Develop Packages for Data Extraction START xx_sync_data_bw_fusion_db_pkg Prepare SOAP sync_gl_periods Request Message Invoke Report Service xx_webservice_util_pkg Receive SOAP Response invoke_report_service Parse SOAP Response get_report_xml Get Base64 Encoded ReportBytes xx_common_util_pkg Decode Base64 encoded text to XML decode base64 File (BLOB) Convert XML BLOB to convert to xml XML CLOB Create XML Table based on XML CLOB xx_sync_data_bw_fusion_db_pkg Iterate through XML sync_gl_periods Table Rows Insert/ Merge into Databas Table END

Developing the Packages:

- xx sync data bw fusion db pkg is a report specific package implementation.
 - For Every report, there will be one procedure. e.g. sync_gl_periods Reason being - Report Parameters, Output Format and DB Table will vary from one report to another.
 - This is the main procedure or starting point for each report. This procedure can have parameters if report has and user needs to paas. The SOAP Request message of the report service will be prepared here.
 - Named as sync_<reportname>
- **xx webservice util pkg** contains the web service invocation part.
 - invoke report service will be invoked by all sync procedures. It will take soap payload (CLOB) as input, invoke the report service, parse the soap response and return the Base64 encoded report bytes (CLOB).
 - get report xml will always return report output as XML (if attribute format is XML). It internally invokes invoke_report_service to get Base64 encoded report bytes, decodes base64 into XML file, converts XML file into XML CLOB content. It will take soap payload (CLOB) as input and returns XML content as CLOB.

TIP: If you want to get the report output in csv/ text, you can develop something get report csv

- xx common util pkg contains the commonly used utility procedures and fuctions.
 - decode_base64 takes base64 encoded text (CLOB) as input and returns file as BLOB.
 - convert to xml takes file BLOB (not Binary files e.g. image, PDF) as input and returns the content of the file as CLOB



Develop Packages for Data Extraction

xx_sync_data_bw_fusion_db_pkg. sync_gl_periods

- Invoke the procedure
 xx_webservice_util_pkg.
 get_report_xml to get the report output bytes as XML
- Iterate through the records fetched and do followings:
- i. Merge and if record is found based on period_name and ledger_name then UPDATE
 - ii. else INSERT

xx_webservice_util_pkg. get_report_xml

- Invoke invoke_report_service to get the report output in Base64 encoding
- Invoke xx_common_util_pkg. decode_base64 to decode the base64 encoded text to BLOB
- Invoke xx_common_util_pkg. convert_to_xml to get XML out of BLOB
- 4. RETURN XML as CLOB

xx_webservice_util_pkg. invoke_report_service

- 1. Use APEX_WEB_SERVICE.
 MAKE_REQUEST to invoke
 runReport operation of
 ExternalReportWSSService
- Parse SOAP XML response to fetch reportBytes (report output) base64 encoded text
- RETURN the base64 encoded reportBytes

xx_common_util_pkg. decode_base64

- 1. Read the Base64 encoded text CLOB in chunks and do followings:
 - i. Invoke utl_encode.base64_decode to convert it decode to BLOB
 - ii. Append until entire Base64 encoded text is read
 - RETURN the BLOB

xx_common_util_pkg. convert to xml

- 1. Iterate
- i. Read the BLOB in chunks ii.Use utl_raw.cast_to_varchar, to convert the BLOB to VARCHAR2 text
- iii. Keep appending the VARCHAR2 text to a CLOB variable until entire BLOB is read.
- 2. RETURN the CLOB