Oracle® Retail Bulk Data Integration Cloud Service Installation Guide



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ORACLE

Oracle Retail Bulk Data Integration Cloud Service Installation Guide, Release 24.0.101.0

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- Are the examples correct? Do you need more examples?

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Preface

The Oracle® Retail Bulk Data Integration Cloud Service Installation Guide contains the requirements and procedures that are necessary for the retailer to install the Oracle Retail Bulk Data Integration product.

Audience

The Installation Guide is written for the following audiences:

- Database administrators (DBA)
- System analysts and designers
- Integrators and implementation staff

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When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take



Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 21.0.000) or a later patch release (for example, 19.0.001). If you are installing the base release and additional patch releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch releases can contain critical information related to the base release, as well as information about code changes since the base release.

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Oracle Retail product documentation is available on the following web site:

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(Data Model documents can be obtained through My Oracle Support.)

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.
italic	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 Introduction

Oracle Retail Bulk Data Integration (BDI) provides the ability to transfer bulk data between Oracle Retail applications. BDI contains the following components:

- BDI Batch Job Admin Helps management of batch jobs
- BDI Process Flow Provides a mechanism to run multiple dependent batch jobs

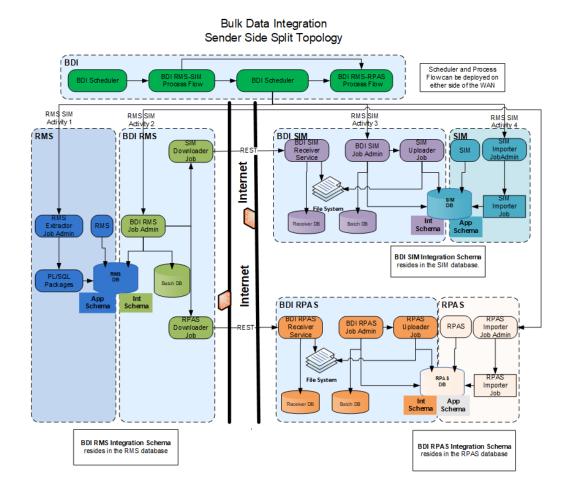
A BDI installation contains the following components:

- An installation of BDI RMS Batch Job Admin
- An installation of BDI Process Flow

BDI Topology

The diagram below shows the default topology for BDI. Please refer to the *Oracle Retail Bulk Data Integration Implementation Guide* for other supported topologies.





2 Technical Specifications

The BDI components have several dependencies on Oracle Retail Application installations, as well as on the Oracle WebLogic Servers. This section covers these requirements.

Requesting Infrastructure Software

If you are unable to find the necessary version of the required Oracle infrastructure software (database server, application server, WebLogic, etc.) on the Oracle Software Delivery Cloud, you should file a non-technical 'Contact Us' Service Request (SR) and request access to the media. For instructions on filing a non-technical SR, see My Oracle Support Note 1071023.1 - *Requesting Physical Shipment or Download URL for Software Media*.

Server Requirements

Supported On	Versions Supported
Database Server OS	OS certified with Oracle Database 12c (12.1.0.2) Enterprise Edition. Options are:
	 Oracle Linux 6 or 7 for x86-64 (Actual hardware or Oracle virtual machine).
	 Red Hat Enterprise Linux 6 or 7 for x86-64 (actual hardware or Oracle virtual machine)
	IBM AIX 7.1 (actual hardware or LPARs)
	• Solaris 11.2 Sparc (actual hardware or logical domains)
Database Server 12c	Oracle Database Enterprise Edition 12c (12.1.0.2) with the following specifications:
	Components:
	Enterprise Edition
	 Examples CD (formerly the companion CD)
	Oneoff Patches:
	 20846438: ORA-600 [KKPAPXFORMFKK2KEY_1] WITH LIST PARTITION
	 Patch 19623450: MISSING JAVA CLASSES AFTER UPGRADE TO JDK 7
	 20406840: PROC 12.1.0.2 THROWS ORA-600 [17998] WHEN PRECOMPILING BY 'OTHER' USER
	Other Components:
	Perl interpreter 5.0 or later
	X-Windows interface
	 JDK 1.8 with latest security updates 64 bit



Database Server 19c	Oracle Database Enterprise Edition 19c(19.3.0.0) with following components.
	Components:
	• DBHOME
	Examples CD
	Other Components:
	Perl interpreter 5.0 or later
	X-Windows interface
	• JDK 1.8
Application Server OS	OS certified with Oracle Fusion Middleware 12c. Options are:
	 Oracle Linux 6 or 7 for x86-64 (Actual hardware or Oracle virtual machine).
	 Red Hat Enterprise Linux 6 or 7 for x86-64 (actual hardware or Oracle virtual machine)
	 IBM AIX 7.1 (actual hardware or LPARs)
	 Solaris 11 Sparc (actual hardware or logical domains)
Application Server	Oracle Fusion Middleware 12c (12.2.1.4.0)
	Components:
	Oracle WebLogic Server 12c (12.2.1.4.0)
	 Java: JDK 1.8+ latest security updates 64 bit
	Patches:
	 Patch 22648025: ILLEGALSTATEEXCEPTION WHEN INVOKING A WEBSERVICE/EJB IN WLS 12.2.1 (you need an Oracle support account to get it)
Minimum required JAVA version for all operating systems	JDK 1.8+ latest security updates 64 bit

Installation Notes

When redeploying BDI applications, please note the following.

- If any existing datasource connection detail is changed (in *env-info.json deployment config file), such as the JDBC URL, username or, password of the database connection, the datasource needs to be first deleted from the WebLogic server before installation. This is a manual step.
 - Log in to the WebLogic Server Admin console. Go to Services -> Data Sources page. Select the datasource, delete and activate the changes.
 - Proceed with the installation.
- The JobAdminDataSource and ReceiverServiceDataSource should also be cleaned if we are using the same schema, delete all the tables for RMS and external.



Note:

The above steps are not required if no datasource connection detail is changed during redeployment.

If there are no datasource detail changes, note the following before redeployment of the BDI applications on an existing schema:

- Make sure the LOADSEEDDATA flag is set to TRUE.
- For BDI Batch JOB Admin, make sure the LOADJOBDEF flag is set to TRUE, if there are any changes to existing job definitions or new jobs are added.
- For BDI Process Flow, make sure the LOADPROCESSDEF flag is set to TRUE, if there are any changes to existing process flow definitions or new process defs are added.



3 BDI Batch Job Admin

This chapter describes the procedure you must use to install the JRF domain and deploy the BDI Batch Job Admin application. For more information about domain creation and other server related information, see the WebLogic application server documents.

Installation and Setup Instructions

This section describes the installation and setup instructions including the installation prerequisites, preparing the WebLogic server, creating a WebLogic domain, and deploying the WAR file.

Prerequisites

The BDI Batch Job Admin application requires Oracle WebLogic server 12c (12.2.1.4.0), built with Java 8 (JDK 1.8 64 bit with the latest security updates).

The recommended Java VM memory setting for the Job Admin application domain is:

-Xms1024m -Xmx2048m

Installing WebLogic

To obtain WebLogic 12c (12.2.1.4.0), go to the Oracle Technology Network and take the following steps.

- 1. Find fmw_12.2.1.4.0.0_infrastructure_Disk1_1of1.zip and download this file to your system.
- 2. Extract the contents of this zip file to your system. You will use the fmw_12.2.1.4.0.0_infrastructure.jar file to run the installer.
- 3. Run the installer by executing the jar file:

java -jar fmw_12.2.1.4.0.0_infrastructure.jar

The Welcome window appears.





4. Click Next. The Auto Updates window appears.

Welcome • Skip Auto Updates Installation Location • Skip Auto Updates Installation Type • Select patches from girectory Location: • Browse Installation Summary • Search My Oracle Support for Updates Installation Complete • Proxy Settings Proxy Settings [rest Connection Search • Search	Auto Updates		
Help < Back Next > Finish Cancel	Auto Updates Installation Location Installation Type Prerequisite Checks Installation Summary Installation Progress Installation Complete	Select patches from directory Location: Search My Oracle Support for Updates Username: Password: Proxy Settings	



5. Select the appropriate radio button and click Next. The Installation Location window appears.

× – Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation - Step 3 of 8				
Installation Location				
Welcome Auto Updates Installation Location Installation Type Prerequisite Checks Installation Progress Installation Complete	Oracle Home Oracle Home may only contain alphanumeric, underscore (_), hyphen (-) or dot(.) characters and it must begin with an alphanumeric character.			
Help	< <u>Back</u> <u>Next</u> <u>Finish</u> Cancel			

- 6. Click Browse to select the Oracle Home location where the Weblogic Server is to be installed.
- 7. Click Next. The Installation Type window appears.



Installation Type		
Welcome Auto Updates	⊙ <u>W</u> ebLogic Server	
Installation Location Installation Type		
Prerequisite Checks Installation Summary	○ Complete with <u>E</u> xamples	
Installation Progress	Oracle Fusion Middleware 12c WebLogic Server and Coherence 12.2.1.4.0	-
Installation Complete	 Core Server Core Application Server 12.2.1.4.0 Coherence Product Files 12.2.1.4.0 Web 2.0 HTTP Pub-Sub Server 12.2.1.4.0 WebLogic SCA 12.2.1.4.0 WebLogic Client Jars 12.2.1.4.0 Administrative Tools 	
	Administration Console Additional Language Help Files 12.2.1.4.0 CIE WLS Config 12.2.1.4.0 Database Support Third party JDBC Drivers 12.2.1.4.0	
	WebLogic Evaluation Database 12.2.1.4.0	
	Open Source Components	
	Fusion Middleware Maven Support 12.2.1.4.0	
	FMW Platform Generic 12.2.1.4.0	
	OPatch 13.9.4.2.1	•
Help	< <u>B</u> ack <u>N</u> ext > <u>F</u> inish	Cancel

8. Select Fusion Middleware Infrastructure (JRF and Enterprise Manager) and click Next. The installer performs the pre-requisite checks and ensures all required conditions are satisfied.

Prerequisite Checks				
Welcome Auto Updates	:	100%		
Installation Location	 ✓ 	Checking operating system certification		
Prerequisite Checks	×	Checking Java version used to launch the instal	ler	
9 Installation Progress 9 Installation Complete				
	Stop	Rerun Skip View Suc	cessful <u>T</u> asks	View Log
		cking operating system certification		
	u⊞ ≪ <mark>Cn</mark>	cking Java version used to launch the installer		



9. When the prerequisite check completes successfully, click Next. The Security Updates window appears.

Welcome Auto Updates Installation Location Installation Type Prerequisite Checks Security Updates Installation Summary Installation Progress Installation Complete Installation Complete Previde your email address to be informed of security issues, install the product and initiate configuration manager. View details. Email: Easier for you if you use your My Oracle Support email address/usernant Installation Complete Installation Complete	Security Updates		
	Auto Updates Installation Location Installation Type Prerequisite Checks Security Updates Installation Summary Installation Progress	and initiate configuration manager. <u>View</u> Email: Easier fo	ed of security issues, install the product details. or you if you use your My Oracle Support email address/username.

10. Provide information and click Next.

× – Oracle Fusion	Middleware 12c WebLogic Server and Coherence Installation - Step 6 of 8	
Installation Summary		
Welcome Auto Updates Installation Location Installation Type Prerequisite Checks Installation Summary Installation Progress Installation Complete	 Install Oracle Fusion Middleware 12c WebLogic Server and Coherence Installation Location Oracle Home Location: /home/bhagath/Oracle/Middleware/Oracle_Home Log File Location: /tmp/Oralnstall2020-06-08_06-13-01PM/install2020-06-08_06-13-01PM .log Disk Space Required: 927 MB Available: 140159 MB Feature Sets to Install Administration Console Additional Language Help Files 12.2.1.4.0 CIE WLS Config 12.2.1.4.0 Core Application Server 12.2.1.4.0 Coherence Product Files 12.2.1.4.0 Web 2.0 HTTP Pub-Sub Server 12.2.1.4.0 WebLogic SCA 12.2.1.4.0 Fusion Middleware Mayoor 12.2.1.4.0 Fusion Middleware Mayoor 12.2.1.4.0 Fusion Middleware Mayoor 12.2.1.4.0 Fusion Middleware Mayoor 12.2.1.4.0 FMW Platform Generic 12.2.1.4.0 WebLogic Evaluation Database 12.2.1.4.0 	
	Save Response File	
	Select Install to accept the above options and start the installation. To change the above options before starting the installation, select the option to change in the left pane or use the Back button.	
Help	< <u>B</u> ack <u>N</u> ext > <u>Install</u> Cancel	

11. Click Install. The Installation Progress window appears.

× – Oracle Fusion M Installation Progress	Aiddleware 12c WebLogic Server and Coherence Installation - Step 7 of 8 ORACLE FUSION MIDDLEWARE
V Welcome	100%
 Installation Location Installation Type Prerequisite Checks 	Prepare Copy
Installation Summary Installation Progress	 Generating Libraries Performing String Substitutions Linking
Installation Complete	 Linking Setup Saving the inventory Post install scripts
	View Messages View Successful Tasks View Log
	Hardware and Software Engineered to Work Together
Help	< Back Next > Einish Cancel



12. Click Next when the installation completes. The Installation Complete window appears.



Creating the Required Schema Using the Repository Creation Utility

Perform the following procedure to create a schema user for the domain:

1. Run the RCU from the <MW_HOME>/oracle_common/bin folder. The Welcome window appears.



	Repository Creation Utility - Step 1 of 8	3	_ ×
Repository Creation U	tility		7
Welcome	Welcome to Repository Creation Utility 12.2.1.4.0 for Ora	cle Fusion Middleware.	
Create Repository	The Repository Creation Utility enables you to create and	drop database schemas th	at are required
Database Connection Details	for Oracle Fusion Middleware products.		
Select Components			
Schema Passwords			
Map Tablespaces			
Summary			
Completion Summary			
	Copyright © 1996,2019, Oracle and/or its affiliates. All rig		
Help	< <u>B</u> a	ick <u>N</u> ext > <u>F</u> inisl	n Cancel

2. Click Next and select the Create Repository option.



3. Click Next. Enter the database credentials where the schema user has to be created.



		Welcome - Step 3 of 8
epository Creation Ut	ility	
Welcome Create Repository Database Connection Det Select Components Schema Passwords	<u>D</u> atabase Type: Host Na <u>m</u> e:	Oracle Database
Map Tablespaces Summary Completion Summary	P <u>o</u> rt: <u>S</u> ervice Name:	t,t
	<u>U</u> sername:	sys User with DBA or SYSDBA privileges. Example:sys
	<u>P</u> assword:	[······•]
	<u>R</u> ole:	SYSDBA One or more components may require SYSDBA role for the operation to
Help		< Back Next > Finish Cance

4. Click Next. Specify the prefix to be used for the schema user creation. For example, INT. Select Metadata Services, WebLogic Services, and Oracle Platform Security Services.



	Welcome	e - Step 4 of 8		
epository Creation U	tility			3
Welcome Create Repository	Specify a unique prefix for all s and manage the schemas later		ession, so you can easily locat	e, reference,
Database Connection Details	Select existing prefix: BDI168			
Select Components	() Create new prefix:	INT		
Schema Passwords	O Create new prenx.	11-1	and the second	and the
Map Tablespaces		Alpha numeric only, Ca	innot start with a number. No s	pecial
	Component		Schema Owner	
Summary	□ Oracle AS Repositon	y Components		
Completion Summary	■ AS Common Schemas			
		structure Services	INT_STB	
		n Security Services	INT_OPSS	
	User Messagin		INT_UMS	
	Audit Services		INT_IAU	
	Audit Services		INT_IAU_APPEND	
	Audit Services	Viewer	INT_IAU_VIEWER	
	Metadata Serv	rices	INT_MDS	
	Weblogic Servi	ces	INT_WLS	
Help		<	Back Next > Finish	Cance

5. Click Next. Specify the password.

	We	elcome - Step 5 of 8		- 3
Repository Creation U	tility			3
Velcome Create Repository Database Connection Details Select Components Schema Passwords Map Tablespaces		Alpha numeric only.Cannot start with a No special characters except \$, #		
Completion Summary	⊖ Use <u>m</u> ain schema p	asswords for auxiliary schemas sswords for all schemas		
Help		< Back	Next > Finis	Cancel

6. Click Next. The window provides the details of tablespaces created as part of schema creation.



		wetc	ome - Step 6 of a		
Re	pository Creation U	tility			
Y T Y	Welcome Create Repository Database Connection Details Select Components	Default and temporary tab To create new tablespace		cted components appear i ablespaces,use the Manag	
1	Schema Passwords	Component	Schema Owner	Default Tablespace	Temp Tablespace
I		Common Infrastructu	INT_STB	*INT_STB	*INT_IAS_TEMP
Y	Map Tablespaces	Oracle Platform Secu	INT_OPSS	*INT_IAS_OPSS	*INT_IAS_TEMP
5	Summary	User Messaging Serv	INT_UMS	*INT_IAS_UMS	*INT_IAS_TEMP
		Audit Services	INT_IAU	*INT_IAU	*INT_IAS_TEMP
9	Completion Summary	Audit Services Append	INT_IAU_APPEND	*INT_IAU	*INT_IAS_TEMP
		Audit Services Viewer	INT_IAU_VIEWER	*INT_IAU	*INT_IAS_TEMP
		Metadata Services	INT_MDS	*INT_MDS	*INT_IAS_TEMP
		Weblogic Services	INT_WLS	*INT_WLS	*INT_IAS_TEMP
		* Default tablespaces (spr	ecified in the configur	ation files) are to be create	ed upon confirmation.
•					

7. Click Next. The Confirmation window appears.

1	Default and temporary	tablespaces for the sel	FUSION MIL		
Welcome Create Repository Database Connection Details Select Components			tablespaces, use the Manag		
Schema Passwords	Component	Schema Owner	Default Tablespace	Temp Tablespace	
	Common Infrastructu	J INT STB	NT STB	*INT IAS TEMP	
Map Tablespaces	Ora Poporito	ry Creation Utility -	Confirmation	*INT_IAS_TEMP	
Summary	Use	ry creation outry -	Commination	*INT_IAS_TEMP	
Completion Summary	Auc		*INT_IAS_TEMP *INT_IAS_TEMP *INT_IAS_TEMP *INT_IAS_TEMP		
Completion Summary	Auc Any tablespaces that do not already exist in the selected schemas will be created. Wel Click OK to create tablespaces.				
				*INT_IAS_TEMP	
		C	QK <u>Cancel</u>		
	* Default tablespaces (specified in the configur	ration files) are to be creat	ed upon confirmation.	



8. Click OK. The Summary window appears.

	Welcome - S	tep 7 of 8		-
epository Creation U	tility			
Welcome	Database details:			
Create Repository	Host Name		1	
Database Connection Details	Port	1		
Select Components	Service Name	10000		
Schema Passwords	Connected As	sys		
Map Tablespaces	Operation	System and Data	Load concurrently	
Summary	Prefix for (prefixable) Schema Owne	rs INT		
Completion Summary		1		
	Component Common Infrastructure Services	Schema Owner	Tablespace Type Default	Tablespace Name
	common intrastructure services	INT_STB	Temp Additional	INT_IAS_TEMP [None]
	Oracle Platform Security Services	INT_OPSS	Default Temp Additional	INT_IAS_OPSS INT_IAS_TEMP [None]
	User Messaging Service	INT_UMS	Default Temp Additional	INT_IAS_UMS INT_IAS_TEMP [None]
	Audit Services	INT_IAU	Default Temp Additional	INT_IAU INT_IAS_TEMP [None]
	Audit Services Append	INT_IAU_APPEND	Default Temp	INT_IAU INT_IAS_TEMP
	Save <u>R</u> esponse File			
				Create Cano

9. Click Create and proceed to create the schema. This could take a while to complete. The Completion Summary window appears.

	w	elcome - St	ep 8 of 8		
Repository Creation U	Itility				
Welcome Create Repository Database Connection Details Select Components Schema Passwords Map Tablespaces Summary Completion Summary	Database details: Host Name Port Service Name Connected As Operation Execution Time RCU Logfile Component Log Directory View Log Prefix for (prefixable) Schema Owners	1 minute 43 /tmp/RCU201		55123436/logs/rcu.log	1
	Compor Common Infrastructur Oracle Platform Secur User Messaging Servi Audit Services Append Audit Services Append Audit Services Viewer Metadata Services Weblogic Services	re Services rity Services ice	Status Success Success Success Success Success Success Success Success	Time 00:09.296(sec) 00:16.123(sec) 00:13.288(sec) 00:12.093(sec) 00:09.287(sec) 00:09.258(sec) 00:12.967(sec) 00:16.790(sec)	Logfile(Click to view) stb.log opss.log ucsums.log iau.log iau_append.log iau_viewer.log mds.log wls.log
Help				< Back Next >	<u>Create</u>



Creating a WebLogic Domain with JRF

Perform the following procedure to create a new WebLogic domain with JRF:

1. Run the config.sh from <ORACLE_HOME>/oracle_common/common/bin folder. The Configuration Type window appears.

	Fusion Middlew	vare Configuration Wiza	rd - Page 1 of 8		10-01 M
Configuration Type					
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Configuration Progress End Of Configuration	What do you want © <u>C</u> reate a new o O <u>Up</u> date an exis Domain Location:	domain sting domain	FUSION MIDD	EWARE	Browse
	Create a new dom	ain.			
Help			< Back Next >	Einish	Cancel

2. Select Create a new domain, provide domain location, and click Next. The Templates window appears. By default, the Basic WebLogic Server Domain - 12.2.1.4.0 [wlserver] checkbox is selected.

Select the Oracle JRF - 12.2.1.4.0.0 [oracle_common], Oracle Enterprise Manager [em], and Oracle WSM Policy Manager - 12.2.1.4.0 [oracle_common] check boxes.



∋ Fusi	on Middleware Configuration Wizard - Page 2 of 12
Templates	
Templates Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Type Component Datasources JDIC Test Advanced Configuration Configuration Summary Configuration Progress End Of Configuration	
Help	< Back Next > Einish Cancel

3. Click Next. The Administrator Account window appears. Enter the user credentials you want to use to log in to the WebLogic Administration Console.



Administrator Account Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Type Component Datasources JDBC Test Advanced Configuration Password	CRACLE FUSION MIDDLEWARE	
Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Type Component Datasources JDBC Test Name weblogic		
Configuration Summary Configuration Progress End Of Configuration Must be the same as the password. Password must contain at least one number or special character.	n at least 8 alphanumer	ric characters w

4. Click Next. The Domain Mode and JDK window appears. Set the Domain Mode as Production and select the JDK version (JDK 1.8 with the latest security updates) you want to use.

	Fusion Middleware Configuration	n Wizard - Page 5 of 12	- 1
Domain Mode and JDK			
Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Type Component Datasources JDBC Test Advanced Configuration Configuration Summary Configuration Progress End Of Configuration	Production Require the entry of a userna	ername and password, and poll for application me and password, and do not poll for applic 	19
Help		< Back Next > Finis	Cancel

- 5. Click Next. The Database Configuration Type window displays.
 - a. Select the RCU Data radio button.
 - **b.** Select Oracle as the Vendor.



- c. Select Oracle's Driver (Thin) for Service connections; Version 9.0.1 and later as the Driver.
- d. Enter the Service, Host Name, Port, Schema Owner, and Schema Password for the *_STB schema created using RCU.
- e. Click Get RCU Configuration.

The Connection Result Log displays the connection status.

	Fusion Middleware Configuration V	Vizard -	Page 6 of 12			-
Database Configuration	Туре				C	
Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration 1	Specify AutoConfiguration Options Using: <u>RCU Data</u> <u>Manual Configuration</u> Enter the database connection details us schema credentials. The Wizard uses this required for components in this domain.	n ing the Re				
Component Datasources		river: *0)racle's Driver (Thin)	for Service	connectio	ons;
<u>IDBC Test</u> Advanced Configuration <u>Configuration Summary</u> Configuration Progress End Of Configuration	Schema Owner: INT_STB S	lost Name ichema Pa	assword:] Port.	1
	Connecting to the database serverOK Retrieving schema data from database se Binding local schema components with rel Successfully Done. Click "Next" button to continue.					
Help			< Back Next >	Finis		Cancel

6. Click Next. The JDBC Component Schema window appears.



					OP	ACLE	
JDBC Component Sche	ma				-	AIDDLEWARE	
Create Domain	Ve	ndor	(₩) D	Iriver:			
Templates		and the second					
Application Location	DB	MS/Service:	H	lost Name:		Port:	
Administrator Account	Sc	hema Owner:	S	ichema Password:			
Domain Mode and JDK	Or	acle RAC configuration	for component	echamas:			
Database Configuration Typ						0.000	
	1000	O Convert to Gri		overt to RAC multi	data sour	ce 🔘 Don't	convert
Component Datasources		its to the data above w	ill affect all che	cked rows in the t	able belov		
JDBC Test							Schema Pass
Advanced Configuration		Component Schema	DBMS/Service	11.1	Port 1521	Schema Ow INT STB	Schema Pass
Configuration Summary	⊢	OWSM MDS Schema		E	1521		
Configuration Progress	님	OPSS Audit Schema			1521	INT IAU APPE	
End Of Configuration	一	OPSS Audit Viewer So	£	11.00.1111	1521	INT IAU VIEWI	
	一	OPSS Schema			1521	INT_OPSS	

7. Click Next. The JDBC Component Schema Test window displays the status on whether the JDBC tests on the schemas were successful.

be component scher	ma Te	st				E C	7
Create Domain Femplates Application Location Administrator Account		Status	OWSM MDS Schema OPSS Audit Schema	JDI jdbc:oracle:thin:@// jdbc:oracle:thin:@// ` ` jdbc:oracle:thin:@// jdbc:oracle:thin:@//	 :1 :1	νν· ι/	
Database Configuration Typ Component Datasources DBC Test Advanced Configuration Configuration Summary Configuration Progress		-	lected Connections n Result Log	<u>Cancel Testing</u>			
End Of Configuration	Driv URL Use Pas	er=ora =jdbc:o r=INT_S sword=	STB	I Schema			

8. Click Next. The Advanced Configuration window displays. Select all the checkboxes, except Domain Frontend Host Capture and JMS File Store options, in this window.



1	Fusion Middleware Configuration Wiza	ard - Page 9 of 23	- ×
Advanced Configuration			
Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Tyr Component Datasources JDBC Test Advanced Configuration Advanced Configuration Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters Machines Virtual Targets Partitions Deployments Targeting Services Targeting	Administration Server Modify Settings Mode Manager Configure Node Manager Topology Add, Delete or Modify Settings for Manage Domain Frontend Host Capture Configure Domain Frontend Host Deployments and Services Target to Servers or Clusters Eile Store Modify Settings	d Servers, Clusters, Virtual Targ	ets and Coherence
Help		< Back Next >	inish Cancel

9. Click Next. The Administration Server window appears. Enter the Listen Address and the Listen Port details.

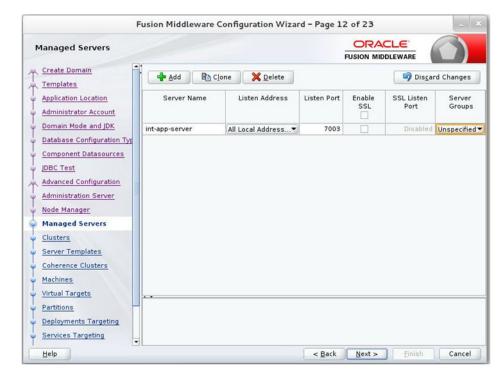
Administration Server Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Type Component Datasources JDBC Test Advanced Configuration Node Manager Managed Servers Clusters Server Templates Coherence Clusters Machines	-	- Page 10 of 23	ware Configuration Wiza	usion Middlew	F	
Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Typ Listen Address All Local Addresses Component Datasources JDBC Test Administration Server SL Listen Port Managed Servers Clusters Server Templates Coherence Clusters					dministration Server	A
Virtual Targets Partitions Deployments Targeting Services Targeting		ot contain any: , = * ? % /_cloned.	All Local Addresses 7001 t Unspecified	Listen Address Listen Port Enable SSL SSL Listen Port Server Groups	Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Tyr Component Datasources DBC Test Advanced Configuration Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters Machines Virtual Targets Deployments Targeting	(-)

10. Click Next. The Node Manager window appears. Select the Node Manager Type and enter the Node Manager Credentials.



Node Manager	-
Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Tyr Component Datasources JDBC Test Advanced Configuration Advanced Configuration Advanced Configuration Advanced Configuration Advanced Configuration Advanced Configuration Administration Server Node Manager Credentials Username: weblogic Password: Coherence Clusters Machines Virtual Targets Partitions Partitions Must be the same as the password. Password must at least one number or special character.	Browse

- 11. Click Next. The Managed Servers window appears.
 - a. Click Add to add a managed server on which you will deploy the application.
 - b. Enter the Server Name, Listen Address, and Listen Port for the managed server.
 - c. Set the Server Groups to JRF-MAN-SVR.



12. Click Next. The Clusters window appears.



a. Click Add to add a cluster. This is an optional step in the procedure.

F	usion Middlewa	are Configur	ation Wizard -	Page 13 of 23	1	_ ×
Clusters						
Templates		D elete			🔊 Dis	card Changes
Application Location Administrator Account	Cluster Name	Cluster Address	Frontend Host	Frontend HTTP Port	Frontend HTTPS Port	Dynamic Server Groups
Domain Mode and JDK Database Configuration Tyg						
<u>Component Datasources</u> <u>IDBC Test</u> Advanced Configuration						
Administration Server						
<u>Managed Servers</u> Clusters						
<u>Server Templates</u> <u>Coherence Clusters</u>						
<u>Machines</u> <u>Virtual Targets</u>						
Partitions Deployments Targeting						
Services Targeting Help				< <u>B</u> ack <u>N</u> ext	> Einish	Cancel

- **13.** Click Next. The Coherence Clusters window appears.
 - a. Add a coherence cluster. This is an optional step in the procedure.

Coherence Clusters				
Create Domain Templates	<u>-</u> :	🗐 Dis <u>c</u> ard Change		
Application Location	Cluster Name	Cluster Listen Port		
Administrator Account	defaultCoherenceCluster	7574		
Domain Mode and JDK				
Database Configuration Typ				
Component Datasources				
JDBC Test				
Advanced Configuration				
Administration Server				
Node Manager				
Managed Servers				
Clusters				
Server Templates				
Coherence Clusters				
Machines				
Virtual Targets				
Partitions				
Deployments Targeting				

14. Click Next. The Machine window appears.



- a. Click Add.
- b. Enter the Name and the Node Manager Listen Address for the managed server.

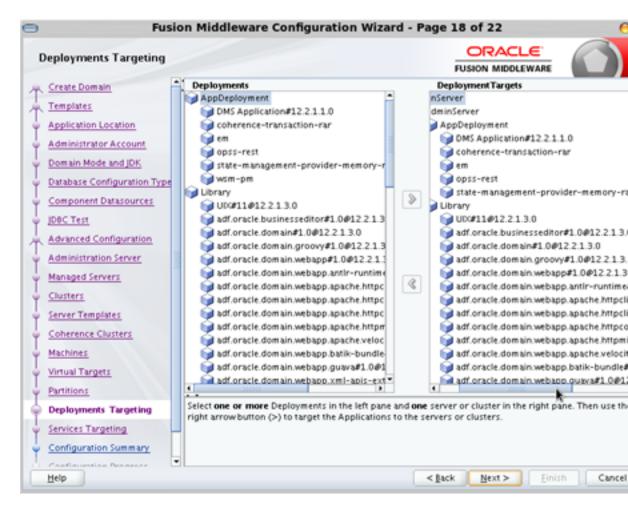
Machines							
Create Domain Templates Application Location Administrator Account	Machine Unix Mad	Delete				🔊 Dis <u>c</u> ard	1
Domain Mode and JDK	Name	Enable	Post Bind GID	Enable	Post Bind UID	Node Manager Listen Address	Node Manager
Database Configuration Typ	new_UnixMachine_1		nobody		nobody	localhost 🔹	555
Advanced Configuration Administration Server Node Manager							
Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters							
Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters Machines							
Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters							
Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters Machines Assign Servers to Machines							

15. Click Next. The Assign Servers to Machines window appears. Add the Admin Server and the managed server to the computer.

Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Tyr Component Datasources JDBC Test Advanced Configuration Administration Server	FUSION MIDDLEWARE
Node Manager Managed Servers Clusters Server Templates	
Coherence Clusters Machines Assign Servers to Machic Virtual Targets Partitions	



16. Click Next. The Deployments Targeting window appears. Select wsm-pm from Deployments and add it to Admin Server in Targets.

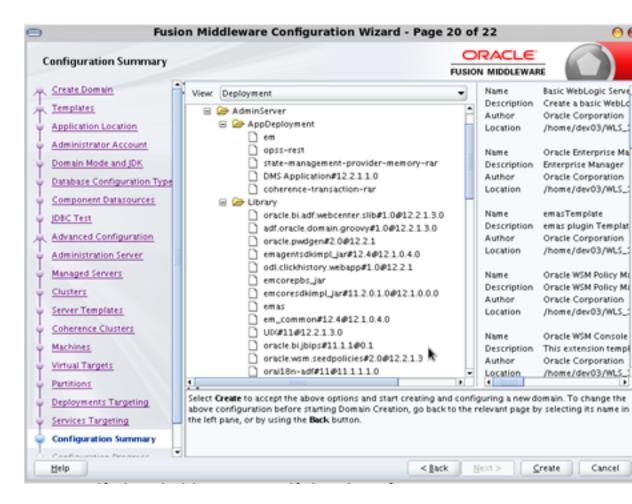


17. Click Next. The Services Targeting window appears.



Services Targeting			
Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Tyr Component Datasources JDBC Test Advanced Configuration Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters Machines Assign Servers to Machines	 Services Mathematical Services DMSShutdown DBC System Resource Inds-owsm Opss-audit-DBDS Opss-audit-DBDS Opss-audit-ViewDS Opss-adat-source Startup Class DMS-Startup JRF Startup Class OMS-Startup WSM Startup Class Web Services Startup Class WLDF System Resource Module-FMWDFW 	8	
Virtual Targets Partitions Deployments Targeting	Select one or more Services in the left pane a the right arrow button (>) to target the service		

18. Click Next. The Configuration Summary window appears. Verify that all information described in this window is accurate.





19. Click Create. The Configuration Progress window displays a message when the domain is created successfully.

	Fu	ion Middleware Configuration Wizard – Page 23	3 of 24	_ ×
,	Configuration Progress			
	Application Location Administrator Account Domain Mode and JDK Database Configuration Typ	100% Copy Unprocessed Artifacts OPSS Processing OWSM Processing Security Processing Artifacts Generation String Substitution Post Processing	FUSION MIDDLEWARE	
	Partitions			
Ý	Deployments Targeting		(
-	Help	< <u>B</u> ack	<u>N</u> ext > <u>Finis</u>	h Cancel

20. Click Next. The Configuration Success window displays the Domain Location and Admin Server URL once the configuration is complete.

		ACLE	
End Of Configuration		MIDDLEWARE	
Create Domain Templates Application Location Administrator Account Domain Mode and JDK Database Configuration Typ Component Datasources JDBC Test Advanced Configuration Administration Server Node Manager Managed Servers Clusters Server Templates Coherence Clusters Machines Assign Servers to Machines Virtual Targets Partitions	Oracle Weblogic Server Configuration Succeeded New Domain Int_domain Creation Succeeded Domain Location <u>f</u> <u>(Oracle/Middlewarel2.2.1.2.1/Orr</u> Admin Server URL <u>http:// (console</u>		_projects/dom
Deployments Targeting	•		



- 21. Click Finish to complete creating the WebLogic domain and managed servers.
- 22. Add the following security policy to \$ORACLE_HOME/wlserver/server/lib/weblogic.policy file.

```
grant codeBase "file:/<DOMAIN_HOME>/-" {
  permission java.security.AllPermission;
  permission oracle.security.jps.service.credstore.CredentialAccessPermission
  "credstoressp.credstore", "read,write,update,delete";
  permission oracle.security.jps.service.credstore.CredentialAccessPermission
  "credstoressp.credstore.*", "read,write,update,delete";
};
```

- 23. Start the Weblogic Admin and Manage Server.
- 24. Set JTA timeout to 43200.
 - a. Log in to Admin console
 - b. Click on the domain name
 - c. Select the JTA tab and change the timeout value to 43200.



Deploying BDI Batch Job Administration Applications

Before starting the installation procedure, identify the retail applications that are in-scope for this installation. BDI requires at least 2 applications in-scope, a sender app and a receiver app. Each bdi-app must be deployed on its own WebLogic managed server. Depending on the site specific deployment topology, create separate WebLogic domains OR managed servers to host the BDI apps in-scope.

Note:

Repeat the procedures in this chapter for installing other applications that are inscope.

Deploying BDI Batch Job Admin Applications for a Sender Application

This section describes the installation process for a sender app with the BDI-RMS app as an example.

Preparing the Database for BDI Batch Job Admin for RMS Installation

Before you begin installing BDI RMS Batch Job Admin, make sure you have the database schema created for BDI RMS Batch Job Admin.

If you are migrating from previous version of BDI RMS Batch Job Admin to a newer version, Follow upgrade instructions for bdi.

Before following upgrade instructions for bdi, you need to provide permissions for database schema. Run the below commands on admin schema where database schema is created, to provide permissions.

Commands:

```
CREATE TABLE TO 'user schema';
CREATE SEQUENCE TO 'user schema';
CREATE INDEX TO 'user schema';
```

Ex: User schema name is bdi_rms_app. Run below commands on admin schema.

```
CREATE TABLE TO 'bdi_rms_app';
CREATE SEQUENCE TO 'bdi_rms_app';
CREATE INDEX TO 'bdi rms app';
```



Note:

Database schema auto migration feature should be used from >=16.0.028 version.

Preparing the WebLogic Domain for BDI Batch Job Admin for RMS

- **1.** Use the instructions provided in BDI Batch Job Admin to install WebLogic 12.2.1.4.0 and create a domain.
- 2. Start the Admin and managed servers.

Deploying BDI RMS Batch Job Admin on the WebLogic

To deploy the BDI RMS Batch Job Admin war, take the rpsfollowing steps.

- Download BdiEdgeJobAdminPak24.0.000ForRms24.0.000_eng_ga.zip to \$BDI_HOME.
- 2. Unzip the downloaded archive. The Bdi Job home directory will be created under the current directory.

unzip BdiEdgeJobAdminPak24.0.000ForRms24.0.0007_eng_ga.zip

This command extracts the archive. The relevant directories for the installation are shown (There are more directories than what is shown).

bin
) `bdi-job-admin-deployer.sh
conf
` security
) ` jazn-data.xml
) ` jps-config.xml
) `bdi-job-admin-deployment-env-info.json
`bdi-job-admin-deployment-env-
info.json.template
) `bdi-job-admin-internal-trust-store.jks
`loq4j2.xml
dist
`bdi-batch-job-admin.war
`rms-jars
` README.txt
scripts
> DBSchemaMigration.groovy
) JobAdminDeployer.groovy
` README.txt
) WebLogicManager.groovy
setup-data
` dml
` url seed data 1.sql
` bdi rms seed data.sql
· · · · · · · · · · · · · · · · · · ·
BDI SET BATCHSTATUS TO ABANDON.sql
` rms group seed data.sql
` available-jobs-for-external-app-
integration



- - - - - batch-scripts `- - - - - - - bdi_sftp_push.sh - - - - ddl `- - - - - - - migration T BDI_CLEANUP_JOB_SQL.sql _ _ _ _ _ _ _ BDI_Database_Util_Spec_Permission.sql - - - - - - - -BDI Database Util Spec.sql create wl llr table.sql - - - migrateedge-batch-schema-from-16.0.025-to-16.0.027.sql - - - migrateedge-batch-schema-from-16.0.028-to-16.0.030.sql - - - migrate-edge-bdi-infra-schema-from-16.0.025-to-16.0.027.sql - - - - migrate-edge-bdi-infra-schema-from-16.0.028-to-16.0.030.sql - - - - - - - migrateschema-from-16.0.021-to-16.0.023.sql - - - migrate-schema-from-16.0.023-to-16.0.025.sql - - - migrateschema-from-16.0.025-to-16.0.027.sql - - - migrateschema-from-16.0.027-to-16.0.028.sql - - - - migrate-schema-from-16.0.028-to-16.0.030.sql - - - - - migrate-schema-from-16.0.030-to-16.0.031.sql - - - - - - migrateschema-from-16.0.031-to-19.0.000.sql 1 - - - - - - migrateschema-from-19.0.000-to-19.1.000.sql `- - - - - - - - purge purge_batch_db_repo.sql purge_job_int_repo.sql - - - - - - - -purge job rcvr repo.sql `- - - - - - - - README.txt - - - - - META-INF - - - - - batch-jobs - target - - - - - rms-batch-job-admin.war - - - - - - README.txt |- - - - - - lib

Note:

To Integrate BDI-RMS with an external application, additional steps are required. Refer to Appendix: Integrating BDI-RMS with External Applications for additional information.

3. Edit the rms job configuration file to point to deployment environment (conf/bdi-jobadmin-deployment-env-info.json) as follows:

To deploy without OAuth, we need to rename or remove the OAuth2 aliases for example:- jobAdminUiOAuth2ApplicationClientAliasRef from bdi-job-admindeployment-env-info.json, and then deploy. No other extra steps needed for deployment.

cd bdi-edge-rms-job-home/conf vi bdi-job-admin-deployment-env-info.json

Note:

BDI does not mandate the use of OAuth2 or IDCS as authorization server. This version of the BDI is backward compatible with basicAuth. New customers can use basicAuth by following the below steps. Existing customers can use upgrade instructions and proceed to use basicAuth as the authentication mechanism.

See How to Install BDI without IDCS.

4. Provide the following values in the JSON file.

Configuration Property	Description
RmsJobAdminDataSource -> jdbcUrl	The JDBC URL for the Oracle database where the RMS integration schema resides.
RmsReceiverServiceDataSource -> jdbcUrl	The JDBC URL for the Oracle database where the RMS Receiver integration schema resides. BdiRmsJobAdminDataSource and BdiRmsReceiverServiceDataSource can use the same jdbcUrl.
BatchInfraDataSource -> jdbcUrl	The JDBC URL for the schema created using RCU. The schema user is <prefix>_wls (e.g. INT_WLS). The value of prefix that you provided in schema creation using RCU.</prefix>
JobXmlDataSource -> jdbcUrl	The JDBC URL for the Oracle database where the all job xmls gets created in rms schema.
JobAdminAppServer -> weblogicDomainName	The domain name where BDI RMS Admin app is deployed.
JobAdminAppServer- >weblogicDomainHome	The domain path where BDIRMS Admin app is deployed
JobAdminAppServer -> weblogicDomainAdminServerUrI	Admin Server URL of the BDI RMS Admin App - http:// <admin host="">:<admin port=""></admin></admin>
JobAdminAppServer- >weblogicDomainAdminServerP rotocol	Admin Server protocol, which is by default t3, For SSL deployment update to t3s.
JobAdminAppServer -> weblogicDomainAdminServerHo st	Host Name of the BDI RMS Admin Server
JobAdminAppServer -> weblogicDomainAdminServerPor t	BDI RMS Admin Server Port



Configuration Property	Description
JobAdminAppServer -> weblogicDomainTargetManaged ServerName	Managed Server Name where BDI RMS Admin App is installed (e.g. bdi-rms-server)
JobAdminAppServer -> jobAdminUiUrl	Job Admin URL of BDI RMS
	http:// <host>:<managed port="" server="">/bdi-rms-batch-job- admin</managed></host>
dataSourceProperties	DataSource configurations contributes to the performance
	of the applications at the runtime.
	Ex: "connectionPool_MaxCapacity":"100"
	"general_RowPreferfetchSize":"100"
RfiJobAdminAppServer->	Job Admin URL of BDI RFI
jobAdminUiUrl	http:// <host>:bdi-rfi-batch-job-admin</host>
ExternalJobAdminAppServer ->	Job Admin URL of BDI RFI
jobAdminUiUrI	http:// <host>:<external managed="" port="" server="">/external- batch-job-admin</external></host>
oauth2AuthorizationServerUrl	Provide the IDCS url
	For example - https:// idcs-4ff493196128425c80ce4ecbfc8352e5.identity.c9de v1.oc9qadev.com/oauth2/v1/token
jobAdminUiOAuth2ApplicationCli	ICDS Client secret ID and password
entAliasRef	"name":"rfiJobAdminBaseUrlOAuth2ApplicationClientAli as", "value": "*ricsOauth2ApplicationClientAlias"
SystemOptions	Optional. Allows to provide system options as name value pairs

Note:

The alias names in the configuration files should not be changed.

Below are the changes for bdi-job-admin-deployment-env-info.json.

• Below json snippet is to support OAuth2 with IDCS for Job Admin.

```
"CentralAuthenticationSystem":{
 "IdcsAuthenticationProvider":{
   "oauth2AuthorizationServerUrl":"https://
idcs-4ff493196128425c80ce4ecbfc8352e5.identity.c9dev1.oc9qadev.com/oauth2/v1/
token",
   "oauth2Application":[
     {
      "oauth2ApplicationName" : "RICS",
      "oauth2ApplicationScopeOfAccess" :
"oauth2ApplicationClientId" : "GET FROM WALLET",
       "oauth2ApplicationClientSecret" : "GET FROM WALLET"
     },
     {
       "oauth2ApplicationName" : "MFCS",
       "oauth2ApplicationScopeOfAccess" :
```

Optional – Users can configure system options in the deployment env info json file. Users have to add the system options as part of the configuration in the json file with name value pairs. After the application starts, the system option tables should have system options provided in the json filea=b and c=d values in the system options table. After deploying Jjob Admin, verify that values are getting added to the system option table properly.

Example:

Job Admin JSON Snippet:

```
"JobAdminApplication":{
            "appName":"rms",
            "JobAdminAppUses":[
                "JobAdminDataSource",
                "JobAdminAppServer",
                {
                    "RemoteJobAdminAppServers":[
                       "RfiJobAdminAppServer",
                       "ExternalJobAdminAppServer"
                    ]
                }
            ],
              "SystemOptions":[
                {"name":"MFP outboundLocation", "value":"/replace/with/
outbound/location/for/mfp"},
                {"name":"RDF outboundLocation", "value":"/replace/with/
outbound/location/for/rdf"},
                {"name":"AP outboundLocation", "value":"/replace/with/
outbound/location/for/ap"},
                {"name":"IP outboundLocation", "value":"/replace/with/
outbound/location/for/ip"},
                {"name":"shellCmdWorkingDir", "value":"/replace/with/path/to/
working/dir/for/shellCmds"},
                {"name":"shellCmdLocationDir", "value":"/replace/with/path/
where/shell programs/are/present"},
                {"name":"downloadFileLocation", "value":"/replace/with/path/
where/to/download files/before/files/move/to/finalOutboundLocation"},
                {"name":"overwriteOutboundFilesFlag",
"value": "replace with TRUE or FALSE" },
                {"name":"autoPurgeOutboundData.global", "value":"TRUE"},
                {"name":"autoPurgeOutboundDataDelay.global", "value":"30"},
                {"name":"MFP sftpHost",
"value": "replace with sftp host for mfp" },
                {"name":"RDF sftpHost",
"value": "replace with sftp host for rdf" },
                {"name":"AP sftpHost",
"value": "replace with sftp host for ap" },
                {"name":"IP sftpHost",
```



```
"value": "replace with sftp host for ip"},
                {"name":"MFP_sftpPort", "value":"replace_with_sftp_port_for_mfp"},
                {"name":"RDF sftpPort", "value":"replace with sftp port for rdf"},
                {"name":"AP_sftpPort", "value":"replace_with_sftp_port_for_ap"},
                {"name":"IP sftpPort", "value":"replace with sftp port for ip"},
                {"name":"MFP sftpUser", "value":"replace with sftp user for mfp"},
                {"name":"RDF_sftpUser", "value":"replace_with_sftp_user_for_rdf"},
                {"name":"AP_sftpUser", "value":"replace_with_sftp_user_for_ap"},
                {"name":"IP_sftpUser", "value":"replace_with_sftp_user_for_ip"},
                {"name":"MFP destinationLocation", "value":"/replace/with/ftp/
location/for/mfp"},
                {"name":"RDF destinationLocation", "value":"/replace/with/ftp/
location/for/rdf"},
                {"name":"AP destinationLocation", "value":"/replace/with/ftp/
location/for/ap"},
               {"name":"IP destinationLocation", "value":"/replace/with/ftp/
location/for/ip"},
               {"name":"ftpFilesFlag", "value":"replace with TRUE or FALSE"}
            ]
        }
```

 Run the deployer script to create the data sources and deploy BDI RMS Batch Job Admin. While deploying, the user needs to provide the IDCS client secret ID & password for ricsOauth2ApplicationClientAlias, mfcsOauth2ApplicationClientAlias

```
cd bdi-edge-rms-job-home/bin
bdi-job-admin-deployer.sh -setup-credentials -deploy-job-admin-app
```

bash-4.25 sh bdi-job-admin-deploye log4j:WARN No appenders could be f log4j:WARN Please initialize the 1	ound for logger (com.oracle.retail.integration.common.security.credential.CredentialStoreManager).
USAGE: JobAdminDeployer SECURITY_C	PTION TASK_ACTION DESCHEMA_MIGRATION
: JobAdminDeployer {-setup-cr	edentials -use-existing-credentials} {-deploy-job-admin-app -prepare-job-admin-app} -run-db-schema-migration
SECURITY_OPTION	: One of the following SECURITY options must be used.
-setup-credentials	: Setup AppServer and D8 user/password and save to wallet. : Edit the bdi-job-admin-deployment-env-info,json config file before setting up credentials.
-use-existing-credentials	: Use previously setup AppServer and DB user/passwords from wallet.
TASK_ACTION	: The following TASK_ACTION option must be used.
-deploy-job-admin-app	Configures WebLogic Server and deploy the job-admin application.
-prepare-job-admin-app	: Configures job-admin application for installation, to be used only with -setup-credentials option.
uired step while deploying the app	This option is used to setup the credentials in the installer without deploying the application. This is not a req lication.
DBSCHEMA_MIGRATION	: Below option should be used for auto migration
-run-db-schema-migration	: automates migration from one version to another version

6. Enter the values prompted by the script for following credentials aliases. JobAdmin user has more privileges (e.g change configuration and run jobs from JobAdmin UI) than JobOperator user. JobOperator can run batch jobs where as JobMonitor has just read privileges.

Alias	Description
bdiAppServerAdminServerUserAlias	WebLogic admin server credentials
rmsJobAdminUiUserAlias	Credentials for Admin Role user for Job Admin app



Alias	Description
rmsJobOperatorUiUserAlias	Credentials for Operator Role user for Job Admin app
rmsJobMonitorUiUserAlias	Credentials for Monitor Role user for Job Admin app
rmsJobAdminDataSourceUserAlias	Credentials for the Data Source of the Job Admin Schema
rmsReceiverServiceDataSourceUserAlias	Credentials for the Data Source of the Job Receiver Schema
batchInfraDataSourceUserAlias	Credentials for the Data Source of the Batch Infra Schema
jobXmlDataSourceUserAlias	Credentials for the Data Source of the Job Xml Schema
externalJobAdminBaseUrlUserAlias	BDI EXTERNAL job admin app credentials
rfiJobAdminBaseUrlUserAlias	BDI RFI job admin app credentials
jobAdminUiOAuth2ApplicationClientAliasRef	ICDS Client secret ID and password
	"name":"rfiJobAdminBaseUrlOAuth2Application ClientAlias", "value": "*ricsOauth2ApplicationClientAlias"

Note:

If you have already configured the credentials and can use the same credentials (typically when redeploying the app), you can run the deployer with the -use-existing-credentials option as follows, and you will not be prompted for the credentials again for the deployment.

bdi-job-admin-deployer.sh -use-existing-credentials -deploy-job-adminapp

- 7. Deployer script deploys BDI RMS Batch Job Admin to the managed server.
- 8. Restrict access to the bdi-edge-rms-job-home folder:

cd bdi-edge-rms-job-home chmod -R 700 .

9. Bounce the Edge managed server.

Testing the Deployment

After you deploy to the server successfully, BDI RMS Batch Job Admin can be accessed using the following URL:

```
http://<server>:<port>/rms-batch-job-admin
```

Log in using credentials provided during the installation and verify that jobs are displayed in the Manage Batch Jobs tab and configuration is displayed in the Manage Configurations tab.



m Summary							
Batch Application RMS-BATCH	System Health	Total Jobs 218	Total Executions 173	Total Suc	130		d Executions 43
						Enter job name to search	
	Job Name		Family	instance Id	Execution Id	Enter job name to search	Status
Ud	Job Name allenLov_Fnd_Extractor.tob		Family UdatenLov	Instance Id 12265	Execution Id 12565		
						Start Time	Status
	altemi.ov_Fnd_Extractor2ob		UdatemLov	12285	12585	Start Time	Status COMPLETED
R Rente	altenLov_Fnd_Extractor.tob		UdaftemLov Bemildr	12285 12264	12585 12584	Start Time	Status COMPLETED FALED
tene tene	altenLov_Fnd_Extractor.kob emHdr_Fnd_Extractor.kob etr_Fnd_Extractor.Ceanup.kob		UdatemiLov Bemildr Bemildr	12285 12284 12283	12585 12584 12583	Start Time Twe Oct 23 03:27 35 PDT 2018	Status COMPLETED FALED FALED FALED
n Benir Benir	atenLov_Fnd_Extractor.kob emildr_Fnd_Extractor.kob emildr_Fnd_Extractor.Ceanup.kob emildr_Fnd_Extractor.kob	nJob	Udatent.ov BenHdr BenHdr BenHdr	12285 12284 12283 12283	12585 12584 12583 12582	Start Time Twe Oct 23 03 27 35 PDT 2016	Status COMPLETED FALED COMPLETED
R Renti- Renti- TranCuta_Tx_	atenLov_Fnd_Extractor.kb emildr_Fnd_Extractor.kb er/Fnd_Extractor.kb emildr_Fnd_Extractor.kb emildr_Fnd_Extractor.kb en_Fnd_Extractor.kb		UdatemLov BenHdr BenHdr BenHdr BenHdr	12265 12264 12263 12263 12262 12261	12585 12584 12583 12582 12581	Start Time Twe Oct 23 03 27 35 PDT 2016	Status COMPLETED FALED COMPLETED FALED COMPLETED

Creating Outbound Interface tables for BDI RMS

- 1. Go to the \$BDI_HOME/bdi-edge-rms-job-home/setup-data/ddl folder.
- Run the DDL script "bdi_rms_ddl.sql" provided in this folder in the BDI RMS database schema.
- 3. DDL generates interface tables and PL/SQL packages.

Upgrade Instructions for BDI

BDI Edge JobAdmin App (BdiEdgeJobAdminPak19.1.xFor<app>19.1.x_eng_ga.zip) Upgrade Steps

- 1. Download BdiEdgeJobAdminPak24.0.000ForRms24.0.000_eng_ga.zip to \$BDI_HOME.
- 2. Take the backup of existing bdi-<app>-home.
- 3. Login to the BDI Edge Job App (Example: http://host:17011/rms-batch-job-admin)
- 4. Go to Manage Configurations -> System Options and make following changes. LOADJOBDEF = TRUE and LOADSEEDDATA = TRUE.
- 5. Login to the WLS Console and delete the existing Edge App.
- Delete existing BDI datasources from WLS console, for any datasources changes planned during deployment.
- 7. Modify bdi job flow configuration file (conf/bdi-job-admin-deployment-env-info.json) to support OAuth2 feature. Below property needs to be updated in json file. Remaining property values should be same as backed up bdi-<app>-home. Click here to see new changes in bdi-job-admin-deployment-env-info.json. The deployment description json format has changed from previous release, to accommodate IDCS client credentials and URL.

"oauth2AuthorizationServerUrl":"https:// idcs-4ff493196128425c80ce4ecbfc8352e5.identity.c9dev1.oc9qadev.com/oauth2/v1/ token" ? Replace with IDCS server url.

 To deploy without OAuth, we need to rename or remove the OAuth2 aliases for example:jobAdminUiOAuth2ApplicationClientAliasRef from bdi-job-admin-deployment-envinfo.json, and then deploy. No other extra steps needed for deployment.



See How to Install BDI without IDCS.

9. Deploy the BDI Edge job app using -setup-credential option (Follow BDI Installation Guide). -use-existing-credential option will not work the first time, since there is a new entry (IDCS client credentials) now. While deploying user needs to provide the IDCS client secret ID & password for ricsOauth2ApplicationClientAlias, mfcsOauth2ApplicationClientAlias. Cd to <appName>-job-home/bin and run the below command to upgrade and deploy the bdi job app.

sh bdi-job-admin-deployer.sh -use-existing-credentials } -run-db-schemamigration -deploy-job-admin-app



Database schema auto migration feature should be used from >=16.0.028 version.

bash-4.2\$ sh bdi-job-admin-deplo					
log4j:WARN No appenders could be		cle.retail.integration.co	mmon.security.cred	ential.CredentialStoreManage	
log4j:WARN Please initialize the					
Persisting runtime credentials f		in.AdminAccessscope to D	s Store		
Prepare to use DB store for runt					
Preparing to store Runtime crede		n apprag (rms-batch-job-	(dmin.war)		
Persisting runtime credentials t					
Persisting runtime credentials f		in.OperatorAccessScope to	DB Store		
Persisting runtime credentials t					
Persisting runtime credentials 1		in.MonitorAccessScope to	DB Store		
Persisting runtime credentials t					
Persisting runtime credentials 5		lUserAlias to DB Store			
Persisting runtime credentials t					
Persisting runtime credentials i		lUserAlias to DB Store			
Persisting runtime credentials t					
Persisting runtime credentials f		rlUserAlias to DB Store			
Persisting runtime credentials t					
Persisting runtime credentials f		rlUserAlias to DB Store			
Persisting runtime credentials t					
Persisting runtime credentials f		aseUrlUserAlias to DB Sto			
Persisting runtime credentials t	o DB store				

·····					
PPP 11 11 11 11 11 11 11 11 11 11 11 11 11					
PPP 11 11 11 11 11 11 11 11 11 11 11 11 11					
PPP 11 11 11 11 11 11 11 11 11 11 11 11 11					
PPP 11 11 11 11 11 11 11 11 11 11 11 11 11	1)_logging_LoggerSinfoS1_cd	all			
Hit	11_logging_Logger\$info\$1 cd	all			
### #################################	11_logging_Logger\$info\$1 cd	all			
FFF III III IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	11 logging LoggerSinfoS1 cd	all execute			
FFF III III IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	11 logging LoggerSinfoS1 cd	all			
### III III III III III IIII IIII IIIIIIII	11 logging LoggerSinfoS1 cd	all			

- **10.** After successful deployment, bounce the managed server.
- **11.** Login to BDI Edge Job App and make sure no error is displayed in any of the pages.

Note:

BDI does not mandate the use of OAuth2 or IDCS as authorization server. This version of the BDI is backward compatible with basicAuth. New on-prem customers can use basicAuth by following the below steps. Existing customers can use upgrade instructions and proceed to use basicAuth as the authentication mechanism.



How to Install BDI without IDCS

1. To deploy without OAuth, we need to rename or remove the OAuth2 aliases for example:jobAdminUiOAuth2ApplicationClientAliasRef from bdi-job-admin-deployment-envinfo.json, and then deploy. No other extra steps needed for deployment.

<pre>}, "RfiJobAdminAppServer": { "comment_1": "For 16.0.028 and older RFI", "comment_1_jobAdminUiUrl": "http://localhost:7001/bdi-rfi-batch-job-admin", "comment_2": "For 19.0.000 and later RFI", "jobAdminUiUrl": "http://localhost:7001/rfi-batch-job-admin", "job-adminUiUrl": "http://localhost:7001/rfi-batch-j</pre>
"jobAdminUiUser":"GET FROM WALLET", "jobAdminUiPassword":"GET FROM WALLET",
<pre>}, "RpasJobAdminAppServer": { "jobAdminUiUrl":"http://msp00bqu.us.oracle.com:80/rpas-batch-job-admin", "jobAdminUiUserAlias":"rpasJobAdminBaseUrlUserAlias",</pre>
"Johnse WichthagphiodelenShienenHigher ["massighadelenbageuriOAdenSipplicat: "jobAdminUiUser":"GET_FROM_WALLET", "jobAdminUiPassword":"GET_FROM_WALLET",
<pre>}, "OcdsJobAdminAppServer": { "jobAdminUiUrl":"http://msp00bqu.us.oracle.com:80/ocds-batch-job-admin", "jobAdminUiUserAlias":"ocdsJobAdminBaseUrlUserAlias", "jobAdminUiUserAlias":"ocdsJobAdminBaseUrlUserAlias", "jobAdminUiUser":"GET_FROM_WALLET", "jobAdminUiPassword":"GET_FROM_WALLET",</pre>
<pre>jobAdminUiPassword . GH_FKOA_WALLET, }, "ExternalJobAdminUiUrl":"http://msp00bqu.us.oracle.com:80/external-batch-job-admin", "jobAdminUiUserAlias":"externalJobAdminBaseUrlUserAlias", "jobAdminUiUser":"GET_FROM_WALLET", "jobAdminUiPassword":"GET_FROM_WALLET",</pre>

```
"RfiJobAdminAppServer": {
            "comment 1": "For 16.0.028 and older RFI",
            "comment 1 jobAdminUiUrl":"http://localhost:7001/bdi-rfi-batch-job-
admin",
            "comment_2": "For 19.0.000 and later RFI",
            "jobAdminUiUrl":"http://localhost:7001/rfi-batch-job-admin",
            "jobAdminUiUserAlias":"rfiJobAdminBaseUrlUserAlias",
            "jobAdminUiUser":"GET FROM_WALLET",
            "jobAdminUiPassword":"GET_FROM_WALLET",
        },
        "ExternalJobAdminAppServer": {
            "jobAdminUiUrl":"http://localhost:7001/external-batch-job-admin",
            "jobAdminUiUserAlias":"externalJobAdminBaseUrlUserAlias",
            "jobAdminUiUser":"GET_FROM_WALLET",
            "jobAdminUiPassword":"GET_FROM_WALLET",
        "CentralAuthenticationSystem":{
            "IdcsAuthenticationProvider":{
                "oauth2AuthorizationServerUrl":"https://
idcs-4ff493196128425c80ce4ecbfc8352e5.identity.c9dev1.oc9qadev.com/oauth2/v1/
token",
                "oauth2Application":[
                    {
                         "oauth2ApplicationName" : "RICS",
                         "oauth2ApplicationScopeOfAccess" :
{"name":"oauth2.default.scopeOfAccess.*", "value":"urn:opc:idm: myscopes "},
                         "oauth2ApplicationClientAlias" :
```



Continue with regular installation

Note:

In case any similar errors like ORA-00942: table or view does not exist Verify if the corresponding tables present in the schema or not, as there are cases where Bdi<App>ReceiverServiceDataSource and Bdi<App>JobAdminDataSource might have configured to different schemas.RTG maintains only one migration script for upgrades. Please ignore those errors.

BDI Edge RMS Job Admin Configuration file Changes

The following changes have been introduced to the BDI Edge RMS Job Admin Configuration file in 24.0.000 Release

 For BDI RFI the application has been renamed from BdiIntJobAdminPak<VERSION>ForRfi<VERSION>_eng_ga.zip to BdiEdgeAppJobAdminPak<VERSION>ForRfi<VERSION>_eng_ga.zip, due to this change the BDI RMS Configuration for BDI RFI has also changed:

```
"RfiJobAdminAppServer": {
    "comment_1": "For 16.0.028 and older RFI",
    "comment_1_jobAdminUiUrl":"http://localhost:7001/bdi-rfi-
batch-job-admin",
    "comment_2": "For 19.0.000 and later RFI",
    "jobAdminUiUrl":"http://localhost:7001/rfi-batch-job-admin",
    "jobAdminUiUserAlias":"rfiJobAdminBaseUrlUserAlias",
    "jobAdminUiUser":"GET_FROM_WALLET",
    "jobAdminUiPassword":"GET_FROM_WALLET",
    },
```

2. New System Options Added to Disable Jobs at the time of installation:

```
{"name":"jobSelection.1.pattern", "value":"ToExternalJob"},
{"name":"jobSelection.1.initialState", "value":"false"},
```



5 Process Flow Installation

Prerequisites

The Process Flow application has the same tech stack requirements mentioned in the beginning of this document for JDK, WebLogic domain, and database. Before installing the Process Flow application install the following infrastructure components for the application.

- A WebLogic domain with JRF for the application
- A database schema for the Process Flow application

Before you begin installing BDI Process Flow, make sure you have the database schema created for BDI Process flow.

If you are migrating from previous version of BDI PROCESS FLOW to a newer version, Follow upgrade instructions for bdi. Before following upgrade instructions for bdi, you need to provide permissions for database schema. Run the below commands on admin schema where database schema is created, to provide permissions.

Commands:

```
CREATE TABLE TO 'user schema';
CREATE SEQUENCE TO 'user schema';
CREATE INDEX TO 'user schema';
```

Example: User schema name is bdi_process_app. Run below commands on admin schema.

```
CREATE TABLE TO 'bdi_ process _app';
CREATE SEQUENCE TO 'bdi_ process _app';
CREATE INDEX TO 'bdi process app';
```

The recommended java VM memory setting for the Process Flow application domain is:

-Xms1024m -Xmx2048m

Install the Process Flow Application

Perform the following procedure to install the Process Flow application:

- Download the process flow archive BdiProcessFlow24.0.000ForAll23.x.xApps_eng_ga.zip
- Unzip the downloaded archive. The Process Home directory will be created under the current directory.

unzip BdiProcessFlow24.0.000ForAll23.x.xApps eng ga.zip

This command extracts the archive. The relevant directories for the installation are shown below (There are more directories than what is shown).



```
|- - - - - - bin
                  ` - - - - - bdi-process-flow-admin-deployer.sh
- - - - - - conf
                  ` - - - - - bdi-process-flow-admin-deployment-env-
info.json
                   - - - - - bdi-process-flow-admin-internal-trust-
1
store.jks
                 `----log4j2.xml
                 ` - - - - - - security
                 `----jazn-data.xml
                 `----jps-config.xml
  - - - - - - dist
                  ` - - - - - bdi-process-flow-24.0.000.war
                   - - - - - README.txt
|- - - - - - lib
|- - - - - - scripts
                   - - - - - DBSchemaMigration.groovy
                  ` - - - - - ProcessFlowAdminDeployer.groovy
                   - - - - - README.txt
                 ` - - - - - WebLogicManager.groovy
- - - - - - setup-data
                  - - - - - - ddl
                                                      |- - - - -
                                 - - - - migration
                 | |
                                           |- - - - - - - - -
BDI_Database_Util_Spec_Permission.sql
1
               |------
BDI_Database_Util_Spec.sql
                                           |- - - - - - - - -
1
               create_wl_llr_table.sql
|- - - -
migrate-process-schema-from-16.0.027-to-16.0.028.sql
migrate-schema-from-16.0.021-to-16.0.023.sql
|- - - - - - -
migrate-schema-from-16.0.023-to-16.0.025.sql
|- - - - - -
migrate-schema-from-16.0.025-to-16.0.027.sql
|- - - - - - -
migrate-schema-from-16.0.031-to-19.0.000.sql
                                           |- - - - - - -
migrate-schema-from-16.0.21-to-16.0.023.sql
|- - - - -
---- purge
                                                       |- - - - -
- - purge process repo.sql
                  ` - - - - - - dml
                 ` - - - - - - dsl
                 ` - - - - - available_process_flow_options
                                                       |- - - - -
                                 - - - - enterprise-sender_side_split_flows
                                                       |- - - - -
- - - - rms_enterprise-sender_side_split_flows
                                                       |- - - - -
                                 - - - - rms_external-no_split_flows
                                                       |- - - - -
--- rms_rfi-no_split_flows
|- - - - - - - target
```



` - - - - - bdi-process-flow.war ` - - - - - README.txt

3. Modify process flow configuration file(conf/bdi-process-flow-admin-deployment-envinfo.json) to match the deployment environment and to support OAuth2 feature. The deployment description json format has changed from previous release, to accommodate IDCS client credentials and URL. While you can change many values to match your requirements, here is a table of a minimum set of configuration values that you need to modify for process flow application.

To deploy without OAuth, we need to remove or replace the OAuth2 aliases (For example:- jobAdminUiOAuth2ApplicationClientAliasRef) in bdi-process-flow-admin-deployment-env-info.json, and then deploy. No other extra steps required for deployment.

Note:

The alias names in the configuration files should not be changed.

Configuration Field	Description
BdiProcessFlowAdminDataSource ->jdbcUrl	JDBC URL for the process flow schema. Change this value to match the environment
ProcessFlowAdminAppServer - >weblogicDomainName	Name of the WebLogic domain where the process flow application is deployed
ProcessFlowAdminAppServer - >weblogicDomainHome	WebLogic Domain home directory
ProcessFlowAdminAppServer- > weblogicDomainProtocol	WebLogic admin server protocol is by default t3, if SSL configured then update to t3s.
ProcessFlowAdminAppServer - >weblogicDomainAdminServerUrl	WebLogic Admin server URL
ProcessFlowAdminAppServer - >weblogicDomainAdminServerHost	Host name of WebLogic Admin Server
ProcessFlowAdminAppServer - >weblogicDomainAdminServerPort	WebLogic admin server port
ProcessFlowAdminAppServer - >weblogicDomainTargetManagedServerName	Managed Server name where Process Flow is hosted
ProcessFlowAdminAppServer - >processFlowAdminUiUrl	Process Flow admin app URL. Update only the host and port
RmsAppJobAdminAppServer>jobAdminUiUrI	BDI RMS job admin URL
RfiAppJobAdminAppServer-> jobAdminUiUrl	RFIAPP job admin URL
ExternalAppJobAdminAppServer	BDI EXTERNAL job admin URL
oauth2AuthorizationServerUrl	IDCS URL
	For example: https:// idcs-4ff493196128425c80ce4ecbfc8352e5.ident ity.c9dev1.oc9qadev.com/oauth2/v1/token
SystemOptions	allAvailableDestinationApps mentions all the apps available as destination
	appsInScope - mentions the apps that are in scope.

Example:



ProcessFlow JSON Snippet:

```
"ProcessFlowAdminApplication":{
            "ProcessFlowAdminAppUses":[
                "ProcessFlowAdminDataSource",
                "ProcessFlowAdminAppServer",
                    "RemoteJobAdminAppServers":[
                        "RfiAppJobAdminAppServer",
                        "RmsAppJobAdminAppServer",
                        "ExternalAppJobAdminAppServer"
                    1
                }
            ],
            "SystemOptions":[
                {"name":"allAvailableDestinationApps",
"value":"EXTERNAL, RFI, RMS"},
                {"name":"appsInScope", "value":" RFI"},
                {"name":"jobGroupCacheEnabled", "value":"false"},
                {"name":"flowSelection.1.pattern", "value":" From EXTERNAL"},
                {"name":"flowSelection.1.initialState", "value":"false"},
{"name":"flowSelection.2.pattern","value":"ProcessFlowName1,ProcessFlowName2"
},
                {"name":"flowSelection.2.initialState", "value":"true"},
                {"name":"skipImporterActivitiesForExternal", "value":"true"},
                {"name":"repave notification lead time", "value":"30"},
                { "name": "processFlowNotification.global.enable",
"value":"false"},
                {"name":"processFlowNotification.global.onStart",
"value":"false"},
                { "name": "processFlowNotification.global.onRestart",
"value":"false"},
                { "name": "processFlowNotification.global.onFailure",
"value":"true"},
                { "name": "processFlowNotification.global.onCompletion",
"value":"false"}
            1
```

Process Flow Json snippet for OAuth support:

```
"CentralAuthenticationSystem":{
```

```
"IdcsAuthenticationProvider":{
```

BDI Process flow installer copies all the enterprise flows from bdi-process-home/setupdata/dsl/available_process_flow_options/rms_enterprise-sender_side_split_flows/ to bdiprocess-home/setup-data/dsl/flows-in-scope.

- 4. Configure the appsInScope system options in process flow configuration file. As shown in step 3 above.
- 5. If you are migrating from previous version to a new version, follow the upgrade instructions for bdi.
- 6. Run the deployer. Make sure that the WebLogic server is running before issuing the following command.

```
cd bin
bdi-process-flow-admin-deployer.sh -setup-credentials -deploy-process-flow-admin-
app
```

The process flow deployer will prompt for username and password for the following credential aliases:

Alias	Description
bdiAppServerAdminServerUserAlias	WebLogic admin server credentials
processFlowAdminBaseUrlUserAlias	Credentials for Admin Role user for Process Flow Admin app
processFlowOperatorBaseUrlUserAlias	Credentials for Operator Role user for Process Flow Admin app
processFlowMonitorBaseUrlUserAlias	Credentials for Monitor Role user for Process Flow Admin app
bdiProcessFlowAdminDataSourceUserAlias	Credentials for the Data Source of the Process Flow Schema
rmsappJobAdminBaseUrlUserAlias	RMS job admin credentials
externalappJobAdminBaseUrlUserAlias	External job admin credentials
rfiappJobAdminBaseUrlUserAlias	RFIAPP job admin credentials
jobAdminUiOAuth2ApplicationClientAliasRef	IDCS Client ID and password
(name":"rmsappJobAdminBaseUrlOAuth2Applic ationClientAlias", "value": "*mfcsOauth2ApplicationClientAlias)	IDCS Client ID and password



Alias	Description
obAdminUiOAuth2ApplicationClientAliasRef	IDCS Client ID and password
(name":"rfiappJobAdminBaseUrlOAuth2Applicat onClientAlias", "value": '*ricsOauth2ApplicationClientAlias)	t
,	
💉 Note:	
Note: If you have an existing process flow of Flow App, go to Manage Configuration the following system options before r LOADPROCESSDEF = TRUE and L	ons -> System Options and update unning the above command.

System Options available in UI. It can be done by updating its value in bdi-process-flow-admin-deployment-env-info.json and redeploying application.

Set value of "skipImporterActivitiesForExternal' to false for on premise users.

Example: {"name":"skipImporterActivitiesForExternal","value":"false"}

If you have already configured various credentials required for process flow, you can run the deployer with the following syntax. It will not ask the credentials again for the deployment. Make sure you set the LOADPROCESSDEF = true, LOADSEEDDATA = true.

```
bdi-process-flow-admin-deployer.sh -use-existing-credentials - deploy-process-flow-admin-app
```

- 7. Make sure the deployment step shows deployment success message at the end.
- 8. Restrict access to the bdi-process-home folder:

```
cd bdi-process-home chmod -R 700 .
```

9. Bounce the process managed server.

Verify Installation

If the process flow app is successfully deployed, you should be able to access the application at the URL http://<host>:<port>/bdi-process-flow/. The following is a sample screenshot of the process flow application. Make sure all the tabs of the application are properly displayed.



rocess Flow Orches	strator Status Summary						
Total Proce	esses Definitions 48	Total Process Executions Failed Executions 11		Successful Execution 22	s Currently	Currently Running Processes	
rocess Flow Execut	tions Since 00:00 AM				Enter process name to	search 9	
				Process Execution Start	Process Execution End		
Proce	ess Name	Execution Id		Time	Time	Process Status	
	ocessFlow_From_RMS_ b_SM	DMGrp_Fnd_SubProcessFlow_From_FMS_To_SMM0H11126-d21c-4/74- a095-5f1067a641c2		Thu Sep 29 23.44.03 PDT 2016		PROCESS_STARTED	
Diff_Find_SubProces	ssFlow_From_RMS_To_ SIM	Diff_Find_SubProcessFlow_From_RMS_To_SMMafet06cb-6db1-468a- a0tr/605638a29366		Thu Sep 29 23 42:58 PDT 2016	Thu Sep 29 23:43:58 POT 2015	PROCESS_COMPLET	
Orghter_Find_Proc	cessFlow_From_RMS	OrgHer_Fnd_ProcessFlow_From_RMS#98d7ccc8-26de-443b-818a- 4a8634d2a618		Thu Sep 29 23 42 25 PDT 2016	Thu Sep 29 23 44 25 POT 2015	PROCESS_COMPLET	
InvAvailStore_Tx_Pr	rocessFlow_From_RMS	ImAvailStore_Tx_ProcessFlow_From_F0X5#d210b001462d-405e- bf0x-d7dx2bx01d25		Thu Sep 29 23.42.14 POT 2016	Thu Sep 29 23:43:16 POT 2016	PROCESS_COMPLET	
Enished at End D	rocessFlow From RMS	FinisherAddr_Find_ProcessFlow_From_RMS#ad4068b-4da1-4fe4-54b5- eabee001033		Thu Sep 29 23 42 07 PDT 2016	Thu Sep 29 23:42:07 POT 2016	PROCESS_FALED	

See the Oracle Retail Bulk Data Integration Implementation Guide for the operation details of the Process Flow application.

Enabling Email Notification Alerts

Process Flow can send email alerts upon success or failure of process executions as specified in the process definitions. The following configuration is required for process email notification.

Mail Session configuration in WebLogic, for process email notification:

- Go to the WebLogic Admin console of the environment where the process app is deployed.
- 2. Navigate to Services -> Mail Sessions.
- 3. Select New to create a new mail session.
- 4. Enter the following details:

Name: BdiProcessMailSession

JNDI name: mail/BdiProcessMailSession

Session Username: A valid email id, preferably email-id of an administrator.

Session password: The password for the above email id.

5. Enter the following in the JavaMail properties:

mail.smtp.ssl.enable=true

mail.smtp.auth=true

mail.smtp.ssl.trust=<company's smtp mail server host name>

mail.smtp.port=<mail server smtps port, typically is 465>

mail.transport.protocol=smtps



mail.smtp.host=<company's smtp mail server host name>

mail.from=<A valid email-id for 'from email address' when email is sent>

mail.to(Optional)=<List of valid recipients email-ids>

Web Session Mail.to property is used if processFlowNotification.<scope>.recipients is not set in Process Notification Configuration.

- 6. Click Next. In the Mail Session Targets, select the managed server where the process application is deployed.
- 7. Finish creating the mail session.



Repave lead time by default is 30. The user can modify the value through System Options repave_notification_lead_time.

Process Flow Live Live Progress View Manage Process Flow System Options Diagnostics Log Level Process Notifica	Historical Process Flow Executions Manage Configurations System Logs
View/Edit System Options	
มายบรรระ เอพางอนแบลแอเปลมอนเอเน สแมเต	Enter Option Name or Value to Search
processFlowNotification.global.onRestart	false
processFlowNotification.global.onStart	false
processFlowNotification.global.subject	\${processName}. Status: \${processStatus}
repave_notification_lead_time	30
rfiappJobAdminBaseUrl	http: :
rfiappJobAdminBaseUrlUserAlias	GET_FROM_WALLET:GET_FROM_WALLET
ricsOauth2ApplicationClientAlias	GET_FROM_WALLET:GET_FROM_WALLET

Process Flow Upgrade Steps

- Download the BdiProcessFlow24.0.000ForAll23.x.xApps_eng_ga.zip from RTG Wiki and extract.
- 2. Take the backup of existing bdi-process-home.
- 3. Cd to bdi-process-home/conf folder.
- 4. Modify process flow configuration file (conf/bdi-process-flow-admin-deployementenv-info.json) to match the deployment environment and support OAuth2 feature.
- 5. To deploy without OAuth, we need to remove or replace the OAuth2 aliases (For example:- jobAdminUiOAuth2ApplicationClientAliasRef) in bdi-process-flow-admin-deployment-env-info.json, and then deploy. No other extra steps required for deployment.



6. The deployment description json format has changed from previous release, to accommodate IDCS client credentials and URL.

```
Note:
```

The alias names in the configuration files should not be changed.

"oauth2AuthorizationServerUrl":"https://

idcs-4ff493196128425c80ce4ecbfc8352e5.identity.c9dev1.oc9qadev.com/oauth2/v1/ token" ? Replace with IDCS server url

- 7. Configure the appsInScope system options in process flow configuration file.
- 8. Login to the existing deployed process flow app.
- 9. Go to Manage Configurations -> System Options and make following changes: LOADPROCESSDEF = TRUE and LOADSEEDDATA = TRUE
- **10.** Delete the existing process flow app.
- **11.** Run the below command to upgrade and deploy the process-flow-app.

```
Cd bin
sh bdi-process-flow-admin-deployer.sh -use-existing-credentials -run-db-schema-
migration -deploy-process-flow-admin-app
```

- 12. BDI process flow installer copies all the enterprise flows from process-home/setupdata/dsl/available_process_flow_options/rms_enterprise-sender_side_split_flows/ to process-home/setup-data/dsl/flows-in-scope while deployment.
- **13.** After successful deployment, bounce the managed server.

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ersisting runtime credentials for allas simJobAdminBaseUrlUserAllas to D8 Store							
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6 Cluster Considerations

Modern business application requirements are classified by the abilities that the system must provide. This list of abilities such as availability, scalability, reliability, audit ability, recoverability, portability, manageability, and maintainability determine the success or failure of a business.

With a clustered system many of these business requirement abilities gets addressed without having to do lots of development work within the business application. Clustering directly addresses availability, scalability, recoverability requirements which are very attractive to a business. In reality though it is a tradeoff, clustered system increases complexity, is normally more difficult to manage and secure, so one should evaluate the pros and cons before deciding to use clustering.

Oracle provides many clustering solutions and options; those relevant to BDI are Oracle database cluster (RAC) and WebLogic Server clusters.

Scaling BDI

BDI needs to be scaled horizontally to handle large number of concurrent jobs. Single instances of Process Flow can be used since they are not resource intensive. Job Admin can be very resource intensive. To handle large number of concurrent jobs, multiple instances of Job Admin can be used to distribute jobs. WebLogic Server cluster that consists of multiple managed server instances provide horizontal scalability for Job Admin.

BDI on Cluster

As recommended above, for scaling BDI for large number of jobs, BDI components should be deployed to cluster. Following are some considerations to be taken into account when deploying BDI on cluster.

Logging

Issue

The "System Logs" tab in Process Flow and Job Admin UIs show only logs from the server that UI is connected to.

Solution

Use a common log directory for each of the BDI components.

BDI components use the following directory structure for creating log files.

\$DOMAIN_HOME/logs/<server name>/<app name>

Example

DOMAIN_HOME/logs/server1/rms-job-admin.war

\$DOMAIN_HOME/logs/server2/rms-job-admin.war



- 1. Create a common log directory (e.g. /home/logs/jobadmin) for each BDI application.
- 2. Create symbolic links to the common log directory for each server using the below command from \$DOMAIN_HOME/logs directory.

```
ln -s /home/logs/jobadmin
server1/rms-job-admin.war
ln -s /home/logs/jobadmin
server2/rms-job-admin.war
```

- If the directory \$DOMAIN_HOME/logs/<server>/<app> already exists, it needs to be deleted before symbolic link is created.
- 4. App needs to be restarted after symbolic link is created.

When WebLogic managed servers are in different machines a shared network disk has to be used.

Update Log Level

Issue

When log level is updated through UI or REST end point, it updates the log level only on the server it is connected to.

Solution

Log level needs to be updated through the URL of all the nodes in the cluster using UI or REST endpoint.

Example

http://server1:port1/bdi-rms-batch-job-admin/resources/system-setting/system-logs

http://server2:port2/bdi-rms-batch-job-admin/ resources/system-setting/system-logs

Create/Update/Delete System Options

Issue

When system options are created/updated/deleted using UI or REST end point, the changes are reflected only on the server that client is connected to.

Solution

The reset-cache REST endpoint needs to be invoked on the other nodes in the cluster for that application in BDI.

Example

http://server1:port1/bdi-rms-batch-job-admin/ resources/system-setting/reset-cache

Use curl command to reset cache as:

```
curl --user userId:password -i -X POST -H "Cot-Type:application.json"
http://server1:port1/rms-batch-job-admin/resources/system-setting/reset-cache
```



Create/Update/Delete System Credentials

Issue

When system credentials are created/updated/deleted using REST endpoint, the credentials are created/updated/deleted only on the server that client is connected to.

Solution

The REST endpoint that creates/updates/deletes credentials need to be invoked on all the nodes in the cluster for that application in BDI.

Example

```
http://server1:port1/rms-batch-job-admin/resources /system-setting/system-credentials
http://server2:port2/rms-batch-job-admin/resources /system-setting/system-credentials
```

Use curl command to create credentials on other nodes in the cluster as:

curl --user userId:password -i -X PUT -H "Content-Type:application/json" http://server1:port1/bdi-rms-batch-job-admin/resources/system-setting/systemcredentials

```
-d '{"userAlias":"rmsappJobAdminBaseUrlUserAlias", "userName":"rmsjobadmin" ,
"userPassword":"xyzxyz"}'
```

Use curl command to update credentials on other nodes in the cluster as:

```
curl --user userId:password -i -X POST -H "Content-Type:application/json"
http://server1:port1/bdi-rms-batch-job-admin/resources/system-setting/system-
credentials
    -d '{"userAlias":" reimappJobAdminBaseUrlUserAlias",
    "userName":"reimjobadmin", "userPassword":"wwwqqqq"}'
```

Use curl command to delete credentials on other nodes in the cluster as:

```
curl --user userId:password -i -X DELETE -H "Content-Type:application/json"
http://server1:port1/bdi-rms-batch-job-admin/resources/system-setting/system-
credentials
    -d '{"key":"rmsappJobAdminBaseUrl"}'
```

Auto Purge Process Flow Infra Data

A thread runs every hour to purge data from Process Flow infra tables which have crossed configured purge delay.

Below steps are followed to purge data from BDI Process Flow tables:

- Check if the "autoPurgeProcessFlowInfraData" flag is available and is set to true. If yes, continue with the next step. Default "autoPurgeProcessFlowInfraData" to true if it is missing in the System options table.
- 2. Get the value of "autoPurgeProcessFlowInfraDataDelay" from the System option table. Default delay to 60 days if it is missing in the System Options table.
- Query the table BDI_PROCESS_EXEC_INSTANCE to get PROCESS_EXECUTION_ID whose PROCESS_EXEC_START_TIME has exceeded the delay configured and is in completed state. This list decides records that can be purged from Process flow table.



- 4. Purge data from BDI_PROCESS_CALL_STACK whose INVOCATION_TIME has exceeded the delay configured.
- 5. Purge data from BDI_ACTIVITY_EXEC_INSTANCE whose ACTIVITY_EVENT_TIME TIME has exceeded the delay configured.
- 6. Purge data from BDI_EMAIL_NOTIFICATION whose EMAIL_NOTIFICATION_DATETIME has exceeded the delay configured.

Follow below steps to update auto purge configurations.

- 1. Turn OFF/ON auto purge:
- 2. Login to BDI Process Flow admin UI with valid Credentials.
- 3. Navigate to "Manage Configurations" tab. Select "System Options".
- 4. Update the value of "autoPurgeProcessFlowInfraData" to true/false to turn off/on auto purge.
- 5. If "autoPurgeProcessFlowInfraData" is not available, add it using the "Create New System Options" option.

Update delay:

- 1. Login to the BDI batch job admin UI with valid Credentials.
- 2. Navigate to the "Manage Configurations" tab. Select "System Options".
- 3. Update the value of "autoPurgeProcessFlowInfraDataDelay" to the desired delay.
- 4. If "autoPurgeProcessFlowInfraData" is not available, add it using the "Create New System Options" option.



7 BDI Migration

To accelerate the application performance, following indexes are created on the listed tables in JobAdmin and Processflow applications.

Process Flow Admin

Table Name	Index Name
BDI_ACTIVITY_EXEC_INSTANCE	INDX_ACTIVITY_EXEC_INSTANCE_1
BDI_PROCESS_EXEC_INSTANCE	INDX_PROCESS_EXECUTION_1
	INDX_PROCESS_EXECUTION_2
	INDX_PROCESS_EXECUTION_3
BDI_PROCESS_CALL_STACK	INDX_PROCESS_CALL_STACK_1
	INDX_PROCESS_CALL_STACK_2

Job Admin

Table Name	Index Name
BDI_DWNLDR_IFACE_MOD_DATA_CTL	INDX_DNLDR_IFACE_MD_DAT_CL_1
	INDX_DNLDR_IFACE_MD_DAT_CL_2
	INDX_DNLDR_IFACE_MD_DAT_CL_3
BDI_DWNLDR_TRNSMITR_EXE_DSET	INDX_DT_TRANSMITR_EXE_DSET_1
	INDX_DT_TRANSMITR_EXE_DSET_2
	INDX_DT_TRANSMITR_EXE_DSET_3
	INDX_DT_TRANSMITR_EXE_DSET_4
BDI_UPLOADER_TRANSACTION	INDX_UPLOADER_TRANSACTION_1
	INDX_UPLOADER_TRANSACTION_2
BDI_RECEIVER_TRANSACTION	INDX_RECV_TRANSACTION_1
BDI_RECEIVER_TRANSMISSION	INDX_RECEIVER_TRANSMISSION_1
BDI_UPLDER_IFACE_MOD_DATA_CTL	INDX_UPLDR_IFACE_MD_DAT_CL_1
	INDX_UPLDR_IFACE_MD_DAT_CL_2
BDI_UPLOADER_EXE_DATASET	INDX_UPLOADER_EXE_DATASET_1
	INDX_UPLOADER_EXE_DATASET_2

Migration Steps

During migration from 16.0.025 to 16.0.027, to accommodate for the above-created indexes run the following SQL scripts against respective schemas as listed below.



Name	File Location	Database Schema for Execution
migrate-schema- from-16.0.025-to-16.0.027.sql	bdi-process-home/setup- data/ddl/migration	Processflow Schema

Note:

If both integration schema and receiver schema are same, do not run the migration script twice from bdi-<edge>-app-job-home/setup-data/ddl/ migration.

If both schemas are different, the user may see the "SQL Error: ORA-00942: table or view does not exist" for the table that does not exist on that schema.

For migrating from any version older than 16.0.025, the user needs to run the migration scripts incrementally.



A

Appendix: Integrating BDI-RMS with External Applications

This section provides guideline for integrating External application with RMS using BDI.

Installation Instructions

- 1. Additional entries are to be added in BDI-RMS configuration file to integrate bdi-rms with bdi-external.
- 2. Copy the Job xmls from: bdi-edge-rms-job-home/setup-data/available-jobs-for-externalapp-integration to the folder bdi-edge-rms-job-home/setup-data/META-INF/batch-jobs/.

```
cd bdi-edge-rms-job-home/setup-data/
cp available-jobs-for-external-app-integration/*.* META-INF/batch-jobs/
```

3. Install bdi-edge-rms application by following instructions in the section Deploying BDI RMS Batch Job Admin on the WebLogic.

