#### AR INVOICE CREATION USING PUBLIC API APPROACH STEPS:

# AR Invoice - Interface

- Interface Type : Public API
- Interface Table : Not Available
- Public API: AR\_INVOICE\_API\_PUB.create\_single\_invoice
- Base Table : ra\_customer\_trx\_all, ra\_customer\_trx\_lines\_all
- Error Table : ar\_trx\_errors\_gt
- Import Job : Not Available

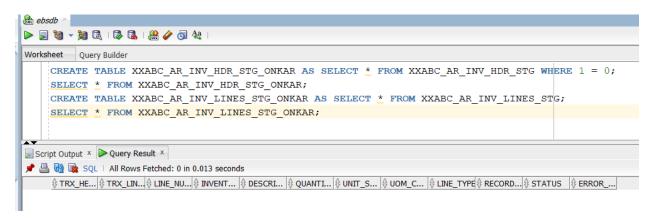
# Implementation Process

- Designed an Unix Shell Script to invoke the below SQLLoader Programs
  - Designed a SQL Loader Programs (Header, Lines) to read data files and upload to staging tables (XXABC\_AR\_INV\_HDR\_STG, XXABC\_AR\_INV\_LINES\_STG)
    - Header Data File (XXABC\_INV\_HDR\_DATA.csv)
    - Line Data File (XXABC\_INV\_LINES\_DATA.csv)
- Designed a PLSQL API (XXABC\_AR\_INV\_IMP\_UTILS) to perform the below functionality
  - Validate the data in staging table
  - Invoke the Public API (AR\_INVOICE\_API\_PUB.create\_single\_invoice)

#### **List of Components Component Type Purpose** Table XXABC\_AR\_INV\_HDR\_STG Staging Table XXABC\_AR\_INV\_LINES\_STG Data File AR Invoice Header and Lines XXABC\_INV\_HDR\_DATA.csv XXABC\_INV\_LINES\_DATA.csv Control File SQLLOader File to load data from Flat XXABCARINVDATALOAD.ctl XXABCARINVLINESDATALOAD.ctl file to staging table **PLSQL** XXABC\_AR\_INV\_IMP\_UTILS PLSQL Package to load data into Interface Table and Call Journal Import Concurrent Program XXABC AR Invoice Load Files For Invoking Control file to load two data files Concurrent Program XXABC AR Invoice Import

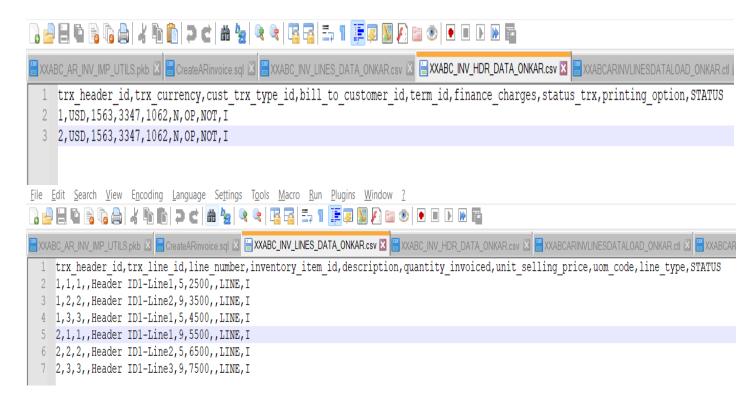
## **PROCEDURE:**

#### 1.CREATE STAGING TABLE:



# 2. SHELL SCRIPT WITH 2 DATAFILE & CONTROL FILES:

#### **DATA IN DATA FILE:**



#### **CTRL FILES:**

```
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🗒 XXABCARINVDATALOAD_ONKAR.cti 🗵 🗒 XXABCARINVLINESDATALOAD_ONKAR.cti 🗵 🗒 XXABC_AR_INV_LOAD_FILES_ONKAR.prog 🗵 🗒 XXABC_INV_HDR_DATA_C
 LOAD DATA
2 INFILE '/u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/XXABC_INV_HDR_DATA_ONKAR.csv'
 3 TRUNCATE INTO TABLE XXABC AR INV HDR STG ONKAR
  4 FIELDS TERMINATED BY','
  5 OPTIONALLY ENCLOSED BY'"'
 6 TRAILING NULLCOLS
 7 (
8 trx_header_id
 9 trx_currency
 10 cust_trx_type_id
 11 bill_to_customer_id ,
12 term_id ,
 13 finance charges
 14 status_trx
15 printing_option
 16 trx date
                        SYSDATE
17 RECORD_NUM
18 STATUS
                        SEQUENCE (MAX, 1) ,
 19 )
```

```
📑 😅 🖯 🖺 🖺 🤚 😘 🦓 🔏 🖟 🐚 🐚 🗩 C | 🌣 🛬 | 🤏 🤏 | 🛂 🚍 🚍 11 | 🚝 🐼 💹 😥 📹 👁 | 🗨 🗉 🕩 🗩
📑 XXABCARINVDATALOAD_ONKAR.cti 🔀 📑 XXABCARINVLINESDATALOAD_ONKAR.cti 🔀 🛗 XXABC_AR_INV_LOAD_FILES_ONKAR.prog 🔯 📑 XXABC_INV_HDR_DATA
 1 LOAD DATA
    INFILE '/u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/XXABC INV LINES DATA ONKAR.csv'
 3 TRUNCATE INTO TABLE XXABC_AR_INV_LINES_STG_ONKAR
 4 FIELDS TERMINATED BY','
 5 OPTIONALLY ENCLOSED BY'"'
  6 TRAILING NULLCOLS
 8 trx_header_id
  9 trx line id,
 10 line_number,
 11 inventory item id
 12 description ,
 13 quantity invoiced
 14 unit_selling_price
 15 uom_code
16 line_type
17 STATUS
 18 )
19
```

#### **SHELL SCRIPT:**

```
| WABCARN/DATALOAD_ONKARcd | WABCARN/LINESDATALOAD_ONKARcd | WABC_AR_INV_LOAD_FILES_ONKAR_prog | WABC_INV_HOR_DATA_ONKAR_csv | WABC_INV_LINES_DATA_ONKAR_csv |
```

#### 3. LOCAL TO SERVER:

#### Steps to create a symbollic link:

Click on the black icon in the upper left corner and enter the commands (check the spaces in commands)

In -s /u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/
XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog
/u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/
XXABC\_AR\_INV\_LOAD\_FILES\_OS

• This command creates a symbolic (soft) link named XXDCS\_SK1\_\_DATA\_LOADER that points to the file **XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog**. • A symbolic link allows you to create shortcuts or alternate names for files. You can access

XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog by referring to XXABC\_AR\_INV\_LOAD\_FILES\_OS.

ls -1 /u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog

• This command lists the **XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog** file in a single column format. • -1 specifies single-column output, which is helpful when dealing with multiple items for readability.

chmod +x /u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog

• This command changes the file permissions to make **XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog** executable. • Adding +x gives execute permissions, which is needed if you want to run this file as a script or program.

doc2unix /u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog

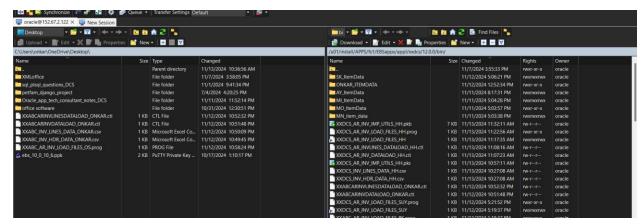
(command not found error ignore).

• This command converts the file from DOS/Windows format to UNIX format. • DOS/Windows files use CRLF (carriage return + line feed) as a line ending, whereas UNIX uses LF only. dos2unix removes the extra CR to make the file compatible with UNIX systems.

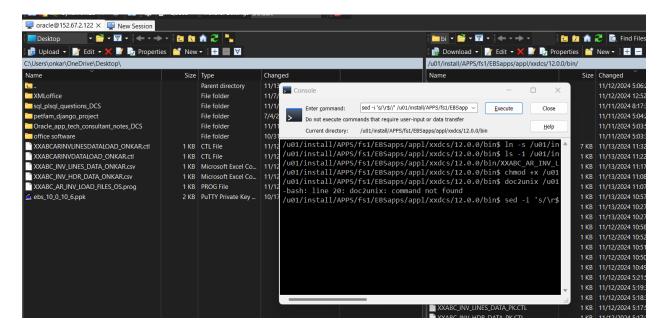
# sed -i 's/\r\$//'

/u01/install/APPS/fs1/EBSapps/appl/xxdcs/12.0.0/bin/XXABC\_AR\_INV\_LOAD\_FILES\_OS.prog

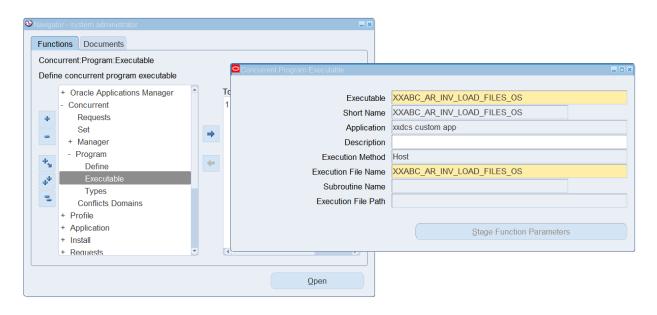
• This command also removes \r (carriage return) characters at the end of each line within the file. • sed is used here to clean up line endings by replacing \r with nothing. This is similar to dos2unix, ensuring the file is in UNIX format.

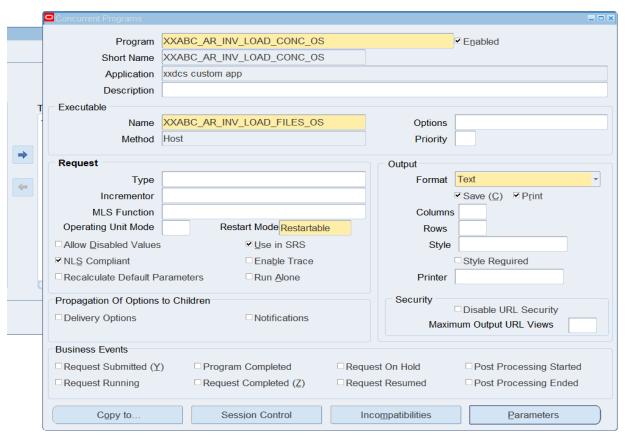


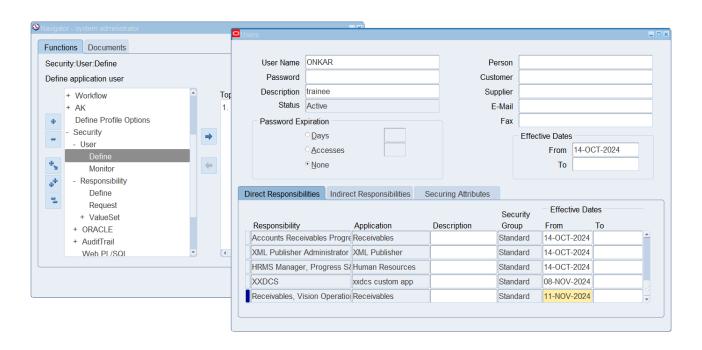
Move .csv files in text format.

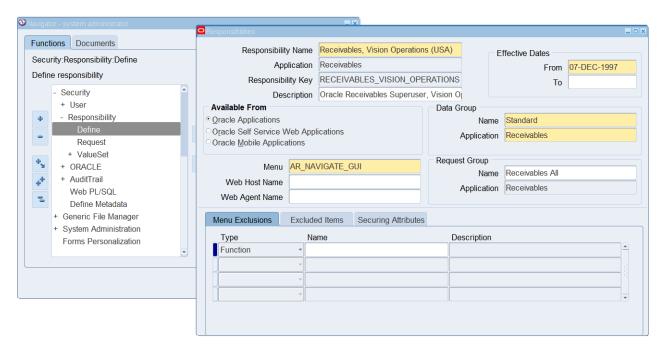


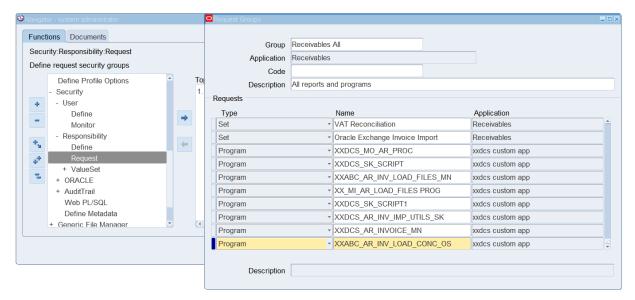
**4.REGISTER SHELL SCRIPT AS CONC PROGRAM:** 







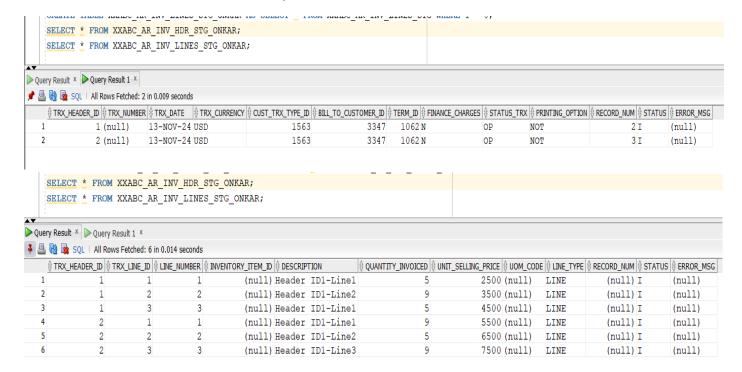




# **RUN THE REQUEST FROM RECEIVABLE RES**

```
*------
xxdcs custom app: Version : 12.2
Copyright (c) 1998, 2013, Oracle and/or its affiliates. All rights reserved.
XXABC_AR_INV_LOAD_CONC_OS: XXABC_AR_INV_LOAD_CONC_OS
Current system time is 13-NOV-2024 06:24:50
             ______
Entered Program
Invoking Header Load
SQL*Loader: Release 10.1.0.5.0 - Production on Wed Nov 13 06:24:50 2024
Copyright (c) 1982, 2005, Oracle. All rights reserved.
Commit point reached - logical record count 2
Commit point reached - logical record count 3
Invoking Lines Load
SQL*Loader: Release 10.1.0.5.0 - Production on Wed Nov 13 06:24:50 2024
Copyright (c) 1982, 2005, Oracle. All rights reserved.
Commit point reached - logical record count 6
Commit point reached - logical record count 7
End of script
No completion options were requested.
Output file size:
Concurrent request completed successfully
Current system time is 13-NOV-2024 06:24:50
```

# NOW STAGING TABLE GETS LOADED.(XXABC\_AR\_INV\_HDR\_STG\_ONKAR, XXABC\_AR\_INV\_LINES\_STG\_ONKAR)

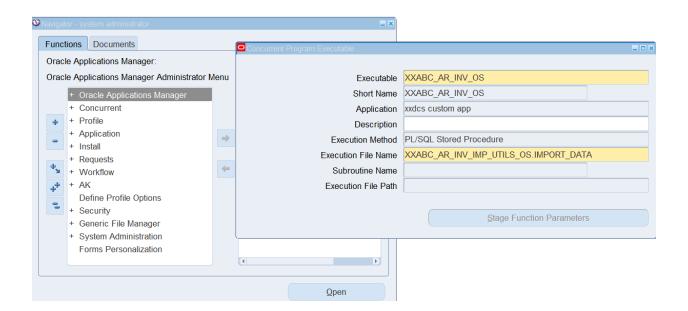


#### 5. INVOKE THE PUBLIC API:

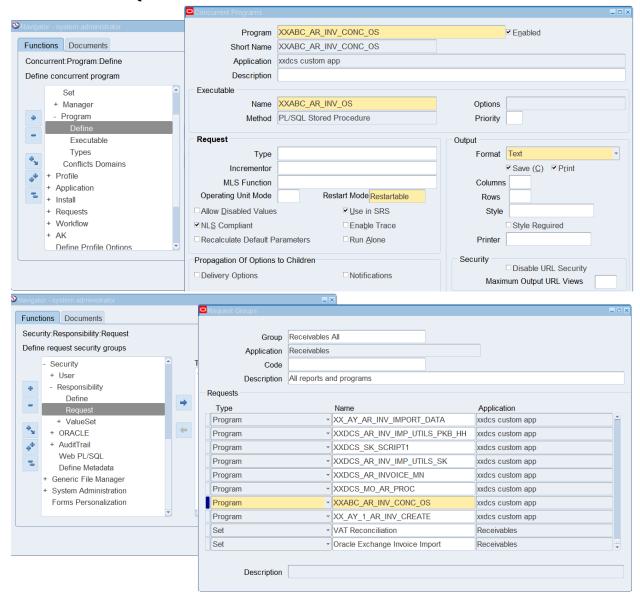
WE HAVE REGISTERED CUSTOM PLSQL API AS CONC PROG WHICH WILL CALL THE PUBLIC API. IT CONTAINS 'IMPORT\_DATA' METHOD WHICH CALLS THE 'VALIDATE\_DATA' METHOD WHICH VALIDATE STAGING TABLE DATA AND IF THEIR IS ERROR THEN IT RETURN 'RETCODE'(ERROR CODE) i.e. errbuf (to hold error messages) and retcode (to hold status codes, e.g., 0 for success or non-zero for failure).

```
Code History
        ♣ ② ◎ 1 ③ ▼ ▶ ③ □ □ □ □ □
           ©Create or replace package BODY XXABC_AR_INV_IMP_UTILS
ed)
            --Method to validate staging data for AR Invoice
              PROCEDURE VALIDATE_DATA
                CURSOR C_HDR IS SELECT * FROM XXABC_AR_INV_HDR_STG_ONKAR ;
                CURSOR C LINES IS SELECT * FROM XXABC AR INV LINES STG ONKAR ;
               --Validation for Header Data
                  FOR REC IN C HDR
rices
                  LOOP
w Logs
                    IF rec.trx_currency is null THEN
                      UPDATE XXABC_AR_INV_HDR_STG_ONKAR
                       SET STATUS='E' , ERROR_MSG = ERROR_MSG ||' Invalid Curr'
                      WHERE trx_header_id=rec.trx_header_id;
                    END IF ;
                 IF rec.term_id is null THEN
orts
                      UPDATE XXABC_AR_INV_HDR_STG_ONKAR
rts
                       SET STATUS='E' , ERROR_MSG = ERROR_MSG ||' Invalid Pay Terms'
                      WHERE trx_header_id=rec.trx_header_id;
                     END IF ;
ts
                   END LOOP;
                  --Validation for Lines Data
                   FOR REC IN C LINES
                   LOOP
                     NULL :
                   END LOOP;
               END VALIDATE_DATA;
           CORRECTED TO STAND THE LITTLE DROCEDURE IMPORT DATA REGIN for recitings (
```

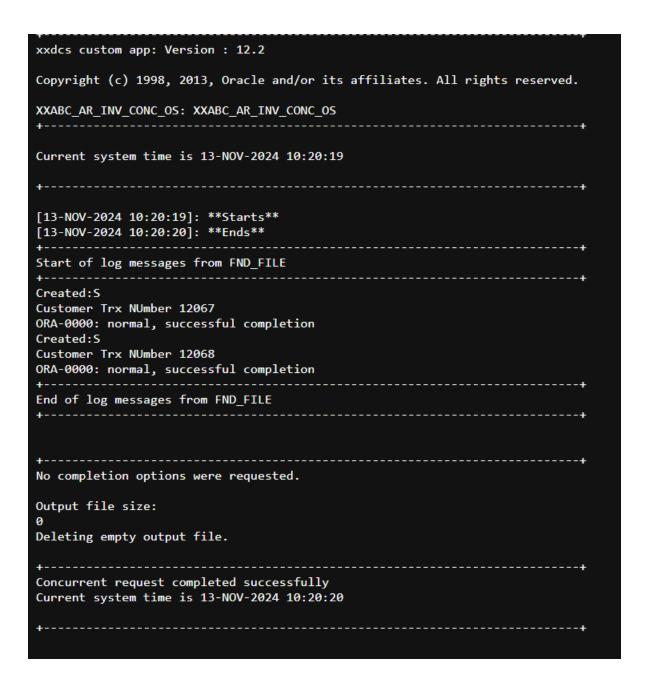
## NOW CREATE EXE, CONC PRO. AND REGISTER THE METHOD:



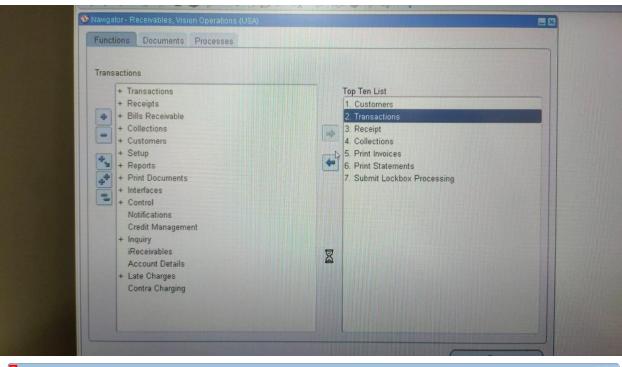
NOW CREATE CONC PRO > ATTACH WITH REQ. GRP OF RECEIVABLES, VISION OPE. > AND RUN THE REQUEST FROM RECEIVABLES RES.

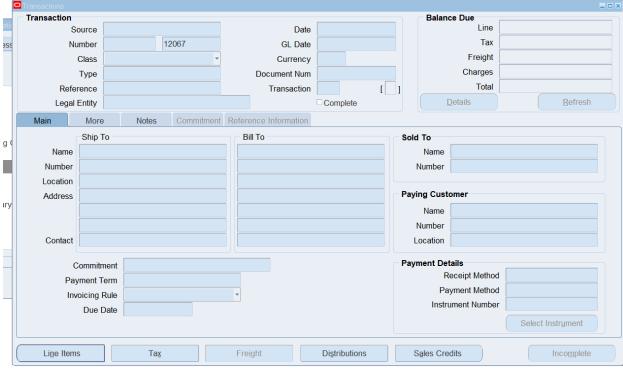


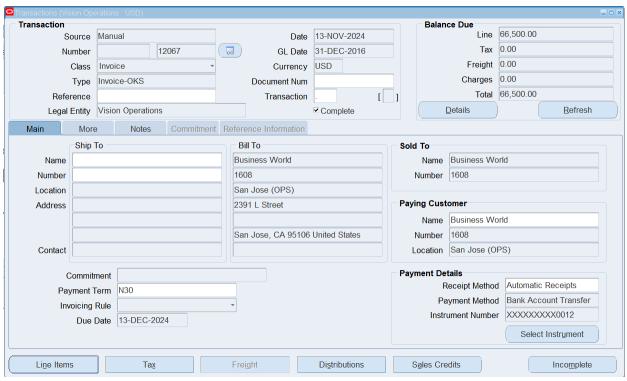
IN VIEW LOG WE HAVE CREATED TWO INVOICE NO.



NOW CHECK THE INVOICE NO:
RECEIVABLES, VISION ... > TRANSACTION>TRANSACTION







## **CLICK LINE ITEMS:**



NOW OUT DATA IS LOADED PERFECTLY IN BASE TABLE I.E. <a href="ra\_customer\_trx\_all">ra\_customer\_trx\_lines\_all</a>

# **PLSQL TO CALL API:**

create or replace package BODY XXABC\_AR\_INV\_IMP\_UTILS\_OS

```
--Method to validate staging data for AR Invoice
 PROCEDURE VALIDATE_DATA
 IS
  CURSOR C_HDR IS SELECT * FROM XXABC_AR_INV_HDR_STG_ONKAR;
  CURSOR C_LINES IS SELECT * FROM XXABC_AR_INV_LINES_STG_ONKAR;
 BEGIN
 --Validation for Header Data
  FOR REC IN C_HDR
  LOOP
   IF rec.trx_currency is null THEN
    UPDATE XXABC_AR_INV_HDR_STG_ONKAR
    SET STATUS='E', ERROR_MSG = ERROR_MSG ||' Invalid Curr'
    WHERE trx_header_id=rec.trx_header_id;
   END IF;
  IF rec.term id is null THEN
    UPDATE XXABC_AR_INV_HDR_STG_ONKAR
    SET STATUS='E', ERROR_MSG = ERROR_MSG ||' Invalid Pay Terms'
    WHERE trx_header_id=rec.trx_header_id;
   END IF;
  END LOOP;
  --Validation for Lines Data
```

```
FOR RECINC LINES
   LOOP
    NULL;
   END LOOP;
 END VALIDATE DATA;
--Method to invoke public API
PROCEDURE IMPORT_DATA(ERRBUF OUT VARCHAR2, RETCODE OUT VARCHAR2)
 IS
 L_HDR_ERR_CNT NUMBER;
L_LINES_ERR_CNT NUMBER;
l_return_status
                   varchar2(1);
l_msg_count
                  number;
l_msg_data
                  varchar2(2000);
l_batch_source_rec ar_invoice_api_pub.batch_source_rec_type; -- ar_invoice_api_pub
is package & batch_source_rec_type is record type
l trx header tbl
                   ar_invoice_api_pub.trx_header_tbl_type; -- parameter of api is itself a
table/rec type which contains multiple attributes in it.
                  ar_invoice_api_pub.trx_line_tbl_type; -- it will contain lines data which
l trx lines tbl
will be loaded from our lines staging table
l_trx_dist_tbl
                 ar_invoice_api_pub.trx_dist_tbl_type; -- we are not using this in this e.g.
l_trx_salescredits_tbl ar_invoice_api_pub.trx_salescredits_tbl_type; -- we are not using
this in this e.g.
l_cust_trx_id
                 number;
```

```
l_customer_trx_id number;
l_cnt number;
l_err_msg varchar2(1000);
l_inv_number VARCHAr2(50);
l_line_cnt number;
l_org_id number;
 BEGIN
 --MO_GLOBAL.SET_POLICY_CONTEXT('S',204);
  --Call the validate data to validate staging table data
  VALIDATE_DATA;
  SELECT COUNT(*) INTO L_HDR_ERR_CNT
  FROM XXABC_AR_INV_HDR_STG_ONKAR
   WHERE STATUS='E';
 SELECT COUNT(*) INTO L_LINES_ERR_CNT
 FROM XXABC_AR_INV_LINES_STG_ONKAR
   WHERE STATUS='E';
   IF( L_HDR_ERR_CNT >0 or L_LINES_ERR_CNT >0 ) THEN
   FND_FILE.PUT_LINE(FND_FILE.LOG, 'Issue with staging table data,
    Plese recheck and reload');
     retcode := 2;
```

```
errbuf:= 'Data Issue Please Recheck';
      commit;
    END IF;
--Populate Table Type Values
 --header data
 l_cnt := 1;
for rec in (select * from XXABC_AR_INV_HDR_STG_ONKAR) --implicit cursor / it will stop
itself as data gets empty.
   LOOP
 l_batch_source_rec.batch_source_id := -1;
l_trx_header_tbl(1).trx_header_id := rec.trx_header_id; -- we are creating
collection(nested table) to store the values.
l_trx_header_tbl(1).trx_date := sysdate;
l_trx_header_tbl(1).trx_currency := rec.trx_currency;
l_trx_header_tbl(1).cust_trx_type_id := rec.cust_trx_type_id;
l_trx_header_tbl(1).bill_to_customer_id := rec.bill_to_customer_id;
l_trx_header_tbl(1).term_id := rec.term_id;
 l_trx_header_tbl(1).finance_charges := rec.finance_charges;
l_trx_header_tbl(1).status_trx := rec.status_trx;
 l_trx_header_tbl(1).printing_option := rec.printing_option;
l_cnt := l_cnt+1;
  --lines data
 l_line_cnt :=1;
```

for rec\_lines in ( select \* from XXABC\_AR\_INV\_LINES\_STG\_ONKAR lines

WHERE lines.trx\_header\_id=rec.trx\_header\_id) --implicit cursor / it will stop itself as data gets empty.

#### **LOOP**

```
L_trx_lines_tbl(l_line_cnt).trx_header_id := rec_lines.trx_header_id;

L_trx_lines_tbl(l_line_cnt).trx_line_id := rec_lines.trx_line_id;

L_trx_lines_tbl(l_line_cnt).line_number := rec_lines.line_number;

L_trx_lines_tbl(l_line_cnt).inventory_item_id := NULL;

L_trx_lines_tbl(l_line_cnt).description := rec_lines.description;

L_trx_lines_tbl(l_line_cnt).quantity_invoiced := rec_lines.quantity_invoiced;

L_trx_lines_tbl(l_line_cnt).unit_selling_price := rec_lines.unit_selling_price;

L_trx_lines_tbl(l_line_cnt).uom_code := NULL;

L_trx_lines_tbl(l_line_cnt).line_type := rec_lines.line_type;

L_line_cnt:=l_line_cnt+1;

END LOOP;

--Invoking Public API
```

--Here we call the API to create Invoice with the stored values

AR\_INVOICE\_API\_PUB.create\_single\_invoice( -- WE ARE PROVIDING I/P AND GETTING O/P FROM API SIMOULTANEOSLY

```
p_api_version =>1.0, -- GIVING I/P TO API
p_init_msg_list =>NULL,
p_commit =>NULL,
```

```
p_batch_source_rec => l_batch_source_rec,
 p_trx_header_tbl => l_trx_header_tbl,
 p_trx_lines_tbl => l_trx_lines_tbl,
 p_trx_dist_tbl
                   => l trx dist tbl,
 p_trx_salescredits_tbl => l_trx_salescredits_tbl,
 x customer trx id => l customer trx id, -- TAKING O/P FROM API
 x_return_status => l_return_status,
 x_msg_count
                    => l_msg_count,
                   => l_msg_data
 x_msg_data
 );
 fnd_file.put_line(fnd_file.log,'Created:'||l_msg_data||l_return_status); -- fnd_file.put_line
to write data to a log file
                                  -- fnd_file.log package that represents a log file that
you can use to write messages
SELECT count(*) Into l_cnt From ar_trx_errors_gt; -- checks if there is no error log in
ar_trx_errors_gt table then proceed further
IF l_cnt = 0 THEN
 BEGIN
   SELECT trx_number INTO l_inv_number -- getting value from base table & generating
trx no of customer in our log file.
   FROM ra_customer_trx_all
   WHERE customer_trx_id = l_customer_trx_id; -- TAKING O/P FROM API
 EXCEPTION
 WHEN OTHERS THEN
 NULL;
```

```
END;
END IF;
 fnd_file.put_line(fnd_file.log, 'Customer Trx NUmber '|| l_inv_number);
     IF l_return_status = fnd_api.g_ret_sts_error OR
   l_return_status = fnd_api.g_ret_sts_unexp_error THEN
  fnd_file.put_line(fnd_file.log,':'||l_return_status||':'||sqlerrm);
  Else
   dbms_output.put_line("||l_return_status||':'||sqlerrm);
   If (ar_invoice_api_pub.g_api_outputs.batch_id IS NOT NULL) Then
     fnd_file.put_line(fnd_file.log,'Invoice(s) successfully created!');
     fnd_file.put_line(fnd_file.log,'Batch ID: ' ||
ar_invoice_api_pub.g_api_outputs.batch_id);
     fnd_file.put_line(fnd_file.log,'customer_trx_id: ' || l_cust_trx_id);
   Else
     fnd_file.put_line(fnd_file.log,"||sqlerrm);
   End If;
 end if;
--Clear the data fom record
l_trx_lines_tbl.delete;
 END LOOP;
 END IMPORT_DATA;
END XXABC_AR_INV_IMP_UTILS_OS;
```