# Corporate Digital Banking

## BSNeBiz Fraud Management System

Business Requirement and Functional Document

*(PENRIL/BSN/BRFD_CDB(CR)036 – [CR23002])*
*Revision: 00*

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Prepared By:

# Document Amendment Log

| Rev. No | Date Update | Description of Change | Update By <Name, Dept> | Review By <Name, dept> |
|---------|-------------|----------------------|------------------------|------------------------|
| 00 | 22/08/23 | Initial Release | Athirah Umairah Quality Engineer | Norhaidah Dasuki Senior Manager |

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# Business Requirement & Functional Acceptance

I/We hereby verify that this Business Requirement & Functional consist of all the requirements requested by BANK SIMPANAN NASIONAL. The implemented system will fulfill ONLY this requirement.

I/We also hereby AGREE that this satisfies our entire requirement for **BSNeBiz Fraud Management System.**

Any future changes to this agreed scope would be treated as an enhancement to the system. Any future changes to the project timeline will be subjected to the final approval of the project steering committee.

**BANK SIMPANAN NASIONAL:**

| Approved by | Role | Signature | Date |
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**Penril Datability (M) Sdn. Bhd.:**

| Approved by | Role | Signature | Date |
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| Norhaidah Bt Md Dasuki | Senior Manager, Profesional Service | | |
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| | | | |

# Section A: Introduction

## 1    Introduction

This document served as the business requirement and system specification of implementing **Fraud Management System** in BSNeBiz, which is customer able to make new application and digital signing via online.

This document shall explain all the features and functionalities, which is elaborating with screen captures, process flow, descriptions, input fields specifications and error messages. **All screen designs provided in this document are samples and only illustration purpose for easy understanding. The screen designs are not final.**

### 1.1    Objective

The objective of this document is to capture user requirements of transactional and administration modules of implementing BSNeBiz Fraud Management System. This document will facilitate development and implementation of the mentioned modules of Internet Banking System for BSNeBiz.

The base line features description and screen designs will become a reference blueprint for the development team to develop the transactional and administration module. Hence, it is crucial that all stakeholders need to ensure the correctness and adequacy of the requirements captured in this document.

All stakeholders involved are expected to review and sign off this document before the development starts. By signing the document, the stakeholder has endorsed the correctness and accuracy and adequacy of the requirements documented in this document.

## 1.2   Assumptions

1.  BSNeBiz Web Application
    a.  FHP and Predator plugin / code will be applied to every module including monetary and non-monetary based on FHP Rule Flow.
    b.  The security question will be implemented to every module if triggered FHP and Predator rule.

2.  BSNeBiz Mobile Application
    a.  FHP and Predator plugin / code will be applied to every module including monetary and non-monetary based on FHP Rule Flow.
    b.  The security question will be implemented to every module if triggered FHP and Predator rule.

3.  IBAM
    a.  To create new module at IBAM level that allow Bank Admin to maintain the Fraud Management Process
        • Bypass FHP and Predator

4.  Any other services which are not mentioned in SOW item 1.3 below will be treated as Change of Requirement.

## 1.3   Scope of Works

| System | Modules | Features | Description |
|---|---|---|---|
| IBAM | Fraud Management | FHP & Predator | Create new module at IBAM level that allow Bank Admin to maintain the Fraud Management Process<br>• Bypass FHP and Predator |
| BSNeBiz (Web) | Monetary and Non-Monetary | FHP & Predator | Apply FHP and Predator plugin / code to every module including monetary and non-monetary based on FHP Rule Flow.<br><br>Implement the security question to every module if triggered FHP and Predator rule.<br>• Transactions<br>• Favourite Maintenance<br>• NAD<br>• Merchant QR<br>• Account Summary<br>• Sweeping Account<br>• Login<br>• First Time Login<br>• Activate Token<br>• Device Pairing<br>• Forgot Password<br>• Change Password<br>• Change Security |
| BSNeBiz (Mobile) | Monetary and Non-Monetary | FHP & Predator | Apply FHP and Predator plugin / code to every module including monetary and non-monetary based on FHP Rule Flow.<br><br>Implement the security question to every module if triggered FHP and Predator rule.<br>• Transactions<br>• Quick Balance<br>• Login<br>• DuitNow QR |

Table 1: BSNeBiz Fraud Management System – Impact Module

## 1.4 FHP Rules Flow
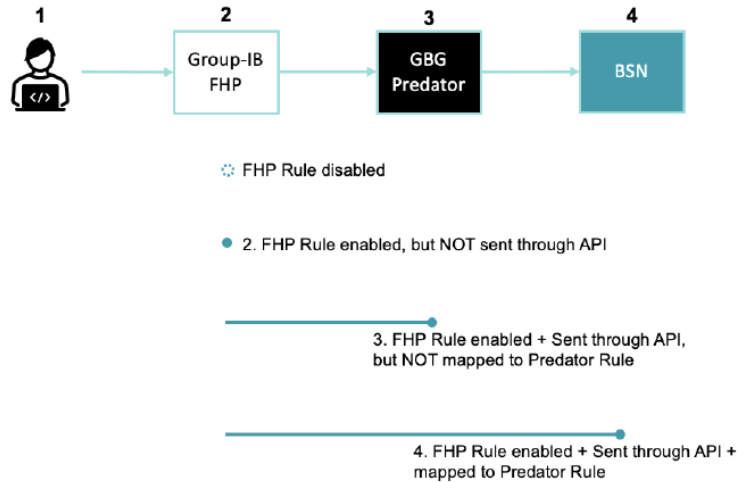


1.   FHP tracking code at BSN website/mobile apps sends collected data to FHP Cloud
2.   FHP rules setup at FHP Cloud – via FHP Admin Panel
   ➢   FHP rules will be sent to Predator via Push API if it is enabled and configured to sent through API

3. FHP alert messages received at Predator side
   ➢   Any Predator rules to be created for these FHP rules?

   Possible options:
   •   To create a Predator rule based on certain types of FHP rules Strong action = Block related transactions if these FHP rules triggered e.g. if type_id = 4 (multiple accounts within same FHP session) AND current count >=10 (More than 10 distinct users in the same FHP session), then: To Block related transactions
   •   To create a Predator rule based on session score (i.e. device_score) e.g. if device_score >= 70, then: To Step up related transactions
   •   To create a Predator rule based on types of FHP rules + session score e.g. if type_id = 111 (First time login of current user in this new device) AND device_score = 100, then: To Block related transactions
   •   To keep FHP rules as data enrichment only. To use these rules for investigation and analysis purpose (i.e. Not mapped to a specific Predator rule)
3.   BSN system received Predator messages (which contain FHP rules)
   ➢   To Step up / Hold / Approve / Reject transactions based on Predator message's `Rule Decision`

## 1.5    Rule Decision Mapping for BSNeBiz

| Rule Decision | BSNeBiz Mapping |
|---|---|
| NULL | OK |
| "00" | StepUp |
| "01" | Hold |
| "02" | Reject |
| "03" | Approve |

Predator will process this transaction and return a Rule Decision to BSNeBiz.
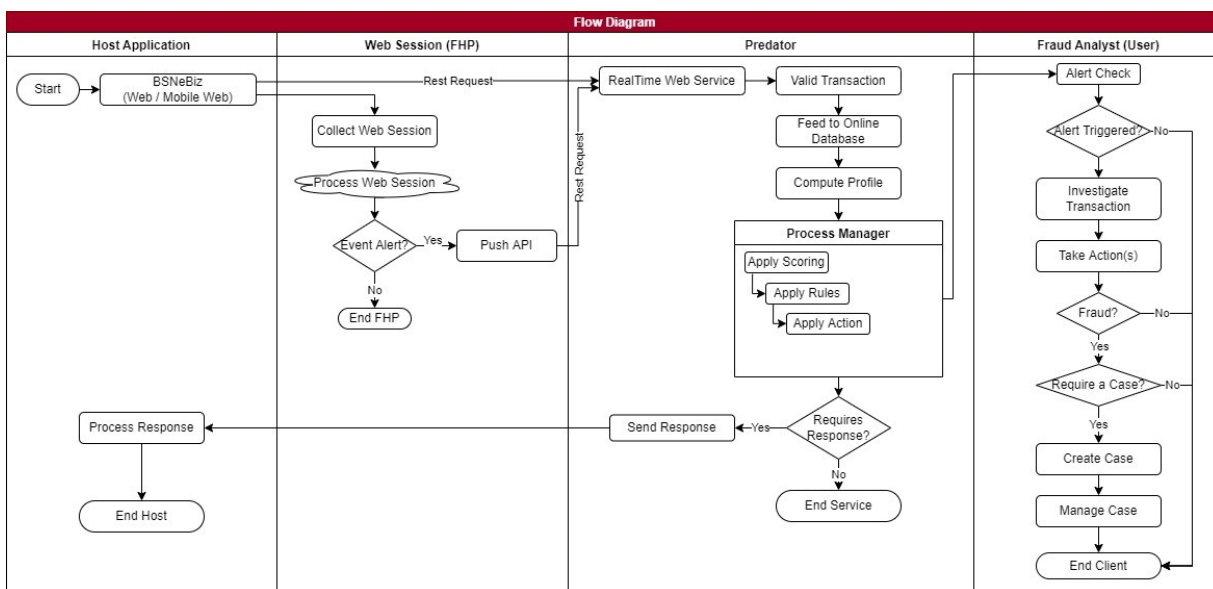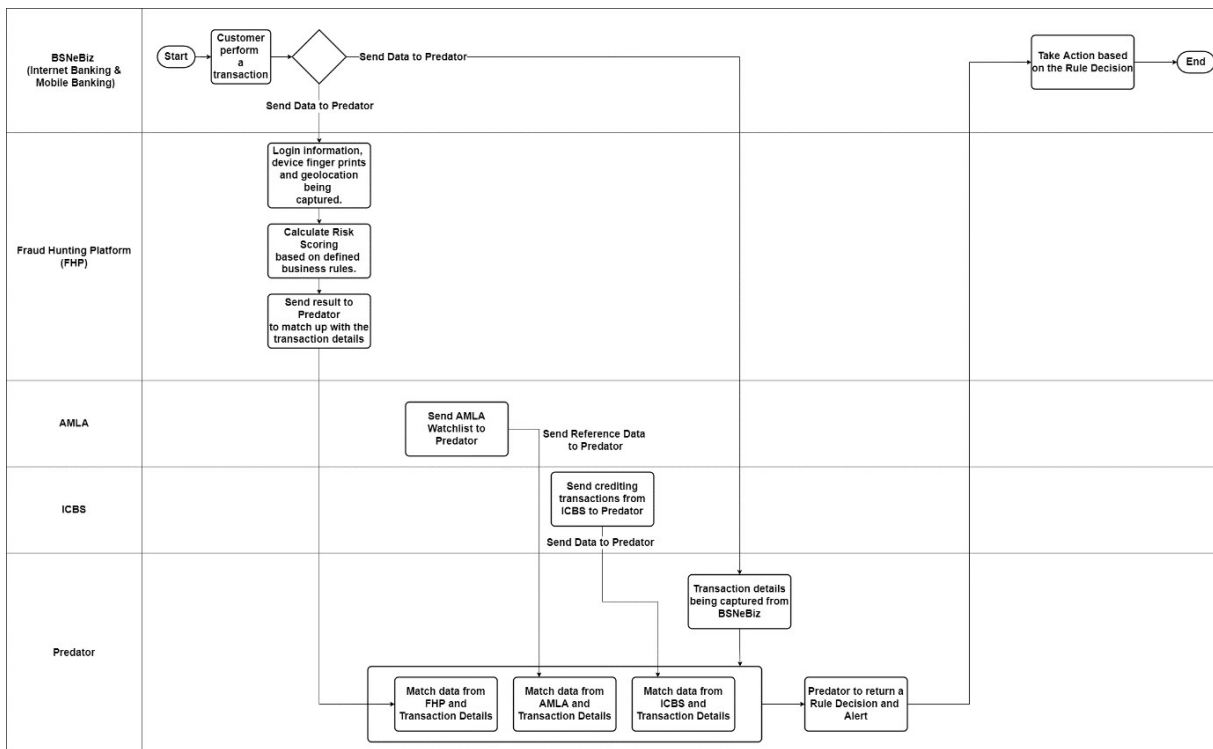
Note: OK means no rules were triggered

## 1.6   Functional Overview

The following diagram shows a high-level overview of how Predator does transaction Fraud checking.

- Private & Confidential -

Flow Diagram

- Private & Confidential -
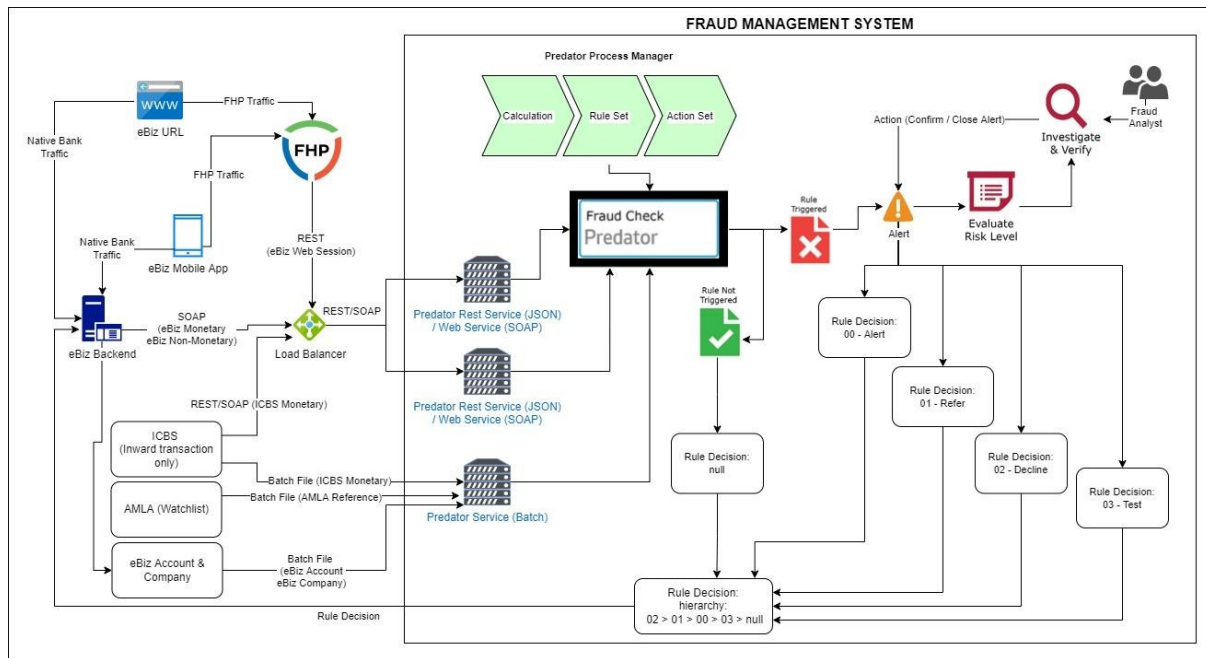
# Section B: BSNeBiz Web Application

## 2   SOW01: Enhancement at BSNeBiz Web Application

### 2.1   SOW01.1: To apply FHP and Predator plugin / code to every module include monetary and non-monetary based on FHP Rule Flow

| Function ID | SOW01.1 | | |
|---|---|---|---|
| Module Name | Monetary and Non-Monetary | Path | BSNeBiz |
| Description | FHP and Predator will apply to every module for monetary and non-monetary transaction based on transaction code in BSNeBiz in table below. | | |

| No | Value | Description | Type |
|---|---|---|---|
| 1 | BFUNOWN | FUND TRANSFER OWN | Monetary |
| 2 | BFUNLOAN | FUND TRANSFER LOAN | Monetary |
| 3 | BFUNFRA | FUND TRANSFER INTRABANK FAV | Monetary |
| 4 | BFUNORA | FUND TRANSFER INTRABANK NEW | Monetary |
| 5 | BFUNFER | FUND TRANSFER INTERBANK FAV | Monetary |
| 6 | BFUNOER | FUND TRANSFER INTERBANK NEW | Monetary |
| 7 | BFUNFRR | FUND TRANSFER FAV RENTAS | Monetary |
| 8 | BFUNORR | FUND TRANSFER NEW RENTAS | Monetary |
| 9 | BFUNCARD | FUND TRANSFER CORP CARD | Monetary |
| 10 | BFUNOEDUITN OW | FUND TRANSFER DUITNOW NEW | Monetary |
| 11 | BFUNFEDUITN OW | FUND TRANSFER DUITNOW FAV | Monetary |
| 12 | BFUNTD | FUND TRANSFER TERM DEPOSIT | Monetary |

| No | Value | Description | Type |
|----|-------|-------------|------|
| 13 | BBILLOPEN | BILL PAYMENT NEW PAYMENT | Monetary |
| 14 | BBILLFAV | BILL PAYMENT FAV PAYMENT | Monetary |
| 15 | BNBPSOPEN | JOMPAY NEW PAYMENT | Monetary |
| 16 | BNBPSYFAV | JOMPAY FAV PAYMENT | Monetary |
| 17 | BADENLFU | AUTO_DEBIT_ENROLLMENT_FILE_UPLOAD | Non-Monetary |
| 18 | BADENLDE | AUTO_DEBIT_ENROLLMENT_DATA_ENTRY | Non-Monetary |
| 19 | BADBILFU | AUTO_DEBIT_BILLING_FILE_UPLOAD | Monetary |
| 20 | BADBILDE | AUTO_DEBIT_BILLING_DATA_ENTRY | Monetary |
| 21 | BAUCRFU | AUTO_CREDIT_FILE_UPLOAD | Monetary |
| 22 | BAUCRDE | AUTO_CREDIT_DATA_ENTRY | Monetary |
| 23 | BAUCRWOACF U | AUTO_CREDIT_WO_ACCT_FILE_UPLOAD | Monetary |
| 24 | BAUCRWOACPA | AUTO_CREDIT_WO_ACCT_PAYMENT_APPROVED | Monetary |
| 25 | BPRUBSNFU | PRU_BSN_FILE_UPLOAD | Monetary |
| 26 | BKWSPFU | STATUTORY_KWSP_FILE_UPLOAD | Monetary |
| 27 | BKWSPDE | STATUTORY_KWSP_DATA_ENTRY | Monetary |
| 28 | BKWSPOP | STATUTORY_KWSP_OTHER_PAYMENT | Monetary |
| 29 | BSOCSOFU | STATUTORY SOCSO FILE UPLOAD | Monetary |
| 30 | BSOCSODE | STATUTORY SOCSO DATA ENTRY | Monetary |
| 31 | BZAKATDE | STATUTORY ZAKAT DATA ENTRY | Monetary |
| 32 | BZAKATFU | STATUTORY ZAKAT FILE UPLOAD | Monetary |

| No | Value | Description | Type |
|----|-------|-------------|------|
| 33 | BLHDNFU | STATUTORY_LHDN_FILE_UPLOAD | Monetary |
| 34 | BLHDNDE | STATUTORY_LHDN_DATA_ENTRY | Monetary |
| 35 | BSWEEPFUND TF | SWEEPING ACCOUNT TRANSFER | Monetary |
| 36 | BACCLOGIN | ACCESS_LOGIN | Non-Monetary |
| 37 | BACCLOGOUT | ACCESS_LOGOUT | Non-Monetary |
| 38 | BACCFPA | ACCESS_RESET_PASSWORD | Non-Monetary |
| 39 | BASPSS | ACCESS_RESET_SECURE_PASS | Non-Monetary |
| 40 | BACCREG | ACCESS_FT_LOGIN | Non-Monetary |
| 41 | BACCTAC | ACCESS_FT_TAC | Non-Monetary |
| 42 | BDEVICEPAIRI NG | ACCESS_DEVICE_PAIRING | Non-Monetary |
| 43 | BREGISTRATI ON | ACCESS_REGISTRATION | Non-Monetary |
| 44 | BMIGRATEDLO GIN | ACCESS_MIGRATED_LOGIN | Non-Monetary |
| 45 | BENQSUM | ACCOUNT_ENQUIRY_SUMMARY | Non-Monetary |
| 46 | BNOADET | NORMAL_ACC_DETAILS | Non-Monetary |
| 47 | BLNADET | LOAN_ACC_DETAILS | Non-Monetary |
| 48 | BESTMNT | E_STATEMENT | Non-Monetary |
| 49 | BTRANSHIST | TRANSACTION_HISTORY | Non-Monetary |
| 50 | BONLINEHIST | ONLINE_TRANSACTION_HISTORY | Non-Monetary |
| 51 | BACCVALIDATI ON | ACCOUNT_VALIDATION | Non-Monetary |
| 52 | BCASHLINEIN OTICE | CASHLINE_I_NOTICE | Non-Monetary |

| No | Value | Description | Type |
|----|-------|-------------|------|
| 53 | BFUNMRA | FUND_TRANSFER_INTRA_MAINT | Non-Monetary |
| 54 | BFUNMRAADD | FUND_TRANSFER_INTRA_ADD | Non-Monetary |
| 55 | BFUNMRAEDIT | FUND_TRANSFER_INTRA_EDIT | Non-Monetary |
| 56 | BFUNMRADEL | FUND_TRANSFER_INTRA_DELETE | Non-Monetary |
| 57 | BFUNMER | FUND_TRANSFER_INTER_MAINT | Non-Monetary |
| 58 | BFUNMERADD | FUND_TRANSFER_INTER_ADD | Non-Monetary |
| 59 | BFUNMEREDIT | FUND_TRANSFER_INTER_EDIT | Non-Monetary |
| 60 | BFUNMERDEL | FUND_TRANSFER_INTER_DELETE | Non-Monetary |
| 61 | BBILLFAVMAINT | BILL PAYMENT FAV PAYEE | Non-Monetary |
| 62 | BBPFAVPAYAD | BILL PAYMENT FAV PAYEE ADD | Non-Monetary |
| 63 | BBPFAVPAYDE | BILL PAYMENT FAV PAYEE DEL | Non-Monetary |
| 64 | BBPFAVPAYED | BILL PAYMENT FAV PAYEE EDIT | Non-Monetary |
| 65 | BJOMPAYFAV MAINT | JOMPAY FAV BILLER | Non-Monetary |
| 66 | BBPFAVBILLAD | JOMPAY FAV BILLER ADD | Non-Monetary |
| 67 | BBPFAVBILLDE | JOMPAY FAV BILLER DEL | Non-Monetary |
| 68 | BBPFAVBILLED | JOMPAY FAV BILLER EDIT | Non-Monetary |
| 69 | BSWPACCM | SWEEPING_ACCOUNT_MAIN | Non-Monetary |
| 70 | BSWPACCMN | SWEEPING_ACCOUNT_MAINT_NEW | Non-Monetary |
| 71 | BSWPACCH | SWEEPING_ACCOUNT_HISTORY | Non-Monetary |
| 72 | BSWEEPFUND | SWEEPING_ACCOUNT | Non-Monetary |

| No | Value | Description | Type |
|---|---|---|---|
| 73 | BSWEEPFUND A | SWEEPING_ACCOUNT_ADD | Non-Monetary |
| 74 | BSWEEPFUND ACT | SWEEPING_ACCOUNT_ACTIVATE | Non-Monetary |
| 75 | BSWEEPFUND DACT | SWEEPING_ACCOUNT_DEACTIVATE | Non-Monetary |
| 76 | BSWEEPFUND D | SWEEPING_ACCOUNT_DELETE | Non-Monetary |
| 77 | BSWPACCMCP A | SWEEPING_ACCOUNT_MAIN_CREATE_PAYMENT_ACCT | Non-Monetary |
| 78 | BSWPACCMSTOP | SWEEPING_ACCOUNT_MAIN_STOP_PAYMENT_ACC T | Non-Monetary |
| 79 | BSWPACCMAC T | SWEEPING_ACCOUNT_MAIN_ACTICE_PAYMENT_ACCT | Non-Monetary |
| 80 | BSWPACCMEP A | SWEEPING_ACCOUNT_MAIN_EDIT_PAYMENT_ACCT | Non-Monetary |
| 81 | BADENLHL | AUTO_DEBIT_ENROLLMENT_HISTORY_LISTING | Non-Monetary |
| 82 | BAUDBENCF | AUTO_DEBIT_ENROLLMENT_CANCEL_FILE | Non-Monetary |
| 83 | BADBILHL | AUTO_DEBIT_BILLING_HISTORY_LISTING | Non-Monetary |
| 84 | BAUDBBILCF | AUTO_DEBIT_BILLING_CANCEL_FILE | Non-Monetary |
| 85 | BAUCRHL | AUTO_CREDIT_HISTORY_LISTING | Non-Monetary |
| 86 | BAUCRCF | AUTO_CREDIT_CANCEL_FILE | Non-Monetary |
| 87 | BAUCRWIN | AUTO_CREDIT_WINDOW | Non-Monetary |
| 88 | BKWSPTEST | STATUTORY_KWSP_TEST_DATA_ENTRY | Non-Monetary |
| 89 | BKWSPHL | STATUTORY_KWSP_HISTORY_LISTING | Non-Monetary |
| 90 | BKWSPCF | STATUTORY_KWSP_CANCEL_FILE | Non-Monetary |
| 91 | BLHDNHL | STATUTORY_LHDN_HISTORY_LISTING | Non-Monetary |

| No | Value | Description | Type |
|----|-------|-------------|------|
| 92 | BLHDNCF | STATUTORY_LHDN_CANCEL_FILE | Non-Monetary |

## 2.2   SOW01.2: To implement the security question to every module if triggered FHP and Predator rule

### 2.2.1   SOW01.2a: Transactions

| Function ID | SOW01.2a | | |
|---|---|---|---|
| Module Name | Transactions | Path | BSNeBiz |
| Description | Step-up authentication will be implemented to module that related with fund transfer or payment module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of fund transfer module implemented with FHP and Predator enhancement:<br>  a)  Transfer & Payment<br>      i.  Own Account Transfer<br>      ii.  BSN/IBG/RENTAS<br>      iii.  Favourite Account<br><br>  b)  JomPAY<br>      i.  New JomPAY<br>      ii.  Favourite JomPAY<br><br>  c)  DuitNow<br>      i.  New DuitNow<br>      ii.  Favourite DuitNow<br><br>  d)  Auto Debit<br>      i.  File Upload<br>      ii.  Data Entry<br><br>  e)  Bulk Payment<br>      i.  File Upload<br>      ii.  Data Entry<br><br>  f)  Statutory Body (EPF/ZAKAT/SOCSO/LHDN)<br>      i.  File Upload<br>      ii.  Data Entry |
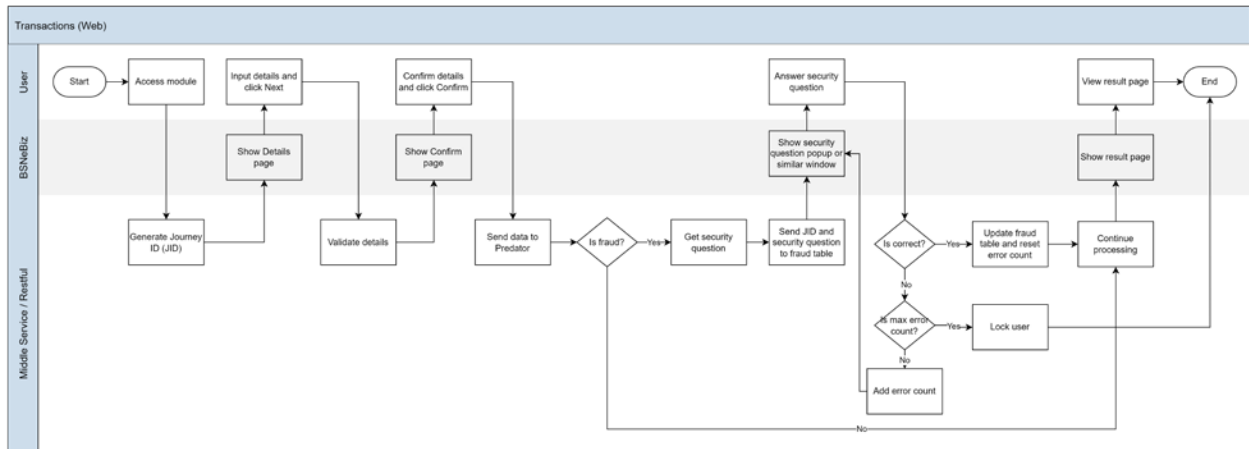
### 2.2.1.1 Process Flow



Diagram 1: Transactions Process Flow

### 2.2.1.2 Screen Flow

The Own Account transfer type will be used as a sample for fund transfer screen flow with FHP and Predator.

***Step 1:***

1. BSNeBiz User login to BSNeBiz system.
2. Navigate to Transfer & Payment module and select the desire transfer type from drop down list.
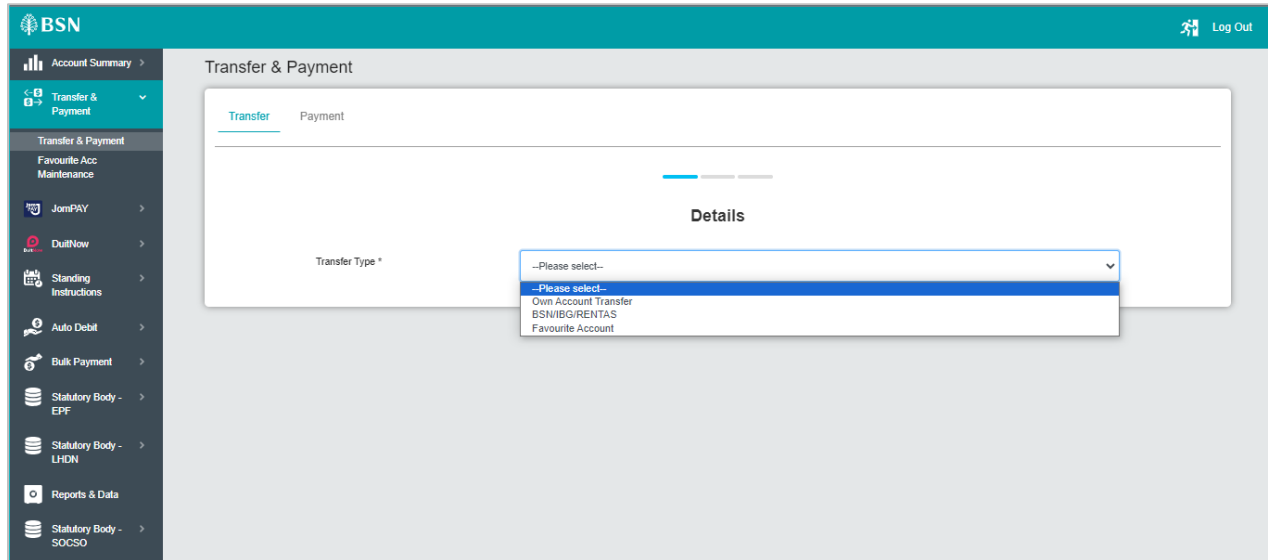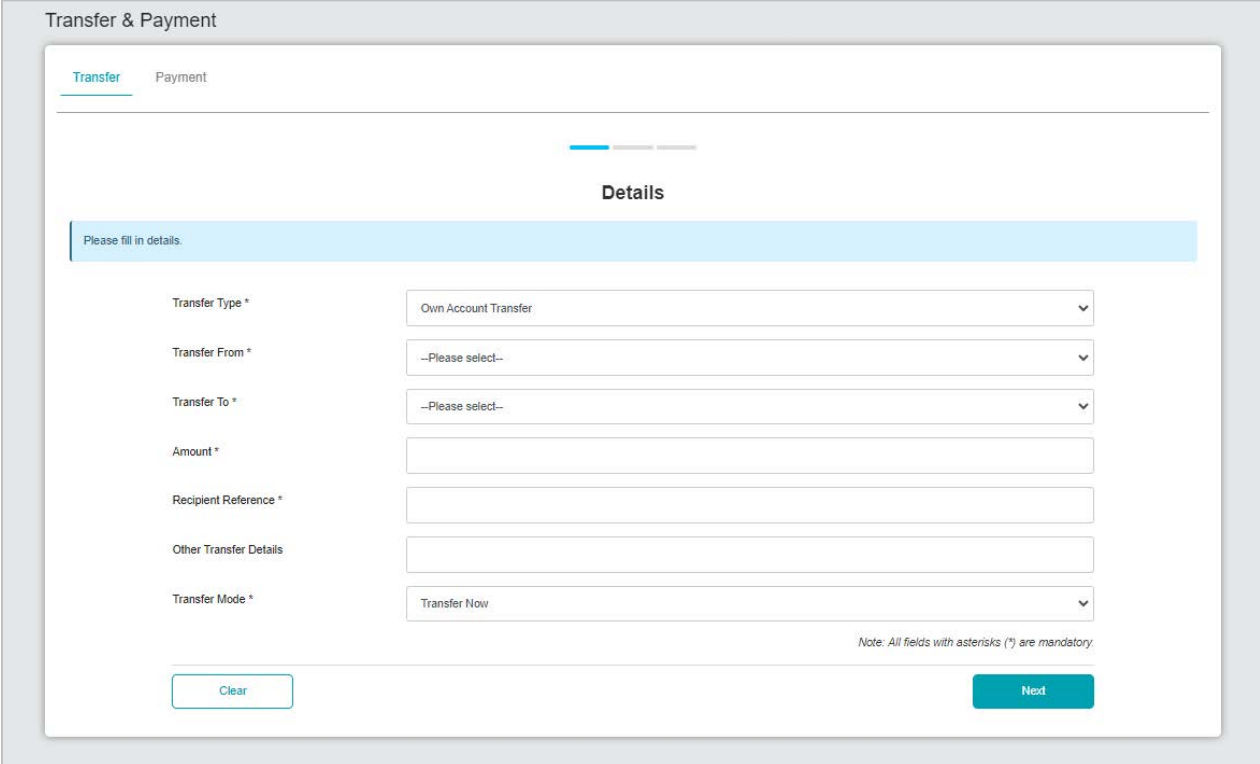3. BSNeBiz display selected transfer type details page.

Figure 1: Transfer & Payment details screen

### Step 2:

1. Enter required information for transaction.
2. Click "Next" button.

Figure 2: Transfer & Payment details screen

### Step 3:

1. View transaction details on the confirmation page.
2. Click on "Confirm" button.
3. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
4. BSNeBiz perform checking on action code from FHP and Predator analysis response:
    b. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to perform this transaction. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
    c. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 5.
    d. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 4.

Figure 3: Transfer & Payment – Confirmation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to perform this transaction. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 2: Fraud Alert - Return Error Message

*Step 4:*

1. Retrieve the Security question and display to user.
2. User answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.
   a. IF the response return "Yes", indicate the answer is correct, BSNeBiz will redirect user to step 5.
   b. IF the response return "No", indicate the answer is incorrect. BSNeBiz perform checking on error counting.
      i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
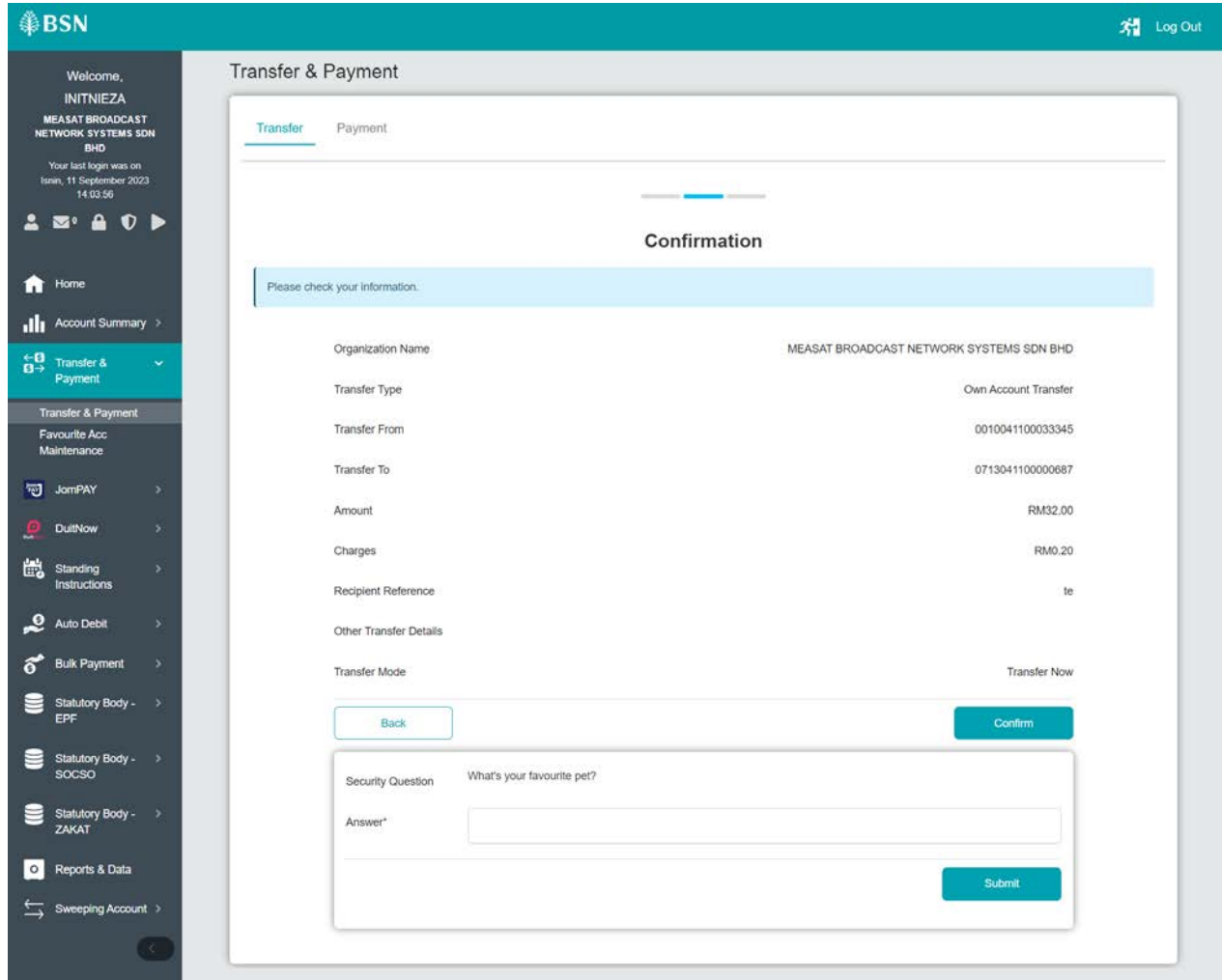


Figure 4: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

Table 3: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 4: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 5: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 6: Fraud Alert - Security Question Error Message

***Step 5:***

1. BSNeBiz display Transfer & Payment result page.

Figure 5: Transfer & Payment – Result screen

**Status might be different depending on the organization setup. For workflow company, the status will be **Pending Verify** or **Pending Approval**. For non-workflow company, the status will be **Successful**.

### 2.2.2 SOW01.2b: Favourite Maintenance

| Function ID | SOW01.2b | | |
|---|---|---|---|
| Module Name | Favourite Maintenance | Path | BSNeBiz |
| Description | Step-up authentication will be implemented to module that related with favourite maintenance module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of favourite maintenance implemented with FHP and Predator enhancement:<br><br>    a)   Transfer & Payment<br>        i.   Add<br>        ii.   Edit<br>        iii.   Delete<br><br>    b)   JomPAY<br>        i.   Add<br>        ii.   Edit<br>        iii.   Delete<br><br>    c)   DuitNow<br>        i.   Add<br>        ii.   Edit<br>        iii.   Delete | | |
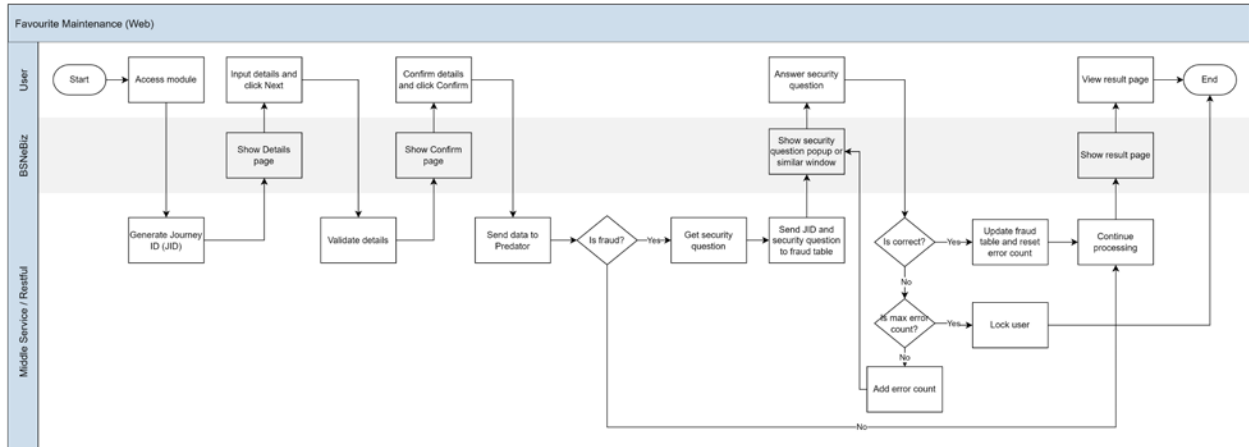
### 2.2.2.1  Process Flow



Diagram 2: Favourite Maintenance Process Flow

### 2.2.2.2  Screen Flow

The Transfer & Payment – Favourite Maintenance (Add) will be used as a sample for favourite maintenance screen flow with FHP and Predator.

*Step 1:*

1.  BSNeBiz User login to BSNeBiz system.
2.  Navigate to Transfer & Payment – Favourite Maintenance module.
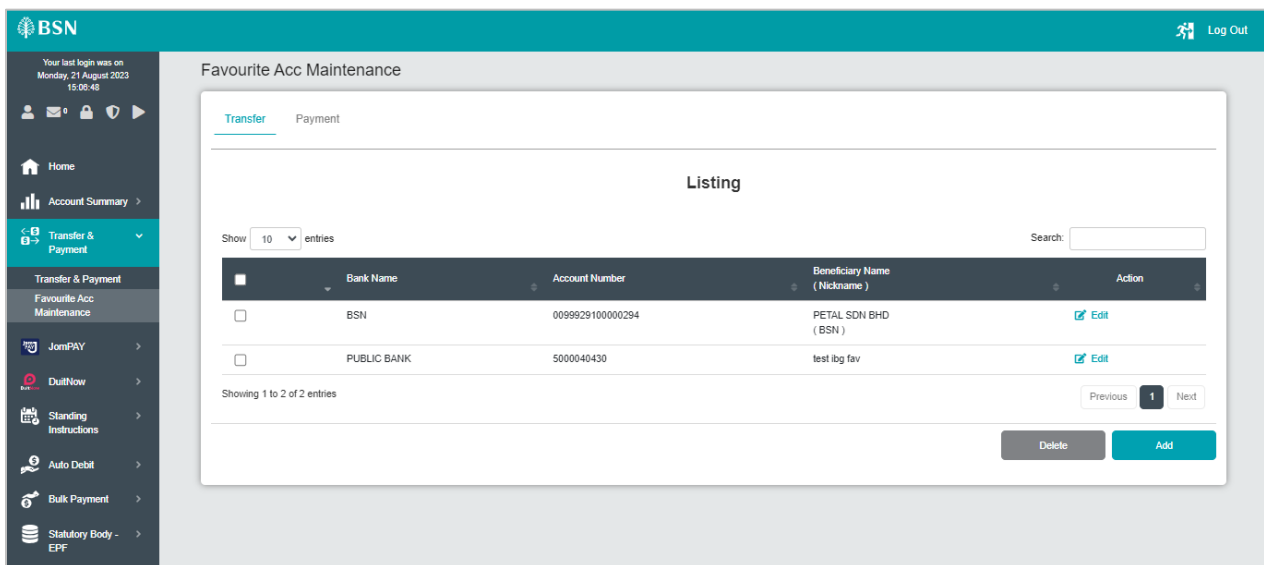3.  Click on "Add" button.



Figure 6: Favourite Maintenance – Listing screen

### Step 2:

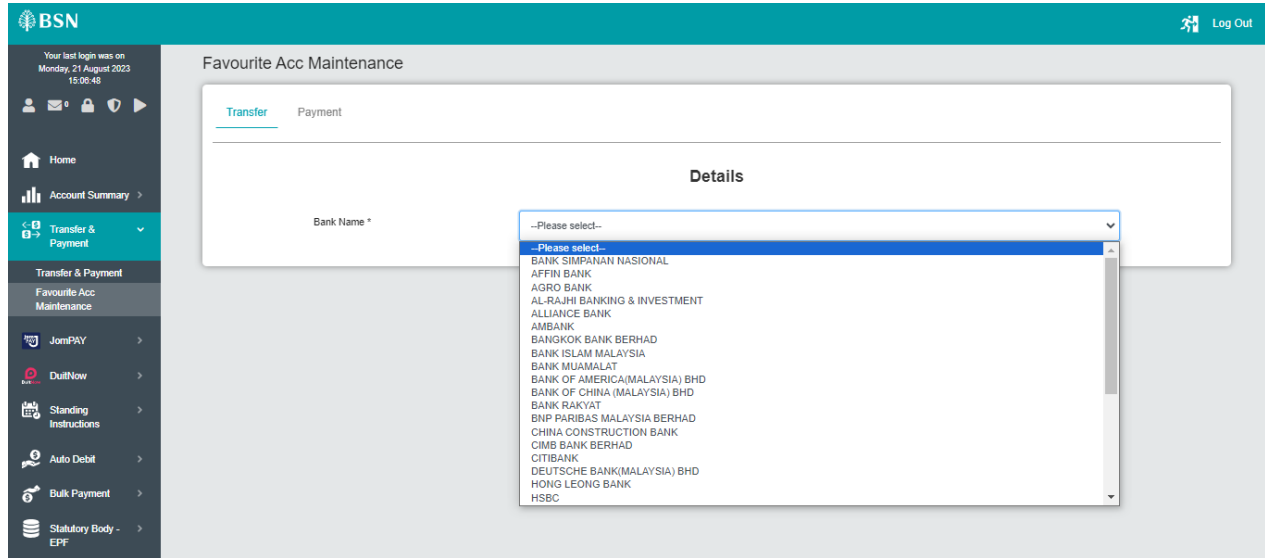1. BSNeBiz display favourite maintenance details page.



Figure 7: Favourite Maintenance – Details screen

### Step 3:

1. Enter required information for favourite maintenance details.
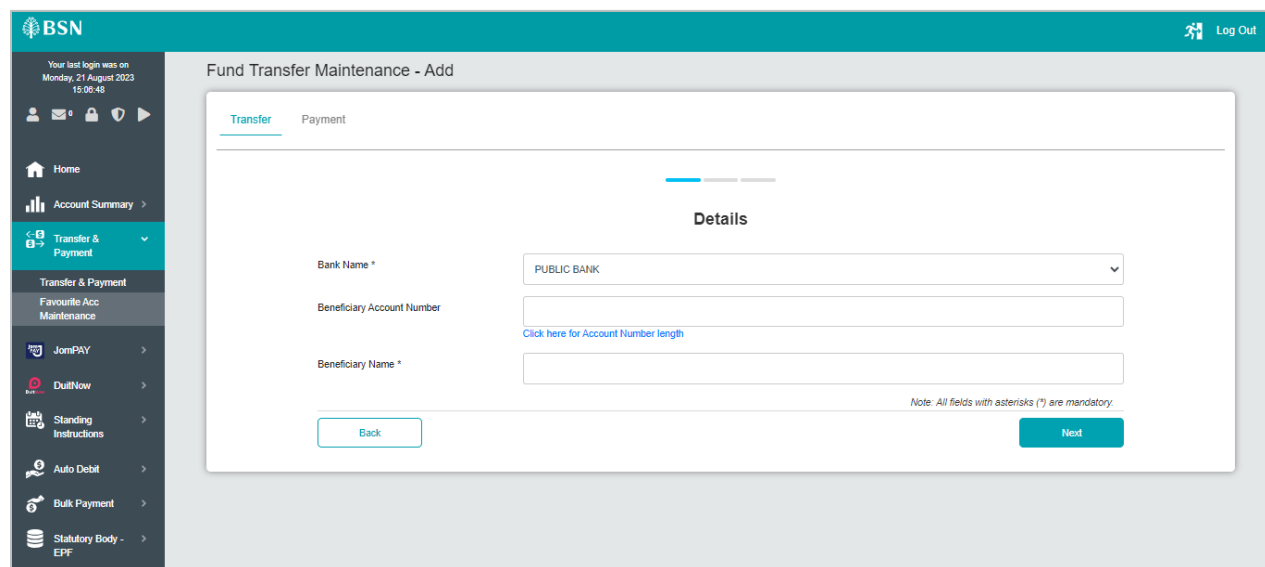2. Click "Next" button.



Figure 8: Favourite Maintenance – Details screen

*Step 4:*

1. View details on the confirmation page.
2. Click on "Confirm" button.
3. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
4. BSNeBiz perform checking on action code from FHP and Predator analysis response:
    a. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to add new favourite account. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
    b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 6.
    c. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 5.
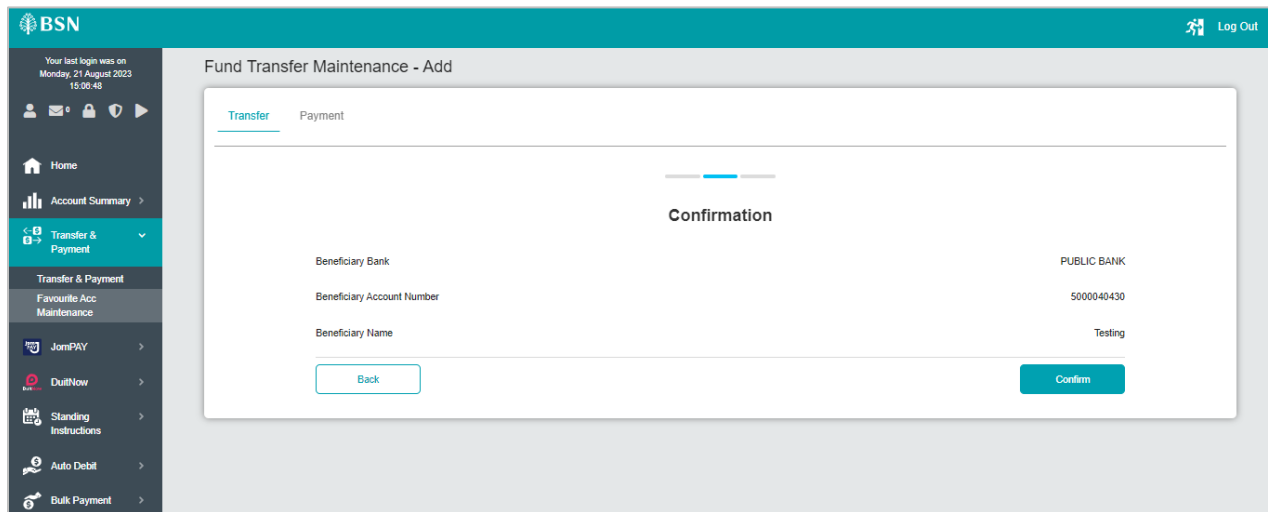


Figure 9: Favourite Maintenance – Confirmation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to add new favourite account. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 7: Fraud Alert - Security Question Error Message

*Step 5:*

1. Retrieve the Security question and display to user.
2. User answer the question and click submit button.

3.  BSNeBiz request FHP and Predator to validate the submitted answer.
    a.  IF the response return "Yes", indicate the answer is correct, BSNeBiz will redirect user to step 6.
    b.  IF the response return "No", indicate the answer is incorrect. BSNeBiz perform checking on error counting.
        i.  Unlocked – BSNeBiz request FHP and Predator to return next Security question.
        ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.



Figure 10: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 8: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 9: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 10: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 11: Fraud Alert - Security Question Error Message

*Step 6:*

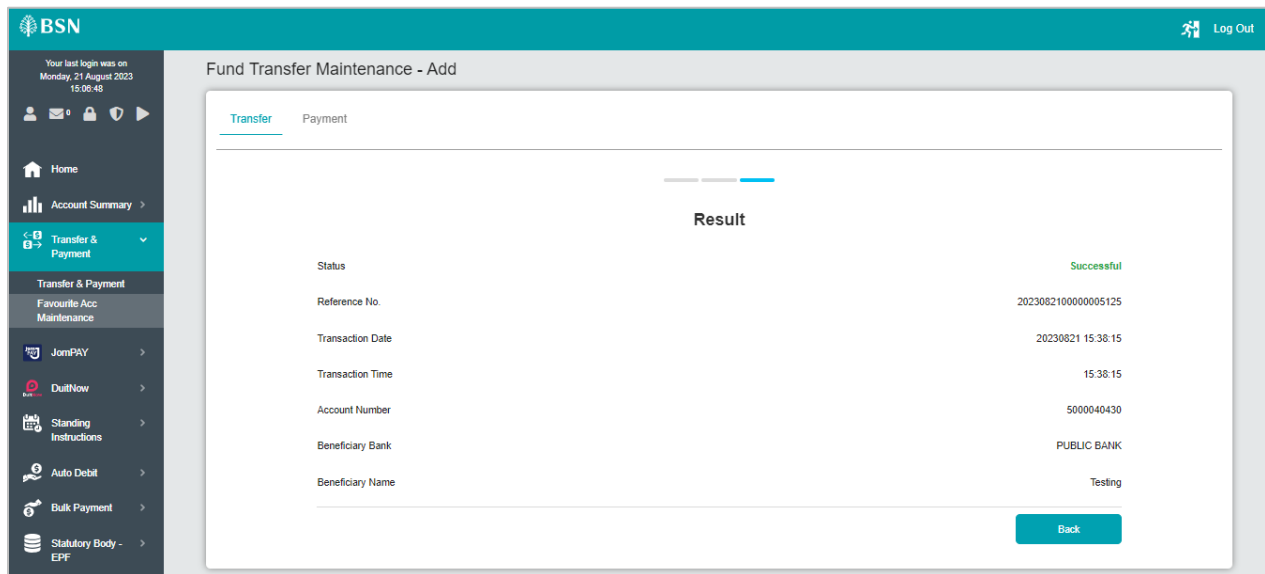1. BSNeBiz display Favourite Maintenance result page.



Figure 11: Favourite Maintenance – Result screen

### 2.2.3 SOW01.2c: NAD

| Function ID | SOW01.2c | | |
| --- | --- | --- | --- |
| Module Name | NAD | Path | BSNeBiz |
| Description | Step-up authentication will be implemented to module that related with NAD module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are NAD module implemented with FHP and Predator enhancement:<br>    a) NAD Registration<br><br>    b) NAD Maintenance<br>       i. Edit<br>      ii. Delete<br>     iii. Activate<br>     iv. Block | | |

#### 2.2.3.1 Process Flow
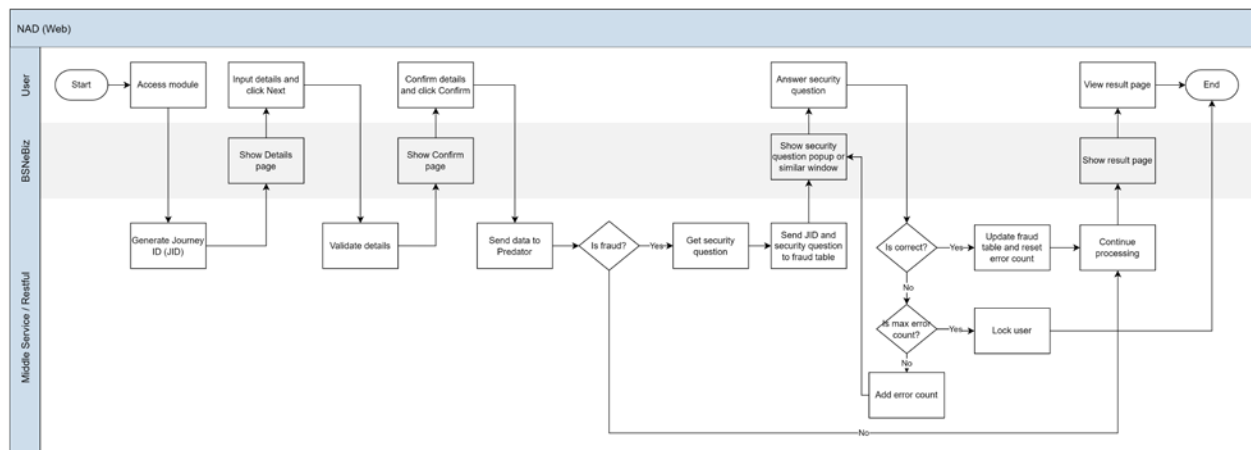


Diagram 3: NAD Registration Process Flow

#### 2.2.3.2 Screen Flow

The NAD – NAD Registration will be used as a sample for NAD screen flow with FHP and Predator.

**Step 1:**

1. CA login to BSNeBiz system.
2. Navigate to NAD – NAD Registration module.
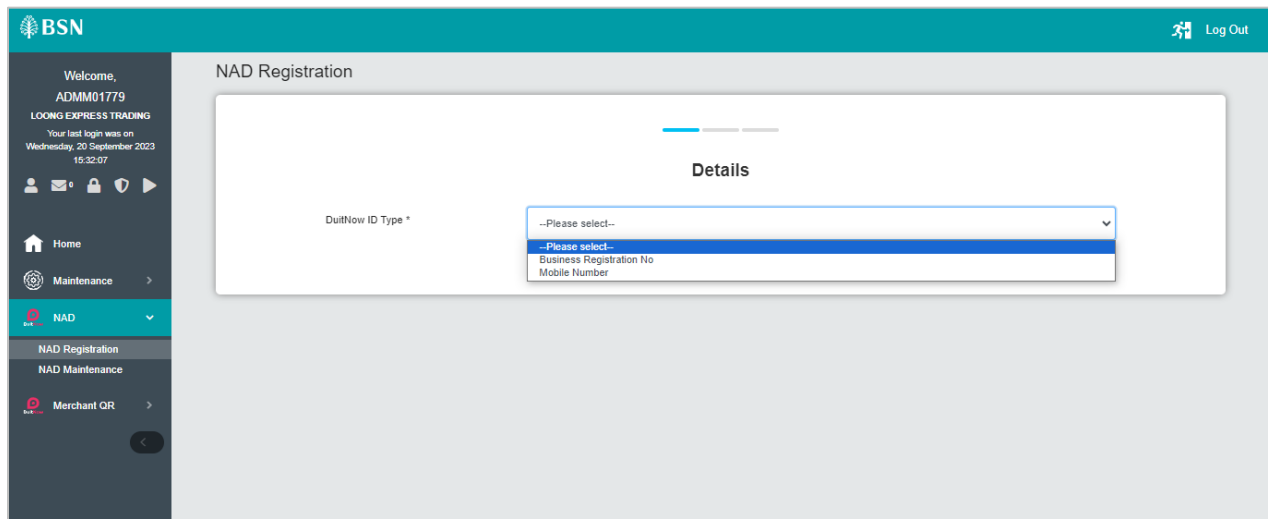3. BSNeBiz display NAD Registration details page.



Figure 12: NAD Registration – Details screen

**Step 2:**

1. Enter required information for favourite maintenance details.
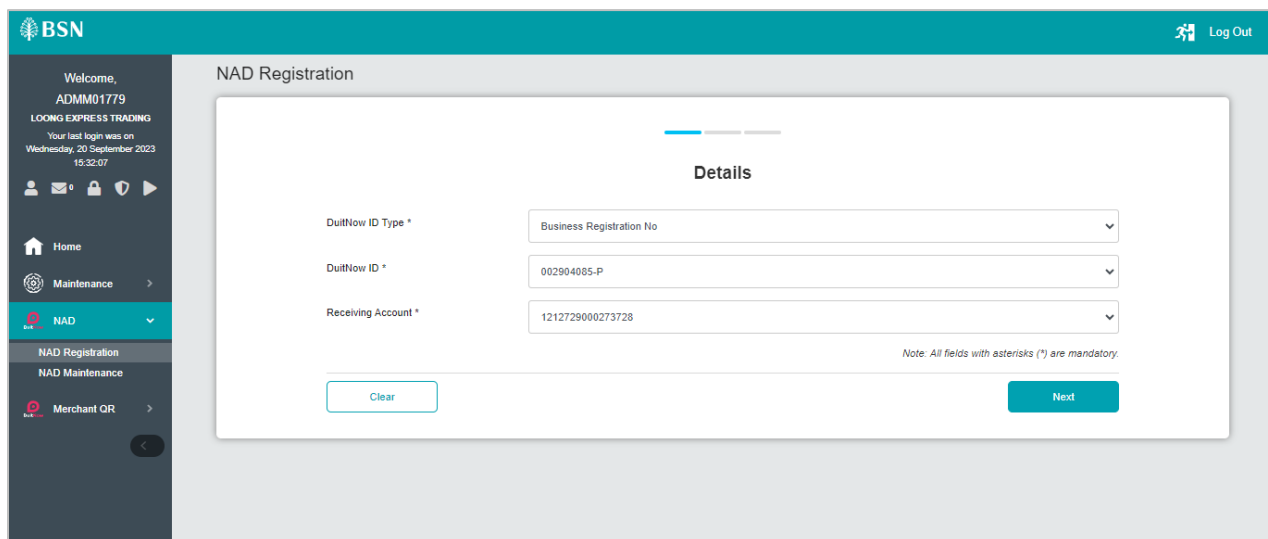2. Click "Next" button.



Figure 13: NAD Registration – Details screen

*Step 3:*

1. View details on the confirmation page.
2. Click on "Confirm" button.
3. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
4. BSNeBiz perform checking on action code from FHP and Predator analysis response:
    a. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to register new NAD. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
    b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 5.
    c. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 4.
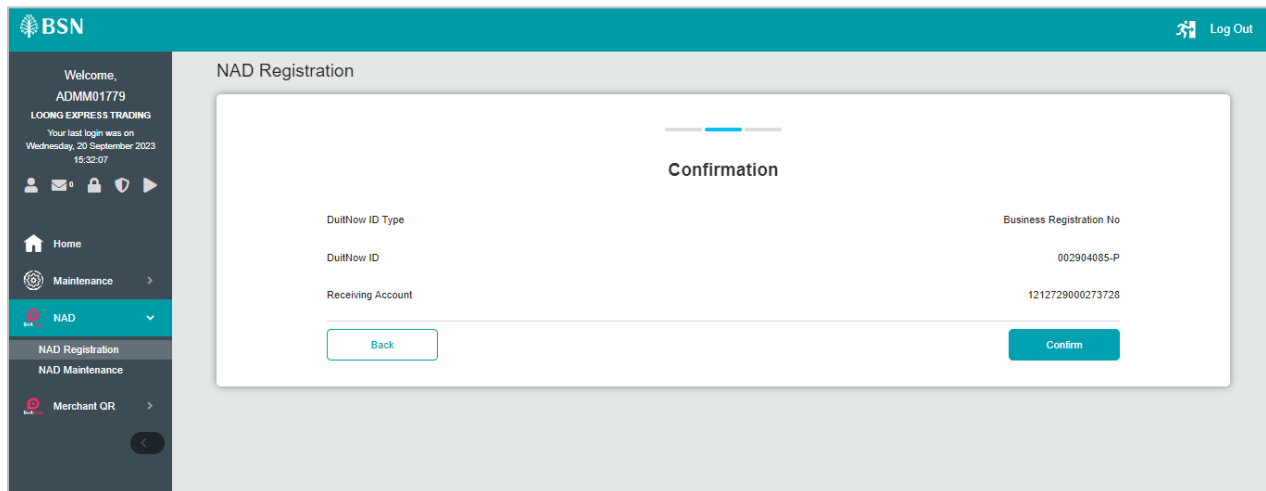


Figure 14: NAD Registration – Confirmation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to register new NAD. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 12: Fraud Alert - Security Question Error Message

*Step 4:*

1. Retrieve the Security question and display to user.
2. User answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.

a. IF the response return "Yes", indicate the answer is correct, BSNeBiz will redirect user to step 5.

b. IF the response return "No", indicate the answer is incorrect. BSNeBiz perform checking on error counting.

    i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

    ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
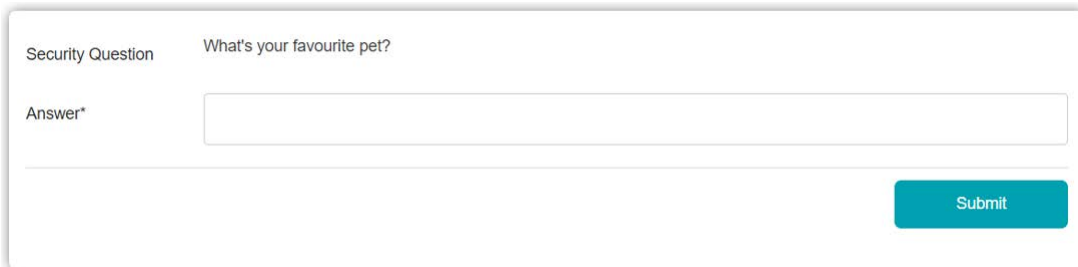


Figure 15: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 13: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 14: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 15: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 16: Fraud Alert - Security Question Error Message
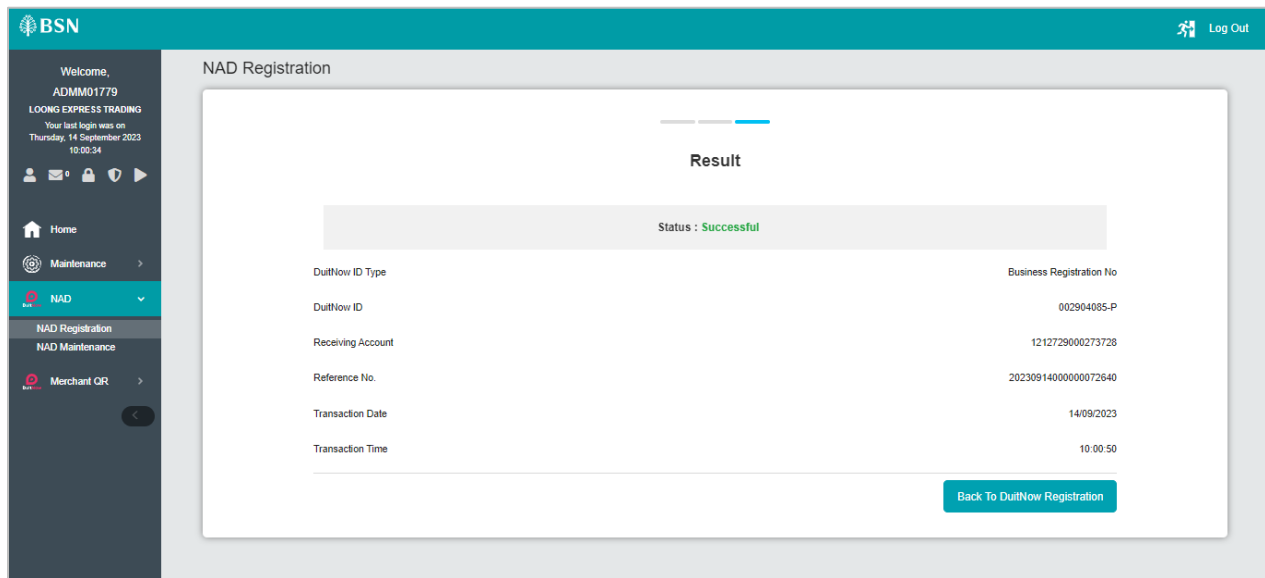
*Step 5:*

1. BSNeBiz display NAD Registration result page.



Figure 16: NAD Registration – Result screen

## 2.2.4  SOW01.2d: Merchant QR

| Function ID | SOW01.2d | | |
|---|---|---|---|
| Module Name | Merchant QR | Path | BSNeBiz |
| Description | Step-up authentication will be implemented to module that related with Merchant QR module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are Merchant QR module implemented with FHP and Predator enhancement:<br>  a)  Merchant Management<br>     i.  Create<br>     ii.  Edit<br>     iii.  Delete<br>     iv.  Activate<br>     v.  Block | | |

### 2.2.4.1  Process Flow
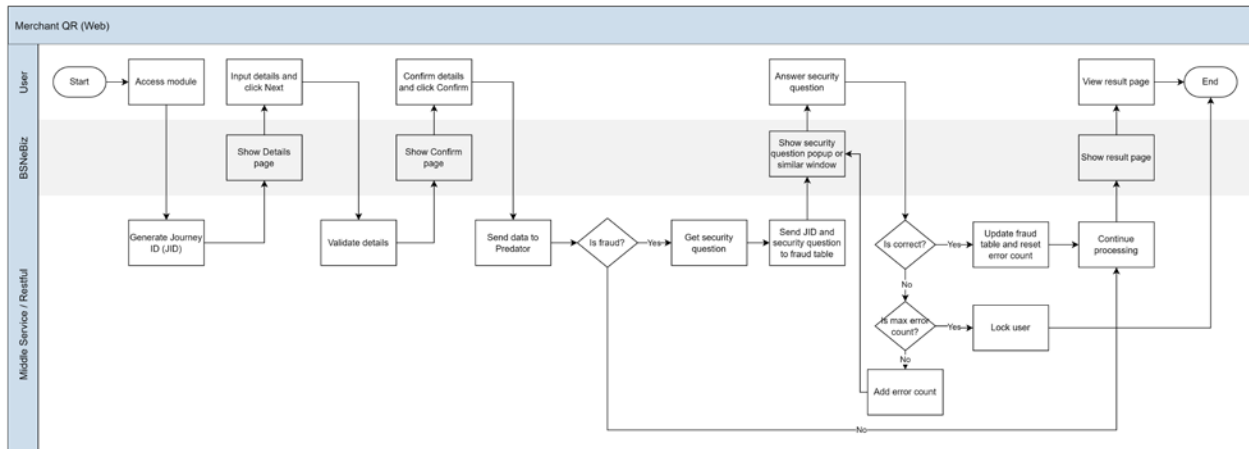


Diagram 4: NAD Registration Process Flow

### 2.2.4.2  Screen Flow

The Merchant QR – Merchant Management (Create) will be used as a sample for merchant QR screen flow with FHP and Predator.

*Step 1:*

1. CA login to BSNeBiz system.
2. Navigate to Merchant QR – Merchant Management module.
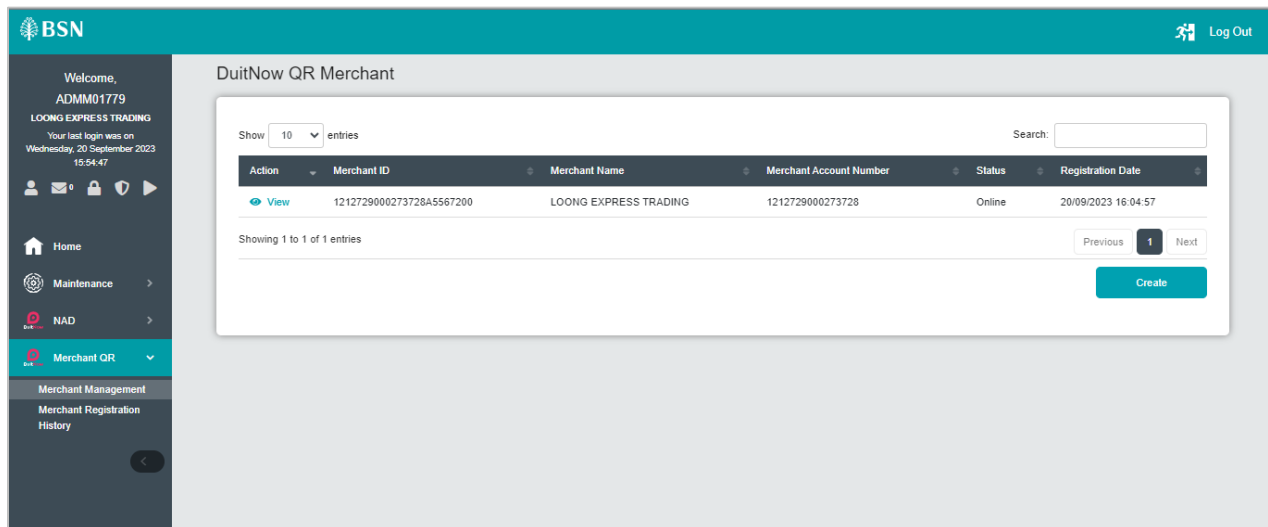3. Click on "Create" button.



Figure 17: QR Merchant – Listing screen

*Step 2:*

1. BSNeBiz display favourite maintenance details page.
2. Enter required information for QR Merchant details.
3. Click "Next" button.

Figure 18: QR Merchant – Details screen

***Step 3:***

1. View details on the confirmation page.
2. Click on "Confirm" button.
3. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
4. BSNeBiz perform checking on action code from FHP and Predator analysis response:

    a. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to create QR Merchant. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

    b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 5.

    c. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 4.

Figure 19: QR Merchant – Confirmation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to create QR Merchant. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 17: Fraud Alert - Security Question Error Message

***Step 4:***

1. Retrieve the Security question and display to user.
2. User answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.
   a. IF the response return "Yes", indicate the answer is correct, BSNeBiz will redirect user to step 5.

b. IF the response return "No", indicate the answer is incorrect. BSNeBiz perform checking on error counting.

 i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

 ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.



Figure 20: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

Table 18: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 19: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 20: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|---|---|---|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |

| No | Event | Error Description in English |
|---|---|---|
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 21: Fraud Alert - Security Question Error Message
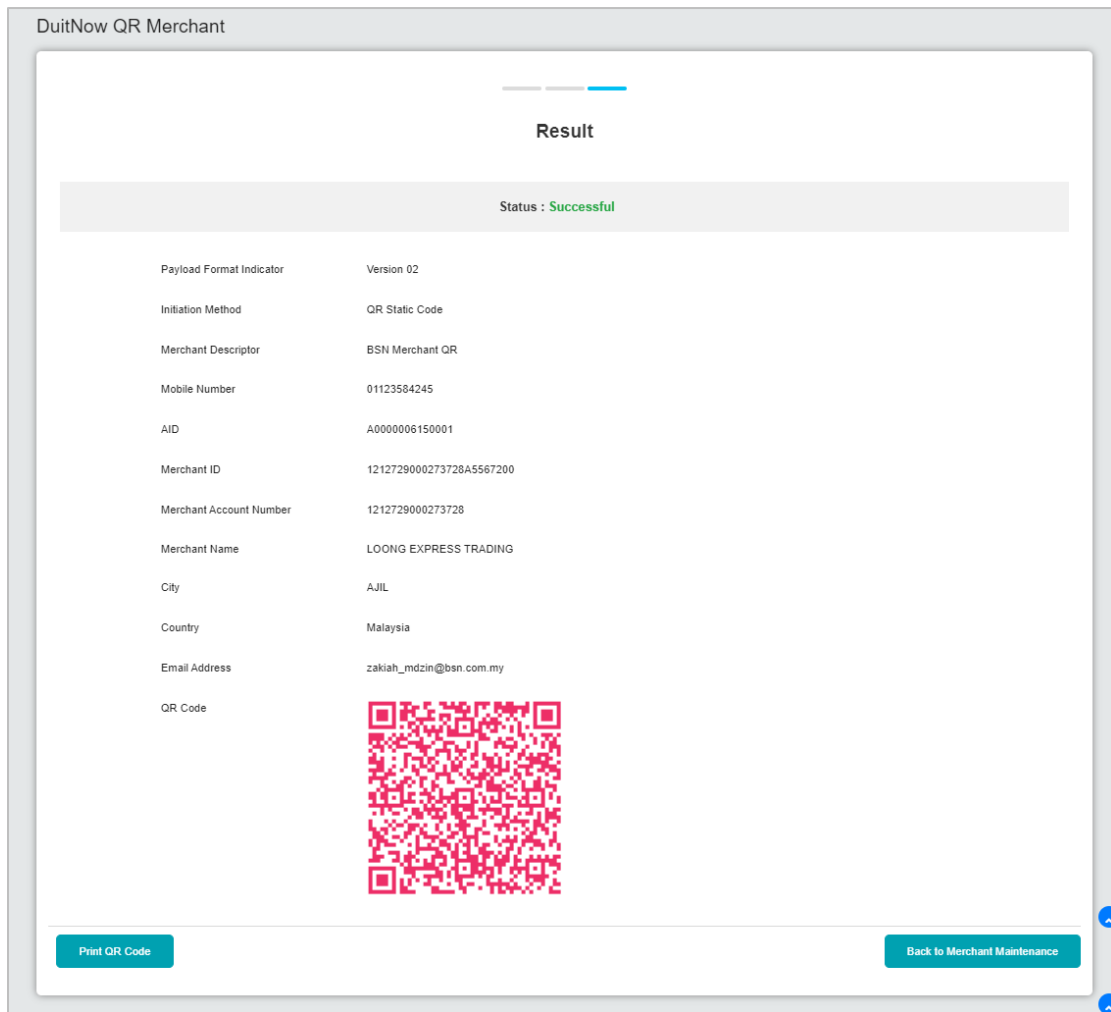
*Step 5:*

1. BSNeBiz display QR Merchant result page.



Figure 21: QR Merchant – Result screen

### 2.2.5  SOW01.2e: Account Summary

| Function ID | SOW01.2e | | |
|---|---|---|---|
| Module Name | Account Summary | Path | BSNeBiz/ Account Summary |
| Description | Step-up authentication will be implemented to module that related with account summary module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of account summary module implemented with FHP and Predator enhancement:<br><br>a)  GIRO Accounts<br>b)  GIRO-i Accounts<br>c)  GIRO-i Premium Accounts<br>d)  Fixed Investment Accounts<br>e)  Loan Accounts<br>f)  Corporate Accounts | | |

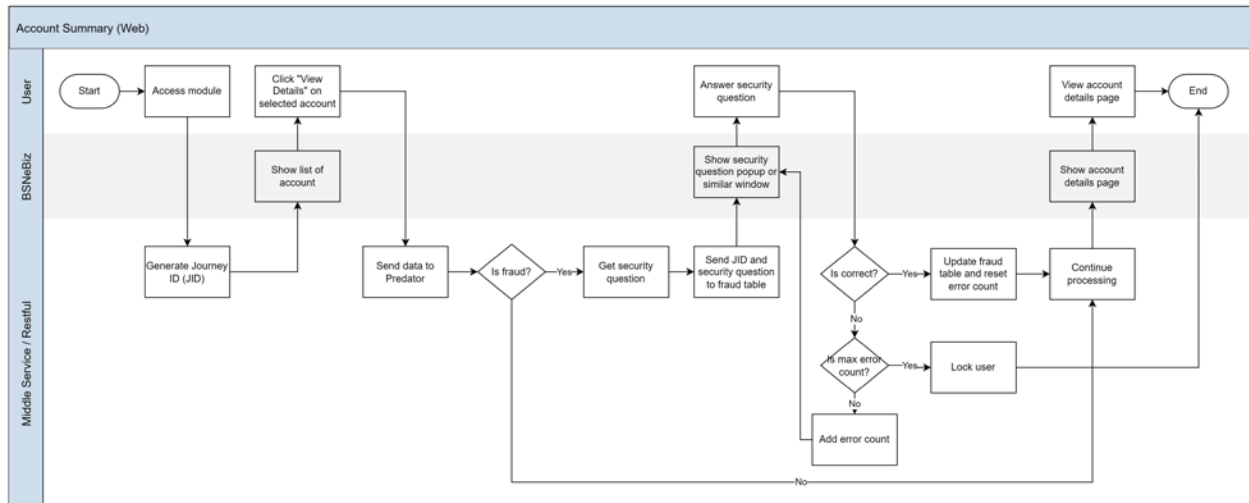#### 2.2.5.1  Process Flow



Diagram 5: Account Summary Process Flow

**2.2.5.2 Screen Flow**

The GIRO Account will be used as a sample for account summary screen flow with FHP and Predator.

*Step 1:*

1. User access to BSNeBiz Landing page and clicks "Account Summary" continued with "All Accounts".
2. BSNeBiz System retrieves Account Summary Details from Host System by CIS No. and displays Account Summary for Holding Company & subsidiary company if any.
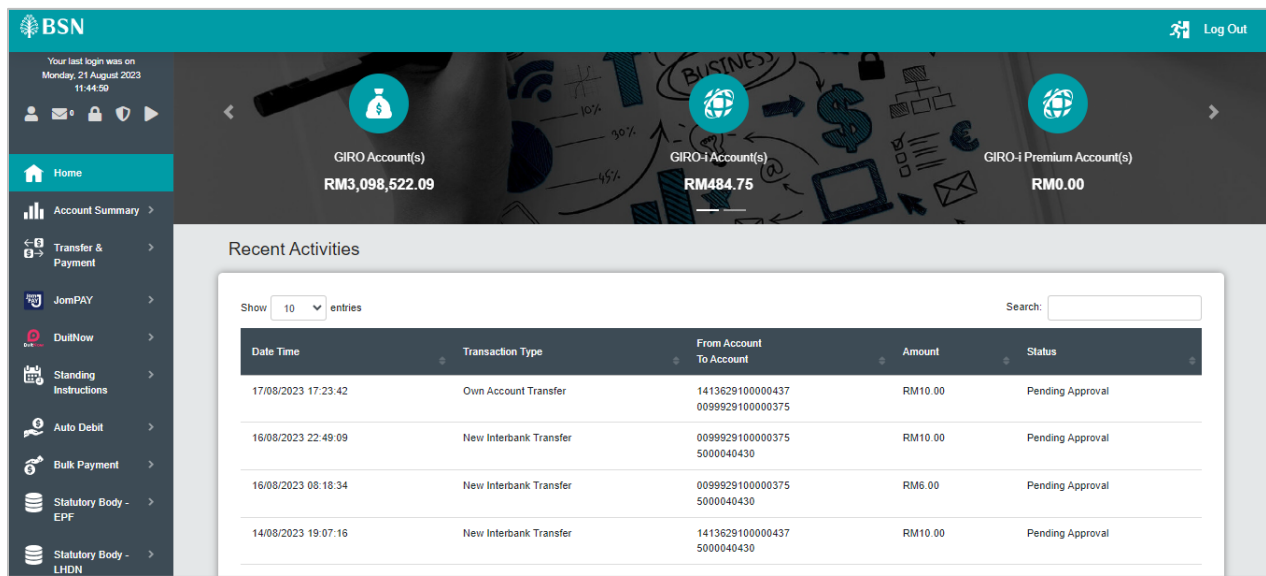


Figure 22: Home screen – Giro Account

*Step 2:*

1. User clicks "View Details" button on selected account.
2. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
3. BSNeBiz perform checking on action code from FHP and Predator analysis response;
    a. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to view details of this account. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
    b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 4.
    c. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 3.
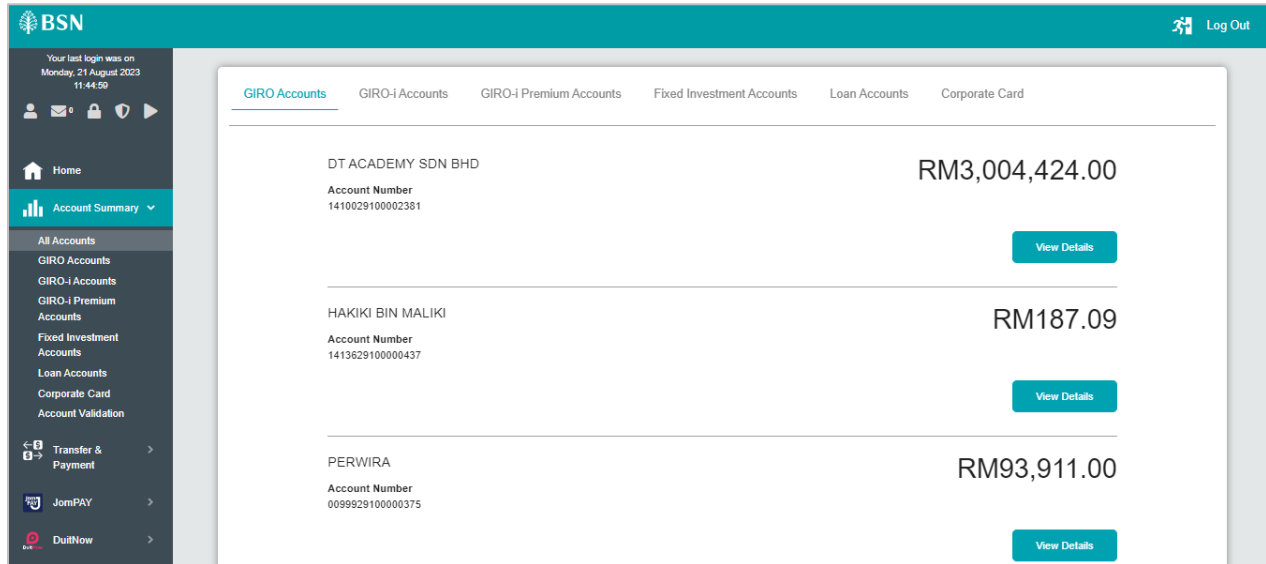
Figure 23: Account Summary screen – Giro Account

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to view details of this account. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 22: Fraud Alert - Return Error Message

*Step 3:*

1. Retrieve the Security question from FHP and Predator and display to user.
2. Customer Answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.

   a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 4.

   b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status:

      i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

      ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

Figure 24: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 23: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 24: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 25: Fraud Alert - Security Question Action
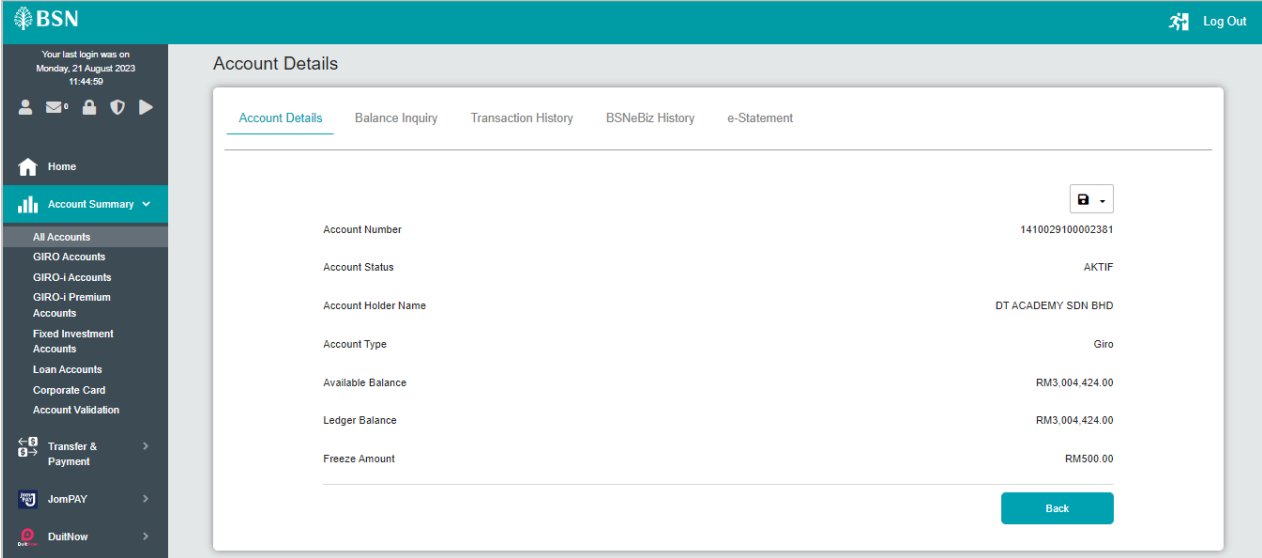
**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 26: Fraud Alert - Security Question Error Message

***Step 4:***

1. BSNeBiz System retrieve the information from Host and display the Account details screen.

Figure 25: Account Details screen

## 2.2.6   SOW01.2f: Sweeping Account

| Function ID | SOW01.2f | | |
|---|---|---|---|
| Module Name | Sweeping Account | Path | BSNeBiz/Sweeping Account |
| Description | Step-up authentication will be implemented to module that related with sweeping account module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of sweeping account module implemented with FHP and Predator enhancement:<br>    a)   Sweeping Account – Add<br>    b)   Sweeping Account – Edit<br>    c)   Sweeping Account - Delete | | |

### 2.2.6.1  Process Flow
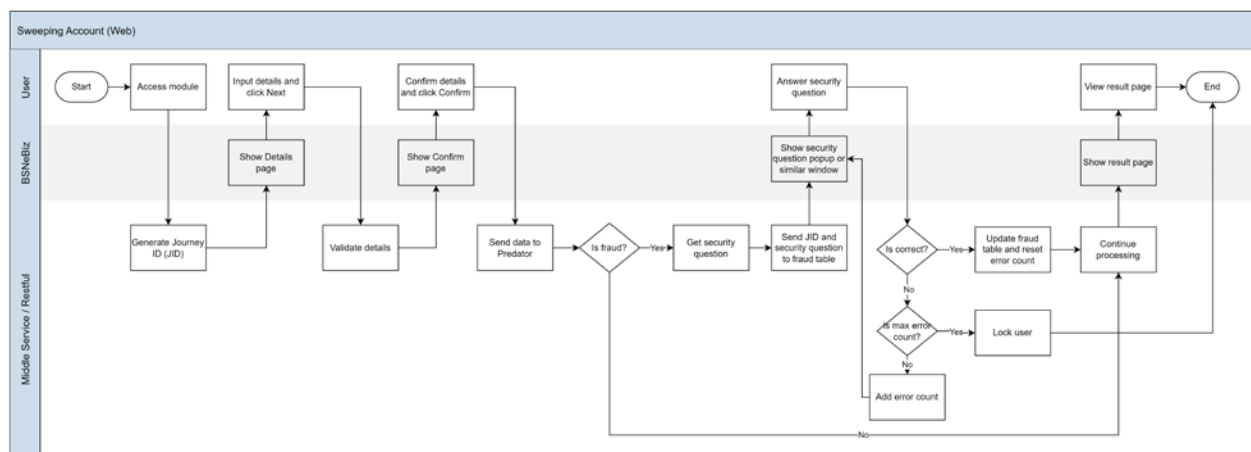


Diagram 6: Sweeping Account Process Flow

### 2.2.6.2  Screen Flow

Sweeping Account – Edit will be used as a sample for sweeping account screen flow with FHP and Predator.

*Step 1:*

1.  Corporate User access to BSNeBiz Landing page and clicks on the "Sweeping Account" navigation. System displays the Sweeping Account Maintenance Listing page.
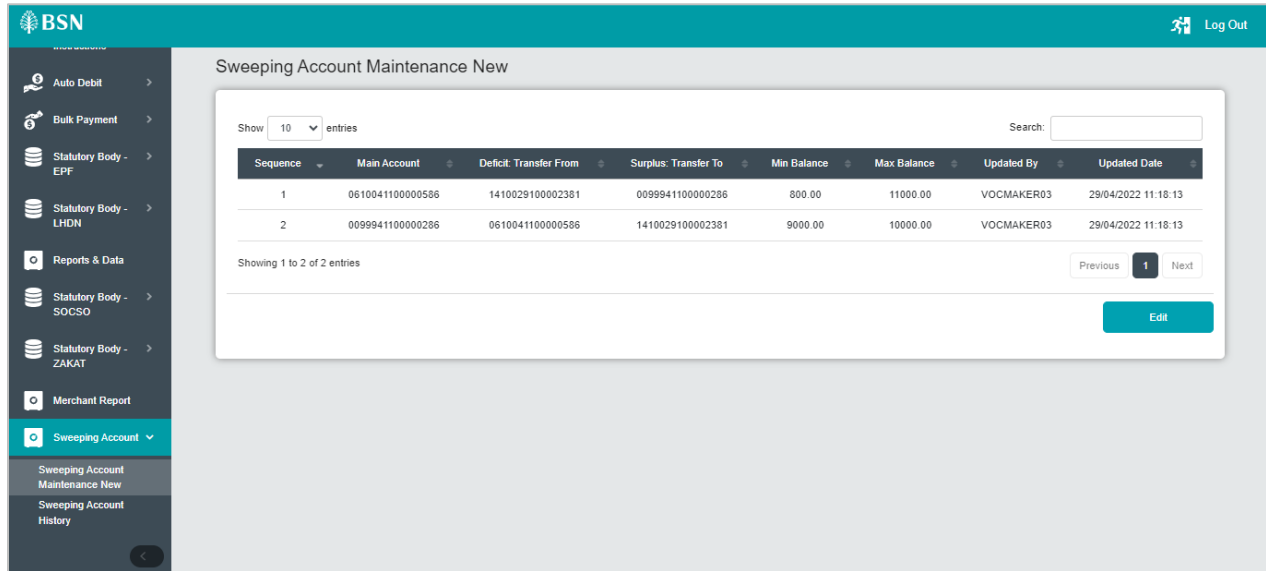2.  Click on Edit button.

Figure 26: Sweeping Account Maintenance screen

***Step 2:***

1.  BSNeBiz display Sweeping Account Maintenance – Edit screen.
2.  Click on 'Add' button to add new setup for Sweeping Account.
3.  Click on 'Submit' button to continue to the next page.
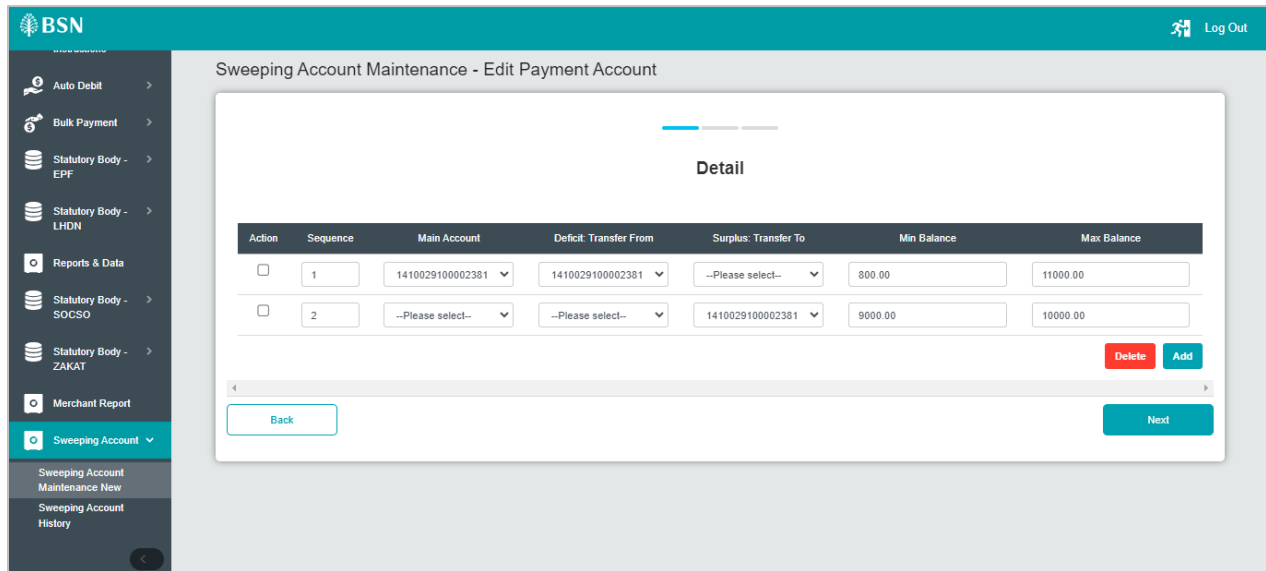


Figure 27: Sweeping Account Maintenance - Edit screen

***Step 3:***

1.  BSNeBiz proceed to the Confirmation page screen.
2.  Click on Confirm button to proceed with the creation.
3.  BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.

4.  BSNeBiz perform checking on action code from FHP and Predator analysis response:
    a.  IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to perform this creation. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
    b.  IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 5.
    c.  IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 4.
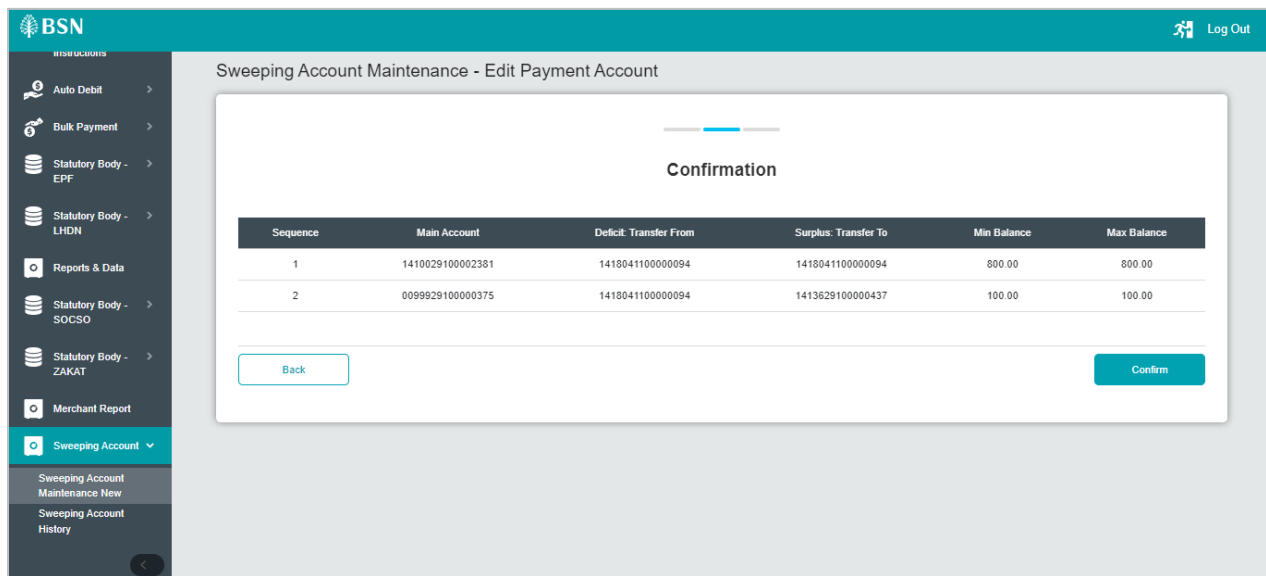


Figure 28: Sweeping Account Maintenance – Confirmation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to perform this creation. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 27: Fraud Alert - Return Error Message

*Step 4:*

1.  Retrieve the Security question from FHP and Predator and display to user.
2.  Customer Answer the question and click submit button.
3.  BSNeBiz request FHP and Predator to validate the submitted answer.

a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 5.

b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status:

i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.



Figure 29: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

Table 28: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 29: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 30: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|---|---|---|
| 1. | Submit empty field | Security Question answer is required |

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 31: Fraud Alert - Security Question Error Message

*Step 5:*

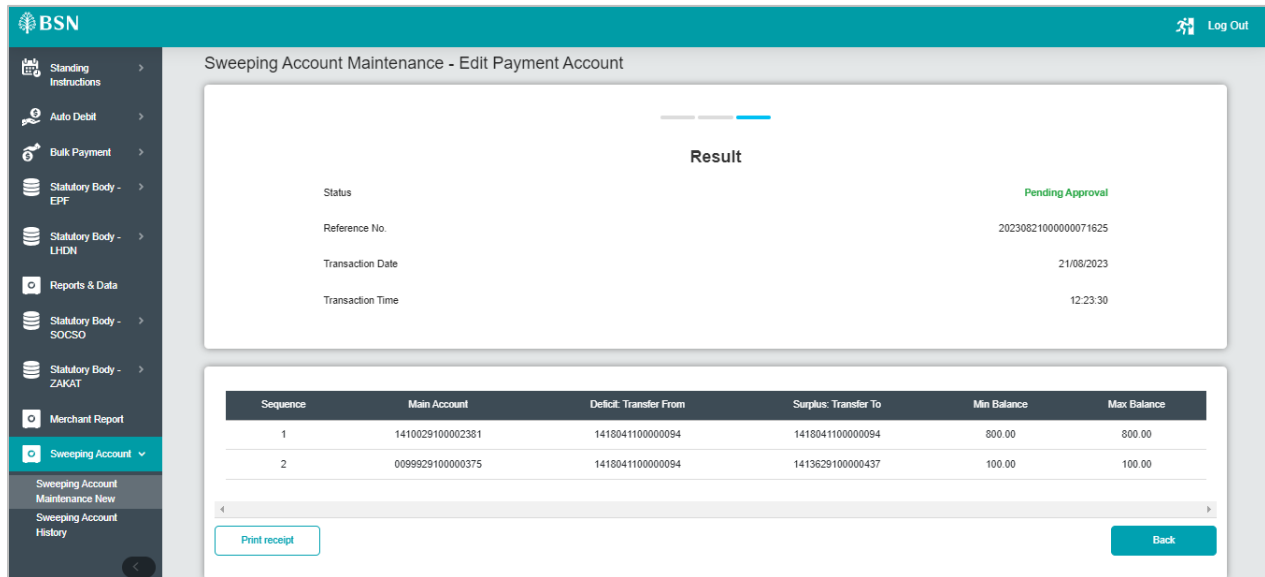1.   BSNeBiz displays the Result page screen.



Figure 30: Sweeping Account Maintenance – Add Result screen

**Status might be different depending on the organization setup. For workflow company, the status will be **Pending Verify** or **Pending Approval**. For non-workflow company, the status will be **Successful**.

### 2.2.7 SOW01.2g: Login

| Function ID | SOW01.2g | | |
|---|---|---|---|
| Module Name | Login | Path | BSNeBiz/Login |
| Description | Step-up authentication will be implemented to module that related with login module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of role for login module implemented with FHP and Predator enhancement:<br>    a) Initiator<br>    b) Verifier<br>    c) Approver<br>    d) Single User | | |

**2.2.7.1 Process Flow**
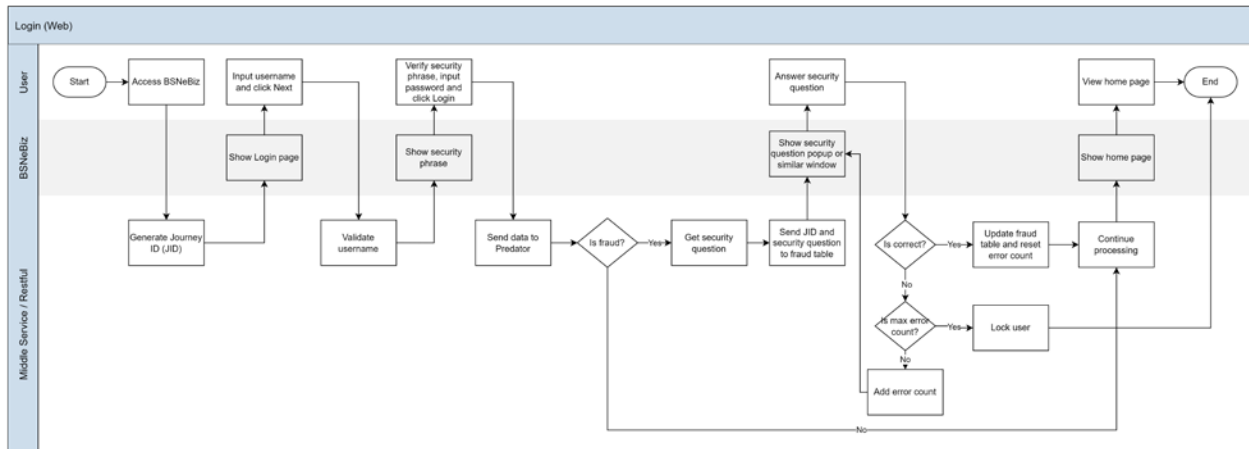


Diagram 7: Login Process Flow

**2.2.7.2 Screen Flow**

Initiator role will be used as a sample for login screen flow with FHP and Predator.

***Step 1:***

1. The existing BSNeBiz user login as BAU process.
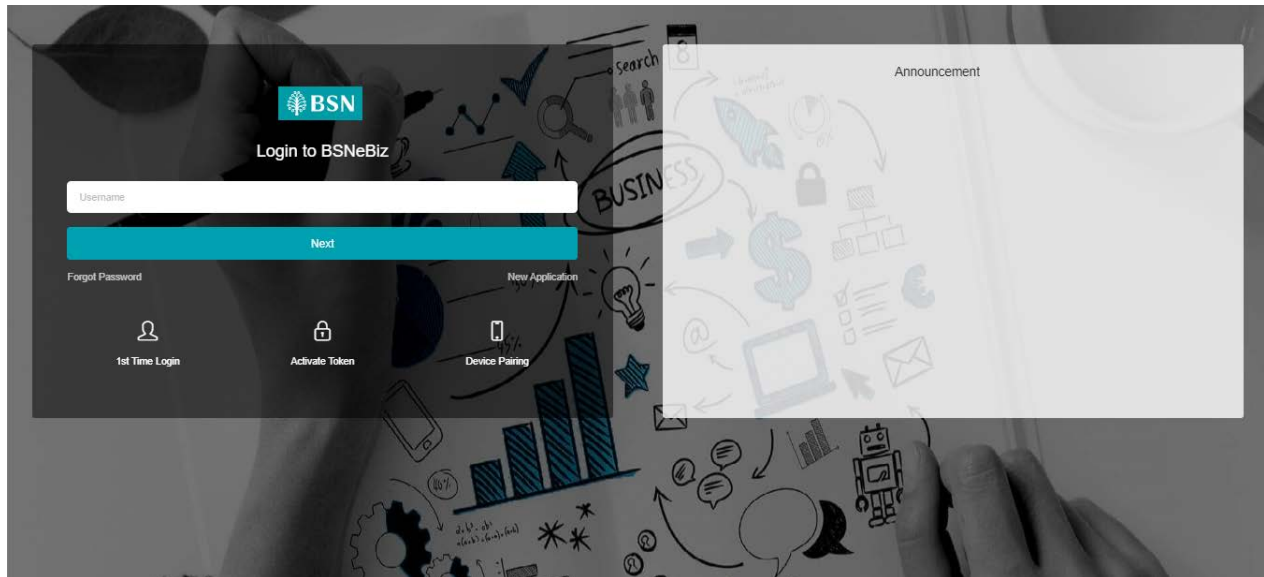2. Input username and click Next button, BSNeBiz validate and display security phrase.

Figure 31: Login screen

***Step 2:***

1. Users verify the security phrase and tick on "Yes, this is my security phrase".
2. User input password and click on "Login" button.
3. BSNeBiz will validate the submitted password.
    a) IF password is invalid, inform fail to login to FHP and Predator and proceed to retry login process.
    b) IF password is correct, BSNeBiz will proceed to the Risk Analysis process and perform checking on action code and user status from the analysis response
        i. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "Unauthorized Login. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance".
        ii. IF risk analysis response action code **OK** and FHP and Predator user status is **APPROVE/UNLOCK**, proceed to step 4.
        iii. IF risk analysis response **STEPUP**, BSNeBiz will route the user to step 3 to answer Security question.
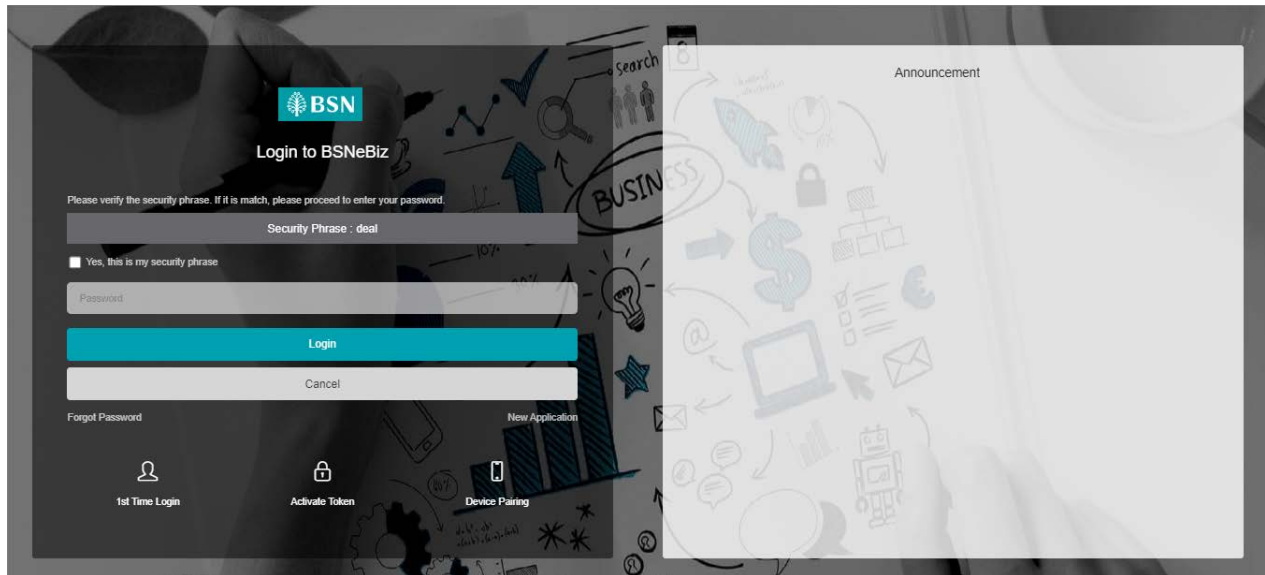
Figure 32: Login screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "Unauthorized Login. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" |

Table 32: Fraud Alert - Security Question Error Message

*Step 3:*
1. Retrieve the Security question from FHP and Predator and display to user.
2. Customer Answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.

   a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 4.
   b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status
      i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.
      ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

Figure 33: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 33: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 34: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 35: Fraud Alert - Security Question Action
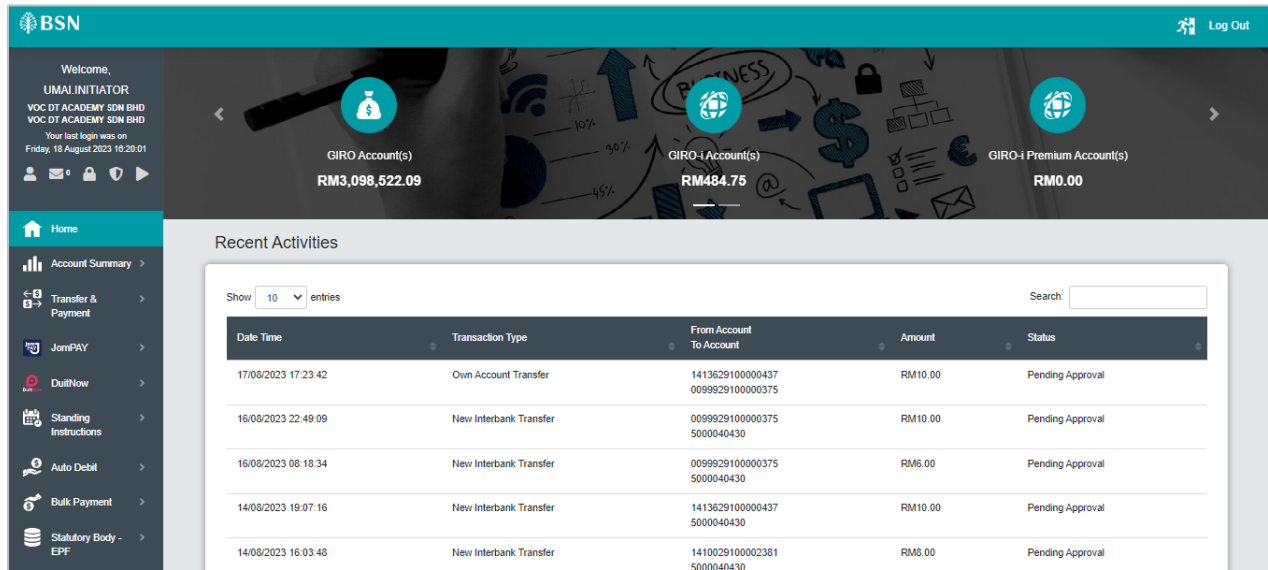
**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 36: Fraud Alert - Security Question Error Message

***Step 4:***

1. BSNeBiz display home page.

Figure 34: Homepage screen

## 2.2.8 SOW01.2h: First Time Login (FTL)

| Function ID | SOW01.2h | | |
|---|---|---|---|
| Module Name | First Time Login | Path | BSNeBiz/First Time Login |
| Description | First Time Login module will allow a user to set security questions and update the FHP and Predator Security Questions for step-up authentication.<br><br>Below are user type for first time login module implemented with FHP and Predator enhancement:<br>    a) Corporate Administrator<br>    b) Corporate User | | |

### 2.2.8.1 Process Flow
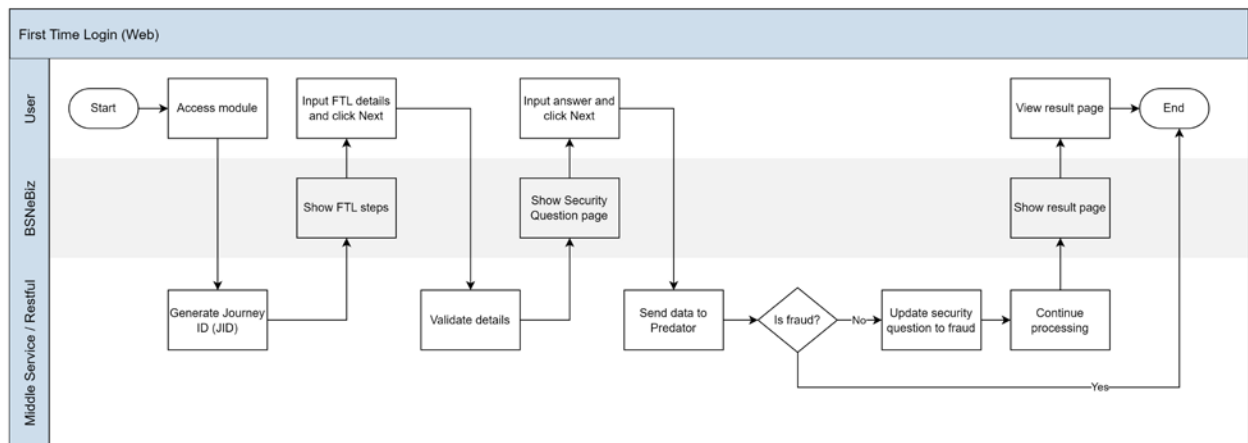


Diagram 8: First Time Login Process Flow

### 2.2.8.2 Screen Flow

*Step 1:*

1. Customer complete perform registration and activation process at BSNeBiz Application.
2. Accesses to First Time Login Selection from the Login screen of BSNeBiz System.

Figure 35: Login screen

**Step 2:**

1. User tick on "YES, I agree..." to accept the Terms and Conditions of the usage and clicks on the "Continue" button.
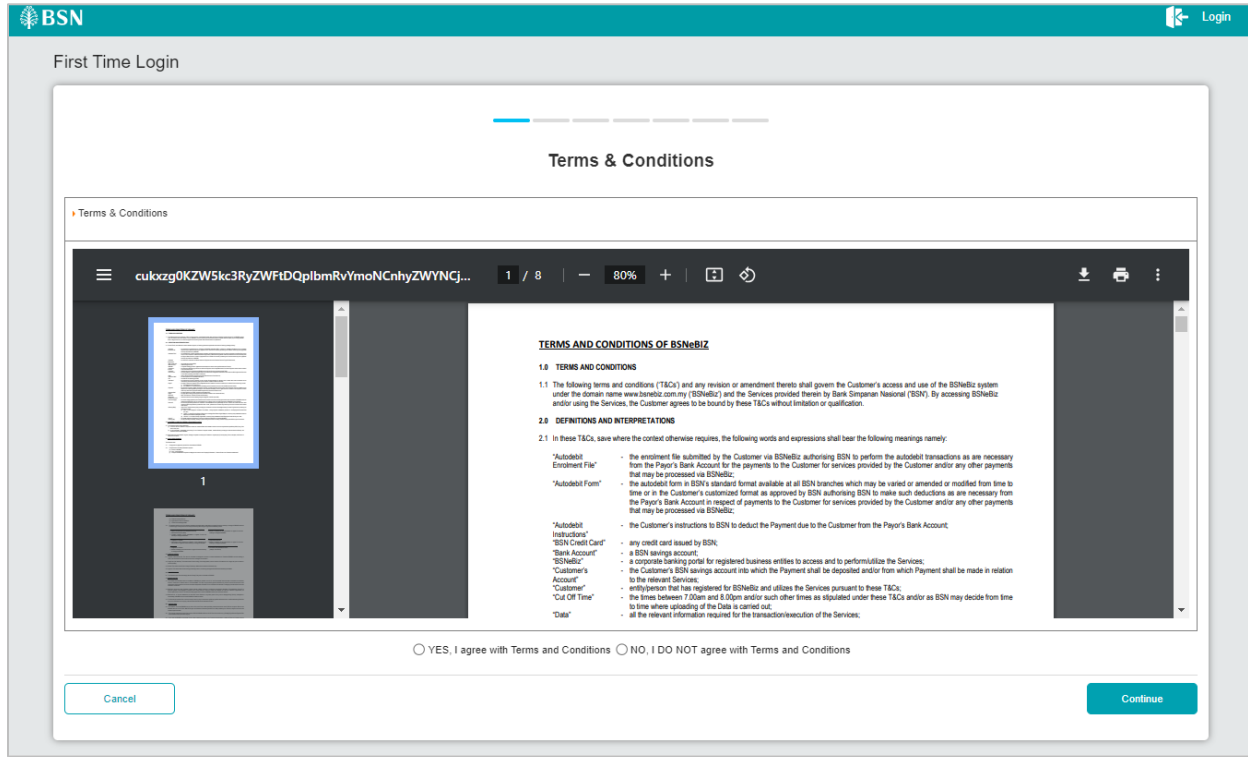
Figure 36: FTL – Terms & Conditions screen

***Step 3:***

1. User clicks on the "Corporate Administrator" or "Corporate User" button based on user's user type to proceed to the next step.
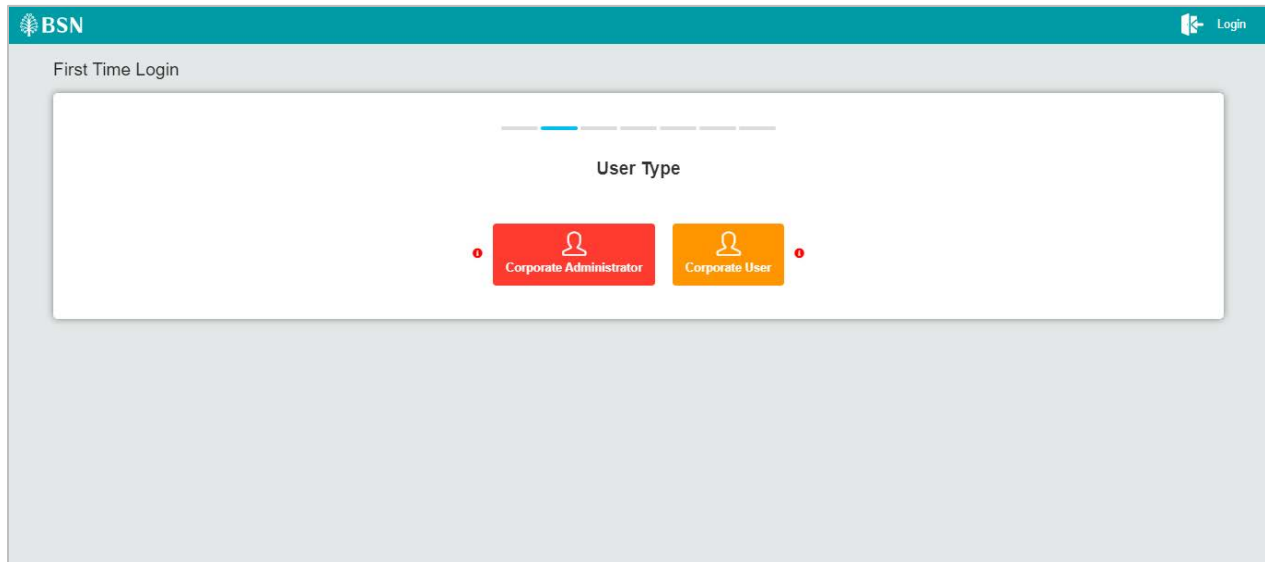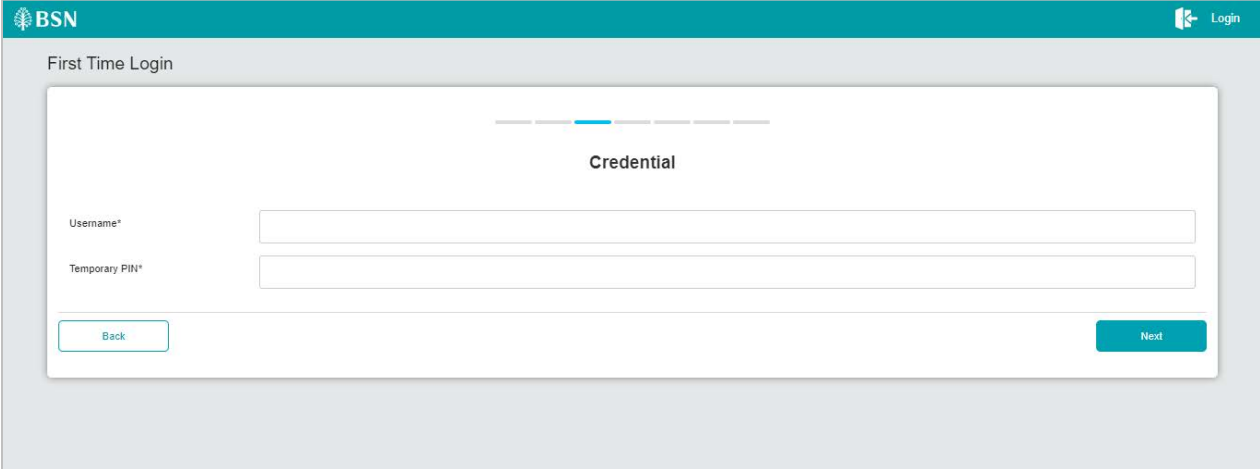


Figure 37: FTL - User Type screen

*Step 4:*

1. User inputs Username and temporary password and clicks on the "Next" button.
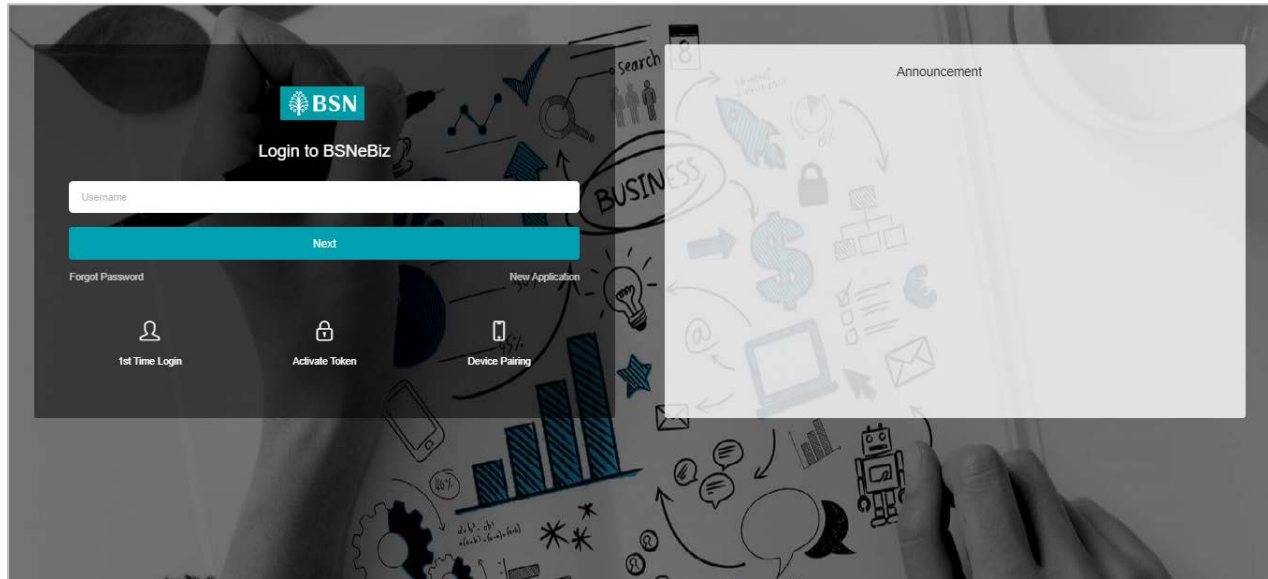2. BSNeBiz System validates Username and Password. After successful validation, BSNeBiz System will display First time Login Register Password screen.



Figure 38: FTL – Credential screen

*Step 5:*

1. User inputs New Password and Confirm Password in the Password Reset screen and clicks on the "Next" button.
2. BSNeBiz System saves the New Password to IB Database then redirects user to the Register Password page.



Figure 39: FTL - Register Password screen

*Step 6:*

1. User inputs the Security Phrase, then clicks on the "Next" button.
2. BSNeBiz System saves the Security Image and Phrase to IB Database and then redirects to the Security Question page.
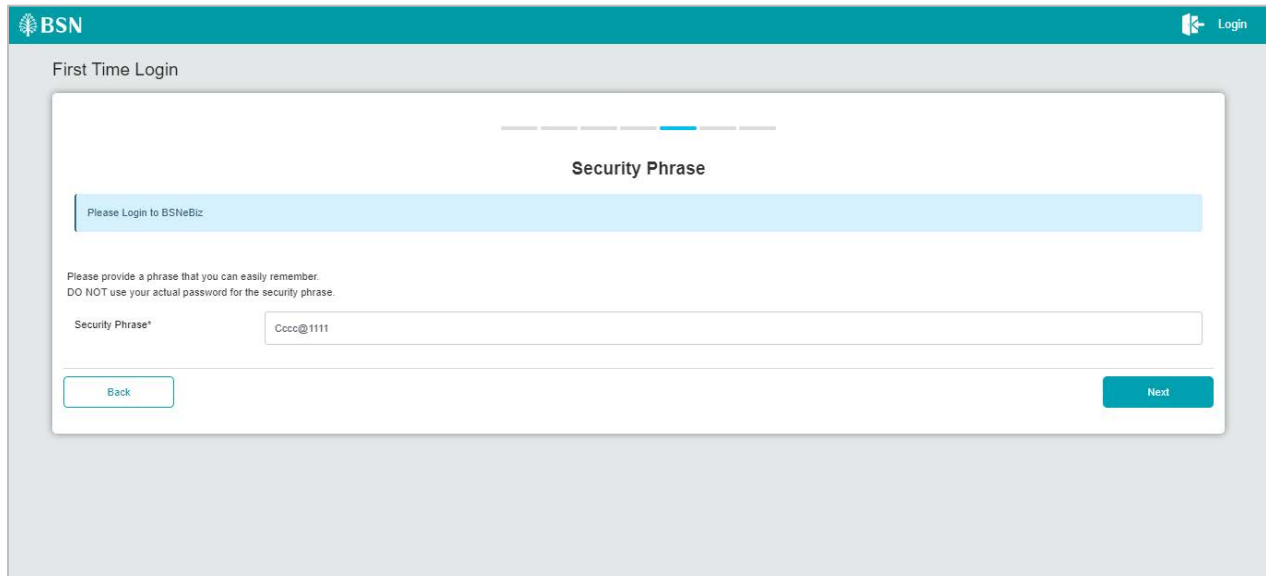


Figure 40: FTL - Security Phrase screen

*Step 7:*

1. BSNeBiz will retrieve the list of Security question and display to user.
2. After user select provided Security question and input the answer, click the "Next" button.
3. BSNeBiz will validate the submitted selected security questions.
4. BSNeBiz will send the submitted Question and Answer to FHP and Predator and checking the risk analysis response from FHP and Predator.
   a. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message unsuccessful.
   b. IF risk analysis response action code **OK**, BSNeBiz will update require information to FHP and Predator and display result page at step 8.
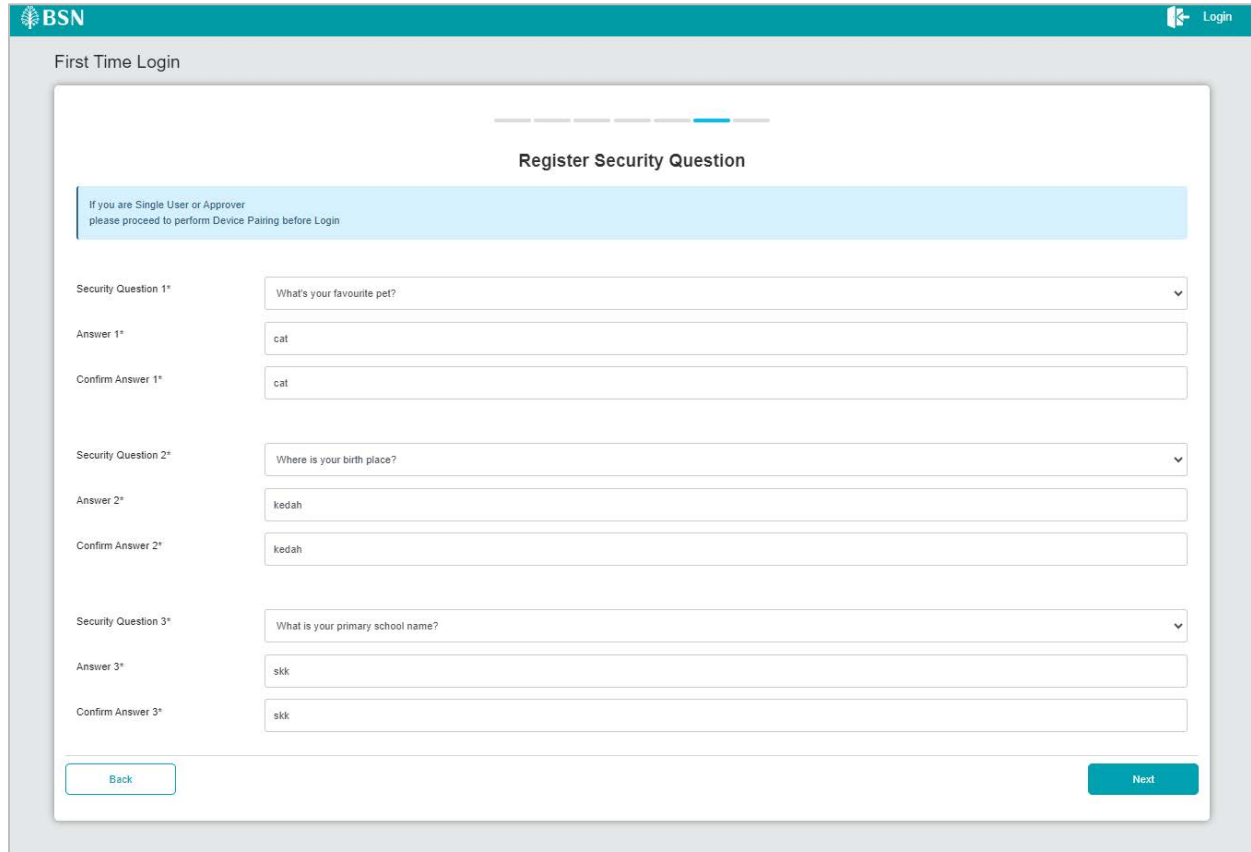
Figure 41: FTL - Register Security Question

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Security Question 1 | Dropdown | N/A | Select Security Question 1 | Yes |
| 2. | Answer 1 | Text | N/A | Input Security Answer 1 | Yes |
| 3. | Confirm Answer 1 | Text | Match Answer 1 | Input Confirm Security Answer 1 | Yes |
| 4. | Security Question 2 | Dropdown | N/A | Select Security Question 2 | Yes |
| 5. | Answer 2 | Text | N/A | Input Security Answer 2 | Yes |
| 6. | Confirm Answer 2 | Text | Match Answer 2 | Input Confirm Security Answer 2 | Yes |
| 7. | Security Question 3 | Dropdown | N/A | Select Security Question 3 | Yes |
| 8. | Answer 3 | Text | N/A | Input Security Answer 3 | Yes |
| 9. | Confirm Answer 3 | Text | Match Answer 3 | Input Confirm Security Answer 3 | Yes |

Table 37: FTL Security Question and Security Answer Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Next | Button | Contain an action that saves the Security Data |
| 2. | Back | Button | Contain an action that goes back to the previous page |

Table 38: FTL Security Question and Security Answer Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | • Security Question 1 is required<br>• Answer 1 is required<br>• Security Question 2 is required<br>• Answer 2 is required<br>• Security Question 3 is required<br>• Answer 3 is required |
| 2. | Submit empty confirm answer/wrong confirm answer | • Answer 1 must be the same as Confirm answer 1<br>• Answer 2 must be the same as Confirm answer 2<br>• Answer 3 must be the same as Confirm answer 3 |
| 3. | FHP and Predator return REJECT | Return error message "First Time Login is unsuccessful. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" |

Table 39: FTL Security Question and Security Answer Error Message

*Step 8:*

1. BSNeBiz System displays the result page. User can go back to the Login screen by clicking on the "Proceed to Login" button.
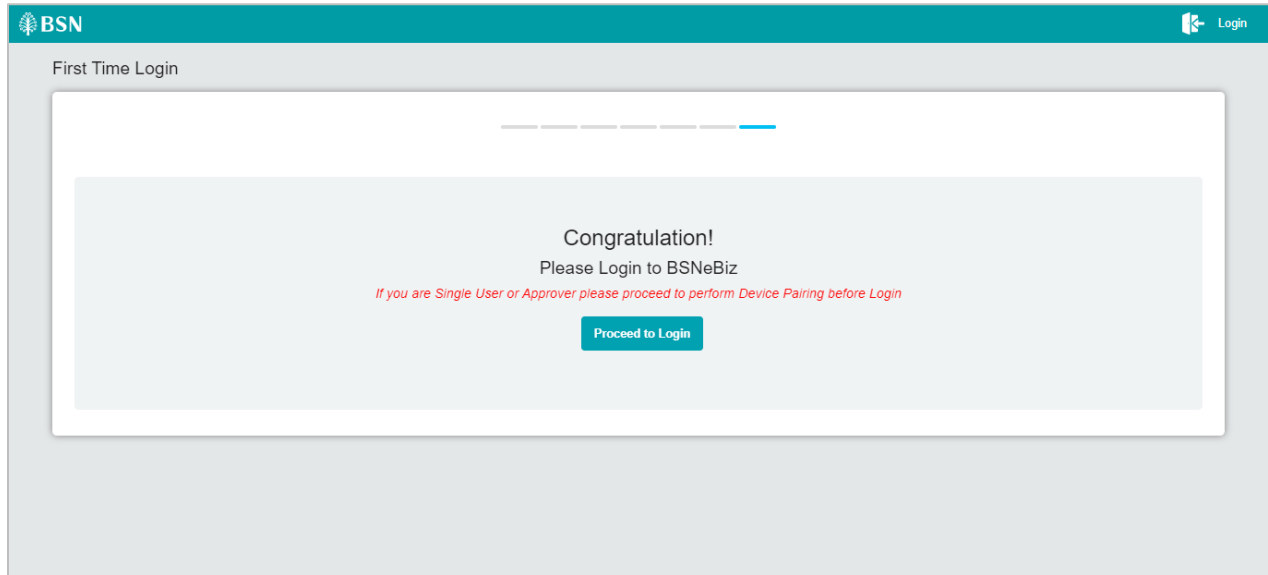
Figure 42: FTL - Result screen

### 2.2.9 SOW01.2i: Activate Token

| Function ID | SOW01.2i | | |
|---|---|---|---|
| Module Name | Activate Token | Path | BSNeBiz/Activate Token |
| Description | Step-up authentication will be implemented to module that related with activate token module. This step-up authentication will be redirected based on FHP and Predator analysis result. | | |

#### 2.2.9.1 Process Flow
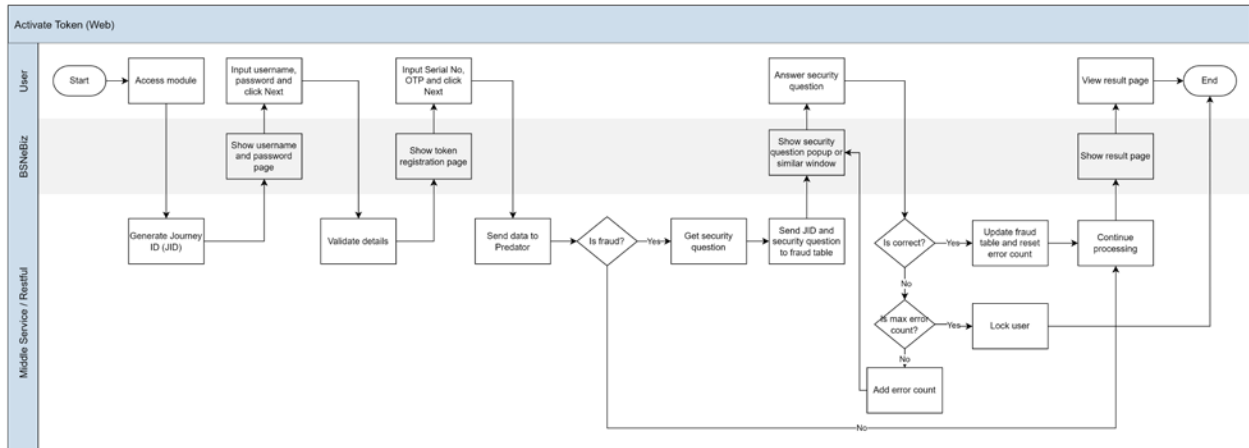


Diagram 9: Activate Token Process Flow

#### 2.2.9.2 Screen Flow

*Step 1:*

1. BSNeBiz user access to Activate New Secure Pass Screen. BSNeBiz System display Activate New Secure Pass Screen.
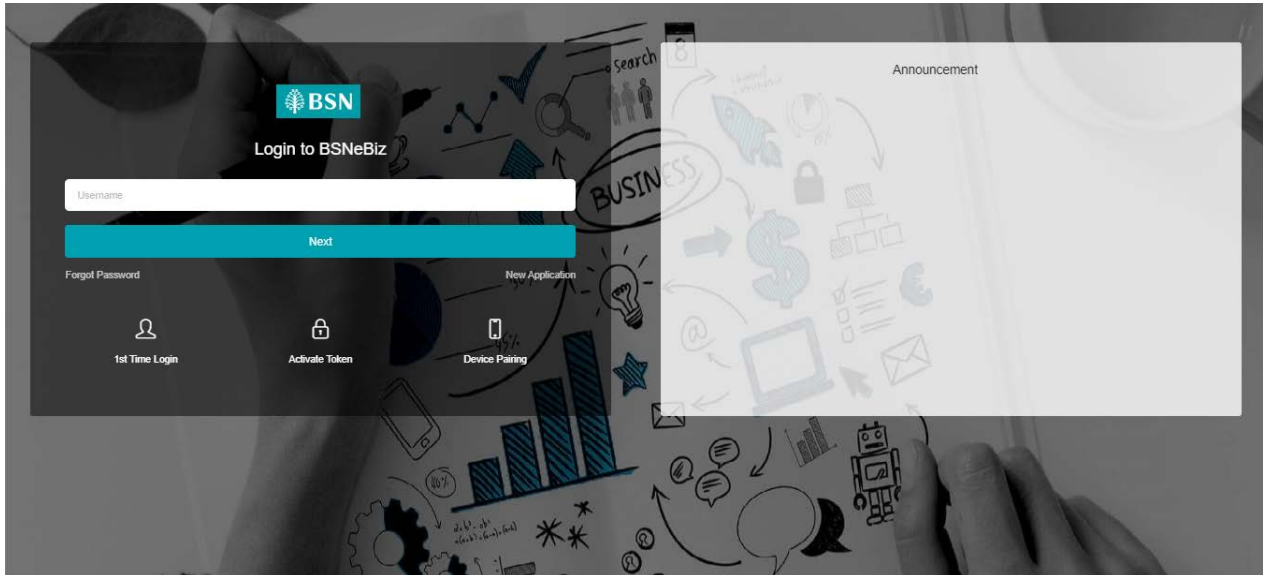
Figure 43: Login screen

### Step 2:

1. User input Username & Password, and clicks "Next" button, or click 'Cancel' button to cancel the Token Activation.
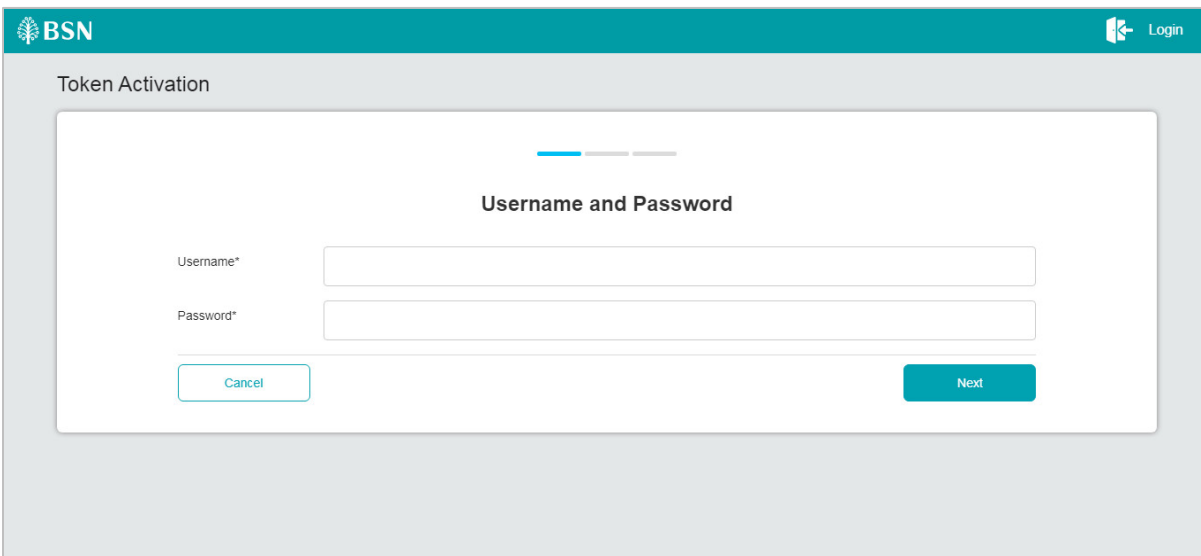


Figure 44: Token Activation - Username and Password

### Step 3:

1. User is required to input the Security Token Serial No. and OTP
2. User clicks on the "Next" button.
3. BSNeBiz System validates the Serial No.

a.  IF Serial No. is invalid, inform fail to activate token to FHP and Predator and proceed to retry activation process.

b.  IF Serial No. valid, BSNeBiz will proceed to the Risk Analysis process and perform checking on action code and user status from the analysis response

  i.  IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allowed to activate token. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance".

  ii.  IF risk analysis response action code **OK** and FHP and Predator user status is **APPROVE/UNLOCK**, proceed to step 5 and BSNeBiz system will link the UPASS application to the user and activate the UPASS application. Subsequently, proceed to Reset Password Screen.

  iii.  IF risk analysis response **STEPUP**, BSNeBiz will route the user to step 4 to answer Security question.
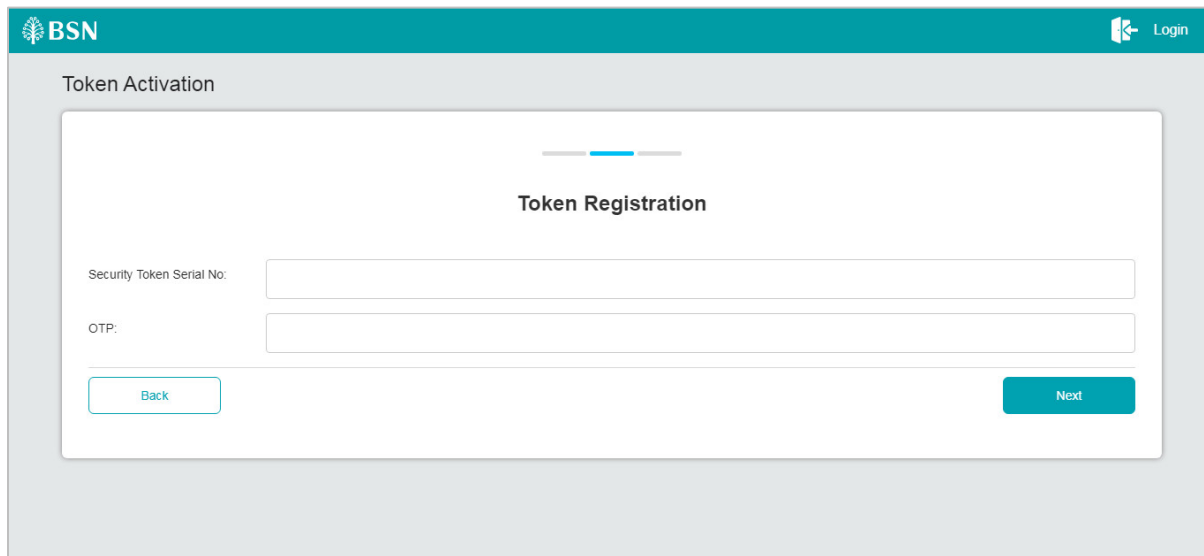


Figure 45: Security Token Activation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|---|---|---|
| 1. | REJECT | Return error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 40: Fraud Alert - Security Question Error Message

*Step 4:*

1.  Retrieve the Security question from FHP and Predator and display to user.

2.  Customer Answer the question and click submit button.

3. BSNeBiz request FHP and Predator to validate the submitted answer.

    a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 5.

    b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status

        i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

        ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.



Figure 46: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 41: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 42: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 43: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 44: Fraud Alert - Security Question Error Message

***Step 5:***

1. BSNeBiz System displays the result to IB User. IB User can go back to the Login screen by clicking on the "Proceed to Login" button.
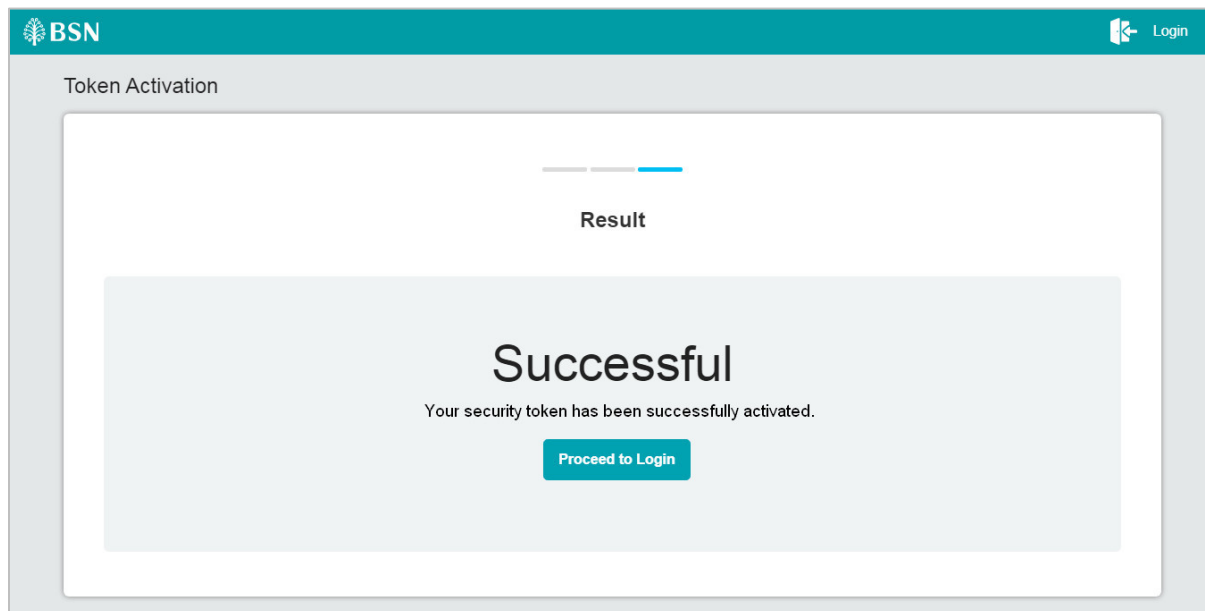


Figure 47: Security Token Result screen

## 2.2.10  SOW01.2j: Device Pairing

| Function ID | SOW01.2j | | |
|---|---|---|---|
| Module Name | Device Pairing | Path | BSNeBiz/Device Pairing |
| Description | Step-up authentication will be implemented to module that related with device pairing module. This step-up authentication will be redirected based on FHP and Predator analysis result. | | |

### 2.2.10.1  Process Flow
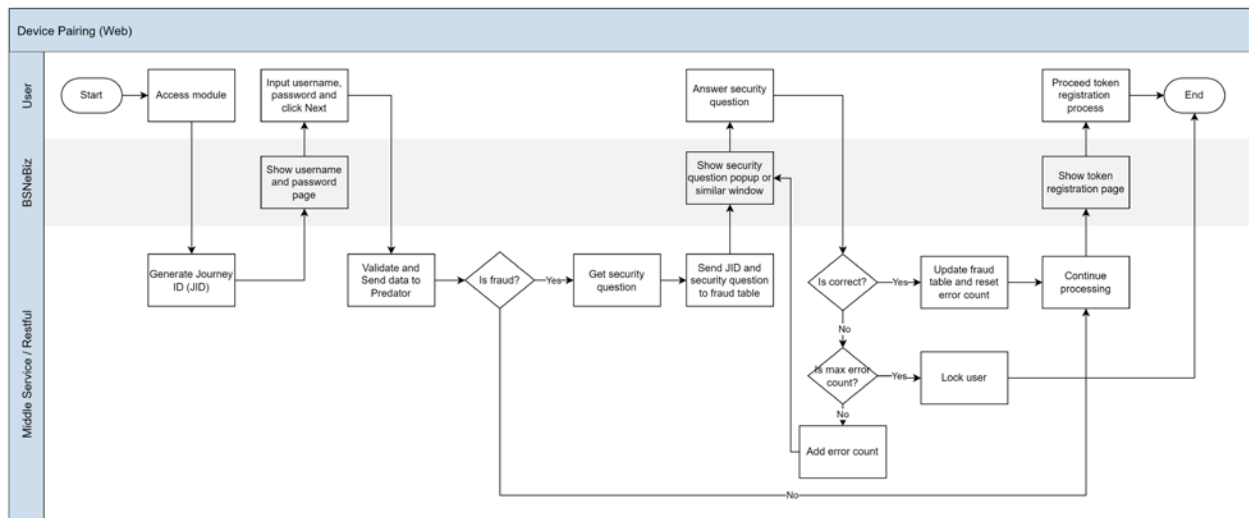


Diagram 10: Device Pairing Process Flow

### 2.2.10.2  Screen Flow

*Step 1:*

1.   BSNeBiz user accessing to Device Pairing Screen.

- Private & Confidential -
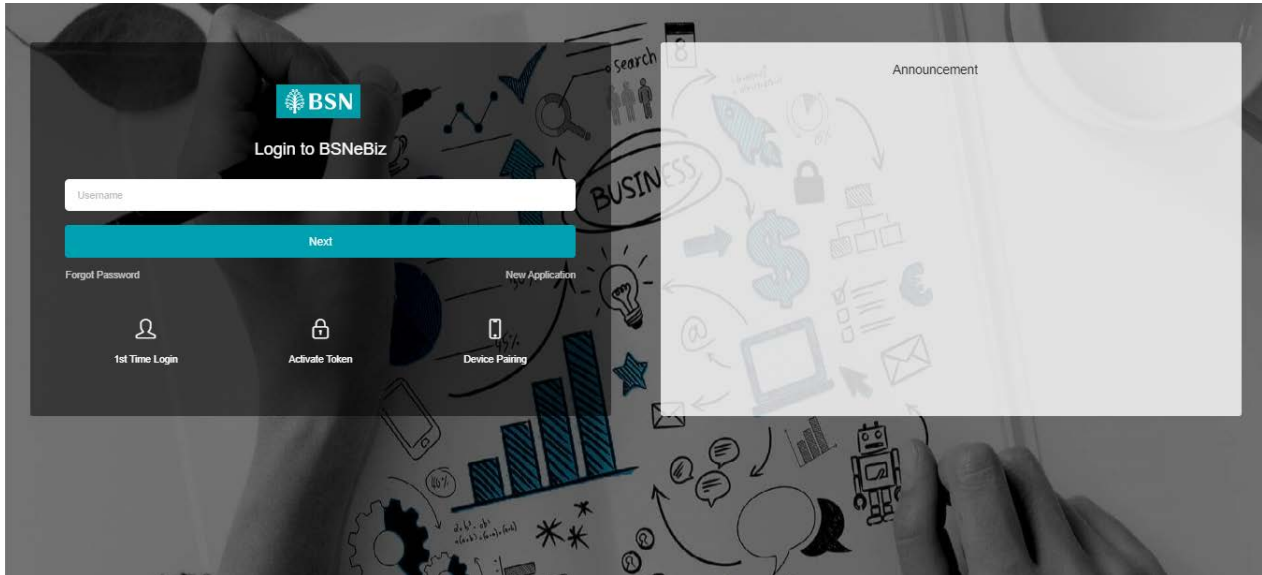
Figure 48: Login screen

***Step 2:***

1. User input Username & Password, and clicks on the "Next" button, or click on the 'Cancel' button to cancel Mobile Activation.
2. BSNeBiz System validates Username and Password.
    a. IF Username & Password is invalid, inform fail to activate mobile token to FHP and Predator and proceed to retry input Username & Password.
    b. IF Username & Password valid, BSNeBiz will proceed to the Risk Analysis process and perform checking on action code and user status from the analysis response:
        i. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allowed to activate mobile token. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance".
        ii. IF risk analysis response action code **OK** and FHP and Predator user status is **APPROVE/UNLOCK**, proceed to step 4 and user proceed to mobile device and login to mobile token apps.
        iii. IF risk analysis response **STEPUP**, BSNeBiz will route the user to step 3 to answer Security question.
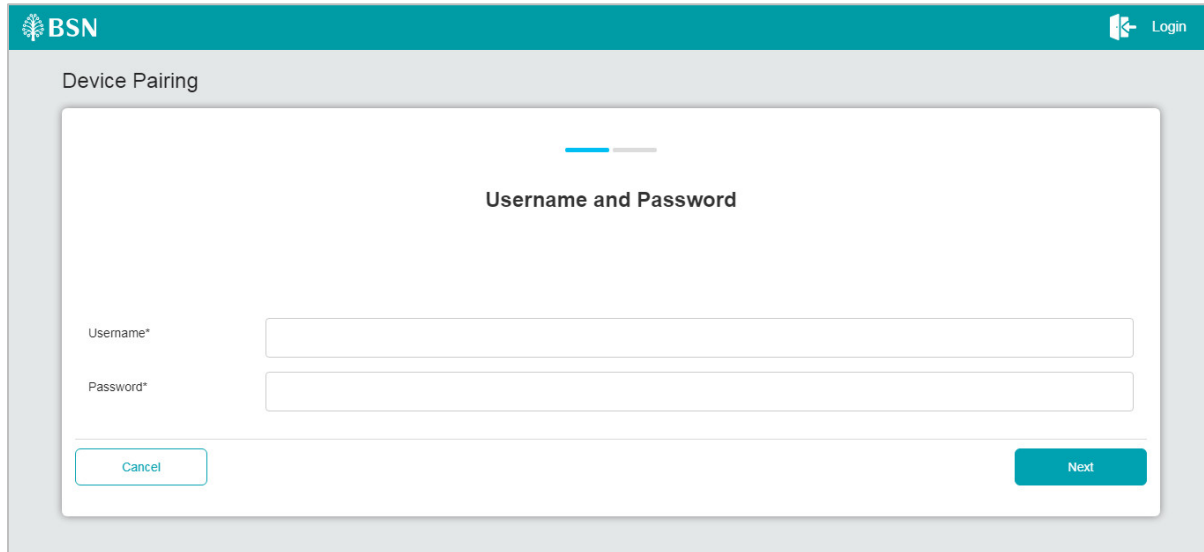
Figure 49: Token Activation - Username and Password

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allowed to activate mobile token. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 45: Fraud Alert - Return Error Message

*Step 3:*

1. Retrieve the Security question from FHP and Predator and display to user.
2. Customer Answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.

   a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 4.

   b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status:

   i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

   ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

Figure 50: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

Table 46: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 47: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 48: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|---|---|---|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 49: Fraud Alert - Security Question Error Message

***Step 4:***

1. CDB system display QR code.
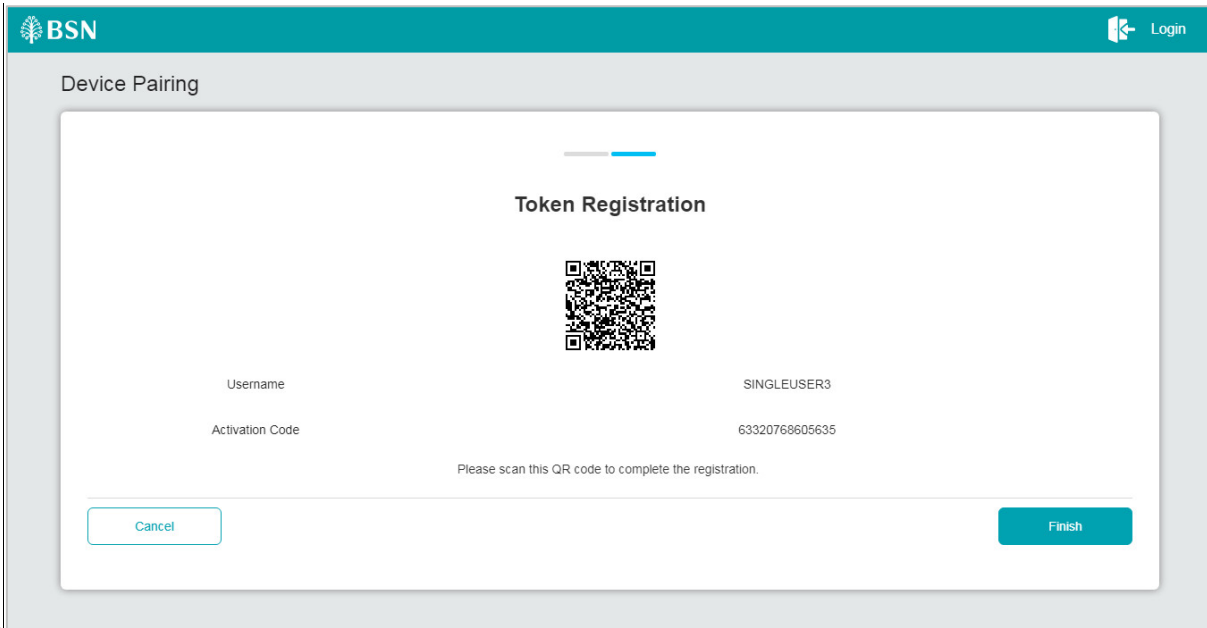
Figure 51: Security Token Result screen

### 2.2.11 SOW01.2k: Forgot Password

| Function ID | SOW01.2k | | |
|---|---|---|---|
| Module Name | First Time Login | Path | BSNeBiz/First Time Login |
| Description | Step-up authentication will be implemented to module that related with first time login module. This step-up authentication will be redirected based on FHP and Predator analysis result. | | |

#### 2.2.11.1 Process Flow
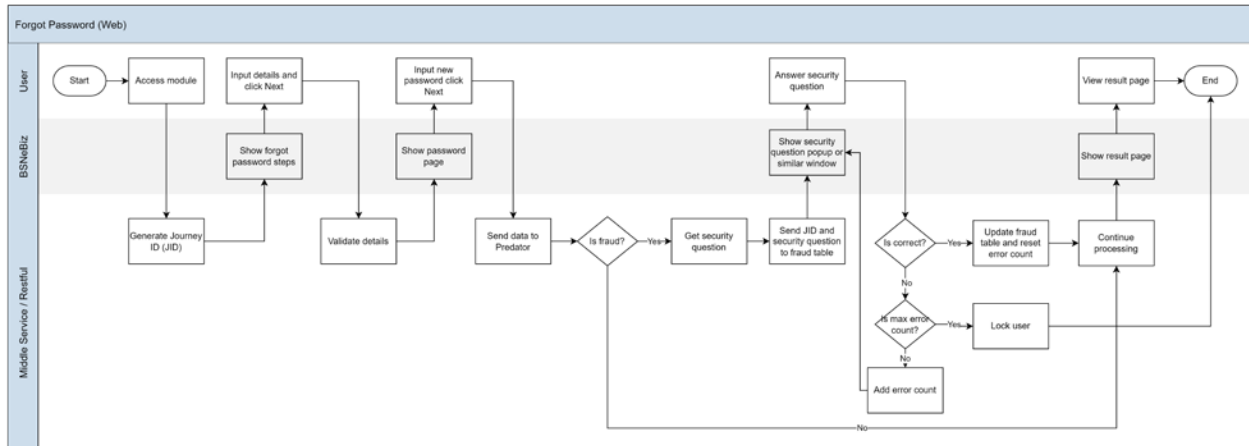


Diagram 11: Forgot Password Process Flow

#### 2.2.11.2 Screen Flow

*Step 1:*

1. BSNeBiz user accessing to Forgot Password Screen.

BRFD: BSNeBiz Fraud Management System
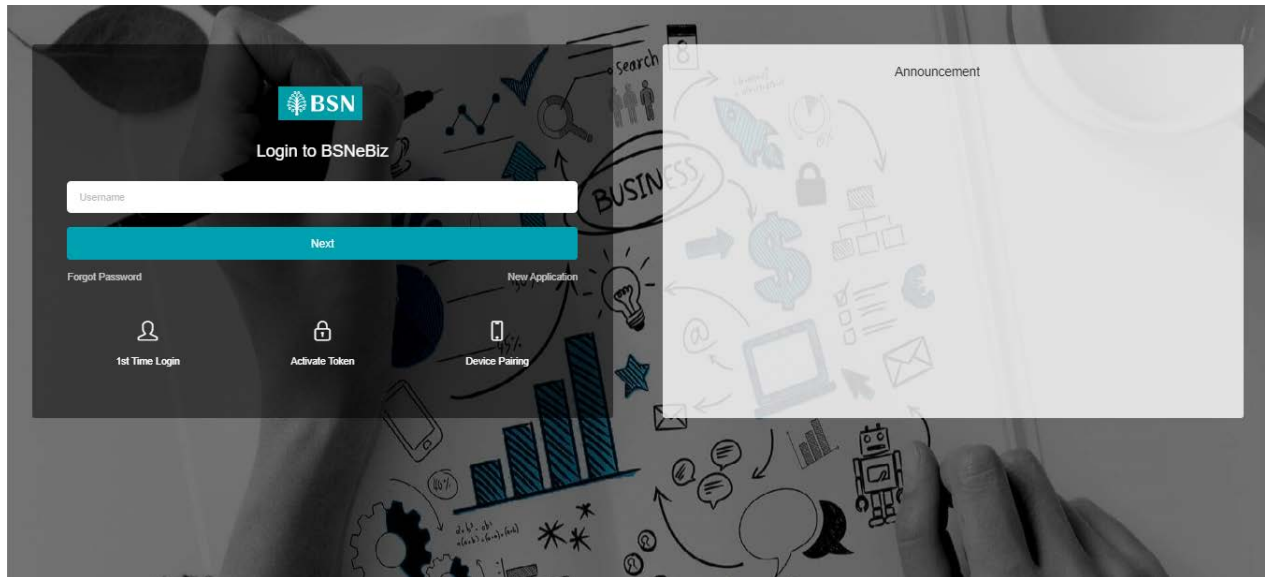


Figure 52: Login screen

### *Step 2:*

1. BSNeBiz prompts the screen for Forgot Password Credential.
2. BSNeBiz User inputs Username and click Next button.
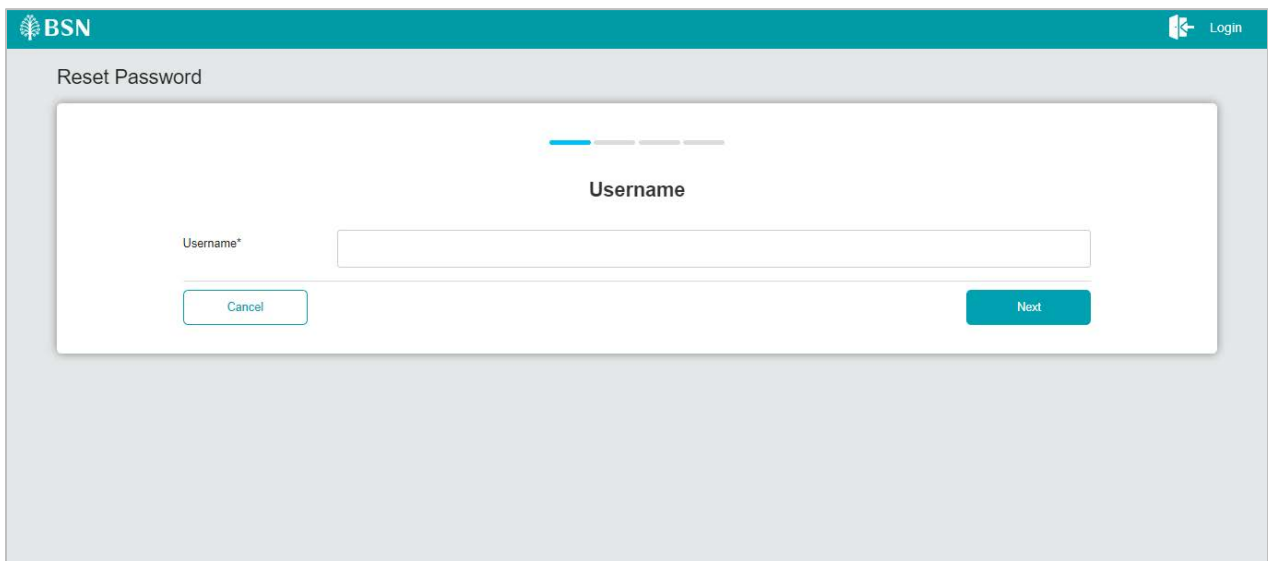


Figure 53: Forgot Password credential screen

*Step 3:*

1. System validates Username and display Security Question screen. The Security Question will be randomly picked from the list registered by User during FTL.
2. User inputs the Security Question answer and clicks on the "Next" button.
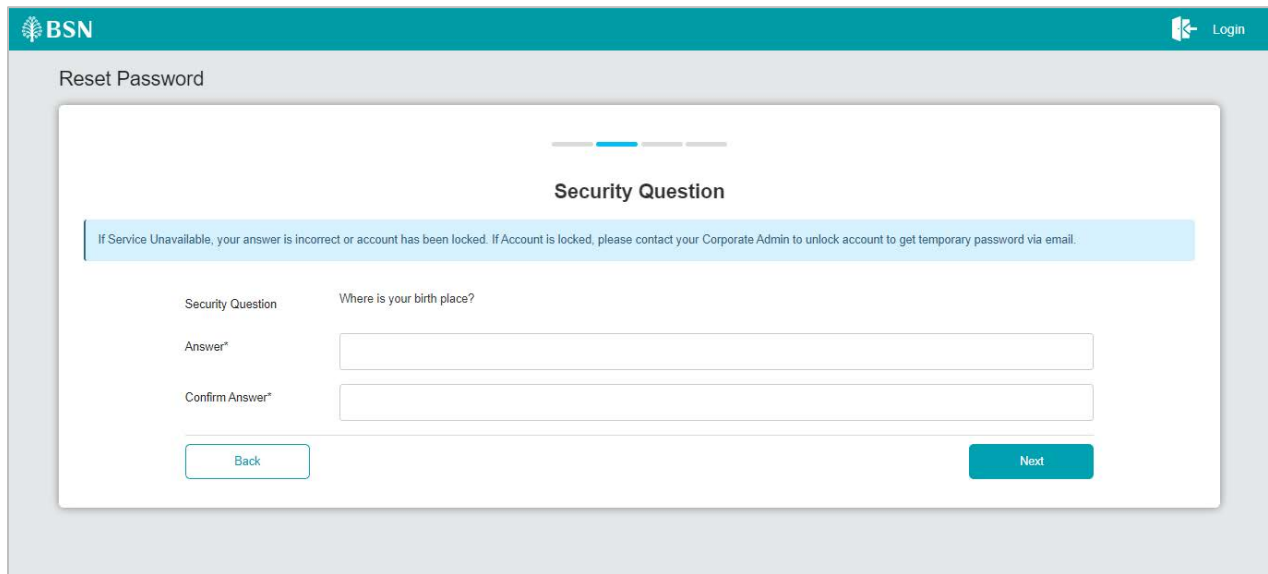


Figure 54: Forgot Password Security Question screen

*Step 4:*

1. BSNeBiz displays the screen for Change Password.
2. User inputs New Password and Confirm New Password and clicks on the "Confirm" button.
3. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
4. BSNeBiz perform checking on action code from FHP and Predator analysis response:
   a. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to perform Reset Password. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
   b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 6.
   c. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 5.

Figure 55: Change Password screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to perform Reset Password. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 50: Fraud Alert - Return Error Message

*Step 3:*

1. Retrieve the Security question from FHP and Predator and display to user.
2. Customer Answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.

   a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 4.

   b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status:
   
   i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.
   
   ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

Figure 56: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

Table 51: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 52: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 53: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|---|---|---|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 54: Fraud Alert - Security Question Error Message

***Step 4:***

1. BSNeBiz System saves the New Password to IB Database and display the result screen. User can go back to Login screen by click the "Proceed to Login" button.
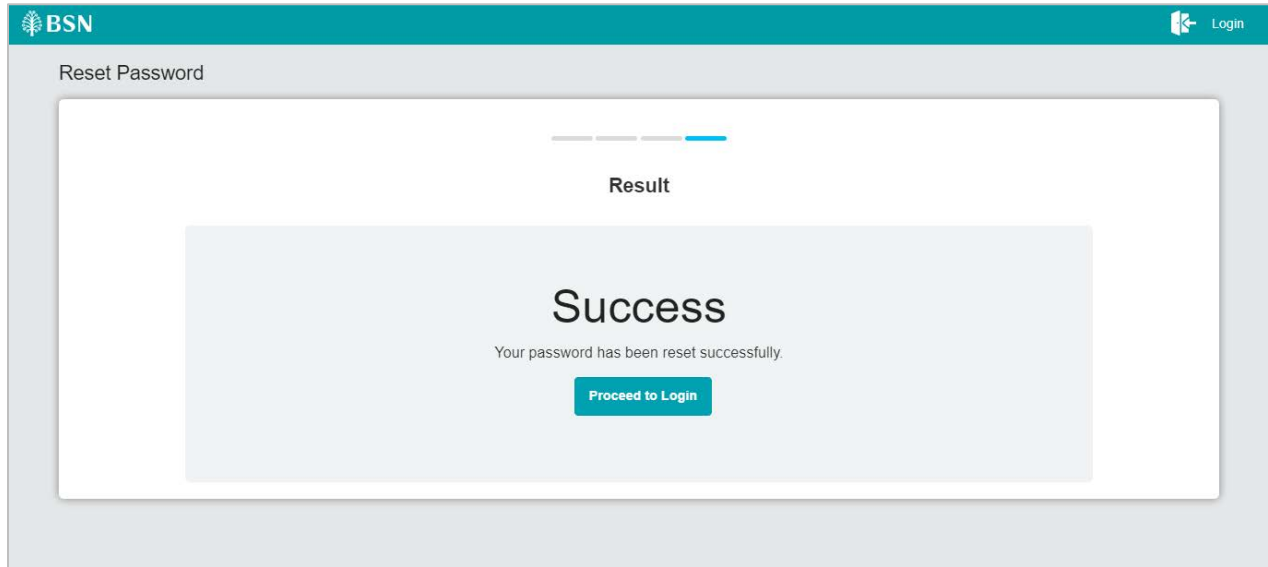
Figure 57: Forgot Password result screen

## 2.2.12  SOW01.2l: Change Password

| Function ID | SOW01.2l | | |
|---|---|---|---|
| Module Name | Change Password | Path | BSNeBiz/Change Password |
| Description | Step-up authentication will be implemented to module that related with change password module. This step-up authentication will be redirected based on FHP and Predator analysis result. | | |

### 2.2.12.1  Process Flow
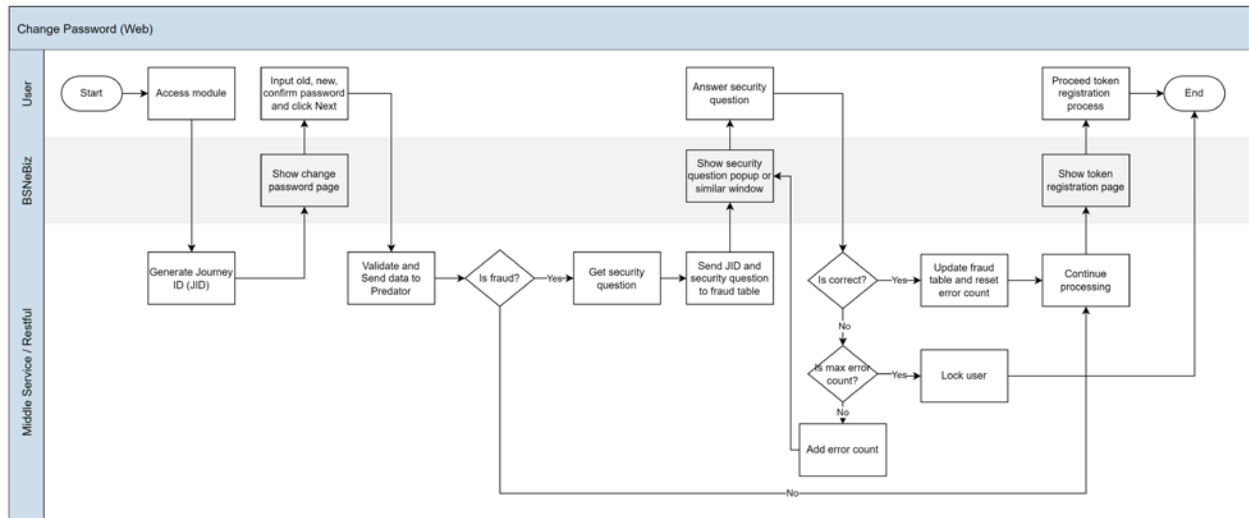


Diagram 12: Change Password Process Flow

### 2.2.12.2  Screen Flow

*Step 1:*

1.   User access to BSNeBiz Landing page and clicks "Change Password".
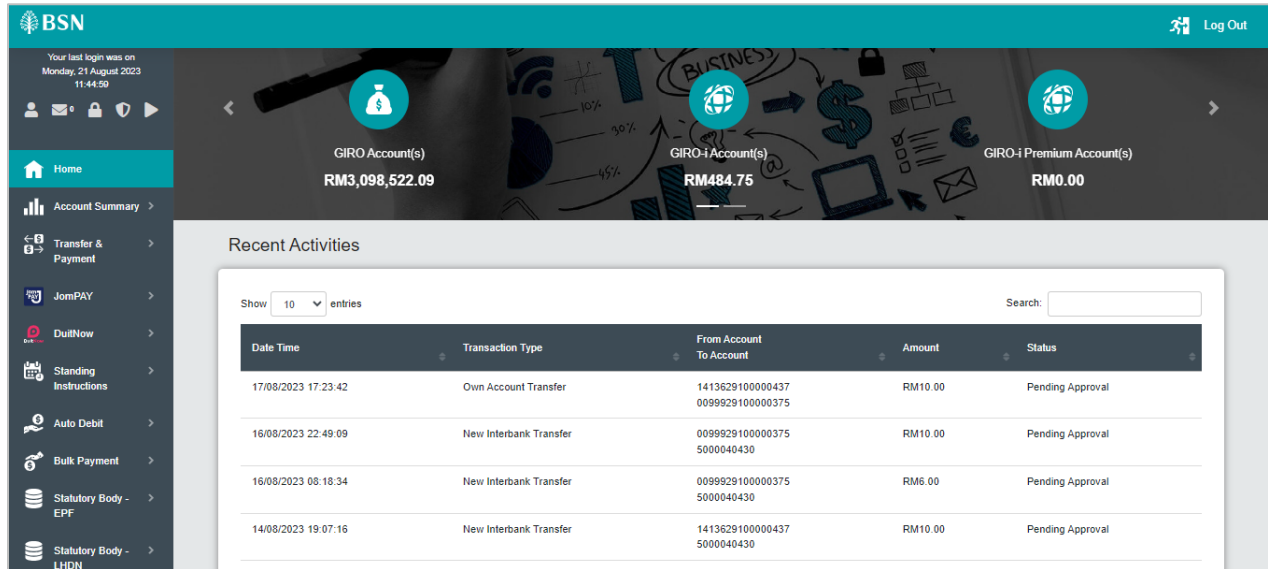
Figure 58: Home screen

### Step 2:

1. BSNeBiz prompts the screen for Change Password.
2. User inputs Old password, New password, Confirm new password and click Confirm button.
3. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
4. BSNeBiz perform checking on action code from FHP and Predator analysis response:

   a. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to perform Change Password. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
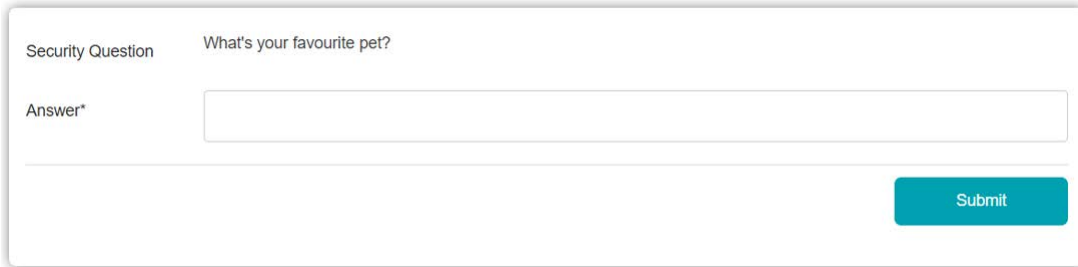
   b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 4.

   c. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 3.

Figure 59: Change Password confirmation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|---|---|---|
| 1. | REJECT | Return error message "You are not allows to perform Change Password. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 55: Fraud Alert - Return Error Message

*Step 3:*

1. Retrieve the Security question from FHP and Predator and display to user.
2. Customer Answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.

    a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 4.

    b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status:

        i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.

        ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

Figure 60: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

Table 56: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 57: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 58: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|---|---|---|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 59: Fraud Alert - Security Question Error Message

*Step 4:*

1.  BSNeBiz System saves the New Password to IB Database and display the result screen.
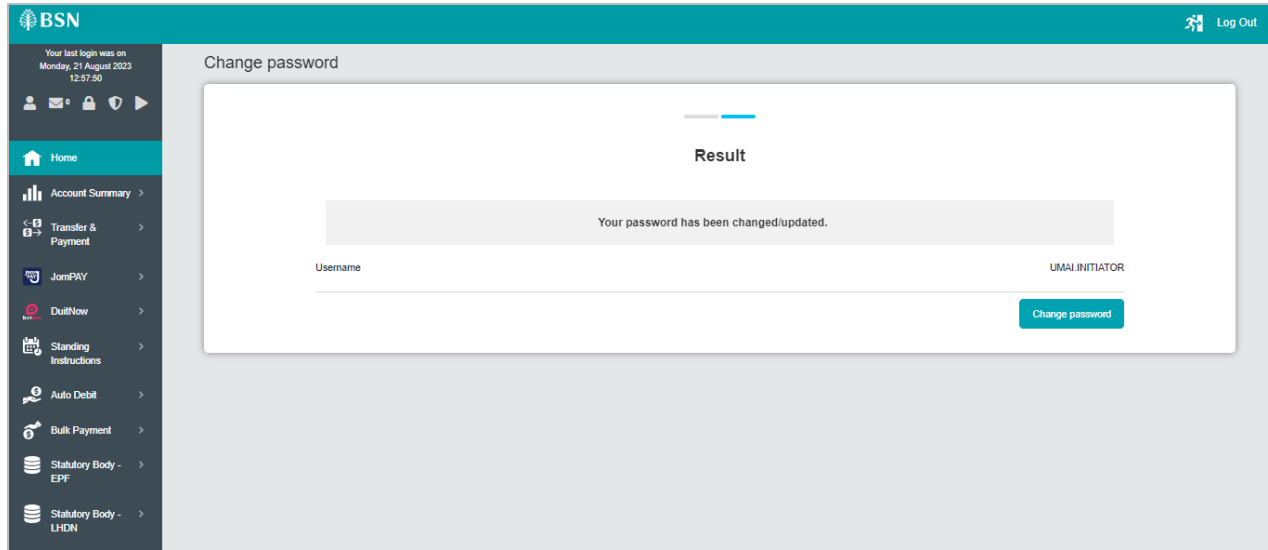


Figure 61: Change Password result screen

## 2.2.13  SOW01.2m: Change Security

| Function ID | SOW01.2m | | |
|---|---|---|---|
| Module Name | Change Security | Path | BSNeBiz/Change Security |
| Description | Change Security module will allow a user to change security questions and update the FHP and Predator Security Questions for step-up authentication. | | |

### 2.2.13.1        Process Flow
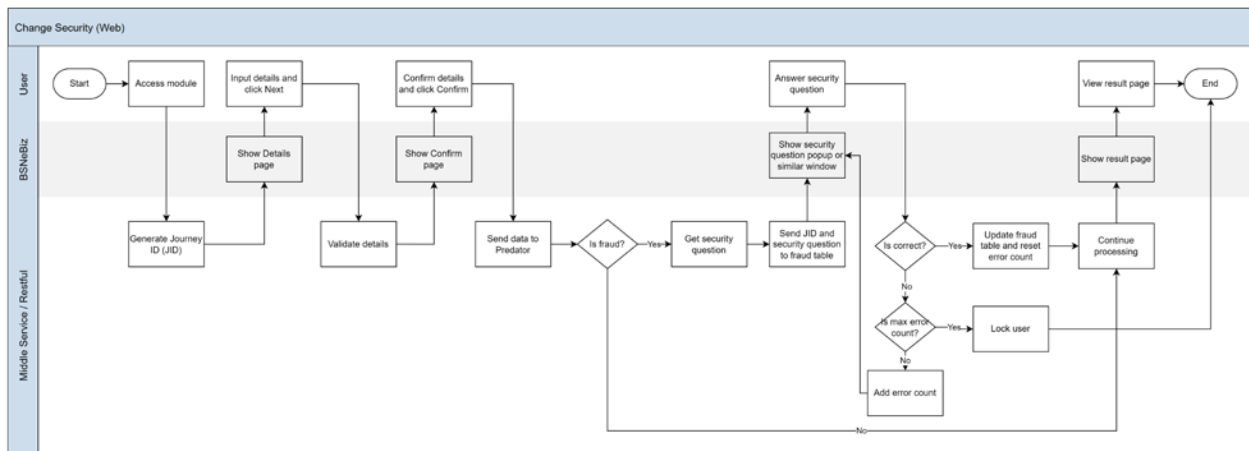


Diagram 13: Change Security Process Flow

### 2.2.13.2        Screen Flow

*Step 1:*

1. BSNeBiz user access to Change Security screen.
2. User clicks on "Edit" button.
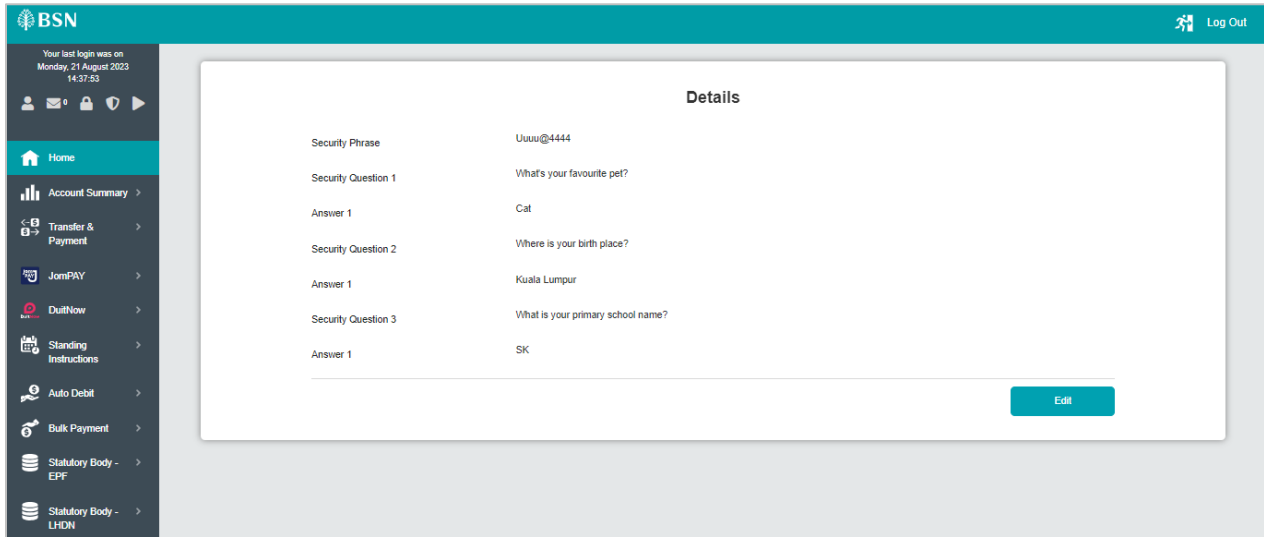
Figure 62: Change Security – Details screen

*Step 2:*

1. User input the required information details.
2. Click "Next" button.
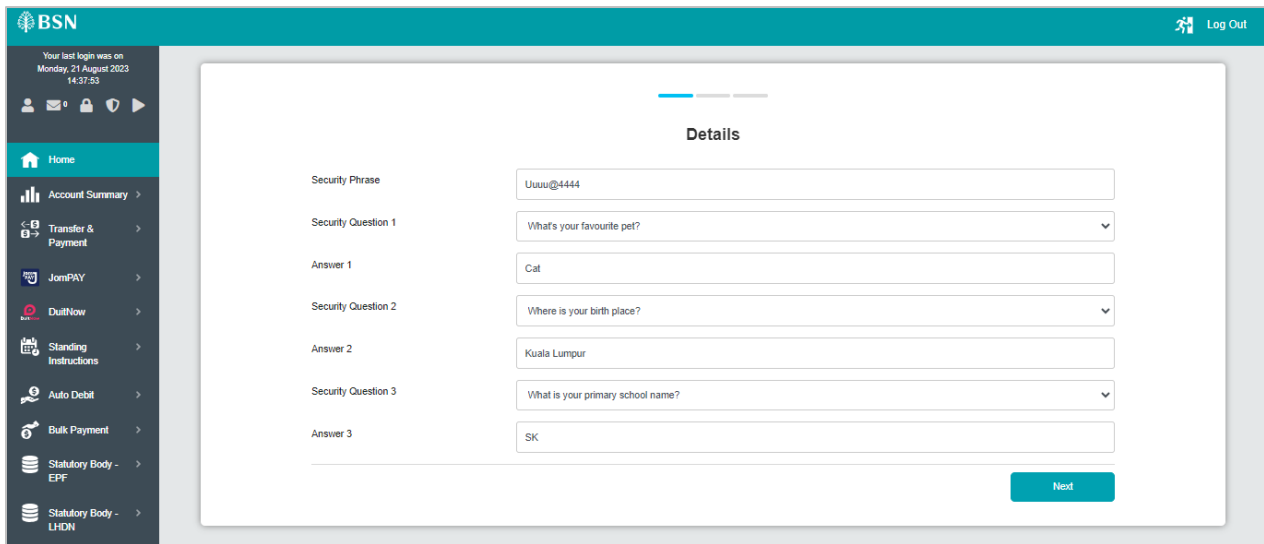


Figure 63: Change Security – Details screen

*Step 3:*

1. View change security details on the confirmation page.
2. Click on "Confirm" button.
3. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.

4. BSNeBiz perform checking on action code from FHP and Predator analysis response:

    d. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "You are not allows to perform security changes. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

    e. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz will redirect user to result screen at step 5.

    f. IF risk analysis response action code **STEPUP**, the BSNeBiz will pop up Security question screen for user to answer security question at next step 4.
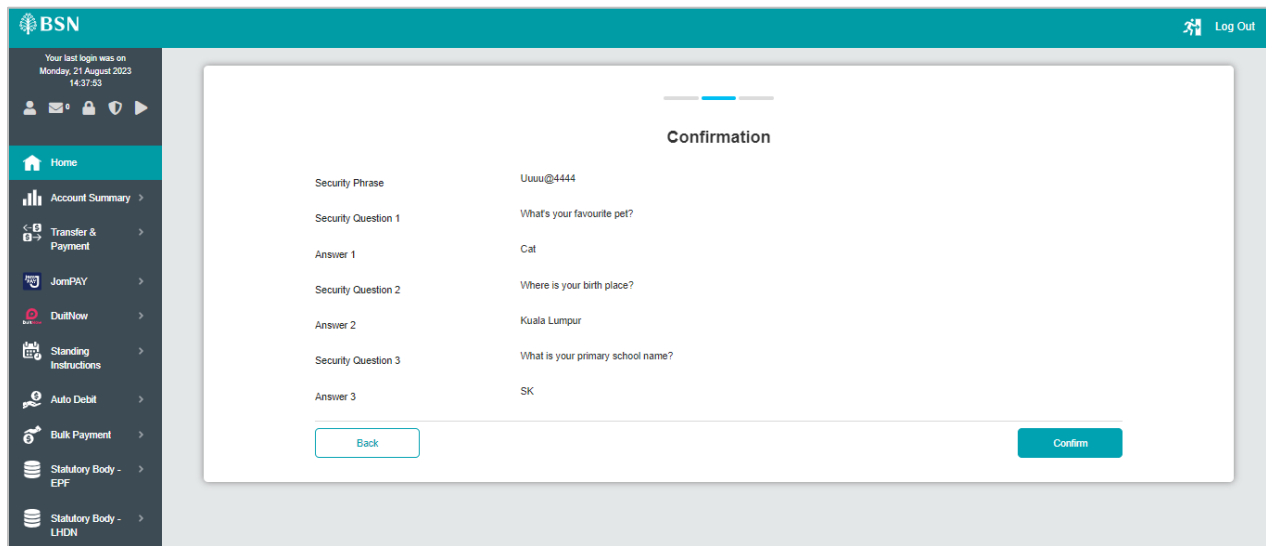


Figure 64: Change Security – Confirmation screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|----|-------------|------------------------------|
| 1. | REJECT | Return error message "You are not allows to perform security changes. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 60: Fraud Alert - Return Error Message

***Step 4:***

1. Retrieve the Security question from FHP and Predator and display to user.
2. Customer Answer the question and click submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.

    a) IF the response return "YES", indicate the answer is correct, BSNeBiz will redirect customer to step 4.

b) IF the response return "NO", indicate the answer is incorrect. BSNeBiz perform checking on FHP and Predator user status:
   i. Unlocked – BSNeBiz request FHP and Predator to return next Security question.
   ii. Locked – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.



Figure 65: Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 61: Fraud Alert – Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 62: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the security question to FHP and Predator to process response. |
| 2. | Close | Button | Contains an action to close the security question |

Table 63: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |

| No | Event | Error Description in English |
|---|---|---|
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

<p align="center">Table 64: Fraud Alert - Security Question Error Message</p>

***Step 5:***

1.   BSNeBiz System display result screen.
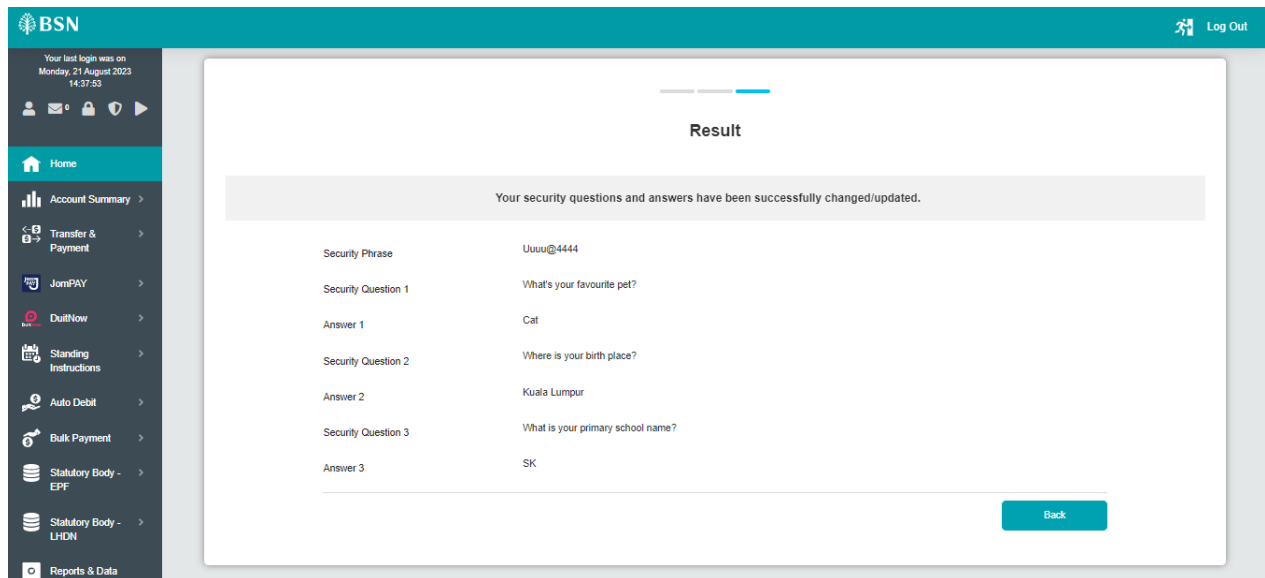


<p align="center">Figure 66: Change Security – Result screen</p>

# Section C: BSNeBiz Mobile Application

## 3 SOW02: Enhancement at BSNeBiz Mobile App

### 3.1 SOW02.1: To apply FHP and Predator plugin / code to every module include monetary and non-monetary based on FHP Rule Flow

| Function ID | SOW01.1 | | |
|---|---|---|---|
| Module Name | Monetary and Non-Monetary | Path | BSNeBiz Mobile |
| Description | FHP and Predator will apply to every module for monetary and non-monetary transaction based on transaction code in BSNeBiz in table below. | | |

| No | Value | Description | Type |
|---|---|---|---|
| 1 | BFUNOWN | FUND TRANSFER OWN | Monetary |
| 2 | BFUNLOAN | FUND TRANSFER LOAN | Monetary |
| 3 | BFUNFRA | FUND TRANSFER INTRABANK FAV | Monetary |
| 4 | BFUNORA | FUND TRANSFER INTRABANK NEW | Monetary |
| 5 | BFUNFER | FUND TRANSFER INTERBANK FAV | Monetary |
| 6 | BFUNOER | FUND TRANSFER INTERBANK NEW | Monetary |
| 7 | BFUNFRR | FUND TRANSFER FAV RENTAS | Monetary |
| 8 | BFUNORR | FUND TRANSFER NEW RENTAS | Monetary |
| 9 | BFUNCARD | FUND TRANSFER CORP CARD | Monetary |
| 10 | BFUNOEDUITN OW | FUND TRANSFER DUITNOW NEW | Monetary |
| 11 | BFUNFEDUITN OW | FUND TRANSFER DUITNOW FAV | Monetary |
| 12 | BFUNTD | FUND TRANSFER TERM DEPOSIT | Monetary |

| No | Value | Description | Type |
|---|---|---|---|
| 13 | BBILLOPEN | BILL PAYMENT NEW PAYMENT | Monetary |
| 14 | BBILLFAV | BILL PAYMENT FAV PAYMENT | Monetary |
| 15 | BNBPSOPEN | JOMPAY NEW PAYMENT | Monetary |
| 16 | BNBPSYFAV | JOMPAY FAV PAYMENT | Monetary |
| 17 | BACCLOGIN | ACCESS_LOGIN | Non-Monetary |
| 18 | BACCLOGOUT | ACCESS_LOGOUT | Non-Monetary |
| 19 | BACCFPA | ACCESS_RESET_PASSWORD | Non-Monetary |
| 20 | BASPSS | ACCESS_RESET_SECURE_PASS | Non-Monetary |
| 21 | BACCREG | ACCESS_FT_LOGIN | Non-Monetary |
| 22 | BACCTAC | ACCESS_FT_TAC | Non-Monetary |
| 23 | BDEVICEPAIRI NG | ACCESS_DEVICE_PAIRING | Non-Monetary |
| 24 | BMIGRATEDLO GIN | ACCESS_MIGRATED_LOGIN | Non-Monetary |
| 25 | BENQSUM | ACCOUNT_ENQUIRY_SUMMARY | Non-Monetary |
| 26 | BNOADET | NORMAL_ACC_DETAILS | Non-Monetary |
| 27 | BLNADET | LOAN_ACC_DETAILS | Non-Monetary |
| 28 | BESTMNT | E_STATEMENT | Non-Monetary |
| 29 | BTRANSHIST | TRANSACTION_HISTORY | Non-Monetary |
| 30 | BONLINEHIST | ONLINE_TRANSACTION_HISTORY | Non-Monetary |
| 31 | BACCVALIDATI ON | ACCOUNT_VALIDATION | Non-Monetary |
| 32 | BCASHLINEIN OTICE | CASHLINE_I_NOTICE | Non-Monetary |

| No | Value | Description | Type |
|----|-------|-------------|------|
| 33 | BFUNMRA | FUND_TRANSFER_INTRA_MAINT | Non-Monetary |
| 34 | BFUNMRAADD | FUND_TRANSFER_INTRA_ADD | Non-Monetary |
| 35 | BFUNMRAEDIT | FUND_TRANSFER_INTRA_EDIT | Non-Monetary |
| 36 | BFUNMRADEL | FUND_TRANSFER_INTRA_DELETE | Non-Monetary |
| 37 | BFUNMER | FUND_TRANSFER_INTER_MAINT | Non-Monetary |
| 38 | BFUNMERADD | FUND_TRANSFER_INTER_ADD | Non-Monetary |
| 39 | BFUNMEREDIT | FUND_TRANSFER_INTER_EDIT | Non-Monetary |
| 40 | BFUNMERDEL | FUND_TRANSFER_INTER_DELETE | Non-Monetary |
| 41 | BBILLFAVMAINT | BILL PAYMENT FAV PAYEE | Non-Monetary |
| 42 | BBPFAVPAYAD | BILL PAYMENT FAV PAYEE ADD | Non-Monetary |
| 43 | BBPFAVPAYDE | BILL PAYMENT FAV PAYEE DEL | Non-Monetary |
| 44 | BBPFAVPAYED | BILL PAYMENT FAV PAYEE EDIT | Non-Monetary |
| 45 | BJOMPAYFAV MAINT | JOMPAY FAV BILLER | Non-Monetary |
| 46 | BBPFAVBILLAD | JOMPAY FAV BILLER ADD | Non-Monetary |
| 47 | BBPFAVBILLDE | JOMPAY FAV BILLER DEL | Non-Monetary |
| 48 | BBPFAVBILLED | JOMPAY FAV BILLER EDIT | Non-Monetary |

## 3.2 SOW02.2: To implement the security question to every module if triggered FHP and Predator rule

### 3.2.1 SOW02.2a: Transactions

| Function ID | SOW02.2a | | |
|---|---|---|---|
| Module Name | Transfer and Payment | Path | BSNeBiz Mobile/Transfer and Payment |
| Description | Step-up authentication will be implemented to module that related with fund transfer or payment module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of fund transfer module for BSNeBiz Mobile implemented with FHP and Predator enhancement:<br><br>a) Transfer & Payment<br>　i. Own Account Transfer<br>　ii. DuitNow<br>　iii. BSN/IBG/RENTAS<br>　iv. Bill Payment<br>　v. JomPAY<br>　vi. Favourite Account | | |

### 3.2.1.1 Process Flow
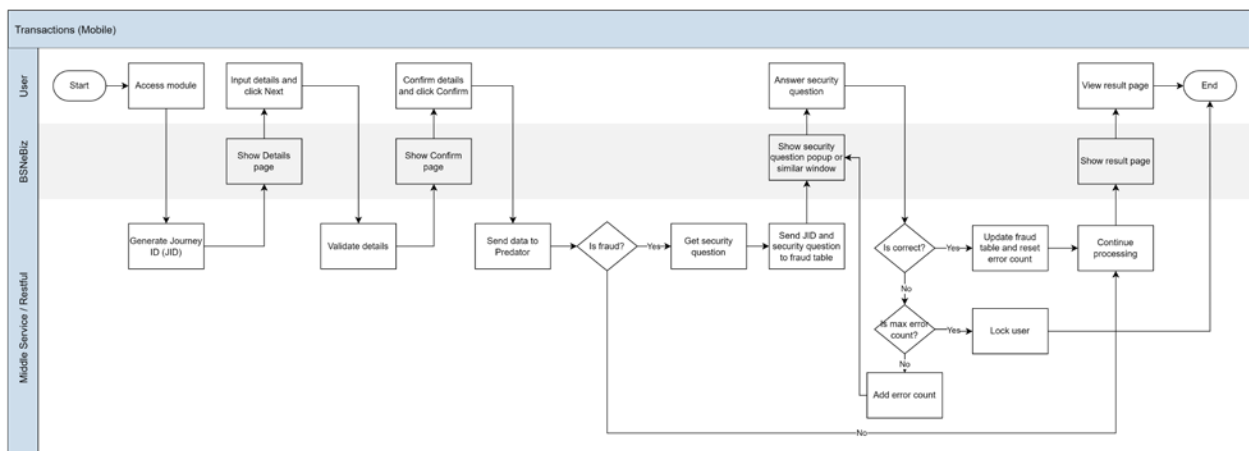


Diagram 14: Transaction Process Flow

### 3.2.1.2  Screen Flow

The Own Account transfer type will be used as a sample for fund transfer screen flow with FHP and Predator.

*Step 1:*

1.  BSNeBiz User login to BSNeBiz Mobile.
2.  Access to Transfer and Payment module.
3.  User insert all required fields and tap on the "Next" button to go to the confirmation page.



Figure 67: BSNeBiz Mobile Apps Transfer and Payment Fill Details > Own Account Transfer Page

*Step 2:*

1.  After User filled the form and tap on the "Next" button, Transaction Confirmation form will shown
2.  Review the details on confirmation page and tap on "Confirm" button.
3.  BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
4.  BSNeBiz perform checking on action code from FHP and Predator analysis response:

a. IF risk analysis response action code **REJECT**, BSNeBiz Mobile App will throws error message "You are not allows to perform this transaction. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.

b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz Mobile App will redirect user to result screen at step 4.

c. IF risk analysis response action code **STEPUP**, the BSNeBiz Mobile App redirect user to security question screen for user to answer security question at next step 3.



Figure 68: BSNeBiz Mobile Apps Transfer and Payment Transaction Confirmation

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|---|---|---|
| 1. | REJECT | Return error message "You are not allows to perform this transaction. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 65: Fraud Alert - Return Error Message

*Step 3:*

1. Retrieve the security question and display to user.
2. User answer the question and tap on "Submit" button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.
    a. IF the response return "YES", indicate the answer is correct, BSNeBiz Mobile App will redirect user to step 4.
    b. IF the response return "NO", indicate the answer is incorrect. BSNeBiz Mobile App perform checking on error counting.
        i. UNLOCKED – BSNeBiz request FHP and Predator to return next security question.
        ii. LOCKED – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
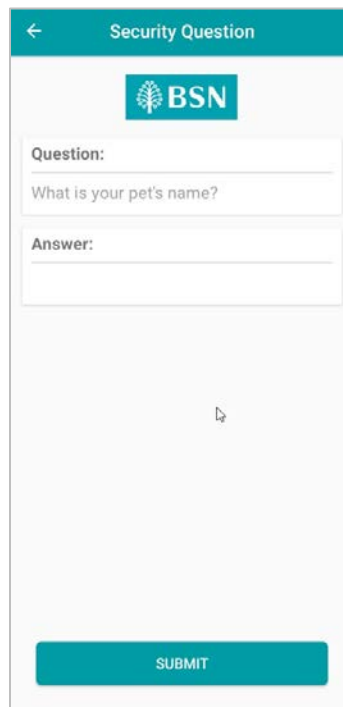


Figure 69: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

<p align="center">Table 66: Fraud Alert - Security Question Display Specification</p>

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

<p align="center">Table 67: Fraud Alert – Security Question Input Specification</p>

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Submit | Button | Contains an action to submit the data and system will process response. |

<p align="center">Table 68: Fraud Alert - Security Question Action</p>

**List of available messages for the screen:**

| No | Event | Error Description in English |
|---|---|---|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

<p align="center">Table 69: Fraud Alert - Security Question Error Message</p>

***Step 4:***

1.  BSNeBiz Mobile App display result page.

Figure 70: BSNeBiz Mobile Apps Transfer and Payment Result Page

**Status might be different depending on the organization setup. For workflow company, the status will be **Pending Verify** or **Pending Approval**. For non-workflow company, the status will be **Successful**.

### 3.2.2 SOW02.2b: Quick Balance

| Function ID | SOW02.2b | | |
|---|---|---|---|
| Module Name | Quick Balance | Path | BSNeBiz Mobile/Quick Balance |
| Description | Step-up authentication will be implemented to module that related with quick balance module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of quick balance module implemented with FHP and Predator enhancement:<br>  a) GIRO Accounts<br>  b) GIRO-i Accounts<br>  c) GIRO-i Premium Accounts<br>  d) Fixed Investment Accounts<br>  e) Loan Accounts<br>  f) Corporate Accounts | | |

#### 3.2.2.1 Process Flow
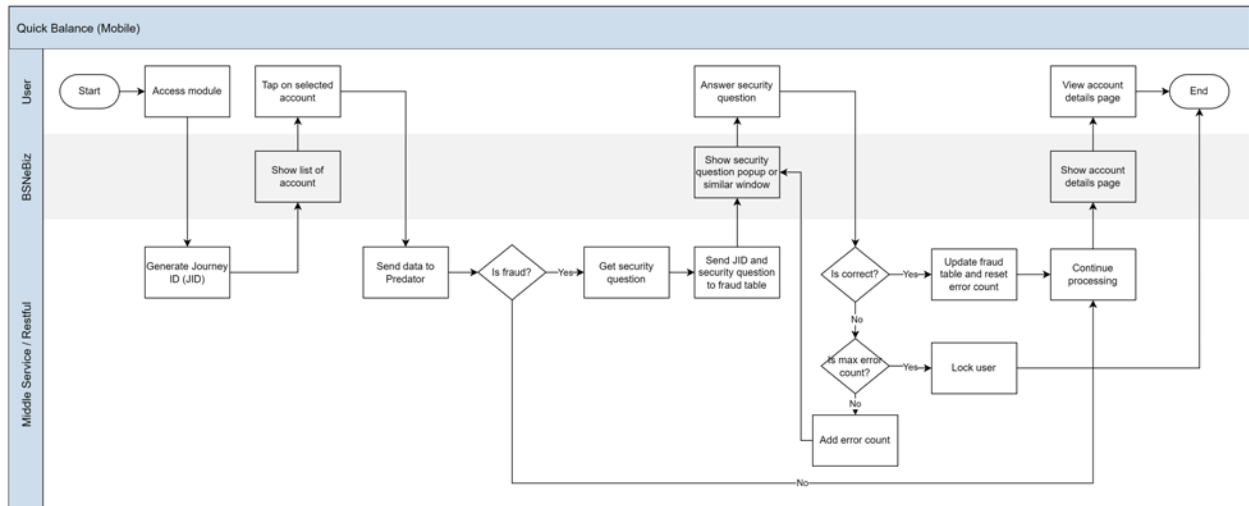


Diagram 15: Quick Balance Process Flow

#### 3.2.2.2 Screen Flow

The GIRO-i Account will be used as a sample for account summary screen flow with FHP and Predator.

*Step 1:*

1. User access to BSNeBiz Mobile Landing Page and clicks "Quick Balance".
2. BSNeBiz System retrieves Account from Host System by CIS No. and displays Account for Holding Company & subsidiary company if any.
3. User tap on the selected account.
4. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
5. BSNeBiz perform checking on action code from FHP and Predator analysis response:
    a. IF risk analysis response action code **REJECT**, BSNeBiz Mobile App will throws error message "You are not allows to view details of this account. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
    b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz Mobile App will redirect user to result screen at step 3.
    c. IF risk analysis response action code **STEPUP**, the BSNeBiz Mobile App redirect user to security question screen for user to answer security question at next step 2.



Figure 71: BSNeBiz Mobile Apps Quick Balance screen

*Step 2:*

1. Retrieve the security question and display to user.
2. User answer the question and tap on submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.
   a. IF the response return "YES", indicate the answer is correct, BSNeBiz Mobile App will redirect user to step 3.
   b. IF the response return "NO", indicate the answer is incorrect. BSNeBiz Mobile App perform checking on error counting.
      i. UNLOCKED – BSNeBiz request FHP and Predator to return next security question.
      ii. LOCKED – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.



Figure 72: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 70: Fraud Alert - Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 71: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the data and system will process response. |

Table 72: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 73: Fraud Alert - Security Question Error Message

*Step 3:*

1. BSNeBiz Mobile App retrieve the information from Host and display the details screen.
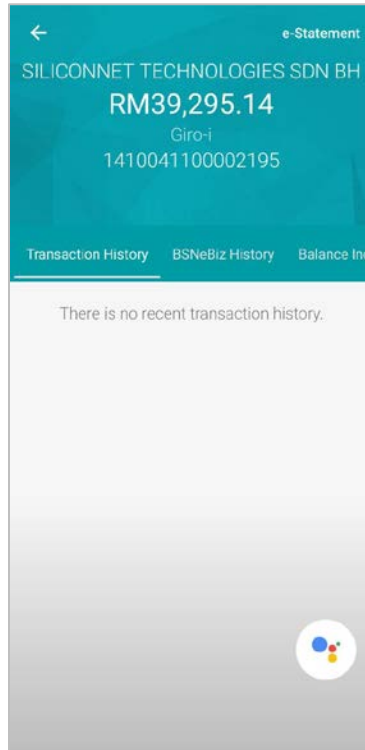
Figure 73: BSNeBiz Mobile Apps details screen

### 3.2.3 SOW02.2c: Login

| Function ID | SOW02.2c | | |
|---|---|---|---|
| Module Name | Login | Path | BSNeBiz/Login |
| Description | Step-up authentication will be implemented to module that related with login module. This step-up authentication will be redirected based on FHP and Predator analysis result.<br><br>Below are type of role for login module implemented with FHP and Predator enhancement:<br>    a) Initiator<br>    b) Verifier<br>    c) Approver<br>    d) Single User | | |

#### 3.2.3.1 Process Flow
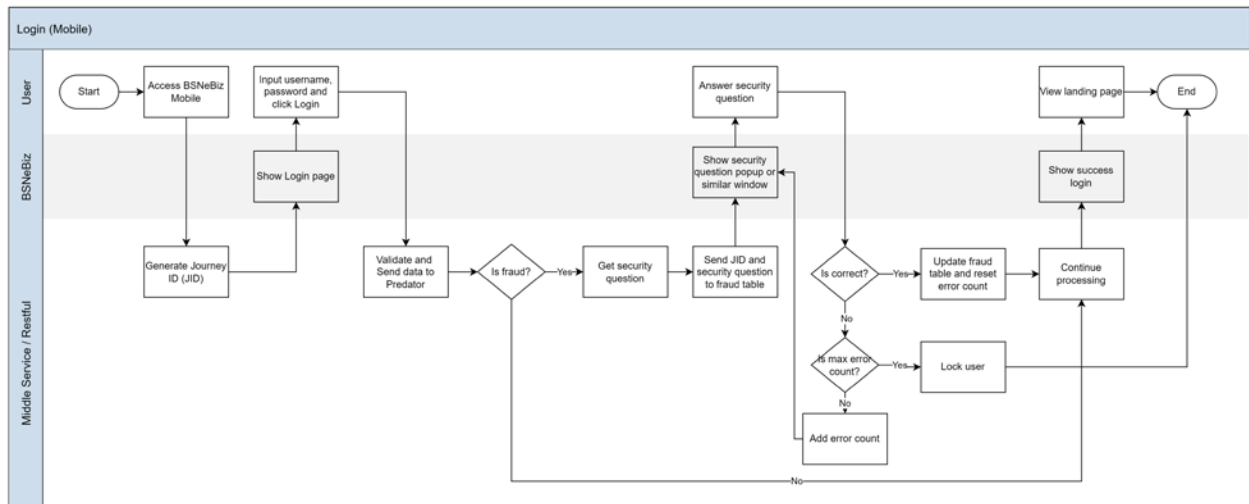


Diagram 16: Login Process Flow

#### 3.2.3.2 Screen Flow

Single User role will be used as a sample for login screen flow with FHP and Predator.

### *Step 1:*

1. The existing BSNeBiz Mobile user login as BAU process.
2. Input username and password and tap "Login" button.
3. BSNeBiz will validate the submitted password.

    a) IF password is invalid, inform fail to login to FHP and Predator and proceed to retry login process.

    b) IF password is correct, BSNeBiz will proceed to the Risk Analysis process and perform checking on action code and user status from the analysis response:

    i. IF risk analysis response action code **REJECT**, BSNeBiz will throws error message "Unauthorized Login. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance".

    ii. IF risk analysis response action code **OK** and FHP and Predator user status is **APPROVE/UNLOCK**, proceed to step 3.

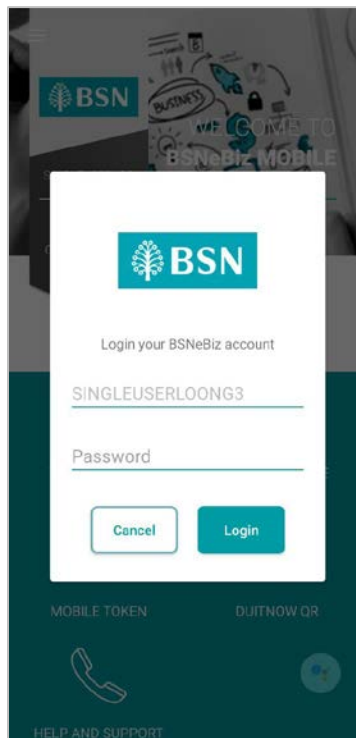    iii. IF risk analysis response **STEPUP**, BSNeBiz will route the user to step 2 to answer Security question.



Figure 74: Login screen

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|---|---|---|
| 1. | REJECT | Return error message "Unauthorized Login. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" |

Table 74: Fraud Alert - Security Question Error Message

***Step 2:***

1. Retrieve the security question and display to user.
2. User answer the question and tap on submit button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.
   a. IF the response return "YES", indicate the answer is correct, BSNeBiz Mobile App will redirect user to step 3.
   b. IF the response return "NO", indicate the answer is incorrect. BSNeBiz Mobile App perform checking on error counting.
      i. UNLOCKED – BSNeBiz request FHP and Predator to return next security question.
      ii. LOCKED – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
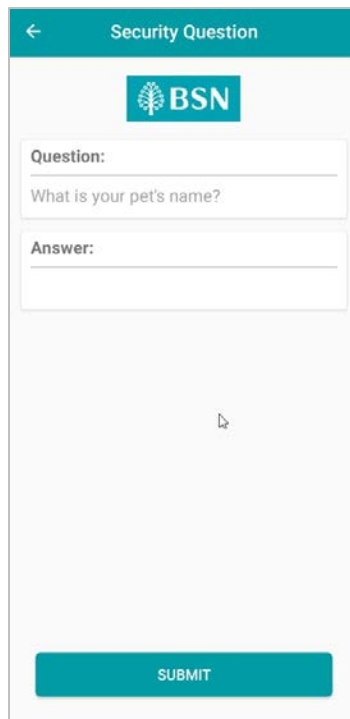


Figure 75: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|----|-------|-----------|-------------|
| 1. | Security Question | Text | Details of security question |

Table 75: Fraud Alert - Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 76: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Submit | Button | Contains an action to submit the data and system will process response. |

Table 77: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|----|-------|------------------------------|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 78: Fraud Alert - Security Question Error Message

***Step 3:***

1. BSNeBiz Mobile display success login screen.

Figure 76: Success Login screen
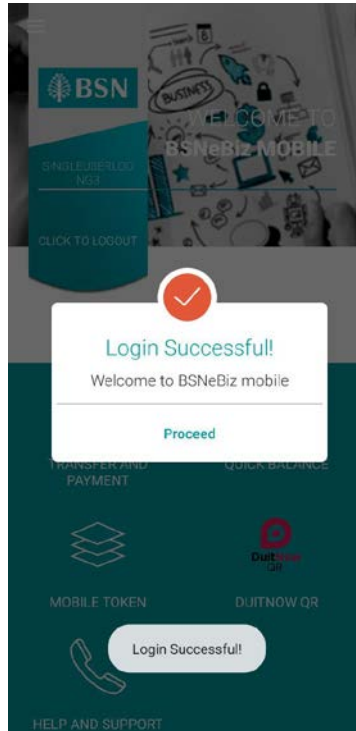
### 3.2.4 SOW02.2d: DuitNow QR

| Function ID | SOW02.2d | | |
|---|---|---|---|
| Module Name | DuitNow QR | Path | BSNeBiz Mobile/DuitNow QR |
| Description | Step-up authentication will be implemented to module that related with DuitNow QR module. This step-up authentication will be redirected based on FHP and Predator analysis result. Below are type of DuitNow QR module for BSNeBiz Mobile implemented with FHP and Predator enhancement: a) Scan | | |

#### 3.2.4.1 Process Flow
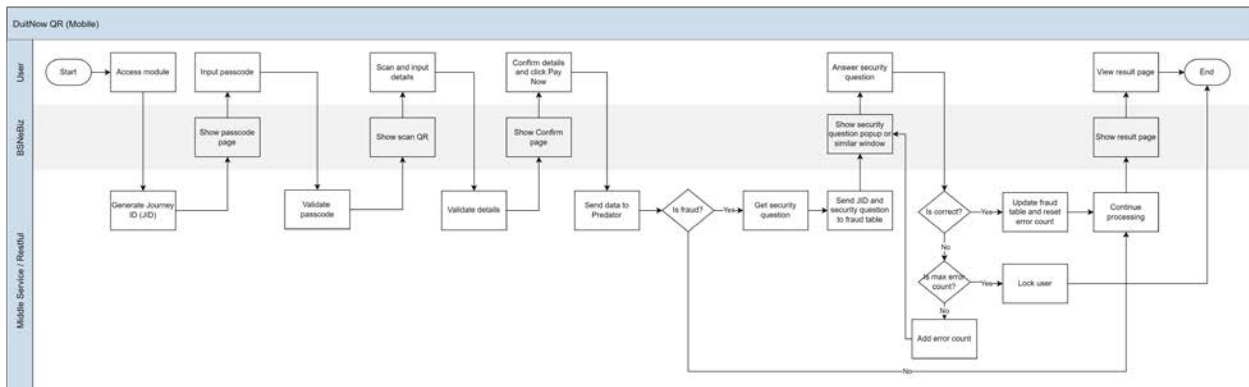


Diagram 17: DuitNow Process Flow

#### 3.2.4.2 Screen Flow

*Step 1:*

1. BSNeBiz User login to BSNeBiz Mobile.
2. Access to DuitNow QR module.
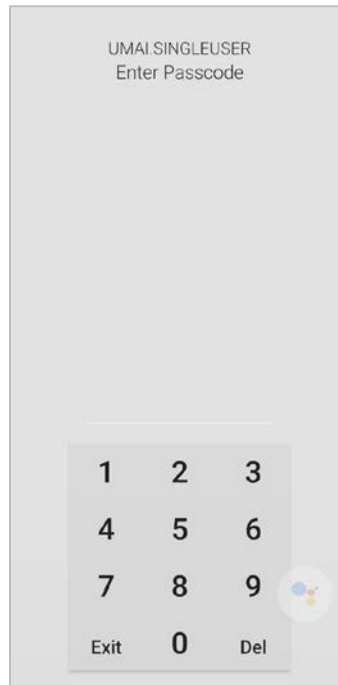3. BSNeBiz Mobile display passcode page.

Figure 77: DuitNow QR > Passcode Page

***Step 2:***

1. BSNeBiz User input passcode.
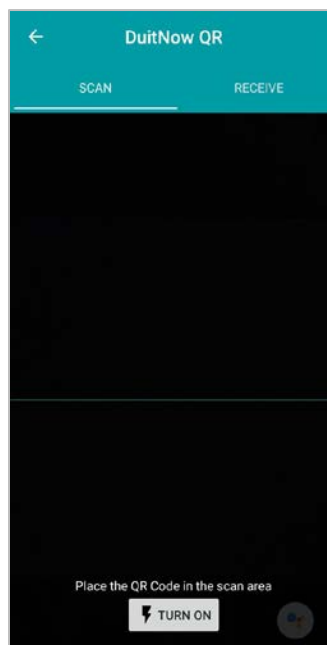2. BSNeBiz Mobile display QR scan page.



Figure 78: DuitNow QR > Scan

*Step 3:*

1. BSNeBiz User scan DuitNow QR code.
2. BSNeBiz Mobile display QR details page.
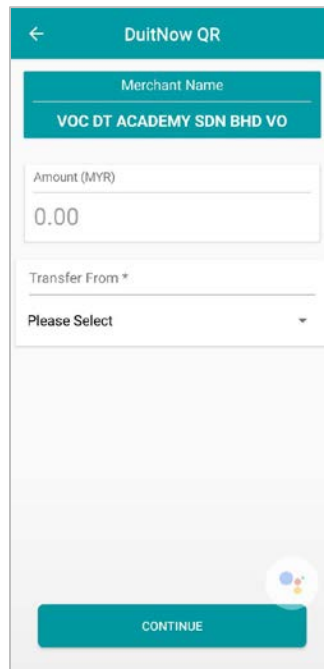3. BSNeBiz User filled the details and tap on the "Continue" button.



Figure 79: DuitNow QR > Details

*Step 4:*

1. BSNeBiz Mobile display Confirmation page. Review the details on confirmation page and tap on "Pay Now" button.
2. BSNeBiz will call FHP and Predator to perform Risk Analysis process with require information.
3. BSNeBiz perform checking on action code from FHP and Predator analysis response:
   a. IF risk analysis response action code **REJECT**, BSNeBiz Mobile App will throws error message "You are not allows to perform this transaction. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
   b. IF risk analysis response action code is **OK** and user status is **APPROVE/UNLOCK**, a user is allows to skip the step-up authentication and the BSNeBiz Mobile App will redirect user to result screen at step 6.
   c. IF risk analysis response action code **STEPUP**, the BSNeBiz Mobile App redirect user to security question screen for user to answer security question at next step 5.
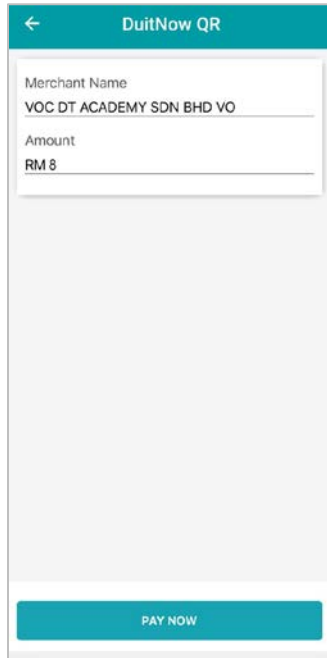
Figure 80: DuitNow QR > Confirmation

**Error messages for the screen:**

| No | Action Code | Error Description in English |
|---|---|---|
| 1. | REJECT | Return error message "You are not allows to perform this transaction. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance". |

Table 79: Fraud Alert - Return Error Message

*Step 5:*

1. Retrieve the security question and display to user.
2. User answer the question and tap on "Submit" button.
3. BSNeBiz request FHP and Predator to validate the submitted answer.
   a. IF the response return "YES", indicate the answer is correct, BSNeBiz Mobile App will redirect user to step 6.
   b. IF the response return "NO", indicate the answer is incorrect. BSNeBiz Mobile App perform checking on error counting.
      i. UNLOCKED – BSNeBiz request FHP and Predator to return next security question.
      ii. LOCKED – BSNeBiz throws error message "Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance" and will redirect user to logout page.
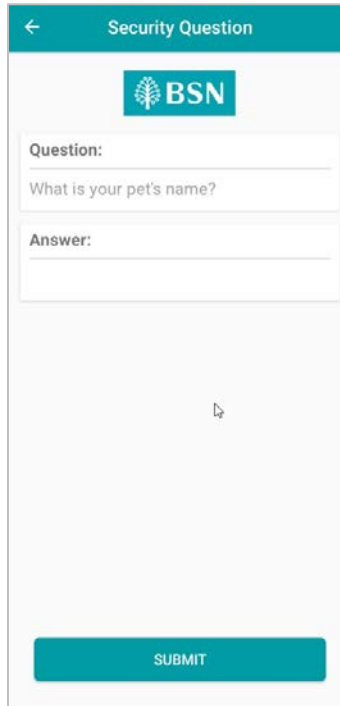
Figure 81: Fraud Alert – Security Question screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | Security Question | Text | Details of security question |

Table 80: Fraud Alert - Security Question Display Specification

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|---|---|---|---|---|---|
| 1. | Answer | Text Box | Alphanumeric | Input answer for security question | Yes |

Table 81: Fraud Alert – Security Question Input Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Submit | Button | Contains an action to submit the data and system will process response. |

Table 82: Fraud Alert - Security Question Action

**List of available messages for the screen:**

| No | Event | Error Description in English |
|---|---|---|
| 1. | Submit empty field | Security Question answer is required |
| 2. | FHP and Predator return error incorrect answer | Security Question answer is incorrect |

| No | Event | Error Description in English |
|---|---|---|
| 3. | FHP and Predator return user status locked | Access has been locked. Please contact BSNeBiz Contact Centre at 1300 88 1900 for assistance |

Table 83: Fraud Alert - Security Question Error Message
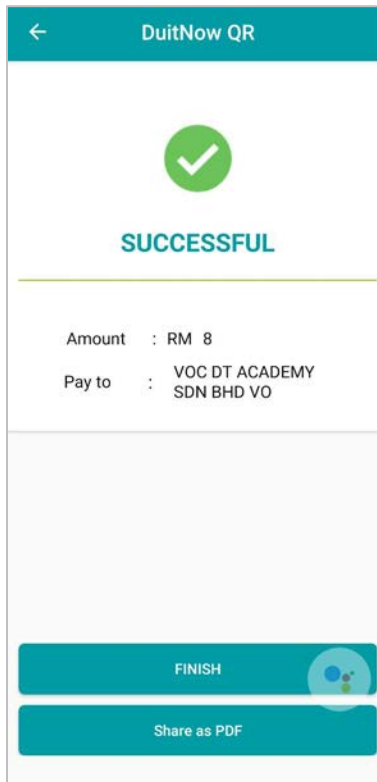
***Step 6:***

1.  BSNeBiz Mobile App display result page.



Figure 82: DuitNow QR > Result

# Section D: Internet Banking Administration Module (IBAM)

## 4    SOW03: Enhancement at IBAM

### 4.2    SOW03.1: To create new module at IBAM

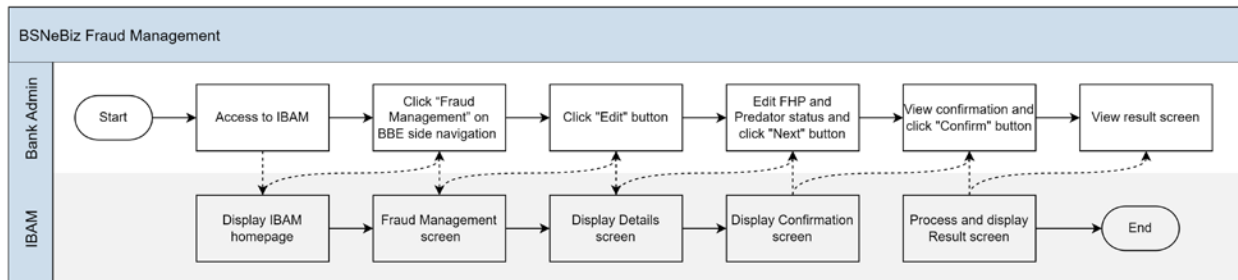| Function ID | SOW03.1 | | |
|---|---|---|---|
| Module Name | BSNeBiz Fraud Management | Path | IBAM > BBE > BSNeBiz Fraud Management |
| Description | To create new module at IBAM level that allow Bank Admin to maintain the Fraud Management Process<br><br>• Bypass FHP and Predator | | |

### 4.1.1    Process Flow



Diagram 18: BSNeBiz Fraud Management Process Flow

### 4.1.2    Screen Flow

*Step 1:*

1.    BBE Admin accesses the Fraud Management page.
2.    BBE Admin click on "Edit" button.

Figure 83: Fraud Management page
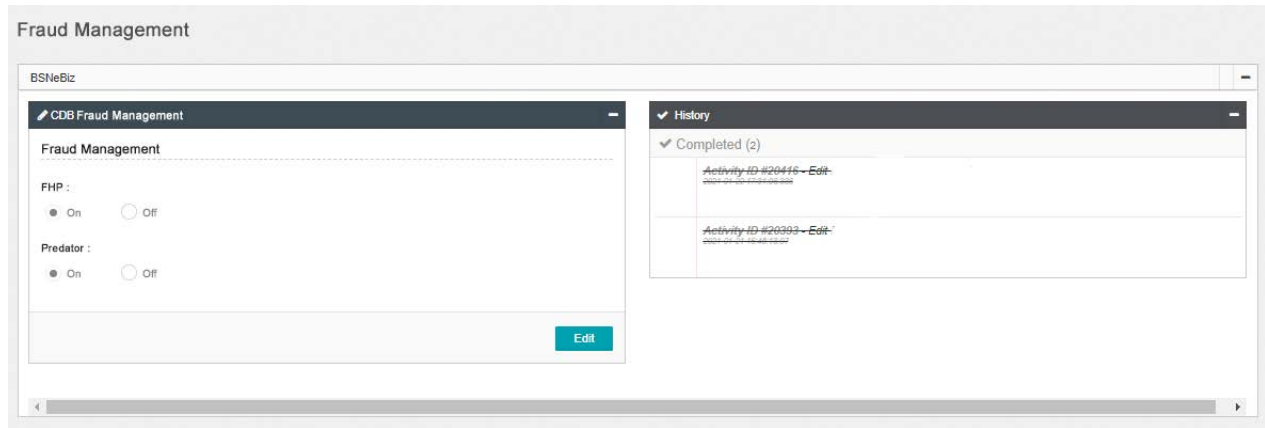
**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | FHP | Text | FHP status. |
| 2. | Predator | Text | Predator status. |

Table 84: Fraud Management Display Specification

**Action:**

| No | Action | Field Type | Description |
|---|---|---|---|
| 1. | Edit | Button | Contains an action to go to the edit screen. |

Table 85: Fraud Management Action

***Step 2:***

1. BBE Admin able to on/off FHP and Predator and clicks on the "Next" button.
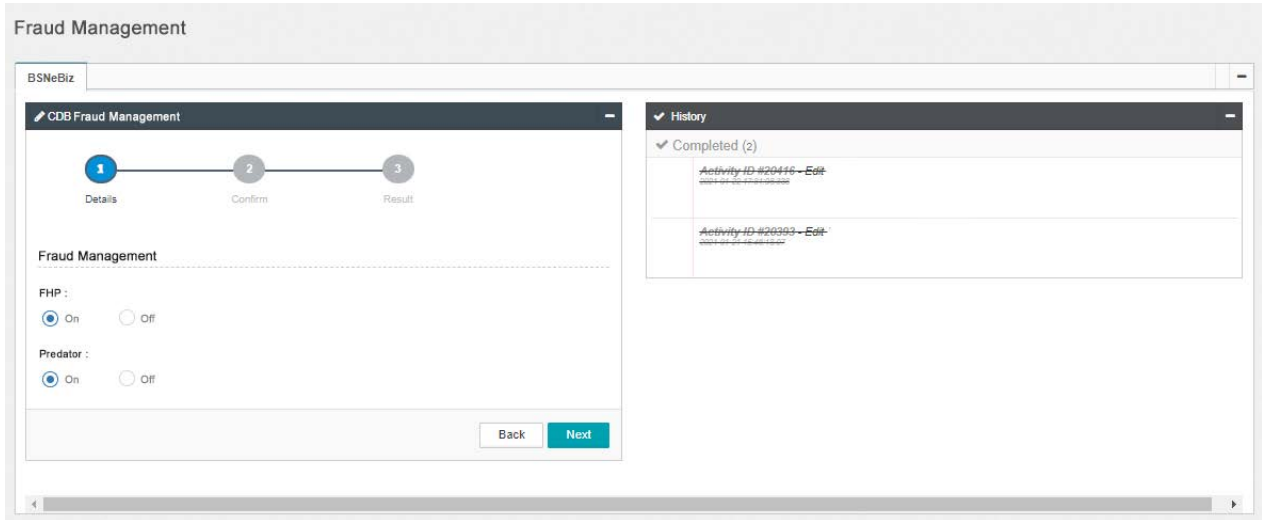
Figure 84: Fraud Management – Details screen

**Input Specification:**

| No | Field | Field Type | Rule | Description | Required |
|----|-------|-----------|------|-------------|----------|
| 1. | FHP | Radio Button | On or Off | Allow to on/off fraud alert | Yes |
| 2. | Predator | Radio Button | On or Off | Allow to on/off predator alert | Yes |

Table 86: Fraud Management – Details Input Specification

**Action:**

| No | Action | Type | Description |
|----|--------|------|-------------|
| 1. | Back | Button | Contain an action to go to previous page |
| 2. | Next | Button | Contains an action to save the data and go to next page. |

Table 87: Fraud Management - Details Action

***Step 3:***

1. BBE Admin review the details and click on "Confirm" button.
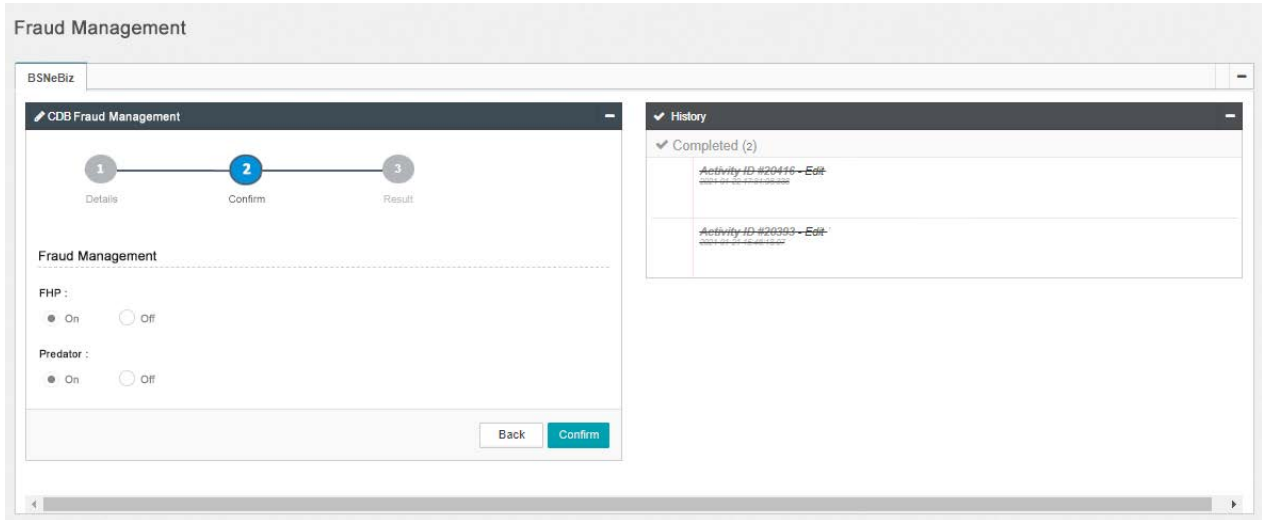
Figure 85: Fraud Management – Confirm screen

**Display Specification:**

| No | Field | Field Type | Description |
|---|---|---|---|
| 1. | FHP | Text | FHP status. |
| 2. | Predator | Text | Predator status. |

Table 88: Fraud Management - Confirm Display Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Back | Button | Contain the action to action to forward back to the previous screen |
| 2. | Confirm | Button | Forward the action to save the fields edited and go to Result screen |

Table 89: Fraud Management - Confirm Action

***Step 4:***

1. IBAM System validates save the data to IB Database and displays result page.
2. IBAM shows Successful message and pending for Authorization approval process (if customer BBE module maker checker permission set as 'Enable').
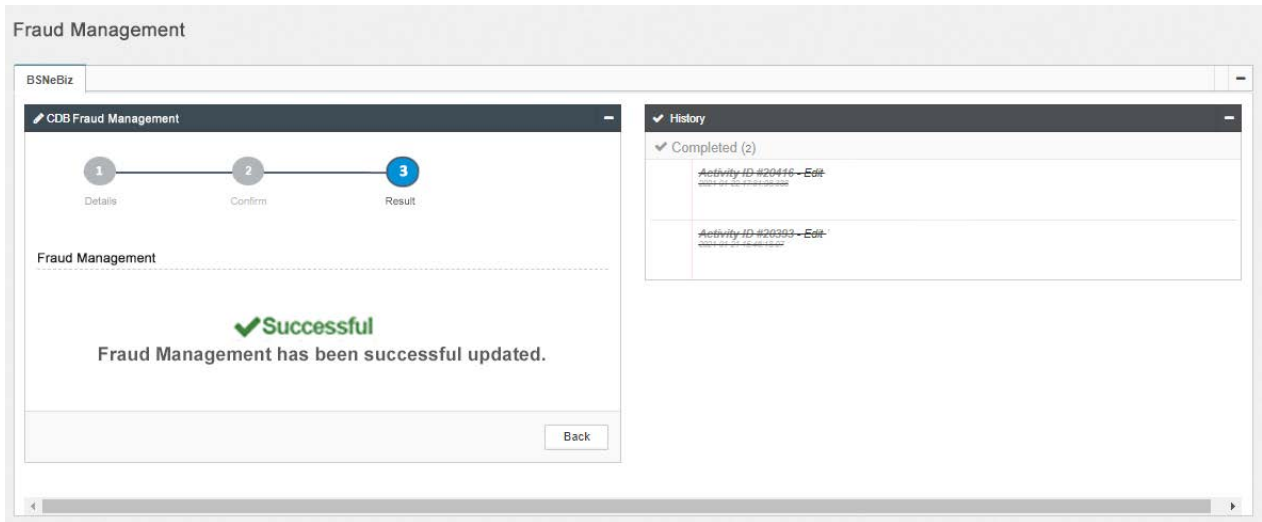
Figure 86: Fraud Management – Result screen

**Display Specification:**

| No | Field | Format | Description |
|---|---|---|---|
| 1. | Result Message | Text, symbol | To display result status and message. |

Table 90: Fraud Management – Result Display Specification

**Action:**

| No | Action | Type | Description |
|---|---|---|---|
| 1. | Back | Button | Contain an action to go to previous page |

Table 91: Fraud Management – Result Action

# Section E: Appendix

## E1: Traceability Matrix

### Version Control

| No | BRFD Version | CR Version | CR Date |
|----|--------------|------------|---------|
| 1 | ver.00 | CR-23002 ver.01.1 | 19/05/2023 |

### CR vs BRFD

| No | CR SOW ID | BRFD ID |
|----|-----------|---------|
| 1. | SOW01 (I) | 2.1 |
| 2. | SOW01 (II) | 2.2 |
| 3. | SOW02 (I) | 3.1 |
| 4. | SOW02 (II) | 3.2 |
| 5. | SOW03 (I) | 4.1 |

## E2: Related Item for Development

| CR SOW ID | Item |
|-----------|------|
| SOW01 | Development and Integration of BSNeBiz Web and Mobile<br>i. To develop and integrate with FHP and Predator |
| SOW04 | Enhancement at Batch Program and Database<br>i. To send batch file contains of company details to FHP and predator daily. |