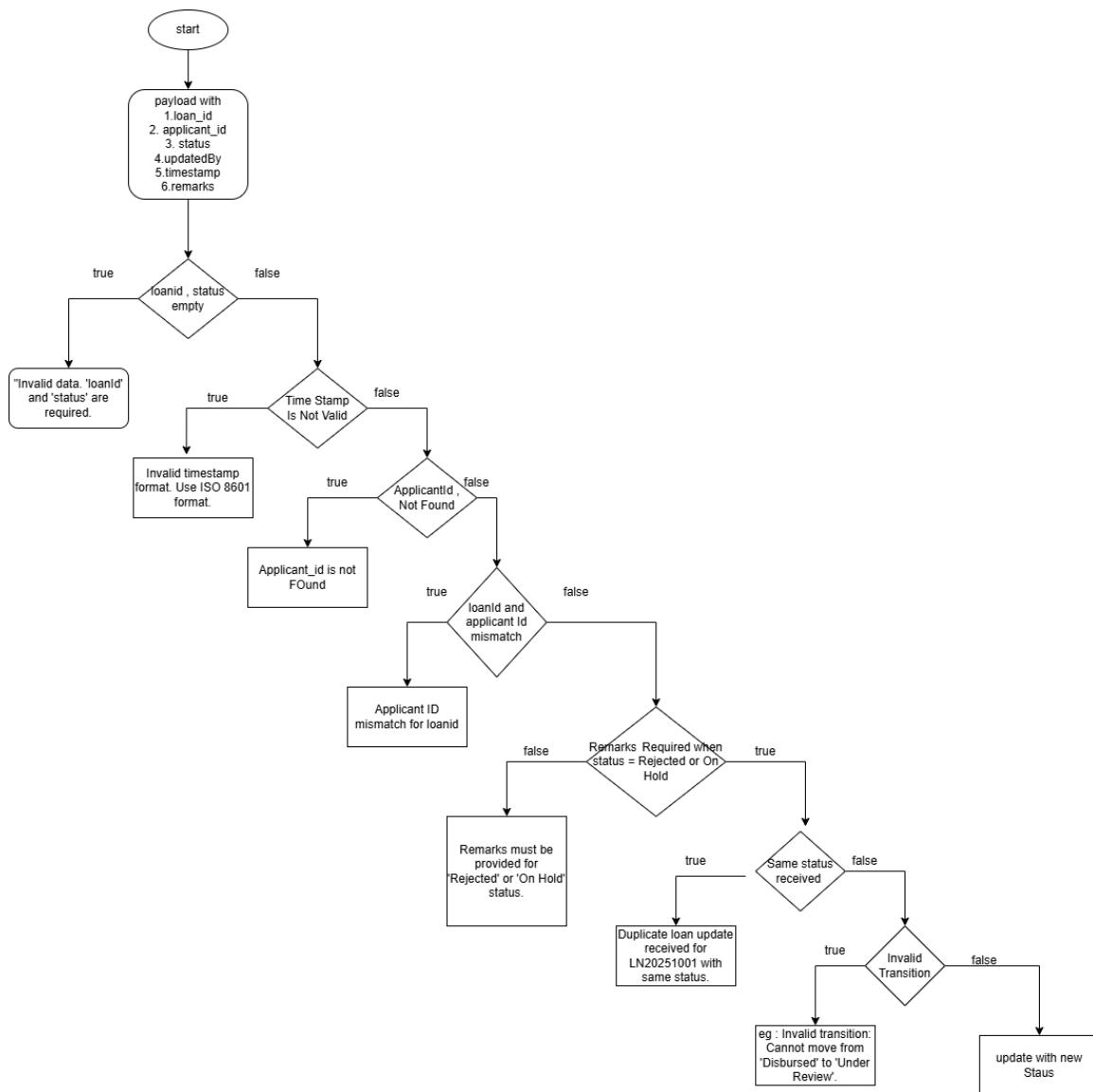


1. loan-application-status-p-api (Process API)

Purpose:

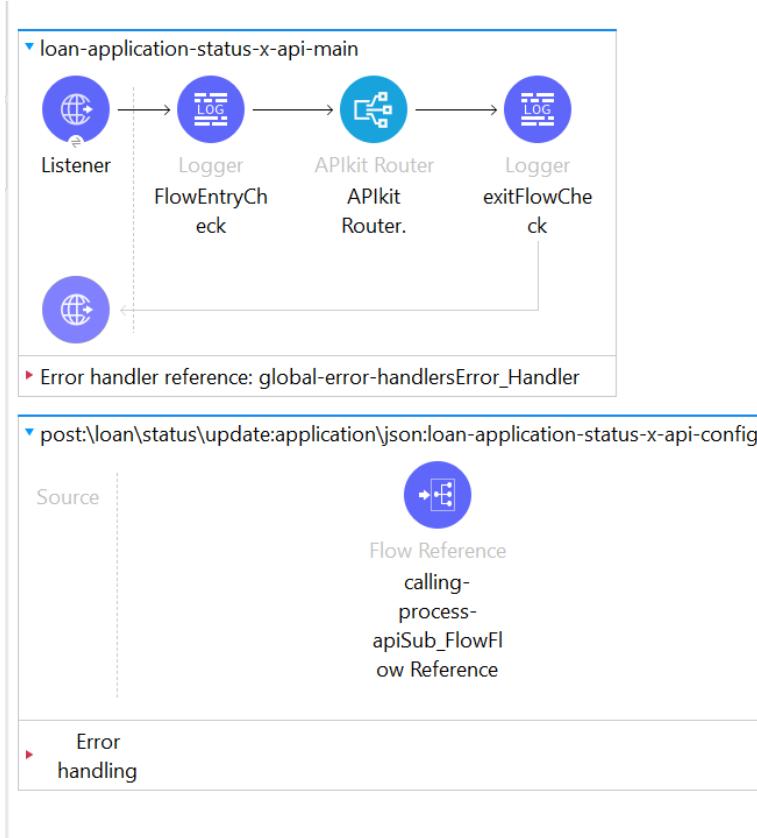
Acts as the **middle orchestration layer** between the Experience layer (like REST API clients / frontend) and the System API (db-s-api).

It handles data validation, transformation, and routing logic.

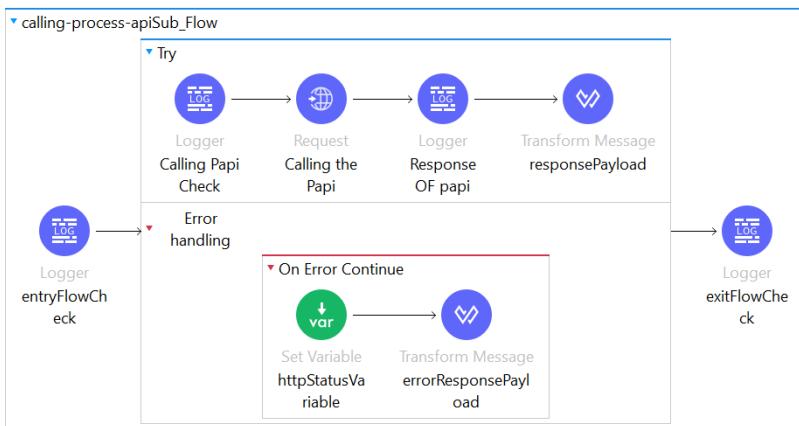


Loan-application-staus-x-api :

mainflow :



Subflows :



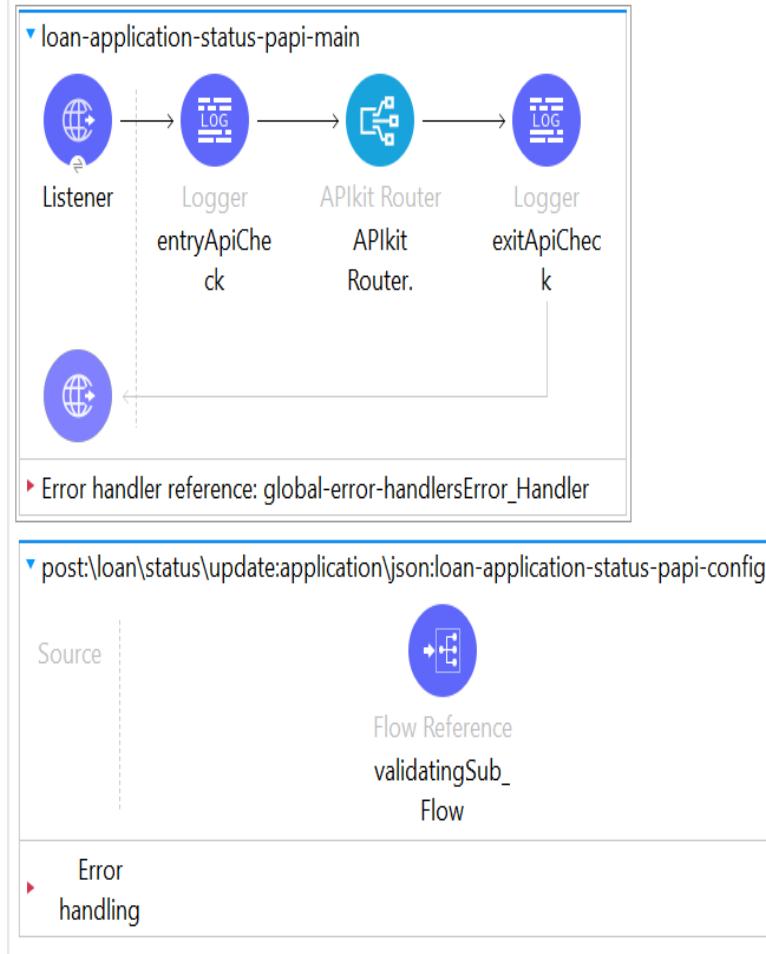
Loan-application-status-papi :

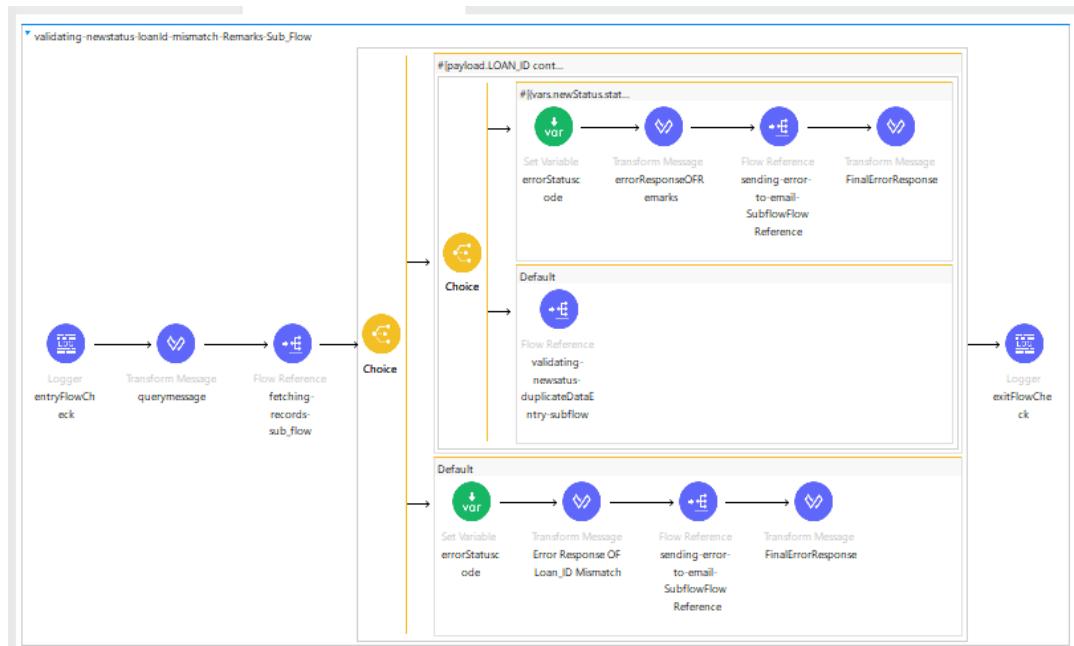
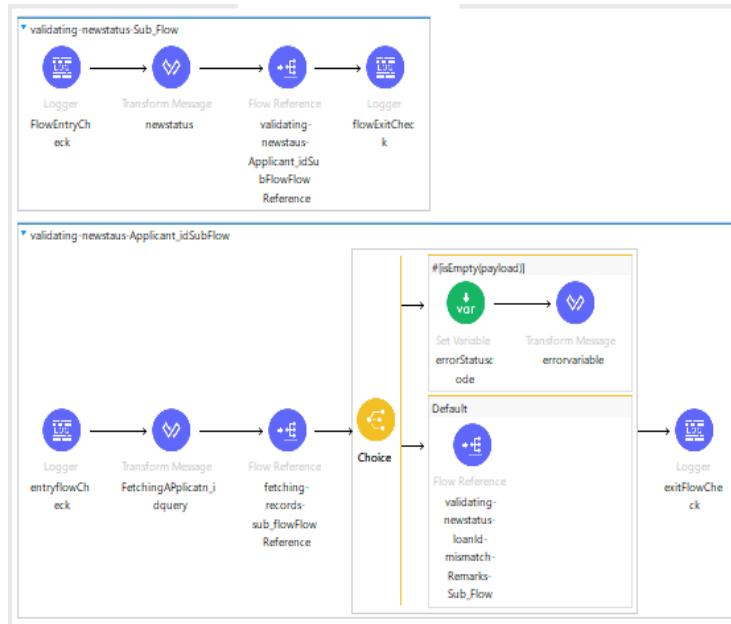
Main Flows:

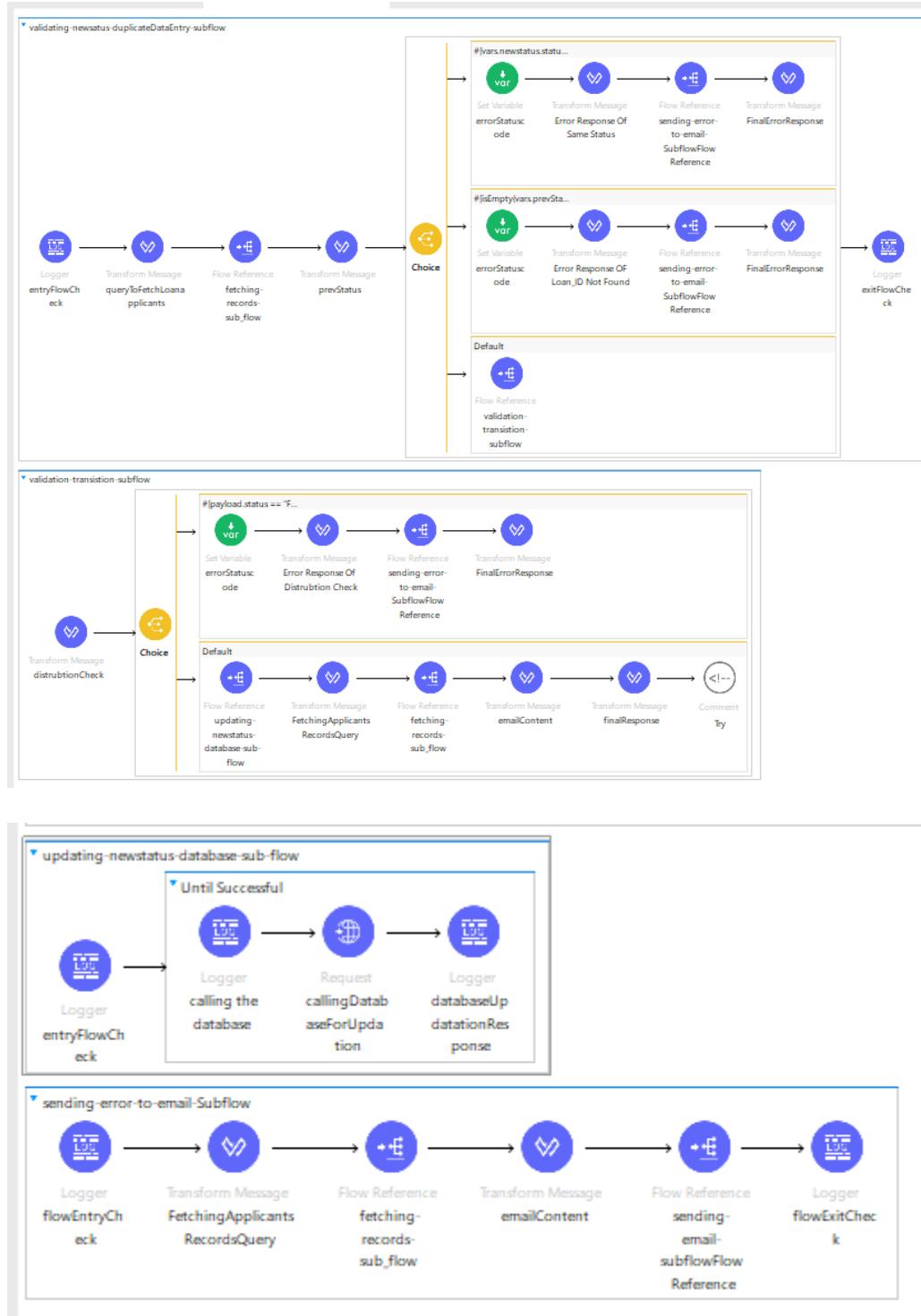
1. main-flow / loan-status-process-flow

- Triggered by HTTP Listener (/loanStatus or /status endpoint).
- Accepts loan application ID or customer info as query/JSON input.

- c. Validates mandatory parameters.
- d. Calls the System API (db-s-api) using HTTP Request or Flow Reference.
- e. Transforms and enriches response before returning to the client.



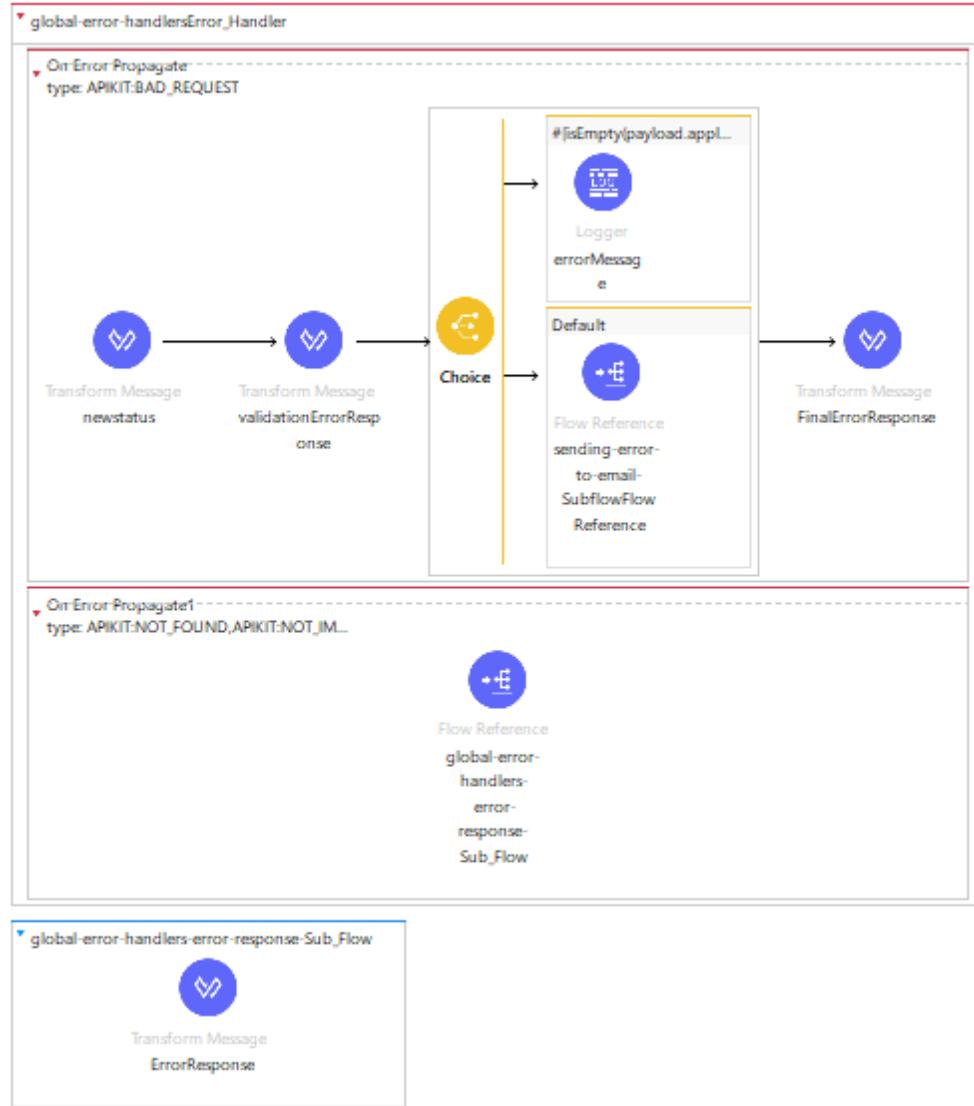




2.error-handler-subflow

a.Centralized error handling.

- b. Maps Mule errors to business error structure (code, message, timestamp).
- c. Logs errors with trace ID and flow info.



2. logger-start / logger-end

- a. Logs start and end of transaction with correlationId, timestamp, and payload snapshot.

Configurations:

1. config.yaml
 - a. Holds environment-specific configs such as:
 - b. Includes log levels and traceId format.
2. mule-artifact.json

- a. Declares app name and secure properties placeholder.

3. **global-config.xml**

- a. HTTP Listener config
- b. Global error handler.
- c. Secure property placeholder.

MUnit Tests:

- **loan-status-process-test-suite.xml**
 - Tests happy path → API returns valid status.
 - Tests invalid input → triggers validation error.
 - Tests backend failure → mocked System API response (500).
- Uses **Mock When** for the System API calls.
- Achieves ~85% test coverage.

2. **loan-application-status-db-s-api (System API)**

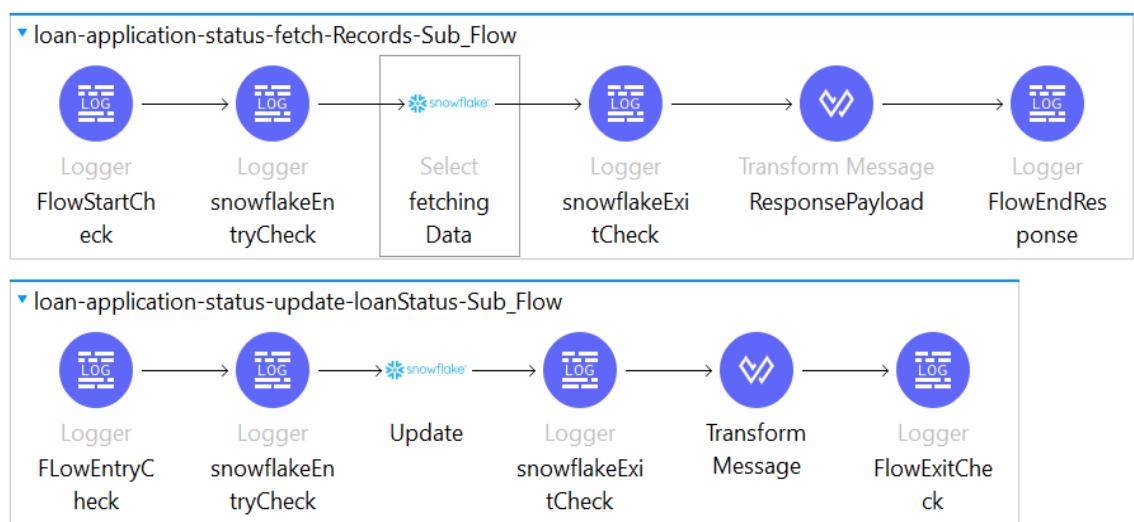
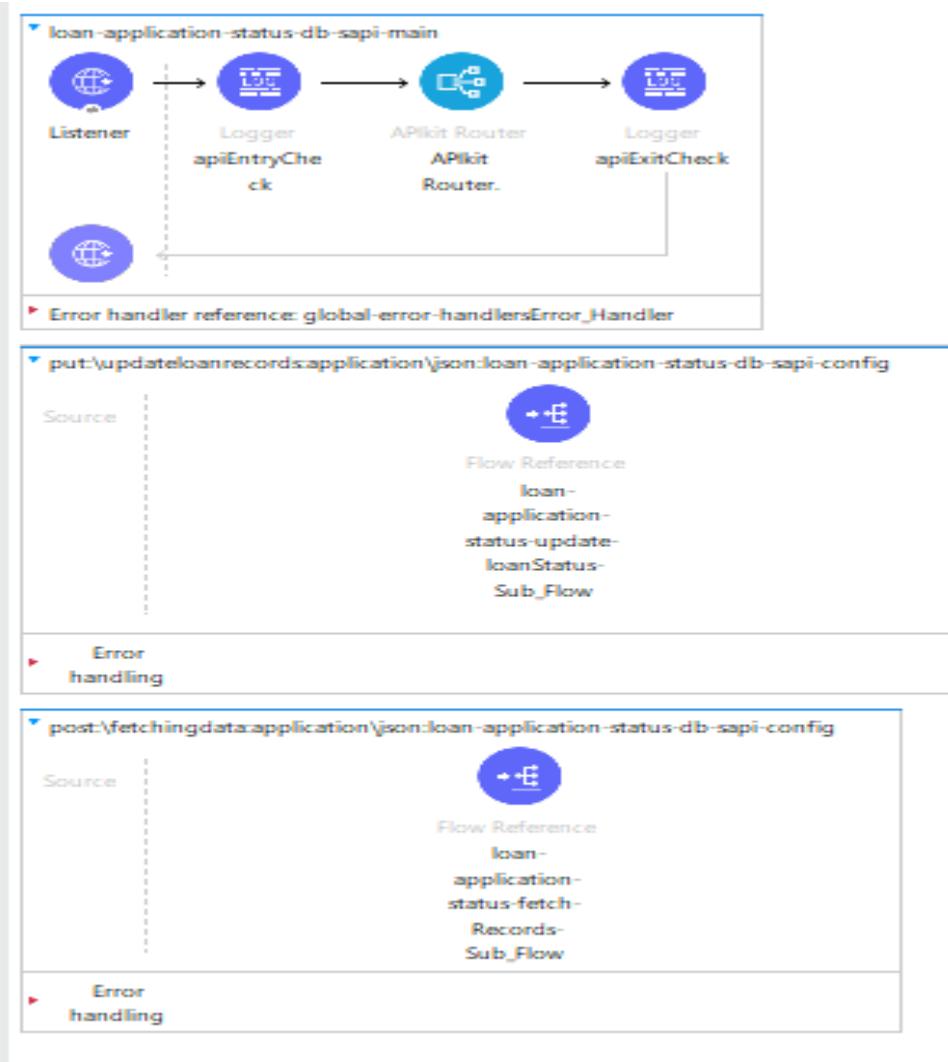
Purpose:

Handles direct **database interaction** to retrieve or update loan application details.

Main Flows:

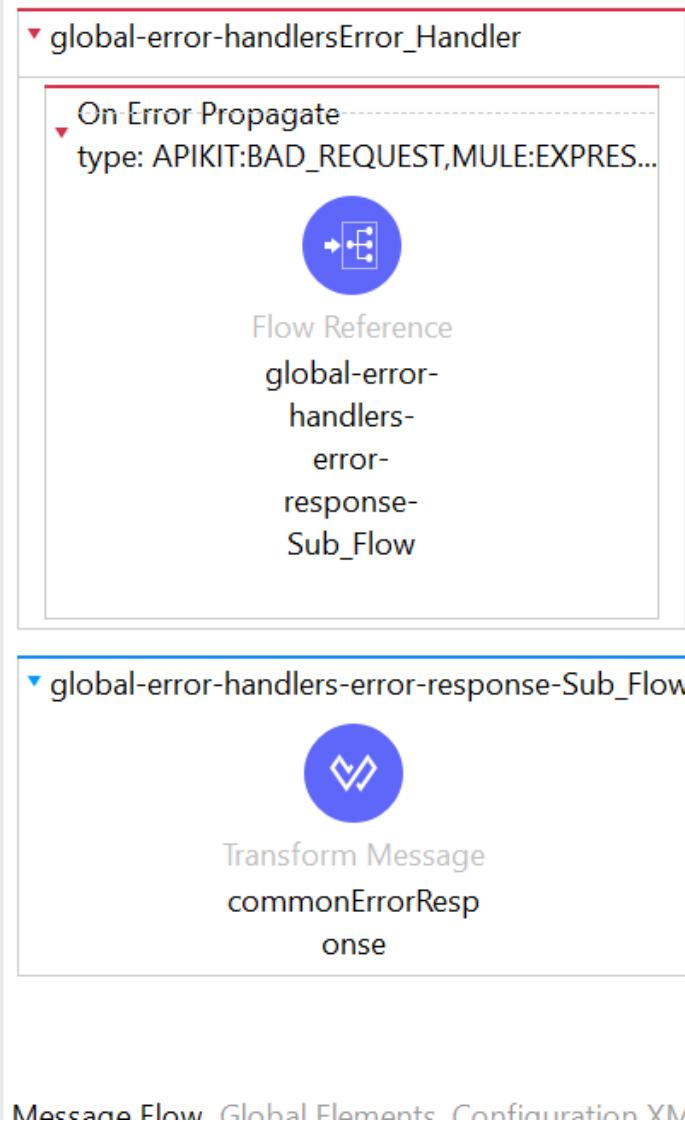
1. **get-loan-status-flow**

- a. Triggered by HTTP Listener (/loanStatus/{loanId}).
- b. Fetches loan record from DB using **Database Select** connector.
- c. Transforms DB row → JSON response structure.
- d. Returns loanId, applicantName, status, remarks.



2. insert-loan-status-flow

- a. Accepts JSON with new application info.
 - b. Performs DB Insert.
 - c. Returns success message and generated ID.
3. **error-handler-subflow**
- a. Catches DB errors (like SQLSyntaxError, Connection issues).
 - b. Returns standard API error structure.



MUnit Tests:

-> loan-application-db-sapi :

Message Flow Global Elements Configuration XML

Message Flow Global Elements Configuration XML

Resource	#Containers	Weight%	Coverage*
implementations/loan-application-status.xml	2	63.16	100%
common/loan-application-status-db-sapi.xml	3	26.32	80%
common/global-error-handlers.xml	2	10.53	100%

(*) Number of processors executed during test
(**) Number of processors inside the resource over the total

Loan-application-status-papi :

Message Flow Global Elements Configuration XML

Message Flow Global Elements Configuration XML

Resource	#Containers	Weight%	Coverage*
implementations/validating-newstatus.xml	7	74.36	89.66%
common/common-flows.xml	2	11.54	88.89%
common/global-error-handlers.xml	2	8.97	85.71%
common/loan-application-status-papi.xml	2	5.13	75%

(*) Number of processors executed during test
(**) Number of processors inside the resource over the total

Loan-application-status-x-api :

Resource	#Containers	Weight%**	Coverage*
common/loan-application-status-x-api.xml	2	28.57	75%
implementations/calling-process-api.xml	1	57.14	100%
common/global-error-handlers.xml	2	14.29	100%

(* Number of processors executed during test
(**) Number of processors inside the resource over the total number of processors in the application

Final Output :

1. Loanid or status not found :

```

1 {
2   "applicantId": "APP1005",
3   "updatedBy": "CreditOfficer01",
4   "timestamp": "2025-10-28T19:00:00Z",
5   "remarks": "Application received and logged in system"
6 }
    
```

400 Bad Request 5.36 s 382 B Save Response

{ } JSON Preview Debug with AI

```

1 {
2   "status": "failed",
3   "reason": "required key [status] not found , required key [loanId] not found"
4 }
    
```

Timestamp invalid Output :

The screenshot shows a MongoDB interface with a sidebar containing collections like 'genbev-vip-sales' and 'loan-application-status-papi-and-xapi'. The main area displays a POST request to `https://loan-application-x-api-zr9fp9.5sc6y6-1.usa-e2.cloudhub.io/api/loan/status/update`. The request body is:

```
1 {
2   "loanId": "LN20251005",
3   "applicantId": "APP1005",
4   "status": "Received",
5   "updatedBy": "CreditOfficer01",
6   "timestamp": "2025-10-28T19:00:00",
7   "remarks": "Application received and logged in system"
```

The response is a 400 Bad Request with the following JSON body:

```
1 {
2   "status": "failed",
3   "reason": "/timestamp [2025-10-28T19:00:00] is not a valid date-time. Expected [yyyy-MM-dd'T'HH:mm:ssZ]
```

ApplicationId not Found :

The screenshot shows a MongoDB interface with a sidebar containing collections like 'genbev-vip-sales' and 'loan-application-status-papi-and-xapi'. The main area displays a POST request to `https://loan-application-x-api-zr9fp9.5sc6y6-1.usa-e2.cloudhub.io/api/loan/status/update`. The request body is:

```
1 {
2   "loanId": "LN20251005",
3   "applicantId": "APP100",
4   "status": "Received",
5   "updatedBy": "CreditOfficer01",
6   "timestamp": "2025-10-28T19:00:00Z",
7   "remarks": "Application received and logged in system"
```

The response is a 400 Bad Request with the following JSON body:

```
1 {
2   "status": "Failure",
3   "response": "given ApplicantId APP100 is Not Found"
```

Applicantid and Loanid Mismatch output :

The screenshot shows the Postman interface with a collection named "application-status". A POST request is being made to `https://loan-application-x-api-zr9fp9.5sc6y6-1.usa-e2.cloudhub.io/api/loan/status/update`. The request body contains the following JSON:

```
1 {
2     "loanId": "LN2025100",
3     "applicantId": "APP1005",
4     "status": "Received",
5     "updatedBy": "CreditOfficer01",
6     "timestamp": "2025-10-28T19:00:00Z",
7     "remarks": "Application received and logged in system"
```

The response status is 400 Bad Request, with the following JSON body:

```
1 {
2     "status": "FAILED",
3     "reason": "Loan ID LN2025100 does not match with the APP1005"
```

Invalid Transition output :

The screenshot shows the Postman interface with a collection named "application-status". A POST request is being made to `https://loan-application-x-api-zr9fp9.5sc6y6-1.usa-e2.cloudhub.io/api/loan/status/update`. The request body contains the following JSON:

```
1 {
2     "loanId": "LN20251005",
3     "applicantId": "APP1005",
4     "status": "Rejected",
5     "updatedBy": "CreditOfficer01",
6     "timestamp": "2025-10-28T19:00:00Z",
7     "remarks": "Application received and logged in system"
```

The response status is 400 Bad Request, with the following JSON body:

```
1 {
2     "status": "FAILED",
3     "reason": "Invalid Transition: cannot move from Received to Rejected"
```

Remarks Not Found output :

The screenshot shows the Postman interface with a collection named "genbev-vip-sales". A POST request is being tested against the URL <https://loan-application-x-api-zr9fp9.5sc6y6-1.usa-e2.cloudhub.io/api/loan/status/update>. The request body is a JSON object:

```

1 {
2   "loanId": "LN20251005",
3   "applicantId": "APP1005",
4   "status": "Rejected",
5   "updatedBy": "CreditOfficer01",
6   "timestamp": "2025-10-28T19:00:00Z"
7 }

```

The response status is 400 Bad Request, with the reason: "required key [remarks] not found".

Duplicate status output :

The screenshot shows the Postman interface with a collection named "application-status". A POST request is being tested against the URL <https://loan-application-x-api-zr9fp9.5sc6y6-1.usa-e2.cloudhub.io/api/loan/status/update>. The request body is a JSON object:

```

1 {
2   "loanId": "LN20251005",
3   "applicantId": "APP1005",
4   "status": "Received",
5   "updatedBy": "CreditOfficer01",
6   "timestamp": "2025-10-28T19:00:00Z",
7   "remarks": "Application received and logged in system"
}

```

The response status is 400 Bad Request, with the reason: "Duplicate loan update received for LN20251001 with same status."

Success update output :

The screenshot shows the Anypoint Studio interface with a project named "an-application-status". On the left, there's a tree view of collections: "genbev-vip-sales", "JavaProject", "loan-application-status-db-sapi Copy", "loan-application-status-papi-and-xapi", and "loan". Under "loan", there are "status", "POST local/x-api/inputRequest", "POST local/papi/statusRequest", "POST cloud/papi/inputRequest", and "POST cloud/x-api/inputrequest". The right side shows a detailed view of the "POST cloud/x-api/inputrequest" collection. It has a URL: <https://loan-application-x-api-zr9fp9.5sc6y6-1.usa-e2.cloudhub.io/api/loan/status/update>. The "Body" tab is selected, showing the following JSON payload:

```

2 | "loanId": "LN20251005",
3 | "applicantId": "APP1005",
4 | "status": "Under Review",
5 | "updatedBy": "CreditOfficer01",
6 | "timestamp": "2025-10-28T19:00:00Z",
7 | "remarks": "Application received and logged in system"
8 |

```

Below the body, the response is shown as a 200 OK status with a timestamp of 11.21 s and 377 B. The response body is also JSON:

```

1 | {
2 |   "status": "SUCCESS",
3 |   "message": "Loan LN20251005 status updated and applicant notified successfully."
4 |

```

Email Output :

-  **gopivarri1@gmail.com** 10:54 AM (59 minutes ago) ★
"Dear nitish, your loan application not provided the loanId also has been failed due to Loan ID LN20251005 does not match with the APP1005"
-  **gopivarri1@gmail.com** 10:55 AM (58 minutes ago) ★
"Dear nitish, your loan application not provided the loanId also has been failed due to /status on hold is not a valid enum value"
-  **gopivarri1@gmail.com** 10:56 AM (57 minutes ago) ★
"Dear nitish, your loan application not provided the loanId also has been failed due to Invalid Transition: cannot move from Received to Rejected"
-  **gopivarri1@gmail.com** 10:57 AM (57 minutes ago) ★
"Dear nitish, your loan application not provided the loanId also has been failed due to required key [remarks] not found"
-  **gopivarri1@gmail.com** 10:57 AM (56 minutes ago) ★ ☺ ↵ ⋮
to me ▾
...
"Dear nitish, your loan application not provided the loanId also has been failed due to Duplicate loan update received for LN20251001 with same status."
-  **gopivarri1@gmail.com** 11:37 AM (16 minutes ago) ★ ☺ ↵ ⋮
to me ▾
"Dear nitish, your loan application LN20251005 has been moved from Received to Under Review Remarks: Under Review"