Development Workbench - Bulk Generation Oracle FLEXCUBE Universal Banking

Release 14.7.2.0.0

Part No. F92377-01

[November] [2023]



# Contents

1.	Preface	.3
	1.1 Audience	.3
	1.2 Related Documents	.3
2.	Introduction	.4
	Bulk Generation	
	3.1 Source File List	
	3.1.1 Include Call form List	5
	3.2 Destination Path	6
	3.3 Sources Files	6
4.	Log Files	.9

# 1. Preface

This document describes the Bulk Generation functionality available in Oracle FLEXCUBE Development Workbench for Universal Banking and guides the developers/users to generate files for a set of radxmls at one time from Workbench.

## 1.1 Audience

This document is intended for FLEXCUBE Application developers/users that use Development Workbench to generate various FLEXCUBE components. Mainly used by vercon team.

Proficiency	Resources
FLEXCUBE Functional Architecture	Training programs from Oracle
	Financial Software Services.
FLEXCUBE Object Naming conventions	Development Overview Guide
Working Knowledge of Oracle FLEXCUBE Development Workbench for Universal Banking	User Manuals
Working knowledge of Oracle Database	Oracle Documentations
Working knowledge of PLSQL developer	Respective vendor documents
Working knowledge of PLSQL & SQL Language	Self Acquired
Working knowledge of XML files	Self Acquired

To Use this manual, you need conceptual and working knowledge of the below:

### **1.2 Related Documents**

<u>Oracle FLEXCUBE Enterprise Limits and Collateral Management ODT Screen</u> <u>Development</u>

Development Workbench - Screen Development II

# 2. Introduction

This document contains:

- <u>Chapter 2 , "Introduction"</u>
- <u>Chapter 3 , " Bulk Generation</u>"
- <u>Chapter 4 , "Console Log"</u>

### 3. Bulk Generation

Oracle FLEXCUBE Universal Banking Development Workbench provide Bulk Generation (all files at one time) of both front-end and backend units for both Extensible and Non-Extensible radxmls. The Bulk Generation Screen is shown below.

Bulk Generation					_ ×
Source File Data XML F		BROWSE	Destination Path Source Files Both	Ŧ	
Front-End Files	System Packages	Hook Packages	Meta Data	Others	*
RadXML V Screen Xml V System JS	Main Package Body Notification Triggers Upload Package Spec Upload Package Body	Kernel Package Spec Kernel Package Body Cluster Package Spec Cluster Package Body Custom Package Spec Custom Package Body	Menu Details       Label Details         Datasource Details       Block PK Colu         LOV Details       Function Call         Block Details       Gateway Details         Screen Details       Notification Details         Amendable Details       Function Para         Call form Details       Summary Details	Forms Ils Upload Table Trigger stails Upload Tables Definition	
SI.No	File Name	Sub Folder	File Status	Error Description	*
					~
				Ge	nerate Close

Fig 3.1: Bulk generation Screen

For bulk generation user has to follow the following steps:

For non extensible function id's(radxmls), bulk generation of front end files only are supported

### 3.1 Source File List

User must create a **text file** containing the absolute path of the radxmls for which bulk generation has to be done.

Prepare a text file with absolute path.

If all the files are placed in one folder, dos commands (as shown below) can be used to generate the text file.

#### Z:\FLEXCUBE\_Kernel\FCUBS\_11.4.0\MAIN>Dir /b /s \*\_RAD.xml > D:\BulkGeneration\Console.txt

Source-files.txt - Notepad	
File Edit Format View Help	
<pre>2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\BCCTRACT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\BCCTRAFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\BCCTRAFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\CFCTRIHG_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\CFCTRIHG_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTRAFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTRAFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTRAFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TSCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TSCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TSCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TSCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TSCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TSCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TSCTNFT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\TCCTS_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BF\ANC\RADXML\TCCTS_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BF\ANC\RADXML\TCCT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BF\ANC\RADXML\TCCT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BF\ANC\RADXML\TCTCT_RAD.xml 2:\FLEXCUBE_KERNEl\FCUBS_11.4.0\MAIN\BF\ANC\RADXML\TCT_RAD.xml 2:\FLEXCUBE_KERNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTCT_RAD.xml 2:\FLEXCUBE_KERNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTCT_RAD.xml 2:\FLEXCUBE_KERNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTCT_RAD.xml 2:\FLEXCUBE_KERNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTCT_RAD.xml 2:\FLEXCUBE_KENNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTCT_RAD.xml 2:\FLEXCUBE_KENNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTCT_RAD.Xml 2:\FLEXCUBE_KENNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTCT_RAD.Xml 2:\FLEXCUBE_KENNEl\FCUBS_11.4.0\MAIN\BF\AND\KADXML\TCTT_RAD.Xml 2:\F</pre>	
	~

Fig 3.1.1: Source File list sample

#### 3.1.1 Include Call form List

If user is generating for function id's which has call forms attached to it, call form list should be included as a part of the source file list. If call form is not included generation will fail.

If units for call form files are not required to be generated, then call form paths can be prefixed with double hyphen (--). All lines starting with double hyphen (--) won't be taken up for bulk generation.

As it is difficult to search and put each callform for individual screen prepare callform list upfront and add the files to be generated at the end of callform list. Even if any of callform is repeated in generation list it won't affect the generation of that file.

Source-files.txt - Notepad	
File Edit Format View Help	
Z:\FLEXCUBE_Kerne]\FCUBS_11.4.0\MAIN\BC\RADXML\BCCOCAAU_RAD.xm] Z:\FLEXCUBE_Kerne]\FCUBS_11.4.0\MAIN\BC\RADXML\BCCORGAU_RAD.xm] Z:\FLEXCUBE_Kerne]\FCUBS_11.4.0\MAIN\BC\RADXML\BCCREGAU_RAD.xm] Z:\FLEXCUBE_Kerne]\FCUBS_11.4.0\MAIN\BC\RADXML\BCCTRAT_RAD.xm] Z:\FLEXCUBE_Kerne]\FCUBS_11.4.0\MAIN\BC\RADXML\BCCTRFT_RAD.xm]	
Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\BCCTRPFF_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\CFCTRIHG_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\CSCTRSFT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\DACTRTT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\ISCINTRT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\ISCINTRT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\ISCINTRT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\ISCINTRT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\ISCTNTT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTRDT_RAD.xml Z:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\SCTRDT_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\BC\RADXML\BCCBRDA.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\CL\RADXML\LCDSWMSG_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\CL\RADXML\CLDGVQRY_RAD.xml 2:\FLEXCUBE_Kernel\FCUBS_11.4.0\MAIN\CL\RADXML\CLDGVQRY_RAD.xml	

Fig 3.3.1.1: Including call forms in source file list

**Example:** Including callform to the Source list.

--Z:\FLEXCUBE\_Kernel\FCUBS\_11.4.0\MAIN\AM\RADXML\AMCPRPCL\_RAD.xml If generating complete radxmls from base line area, call form list is not required.

#### 3.2 **Destination Path**

Enter the absolute path where files will be generated.

This path should be in the Client Machine if Save Mode is Client; and it should refer to a path in Server if the Save Mode is Server. Zip mode is not supported for Bulk generation activity

#### 3.3 Sources Files

User has option to generate both extensible and non extensible files

- **Extensible**  $\rightarrow$  On selection of this option only extensible files will be considered for generation.
- **Non-Extensible** → On selection of this option only non-extensible files will be considered for generation.
- **Both**  $\rightarrow$  Both extensible and non-extensible gets generated.

Data XML Path Field is defunct

User has to select required files to be generated for all RADxml's .Workbench will generate the required files into respective folders.

Bulk Generation								_ ×
Source File Li Data XML Pai		BROWSE		ation Path urce Files	D:\DEST Both	<b>-</b>		
Front-End Files	System Packages	Hook Packages	Meta	Data		Others		~
I RadXML I Screen Xml I System JS		Kernel Package Spec     Kernel Package Body     Cluster Package Spec     Cluster Package Body     Custom Package Spec     Custom Package Body     Custom Package Body	Menu Details Datasource Details LOV Details Screen Details Amendable Details Call form Details Summary Details	Gatewa	K Columns n Call Forms y Details tion Details	Xsds Screen Html Upload Table Trigger Upload Tables Definition Archive Table Definition		
SI.No	File Name	Sub Folder	Fil	e Status		Error Descriptio	n	*
								Ŧ
							Generate	Close

Fig 3.4.1: Bulk generation Screen after selecting required units

On successful generation of files file status will be displayed generated if success or failed for failed.

Note: No Front End units will be generated for notification and purge-entity radxmls

Information					Source File	68	Bolh	*		
I File Saved	Error Description			Error ( RD-VA		*	Call Forms Details Ion Details	Others Xsds Screen Himi Upload Table Trigge Upload Tables Crefin Archive Table Defini	nition	^
					Ok	Ŧ	Err	or Description		
5 FTDCONAL	J_RAD.xml	FT	Generaled	•						
6 FTDCONO	N_RAD.xml	FT	Not Generaled	1 •	Califorms No	ot Ava	allable			
7 FTDCXFR4	RAD.xml	FŢ	Generated							
8 FTDD/SHB0	D_RAD.xml	FŢ	Generalsd	•						
9 FTDMCKC	H_RAD xml	FT	Generaled	•						
10 FTDMT101	_RAD.xmi	FT	Generaled	•						

Fig 3.4.2: After Successful generation

ulk Genera	tion									-
	e File List bulkgen.txt XML Path	BROWSE	Ξ		Destination Path	D:\DEST Both	<b>_</b>			
Data	XML Patri				Source Files	Dom	•			
Front-End	Files System Packa	ages Hook Pa	ackages		Meta Data		Oti	hers		*
RadXM				Menu Deta			Xsds			
Screen				Datasouro	e Details 📃 Block F	K Columns n Call Forms	Screen H	tml		
System System		age Spec 📃 Cluster P	ackage Spec ackage Body	Block Deta			Unload T	able Trigger		
		age Body 📃 Custom F		Screen De		tion Details		ables Definition		
		Custom F	ackage Body	Amendabl	e Details 🔲 Functio	n Parameters	Archive T	able Definition		
				🔲 Call form I	Details					
				Summary	Details					
										$\nabla$
16	FIDSRELA_RAD.XMI	FI	Gene	rated 🔻						*
17	FTDTCONS_RAD.xml	I FT	Gene	rated 👻						
18	FTDTRAUT_RAD.xml	FT	Gene	rated 👻						
19	FTDTRONL_RAD.xml	FT	Gene	rated 👻						
20	FTDVDSPR_RAD.xml	FT	Gene	rated 👻						
21	FTNCONON_RAD.xm	l FT	Not G	enerated 🔹 👻	Notification Rad	Xml Need No	t Be Generate	d		
22	FTNPRODC_RAD.xm	I FT	Not G	enerated 🔹 👻	Notification Rad	Xml Need No	t Be Generate	d		
23	FTPCNTRCT_RAD.xn	nl FT	Not G	enerated 🛛 👻	Purge Rad Xml 1	leed Not Be (	Generated			
24	FTRACTD_RAD.xml	FT	Gene	rated 👻						
25	FTRCON_RAD.xml	FT	Gene	rated 👻						=
26	FTRPREMR_RAD.xm	I FT	Gene	rated 👻						
										-
										Ŧ
								Ge	nerate	Close
								Ge	norate	CIUSE

Fig 3.4.3: Message displayed in case of trying to generate files for notification screen

Note that the time taken for bulk generation of units depend on the number of files, number of units to be generated for each file , client and server machine configuration etc.

# 4. Log Files

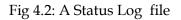
Development Workbench will generate file status log. It will be generated in the destination path.

D:\BulkGeneration\Console		
File Edit View Favorites Tools	Help	<b>A</b>
🕞 Back 👻 🕥 👻 🏂 See	arch 😥 Folders 📰 -	
Address 🗀 D:\BulkGeneration\Console		💌 🄁 Go
File and Folder Tasks 🙁	AM PC	
<ul> <li>Make a new folder</li> <li>Publish this folder to the Web</li> <li>Share this folder</li> </ul>	Branch CD	
Other Places	CI USER01_FILE_STATUS_LOG.txt Text Document 2 KB	
Details	USER01_FRONTEND_LOG.txt Text Document U KB	
<b>Console</b> File Folder	= 10 KB	

Fig 4.1: User log files

It gives the details of all the files processed and its status as shown in the figure below

FILE NAME     STATUS     Error Description       \Base\MAIN\AM\RADXML\AMCPRPCL_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMCCAOAU_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMCCAOAU_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMCCAONL_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMCCACH_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMCCACH_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMDCDEFN_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml     Successful     Generated Successful       \Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml     Successful     Generated Successful       \Base\MAIN\AMN\RADXML\AMDFNOAU_RAD.xml     Successful     Generated Successful       tal No Of Files     : 3120     : 3120       tal No Of Successfully Generated Files     : 12       tal No Of Failed Files     : 0	Edit View Insert Format Help			
:\Base\MAIN\AM\RADXML\AMCPRPCL_RAD.xml Successful Generated Successful :\Base\MAIN\AM\RADXML\AMDCAOAU_RAD.xml Successful Generated Successful :\Base\MAIN\AM\RADXML\AMDCAONL_RAD.xml Successful Generated Successful :\Base\MAIN\AM\RADXML\AMDCAONL_RAD.xml Successful Generated Successful :\Base\MAIN\AM\RADXML\AMDCDEAU_RAD.xml Successful Generated Successful :\Base\MAIN\AM\RADXML\AMDCDETN_RAD.xml Successful Generated Successful :\Base\MAIN\AM\RADXML\AMDCDETN_RAD.xml Successful Generated Successful total No Of Files : 3135 otal No Of Commented Files : 12 otal No Of Failed Files : 0	🛩 🖬 🎒 🖪 🙀 🐰 🖻 🛍 🗠 🖳			
:\Base\MAIN\AM\RADXML\AMDCAOAU_RAD.xml Successful Generated Successfull :\Base\MAIN\AM\RADXML\AMDCAOAU_RAD.xml Successful Generated Successfull :\Base\MAIN\AM\RADXML\AMDCDAOM_RAD.xml Successful Generated Successfull :\Base\MAIN\AM\RADXML\AMDCDEAU_RAD.xml Successful Generated Successfull :\Base\MAIN\AM\RADXML\AMDCDEAU_RAD.xml Successful Generated Successfull :\Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml Successful cotal No Of Files : 3135 otal No Of Successfully Generated Files : 12 otal No Of Failed Files : 0	FILE NAME	STA	 FUS Error	Description
D:\Base\MAIN\AM\RADXML\AMDCAONL_RAD.xml Successful Generated Successfull D:\Base\MAIN\AM\RADXML\AMDCDEAU_RAD.xml Successful D:\Base\MAIN\AM\RADXML\AMDCDEAU_RAD.xml Successful D:\Base\MAIN\AM\RADXML\AMDCDEFN_RAD.xml Successful D:\Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml Successful Total No Of Files : 3135 Total No Of Successfully Generated Files : 3120 Total No Of Failed Files : 0	):\Base\MAIN\AM\RADXML\AMCPRPCL RAD.xml		Successful	Generated Successfully
D:\Base\MAIN\AM\RADXML\AMDCDEAU_RAD.xml     Successful     Generated Successfull       D:\Base\MAIN\AM\RADXML\AMDCDEAU_RAD.xml     Successful     Generated Successfull       D:\Base\MAIN\AM\RADXML\AMDCDEFN_RAD.xml     Successful     Generated Successfull       D:\Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml     Successful     Generated Successfull       Cotal No Of Files     : 3120     Successfull     Generated Files       Cotal No Of Successfully Generated Files     : 12     Successfully Generated Files     : 0	):\Base\MAIN\AM\RADXML\AMDCAOAU RAD.xml		Successful	Generated Successfully
D:\Base\MAIN\AM\RADXHL\AMDCDEFN_RAD.xml Successful Generated Successfull D:\Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml Successful Generated Successfull Total No Of Files : 3135 Total No Of Commented Files : 3120 Total No Of Successfully Generated Files : 12 Total No Of Failed Files : 0	):\Base\MAIN\AM\RADXML\AMDCAONL RAD.xml		Successful	Generated Successfully
D:\Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml Successful Generated Successfull Total No Of Files : 3135 Total No Of Commented Files : 3120 Total No Of Successfully Generated Files : 12 Total No Of Failed Files : 0	):\Base\MAIN\AM\RADXML\AMDCDEAU RAD.xml		Successful	Generated Successfully
	):\Base\MAIN\AM\RADXML\AMDCDEFN_RAD.xm1		Successful	Generated Successfully
Total No Of Commented Files : 3120 Total No Of Successfully Generated Files : 12 Total No Of Failed Files : 0	):\Base\MAIN\AM\RADXML\AMDFNOAU_RAD.xml		Successful	Generated Successfully
Total No Of Successfully Generated Files : 12 Total No Of Failed Files : 0	Total No Of Files	: 3135		
Total No Of Failed Files : O	Fotal No Of Commented Files	: 3120		
	Fotal No Of Successfully Generated Files	: 12		
	Fotal No Of Failed Files	: 0		
Total No Of Notification Files : 3	Fotal No Of Notification Files	: 3		
Total No Of 10.0 Files : 0	Fotal No Of 10.0 Files	: 0		



📁 D: \BulkGeneration \Console \B(									
File Edit View Favorites Tools	Help								
S Back - S - Search - Folders									
Address 🛅 D:\BulkGeneration\Console\	BC				💌 🄁 Go				
	Name 🔺	Size	Туре	Date Modified					
File and Folder Tasks 🔹	☐ HTML		File Folder	2/8/2012 1:55 AM					
🤭 Make a new folder	🛅 JS		File Folder	2/8/2012 1:59 AM					
Number of the second se			File Folder	2/8/2012 2:00 AM					
Web	BCDAMND_DESC_MISSING_LABELS.txt	1 KB	Text Document	9/27/2011 11:05 AM					
😂 Share this folder	BCDPRMNT_DESC_MISSING_LABELS.txt	1 KB	Text Document	9/27/2011 10:57 AM					
~	BCDTRONL_DESC_MISSING_LABELS.txt	1 KB	Text Document	9/27/2011 10:59 AM					
Other Places 😵									
Details 🙁									

Fig 4.3: Missing labels file

Missing label information will also be generated for each function id for which units were generated



Development Workbench - Bulk Generation [November] [2023] Version 14.7.2.0.0

Oracle Financial Services Software Limited Oracle Park Off Western Express Highway Goregaon (East) Mumbai, Maharashtra 400 063 India

Worldwide Inquiries: Phone: +91 22 6718 3000 Fax:+91 22 6718 3001 www.oracle.com/financialservices/

Copyright © 2007, 2023, Oracle and/or its affiliates. All rights reserved.

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

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. 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 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.

This software or hardware and documentation may provide access to or information on 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. 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.