Informatica Cloud API with Python and Google Datastudio

How to collecting Data Integration Log’s via API and exposing this with Google Datastudio

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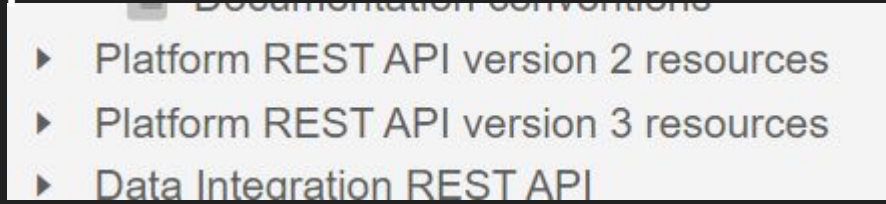
Informatica Rest API

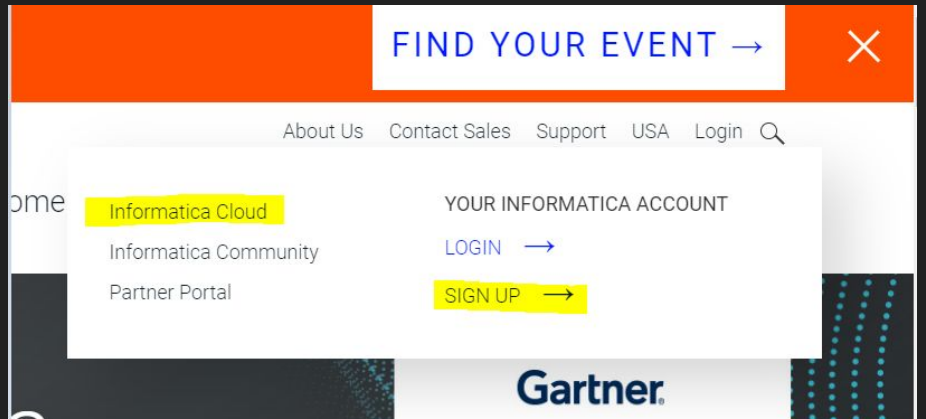
Topics:



Rest API Reference is found in:

https://docs.informatica.com/integration-cloud/cloud-platform/current-version/rest-api-reference/informatica-intelligent-cloud-services-rest-api.html

It's necessary have an authorized user to using this Rest API calls, but also it's possible to create a temporary account directly on site: informatica.com



Rest URLs

According to Rest API Reference, to use a 2o version API, we need to use a primary base URL to login and after logged in, with access token, we gonna use the secondary base URL

- 1o base URL - https://dm-us.informaticacloud.com/ma/api/v2/user/login

If logon is successful, observe the field in field in responde body called ServerUrl , you must use since now this URL value in your calls

in my example: "serverUrl": "https://use4.dm-us.informaticacloud.com/saas"

- so my 2o base URL - https://use4.dm-us.informaticacloud.com/saas

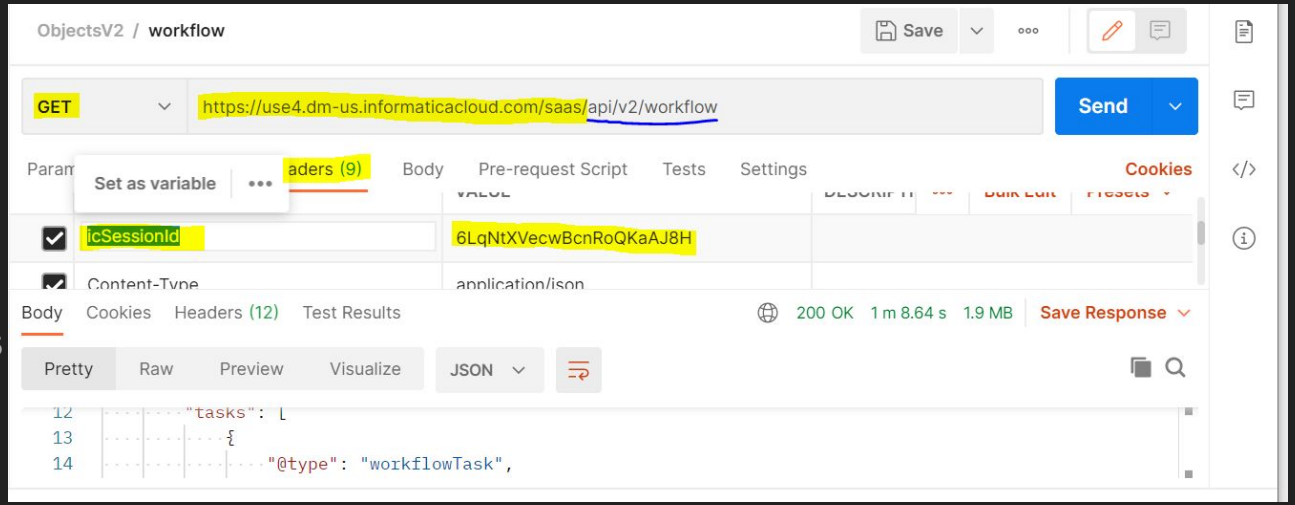
A good tool to test and simulate calls is Postman software

Rest Methods

The first method is the login, is very useful to get 2 principal fields:

serverUrl and **isSessionId**, this is a token to guarantee your valid connection to call Rest API Methods since logon.

You must use this field **isSessionId** and your value in all REST API Calls (this is calling workflow method marked in blue) in Header with the same field name, as you can see in this example in Postman



REST API Methods used in this solution

We use some methods to get the entire view about the errors and warnings in execution in our organization, they are:

- /api/v2/workflow - list all metadata objects typed as a WorkFlow
- /api/v2/mttask/**007XYH0Z000000000AG5** - obligated to pass a object Id to search its details
- /api/v2/connection - Get information about all Connections Objects but not details as user name, onwer of schemas,
- /api/v2/connection/**007XYH0B0000000000XH** - obligated to pass the Connection Id to get its details
- /api/v2/activity/activityLog - to get Operations Logs of everything that is executning in your organization

Python

A Python Program is PreCalled from Informatica Cloud Integration Mapping Configuration, just to call Rest API, salve all information in a CSV file, than this Informatica Mapping is able to read that information and transfer to BigQuery Table

So we use

methods like

[example logon]:

```
def get_session_id(username, password):
    print("[get_session_id] inicio: " + " usuario: " + username + "; password: " + password)
    session_id = ''
    data = {'@type': 'connin', 'username': username, 'password': password}
    url = "https://dm-us2.informaticacloud.com/ma/api/v2/user/login"
    headers = {'Content-Type': 'application/json'}
    r = requests.post(url, data=json.dumps(data), headers=headers)
    print('[get_session_id]Codigo status API: ' + str(r.status_code))
    if r.status_code == 200:
        session_id = r.json()["icSessionId"]
        server_url = r.json()["serverUrl"]
    else:
        sys.exit(1)
    return session_id, server_url
```

Python

Or[example get detail information of Mapping Task]:

```
def SearchMetadataMCT(session_id, server_url, idMCT):
    print("[SearchMetadataMCT]inicio")
    job_start_url = server_url + "/api/v2/mttask/" + idMCT
    print(job_start_url)
    headers = {'Content-Type': 'application/json', 'icSessionId': session_id, 'Accept': 'application/json'
    data = {}
    r = requests.get(job_start_url, data=json.dumps(data), headers=headers)
    print("[SearchMetadataMCT]fim")
    return r.json()
```

Or [example get details of Connection Object]:

```
def get_cnn_detail(session_id, server_url, connId):
    #print("[get_cnn_detail]inicio")
    job_start_url = server_url + "/api/v2/connection/" + connId
    headers = {'Content-Type': 'application/json', 'icSessionId': session_id, 'Accept': 'application/json'
    data = {}
    r = requests.get(job_start_url, data=json.dumps(data), headers=headers)
    #print("[get_cnn_detail]fim")
    return r.json()
```

IICS - ETL execution

Informatica ETL is very useful, ease, and fast to create an integration, as you can see below, for every method Call, we use a python program, called from this mapping configuration

Advanced Options

Pre-Processing Commands:	export LC_ALL="en_US.UTF-8"; python3.6 /infacloud/projetos/Scripts/python/SearchObject.py > /infacloud/projetos/Scripts/python/SearchObject.output
Maximum Number of Log Files:	10

This is a bash command call to Python which extract and create a CSV File, you can use as output [> file.output]

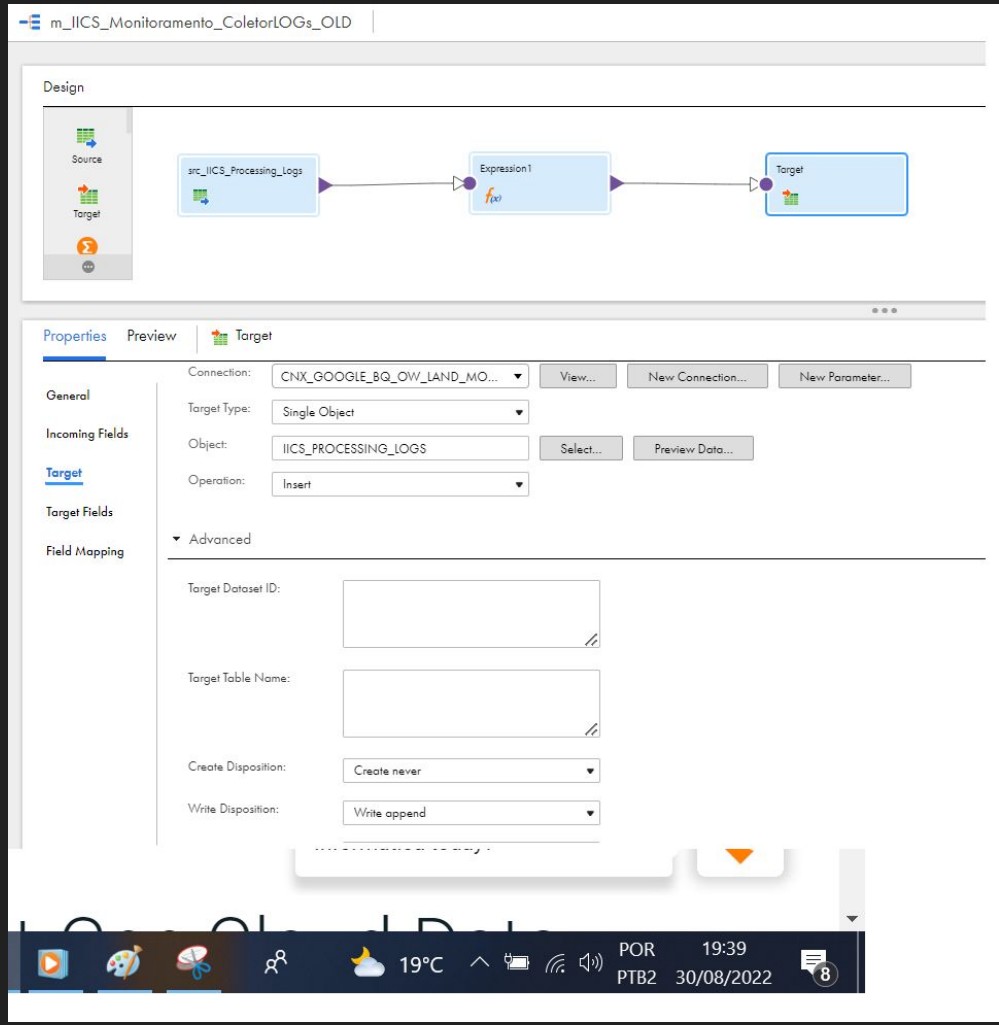
Informatica ETL BigQuery Load

In 3 steps, using informatica is possible to :

Read the CSV File [Python Result];

Transform field values or create new fields, as timestamp for examples;

Load in BigQuery Table, using Write Append mode



Datastudio - using BigQuery Dataset as Datasource

As last, connecting Datastudio to the same Dataset of BigQuery table we can extracting Operation alerts, erros, executions and categorizing for technologies we can start to thinking about how to begin implement SRE - Site Reliability Engineering