

Oracle® Banking Platform
Extensibility Quick Reference Guide
Release 2.12.0.0.0
F43567-01

June 2021

Oracle Banking Platform Extensibility Quick Reference Guide, Release 2.12.0.0.0

F43567-01

Copyright © 2011, 2021, Oracle and/or its affiliates.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or "commercial computer software documentation" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate failsafe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

Preface	5
Audience	5
Documentation Accessibility	5
Related Documents	5
Conventions	6
1 Quick Reference	8
1.1 Extensibility Patterns - Presentation Layer (UI)	8
1.1.1 Patterns	8
1.1.2 Toggle Switches	9
1.1.3 General Guidelines	9
1.2 Extensibility Patterns - Middleware Layer (Host)	10
1.2.1 Patterns	10
1.2.2 Toggle Switches	11
1.2.3 General Guidelines	12
1.3 Extensibility Patterns - Middleware Layer (SOA)	13
1.3.1 Patterns	13
1.3.2 General Guidelines	13

List of Tables

Table 1–1 Patterns for UI	8
Table 1–2 Toggle Switches	9
Table 1–3 Patterns for Host	10
Table 1–4 Toggle Switches	11
Table 1–5 Patterns for SOA	13

Preface

This guide serves as a single point of reference for all the extensibility patterns available in Oracle Banking Platform.

This preface contains the following topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

Audience

This guide is intended for the users of Oracle Banking Platform.

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>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

For more information, see the following documentation:

- For information related to customization and extension, see the Oracle Banking Platform Extensibility Guide for Host, SOA, and UI.
- For installation and configuration information, see the Oracle Banking Platform Localization Installation Guide - Silent Installation guide.
- For a comprehensive overview of security, see the Oracle Banking Platform Security Guide.
- For the complete list of licensed products and the third-party licenses included with the license, see the Oracle Banking Platform Licensing Guide.
- For information related to setting up a bank or a branch, and other operational and administrative functions, see the Oracle Banking Platform Administrator Guide.
- For information on the functionality and features, see the respective Oracle Banking Platform Functional Overview documents.
- For recommendations of secure usage of extensible components, see the Oracle Banking Platform Secure Development Guide.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1 Quick Reference

This chapter describes the extensibility patterns available in Oracle Banking Platform for HOST, SOA and UI.

1.1 Extensibility Patterns - Presentation Layer (UI)

The below section covers the most used business use cases across the presentation layer and the recommended extensibility patterns. Compliance to these recommendations will play a vital role in the OBP product upgrades.

1.1.1 Patterns

The patterns are explained in the following table:

Table 1–1 Patterns for UI

Business Use Case	Recommended Pattern	Toggle Available
Change product label(s)	Resource Bundle Merge	N
Hide product field(s) - role based	Security	Y
Hide product field(s)	UI – Extension	Y
Make optional product field(s) mandatory or vice versa	UI – Extension	Y
Enable / Disable product field(s) - role based	Security	Y
Enable / Disable product field(s)	UI – Extension	Y
Modifying properties of complex product fields such as (not limited to) Table(s) – such as summary, hide / disable columns Train Stops List of Values	UI – Extension	Y
Hiding a section from a product screen*	UI – Extension	Y
Overriding the lengths of product fields*	UI – Extension	Y
Hiding a tab from product screen made of tabs*	UI – Extension	Y
Override validation of product field(s)	UI – Extension	Y
Override / customize product behavior on button clicks / tab-outs	UI – Extension	Y
Enabling custom brand-aware Style Sheets	UI – Extension	Y
Registering custom fonts	UI – Extension	Y

Business Use Case	Recommended Pattern	Toggle Available
Add a new field / table	MDS – Customization	N
Add a new section (task flow)	MDS – Customization	N
Adding a new tab to a screen made of tabs	MDS – Customization	N
Modifying the values of a drop down	Flex Fields for Enumerations / DB Seed	N

*Indicates that downstream impacts may need to be analyzed.

1.1.2 Toggle Switches

All patterns marked as "Y" are provisioned with a database toggle and can be turned off easily by removing the record from the table.

Table 1–2 Toggle Switches

Extensibility Pattern Name	Table	Toggle Available	Consulting Override
UI-Extension	FLX_FW_CONFIG_ALL_B	CATEGORY_ID = UIExtensions	CATEGORY_ID = CZ_MRG_UIExtensions

1.1.3 General Guidelines

Do's

- Principle to be followed is **Maximum Configuration, Minimum build**.
- For use cases which involve hiding or disabling the fields for all roles or role based **Security Framework** must be leveraged since it is all configurations and no build.
- The UI Custom development MUST adhere to the pattern recommendations of using the UI-Extension stated below for the following reasons:
 - Simple Java based development and hence no much appreciable change with regards to migration efforts. Lesser development efforts and faster upgrades.
 - Standards based development.
 - Support for out of the box product toggle available.

Dont's

- Refrain from using the ADF MDS Screen Customization for patterns where UI-Extensions can be leveraged for the following reasons:
 - MDS Customizations involves a lot of artefacts and build efforts are higher Custom Toggling needs to be implemented.
 - Higher Risk from an **Upgrade Perspective** since the customizations stands a chance of getting invalidated if the product base changes.
- Refrain from using Security to hide or disable components which require conditional rendering based on some business logic. Use UI - Extensions instead. Security will not be able to handle such cases.

1.2 Extensibility Patterns - Middleware Layer (Host)

The below table covers the most used business use cases across the middleware layer and the recommended extensibility patterns. Considering the middleware layer to be consumed by multiple channels (OBP UI, Digital, and so on.), compliance to these recommendations becomes even more critical. Moreover, adherence will expedite the upgrades to higher versions.

1.2.1 Patterns

The patterns are explained in the following table:

Table 1–3 Patterns for Host

Business Use Case (example)	Technical Use Case	Recommended Pattern	Toggle Available
Send a custom alert after an account is opened	Add pre-processing or post-processing validations / business logic	Application Service Extensions (Pre/ Post hooks)	Y
Interface with other system	Communication with third-party / bank internal systems to execute business use cases	Application Adapters	Y
Adding a new custom "BUID" field on Personal Details and corresponding data persistence	Custom fields to be saved and retrieved from the database by extending the product Domain Model	Flex Fields	Y
Extend the product validation to additionally check for the contribution account while validating repayments	Extending / Overriding business validations present in business policies	Business Policy Extension	Y
Create a new fact to include the AIP flag while deriving the documents applicable or a customer	Adding custom facts to be included in the Product Rule configurations	Custom Facts & Business Rules	Y
Add a new batch to fetch the interest rates of competitors daily and save it in product database	Adding a new custom batch / Modifying an existing batch	Extension to Batch Framework	Y
Create a new report to display AIP Applications/ change the product report as per the bank's template	Add a new Report	Reports Extension	Y
Customize the Submission Id / Account Number / Party Id patterns to suit bank's requirements*	Overriding the ID Generation process as per business requirements	Custom ID generation	Y

Business Use Case (example)	Technical Use Case	Recommended Pattern	Toggle Available
Create a composite service to open a Lending Account internally invoking several product services in a single transaction – could be of use for a bank's digital channel	Combining multiple product services into a single common service for a digital channel / third party	Composite Service	N
Customizing the SMS & Email alerts specific to a bank	Customizing Alerts	Alert Extension	Y
Fetch the accounts from bank's legacy system and display them in an LOV	Externalizing data to be displayed in InputListOfValues	LOVDelegatePattern	N
Customize Integration Assemblers and Adapters to publish custom mappings to OCH / Inquiry from OCH also possible on similar lines	Connectivity to OCH	OCH Integration	N
Spawn a custom process asynchronously	Register this as a WDE event	WDE Framework	Y

1.2.2 Toggle Switches

All patterns marked as "Y" are facilitated with a database toggle and can be turned off easily by removing the record from the table.

Table 1–4 Toggle Switches

Extensibility Pattern Name	Table	Toggle Available	Consulting Override
Application Service Extensions (Pre/ Post hooks)	FLX_FW_CONFIG_ALL_B	CATEGORY_ID = ServiceProviderExtensions	CATEGORY_ID = CZ_MRG_ServiceProviderExtensions
Application Adapters	FLX_FW_CONFIG_ALL_B	AdapterFactoriesConfig.properties	Database based override – FLX_FW_CONFIG_ALL_B CATEGORY_ID = CZ_MRG_ADAPTERS
Business Policy Extension	FLX_FW_CONFIG_ALL_B	CustomBusinessPolicyPreferences	CZ_MRG_CustomBusinessPolicyPreferences
ID Generation	FLX_CS_ID_CONFIG_B	CONFIG_TYP = AUT	CONFIG_TYP = CUS GENERATOR_CLASS_NAME = Consulting Class
Report Extension	FLX_BATCH_		New records get added to add a new report.

Extensibility Pattern Name	Table	Toggle Available	Consulting Override
	JOB_SHELL_MAST _{ER} , FLX_BATCH_JOB_SHELL_DEPE _{ND} , FLX_BA _{REPORT_CTRL}		
Batch Extension	FLX_BATCH_JOB_CATE _{GORY_M} ASTER, FLX_BATCH_JOB_GRP_CATE _{GORY} , FLX_BATCH_JOB_CATE _{GORY_D} EPEND, FLX_BATCH_JOB_SHELL_MAST _{ER} , FLX_BATCH_JOB_SHELL_DTLS, FLX_BATCH_JOB_SHELL_DEPE _{ND}		New records get added to add a new batch.
Alert	FLX_EP_ACT_B, FLX_EP_EVT_B, FLX_EP_ACT_EVT_B		New records get added to add a new alert.

1.2.3 General Guidelines

Do's

- The middleware custom requirements MUST adhere to the patterns mentioned below due to the following reasons:
 - No appreciable changes are required when the bank migrates from OBP Middleware to a full-fledged OBP implementation, hence faster upgrades.
 - Standardized development hence highly maintainable and easy to troubleshoot.

Dont's

- Do not re-write the entire Application Service if the requirement is limited to pre/post processing.
- DO not extend the APP Layer for Service Extensions and use the APPX layer for the following reasons:
 - Additional support for custom fields available in the Dictionary Array
 - Service Response is available in the APPX layer and hence can be validated or updated. The response is not available in the APP layer for any manipulation.
 - Approvals can be incorporated and validated in the APPX layer which is not possible in the APP layer.

1.3 Extensibility Patterns - Middleware Layer (SOA)

The below section covers the most used business use cases across the SOA layer. Compliance to these recommendations will play a vital role in the OBP product upgrades.

1.3.1 Patterns

The patterns are explained in the following table:

Table 1–5 Patterns for SOA

Business Use Case	Recommended Pattern	Toggle Available
Change the product rule in origination process	Rule Extension in new composite reserved for rules	N
Change the product rule in approval process	Rule Extension in new composite reserved for rules	N
Pass consulting facts to origination rules	Rule Extension	N
Pass consulting facts to approval rules	Rule Extension	N

1.3.2 General Guidelines

Do's

- Previously the rule component was embodied in every single process resulting in redeployment of long running processes. Now all the rule components have been removed out of long running processes and logically grouped into a new process meant for Rules.
- This will ensure that only this process is re-deployed and hence faster and maintainable.