [ 58.3057, 69.4439 ], [ 59.355,
        69.1778 ], [ 60.3639, 68.9044 ], [ 61.3608, 68.6292 ], [ 61.7358, 68.5212 ]
      ]
    ]
  },
  "bbox": [
    21.9498,
    68.5212,
    89.4227,
    83.7852
  ],
  "properties": {
```



```
"sat:relative_orbit": 235,
"start_datetime": "2024-11-04T08:18:04.373665Z",
"end_datetime": "2024-11-04T08:21:04.373665Z",
"product:type": "SL_2_LST___",
"product:timeliness_category": "NT",
"platform": "sentinel-3b",
"datetime": "2024-11-04T08:18:04.373665Z",
"s3:land": 7.812333,
"instruments": [
  "slstr"
],
"constellation": "sentinel-3",
"product:timeliness": "NT",
"sat:orbit_state": "descending",
"eo:cloud_cover": 6.625167,
"id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
"processing:level": "L2",
"sat:orbit_cycle": 99,
"s3:tidal_region": 0.0,
"file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
"s3:saline_water": 92.187667,
"published": "2024-11-12T10:08:29.758000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-05T00:00:11.462000Z",
"online": true,
"processing:datetime": "2024-11-04T23:07:48.000000Z",
"sat:absolute_orbit": 34002,
"updated": "2024-11-12T10:08:29.758000Z",
"file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST___20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_O_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  }
],
```



```
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "parent",
  "type": "application/json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "collection",
  "type": "application/json",
  "method": "GET"
}
],
"assets": {
  "product": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
    "title": "Product download",
    "type": "application/zip",
    "roles": [
      "data"
    ]
  },
  "quicklook": {
    "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
    "title": "Quicklook download",
    "type": "image/jpeg",
    "roles": [
      "thumbnail"
    ]
  }
},
"collection": "SENTINEL-3"
}
```

## Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

## 3.2 STAC API Endpoint Query Examples

### 3.2.1 STAC Root Collection (GET)

**Description :** Allows the users to view the root catalog. The description of this catalog is done in the *application.properties* file.

- Please refer to the following document for a detailed configuration : RD-2 - Collaborative Data Hub Software GSS Administration Manual.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac>

**Example :** <http://localhost:8080/stac>

**Return :** The root STAC catalog.

**Response :** Get STAC root catalog (HTTP 200)

```
{
  "type": "Catalog",
  "stac_version": "1.1.0",
  "id": "CDH-Catalog",
  "title": "Collaborative DataHub STAC Catalog",
  "description": "",
  "conformsTo": [
    "https://api.stacspec.org/v1.0.0/core",
    "https://api.stacspec.org/v1.0.0/collections",
    "https://api.stacspec.org/v1.0.0/item-search",
    "https://api.stacspec.org/v1.0.0/ogcapi-features"
  ],
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "title": "this document",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac",
      "rel": "self",
      "type": "application/json",
      "title": "this document",
      "method": "GET"
    }
  ]
}
```





```
"href": "http://localhost:8080/stac/search",
"rel": "search",
"type": "application/json",
"title": "search endpoint",
"method": "GET"
},
{
  "href": "http://localhost:8080/stac/search",
  "rel": "search",
  "type": "application/json",
  "title": "search endpoint",
  "method": "POST",
  "body": {
    "bbox": [
      -110,
      39.5,
      -105,
      40.5
    ],
    "datetime": "2018-02-12T00:00:00Z/2018-03-18T12:31:12Z",
    "intersects": {
      "type": "Point",
      "coordinates": [
        0,
        0
      ]
    },
    "collections": [
      "string"
    ],
    "ids": [
      "string"
    ],
    "limit": 10,
    "sortby": [
      {
        "field": "properties.updated",
        "direction": "desc"
      }
    ]
  }
},
{
  "href": "http://localhost:8080/stac/conformance",
  "rel": "conformance",
  "type": "application/json",
```



```
    "title": "Conformance list",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/api",
    "rel": "service-desc",
    "type": "application/json",
    "title": "The API description",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections",
    "rel": "data",
    "type": "application/json",
    "title": "List of collections",
    "method": "GET"
  }
]
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.2.2 STAC API definition (GET)

**Description :** Allows the users to view the OpenAPI definition.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/api>

**Example :** <http://localhost:8080/stac/api>

**Return :** The OpenAPI definition. A JSON containing all queries and endpoints in detail.

**Response :** Get STAC API definition (HTTP 200)

```
{
  "openapi": "3.0.1",
  "info": {
    "title": "OpenAPI definition",
    "version": "v0"
  },
  "servers": [
    {
```



```
        "url": "http://localhost:8080",
        "description": "Generated server url"
    },
],
"paths": {
    "/stac/search": {
        "get": {
            "tags": [
                "stac-search-controller"
            ],
            "summary": "Search STAC items accross collections with simple filtering",
            "operationId": "searchItems_1",
            "parameters": [
                {
                    "name": "page",
                    "in": "query",
                    "required": false,
                    "schema": {
                        "type": "integer",
                        "format": "int32"
                    }
                },
                {
                    "name": "limit",
                    "in": "query",
                    "required": false,
                    "schema": {
                        "type": "integer",
                        "format": "int32"
                    }
                },
                {
                    "name": "datetime",
                    "in": "query",
                    "required": false,
                    "schema": {
                        "type": "string"
                    }
                },
                {
                    "name": "bbox",
                    "in": "query",
                    "required": false,
                    "schema": {
                        "type": "string"
                    }
                }
            ]
        }
    }
}
```



```
    },
    {
      "name": "collections",
      "in": "query",
      "required": false,
      "schema": {
        "type": "string"
      }
    },
    {
      "name": "ids",
      "in": "query",
      "required": false,
      "schema": {
        "type": "string"
      }
    },
    {
      "name": "intersects",
      "in": "query",
      "required": false,
      "schema": {
        "type": "string"
      }
    },
    {
      "name": "sortby",
      "in": "query",
      "required": false,
      "schema": {
        "type": "string"
      }
    }
  ],
  "responses": {
    "default": {
      "description": "An error occurred while retrieving item",
      "content": {
        "application/json": {
          "schema": {
            "$ref": "#/components/schemas/StacErrorMessage"
          }
        }
      }
    }
  },
  "500": {
```



```
        "description": "Internal server error",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacErrorMessage"
            }
          }
        }
      },
      "400": {
        "description": "Invalid parameter",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacErrorMessage"
            }
          }
        }
      },
      "200": {
        "description": "A collection of features",
        "content": {
          "application/geo+json": {
            "schema": {
              "$ref": "#/components/schemas/StacFeatures"
            }
          }
        }
      }
    },
    "post": {
      "tags": [
        "stac-search-controller"
      ],
      "summary": "Search STAC items accross collections with simple filtering  
using POST request",
      "operationId": "searchItems",
      "requestBody": {
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/SearchRequestBody"
            }
          }
        }
      }
    },
  },
}
```



```
        "required": true
      },
      "responses": {
        "default": {
          "description": "An error occurred while retrieving item",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/StacErrorMessage"
              }
            }
          }
        },
        "500": {
          "description": "Internal server error",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/StacErrorMessage"
              }
            }
          }
        },
        "400": {
          "description": "Invalid parameter",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/StacErrorMessage"
              }
            }
          }
        },
        "200": {
          "description": "A collection of features",
          "content": {
            "application/geo+json": {
              "schema": {
                "$ref": "#/components/schemas/StacFeatures"
              }
            }
          }
        }
      }
    }
  },
}
```



```
"/stac": {
  "get": {
    "tags": [
      "stac-catalog-controller"
    ],
    "summary": "Landing page of the service",
    "operationId": "getCatalog",
    "responses": {
      "200": {
        "description": "Root of the service",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacCatalog"
            }
          }
        }
      }
    }
  },
  "/stac/download/quicklook/{id}": {
    "get": {
      "tags": [
        "stac-download-handler"
      ],
      "summary": "Download a quicklook",
      "operationId": "downloadQuicklook",
      "parameters": [
        {
          "name": "id",
          "in": "path",
          "required": true,
          "schema": {
            "type": "string"
          }
        }
      ],
      "responses": {
        "default": {
          "description": "An error occurred while retrieving item",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/StacErrorMessage"
              }
            }
          }
        }
      }
    }
  }
}
```



```
        }
      },
      "200": {
        "description": "Quicklook downloaded"
      },
      "429": {
        "description": "Quotas reached"
      },
      "500": {
        "description": "Internal server error"
      },
      "307": {
        "description": "Request redirected"
      },
      "404": {
        "description": "Quicklook not found"
      }
    }
  },
  "/stac/download/product/{id}": {
    "get": {
      "tags": [
        "stac-download-handler"
      ],
      "summary": "Download a product",
      "operationId": "downloadProduct",
      "parameters": [
        {
          "name": "id",
          "in": "path",
          "required": true,
          "schema": {
            "type": "string"
          }
        }
      ],
      "responses": {
        "default": {
          "description": "An error occurred while retrieving item",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/StacErrorMessage"
              }
            }
          }
        }
      }
    }
  }
}
```





```
        }
      },
    },
    "200": {
      "description": "Product downloaded"
    },
    "429": {
      "description": "Quotas reached"
    },
    "500": {
      "description": "Internal server error"
    },
    "404": {
      "description": "Product not found"
    },
    "307": {
      "description": "Request redirected"
    }
  }
},
"/stac/download/product/{id}/nodes/{name}": {
  "get": {
    "tags": [
      "stac-download-handler"
    ],
    "summary": "Download a product file",
    "operationId": "downloadNode",
    "parameters": [
      {
        "name": "id",
        "in": "path",
        "required": true,
        "schema": {
          "type": "string"
        }
      },
      {
        "name": "name",
        "in": "path",
        "required": true,
        "schema": {
          "type": "string"
        }
      }
    ]
  }
},
],
```



```
"responses": {
  "default": {
    "description": "An error occurred while retrieving item",
    "content": {
      "application/json": {
        "schema": {
          "$ref": "#/components/schemas/StacErrorMessage"
        }
      }
    }
  },
  "429": {
    "description": "Quotas reached"
  },
  "200": {
    "description": "File downloaded"
  },
  "500": {
    "description": "Internal server error"
  },
  "307": {
    "description": "Request redirected"
  },
  "404": {
    "description": "File not found"
  }
},
"/stac/conformance": {
  "get": {
    "tags": [
      "stac-catalog-controller"
    ],
    "summary": "Conformance list",
    "operationId": "getConformance",
    "responses": {
      "200": {
        "description": "A list of all conformance classes implemented by the
server",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/ConformanceResponse"
            }
          }
        }
      }
    }
  }
}
```



```
    }
  }
}
},
"/stac/collections": {
  "get": {
    "tags": [
      "stac-collection-controller"
    ],
    "summary": "List of available collections",
    "operationId": "getCollections",
    "responses": {
      "200": {
        "description": "List of available collections",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/CollectionsResponse"
            }
          }
        }
      }
    }
  }
},
"/stac/collections/{id}": {
  "get": {
    "tags": [
      "stac-collection-controller"
    ],
    "summary": "Access a specific collection",
    "operationId": "getCollection",
    "parameters": [
      {
        "name": "id",
        "in": "path",
        "required": true,
        "schema": {
          "type": "string"
        }
      }
    ],
    "responses": {
      "default": {
        "description": "Collection not found",
```



```
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacErrorMessage"
            }
          }
        },
      },
      "200": {
        "description": "Access a collection by its id",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/CollectionsResponse"
            }
          }
        }
      },
    },
    "404": {
      "description": "Collection not found",
      "content": {
        "application/json": {
          "schema": {
            "$ref": "#/components/schemas/StacErrorMessage"
          }
        }
      }
    },
  },
},
"/stac/collections/{id}/items": {
  "get": {
    "tags": [
      "stac-collection-controller"
    ],
    "summary": "Get items inside a collection with simple filtering",
    "operationId": "getCollectionItems",
    "parameters": [
      {
        "name": "id",
        "in": "path",
        "required": true,
        "schema": {
          "type": "string"
        }
      }
    ]
  }
}
```



```
    },
    {
      "name": "page",
      "in": "query",
      "required": false,
      "schema": {
        "type": "integer",
        "format": "int32"
      }
    },
    {
      "name": "limit",
      "in": "query",
      "required": false,
      "schema": {
        "type": "integer",
        "format": "int32"
      }
    },
    {
      "name": "datetime",
      "in": "query",
      "required": false,
      "schema": {
        "type": "string"
      }
    },
    {
      "name": "bbox",
      "in": "query",
      "required": false,
      "schema": {
        "type": "string"
      }
    },
    {
      "name": "ids",
      "in": "query",
      "required": false,
      "schema": {
        "type": "string"
      }
    },
    {
      "name": "intersects",
      "in": "query",
```



```
        "required": false,
        "schema": {
            "type": "string"
        }
    },
    {
        "name": "sortby",
        "in": "query",
        "required": false,
        "schema": {
            "type": "string"
        }
    }
],
"responses": {
    "default": {
        "description": "Collection not found",
        "content": {
            "application/json": {
                "schema": {
                    "$ref": "#/components/schemas/StacErrorMessage"
                }
            }
        }
    },
    "500": {
        "description": "Internal server error",
        "content": {
            "application/json": {
                "schema": {
                    "$ref": "#/components/schemas/StacErrorMessage"
                }
            }
        }
    },
    "404": {
        "description": "Collection not found",
        "content": {
            "application/json": {
                "schema": {
                    "$ref": "#/components/schemas/StacErrorMessage"
                }
            }
        }
    },
    "400": {
```



```
        "description": "Invalid parameter",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacErrorMessage"
            }
          }
        }
      },
      "200": {
        "description": "A collection of features",
        "content": {
          "application/geo+json": {
            "schema": {
              "$ref": "#/components/schemas/StacFeatures"
            }
          }
        }
      }
    }
  },
  "/stac/collections/{id}/items/{itemId}": {
    "get": {
      "tags": [
        "stac-collection-controller"
      ],
      "summary": "Get a specific item inside a collection",
      "operationId": "getCollectionItem",
      "parameters": [
        {
          "name": "id",
          "in": "path",
          "required": true,
          "schema": {
            "type": "string"
          }
        },
        {
          "name": "itemId",
          "in": "path",
          "required": true,
          "schema": {
            "type": "string"
          }
        }
      ]
    }
  }
}
```



```
    ],
    "responses": {
      "default": {
        "description": "Collection not found",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacErrorMessage"
            }
          }
        }
      },
      "500": {
        "description": "Internal server error",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacErrorMessage"
            }
          }
        }
      },
      "404": {
        "description": "Collection or item not found",
        "content": {
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/StacErrorMessage"
            }
          }
        }
      },
      "200": {
        "description": "Access an item in a collection",
        "content": {
          "application/geo+json": {
            "schema": {
              "$ref": "#/components/schemas/StacFeatures"
            }
          }
        }
      }
    }
  }
}
```





```
"components": {
  "schemas": {
    "StacErrorMessage": {
      "type": "object",
      "properties": {
        "code": {
          "type": "string"
        },
        "description": {
          "type": "string"
        }
      }
    },
    "SearchRequestBody": {
      "type": "object",
      "properties": {
        "page": {
          "type": "integer",
          "format": "int32"
        },
        "limit": {
          "type": "integer",
          "format": "int32"
        },
        "datetime": {
          "type": "string"
        },
        "bbox": {
          "type": "object"
        },
        "collections": {
          "type": "array",
          "items": {
            "type": "string"
          }
        },
        "ids": {
          "type": "array",
          "items": {
            "type": "string"
          }
        },
        "intersects": {
          "type": "object"
        },
        "sortby": {
```



```
        "type": "array",
        "items": {
            "$ref": "#/components/schemas/SortClause"
        }
    },
    "bboxAsString": {
        "type": "string"
    },
    "idsAsString": {
        "type": "string"
    },
    "intersectsAsString": {
        "type": "string"
    },
    "sortByAsString": {
        "type": "string"
    }
},
"SortClause": {
    "type": "object",
    "properties": {
        "direction": {
            "type": "string"
        },
        "field": {
            "type": "string"
        }
    }
},
"GeoFootprintObject": {
    "type": "object",
    "properties": {
        "type": {
            "type": "string"
        },
        "coordinates": {
            "type": "array",
            "items": {
                "type": "object"
            }
        }
    }
},
"StacAsset": {
    "type": "object",
```



```
"properties": {
  "href": {
    "type": "string"
  },
  "title": {
    "type": "string"
  },
  "description": {
    "type": "string"
  },
  "type": {
    "type": "string"
  },
  "roles": {
    "type": "array",
    "items": {
      "type": "string"
    }
  }
},
"StacFeatures": {
  "type": "object",
  "properties": {
    "type": {
      "type": "string"
    },
    "features": {
      "type": "array",
      "items": {
        "$ref": "#/components/schemas/StacItem"
      }
    }
  },
  "links": {
    "uniqueItems": true,
    "type": "array",
    "items": {
      "$ref": "#/components/schemas/StacLink"
    }
  },
  "numberMatched": {
    "type": "integer",
    "format": "int64"
  },
  "numberReturned": {
    "type": "integer",
```



```
        "format": "int64"
      }
    },
    "StacItem": {
      "type": "object",
      "properties": {
        "type": {
          "type": "string"
        },
        "stac_version": {
          "type": "string"
        },
        "stac_extensions": {
          "type": "array",
          "items": {
            "type": "string"
          }
        },
        "id": {
          "type": "string"
        },
        "geometry": {
          "$ref": "#/components/schemas/GeoFootprintObject"
        },
        "bbox": {
          "type": "array",
          "items": {
            "type": "number",
            "format": "double"
          }
        },
        "properties": {
          "type": "object",
          "additionalProperties": {
            "type": "object"
          }
        },
        "links": {
          "uniqueItems": true,
          "type": "array",
          "items": {
            "$ref": "#/components/schemas/StacLink"
          }
        },
        "assets": {
```



```
        "type": "object",
        "additionalProperties": {
            "$ref": "#/components/schemas/StacAsset"
        }
    },
    "collection": {
        "type": "string"
    }
},
"StacLink": {
    "type": "object",
    "properties": {
        "href": {
            "type": "string"
        },
        "rel": {
            "type": "string",
            "enum": [
                "self",
                "root",
                "parent",
                "child",
                "item",
                "data",
                "items",
                "prev",
                "next",
                "search",
                "service-desc",
                "conformance",
                "collection"
            ]
        }
    },
    "type": {
        "type": "string",
        "enum": [
            "application/json",
            "application/geo+json"
        ]
    },
    "title": {
        "type": "string"
    },
    "method": {
        "type": "string"
    }
}
```



```
    }
  },
  "StacCatalog": {
    "type": "object",
    "properties": {
      "type": {
        "type": "string"
      },
      "stac_version": {
        "type": "string"
      },
      "stac_extensions": {
        "type": "array",
        "items": {
          "type": "string"
        }
      },
      "id": {
        "type": "string"
      },
      "title": {
        "type": "string"
      },
      "description": {
        "type": "string"
      },
      "conformsTo": {
        "type": "array",
        "items": {
          "type": "string"
        }
      },
      "links": {
        "uniqueItems": true,
        "type": "array",
        "items": {
          "$ref": "#/components/schemas/StacLink"
        }
      }
    }
  },
  "ConformanceResponse": {
    "type": "object",
    "properties": {
      "conformsTo": {
```



```
        "type": "array",
        "items": {
          "type": "string"
        }
      }
    },
    "CollectionsResponse": {
      "type": "object",
      "properties": {
        "collections": {
          "type": "array",
          "items": {
            "$ref": "#/components/schemas/StacCollection"
          }
        },
        "links": {
          "uniqueItems": true,
          "type": "array",
          "items": {
            "$ref": "#/components/schemas/StacLink"
          }
        }
      }
    },
    "SpatialExtent": {
      "type": "object",
      "properties": {
        "bbox": {
          "type": "array",
          "items": {
            "type": "array",
            "items": {
              "type": "number",
              "format": "double"
            }
          }
        }
      }
    },
    "StacCollection": {
      "type": "object",
      "properties": {
        "type": {
          "type": "string"
        }
      }
    }
  },
```



```
        "stac_version": {
          "type": "string"
        },
        "stac_extensions": {
          "type": "array",
          "items": {
            "type": "string"
          }
        },
        "id": {
          "type": "string"
        },
        "title": {
          "type": "string"
        },
        "description": {
          "type": "string"
        },
        "keywords": {
          "type": "array",
          "items": {
            "type": "string"
          }
        },
        "license": {
          "type": "string"
        },
        "providers": {
          "type": "array",
          "items": {
            "$ref": "#/components/schemas/StacProvider"
          }
        },
        "extent": {
          "$ref": "#/components/schemas/StacExtent"
        },
        "links": {
          "uniqueItems": true,
          "type": "array",
          "items": {
            "$ref": "#/components/schemas/StacLink"
          }
        }
      },
    },
    "StacExtent": {
```





```
"type": "object",
"properties": {
  "spatial": {
    "$ref": "#/components/schemas/SpatialExtent"
  },
  "temporal": {
    "$ref": "#/components/schemas/TemporalExtent"
  }
},
"StacProvider": {
  "type": "object",
  "properties": {
    "name": {
      "type": "string"
    },
    "description": {
      "type": "string"
    },
    "roles": {
      "type": "array",
      "items": {
        "type": "string"
      }
    },
    "url": {
      "type": "string"
    }
  }
},
"TemporalExtent": {
  "type": "object",
  "properties": {
    "interval": {
      "type": "array",
      "items": {
        "type": "array",
        "items": {
          "type": "string",
          "format": "date-time"
        }
      }
    }
  }
}
}
```

```
}  
}
```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.2.3 STAC Conformance (GET)

**Description :** Allows the users to view a list of implemented conformance classes.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/conformance>

**Example :** <http://localhost:8080/stac/conformance>

**Return :** A STAC standard information in JSON, if it exists.

**Response :** Get STAC API conformance (HTTP 200)

```
{  
  "conformsTo": [  
    "https://api.stacspec.org/v1.1.0/core",  
    "https://api.stacspec.org/v1.1.0/collections",  
    "https://api.stacspec.org/v1.1.0/item-search",  
    "https://api.stacspec.org/v1.1.0/ogcapi-features"  
  ]  
}
```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.2.4 List of STAC Collections (GET)

**Description :** Allows the users to view all available collections. Collections are defined in */stac/gss-stac-api.xml* file.

- Please refer to the following document for a detailed configuration : RD-2 - Collaborative Data Hub Software GSS Administration Manual.

**HTTP Method :** GET



**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections>

**Example :** <http://localhost:8080/stac/collections>

**Return :** A JSON containing a list of collections, if it exists.

**Response :** Get all STAC collections (HTTP 200)

```
{
  "collections": [
    {
      "type": "Collection",
      "stac_version": "1.1.0",
      "id": "SENTINEL-1",
      "title": "SENTINEL-1",
      "description": "The Sentinel-1 mission is the European Radar Observatory for the Copernicus joint initiative of the European Commission (EC) and the European Space Agency (ESA). The Sentinel-1 mission includes C-band imaging operating in four exclusive imaging modes with different resolution (down to 5 m) and coverage (up to 400 km). It provides dual polarization capability, short revisit times and rapid product delivery. Additionally, precise measurements of spacecraft position and attitude are available for every observation [https://dataspace.copernicus.eu/explore-data/data-collections/sentinel-data/sentinel-1].",
      "keywords": [
        "copernicus",
        "esa",
        "sentinel"
      ],
      "license": "various",
      "providers": [
        {
          "name": "Collaborative Data Hub",
          "description": "",
          "roles": [
            "host"
          ],
          "url": "https://collgs.esa.int/"
        }
      ],
      "extent": {
        "spatial": {
          "bbox": [
            [
              -180.0,
              -90.0,
              180.0,
              90.0
            ]
          ]
        }
      }
    }
  ]
}
```



```
    ],
    },
    "temporal": {
      "interval": [
        [
          "2014-10-01T02:00:00Z",
          null
        ]
      ]
    }
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac",
      "rel": "parent",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-1",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-1/items",
      "rel": "items",
      "type": "application/json",
      "method": "GET"
    }
  ],
  "item_assets": [
    {
      "title": "Product download",
      "description": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    }
  ],
}
```



```
{
  "title": "Quicklook",
  "type": "image/jpg",
  "roles": [
    "thumbnail"
  ]
},
{
  "type": "Collection",
  "stac_version": "1.1.0",
  "id": "SENTINEL-2",
  "title": "SENTINEL-2",
  "description": "The Copernicus Sentinel-2 mission consists of two polar-orbiting
satellites that are positioned in the same sun-synchronous orbit, with a phase difference of
180°. It aims to monitor changes in land surface conditions. The satellites have a wide
swath width (290 km) and a high revisit time. Sentinel-2 is equipped with an optical
instrument payload that samples 13 spectral bands: four bands at 10 m, six bands at 20 m and
three bands at 60 m spatial resolution.",
  "keywords": [
    "copernicus",
    "esa",
    "sentinel",
    "optical"
  ],
  "license": "various",
  "providers": [
    {
      "name": "Collaborative Data Hub",
      "description": "",
      "roles": [
        "host"
      ],
      "url": "https://collgs.esa.int/"
    }
  ],
  "extent": {
    "spatial": {
      "bbox": [
        -180.0,
        -90.0,
        180.0,
        90.0
      ]
    }
  }
}
```



```
    ],
    },
    "temporal": {
      "interval": [
        [
          "2015-07-01T00:00:00Z",
          null
        ]
      ]
    },
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac",
      "rel": "parent",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-2",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-2/items",
      "rel": "items",
      "type": "application/json",
      "method": "GET"
    }
  ],
  "item_assets": [
    {
      "title": "Product download",
      "description": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    }
  ]
}
```



```

    },
    {
      "title": "Quicklook",
      "type": "image/jpg",
      "roles": [
        "thumbnail"
      ]
    }
  ]
},
{
  "type": "Collection",
  "stac_version": "1.1.0",
  "id": "SENTINEL-3",
  "title": "SENTINEL-3",
  "description": "Sentinel-3 is a constellation of two radar imaging satellites
developed to support Copernicus ocean, land, atmospheric, emergency, security and
cryospheric applications. Both S3A, launched in February 2016, and S3B, launched in April
2018, are part of the Copernicus Programme- the European Union's Earth observation program,
managed by the European Commission (COM) [https://www.eoportal.org/satellite-
missions/copernicus-sentinel-3]. The spacecraft carries four main instruments: OLCI (Ocean
and Land Colour Instrument), SLSTR (Sea and Land Surface Temperature Instrument), SRAL (SAR
Radar Altimeter) and MWR (Microwave Radiometer). The SENTINEL-3 mission is jointly operated
by the European Space Agency (ESA) and supported by EUMETSAT (European Organisation for the
Exploitation of Meteorological Satellites)
[https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-3].",
  "keywords": [
    "copernicus",
    "esa",
    "sentinel"
  ],
  "license": "various",
  "providers": [
    {
      "name": "Collaborative Data Hub",
      "description": "",
      "roles": [
        "host"
      ],
      "url": "https://collgs.esa.int/"
    }
  ],
  "extent": {
    "spatial": {
      "bbox": [

```



```
        -180.0,  
        -90.0,  
        180.0,  
        90.0  
    ]  
  ],  
  },  
  "temporal": {  
    "interval": [  
      [  
        "2016-03-01T00:00:00Z",  
        null  
      ]  
    ]  
  },  
  },  
  "links": [  
    {  
      "href": "http://localhost:8080/stac",  
      "rel": "root",  
      "type": "application/json",  
      "method": "GET"  
    },  
    {  
      "href": "http://localhost:8080/stac",  
      "rel": "parent",  
      "type": "application/json",  
      "method": "GET"  
    },  
    {  
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",  
      "rel": "self",  
      "type": "application/json",  
      "method": "GET"  
    },  
    {  
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items",  
      "rel": "items",  
      "type": "application/json",  
      "method": "GET"  
    }  
  ],  
  "item_assets": [  
    {  
      "title": "Product download",  
      "description": "Product download",
```





```

        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    {
        "title": "Quicklook",
        "type": "image/jpg",
        "roles": [
            "thumbnail"
        ]
    }
]
},
{
    "type": "Collection",
    "stac_version": "1.1.0",
    "id": "SENTINEL-5P",
    "title": "SENTINEL-5P",
    "description": "The Copernicus Sentinel-5P Precursor mission dedicated to
monitoring our atmosphere, consists of one satellite carrying the TROPospheric Monitoring
Instrument (TROPOMI) instrument. It aims to fill in global atmospheric data gap between the
retired ENVISAT and AURA missions and the upcoming Sentinel-5P mission. The primary goal of
TROPOMI is to provide daily global observations of key atmospheric constituents related to
monitoring and forecasting air quality, the ozone layer, and climate change
[https://dataspace.copernicus.eu/explore-data/data-collections/sentinel-data/sentinel-5p].",
    "keywords": [
        "copernicus",
        "esa",
        "sentinel"
    ],
    "license": "various",
    "providers": [
        {
            "name": "Collaborative Data Hub",
            "description": "",
            "roles": [
                "host"
            ],
            "url": "https://collgs.esa.int/"
        }
    ],
    "extent": {
        "spatial": {
            "bbox": [

```



```
        -180.0,
        -90.0,
        180.0,
        90.0
    ]
  ],
},
"temporal": {
  "interval": [
    [
      "2018-04-30T00:00:00Z",
      null
    ]
  ]
},
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-5P",
    "rel": "self",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-5P/items",
    "rel": "items",
    "type": "application/json",
    "method": "GET"
  }
],
"item_assets": [
  {
    "title": "Product download",
    "description": "Product download",
```



```
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    {
        "title": "Quicklook",
        "type": "image/jpg",
        "roles": [
            "thumbnail"
        ]
    }
]
},
"links": [
    {
        "href": "http://localhost:8080/stac",
        "rel": "root",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections",
        "rel": "self",
        "type": "application/json",
        "method": "GET"
    }
]
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.2.5 STAC Search (GET)

**Description :** Allows users to search through (ref. *Table 3 – STAC API Search*) all products in the STAC catalog.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/search>

**Example :** <http://localhost:8080 /stac/search>

**Return :** All items in STAC catalog, if it exists.

**Response :** Get STAC search (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST___20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [
            [ 61.7358, 68.5212 ], [ 66.768, 70.5419 ], [ 72.9408, 72.4351 ], [
            80.4355, 74.0999 ], [ 89.4056, 75.4539 ], [ 89.4227, 75.4659 ], [ 89.1403, 75.6159 ], [
            88.2839, 76.0247 ], [ 87.4305, 76.4386 ], [ 86.4979, 76.8412 ], [ 85.5165, 77.2363 ], [
            84.464, 77.6387 ], [ 83.3754, 78.0293 ], [ 82.1651, 78.4116 ], [ 80.8962, 78.7963 ], [
            79.5476, 79.173 ], [ 78.1043, 79.5427 ], [ 76.5528, 79.9059 ], [ 74.8769, 80.2641 ], [
            73.086, 80.6118 ], [ 71.168, 80.9468 ], [ 69.1078, 81.2687 ], [ 66.8814, 81.581 ], [
            64.4676, 81.8846 ], [ 61.8967, 82.1643 ], [ 59.1476, 82.4396 ], [ 56.2228, 82.6868 ], [
            53.0366, 82.924 ], [ 49.6834, 83.1251 ], [ 46.1542, 83.3059 ], [ 42.4124, 83.4582 ], [
            38.5307, 83.5819 ], [ 34.4846, 83.6904 ], [ 30.3426, 83.7474 ], [ 26.1454, 83.7852 ], [
            21.9498, 83.7781 ], [ 21.953, 83.7694 ], [ 22.5179, 81.1685 ], [ 22.6484, 78.5571 ], [
            22.5846, 75.9444 ], [ 22.4204, 73.374 ], [ 24.0306, 73.3599 ], [ 25.6032, 73.3274 ], [
            27.2014, 73.294 ], [ 28.7652, 73.2455 ], [ 30.3454, 73.1675 ], [ 31.8747, 73.0934 ], [
            33.4248, 73.0108 ], [ 34.9489, 72.915 ], [ 36.4426, 72.7967 ], [ 37.9263, 72.683 ], [
            39.3904, 72.5446 ], [ 40.8222, 72.4077 ], [ 42.269, 72.2491 ], [ 43.6599, 72.0879 ], [
            45.0231, 71.9163 ], [ 46.3581, 71.7357 ], [ 47.6708, 71.5448 ], [ 48.9676, 71.3423 ], [
            50.2299, 71.1326 ], [ 51.459, 70.9154 ], [ 52.6643, 70.6892 ], [ 53.8489, 70.4539 ], [
            54.9918, 70.2123 ], [ 56.1463, 69.9678 ], [ 57.2224, 69.7115 ], [ 58.3057, 69.4439 ], [
            59.355, 69.1778 ], [ 60.3639, 68.9044 ], [ 61.3608, 68.6292 ], [ 61.7358, 68.5212 ] ]
          ]
        ],
        "bbox": [
          21.9498,
          68.5212,
          89.4227,
          83.7852
        ],
        "properties": {
          "sat:relative_orbit": 235,
          "start_datetime": "2024-11-04T08:18:04.373665Z",
          "end_datetime": "2024-11-04T08:21:04.373665Z",
          "product:type": "SL_2_LST___",

```



```
"product:timeliness_category": "NT",
"platform": "sentinel-3b",
"datetime": "2024-11-04T08:18:04.373665Z",
"s3:land": 7.812333,
"instruments": [
  "slstr"
],
"constellation": "sentinel-3",
"product:timeliness": "NT",
"sat:orbit_state": "descending",
"eo:cloud_cover": 6.625167,
"id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
"processing:level": "L2",
"sat:orbit_cycle": 99,
"s3:tidal_region": 0.0,
"file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
"s3:saline_water": 92.187667,
"published": "2024-11-12T10:08:29.758000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-05T00:00:11.462000Z",
"online": true,
"processing:datetime": "2024-11-04T23:07:48.000000Z",
"sat:absolute_orbit": 34002,
"updated": "2024-11-12T10:08:29.758000Z",
"file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_O_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  }
]
```



```

    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "collection",
      "type": "application/json",
      "method": "GET"
    }
  ],
  "assets": {
    "product": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "title": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    },
    "quicklook": {
      "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "title": "Quicklook download",
      "type": "image/jpeg",
      "roles": [
        "thumbnail"
      ]
    }
  },
  "collection": "SENTINEL-3"
},
{
  {
    ... // product
  },
  {
    ... // product
  }
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },

```



```
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3/items",
  "rel": "self",
  "type": "application/json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "parent",
  "type": "application/json",
  "title": "collection",
  "method": "GET"
}
],
"numberMatched": 3,
"numberReturned": 3
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

## 3.3 STAC API Collection Query Examples

### 3.3.1 Details of a STAC Collection (GET)

**Description :** Allows the users to view a product by collection id.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections/<collection-id>>

**Example :** <http://localhost:8080/stac/collections/SENTINEL-3>

**Return :** A single detailed collection in JSON, if it exists.

**Response :** Get details of a STAC collection (HTTP 200)

```
{
  "type": "Collection",
  "stac_version": "1.1.0",
  "id": "SENTINEL-3",
  "title": "SENTINEL-3",
  "description": "Sentinel-3 is a constellation of two radar imaging satellites developed to support Copernicus ocean, land, atmospheric, emergency, security and cryospheric
```



applications. Both S3A, launched in February 2016, and S3B, launched in April 2018, are part of the Copernicus Programme- the European Union's Earth observation program, managed by the European Commission (COM) [<https://www.eoportal.org/satellite-missions/copernicus-sentinel-3>]. The spacecraft carries four main instruments: OLCI (Ocean and Land Colour Instrument), SLSTR (Sea and Land Surface Temperature Instrument), SRAL (SAR Radar Altimeter) and MWR (Microwave Radiometer). The SENTINEL-3 mission is jointly operated by the European Space Agency (ESA) and supported by EUMETSAT (European Organisation for the Exploitation of Meteorological Satellites) [<https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-3>].",

```
"keywords": [
  "copernicus",
  "esa",
  "sentinel"
],
"license": "various",
"providers": [
  {
    "name": "Collaborative Data Hub",
    "description": "",
    "roles": [
      "host"
    ],
    "url": "https://collgs.esa.int/"
  }
],
"extent": {
  "spatial": {
    "bbox": [
      [
        -180.0, -90.0, 180.0, 90.0
      ]
    ]
  },
  "temporal": {
    "interval": [
      [
        "2016-03-01T00:00:00Z",
        null
      ]
    ]
  }
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
```





```
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "self",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3/items",
        "rel": "items",
        "type": "application/json",
        "method": "GET"
    }
],
"item_assets": [
    {
        "title": "Product download",
        "description": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    {
        "title": "Quicklook",
        "type": "image/jpg",
        "roles": [
            "thumbnail"
        ]
    }
]
```

## Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.2 STAC Collection Items (GET)

**Description :** Allows the users to view all the feature collection items.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections/<collection-id>/items>

**Example :** <http://localhost:8080/stac/collections/SENTINEL-3/items>

**Return :** A collection of features containing items in JSON, if it exists.

**Response :** Get STAC collection items (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_
      004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [
            [ 61.7358, 68.5212 ], [ 66.768, 70.5419 ], [ 72.9408, 72.4351 ], [
            80.4355, 74.0999 ], [ 89.4056, 75.4539 ], [ 89.4227, 75.4659 ], [ 89.1403, 75.6159 ], [
            88.2839, 76.0247 ], [ 87.4305, 76.4386 ], [ 86.4979, 76.8412 ], [ 85.5165, 77.2363 ], [
            84.464, 77.6387 ], [ 83.3754, 78.0293 ], [ 82.1651, 78.4116 ], [ 80.8962, 78.7963 ], [
            79.5476, 79.173 ], [ 78.1043, 79.5427 ], [ 76.5528, 79.9059 ], [ 74.8769, 80.2641 ], [
            73.086, 80.6118 ], [ 71.168, 80.9468 ], [ 69.1078, 81.2687 ], [ 66.8814, 81.581 ], [
            64.4676, 81.8846 ], [ 61.8967, 82.1643 ], [ 59.1476, 82.4396 ], [ 56.2228, 82.6868 ], [
            53.0366, 82.924 ], [ 49.6834, 83.1251 ], [ 46.1542, 83.3059 ], [ 42.4124, 83.4582 ], [
            38.5307, 83.5819 ], [ 34.4846, 83.6904 ], [ 30.3426, 83.7474 ], [ 26.1454, 83.7852 ], [
            21.9498, 83.7781 ], [ 21.953, 83.7694 ], [ 22.5179, 81.1685 ], [ 22.6484, 78.5571 ], [
            22.5846, 75.9444 ], [ 22.4204, 73.374 ], [ 24.0306, 73.3599 ], [ 25.6032, 73.3274 ], [
            27.2014, 73.294 ], [ 28.7652, 73.2455 ], [ 30.3454, 73.1675 ], [ 31.8747, 73.0934 ], [
            33.4248, 73.0108 ], [ 34.9489, 72.915 ], [ 36.4426, 72.7967 ], [ 37.9263, 72.683 ], [
            39.3904, 72.5446 ], [ 40.8222, 72.4077 ], [ 42.269, 72.2491 ], [ 43.6599, 72.0879 ], [
            45.0231, 71.9163 ], [ 46.3581, 71.7357 ], [ 47.6708, 71.5448 ], [ 48.9676, 71.3423 ], [
            50.2299, 71.1326 ], [ 51.459, 70.9154 ], [ 52.6643, 70.6892 ], [ 53.8489, 70.4539 ], [
            54.9918, 70.2123 ], [ 56.1463, 69.9678 ], [ 57.2224, 69.7115 ], [ 58.3057, 69.4439 ], [
            59.355, 69.1778 ], [ 60.3639, 68.9044 ], [ 61.3608, 68.6292 ], [ 61.7358, 68.5212 ]
          ]
        ]
      },
    },
  ],
}
```



```
"bbox": [
  21.9498, 68.5212, 89.4227, 83.7852
],
"properties": {
  "sat:relative_orbit": 235,
  "start_datetime": "2024-11-04T08:18:04.373665Z",
  "end_datetime": "2024-11-04T08:21:04.373665Z",
  "product:type": "SL_2_LST___",
  "product:timeliness_category": "NT",
  "platform": "sentinel-3b",
  "datetime": "2024-11-04T08:18:04.373665Z",
  "s3:land": 7.812333,
  "instruments": [
    "slstr"
  ],
  "constellation": "sentinel-3",
  "product:timeliness": "NT",
  "sat:orbit_state": "descending",
  "eo:cloud_cover": 6.625167,
  "id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
  "processing:level": "L2",
  "sat:orbit_cycle": 99,
  "s3:tidal_region": 0.0,
  "file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
  "s3:saline_water": 92.187667,
  "published": "2024-11-12T10:08:29.758000Z",
  "sar:instrument_mode": "Earth Observation",
  "origin_date": "2024-11-05T00:00:11.462000Z",
  "online": true,
  "processing:datetime": "2024-11-04T23:07:48.000000Z",
  "sat:absolute_orbit": 34002,
  "updated": "2024-11-12T10:08:29.758000Z",
  "file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST___20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS_2_0_NT_004.zip",
    "rel": "self",
```



```

        "type": "application/geo+json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
    }
],
"assets": {
    "product": {
        "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
{
    // product
},
{
    // product
}

```



```
],
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "parent",
      "type": "application/json",
      "title": "collection",
      "method": "GET"
    }
  ],
  "numberMatched": 3,
  "numberReturned": 3
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.3 STAC Collection Item - Id (GET)

**Description :** Allows the users to view a feature collection items by feature Id.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections/<collection-id>/items/<feature-id>>

**Example :** <http://localhost:8080/stac/collections/SENTINEL-3/items/>

[S3B\\_SL\\_1\\_RBT\\_20240824T085625\\_20240824T085824\\_20240824T230418\\_0119\\_096\\_363\\_5940\\_PS2\\_O\\_NT\\_004.zip](#)

**Return :** A single feature collection item corresponding the item id in JSON, if it exists.

**Response : Get STAC collection item by id (HTTP 200)**

```
{
  "type": "Feature",
  "stac_version": "1.1.0",
  "id":
  "S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
  "geometry": {
    "type": "Polygon",
    "coordinates": [
      [ [ 6.73059, -66.2044 ], [ 8.07967, -63.6505 ], [ 9.25582, -61.0436 ], [
        10.3002, -58.4304 ], [ 11.2405, -55.8206 ], [ 11.2278, -55.8102 ], [ 10.9279, -55.7741 ], [
        10.1372, -55.6896 ], [ 9.35275, -55.5927 ], [ 8.55539, -55.4862 ], [ 7.77045, -55.3822 ], [
        6.99038, -55.2662 ], [ 6.21334, -55.1536 ], [ 5.45372, -55.0295 ], [ 4.67726, -54.8986 ], [
        3.92175, -54.7741 ], [ 3.16182, -54.6348 ], [ 2.41883, -54.4935 ], [ 1.67598, -54.3476 ], [
        0.930608, -54.1958 ], [ 0.19306, -54.0407 ], [ -0.0, -53.999610458805776 ], [ -0.527223, -
        53.8874 ], [ -1.25781, -53.7252 ], [ -1.96892, -53.5572 ], [ -2.67877, -53.3866 ], [ -
        3.39524, -53.2071 ], [ -4.08423, -53.0326 ], [ -4.78519, -52.8469 ], [ -5.47919, -52.6525 ],
        [ -6.16111, -52.4566 ], [ -6.83544, -52.2725 ], [ -7.50121, -52.0719 ], [ -8.16059, -51.8557 ],
        [ -8.8271, -51.6579 ], [ -9.47453, -51.4501 ], [ -10.1245, -51.2278 ], [ -10.1313, -
        51.2357 ], [ -12.2889, -53.603 ], [ -14.7167, -55.9314 ], [ -17.4585, -58.2031 ], [ -
        20.5205, -60.3691 ], [ -19.7686, -60.6478 ], [ -19.0176, -60.9122 ], [ -18.2574, -61.1817 ],
        [ -17.4819, -61.4375 ], [ -16.6746, -61.6957 ], [ -15.8697, -61.9495 ], [ -15.0472, -62.2026 ],
        [ -14.2243, -62.4506 ], [ -13.3807, -62.6786 ], [ -12.5159, -62.9168 ], [ -11.6413, -
        63.1385 ], [ -10.753, -63.3599 ], [ -9.85687, -63.5773 ], [ -8.92863, -63.7883 ], [ -
        8.01724, -63.9947 ], [ -7.06695, -64.1953 ], [ -6.11637, -64.387 ], [ -5.14716, -64.5747 ],
        [ -4.15253, -64.7587 ], [ -3.15968, -64.9243 ], [ -2.15937, -65.0926 ], [ -1.14184, -65.2553 ],
        [ -0.115134, -65.4025 ], [ 0.0, -65.41899496835896 ], [ 0.932556, -65.5526 ], [ 1.99622,
        -65.6872 ], [ 3.06729, -65.8233 ], [ 4.13519, -65.945 ], [ 5.21505, -66.0612 ], [ 6.32527, -
        66.169 ], [ 6.73059, -66.2044 ] ] ]
    ],
    "bbox": [
      -20.5205, -66.2044, 11.2405, -51.2278
    ],
    "properties": {
      "sat:relative_orbit": 235,
      "start_datetime": "2024-11-04T08:57:04.373665Z",
      "end_datetime": "2024-11-04T09:00:04.373665Z",
      "product:type": "SL_2_LST____",
      "product:timeliness_category": "NT",
      "platform": "sentinel-3b",
      "datetime": "2024-11-04T08:57:04.373665Z",
      "s3:land": 0.0,
      "instruments": [
```



```
    "slstr"
  ],
  "constellation": "sentinel-3",
  "product:timeliness": "NT",
  "sat:orbit_state": "descending",
  "eo:cloud_cover": 0.0,
  "id": "476e6a77-6d49-4a62-b983-ee89dee978f0",
  "processing:level": "L2",
  "sat:orbit_cycle": 99,
  "s3:tidal_region": 0.0,
  "file:checksum": "6afe4bd7ea612f311dcf3d05c7f2df54",
  "s3:saline_water": 100.0,
  "published": "2024-11-12T10:08:34.858000Z",
  "sar:instrument_mode": "Earth Observation",
  "origin_date": "2024-11-05T00:00:11.031000Z",
  "online": true,
  "processing:datetime": "2024-11-04T23:08:50.000000Z",
  "sat:absolute_orbit": 34002,
  "updated": "2024-11-12T10:08:34.858000Z",
  "file:size": 56397363
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
    "type": "application/json",
```



```
        "method": "GET"
      }
    ],
    "assets": {
      "product": {
        "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
          "data"
        ]
      },
      "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
          "thumbnail"
        ]
      }
    },
    "collection": "SENTINEL-3"
  }
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.4 STAC Collection - Bbox (GET)

**Description :** Allows the user to search results based on a geographic bounding box.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections?bbox=<bbox-coordinates>>

**Example :** <http://localhost:8080/stac/collections?bbox=-180,-90,180,90>

**Return :** A list of collections corresponding to the bbox value.

**Response :** Get STAC collection bbox (HTTP 200)





```
{
  "collections": [
    {
      "type": "Collection",
      "stac_version": "1.1.0",
      "id": "SENTINEL-1",
      "title": "SENTINEL-1",
      "description": "The Sentinel-1 mission is the European Radar Observatory for the Copernicus joint initiative of the European Commission (EC) and the European Space Agency (ESA). The Sentinel-1 mission includes C-band imaging operating in four exclusive imaging modes with different resolution (down to 5 m) and coverage (up to 400 km). It provides dual polarization capability, short revisit times and rapid product delivery. Additionally, precise measurements of spacecraft position and attitude are available for every observation [https://dataspace.copernicus.eu/explore-data/data-collections/sentinel-data/sentinel-1].",
      "keywords": [
        "copernicus",
        "esa",
        "sentinel"
      ],
      "license": "various",
      "providers": [
        {
          "name": "Collaborative Data Hub",
          "description": "",
          "roles": [
            "host"
          ],
          "url": "https://collgs.esa.int/"
        }
      ],
      "extent": {
        "spatial": {
          "bbox": [
            [
              -180.0,
              -90.0,
              180.0,
              90.0
            ]
          ]
        },
        "temporal": {
          "interval": [
            [
              "2014-10-01T02:00:00Z",
              null
            ]
          ]
        }
      }
    }
  ]
}
```

```

    ],
  },
  {
    "links": [
      {
        "href": "http://localhost:8080/stac",
        "rel": "root",
        "type": "application/json",
        "method": "GET"
      },
      {
        "href": "http://localhost:8080/stac",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
      },
      {
        "href": "http://localhost:8080/stac/collections/SENTINEL-1",
        "rel": "self",
        "type": "application/json",
        "method": "GET"
      },
      {
        "href": "http://localhost:8080/stac/collections/SENTINEL-1/items",
        "rel": "items",
        "type": "application/json",
        "method": "GET"
      }
    ]
  },
  {
    "type": "Collection",
    "stac_version": "1.1.0",
    "id": "SENTINEL-2",
    "title": "SENTINEL-2",
    "description": "The Copernicus Sentinel-2 mission consists of two polar-orbiting
satellites that are positioned in the same sun-synchronous orbit, with a phase difference of
approximately 180 degrees. The mission aims to monitor changes in land surface conditions. The satellites have a wide
swath width (290 km) and a high revisit time. Sentinel-2 is equipped with an optical
payload that samples 13 spectral bands: four bands at 10 m, six bands at 20 m and
three bands at 60 m spatial resolution.",
    "keywords": [
      "copernicus",
      "esa",
      "sentinel",

```



```
        "optical"
      ],
      "license": "various",
      "providers": [
        {
          "name": "Collaborative Data Hub",
          "description": "",
          "roles": [
            "host"
          ],
          "url": "https://collgs.esa.int/"
        }
      ],
      "extent": {
        "spatial": {
          "bbox": [
            [
              -180.0,
              -90.0,
              180.0,
              90.0
            ]
          ]
        },
        "temporal": {
          "interval": [
            [
              "2015-07-01T00:00:00Z",
              null
            ]
          ]
        }
      },
      "links": [
        {
          "href": "http://localhost:8080/stac",
          "rel": "root",
          "type": "application/json",
          "method": "GET"
        },
        {
          "href": "http://localhost:8080/stac",
          "rel": "parent",
          "type": "application/json",
          "method": "GET"
        }
      ]
    },
  ],
}
```



```

    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-2",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-2/items",
      "rel": "items",
      "type": "application/json",
      "method": "GET"
    }
  ]
},
{
  "type": "Collection",
  "stac_version": "1.1.0",
  "id": "SENTINEL-3",
  "title": "SENTINEL-3",
  "description": "Sentinel-3 is a constellation of two radar imaging satellites
developed to support Copernicus ocean, land, atmospheric, emergency, security and
cryospheric applications. Both S3A, launched in February 2016, and S3B, launched in April
2018, are part of the Copernicus Programme- the European Union's Earth observation program,
managed by the European Commission (COM) [https://www.eoportal.org/satellite-
missions/copernicus-sentinel-3]. The spacecraft carries four main instruments: OLCI (Ocean
and Land Colour Instrument), SLSTR (Sea and Land Surface Temperature Instrument), SRAL (SAR
Radar Altimeter) and MWR (Microwave Radiometer). The SENTINEL-3 mission is jointly operated
by the European Space Agency (ESA) and supported by EUMETSAT (European Organisation for the
Exploitation of Meteorological Satellites)
[https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-3].",
  "keywords": [
    "copernicus",
    "esa",
    "sentinel"
  ],
  "license": "various",
  "providers": [
    {
      "name": "Collaborative Data Hub",
      "description": "",
      "roles": [
        "host"
      ],
      "url": "https://collgs.esa.int/"
    }
  ]
},
],

```



```
"extent": {
  "spatial": {
    "bbox": [
      [
        -180.0,
        -90.0,
        180.0,
        90.0
      ]
    ]
  },
  "temporal": {
    "interval": [
      [
        "2016-03-01T00:00:00Z",
        null
      ]
    ]
  }
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "self",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items",
    "rel": "items",
    "type": "application/json",
    "method": "GET"
  }
]
```



```

    },
    {
      "type": "Collection",
      "stac_version": "1.1.0",
      "id": "SENTINEL-5P",
      "title": "SENTINEL-5P",
      "description": "The Copernicus Sentinel-5P Precursor mission dedicated to
monitoring our atmosphere, consists of one satellite carrying the TROPospheric Monitoring
Instrument (TROPOMI) instrument. It aims to fill in global atmospheric data gap between the
retired ENVISAT and AURA missions and the upcoming Sentinel-5P mission. The primary goal of
TROPOMI is to provide daily global observations of key atmospheric constituents related to
monitoring and forecasting air quality, the ozone layer, and climate change
[https://dataspace.copernicus.eu/explore-data/data-collections/sentinel-data/sentinel-5p].",
      "keywords": [
        "copernicus",
        "esa",
        "sentinel"
      ],
      "license": "various",
      "providers": [
        {
          "name": "Collaborative Data Hub",
          "description": "",
          "roles": [
            "host"
          ],
          "url": "https://collgs.esa.int/"
        }
      ],
      "extent": {
        "spatial": {
          "bbox": [
            [
              -180.0,
              -90.0,
              180.0,
              90.0
            ]
          ]
        },
        "temporal": {
          "interval": [
            [
              "2018-04-30T00:00:00Z",
              null
            ]
          ]
        }
      }
    }
  ]
}

```



```
    ]
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac",
      "rel": "parent",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-5P",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-5P/items",
      "rel": "items",
      "type": "application/json",
      "method": "GET"
    }
  ]
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json"
  },
  {
    "href": "http://localhost:8080/stac/collections",
    "rel": "self",
    "type": "application/json"
  }
]
}
```

## Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.5 STAC Collection Item - Datetime (GET)

**Description :** Allows the users to view the feature collection items by datetime (ref. *Table 2 – STAC API Collections*).

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections/<collection-id>/items?datetime=<datetime>>

**Example :** <http://localhost:8080/stac/collections/SENTINEL-3/items?datetime=2024-11-04T08:57:04.373665Z>

**Return :** A collection of features containing items, corresponding to the datetime, if it exists.

**Response :** Get STAC collection Item by datetime (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [
            [ 6.73059, -66.2044 ], [ 8.07967, -63.6505 ], [ 9.25582, -61.0436 ], [
            10.3002, -58.4304 ], [ 11.2405, -55.8206 ], [ 11.2278, -55.8102 ], [ 10.9279, -55.7741 ], [
            10.1372, -55.6896 ], [ 9.35275, -55.5927 ], [ 8.55539, -55.4862 ], [ 7.77045, -55.3822 ], [
            6.99038, -55.2662 ], [ 6.21334, -55.1536 ], [ 5.45372, -55.0295 ], [ 4.67726, -54.8986 ], [
            3.92175, -54.7741 ], [ 3.16182, -54.6348 ], [ 2.41883, -54.4935 ], [ 1.67598, -54.3476 ], [
            0.930608, -54.1958 ], [ 0.19306, -54.0407 ], [ -0.0, -53.999610458805776 ], [ -0.527223, -
            53.8874 ], [ -1.25781, -53.7252 ], [ -1.96892, -53.5572 ], [ -2.67877, -53.3866 ], [ -
            3.39524, -53.2071 ], [ -4.08423, -53.0326 ], [ -4.78519, -52.8469 ], [ -5.47919, -52.6525 ],
            [ -6.16111, -52.4566 ], [ -6.83544, -52.2725 ], [ -7.50121, -52.0719 ], [ -8.16059, -51.8557
            ], [ -8.8271, -51.6579 ], [ -9.47453, -51.4501 ], [ -10.1245, -51.2278 ], [ -10.1313, -
            51.2357 ], [ -12.2889, -53.603 ], [ -14.7167, -55.9314 ], [ -17.4585, -58.2031 ], [ -
            20.5205, -60.3691 ], [ -19.7686, -60.6478 ], [ -19.0176, -60.9122 ], [ -18.2574, -61.1817 ],
            [ -17.4819, -61.4375 ], [ -16.6746, -61.6957 ], [ -15.8697, -61.9495 ], [ -15.0472, -62.2026
            ], [ -14.2243, -62.4506 ], [ -13.3807, -62.6786 ], [ -12.5159, -62.9168 ], [ -11.6413, -
```





```
63.1385 ], [ -10.753, -63.3599 ], [ -9.85687, -63.5773 ], [ -8.92863, -63.7883 ], [ -
8.01724, -63.9947 ], [ -7.06695, -64.1953 ], [ -6.11637, -64.387 ], [ -5.14716, -64.5747 ],
[ -4.15253, -64.7587 ], [ -3.15968, -64.9243 ], [ -2.15937, -65.0926 ], [ -1.14184, -65.2553
], [ -0.115134, -65.4025 ], [ 0.0, -65.41899496835896 ], [ 0.932556, -65.5526 ], [ 1.99622,
-65.6872 ], [ 3.06729, -65.8233 ], [ 4.13519, -65.945 ], [ 5.21505, -66.0612 ], [ 6.32527, -
66.169 ], [ 6.73059, -66.2044 ] ]
    ],
    "bbox": [
        -20.5205,
        -66.2044,
        11.2405,
        -51.2278
    ],
    "properties": {
        "sat:relative_orbit": 235,
        "start_datetime": "2024-11-04T08:57:04.373665Z",
        "end_datetime": "2024-11-04T09:00:04.373665Z",
        "product:type": "SL_2_LST___",
        "product:timeliness_category": "NT",
        "platform": "sentinel-3b",
        "datetime": "2024-11-04T08:57:04.373665Z",
        "s3:land": 0.0,
        "instruments": [
            "slstr"
        ],
        "constellation": "sentinel-3",
        "product:timeliness": "NT",
        "sat:orbit_state": "descending",
        "eo:cloud_cover": 0.0,
        "id": "476e6a77-6d49-4a62-b983-ee89dee978f0",
        "processing:level": "L2",
        "sat:orbit_cycle": 99,
        "s3:tidal_region": 0.0,
        "file:checksum": "6afe4bd7ea612f311dcf3d05c7f2df54",
        "s3:saline_water": 100.0,
        "published": "2024-11-12T10:08:34.858000Z",
        "sar:instrument_mode": "Earth Observation",
        "origin_date": "2024-11-05T00:00:11.031000Z",
        "online": true,
        "processing:datetime": "2024-11-04T23:08:50.000000Z",
        "sat:absolute_orbit": 34002,
        "updated": "2024-11-12T10:08:34.858000Z",
        "file:size": 56397363
    },
    "links": [
```



```

{
  "href": "http://localhost:8080/stac",
  "rel": "root",
  "type": "application/json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_O_NT_004.zip",
  "rel": "self",
  "type": "application/geo+json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "parent",
  "type": "application/json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "collection",
  "type": "application/json",
  "method": "GET"
}
],
"assets": {
  "product": {
    "href": "http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_O_NT_004.zip",
    "title": "Product download",
    "type": "application/zip",
    "roles": [
      "data"
    ]
  },
  "quicklook": {
    "href": "http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_O_NT_004.zip",
    "title": "Quicklook download",
    "type": "image/jpeg",
    "roles": [
      "thumbnail"
    ]
  }
}

```



```
    },
    {
      "collection": "SENTINEL-3"
    }
  ],
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?datetime=2024-11-04T08:57:04.373665Z",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "parent",
      "type": "application/json",
      "title": "collection",
      "method": "GET"
    }
  ],
  "numberMatched": 1,
  "numberReturned": 1
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.6 STAC Collection Item - Intersect (GET)

**Description :** Allows the users to filter items by performing a geometry intersection.

**HTTP Method :** GET

**URL :** [http://<server.url>:<server.port>/<context-path>/stac/collections/SENTINEL-3/items?intersects={"type":"Polygon","coordinates":\[<coordinates>\]}](http://<server.url>:<server.port>/<context-path>/stac/collections/SENTINEL-3/items?intersects={)

**Example :** [http://localhost:8080/stac/collections/SENTINEL-](http://localhost:8080/stac/collections/SENTINEL-3/items?intersects={\)

3/items?intersects={\"type\": \"Polygon\", \"coordinates\": [[ [ 6.73059, -66.2044 ], [ 8.07967, -63.6505 ], [ 9.25582, -61.0436 ], [ 10.3002, -58.4304 ], [ 11.2405, -55.8206 ], [ 11.2278, -55.8102 ], [ 10.9279, -55.7741 ], [ 10.1372, -55.6896 ], [ 9.35275, -55.5927 ], [ 8.55539, -55.4862 ], [ 7.77045, -55.3822 ], [ 6.99038, -55.2662 ], [ 6.21334, -55.1536 ], [ 5.45372, -55.0295 ], [ 4.67726, -54.8986 ], [ 3.92175, -54.7741 ], [ 3.16182, -54.6348 ], [ 2.41883, -54.4935 ], [ 1.67598, -54.3476 ], [ 0.930608, -54.1958 ], [ 0.19306, -54.0407 ], [ -0.0, -53.999610458805776 ], [ -0.527223, -53.8874 ], [ -1.25781, -53.7252 ], [ -1.96892, -53.5572 ], [ -2.67877, -53.3866 ], [ -3.39524, -53.2071 ], [ -4.08423, -53.0326 ], [ -4.78519, -52.8469 ], [ -5.47919, -52.6525 ], [ -6.16111, -52.4566 ], [ -6.83544, -52.2725 ], [ -7.50121, -52.0719 ], [ -8.16059, -51.8557 ], [ -8.8271, -51.6579 ], [ -9.47453, -51.4501 ], [ -10.1245, -51.2278 ], [ -10.1313, -51.2357 ], [ -12.2889, -53.603 ], [ -14.7167, -55.9314 ], [ -17.4585, -58.2031 ], [ -20.5205, -60.3691 ], [ -19.7686, -60.6478 ], [ -19.0176, -60.9122 ], [ -18.2574, -61.1817 ], [ -17.4819, -61.4375 ], [ -16.6746, -61.6957 ], [ -15.8697, -61.9495 ], [ -15.0472, -62.2026 ], [ -14.2243, -62.4506 ], [ -13.3807, -62.6786 ], [ -12.5159, -62.9168 ], [ -11.6413, -63.1385 ], [ -10.753, -63.3599 ], [ -9.85687, -63.5773 ], [ -8.92863, -63.7883 ], [ -8.01724, -63.9947 ], [ -7.06695, -64.1953 ], [ -6.11637, -64.387 ], [ -5.14716, -64.5747 ], [ -4.15253, -64.7587 ], [ -3.15968, -64.9243 ], [ -2.15937, -65.0926 ], [ -1.14184, -65.2553 ], [ -0.115134, -65.4025 ], [ 0.0, -65.41899496835896 ], [ 0.932556, -65.5526 ], [ 1.99622, -65.6872 ], [ 3.06729, -65.8233 ], [ 4.13519, -65.945 ], [ 5.21505, -66.0612 ], [ 6.32527, -66.169 ], [ 6.73059, -66.2044 ] ] ]}]}

**Return :** A collection of items corresponding to the provided geometry, if it exists.

**Response :** Get STAC collection items by intersect (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [
            [ 6.73059, -66.2044 ], [ 8.07967, -63.6505 ], [ 9.25582, -61.0436 ], [
            10.3002, -58.4304 ], [ 11.2405, -55.8206 ], [ 11.2278, -55.8102 ], [ 10.9279, -55.7741 ], [
            10.1372, -55.6896 ], [ 9.35275, -55.5927 ], [ 8.55539, -55.4862 ], [ 7.77045, -55.3822 ], [
            6.99038, -55.2662 ], [ 6.21334, -55.1536 ], [ 5.45372, -55.0295 ], [ 4.67726, -54.8986 ], [
            3.92175, -54.7741 ], [ 3.16182, -54.6348 ], [ 2.41883, -54.4935 ], [ 1.67598, -54.3476 ], [
            0.930608, -54.1958 ], [ 0.19306, -54.0407 ], [ -0.0, -53.999610458805776 ], [ -0.527223, -
            53.8874 ], [ -1.25781, -53.7252 ], [ -1.96892, -53.5572 ], [ -2.67877, -53.3866 ], [ -
            3.39524, -53.2071 ], [ -4.08423, -53.0326 ], [ -4.78519, -52.8469 ], [ -5.47919, -52.6525 ],
            [ -6.16111, -52.4566 ], [ -6.83544, -52.2725 ], [ -7.50121, -52.0719 ], [ -8.16059, -51.8557
```



```

], [ -8.8271, -51.6579 ], [ -9.47453, -51.4501 ], [ -10.1245, -51.2278 ], [ -10.1313, -
51.2357 ], [ -12.2889, -53.603 ], [ -14.7167, -55.9314 ], [ -17.4585, -58.2031 ], [ -
20.5205, -60.3691 ], [ -19.7686, -60.6478 ], [ -19.0176, -60.9122 ], [ -18.2574, -61.1817 ],
[ -17.4819, -61.4375 ], [ -16.6746, -61.6957 ], [ -15.8697, -61.9495 ], [ -15.0472, -62.2026
], [ -14.2243, -62.4506 ], [ -13.3807, -62.6786 ], [ -12.5159, -62.9168 ], [ -11.6413, -
63.1385 ], [ -10.753, -63.3599 ], [ -9.85687, -63.5773 ], [ -8.92863, -63.7883 ], [ -
8.01724, -63.9947 ], [ -7.06695, -64.1953 ], [ -6.11637, -64.387 ], [ -5.14716, -64.5747 ],
[ -4.15253, -64.7587 ], [ -3.15968, -64.9243 ], [ -2.15937, -65.0926 ], [ -1.14184, -65.2553
], [ -0.115134, -65.4025 ], [ 0.0, -65.41899496835896 ], [ 0.932556, -65.5526 ], [ 1.99622,
-65.6872 ], [ 3.06729, -65.8233 ], [ 4.13519, -65.945 ], [ 5.21505, -66.0612 ], [ 6.32527, -
66.169 ], [ 6.73059, -66.2044 ] ]
    ],
    },
    "bbox": [
        -20.5205,
        -66.2044,
        11.2405,
        -51.2278
    ],
    },
    "properties": {
        "sat:relative_orbit": 235,
        "start_datetime": "2024-11-04T08:57:04.373665Z",
        "end_datetime": "2024-11-04T09:00:04.373665Z",
        "product:type": "SL_2_LST___",
        "product:timeliness_category": "NT",
        "platform": "sentinel-3b",
        "datetime": "2024-11-04T08:57:04.373665Z",
        "s3:land": 0,
        "instruments": [
            "slstr"
        ],
    },
    "constellation": "sentinel-3",
    "product:timeliness": "NT",
    "sat:orbit_state": "descending",
    "eo:cloud_cover": 0,
    "id": "476e6a77-6d49-4a62-b983-ee89dee978f0",
    "processing:level": "L2",
    "sat:orbit_cycle": 99,
    "s3:tidal_region": 0,
    "file:checksum": "6afe4bd7ea612f311dcf3d05c7f2df54",
    "s3:saline_water": 100,
    "published": "2024-11-12T10:08:34.858000Z",
    "sar:instrument_mode": "Earth Observation",
    "origin_date": "2024-11-05T00:00:11.031000Z",
    "online": true,
    "processing:datetime": "2024-11-04T23:08:50.000000Z",

```



```
    "sat:absolute_orbit": 34002,
    "updated": "2024-11-12T10:08:34.858000Z",
    "file:size": 56397363
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
      "rel": "self",
      "type": "application/geo+json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "parent",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "collection",
      "type": "application/json",
      "method": "GET"
    }
  ],
  "assets": {
    "product": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
      "title": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    }
  },
  "quicklook": {
```



```

        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T085704_20241104T0900
04_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    },
    {
        "collection": "SENTINEL-3"
    },
    {
        "type": "Feature",
        "stac_version": "1.1.0",
        "id":
"S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_0_NT_
004.zip",
        "geometry": {
            "type": "Polygon",
            "coordinates": [
                [
                    [ -2.36523, -76.4176 ], [ 0, -74.56773650022845 ], [ 0.80812, -73.9357
], [ 3.23305, -71.3796 ], [ 5.15937, -68.8041 ], [ 6.74256, -66.2237 ], [ 6.72573, -66.2131
], [ 6.3283, -66.1763 ], [ 5.21666, -66.0687 ], [ 4.12405, -65.9544 ], [ 3.05679, -65.8325
], [ 1.98623, -65.6962 ], [ 0.922958, -65.5615 ], [ 0, -65.42734585404042 ], [ -0.101449, -
65.4126 ], [ -1.15089, -65.264 ], [ -2.16815, -65.1011 ], [ -3.16683, -64.9326 ], [ -
4.17993, -64.7634 ], [ -5.15628, -64.5824 ], [ -6.12593, -64.3945 ], [ -7.07449, -64.2043 ],
[ -8.02469, -64.0039 ], [ -8.93596, -63.7977 ], [ -9.86401, -63.587 ], [ -10.7599, -63.37 ],
[ -11.6386, -63.1538 ], [ -12.5293, -62.9215 ], [ -13.3804, -62.6946 ], [ -14.2243, -62.4506
], [ -15.0657, -62.2013 ], [ -15.8908, -61.9645 ], [ -16.6958, -61.7107 ], [ -17.4854, -
61.454 ], [ -18.2574, -61.1817 ], [ -19.0394, -60.9269 ], [ -19.7905, -60.6624 ], [ -
20.5316, -60.3763 ], [ -20.5426, -60.3835 ], [ -24.092, -62.4934 ], [ -28.1877, -64.5033 ],
[ -32.9158, -66.379 ], [ -38.2792, -68.0594 ], [ -37.5596, -68.4325 ], [ -36.7811, -68.7923
], [ -36.0029, -69.1538 ], [ -35.1848, -69.5018 ], [ -34.3478, -69.8518 ], [ -33.4809, -
70.2004 ], [ -32.5823, -70.5485 ], [ -31.647, -70.8902 ], [ -30.6761, -71.2184 ], [ -
29.7064, -71.5506 ], [ -28.6701, -71.8693 ], [ -27.6021, -72.1871 ], [ -26.5066, -72.4997 ],
[ -25.3451, -72.8077 ], [ -24.1677, -73.1012 ], [ -22.9337, -73.396 ], [ -21.676, -73.6779
], [ -20.3668, -73.9566 ], [ -19.0232, -74.2259 ], [ -17.6416, -74.4862 ], [ -16.2115, -
74.7375 ], [ -14.7154, -74.9743 ], [ -13.2033, -75.2072 ], [ -11.6251, -75.4323 ], [ -
9.98663, -75.6388 ], [ -8.30625, -75.835 ], [ -6.6141, -76.0271 ], [ -4.86902, -76.2014 ], [
-3.04714, -76.3633 ], [ -2.36523, -76.4176 ] ]
            ]
        },
        "bbox": [
            -38.2792,
            -76.4176,

```



```
6.74256,  
-60.3763  
],  
"properties": {  
  "sat:relative_orbit": 235,  
  "start_datetime": "2024-11-04T09:00:04.373665Z",  
  "end_datetime": "2024-11-04T09:03:04.373665Z",  
  "product:type": "SL_2_LST___",  
  "product:timeliness_category": "NT",  
  "platform": "sentinel-3b",  
  "datetime": "2024-11-04T09:00:04.373665Z",  
  "s3:land": 14.022333,  
  "instruments": [  
    "slstr"  
  ],  
  "constellation": "sentinel-3",  
  "product:timeliness": "NT",  
  "sat:orbit_state": "descending",  
  "eo:cloud_cover": 13.630944,  
  "id": "4aa9d5e6-99af-4154-a63c-07845b5042e4",  
  "processing:level": "L2",  
  "sat:orbit_cycle": 99,  
  "s3:tidal_region": 0,  
  "file:checksum": "c7e6d93ba3167932886fa87b93e85f9c",  
  "s3:saline_water": 85.977667,  
  "published": "2024-11-12T10:08:38.589000Z",  
  "sar:instrument_mode": "Earth Observation",  
  "origin_date": "2024-11-05T00:00:10.662000Z",  
  "online": true,  
  "processing:datetime": "2024-11-04T23:08:54.000000Z",  
  "sat:absolute_orbit": 34002,  
  "updated": "2024-11-12T10:08:38.589000Z",  
  "file:size": 59465059  
},  
"links": [  
  {  
    "href": "http://localhost:8080/stac",  
    "rel": "root",  
    "type": "application/json",  
    "method": "GET"  
  },  
  {  
    "href": "http://localhost:8080/stac/collections/SENTINEL-  
3/items/S3B_SL_2_LST___20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS  
2_0_NT_004.zip",  
    "rel": "self",
```





```
        "type": "application/geo+json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
    }
],
"assets": {
    "product": {
        "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_0_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
"links": [
    {
        "href": "http://localhost:8080/stac",
        "rel": "root",
        "type": "application/json",
```



```

        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?intersects={\"type\":\"Polygon\",\"coordinates\": [[ [ 6.73059, -66.2044 ], [ 8.07967, -63.6505 ], [ 9.25582, -61.0436 ], [ 10.3002, -58.4304 ], [ 11.2405, -55.8206 ], [ 11.2278, -55.8102 ], [ 10.9279, -55.7741 ], [ 10.1372, -55.6896 ], [ 9.35275, -55.5927 ], [ 8.55539, -55.4862 ], [ 7.77045, -55.3822 ], [ 6.99038, -55.2662 ], [ 6.21334, -55.1536 ], [ 5.45372, -55.0295 ], [ 4.67726, -54.8986 ], [ 3.92175, -54.7741 ], [ 3.16182, -54.6348 ], [ 2.41883, -54.4935 ], [ 1.67598, -54.3476 ], [ 0.930608, -54.1958 ], [ 0.19306, -54.0407 ], [ -0.0, -53.999610458805776 ], [ -0.527223, -53.8874 ], [ -1.25781, -53.7252 ], [ -1.96892, -53.5572 ], [ -2.67877, -53.3866 ], [ -3.39524, -53.2071 ], [ -4.08423, -53.0326 ], [ -4.78519, -52.8469 ], [ -5.47919, -52.6525 ], [ -6.16111, -52.4566 ], [ -6.83544, -52.2725 ], [ -7.50121, -52.0719 ], [ -8.16059, -51.8557 ], [ -8.8271, -51.6579 ], [ -9.47453, -51.4501 ], [ -10.1245, -51.2278 ], [ -10.1313, -51.2357 ], [ -12.2889, -53.603 ], [ -14.7167, -55.9314 ], [ -17.4585, -58.2031 ], [ -20.5205, -60.3691 ], [ -19.7686, -60.6478 ], [ -19.0176, -60.9122 ], [ -18.2574, -61.1817 ], [ -17.4819, -61.4375 ], [ -16.6746, -61.6957 ], [ -15.8697, -61.9495 ], [ -15.0472, -62.2026 ], [ -14.2243, -62.4506 ], [ -13.3807, -62.6786 ], [ -12.5159, -62.9168 ], [ -11.6413, -63.1385 ], [ -10.753, -63.3599 ], [ -9.85687, -63.5773 ], [ -8.92863, -63.7883 ], [ -8.01724, -63.9947 ], [ -7.06695, -64.1953 ], [ -6.11637, -64.387 ], [ -5.14716, -64.5747 ], [ -4.15253, -64.7587 ], [ -3.15968, -64.9243 ], [ -2.15937, -65.0926 ], [ -1.14184, -65.2553 ], [ -0.115134, -65.4025 ], [ 0.0, -65.41899496835896 ], [ 0.932556, -65.5526 ], [ 1.99622, -65.6872 ], [ 3.06729, -65.8233 ], [ 4.13519, -65.945 ], [ 5.21505, -66.0612 ], [ 6.32527, -66.169 ], [ 6.73059, -66.2044 ] ] ] }",
        "rel": "self",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "title": "collection",
        "method": "GET"
    }
],
"numberMatched": 2,
"numberReturned": 2
}

```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.7 STAC Collection Item - Limit (GET)

**Description :** Allows the users to view the collection items by defining a limit.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections/<collection-id>/items?limit=<number>>

**Example :** <http://localhost:8080/stac/collections/SENTINEL-3/items?limit=1>

**Return :** A collection of features containing items, with a maximum number of results returned.

**Response :** Get STAC collection items by limit (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [ [ 61.7358, 68.5212 ], [ 66.768, 70.5419 ], [ 72.9408, 72.4351 ], [
            80.4355, 74.0999 ], [ 89.4056, 75.4539 ], [ 89.4227, 75.4659 ], [ 89.1403, 75.6159 ], [
            88.2839, 76.0247 ], [ 87.4305, 76.4386 ], [ 86.4979, 76.8412 ], [ 85.5165, 77.2363 ], [
            84.464, 77.6387 ], [ 83.3754, 78.0293 ], [ 82.1651, 78.4116 ], [ 80.8962, 78.7963 ], [
            79.5476, 79.173 ], [ 78.1043, 79.5427 ], [ 76.5528, 79.9059 ], [ 74.8769, 80.2641 ], [
            73.086, 80.6118 ], [ 71.168, 80.9468 ], [ 69.1078, 81.2687 ], [ 66.8814, 81.581 ], [
            64.4676, 81.8846 ], [ 61.8967, 82.1643 ], [ 59.1476, 82.4396 ], [ 56.2228, 82.6868 ], [
            53.0366, 82.924 ], [ 49.6834, 83.1251 ], [ 46.1542, 83.3059 ], [ 42.4124, 83.4582 ], [
            38.5307, 83.5819 ], [ 34.4846, 83.6904 ], [ 30.3426, 83.7474 ], [ 26.1454, 83.7852 ], [
            21.9498, 83.7781 ], [ 21.953, 83.7694 ], [ 22.5179, 81.1685 ], [ 22.6484, 78.5571 ], [
            22.5846, 75.9444 ], [ 22.4204, 73.374 ], [ 24.0306, 73.3599 ], [ 25.6032, 73.3274 ], [
            27.2014, 73.294 ], [ 28.7652, 73.2455 ], [ 30.3454, 73.1675 ], [ 31.8747, 73.0934 ], [
            33.4248, 73.0108 ], [ 34.9489, 72.915 ], [ 36.4426, 72.7967 ], [ 37.9263, 72.683 ], [
            39.3904, 72.5446 ], [ 40.8222, 72.4077 ], [ 42.269, 72.2491 ], [ 43.6599, 72.0879 ], [
            45.0231, 71.9163 ], [ 46.3581, 71.7357 ], [ 47.6708, 71.5448 ], [ 48.9676, 71.3423 ], [
            50.2299, 71.1326 ], [ 51.459, 70.9154 ], [ 52.6643, 70.6892 ], [ 53.8489, 70.4539 ], [
            54.9918, 70.2123 ], [ 56.1463, 69.9678 ], [ 57.2224, 69.7115 ], [ 58.3057, 69.4439 ], [
            59.355, 69.1778 ], [ 60.3639, 68.9044 ], [ 61.3608, 68.6292 ], [ 61.7358, 68.5212 ] ] ]
        ],
        "bbox": [
```



```
21.9498, 68.5212, 89.4227, 83.7852
],
"properties": {
  "sat:relative_orbit": 235,
  "start_datetime": "2024-11-04T08:18:04.373665Z",
  "end_datetime": "2024-11-04T08:21:04.373665Z",
  "product:type": "SL_2_LST___",
  "product:timeliness_category": "NT",
  "platform": "sentinel-3b",
  "datetime": "2024-11-04T08:18:04.373665Z",
  "s3:land": 7.812333,
  "instruments": [
    "slstr"
  ],
  "constellation": "sentinel-3",
  "product:timeliness": "NT",
  "sat:orbit_state": "descending",
  "eo:cloud_cover": 6.625167,
  "id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
  "processing:level": "L2",
  "sat:orbit_cycle": 99,
  "s3:tidal_region": 0.0,
  "file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
  "s3:saline_water": 92.187667,
  "published": "2024-11-12T10:08:29.758000Z",
  "sar:instrument_mode": "Earth Observation",
  "origin_date": "2024-11-05T00:00:11.462000Z",
  "online": true,
  "processing:datetime": "2024-11-04T23:07:48.000000Z",
  "sat:absolute_orbit": 34002,
  "updated": "2024-11-12T10:08:29.758000Z",
  "file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST___20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
  }
]
```



```
        "method": "GET"
      },
      {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
      },
      {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
      }
    ],
    "assets": {
      "product": {
        "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
          "data"
        ]
      },
      "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
          "thumbnail"
        ]
      }
    },
    "collection": "SENTINEL-3"
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    }
  ]
}
```



```
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?limit=1",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "parent",
      "type": "application/json",
      "title": "collection",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?page=2&limit=1",
      "rel": "next",
      "type": "application/json",
      "title": "next page",
      "method": "GET"
    }
  ],
  "numberMatched": 3,
  "numberReturned": 1
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.8 STAC Collection Item - Page (GET)

**Description :** Allows the users to paginate and retrieve the result in smaller batches.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections/<collections-id>/items?page=<page-number>>

**Example :** <http://localhost:8080/stac/collections/SENTINEL-3/items?page=2>

**Return :** A collection of items corresponding to the defined page number, if it exists.

**Response :** Get STAC collection items by page (HTTP 200)



```

{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
"53B_SL_2_LST___20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_
004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [ [ 61.7358, 68.5212 ], [ 66.768, 70.5419 ], [ 72.9408, 72.4351 ], [
80.4355, 74.0999 ], [ 89.4056, 75.4539 ], [ 89.4227, 75.4659 ], [ 89.1403, 75.6159 ], [
88.2839, 76.0247 ], [ 87.4305, 76.4386 ], [ 86.4979, 76.8412 ], [ 85.5165, 77.2363 ], [
84.464, 77.6387 ], [ 83.3754, 78.0293 ], [ 82.1651, 78.4116 ], [ 80.8962, 78.7963 ], [
79.5476, 79.173 ], [ 78.1043, 79.5427 ], [ 76.5528, 79.9059 ], [ 74.8769, 80.2641 ], [
73.086, 80.6118 ], [ 71.168, 80.9468 ], [ 69.1078, 81.2687 ], [ 66.8814, 81.581 ], [
64.4676, 81.8846 ], [ 61.8967, 82.1643 ], [ 59.1476, 82.4396 ], [ 56.2228, 82.6868 ], [
53.0366, 82.924 ], [ 49.6834, 83.1251 ], [ 46.1542, 83.3059 ], [ 42.4124, 83.4582 ], [
38.5307, 83.5819 ], [ 34.4846, 83.6904 ], [ 30.3426, 83.7474 ], [ 26.1454, 83.7852 ], [
21.9498, 83.7781 ], [ 21.953, 83.7694 ], [ 22.5179, 81.1685 ], [ 22.6484, 78.5571 ], [
22.5846, 75.9444 ], [ 22.4204, 73.374 ], [ 24.0306, 73.3599 ], [ 25.6032, 73.3274 ], [
27.2014, 73.294 ], [ 28.7652, 73.2455 ], [ 30.3454, 73.1675 ], [ 31.8747, 73.0934 ], [
33.4248, 73.0108 ], [ 34.9489, 72.915 ], [ 36.4426, 72.7967 ], [ 37.9263, 72.683 ], [
39.3904, 72.5446 ], [ 40.8222, 72.4077 ], [ 42.269, 72.2491 ], [ 43.6599, 72.0879 ], [
45.0231, 71.9163 ], [ 46.3581, 71.7357 ], [ 47.6708, 71.5448 ], [ 48.9676, 71.3423 ], [
50.2299, 71.1326 ], [ 51.459, 70.9154 ], [ 52.6643, 70.6892 ], [ 53.8489, 70.4539 ], [
54.9918, 70.2123 ], [ 56.1463, 69.9678 ], [ 57.2224, 69.7115 ], [ 58.3057, 69.4439 ], [
59.355, 69.1778 ], [ 60.3639, 68.9044 ], [ 61.3608, 68.6292 ], [ 61.7358, 68.5212 ] ]
        ],
      },
      "bbox": [
        21.9498, 68.5212, 89.4227, 83.7852
      ],
      "properties": {
        "sat:relative_orbit": 235,
        "start_datetime": "2024-11-04T08:18:04.373665Z",
        "end_datetime": "2024-11-04T08:21:04.373665Z",
        "product:type": "SL_2_LST___",
        "product:timeliness_category": "NT",
        "platform": "sentinel-3b",
        "datetime": "2024-11-04T08:18:04.373665Z",
        "s3:land": 7.812333,
        "instruments": [
          "slstr"
        ]
      }
    }
  ]
}

```



```
],
"constellation": "sentinel-3",
"product:timeliness": "NT",
"sat:orbit_state": "descending",
"eo:cloud_cover": 6.625167,
"id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
"processing:level": "L2",
"sat:orbit_cycle": 99,
"s3:tidal_region": 0.0,
"file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
"s3:saline_water": 92.187667,
"published": "2024-11-12T10:08:29.758000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-05T00:00:11.462000Z",
"online": true,
"processing:datetime": "2024-11-04T23:07:48.000000Z",
"sat:absolute_orbit": 34002,
"updated": "2024-11-12T10:08:29.758000Z",
"file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
    "type": "application/json",
    "method": "GET"
  }
]
```





```

    }
  ],
  "assets": {
    "product": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "title": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    },
    "quicklook": {
      "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "title": "Quicklook download",
      "type": "image/jpeg",
      "roles": [
        "thumbnail"
      ]
    }
  },
  "collection": "SENTINEL-3"
},
{
  ... // product
},
{
  ... // product
}
],
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?page=1",
    "rel": "self",
    "type": "application/json",
    "method": "GET"
  }
],

```

```
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "parent",
  "type": "application/json",
  "title": "collection",
  "method": "GET"
},
{
  "numberMatched": 3,
  "numberReturned": 3
}
```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.3.9 STAC Collection Item - Sortby (GET)

**Description :** Allows the users to view the items from a collection in a specific order (ref. *Table 2 – STAC API Collections*).

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/collections/<collection-id>/items?sortby=<-properties.updated>>

**Example-1 :** <http://localhost:8080/stac/collections/SENTINEL-3/items?sortby=-properties.updated>

**Example-2 :** <http://localhost:8080/stac/collections/SENTINEL-3/items?sortby=-properties.updated, +id>

**Return :** A collection of features containing items, corresponding to the defined sortby, if it exists.

**Response - Example-1 :** Get STAC collection items by sortby (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_0_NT_004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
```



```

        [ [ -2.36523, -76.4176 ], [ 0.0, -74.56773650022845 ], [ 0.80812, -
73.9357 ], [ 3.23305, -71.3796 ], [ 5.15937, -68.8041 ], [ 6.74256, -66.2237 ], [ 6.72573, -
66.2131 ], [ 6.3283, -66.1763 ], [ 5.21666, -66.0687 ], [ 4.12405, -65.9544 ], [ 3.05679, -
65.8325 ], [ 1.98623, -65.6962 ], [ 0.922958, -65.5615 ], [ 0.0, -65.42734585404042 ], [ -
0.101449, -65.4126 ], [ -1.15089, -65.264 ], [ -2.16815, -65.1011 ], [ -3.16683, -64.9326 ],
[ -4.17993, -64.7634 ], [ -5.15628, -64.5824 ], [ -6.12593, -64.3945 ], [ -7.07449, -64.2043
], [ -8.02469, -64.0039 ], [ -8.93596, -63.7977 ], [ -9.86401, -63.587 ], [ -10.7599, -63.37
], [ -11.6386, -63.1538 ], [ -12.5293, -62.9215 ], [ -13.3804, -62.6946 ], [ -14.2243, -
62.4506 ], [ -15.0657, -62.2013 ], [ -15.8908, -61.9645 ], [ -16.6958, -61.7107 ], [ -
17.4854, -61.454 ], [ -18.2574, -61.1817 ], [ -19.0394, -60.9269 ], [ -19.7905, -60.6624 ],
[ -20.5316, -60.3763 ], [ -20.5426, -60.3835 ], [ -24.092, -62.4934 ], [ -28.1877, -64.5033
], [ -32.9158, -66.379 ], [ -38.2792, -68.0594 ], [ -37.5596, -68.4325 ], [ -36.7811, -
68.7923 ], [ -36.0029, -69.1538 ], [ -35.1848, -69.5018 ], [ -34.3478, -69.8518 ], [ -
33.4809, -70.2004 ], [ -32.5823, -70.5485 ], [ -31.647, -70.8902 ], [ -30.6761, -71.2184 ],
[ -29.7064, -71.5506 ], [ -28.6701, -71.8693 ], [ -27.6021, -72.1871 ], [ -26.5066, -72.4997
], [ -25.3451, -72.8077 ], [ -24.1677, -73.1012 ], [ -22.9337, -73.396 ], [ -21.676, -
73.6779 ], [ -20.3668, -73.9566 ], [ -19.0232, -74.2259 ], [ -17.6416, -74.4862 ], [ -
16.2115, -74.7375 ], [ -14.7154, -74.9743 ], [ -13.2033, -75.2072 ], [ -11.6251, -75.4323 ],
[ -9.98663, -75.6388 ], [ -8.30625, -75.835 ], [ -6.6141, -76.0271 ], [ -4.86902, -76.2014
], [ -3.04714, -76.3633 ], [ -2.36523, -76.4176 ] ]
    ],
    "bbox": [
        -38.2792,
        -76.4176,
        6.74256,
        -60.3763
    ],
    "properties": {
        "sat:relative_orbit": 235,
        "start_datetime": "2024-11-04T09:00:04.373665Z",
        "end_datetime": "2024-11-04T09:03:04.373665Z",
        "product:type": "SL_2_LST___",
        "product:timeliness_category": "NT",
        "platform": "sentinel-3b",
        "datetime": "2024-11-04T09:00:04.373665Z",
        "s3:land": 14.022333,
        "instruments": [
            "slstr"
        ],
        "constellation": "sentinel-3",
        "product:timeliness": "NT",
        "sat:orbit_state": "descending",
        "eo:cloud_cover": 13.630944,
        "id": "4aa9d5e6-99af-4154-a63c-07845b5042e4",
        "processing:level": "L2",

```



```
"sat:orbit_cycle": 99,
"s3:tidal_region": 0.0,
"file:checksum": "c7e6d93ba3167932886fa87b93e85f9c",
"s3:saline_water": 85.977667,
"published": "2024-11-12T10:08:38.589000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-05T00:00:10.662000Z",
"online": true,
"processing:datetime": "2024-11-04T23:08:54.000000Z",
"sat:absolute_orbit": 34002,
"updated": "2024-11-12T10:08:38.589000Z",
"file:size": 59465059
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_O_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
    "type": "application/json",
    "method": "GET"
  }
],
"assets": {
  "product": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_O_NT_004.zip",
```



```

        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T090004_20241104T0903
04_20241104T230625_0179_099_235_4140_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
{
    "type": "Feature",
    "stac_version": "1.1.0",
    "id":
"S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_
004.zip",
    "geometry": {
        "type": "Polygon",
        "coordinates": [
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], [ -8.8271, -51.6579 ], [ -9.47453, -51.4501 ], [ -10.1245, -51.2278 ], [ -10.1313, -
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[ -17.4819, -61.4375 ], [ -16.6746, -61.6957 ], [ -15.8697, -61.9495 ], [ -15.0472, -62.2026
], [ -14.2243, -62.4506 ], [ -13.3807, -62.6786 ], [ -12.5159, -62.9168 ], [ -11.6413, -
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```



```
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  ],  
  "bbox": [  
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  ],  
  "properties": {  
    "sat:relative_orbit": 235,  
    "start_datetime": "2024-11-04T08:57:04.373665Z",  
    "end_datetime": "2024-11-04T09:00:04.373665Z",  
    "product:type": "SL_2_LST___",  
    "product:timeliness_category": "NT",  
    "platform": "sentinel-3b",  
    "datetime": "2024-11-04T08:57:04.373665Z",  
    "s3:land": 0.0,  
    "instruments": [  
      "slstr"  
    ],  
    "constellation": "sentinel-3",  
    "product:timeliness": "NT",  
    "sat:orbit_state": "descending",  
    "eo:cloud_cover": 0.0,  
    "id": "476e6a77-6d49-4a62-b983-ee89dee978f0",  
    "processing:level": "L2",  
    "sat:orbit_cycle": 99,  
    "s3:tidal_region": 0.0,  
    "file:checksum": "6afe4bd7ea612f311dcf3d05c7f2df54",  
    "s3:saline_water": 100.0,  
    "published": "2024-11-12T10:08:34.858000Z",  
    "sar:instrument_mode": "Earth Observation",  
    "origin_date": "2024-11-05T00:00:11.031000Z",  
    "online": true,  
    "processing:datetime": "2024-11-04T23:08:50.000000Z",  
    "sat:absolute_orbit": 34002,  
    "updated": "2024-11-12T10:08:34.858000Z",  
    "file:size": 56397363  
  },  
  "links": [  
    {  
      "href": "http://localhost:8080/stac",  
      "rel": "root",  
      "type": "application/json",  
      "method": "GET"  
    },  
    {
```



```

        "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_O_NT_004.zip",
        "rel": "self",
        "type": "application/geo+json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
    }
],
"assets": {
    "product": {
        "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_O_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_O_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
{
    "type": "Feature",

```



```
"stac_version": "1.1.0",
"id":
"S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_
004.zip",
"geometry": {
  "type": "Polygon",
  "coordinates": [
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73.086, 80.6118 ], [ 71.168, 80.9468 ], [ 69.1078, 81.2687 ], [ 66.8814, 81.581 ], [
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53.0366, 82.924 ], [ 49.6834, 83.1251 ], [ 46.1542, 83.3059 ], [ 42.4124, 83.4582 ], [
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21.9498, 83.7781 ], [ 21.953, 83.7694 ], [ 22.5179, 81.1685 ], [ 22.6484, 78.5571 ], [
22.5846, 75.9444 ], [ 22.4204, 73.374 ], [ 24.0306, 73.3599 ], [ 25.6032, 73.3274 ], [
27.2014, 73.294 ], [ 28.7652, 73.2455 ], [ 30.3454, 73.1675 ], [ 31.8747, 73.0934 ], [
33.4248, 73.0108 ], [ 34.9489, 72.915 ], [ 36.4426, 72.7967 ], [ 37.9263, 72.683 ], [
39.3904, 72.5446 ], [ 40.8222, 72.4077 ], [ 42.269, 72.2491 ], [ 43.6599, 72.0879 ], [
45.0231, 71.9163 ], [ 46.3581, 71.7357 ], [ 47.6708, 71.5448 ], [ 48.9676, 71.3423 ], [
50.2299, 71.1326 ], [ 51.459, 70.9154 ], [ 52.6643, 70.6892 ], [ 53.8489, 70.4539 ], [
54.9918, 70.2123 ], [ 56.1463, 69.9678 ], [ 57.2224, 69.7115 ], [ 58.3057, 69.4439 ], [
59.355, 69.1778 ], [ 60.3639, 68.9044 ], [ 61.3608, 68.6292 ], [ 61.7358, 68.5212 ] ]
],
},
"bbox": [
21.9498, 68.5212, 89.4227, 83.7852
],
"properties": {
  "sat:relative_orbit": 235,
  "start_datetime": "2024-11-04T08:18:04.373665Z",
  "end_datetime": "2024-11-04T08:21:04.373665Z",
  "product:type": "SL_2_LST___",
  "product:timeliness_category": "NT",
  "platform": "sentinel-3b",
  "datetime": "2024-11-04T08:18:04.373665Z",
  "s3:land": 7.812333,
  "instruments": [
    "slstr"
  ],
  "constellation": "sentinel-3",
  "product:timeliness": "NT",
  "sat:orbit_state": "descending",
  "eo:cloud_cover": 6.625167,
```





```
"id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
"processing:level": "L2",
"sat:orbit_cycle": 99,
"s3:tidal_region": 0.0,
"file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
"s3:saline_water": 92.187667,
"published": "2024-11-12T10:08:29.758000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-05T00:00:11.462000Z",
"online": true,
"processing:datetime": "2024-11-04T23:07:48.000000Z",
"sat:absolute_orbit": 34002,
"updated": "2024-11-12T10:08:29.758000Z",
"file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS_2_O_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
    "type": "application/json",
    "method": "GET"
  }
],
"assets": {
  "product": {
```



```
        "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
],
"links": [
    {
        "href": "http://localhost:8080/stac",
        "rel": "root",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?sortby=properties.updated",
        "rel": "self",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "title": "collection",
        "method": "GET"
    }
],
"numberMatched": 3,
```

```

    "numberReturned": 3
  }

```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

## 3.4 STAC API Search Query Examples

The STAC-API search endpoint allows users to search and retrieve items based on different criteria.

### 3.4.1 STAC Search - Bbox (GET)

**Description :** Allows the user to search results based on a geographic bounding box.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/search?bbox=<bbox-coordinates>>

**Example :** <http://localhost:8080/stac/search?bbox=-180,-90,180,90>

**Return :** Get a list of search corresponding to the bbox (HTTP 200)

```

{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_0L_2_LRR____20241105T212454_20241105T220911_20241105T234059_2657_099_257____PS2_0_NR_
      002.zip",
      "geometry": {
        "type": "MultiPolygon",
        "coordinates": [
          [
            [ [ 95.4351, -84.3865 ], [ 112.56, -83.8962 ], [ 126.214, -82.9721
            ], [ 136.347, -81.7588 ], [ 143.785, -80.3644 ], [ 149.34, -78.8563 ], [ 153.602, -77.2755
            ], [ 156.965, -75.6458 ], [ 159.682, -73.981 ], [ 161.932, -72.2922 ], [ 163.829, -70.5845
            ], [ 165.457, -68.8627 ], [ 166.876, -67.1297 ], [ 168.13, -65.3879 ], [ 169.25, -63.639 ],
            [ 170.26, -61.8835 ], [ 171.181, -60.1232 ], [ 172.028, -58.3588 ], [ 172.811, -56.5901 ], [
            173.541, -54.818 ], [ 174.226, -53.043 ], [ 174.871, -51.2653 ], [ 175.483, -49.4849 ], [
            176.065, -47.7024 ], [ 176.622, -45.9177 ], [ 177.156, -44.131 ], [ 177.671, -42.3426 ], [
            178.168, -40.5524 ], [ 178.65, -38.7606 ], [ 179.119, -36.9673 ], [ 179.575, -35.1725 ], [

```



```

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21.3905 ], [ 179.349, 19.5984 ], [ 179.017, 17.8061 ], [ 178.68, 16.0134 ], [ 178.337,
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28.5088 ], [ 166.628, -30.2583 ], [ 165.93, -32.0024 ], [ 165.201, -33.7415 ], [ 164.436, -
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49.043 ], [ 155.248, -50.6862 ], [ 153.854, -52.3129 ], [ 152.351, -53.9209 ], [ 150.725, -
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72.6538 ], [ 84.3415, -72.6344 ], [ 79.6712, -72.4913 ], [ 79.36, -73.1371 ], [ 79.04, -
73.747 ], [ 78.6953, -74.3575 ], [ 78.324, -74.9664 ], [ 77.9225, -75.5741 ], [ 77.4872, -
76.1803 ], [ 77.0115, -76.7875 ], [ 76.4903, -77.3941 ], [ 75.9185, -77.9987 ], [ 75.2854, -
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],
[
[ [ -180.0, -33.46116031390136 ], [ -179.979, -33.3766 ], [ -
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[ -177.865, -24.3782 ], [ -177.459, -22.5756 ], [ -177.057, -20.7721 ], [ -176.658, -18.9678
], [ -176.262, -17.1627 ], [ -175.868, -15.3571 ], [ -175.475, -13.551 ], [ -175.083, -
11.7439 ], [ -174.691, -9.93709 ], [ -174.299, -8.12972 ], [ -173.907, -6.32126 ], [ -
173.512, -4.51394 ], [ -173.116, -2.70627 ], [ -172.718, -0.897964 ], [ -172.317, 0.910094
], [ -171.913, 2.71771 ], [ -171.505, 4.52522 ], [ -171.092, 6.33227 ], [ -170.674, 8.13897
], [ -170.251, 9.94497 ], [ -169.821, 11.7504 ], [ -169.383, 13.5549 ], [ -168.939, 15.3587
], [ -168.485, 17.1613 ], [ -168.021, 18.9627 ], [ -167.548, 20.7632 ], [ -167.062, 22.5619
], [ -166.564, 24.3589 ], [ -166.052, 26.1546 ], [ -165.524, 27.9482 ], [ -164.98, 29.7395
], [ -164.417, 31.5287 ], [ -163.833, 33.3153 ], [ -163.227, 35.0992 ], [ -162.596, 36.88 ],
[ -161.937, 38.6573 ], [ -161.247, 40.4316 ], [ -160.523, 42.201 ], [ -159.76, 43.9661 ], [
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```



```
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    ]
  },
  "bbox": [
    -180.0,
    -84.3865,
    180.0,
    66.0196
  ],
  "properties": {
    "sat:relative_orbit": 257,
    "start_datetime": "2024-11-05T21:24:53.847812Z",
    "end_datetime": "2024-11-05T22:09:11.211400Z",
    "product:type": "OL_2_LRR___",
    "product:timeliness_category": "NR",
    "platform": "sentinel-3b",
    "datetime": "2024-11-05T21:24:53.847812Z",
    "s3:land": 0.0,
    "instruments": [
      "olci"
    ],
    "constellation": "sentinel-3",
    "product:timeliness": "NR",
    "sat:orbit_state": "descending",
    "eo:cloud_cover": 48.0,
    "id": "6e9fcf8c-3b36-4d7e-a957-85b49ca42a1b",
    "processing:level": "L2",
    "sat:orbit_cycle": 99,
    "s3:tidal_region": 1.0,
    "file:checksum": "6c7b6c92d9239dfafaf2e65c4f449a74",
    "s3:saline_water": 36.0,
    "published": "2024-11-12T15:41:24.126000Z",
    "sar:instrument_mode": "Earth Observation",
    "origin_date": "2024-11-06T00:00:02.275000Z",
    "online": true,
    "processing:datetime": "2024-11-05T23:41:07.000000Z",
    "sat:absolute_orbit": 34024,
    "updated": "2024-11-12T15:41:24.126000Z",
    "file:size": 168165339
  },
  "links": [
    {
```



```
        "href": "http://localhost:8080/stac",
        "rel": "root",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-
3/items/S3B_OL_2_LRR____20241105T212454_20241105T220911_20241105T234059_2657_099_257____PS
2_O_NR_002.zip",
        "rel": "self",
        "type": "application/geo+json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
    }
],
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        "href":
"http://localhost:8080/stac/download/product/S3B_OL_2_LRR____20241105T212454_20241105T220911
_20241105T234059_2657_099_257____PS2_O_NR_002.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_OL_2_LRR____20241105T212454_20241105T2209
11_20241105T234059_2657_099_257____PS2_O_NR_002.zip",
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        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
}
```



```
    },
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  ],
  "links": [
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      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
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      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
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      "rel": "parent",
      "type": "application/json",
      "title": "collection",
      "method": "GET"
    }
  ],
  "numberMatched": 1,
  "numberReturned": 1
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.4.2 STAC Search - Datetime (GET)

**Description :** Allows the users to view the feature collection items by datetime (ref. *Table 3 – STAC API Search*).

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/search?datetime=<datetime>>

**Example :** <http://localhost:8080/stac/search?datetime= 2024-11-04T08:57:04.373665Z>

**Return :** A collection of features containing items, corresponding to the datetime, if it exists.

**Response :** Get STAC search by datetime (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST___20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
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-49.2679], [-16.4157, -49.0507], [-17.0295, -48.8335], [-17.6489, -48.6163], [-18.2639, -48.3991], [-18.8745, -48.1819], [-19.4807, -47.9647], [-20.0825, -47.7475], [-20.6809, -47.5303], [-21.2759, -47.3131], [-21.8675, -47.0959], [-22.4557, -46.8787], [-23.0405, -46.6615], [-23.6219, -46.4443], [-24.2009, -46.2271], [-24.7775, -46.0099], [-25.3517, -45.7927], [-25.9235, -45.5755], [-26.4929, -45.3583], [-27.0609, -45.1411], [-27.6275, -44.9239], [-28.1927, -44.7067], [-28.7565, -44.4895], [-29.3189, -44.2723], [-29.8799, -44.0551], [-30.4395, -43.8379], [-30.9977, -43.6207], [-31.5535, -43.4035], [-32.1079, -43.1863], [-32.6609, -42.9691], [-33.2125, -42.7519], [-33.7617, -42.5347], [-34.3095, -42.3175], [-34.8559, -42.1003], [-35.4009, -41.8831], [-35.9445, -41.6659], [-36.4867, -41.4487], [-37.0275, -41.2315], [-37.5669, -41.0143], [-38.1049, -40.7971], [-38.6415, -40.5799], [-39.1767, -40.3627], [-39.7105, -40.1455], [-40.2429, -39.9283], [-40.7739, -39.7111], [-41.3035, -39.4939], 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"file:size": 56397363
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    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T085704_20241104T090004_20241104T230621_0179_099_235_3960_PS2_0_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
```



```
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        "method": "GET"
    },
],
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        "href":
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        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
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        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
],
"links": [
    {
        "href": "http://localhost:8080/stac",
        "rel": "root",
        "type": "application/json",
        "method": "GET"
    },
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        "rel": "self",
        "type": "application/json",
        "method": "GET"
    },
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        "rel": "parent",
```

```
{
  "type": "application/json",
  "title": "collection",
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},
{
  "numberMatched": 1,
  "numberReturned": 1
}
```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.4.3 STAC Search - Intersect (GET)

**Description :** Allows users to search items by performing intersection between their geometry and provided GeoJSON geometry.

**HTTP Method :** GET

**URL :** [http://<server.url>:<server.port>/<context-path>/stac/search?intersects={\"type\": \"Polygon\", \"coordinates\": \[<coordinates>\]}](http://<server.url>:<server.port>/<context-path>/stac/search?intersects={\)

**Example :** [http://localhost:8080/stac/search?intersects={\"type\": \"Polygon\", \"coordinates\": \[\[\[6.73059,-66.2044\],\[8.07967,-63.6505\],\[9.25582,-61.0436\],\[10.3002,-58.4304\],\[11.2405,-55.8206\],\[11.2278,-55.8102\],\[10.9279,-55.7741\],\[10.1372,-55.6896\],\[9.35275,-55.5927\],\[8.55539,-55.4862\],\[7.77045,-55.3822\],\[6.99038,-55.2662\],\[6.21334,-55.1536\],\[5.45372,-55.0295\],\[4.67726,-54.8986\],\[3.92175,-54.7741\],\[3.16182,-54.6348\],\[2.41883,-54.4935\],\[1.67598,-54.3476\],\[0.930608,-54.1958\],\[0.19306,-54.0407\],\[0,-53.999610458805776\],\[-0.527223,-53.8874\],\[-1.25781,-53.7252\],\[-1.96892,-53.5572\],\[-2.67877,-53.3866\],\[-3.39524,-53.2071\],\[-4.08423,-53.0326\],\[-4.78519,-52.8469\],\[-5.47919,-52.6525\],\[-6.16111,-52.4566\],\[-6.83544,-52.2725\],\[-7.50121,-52.0719\],\[-8.16059,-51.8557\],\[-8.8271,-51.6579\],\[-9.47453,-51.4501\],\[-10.1245,-51.2278\],\[-10.1313,-51.2357\],\[-12.2889,-53.603\],\[-14.7167,-55.9314\],\[-17.4585,-58.2031\],\[-20.5205,-60.3691\],\[-19.7686,-60.6478\],\[-19.0176,-60.9122\],\[-18.2574,-61.1817\],\[-17.4819,-61.4375\],\[-16.6746,-61.6957\],\[-15.8697,-61.9495\],\[-15.0472,-62.2026\],\[-14.2243,-62.4506\],\[-13.3807,-62.6786\],\[-12.5159,-62.9168\],\[-11.6413,-63.1385\],\[-10.753,-63.3599\],\[-9.85687,-63.5773\],\[-8.92863,-63.7883\],\[-8.01724,-63.9947\],\[-7.06695,-64.1953\],\[-6.11637,-64.387\],\[-5.14716,-64.5747\],\[-4.15253,-64.7587\],\[-3.15968,-64.9243\],\[-2.15937,-65.0926\],\[-1.14184,-65.2553\],\[-0.115134,-65.4025\],\[0,-65.41899496835896\],\[0.932556,-65.5526\],\[1.99622,-65.6872\],\[3.06729,-65.8233\],\[4.13519,-65.945\],\[5.21505,-66.0612\],\[6.32527,-66.169\],\[6.73059,-66.2044\]\]\]}](http://localhost:8080/stac/search?intersects={\)

**Return :** A collection of items corresponding the provided geometry, if it exists.

**Response :** Get STAC search by Intersect (HTTP 200)



```

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  "features": [
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      "type": "Feature",
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004.zip",
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55.6896], [9.35275, -55.5927], [8.55539, -55.4862], [7.77045, -55.3822], [6.99038, -
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```



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    "type": "application/geo+json",
    "method": "GET"
  },
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    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
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    "type": "application/json",
    "method": "GET"
  }
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```

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```



```

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  "eo:cloud_cover": 13.630944,
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  "file:checksum": "c7e6d93ba3167932886fa87b93e85f9c",
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      },
      {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_0_NT_004.zip",
        "rel": "self",
        "type": "application/geo+json",
        "method": "GET"
      },
      {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
      },
      {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
      }
    ],
    "assets": {
      "product": {
        "href": "http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_0_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
          "data"
        ]
      },
      "quicklook": {
        "href": "http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T090004_20241104T090304_20241104T230625_0179_099_235_4140_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
          "thumbnail"
        ]
      }
    },
    "collection": "SENTINEL-3"
  }

```





```

    }
  ],
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json"
    },
    {
      "href":
"http://localhost:8080/stac/search?intersects={\"type\":\"Polygon\",\"coordinates\":[[[6.73059,-
66.2044],[8.07967,-63.6505],[9.25582,-61.0436],[10.3002,-58.4304],[11.2405,-
55.8206],[11.2278,-55.8102],[10.9279,-55.7741],[10.1372,-55.6896],[9.35275,-
55.5927],[8.55539,-55.4862],[7.77045,-55.3822],[6.99038,-55.2662],[6.21334,-
55.1536],[5.45372,-55.0295],[4.67726,-54.8986],[3.92175,-54.7741],[3.16182,-
54.6348],[2.41883,-54.4935],[1.67598,-54.3476],[0.930608,-54.1958],[0.19306,-54.0407],[0,-
53.999610458805776],[-0.527223,-53.8874],[-1.25781,-53.7252],[-1.96892,-53.5572],[-2.67877,-
53.3866],[-3.39524,-53.2071],[-4.08423,-53.0326],[-4.78519,-52.8469],[-5.47919,-52.6525],[-
6.16111,-52.4566],[-6.83544,-52.2725],[-7.50121,-52.0719],[-8.16059,-51.8557],[-8.8271,-
51.6579],[-9.47453,-51.4501],[-10.1245,-51.2278],[-10.1313,-51.2357],[-12.2889,-53.603],[-
14.7167,-55.9314],[-17.4585,-58.2031],[-20.5205,-60.3691],[-19.7686,-60.6478],[-19.0176,-
60.9122],[-18.2574,-61.1817],[-17.4819,-61.4375],[-16.6746,-61.6957],[-15.8697,-61.9495],[-
15.0472,-62.2026],[-14.2243,-62.4506],[-13.3807,-62.6786],[-12.5159,-62.9168],[-11.6413,-
63.1385],[-10.753,-63.3599],[-9.85687,-63.5773],[-8.92863,-63.7883],[-8.01724,-63.9947],[-
7.06695,-64.1953],[-6.11637,-64.387],[-5.14716,-64.5747],[-4.15253,-64.7587],[-3.15968,-
64.9243],[-2.15937,-65.0926],[-1.14184,-65.2553],[-0.115134,-65.4025],[0,-
65.41899496835896],[0.932556,-65.5526],[1.99622,-65.6872],[3.06729,-65.8233],[4.13519,-
65.945],[5.21505,-66.0612],[6.32527,-66.169],[6.73059,-66.2044]]]}",
      "rel": "self",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/search",
      "rel": "parent",
      "type": "application/json",
      "title": "collection",
      "method": "GET"
    }
  ],
  "numberMatched": 2,
  "numberReturned": 2
}

```

**Error :**

- HTTP 400 - An invalid parameter.

- HTTP 500 - An error occurred. See the logs.

### 3.4.4 STAC Search - Limit (GET)

**Description :** Allows the users to search and view the collection by defining a limit.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/search?limit=<limit-number>>

**Example :** <http://localhost:8080/stac/search?limit=1>

**Return :** A collection of features containing items, with a limit on number of results returned.

**Response :** Get STAC search by limit (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "geometry": {
        "type": "Polygon",
        "coordinates": [
          [
            [61.7358,68.5212],[66.768,70.5419],[72.9408,72.4351],[80.4355,74.0999],[89.4056,75.4539],[89.4227,75.4659],[89.1403,75.6159],[88.2839,76.0247],[87.4305,76.4386],[86.4979,76.8412],[85.5165,77.2363],[84.464,77.6387],[83.3754,78.0293],[82.1651,78.4116],[80.8962,78.7963],[79.5476,79.173],[78.1043,79.5427],[76.5528,79.9059],[74.8769,80.2641],[73.086,80.6118],[71.168,80.9468],[69.1078,81.2687],[66.8814,81.581],[64.4676,81.8846],[61.8967,82.1643],[59.1476,82.4396],[56.2228,82.6868],[53.0366,82.924],[49.6834,83.1251],[46.1542,83.3059],[42.4124,83.4582],[38.5307,83.5819],[34.4846,83.6904],[30.3426,83.7474],[26.1454,83.7852],[21.9498,83.7781],[21.953,83.7694],[22.5179,81.1685],[22.6484,78.5571],[22.5846,75.9444],[22.4204,73.374],[24.0306,73.3599],[25.6032,73.3274],[27.2014,73.294],[28.7652,73.2455],[30.3454,73.1675],[31.8747,73.0934],[33.4248,73.0108],[34.9489,72.915],[36.4426,72.7967],[37.9263,72.683],[39.3904,72.5446],[40.8222,72.4077],[42.269,72.2491],[43.6599,72.0879],[45.0231,71.9163],[46.3581,71.7357],[47.6708,71.5448],[48.9676,71.3423],[50.2299,71.1326],[51.459,70.9154],[52.6643,70.6892],[53.8489,70.4539],[54.9918,70.2123],[56.1463,69.9678],[57.2224,69.7115],[58.3057,69.4439],[59.355,69.1778],[60.3639,68.9044],[61.3608,68.6292],[61.7358,68.5212]]
          ]
        ],
        "bbox": [
          21.9498,68.5212,89.4227,83.7852
        ]
      }
    ]
  ],
  "bbox": [
    21.9498,68.5212,89.4227,83.7852
  ]
}
```



```
],
  "properties": {
    "sat:relative_orbit": 235,
    "start_datetime": "2024-11-04T08:18:04.373665Z",
    "end_datetime": "2024-11-04T08:21:04.373665Z",
    "product:type": "SL_2_LST___",
    "product:timeliness_category": "NT",
    "platform": "sentinel-3b",
    "datetime": "2024-11-04T08:18:04.373665Z",
    "s3:land": 7.812333,
    "instruments": [
      "slstr"
    ],
    "constellation": "sentinel-3",
    "product:timeliness": "NT",
    "sat:orbit_state": "descending",
    "eo:cloud_cover": 6.625167,
    "id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
    "processing:level": "L2",
    "sat:orbit_cycle": 99,
    "s3:tidal_region": 0.0,
    "file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
    "s3:saline_water": 92.187667,
    "published": "2024-11-12T10:08:29.758000Z",
    "sar:instrument_mode": "Earth Observation",
    "origin_date": "2024-11-05T00:00:11.462000Z",
    "online": true,
    "processing:datetime": "2024-11-04T23:07:48.000000Z",
    "sat:absolute_orbit": 34002,
    "updated": "2024-11-12T10:08:29.758000Z",
    "file:size": 58430125
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS_2_0_NT_004.zip",
      "rel": "self",
      "type": "application/geo+json",
      "method": "GET"
    }
  ]
}
```



```
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "parent",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "collection",
      "type": "application/json",
      "method": "GET"
    }
  ],
  "assets": {
    "product": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "title": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    },
    "quicklook": {
      "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
      "title": "Quicklook download",
      "type": "image/jpeg",
      "roles": [
        "thumbnail"
      ]
    }
  },
  "collection": "SENTINEL-3"
},
{
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    }
  ],
}
```



```

{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?limit=1",
  "rel": "self",
  "type": "application/json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "parent",
  "type": "application/json",
  "title": "collection",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?page=2&limit=1",
  "rel": "next",
  "type": "application/json",
  "title": "next page",
  "method": "GET"
}
],
"numberMatched": 10,
"numberReturned": 1
}

```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.4.5 STAC Search - Page (GET)

**Description :** Allows the users to paginate and retrieve the result in smaller batches.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/search?page=<page-number>>

**Example :** <http://localhost:8080/stac/search?page=1>

**Return :** A collection of items corresponding to the defined page number, if it exists.

**Response :** Get STAC search by page (HTTP 200)

```

{
  "type": "FeatureCollection",
  "features": [
    {

```



```

    "type": "Feature",
    "stac_version": "1.1.0",
    "id":
    "S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_
    004.zip",
    "geometry": {
      "type": "Polygon",
      "coordinates": [
        [[61.7358,68.5212],[66.768,70.5419],[72.9408,72.4351],[80.4355,74.0999],[89.4056,75.4539],[8
        9.4227,75.4659],[89.1403,75.6159],[88.2839,76.0247],[87.4305,76.4386],[86.4979,76.8412],[85.
        5165,77.2363],[84.464,77.6387],[83.3754,78.0293],[82.1651,78.4116],[80.8962,78.7963],[79.547
        6,79.173],[78.1043,79.5427],[76.5528,79.9059],[74.8769,80.2641],[73.086,80.6118],[71.168,80.
        9468],[69.1078,81.2687],[66.8814,81.581],[64.4676,81.8846],[61.8967,82.1643],[59.1476,82.439
        6],[56.2228,82.6868],[53.0366,82.924],[49.6834,83.1251],[46.1542,83.3059],[42.4124,83.4582],
        [38.5307,83.5819],[34.4846,83.6904],[30.3426,83.7474],[26.1454,83.7852],[21.9498,83.7781],[2
        1.953,83.7694],[22.5179,81.1685],[22.6484,78.5571],[22.5846,75.9444],[22.4204,73.374],[24.03
        06,73.3599],[25.6032,73.3274],[27.2014,73.294],[28.7652,73.2455],[30.3454,73.1675],[31.8747,
        73.0934],[33.4248,73.0108],[34.9489,72.915],[36.4426,72.7967],[37.9263,72.683],[39.3904,72.5
        446],[40.8222,72.4077],[42.269,72.2491],[43.6599,72.0879],[45.0231,71.9163],[46.3581,71.7357
        ],[47.6708,71.5448],[48.9676,71.3423],[50.2299,71.1326],[51.459,70.9154],[52.6643,70.6892],[
        53.8489,70.4539],[54.9918,70.2123],[56.1463,69.9678],[57.2224,69.7115],[58.3057,69.4439],[59
        .355,69.1778],[60.3639,68.9044],[61.3608,68.6292],[61.7358,68.5212]]
      ],
    },
    "bbox": [
      21.9498, 68.5212, 89.4227, 83.7852
    ],
    "properties": {
      "sat:relative_orbit": 235,
      "start_datetime": "2024-11-04T08:18:04.373665Z",
      "end_datetime": "2024-11-04T08:21:04.373665Z",
      "product:type": "SL_2_LST____",
      "product:timeliness_category": "NT",
      "platform": "sentinel-3b",
      "datetime": "2024-11-04T08:18:04.373665Z",
      "s3:land": 7.812333,
      "instruments": [
        "slstr"
      ],
      "constellation": "sentinel-3",
      "product:timeliness": "NT",
      "sat:orbit_state": "descending",
      "eo:cloud_cover": 6.625167,
      "id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
      "processing:level": "L2",

```



```
"sat:orbit_cycle": 99,
"s3:tidal_region": 0.0,
"file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
"s3:saline_water": 92.187667,
"published": "2024-11-12T10:08:29.758000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-05T00:00:11.462000Z",
"online": true,
"processing:datetime": "2024-11-04T23:07:48.000000Z",
"sat:absolute_orbit": 34002,
"updated": "2024-11-12T10:08:29.758000Z",
"file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_O_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
    "type": "application/json",
    "method": "GET"
  }
],
"assets": {
  "product": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_O_NT_004.zip",
```



```
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T0821
04_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
{
... // product
},
{
... // product
},
{
... // product
}
],
"links": [
{
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
},
{
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?page=1",
    "rel": "self",
    "type": "application/json",
    "method": "GET"
},
{
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
```



```

        "title": "collection",
        "method": "GET"
    },
    "numberMatched": 10,
    "numberReturned": 10
}

```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.4.6 STAC Search - Sortby (GET)

**Description :** Allows the users to retrieve items in a specific order (ref. *Table 3 – STAC API Search*).

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/search?sortby=<-properties.updated>>

**Example-1 :** <http://localhost:8080/stac/search?sortby=-properties.updated>

**Example-2 :** <http://localhost:8080/stac/search?sortby=-properties.updated,-id>

**Return :** A collection of items sorted by updated property in descending order, if it exists.

**Response - Example-1 :** Get STAC search by sortby (HTTP 200)

```

{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_0_NR_
      004.zip",
      "geometry": {
        "type": "MultiPolygon",
        "coordinates": [
          [
            [ [ 95.4351, -84.3865 ], [ 112.56, -83.8962 ], [ 126.214, -82.9721
            ], [ 136.347, -81.7588 ], [ 143.785, -80.3644 ], [ 149.34, -78.8563 ], [ 153.602, -77.2755
            ], [ 156.965, -75.6458 ], [ 159.682, -73.981 ], [ 161.932, -72.2922 ], [ 163.829, -70.5845
            ], [ 165.457, -68.8627 ], [ 166.876, -67.1297 ], [ 168.13, -65.3879 ], [ 169.25, -63.639 ],
            [ 170.26, -61.8835 ], [ 171.181, -60.1232 ], [ 172.028, -58.3588 ], [ 172.811, -56.5901 ], [

```



```

173.541, -54.818 ], [ 174.226, -53.043 ], [ 174.871, -51.2653 ], [ 175.483, -49.4849 ], [
176.065, -47.7024 ], [ 176.622, -45.9177 ], [ 177.156, -44.131 ], [ 177.671, -42.3426 ], [
178.168, -40.5524 ], [ 178.65, -38.7606 ], [ 179.119, -36.9673 ], [ 179.575, -35.1725 ], [
180.0, -33.46116031390135 ], [ 180.0, 23.18851661442011 ], [ 179.999, 23.1829 ], [ 179.677,
21.3905 ], [ 179.349, 19.5984 ], [ 179.017, 17.8061 ], [ 178.68, 16.0134 ], [ 178.337,
14.2209 ], [ 177.989, 12.4283 ], [ 177.635, 10.6359 ], [ 177.275, 8.84378 ], [ 176.908,
7.05198 ], [ 176.534, 5.26033 ], [ 176.153, 3.46951 ], [ 175.764, 1.67927 ], [ 175.367, -
0.110376 ], [ 174.961, -1.89901 ], [ 174.545, -3.68524 ], [ 174.12, -5.47295 ], [ 173.684, -
7.25795 ], [ 173.237, -9.04099 ], [ 172.778, -10.8236 ], [ 172.306, -12.6038 ], [ 171.82, -
14.3819 ], [ 171.319, -16.1579 ], [ 170.803, -17.9316 ], [ 170.269, -19.7026 ], [ 169.718, -
21.4707 ], [ 169.146, -23.2357 ], [ 168.553, -24.9974 ], [ 167.937, -26.7551 ], [ 167.296, -
28.5088 ], [ 166.628, -30.2583 ], [ 165.93, -32.0024 ], [ 165.201, -33.7415 ], [ 164.436, -
35.4747 ], [ 163.632, -37.2016 ], [ 162.786, -38.9213 ], [ 161.894, -40.6333 ], [ 160.951, -
42.3365 ], [ 159.951, -44.0303 ], [ 158.888, -45.7135 ], [ 157.755, -47.3849 ], [ 156.545, -
49.043 ], [ 155.248, -50.6862 ], [ 153.854, -52.3129 ], [ 152.351, -53.9209 ], [ 150.725, -
55.5062 ], [ 148.961, -57.0673 ], [ 147.039, -58.6014 ], [ 144.941, -60.1019 ], [ 142.642, -
61.565 ], [ 140.117, -62.9847 ], [ 137.337, -64.3536 ], [ 134.269, -65.6633 ], [ 130.882, -
66.9032 ], [ 127.143, -68.0635 ], [ 123.025, -69.128 ], [ 118.506, -70.0837 ], [ 113.578, -
70.9141 ], [ 108.258, -71.6013 ], [ 102.589, -72.1289 ], [ 96.6414, -72.4833 ], [ 90.5182, -
72.6538 ], [ 84.3415, -72.6344 ], [ 79.6712, -72.4913 ], [ 79.36, -73.1371 ], [ 79.04, -
73.747 ], [ 78.6953, -74.3575 ], [ 78.324, -74.9664 ], [ 77.9225, -75.5741 ], [ 77.4872, -
76.1803 ], [ 77.0115, -76.7875 ], [ 76.4903, -77.3941 ], [ 75.9185, -77.9987 ], [ 75.2854, -
78.6026 ], [ 74.5843, -79.2045 ], [ 73.8025, -79.8039 ], [ 72.9249, -80.4011 ], [ 71.9323, -
80.9955 ], [ 70.8013, -81.5868 ], [ 69.5013, -82.1745 ], [ 67.992, -82.7576 ], [ 66.2209, -
83.3351 ], [ 64.0582, -83.9191 ], [ 76.9767, -84.3287 ], [ 95.4351, -84.3865 ] ]
],
[
[ [ -180.0, -33.46116031390136 ], [ -179.979, -33.3766 ], [ -
179.542, -31.579 ], [ -179.113, -29.7806 ], [ -178.691, -27.9809 ], [ -178.275, -26.1801 ],
[ -177.865, -24.3782 ], [ -177.459, -22.5756 ], [ -177.057, -20.7721 ], [ -176.658, -18.9678
], [ -176.262, -17.1627 ], [ -175.868, -15.3571 ], [ -175.475, -13.551 ], [ -175.083, -
11.7439 ], [ -174.691, -9.93709 ], [ -174.299, -8.12972 ], [ -173.907, -6.32126 ], [ -
173.512, -4.51394 ], [ -173.116, -2.70627 ], [ -172.718, -0.897964 ], [ -172.317, 0.910094
], [ -171.913, 2.71771 ], [ -171.505, 4.52522 ], [ -171.092, 6.33227 ], [ -170.674, 8.13897
], [ -170.251, 9.94497 ], [ -169.821, 11.7504 ], [ -169.383, 13.5549 ], [ -168.939, 15.3587
], [ -168.485, 17.1613 ], [ -168.021, 18.9627 ], [ -167.548, 20.7632 ], [ -167.062, 22.5619
], [ -166.564, 24.3589 ], [ -166.052, 26.1546 ], [ -165.524, 27.9482 ], [ -164.98, 29.7395
], [ -164.417, 31.5287 ], [ -163.833, 33.3153 ], [ -163.227, 35.0992 ], [ -162.596, 36.88 ],
[ -161.937, 38.6573 ], [ -161.247, 40.4316 ], [ -160.523, 42.201 ], [ -159.76, 43.9661 ], [
-158.955, 45.7265 ], [ -158.102, 47.4812 ], [ -157.194, 49.2297 ], [ -156.224, 50.971 ], [ -
155.185, 52.7046 ], [ -154.065, 54.4291 ], [ -152.854, 56.1432 ], [ -151.536, 57.8455 ], [ -
150.096, 59.534 ], [ -148.513, 61.2063 ], [ -146.761, 62.8595 ], [ -147.988, 63.1391 ], [ -
149.228, 63.4057 ], [ -150.492, 63.6613 ], [ -151.777, 63.9056 ], [ -153.086, 64.1387 ], [ -
154.417, 64.3599 ], [ -155.77, 64.5688 ], [ -157.143, 64.7652 ], [ -158.532, 64.9483 ], [ -
159.943, 65.1188 ], [ -161.372, 65.2758 ], [ -162.814, 65.4189 ], [ -164.275, 65.5482 ], [ -
165.746, 65.6632 ], [ -167.235, 65.7643 ], [ -168.732, 65.8506 ], [ -170.238, 65.9222 ], [ -

```



```
171.739, 65.9786 ], [ -173.27, 66.0196 ], [ -173.514, 64.2425 ], [ -173.761, 62.4647 ], [ -
174.014, 60.6863 ], [ -174.269, 58.9072 ], [ -174.528, 57.1276 ], [ -174.789, 55.3472 ], [ -
175.054, 53.566 ], [ -175.321, 51.7844 ], [ -175.591, 50.0014 ], [ -175.864, 48.2183 ], [ -
176.139, 46.4341 ], [ -176.418, 44.6494 ], [ -176.699, 42.8648 ], [ -176.983, 41.0777 ], [ -
177.27, 39.2908 ], [ -177.56, 37.5035 ], [ -177.852, 35.7153 ], [ -178.148, 33.9265 ], [ -
178.448, 32.1371 ], [ -178.751, 30.3474 ], [ -179.058, 28.557 ], [ -179.368, 26.7654 ], [ -
179.682, 24.9746 ], [ -180.0, 23.18851661442011 ], [ -180.0, -33.46116031390136 ] ]
]
},
"bbox": [
-180.0, -84.3865, 180.0, 66.0196
],
"properties": {
"sat:relative_orbit": 257,
"start_datetime": "2024-11-05T21:24:53.847812Z",
"end_datetime": "2024-11-05T22:09:11.211400Z",
"product:type": "OL_1_ERR___",
"product:timeliness_category": "NR",
"platform": "sentinel-3b",
"datetime": "2024-11-05T21:24:53.847812Z",
"instruments": [
"olci"
],
"constellation": "sentinel-3",
"product:timeliness": "NR",
"sat:orbit_state": "descending",
"brightCover": 53.0,
"id": "55f91923-1e32-4461-8970-c423afbafbb9",
"processing:level": "L1",
"sat:orbit_cycle": 99,
"s3:tidal_region": 1.0,
"file:checksum": "8d1cedb7e89d9705f0688ff6afa9ba07",
"s3:saline_water": 83.0,
"published": "2024-11-12T15:46:41.328000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-06T00:00:02.758000Z",
"online": true,
"processing:datetime": "2024-11-05T23:39:51.000000Z",
"sat:absolute_orbit": 34024,
"updated": "2024-11-12T15:46:41.328000Z",
"file:size": 939570442
},
"links": [
{
"href": "http://localhost:8080/stac",
```



```
        "rel": "root",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_0_NR_004.zip",
        "rel": "self",
        "type": "application/geo+json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
    }
],
"assets": {
    "product": {
        "href": "http://localhost:8080/stac/download/product/S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_0_NR_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href": "http://localhost:8080/stac/download/quicklook/S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_0_NR_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
}
```



```
    },
    "collection": "SENTINEL-3"
  },
  {
    "type": "Feature",
    "stac_version": "1.1.0",
    "id":
"S3B_OL_1_EFR___20241105T212454_20241105T212547_20241105T234053_0053_099_257_1800_PS2_0_NR_004.zip",
    "geometry": {
      "type": "Polygon",
      "coordinates": [
        [
          [-149.7, 59.9694], [-146.749, 62.8701], [-147.976, 63.1488], [-
149.217, 63.4159], [-150.483, 63.6722], [-151.768, 63.9166], [-153.075, 64.1494], [-
154.407, 64.3707], [-155.759, 64.5792], [-157.136, 64.7763], [-158.526, 64.9597], [-
159.936, 65.1292], [-161.363, 65.2863], [-162.811, 65.4304], [-164.269, 65.5598], [-
165.741, 65.6751], [-167.232, 65.7767], [-168.722, 65.863], [-170.23, 65.9325], [-171.74, 65.9897], [-
173.268, 66.0311], [-173.697, 62.9258], [-172.341, 62.8804], [-170.984, 62.8205], [-
169.649, 62.7511], [-168.307, 62.6657], [-166.976, 62.5677], [-165.656, 62.4574], [-
164.349, 62.3349], [-163.046, 62.1993], [-161.763, 62.0526], [-160.484, 61.8942], [-
159.223, 61.7236], [-157.98, 61.5422], [-156.745, 61.3495], [-155.531, 61.1456], [-
154.334, 60.9315], [-153.149, 60.7056], [-151.984, 60.4704], [-150.834, 60.2245], [-149.7, 59.9694]]
        ]
      },
    "bbox": [
      -173.697, 59.9694, -146.749, 66.0311
    ],
    "properties": {
      "sat:relative_orbit": 257,
      "start_datetime": "2024-11-05T21:24:53.781809Z",
      "end_datetime": "2024-11-05T21:25:47.312256Z",
      "product:type": "OL_1_EFR___",
      "product:timeliness_category": "NR",
      "platform": "sentinel-3b",
      "datetime": "2024-11-05T21:24:53.781809Z",
      "instruments": [
        "olci"
      ],
      "constellation": "sentinel-3",
      "product:timeliness": "NR",
      "sat:orbit_state": "descending",
      "brightCover": 92.0,
      "id": "a634dcbe-05ee-48c1-87f6-c05bc5047f80",
      "processing:level": "L1",
      "sat:orbit_cycle": 99,
      "s3:tidal_region": 3.0,
    }
  }
]
```



```
"file:checksum": "6f55c8287e5a81bea62e9d16e6ed52da",
"s3:saline_water": 33.0,
"published": "2024-11-12T15:43:32.999000Z",
"sar:instrument_mode": "Earth Observation",
"origin_date": "2024-11-06T00:00:02.456000Z",
"online": true,
"processing:datetime": "2024-11-05T23:40:58.000000Z",
"sat:absolute_orbit": 34024,
"updated": "2024-11-12T15:43:32.999000Z",
"file:size": 260862357
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_OL_1_EFR____20241105T212454_20241105T212547_20241105T234053_0053_099_257_1800_PS2_0_NR_004.zip",
    "rel": "self",
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
    "type": "application/json",
    "method": "GET"
  }
],
"assets": {
  "product": {
    "href": "http://localhost:8080/stac/download/product/S3B_OL_1_EFR____20241105T212454_20241105T212547_20241105T234053_0053_099_257_1800_PS2_0_NR_004.zip",
    "title": "Product download",
    "type": "application/zip",
```



```

        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_0L_1_EFR____20241105T212454_20241105T2125
47_20241105T234053_0053_099_257_1800_PS2_0_NR_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
{
    "type": "Feature",
    "stac_version": "1.1.0",
    "id":
"S3B_SL_1_RBT____20241104T021307_20241104T021607_20241104T224450_0180_099_231_3960_PS2_0_NT_
004.zip",
    "geometry": {
        "type": "Polygon",
        "coordinates": [
            [[107.718,-66.2093],[109.067,-63.6552],[110.243,-61.0482],[111.288,-
58.4348],[112.228,-55.8248],[112.215,-55.8144],[111.927,-55.7819],[111.124,-
55.6911],[110.34,-55.5943],[109.542,-55.4879],[108.758,-55.384],[107.976,-
55.2764],[107.201,-55.1556],[106.442,-55.0315],[105.662,-54.9091],[104.91,-
54.7763],[104.15,-54.6369],[103.407,-54.4957],[102.66,-54.359],[101.913,-54.2059],[101.175,-
54.0506],[100.462,-53.89],[99.7311,-53.7278],[99.0197,-53.5597],[98.3101,-
53.3893],[97.5934,-53.2096],[96.9043,-53.035],[96.2031,-52.8491],[95.509,-52.6546],[94.827,-
52.4732],[94.1531,-52.2751],[93.4873,-52.0746],[92.8152,-51.8752],[92.1624,-
51.6621],[91.4977,-51.4494],[90.8605,-51.2323],[90.8537,-51.2402],[88.6957,-
53.6076],[86.2674,-55.9362],[83.5251,-58.2079],[80.4623,-60.374],[81.1988,-
60.6453],[81.9704,-60.9167],[82.7311,-61.1864],[83.5066,-61.4418],[84.2973,-
61.6978],[85.1022,-61.9543],[85.9226,-62.2051],[86.7644,-62.4546],[87.6079,-
62.6823],[88.4726,-62.9204],[89.3343,-63.1473],[90.2285,-63.3733],[91.1315,-
63.5806],[92.0524,-63.8009],[92.9711,-63.9978],[93.9213,-64.1983],[94.8719,-
64.39],[95.8408,-64.5775],[96.8352,-64.7614],[97.8207,-64.9352],[98.8281,-65.0951],[99.846,-
65.2579],[100.886,-65.4151],[101.92,-65.5552],[102.983,-65.6897],[104.054,-
65.8258],[105.122,-65.9475],[106.202,-66.0638],[107.312,-66.1715],[107.718,-66.2093]]
        ]
    },
    "bbox": [

```



```
80.4623, -66.2093, 112.228, -51.2323
],
"properties": {
  "sat:relative_orbit": 231,
  "start_datetime": "2024-11-04T02:13:07.312318Z",
  "end_datetime": "2024-11-04T02:16:07.312318Z",
  "product:type": "SL_1_RBT___",
  "product:timeliness_category": "NT",
  "platform": "sentinel-3b",
  "datetime": "2024-11-04T02:13:07.312318Z",
  "s3:land": 0.030903,
  "instruments": [
    "slstr"
  ],
  "constellation": "sentinel-3",
  "product:timeliness": "NT",
  "sat:orbit_state": "descending",
  "eo:cloud_cover": 92.374861,
  "id": "b7bf52ff-016f-4318-b56c-3cd07ecce056",
  "processing:level": "L1",
  "sat:orbit_cycle": 99,
  "s3:tidal_region": 0.0,
  "file:checksum": "6eb1225b81fcc30c9dc5c481d672defb",
  "s3:saline_water": 99.969097,
  "published": "2024-11-12T15:43:09.528000Z",
  "sar:instrument_mode": "Earth Observation",
  "origin_date": "2024-11-05T00:00:13.305000Z",
  "online": true,
  "processing:datetime": "2024-11-04T23:00:02.000000Z",
  "sat:absolute_orbit": 33998,
  "updated": "2024-11-12T15:43:09.528000Z",
  "file:size": 434963488
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_1_RBT___20241104T021307_20241104T021607_20241104T224450_0180_099_231_3960_PS2_0_NT_004.zip",
    "rel": "self",
    "type": "application/geo+json",
```





```

        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "parent",
        "type": "application/json",
        "method": "GET"
    },
    {
        "href": "http://localhost:8080/stac/collections/SENTINEL-3",
        "rel": "collection",
        "type": "application/json",
        "method": "GET"
    }
],
"assets": {
    "product": {
        "href":
"http://localhost:8080/stac/download/product/S3B_SL_1_RBT____20241104T021307_20241104T021607_20241104T224450_0180_099_231_3960_PS2_0_NT_004.zip",
        "title": "Product download",
        "type": "application/zip",
        "roles": [
            "data"
        ]
    },
    "quicklook": {
        "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_1_RBT____20241104T021307_20241104T021607_20241104T224450_0180_099_231_3960_PS2_0_NT_004.zip",
        "title": "Quicklook download",
        "type": "image/jpeg",
        "roles": [
            "thumbnail"
        ]
    }
},
"collection": "SENTINEL-3"
},
{
    ... // product
},
{
    ... // product
},
{

```



```
... // product
},
{
... // product
}
],
"links": [
{
  "href": "http://localhost:8080/stac",
  "rel": "root",
  "type": "application/json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3/items?sortby=-
properties.updated",
  "rel": "self",
  "type": "application/json",
  "method": "GET"
},
{
  "href": "http://localhost:8080/stac/collections/SENTINEL-3",
  "rel": "parent",
  "type": "application/json",
  "title": "collection",
  "method": "GET"
}
],
"numberMatched": 10,
"numberReturned": 10
}
```

#### Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.4.7 STAC Search - Sortby (POST)

**Description :** Allows the users to create a search collection by defining a sortby property.

**HTTP Method :** POST

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/search>

**Example :** <http://localhost:8080/stac/search>

**Return :** A collection of items sorted by updated property in descending order first, and then by id in ascending order.

**Body :**

```
{
  "collections": [
    "SENTINEL-3"
  ],
  "limit": 2,
  "sortby": [
    {
      "field": "properties.updated",
      "direction": "desc"
    },
    {
      "field": "properties.datetime",
      "direction": "asc"
    }
  ]
}
```

**Response :** Get STAC search by sortby (HTTP 200)

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "stac_version": "1.1.0",
      "id":
      "S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_0_NR_004.zip",
      "geometry": {
        "type": "MultiPolygon",
        "coordinates": [
          [
            [ [ 95.4351, -84.3865 ], [ 112.56, -83.8962 ], [ 126.214, -82.9721 ], [ 136.347, -81.7588 ], [ 143.785, -80.3644 ], [ 149.34, -78.8563 ], [ 153.602, -77.2755 ], [ 156.965, -75.6458 ], [ 159.682, -73.981 ], [ 161.932, -72.2922 ], [ 163.829, -70.5845 ], [ 165.457, -68.8627 ], [ 166.876, -67.1297 ], [ 168.13, -65.3879 ], [ 169.25, -63.639 ], [ 170.26, -61.8835 ], [ 171.181, -60.1232 ], [ 172.028, -58.3588 ], [ 172.811, -56.5901 ], [ 173.541, -54.818 ], [ 174.226, -53.043 ], [ 174.871, -51.2653 ], [ 175.483, -49.4849 ], [ 176.065, -47.7024 ], [ 176.622, -45.9177 ], [ 177.156, -44.131 ], [ 177.671, -42.3426 ], [ 178.168, -40.5524 ], [ 178.65, -38.7606 ], [ 179.119, -36.9673 ], [ 179.575, -35.1725 ], [ 180.0, -33.46116031390135 ], [ 180.0, 23.18851661442011 ], [ 179.999, 23.1829 ], [ 179.677,
```



```

21.3905 ], [ 179.349, 19.5984 ], [ 179.017, 17.8061 ], [ 178.68, 16.0134 ], [ 178.337,
14.2209 ], [ 177.989, 12.4283 ], [ 177.635, 10.6359 ], [ 177.275, 8.84378 ], [ 176.908,
7.05198 ], [ 176.534, 5.26033 ], [ 176.153, 3.46951 ], [ 175.764, 1.67927 ], [ 175.367, -
0.110376 ], [ 174.961, -1.89901 ], [ 174.545, -3.68524 ], [ 174.12, -5.47295 ], [ 173.684, -
7.25795 ], [ 173.237, -9.04099 ], [ 172.778, -10.8236 ], [ 172.306, -12.6038 ], [ 171.82, -
14.3819 ], [ 171.319, -16.1579 ], [ 170.803, -17.9316 ], [ 170.269, -19.7026 ], [ 169.718, -
21.4707 ], [ 169.146, -23.2357 ], [ 168.553, -24.9974 ], [ 167.937, -26.7551 ], [ 167.296, -
28.5088 ], [ 166.628, -30.2583 ], [ 165.93, -32.0024 ], [ 165.201, -33.7415 ], [ 164.436, -
35.4747 ], [ 163.632, -37.2016 ], [ 162.786, -38.9213 ], [ 161.894, -40.6333 ], [ 160.951, -
42.3365 ], [ 159.951, -44.0303 ], [ 158.888, -45.7135 ], [ 157.755, -47.3849 ], [ 156.545, -
49.043 ], [ 155.248, -50.6862 ], [ 153.854, -52.3129 ], [ 152.351, -53.9209 ], [ 150.725, -
55.5062 ], [ 148.961, -57.0673 ], [ 147.039, -58.6014 ], [ 144.941, -60.1019 ], [ 142.642, -
61.565 ], [ 140.117, -62.9847 ], [ 137.337, -64.3536 ], [ 134.269, -65.6633 ], [ 130.882, -
66.9032 ], [ 127.143, -68.0635 ], [ 123.025, -69.128 ], [ 118.506, -70.0837 ], [ 113.578, -
70.9141 ], [ 108.258, -71.6013 ], [ 102.589, -72.1289 ], [ 96.6414, -72.4833 ], [ 90.5182, -
72.6538 ], [ 84.3415, -72.6344 ], [ 79.6712, -72.4913 ], [ 79.36, -73.1371 ], [ 79.04, -
73.747 ], [ 78.6953, -74.3575 ], [ 78.324, -74.9664 ], [ 77.9225, -75.5741 ], [ 77.4872, -
76.1803 ], [ 77.0115, -76.7875 ], [ 76.4903, -77.3941 ], [ 75.9185, -77.9987 ], [ 75.2854, -
78.6026 ], [ 74.5843, -79.2045 ], [ 73.8025, -79.8039 ], [ 72.9249, -80.4011 ], [ 71.9323, -
80.9955 ], [ 70.8013, -81.5868 ], [ 69.5013, -82.1745 ], [ 67.992, -82.7576 ], [ 66.2209, -
83.3351 ], [ 64.0582, -83.9191 ], [ 62.9767, -84.3287 ], [ 61.9531, -84.3865 ] ]
],
[
[ [ -180.0, -33.46116031390136 ], [ -179.979, -33.3766 ], [ -
179.542, -31.579 ], [ -179.113, -29.7806 ], [ -178.691, -27.9809 ], [ -178.275, -26.1801 ],
[ -177.865, -24.3782 ], [ -177.459, -22.5756 ], [ -177.057, -20.7721 ], [ -176.658, -18.9678
], [ -176.262, -17.1627 ], [ -175.868, -15.3571 ], [ -175.475, -13.551 ], [ -175.083, -
11.7439 ], [ -174.691, -9.93709 ], [ -174.299, -8.12972 ], [ -173.907, -6.32126 ], [ -
173.512, -4.51394 ], [ -173.116, -2.70627 ], [ -172.718, -0.897964 ], [ -172.317, 0.910094
], [ -171.913, 2.71771 ], [ -171.505, 4.52522 ], [ -171.092, 6.33227 ], [ -170.674, 8.13897
], [ -170.251, 9.94497 ], [ -169.821, 11.7504 ], [ -169.383, 13.5549 ], [ -168.939, 15.3587
], [ -168.485, 17.1613 ], [ -168.021, 18.9627 ], [ -167.548, 20.7632 ], [ -167.062, 22.5619
], [ -166.564, 24.3589 ], [ -166.052, 26.1546 ], [ -165.524, 27.9482 ], [ -164.98, 29.7395
], [ -164.417, 31.5287 ], [ -163.833, 33.3153 ], [ -163.227, 35.0992 ], [ -162.596, 36.88 ],
[ -161.937, 38.6573 ], [ -161.247, 40.4316 ], [ -160.523, 42.201 ], [ -159.76, 43.9661 ], [
-158.955, 45.7265 ], [ -158.102, 47.4812 ], [ -157.194, 49.2297 ], [ -156.224, 50.971 ], [
-155.185, 52.7046 ], [ -154.065, 54.4291 ], [ -152.854, 56.1432 ], [ -151.536, 57.8455 ], [
-150.096, 59.534 ], [ -148.513, 61.2063 ], [ -146.761, 62.8595 ], [ -147.988, 63.1391 ], [
-149.228, 63.4057 ], [ -150.492, 63.6613 ], [ -151.777, 63.9056 ], [ -153.086, 64.1387 ], [
-154.417, 64.3599 ], [ -155.77, 64.5688 ], [ -157.143, 64.7652 ], [ -158.532, 64.9483 ], [
-159.943, 65.1188 ], [ -161.372, 65.2758 ], [ -162.814, 65.4189 ], [ -164.275, 65.5482 ], [
-165.746, 65.6632 ], [ -167.235, 65.7643 ], [ -168.732, 65.8506 ], [ -170.238, 65.9222 ], [
-171.739, 65.9786 ], [ -173.27, 66.0196 ], [ -173.514, 64.2425 ], [ -173.761, 62.4647 ], [
-174.014, 60.6863 ], [ -174.269, 58.9072 ], [ -174.528, 57.1276 ], [ -174.789, 55.3472 ], [
-175.054, 53.566 ], [ -175.321, 51.7844 ], [ -175.591, 50.0014 ], [ -175.864, 48.2183 ], [
-176.139, 46.4341 ], [ -176.418, 44.6494 ], [ -176.699, 42.8648 ], [ -176.983, 41.0777 ], [

```



```
177.27, 39.2908 ], [ -177.56, 37.5035 ], [ -177.852, 35.7153 ], [ -178.148, 33.9265 ], [ -
178.448, 32.1371 ], [ -178.751, 30.3474 ], [ -179.058, 28.557 ], [ -179.368, 26.7654 ], [ -
179.682, 24.9746 ], [ -180.0, 23.18851661442011 ], [ -180.0, -33.46116031390136 ] ]
    ]
  },
  "bbox": [
    -180.0, -84.3865, 180.0, 66.0196
  ],
  "properties": {
    "sat:relative_orbit": 257,
    "start_datetime": "2024-11-05T21:24:53.847812Z",
    "end_datetime": "2024-11-05T22:09:11.211400Z",
    "product:type": "OL_1_ERR___",
    "product:timeliness_category": "NR",
    "platform": "sentinel-3b",
    "datetime": "2024-11-05T21:24:53.847812Z",
    "instruments": [
      "olci"
    ],
    "constellation": "sentinel-3",
    "product:timeliness": "NR",
    "sat:orbit_state": "descending",
    "brightCover": 53.0,
    "id": "55f91923-1e32-4461-8970-c423afbafbb9",
    "processing:level": "L1",
    "sat:orbit_cycle": 99,
    "s3:tidal_region": 1.0,
    "file:checksum": "8d1cedb7e89d9705f0688ff6afa9ba07",
    "s3:saline_water": 83.0,
    "published": "2024-11-12T15:46:41.328000Z",
    "sar:instrument_mode": "Earth Observation",
    "origin_date": "2024-11-06T00:00:02.758000Z",
    "online": true,
    "processing:datetime": "2024-11-05T23:39:51.000000Z",
    "sat:absolute_orbit": 34024,
    "updated": "2024-11-12T15:46:41.328000Z",
    "file:size": 939570442
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    }
  ],
}
```



```

    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_O_NR_004.zip",
      "rel": "self",
      "type": "application/geo+json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "parent",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "collection",
      "type": "application/json",
      "method": "GET"
    }
  ],
  "assets": {
    "product": {
      "href": "http://localhost:8080/stac/download/product/S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_O_NR_004.zip",
      "title": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    },
    "quicklook": {
      "href": "http://localhost:8080/stac/download/quicklook/S3B_OL_1_ERR____20241105T212454_20241105T220911_20241105T233936_2657_099_257____PS2_O_NR_004.zip",
      "title": "Quicklook download",
      "type": "image/jpeg",
      "roles": [
        "thumbnail"
      ]
    }
  },
  "collection": "SENTINEL-3"
},
{

```



```
"type": "Feature",
"stac_version": "1.1.0",
"id":
"S3B_OL_1_EFR____20241105T212454_20241105T212547_20241105T234053_0053_099_257_1800_PS2_0_NR_
004.zip",
"geometry": {
  "type": "Polygon",
  "coordinates": [
    [[-149.7, 59.9694], [-146.749, 62.8701], [-147.976, 63.1488], [-
149.217, 63.4159], [-150.483, 63.6722], [-151.768, 63.9166], [-153.075, 64.1494], [-
154.407, 64.3707], [-155.759, 64.5792], [-157.136, 64.7763], [-158.526, 64.9597], [-
159.936, 65.1292], [-161.363, 65.2863], [-162.811, 65.4304], [-164.269, 65.5598], [-
165.741, 65.6751], [-167.232, 65.7767], [-168.722, 65.863], [-170.23, 65.9325], [-171.74, 65.9897], [-
173.268, 66.0311], [-173.697, 62.9258], [-172.341, 62.8804], [-170.984, 62.8205], [-
169.649, 62.7511], [-168.307, 62.6657], [-166.976, 62.5677], [-165.656, 62.4574], [-
164.349, 62.3349], [-163.046, 62.1993], [-161.763, 62.0526], [-160.484, 61.8942], [-
159.223, 61.7236], [-157.98, 61.5422], [-156.745, 61.3495], [-155.531, 61.1456], [-
154.334, 60.9315], [-153.149, 60.7056], [-151.984, 60.4704], [-150.834, 60.2245], [-149.7, 59.9694]]
  ],
},
"bbox": [
  -173.697, 59.9694, -146.749, 66.0311
],
"properties": {
  "sat:relative_orbit": 257,
  "start_datetime": "2024-11-05T21:24:53.781809Z",
  "end_datetime": "2024-11-05T21:25:47.312256Z",
  "product:type": "OL_1_EFR____",
  "product:timeliness_category": "NR",
  "platform": "sentinel-3b",
  "datetime": "2024-11-05T21:24:53.781809Z",
  "instruments": [
    "olci"
  ],
  "constellation": "sentinel-3",
  "product:timeliness": "NR",
  "sat:orbit_state": "descending",
  "brightCover": 92.0,
  "id": "a634dcbe-05ee-48c1-87f6-c05bc5047f80",
  "processing:level": "L1",
  "sat:orbit_cycle": 99,
  "s3:tidal_region": 3.0,
  "file:checksum": "6f55c8287e5a81bea62e9d16e6ed52da",
  "s3:saline_water": 33.0,
  "published": "2024-11-12T15:43:32.999000Z",
  "sar:instrument_mode": "Earth Observation",
```



```
    "origin_date": "2024-11-06T00:00:02.456000Z",
    "online": true,
    "processing_datetime": "2024-11-05T23:40:58.000000Z",
    "sat:absolute_orbit": 34024,
    "updated": "2024-11-12T15:43:32.999000Z",
    "file:size": 260862357
  },
  "links": [
    {
      "href": "http://localhost:8080/stac",
      "rel": "root",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_OL_1_EFR____20241105T212454_20241105T212547_20241105T234053_0053_099_257_1800_PS2_O_NR_004.zip",
      "rel": "self",
      "type": "application/geo+json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "parent",
      "type": "application/json",
      "method": "GET"
    },
    {
      "href": "http://localhost:8080/stac/collections/SENTINEL-3",
      "rel": "collection",
      "type": "application/json",
      "method": "GET"
    }
  ],
  "assets": {
    "product": {
      "href": "http://localhost:8080/stac/download/product/S3B_OL_1_EFR____20241105T212454_20241105T212547_20241105T234053_0053_099_257_1800_PS2_O_NR_004.zip",
      "title": "Product download",
      "type": "application/zip",
      "roles": [
        "data"
      ]
    }
  }
}
```





```
        "quicklook": {
            "href":
"http://localhost:8080/stac/download/quicklook/S3B_0L_1_EFR____20241105T212454_20241105T2125
47_20241105T234053_0053_099_257_1800_PS2_0_NR_004.zip",
            "title": "Quicklook download",
            "type": "image/jpeg",
            "roles": [
                "thumbnail"
            ]
        },
        "collection": "SENTINEL-3"
    ],
    "links": [
        {
            "href": "http://localhost:8080/stac",
            "rel": "root",
            "type": "application/json",
            "method": "GET"
        },
        {
            "href": "http://localhost:8080/stac/collections/SENTINEL-
3/items?limit=2&sortby=-properties.updated, +properties.datetime",
            "rel": "self",
            "type": "application/json",
            "method": "GET"
        },
        {
            "href": "http://localhost:8080/stac/collections/SENTINEL-3",
            "rel": "parent",
            "type": "application/json",
            "title": "collection",
            "method": "GET"
        }
    ],
    "numberMatched": 10,
    "numberReturned": 2
}
```

## Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

## 3.5 STAC API Download Query Examples

### 3.5.1 Download a Product (GET)

**Description :** Download a product by its id (product name).

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/download/product/<product-name>>

**Example :**

```
http://localhost:8080/stac/download/product/S3B_SL_2_FRP____20240824T081725_20240824T0820
25_20240824T232111_0179_096_363_3600_PS2_O_NT_004.zip
```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.5.2 Download a Product Range (GET)

**Description :** Download a part of a product.

**HTTP Method :** GET

**Header :** Range bytes=0-1023

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/download/product/<product-name>>

**Example :**

```
http://localhost:8080/stac/download/product/S3B_SL_2_FRP____20240824T081725_20240824T0820
25_20240824T232111_0179_096_363_3600_PS2_O_NT_004.zip
```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

**Curl :**

```
curl -H "Authorization: Bearer <TOKEN>" \
-H "Range: bytes=0-1023" \
```

```
-o <product-name.zip> \  
http://<server.host>:<server.port>/stac/download/product/<product-name.zip>
```

**Example :**

```
curl -H "Authorization: Bearer YOUR_TOKEN" \  
-H "Range: bytes=0-1023" \  
-o  
3B_SL_2_FRP____20240824T081725_20240824T082025_20240824T232111_0179_096_363_3600_P  
S2_O_NT_004.zip \  
http://localhost:8080/stac/download/product/3B_SL_2_FRP____20240824T081725_20240824T08  
2025_20240824T232111_0179_096_363_3600_PS2_O_NT_004.zip
```

### 3.5.3 Download a Quicklook (GET)

**Description :** Download an attached file or product part (quicklook)

- The quicklook is shown on the terminal in case of a query executed via a Web browser.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/download/quicklook/<product-name>>

**Example :**

```
http://localhost:8080/stac/download/quicklook/S3B_SL_2_FRP____20240824T081725_20240824T082  
025_20240824T232111_0179_096_363_3600_PS2_O_NT_004.zip
```

**Error :**

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

### 3.5.4 Download a Product Node (GET)

**Description :** Download a file of a product.

**HTTP Method :** GET

**URL :** <http://<server.url>:<server.port>/<context-path>/stac/download/product/<product-node.zip>/nodes/<file-name>>

**NOTE :** It is possible to see the list of nodes under "assets" using the API from chapter 3.3.3 if the following parameter is set to true in the application.properties file :

- stac.item.showNodes = true

### Example :

[http://localhost:8080/stac/download/product/S3B\\_SL\\_2\\_LST\\_\\_\\_\\_20241104T081804\\_20241104T082104\\_20241104T230533\\_0180\\_099\\_235\\_1620\\_PS2\\_O\\_NT\\_004.zip/nodes/time\\_in.nc](http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_O_NT_004.zip/nodes/time_in.nc)

### Product Node Example :

```
{
  "type": "Feature",
  "stac_version": "1.1.0",
  "id":
  "S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_O_NT_004.zip",
  "geometry": {
    "type": "Polygon",
    "coordinates": [
      [
        [ 61.7358, 68.5212 ], [ 66.768, 70.5419 ], [ 72.9408, 72.4351 ], [ 80.4355,
        74.0999 ], [ 89.4056, 75.4539 ], [ 89.4227, 75.4659 ], [ 89.1403, 75.6159 ], [ 88.2839,
        76.0247 ], [ 87.4305, 76.4386 ], [ 86.4979, 76.8412 ], [ 85.5165, 77.2363 ], [ 84.464,
        77.6387 ], [ 83.3754, 78.0293 ], [ 82.1651, 78.4116 ], [ 80.8962, 78.7963 ], [ 79.5476,
        79.173 ], [ 78.1043, 79.5427 ], [ 76.5528, 79.9059 ], [ 74.8769, 80.2641 ], [ 73.086,
        80.6118 ], [ 71.168, 80.9468 ], [ 69.1078, 81.2687 ], [ 66.8814, 81.581 ], [ 64.4676,
        81.8846 ], [ 61.8967, 82.1643 ], [ 59.1476, 82.4396 ], [ 56.2228, 82.6868 ], [ 53.0366,
        82.924 ], [ 49.6834, 83.1251 ], [ 46.1542, 83.3059 ], [ 42.4124, 83.4582 ], [ 38.5307,
        83.5819 ], [ 34.4846, 83.6904 ], [ 30.3426, 83.7474 ], [ 26.1454, 83.7852 ], [ 21.9498,
        83.7781 ], [ 21.953, 83.7694 ], [ 22.5179, 81.1685 ], [ 22.6484, 78.5571 ], [ 22.5846,
        75.9444 ], [ 22.4204, 73.374 ], [ 24.0306, 73.3599 ], [ 25.6032, 73.3274 ], [ 27.2014,
        73.294 ], [ 28.7652, 73.2455 ], [ 30.3454, 73.1675 ], [ 31.8747, 73.0934 ], [ 33.4248,
        73.0108 ], [ 34.9489, 72.915 ], [ 36.4426, 72.7967 ], [ 37.9263, 72.683 ], [ 39.3904,
        72.5446 ], [ 40.8222, 72.4077 ], [ 42.269, 72.2491 ], [ 43.6599, 72.0879 ], [ 45.0231,
        71.9163 ], [ 46.3581, 71.7357 ], [ 47.6708, 71.5448 ], [ 48.9676, 71.3423 ], [ 50.2299,
        71.1326 ], [ 51.459, 70.9154 ], [ 52.6643, 70.6892 ], [ 53.8489, 70.4539 ], [ 54.9918,
        70.2123 ], [ 56.1463, 69.9678 ], [ 57.2224, 69.7115 ], [ 58.3057, 69.4439 ], [ 59.355,
        69.1778 ], [ 60.3639, 68.9044 ], [ 61.3608, 68.6292 ], [ 61.7358, 68.5212 ]
      ]
    ]
  },
}
```



```
"bbox": [
  21.9498, 68.5212, 89.4227, 83.7852
],
"properties": {
  "sat:relative_orbit": 235,
  "start_datetime": "2024-11-04T08:18:04.373665Z",
  "end_datetime": "2024-11-04T08:21:04.373665Z",
  "product:type": "SL_2_LST___",
  "product:timeliness_category": "NT",
  "platform": "sentinel-3b",
  "datetime": "2024-11-04T08:18:04.373665Z",
  "s3:land": 7.812333,
  "instruments": [
    "slstr"
  ],
  "constellation": "sentinel-3",
  "product:timeliness": "NT",
  "sat:orbit_state": "descending",
  "eo:cloud_cover": 6.625167,
  "id": "29ec418e-cb3e-442f-a420-1fa604eade0b",
  "processing:level": "L2",
  "sat:orbit_cycle": 99,
  "s3:tidal_region": 0.0,
  "file:checksum": "3eb16a8cca43ca7422b97da4a7baa666",
  "s3:saline_water": 92.187667,
  "published": "2024-11-12T10:08:29.758000Z",
  "sar:instrument_mode": "Earth Observation",
  "origin_date": "2024-11-05T00:00:11.462000Z",
  "online": true,
  "processing:datetime": "2024-11-04T23:07:48.000000Z",
  "sat:absolute_orbit": 34002,
  "updated": "2024-11-12T10:08:29.758000Z",
  "file:size": 58430125
},
"links": [
  {
    "href": "http://localhost:8080/stac",
    "rel": "root",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3/items/S3B_SL_2_LST___20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS_2_0_NT_004.zip",
    "rel": "self",
```



```
    "type": "application/geo+json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "parent",
    "type": "application/json",
    "method": "GET"
  },
  {
    "href": "http://localhost:8080/stac/collections/SENTINEL-3",
    "rel": "collection",
    "type": "application/json",
    "method": "GET"
  }
],
"assets": {
  "product": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
    "title": "Product download",
    "type": "application/zip",
    "roles": [
      "data"
    ]
  },
  "quicklook": {
    "href":
"http://localhost:8080/stac/download/quicklook/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip",
    "title": "Quicklook download",
    "type": "image/jpeg",
    "roles": [
      "thumbnail"
    ]
  },
  "LST_ancillary_ds.nc": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/LST_ancillary_ds.nc",
    "title": "lst_ancillary_ds.nc",
    "description": "netCDF file",
    "type": "application/x-netcdf"
  },
  "LST_in.nc": {
```



```
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/LST_in.nc",
    "title": "lst_in.nc",
    "description": "netCDF file",
    "type": "application/x-netcdf"
  },
  "cartesian_in.nc": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/cartesian_in.nc",
    "title": "cartesian_in.nc",
    "description": "netCDF file",
    "type": "application/x-netcdf"
  },
  "cartesian_tx.nc": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/cartesian_tx.nc",
    "title": "cartesian_tx.nc",
    "description": "netCDF file",
    "type": "application/x-netcdf"
  },
  "flags_in.nc": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/flags_in.nc",
    "title": "flags_in.nc",
    "description": "netCDF file",
    "type": "application/x-netcdf"
  },
  "geodetic_in.nc": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/geodetic_in.nc",
    "title": "geodetic_in.nc",
    "description": "netCDF file",
    "type": "application/x-netcdf"
  },
  "geodetic_tx.nc": {
    "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/geodetic_tx.nc",
    "title": "geodetic_tx.nc",
    "description": "netCDF file",
    "type": "application/x-netcdf"
  }
```



```
    },
    "geometry_tn.nc": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/geometry_tn.nc",
      "title": "geometry_tn.nc",
      "description": "netCDF file",
      "type": "application/x-netcdf"
    },
    "indices_in.nc": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/indices_in.nc",
      "title": "indices_in.nc",
      "description": "netCDF file",
      "type": "application/x-netcdf"
    },
    "met_tx.nc": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/met_tx.nc",
      "title": "met_tx.nc",
      "description": "netCDF file",
      "type": "application/x-netcdf"
    },
    "quicklook.jpg": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/quicklook.jpg",
      "title": "quicklook.jpg",
      "description": "JPEG",
      "type": "image/jpeg"
    },
    "time_in.nc": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/time_in.nc",
      "title": "time_in.nc",
      "description": "netCDF file",
      "type": "application/x-netcdf"
    },
    "xfdumanifest.xml": {
      "href":
"http://localhost:8080/stac/download/product/S3B_SL_2_LST____20241104T081804_20241104T082104_20241104T230533_0180_099_235_1620_PS2_0_NT_004.zip/nodes/xfdumanifest.xml",
      "title": "xfdumanifest.xml",
```





```
{
  "description": "XML Document (eXtensible Markup Language)",
  "type": "application/xml"
},
"collection": "SENTINEL-3"
}
```

## Error :

- HTTP 400 - An invalid parameter.
- HTTP 500 - An error occurred. See the logs.

## Annex 1. JSON Example of STAC-API – Sortby (HTTP - POST)

```
{
  "collections": [
    "<collection-id>"
  ],
  "limit": 20,
  "sortby": [
    {
      "field": "<properties.updated>",
      "direction": "<desc>"
    },
    {
      "field": "<id>",
      "direction": "<asc>"
    }
  ]
}
```