The Blob:
Slicing and Dicing in Oracle

VOYAGER ENDUSER CONFERENCE
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Abstract

At The University of Auckland Library we successfully tried another approach in demystifying the BLOB: slicing it in Oracle by employing existing functions in Voyager.

All we have done is to invoke these functions into our SQL statements and in no time at all we obtain the information we want. We can run these queries in 3 different environments:

- Oracle's own SQL+
- Microsoft Access (in Pass-through Queries)
- SQL Server 2000

The advantages of using this approach are:
Speed of execution
Data extraction is server side therefore independent of Microsoft Access VB.
Possibility to schedule the query to run at fixed intervals. (in SQL Server)

The simplicity of using what is already in the Voyager database is making this melange of Oracle and SQL server queries not only chic but also efficient.

Examples of Voyager BLOB Functions:

AUCKDB.GETMFHDTAG(AUCKDB.MFHD_DATA.MFHD_ID, 'XXX')
AUCKDB.GETBIBTAG(AUCKDB.BIB_DATA.BIB_ID, 'XXX')
AUCKDB.GETMFHDSUBFIELD(AUCKDB.MFHD_DATA.MFHD_ID, 'XXX', 'z')

To view the full list open Oracle Enterprise Manager and connect to your VGER service name. You can see the whole lot in your database schema's object window.

ORACLE SQL+

ORACLE SQL+ is the command line SQL and PL\SQL language interface to the Oracle databases

Note: If you don't have the SQL+ installed on your computer you can ask the system people to install it for you.

Login credentials are the same as when you try to run a query in Microsoft Access. In the Host string type VGER.

Methodology :

1. **Write the query in a Notepad or another text editor and save it as sql file i.e. BLOB_Query.sql**
2. **The query must follow Oracle PL/SQL syntax. Example:**

```
SET SEVEROUTPUT ON SIZE 10000
SET PAGESIZE 0
SET MARCKUP HTML ON
SPOOL SERIALS.html

SELECT DISTINCT AUCKDB.BIB_TEXT.BIB_ID, AUCKDB.BIB_TEXT.TITLE,
AUCKDB.MFHD_MASTER.MFHD_ID ,
AUCKDB.GETMFHDTAG(AUCKDB.MFHD_DATA.MFHD_ID, '852')AS Holdings852
FROM AUCKDB.BIB_MASTER, AUCKDB.BIB_TEXT, AUCKDB.BIB_MFHD,
AUCKDB.MFHD_MASTER, AUCKDB.MFHD_DATA
WHERE AUCKDB.BIB_MASTER.BIB_ID = AUCKDB.BIB_TEXT.BIB_ID AND
    AUCKDB.BIB_MASTER.BIB_ID = AUCKDB.BIB_MFHD.BIB_ID AND
    AUCKDB.BIB_MFHD.MFHD_ID = AUCKDB.MFHD_MASTER.MFHD_ID AND
    AUCKDB.MFHD_MASTER.MFHD_ID = AUCKDB.MFHD_DATA.MFHD_ID AND
    AUCKDB.BIB_TEXT.BIB_FORMAT Like 'as'And
    AUCKDB.BIB_TEXT.BIB_ID Between 1 and 100;

SPOOL OFF
SET MARCKUP HTML OFF
```

The query above has some extra commands beside the Select statement and they are the following:
SET SEVEROUTPUT ON SIZE 10000 – is the command that will allow the server to uoutput large files. (note: You only use this command once in a SQL+ session)
SET PAGESIZE 0 – allows printing of column headings in report only once
SET MARCKUP HTML on - it will marc the results with html tags
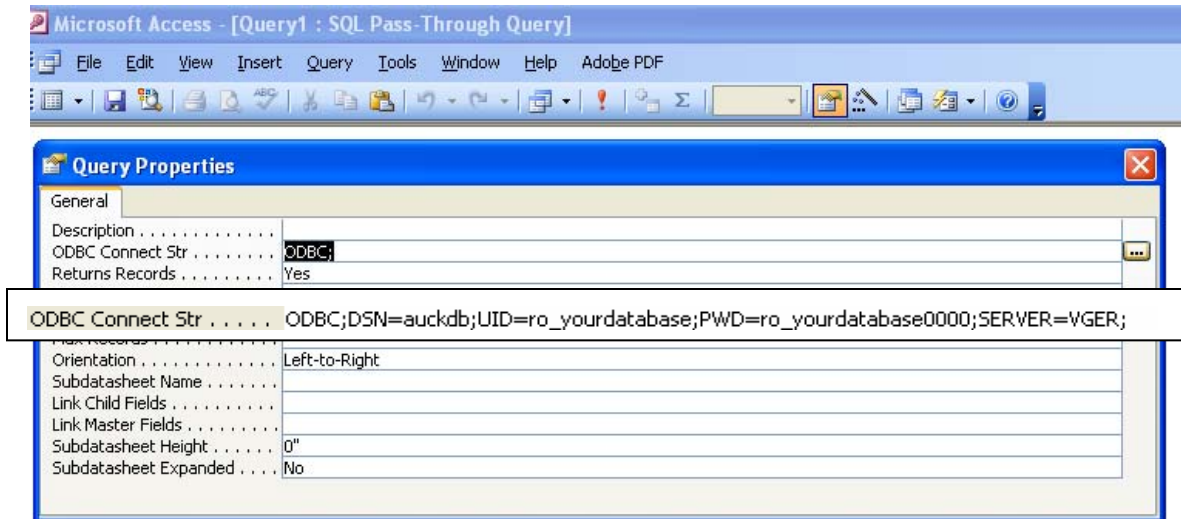SPOOL SERIALS.html – it will export the results in the html file

3. **Execute the query either by:**
   - **Pasting the query text into the SQL+ window**
   - **Start the file from the SQL+**
     (i.e. type the command START C:\ BLOB_Query.sql)

Usually the result file can be found in c:\oracle\bin.

Microsoft Access

Assuming that the ODBC connection between Microsoft Access and ORACLE –
VOYAGER is established you can create the SQL pass-through query as following:

1. Open an Access Database.
2. In the Database window, click Queries under Objects, and then click New.
3. In the New Query dialog box, click Design View, and then click OK.
4. Click Close in the Show Table dialog box without adding any tables or queries.
5. On the Query menu, point to SQL Specific, and then click Pass-Through.
6. On the toolbar, click Properties to display the property sheet for the query.
7. In the query property sheet, place the mouse pointer in the ODBC Connect Str
   property, and then, click the Build (...) button. Here you will create the connection
   string to Voyager.

8. When you are prompted to save the password in the connection string, click Yes
   if you want the password and logon name to be stored in the connection string
   information. Note: at the end of this procedure you should have in the ODBC
   Connect Str a similar text like the one in the figure above.
9. Paste your SQL query. Note: the SQL query must follow the PL/SQL syntax:

SELECT AUCKDB.BIB_TEXT.BIB_ID, AUCKDB.BIB_TEXT.TITLE,
AUCKDB.MFHD_MASTER.MFHD_ID ,
AUCKDB.GETMFHDTAG(AUCKDB.MFHD_DATA.MFHD_ID, '866')AS
Holdings866
FROM AUCKDB.BIB_MASTER, AUCKDB.BIB_TEXT, AUCKDB.BIB_MFHD,
AUCKDB.MFHD_MASTER, AUCKDB.MFHD_DATA
WHERE AUCKDB.BIB_MASTER.BIB_ID = AUCKDB.BIB_TEXT.BIB_ID AND
AUCKDB.BIB_MASTER.BIB_ID = AUCKDB.BIB_MFHD.BIB_ID AND

AUCKDB.BIB_MFHD.MFHD_ID = AUCKDB.MFHD_MASTER.MFHD_ID AND
AUCKDB.MFHD_MASTER.MFHD_ID = AUCKDB.MFHD_DATA.MFHD_ID
AND
AUCKDB.BIB_TEXT.BIB_FORMAT Like 'as'

10. To run the query, click Run on the toolbar.
11. To create a table with the result you can make a new make table query based on the pass-through query.

SQL SERVER 2000

The Blob functions can be used in the SQL Server Pass-through queries. The SQL server must have an OLE DB connection to ORACLE where the Voyager database resides. (The SQL Server administrator can do this.)

We use this in stored procedures to create the Ejournals and New Books database. The syntax is as follow:

SET QUOTED_IDENTIFIER ON
GO
SET ANSI_NULLS ON
GO

CREATE   PROCEDURE dbo.PopulateTable_ejornals AS

DELETE FROM dbo.ejournals;

Insert Into dbo.ejournals(ELINK_ID, LINK, LINK_TEXT, TITLE, BIB_ID, MFHD_ID, MFHDDATE ,
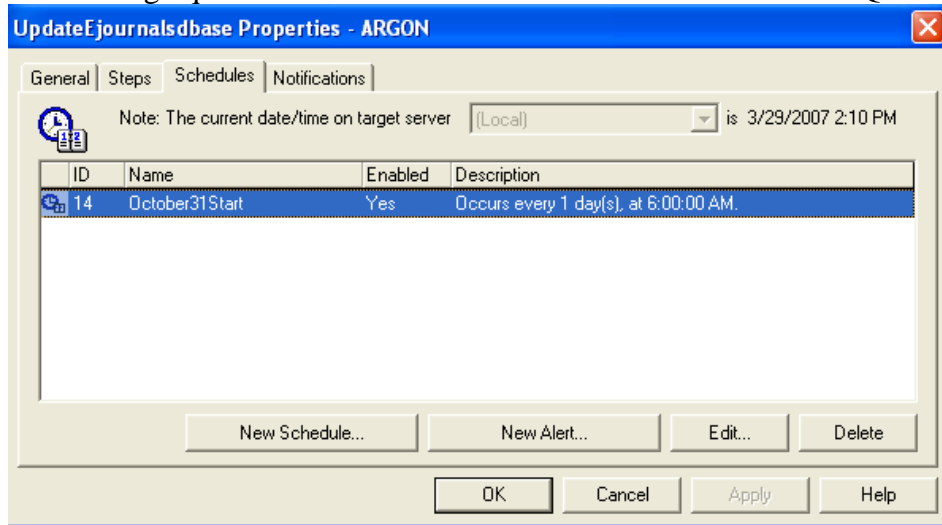 BIBDATE, DISPLAY_CALL_NO, VariantTitle , Holdings852_z , Holdings866, Holdings852_x)

SELECT * FROM OPENQUERY (VOYAGER, 'SELECT DISTINCT
AUCKDB.ELINK_INDEX.ELINK_ID, AUCKDB.ELINK_INDEX.LINK,
 AUCKDB.ELINK_INDEX.LINK_TEXT, AUCKDB.BIB_TEXT.TITLE,
AUCKDB.BIB_TEXT.BIB_ID, AUCKDB.MFHD_MASTER.MFHD_ID ,
AUCKDB.MFHD_MASTER.CREATE_DATE as MFHDDATE,
AUCKDB.BIB_MASTER.CREATE_DATE AS BIBDATE,
AUCKDB.MFHD_MASTER.DISPLAY_CALL_NO,
 AUCKDB.GETBIBTAG(AUCKDB.BIB_DATA.BIB_ID, "246") AS VariantTitle ,
AUCKDB.GETMFHDSUBFIELD(AUCKDB.MFHD_DATA.MFHD_ID, "852", "z")AS
Holdings852_z ,
AUCKDB.GETMFHDTAG(AUCKDB.MFHD_DATA.MFHD_ID, "866")AS Holdings866 ,
AUCKDB.GETMFHDSUBFIELD(AUCKDB.MFHD_DATA.MFHD_ID, "852", "x")AS
Holdings852_x

FROM AUCKDB.BIB_MASTER, AUCKDB.BIB_TEXT, AUCKDB.BIB_MFHD,
AUCKDB.MFHD_MASTER,
AUCKDB.ELINK_INDEX, AUCKDB.BIB_DATA, AUCKDB.MFHD_DATA
WHERE AUCKDB.BIB_DATA.BIB_ID = AUCKDB.BIB_TEXT.BIB_ID AND
   AUCKDB.BIB_MASTER.BIB_ID = AUCKDB.BIB_TEXT.BIB_ID AND
   AUCKDB.BIB_MASTER.BIB_ID = AUCKDB.BIB_MFHD.BIB_ID AND
   AUCKDB.BIB_MFHD.MFHD_ID = AUCKDB.MFHD_MASTER.MFHD_ID AND
   AUCKDB.MFHD_MASTER.MFHD_ID = AUCKDB.ELINK_INDEX.RECORD_ID AND
   AUCKDB.MFHD_MASTER.MFHD_ID = AUCKDB.MFHD_DATA.MFHD_ID AND
   AUCKDB.ELINK_INDEX.RECORD_TYPE= "M" AND
   AUCKDB.MFHD_MASTER.SUPPRESS_IN_OPAC Like "N" AND
   AUCKDB.BIB_TEXT.BIB_FORMAT Like "as"
');
GO
SET QUOTED_IDENTIFIER OFF
GO
SET ANSI_NULLS ON
GO

You can further massage the result set in SQL server if necessary.
Pass-through queries can be scheduled to run at chosen times on SQL Server 2000.

At The University of Auckland Library we use this method to create the Ejournals page
(http://www.library.auckland.ac.nz/ejournals/) and
 New Books page (http://www.library.auckland.ac.nz/newbooks/)

Recommended book for more information on Oracle PL/SQL syntax:
Morrison J., Morrison M. (2003). *Guide to Oracle 9i*. Boston, Mass.: Thomson/Course
Technology.