Product Release Note
Oracle FLEXCUBE Universal Banking
Release 12.2.0.0.0
[May] [2016]

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FINANCIAL SERVICES

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Product Release Note
[May] [2016]
Version 12.2.0.0.0

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1. Release Notes

1.1 Background

Oracle Financial Services Software Limited has developed Oracle FLEXCUBE Universal Banking to enable banks to create a distributed network of branches for effective marketing and efficient handling of customer transactions. Oracle FLEXCUBE Universal Banking is a real-time online solution, enabled for multi-currency, multilingual, multi-entity, multi-instance operations. Its mission-critical and robust architecture and use of leading-edge industry standard products ensure almost limitless scalability.

1.2 Purpose

The purpose of this Release Note is to highlight the enhancements in Oracle FLEXCUBE Universal Banking 12.2.0.0.0

1.3 Abbreviations

Abbreviation	Description
UDE	User Defined Elements
Bills	Various types of instruments which are in general referred as Bills
BPEL	Business Process Execution Language
BPMN	Business Process Management and Notation
EOD	End of Day
FIS	FLEXCUBE Information Server
IE	Internet Explorer
OD	Over Draft
PDM	Profit Distribution Management
SSO	Single Sign On
UI	User Interface
ReST Services	Representational State Transfer services

For module code and description details, please refer Annexure C.

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1.4   <u>Release Highlights</u>

The scope of the current release Oracle FLEXCUBE Universal Banking 12.2.0.0.0 includes the introduction of new functionality and enhancements to the existing modules, Non-Extensible to Extensible Conversion and INFRA changes.

This release is focused on the Islamic items development, Qualification of Latest Tech Stack along with the Introduction of New Technologies /Services.

1.5   <u>New Functionality</u>

1.5.1 <u>Multi Entity Support</u>

System enhanced to support multiple entities with the same application (i.e. multiple banks or bank like entities that would have the capability to share a single FLEXCUBE application) with the following features

- Each entity will have its own data store schemas.
- All entity users should be able to login using single URL.
- All entities should be in same code-base.
- Single Gateway hosted for all the entities.
- Single Switch Gateway hosted for all the entities.

1.5.2 <u>RESTful Services</u>

Oracle FLEXCUBE Universal Banking adopted the industry standard of providing light-weight services through Representational State Transfer (popularly known as ReST) services. These lightweight services support the current trend of mobile/tablet based applications. These services will help to improve the response time for tablet/mobile applications, as these applications are very chatty, involves numerous hits to the server and the expected response time is minimal for each of the requests.

System enhanced to provide framework for a list of light-weight service's that are highly efficient and built for servicing applications that require light and highly performant Oracle FLEXCUBE services.

1.6   <u>Enhancements to the Existing Modules</u>

1.6.1 <u>Core and CASA Module Enhancements</u>

1.6.1.1 <u>Capture of Channel Information</u>

Facility provided to capture information of channels like Internet Banking, Interactive Voice Response, Mobile, ATM, and Credit Card at customer and customer account level.

1.6.1.2 <u>CIF and CASA Range for Special Customers</u>

System enhanced to provide a specific range for CIF and CASA numbers generation for special segment of customers. At customer/account level user will be allowed to input the maintained special numbers for the numeric portion of the customer/account mask for special customers. For normal customers system will skip the numbers maintained in the special range.

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1.6.2 CASA Module Enhancements

1.6.2.1 Release /Delete of track receivable record

- Systems enhanced to release the available amount in a track receivable record to enable the customer utilize the amount for other priority transactions.
- Facility to delete the track receivable record for account closure

1.6.3 Islamic Accounts Module Enhancement

1.6.3.1 Sweep Functionality for Islamic Accounts

Sweep Maintenance functionality enhanced to have sweep flags at account class and account level for enabling or disabling the sweep functionality by the bank.

Provided Cover Account / Auto Deposit/ Term Deposit Linkage, to enable cover account functionality for Islamic accounts for better liquidity management.

Sweep Processing enabled to avoid over draft on CASA accounts.

1.6.4 Interest and Charges Module Enhancement

1.6.4.1 Back Valued Transaction Restriction

System enhanced to restrict any changes to the tax amount, after remitting to the authorities at the end of the tax period. For a given branch, it would now be possible to indicate whether a check for tax cycle closure is to be made at the time of posting any transaction to an account.

1.6.4.2 Interactions Module Enhancement

1.6.4.3 Actionable Alerts

Currently, system has the facility to create non-actionable alerts through Alert definition. Actionable alert is supported by introducing actionable field in the alert definition screen. If Actionable Field is checked, then System considers that alert as an actionable alert.

1.6.5 Islamic Asset Management

1.6.5.1 PDM Adjustments

System enhanced to display account class/currency/tenor/slab/liquidation frequency wise profit allocation in the profit distribution screen. Adjustments are allowed on the records populated as part of the process and also having a provision to recalculate the final rate based on the adjusted values. New declared rate should be applied to the accounts, which are opened between Period start date of PDM and PDM authorization date.

1.6.6 Islamic Finance Module Enhancements

1.6.6.1 Settlement using Guarantor/ other customer accounts

System enhanced to define period after which the guarantor accounts and other accounts of the customer will be considered for settlement. During Auto liquidation if funds are not available in the primary settlement account system will consider other settlement accounts and guarantor accounts based on the maintenance. This will reduce the risk of defaulting.

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1.6.6.2 Usability of Islamic Financing Operation Screens

To enable ease of data input and faster transaction processing the following changes are done at screen level.

- Fields are placed in two column layouts
- Reorder of fields to display them in order of relevance for the operations
- Label changes for the fields which are ambiguous
- Number of Tabs in Operation Screens are minimized

1.6.6.3 Schedule re-computation of the Istisna accounts using IRR

System enhanced to support Istisnaa account schedule processing to re-compute the schedules using IRR.

1.6.6.4 Lien on Salary Account

Salary block functionality provided for Islamic financing accounts. During salary credit, amount block will be created based on amounts due in next 'n' days.

1.6.6.5 Manual Provisioning

System enhanced to provide new screen for manual provisioning of CL/MO/CI modules. This feature helps the banks to evaluate the financial details for a loan account and decide on the provision amount.

1.6.6.6 Asset Rescheduling

System enhanced to initiate asset rescheduling based on the customer request with the introduction of, new preference flag 'Rescheduling Allowed' at Islamic financing product /account level.

Asset rescheduling screen will be introduced to enter the rescheduling details. There will be provision for defaulting the schedules, based on a new frequency maintained. New event RSCH will be fired on rescheduling an asset account. Charges and advices can be linked to this event.

1.6.6.7 Construction End Date Amendment

- System enhanced to allow changes either before or after the proposed construction end date. A new field 'Construction end date' and a new check Box 'Regenerate Schedules' are introduced in CI amendment screen.
- Schedule dates will be moved based on the new construction date if 'Regenerate Schedules' flag is checked , when new construction date is later than the construction date provided during account creation.
- Amendment of schedule dates to be done manually when the new construction date is earlier than construction date provided during account creation, by un-checking 'Regenerate Schedules' flag.

1.6.6.8 Deferment of schedules

A new screen provided under Islamic finance module to defer any future unpaid installment of a Murabaha financing account. The installment can be deferred to either next schedule or any future schedule within the contract period or to the maturity date. Provision to defer the installments by number of days/installments also provided.

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1.6.6.9 Grace Period Changes

- Facility provided to maintain supplier/customer grace periods for Istisna / Musharaka / Ijara Islamic financing product categories excluding forward Ijara. The existing functionality of Handover period will continue for forward Ijara accounts.
- System enhanced to default the supplier/customer grace period schedules based on the supplier/customer grace period days maintained at account level.

1.6.6.10 Hamish Jiddayah Cash Payment

This feature allows receiving Hamish Jiddayah payments by cash from customers for financing accounts at branch.

1.6.6.11 Ijara Asset Transfer

Automated the transfer of linked fixed assets to new branch, while processing branch transfer of Ijarah financing account.

1.6.6.12 Mudarabah Part Settlement

- In Mudarabah accounts, system enhanced to remove the restriction disallowing repayment frequencies other than bullet.
- Gross profit adjustment and liquidation will happen during every scheduled or unscheduled repayment.
- System allows amendments of maturity date and profit rate and current validations restricting the same will be removed.

1.6.6.13 Changes in Islamic Account amendment

In Islamic Account amendment screen, Multiple Asset link call form is provided for the user to amend details such as asset like vehicle, property, project, goods, build materials, Service Ijarah and equipment during account amendment.

1.6.6.14 Murabaha Payments By Cash

Teller repayment screen for Murabaha account payment is introduced.

1.6.6.15 Murabaha rebate on part pre closure of asset

System enhanced with the option to process rebate while doing a single asset closure for a Murabaha financing account.

1.6.6.16 Rental Advice Compensation Calculation

System enhanced to generate Rental Advice Notice 'N' days prior to schedule date. Auto liquidation of schedules will consider compensation amount till the date of advice generation-1. System also supports the overdue rental adjustment in next rental advice.

1.6.6.17 Takaful Rate Change

A new screen introduced for amending the Takaful related fields i.e. Takaful Rate, Takaful required – Yes/No, Takaful company name, Policy No and Depreciation Rates.

1.6.6.18 Validation of settlement account on Payment

Introduced additional validation of settlement account on Islamic Financing Manual Payment, to mitigate the operational risk of choosing a wrong account while doing manual payments. A

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configurable error message would be displayed if the customer account selected during the booking of manual payment of Islamic Financing accounts, does not belong to the customer for the Islamic Financing Account

1.6.6.19 Vendor payments by Instrument

A new payment mode provided to issue Instruments (Bankers Cheque /Demand Draft) for making Vendor Payments at branch.

1.6.7 Trade Enhancements

1.6.7.1 Lodge Multiple Bills under LC

System enhanced for providing the flexibility to lodge a bill under LC before previous bill(s) under the same LC are not authorized by the bank.

1.6.7.2 BC Negotiation under LC Not Advised by us

When a Bank wants to negotiate documents under an LC not advised by them, facility is provided to capture few important details of LC as part of bill booking itself instead of creating a separate Export LC contract

1.6.7.3 BC Presenting Bank

System enhanced in capturing the presenting bank details in the BC screen and pass on the bill proceeds and other advices to the beneficiary through the presenting bank on processing the bill.

1.6.7.4 Customer Reference Number Capture in LC

System enhanced to capture Customer Reference Number in LC, If the bank is acting as a LC Advising bank and Reimbursing bank simultaneously, this feature facilitates the bank to capture the same reference number (Issuing bank reference number) for Advising and reimbursing contracts, if they received LC Issuance (MT700) and LC Reimbursement Authority (MT740) from the same Issuing bank.

1.6.7.5 Handling of LC Amendments

This feature facilitates the bank to amend a letter of credit multiple times before the receipt of beneficiary's confirmation for a previous amendment under the LC.

1.6.7.6 Trade 360 view

System enhanced to view trade transactions for a customer in various perspectives.
The bank user will have an option to view different trade finance transactions pertaining to corporate customers in various perspectives. The option will be in various headers such as Documentary Credit, Documentary Collection, Guarantees, Standby LCs, Trade Loans and Limits. Further the outstanding balances can be viewed in separately say Collection Bills, Advanced / Financed Bills, Import LC, Export LC, Shipping Guarantee, Bank Guarantee issued and Advised, Trade Loans granted for customer and Limit utilization.

1.6.7.7 Trade Charge Processing

System enhanced with the following features for charge processing

- Facility to recover the advising and confirmation charges on applicant from Issuing bank, if the charges are to the account of the applicant.

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- Facility for advising bank to recover the charges on beneficiary from Issuing bank if the charges are refused by beneficiary.
- Facility for Issuing bank to recover the charges on beneficiary from Applicant if the charges are refused by beneficiary.
- Facility to defer charges at contract level and send tracers for deferred charges for future recovery during contract processing. Bank will have the facility to generate charge claim advice and tracers to the charge party.

1.6.7.8 Trade Common Group Message

Enables users to generate common group messages from LC, BC contract screen as part of any operation on the contract instead of visiting a separate screen for common group messages.

1.6.7.9 Trade Document Registration

Facility provided to capture basic details of trade transaction during registration. On capturing the basic details at front office system generates acknowledgement number. Back office will query the transaction using acknowledgement number and captures additional details of transaction for processing the request. This facility will be available for both conventional and Islamic trade modules.

1.6.7.10 Trade Swift FFT Validations

System enhanced to enable the user for maintaining different FFT (Free Format Text) codes for sender to receiver information field tag of different SWIFT messages

1.6.7.11 Trade Murabaha Transactions

System enhanced to support the below transactions

- Collect LC charges in Bills; enable the user to collect the charges pertaining to LC transaction in the Bill transaction booked under the LC.
- System enhanced to create a loan that considers the deferred charge components along with the bill liquidation amount on liquidation of IB transaction.
- Enabled the system to default the asset details in the Islamic loan created based on the goods details of the IB transaction

1.6.7.12 Capture/View of instruction/remarks for trade

System enhanced to Capture/View of instruction/remarks for trade modules. The subsequent user can check if any remarks/instructions are to be taken care of before doing any operation on the contract.

1.6.8 Foreign Exchange

1.6.8.1 Multiple Settlement Instructions

Settlement instructions maintenance enhanced to accept multiple settlement instructions for counterparty for same branch, currency, and module and product combination. It is possible to select one of the settlement instructions maintained during contract input for foreign exchange and money market modules.

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1.6.9 FLEXCUBE Information Server Module Enhancements

FLEXCUBE Information Server would earlier show one day old data of FLEXCUBE. Now it is made online. Any changes in FLEXCUBE will immediately be displayed in FIS schema and it's dashboards with a configurable lag.

FLEXCUBE Information Server dashboard and repository were also enhanced to have Islamic support. Islamic Dashboard introduced to show Islamic Finance details.

1.6.10 INFRA Enhancements

- Capture client IP address when the request is coming from the source which is using load balancer/proxy server/cluster environment.
- The accessibility with hotkeys has been made available in the landing page.
- Qualification of Windows Edge Browser
- Qualification on Java 8

1.6.11 Origination module

1.6.11.1 Corporate Islamic process

Origination module supports the below corporate process flows for following Islamic product types

- Ijaraha
- Istisna
- Musharaka
- Mudrabah
- Tawarooq
- Murabaha

Facility provided to route the process based on the product types. Each process flow capture specific details related to each product type. Corporate Islamic process will support the below functionalities

- Facility to initiate a new Islamic loan account
- Facility to capture the customer, account details
- Support to attach collaterals and evaluate collaterals
- Support to create and/or link facility line
- Support to analyze risk

1.6.12 Functions with Changed Function Code

The following List of Function IDs has been converted to Extensible and non-extensible functions were deprecated.

Deprecated Function ID (Non Extensible)	New Function ID (Extensible)	Function Description	Module Code
MCDCONON	MCDTRONL	Islamic Money Market Contract Input	MC

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Deprecated Function ID (Non Extensible)	New Function ID (Extensible)	Function Description	Module Code
MCSCONON	MCSTRONL	Islamic Money Market Contract Summary Screen	MC
CLDINADT	CLDINANT	Inactive Accounts	CL
CLDMSTCH	CLDSTACH	Manual Status Change	CL
CLSINADT	CLSINANT	Inactive Accounts Summary	CL
CLSMSTCH	CLSSTACH	Manual Status Change Summary	CL
LSDADSCH	LSDADSCX	Adhoc Charge Schedules Input	LS
CIDDPMNT	CIDDPYNT	Islamic Hamish Jiddayah	CI
VPDLIQON	VPDPYMNT	Vendor Payment Detailed	CI
CIDMROLL	CIDMNROL	Islamic Manual Rollover	CI
CIDASSDT	CIDASSCL	Asset Closure	CI

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2. Components of the Software

2.1 Documents accompanying the software

The various documents accompanying the software are as follows:

- Release Note
- Installer Kit
- User Manuals and Installation manuals - These can be accessed from the link

http://docs.oracle.com/cd/E74659_01/index.htm

2.2 Software Components

Software Components of Oracle FLEXCUBE 12.2.0.0.0 that form part of this release are as follows:

- Host
  - UI Components (JS,XML)
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
  - Reporting Components(Data models(xdm), Reports(xdo, rpd and rtf))
  - Process Framework components (BPEL,BPMN,BAM,BRE)
- New UI Application Server
  - Java Sources
  - Configuration files used for deployment
- Interface
  - Clearing interface sources
    - → Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
  - ASCII interface sources
    - → Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
  - ODI interface
    - → Stored Procedures (Packages, Views)
    - → Models, Scenarios
- Branch
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
  - UI Components (JS,XML)
  - Java sources
- Gateway

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- Java application layer
  - Java sources
  - Configuration files used for deployment
- Messaging layer
  - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
- Services
  - The WSDL files for the service supported
  - The XSDs of the messages involved
  - Structure (dictionary) of the XSD documented as excel sheets (Message-dictionary-xls)
  - The service documents – describing the services
- RESTful Services
  - Java application layer
    - Java sources
    - Configuration files used for deployment
- Adapters
  - Oracle GL Adapter
    - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
    - Java sources
  - Oracle MANTAS Adapter
    - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
    - UI Components (JS,XML)
  - Oracle BIB Adapter
    - Stored Procedures (Packages, Functions, Procedures, Triggers, Views)
    - Java sources
- Conversion Utilities
- Installation utilities
  - Front end based installation for host
  - Front end based installation for branch database
  - Front end based installation for branch front end
  - Script based installation for interface backend
  - Script based installation for interface application server components
  - Front end based installation for Gateway backend
  - Script based installation for gateway application server components
  - Script based installation for RESTful Services
  - Installation documents for
    - Oracle FLEXCUBE Installer documents
    - Gateway
    - Switch Interface
    - RESTful Services
- SMS Related Components
- Oracle FLEXCUBE Information Server

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- ➢ Stored Procedures (Packages, Functions, Procedures, Views)
- ➢ Repositories and pre-defined Reports
- Online Help Files

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3. Annexure – A: Environment Details

3.1 <u>Tech Stack – Oracle</u>

Component	Deployment option	Machine	Operating System	Software	Version
Oracle FLEXCUBE Universal Banking	UI-Host and Centralized	Application Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle Fusion Middleware Infrastructure	12.2.1.0.0
				Java HotSpot(TM) JDK (with WebLogic Application Server)	JDK 1.8 Update 77
				Open Symphony Quartz	2.2.2
				Oracle Toplink	12.2.1.0.0
		Document Management System	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle WebLogic	10.3.6
				JDK	JDK 1.7 Update 80
				Oracle Database (for RCU)	12.1.0.2.0
				Repository Creation Utility	11.1.1.9.0
				Oracle WebCenter Content Imaging	11.1.1.9.0
		Database Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle RDBMS Enterprise Edition	12.1.0.2.0
		Reporting Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle WebLogic	10.3.6
				JDK	JDK 1.7 Update 80
				Oracle Database (for RCU)	12.1.0.2.0
				Repository Creation Utility	11.1.1.9.0
				Oracle BI Publisher	11.1.1.9.0

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Component	Deployment option	Machine	Operating System	Software	Version
		FLEXCUBE Information Server - Analytics	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle WebLogic	10.3.6
				JDK	JDK 1.7 Update 80
				Oracle Database (for RCU)	12.1.0.2.0
				Repository Creation Utility	11.1.1.9.0
				Oracle Business Intelligence Enterprise Edition (OBIEE)	11.1.1.9.0
		FLEXCUBE Information Server - Data warehouse	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle Golden Gate	12.2.0.1.0
				Oracle Database (for RCU)	12.1.0.2.0
				Repository Creation Utility	12.2.1.0.0
				Oracle Data integrator	12.2.1.0.0
				Oracle Data integrator Java EE Agent	12.2.1.0.0
				Oracle WebLogic Server Infrastructure	12.2.1.0.0
		Client Machines	Windows 7	Internet Explorer	Microsoft Internet Explorer Release (11.*)
				Mozilla Firefox	Mozilla Firefox Release(44+)
				Google Chrome	Google Chrome Release(48+)
			Windows 8	Internet Explorer	Microsoft Internet Explorer Release (11.*)
				Mozilla Firefox	Mozilla Firefox Release(44+)
				Google Chrome	Google Chrome Release(48+)

Component	Deployment option	Machine	Operating System	Software	Version
			Windows 10	Microsoft Edge	Microsoft Edge
				Mozilla Firefox	Mozilla Firefox Release(44+)
				Google Chrome	Google Chrome Release(48+)
			Mac OS X	Mozilla Firefox	Mozilla Firefox for Mac (44+)
				Safari	Safari 9+
				Google Chrome	Google Chrome Release(48+)
		Single Sign On Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	JDK	JDK 1.7 Update 80
				Oracle WebLogic	10.3.6
				Repository Creation Utility	11.1.1.9.0
				Oracle Identity Management	11.1.1.9.0
				Oracle SOA	11.1.1.9.0
				Oracle Identity And Access Management	11.1.2.3.0
				Oracle Webtier Utilities	11.1.1.9.0
				Oracle Webgate	11.1.2.3.0
				OID Connector	OID 11.1.1.6.0
	UI Decentralized branch	Branch Application Server - Decentralized	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	JDK	1.8 Update 77
				Apache Tomcat	8.0.32
		Database Branch for Decentralized mode		Oracle RDBMS Standard Edition (SE2)	12.1.0.2.0
Oracle FLEXCUBE Universal	UI-Host and Centralized	Application Server	Oracle Enterprise Linux	JDK	1.8 Update 77
				Oracle WebLogic	12.2.1.0.0

Component	Deployment option	Machine	Operating System	Software	Version
Banking BPEL/BPMN Processes and Process Framework			Server 6.6 (x86 64 Bit)	Server	
				Oracle Repository Creation Utility (RCU) - To create SOA related schemas for BPEL	12.2.1.0.0
				Oracle SOA Suite, Oracle BPM Suite	12.2.1.0.0
Oracle FLEXCUBE Universal Banking Integration Gateway	Web services (incoming)	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle WebLogic Server	12.2.1.0.0
	HTTP Servlet (incoming)				
	EJB (incoming)				
	MDB (incoming)				
	Notifications (outgoing)				
Oracle FLEXCUBE Universal Banking Switch Integration Gateway	Switch Integration Gateway	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	JDK	1.8 Update 77
Oracle FLEXCUBE Universal Banking RESTful Services	Web services	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	JDK	1.8 Update 77
				Oracle WebLogic Server	12.2.1.0.0
				Oracle Toplink	12.2.1.0.0

Note- Apache-maven-3.3.9 is used for RESTful services building and packaging, for more details please refer RESTful services Installation Documents.

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3.2 <u>Tech Stack – IBM</u>

Component	Deployment option	Machine	Operating System	Software	Version
Oracle FLEXCUBE Universal Banking	UI-Host and Centralized	Application Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	8.5.5.9
				IBM WebSphere MQ Server	8.0.0.2
				Oracle Toplink	12.2.1
				Open Symphony Quartz	2.2.2
				Oracle WebCenter Content: Imaging	11.1.1.9.0
		Database Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	Oracle RDBMS Enterprise Edition	12.1.0.2.0
		Client Machines	Windows 7	Internet Explorer	Microsoft Internet Explorer Release(11.*)
				Mozilla Firefox	Mozilla Firefox Release(44+)
				Google Chrome	Google Chrome Release(48+)
			Windows 8	Internet Explorer	Microsoft Internet Explorer Release(11.*)
				Mozilla Firefox	Mozilla Firefox Release(44+)
				Google Chrome	Google Chrome Release(48+)
			Windows 10	Microsoft Edge	Microsoft Edge
				Mozilla Firefox	Mozilla Firefox Release(44+)
				Google Chrome	Google Chrome Release(48+)
			Mac OS X	Mozilla Firefox	Mozilla Firefox for Mac (44+)

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Component	Deployment option	Machine	Operating System	Software	Version
				Safari	Safari 9+
				Google Chrome	Google Chrome Release(48+)
Oracle FLEXCUBE Universal Banking Integration Gateway	Web services (incoming)	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	8.5.5.9
	HTTP Servlet (incoming)	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	8.5.5.9
	EJB (incoming)	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	8.5.5.9
	MDB (incoming)	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	8.5.5.9
				IBM WebSphere MQ Server	8.0.0.2
	Notifications (outgoing)	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	8.5.5.9
				IBM WebSphere MQ Server	8.0.0.2
Oracle FLEXCUBE Universal Banking	Switch Integration Gateway	Integration Server		JDK	1.8 Update 77
Oracle FLEXCUBE Universal Banking RESTful Services	Web services	Integration Server	Oracle Enterprise Linux Server 6.6 (x86 64 Bit)	IBM WebSphere Application Server with inbuilt JVM (IBM JDK 1.8_64)	8.5.5.9
				Oracle Toplink	12.2.1.0.0

Note- Apache-maven-3.3.9 is used for REST services building and packaging, for more details please refer REST Installation Documents.

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4. Annexure – B: Third Party Software Details

Licensor Name	Licensed Technology	Version
Apache	serializer-2.7.1.jar	2.7.1
Apache	Apache Commons Transaction 1.2	1.2
MetaStuff, Ltd.	Dom4j	1.6.1
Apache	xercesImpl.jar	2.11
Apache	xml-apis.jar	1.4.01
The Apache Software Foundation	Log4j	1.2.17
Apache	Commons IO	2.4
Apache	Commons Logging	1.1.3
Sean Owen	PJL Compressing Filter	1.8.1
Apache	Apache XMLBeans	2.6.0
Oracle	Java Transaction API (jta.jar)	1.1
Apache	Xalan	2.7.2
QOS.ch	Simple Logging Façade for Java (SLF4J)	1.7.7
SLF4J	slf4j-log4j12	1.7.7
Yahoo	YUI Compressor	2.4.8
Apache	xml-commons-resolver	1.2
Codehaus	Jettison	1.3.7
Terracota	Quartz Job Scheduler	2.2.2
ant.apache.org	ant	1.9.6 (update to 1.9.4 TPNO 21446)
Apache	Apache POI	3.13
Apache	Apache Commons Codec	1.1
Apache	Commons Net	3.4

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5. Annexure – C: Module Code and Description

Module Code	Module Description
AM	Asset Management
ATM	Auto teller machine
BC	Bills & Collections
CASA	Current and Savings accounts
CD	Corporate Deposits
CE	Core Entities
CI	Islamic loans
CL	Consumer Lending
CN	Collection
CO (Core)	FLEXCUBE Core
CS	Core Services
DE	Data Entry
DL	Deposit locker
DS	Delivery System
DV	Derivatives
ED	Exchange Traded Derivatives
EG	Enterprise GL
FA	Fixed Assets
FC	FLEXCUBE Corporate
FGL	FLEXCUBE General Ledger
FI	Islamic Fixed assets
FT	Funds Transfer
FX	Foreign Exchange
IA	Islamic Asset Management

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Module Code	Module Description
IB	Islamic Bills for collection
IC	Interest & Charges
ID	Islamic Derivatives
IF	Interface
II	Islamic ILM
ILM	Integrated Liquidity Management
IN	Intermediary
IP	Islamic Profit
IRM	Industry Reference Model
IT	Interactions
IV	Inventory
IZ	Islamic Securitization
LC	Letters of Credit
LD	Loans and Deposits
LE	Leasing
LI	Islamic letter of Credit
LM	Limits Maintenance
LQ	Liquidation Management
LS	Loan Syndication
MF	Micro Finance
MIS	Management Information System
MM	Money market
MO	Mortgages
OR	Origination
OT	Options

Module Code	Module Description
PC	Payments & Collections
PD	Post Dated Cheques
RB	Retail Bills
RE	Nostro Reconciliation
RP	Relationship Pricing
SE	Securities
SF	Structured Deposits
SI	Standing Instructions
SW	Switch Gateway
TD	Term Deposit
WB	Web Branch
WF	Work Flow
XP	Expense Processing

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