

SWTCH Simulator
Oracle FLEXCUBE Universal Banking
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1. Introduction

1.1 Scope of the Document

This document explains the basic configuration and usage of the Simulator.

It provides a detailed description of the software requirements, building process, and Usage.

1.2 Intended Audience

The document is intended for the KERNEL implementation Team.

1.3 Organization of the Document

The organization of the document is as follows:

Chapter	Remarks
Chapter 1	Short Introduction to this document.
Chapter 2	Simulator Basic Requirements
Chapter 3	Simulator Deployment Process
Chapter 4	Simulator Basic Configuration
Chapter 5	Simulator Usage

2. Simulator Basic Requirements

2.1 Software Requirements

- Java JDK 11 and above
- Ant

2.2 Required External Jars

- log4j.jar
- commons-logging-1.0.4.jar
- commons-pool-1.2.jar
- xml.jar
- xerces-2.4.0.jar

Note: The external jar we could find in the any application server's folder (e.g: weblogic or IBM web spear or oc4j (please search entire home folder of application server home folder with .jar)).

3. Simulator Deployment Process

3.1 Copy Folder Structure

Get the simulator folder which has required folder structure, configuration related files and simulator related jar files from the below link and place it in the local system.

"FCUBS_14.0.0.0.0\SwitchGateway\utilities\SWJavaSimulator"

Assume that it is <HomeFolder>

3.2 Place the required Jars

Place the external jar files into <HomeFolder>/lib folder.

4. Simulator Basic Configuration

4.1 IP & Port Configuration

Config File Name: <HomeFolder>/<Version - xxxx>/config/properties.xml

Configuration (change):

- The following XPATH will contain the Host Name or IP of the system to which simulator has to send the generated ISO Messages.

XPATH: simulator/FepiServer/Ip

- The following XPATH will contain the port to which simulator will establish the TCP/IP connection

XPATH: simulator/FepiServer/Port

4.2 Bitmap Configuration

Config File Name: <HomeFolder>/<Version - xxxx>/config/properties.xml

- The following XPAH has to be used to configure the Bitmap Type

XPATH: simulator/Bitmap-AsciiMode

Supporting Bitmap Modes:

1. **ASCII – XPATH value should be true**
2. **BINARY – XPATH value should be false**

4.3 Header Length Type

Config File Name: <HomeFolder>/<Version - xxxx>/config/properties.xml

- The following XPAH has to be used to configure the Bitmap Type

XPATH: simulator/ HeaderLength-AsciiMode

Supporting Bitmap Modes:

1. **ASCII – XPATH value should be true**
2. **BINARY – XPATH value should be false**

5. Simulator Usage

5.1 Start the Simulator

By executing the Simulator.bat we can start the Simulator

File Path: <HomeFolder>/Simulator.bat

When simulator is started, it will load with default values

The screenshot shows the 'Simulator' application window with the 'Iso Simulator' tab selected. The window has a menu bar with 'Simulator', 'Configuration', and 'Help'. Below the menu bar is a toolbar with buttons for 'Send', 'Reversal', 'Clear', 'Close', and navigation arrows. The main area contains a grid of input fields for transaction data. The 'System Trace Audit No' field is pre-filled with '000000' and the 'Message Type' field is pre-filled with '1804'. The 'Function Code' field is pre-filled with '801'. The 'Orig Stan' field is pre-filled with '000000'.

Field Name	Value
Acquiring Institution	
Forwarding Institution	
CAT ID	
CA ID Code	
Transaction Date Time	
System Trace Audit No	000000
Message Type	1804
Primary Account Number	
Processing Code	
Card Acceptor Name/Loc...	
Narrative	
Approval code	
Response Code	
Additional Amount...	
Net Avail Bal	
Uncleared Bal	
Ledger Balance	
Additional Data...	
Field Length indicator	
Preauthorisation Hold	
Pre-Authorization Sequen...	
Referral Phone Number	
Transaction Amount	0
Reconciliation Amount	0
Conversion Rate Reconciliation	
R.R.No	
Transaction Ccy Code	
Reconciliation Ccy Code	
Cardholder Billing Ccy Code	
Function Code	801
Date & Time Local Transcation	
Date Effective	
Date Settlement	
Date Capture	
Year Transmission	
To Account	
From Account	
Mini Statement	
POS Code	
Amount Fee	
Original Data Elements	
Orig Message	
Orig STAN	000000
Orig Txn Date & Time	

5.2 Stop the Simulator

Closing the simulator is preferred by using Close option of the simulator, since what ever the transactions are done so far will get saved in the transactions log history.

So that when we open next time we would be able to load the previous transactions what ever are done.

5.3 Load the previous Transaction Details

We can use to load the previous Transaction details on to the Simulator Panel, using Simulator menu, and then click on of the following

- First Record
- Next Record
- Previous Record
- Last Record

The following snap shot is to load the Last transaction

While choosing the option

Configuration	
Send	Alt-S
Reversal	Alt-R
Clear	Alt-L
Close	Alt-X
First Record	Alt-1
Previous Record	Alt-2
Next Record	Alt-3
Last Record	Alt-4
CA ID Code	
Transmission Date Time	
System Trace Audit No	000000
Message Type	1804
Primary Account Number	
Processing Code	
Card Acceptor Name/Loc...	
Narrative	
Approval code	
Response Code	
Additional Amount....	
Net Avail Bal	
Uncleared Bal	
Ledger Balance	
Additional Data....	
Field Length indicator	
Preauthorization Hold	
Pre-Authorization Sequen...	
Referral Phone Number	
Transaction Amount	0
Reconciliation Amount	0
Conversion Rate Reconciliation	
R.R.No	
Transaction Ccy Code	
Reconciliation Ccy Code	
Cardholder Billing Ccy Code	
Function Code	801
Date & Time Local Transaction	
Date Effective	
Date Settlement	
Date Capture	
Year Transmission	
To Account	
From Account	
Mini Statement	
POS Code	
Amount Fee	
Original Data Elements	
Orig Message	
Orig STAN	
Orig Txn Date & Time	

After choosing the option

Iso Simulator			
Acquiring Institution	12323	Transaction Amount	000000000000
Forwarding Institution		Reconciliation Amount	000000000000
CAT ID	4234	Conversion Rate Reconciliation	
CA ID Code		R.R.No	00001265
Transmission Date Time	0711104918	Transaction Ccy Code	123
System Trace Audit No	000001	Reconciliation Ccy Code	
Message Type	1200	Cardholder Billing Ccy Code	
Primary Account Number	1234567890123456	Function Code	801
Processing Code	311000	Date & Time Local Transaction	080711104918
Card Acceptor Name/Loc...		Date Effective	0807
Narrative		Date Settlement	080711
Approval code		Date Capture	0711
Response Code		Year Transmission	
Additional Amount....		To Account	
Net Avail Bal		From Account	100695
Uncleared Bal		Mini Statement	
Ledger Balance		POS Code	
Additional Data....		Amount Fee	
Field Length indicator		Original Data Elements	
Preauthorisation Hold		Orig Message	
Pre-Authorization Sequen...		Orig STAN	
Referral Phone Number		Orig Txn Date & Time	

We can also do the same sort of work using buttons located on the standard tool bar

- |< will load the First Record
- > will load the Next Record
- < will load the Previous Record
- >| will load the Last record

5.4 Send ISO Transaction Message

Once if the data is entered in the required fields, we just need to choose send option of the simulator. Once if the send option is selected, It does the basic validation, prepares the ISO message based on the configurations, and will send the message to the host.

Once simulator send the Transaction to the host, It will start looking for response, and wits till some time (configured time) and if it doesn't get the response I t will popup the message.

If simulator get the response, first it clears the all the fields of the panel and will display the fields values those are present in the response

The screenshot shows the 'Iso Simulator' application window. The title bar includes 'Simulator', 'Configuration', and 'Help'. Below the title bar is a menu bar with 'Send', 'Reversal', 'Clear', and 'Close'. There are also navigation buttons: '<|', '<', '>', and '>|'. The main area is titled 'Iso Simulator' and contains a form with two columns of input fields. The left column includes fields for Acquiring Institution (12323), Forwarding Institution, CAT ID (4234), CA ID Code, Transmission Date Time (0711161907), System Trace Audit No (000003), Message Type (1210), Primary Account Number (1234567890123456), Processing Code (311000), Card Acceptor Name/Loc..., Narrative, Approval code, Response Code (06), Additional Amount..., Net Avail Bal, Uncleared Bal, Ledger Balance, Additional Data..., Field Length Indicator, Preauthorisation Hold, Pre-Authorization Sequen..., Referral Phone Number, Reason for Chargeback, and Number of Chargeback. The right column includes fields for Transaction Amount (000000000000), Reconciliation Amount (000000000000), Conversion Rate Reconciliation, R.R.No (00001265), Transaction Ccy Code (123), Reconciliation Ccy Code, Cardholder Billing Ccy Code, Function Code (801), Date & Time Local Transcation (080711161907), Date Effective (0807), Date Settlement (080711), Date Capture (0711), Year Transmission, To Account, From Account (100695), Mini Statement, POS Code, Amount Fee, Original Data Elements, Orig Message, Orig STAN, Orig Txn Date & Time, and Orig Acquirer.

After getting Response:

The screenshot shows the 'Iso Simulator' application window. The title bar includes 'Simulator', 'Configuration', and 'Help'. Below the title bar is a menu bar with 'Send', 'Reversal', 'Clear', 'Close', and navigation buttons. The main area is a form titled 'Iso Simulator' containing two columns of input fields. The first column includes fields for Acquiring Institution, Forwarding Institution, CAT ID, CA ID Code, Transmission Date Time, System Trace Audit No, Message Type, Primary Account Number, Processing Code, Card Acceptor Name/Loc..., Narrative, Approval code, Response Code, Additional Amount..., Net Avail Bal, Uncleared Bal, Ledger Balance, Additional Data..., Field Length indicator, Preauthorisation Hold, Pre-Authorization Sequen..., Referral Phone Number, Reason for Chargeback, and Number of Chargeback. The second column includes fields for Transaction Amount, Reconciliation Amount, Conversion Rate Reconciliation, R.R.No, Transaction Ccy Code, Reconciliation Ccy Code, Cardholder Billing Ccy Code, Function Code, Date & Time Local Transcation, Date Effective, Date Settlement, Date Capture, Year Transmission, To Account, From Account, Mini Statement, POS Code, Amount Fee, Original Data Elements, Orig Message, Orig STAN, Orig Txn Date & Time, and Orig Acquirer.

Field	Value
Acquiring Institution	12323
Forwarding Institution	
CAT ID	4234
CA ID Code	
Transmission Date Time	0711161907
System Trace Audit No	000003
Message Type	1210
Primary Account Number	1234567890123456
Processing Code	311000
Card Acceptor Name/Loc...	
Narrative	
Approval code	
Response Code	06
Additional Amount...	
Net Avail Bal	
Uncleared Bal	
Ledger Balance	
Additional Data...	
Field Length indicator	
Preauthorisation Hold	
Pre-Authorization Sequen...	
Referral Phone Number	
Reason for Chargeback	
Number of Chargeback	
Transaction Amount	000000000000
Reconciliation Amount	000000000000
Conversion Rate Reconciliation	
R.R.No	00001265
Transaction Ccy Code	123
Reconciliation Ccy Code	
Cardholder Billing Ccy Code	
Function Code	801
Date & Time Local Transcation	080711161907
Date Effective	0807
Date Settlement	080711
Date Capture	0711
Year Transmission	
To Account	
From Account	100695
Mini Statement	
POS Code	
Amount Fee	
Original Data Elements	
Orig Message	
Orig STAN	
Orig Txn Date & Time	
Orig Acquirer	

Note: Request to restart the Simulator if we don't get response for one message.

5.5 Auto Generation of Fields

Few field's values will be generated automatically. And will be populated when we choose the send option. Just before validating the fields values, It will generates the values for the fields (As per the configuration e.g: STAN), will populate on the panel then will validates and prepares the message and will send.

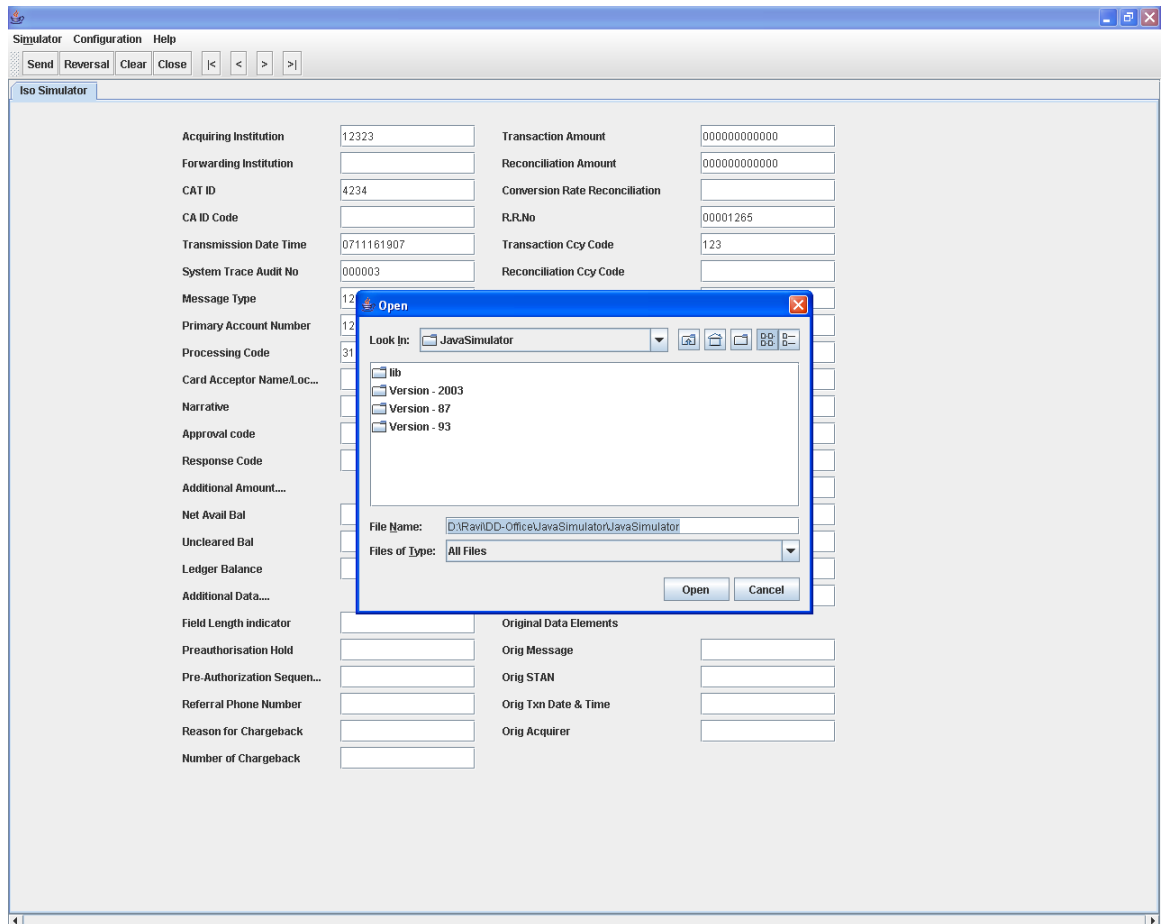
5.6 Clear option of simulator

It just clears the field's values of Simulator Panel

5.7 Switch to different Version

Click on Configuration menu. Then it will popup open dialog box. Select the one of the version folders available

When we click on configuration



After Selecting the Version Folder

The screenshot shows the 'Simulator Configuration' window with the 'Iso Simulator' tab selected. The window contains two columns of input fields for configuring an ISO transaction. The top menu bar includes 'Simulator', 'Configuration', and 'Help'. Below the menu is a toolbar with buttons for 'Send', 'Reversal', 'Clear', 'Close', and navigation arrows. The main area is divided into two columns of fields:

Field Name	Value
Acquiring Institution	
Forwarding Institution	
CAT ID	
CA ID Code	
Transmission Date Time	
System Trace Audit No	000000
Message Type	800
Primary Account Num...	
Processing Code	
Card Acceptor Name	
Narrative	
Authorisation code	
Retrieval Reference No	
Point of Service Condi...	
Response Code	
Additional Amount	
Amount Transaction	0
Settlement Amount	0
Conversion Rate Settle...	
Transaction Fee Amount	00000000
Settlement Fee Amount	00000000
Trans Processing Fee Amt	00000000
Settl Processing Fee Amt	00000000
Transaction Ccy Code	
Settlement Ccy Code	
Cardholder Billing Ccy Co...	
Network Management Inf...	301
Time Local Transaction	
Date Local Transaction	
Date Settlement	
Date Capture	
Year Transmission	
To Account	
From Account	
Original Transaction Defa...	
Replacement Amounts	

Note:

- Once if we switch to another version, all the transactions will get saved, new version related property files, and transaction history will be loaded. Once version related things are loaded, rest of the operations is same.
- When we are using sub fields, we must enter all the sub fields, otherwise corresponding field value won't be the part of the generated ISO Message.



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