GTT Approach (Global temporary table) :

The XML GTT (Global Temporary Table) approach in Oracle EBS (E-Business Suite) is used to efficiently handle and process large volumes of data temporarily. THE DATA/ROWS DO NOT GET STORED IN GTT TABLE AFTER REPORT IS CREATED. We load the GTT and use that data for reports. Here are the main reasons for using it:

- **Performance**: GTTs provide better performance for data processing tasks, especially when dealing with large datasets, as they store data in memory.
- **Session-specific Data**: Data in a GTT is specific to a session. This means that different users can run the same process simultaneously without interfering with each other's data.
- **Temporary Storage**: Since GTTs hold data temporarily, they help reduce the need for permanent table structures, keeping the database cleaner.
- **Efficient Data Manipulation**: They allow for efficient data manipulation during complex ETL (Extract, Transform, Load) processes, especially when working with XML data.

Q) CREATE SALES ORDER REPORT USING GTT APPROACH :

WE REQUIRE :

1.DATA MODEL

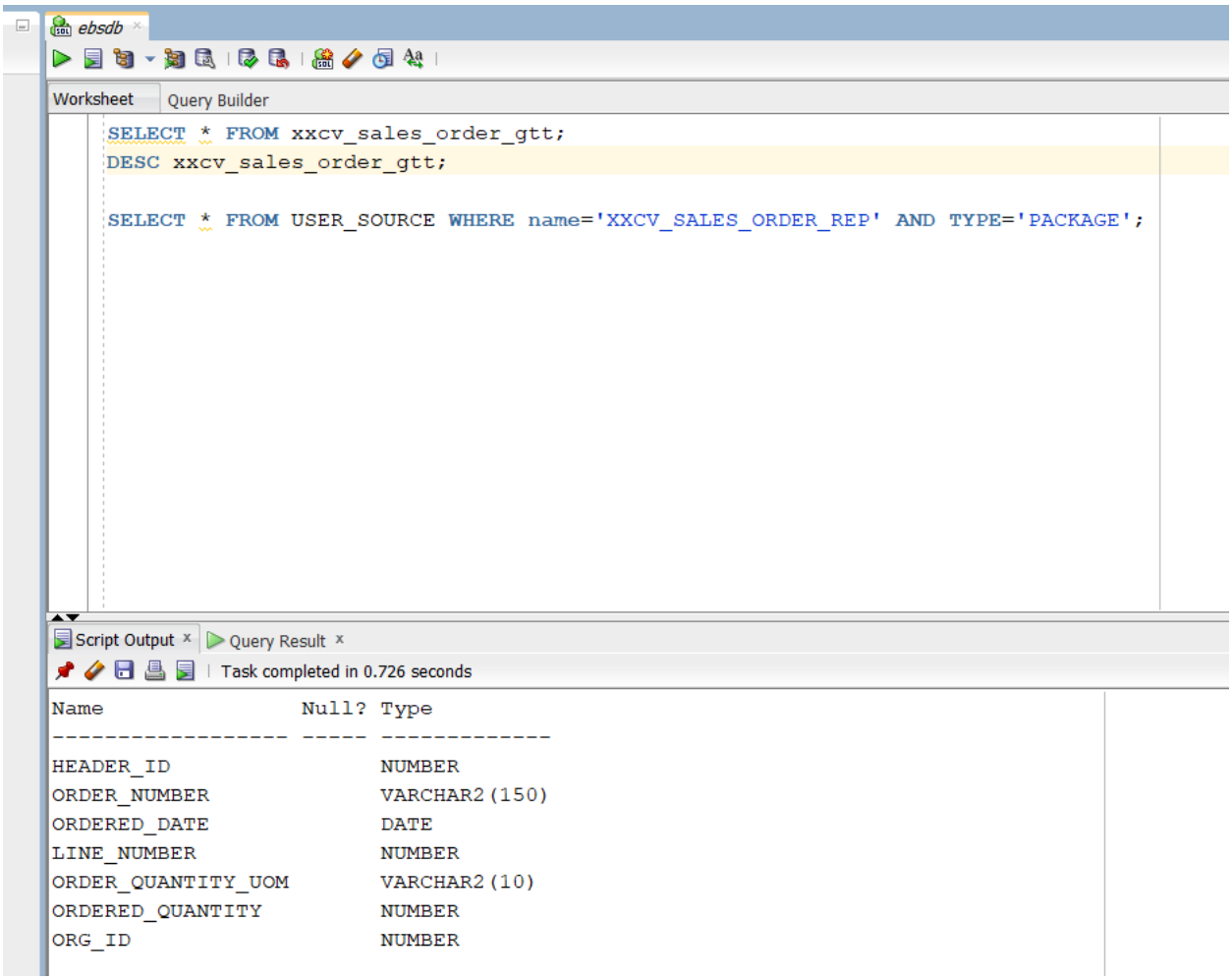
1.1 => CREATE GTT TABLE

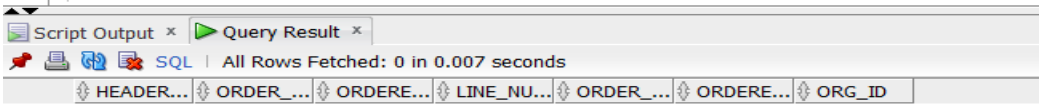
1.2 => CREATE PLSQL API (PACKAGE)

2. TEMPLATE RTF FILE

Sol -->

1.1 => CREATE GTT TABLE



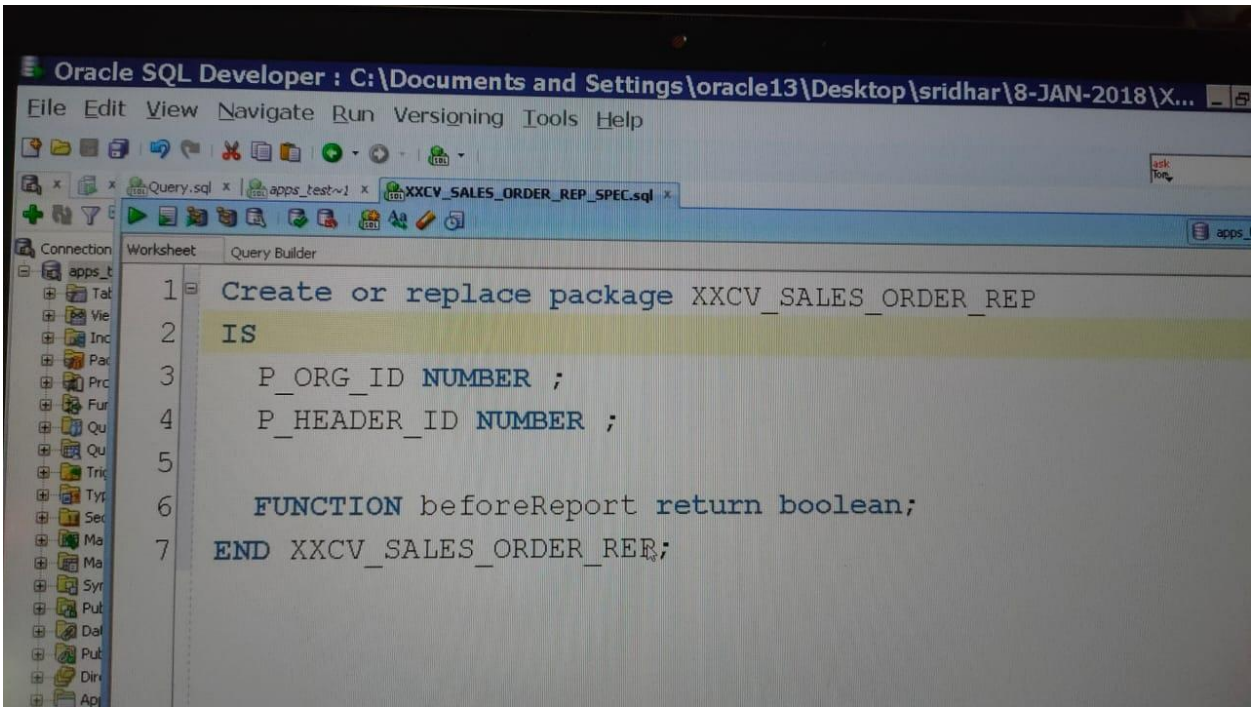


1.2 => CREATE PLSQL API (PACKAGE)

1. In this package we are populating our GTT table using data from OE_ORDER_lines_ALL & OE_ORDER_HEADERS_ALL tables.
2. OE_ORDER_HEADERS_ALL is a table in Oracle E-Business Suite (EBS) that contains information about sales orders & OE_ORDER_lines_ALL contains details of each individual header order. It is part of the Order Management module.

Key Columns Typically Found in OE_ORDER_HEADERS_ALL:

1. **HEADER_ID**: Unique identifier for the order header.
2. **ORDER_NUMBER**: The number assigned to the sales order.
3. **ORDER_TYPE_ID**: Identifier for the type of order (e.g., standard, drop ship).
4. **CUSTOMER_ID**: The ID of the customer placing the order.
5. **ORDER_DATE**: The date the order was created.
6. **ORDER_STATUS**: The current status of the order (e.g., booked, shipped, cancelled).
7. **ORG_ID**: Identifier for the organization associated with the order.
8. **SHIPPING_INFORMATION**: Details related to shipping (may be in a separate table).
9. **BILLING_INFORMATION**: Details related to billing.



Worksheet | Query Builder

```
SELECT * FROM USER_SOURCE WHERE name='XXCV_SALES_ORDER_REP' AND TYPE='PACKAGE BODY';
CREATE or replace PACKAGE BODY XXCV_SALES_ORDER_REP IS
    FUNCTION beforeReport RETURN BOOLEAN IS
        CURSOR C_SALESDATA IS
            SELECT ooh.header_id, ooh.order_number, ooh.ordered_date,
                   ool.line_number, ool.order_quantity_uom, ool.ordered_quantity,
                   ooh.org_id
            FROM oe_order_headers_all ooh, oe_order_lines_all ool
            WHERE ooh.header_id = ool.header_id
              AND ooh.org_id = P_ORG_ID
              AND ooh.header_id = P_HEADER_ID;

    BEGIN
        FOR rec IN C_SALESDATA LOOP
            INSERT INTO XXCV_SALES_ORDER_GTT (HEADER_ID, ORDER_NUMBER, ORDERED_DATE,
                                              LINE_NUMBER, ORDER_QUANTITY_UOM,
                                              ORDERED_QUANTITY, ORG_ID)
            VALUES (rec.HEADER_ID, rec.ORDER_NUMBER, rec.ORDERED_DATE,
                    rec.LINE_NUMBER, rec.ORDER_QUANTITY_UOM,
                    rec.ORDERED_QUANTITY, rec.ORG_ID);
        END LOOP;
        COMMIT;
        RETURN TRUE;
    END beforeReport;
END XXCV_SALES_ORDER_REP;
```

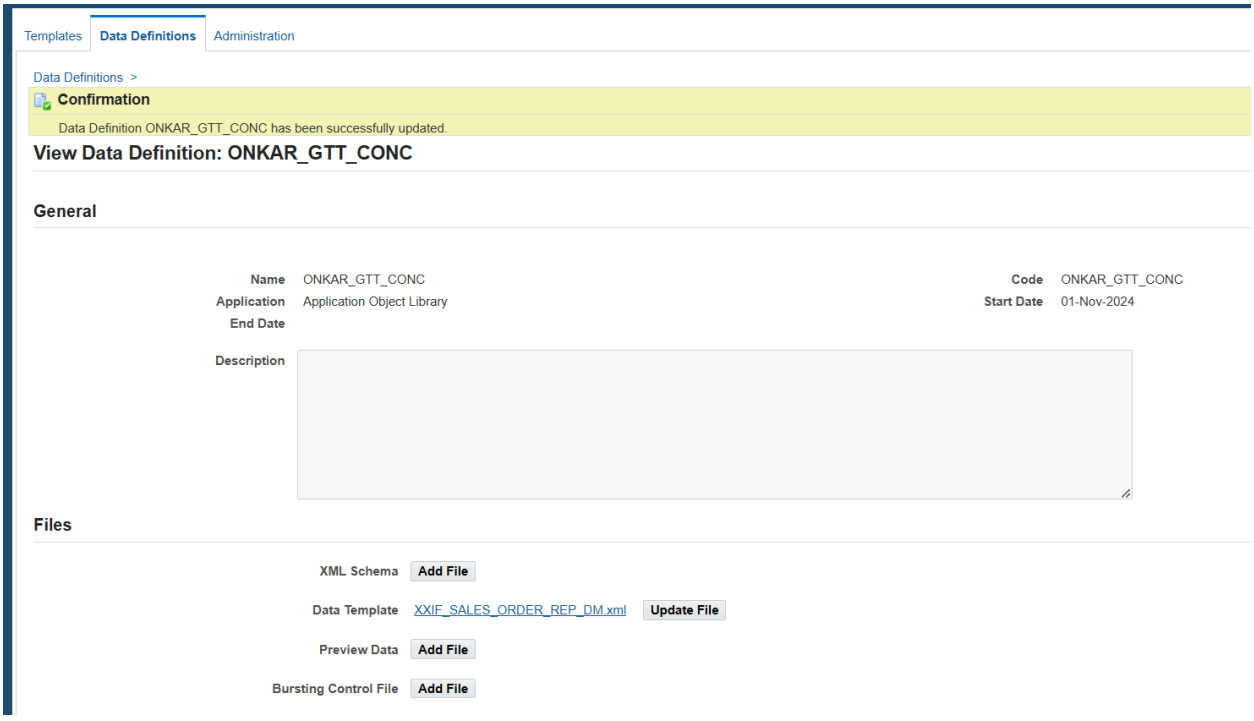
Script Output | Query Result

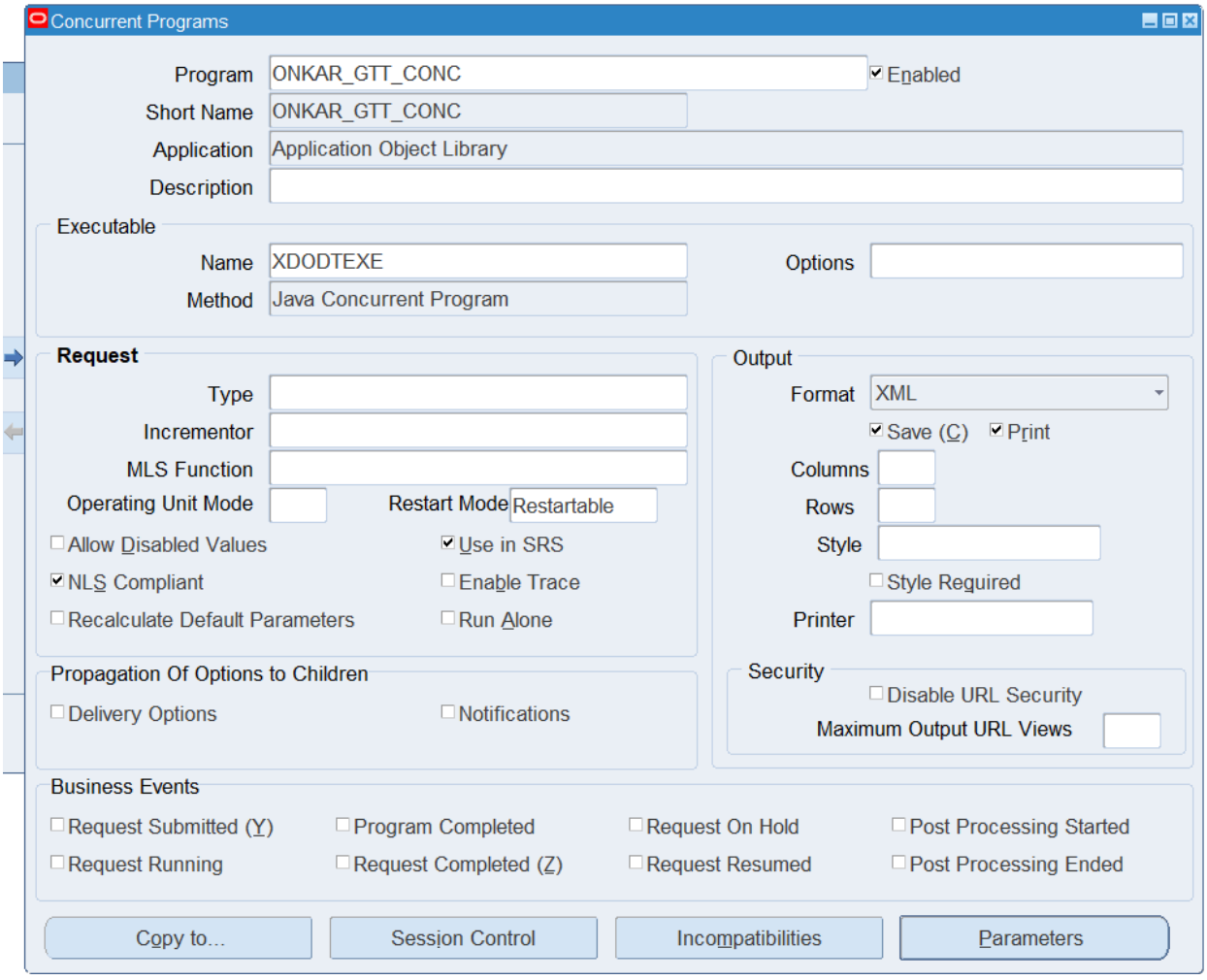
SQL | All Rows Fetched: 43 in 0.098 seconds

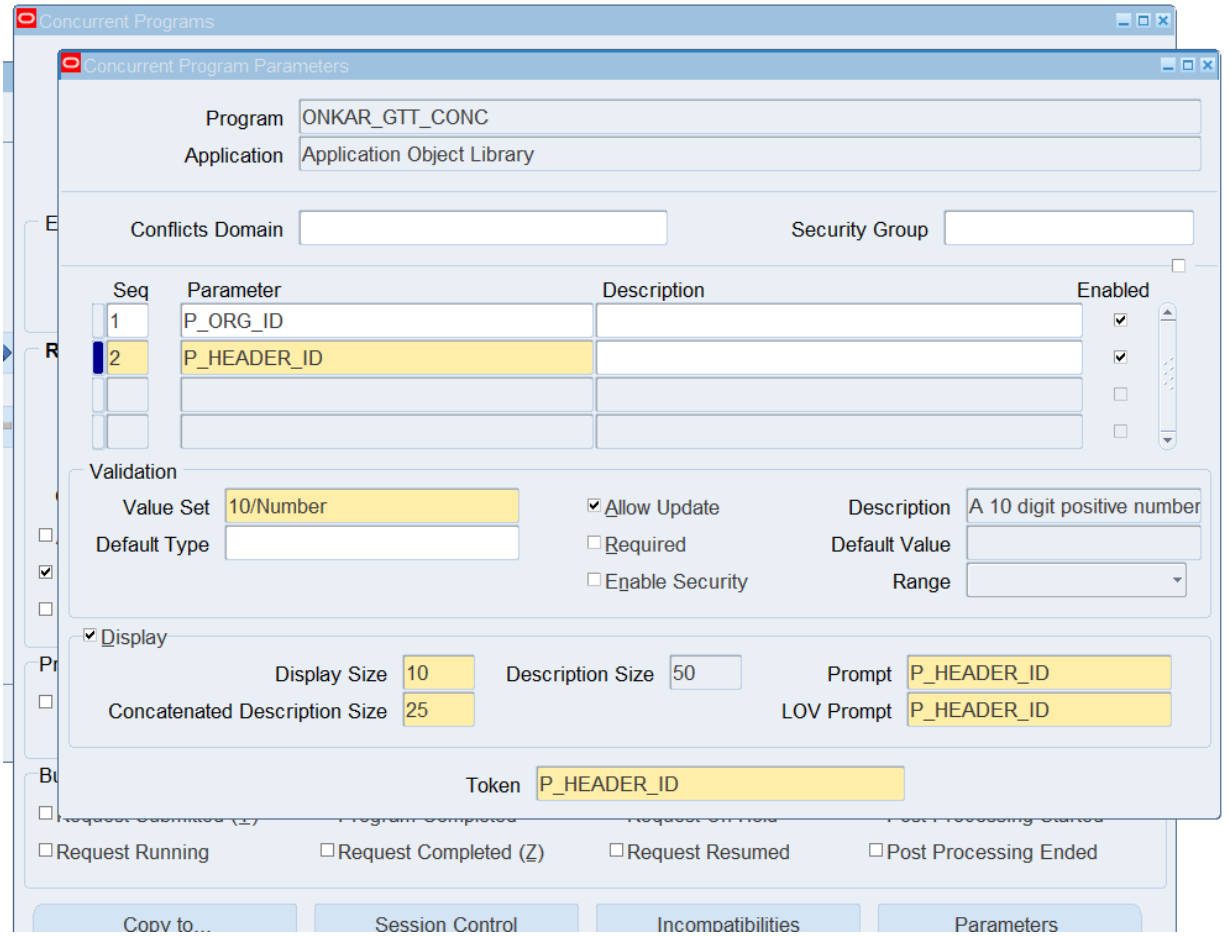
	NAME	TYPE	LINE	TEXT	ORIGIN_CON_ID
1	XXCV_SALES_ORDER_REP	PACKAGE BODY	1	package body XXCV_SALES_ORDER_REP	3
2	XXCV_SALES_ORDER_REP	PACKAGE BODY	2	IS	3
3	XXCV_SALES_ORDER_REP	PACKAGE BODY	3		3
4	XXCV_SALES_ORDER_REP	PACKAGE BODY	4	FUNCTION beforeReport return boolean	3
5	XXCV_SALES_ORDER_REP	PACKAGE BODY	5	IS	3
6	XXCV_SALES_ORDER_REP	PACKAGE BODY	6	CURSOR C_SALESDATA IS	3
7	XXCV_SALES_ORDER_REP	PACKAGE BODY	7	select ooh.header_id , ooh.order_number,ooh.ordered_date	3

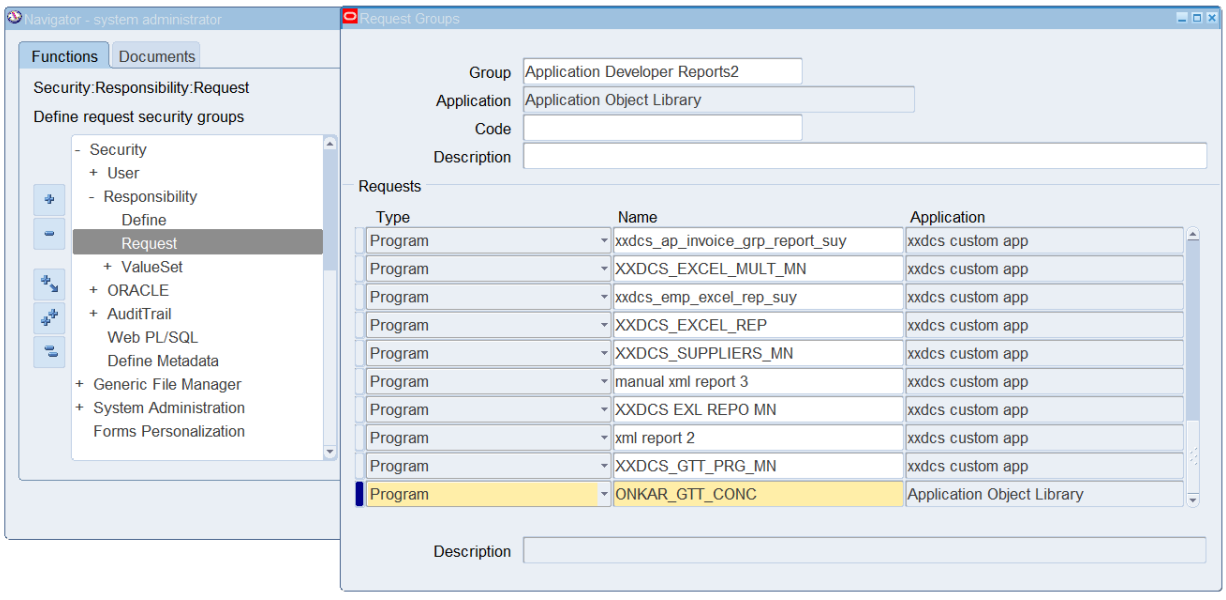
XXIF_SALES_ORDER_REP_DM.xml

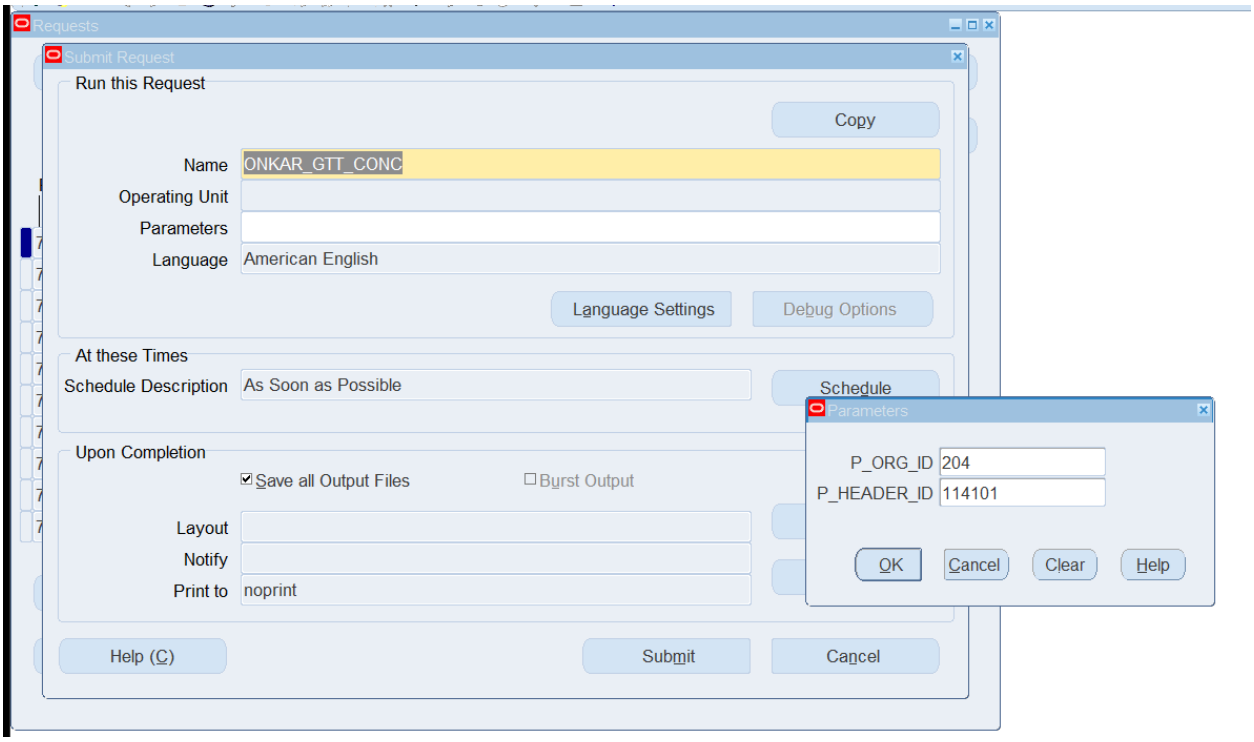
```
<?xml version="1.0" encoding="WINDOWS-1252" ?>
<dataTemplate name="XXIF_SALES_ORDER_REP" description="Sales Order Report" defaultPackage="XXCV_SALES_ORDER_REP" Version="1.0">
<!-- DEFAULT PAKGE COZ SERVER NEEDS TO KNOW IN WHICH PKG WE ARE ASSIGNING PARAM VALUES -->
 <properties>
  <property name ="debug_mode" value="on"/>
 </properties>
        <parameters>
            <parameter name="P_ORG_ID" dataType="number"/>
            <parameter name="P_HEADER_ID" dataType="number"/>
        </parameters>
        <dataQuery>
           <sqlStatement name="Q1">
           <![CDATA[ select
             HEADER_ID                ,
            ORDER_NUMBER              ,
            TO_CHAR(ORDERED_DATE,'DD-MON') ORDERED_DATE       ,
            LINE_NUMBER               ,
            ORDER_QUANTITY_UOM        ,
            ORDERED_QUANTITY          ,
            ORG_ID
            from XXCV_SALES_ORDER_GTT  ]]>
            </sqlStatement>
        </dataQuery>

<dataTrigger name="beforeReport" source="XXCV_SALES_ORDER_REP.beforeReport" />  <!-- WE ARE CALLING OUR PACKAGE HERE -->
    <dataStructure>
        <group name="G_SALES_DATA" source="Q1">
            <element name="HEADER_ID" value="HEADER_ID" />
            <element name="ORDER_NUMBER" value="ORDER_NUMBER" />
            <element name="ORDERED_DATE" value="ORDERED_DATE" />
            <element name="LINE_NUMBER" value="LINE_NUMBER" />
            <element name="ORDER_QUANTITY_UOM" value="ORDER_QUANTITY_UOM" />
            <element name="ORDERED_QUANTITY" value="ORDERED_QUANTITY" />
            <element name="ORG_ID" value="ORG_ID" />
        </group>
    </dataStructure>
</dataTemplate>
```




Concurrent Programs
Program
ONKAR_GTT_CONC
Enabled
Short Name
ONKAR_GTT_CONC
Application
Application Object Library
Description
Executable
Name
XDODTEXE
Options
Method
Java Concurrent Program
Request
Type
Incrementor
MLS Function
Operating Unit Mode
Restart Mode
Restartable
Allow Disabled Values
Use in SRS
NLS Compliant
Enable Trace
Recalculate Default Parameters
Run Alone
Output
Format
XML
Save (C)
Print
Columns
Rows
Style
Style Required
Printer
Propagation Of Options to Children
Delivery Options
Notifications
Security
Disable URL Security
Maximum Output URL Views
Business Events
Request Submitted (Y)
Program Completed
Request On Hold
Post Processing Started
Request Running
Request Completed (Z)
Request Resumed
Post Processing Ended
Copy to...
Session Control
Incompatibilities
Parameters


Concurrent Programs
Concurrent Program Parameters
Program
ONKAR_GTT_CONC
Application
Application Object Library
Conflicts Domain
Security Group
Seq
Parameter
Description
Enabled
1
P_ORG_ID
2
P_HEADER_ID
Validation
Value Set
10/Number
Allow Update
Description
A 10 digit positive number
Default Type
Required
Default Value
Enable Security
Range
Display
Display Size
10
Description Size
50
Prompt
P_HEADER_ID
Concatenated Description Size
25
LOV Prompt
P_HEADER_ID
Token
P_HEADER_ID
Request Running
Request Completed (Z)
Request Resumed
Post Processing Ended
Copy to...
Session Control
Incompatibilities
Parameters


Navigator - system administrator
Functions
Documents
Security:Responsibility:Request
Define request security groups
Security
User
Responsibility
Define
Request
ValueSet
ORACLE
AuditTrail
Web PL/SQL
Define Metadata
Generic File Manager
System Administration
Forms Personalization
Request Groups
Group
Application Developer Reports2
Application
Application Object Library
Code
Description
Requests
Type
Name
Application
Program
xxdcs_ap_invoice_grp_report_suy
xxdcs custom app
Program
XXDCS_EXCEL_MULT_MN
xxdcs custom app
Program
xxdcs_emp_excel_rep_suy
xxdcs custom app
Program
XXDCS_EXCEL_REP
xxdcs custom app
Program
XXDCS_SUPPLIERS_MN
xxdcs custom app
Program
manual xml report 3
xxdcs custom app
Program
XXDCS EXL REPO MN
xxdcs custom app
Program
xml report 2
xxdcs custom app
Program
XXDCS_GTT_PRG_MN
xxdcs custom app
Program
ONKAR_GTT_CONC
Application Object Library
Description

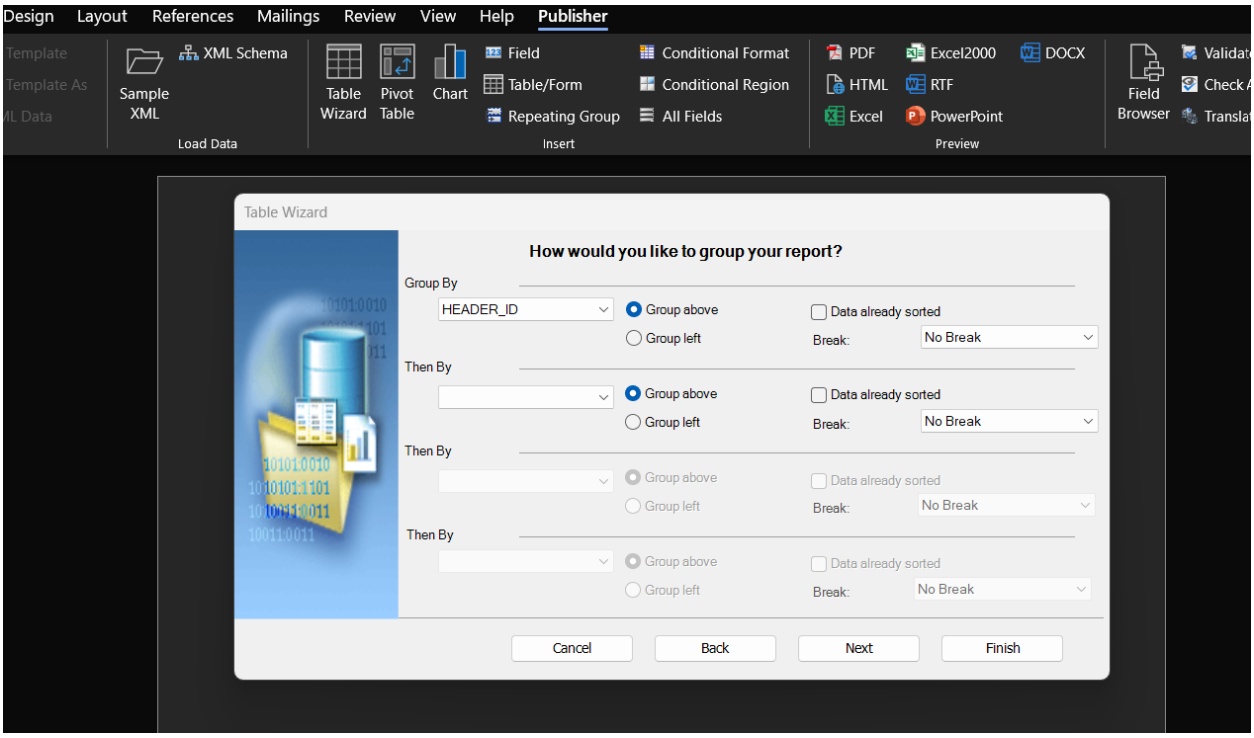

Requests
Submit Request
Run this Request
Copy
Name
ONKAR_GTT_CONC
Operating Unit
Parameters
Language
American English
Language Settings
Debug Options
At these Times
Schedule Description
As Soon as Possible
Schedule
Upon Completion
Save all Output Files
Burst Output
Layout
Notify
Print to
noprint
Help (C)
Submit
Cancel
Parameters
P_ORG_ID
204
P_HEADER_ID
114101
OK
Cancel
Clear
Help

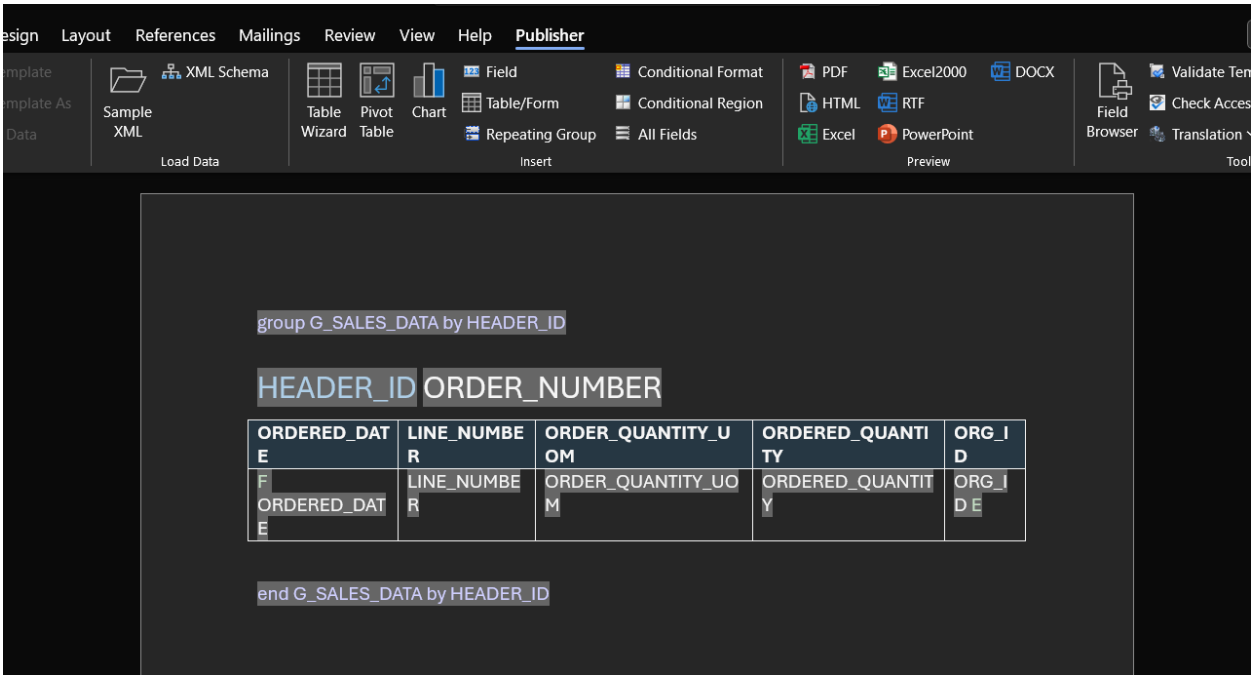
This XML file does not appear to have any style information associated with it. The document tree is shown below.

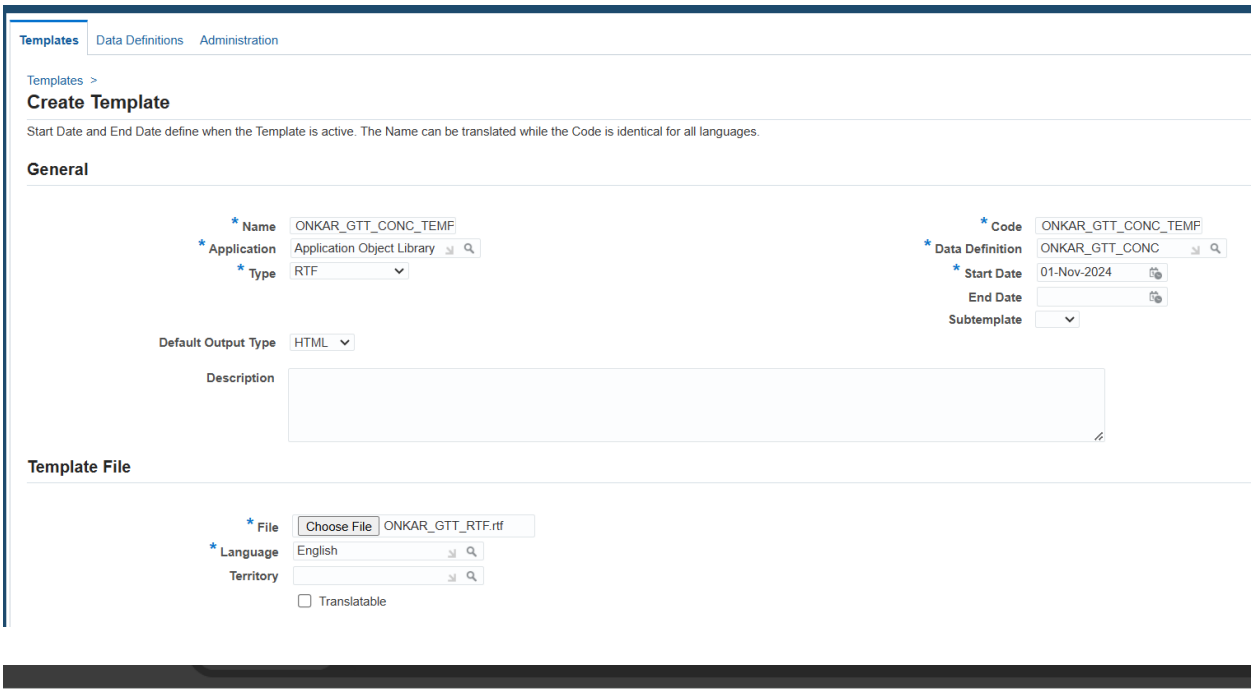

```
▼<XXIF_SALES_ORDER_REP>
   <P_ORG_ID>204</P_ORG_ID>
   <P_HEADER_ID>114101</P_HEADER_ID>
  ▼<LIST_G_SALES_DATA>
    ▼<G_SALES_DATA>
       <HEADER_ID>114101</HEADER_ID>
       <ORDER_NUMBER>59223</ORDER_NUMBER>
       <ORDERED_DATE>27-OCT</ORDERED_DATE>
       <LINE_NUMBER>1</LINE_NUMBER>
       <ORDER_QUANTITY_UOM>Ea</ORDER_QUANTITY_UOM>
       <ORDERED_QUANTITY>4</ORDERED_QUANTITY>
       <ORG_ID>204</ORG_ID>
     </G_SALES_DATA>
    ▼<G_SALES_DATA>
       <HEADER_ID>114101</HEADER_ID>
       <ORDER_NUMBER>59223</ORDER_NUMBER>
       <ORDERED_DATE>27-OCT</ORDERED_DATE>
       <LINE_NUMBER>2</LINE_NUMBER>
       <ORDER_QUANTITY_UOM>Ea</ORDER_QUANTITY_UOM>
       <ORDERED_QUANTITY>24</ORDERED_QUANTITY>
       <ORG_ID>204</ORG_ID>
     </G_SALES_DATA>
    ▼<G_SALES_DATA>
       <HEADER_ID>114101</HEADER_ID>
       <ORDER_NUMBER>59223</ORDER_NUMBER>
       <ORDERED_DATE>27-OCT</ORDERED_DATE>
       <LINE_NUMBER>3</LINE_NUMBER>
       <ORDER_QUANTITY_UOM>Ea</ORDER_QUANTITY_UOM>
       <ORDERED_QUANTITY>9</ORDERED_QUANTITY>
       <ORG_ID>204</ORG_ID>
     </G_SALES_DATA>
    ▼<G_SALES_DATA>
       <HEADER_ID>114101</HEADER_ID>
       <ORDER_NUMBER>59223</ORDER_NUMBER>
       <ORDERED_DATE>27-OCT</ORDERED_DATE>
       <LINE_NUMBER>4</LINE_NUMBER>
       <ORDER_QUANTITY_UOM>Ea</ORDER_QUANTITY_UOM>
       <ORDERED_QUANTITY>9</ORDERED_QUANTITY>
       <ORG_ID>204</ORG_ID>
     </G_SALES_DATA>
    ▼<G_SALES_DATA>
       <HEADER_ID>114101</HEADER_ID>
       <ORDER_NUMBER>59223</ORDER_NUMBER>
       <ORDERED_DATE>27-OCT</ORDERED_DATE>
```


2. Template RTF :

Publisher > Options > Options >Build > Form size > Backward compatible


Design
Layout
References
Mailings
Review
View
Help
Publisher
XML Schema
Sample XML
Load Data
Table Wizard
Pivot Table
Chart
Field
Table/Form
Repeating Group
Conditional Format
Conditional Region
All Fields
Insert
PDF
Excel2000
DOCX
HTML
RTF
Excel
PowerPoint
Preview
Field Browser
Table Wizard
How would you like to group your report?
Group By
HEADER_ID
Group above
Group left
Data already sorted
Break:
No Break
Then By
Then By
Then By
Cancel
Back
Next
Finish


Layout
References
Mailings
Review
View
Help
Publisher
XML Schema
Sample XML
Load Data
Table Wizard
Pivot Table
Chart
Field
Table/Form
Repeating Group
Conditional Format
Conditional Region
All Fields
Insert
PDF
Excel2000
DOCX
HTML
RTF
Excel
PowerPoint
Preview
Field Browser
Validate Ten
Check Acces
Translation
group G_SALES_DATA by HEADER_ID
HEADER_ID ORDER_NUMBER
ORDERED_DATE
LINE_NUMBER
ORDER_QUANTITY_UOM
ORDERED_QUANTITY
ORG_ID
F ORDERED_DATE
LINE_NUMBER
ORDER_QUANTITY_UOM
ORDERED_QUANTITY
ORG_ID E
end G_SALES_DATA by HEADER_ID



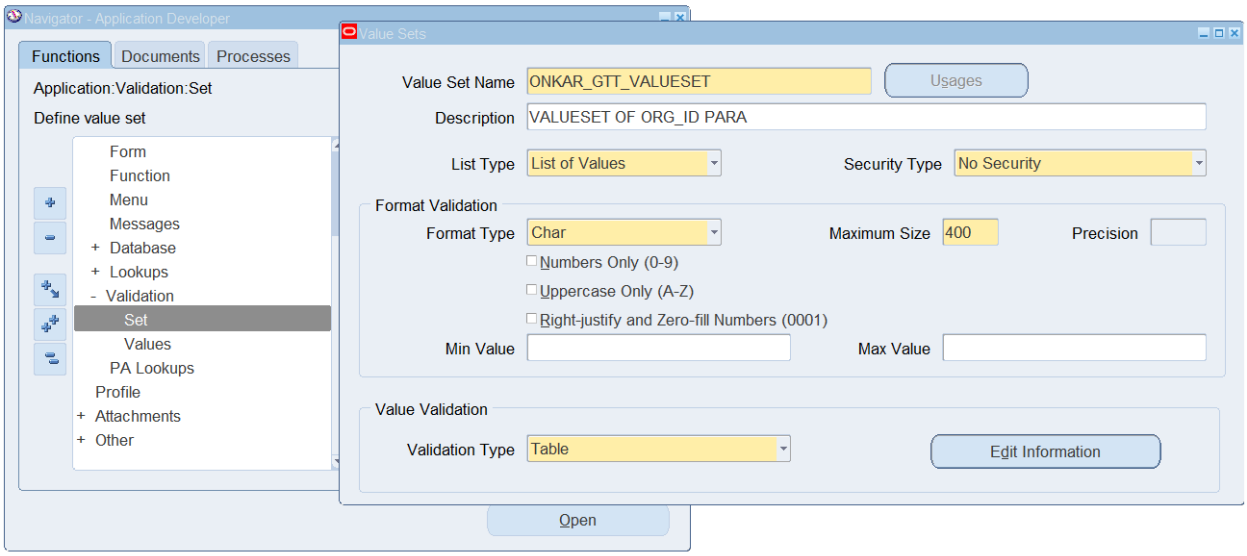
114101 59223

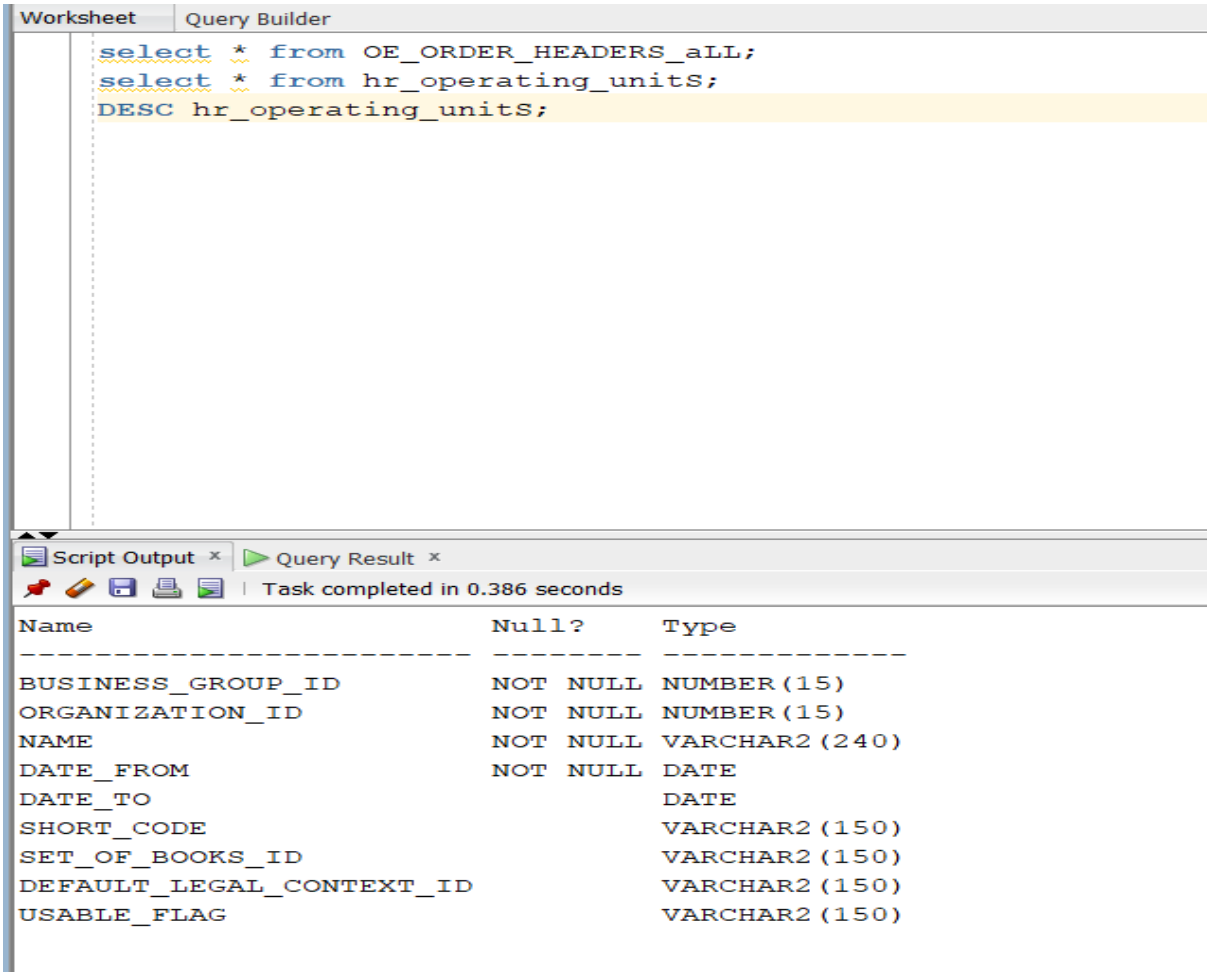
ORDERED_DATE	LINE_NUMBER	ORDER_QUANTITY_UOM	ORDERED_QUANTITY	ORG_ID
27-OCT	1	Ea	4	204
27-OCT	2	Ea	24	204
27-OCT	3	Ea	9	204
27-OCT	4	Ea	9	204
27-OCT	5	Ea	9	204

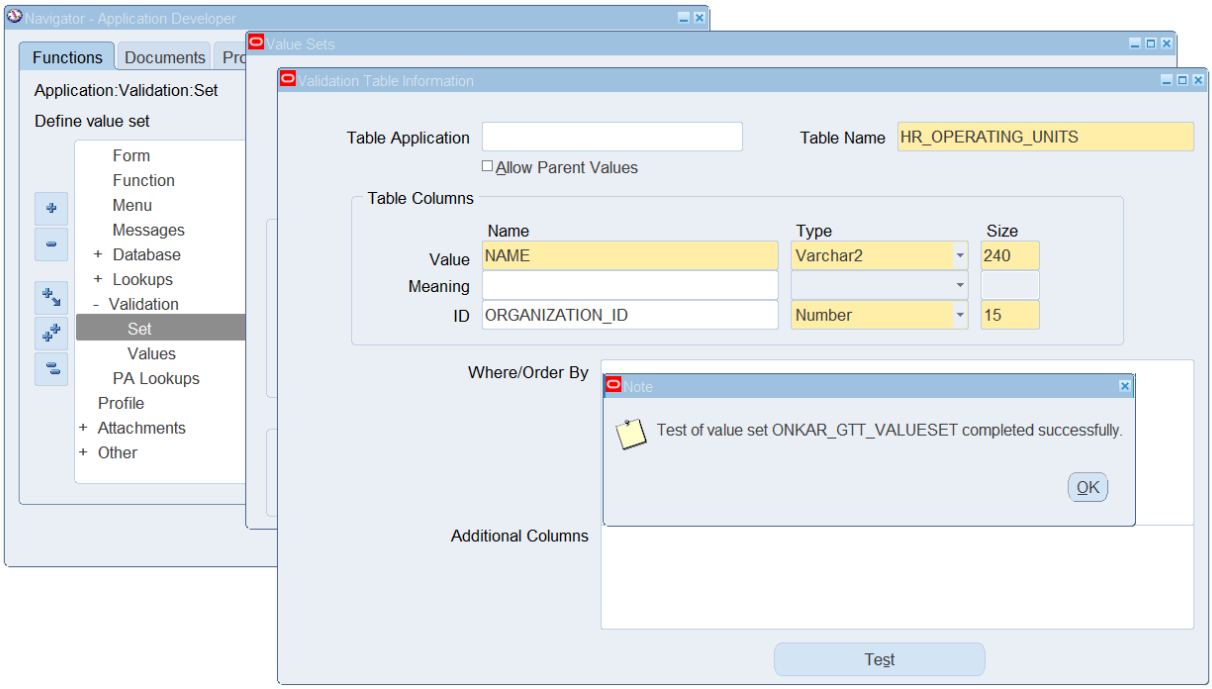
NOW INSTEAD OF PASSING HARD CODED VALUE IN PARAMETER WE CAN CREATE VALUESET(TABLE) OF ORG_ID & HEADER_ID :

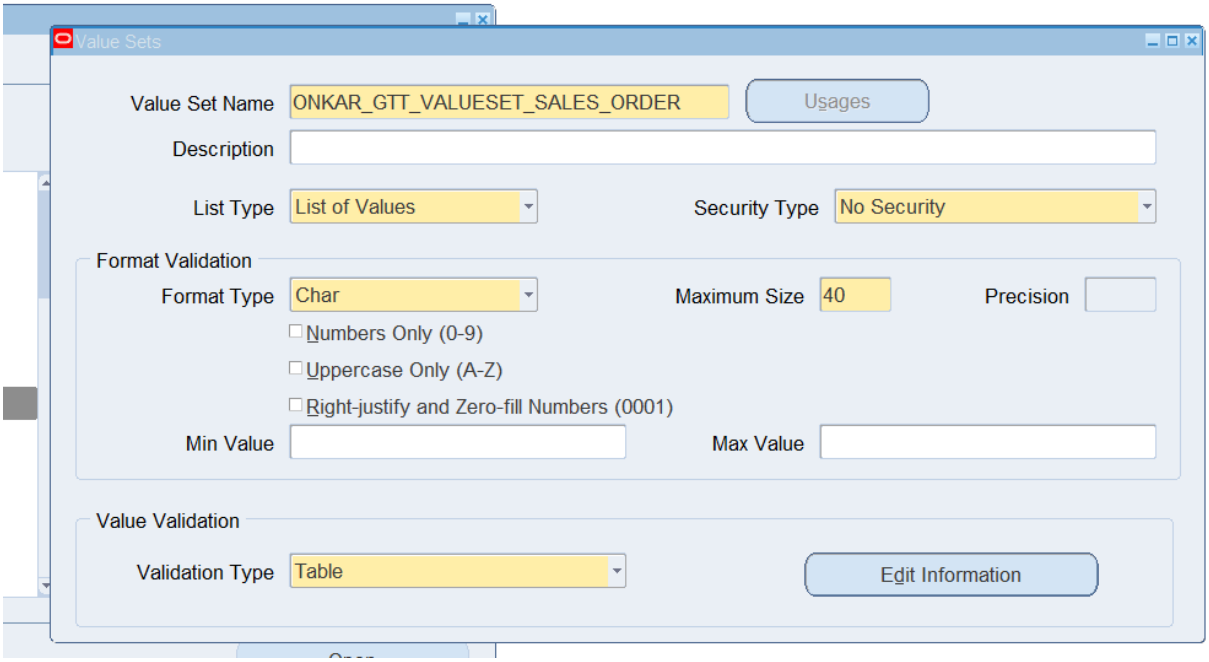
i. FOR ORG_ID WE USE “HR_OPERATING_UNITS” TABLE.

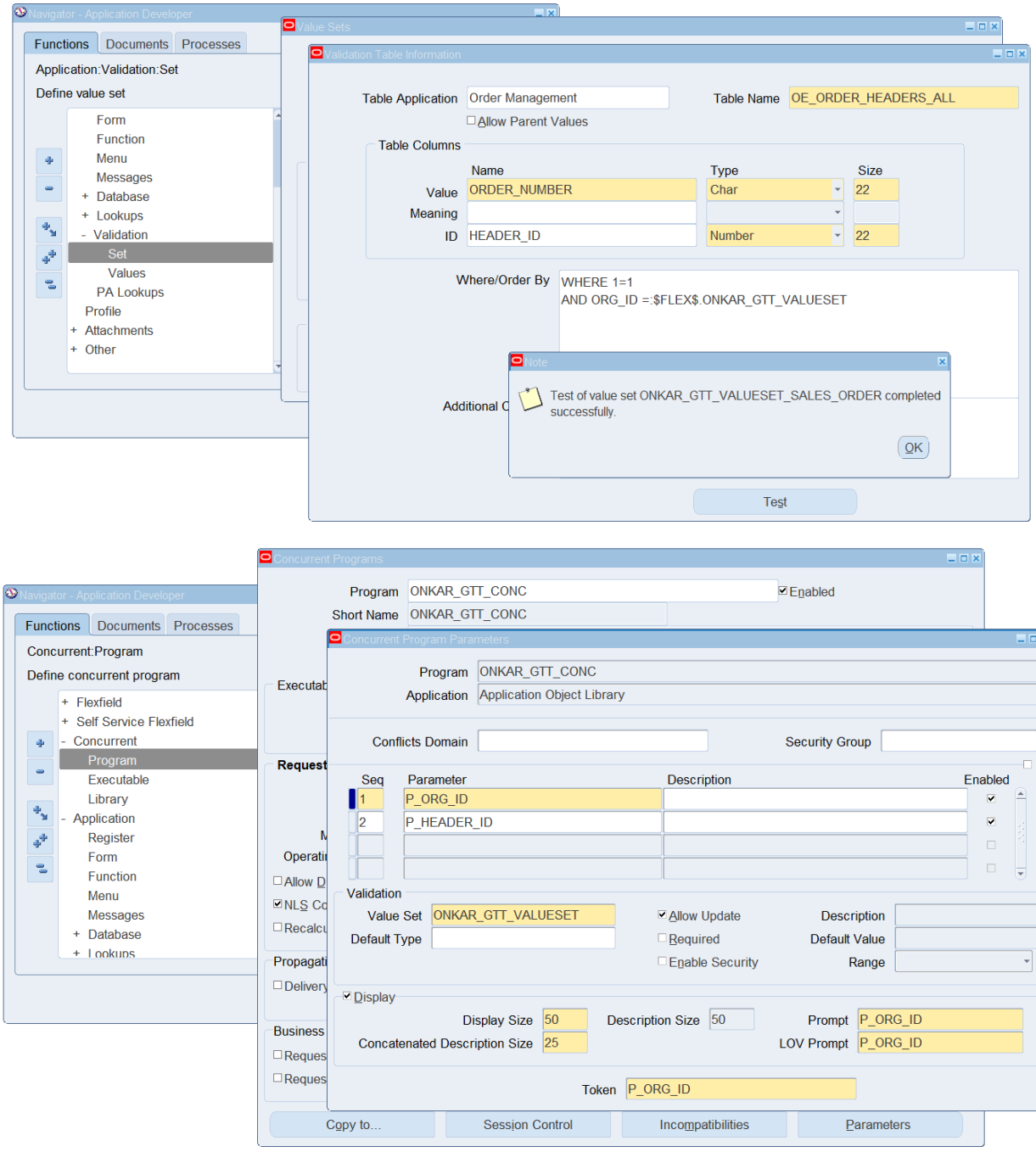
ii. The HR_OPERATING_UNITS table in Oracle E-Business Suite (EBS) is a part of the Human Resources module. It stores information about the various operating units within an organization. Each operating unit typically represents a distinct division or location that can have its own HR policies, practices, and data.

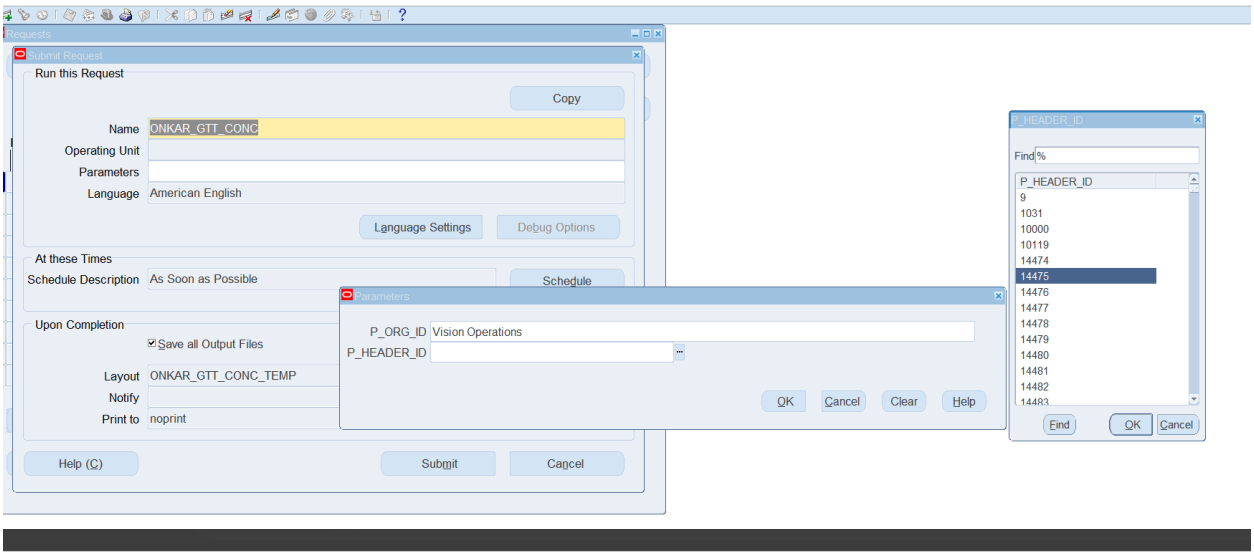

Navigator - Application Developer
Functions
Documents
Processes
Application:Validation:Set
Define value set
Form
Function
Menu
Messages
+ Database
+ Lookups
- Validation
Set
Values
PA Lookups
Profile
+ Attachments
+ Other
Value Sets
Value Set Name
ONKAR_GTT_VALUESET
Usages
Description
VALUESET OF ORG_ID PARA
List Type
List of Values
Security Type
No Security
Format Validation
Format Type
Char
Maximum Size
400
Precision
Numbers Only (0-9)
Uppercase Only (A-Z)
Right-justify and Zero-fill Numbers (0001)
Min Value
Max Value
Value Validation
Validation Type
Table
Edit Information
Open


Worksheet
Query Builder
select * from OE_ORDER_HEADERS_aLL;
select * from hr_operating_unitS;
DESC hr_operating_unitS;
Script Output
Query Result
Task completed in 0.386 seconds
Name Null? Type
BUSINESS_GROUP_ID NOT NULL NUMBER(15)
ORGANIZATION_ID NOT NULL NUMBER(15)
NAME NOT NULL VARCHAR2(240)
DATE_FROM NOT NULL DATE
DATE_TO DATE
SHORT_CODE VARCHAR2(150)
SET_OF_BOOKS_ID VARCHAR2(150)
DEFAULT_LEGAL_CONTEXT_ID VARCHAR2(150)
USABLE_FLAG VARCHAR2(150)


Navigator - Application Developer
Functions
Documents
Application:Validation:Set
Define value set
Form
Function
Menu
Messages
+ Database
+ Lookups
- Validation
Set
Values
PA Lookups
Profile
+ Attachments
+ Other
Value Sets
Validation Table Information
Table Application
Table Name
HR_OPERATING_UNITS
Allow Parent Values
Table Columns
Name
Type
Size
Value
NAME
Varchar2
240
Meaning
ID
ORGANIZATION_ID
Number
15
Where/Order By
Note
Test of value set ONKAR_GTT_VALUESET completed successfully.
OK
Additional Columns
Test


Value Sets
Value Set Name
ONKAR_GTT_VALUESET_SALES_ORDER
Usages
Description
List Type
List of Values
Security Type
No Security
Format Validation
Format Type
Char
Maximum Size
40
Precision
Numbers Only (0-9)
Uppercase Only (A-Z)
Right-justify and Zero-fill Numbers (0001)
Min Value
Max Value
Value Validation
Validation Type
Table
Edit Information


Navigator - Application Developer
Functions
Documents
Processes
Application:Validation:Set
Define value set
Form
Function
Menu
Messages
+ Database
+ Lookups
- Validation
Set
Values
PA Lookups
Profile
+ Attachments
+ Other
Value Sets
Validation Table Information
Table Application
Order Management
Table Name
OE_ORDER_HEADERS_ALL
Allow Parent Values
Table Columns
Name
Type
Size
Value
ORDER_NUMBER
Char
22
Meaning
ID
HEADER_ID
Number
22
Where/Order By
WHERE 1=1
AND ORG_ID =:$FLEX$.ONKAR_GTT_VALUESET
Additional C
Note
Test of value set ONKAR_GTT_VALUESET_SALES_ORDER completed successfully.
OK
Test
Navigator - Application Developer
Functions
Documents
Processes
Concurrent:Program
Define concurrent program
+ Flexfield
+ Self Service Flexfield
- Concurrent
Program
Executable
Library
- Application
Register
Form
Function
Menu
Messages
+ Database
+ Lookups
Concurrent Programs
Program
ONKAR_GTT_CONC
Enabled
Short Name
ONKAR_GTT_CONC
Concurrent Program Parameters
Program
ONKAR_GTT_CONC
Application
Application Object Library
Conflicts Domain
Security Group
Seq
Parameter
Description
Enabled
1
P_ORG_ID
2
P_HEADER_ID
Validation
Value Set
ONKAR_GTT_VALUESET
Allow Update
Description
Default Type
Required
Default Value
Enable Security
Range
Display
Display Size
50
Description Size
50
Prompt
P_ORG_ID
Concatenated Description Size
25
LOV Prompt
P_ORG_ID
Token
P_ORG_ID
Copy to...
Session Control
Incompatibilities
Parameters

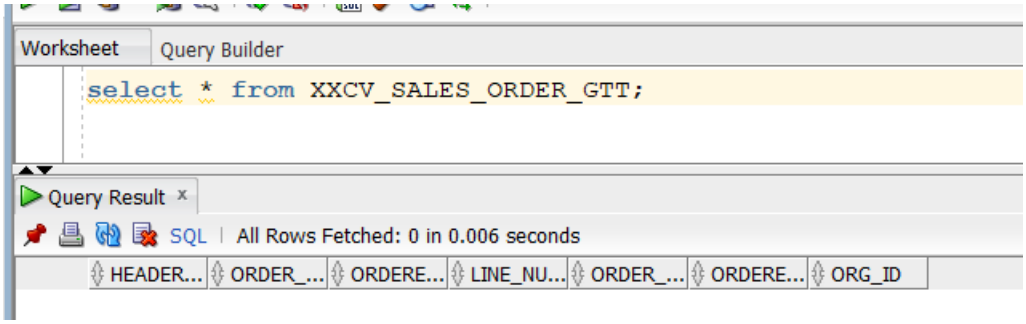


94219 14475

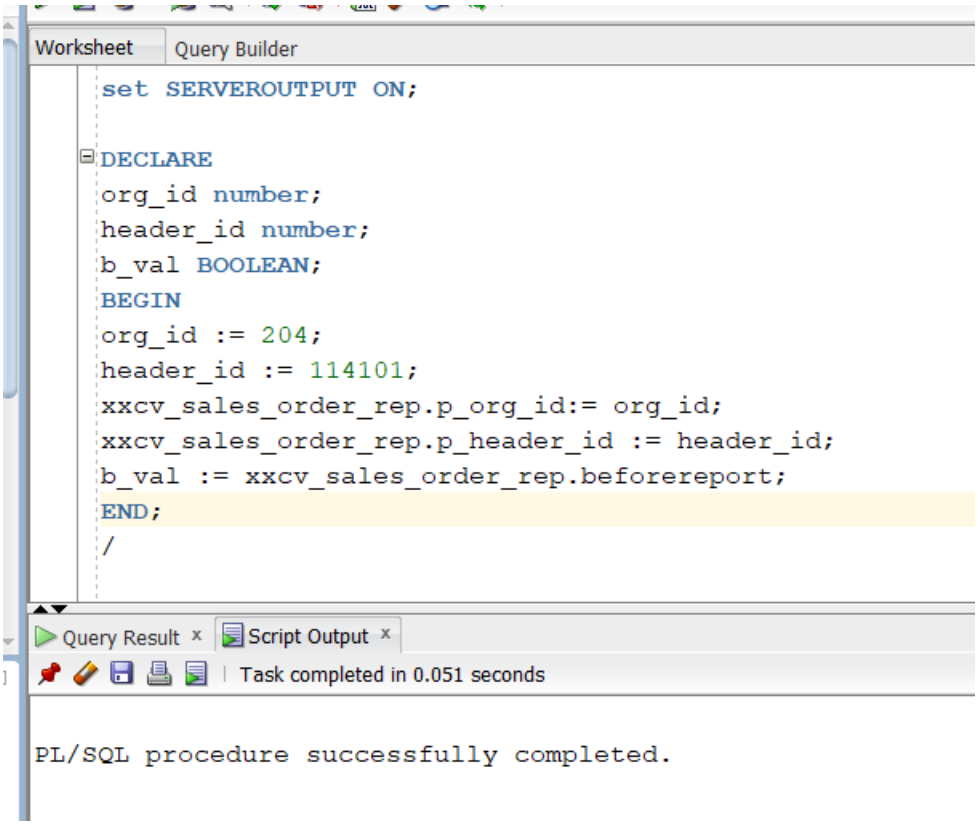
ORDERED_DATE	LINE_NUMBER	ORDER_QUANTITY_UOM	ORDERED_QUANTITY	ORG_ID
05-JAN	1	Ea	1	204

PLSQL API TO CHECK THE LODED DATA INSIDE THE GTT TABLE :

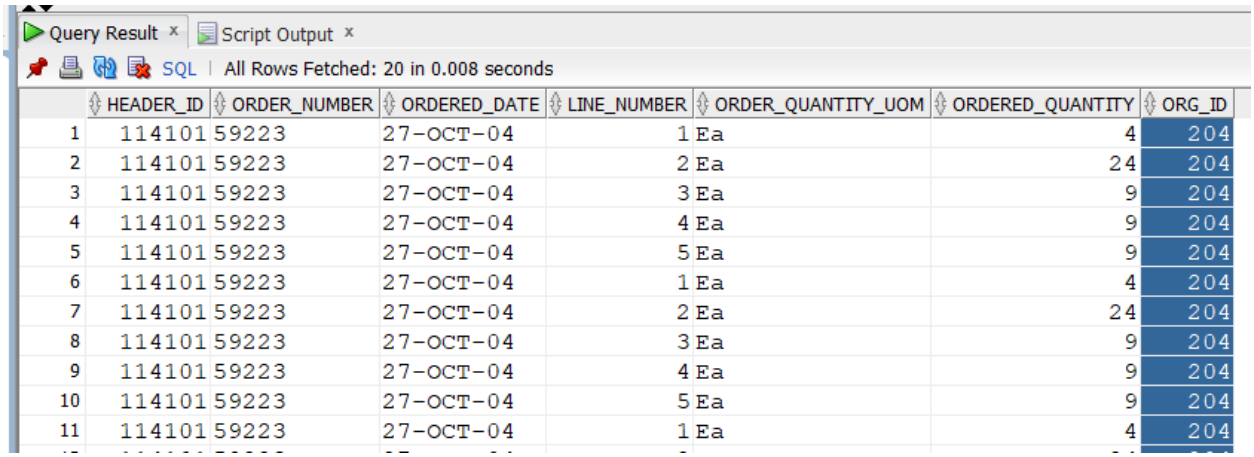
IN DB NO DATA USING SQL QUERY:



CREATING PLSQL API :



SELECT * FROM xxcv_sales_order_GTT;



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5	114101	59223	27-OCT-04	5	Ea	9	204
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8	114101	59223	27-OCT-04	3	Ea	9	204
9	114101	59223	27-OCT-04	4	Ea	9	204
10	114101	59223	27-OCT-04	5	Ea	9	204
11	114101	59223	27-OCT-04	1	Ea	4	204