






# Using the SQLAccess Advisor to Recommend Materialized Views and Indexes

## Purpose

This module describes how you can use the SQL Access Advisor to get materialized views and index recommendations to optimize performance.

## Topics

This module will discuss the following topics:

-  [Overview](#)
-  [Prerequisites](#)
-  [Preparing the Environment](#)
-  [Using the SQL Cache to Get Recommendations](#)
-  [Reviewing and Implementing the Recommendations](#)

 **Place the cursor on this icon to display all screenshots. You can also place the cursor on each icon to see only the screenshot associated with it.**

## Overview

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The SQLAccess Advisor provides a number of procedures which can be called to help decide which materialized views and indexes to create and drop. It makes this decision using either a hypothetical workload, which it bases on your schema, or from an actual workload which can be provided by the user, from Oracle Trace or from the contents of the SQL cache.

Workloads may also be filtered according to different criteria, such as only use queries containing these tables or queries which have a priority between this range.

## Prerequisites

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Before starting this module, you should have:

1. Completed the [Configuring Linux for the Installation of Oracle Database 10g](#) lesson
2. Completed the [Installing the Oracle Database 10g on Linux](#) lesson

3. Download and unzip [saa.zip](#) into your working directory (i.e. /home/oracle/wkdir)

## Preparing the Environment

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To prepare the environment for using the SQLAccess Advisor, you perform the steps below. Materialized views and indexes can be present when the advisor is run, but for the purposes of this example they are removed so that you can see what the advisor will recommend. You need to also setup the cache so that the SQLAccess Advisor can generate some recommendations. Perform the following:

1. Open a terminal window and execute the following commands to clean up your environment:

```
sqlplus system/<password>
DROP MATERIALIZED VIEW all_cust_sales_mv;

DROP MATERIALIZED VIEW costs_mv;

DROP MATERIALIZED VIEW costs_pm_mv;

DROP MATERIALIZED VIEW cust_sales_mv;

DROP MATERIALIZED VIEW some_cust_sales_mv;

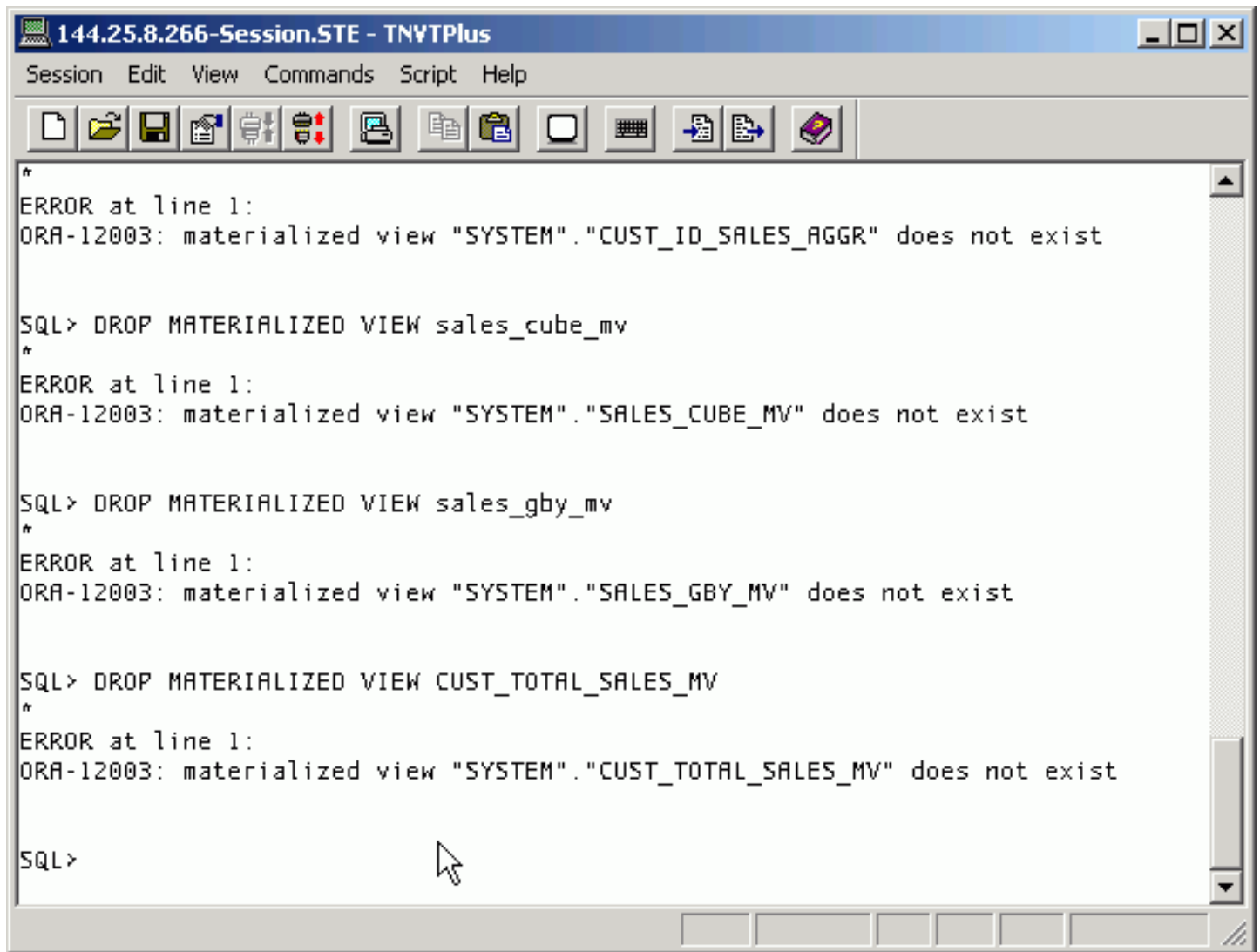
DROP MATERIALIZED VIEW cust_id_sales_aggr;

DROP MATERIALIZED VIEW sales_cube_mv;

DROP MATERIALIZED VIEW sales_gby_mv;

DROP MATERIALIZED VIEW CUST_TOTAL_SALES_MV;

DROP MATERIALIZED VIEW CUST_SALES_TIME_MV;
```



5. Now you need to create the cache. Execute the following commands:

```
alter system flush shared_pool;

grant advisor to sh;

connect sh/sh;

SELECT c.cust_last_name, sum(s.amount_sold) AS dollars,
sum(s.quantity_sold) as quantity
FROM sales s , customers c, products p
WHERE c.cust_id = s.cust_id
AND s.prod_id = p.prod_id
```

```

AND c.cust_state_province IN ('Dublin','Galway')

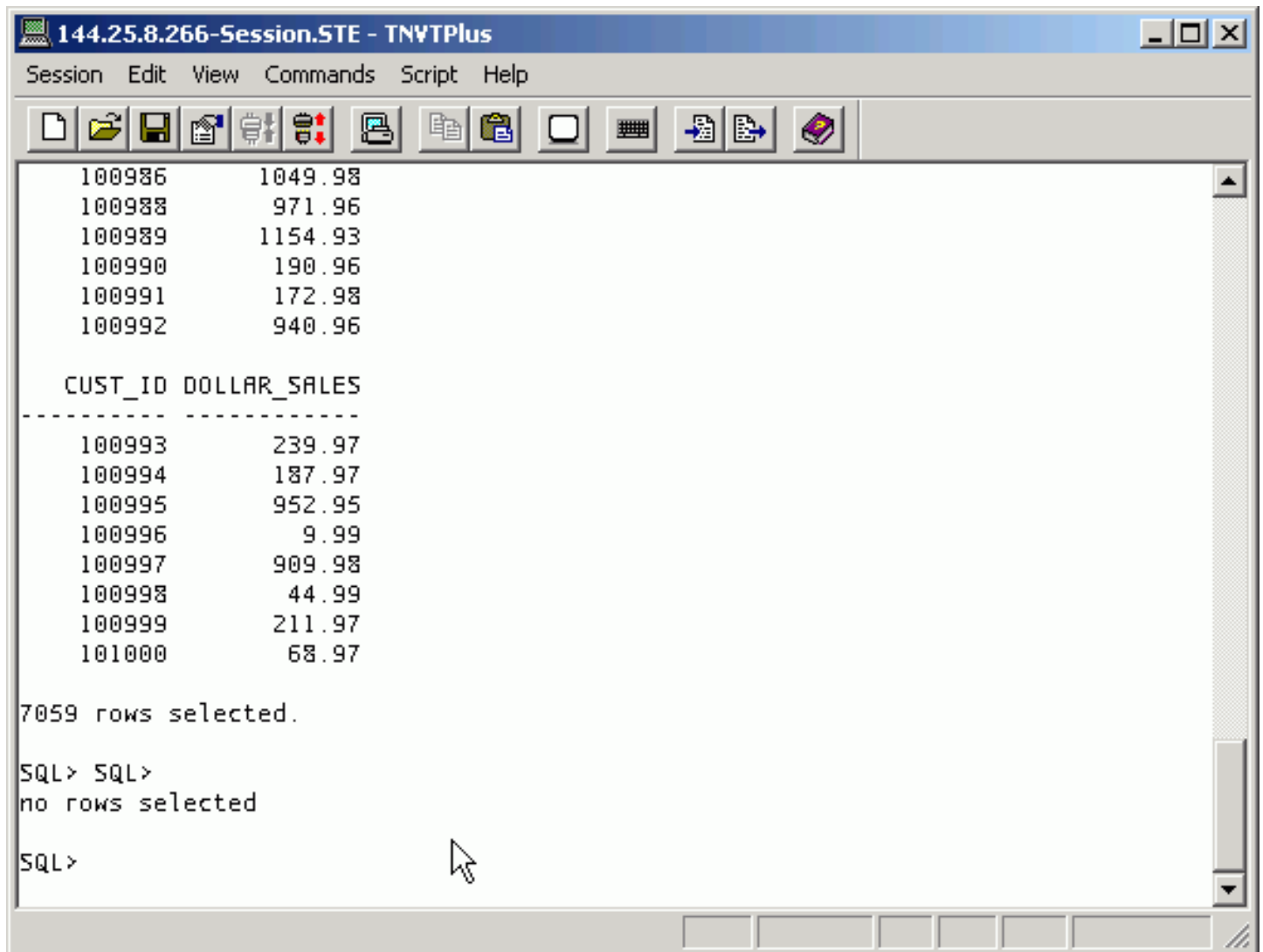
GROUP BY c.cust_last_name;

SELECT c.cust_id, SUM(amount_sold) AS dollar_sales

FROM sales s, customers c WHERE s.cust_id= c.cust_id GROUP BY c.cust_id;

select sum(unit_cost) from costs group by prod_id;

```



The screenshot shows a window titled "144.25.8.266-Session.STE - TNVTPlus". The window has a menu bar (Session, Edit, View, Commands, Script, Help) and a toolbar with various icons. The main area displays the results of a SQL query. The first part of the results shows a list of customer IDs and their dollar sales. The second part shows a table with headers CUST\_ID and DOLLAR\_SALES, followed by a list of customer IDs and their dollar sales. The third part shows the message "7059 rows selected." and the fourth part shows the message "SQL> SQL> no rows selected".

CUST_ID	DOLLAR_SALES
100986	1049.98
100988	971.96
100989	1154.93
100990	190.96
100991	172.98
100992	940.96
100993	239.97
100994	187.97
100995	952.95
100996	9.99
100997	909.98
100998	44.99
100999	211.97
101000	68.97

7059 rows selected.

SQL> SQL>  
no rows selected

SQL>

## Using the SQL Cache to Get Recommendations

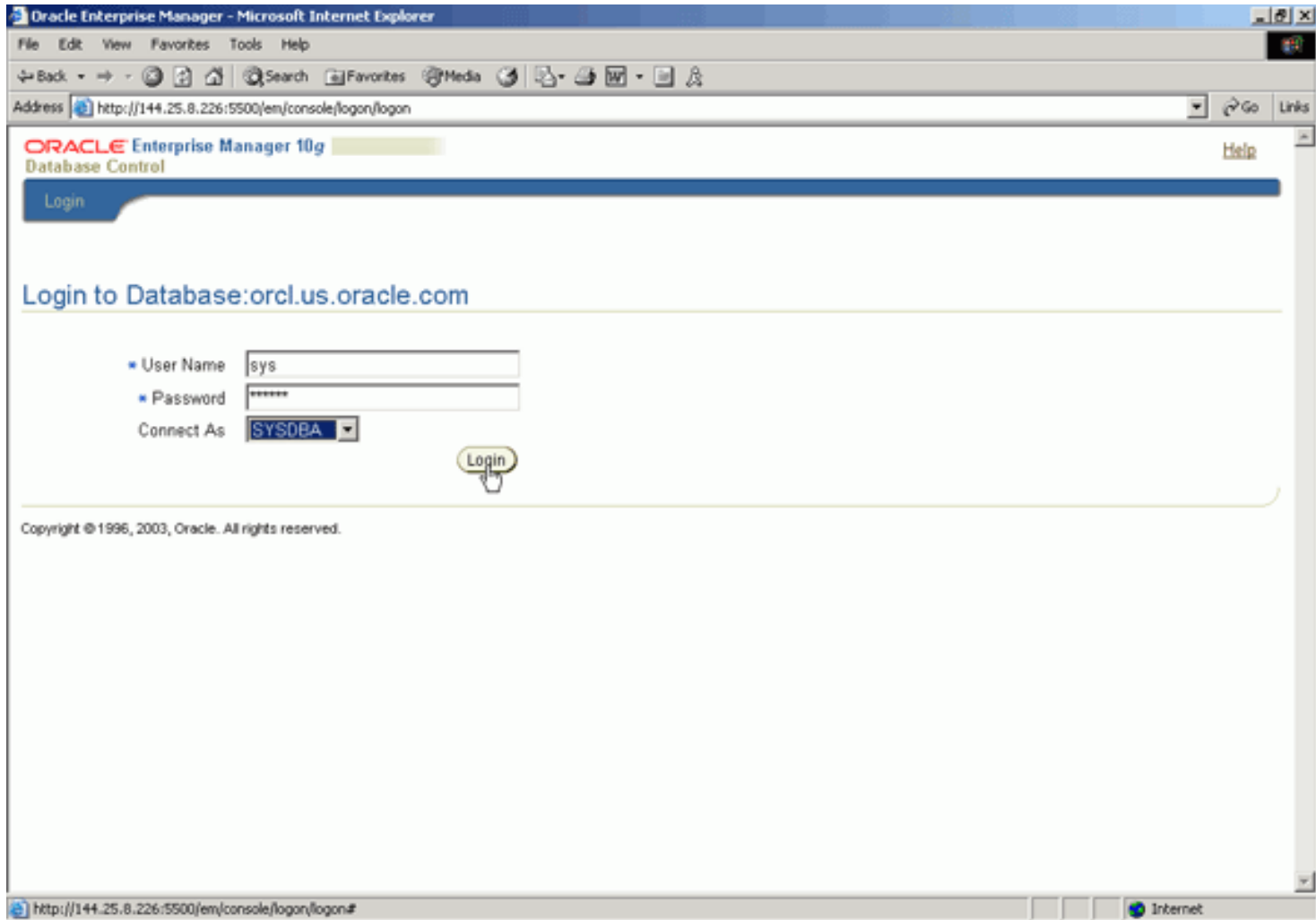
[Back to List](#)

You will use the SQL Cache you just setup to get some recommendations from the SQL Access Advisor. Perform the following:

1. Open your browser and enter the following URL:

`http://<hostname>:5500/em`

Enter **sys/<password>** as **SYSDBA** and click **Login** .



2. Scroll to the bottom of the Home page and click on **Advisor Central** under Related Links.

Oracle Enterprise Manager (SYS) - Database: orcl.us.oracle.com - Microsoft Internet Explorer

Address: [http://144.25.8.226:5500/em/console/database/instance/siteMap?event=doLoad&target=ord.us.oracle.com&type=oracle\\_database](http://144.25.8.226:5500/em/console/database/instance/siteMap?event=doLoad&target=ord.us.oracle.com&type=oracle_database)

Alerts

Severity	Category	Name	Message	Alert Triggered	Last Value	Time
Warning	User Audit	Audited User	User SYS logged on from EDCDR26P1	Jan 9, 2004 8:10:59 AM	0	Jan 9, 2004 8:10:59 AM

Related Alerts

Severity	Target Name	Target Type	Category	Name	Message	Alert Triggered	Last Value	Time
Warning	edcd26p1.us.oracle.com Host	Disk Activity	Disk Utilization (%)	Disk Utilization for hda is 97.82%	Disk Utilization for hda is 97.82%	Jan 8, 2004 11:19:52 AM	99.54	Jan 9, 2004 9:34:52 AM

Job Activity

Jobs scheduled to start no more than 7 days ago

Scheduled Executions: 0 Suspended Executions: 0 Problem Executions: 0

Running Executions: 0

Critical Patch Advisories

Warning: Patch Advisories: 0

Patch Advisory information may be stale. Oracle MetaLink refresh job has not run successfully in 72 hours.

Job: [RefreshFromMetalink](#)

Home | [Performance](#) | [Administration](#) | [Maintenance](#)

Related Links

[Advisor Central](#) | [Alert History](#) | [Alert Log Content](#)  
[All Metrics](#) | [Blackouts](#) | [iSQL\\*Plus](#)  
[Jobs](#) | [Manage Metrics](#) | [Metric Collection Errors](#)  
[Monitoring Configuration](#) | [User-Defined Metrics](#)

Database | [Setup](#) | [Preferences](#) | [Help](#) | [Logout](#)

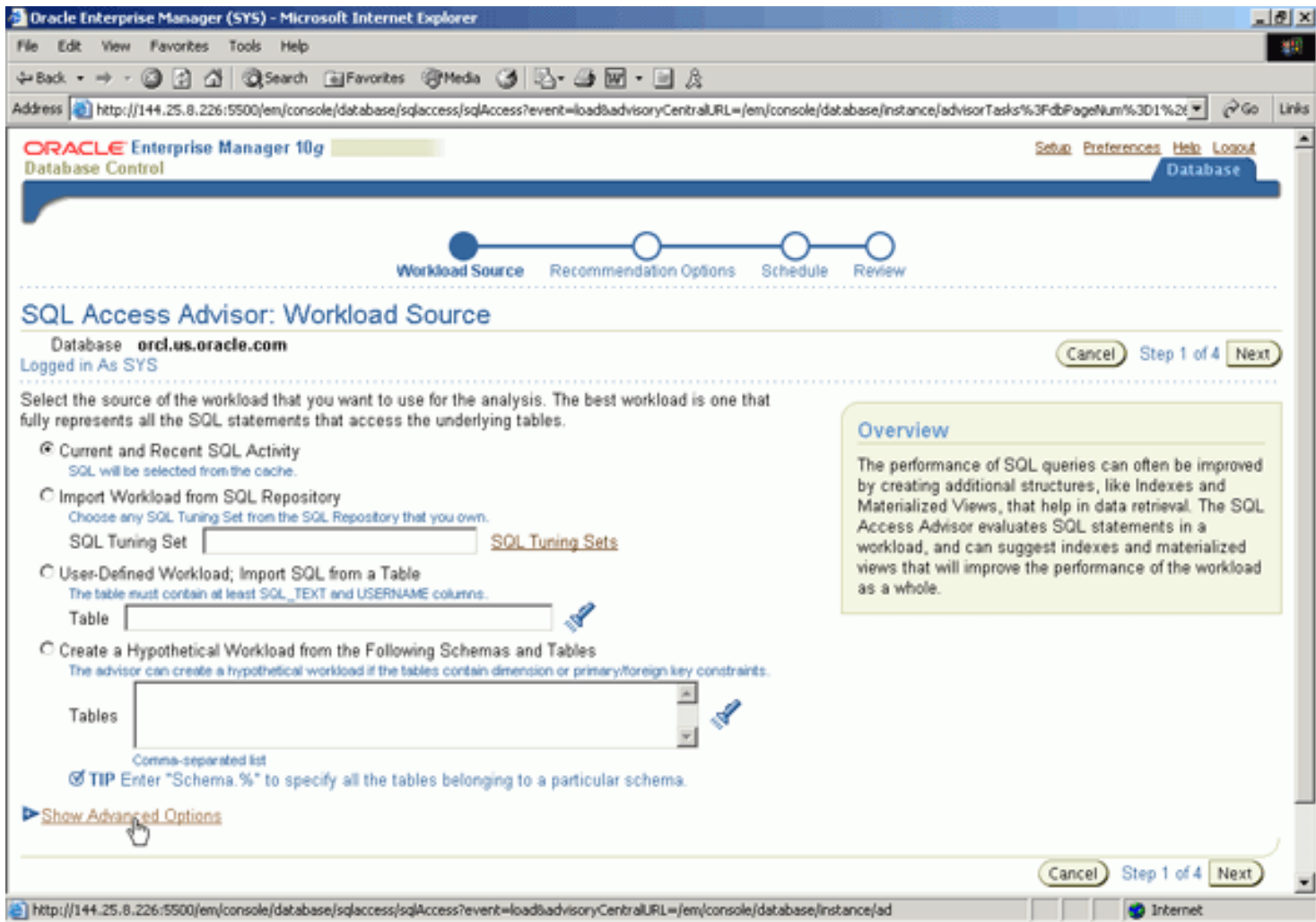
Address: [http://144.25.8.226:5500/em/console/database/instance/advisorTasks?event=doLoad&dbPageNum=1&target=ord.us.oracle.com&type=oracle\\_database](http://144.25.8.226:5500/em/console/database/instance/advisorTasks?event=doLoad&dbPageNum=1&target=ord.us.oracle.com&type=oracle_database)

3. Click on the **SQL Access Advisor** link.

The screenshot shows the Oracle Enterprise Manager 10g Database Control interface. The top navigation bar includes links for Setup, Preferences, Help, and Logout. The main content area is titled 'Advisor Central' and shows a list of advisors: ADDM, SQL Tuning Advisor, SQL Access Advisor, Memory Advisor, MTTR Advisor, Segment Advisor, and Undo Management. A 'Search' section allows filtering by advisory type and task name. Below the search, a table of results is displayed, showing a single task named 'ADDM:1042673101\_1\_48' with a status of 'COMPLETED'.

Select	Advisory Type	Name	Description	User	Status	Start Time	End Time	Expires In (days)
<input checked="" type="radio"/>	ADDM	ADDM:1042673101_1_48	ADDM auto run: snapshots [47, 48], instance 1, database id 1042673101	SYS	COMPLETED	Jan 9, 2004 9:31:03 AM	Jan 9, 2004 9:31:03 AM	30

- Make sure **Current and Recent SQL Activity** is checked and click on **Show Advanced Options** .



5. Scroll down. Under Filter Options, select **Filter workload based on these options** and check the filter **Only SQL statements executed by the following users** . Then enter **SH** in the Users field and click **Next** .



**Filter Options**

You can apply filters to reduce the scope of the statements found in the workload. This will allow you to direct the advisor to make recommendations based on a specific subset of statements from the workload. Module IDs and Actions are strings that can be associated with SQL statements via the DBMS\_APPLICATION\_INFO package to allow for better SQL statement identification and tuning.

☐ Evaluate Entire Workload

☒ Filter Workload Based on these Options

☒ Only the top resource consuming SQL statements

Number of Statements:  Order by:

☒ Only SQL statements executed by the following users

Users:  [Comma-separated list](#)

☐ Only SQL statements that access any of the following tables

Tables:  [Comma-separated list](#)

☐ Only SQL statements with any of the following identifiers

Module IDs:  [Comma-separated list](#)

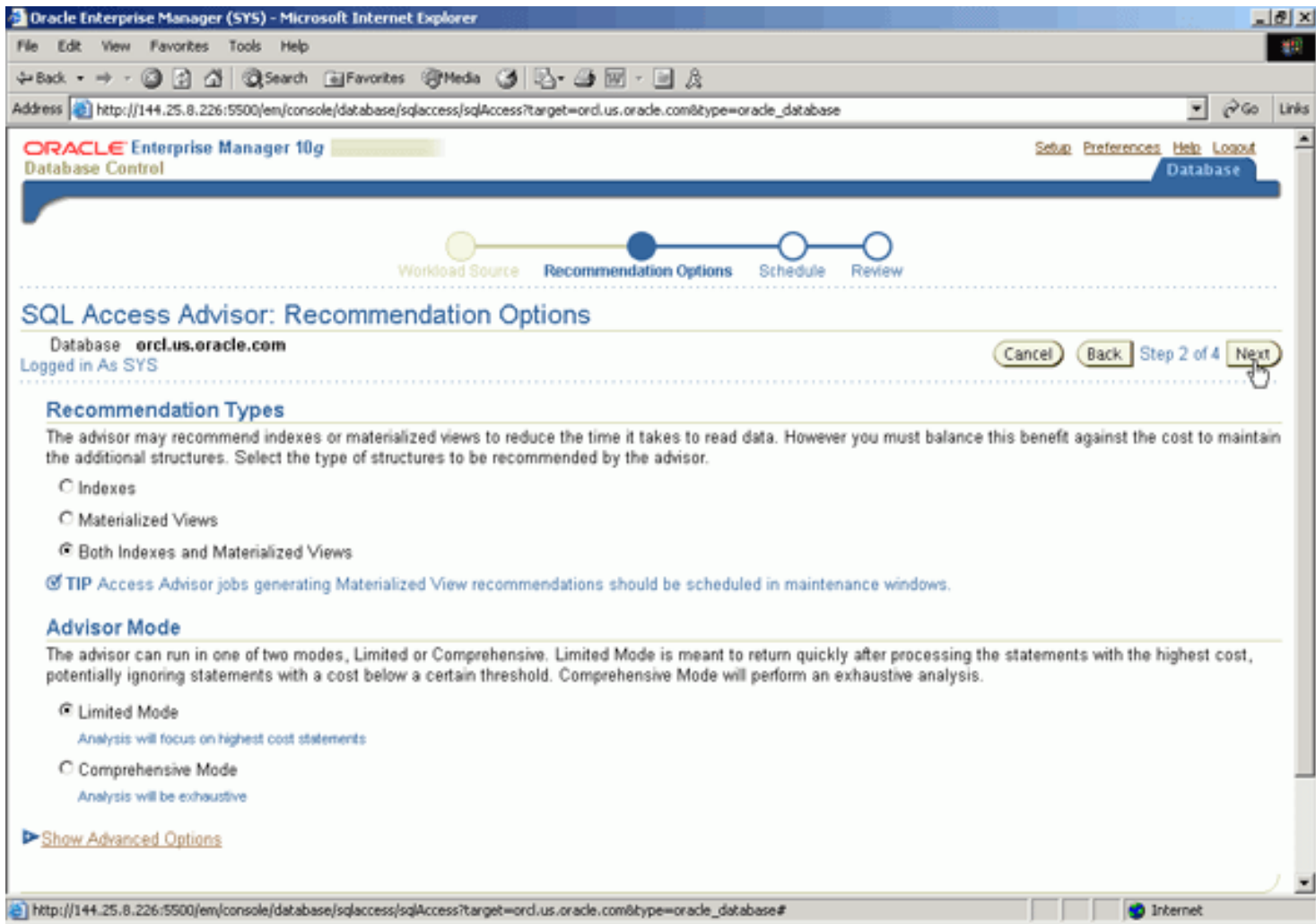
Actions:  [Comma-separated list](#)

[Cancel](#) [Step 1 of 4](#) [Next](#)

[Database](#) | [Setup](#) | [Preferences](#) | [Help](#) | [Logout](#)

[http://144.25.8.226:5500/em/console/database/sqlaccess/sqlAccess?target=ord.us.oracle.com&type=oracle\\_database#](#) Internet

6. Click **Both Materialized Views and Indexes** and click **Next** .



7. Enter the task name **OBE<Today's Date>** , select **Standard** for the Schedule Type and click **Next** .

Oracle Enterprise Manager (SYS) - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address [http://stc-sun01.us.oracle.com:5500/em/console/database/sqlaccess/sqlAccess?target=orcl.us.oracle.com&type=oracle\\_database](http://stc-sun01.us.oracle.com:5500/em/console/database/sqlaccess/sqlAccess?target=orcl.us.oracle.com&type=oracle_database) Go Links

ORACLE Enterprise Manager 10g Database Control

Setup Preferences Help Logout Database

Workload Source Recommendation Options **Schedule** Review

### SQL Access Advisor: Schedule

Database **orcl.us.oracle.com** Logged in As SYS

Cancel Back Step 3 of 4 **Next**

The Advisor Task will be scheduled to run immediately by default. You may choose to schedule the task to run at a later time. A database job will be submitted to complete this task. It will be named the same as the Task Name, with "ADV\_" prepended.

**Advisor Task Name**

\* Task Name

Task Description

**Scheduling Options**

Schedule Type

**Repeating**

Repeat

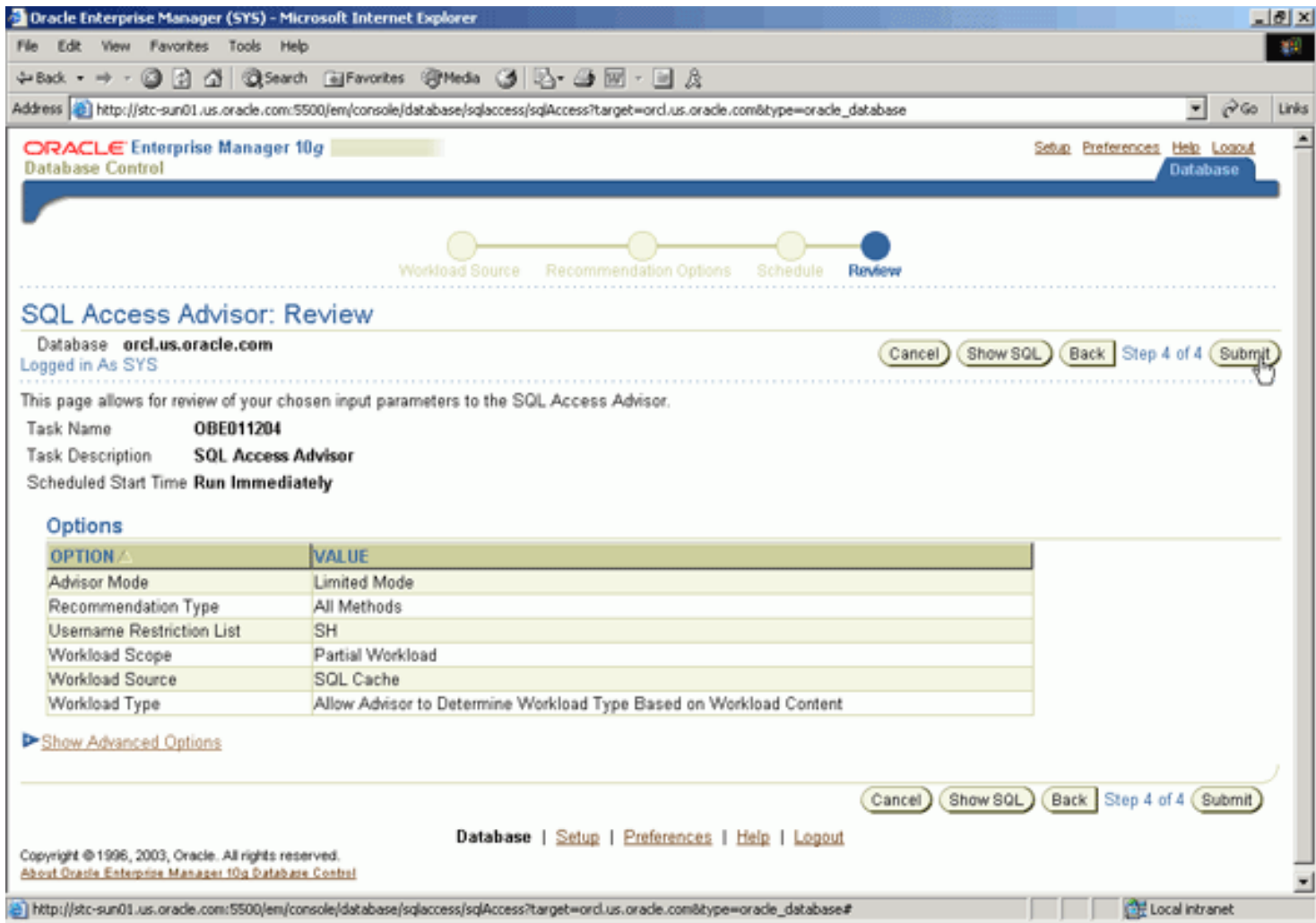
**Start**

☒ Immediately ☐ Later

Date

[http://stc-sun01.us.oracle.com:5500/em/console/database/sqlaccess/sqlAccess?target=orcl.us.oracle.com&type=oracle\\_database#](http://stc-sun01.us.oracle.com:5500/em/console/database/sqlaccess/sqlAccess?target=orcl.us.oracle.com&type=oracle_database#) Local intranet

8. At the summary window, click **Submit** .



## Reviewing and Implementing the Recommendations

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Now you can look at the results and implement them if you wish. Perform the following:

1. Make sure your job is selected and click **View Result**.

Oracle Enterprise Manager 10g Database Control

Database: orcl.us.oracle.com > Advisor Central

Logged in As SYS

**Confirmation**  
Advisor Task created successfully: OBE011204

Page Refreshed Jan 12, 2004 9:29:09 AM [Refresh](#)

**Advisors**

[ADDM](#) [Memory Advisor](#) [Segment Advisor](#)  
[SQL Tuning Advisor](#) [MTTR Advisor](#) [Undo Management](#)  
[SQL Access Advisor](#)

**Advisor Tasks** [Change Default Expiration](#)

**Search**  
Select an advisory type and optionally enter a task name to filter the data that is displayed in your results set.

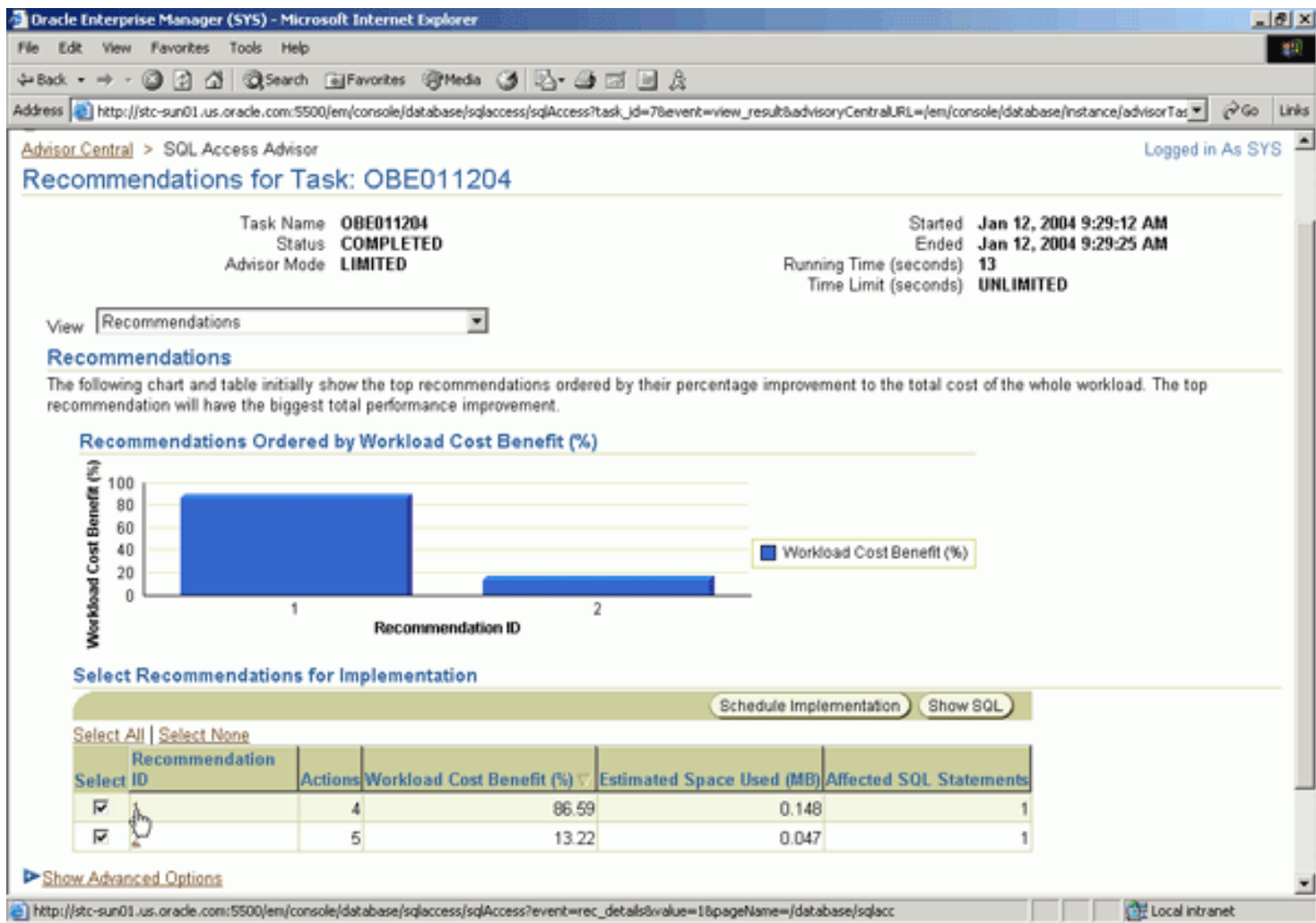
Advisory Type:  Task Name:  Advisor Runs:  [Go](#)

**Results**

[View Result](#) [Delete](#) [Actions](#) [Re-schedule](#) [Go](#)

Select	Advisory Type	Name	Description	User	Status	Start Time	End Time	Expires In (days)
<input checked="" type="radio"/>	SQL Access Advisor	OBE011204	SQL Access Advisor	SYS	CREATED	Jan 12, 2004 9:29:07 AM		30

2. Click on the Recommendation ID 1 to see the details of the Recommendations.



- Here you can customize the Object Name, Schema and Tablespace to implement the recommendations. Scroll down and change the Schema Name for the Create Materialized View to **SH** and click **OK**.

Oracle Enterprise Manager - SQL Access Advisor: Edit Actions - Microsoft Internet Explorer

Address: http://stc-sun01.us.oracle.com:5500/em/console/database/sqlaccess/sqlAccess?event=rec\_details&value=1&pageName=/database/sqlaccess/reviewRec&target=ord.us.oracle

ORACLE Enterprise Manager 10g Database Control

Advisor Central > SQL Access Advisor

Logged in As SYS

### Recommendation: 1

The Actions table lists the actions of the selected recommendation. You may change the values of any of the editable fields. If you edit any name, dependent names, which are shown as readonly, will be updated accordingly. If the Tablespace field is left blank the default tablespace of the schema will be used. When you click OK, the SQL script is modified, but it is not actually executed until you select 'Schedule Implementation' on the Recommendations page.

Cancel OK

#### Actions

Action	Object Name	Index Object Table	Schema	Tablespace
CREATE MATERIALIZED VIEW LOG		"SH"."CUSTOMERS"	"SH"	
CREATE MATERIALIZED VIEW LOG		"SH"."SALES"	"SH"	
CREATE MATERIALIZED VIEW	"MV\$\$_00070002"		"SH"	
GATHER TABLE STATISTICS	"MV\$\$_00070002"		"SYS"	

#### SQL Affected by Recommendation

Statement ID	Statement	Workload Cost Benefit (%)	Original Cost	New Cost	SQL Cost Benefit (%)	Execution Count
1	SELECT c.cust_id, SUM(amount_sold) AS dollar_sales FROM sales s, customers c WHERE s.cust_id = c.cust_id GROUP BY c.cust_id	86.59	5639	7	99.88	1

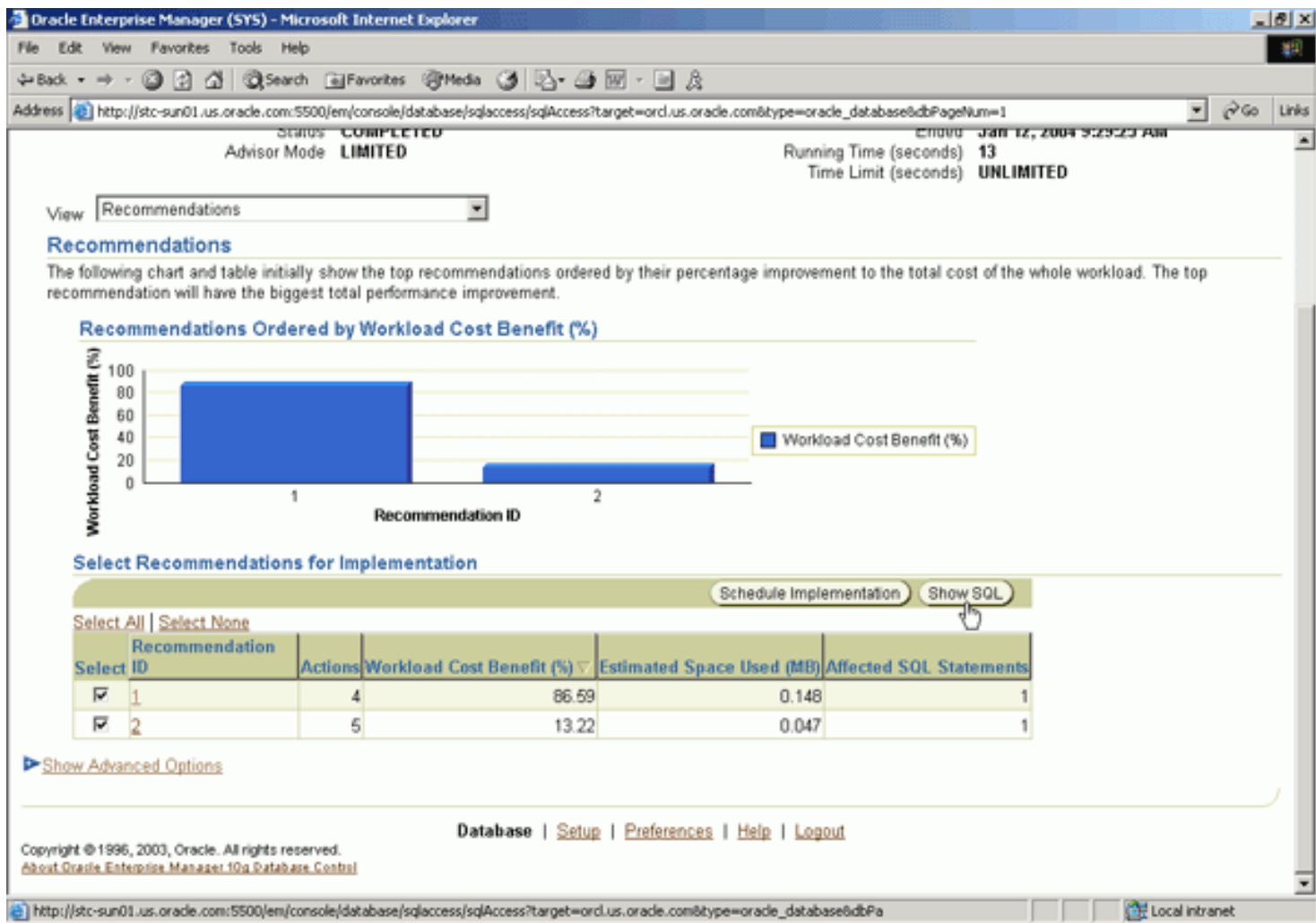
Cancel OK

Database | Setup | Preferences | Help | Logout

http://stc-sun01.us.oracle.com:5500/em/console/database/sqlaccess/sqlAccess?event=rec\_details&value=1&pageName=/database/sqlacc Local intranet

- To see the SQL Script that will be executed when you schedule the implementation, click **Show SQL**.





5. Scroll down to the bottom and you will see the statements to create the materialized view with the change you just made. Click **OK**.



```

INCLUDING NEW VALUES;

CREATE MATERIALIZED VIEW "SH"."MV$$_00070002"
REFRESH FAST WITH ROWID
ENABLE QUERY REWRITE
AS SELECT SH.SALES.CUST_ID C1, SUM("SH"."SALES"."AMOUNT_SOLD") M1, COUNT("SH"."SALES"."AMOUNT_SOLD")
M2, COUNT(*) M3 FROM SH.CUSTOMERS, SH.SALES WHERE SH.SALES.CUST_ID = SH.CUSTOMERS.CUST_ID
GROUP BY SH.SALES.CUST_ID;

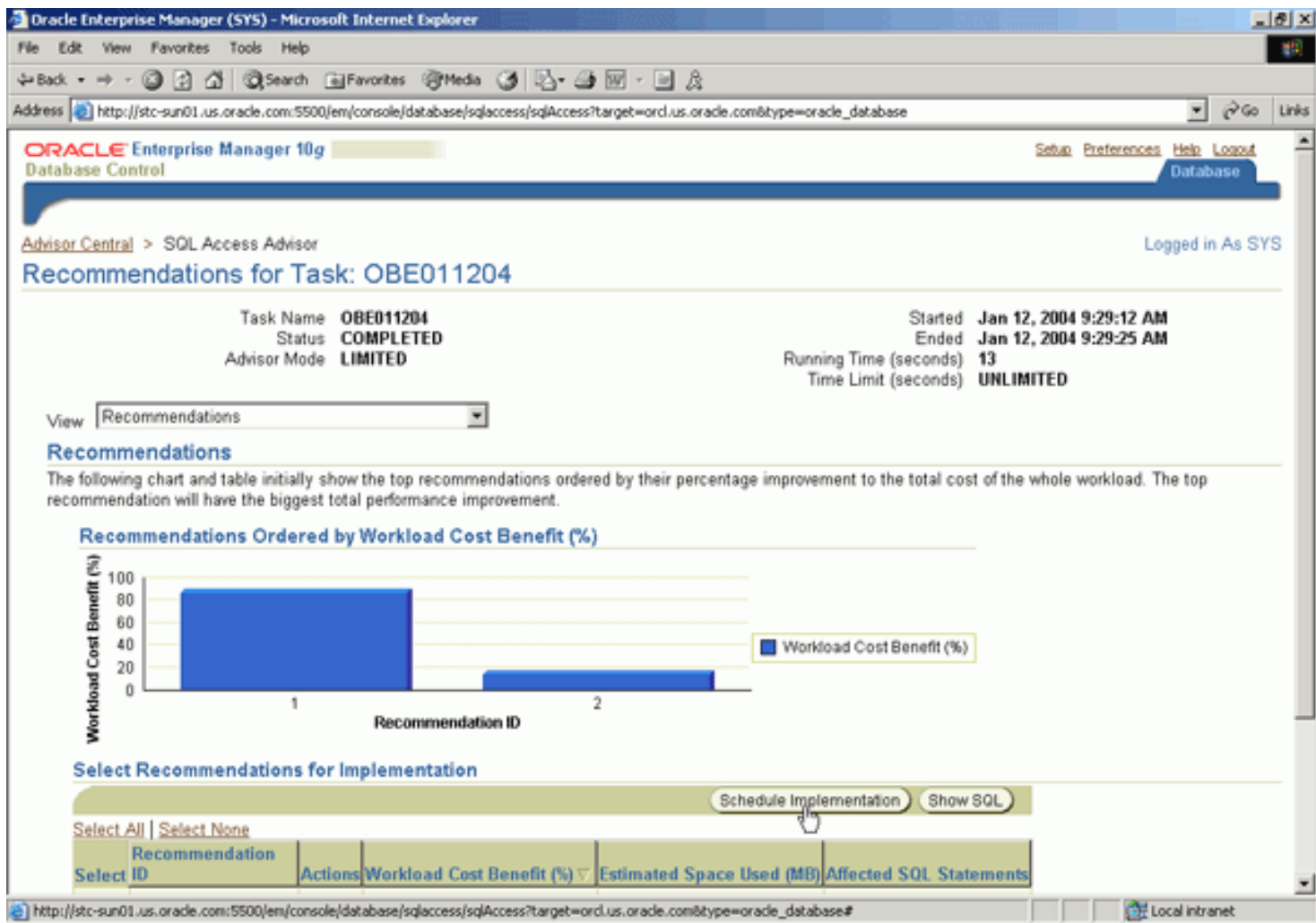
begin
dbms_stats.gather_table_stats("SH", "MV$$_00070002", NULL, dbms_stats.auto_sample_size);
end;
/

CREATE MATERIALIZED VIEW "SYS"."MV$$_00070003"
REFRESH FAST WITH ROWID
ENABLE QUERY REWRITE
AS SELECT SH.CUSTOMERS.CUST_STATE_PROVINCE C1, SH.CUSTOMERS.CUST_LAST_NAME C2, SUM
("SH"."SALES"."AMOUNT_SOLD")
M1, COUNT("SH"."SALES"."AMOUNT_SOLD") M2, SUM("SH"."SALES"."QUANTITY_SOLD")
M3, COUNT("SH"."SALES"."QUANTITY_SOLD") M4, COUNT(*) M5 FROM SH.CUSTOMERS,
SH.PRODUCTS, SH.SALES WHERE SH.SALES.CUST_ID = SH.CUSTOMERS.CUST_ID AND
SH.SALES.PROD_ID = SH.PRODUCTS.PROD_ID AND (SH.CUSTOMERS.CUST_STATE_PROVINCE
IN ('Galway', 'Dublin')) GROUP BY SH.CUSTOMERS.CUST_STATE_PROVINCE, SH.CUSTOMERS.CUST_LAST_NAME;

begin
dbms_stats.gather_table_stats("SYS", "MV$$_00070003", NULL, dbms_stats.auto_sample_size);
end;
/

```

6. To implement the recommendations, click **Schedule Implementation**.



7. Enter **OBEIMPL<today's date>** for the Job Name and click **Submit** .

Oracle Enterprise Manager 10g Database Control

Advisor Central > SQL Access Advisor

Schedule Implementation

This page allows for the scheduling of the script that contains the recommendations you have chosen to accept from the SQL Access Advisor. The implementation script will be submitted and run as a job. You may change the job name and description.

Job Name: OBEIMPL011204

Schedule

Because the implementation script is run within a job you may schedule it to run immediately or at a later date and time.

Time Zone: GMT-12:00

Start

☒ Immediately

☐ Later

Date: Jan 12, 2004

Time: 9:30:00 AM

Cancel Show SQL Submit

Database | Setup | Preferences | Help | Logout

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About Oracle Enterprise Manager 10g Database Control

8. Your implementation job was created and is now running. Click the **Run History** tab.

Oracle Enterprise Manager (SYS) - Scheduler Jobs - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address [http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/jobs?sname=SYS&pageName=running&sname=OBEIMPL011204&event=create\\_ok&target=ord.us.or](http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/jobs?sname=SYS&pageName=running&sname=OBEIMPL011204&event=create_ok&target=ord.us.or) Go Links

ORACLE Enterprise Manager 10g Database Control

Setup Preferences Help Logout Database

Database: orcl.us.oracle.com > Scheduler Jobs Logged in As SYS

**Confirmation**  
Job SYS.OBEIMPL011204 has been created successfully

**Scheduler Jobs**

Page Refreshed Jan 12, 2004 9:34:57 AM Refresh Create

Scheduled Running Disabled Run History

Edit View Stop Delete

Select	Name	Owner	Start Date	Elapsed Time (seconds)	CPU Used (seconds)	Session ID	Resource Consumer Group	Previous Runs
<input checked="" type="radio"/>	OBEIMPL011204	SYS	Jan 12, 2004 5:34:52 AM -12:00	4.43	0	136		0

Scheduled Running Disabled Run History

Database | Setup | Preferences | Help | Logout

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[About Oracle Enterprise Manager 10g Database Control](#)

<http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/jobs?pageName=history&target=ord.us.oracle.com&type=orac> Local intranet

9. Make sure your job is selected and click **View** .

Oracle Enterprise Manager (SYS) - Scheduler Jobs - Microsoft Internet Explorer

Address: [http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/jobs?pageName=history&target=orcl.us.oracle.com&type=oracle\\_database](http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/jobs?pageName=history&target=orcl.us.oracle.com&type=oracle_database)

ORACLE Enterprise Manager 10g Database Control

Database: orcl.us.oracle.com > Scheduler Jobs

Logged in As SYS

Page Refreshed Jan 12, 2004 9:35:48 AM

[Refresh](#) [Create](#)

[Scheduled](#) [Running](#) [Disabled](#) [Run History](#)

[Purge All Logs](#) [View](#) [Purge Log](#)

Select	Name	Owner	Status	Completion Date	Run Duration (minutes)
<input checked="" type="radio"/>	<a href="#">OBEIMPL011204</a>	<a href="#">SYS</a>	SUCCEEDED	Jan 12, 2004 9:35:29 AM -08:00	0.61
<input type="radio"/>	<a href="#">ADV_OBE011204</a>	<a href="#">SYS</a>	SUCCEEDED	Jan 12, 2004 9:29:25 AM -08:00	0.28
<input type="radio"/>	<a href="#">PURGE_LOG</a>	<a href="#">SYS</a>	SUCCEEDED	Jan 12, 2004 7:28:31 AM -08:00	0.03
<input type="radio"/>	<a href="#">PURGE_LOG</a>	<a href="#">SYS</a>	SUCCEEDED	Jan 4, 2004 4:02:03 PM -08:00	0.01

[Scheduled](#) [Running](#) [Disabled](#) [Run History](#)

Database | [Setup](#) | [Preferences](#) | [Help](#) | [Logout](#)

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[About Oracle Enterprise Manager 10g Database Control](#)

Address: [http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/jobs?pageName=history&target=orcl.us.oracle.com&type=oracle\\_database](http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/jobs?pageName=history&target=orcl.us.oracle.com&type=oracle_database) Local intranet

Review the summary and click your **database** breadcrumb .

10.

The screenshot shows the Oracle Enterprise Manager 10g Database Control interface in a Microsoft Internet Explorer browser. The page title is "Oracle Enterprise Manager (SYS) - View Job: SYS.OBEIMPL011204". The browser address bar shows the URL: [http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/job?pname=SYS&event=view&name=OBEIMPL011204&target=ord.us.oracle.com&type=oracle\\_dat](http://stc-sun01.us.oracle.com:5500/em/console/database/instance/schr/job?pname=SYS&event=view&name=OBEIMPL011204&target=ord.us.oracle.com&type=oracle_dat).

The page is titled "View Job: SYS.OBEIMPL011204" and is logged in as SYS. It features three main tabs: General, Schedule, and Options.

**General Tab:**

- Name: OBEIMPL011204
- Owner: SYS
- Enabled: FALSE
- Description:
- Logging Level: Log job runs only (RUNS)
- Job Class: DEFAULT\_JOB\_CLASS
- Auto Drop: FALSE
- Restartable: FALSE

**Schedule Tab:**

- Repeat: Do Not Repeat
- Start Date: Jan 12, 2004 5:34:52 AM GMT -12:00

**Options Tab:**

- Priority: Medium
- Schedule Limit (minutes):
- Maximum Runs:
- Maximum Failures:
- Job Weight: 1
- Instance Stickiness: TRUE

**Command Tab:**

Command Type: PL/SQL Block

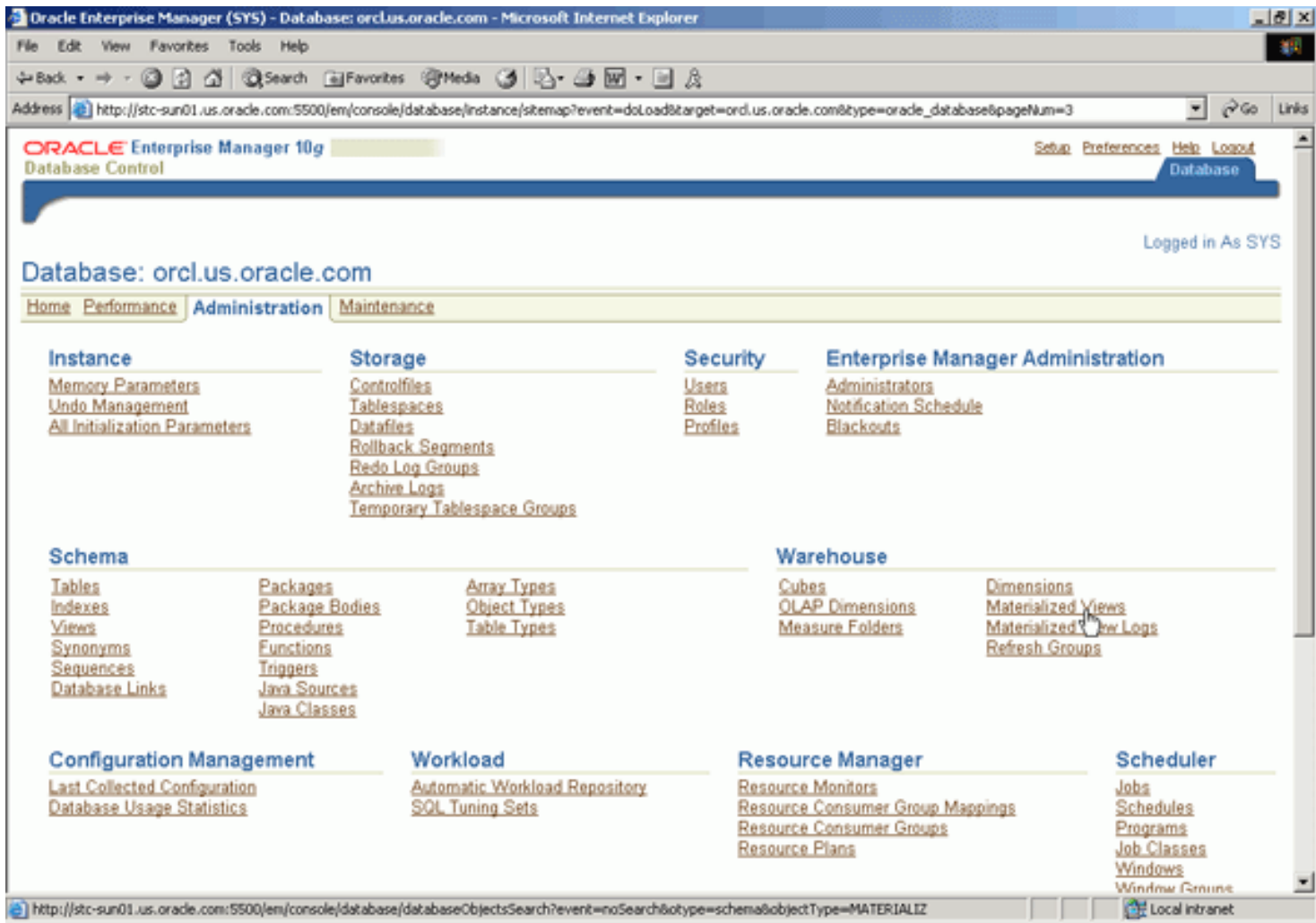
```
PL/SQL DECLARE

    taskname varchar2(30);

BEGIN
    taskname := 'OBE011204';
    dbms_advisor.implement_task(taskname);
END;
```

Click **Materialized View** from the Administration tab.

11.



Enter **HR** in the schema field and click **Go** .

12.



Oracle Enterprise Manager (SYS) - Materialized Views - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address [http://stc-sun01.us.oracle.com:5500/em/console/database/databaseObjectsSearch?event=noSearch&otype=schema&objectType=MATERIALIZED\\_VIEW&target=ord.us.oracle](http://stc-sun01.us.oracle.com:5500/em/console/database/databaseObjectsSearch?event=noSearch&otype=schema&objectType=MATERIALIZED_VIEW&target=ord.us.oracle) Go Links

ORACLE Enterprise Manager 10g Database Control

Setup Preferences Help Logout

Database

Database: [orcl.us.oracle.com](http://stc-sun01.us.oracle.com:5500/em/console/database/databaseObjectsSearch?event=noSearch&otype=schema&objectType=MATERIALIZED_VIEW&target=ord.us.oracle) > Materialized Views

Logged in As SYS

## Materialized Views

### Search

Select an object type and optionally enter a schema name and an object name to filter the data that is displayed in your results set.

Object Type: Materialized View Schema: sh Object Name:  Go

To run an exact match search or to run a case sensitive search, double quote the search criteria. The wildcard (%) symbol can still be used in a double quoted search string.

### Results

Create

Select Schema	Materialized View(Snapshot)	Master Owner	Master Table	Master Link	Type	Updatable	Can Use Log	Last Refresh
No search conducted								

Database | Setup | Preferences | Help | Logout

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[About Oracle Enterprise Manager 10g Database Control](#)

http://stc-sun01.us.oracle.com:5500/em/console/database/databaseObjectsSearch?event=noSearch&otype=schema&objectType=MATERIALIZED Local intranet

13. Notice that the newly created Materialized View appears in the list. Click the **Database** breadcrumb then click the **Home** tab.



Oracle Enterprise Manager (SYS) - Materialized Views - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print Mail

Address http://stc-sun01.us.oracle.com:5500/em/console/database/databaseObjectsSearch?target=orcl.us.oracle.com&type=oracle\_database&otype=schema Go Links

ORACLE Enterprise Manager 10g Database Control Setup Preferences Help Logout Database

Database: orcl.us.oracle.com > Materialized Views Logged in As SYS

## Materialized Views

### Search

Select an object type and optionally enter a schema name and an object name to filter the data that is displayed in your results set.

Object Type Schema Object Name

Materialized View SH Go

To run an exact match search or to run a case sensitive search, double quote the search criteria. The wildcard (%) symbol can still be used in a double quoted search string.

### Results

Create Edit View Delete Actions Create Like Go

Select	Schema	Materialized View(Snapshot)	Master Owner	Master Table	Master Link	Type	Updatable	Can Use Log	Last Refresh
<input checked="" type="radio"/>	SH	<a href="#">CAL_MONTH_SALES_MV</a>	SH	TIMES		FORCE	NO	YES	2004-01-12 07:34:19
<input type="radio"/>	SH	<a href="#">FWEEK_PSCAT_SALES_MV</a>	SH	PRODUCTS		FORCE	NO	YES	2004-01-12 07:34:20
<input type="radio"/>	SH	<a href="#">MV\$\$_00070002</a>	SH	SALES		FAST	NO	YES	2004-01-12 09:34:55

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Local intranet

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