You are required to develop an Insufficient Funds Application:

- data stored in an H2 database
- use a micro service approach so that the development done can be reused by other application and should be secured, maintainable and scalable.
- upload your final work together with the unit tests on GIT
- use of tech stack:
    - Angular 12+
    - Java 12+
    - Spring Boot
    - Camunda to design the flow and application (desirable)
- marks will be allocated to your design and implementation skills, coding practice, UX/UI of interfaces developed and use of micro-service approach.

Part A: Insufficient Funds Application Menu (IFT)

You are required to build an Insufficient Funds Application, so that bank officer can approve or reject a transaction even if the account is insufficiently funded.

The information required is:

- A login page taking user and password:
    - Have the user information in a DB
    - User table contains id, username, user name, user BU information.
- The following Menu needs to be shown in the left-hand side of screen
    - Funds Availability
    - Funds Availability (Multiple Approval)
    - Funds Availability – Answered
    - Funds Availability data

Part B: Funds Availability Screen Menu

When clicking on Funds Availability, the following screen should be displayed:

Display requests with status unassigned.

The columns need to be populated based on EVENT_SOURCE table

Column Name	Field
Customer Number	customer_number
Application	application
Customer Name	customer_name
Account Number	account_number
Currency	transaction_currency
Trans Amt	transaction_amount
Account Officer	account_officer
Alternate Account Officer	alt_account_officer
Date mail sent to AO	date_mail_sent

The Account Officer should be able to select a single or multiple requests (using the checkbox below Open Button) and click on Open to assign the request/s to himself.
The Account Officer should be able to click on any row and open a single request
The Account Officer should be able to select one or multiple request and click View Only.

When a request is opened,

- The Account Officer need to be able to see the original instruction (pdf viewer) on the RHS as shown in figure 1 below. The LHS screen is the input section – refer to figure 2.

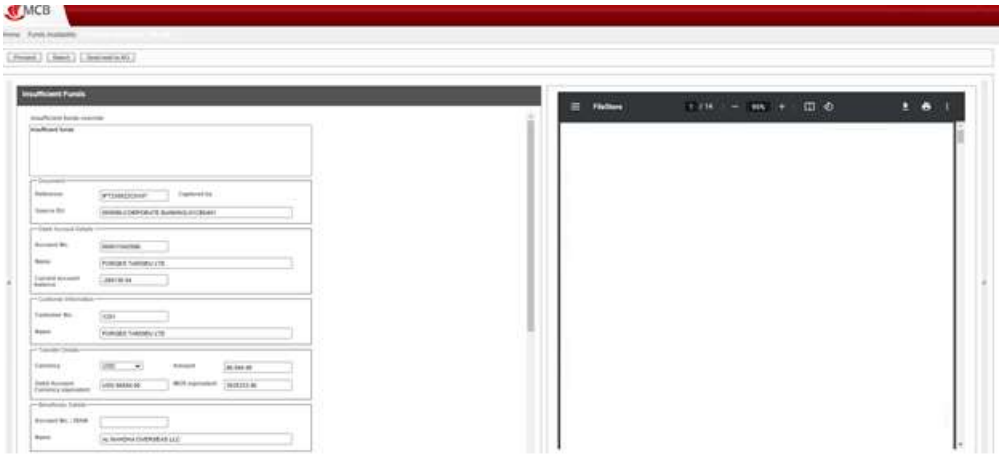


Figure 1 – UI of Insufficient Funds

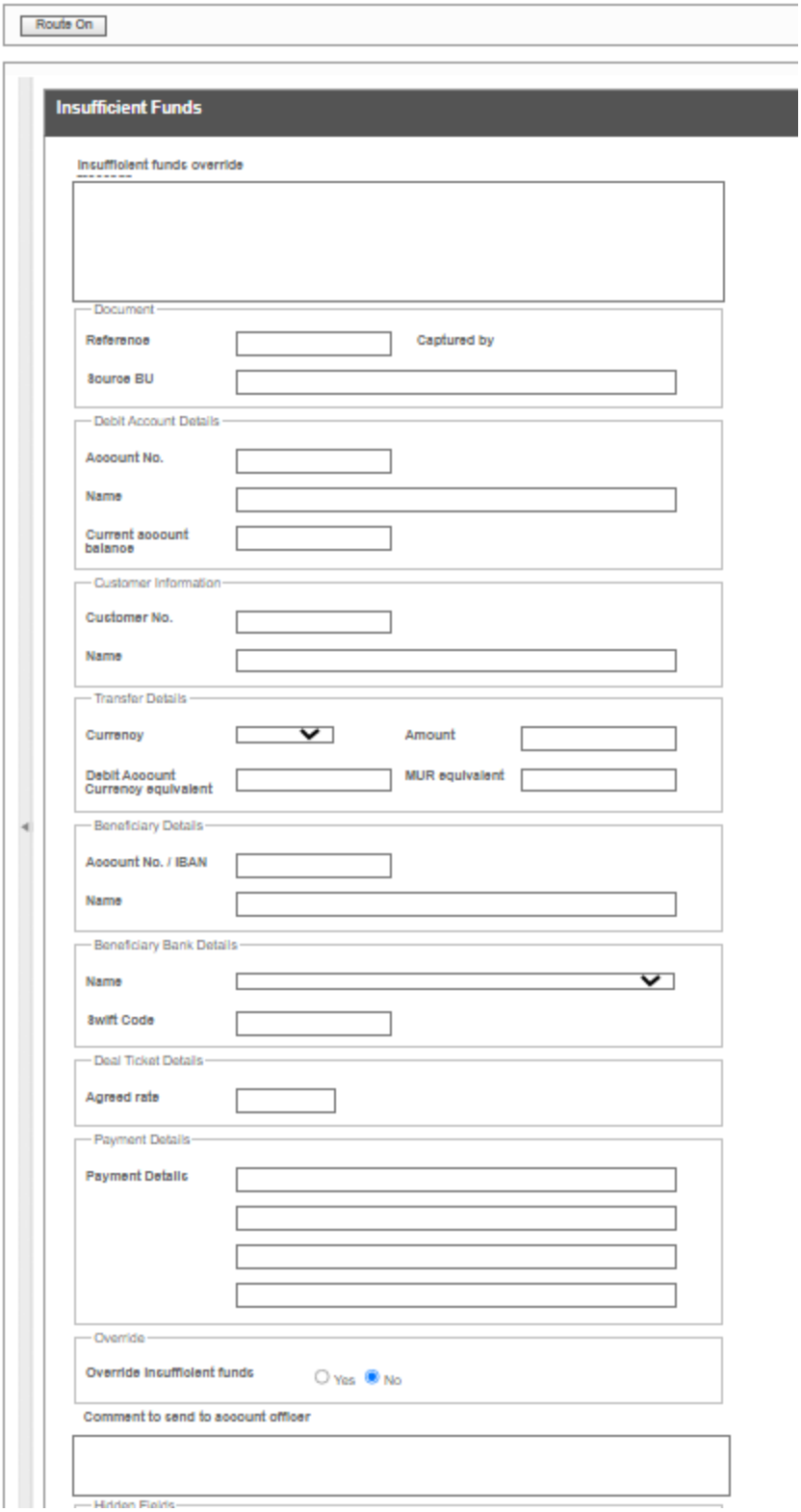


Figure 2 – Input Section

The following fields need to be populated from data in table 'EVENT_SOURCE' (check Reference section for more details)

- Insufficient Funds Override Section
  - Insufficient Funds Override = override field from table
- Document Section
  - You reference = business_key field from table
  - Captured By = created_by field from table
  - Source Bu = bu_name field from table
- Debit Account Details Section
  - Account No. numeric (length 12)= debit_account_number field from table
  - Name = account_short_name field from table
  - Current Account Balance = debit_account_balance field from table
- Customer Information Section
  - Customer No. = customer_number field from table
  - Name = customer_name field from table
- Transfer Details Section
  - Currency = transaction_currency field from table
  - Amount = transaction_amount field from table
  - Debit Account Currency equivalent = amount_in_debit_account_ccy field from table
  - MUR Equivalent = amount_in_mur field from table
- Beneficiary Details Section
  - Account No./IBAN = beneficiary_account_number field from table
  - Name = beneficiary_name field from table
- Beneficiary Bank Details Section
  - Name = beneficiary_bank_name field from table
  - Swift Code = beneficiary_bank_swift_code field from table
- Deal Ticket Details Section
  - Agreed rate = agreed_rate field from table
- Payment Details Section
  - Line 1 = payment_details_1 field from table
  - Line 2 = payment_details_2 field from table
  - Line 3 = payment_details_3 field from table
  - Line 4 = payment_details_4 field from table
- Override Section
  - The account officer must be able to choose option Yes or No based on information provided.
- Comments to send to Account Officer
  - Field value = comments field from table

The value entered in Override Section must be saved in the event_source table:

Field account_officer_decision to have value Yes or No

The user id of the person approving or rejecting the insufficient fund request must be saved in field updated_by in table event_source.

The date & time insufficient fund was approved or rejected must also be saved in updated_on in table event_source.

Part C: Funds Availability (Multiple Approval) Screen Menu

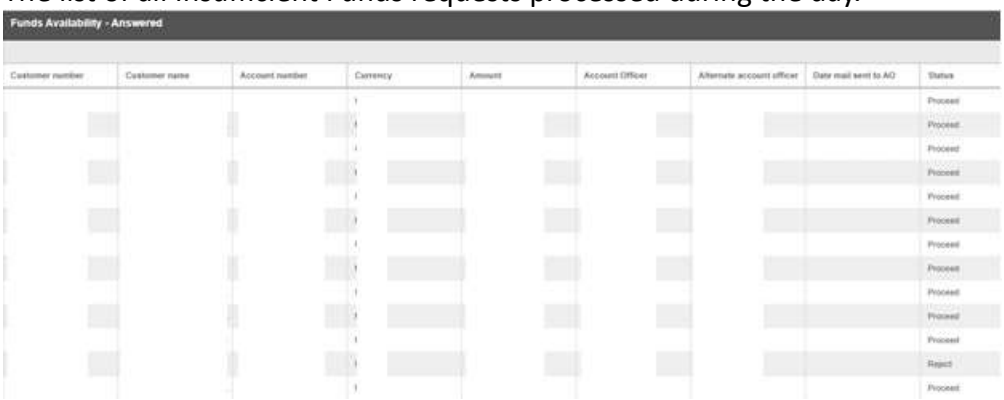
Account officer will have option to select a single or multiple requests and click on button 'Approve Batch' or 'Reject Batch' (refer to Figure 3). The following values need to be updated in the EVENT_SOURCE table:

1. status
2. updated_by
3. updated_on

Figure 3

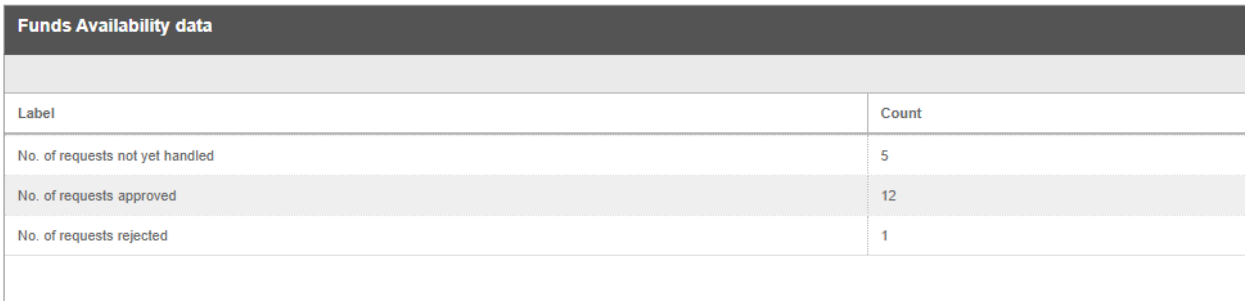
Part D: Funds Availability – Answered Screen Menu

The list of all Insufficient Funds requests processed during the day.



Part E: Funds Availability Data

The following table must be displayed as result.



Funds Availability data

Label	Count
No. of requests not yet handled	5
No. of requests approved	12
No. of requests rejected	1

Figure 3 – Statistics

No. of requests not yet handled – Display count if field verified == null
Signature OK – Display count if field verified == ‘Yes’
Signature not OK – Display count if field verified == ‘No’

Reference:

EVENT_SOURCE table definition

Field Name	**Field Type**
business_key	Varchar2
application	Varchar2
comments	Varchar2
transaction_currency	Varchar2
transaction_amount	Number
amount_in_mur	Number
debit_account_number	Varchar2
account_short_name	Varchar2
debit_account_ccy	Varchar2
payment_details_1	Varchar2
payment_details_2	Varchar2
payment_details_3	Varchar2
payment_details_4	Varchar2
verified	Varchar2
discrepancy_reason	Varchar2
created_by	Varchar2
created_on	DateTime
updated_by	Varchar2
updated_on	DateTime
customer_number	Varchar2
customer_name	Varchar2
account_officer	Varchar2
alt_account_officer	Varchar2
date_mail_sent	DateTime
override	Varchar2
bu_name	Varchar2
amount_in_debit_account_ccy	Number
debit_account_balance	Number
beneficiary_account_number	Varchar2
beneficiary_name	Varchar2
beneficiary_bank_name	Varchar2
beneficiary_bank_swift_code	Varchar2
agreed_rate	Number
status	Varchar2 (values : Proceed, Reject, unassigned)