



“Implementing Usage Tracking in OBIEE”

This is another document from OBIEE for Beginner’s series. The document briefs how to implement and test the usage tracking. Join our professional training program to learn from experts.

History:

Version	Description Change	Author	Publish Date
0.1	Initial Draft	Hitesh Mankar	11-09-2011
0.1	1 st Review	Amit Sharma	11 -09-2011

Usage Tracking

Oracle BI Server provides a functionality of Usage Tracking to trace the execution of a Logical SQL in a log database table, as this logs query statistics to a database table and allows you to run reports against them, with low response cost. Oracle BI server supports collection of usage statistics which can use in a variety of ways such as who is running what and when?, Lots of analysis can be achieved using the Usage Tacking.

When we enable usage tracking, statistics for every query are inserted into a database table or are written to a usage tracking log file. If you use direct insertion, the Oracle BI Server directly inserts the usage tracking data into a relational database usage tracking table.

In order to set up usage tracking, we need a usage tracking table, Oracle BIEE provides a sample of Usage Tracking table scrip and a sample usage tracking .rpd file.

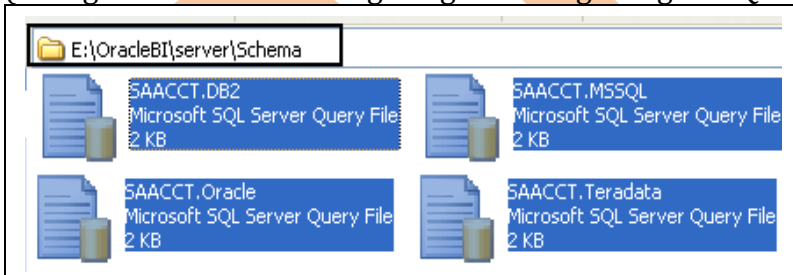
1. Create a database into data source; Give a name `OBI_Usage_Tracking` for better understanding, and give public access.

2. Create the tracking table,

The tracking table script comes up by default with OBIEE 10(10.1.3.4) installation and can be found in this location

OracleBI\Server\Schema use SAACT script to create a table with name `S_NQ_ACCT` into your database `OBI_Usage_Tracking`. (Create table script is available for db2, Oracle DB, Teradata and MSSQLDB, choose one script for your database to create table `S_NQ_ACCT`)

(This guide covers Enabling Usage tracking using MSSQL server 2005 examples)



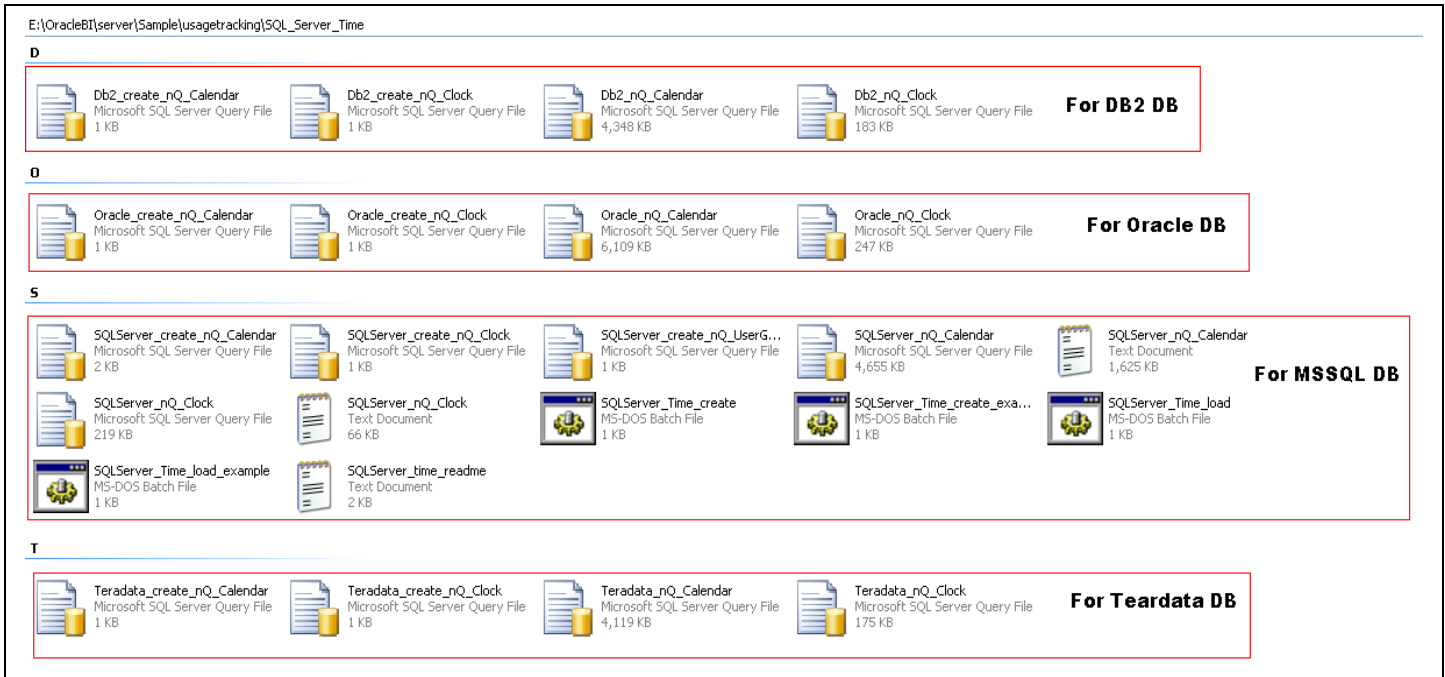
3. Set up additional tables required for usage tracking.

These additional table scripts also come up by default with OBIEE 10 installation and can be found in this location : \OracleBI\server\Sample\usagetracking\SQL_Server_Time

Run the script form below files

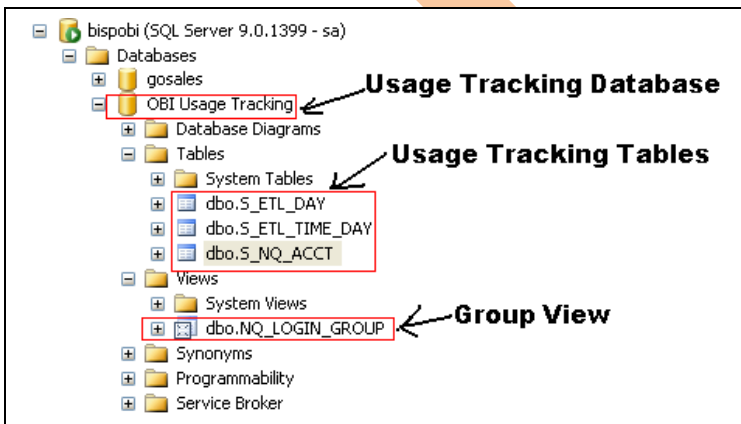
1. `SQLServer_create_nQ_Calendar` to create table `S_ETL_DAY`
2. `SQLServer_create_nQ_Clock` to create table `S_ETL_TIME_DAY`
3. `SQLServer_create_nQ_UserGroup` to create view `NQ_LOGIN_GROUP` for table `S_NQ_ACCT`
4. `SQLServer_nQ_Calendar` to insert data into table `S_ETL_DAY`
5. `SQLServer_nQ_Clock` to insert data into table `S_ETL_TIME_DAY`

See below screen shots for view details of path and scripts location

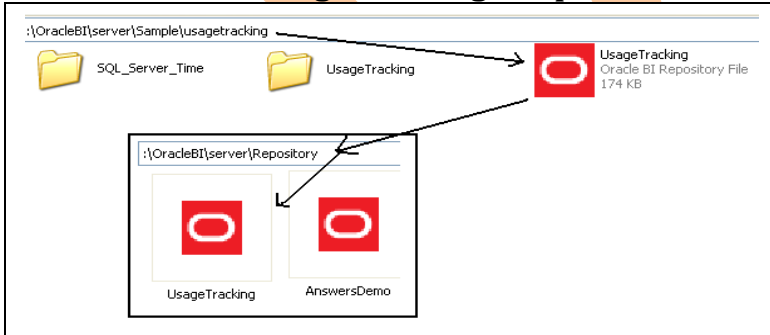


4. Check out the database, tables and data. (Note: - The table S_NQ_ACCT should be empty after creation)

USER_NAME	REPOSITORY_NAME	SUBJECT_AREA_NAME	NODE_ID	START_TS	START_DT	START_HOUR...	END_TS	END_DT	END_HOUR_MIN	QUERY_TEXT
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL



4. Now locate the Usage Tracking sample RPD file and place it into repository catalog.



5. Open Usage Tracking rpd using Admin Tool and have a review.

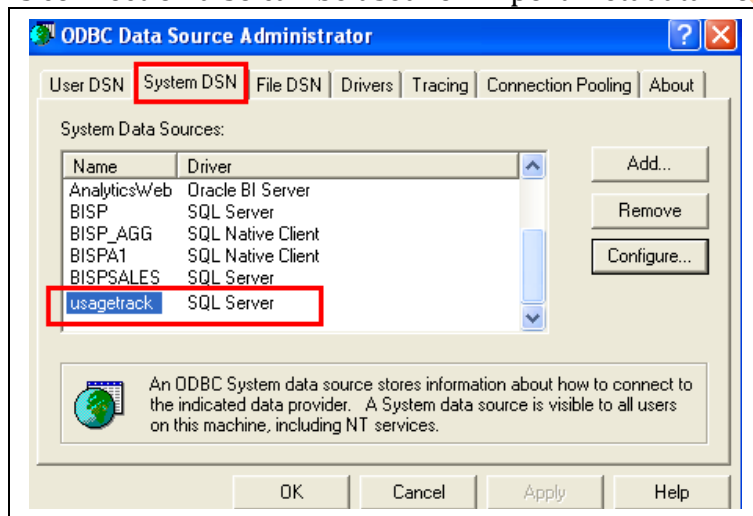
6. There are two ways to implement and process usage tracking in OBI.

6. A. Using sample Usage Tracking RPD provided by OBI Server,(Merge with prebuilt reporting or master RPD)

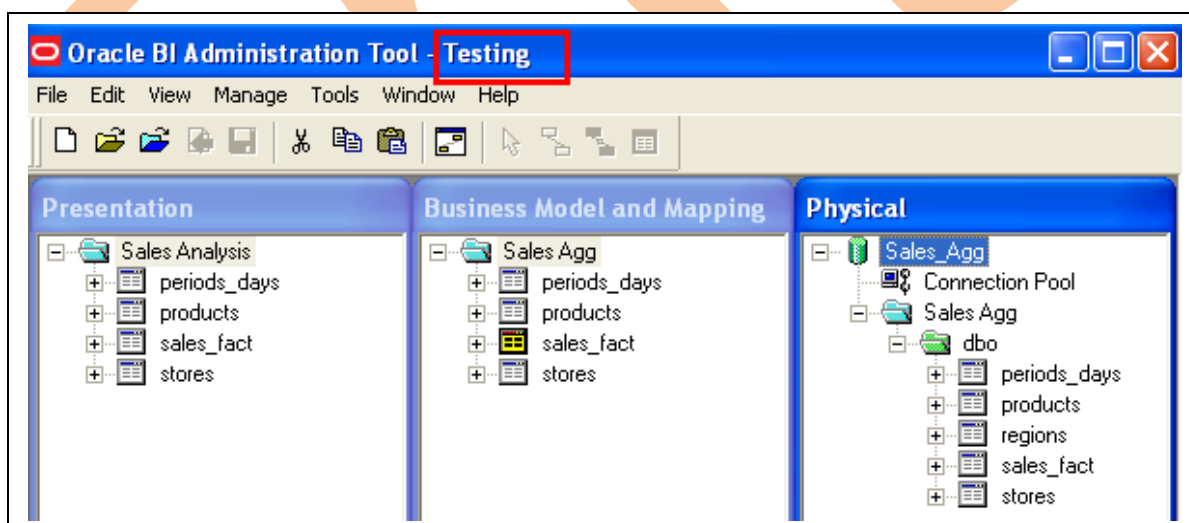
6. B. Importing Usage Tracking Metadata (Schema and Tables) into prebuilt reporting or master rpd and create physical model, business model and Presentation Catalog on our own

The well recommended approach is enabling and implement usage tracking with **UsageTracking** sample rpd, so that you don't need to import and create model for usage tracking metadata.

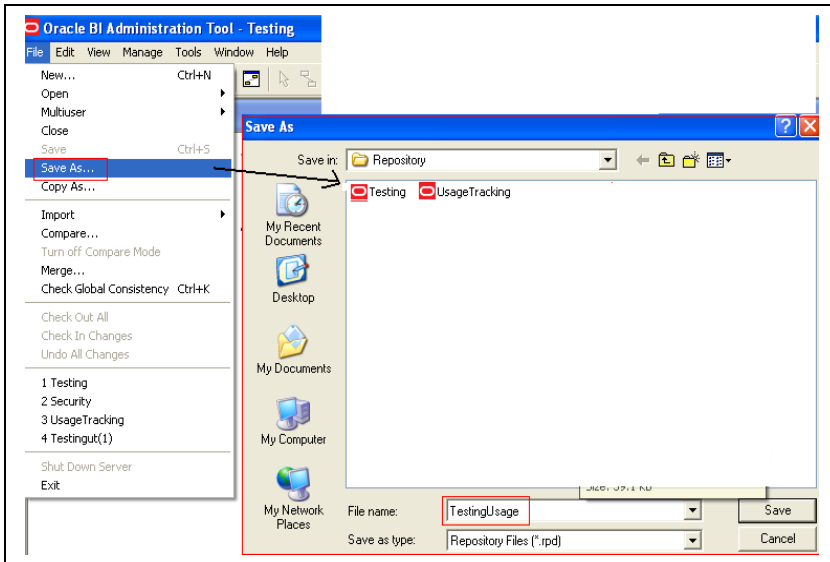
6.1) Create an ODBC connection for Usage Tracking database to connect Usage Tracking RPD metadata, and this connection also can be used for import metadata from this database for method 6.B.



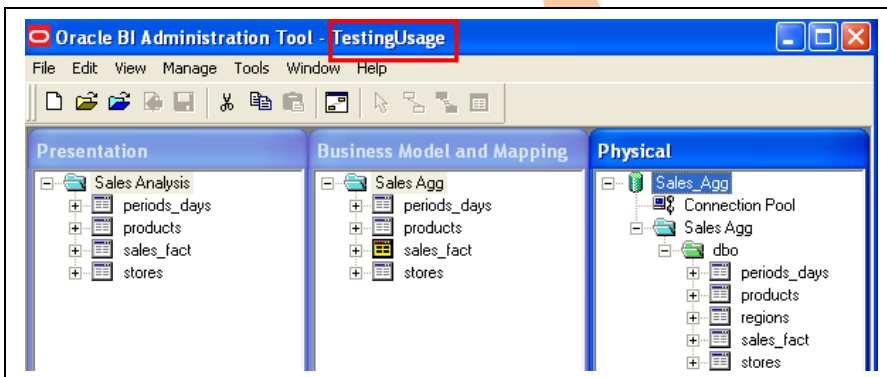
6.2) Now open the prebuilt reporting master rpd, which is consistent and you want to track usage.



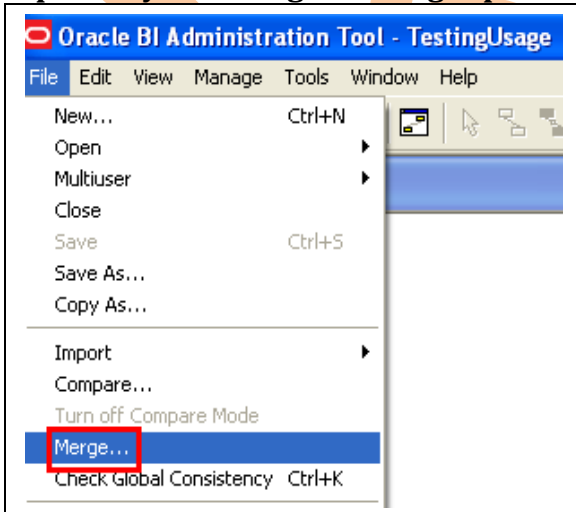
6.3) Now click on File Menu Option to make a copy of this rpd with different name to recognize.



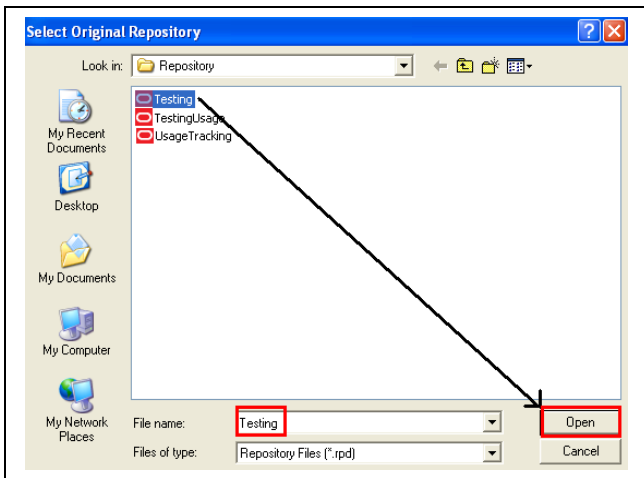
6.4) A new rpd get create with the same Metadata as master rpd.



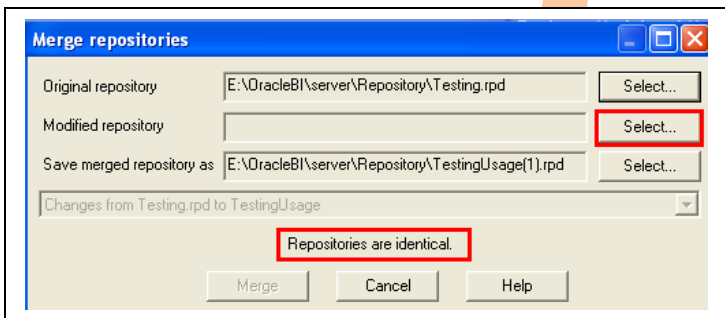
6.5) Now go to file menu option and select Merge to merge this repository with original master repository and usagetracking repository.



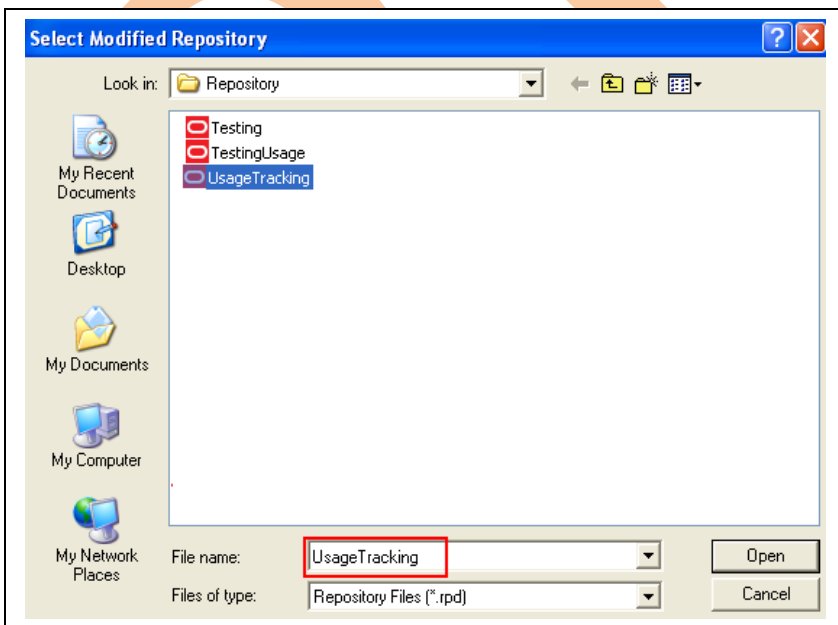
6.6) Select original master repository from Select Original repository window and click open.



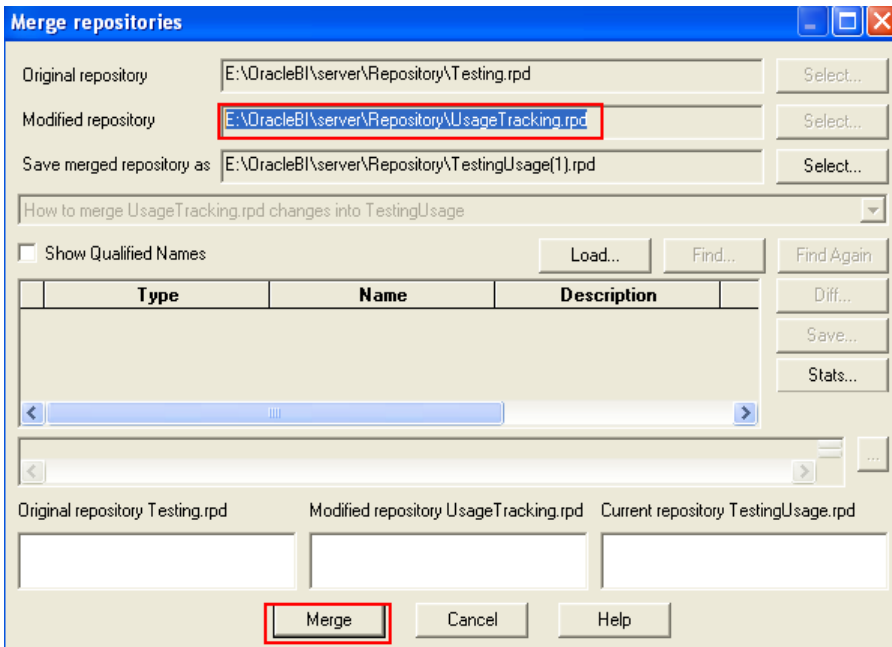
Enter password if it's given or click ok in open offline window.
6.7) Click on the Select button for Modified Repository Section.



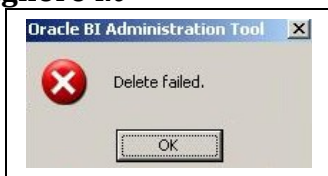
6.8) Select Usage Tracking sample Repository in modified repository window and click open.



Enter password if it's given or click ok in open offline window.
6.9) Check put required rpds are associated to merge click on *Merge* button.

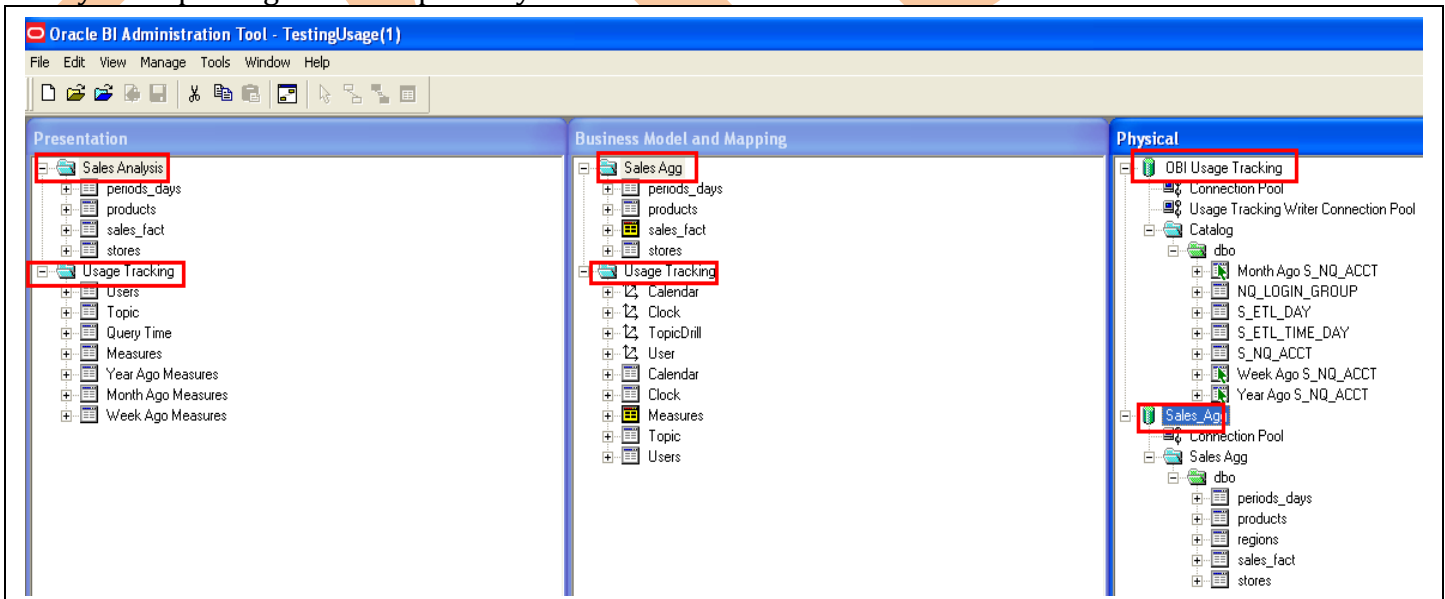


If you will get any message like below, that will not cause your queries and rpd metadata. You can ignore it



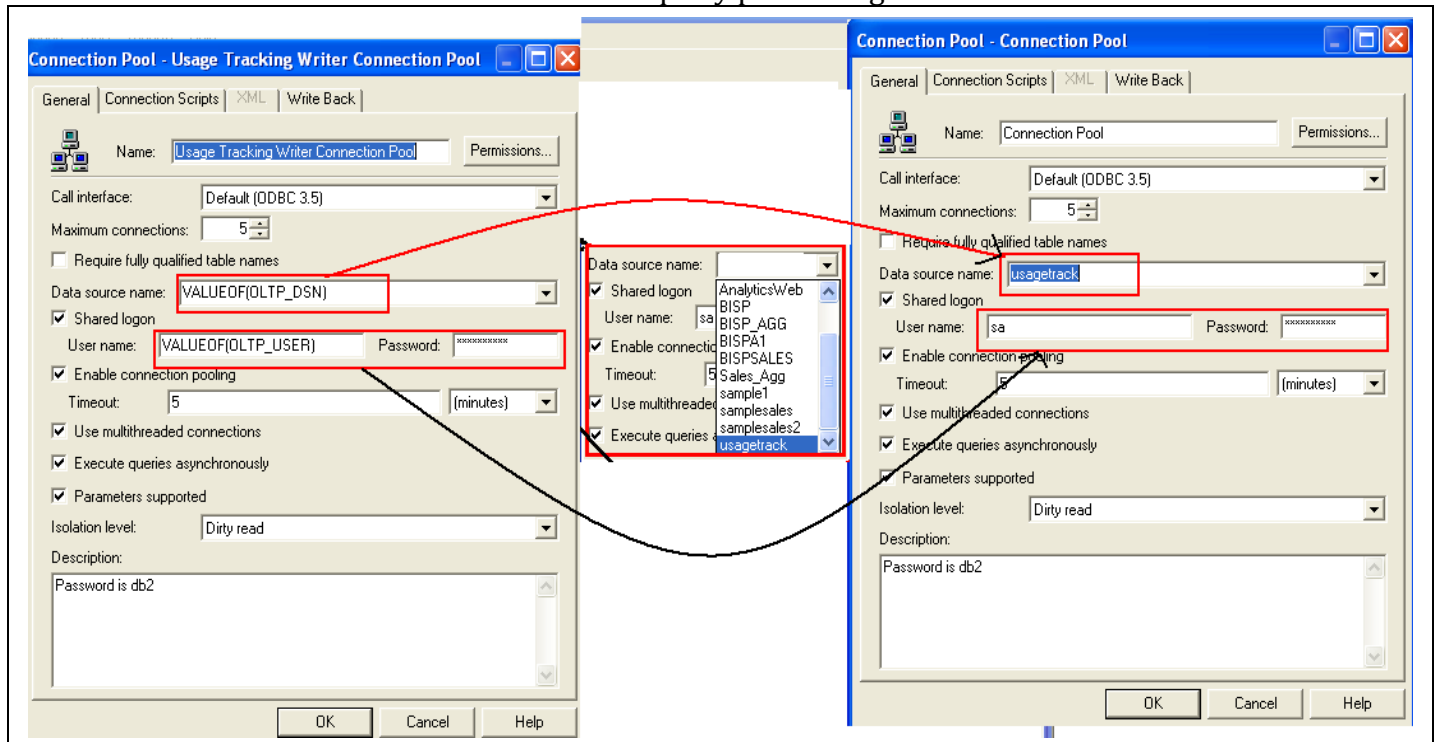
6.10) A new version of repository is created which is built from Master repository and Usage Tracking sample repository

Check global consistency and verify the usage tracking metadata into all layers. Now in this current repository you will get two Physical, Business models and two presentation catalogs, that is different from your reporting master repository.



6.11) Check the connection pool settings for OBI_USAGE_TRACKING database and change both the connection pool setting as shown in below screen shot.

Here "Connection Pool" is used for getting data from database and "Usage Tracking Writer Connection Pool" is used for write back into database after query processing for both metadata.



Change the connection pool data source name, username and password as shown in above screen shot. For both connection pools of OBI Usage Tracking database.

Do not change connection pool setting for master repository metadata.

6.12) Update All row counts to check the connection is proper or not.

6.13) Now go to NQSConfig file at this location : \OracleBI\server\Config to enable usage tracking

Open the file and locate Usage Tracking section, see the highlighted values.

```
[ USAGE_TRACKING ]
ENABLE = NO;

//=====
// Parameters used for writing data to a flat file (i.e. DIRECT_INSERT = NO).
STORAGE_DIRECTORY = "<full directory path>";
CHECKPOINT_INTERVAL_MINUTES = 5;
FILE_ROLLOVER_INTERVAL_MINUTES = 30;
CODE_PAGE = "ANSI"; // ANSI, UTF8, 1252, etc.
//=====

DIRECT_INSERT = NO;

//=====
// Parameters used for inserting data into a table (i.e. DIRECT_INSERT = YES).
PHYSICAL_TABLE_NAME = "<Database>."<Catalog>."<Schema>."<Table>" ;
// Or "<Database>."<Schema>."<Table>" ;
CONNECTION_POOL = "<Database>."<Connection Pool>" ;
BUFFER_SIZE = 10 MB ;
BUFFER_TIME_LIMIT_SECONDS = 5 ;
NUM_INSERT_THREADS = 5 ;
MAX_INSERTS_PER_TRANSACTION = 1 ;
```


6.14) Now change the highlighted parameters as below screenshot.

(*This connection pools parameters for MSSQL Server 2005 data source)**

```
[ USAGE_TRACKING ]
ENABLE = YES;

//=====
// Parameters used for writing data to a flat file (i.e. DIRECT_INSERT = NO).
//
STORAGE_DIRECTORY = "<full directory path>";
CHECKPOINT_INTERVAL_MINUTES = 5;
FILE_ROLLOVER_INTERVAL_MINUTES = 30;
CODE_PAGE = "ANSI"; // ANSI, UTF8, 1252, etc.
//=====
DIRECT_INSERT = YES;

//=====
// Parameters used for inserting data into a table (i.e. DIRECT_INSERT = YES).
//
PHYSICAL_TABLE_NAME = "OBI Usage Tracking"."Catalog"."dbo"."S_NQ_ACCT" ;
// Or "OBI Usage Tracking"."dbo"."S_NQ_ACCT" ;
CONNECTION_POOL = "OBI Usage Tracking"."Usage Tracking Writer Connection Pool" ;
BUFFER_SIZE = 10 MB ;
BUFFER_TIME_LIMIT_SECONDS = 5 ;
NUM_INSERT_THREADS = 5 ;
MAX_INSERTS_PER_TRANSACTION = 1 ;
//
```

6.15) Configure the rpd name into NQS configure file to access into answers, Start the services and go to answers.

Login with different users to track usage and make request with different users,

6.16) Select subject area which belongs to master repository and create a request.



6.17) Check the result

year	product_line	amount_sales
	Books	76,036,517
2,002	Music	23,868,919
	Videos	14,360,904
	Books	12,925,085
2,003	Music	3,600,994
	Videos	2,089,259

6.18) Now go to OBI_USAGETRACKING database to check the new entries into S_NQ_ACCT table after query made by OBI Server.

USER_NAME	REPOSITORY...	SUBJECT_ARE...	NODE_ID	START_TS	START_DT	START_HOUR...	END_TS	END_DT	END_HOUR_MIN
Administrator	Star	Sales Agg	BISPOBI	10/11/2011 6:3...	10/11/2011 12:...	18:38	10/11/2011 6:3...	10/11/2011 12:...	18:38
Administrator	Star	Sales Agg	BISPOBI	10/11/2011 6:3...	10/11/2011 12:...	18:38	10/11/2011 6:3...	10/11/2011 12:...	18:39
hitesh	Star	Sales Agg	BISPOBI	10/11/2011 6:4...	10/11/2011 12:...	18:49	10/11/2011 6:4...	10/11/2011 12:...	18:49
hitesh	Star	Sales Agg	BISPOBI	10/11/2011 6:4...	10/11/2011 12:...	18:49	10/11/2011 6:4...	10/11/2011 12:...	18:49

6.19) Go back to answer again and make a request from Usage Tracking subject area.

Subject Areas

Sales Analysis

Usage Tracking
Subject Area containing nQire Usage Statistics

Users | **Topic** | **Query Time** | **Measures**

User Name ↓↑ | Logical SQL ↓↑ | Week Number ↓↑ | Max Row Count ↓↑ | Total Time in Secs ↓↑

6.20) Check result For all users will show the result.

User Name	Logical SQL	Week Number	Max Row Count	Total Time in Secs
Administrator	SELECT periods_days."Year" saw_0, products.product_line saw_1, sales_fact.amount_sales saw_2 FROM "Sales Analysis" ORDER BY saw_0, saw_1	41	6	1
Administrator	[call NOSGetLevelDrillability(SELECT periods_days."Year" saw_0, products.product_line saw_1, sales_fact.amount_sales saw_2 FROM "Sales Analysis")]	41	3	0
Administrator	[call NOSGetLevelDrillability(SELECT Users."User Name" saw_0, Topic."Logical SQL" saw_1, "Query Time"."Week Number" saw_2, Measures."Max Row Count" saw_3, Measures."Total Time in Secs" saw_4 FROM "Usage Tracking")]	41	5	0
hitesh	SELECT products.product_line saw_0, sales_fact.amount_sales saw_1 FROM "Sales Analysis" ORDER BY saw_0	41	3	0
hitesh	[call NOSGetLevelDrillability(SELECT products.product_line saw_0, sales_fact.amount_sales saw_1 FROM "Sales Analysis")]	41	2	0

6.21) Check the query log to verify your result, is it coming from database.

```

----- SQL Request:
SET VARIABLE QUERY_SRC_CD='Report';SELECT Users."User Name" saw_0, Topic."Logical SQL" saw_1, "Query Time"."Week Number" saw_2,
Measures."Max Row Count" saw_3, Measures."Total Time in Secs" saw_4 FROM "Usage Tracking" ORDER BY saw_0, saw_1, saw_2

+++Administrator:2a0000:2a000a:----2011/10/11 18:54:15
----- General Query Info:
Repository: Star, Subject Area: Usage Tracking, Presentation: Usage Tracking

+++Administrator:2a0000:2a000a:----2011/10/11 18:54:15
----- Sending query to database named OBI Usage Tracking (id: <<3255>>):
select distinct D1.c3 as c1,
      D1.c4 as c2,
      D1.c5 as c3,
      D1.c2 as c4,
      D1.c1 as c5
from
  (select sum(T980."TOTAL_TIME_SEC") as c1,
        max(T980."ROW_COUNT") as c2,
        T980."USER_NAME" as c3,
        T980."QUERY_TEXT" as c4,
        T1327."CAL_WEEK" as c5
   from
     "S_ETL_DAY" T1327,
     "S_NQ_ACCT" T980
   where ( T980."START_DT" = T1327."DAY_DT" )
   group by T980."USER_NAME", T980."QUERY_TEXT", T1327."CAL_WEEK"
  ) D1

+++Administrator:2a0000:2a000a:----2011/10/11 18:54:15
----- Query Status: Successful Completion

```

6.22) You can request more query about usage tracking for more detail, using Usage Tracking subject area.

6. B. Importing Usage Tracking Metadata (Schema and Tables) into prebuilt reporting or master rpd and create physical model, business model and Presentation Catalog on our own.

Following Usage Tracking sample rpd, create same model and process your queries as following above steps.

You need to create two connection pool manually by copy and paste, one is for query and one is to write back into database else is same as sample usage tracking rpd.