

# **Oracle FLEXCUBE Direct Banking**

Language Translation Guide

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# 1.Preface

## 1.1. Intended Audience

This document is primarily targeted at

- Oracle FLEXCUBE Direct Banking Development Teams
- Oracle FLEXCUBE Direct Banking Implementation Teams
- Oracle FLEXCUBE Direct Banking Implementation Partners

## 1.2. Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

## 1.3. Access to OFSS Support

<https://flexsupp.oracle.com/>

## 1.4. Structure

This document, termed Oracle FLEXCUBE Direct Banking Day 1 Configurations, is a single reference for the product information which can be managed, configured, extended by external parties, to implement, customize the product.

This is a Guide to explain details of all parameters which need to be updated as part of Day 1 activity and how these could be extended, customized as appropriate to meet the requirements of the implementation.

This document explains the configurations and provides insight into the parameters for external parties and functionality of the application

## 1.5. Related Information Sources

For more information on Oracle FLEXCUBE Direct Banking Release 12.0.2.0.0, refer to the following documents:

OracleFLEXCUBEDirectBankingLicensingGuide

## 2. Glossary Of Terms

The following terms are some of the key terms used within the document for identifying the actor for the various actions mentioned within this document.

### 2.1 LICENSEE

The LICENSEE is the Financial Institution, Application Services Provider or the Bank which has licensed the Oracle FLEXCUBE Direct Banking application and shall rollout the solution to its customers as an internet and / or mobile banking channel.

### 2.2 IMPLEMENTER

The IMPLEMENTER is the Implementation Partner, Vendor, Application Service Provider or the LICENSEE themselves who is responsible for rolling out, configuring, extending or developing on Oracle FLEXCUBE Direct Banking.

### 2.3 TERMINOLOGY

The following terms and terminology is used within the documents to explain underlying processes, components, actions, actors etc.

Term	Definition
Business Service	A Business Service or a Transaction Service is a coarse-grained component that delivers a particular service contract. The Service Interfaces and that make up the contract are each implemented by their particular Service Endpoints.
POJO	A Plain Old Java Object (POJO) is exactly what it says. The term is used to differentiate these simple objects from more specific or complex types such as EJB classes.  For example, when creating an EJB, a specific class must implement the

	SessionBean interface. However, that class will often delegate much of its functionality to one or more POJOs to aid maintainability and reuse of functionality.
Service Implementation or Service Endpoint	A Service Implementation is a concrete implementation of a Service Interface.
Service Interface	<p>A Service Interface is a cohesive set of Service Methods that are grouped together in the anticipation that they will be commonly used together by a consumer.</p> <p>For example, the Service Interface for the FundsTransferService would contain a set of Service Methods that perform different types of immediate money transfer between two accounts.</p>
Service Method	A Service Method takes the form of a Java method implemented by the Service Implementation and the Service Delegate. The consumer of the service will invoke one or more Service Methods to help perform part of a business process.
Extension Schema	The <b>Extension Schema</b> is a term used for the separate database schema as deployed by Oracle FLEXCUBE Direct Banking to allow IMPLEMENTERS to extend the Oracle FLEXCUBE Direct Banking application as per their needs.

## 2.4 Abbreviations

Acronyms	Description
FCDB / FC DB / FC Direct Banking / Direct Banking	Oracle FLEXCUBE Direct Banking
Java EE / JEE	Java Enterprise Edition
Java SE / JSE	Java Standard Edition
Java ME / JME	Java Mobile Edition
DBA	Database Administrator
XML	Extensible Markup Language
XSL	XML Stylesheets
TCP	Transmission Control Protocol
HTTP	Hypertext Transmission Protocol
HTTPS	Secured Hypertext Transmission Protocol
SSL	Secured Socket Layer
IDS	Intrusion Detection System

## 2.5 Conventions

- ❖ The diagrams and / or text in this document may contain colour to communicate or highlight additional information. However, the content of this document is retained when rendered without colour. Specific references to colour can be ignored if necessary.
- ❖ The technical terminology relating to the Oracle FLEXCUBE Direct Banking solution is aligned as much as possible to standard definitions or should be defined in the Glossary of Terms. Any deviations from standard terminology are either noted in the Terminology Section, or in context of usage.
- ❖ Some sections may contain additional notes and caveats included with the body text. For general and contextual information, these notes are contained within document footnotes. Any notes that have important implications or detailed recommendations are denoted by the information symbol ( ⓘ ). Important caveats are denoted with the warning symbol ( ⚠ ).
- ❖ Some sections may contain examples included with the body text. Such examples are denoted by the use of shading and the introductory word “EXAMPLE”.

## 3. Language Overview

Oracle FLEXCUBE Direct Banking, the multi channel solution, for direct customer touch points like Internet and Mobile devices have introduced translation in different languages so that it is available for implementation with minimal changes.

The purpose of this document is to outline the requirements to support integration of multiple languages in the Oracle FLEXCUBE Direct Banking product with data input and validation on the business requirement.

This document provides overview on the current methodology for the accepting multiple data input and validation for Oracle FLEXCUBE Direct Banking.

## 4.Adding new language in FCDB

A new table called MSTLANG has been introduced. Below are the descriptions of the columns of the table:

Column Name	Description	Sample Values
IDLANG	Language identifier	vie
DESCRIPTION	Language description	Vietnamese
RESPENCODING	Response encoding	
XSLENCODING	XSL encoding	UTF-8
ISO_LANG	ISO language identifier	vi
ISO_COUNTRY	ISO country code for that language	VN
SUPPORTED_RANGE	UNICODE range or Regular expression of character that are supported in that language	\u0020-\u002F\u0030-\u0039\u003A-\u0040\u0041-\u005A\u005B-\u0060\u0061-\u007A\u007B-\u007E\u00C0-\u00C3\u00C8-\u00CA\u00CC-\u00CD\u00D0\u00D2-\u00D5\u00D9-\u00DA\u00DD\u00E0-\u00E3\u00E8-\u00EA\u00EC-\u00ED\u00F2-\u00F5\u00F9-\u00FA\u00FD\u0102-\u0103\u0110-\u0111\u0128-\u0129\u0168-\u0169\u01A0-\u01B0\u1EA0-\u1EF9\u02C6-

		\u0323\d
BLOCKED_RANGE	UNICODE range or Regular expression of character that are blocked in that language	
DEFAULT_DATE_FORMAT	Default date format for that language	dd-MM-yyyy
DECIMAL_SEPRATOR	Decimal separator for that language	.
TIME_STAMP_FORMAT	Default time stamp format for that language	dd-MM-yyyy HH:mm:ss

# 5.Language validation

The language framework in Oracle FLEXCUBE Direct Banking, provides you facility what to restrict or support Unicode Range at the following levels:

- Language Level
- Field Type Level.
- Field Level
- 

## 5.1 Per Language Level

Language level is basically the global set of Unicode characters supported or blocked for a particular language. The two columns in the above table SUPPORTED\_RANGE and BLOCKED\_RANGE holds the same. At server startup time the application creates a regular expression on basis of this and validates all the fields against this regular expression (This validation is only applicable when data type is defined as String[S]).

## 5.2 Per Field Type Level

The table which holds data for field type validation is TXN\_DATA\_LANG\_MAP.

Column Name	Description	Sample Values
<b>TEMPLATE_ID</b>	In this field we give the data dictionary type which is going to over ride.	OAT.GENERICPAYMENTSERVICEINTERFACE.GENERICPAYMENTSERVICE.INITIATEGENERICPAYMENTDETAILS.UDFFIELDS
<b>IDLAND</b>	In this field we give the data dictionary type which is going to over ride.	spa
<b>FIELDFORMAT</b>	In this field we specified language specific pattern.	[\u00C1\u00E1 \u00C9\u00E1 \u00CD\u00E1 \u00D1\u00E1 \u00D3\u00E1]

		3\u00DA\u00F A\u00DC\u00F C\u00AB\u00B B\u00BF\u00A 1\u20AC\u002 0\w]*
<b>NAMFIELD</b>	This field is not necessary to override data dictionary type. So it will remain null.	fldnarrative

	TEMPLATE_ID	IDLANG	FIELDFORMAT	NAMFIELD
1	NARATIVE	spa	\u00C1\u00E1\u00C9\u00E9\u00CD\u00ED\u00D1\u00F1\u00D3' ...	...
2	STR_DESCRIPTION2	spa	\u00C1\u00E1\u00C9\u00E9\u00CD\u00ED\u00D1\u00F1\u00D3' ...	...
3	BENEADDRESS	spa	\u00C1\u00E1\u00C9\u00E9\u00CD\u00ED\u00D1\u00F1\u00D3' ...	...
4	ADRESS3	spa	\u00C1\u00E1\u00C9\u00E9\u00CD\u00ED\u00D1\u00F1\u00D3' ...	...
5	STR_DESCRIPTION3	spa	\u00C1\u00E1\u00C9\u00E9\u00CD\u00ED\u00D1\u00F1\u00D3' ...	...
6	ADRESS1	spa	\u00C1\u00E1\u00C9\u00E9\u00CD\u00ED\u00D1\u00F1\u00D3' ...	...

So, for a user who logs in Spanish language, Oracle FLEXCUBE Direct banking application checks if there is an entry in TXN\_DATA\_LANG\_MAP for fldnarrative and applies validation. In case if there was no entry for the same default validation present in DATA\_DICTIONARY table would have been applied. This facilitates to define language specific pattern.

Please note this is only applicable for those fields which have data type as pattern. For String, only white list characters present in the table can be overridden.

### 5.3 At field level

Oracle FLEXCUBE Direct Banking allows language validation also at each field or Data level . The field validation is maintained in the TXN\_DATA table. TXN\_DATA has field level validation which one can override master pattern which is defined at DATA\_DICTIONARY level.

TEMPLATE_ID	AT.GENERICPAYMENTSERVICEINTERFACE.GENERICPAYMENTSERVICE.INITIATEGENERICPAYMENTDETAILS.UDFFIELDS
IDLANG	spa
FIELDFORMAT	\u00C1\u00E1\u00C9\u00E9\u00CD\u00ED\u00D1\u00F1\u00D3\u00F3\u00DA\u00FA\u00DC\u00FC\u00AB\u00BB\u00BF\u00A1\u20...
NAMFIELD	fldnarrative

This table has following columns:

Column Name	Description	Sample Values
<b>TEMPLATE_ID</b>	This field holds the request id.	
<b>IDLANG</b>	This field holds the language identifier.	
<b>FIELDFORMAT</b>	This field holds language specific pattern	
<b>NAMFIELD</b>	This field contains reference field name of corresponding TXN_DATA	

	element.	
--	----------	--

For example, to override narrative validation of a Payment (eg Own Accounts Transfer who transaction identifier is OAT), an entry is made in *TXN\_DATA\_LANG\_MAP* table as follows:

1. Proper id request as per *txn\_data* table for narrative field is put (e.g. OAT.GENERICPAYMENTSERVICEINTERFACE.GENERICPAYMENTSERVICE.INITIATEGENERICPAYMENTDETAILS.UDFFIELDS).
2. Corresponding language identifier, field format and reference field name is added.

So the applications Validation Framework checks if there is any entry in *TXN\_DATA\_LANG\_MAP* table for this field for the particular language else it will look for the default validation in *DATA\_DICTIONARY* table.

## 6.Guidelines and Recommendations

1. In XSL files do not define elements name against description (if you need dynamic names for elements). Always use code, not description.
2. Try to minimize use of pattern validator. Use only when it is required.
3. In some cases we find field format of TXN\_DATA or DATA\_DICTIONARY as regular expressions defined for String data type. Please note that field format is only applicable for pattern data type. It should not be used for String. In string we define some white listed characters with "#" (hash) separated.  
For example: If you require a field which accept alphanumeric with some special char like "\_" then define data type instead of using "Pattern Type" use "String Type" and also define this char ("\_") as a white list char in field format.

Please find the sample bellow:

FIELDNAME	TD_PRO_CODE	...
FIELDDESC	Product Code	...
FIELDTYPE	S	...
MINLENGTH	1	...
MAXLENGTH	6	...
FIELDFORMAT	#_#	...
COMMENTS		...

4. Define date type in TXN\_DATA doesn't required field format, so leave it blank. Earlier Date format was on field level now date format is defined at language level in MSTLANG for particular languages.

① Refer the *Oracle\_FLEXCUBE\_Direct\_Banking\_System\_Handbook\_Volume\_I (Section 6.2)* for basic for basic usage of the Validation Framework

## 7. Reference Documents

<i>Sr.No</i>	<i>Name of Document</i>
1	Oracle_FLEXCUBE_Direct_Banking_System_Handbook_Volume_I.pdf