



# PDS API WORKING GROUP

JORDAN PADAMS, THOMAS LOUBRIEU, DAN CRICHTON, EMILY LAW, STEVE HUGHES

JET PROPULSION LABORATORY, CALIFORNIA INSTITUTE OF TECHNOLOGY

# What a web API request is ?

## Requests:

```
GET https://pds.nasa.gov/api/products/urn:nasa:pds:orex...1.0
```

```
GET https://pds.nasa.gov/api/collections?search=europa
```

## Response:

```
{  
  "id": "urn:nasa:pds:orex.ocams:d...824s852_pol_10pan.fits::1.0",  
  "class": "Product_Observational",  
  "title": "OSIRIS-RE... Data Product 2019-07-02T07:28:24.852Z",  
  "start_date_time": "2019-07-02T07:28:24.852Z",  
  "stop_date_time": "2019-07-02T07:28:24.852Z",  
  ...  
}
```

# API Plan

## Ambition:

- Build a layer which will allow users/systems to explore/use PDS's resources seamlessly,
- In other words build the **highways to drive users to data in nodes**

## Design a PDS-wide web API specification

- Initial focus is on **search on collections** (build 11.1) (in progress)
- API should be applicable to other resources (products) and services (view, download, transform, ...)

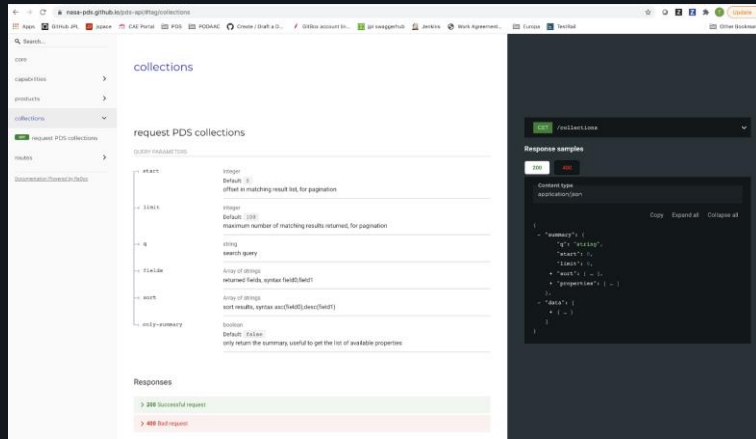
## Implements the standard with (Build 11.1):

- Engineering Node provides **libraries, skeleton servers, clients** to help with the implementation (done)
- Engineering Node provides a **standard implementation on top of registry** (in progress)
- Discipline Nodes (1-2) provide implementation to **demonstrate the integration** of the API (to be done)

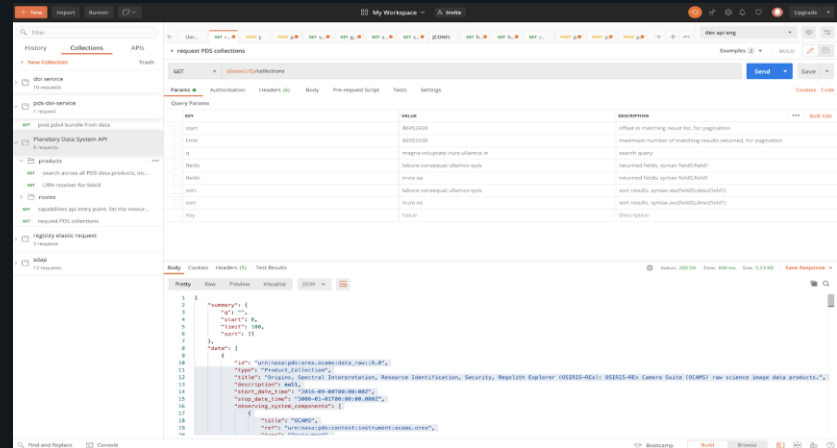


# API Implementation Status

- **Automated code generation from the specification:**
  - Documentation: <https://nasa-pds.github.io/pds-api/>
  - Test with Postman: <https://github.com/NASA-PDS/pds-api#to-generate-a-postman-test-collection>
  - Skeleton server (java): <https://github.com/NASA-PDS/pds-api-service>
  - Client (python): <https://github.com/NASA-PDS/pds-api-client>



API Online Documentation



Test Suite with Postman

# API Implementation Status

- **Demo server** integrated with the registry: <https://pds-gamma.jpl.nasa.gov/api/swagger-ui.html>

**PDS federated API**  
Federated PDS API which provides actionable end points standardized between the different nodes.

Contact the developer  
Apache 2.0

capabilities [Show/Hide](#) [List Operations](#) [Expand Operations](#)

**collections** [Show/Hide](#) [List Operations](#) [Expand Operations](#)

`get` /collections [request PDS collections](#)

Response Class (Status 200)  
Successful request

Model Example Value

```
{
  "data": [
    {
      "description": "string",
      "id": "string",
      "metadata": {
        "creation_date_time": "string",
        "last_url": "string",
        "update_date_time": "string",
        "version": "string"
      }
    }
  ]
}
```

Response Content Type `application/json`

Parameters

Parameter	Value	Description	Parameter Type	Data Type
start	<input type="text"/>	offset in matching result list, for pagination	query	integer
limit	<input type="text" value="100"/>	maximum number of matching results returned, for pagination	query	integer
q	<input type="text"/>	search query	query	string
fields	<input type="text"/>	return fields, syntax field,field	query	Array[string]

# Plans

- Plans for Build 11.1: <https://nasa-pds.github.io/releases/11.1/plan.html#pds-api>

