# Extracting Essbase Data from PL/SQL

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Inspiration : Evgeniy.Rasyuks - Author of the essbase-plsql-interface package

Note: Feel free to use the attached scripts/amend/improve as necessary.

## Objective

The attached PL/SQL package demonstrates the way to extract Essbase data from PL/SQL via the APS services and Oracle provided XML parsing package.

The SQL interface allows the Oracle PL/SQL based applications to directly extract data from Essbase with the presentation done in a relational format, which can be subsequently used in the SQL Queries..

The interface should be used to extract critical summary data and not as a mechanism to move complete cube data to Oracle. In those scenarios, the usual Essbase Export should be used to transport the data.

## Pros

- Performance in terms of availability of Essbase aggregrated Data into Oracle Database
- Usage of MDX powerful querying capabilities to derive calculations from Essbase into Oracle
- Seamlessly combine Essbase and Oracle Data in a single application, simplifying the processing
  .

## Cons

- 4Gig limitation in terms of data, since clob data types are used for storing datasets.
- Data returned in in a virtual format, hence will not be visible to other queries ( joins/etc ). You will have to dump the data in some sort of staging table, before using it.

## Potential Uses:

- Any heavy lifting Oracle Queries hitting the Oracle Database, where the data is also available in cubes
- Archiving subsets of Essbase data into relational database.
- Merge Essbase & Oracle Data sources
- Since it is an XMLA interface, the same can be even used to extract from any XMLA data source ( Microsoft Analysis Services )

## Prerequisites :

- Availability of XMLTABLE package in the Oracle Database
- Ability to access Essbase URL from Oracle Database Server ( ACLS granted )

## Flow

- From PL/SQL make a http call to the APS/XMLA services embedding the MDX query
- Convert the result ( XML ) into a Relational XML format <Row><Dim1></Dim1>…</Row> format
- Convert the resultant XML format into a relational output, using the XMLTABLE package

## Sample Oracle Database Query :

```
WITH table1 AS
(
  SELECT
        XMLA_MDX.getMDXData(
          p_mdx_query =>
                  'SELECT NON EMPTY
                   { Children([Product]) }   ON AXIS(0),
                  { Children([Measures]) }  ON AXIS(1)  ,
                  { Children([Year]) }  ON AXIS(2)  ,
```

```
                { Children([Market]) }  ON AXIS(3)
                FROM [Sample].[Basic]',
        p_aps_url =>'http://foobar:19000/aps/XMLA',
        p_essbase_server => 'foobar.com',
        p_essbase_user => 'yyyyy',
        p_essbase_password =>'xxxxx',
        p_suppress_missing => 'Y') xmlData
    FROM
      DUAL
)
        SELECT dt.Product, dt.Measures, dt.Year, dt.Market,  dt.CELLVALUE
                FROM table1,
                XMLTABLE ('/TABLE/REC' PASSING xmlData
                        COLUMNS
                        Product      VARCHAR2(80) PATH 'Product',
                        Measures     VARCHAR2(80) PATH 'Measures',
                        Year         VARCHAR2(80) PATH 'Year',
                        Market       VARCHAR2(80) PATH 'Market',
                        CELLVALUE    NUMBER PATH 'CELLVALUE'
                ) dt ;
```

Usage Notes:

*p_mdx_query =>  Your MDX query goes here*

*Yellow Marked Strings should match the Essbase Dimension Names and is case sensitive. In case you have a space in the dimension ( e.g.  "Main Customer" ) trim the space ( E.g. MainCustomer )*

`CELLVALUE    NUMBER PATH 'CELLVALUE'` *: Is mandatory, should not be changed and should be at end of the column list.*

## Output

Query Result ×

SQL | Fetched 50 rows in 13.136 seconds

| | PRODUCT | MEASURES | YEAR | MARKET | CELLVALUE |
|---|---|---|---|---|---|
| 1 | 100 | Profit | Qtr1 | East | 2769 |
| 2 | 200 | Profit | Qtr1 | East | 562 |
| 3 | 300 | Profit | Qtr1 | East | 591 |
| 4 | 400 | Profit | Qtr1 | East | 1480 |
| 5 | Diet | Profit | Qtr1 | East | 555 |
| 6 | 100 | Inventory | Qtr1 | East | 5384 |
| 7 | 200 | Inventory | Qtr1 | East | 5957 |
| 8 | 300 | Inventory | Qtr1 | East | 6278 |
| 9 | 400 | Inventory | Qtr1 | East | 8125 |
| 10 | Diet | Inventory | Qtr1 | East | 1867 |
| 11 | 100 | Ratios | Qtr1 | East | 65.726956 |
| 12 | 200 | Ratios | Qtr1 | East | 51.117709 |
| 13 | 300 | Ratios | Qtr1 | East | 45.809367 |
| 14 | 400 | Ratios | Qtr1 | East | 60.401606 |
| 15 | Diet | Ratios | Qtr1 | East | 57.484076 |
| 16 | 100 | Profit | Qtr2 | East | 3352 |
| 17 | 200 | Profit | Qtr2 | East | 610 |