# ORACLE EBS MINI PROJECT REPORT

# MINI PROJECT 2

**RAJDEEP DAS** 

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# Acknowledgement

I would like to thank my Trainer **Dr. Geeta Mandar Mete**, who gave me a golden opportunity to work on this project. I'd also like to express my gratitude to Cognizant Technology Solution wholeheartedly.

I must also thank my project group members for the immense support and help during this project. Without their help, completing this project would have been very difficult.

Date: 03-07-2022 Rajdeep Das
Employee Id: 2152683
Oracle EBS Track Intern,

**Cognizant Technology Solution** 

-----

Signature, Trainer

#### **START**

Q1. Create a Master Detail BI Publisher to display TYPE LOOKUP CODE wise list of

Purchase Orders, Quotations, RFQ.s etc.

**STEPS:-**

#### Step 1:

- A. I have taken three tables: PO\_LINES\_ALL, PO\_HEADERS\_ALL, MTL\_SYSTEM\_ITEMS\_B.
- B. I have taken total 4 TYPES LOOKUP CODE.

#### Code:

```
CREATE OR REPLACE PROCEDURE XXCTS_RAJDEEP_MD_PROJECT(

ERRBUF OUT VARCHAR2,

RETCODE OUT VARCHAR2)

IS

CURSOR ITEM_CUR

IS

SELECT PHA.SEGMENT1,

MSIB.SEGMENT1 AS ITEM_NAME,

PLA.ITEM_DESCRIPTION,

PHA.TYPE_LOOKUP_CODE,

PLA.UNIT_PRICE,

PLA.QUANTITY

FROM PO_LINES_ALL PLA,
```

```
PO HEADERS ALL PHA,
  MTL_SYSTEM_ITEMS_B MSIB
 WHERE PLA.PO HEADER ID = PHA.PO HEADER ID
 AND PLA.ITEM ID = MSIB.INVENTORY ITEM ID
 AND PHA.TYPE LOOKUP CODE IN ('RFQ', 'QUOTATION', 'BLANKET',
'STANDARD')
 AND MSIB.SEGMENT1 LIKE 'XXCTS R%';
ITEM RECITEM CUR%ROWTYPE;
V_ERROR_CODE NUMBER;
V ERR MESSAGE VARCHAR2(200);
BEGIN
OPEN ITEM_CUR;
FND_FILE.PUT_LINE(FND_FILE.OUTPUT,'<?xml version="1.0"?>');
FND FILE.PUT LINE(fnd file.output,'<ItemRoot>');
LOOP
 FETCH ITEM CUR INTO ITEM REC;
 EXIT
WHEN ITEM CUR%NOTFOUND;
 FND_FILE.PUT_LINE(FND_FILE.OUTPUT,'<ITEM>');
 FND FILE.PUT LINE(FND FILE.OUTPUT, '<SEGMENT1>' | | ITEM REC.SEGMENT1
FND_FILE.PUT_LINE(FND_FILE.OUTPUT,'<ITEM_NAME>' | |
ITEM REC.ITEM NAME | | '</ITEM NAME>');
```

```
FND FILE.PUT LINE(FND FILE.OUTPUT, '<ITEM DESCRIPTION>'||
ITEM_REC.ITEM_DESCRIPTION | | '</ITEM_DESCRIPTION>');
 FND FILE.PUT LINE(FND FILE.OUTPUT, '<TYPE LOOKUP CODE>'||
ITEM_REC.TYPE_LOOKUP_CODE | | '</TYPE_LOOKUP_CODE>');
 FND_FILE.PUT_LINE(FND_FILE.OUTPUT,'<UNIT_PRICE>'||
ITEM_REC.UNIT_PRICE | | '</UNIT_PRICE>');
 FND FILE.PUT LINE(FND FILE.OUTPUT,'<QUANTITY>'|| ITEM REC.QUANTITY
FND FILE.PUT LINE(FND FILE.OUTPUT,'</ITEM>');
 END LOOP:
 FND FILE.PUT LINE(FND FILE.OUTPUT,'</ltemRoot>');
 CLOSE ITEM CUR;
EXCEPTION
WHEN OTHERS THEN
V_ERROR_CODE := SQLCODE;
 V ERR MESSAGE := SUBSTR(SQLERRM,1,200);
 FND FILE.PUT LINE(FND FILE.LOG, 'Error Code:' | | V ERROR CODE);
 FND FILE.PUT LINE(FND FILE.LOG, 'Error Message: ' | V ERR MESSAGE);
END;
```

```
CREATE OR REPLACE PROCEDURE XXCTS_RAJDEEP_MD_PROJECT (ERRBUF OUT VARCHAR2, RETCODE OUT VARCHAR2)

IS

CURSOR ITEM_CUR

IS

SELECT PHA.SEGMENT1, MSIB.SEGMENT1 AS ITEM_NAME, PLA.ITEM_DESCRIPTION, PHA.TYPE_LOOKUP_CODE, PLA.UNIT_PRICE, PLA.QUANTITY

FROM PO_LINES_ALL PLA, PO_HEADERS_ALL PHA, MTL_SYSTEM_ITEMS_B MSIB

WHERE PLA.PO_HEADER_ID = PHA.PO_HEADER_ID

AND PLA.ITEM_ID = MSIB.INVENTORY_ITEM_ID

AND PHA.TYPE_LOOKUP_CODE IN ('RFQ', 'QUOTATION', 'BLANKET', 'STANDARD')

AND MSIB.SEGMENT1 LIKE 'XXCTS_R*';

Script Output X Query Result X

Procedure XXCTS_RAJDEEP_MD_PROJECT compiled
```

Step 2: Open EBS Application.

Navigate to Application Developer  $\rightarrow$  Concurrent  $\rightarrow$  Executable.

The Concurrent Program Executable dialogue box will appear on the screen.

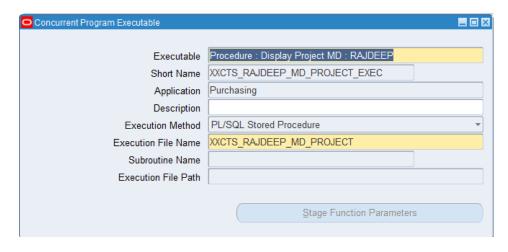
Executable name: Procedure Display Project MD: RAJDEEP

Short Name: XXCTS\_RAJDEEP\_MD\_PROJECT\_EXEC

Application: Purchasing

Execution File name: apps.(Procedure\_Name). Here it's apps.

XXCTS\_RAJDEEP\_MD\_PROJECT



Click on Save. Close it.

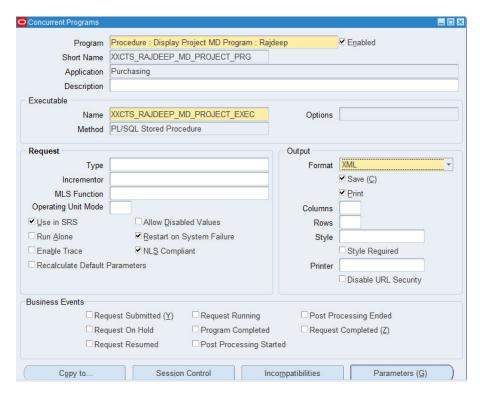
**Step 3:** Navigate to Application Developer → Concurrent → Program

Concurrent Programs dialogue box will appear.

Program name:- Procedure: Display Project MD Program: Rajdeep

Short name: XXCTS\_RAJDEEP\_MD\_PROJECT\_PRG

Application: Purchasing. Choose Executable name as the previously mentioned in the Executable dialogue box. Choose Format as XML and save it.



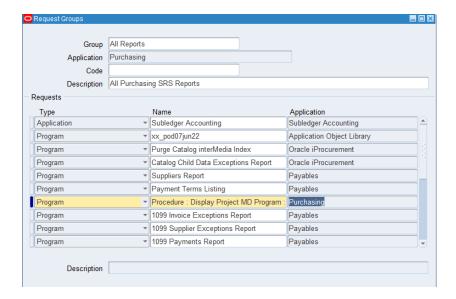
**Step 4:** Switch to System Administrator responsibility→ Security→ Responsibility→ Request

The Request Groups Dialogue box appears.

I have applied query here.

**Group: All Reports** 

**Application: Purchasing** 



Click on Add row in the Toolbar. And add Procedure: Display Project MD Program: Rajdeep in that row and save it.

# **Step 5:** Go to View → Requests

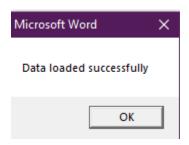
Put the name of the Procedure Program name i.e. Procedure: Display Project MD Program: Rajdeep. Click Submit. Click No.



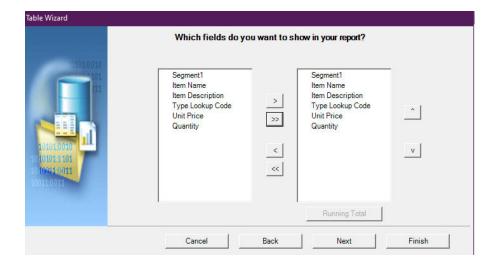
**Step 6:** The Procedure got compiled and the Output of XML I got on the Internet Explorer.

Below is the screenshot.

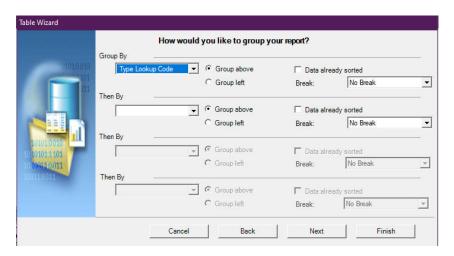
- **Step 7:** Saved it as Procedure\_Display\_Project\_MD.xml.
- **Step 8:** Created a word document file.
- Step 9: Clicked on BI Publisher tab on menu bar.
- **Step 10:** Click on Sample XML option and uploaded that XML file. It will pop up like this.



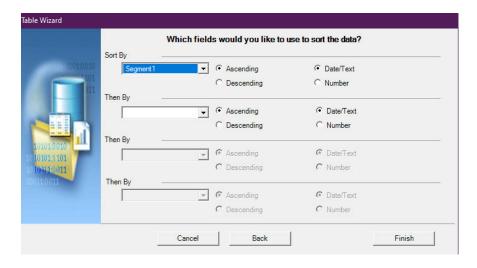
- Step 11: Clicked on Table Wizard option on the Menu bar.
- **Step 12**: Took all the XML tags at one side and created the template using **Group** by condition by applying it on 'Type Lookup Code' and applying **Sorted by** condition on 'Segment1'.



Applied Group by Condition on Type\_Lookup\_Code.



# Next Sorted by Segment1



Clicked Finish and the table got created.

#### MASTER DETAILS PROJECT REPORT

group ITEM by TYPE\_LOOKUP\_CODE

#### 

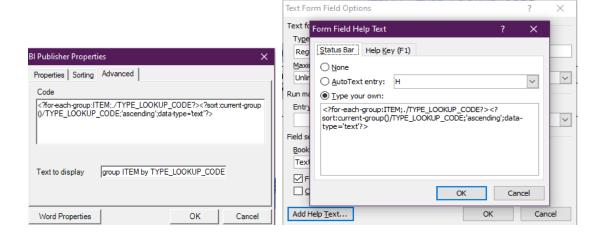
end ITEM by TYPE\_LOOKUP\_CODE

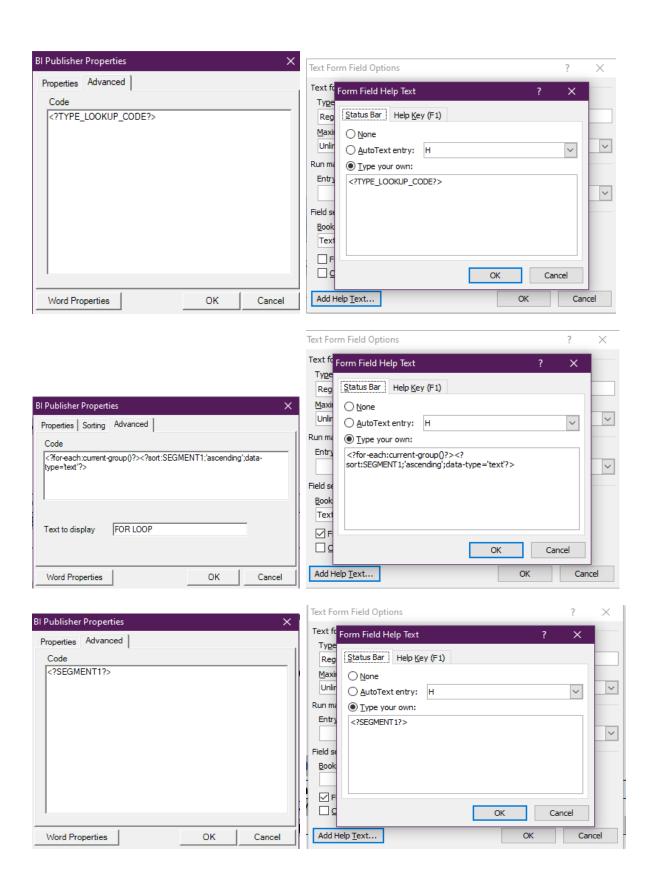
Now I right-clicked on each of the column-name in the table and go to the BI Publisher → Properties option,

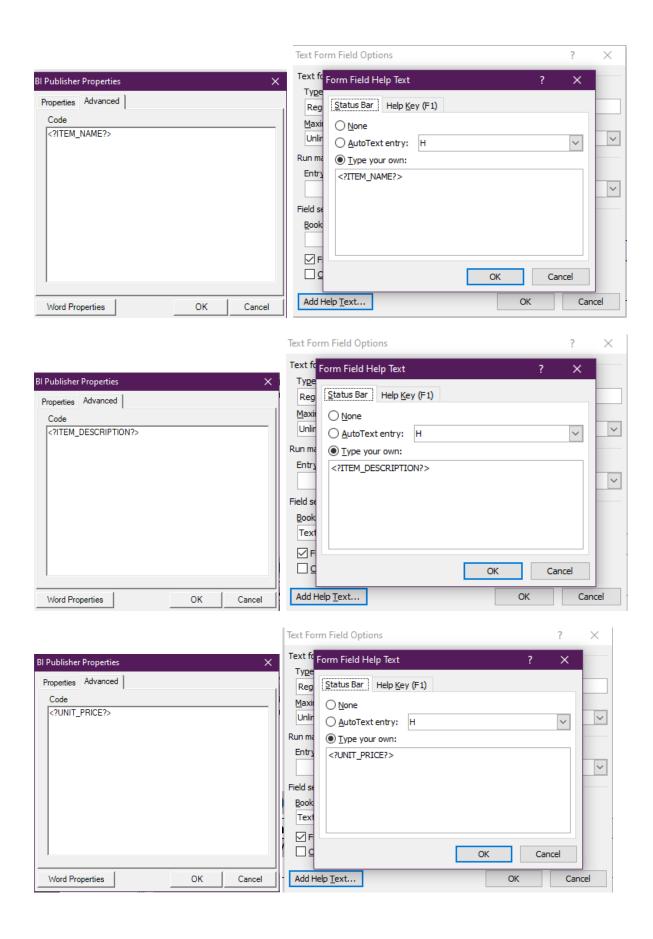
**Step 13:** In the coming dialogue box, click on 'Advanced' tab, I have just copied the column-tag (<?tagname?>) and then clicked on 'Word Properties' button blow. In the next coming dialogue box, click on 'Add Help Text' button below. Paste the copied text under the 'Status' bar and click on OK.

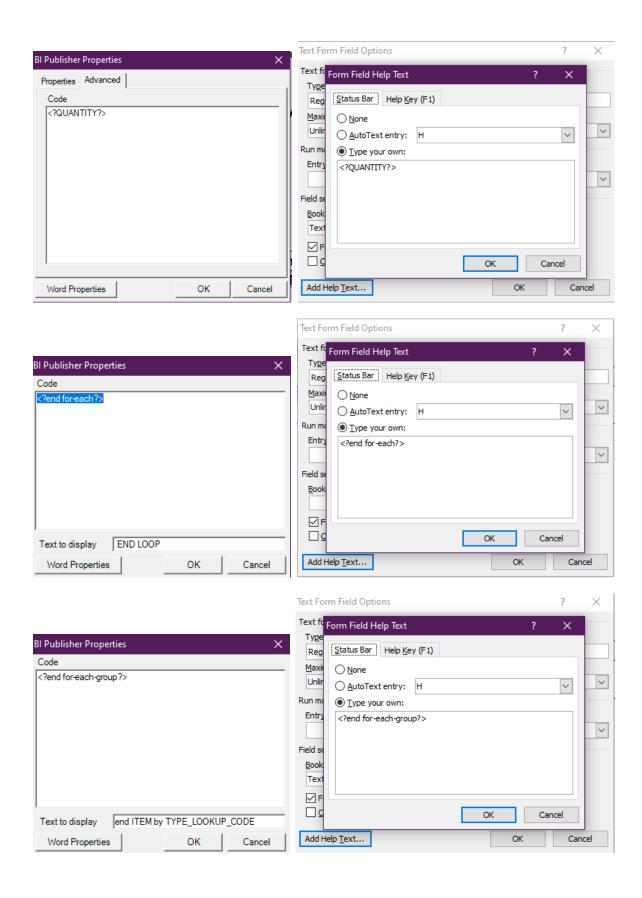
(Only for F, change the label text as "FOR LOOP" and for E it will be END LOOP)

Below are the images each and every column- names tag changing.

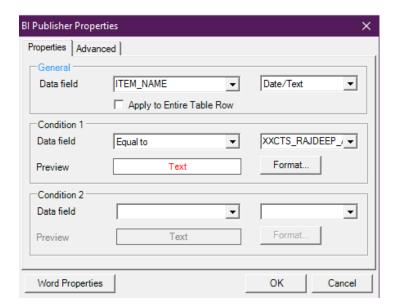




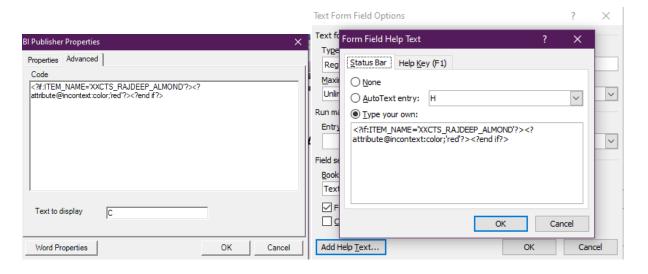




**Step 14:** Applied Conditional Format on ITEM\_NAME.



Also I have changed the tag for Conditional Format.



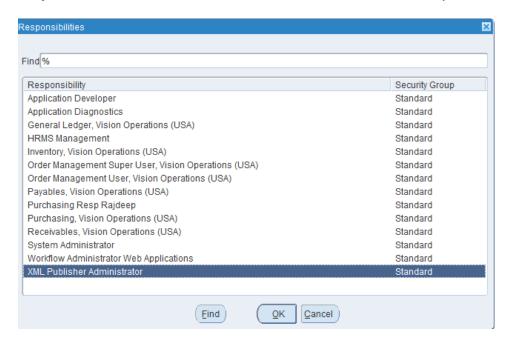
I have chosen XXCTS\_RAJDEEP\_ALMOND as Data Field Condition.

Now repeating Step 13 each and every column name in the table.

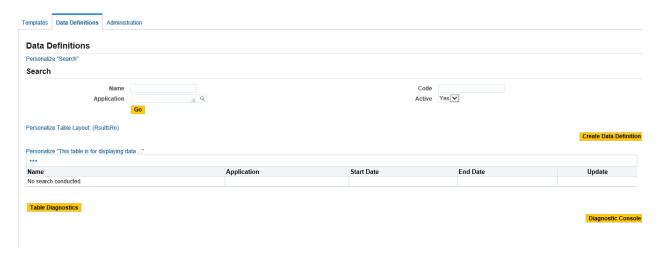
**Step 15:** Saved the file as 'MASTER\_DETAILS \_PROJECT\_REPORT.rtf'

**Step 16**: Clicked on PDF on the BI Publisher tab to check if the pdf id generating or no.

**Step 17**: Now switch to XML Publisher Administrator responsibility and click OK.

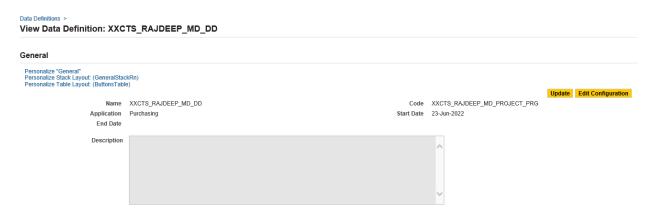


- **Step 18:** Clicked on the Home → Data Definition option.
- Step 19: A New tab will be opened on the Internet Explorer.
- **Step 20:** Clicked on the 'Create Data Definition' in the right side.



- **Step 21:** Given the Data Definition name as 'XXCTS\_RAJDEEP\_MD\_DD'.
- **Step 22:** Chosen the Application as 'Purchasing' option.
- **Step 23:** In the Code, given the Short Concurrent name of the process as XXCTS\_RAJDEEP\_MD\_PROJECT\_PRG.

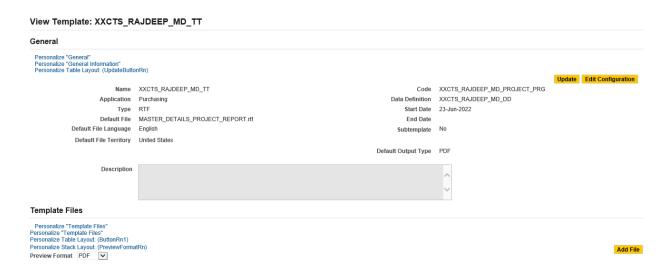
**Step 24:** Create Apply.



**Step 25:** Go to the Templates tab above and click on Create Template in the right hand side.



- **Step 26:** Given the template name as 'XXCTS\_RAJDEEP\_MD\_TT'. Application as Purchasing, Code name is the same Concurrent name of the Procedure i.e. XXCTS\_RAJDEEP\_MD\_PROJECT\_PRG.
- Step 27: Choose the file type as 'RTF'. Default Output Type as PDF.
- **Step 28:** Under the Template File section, browse the path of the recently made MASTER\_DETAILS\_PROJECT\_REPORT.rtf file. Choose the Language as English. Choose the Territory as United States. Click on Apply button.

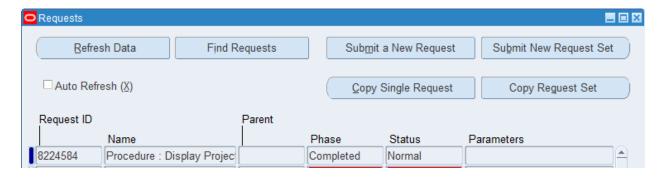


**Step 29:** Gone to the Oracle EBS Java Application and switch to the Responsibility. Purchasing, Vision Operations (USA).

**Step 30:** Click to the View option in the menu bar and then click on Requests option there in the dropdown.

**Step 31:** Click on the Submit a New Request. Then I have mentioned the Concurrent Name of the Procedure, i.e. Procedure: Display Project MD Program: Rajdeep.

**Step 32:** Clicked on Submit button and then clicked on No. The procedure got compiled with Normal Status. Clicked on "View Output".



Finally I have received the .rtf in .pdf format on the Internet Explorer successfully.

#### MASTER DETAILS PROJECT REPORT

#### BLANKET

Segment1	Item Name	Item Description	Unit Price	Quantity
400739	XXCTS_RAJ DEEP_ALMO ND	CALIFORNIA ALMOND	100000	
400740	XXCTS_RAJ DEEP_ALMO ND	CALIFORNIA ALMOND	100000	
400741	XXCTS_RAJ DEEP_ALMO ND	CALIFORNIA ALMOND	100000	
400742	XXCTS_RES HMA_ALMON D	CALIFORNIA ALMOND	100000	
400781	XXCTS_RITI K_ALMONDS	California Almonds	100000	
400811	XXCTS_RES HMA_APPLE S	KASHMIRI APPLES	4000	

#### QUOTATION

Segment1	Item Name	Item Description	Unit Price	Quantity
500065	XXCTS_REN U_HARDDIS K	100TB HDD	9500	1
500070	XXCTS_RAJ DEEP_ALMO ND	CALIFORNIA ALMOND	100000	1
500071	XXCTS_RES HMA_ALMON D	CALIFORNIA ALMOND	100000	1
500079	XXCTS_RITI K_ALMONDS	California Almonds	100000	1
500090	XXCTS_RES HMA_APPLE S	KASHMIRI APPLES	4000	1

DEO

Q2. Create a table XXCTS\_Items with columns as item\_id and item\_name. Populate the table with 5 rows and demonstrate Outbound Interface.

#### Steps:

#### **Step 1: Creating the table**

At first I have created the table XXCTS\_RAJDEEP\_PRJ\_ITEM, taking two columns ITEM\_ID and ITEM\_NAME.

CREATE TABLE XXCTS\_RAJDEEP\_PRJ\_ITEM

(ITEM ID NUMBER,

ITEM NAME VARCHAR2(20));

----The table is created successfully

DESC XXCTS\_RAJDEEP\_PRJ\_ITEM;

```
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM;

INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(300, 'PEN-DRIVE');
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(301, 'HARD-DISK');
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(302, 'LAPTOP');
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(303, 'TABLET');
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(304, 'PHONE');

SELECT * FROM XXCTS_RAJDEEP_PRJ_ITEM;

SCRIPT Output X

Number | Task completed in 0.236 seconds

Number | Task completed in 0.236 seconds
```

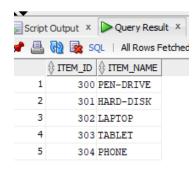
----- Now inserting data into XXCTS\_RAJDEEP\_PRJ\_ITEM

# **Step 2: Inserting data into the table.**

INSERT INTO XXCTS\_RAJDEEP\_PRJ\_ITEM VALUES(300, 'PEN-DRIVE');
INSERT INTO XXCTS\_RAJDEEP\_PRJ\_ITEM VALUES(301, 'HARD-DISK');

```
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(302, 'LAPTOP');
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(303, 'TABLET');
INSERT INTO XXCTS_RAJDEEP_PRJ_ITEM VALUES(304, 'PHONE');
---- All rows are inserted with specified data.

SELECT * FROM XXCTS_RAJDEEP_PRJ_ITEM;
```



# Step 3: 'Write' Procedure

```
----- Now creating 'WRITE'

CREATE OR REPLACE DIRECTORY RD_PRJ_RAJDEEP AS '/usr/tmp';

GRANT WRITE ON DIRECTORY RD_PRJ_RAJDEEP to public;

----- Creating directory and granting write access to RD_PRJ_RAJDEEP

CREATE OR REPLACE PROCEDURE XXCTS_RD_PRJ_OUTBOUND_WRITE

IS

CURSOR ITEM_RAJ_CUR

IS

SELECT ITEM_ID, ITEM_NAME FROM XXCTS_RAJDEEP_PRJ_ITEM;

V_FILE UTL_FILE.FILE_TYPE; -- File Handle

V DIR VARCHAR2(25);
```

```
v filename VARCHAR2(25);
BEGIN
 V DIR := 'RD_PRJ_RAJDEEP';
 V FILENAME := 'ITEM_RAJDEEP_DATA.csv';
 V FILE := UTL FILE.FOPEN(V DIR,V FILENAME,'w');
 UTL_FILE.PUT_LINE(V_FILE,'ITEM_ID' | | 'ITEM_NAME');
 FOR ITEM_RAJ_REC IN ITEM_RAJ_CUR
 LOOP
  UTL_FILE.PUT(V_FILE,ITEM_RAJ_REC.ITEM_ID);
  UTL_FILE.PUT_LINE(V_FILE, ' ' | | ITEM_RAJ_REC.ITEM_NAME);
 END LOOP;
 UTL_FILE.FCLOSE(V_FILE);
END;
EXEC XXCTS_RD_PRJ_OUTBOUND_WRITE;
---- Executing the Write Procedure.
  Script Output X
  📌 🥢 🖥 🚇 📓 | Task completed in 0.468 seconds
  Directory RD_PRJ_RAJDEEP created.
  Grant succeeded.
  Procedure XXCTS RD PRJ OUTBOUND WRITE compiled
  PL/SQL procedure successfully completed.
```

# Step 3: 'Read' Procedure

----- Now creating Read Procedure below

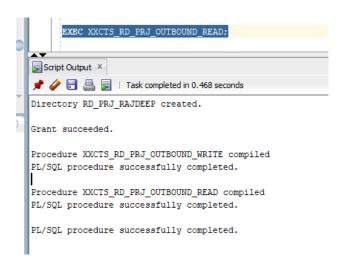
CREATE OR REPLACE PROCEDURE XXCTS\_RD\_PRJ\_OUTBOUND\_READ

```
IS
V_FILE UTL_FILE.FILE_TYPE; -- File Handle
 V DIR
         VARCHAR2(25);
 V_FILENAME VARCHAR2(25);
V OUT VARCHAR2(50);
BEGIN
V_DIR := 'RD_PRJ_RAJDEEP';
V_FILENAME := 'ITEM_RAJDEEP_DATA.csv';
 V_FILE := UTL_FILE.FOPEN(V_DIR,V_FILENAME,'r');
 LOOP
 BEGIN
  UTL_FILE.GET_LINE(V_FILE,V_OUT);
  DBMS_OUTPUT.PUT_LINE(V_OUT);
 EXCEPTION
 WHEN No_Data_Found THEN
  EXIT;
 END;
END LOOP;
 UTL_FILE.FCLOSE(V_FILE);
END;
```

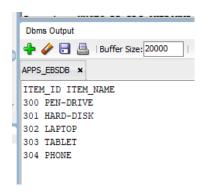
EXEC XXCTS\_RD\_PRJ\_OUTBOUND\_READ;

---- Executing the Read Procedure.

#### Outputs below:



In the DBMS Output window I have received this following output.



Outbound completed.

#### **Q3.** Interface for Vendor Details

**Step 1:** I have one base table i.e. AP\_SUPPLIERS.

**Step 2:** I have taken two Interface Tables. One is AP\_SUPPLIERS\_INT and another is AP\_SUPPLIER\_SITES\_INT.

Step 3: I have created two staging table based on the Interface tables.

1. Staging table 1: MP\_RAJDEEP\_PRJ\_INT1 TABLE

CREATE TABLE MP RAJDEEP PRJ INT1

```
VENDOR_INTERFACE_ID NUMBER,
 VENDOR NAME
                     VARCHAR2(100),
 SEGMENT1
                  VARCHAR2(100),
 SUMMARY_FLAG VARCHAR2(100),
 ENABLED FLAG VARCHAR2(100)
);
⊕ COLUMN_NAME
                 ⊕ DATA_TYPE
1 VENDOR INTERFACE ID NUMBER
                  VARCHAR2 (100 BYTE)
2 VENDOR NAME
3 SEGMENT1
                 VARCHAR2 (100 BYTE)
4 SUMMARY FLAG
                 VARCHAR2 (100 BYTE)
5 ENABLED FLAG
                  VARCHAR2 (100 BYTE)
```

# 2. Staging table 2: MP\_RAJDEEP\_PRJ\_INT2 TABLE

```
CREATE TABLE MP_RAJDEEP_PRJ_INT2

(

VENDOR_INTERFACE_ID NUMBER,

VENDOR_SITE_CODE NUMBER,

VENDOR_ID NUMBER,

ZIP VARCHAR2(60),

STATE VARCHAR2(100),

VENDOR_SITE_INTERFACE_ID NUMBER
);
```

COLUMN_NAME	DATA_TYPE
1 VENDOR_INTERFACE_ID	NUMBER
2 VENDOR_SITE_CODE	NUMBER
3 VENDOR_ID	NUMBER
4 ZIP	VARCHAR2 (60 BYTE)
5 STATE	VARCHAR2 (100 BYTE)
6 VENDOR_SITE_INTERFACE_ID	NUMBER

**Step 4:** Here are my two .ctl and .dat file which I have created:

#### →.ctl files:

### 1. MP\_RAJDEEP\_PRJ\_INT1.ctl

```
LOAD DATA

INFILE'D:\Cognizant\Oracle EBS\EBS Project\MP_RAJDEEP_PRJ_INT1'

INSERT INTO TABLE MP_RAJDEEP_PRJ_INT1

Fields terminated by ","

Optionally enclosed by ' "" '

(

VENDOR_INTERFACE_ID,

VENDOR_NAME,

SEGMENT1,

SUMMARY_FLAG,

ENABLED_FLAG

12
```

## 2. MP\_RAJDEEP\_PRJ\_INT2.ctl

```
LOAD DATA
INFILE'D:\Cognizant\Oracle EBS\EBS Project\MP_RAJDEEP_PRJ_INT2'
INSERT INTO TABLE MP_RAJDEEP_PRJ_INT2
Fields terminated by ","
Optionally enclosed by ' "" '

(
VENDOR_INTERFACE_ID,
VENDOR_SITE_CODE,
VENDOR_ID,
INTERFACE_ID
INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<INTERFACE_ID<I
```

#### →.dat files:

1. MP\_RAJDEEP\_PRJ\_INT1.dat

```
54, "RAJDEEP DAS", "RD123", "Y", "Y"
55, "HARRY POTTER", "RD456", "Y", "Y"
56, "JOSHEF MICHEAL", "RD789", "Y", "Y"
57, "BRIAN HUMPRIES", "RD111", "Y", "Y"
```

### 2. MP\_RAJDEEP\_PRJ\_INT2.dat

```
1 100,500,700,"IN","WEST BENGAL",3001
2 101,501,701,"IN","BIHAR",3002
3 102,502,702,"IN","JHARKHAND",3003
```

**Step 5:** Now open the command prompt and run the following:

# sqlldr control='D:XXCTS\_VENDORS.clt' userid=apps/apps2viz219

```
Command Prompt

Microsoft Windows [Version 10.0.19044.1766]

(c) Microsoft Corporation. All rights reserved.

C:\Users\Home>cd..

C:\Users>sqlldr control='D:XXCTS_VENDORS.clt' userid=apps/apps2viz219
```

The data will be inserted from .dat files to their corresponding staging tables via .ctl files respectively.

Note: In case of sqlldr not working, forcefully insert the data into their staging tables respectively.

# MP\_RAJDEEP\_PRJ\_INT1 table data inserted

				\$ SUMMARY_FLAG	
1	54	RAJDEEP DAS	RD123	Y	Y
2	55	HARRY POTTER	RD456	Y	Y
3	56	JOSHEF MICHEAL	RD789	Y	Y
4	57	BRIAN HUMPRIES	RD111	Y	Y

# MP\_RAJDEEP\_PRJ\_INT2 table data also inserted.

				∯ ZIP	<b>∜ STATE</b>	∀ VENDOR_SITE_INTERFACE_ID
1	100	500	700	IN	WEST BENGAL	3001
2	101	501	701	IN	BIHAR	3002
3	102	502	702	IN	JHARKHAND	3003
4	103	503	703	IN	UP	3004

**Step 7:** Now add a column Process Flag for validation in each of the staging table.

ALTER TABLE MP\_RAJDEEP\_PRJ\_INT1 ADD PROCESS\_FLAG VARCHAR2(1);

	COLUMN_NAME	DATA_TYPE
1	VENDOR_INTERFACE_ID	NUMBER
2	VENDOR_NAME	VARCHAR2 (100 BYTE)
3	SEGMENT1	VARCHAR2(100 BYTE)
4	SUMMARY_FLAG	VARCHAR2(100 BYTE)
5	ENABLED_FLAG	VARCHAR2(100 BYTE)
6	PROCESS_FLAG	VARCHAR2(1 BYTE)

Same will applied to MP\_RAJDEEP\_PRJ\_INT2

ALTER TABLE MP\_RAJDEEP\_PRJ\_INT2 ADD PROCESS\_FLAG VARCHAR2(1);

	COLUMN_NAME	
1	VENDOR_INTERFACE_ID	NUMBER
2	VENDOR_SITE_CODE	NUMBER
3	VENDOR_ID	NUMBER
4	ZIP	VARCHAR2(60 BYTE)
5	STATE	VARCHAR2(100 BYTE)
6	VENDOR_SITE_INTERFACE_ID	NUMBER
7	PROCESS_FLAG	VARCHAR2(1 BYTE)

**Step 6:** Now creating package:

CREATE OR REPLACE PACKAGE XXCTS\_RAJDEEP\_PRJ\_INTERFACE

IS

PROCEDURE VALIDATION\_RAJDEEP\_V1;

PROCEDURE VALIDATION\_RAJDEEP\_V2;

PROCEDURE INSERT\_RAJDEEP\_PROC;

END XXCTS\_RAJDEEP\_PRJ\_INTERFACE;

CREATE OR REPLACE PACKAGE BODY XXCTS\_RAJDEEP\_PRJ\_INTERFACE

```
PROCEDURE VALIDATION RAJDEEP V1
IS
CURSOR ITEM CUR
IS
 SELECT * FROM MP_RAJDEEP_PRJ_INT1;
V_NAME_COUNT NUMBER;
V_SEG_COUNT NUMBER;
V_TYPE PO_LOOKUP_CODES_OLD.LOOKUP_CODE%TYPE;
V ERROR FLAG BOOLEAN:=FALSE;
BEGIN
FOR ITEM_REC IN ITEM_CUR
LOOP
 BEGIN
  SELECT COUNT(VENDOR_NAME)
  INTO V NAME COUNT
  FROM AP_SUPPLIERS
  WHERE VENDOR_NAME=ITEM_REC.VENDOR_NAME;
  IF V_NAME_COUNT >0 THEN
   FND_FILE.PUT_LINE(FND_FILE.LOG, 'DUPLICATE NAME EXISTS');
   DBMS OUTPUT.PUT LINE('DUPLICATE NAME EXISTS');
   V_ERROR_FLAG:=TRUE;
```

```
END IF;
END;
BEGIN
SELECT COUNT(SEGMENT1)
INTO V_SEG_COUNT
FROM AP_SUPPLIERS
WHERE SEGMENT1=ITEM_REC.SEGMENT1;
IF V_SEG_COUNT>0 THEN
 FND_FILE.PUT_LINE(FND_FILE.LOG, 'DUPLICATE SEGMENT EXISTS');
 DBMS_OUTPUT.PUT_LINE('DUPLICATE SEGMENT HAS BEEN FOUND');
 V_ERROR_FLAG:=TRUE;
END IF;
END;
IF V ERROR FLAG=TRUE THEN
UPDATE MP_RAJDEEP_PRJ_INT1
SET PROCESS_FLAG='N'
WHERE SEGMENT1 = ITEM_REC.SEGMENT1;
ELSE
UPDATE MP RAJDEEP PRJ INT1
SET PROCESS_FLAG='Y'
```

```
WHERE SEGMENT1 = ITEM_REC.SEGMENT1;
 END IF;
END LOOP;
END VALIDATION_RAJDEEP_V1;
PROCEDURE VALIDATION_RAJDEEP_V2
IS
CURSOR VEN_CUR2
IS
 SELECT * FROM MP_RAJDEEP_PRJ_INT2;
V_CODE FND_TERRITORIES_TL.TERRITORY_CODE%TYPE;
V_ERROR_FLAG BOOLEAN:=FALSE;
BEGIN
FOR VEN_REC2 IN VEN_CUR2
LOOP
 BEGIN
  SELECT TERRITORY CODE
  INTO V_CODE
  FROM FND_TERRITORIES_TL
  WHERE TERRITORY_CODE=VEN_REC2.ZIP
  AND LANGUAGE
                    ='US';
  IF V CODE IS NULL THEN
   FND_FILE.PUT_LINE(FND_FILE.LOG, 'ZIP CODE NOT FOUND');
```

```
V_ERROR_FLAG:=TRUE;
  END IF;
 END;
 IF V_ERROR_FLAG=TRUE THEN
  UPDATE MP RAJDEEP PRJ INT2
  SET PROCESS_FLAG ='N'
  WHERE VENDOR_INTERFACE_ID = VEN_REC2.VENDOR_INTERFACE_ID;
 ELSE
  UPDATE MP_RAJDEEP_PRJ_INT2
  SET PROCESS FLAG
                       ='Y'
  WHERE VENDOR_INTERFACE_ID = VEN_REC2.VENDOR_INTERFACE_ID;
 END IF;
END LOOP;
END VALIDATION_RAJDEEP_V2;
PROCEDURE INSERT_RAJDEEP_PROC
IS
CURSOR INSERT_CUR1
IS
 SELECT * FROM MP_RAJDEEP_PRJ_INT1;
CURSOR INSERT_CUR2
IS
 SELECT * FROM MP_RAJDEEP_PRJ_INT2;
```

```
BEGIN
DELETE FROM AP_SUPPLIERS_INT;
DELETE FROM AP_SUPPLIER_SITES_INT;
COMMIT;
FOR INSERT_REC1 IN INSERT_CUR1
LOOP
 INSERT
 INTO AP_SUPPLIERS_INT
   VENDOR_INTERFACE_ID,
   VENDOR_NAME,
   SUMMARY_FLAG,
   ENABLED_FLAG,
   SEGMENT1
  VALUES
   INSERT_REC1.VENDOR_INTERFACE_ID,
   INSERT_REC1.VENDOR_NAME,
   INSERT_REC1.SUMMARY_FLAG,
   INSERT_REC1.ENABLED_FLAG,
   INSERT_REC1.SEGMENT1
```

```
);
 COMMIT;
END LOOP;
FOR INSERT_REC2 IN INSERT_CUR2
LOOP
 INSERT
 INTO AP_SUPPLIER_SITES_INT
   VENDOR_INTERFACE_ID,
   VENDOR_SITE_CODE,
  VENDOR_ID,
  ZIP,
  STATE,
  VENDOR_SITE_INTERFACE_ID
  VALUES
  INSERT_REC2.VENDOR_INTERFACE_ID,
  INSERT_REC2.VENDOR_SITE_CODE,
  INSERT_REC2.VENDOR_ID,
  INSERT_REC2.ZIP,
  INSERT_REC2.STATE,
```

```
INSERT_REC2.VENDOR_SITE_INTERFACE_ID

);

COMMIT;

END LOOP;

END INSERT_RAJDEEP_PROC;

END XXCTS_RAJDEEP_PRJ_INTERFACE;

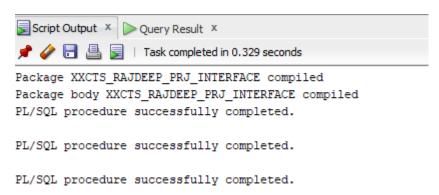
Script Output × Query Result ×
```

**Step 8:** Executing Validation and Insert Procedure.

📌 🧽 🔡 🖳 📗 | Task completed in 0.329 seconds

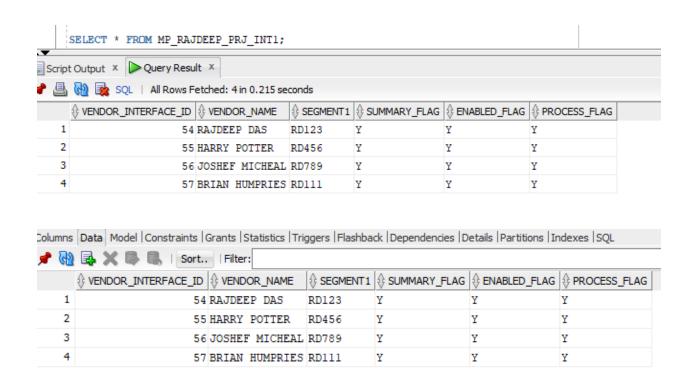
Package XXCTS\_RAJDEEP\_PRJ\_INTERFACE compiled
Package body XXCTS\_RAJDEEP\_PRJ\_INTERFACE compiled

exec XXCTS\_RAJDEEP\_PRJ\_INTERFACE.VALIDATION\_RAJDEEP\_V1;
exec XXCTS\_RAJDEEP\_PRJ\_INTERFACE.VALIDATION\_RAJDEEP\_V2;
exec XXCTS\_RAJDEEP\_PRJ\_INTERFACE.INSERT\_RAJDEEP\_PROC;



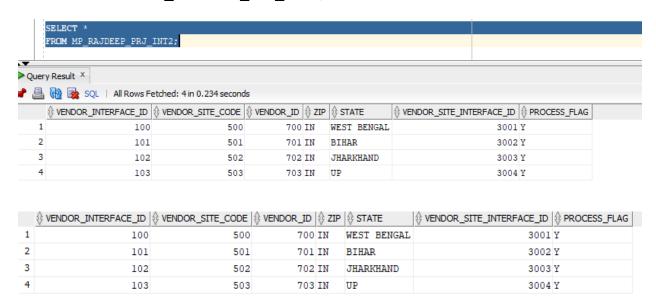
**Step 9:** Checking if the Validation is proceed successfully or not For Staging table 1:

SELECT \* FROM MP RAJDEEP PRJ INT1;



## For Staging table 2:

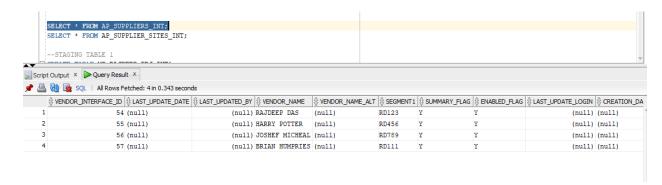
#### SELECT \* FROM MP RAJDEEP PRJ INT2;



Step 10: Checking the Interface table if the data has been inserted or not:

Checking Interface Table 1 is AP\_SUPPLIERS\_INT,

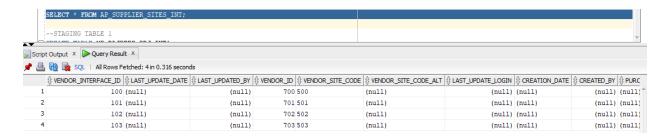
### SELECT \* FROM AP\_SUPPLIERS\_INT;



So the data has been inserted to interface table 1.

Checking Interface Table 2 is AP\_SUPPLIERS\_SITES\_INT:

SELECT \* FROM AP SUPPLIER SITES INT;



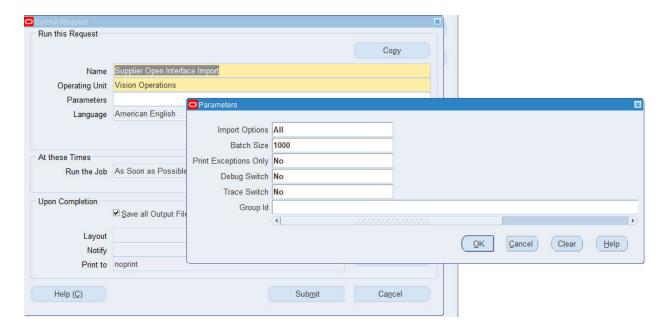
So the data has been inserted to interface table 2.

**Step 11:** Now open Oracle EBS Application. Switch to Payables responsibility and go to View → Requests.

We have three Standard Programs in total for our base table i.e. AP\_SUPPLIERS.

- 1. Supplier Open Interface Import.
- 2. Supplier Sites Open Interface Import
- 3. Supplier Site Contacts Open Interface Import.

I have taken Supplier Open Interface Import to run request.



Click OK. Click Submit. Click No. Click Find.

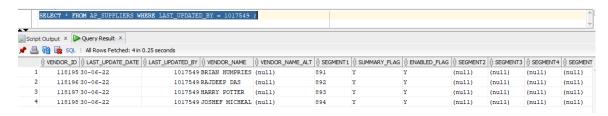


The Supplier Open Interface Import program successfully completed request.

**Step 12:** In SQL Developer, checking if the data is inserted into the base table or not.

SELECT \* FROM AP\_SUPPLIERS WHERE LAST\_UPDATED\_BY = 1017549;

--1017549 is my user-id in the EBS.



Data is successfully inserted into to the base table.

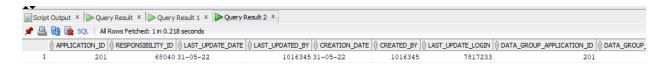
#### Q4. API to create Responsibility

#### Steps:

**Steps 1:** I have used FND\_RESPONSIBILITY table to get required details.

SELECT \* FROM FND RESPONSIBILITY

WHERE RESPONSIBILITY\_KEY = 'XXCTS\_RAJDEEP\_RESP\_MAY22';



-----Now I have created procedure XXCTS\_RAJDEEP\_PRJ\_RESP\_API

-----Taking RESPONSIBILITY\_KEY as 'XXCTS\_RAJDEEP\_MINI' and RESPONSIBILITY\_NAME as 'RAJDEEP RESP MINI'

CREATE OR REPLACE PROCEDURE XXCTS\_RAJDEEP\_PRJ\_RESP\_API

IS

V ROWID VARCHAR2(200);

V RESPONSIBILITY\_ID NUMBER;

V APPLICATION ID NUMBER;

V WEB HOST NAME VARCHAR2(200);

V WEB AGENT NAME VARCHAR2(200);

V DATA GROUP APPLICATION ID NUMBER;

*V\_DATA\_GROUP\_ID* NUMBER;

V MENU ID NUMBER;

```
V_START_DATE
                         DATE;
 V_END_DATE DATE;
 V GROUP APPLICATION ID NUMBER;
 V_REQUEST_GROUP_ID NUMBER;
 V VERSION VARCHAR2(200);
 V_RESPONSIBILITY_KEY
                         VARCHAR2(200);
 V_RESPONSIBILITY_NAME VARCHAR2(200);
 V DESCRIPTION VARCHAR2(200);
 V_CREATION_DATE DATE;
 V CREATED_BY
                         NUMBER;
 V_LAST_UPDATE_DATE
                         DATE;
 V_LAST_UPDATED_BY NUMBER;
 V LAST UPDATE LOGIN NUMBER;
BEGIN
      V ROWID := V ROWID;
      SELECT FND_RESPONSIBILITY_S.NEXTVAL INTO V_RESPONSIBILITY_ID
      FROM DUAL;
      --V_RESPONSIBILITY_ID := FND_RESPONSIBILITY_S.NEXTVAL;
      V_APPLICATION_ID := 201;
      V\_WEB\_HOST\_NAME := null;
      V_WEB_AGENT_NAME := null;
```

```
V_DATA_GROUP_APPLICATION_ID := 201;
     V_DATA_GROUP_ID := 0;
     V_MENU_ID := 68071;
     V_START_DATE := '27-06-22';
     V\_END\_DATE := null;
     V_GROUP_APPLICATION_ID := 201;
     V_REQUEST_GROUP_ID := 112;
     V VERSION
                      := 4;
     V_RESPONSIBILITY_KEY := 'XXCTS_RAJDEEP_MINI';
     V_RESPONSIBILITY_NAME := 'RAJDEEP RESP MINI';
     V_DESCRIPTION := 'Responsibility for API';
     V\_CREATION\_DATE := '27-06-22';
     V CREATED BY := 1016345;
     V_LAST_UPDATE_DATE := '27-06-22';
     V_LAST_UPDATED_BY := 1016345;
     V_LAST_UPDATE_LOGIN := 7817233;
--INVOKING THE API
--FNDGLOBAL.APPSINITIALISE
FND_RESPONSIBILITY_PKG.INSERT_ROW(
     X_ROWID => V_ROWID,
     X_RESPONSIBILITY_ID => V_RESPONSIBILITY_ID
     X APPLICATION_ID =>V_APPLICATION_ID
```

```
X_WEB_HOST_NAME => V_WEB_HOST_NAME,
        X_WEB_AGENT_NAME => V_WEB_AGENT_NAME ,
        X DATA GROUP APPLICATION ID =>
V_DATA_GROUP_APPLICATION_ID
        X_DATA_GROUP_ID => V_DATA_GROUP_ID
        X_MENU_ID \Rightarrow V_MENU_ID
        X_START_DATE => V_START_DATE
        X_END_DATE => V_END_DATE
        X_GROUP_APPLICATION_ID => V_GROUP_APPLICATION_ID,
       X_REQUEST_GROUP_ID => V_REQUEST_GROUP_ID
        X VERSION => V VERSION
        X_RESPONSIBILITY_KEY => V_RESPONSIBILITY_KEY
        X_RESPONSIBILITY_NAME => V_RESPONSIBILITY_NAME
        X_DESCRIPTION => V_DESCRIPTION
        X CREATION DATE => V CREATION DATE
        X CREATED BY => V CREATED BY
        X_LAST_UPDATE_DATE => V_LAST_UPDATE_DATE ,
        X LAST UPDATED BY => V LAST UPDATED BY
        X_LAST_UPDATE_LOGIN => V_LAST_UPDATE_LOGIN
                                                        );
      commit;
      DBMS_OUTPUT.PUT_LINE('RESPONSIBILITY CREATED');
     end XXCTS_RAJDEEP_PRJ_RESP_API;
```

```
X_LAST_UPDATE_LOGIN => V_LAST_UPDATE_LOGIN );

commit;

DBMS_OUTPUT.PUT_LINE('RESPONSIBILITY CREATED');
end XXCTS_RAJDEEP_PRJ_RESP_API;

EXEC XXCTS_RAJDEEP_PRJ_RESP_API;

Script Output x Query Result x Query Result 1 x Query Result 2 x

Procedure XXCTS_RAJDEEP_PRJ_RESP_API compiled
```

-----Now executing XXCTS\_RAJDEEP\_PRJ\_RESP\_API

Executing...

EXEC XXCTS\_RAJDEEP\_PRJ\_RESP\_API;

Q5. Create a workflow to allow the user to work on Weekends between 9 am to 6 pm only.

#### Code:

--CREATING THE PROCEDURE WITHIN THE PACKAGE

CREATE OR REPLACE PACKAGE XXCTS\_RAJDEEP\_PRJ\_WF-- PACKAGE NAME IS XXCTS\_WORKFLOW\_PACK\_WEEKEND

IS

PROCEDURE CHECK\_DAY\_TIME (ITEMTYPE IN VARCHAR2,--PROCEDURE NAME IS CHECK\_DAY\_TIME

itemkey in varchar2,

actid in number,

FUNCMODE IN VARCHAR2,

RESULT IN OUT VARCHAR2);

END XXCTS\_RAJDEEP\_PRJ\_WF;

/

```
CREATE OR REPLACE PACKAGE BODY XXCTS RAJDEEP PRJ WF
IS
PROCEDURE CHECK DAY TIME(
  ITEMTYPE IN VARCHAR2,
  itemkey IN VARCHAR2,
  actid IN NUMBER,
  FUNCMODE IN VARCHAR2,
  RESULT IN OUT VARCHAR2)
IS
 V DAY1 VARCHAR2(3);
 V DAY2 VARCHAR2(3);
 V TIME1 NUMBER;
 V TIME2 NUMBER;
BEGIN
 SELECT TO_CHAR(SYSDATE, 'DY') INTO V_DAY1 FROM DUAL;
 SELECT TO CHAR(SYSDATE, 'HH24') INTO V TIME1 FROM DUAL;
 WF ENGINE.SETITEMATTRTEXT(ITEMTYPE=>ITEMTYPE, ITEMKEY =>ITEMKEY,
ANAME=>'DAY OF THE WEEK', AVALUE=>V DAY1);
 V DAY2 := WF ENGINE.GETITEMATTRTEXT (ITEMTYPE => ITEMTYPE, ITEMKEY
=> ITEMKEY, ANAME => 'DAY OF THE WEEK');
 WF ENGINE.SETITEMATTRTEXT(ITEMTYPE=>ITEMTYPE, ITEMKEY =>ITEMKEY,
ANAME=>'TIME OF THE DAY', AVALUE=>V TIME1);
```

```
V_TIME2 := WF_ENGINE.GETITEMATTRTEXT (ITEMTYPE => ITEMTYPE, ITEMKEY => ITEMKEY,ANAME => 'TIME_OF_THE_DAY');

IF V_DAY2 IN ('SAT', 'SUN') AND V_TIME2 BETWEEN 9 AND 18 THEN

RESULT := 'COMPLETE:Y';

ELSE

RESULT := 'COMPLETE:N';

END IF;

END CHECK_DAY_TIME;

END XXCTS_RAJDEEP_PRJ_WF;

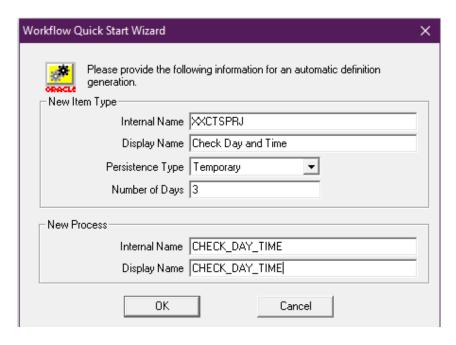
/

STEPS:

Step 1: Open Oracle Workflow Builder (Run as Administrator).

Step 2: Go to File in the menu bar→Quick Start Wizard.
```

**Step 3:** Fill the dialogue box as following and click on OK:

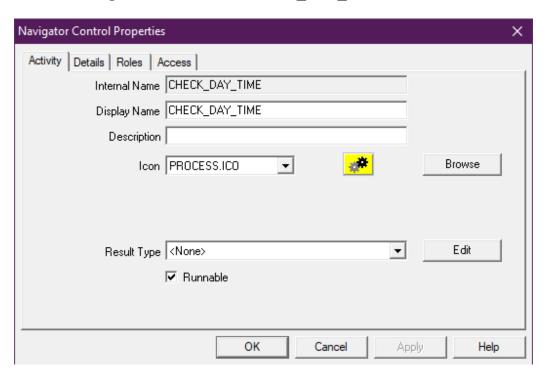


Here I have given the Internal Name as XXCTSPRJ under Item Type.

I have named the Internal Name of the Process as CHECK DAY TIME.

Number of Days will be 3 and the Persistence Type is Temporary.

After creating the Process, the CHECK\_DAY\_TIME Process will be like this:



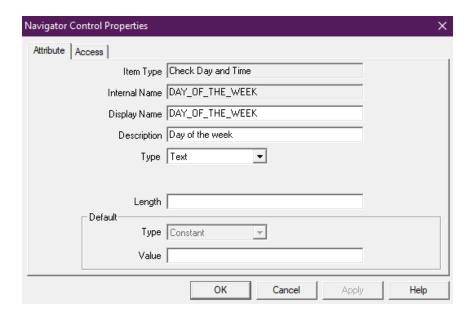
**Step 4:** After the workflow has been created. In the Navigator, right click on the Attribute → Click on the 'New Attribute'.

Here I have created two attributes.

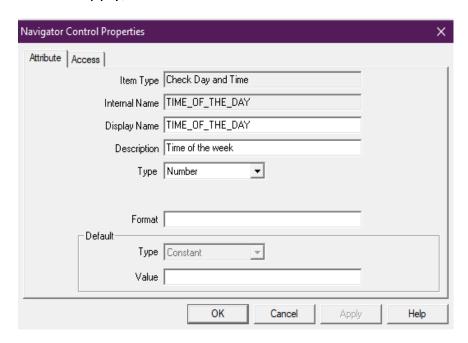
One will be as DAY\_OF\_THE\_WEEK and another will be TIME\_OF\_THE\_DAY. In the DAY\_OF\_THE\_WEEK, I have taken Type as Text. In the TIME\_OF\_THE\_DAY, I have taken the Type as number.

In the following images the first one is of DAY\_OF\_THE\_WEEK.

The second image is of TIME\_OF\_THE\_DAY.



Click on Apply, click on OK.

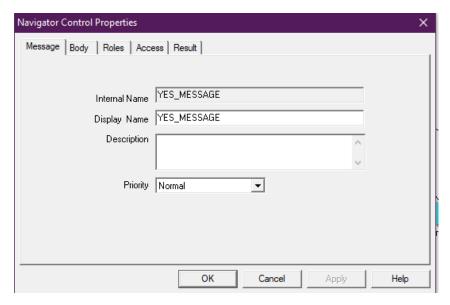


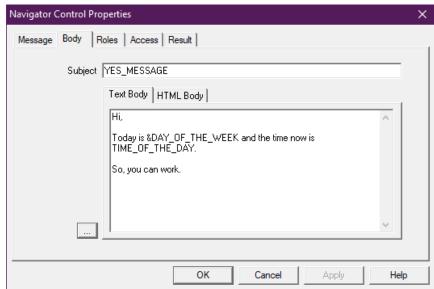
Click on Apply, click on OK.

**Step 5:** Now I have created two types of messages. One is for Yes and another is for No.

So in the navigation bar, just right click on the Messages → Click on New Message. Under the Message tab in the dialogue box fill up as it is shown:

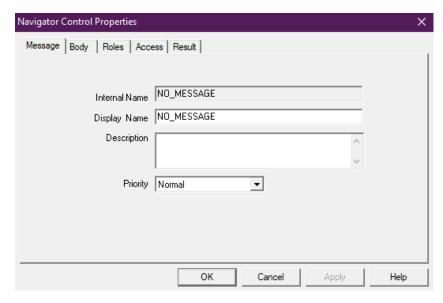
A. FOR YES MESSAGE AS FOLLOWS:

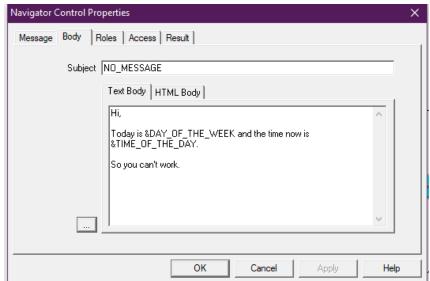




Click on Apply, Click OK.

B. FOR NO MESSAGE, AS FOLLOWS:



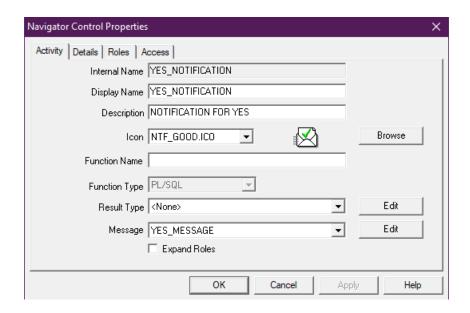


Click Apply, Click OK.

**Step 6:** Now I have created two types of Notifications. ONE is for YES, another is for NO.

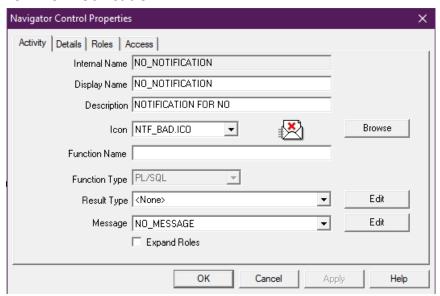
So in the navigation bar, Right click on Notifications → Click on New Notification. Fill the dialogue box as it is shown under the Activity tab as it is shown below:

A. For 'Yes' Notification:



Click on Apply, click on OK.

#### B. For 'No' Notification



**Step 7:** In the navigation bar, right Click on Functions → Click on New Function. Fill the dialogue box as following:

Function name will be as: apps.(Package name).(Procedure name)

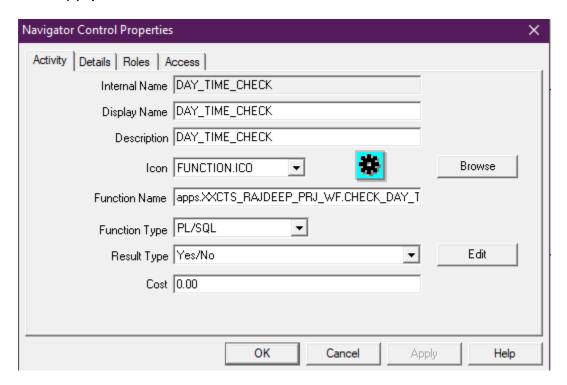
Here it is apps.XXCTS\_RAJDEEP\_PRJ\_WF.CHECK\_DAY\_TIME.

Internal Name as DAY\_TIME\_CHECK.

Function Type: PL/SQL

Result Type: Yes/No

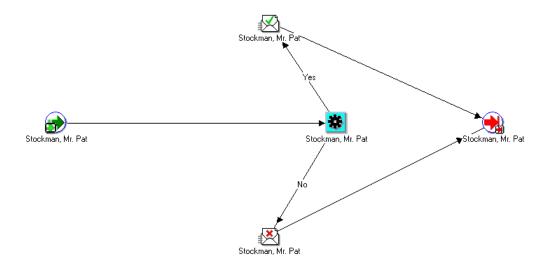
Click Apply. Click OK.



**Step 8:** Drag the DAY\_TIME\_CHECK function to the workflow diagram box between the START & END. Now drag the YES\_NOTIFICATION & NO\_NOTIFICATION in opposite direction to each other (Upside and Downside position of CHECKTIME respectively as shown in the next image)

**Step 9:** Now connect the nodes in the following order:

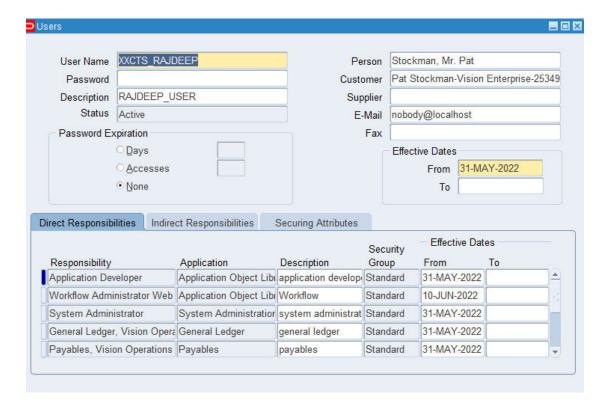
From START→ create a connection to DAY\_TIME\_CHECK function → From DAY\_TIME\_CHECK function, one connection goes to YES\_NOTIFICATION above (It will ask to choose yes/no. Choose Yes). Another connection goes to the downward which is NO\_NOTIFICATION (It will ask to choose yes/no. Choose No)→ Now both from the YES\_NOTIFICATION & NO\_NOTIFICATION, two separate connections will go to the END.



The connection will be as exactly like this above one.

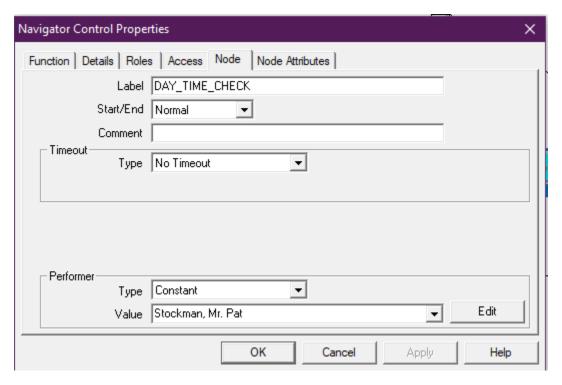
**Step 10:** Now open Oracle EBS Java Application. Go to System Administrator responsibility → Security → Define. Press 'fn+f11' to start query. Type User Name 'XXCTS\_RAJDEEP%' and press 'ctrl + fn+ F11'. (This user is me).

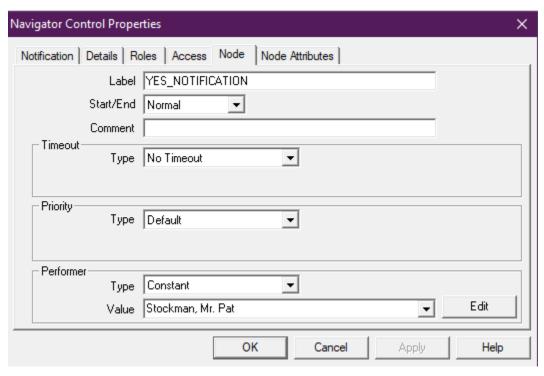
**Step 11:** Copy the Stockman, Mr. Pat in the Person input box. This name will be considered as the Performer's name.

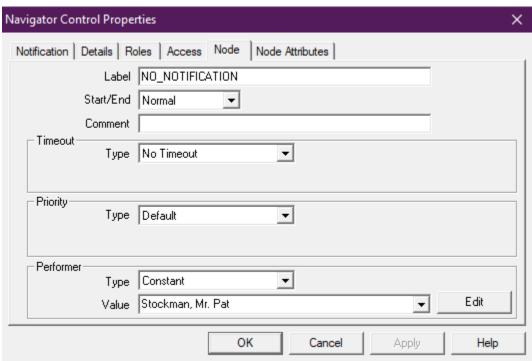


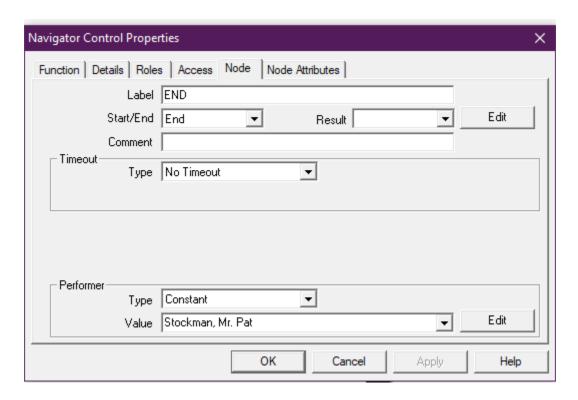
**Step 12:** Go back to Oracle Workflow Builder. Right click on each of the nodes in the workflow diagram i.e. START, DAY\_TIME\_CHECK, YES\_NOTIFICATION, NO\_NOTIFICATION, END and then click on each of these nodes' Properties option. In the coming dialogue box, go the Node tab, go to the Performer section below in the dialogue box and paste the name Stockman, Mr. Pat.

Navigator Control Properties	X
Function   Details   Roles   Access   Node   Node Attributes	,
Label START	
Start/End Start ▼	
Comment	
Timeout  Type No Timeout  ▼	
<u> </u>	
Performer Type Constant ▼	
Value Stockman, Mr. Pat ▼	Edit
. 303 )	
OK Cancel Apply	Help

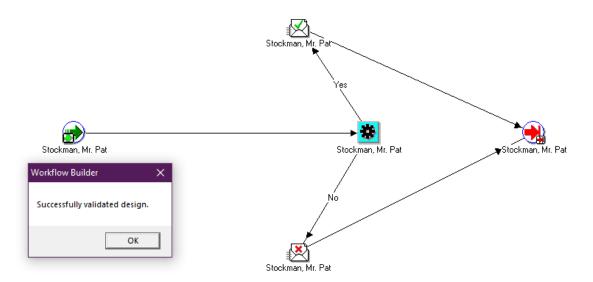




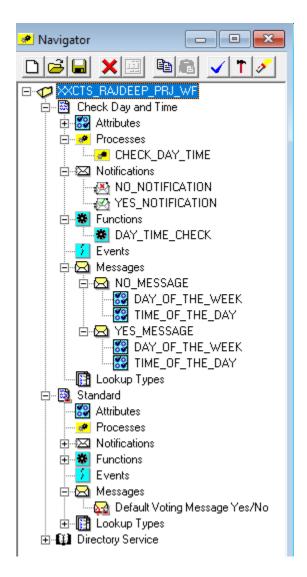




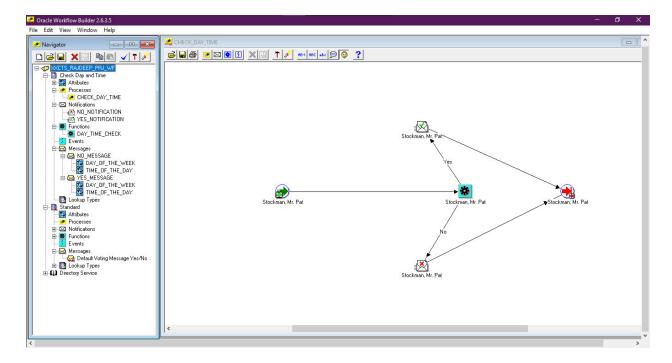
**Step 13:** Now I have validated the workflow design in the Navigator tool bar by clicking on the 'blue tick' sign. The 'Successfully validated design comes'.



**Step 14:** Click on save button. Choose Database option. Given the username, password and database name and saved it. Or we can save it in the local system. Below image is of the Navigator panel.

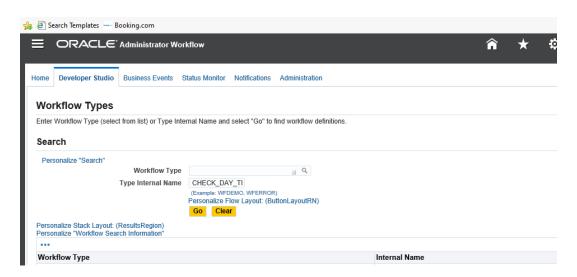


Now the below image is the full diagram of Workflow diagram and the navigator in the Workflow Builder window.



**Step 15:** Now I have to execute the workflow: Login to EBS Application. Switch to Workflow Administrator Web Applications → Administrator Workflow→ Developer Studio >

**Step 16:** Put the Internal name of the WorkFlow i.e. CHECK\_DAY\_TIME and Click on "GO".



**Step 17:** Work Flow result appears. Click on RUN then Put Item Key, User Key and User Name. Click on Submit.

<b>Step 19:</b> Once it shows status completed → Click on Status Diagram to view the Work Flow.					

# **Conclusion:**

It has been a great pleasure for us to work on this exciting and challenging project. This project proved good to us as it provided me with practical knowledge of not only programming in ORACLE ERP (E-Business Suit) stack but also gave us knowledge on how online business works.

## **Reference & Bibliography**

- **1. Inbound :** Oracle Applications: Supplier Interface in Oracle Apps R12 (oracleapps88.blogspot.com)
- 2. API: How to Create Responsibility API Doyensys Blog

-----END------