Sync-Products-Integration

In this poc i need to sync the products comming from the request in the database and in the salesforce The objective of this project is to design and implement a MuleSoft integration flow that automates the process of fetching, transforming, and synchronizing product data across multiple systems.
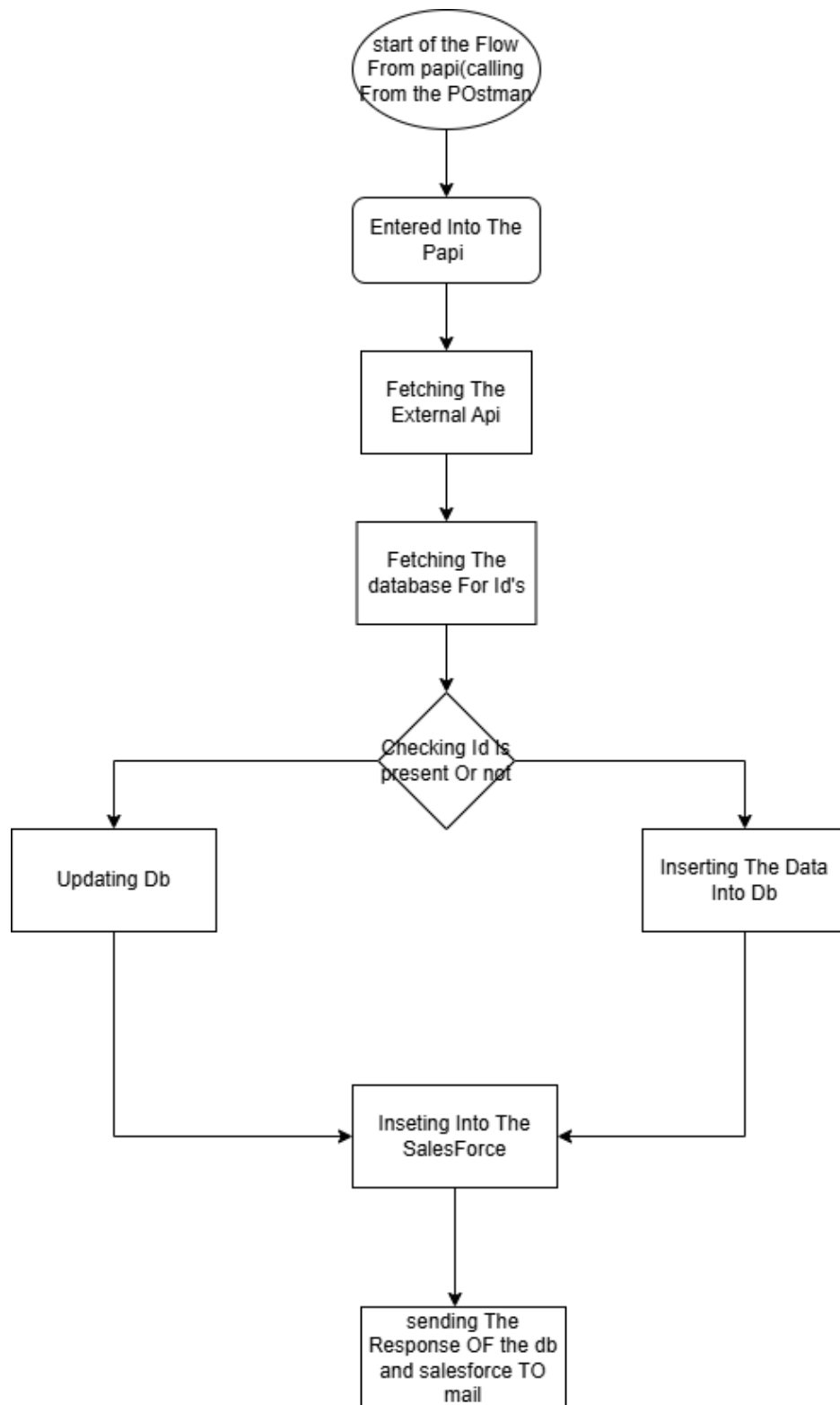
The integration performs the following key functions:

1. **Fetches product data** from an external public API.
2. **Transforms the incoming JSON data** into the required structure using DataWeave.
3. **Inserts the transformed data** into both a **local database** and **Salesforce** for synchronization.
4. Implements **comprehensive logging** and **error handling** to ensure smooth execution and maintain traceability.
5. **Sends an email notification** after successful data insertion in both systems.
6. Includes **detailed documentation** and **MUnit test cases** to validate the flow's functionality and reliability.

To do this project i created the 3 apis

1. Sync-products-integration-papi
2. Sync-products-integration-db-sapi
3. Sync-products-integration-sf-sapi

Project FLow :

```
            ┌─────────────────┐
            │ start of the Flow│
            │ From papi(calling│
            │ From the POstman │
            └─────────────────┘
                     │
                     ▼
            ┌─────────────────┐
            │ Entered Into The │
            │      Papi        │
            └─────────────────┘
                     │
                     ▼
            ┌─────────────────┐
            │  Fetching The    │
            │  External Api    │
            └─────────────────┘
                     │
                     ▼
            ┌─────────────────┐
            │  Fetching The    │
            │ database For Id's│
            └─────────────────┘
                     │
                     ▼
                ◇ Checking Id is
                  present Or not ◇

┌──────────────┐                    ┌──────────────────┐
│  Updating Db │                    │ Inserting The Data│
│              │                    │     Into Db       │
└──────────────┘                    └──────────────────┘
        │                                   │
        └──────────►┌──────────────┐◄───────┘
                    │ Inseting Into The│
                    │    SalesForce    │
                    └──────────────┘
                           │
                           ▼
                    ┌──────────────┐
                    │  sending The  │
                    │ Response OF the db│
                    │ and salesforce TO │
                    │      mail      │
                    └──────────────┘
```

Process-api : sync-products-integration-papi

This is the process api where the entire logical operations are done . Here i used the 4 request . The first request is for the fetching the data , second request is fetching the ids, third request calling the database insert , fourth request is calling the database update fifth request is the calling the salesforce upsert
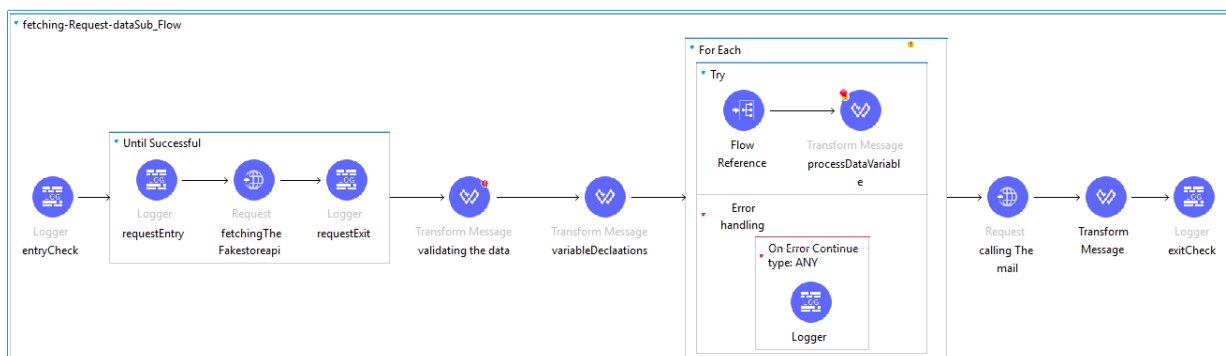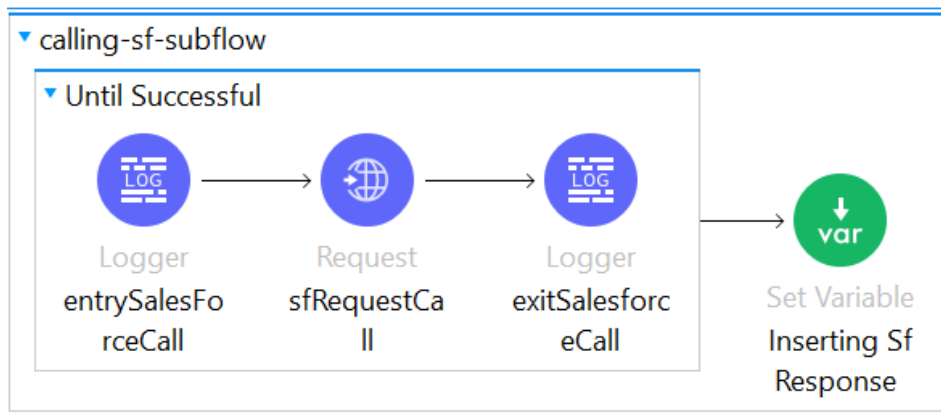
Sync-product-integration-papi
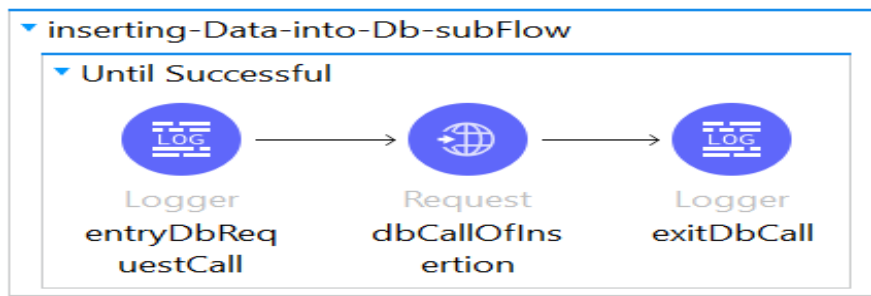
Main flow :
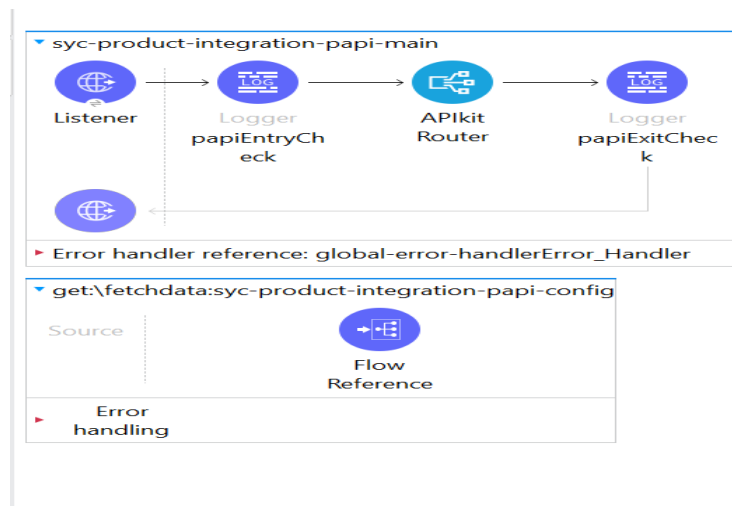
SubFlows :

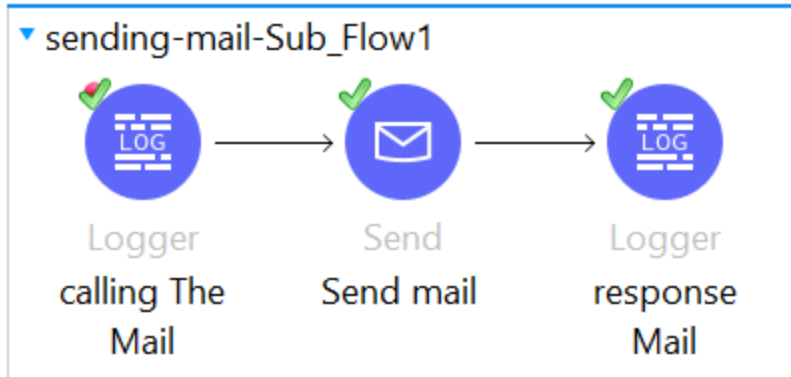## 1. fetching-Request-dataSub_Flow :

2. calling-sf-subflow :

3. Inserting-data-into-db-subflow :

4. Checking-the-existing-data-subflow :
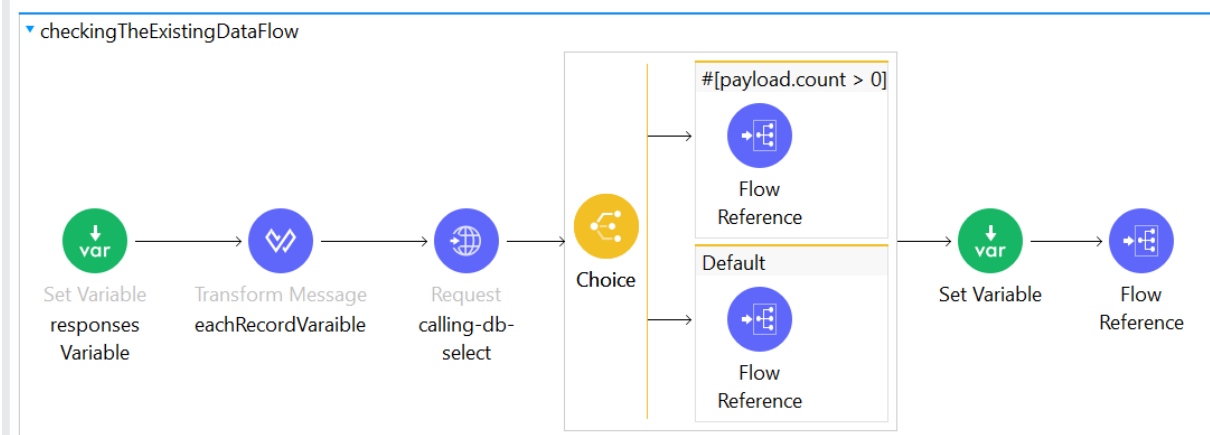
Sending-Mail-sub-flow :

System-api : sync-product-db-sapi

Main Flow :
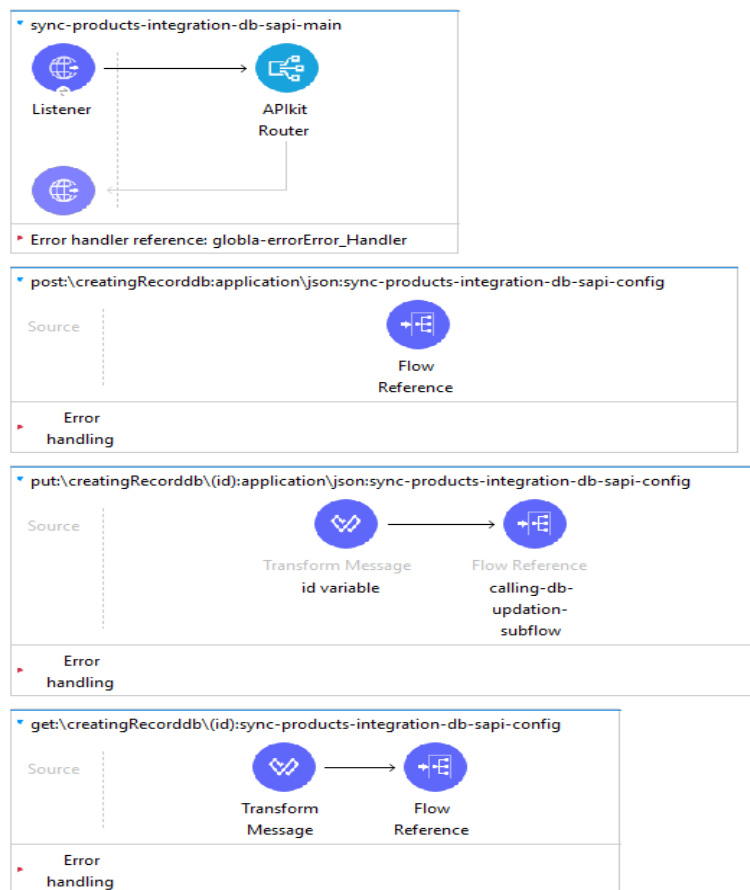
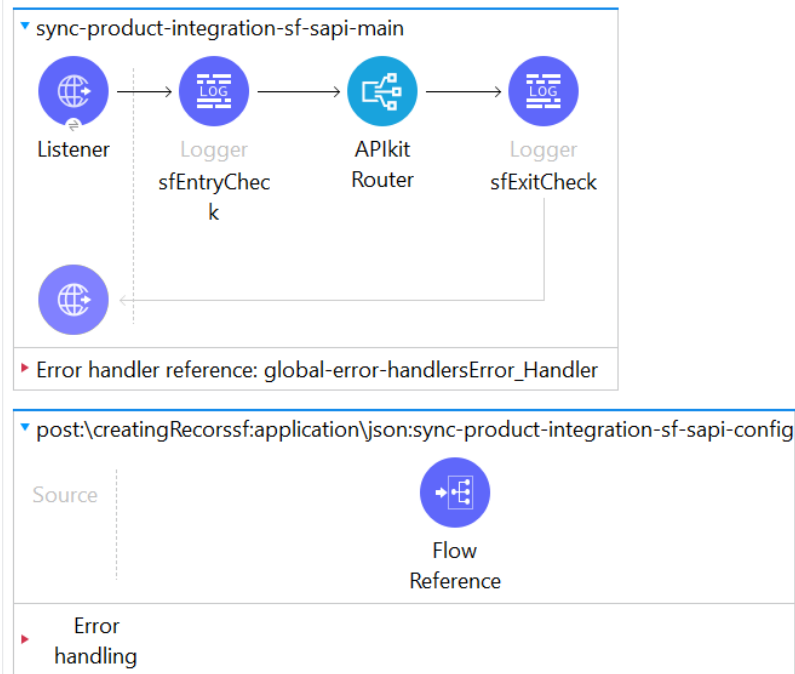Message Flow Global Elements Configuration XML

Subflows :

-> db-insertionsubflow
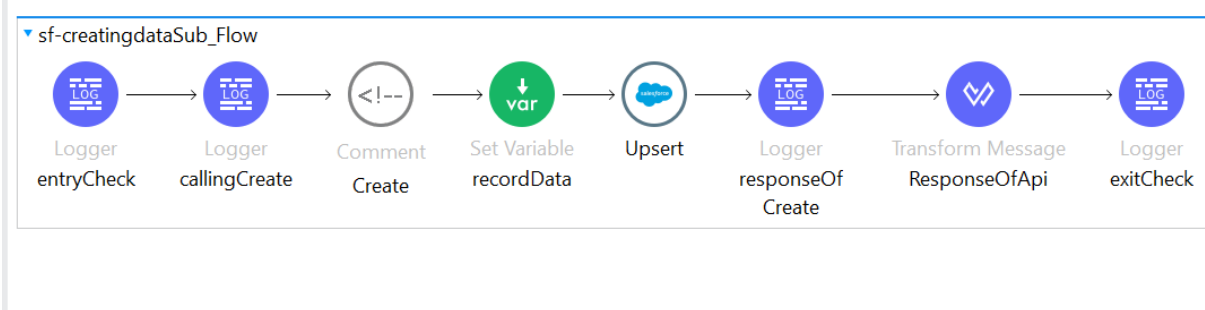
-> db-updationSubflow

-> db-implementationSubflow

▾ db-insertionSub_Flow

| Logger entryCheck | Logger CallingDbInsert | Insert | Logger ResponseDb | Transform Message | Logger exitCheck |

▾ db-updation-subflow

| Logger flowEntryCheck | Logger calling-db-update | Update | Logger response-db-update | Transform Message response of the data update | Logger flowExitCheck |

▾ db-implementationsSub_Flow

| Logger entrycheck | Logger callingDatabase | Select | Transform Message | Logger exitDbCall |

System-api : sync-products-integration-sf-sapi

MainFLow :

SubFLows :

-> sf-creatingSub_flow

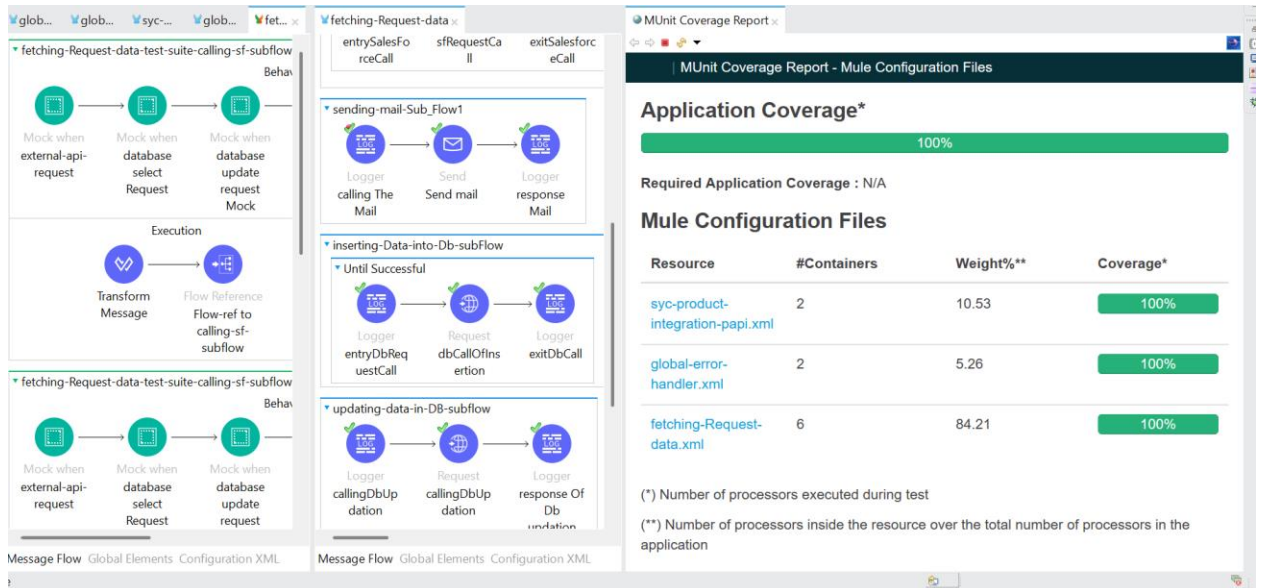## The MUNIT COVERAGES :

1. Sync-products-integration-sf-sapi :
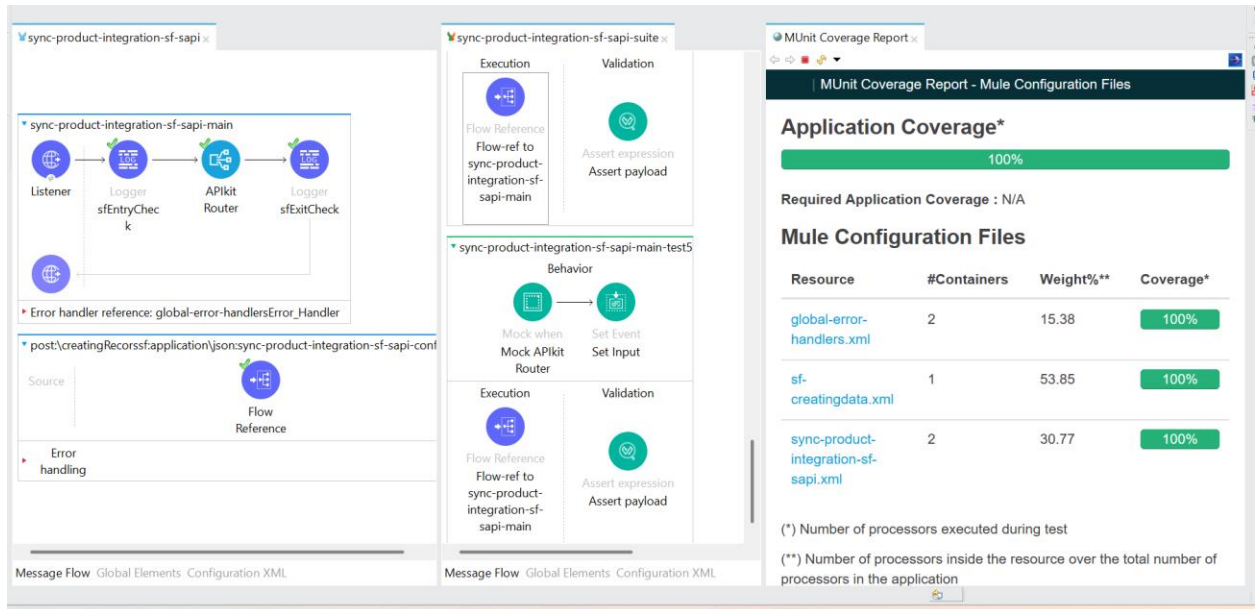
2. Sync-products-integration-db-sapi :
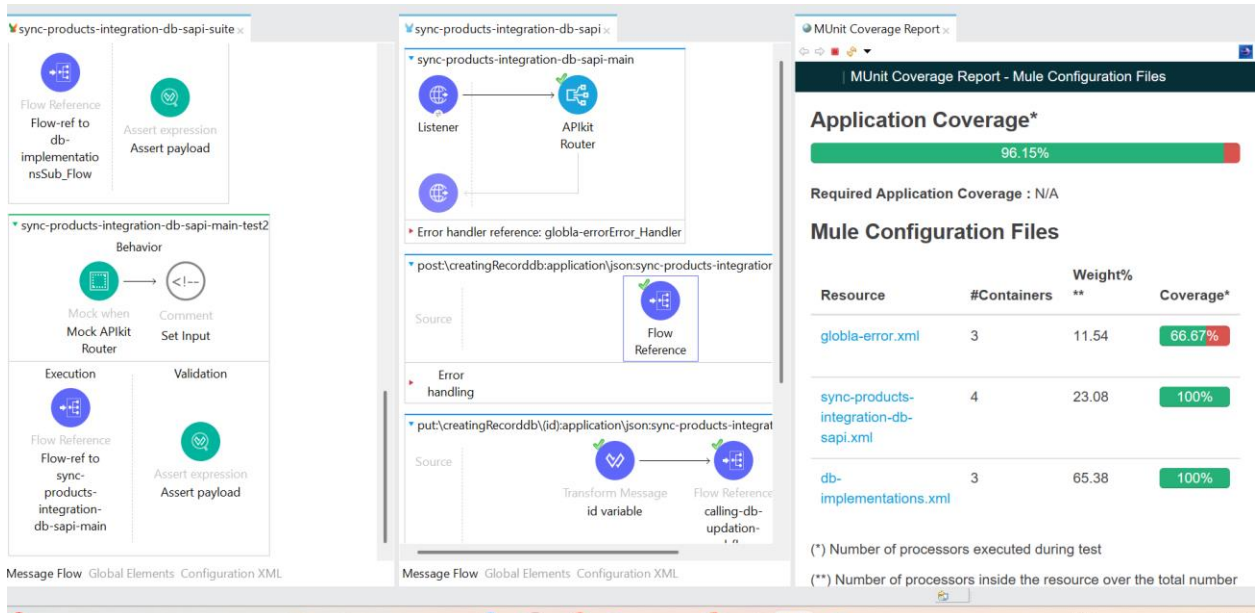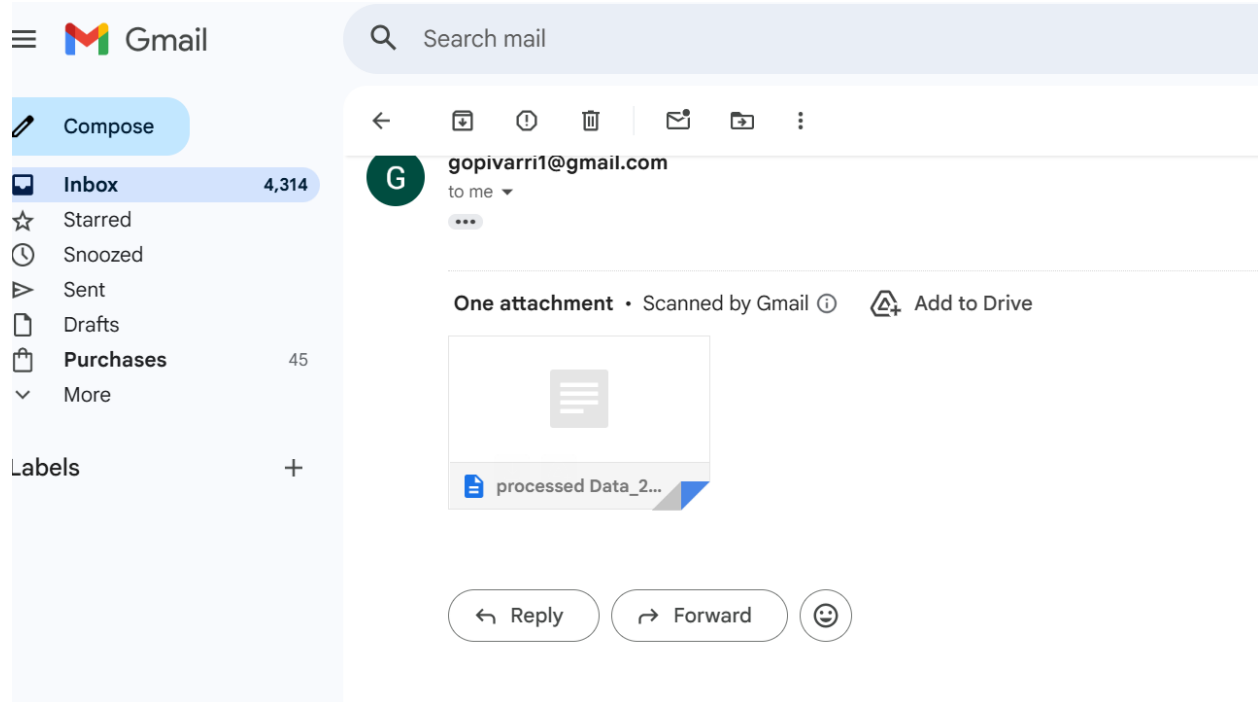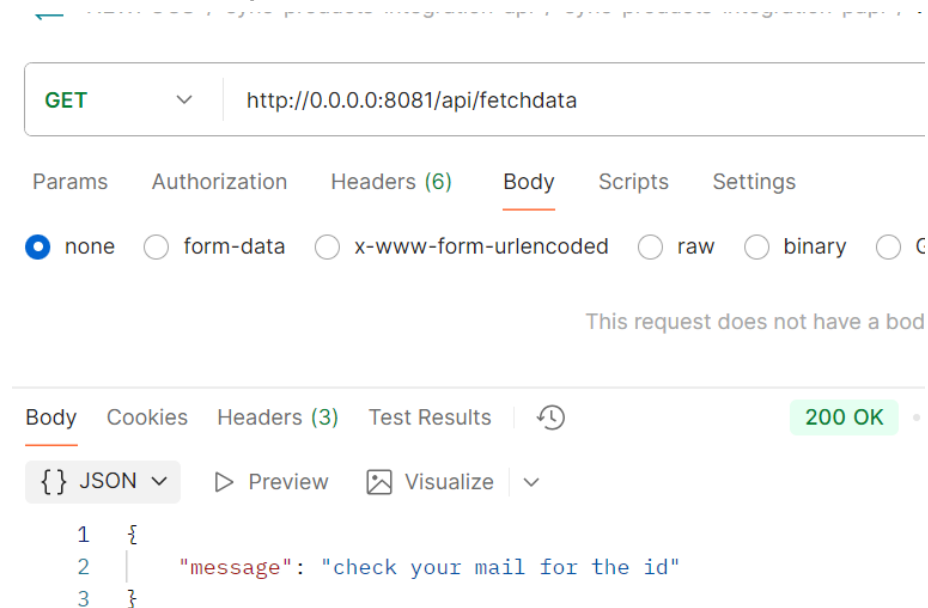

3. Sync-products-integration-papi :

Outputs :

Gmail

✏️	Compose	
📥	Inbox	4,314
☆	Starred	
🕐	Snoozed	
▷	Sent	
🗋	Drafts	
🛍	Purchases	45
⌄	More	

Q Search mail

gopivarri1@gmail.com
to me ▾
···

One attachment · Scanned by Gmail ⓘ   △₊ Add to Drive

📄 processed Data_2...

↩ Reply   → Forward   ☺

Labels ＋

Postman output :

GET ⌄   http://0.0.0.0:8081/api/fetchdata

Params   Authorization   Headers (6)   **Body**   Scripts   Settings

⦿ none   ○ form-data   ○ x-www-form-urlencoded   ○ raw   ○ binary   ○ (

This request does not have a bod

Body   Cookies   Headers (3)   Test Results   🕐   200 OK •

{} JSON ⌄   ▷ Preview   🖼 Visualize   ⌄

```
1  {
2      "message": "check your mail for the id"
3  }
```

DatabaseOutput :

Salesforce Output :