Oracle® Revenue Management and Billing

Version 2.9.0.0.0

Bill and Letter Reports Configuration Guide

Revision 1.1

F34135-01

August, 2020

ORACLE®

Oracle Revenue Management and Billing Bill and Letter Reports Configuration Guide

F34135-01

Copyright Notice

Trademark Notice

Oracle, Java, JD Edwards, PeopleSoft, and Siebel are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

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

License Restrictions Warranty/Consequential Damages Disclaimer

Warranty Disclaimer

Restricted Rights Notice

Hazardous Applications Notice

This software 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 in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

Third Party Content, Products, and Services Disclaimer

This software 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 unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third party content, products, or services.

Preface

About This Document

This document helps you understand ORMB reporting platform and assist you in configuring ORMB Reporting system for generating different reports.

Intended Audience

This document is intended for the following audience:

- End-Users
- Consulting Team
- Implementation Team

Organization of the Document

The information in this document is organized into the following sections:

Section No.	Section Name	Description
Section 1	Introduction	Provides an overview of ORMB web reporting platform and also lists benefits of the platform
Section 2	Reporting using Apache	Explains reporting using apache framework
Section 3	Installation	Explains installation of reporting tool
Section 4	Configuration & Report Generation for Bill	Explains the steps to be followed to generate reports and also provides information about the various functions, algorithms defined for generating reports in PDF
Section 5	Configuration & Report Generation for Letter	Explains the steps to be follow to generate reports. It also provides information about the various functions, algorithms defined for generating reports in PDF
Section 6	Report Audit	Explains report generation through UI and Batch reports can be viewed here
Section 7	Email Configuration	Explains master email configuration

Related Documents

You can refer to the following documents for more information:

Document	Description
Oracle Revenue Management and Billing Reporting Installation Guide	Lists the prerequisites, supported platforms, and hardware and software requirements for installing the Oracle Revenue Management and Billing (ORMB) reporting framework.
Oracle Revenue Management and Billing Reporting SDK Guide	Lists and describes various FOP reporting SDK features in Oracle Revenue Management and Billing. It also describes all screens related to these features and explains how to perform various tasks in the application.
Oracle Revenue Management and Billing Reporting User Guide	Explains the ORMB reporting process and the various types of frameworks provided by ORMB. It also explains how to use Groovy to generate different reports.

Conventions

The following conventions are used across the document:

Convention	Meaning
boldface	Boldface indicates graphical user interface elements associated with an action, or terms defined in the text.
italic	Italic indicates a document or book title.
`monospace`	Monospace indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or information that an end-user needs to enter in the application.

Change Log

Revision	Last Update	Updated Section	Comments
1.1	19-Jan-2022	-	Added Bookmarks in PDF

Contents

1.   Introduction to Reporting

ORMB application provides a unique web-reporting platform. This platform offers a best-in-class enterprise reporting module that enables customers to uncover new insights and helps them to take faster, and more informed business decisions.

ORMB Reporting module easily integrates with the existing infrastructure, provides a reusable design and data elements, and enables an easy API access.

Main benefits of ORMB reporting platform are:

- It allows you to generate and deliver customized reports to colleagues in different departments and customers on time.
- Helps implementers in efficiently creating and updating document templates
- Supports web-based reporting, and charts data representation with existing or custom groovy services
- Includes data representation using query zones with SQL in tabular formats
- Supports output in PDF, CSV, XML, JSON formats using Custom Formatting Objects Processor (FOP) Templates

1.1 What is Apache-FOP?

Apache FOP (Formatting Objects Processor) is a print formatter driven by XSL formatting objects. It is a Java application that reads a formatting object tree conforming to the XSL 1.1 Recommendation (05 December 2006) and then turns it into a PDF document or other output formats, and allows you to preview it directly on screen.

For more information, refer to official Apache FOP site at https://xmlgraphics.apache.org/fop/ and GitHub repository at https://github.com/apache/fop

> **Note**: Currently we support ORMB FOP Reporting feature only for **Bill** and **Letter** PDF generation.

The goal of this Quick Start Guide is to help novice users get Apache FOP up and running quickly. To do this, follow the steps below:

1. Install FOP in ORMB
2. Configure ORMB FOP Reporting
3. Develop FOP template (XSL development)
4. Upload FOP templates using 'Reporting Template Upload' UI
5. Develop an ORMB algorithm
6. Call ORMB FOP framework API to generate PDF reports Bill and Letters

2. FOP Configuration for Bill in ORMB

ORMB Reporting tool allows you to configure FOP for **Bill** and **Letter** templates. To configure FOP for Bill, follow the procedure below:

2.1 Installing FOP for Bill

To configure and install FOP in ORMB framework, refer to Oracle Revenue Management and Billing Reporting Installation Guide.

2.2 Configuring FOP for Bill

1. From the Admin menu, select I and then click on Installation Options - Framework.
2. The Installation Options - Framework screen appears.

Figure 1: Installation Options-Framework Page

3. Click the Algorithms tab and scroll down to the System Event **Online Bill Display**.
4. In the Algorithm field, enter **C1_FOPONBL**.

Figure 2: Online Bill Display

2.3 Developing FOP Template (XSL development)

To produce a PDF file from an XML file, you need an XSLT stylesheet that converts the XML to XSL-FO. This is the first step in the processing chain. FOP does the second step when it reads the generated XSL-FO document and formats it to a PDF document. You can copy the following minimal XSLT stylesheet.

For detailed instructions on how to create a new FOP template, refer to Develop Reporting Template section of ORMB Reporting SDK Guide.

The FOP templates that come with Oracle Revenue Management and Billing application that are used for Bill Report generation are:

- billExtract_Banking_Individual.xsl (FOP Template for Individual Billing)

- billExtract_Comm_Banking_List.xsl (FOP Template for List Billing)

2.4 Report Definition for Bill

ORMB Reporting framework allows you to define a report definition where you can configure or define reports. ORMB provides Report definition screen where you can configure report type report generation mode or upload report templates and image for report generation as given in below screen shot. The ORMB reporting API internally uses this report definition to generate reports.

To define a new Report Code follow the procedure below:

1. From the Admin menu, select R and then click on Reporting Details. This opens the Report Definition page.

Figure 3: Report Definition Search

2. Click **Add** on the top right corner of the page. This opens the Report Definition pop-up window.

Figure 4: Report Definition Page

3. This screen contains following fields:

Field Name	Description
Report Code	Enter a unique report code.
Report Description	Enter a meaningful description.
Report Output Format	Select the output format for the report. The values available are: • CSV Report • DOCX Report • JSON Report • PDF Report • WEB Report • XLS Report • XML Report
Script	Search and select a script for the report. **Note**: This field is enabled when you select WEB Report in Report Output Format field.
Report Type	Select **Bill** for generating Bill type reports. The values available are: • Bill • Custom • Letter
Report Template	Select a template for generating Bill reports.
Report Type Template	Click on **Upload** to upload a template file or images to design reports. **Note**: This field is enabled when you select **Custom** in **Report Type** field.
Report Process Algorithm Code	Search and select a custom algorithm for report generation. **Note**: This field is enabled when you select **Custom** in **Report Type** field.
Report Mode	Select the mode for report generation. The values are: • Batch • Online
Email Id	Enter email id, in case of Batch mode of report generation.
Subject	Enter subject line for email.
Email Body Content	Enter content for email body.

Display Sequence	Enter the sequence for report parameters. For example: 10, 20, etc.
Report Parameter	Search and select the report parameters. **Note**: For Bill report generation, you need to select the parameter **BILL_ID**.

Note: If you want to display any bill or letter in PDF format, you need to do all necessary configuration changes. Once you perform configuration changes, for each Bill Route Type Code or Letter Template Code available in the system, you need to upload a .xsl file (FOP template).

2.5 ORMB Reporting API for Bill

Use the business component **FOPReportGenerationComponent_Impl** (provided with ORMB) to call the Reporting API that generates FOP reports.

The API can be defined as:

```
public String getFOPPdf(String trialBillId, String xslFIlePath, String
pdfFilePath, String billExtractXmlPath, String outputHttpUrl)
```

The API parameters are:

Parameter Name	Description
trialBillId	Bill or Letter Id used to name the PDF.
xslFIlePath	FOP XSL file path: <application_installation_directory>/splapp/reporting/xsl/<BILL_ROUTY TYPE_CODE/LETTER_TEMPLATE_CODE>.xsl
pdfFilePath	Fully qualified path for PDF generation: <application_installation_directory>/splapp/reporting/output/<any name/letter_id/bill_id>.pdf
billExtractXmlPath	Fully qualified path for XML generated by algorithm: <application_installation_directory>/splapp/reporting/extractxml/<generated xml name>.xml
outputHttpUrl	The valid values are: • application_URL/billView • null

The Pseudo Code to call **getFOPPdf ()** component method used to generate PDF file:

```
FOPReportGenerationComponent_Impl  fopReportGenerationComponent  =  new
FOPReportGenerationComponent_Impl ();

fopReportGenerationComponent.getFOPPdf(billId,                xslFIlePath,
pdfFilePath, billExtractXmlPath, outputHttpUrl);
```

2.6 Generating Batch Report for Bill

By using this feature, you can create multiple reports at same time. To create a batch report, follow the procedure below:

1. From the Menu, select Tools, Batch Job Submission and click Add. This opens the Batch Job Submission page.

Figure 5: Batch Job Submission

2. Search and select the required **Batch Job ID**. The page displays all details of the batch, including the parameters.

Figure 6: Batch Job

3. Batch Job will appear with following parameters:

Field Name	Description	Mandatory Y/N
Batch Job ID	Used to specify the Job ID for Job.	No
Batch Code	Used to specify Batch Code, **C1-RPTGN.**	No
Thread Number	Enter the sequence of the thread you want to execute.	Yes
Thread Count	Enter the number of threads you want to execute.	
Batch Rerun Number	Enter a rerun number.	Yes
Batch Business Date	Enter the business date for the Batch job.	No
Override Nbr Records To Commit	Enter the override number of commits.	Yes
Override Max Timeout Minutes	Enter the maximum override timeout in minutes.	No
User Id	Enter the User ID.	Yes
Language	Select the language from list.	No
Email Address	Enter the email ID to whom report needs to be delivered. This email ID should be same as person's email ID.	No
Desired Execution Date/Time	Enter the date and time for batch execution.	No
Batch Job Status	Displays the status of Batch Job.	No
Program Name	Displays the program name **com.splwg.ccb.domain.reportsubmission.ReportGenerationBatch**	No
Report Query	Enter the query for which BILL_ID user needs to generate report.	No
Trace Program Start		
Trace Program Exit		
Trace SQL		
Trace Output		

Batch Parameter	Description
reportQuery	This parameter of batch accept the select query without semi colon, which will select Report code defined batch parameters
reportCode	This parameter of batch accept the predefined report code on which respective reports will be generated.
DIST-THD-POOL	Thread pool name Used to specify the thread pool on which you want to execute the batch.

Figure 7: Algorithms

3.   FOP Configuration for Letter

3.1 Configure FOP in ORMB

ORMB Reporting tool allows you to configure FOP Letter Templates. To configure FOP for Letter templates:

1. From the Admin menu, select I and then click on Installation Options – Framework.
2. In the Installation Options – Framework page, click on the **Algorithms** tab.
3. Scroll down to the System Event **Online Letter Image** and attach **C1_ FOPLTRALG** in the Algorithm field.

Figure 8: Online Letter Image

The below table gives an overview of this algorithm:

Parameter Name	Description
Algorithm Code	C1_ FOPLTRALG
Description	Wrapper Algorithm Type for FOP Online Letter Display.
Algorithm Type	C1_FOPLTRALG
Algorithm Type Description	Wrapper algorithm internally calls letter extract algorithm as per the Letter Template configuration. It invokes external system interface to send request to external system. It extracts URL from the response and present the bill online.

3.2 Develop template (XSL development)

To produce a PDF file from XML file, we need an XSLT stylesheet that converts the XML to XSL-FO. This is the first step in the processing chain. FOP will do the second step when it reads the generated XSL-FO document and formats it to a PDF document. You can copy the following minimal XSLT stylesheet.

For more details and XSLT stylesheet, see the links below:

https://netjs.blogspot.in/2015/07/how-to-create-pdf-from-xml-using-apache-fop.html

https://xmlgraphics.apache.org/fop/

The following table lists FOP templates for Letter that come with Oracle Revenue Management and Billing:

FOP Template	Description
ExpiringCreditCard_Letter.xsl	FOP Template for Expiring Credit Card Letter
PastDueExtract_Letter.xsl	FOP Template for Past Due Extract Letter
NoticeOfIntent_Letter.xsl	FOP Template for Notice Of Intent Letter
AutoPay_Letter.xsl	FOP Template for Auto Pay Letter

3.3 Report Definition for Letter

ORMB reporting framework allows you to define a report definition where you can configure or define reports. ORMB provides Report definition screen where you can configure report type report generation mode or upload report templates and image for report generation as given in below screen shot. The ORMB reporting API internally uses this report definition to generate reports as explained at end of this topic.

To define a new Report Code:

1. From the Admin menu, select R and then click on Report Details. This opens the Report Definition page.
2. Click **Add**. This opens the Report Definition pop-up.

Figure 9: Report Definition Page

3. The Report Definition page contains the following fields:

FOP Template	Description
Report Code	Report Code
Report Description	Report Description
Report Output Format	Report Output Format. The values are: • CSV Report • DOCX Report • JSON Report • PDF Report • Web Report • XLS Report • XML Report
Script	This field is enabled when you select Web as the Report Output Format.
Report Type	Select Letter from the list.
Report Template	
Report Type Template	Upload a Template file or images that are to be used to design reports by clicking on Upload.
Report Process Algorithm Code	This Field Used to define an custom algorithm for Report generation .This field will enable only if user select 'Report Type' as Custom
Report Mode	This field used to define report generation Mode. The values are: • Batch (BTCH) • Online(ONLN)
Email Id	Used to configure Email id (this feature is enabled only in case of Batch mode reporting generation)
Subject	Used to configure Email Subject line
Email Body Content	Used to configure Email Body Message
Sequence	Used to define sequence of parameters Should start with 10,20,…
Report Parameter	This Field is used to define report parameters. For Bill type this parameter should be CC ID i.e. Customer ID
Report Parameter Navigation	This Field is use to define Parameters navigation Option

> **Note:** If you want to display any bill or letter in PDF format, you need to do all necessary configuration changes. Once you perform configuration changes, for each Bill Route Type Code or Letter Template Code available in the system, you need to upload an .xsl file (FOP template)

3.4 ORMB Reporting API for Letter

You must use ORMB provided business component 'FOPReportGenerationComponent_Impl' to call reporting API, which generates FOP reports.

The API can be define as:

```
public String getFOPPdf(String trialBillId, String xslFIlePath, String pdfFilePath, String billExtractXmlPath, String outputHttpUrl)
```

This API has following parameters:

Parameter Name	Description
trialBillId	Letter Id used to name the PDF
xslFIlePath	Defines FOP XSL file path. The path should be <application installation directory>/splapp/reporting/xsl/<BILL_ROUTYTYPE_CODE/LETTER_TEMPLATE_CODE>.xsl
pdfFilePath	This path value must be the fully qualified path of PDF generation <application installation directory>/splapp/reporting/output/<any name/letter_id/bill_id>.pdf
billExtractXmlPath	This path must be the fully qualified path of the XML generated by the algorithm: <application installation directory>/splapp/reporting/extractxml/<generated xml name>.xml
outputHttpUrl	The valid values are: • application_URL/billView • null

The Pseudo Code to call getFOPPdf () component method used to generate PDF file:

```
FOPReportGenerationComponent_Impl fopReportGenerationComponent = new FOPReportGenerationComponent_Impl ();
```

```
fopReportGenerationComponent.getFOPPdf(billId, xslFIlePath, pdfFilePath, billExtractXmlPath, outputHttpUrl);
```

3.5 ORMB Ad hock Report Generation for Letter

To generate adhoc reports, product has given feature by using we can generate report.

1. From the Admin menu, select R and then click Report Generation Menu.
2. Report Generation screen appears.
3. Select the report code which report you wanted to create.

Figure 10: Reporting Generation Screen

4. Provide report parameter value for which you wanted to generate PDF.

5. Click on **Generate** button. It generates the report that you can download from the Report Audit screen.

3.6 Custom - Report Generation

Custom PDF Report generation feature of product supports the below listed types of reporting.

- CSV Report(CSV)
- DOCX Report(DOCX)
- JSON Report(JSON)
- PDF Report(PDF)
- Web Report(WEB)
- XSL Report(XSL)

For PDF, DOCX and XSL reports, ORMB provides a Business Component which has the required methods that you can call into the Report Processing Algorithm and generate reports. For JSON, XML, CSV you can write your own logic and create your custom report.

Note: You can use product util class in which above listed extension data can be generated using implemented methods.

Class Name:: `CommonUtil_Impl`

```
public void fileWrite(String outputFilePath, String outputFileName,
String fileContent, String fileExtension, String charsetName) ;
```

```
public String xmlToJSONString(String xmlString)
```

```
public String xmlToCSVString(String xmlString)
```

To configure Custom PDF generation, follow the procedure below:

1. From the Admin menu, select R and then click Report Details.

2. Click on **Add** to define Report Code.

Figure 11: Report Definition

3. To define Custom PDF generation Report Code, select all mandatory fields with **Report Type** as **Custom**.

4. When you select report type as Custom, the 'Report Processing Algorithm' fields are enabled.

Figure 12: Report Definition-custom

5. ORMB provides the algorithm spot, **ReportDataExtractAlgorithmSpot** using which you can implement an algorithm to create an extract XML at the location given below.

    *   **Extract XML Location**: <INSTALL_DIR /Reporting/extractxml

    *   **Uploaded XSL(FOP template) path**: <INSTALL_DIR /Reporting/xsl

    *   **Created Output File Location**: <INSTALL_DIR /Reporting/output

    *   Select newly created Custom algorithm on **Report Processing Algorithm**.

6. Choose all required fields to proceed.

The below table gives an overview of this algorithm spot:

Field Name	Description
Algorithm Spot Name	ReportDataExtractAlgorithmSpot
Description	This algorithm spot allows you to create a custom data extract, which can be used to create a PDF file. Using this spot, you can create XML, DOC, CSV, XLS reports. It is the implementer's responsibility to call FOP and POI API to generate the respective report.

3.7 ORMB Report Generation Batch for Letter

Product provides a batch that generates bulk reports as defined in Report Definition. This batch accepts report query and user can select the record which is defined into the report code. By using this feature, you can create multiple reports at same time. To create batch report we can follow below steps:

1. From the Menu, select Tools, Batch Job Submission, and click Add.

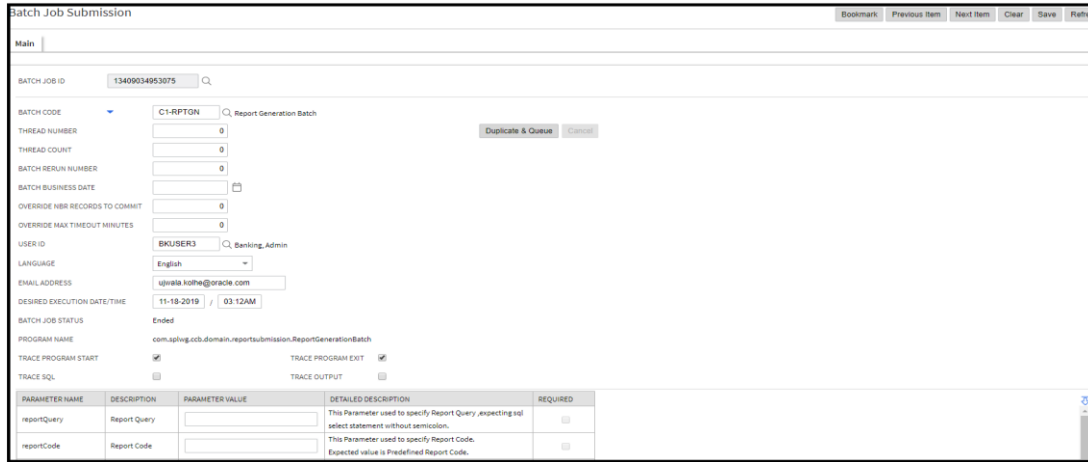2. In the Batch Job Submission screen, select BATCH JOB ID and provide required details:

Figure 13: Batch Job

3. Batch Job appears with following parameters:

Field Name	Description	Mandatory Y/N
Batch Job ID	Used to specify the Job ID for Job.	No
Batch Code	Used to specify the Batch Code.	No
Thread Number	Used to specify the number of threads user wants to execute.	Yes
Batch Rerun Number	User has to select the rerun number.	Yes
Batch Business Date	User has to provide business date for Job.	No
OVERRIDE NBR RECORDS TO COMMIT	User needs to provide override number of commits.	Yes
OVERRIDE MAX TIMEOUT MINUTES	User needs to provide maximum override timeout in minutes.	No
USER ID	User has to provide his ID.	Yes
LANGUAGE	Used to specify the language from dropdown.	No
EMAIL ADDRESS	Used to specify email ID to whom report needs to deliver. This email ID should be same as person's email ID.	No
DESIRED EXECUTION DATE/TIME	Desire time for batch execution.	No
BATCH JOB STATUS	This parameter will display status of Batch Job.	No
PROGRAM NAME	This parameter will display program name.	No

reportQuery	Used to provide query to select the Bill IDs for which to generate report.	No

When Job status is **Ended,** user can view reports.

Field Name	Description
Batch Code	C1-RPTGN
Description	Report Generation Batch
Detailed Description	Report Generation Batch
Program Name	com.splwg.ccb.domain.reportsubmission.ReportGenerationBatch

Parameter Name	Description
reportQuery	This parameter of batch accept the select query without semi colon,which will select Report code defined batch parameters
reportCode	This parameter of batch accept the predefined report code on which respective reports will be generated.

Figure 14: Algorithm

4. Custom Reports

4.1 Developing A Custom Algorithm

To generate custom reports with supported extension (except pdf) you need to write a custom algorithm and using this custom algorithm you can generate below types of reports.

- CSV Report

- DOCX Report

- JSON Report

- PDF Report

- WEB Report

- XLS Report

- XML Report

As part of ORMB FOP Reporting, the below algorithm spot has been provided with the product to develop reports.

Algorithm Spot Name: ReportDataExtractAlgorithmSpot

Algorithm Entity Name: Report-Data Extract Algorithm (reportDataExtractor)

Business Component: POIReportGenerationComponent_Impl

Custom Report API defined as 'POIReportGenerationComponent' Business Component:

```
public void getPOIMSWordReport(MSWordReportDTO wordDto, String fileName)
public void getPOIExcelReport(String filename, Sheet sheetDto)
```

The custom algorithm is used to extract XML, retrieve XSL template, and generate reports of all above given types. If the customization team wants to add a new Bill data or Letter data or change an existing one, they need to develop a custom algorithm on the above-mentioned respective algorithm spots.

You can write an algorithm on above given algorithm Spot.

Note: Ensure that your XML is generated in the path:

<application_installation_directory>/splapp/reporting/extractxml/file_name.xml

---

4.2 ORMB Ad hoc Report Generation

To generate ad hoc reports, follow the procedure below.

1. From the Admin menu, select R and then click Report Generation Menu. Report Generation screen appears.
2. Select the report code of the report you want to create.

Figure 15: Reporting Generation Screen

3. Provide report parameter value for which you wanted to generate PDF.

4. Click on **Generate**. This generates a report that you can download from the Report Audit page.

4.3 Custom - Report Generation

Custom PDF Report generation feature of product supports below listed types of reporting.

- CSV Report(CSV)
- DOCX Report(DOCX)
- JSON Report(JSON)
- PDF Report(PDF)
- Web Report(WEB)
- XSL Report(XSL)

For PDF, DOCX and XSL reports, ORMB provides a Business Component which has the required methods that you can call into the Report Processing Algorithm and generate reports. For JSON, XML, CSV type reports, you can write your own logic and create your custom report.

Note: You can use product util class in which above listed extension data can be generated using implemented methods)

Class Name: CommonUtil_Impl

```
public void fileWrite(String outputFilePath, String outputFileName,
String fileContent, String fileExtension, String charsetName) ;
```

```
public String xmlToJSONString(String xmlString)
```

```
public String xmlToCSVString(String xmlString)
```

To configure Custom PDF generation, follow the procedure below:

1. From the Admin menu, select R and then click Report Details.

2. Click Add to define a Report Code.

Figure 16: Report Definition

3. To define Custom PDF Report, select all mandatory fields with **Report Type** as **Custom**.

4. When you select Report Type as **Custom,** Report Processing Algorithm fields are enabled.
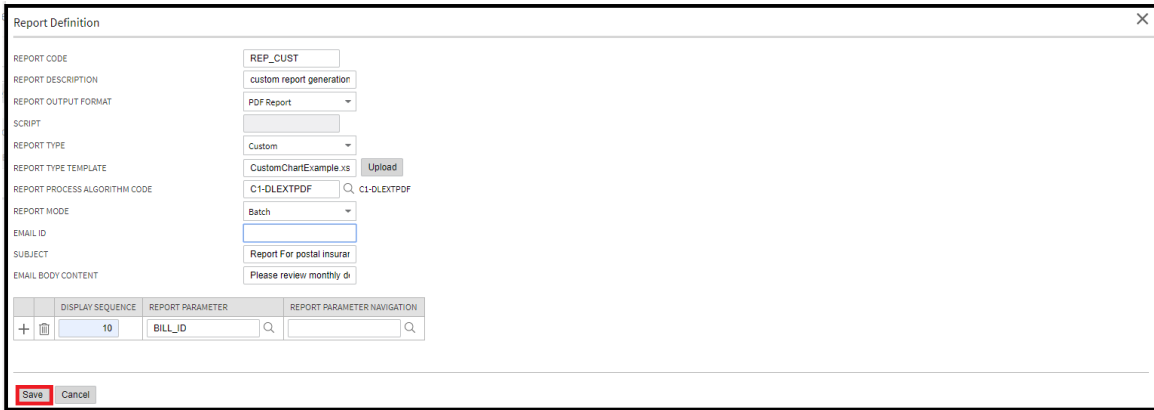

Figure 17: Report Definition-custom

5. Product provides 'ReportDataExtractAlgorithmSpot' using this implement an algorithm that will create an extract XML at below given location.

- **Extract XML Location**: <INSTALL_DIR>/Reporting/extractxml
- **Uploaded XSL(FOP template) path**: <INSTALL_DIR>/Reporting/xsl
- **Created output File location**: <INSTALL_DIR>/Reporting/output

6. Select the newly created Custom algorithm on **Report Processing Algorithm** field.

7. Choose all required fields to proceed.

The below table gives an overview of this algorithm spot:

Field Name	Description
Algorithm Spot Name	ReportDataExtractAlgorithmSpot
Description	This algorithm spot allows you to create a custom data extract, which is used to create PDF file. Also, using this spot you can create XML, DOC, CSV, XLS Reports. It is implementer's responsibility to call FOP and POI API to generate the respective reports.

5.   ORMB Report Auditing

We can track the record of generated reports through this feature of ORMB. By using this feature, you can download the report as well as check the error of the specific report code record.

To view all reports, follow the procedure below:

1. From the Admin menu, select R and then click Report Audit.
2. You can the screen below:

Figure 18: Report Audit Screen

3. It has the following parameters:

Field Name	Description
Report ID	This is unique ID
Report Code	This is report Code generated by user
Created Date/Time	Report creation date and time
Is Success	This parameter can have two values: • Yes • No
Message Text	If **Is Success** field is **N**, then this parameter displays the error description.
Download	If Report generation is successful, then click this link to download and view the report.

4. You can download and view the report in PDF format.

6. Email Configuration

User can configure Email using this menu. To Configure Email user has to follow below steps:

1. From the Admin menu, select M and then click Master Configuration.
2. Search for **Reporting Email Sender Configuration** and click on (+) Icon in Action tab.

Figure 19: Master Configuration Page

3. You can view the screen below:

Figure 20: Master Configuration Page

4. Fill in the following parameters:

Field Name	Description
SMTP Host Name	SMTP Host name
SMTP PORT	SMTP Port number
USERNAME	Name of the User
Password	Password for specific user ID
Secure Socket Layer	Secure Socket layer that needs to be checked, if user wants to use it.
TEST	Select this checkbox to provide email ID.
FROM EMAIL ID	Sender's email ID

TO EMAIL ID	Receiver's Email ID

5. After entering all required details, click Save.

Figure 22: Master Configuration Page