A PROJECT REPORT

on

"Oracle Fusion Applications"

Submitted to
KIIT Deemed to be University

In Partial Fulfilment of the Requirement for the Award of

BACHELOR'S DEGREE IN
COMPUTER SCIENCE AND ENGINEERING

BY

Amisha Biswal (1605175)

UNDER THE GUIDANCE OF
Prof. Lipika Mohanty

SCHOOL OF COMPUTER ENGINEERING
KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY
BHUBANESWAR, ODISHA - 751024
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CERTIFICATE

This is certify that the project entitled

"Oracle Fusion Applications"

submitted by

Amisha Biswal (1605175)

is a record of bonafide work carried out by them, in the partial fulfilment of the requirement for the award of Degree of Bachelor of Engineering (Computer Science & Engineering) at KIIT Deemed to be university, Bhubaneswar. This work is done during year 2019-2020, under our guidance.

(Prof. Lipika Mohanty)
Project Guide

Acknowledgments

I would like to take this opportunity to thank all my sources of aspiration during the internship.

First and foremost, I express my deepest gratitude towards my University Kalinga **Institute of Industrial Technology (KIIT), Deemed to be University**, for giving me such an opportunity. I am grateful to **Mr. Praveen Bobbi, Mr. Ram Pradeep Killadi and Mr. VR Karthik Chundi** who gave an opportunity to work on tasks at **Deloitte** and for there continuous support during the internship and for there patience, motivation and immense knowledge. They helped me and guided me throughout the internship and development.

I hereby take the privilege to express my gratitude to all the people who directly or indirectly involved in the execution of this work without whom this project would not have been a success.

I am also thankful to my other team members for their valuable guidance, support, and cooperation extended by them.

I am also thankful to KIIT (Deemed to be University) Bhubaneswar for providing me technical skills and facilities which proved to be very useful for my work.

ABSTRACT

The given project focuses on Enterprise Performance through the help of Oracle Service line which integrates the core processes like finance, HR, manufacturing, supply chain, services, procurement and others into a single system. The focus areas are Oracle Cloud Financial , Supply Chain Management, Oracle Transport Management and Global Human Resources. The corresponding implementation is done mainly through Oracle Cloud version R12.The technologies employed mainly aims to automate the business processes efficiently by developing efficient work flow with optimized computation time.The main processes include Reporting, Integration, Conversions, Extensions and Work flow known as RICEW. Here our main focus is on reporting which is of 3 types-BI Publisher Reporting,OTBI Reporting And FRS Reporting. Reporting helps the business users to perform current state analysis of their business applications. Constructed queries and reports are executed real time against transactional schema.

KEYWORDS- Enterprise Performance,Oracle Cloud,Reporting,BI Publisher, RICEW.

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Chapter 1

Introduction

1.1   ORACLE FUSION

Oracle fusion is a group of applications developed by Oracle so that different business could use them to integrate together and provide greater efficiency with business functions and operations.
It can used in different area of business like:
- Financial
- Supply Chain Management
- Human Resource Management

And many more…..

So when we enter into the oracle fusion cloud, we have lot of tools to explore, but our main focus is on generating reports, conversions and integrations.

1.2   REPORTING

Reporting helps the business users in analysis of the current state of their business operations.It helps to convert data into useful information which helps to take vital business decisions.
We can generate specific format and layout as per the client requirements.This also helps us to provide with statuary requirements like Invoice formats,Accounting Ledgers and Tax Returns.
Scripts are written with the help of SQL which helps to retrieve data from different tables in real time.The Reports can be according to the geographic requirements(Multilingual Report).There can be different business needs for reporting like Supplier Documents,Customer Documents And Transactional Documents.

1.2.1   BI REPORTING

With help of BI Publisher we can create pixel perfect, highly formatted and detailed documents like PO print, check print reports etc. There are 2 main components of

Report - Data Model And Report. Data Model is where we create a data model by writing SQL Query , adding list of values, parameters etc. to be used as a structure for the report. Data Model is attached with the report and one or more layout can be attached with the report.

1.2.2 OTBI

OTBI (Oracle Transactional Business Intelligence) is an ad-hoc query and self service reporting solution offered to all fusion application customers. Using standard Oracle Query and Reporting tool(OBIEE) end user tools provide an easy interface for business users to perform current state analysis of their business applications.

1.2.3 FRS

FRS(Financial Reporting Studio) provides the facility to build report on Oracle Fusion. FRS is a module included in Oracle's Hyperion performance management applications that uses enterprise data to create reports for a range of audiences. Boardroom-quality presentations can be delivered in a variety of formats, including HTML, PDF, Office and mobile, and delivered either as live data or static snapshots. FRS reduces the time and cost of generating financial and management reports while improving results through accuracy and collaboration.

1.3   CONVERSION

When a company wants to shift into Oracle, the existing data has to be moved into Oracle in Oracle format. This converting data is called Conversions.

For example: X is using a legacy system suppose a MS Excel where it maintains the data. But it wants to move into Oracle cloud. It needs the existing data into moved into oracle. So it can't copy paste the existing data into oracle system tables[2]. So it needs to convert the data into oracle format ans insert/create those data in oracle system through different process that oracle allows.

There are 3 ways to do conversions in Oracle:

1.3.1   Using FBDI Template

FBDI stands for File Based Data Import. In this we first download the template and insert the data in the template, create SQL loader programs to load data from these templates, then the data is loaded into interface table and finally into base table.

1.3.2 Using ADFDI

It stands for Application Desktop Framework. It enable desktop integration with MS Excel to manage large volumes of data from web applications via Excel and load into Oracle Fusion Applications[3].

1.3.3 Using Web-services

These are open standard (XML, SOAP, HTTP etc.) based web applications that interact with other web applications for the purpose of exchanging data.

Chapter 2

Software Requirements

2.1 Oracle Business Intelligence Publisher (BI Publisher)

It is originally developed to solve the reporting problem which is being faced by the oracle applications. It separates the creation of data from the process of formatting it for different uses. The engine can format any well-formed XML data, allowing integration with any system that can generate XML, including Web

Services. This can merge multiple data sources into a single output document.

2.2 MS Word with BI Publisher Plug-in

It is a word processor developed by Microsoft. This is used in reporting with the BI Publisher plugin, which enables us to read and import the XML data file after generating it from the Oracle cloud. Through this, the custom layout is designed as per the client requirement and demand. Basically this is used for formatting, designing and for smart representational purpose.

2.3 Web Browser

A web browser is application software used to browse and surf the internet. This enables us to access the oracle cloud remotely with the help of access credentials.
For ex-Google Chrome, Internet Explorer, Mozilla, etc.

2.4 Oracle Cloud

Oracle Cloud is a cloud computing service offered by Oracle Corporation providing servers, storage, network, applications and services through a global network of Oracle Corporation managed data centers. These services are used to build, deploy, integrate, and extend applications in the cloud.

Chapter 3

Requirement Analysis

3.1   Report

The client wanted a report which will be mapping all the engagements and its associated region data. All the engagements residing in the system must be shown in the report. Region value derived based on the dept attribute of the engagement value set should be selected in the output.

3.2   Launch Parameters

The client needed the report to be run in the two different modes based on their choice. The two modes will be INCREMENT and FULL.

Chapter 4

System Testing

The report was first run in Full mode.

4.1   Test Cases and Test Results

Test ID	Test Case Title	Test Condition	System Behavior	Expected Result
T01	Output Validation	Submit report with below parameter: Load : FULL	Report generated an output	Report should generate an output
T02	Incremental testing	Submit report with below parameter: Load : INCREMENT	Report generated output which contained only one line	Report should generate output but the output should contain only one line
T03	Final Testing	Submit report with below parameter: Load : INCREMENT	No output file generated	Report should not generate any output file

Table: Testing resulting

Fig 1: Snapshot of testing

Chapter 5

Implementation

We had to create the report based on the client requirement. The requirement was to provide a report which will contain engagement to region mapping of all the invoices.

5.1   Searching for the right tables

The Oracle Enterprise Repository (OER) contains all the table description for the tables which oracle provides to it's client[4]. The first step towards creating the report was to search for the right tables which we could use to get the desired fields for the report. To find the tables, I had to search OER to find the right set of tables. The main selected fields were engagement, department, region from tables fnd_flex_value_sets and fnd_flex_values .
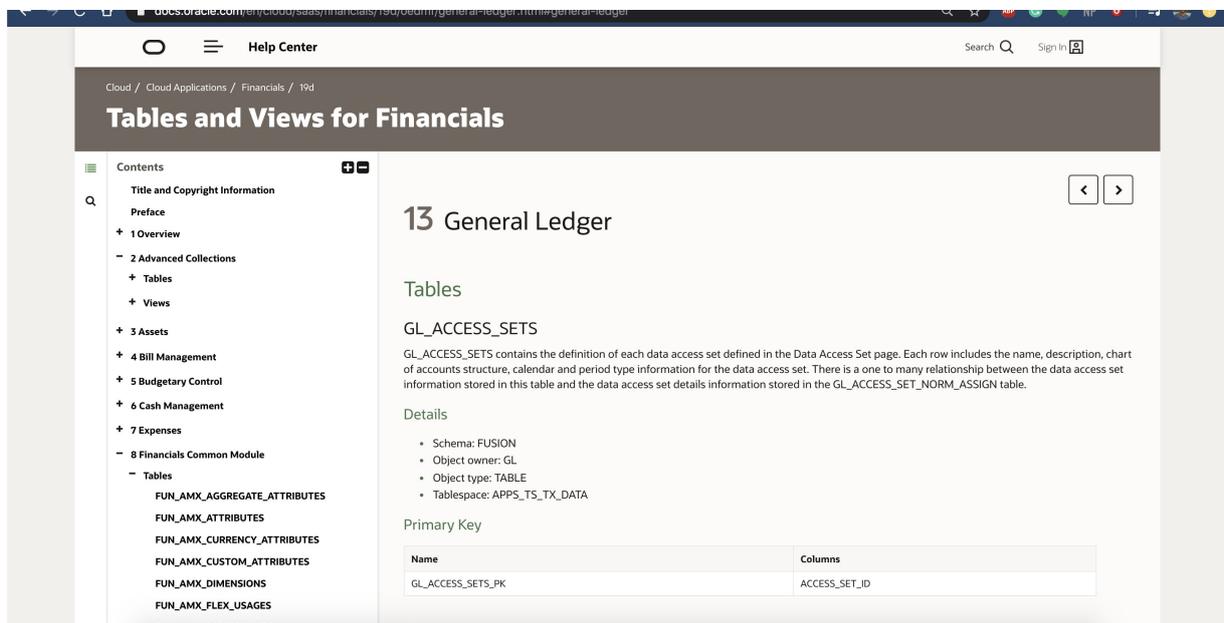

Fig 2 : Finding Tables

5.2   Creating Data Model

The created data model will be used as the base for getting the fields in the required report. This data model will be fetching the required fields from the found tables by using SQL Query.

5.2.1   Steps involved in creating the data model
1.   Log in to Cloud ERP Applications
2.   Navigate to reports and analytics section under navigator
3.   Click on browse catalog to go to BI home page
4.   Click on the create new select Data Model

The place where data model will be made is created.

SQL Query was selected as Data source and the SQL Query for fetching the required tables was written in the query builder part of the data model.
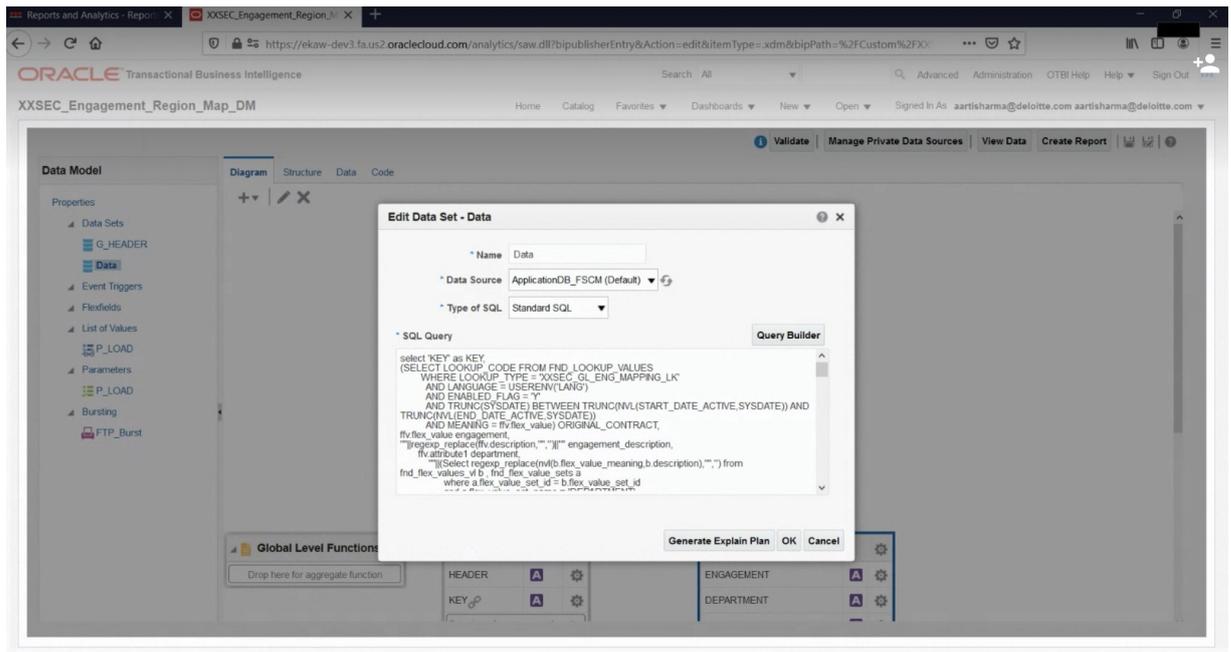

Fig 3 : Data Model

5.2.2   Adding parameters and LOVs
The different bind parameters present in the SQL Query were joined with the main data model in the parameters tab and LOV values were assigned to the required parameters.
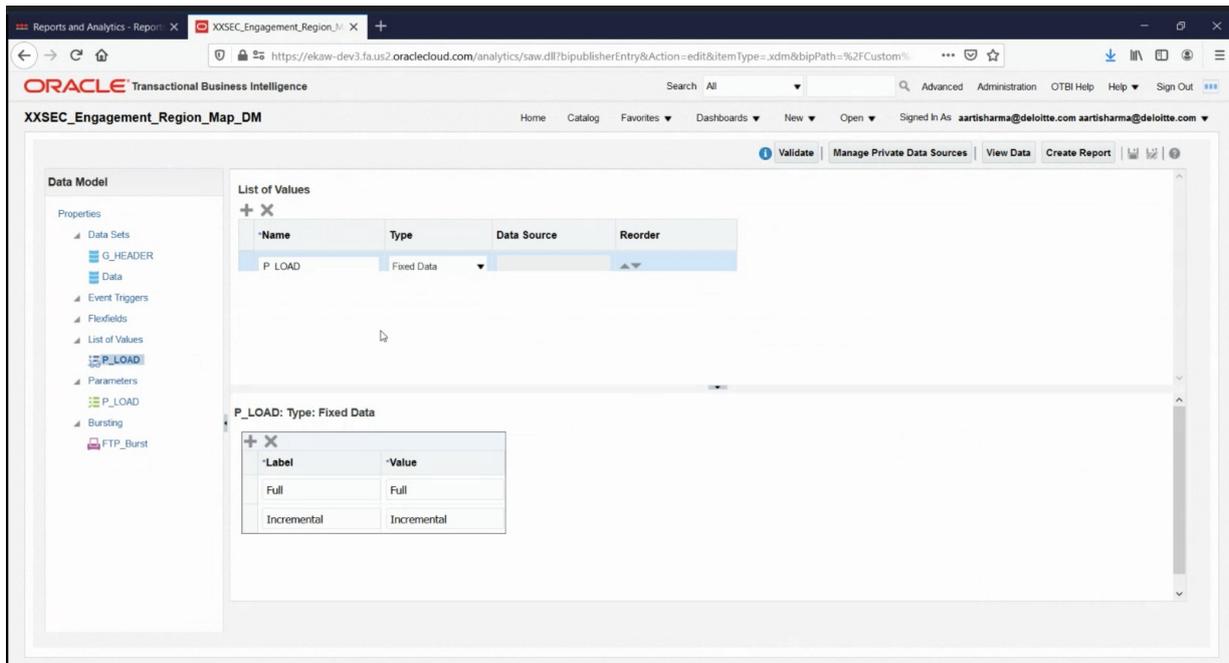
Fig 4 : LOVs and Parameters

5.3 Generating XML

After the data model was created, the data model was tested for some sample values and the data was saved. The XML sample was downloaded. This XML file contained the sample data which will work as a base for fetching the data fields from data model while creating the template for the report.
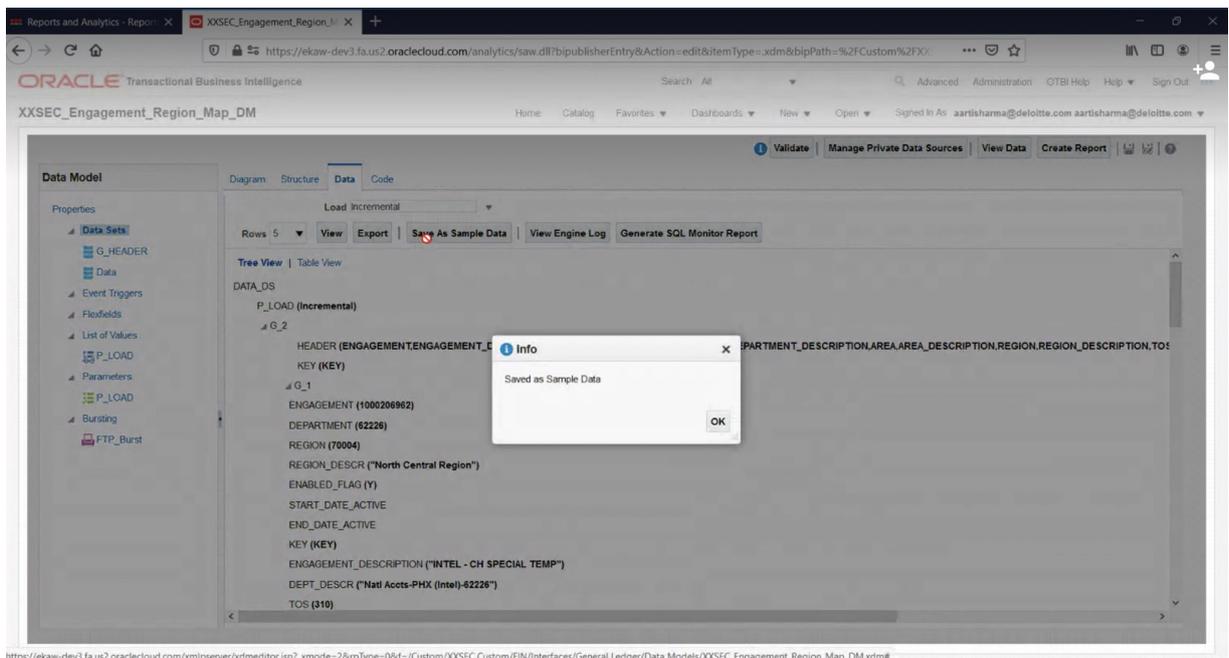

Fig 5: Saving Sample Data and generating XML

5.4 Creating RTF Template

BI Publisher tool extension was installed and added in Word and Excel tools. In a word document, using BI Publisher tool, the downloaded XML file was uploaded. Using the BI Publisher tool and uploaded XML file, the various required data field were fetched in the required format. As the parameter to run the report is Business Unit and LOAD (Full or Incremental), those areas were added in the report as another table as per the requirement.
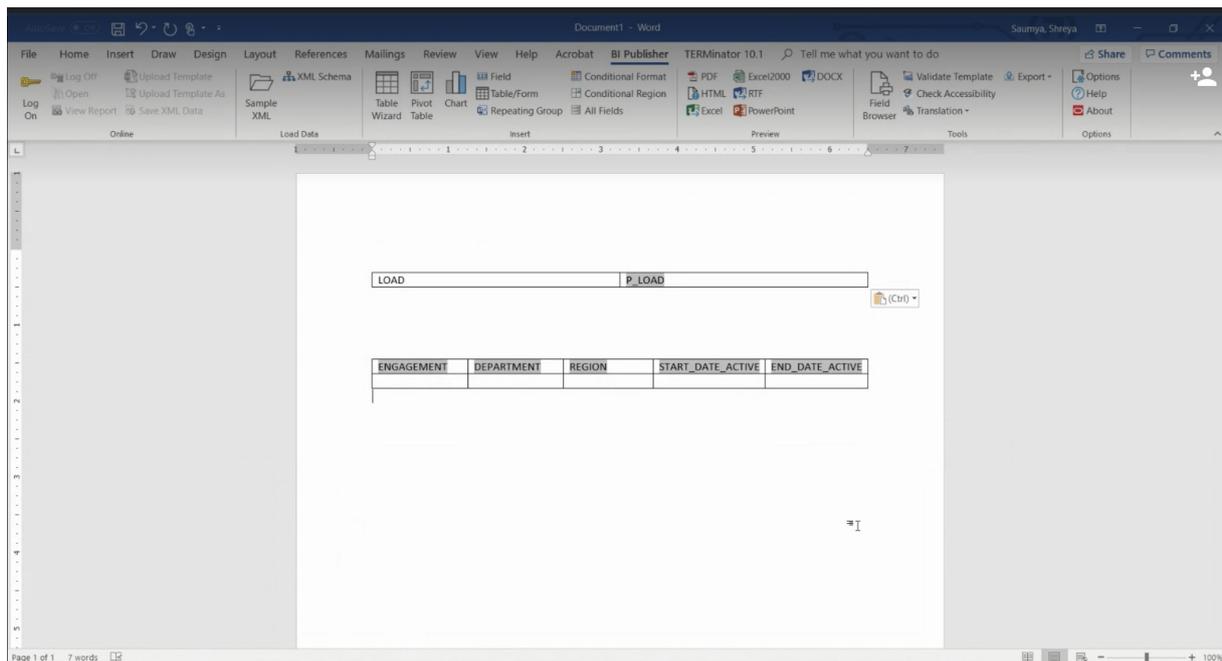

Fig 6 : Creating RTF Template using BI Publisher Plug - in

5.5 Uploading the RTF template

Using new button in the catalog, new report was created. In the report, the RTF template was uploaded. The data model which was earlier created was linked with this RTF template in the report.
The report was run in full mode to check if the desired result was being achieved or not.
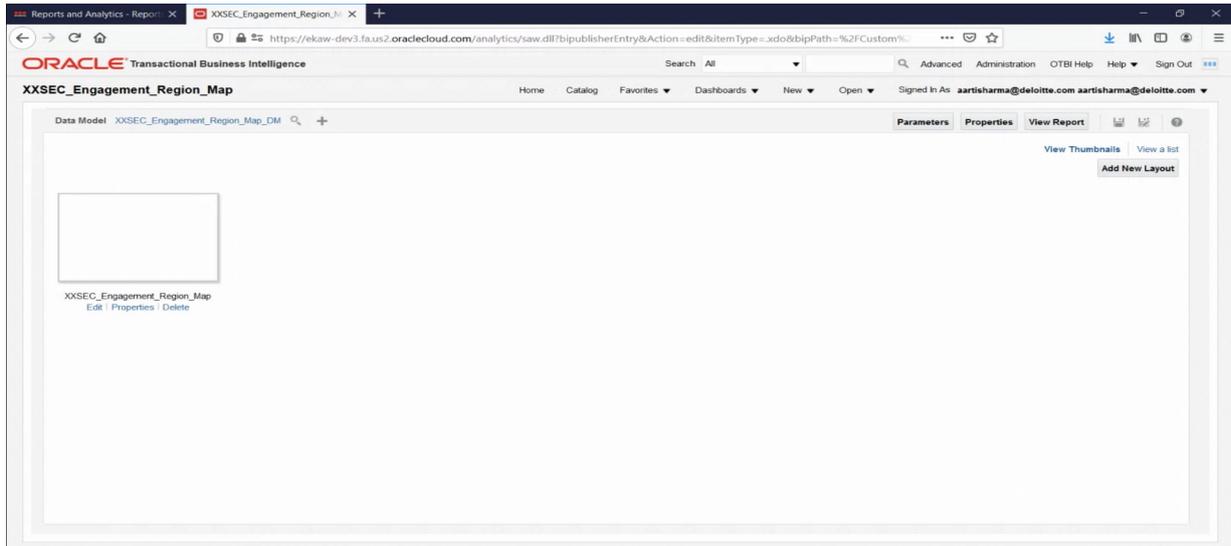
Fig 7 : Uploaded RTF Template

5.6 Adding incremental logic

As asked by the client, incremental logic was added to the SQL Query of the data model. The incremental logic will make sure that only those invoices will be generated and pushed to the SFTP location which were not run earlier.

5.7 Bursting the report

Bursting query was written in the bursting tab of the data model created. This bursting will send the report to a SFTP location from where the Engagement_To_Region _INTEGRATION will pick the report and send it to the location specified by the client.
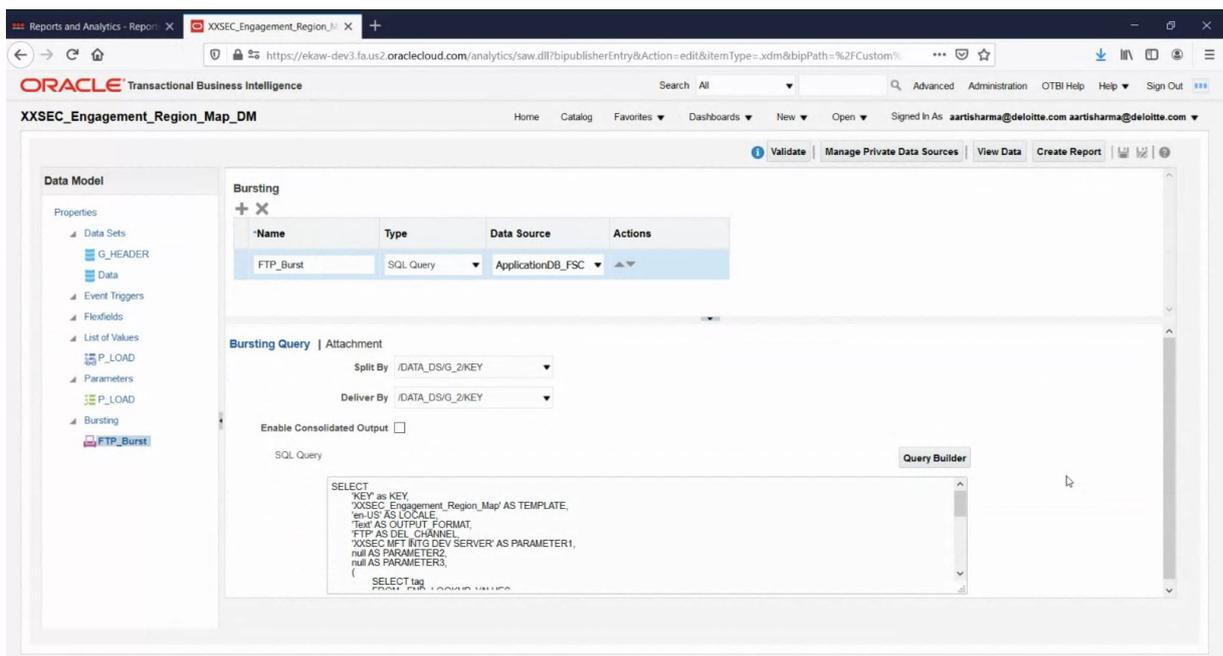

Fig 8 : Bursting the Report

Chapter 6

Conclusion

6.1   Conclusion

With the help of reporting tools, we can make a report which can retrieve data from the data source in real time.We can present the layout according to the business requirements of the business user. This helps the business users to Analyze the current state of the business and help the top level management teams to take vital decisions for the business firms.

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HTTPS://WWW.ORACLE.COM/WEBFOLDER/TECHNETWORK/DOCS/HTML/OER-REDIRECT.HTML

CONTRIBUTION REPORT

Oracle Fusion Applications

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Abstract

The given project focuses on Enterprise Performance through the help of Oracle Service line which integrates the core processes like finance, HR, manufacturing, supply chain, services, procurement and others into a single system. The focus areas are Oracle Cloud Financial , Supply Chain Management, Oracle Transport Management and Global Human Resources. The corresponding implementation is done mainly through Oracle Cloud version R12.The technologies employed mainly aims to automate the business processes efficiently by developing efficient work flow with optimized computation time.The main processes include Reporting, Integration, Conversions, Extensions and Work flow known as RICEW. Here our main focus is on reporting which is of 3 types-BI Publisher Reporting,OTBI Reporting And FRS Reporting. Reporting helps the business users to perform current state analysis of their business applications. Constructed queries and reports are executed real time against transactional schema.

Individual contribution and findings:

- Searching for the tables in Oracle Enterprise Repository to map the data with client's requirements.
- Creating the data model for report
- Running the sample data model and generating XML
- Creating RTF Template
- Uploading RTF Template
- Adding incremental logic
- Bursting the report
- Preparing project report

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