

SWITCH 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\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 'Iso Simulator' application window. The title bar includes 'Simulator Configuration Help' and standard window controls. Below the title bar is a menu bar with 'Send', 'Reversal', 'Clear', and 'Close' buttons, followed by four arrow keys. The main area is a grid of input fields for transaction data. The 'Message Type' field contains '1804' and the 'Function Code' field contains '801'. Other fields are empty or contain default values like '0'.

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

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

The screenshot shows the Oracle Simulator Configuration window. The window title is "Simulator Configuration Help". The menu bar includes "Send", "Reversal", "Clear", "Close", "First Record", "Previous Record", "Next Record", and "Last Record". The main area contains a grid of fields for configuring a transaction simulation. The "Message Type" field is set to "1804" and the "Function Code" field is set to "801".

Field Name	Value	Field Name	Value
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 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 Efective	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 Trn Date & Time	

We can also do the same soft 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 Help' and standard window controls. Below the title bar are buttons for 'Send', 'Reversal', 'Clear', and 'Close', along with navigation arrows. The main area is a form titled 'Iso Simulator' with two columns of input fields. The fields are as follows:

Acquiring Institution	12323	Transaction Amount	000000000000
Forwarding Institution		Reconciliation Amount	000000000000
CAT ID	4234	Conversion Rate Reconciliation	
CA ID Code		RR.No	00001265
Transmission Date Time	0711161907	Transaction Ccy Code	123
System Trace Audit No	000003	Reconciliation Ccy Code	
Message Type	1210	Cardholder Billing Ccy Code	
Primary Account Number	1234567890123456	Function Code	801
Processing Code	311000	Date & Time Local Transcation	080711161907
Card Acceptor Name,Loc...		Date Efective	0807
Narrative		Date Settlement	080711
Approval code		Date Capture	0711
Response Code	06	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	
Reason for Chargeback		Orig Acquirer	
Number of Chargeback			

After getting Response:

The screenshot shows the 'Iso Simulator' application window. The title bar includes 'Simulator Configuration Help' and standard window controls. Below the title bar is a menu bar with 'Send', 'Reversal', 'Clear', and 'Close' buttons, along with navigation arrows. The main area is a grid of input fields for transaction data. The fields are organized into two columns. The left column contains fields such as '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 right column contains fields such as 'Transaction Amount', 'Reconciliation Amount', 'Conversion Rate Reconciliation', 'RR.No', 'Transaction Ccy Code', 'Reconciliation Ccy Code', 'Cardholder Billing Ccy Code', 'Function Code', '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', and 'Orig Acquirer'. Some fields have pre-filled values, such as '12323' for Acquiring Institution, '4234' for CAT ID, '0711161907' for Transmission Date Time, '000003' for System Trace Audit No, '1210' for Message Type, '1234567890123456' for Primary Account Number, '311000' for Processing Code, '06' for Response Code, '000000000000' for Transaction Amount, '000000000000' for Reconciliation Amount, '00001265' for RR.No, '123' for Transaction Ccy Code, '801' for Function Code, '080711161907' for Date & Time Local Transaction, '0807' for Date Effective, '080711' for Date Settlement, '0711' for Date Capture, '100695' for From Account, and '0711' for Year Transmission.

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.

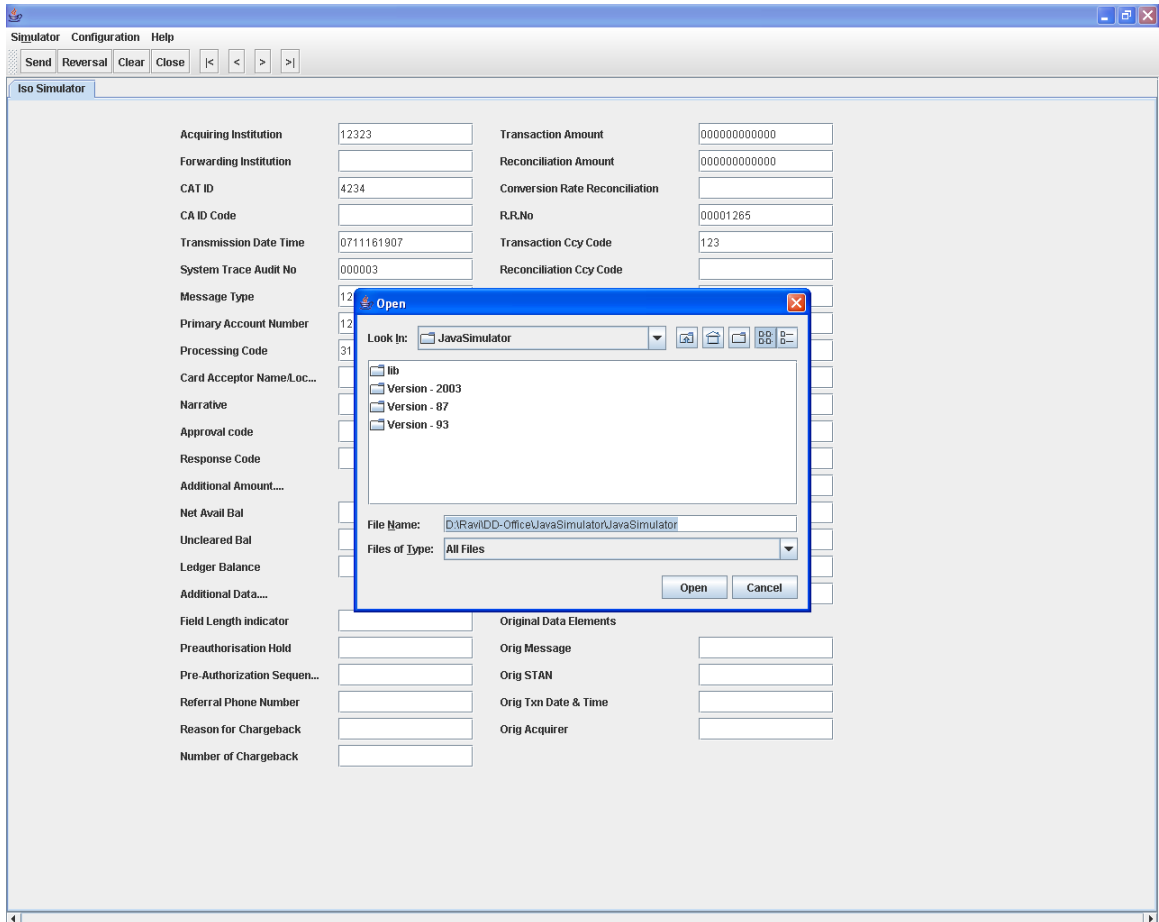
5.6 Clear option of simulator

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 'Iso Simulator' application window. The title bar includes 'Simulator Configuration Help' and standard window controls. Below the title bar is a menu bar with 'Send', 'Reversal', 'Clear', and 'Close' buttons, followed by navigation arrows. The main area is titled 'Iso Simulator' and contains two columns of input fields. The left column includes fields for 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, and Additional Amount. The right column includes fields for 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 Deta..., and 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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