

MyOra 6.0

SQL Tool for Oracle

User Guide

Last updated January 13, 2017

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Features

SQL Editor	- Executes SQL statements, SQL scripts and PL/SQL blocks.
Schema Explorer	- Explores Database objects.
Session Manager	- Shows information about Sessions.
Space Manager	- Shows utilized and free Tablespace using pie charts. Shows objects in each Tablespace.
User Manager	- Shows Profiles, Users, Roles and Privileges.
SGA Display	- Shows information about SQL statements.
Instance Details	- Shows Oracle parameters and buffers using pie chart.
Server Statistics	- System Statistics and system wait time.
Performance Monitor	- Shows Oracle performance using graphs, bar charts & pie charts.
System Waits	- Shows Session level and System wide waits in the database using pie charts.
Top 5 SQL	- Shows Top 5 Sqls in four categories using interactive 3-D bar charts.
Server Tuning	- Shows Physical i/o, Logical i/o and CPU, Elapse Time of all SQLs.
Top 5 Resource	- Shows Top 5 Resource Usage sessions in four categories using interactive 3-D bar charts.
Resource Usage	- Shows Resources used at Session level and System wide.
Text Editor	- Simple Text Editor to view result data files.
DB Activity	- Shows database activity in real time using interactive graphs (Logical I/O, Physical I/O, Event Waits, Latches etc..)
Wait Analysis	- Shows mostly Wait Classes, CPU Usage, Events, Objects, Sessions and SQL statements...
Top Ten SQL	- Shows Top Ten SQLs in nine different categories using interactive 2-D / 3-D pie charts
Blockers Waiters	- Shows Session Blockers, Session Waiters, Locks and Long Running Queries.

MyOra is built on Multithreading, Multiple Document Interface (MDI) framework, which can handle multiple sub-windows opened at the same time. MyOra allows multiple connections to the same database or different database. MyOra's MDI framework provides most easy to use and easy to manage user interface when working with multiple sub-windows. Sub-windows can be arranged and viewed vertically or horizontally. Any sub-window can be minimized, maximized or closed at the click of a button.

MyOra's MDI framework allows to monitor performance of multiple databases same time. Also, users can run SQL queries while monitoring the database. Up to maximum of 100 sub-windows can be opened at the same time. These sub-windows are of any combination Performance Monitor, Schema Explorer, Session Monitor and SQL Editors, etc....

For Example: Users can open two Schema Explorers and view vertically or horizontally. One Schema Explorer for SCOTT@DBDEV and the other Schema Explorer for SYSTEM@DBPROD.

Connecting to the Database

Login

MyOra can connect to database using three different connection modes: The connection modes are Basic, TNS Names and JDBC URL.

To Login to the database

1. On the toolbar, click the icon  .
OR
On the **File** menu, click **New Connection**
2. Database Login popup window is displayed.
3. On Database Login popup window, enter Connection Name (optional), User Name, Password and Connection Type (NORMAL, SYSDBA and SYSOPER).
4. Click one of three Connection mode **Tabs** and enter data. If you enter data in more than one tab will results in an error message.

a. Basic mode:

Basic mode connection do not require any Oracle client software on local computer.

- Enter 'localhost' in **Hostname** field, if Oracle database resides on the same machine.
Enter 'Server name' in **Hostname** field, if database resides on another machine.
- Enter 1521 in **Port** field.
- Enter 'database name' in **Database Name (SID)** or **Database Name (Service Name)** field.

Example 1: If you are connecting to the database MYDEV located on your Personal Computer then, enter:

Hostname: localhost

Port: 1521

Database Name (SID): MYDEV

Example 2: If you are connecting to the database WORKDB located on server SRVR01 then, enter:

Hostname: SRVR01

Port: 1521

Database Name (SID): WORKDB

Example 3: If WORKDB database has service name WORKDB.SALES, then enter:
Hostname: SRVR01
Port: 1521
Database Name (Service Name): WORKDB.SALES

b. TNS Names mode:

MyOra can connect to Oracle database using tnsnames.ora file. This file normally resides in the \$ORACLE_HOME\network\admin\ directory.

- Enter database name in **Database** field.
- Enter file path of tnsnames.ora file in **Tnsnames File** field.

Example: Sample tnsnames.ora file path in windows based system is shown below.
C:\OraHome\network\admin

c. JDBC URL mode:

MyOra can connect to Oracle directly using JDBC URL string.

- Enter connection string in **JDBC URL** field.

Example:
jdbc:oracle:thin:@localhost:1521:MYDEV
jdbc:oracle:thin:@ServerName:1521:WORKDB

ServerName = Name of the database server.

New **SQL Editor** Window opens after successful login.

Login History

MyOra stores history of logins to the database using Connection Names. Every login to the database is identified by unique Connection Name. All previous Connection Names are available in Login History Grid for quick login.

To Login to the database using Login History

1. On the toolbar, click the icon  .
OR
On the **File** menu, click **New Connection**.
2. On Database Login popup window. Click the desired connection row.
 - a. User Name, Connection Type (NORMAL, SYSDBA and SYSOPER) and Connect mode tab are populated.
3. Click Connect button.

Connection Indicator

Connection Indicator field is located on top right corner of MyOra screen. This field shows User Name and Database of the current connection. The Connection Indicator field is a List box (dropdown) field which contains all MyOra unique connections to database(s).

Example 1: If User SCOTT has login to DBTEST and DBQA databases, User SYSTEM has login to SALESDB and HRDB, then Connections Indicator list box contains SCOTT@DBTEST, SCOTT@DBQA, SYSTEM@SALESDB and SYSTEM@HRDB.

Using **Connection Indicator** field you can choose required connection and then open different features (like Schema Explorer, Session Manager, etc...).

The following example will show how Connection Indicator is useful when multiple MyOra connections exist.

Example 2: If User SCOTT is already login to DBTEST and DBPROD databases and currently working with **SQL Editor(s)**. If SCOTT wants to open a Schema Explorer for DBTEST, then SCOTT must choose SCOTT@DBTEST connection from the dropdown list and click Schema Explorer icon .

Closing the Connection

Connection Close icon  allows you to close the database connection for a selected connection from Connection Indicator dropdown list. The connection to a database will be closed only after closing all features (Schema Browser, Session Manager etc...) for that connection. A pop up message will be displayed, if you try to close the database connection when an open feature still exists.

SQL Editor

The SQL Editor lets you do the following

- Write and execute SQL statements.
- SQL syntax highlighting.
- Open and execute the script file.
- Save SQL Statements to a file.
- View History of SQL statements.
- View result data in vertical format (Single Record view).
- Export result data grid to a Text file or CSV file.
- Run PL/SQL blocks and view DBMS.PUT_LINE statements in DBMS output.
- Run multiple SQL statements as script.
- Recalls previously run SQL Statements.
- Explains execution plan of SQL statement.
- Shows statistics of the SQL execution.

The SQL Editor also has other features

- Invoke multiple Table Describe popup windows.
- Invoke Tables & Views Tree popup window.
- Invoke Table Auto completion popup.
- Invoke Column Auto completion popup, if the tables are qualified in SQL statement.
- Shows SQL Execution Indicator icons  or  in SQL Editor's left margin.
- Scans SQL statements for bound variables and asks for input values before execution.
- Displays the result row count in the status bar of the editor.
- Shows statistics of the SQL statement.
- Sorts the result data by column.

SQL Execution indicator

Execution Indicator is shown in the margin area of **SQL Editor** at the first line of SQL statement.

1. The icon  turns green, if the statement is executed successfully.
2. The icon  turns red, if an error occurs during execution.

Executing SQL statements

SQL statements can be executed in three different modes, Single Statement Mode, Current Statement Mode and Script Mode. Semicolon (;) at end of each SQL statements is not required.

A. Single Statement Mode:

1. Write SQL statement in the **SQL Editor** window.
2. Click the icon  to execute the statement.

3. In this mode the entire **SQL Editor** window is read as one SQL statement.
4. The icon  turns green, if the statement has executed successfully.
5. The icon  turns red, if an error occurs during execution.

B. Current Statement Mode:

1. Write multiple SQL statements in the **SQL Editor** window separated by a **blank line**.
2. Place the cursor anywhere on the preferred SQL statement.
3. Click the icon  to execute the statement.
4. In this mode the current SQL statement is read and processed for execution.
5. The icon  turns green, if the statement has executed successfully.
6. The icon  turns red, if an error occurs during execution.

C. Script Mode:

1. Write multiple SQL statement in the **SQL Editor** window separated by **slash '/'**.
2. Click the icon  to execute the script.
3. Result of each SQL statement is written to the **Output Tab**.
4. If an error occurs at any SQL statement, then a message will prompt you to **Continue** or **Skip** the error or **Cancel**.

Result Data Navigation buttons

Four result data navigation buttons **First**, **Next**, **Previous** and **Last** are located above the Result grid for easy access of the result rows. These buttons are also used in Single Record tab.

To navigate on Result data set:

1. Click  icon to advance on row.
2. Click  icon to go to last row.
3. Click  icon to go to previous row.
4. Click  icon to go to first row.

To view Result data in vertical mode:

1. Click **Single Record** tab.
2. Click  icon to advance on row.
3. Click  icon to go to last row.
4. Click  icon to go to previous row.
5. Click  icon to go to first row.

Result Data grid Data/Time format

The default Date format for Result Data grid is DD-Mon-YYYY. You can use Options window (Navigate to Tools -> Options) to change the default settings.

The available Date/Time formats are

DD-Mon-YYYY
DD/MM/YYYY
MM/DD/YYYY
YYYY-MM-DD
YYYY/MM/DD
YYYY-MM-DD HH:MI:SS AM
YYYY-MM-DD HH24:MI:SS
YYYY/MM/DD HH:MI:SS AM
YYYY/MM/DD HH24:MI:SS
HH:MI:SS AM
HH24:MI:SS

Export Result data

Result data can be saved to Text file or CSV file.

To save result data to a file:

1. Right click anywhere on the result data grid.
2. A popup menu appears with items **Save to Text file** and **Save to CSV file**.
3. Click the preferred item.
4. Enter filename in save popup and click the Save.

Note: The exported data to the text file can be best view using any 'Text Editor' software with Courier (Regular) font size 10.

Describe

Tables and Views can be described in the SQL Editor window.

To describe a Table or View do the following:

1. Place the cursor on table (or view or synonym), right click for pop-up menu, click **Describe**.
OR
Place the cursor on table (or view or synonym), click **SQL Editor** menu, click **Describe**.

OR

Place the cursor on table (or view or synonym), on the toolbar, click the icon .

2. A popup window is displayed with column names and column size.
3. This window has multiple tabs with information on Index, Script, Triggers, Constraints, Privileges, etc.
4. Multiple **Describe** popup windows can be displayed.

To add a column from the Describe window to the **SQL Editor**

1. Position and click the cursor at the preferred location on the **SQL Editor**.
2. Double click or drag the table column to append in the **SQL Editor** at the current cursor location.

Table & View Tree

To view **Tables** and **Views** of the current database

1. On the toolbar, click the icon .
- OR
- On the **SQL editor** menu, click **Table & Views**.
2. A schema tree is displayed in a popup window.
 3. Click the specific username in the schema tree.
 4. Click the Table or View name.

To add a Table or View to the SQL Editor

1. Position and click the cursor at the preferred location on the SQL Editor.
2. Double click or drag the Table or View to append in the SQL Editor at the current cursor location.

To view Columns & Indexes

1. Explore the Table name.

To add a Column from the Table or View to the SQL Editor

1. Position and click the cursor at the preferred location on the SQL Editor.
2. Double click or drag the column to append in the SQL Editor at the current cursor location.

Explain Plan

To view the execution plan of the SQL

1. On the toolbar, click the icon .

OR

On the **SQL editor** menu, click **Explain Plan**.

OR

In the Results section, click **Explain Plan Tab**.

Table Auto Completion

To activate **Table auto completion** wizard on **SQL Editor** window

1. Type User Id.
2. Type a dot (.) after User Id.
3. The **Table auto completion** wizard is activated and a popup window is displayed with table names for the User Id.
4. The table names can be filtered by typing the letter(s) after the dot.
5. Click the table name in the popup window, to append at the current cursor location on the **SQL Editor**.

Column Auto Completion

To activate Column auto completion wizard on SQL Editor window

1. Type Table name.
2. Type a space, then type qualifier (any word or any character).
3. Then type qualifier anywhere in the SQL statement.
4. Type a dot (.) after qualifier.
5. The column auto completion wizard is activated and a pop window is displayed with column names from the qualified table.
6. The column names can be filtered by typing the letter(s) after the dot.
7. Click the column name in the popup window, to append at the current cursor location on the SQL Editor.

Vertical Scrollbar

The **vertical Scrollbar** of result data grid works in two different modes.

1. If the current result data grid row is the last visible row, click the down arrow button of the scrollbar to add next 50 rows to the current result data grid.
2. To add all result rows to the result data grid, drag down the thumb of the vertical scroll bar.

SQL Logging (History of SQLs)

To view the history of SQL Statements

1. In the lower half of the SQL Editor, click on the **SQL Logging** tab
 - a. The **SQL Logging** tab displays
 - SQL statement
 - SQL Status
 - SQL return code is stored in case of an error
 - Timestamp
 - Duration

2. To Append the SQL statement to the **SQL Editor**
 - a. Right click on SQL statement
 - b. A Popup menu is displayed with **Append** and **Replace** options.
 - c. Click on Append to append SQL statement at the end in the SQL Editor

3. To Replace the SQL statement in the **SQL Editor**
 - a. Right click on SQL statement
 - b. A Popup menu is displayed with **Append** and **Replace** options.
 - c. Click on Replace to replace all the SQL statements in the SQL Editor with the selected SQL statement

Note: SQLs run in the Script Mode are not logged

Recall SQL Statements

To Recall SQL statement

1. On the toolbar, click the icon  .
OR
On the **SQL editor** menu, click **Recall SQL**.

Recall SQL popup window is displayed with fields.

- Database
 - SQL statement
 - SQL Status
 - Timestamp
 - Duration
2. To append the SQL statement to the **SQL Editor**
 - a. Right click on SQL statement.
 - b. A Popup menu is displayed with **Append** and **Replace** options.
 - c. Click on Append to append SQL statement at the end in the SQL Editor.

 3. To replace the SQL statement in the **SQL Editor**
 - a. Right click on SQL statement.
 - b. A Popup menu is displayed with **Append** and **Replace** options.
 - c. Click on Replace to replace all the SQL statements in the **SQL Editor** with the selected SQL statement.

Note: SQLs run in the Script Mode cannot be recalled.

Result Column Sort

To **Sort** Result data

1. Click on Result data column header.
2. A Popup menu is displayed for the Column Name with popup menu items **By Ascending** and **By Descending** options.
3. Click on **By Ascending** or **By Descending** to sort the data.

PL/SQL processing

PL/SQL block is executed similar to SQL statement in Single Statement Mode, Current Statement Mode and Script mode.

- If you use DBMS_OUTPUT.PUT_LINE statement in your **PL/SQL** block, then the output is displayed in the DBMS Output tab.

Note: PL/SQL statements must end in a semicolon (;).

DBMS Output

To display the output in the DBMS Output tab, the server output must be turned ON.

1. To turn server output ON

Click on the toggle server icon  to turn ON. When server output is ON, the icon  turns green.

2. To turn server output OFF

Click on the toggle server icon  to turn OFF. When server output is OFF, the icon  turns red.

3. Click the icon  to change the output Buffer size. A popup window prompts you to accept the default value or change the Buffer size to a new value.
4. To change the output Pooling Frequency, slide the pointer to any preferred position between 2 and 16 seconds.

Note: Server output must be ON before executing the PL/SQL block to view the contents of DBMS Output.

Statistics

To display the statistics, first turn ON Statistics.

1. To turn statistics ON

Click on the toggle statistics icon  to turn ON. When statistics is ON, the icon  turns green.

2. To turn statistics OFF

Click on the toggle statistics icon  to turn OFF. When statistics is OFF, the icon  turns red.

3. Execute any SQL statement in the SQL Editor window.
4. Click the Statistics Tab to see statistics for current SQL statement.

Substitution variables and Bind variables

If SQL statement contains any Substitution variables, SQL Editor prompts for data for each Substitution variable. The data entered for Substitution variables are resolved into SQL text.

Bind variables are also treated similar to Substitution variables.

Note: The prompt data must be enclosed in single quotes for Character type and Date type fields.

SQL syntax highlighting

Default SQL text highlighting colors as described below.

- SQL Reserved words like SELECT, UPDATE, INSERT, DELETE, etc. are highlighted in Blue color.
- Any text between single quotes is highlighted in Red color.
- Single commented SQL statements (text after --) are highlighted in Green color and the font is shown in Italic.
- Multiple line commented SQL statements (text between /* and */) are highlighted in Green color and the font is shown in Italic.

Schema Explorer

The Schema Explorer let you

- Explore Tables, Views, Indexes, Synonyms, Sequences, Triggers, Packages, Procedures, Functions, Java Source, Java Classes and DB Links.
- View details about each database object.
- View total objects in each object type.

To open **Schema Explorer**

1. On the toolbar, click the icon .
- OR
- On the **Tools** menu, click **Schema Explorer**.

To see details about **Table**

1. Click Table node icon  in object tree.
2. Click Table name.

Information about table is shown on right side. Click on each tab to view the details.

- Columns Names, Column Attributes
- Indexes, Index Keys
- Details
- Dependencies (References, Referenced by)
- Statistics
- Data
- Triggers
- Column Statistics
- Constrains
- Grants
- Comments

To see details about **View**

1. Click View node icon  in object tree.
2. Click View name.

Information about view is shown on right side. Click on each tab to view the details.

- Column Names, Column Attributes
- View definition SQL
- Data rows
- Grants
- Dependencies (References, Referenced by)
- Comments

To see details about **Index**

1. Click Index node icon  in object tree.
2. Click Index name.

Information about index is shown on right side. Click on each tab to view the details.

- Columns
- Keys

To see details about Synonym

1. Click Synonym node icon  in object tree.
2. Click Synonym name.

Information about Synonym is shown on right side. Click on each tab to view the details.

- Synonym Details
- Dependencies (References, Referenced by)

To see details about Sequence

1. Click Sequence node icon  in object tree.
2. Click Sequence name.

Information about Sequence is shown on right side. Click on each tab to view the details.

- Sequence details
- Dependencies (References, Referenced by)

To see details about Trigger

1. Click Trigger node icon  in object tree.
2. Click Trigger name.

Information about Trigger is shown on right side. Click on each tab to view the details.

- Trigger details
- Code
- Columns
- Dependencies (References, Referenced by)
- Grants

To see details about Package

1. Click Package node icon  in object tree.
2. Click Package name.

Information about Package is shown on right side. Click on each tab to view the details.

- Declaration
- Body
- Dependencies
- Information
- Grants

To see details about Procedure

1. Click Procedure node icon  in object tree.
2. Click Procedure name.

Information about Procedure is shown on right side. Click on each tab to view the details.

- Code
- Declaration
- Information
- Grants

To see details about Function

1. Click Function node icon  in object tree.
2. Click Function name.

Information about Function is shown on right side. Click on each tab to view the details.

- Code
- Declaration
- Information
- Grants

To see details about Java Source

1. Click Java Source node icon  in object tree.
2. Click Java Source name.

Information about Java Source is shown on right side. Click on each tab to view the details.

- Code
- Information

To see details about Java Class

1. Click Java Class node icon  in object tree.
2. Click Java Class name.

Information about Java Class is shown on right side. Click on tab to view the details.

- Class Details

To see details about DB Links

1. Click DB Link node icon  in object tree.
2. Click DB Link name.

Information about DB Link is shown on right side. Click on tab to view the details.

- Details

Session Manager

Session Manager let you see the following for each Session in a separate tab.

- Statistics
- Connection Information
- Accessing (Database objects currently accessing)
- Wait Events

- Blocking Sessions
- Locked Objects
- Open Cursors
- Current Statement (SQL statement currently executing)
- Previous Statement (SQL statement previously executed)

Open Cursors, Current Statement and **Previous Statement** tabs let you see the following information in three sub-tabs

- SQL Text
- SQL Execution details
- Explain Plan

To open **Session Manager**

1. On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Session Manager**.

To view the details about SQL statements in each Session:

1. Click **Current Statement** or **Previous Statement** tab.
2. Click one of the following sub-tabs.
 - a) SQL Text
 - b) SQL Execution details
 - c) Explain Plan

To view the details about all Open Cursors and its details in each Session:

1. Click **Open Cursors** tab.
2. Click any SQL Statement from the list.
3. Click one of the following tabs on the right half section.
 - a) SQL Text
 - b) SQL details
 - c) Explain Plan

Space Manager

Space Manager let you see the following in a separate tab.

- Tablespace tree.
Pie chart for storage by Segment Type (User objects).
Pie chart for Free and Used Tablespace.
Bar graph for Free & Used Tablespace.
- Tablespace details.
- Tablespace File details.
- Objects in each Tablespace.
- Segment Type Bar graph.

To open **Space Manger**

1. On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Space Manager**

Note: By default Storage Used & Free Bar Graph is shown at lower left side of the **Space Manager's** Tree tab (First tab). The Options window (Navigate to Tools -> **Options**) let you choose Storage Used & Free Bar Graph or Storage by Segment Type Pie Chart at lower left side.

Currently running **Space Manager** processes are not affected if you make any changes on **Options** window. Only new **Space Manager** processes will have the changed settings.

User Manager

User Manager let you see the following in a separate tab.

- Profiles
- Roles
- Privileges
- Role Privileges
- Users
- User Roles
- User Privileges

To open **User Manager**

1. On the toolbar, click the icon  .
OR
On the **Tools** menu, click **User Manager**.

SGA Display

SGA Display let you see SQL Statements from SGA shared pool. SQL Statements can be Listed by

- SQL Type (Select, Update, Insert. etc)
- User Name

Filtered by

- SQL Text string

For each SQL Statement the following information is displayed in three tabs:

- SQL Text
- SQL details
- Explain Plan

To open **SGA Display**

1. On the toolbar, click the icon  .

OR
On the **Tools** menu, click **SGA Display**.

Instance Details

Instance Details let you see the following in a separate tab.

- SGA Configuration Pie chart for Buffer Cache, Fixed SGA, Log Buffer, Java Pool, Large Pool, Shared Pool.
- Instance details
- Banner
- Oracle Parameters
- Hidden Parameters
- NLS Parameters
- Resource Limit
- License

To open **Instance Details**

1. On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Instance Details**.

Server Statistics

Server Statistics let you see the following in a separate tab.

- Statistics
- System Waits
- Shared Pool
- Library Cache
- Analyzed Stats
- Rollback Segments
- Blocking Sessions
- File Activity
- Session Activity
- Locks
- Wait Events
- Waiting Sessions
- Log History
- Latch Details
- Running Queries
- Database Growth
- Data Rows
- DB Links

To open **Server Statistics**

1. On the toolbar, click the icon .
OR
On the **Tools** menu, click **Server Statistics**.

Performance Monitor

Performance Monitor shows the condition (health) of the database instance by reading the system tables every 5 seconds (can be changed to any value between 5 seconds and 10 minutes). The information is analyzed and shown in Graphs, Bar charts and Pie charts.

Performance Monitor screen is divided into 5 sections. The sections are:

- Top SQL (since database startup)
- Ratios
- System Waits (by total time waited)
- Calls
- Top Sessions (by **Resource Usage**, since database startup)

Session counts, Commits & Rollback counts and Free/Used are shown at top portion of the Performance Monitor screen.

Free/Used space display can be disabled by changing the default configuration setting on Options window (Navigate to Tools -> **Options**).

To see more detailed information about Top SQL, open a new **Top 5 SQL** or **Server Tuning** window from the tool bar or **Tools** menu.

To see more detailed information about System Waits, open a new **System Waits** window from the tool bar or **Tools** menu.

To see more detailed information about Resource Usage, open a new **Top 5 Resource** or **Resource Usage** window from the tool bar or **Tools** menu.

1) **Top SQL** Bar graph shows

- Physical i/o
- Logical i/o
- CPU Time
- Elapsed Time

Top SQL: can be shown in three different ways and you have an option (Navigate to Tools -> **Options**) to set one of them as the default.

The following are three different ways:

1. Top SQL since database instance startup (processed by Oracle database)
2. Top SQL since database instance startup (processed by MyOra in memory)
3. Top SQL in current refresh interval (processed by MyOra in memory)

By default Top SQL since database instance startup (processed by Oracle database) is enabled.

- 2) **System Wait** Pie chart shows
 - Top ten System Waits (by total time waited) in last 5 seconds

- 3) **Ratios** graph shows
 - Buffer Cache Hit ratio
 - Library Cache Hit ratio
 - Directory Cache Hit ratio
 - Memory Sort ratio
 - Parse/Execute ratio

- 4) **Calls** graph shows
 - Execute Counts (refreshes every 5 seconds)

- 5) **Top Sessions (by Resource Usage)** shows
 - Physical i/o
 - Logical i/o
 - CPU
 - Memory

To open **Performance Monitor**

1. On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Performance Monitor**.

Note: By default the Refresh Button  and Refresh Interval selection dropdown list on **Performance Monitor** screen are enabled. The **Options** window (Navigate to Tools -> Options) let you disable Refresh Button and Refresh Interval selection.

If you choose to disable Refresh Button  and Refresh Interval selection list, then you need to set Refresh Interval between 5 seconds and 10 minutes on **Options** window.

Currently running **Performance Monitor** processes are not affected if you make any changes on **Options** window. Only new **Performance Monitor** processes will have the changed settings.

System Waits

System wide waits are shown as percentage of total waits. Top ten System waits are shown in a Pie chart. **System Waits** are retrieved from the database system tables for every 5 seconds (can be changed to any value between 5 seconds and 10 minutes). Session waits are shown by choosing the desired Session Id from the dropdown box (filter by session id).

System Waits let you see the following

- System Waits (by Total time waited).
 - Time Waited
 - Delta value
 - % Total Time Waited

- System Waits (by Total number of waits).
 - Number of Times Waited
 - Delta value
 - % Total Waits

To open **System Waits**

1. On the toolbar, click the icon  .
OR
On the **Tools** menu, click **System Waits**.

Note: By default Refresh Interval is being set to 5 seconds. The Refresh Interval can be set between 5 seconds and 10 minutes on **Options** window (Navigate to Tools -> **Options**).

Currently running **System Waits** processes are not affected if you make any changes on **Options** window. Only new **System Waits** processes will have the changed settings.

Top 5 SQL

Top 5 SQL shows Physical i/o, Logical i/o, CPU Time and Elapsed Time of 5 top SQL statements in each of these categories since database startup. The **Top 5 SQL** window has two sections. Left side section shows 3-D interactive bar graph for Physical i/o, Logical i/o, CPU Time and Elapsed Time. The right side section shows SQL text, SQL details and SQL explain plan.

Each vertical bar represents one SQL statement and height of the vertical bar represents percent of Physical i/o or Logical i/o or CPU Time or Elapsed Time.

- Place the mouse over any vertical bar to see the percentage.
- Click on any vertical bar to see SQL text, SQL details and SQL explain plan.

Place the mouse over the text Physical i/o or Logical i/o or CPU Time or Elapsed Time to see **Top 5 SQLs** in the respective categories (base of vertical bar changes to light Blue color to indicate **Top 5 SQLs**).

Place the mouse over the text Top1 SQL or Top2 SQL or Top3 SQL or Top4 SQL or Top5 SQL to see Top SQLs in the each category (base of vertical bar changes to light Green color to indicate SQLs).

Top 5 SQL let you see the following

- Physical i/o
- Logical i/o
- CPU Time
- Elapsed Time

To open **Top 5 SQL**

- On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Top 5 SQL**.

Server Tuning

For each SQL statement, **Server Tuning** shows percentage of Physical i/o, Logical i/o, CPU Time and Elapsed Time of all SQL statements that are executed since database startup. The window is divided into four sections. Each section shows SQL Analysis for Physical i/o, Logical i/o, CPU Time and Elapsed Time respectively. Data rows in each section are sorted by percent highest value to lowest value.

Each section is color coded with small colored block at top left corner. These block colors matches with Top SQL graph's legend in **Performance Monitor**.

To see details of each SQL statement

- Click the mode change icon  to show data rows from a single section.
- Click desired SQL Statement to see details on the right side.

Click the icon  to see all four sections. The icons  and  will allow to you to toggle between four sections and one section.

Server Tuning let you see the following

- Physical i/o – SQL Text, Disk Reads, Percent, SQL Address & Hash value
- Logical i/o – SQL Text, Buffer Gets, Percent, SQL Address & Hash value
- CPU Time – SQL Text, CPU Time, Percent, SQL Address & Hash value
- Elapsed Time – SQL Text, Elapsed Time, Percent, SQL Address & Hash value

To open **Server Tuning**

1. On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Server Tuning**.

Top 5 Resource

Top 5 Resource shows Physical i/o, Logical i/o, CPU and Memory of 5 top resource using Sessions (users or processes) in each of these categories since database startup. The **Top 5 Resource** window has two sections. Left side section shows 3-D interactive bar graph for

Physical i/o, Logical i/o, CPU and Memory. The right side section shows Resource Statistics for each session.

Each vertical bar represents one Session and height of the vertical bar represents percent of Physical i/o or Logical i/o or CPU or Memory used.

- Place the mouse over any vertical bar to see the percentage.
- Click on any vertical bar to see Resource usage details on the right side.

Place the mouse over the text Physical i/o or Logical i/o or CPU or Memory to see Top 5 Resource Usage sessions in the respective categories (base of vertical bar changes to light Blue color to indicate Top 5 Resource Using sessions).

Place the mouse over the text Top1 Resource or Top2 Resource or Top3 Resource or Top4 Resource or Top5 Resource to see Top Resource Using sessions in the each category (base of vertical bar changes to light Green color to indicate Sessions).

Top 5 Resource let you see the following

- Physical i/o
- Logical i/o
- CPU
- Memory

To open **Top 5 Resource**

- On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Top 5 Resource**.

Resource Manager

Resource Manager shows percentage of Physical i/o, Logical i/o, CPU and Memory usage of all resource using Sessions (users or processes) in each of these categories since database startup. Also shows all Resource Usage details of each Session.

The window is divided into four sections. Each section shows Resource Usage for Physical i/o, Logical i/o, CPU and Memory respectively. Data rows in each section are sorted by percent highest value to lowest value.

Each section is color coded with small colored block at top left corner. These block colors matches with Top Sessions (**Resource Usage**) legend in **Performance Monitor**.

To see Resource Usage details of each session

- Click the mode change icon  to see data rows from one section.
- Click desired Session row to see details in the right side.

Click the icon  to see all four sections. The icons  and  will allow you to toggle between four sections and one section.

Resource Manager let you see the following

- Physical i/o
- Logical i/o
- CPU
- Memory

To open **Resource Manager**

- On the toolbar, click the icon .
OR
- On the **Tools** menu, click **Resource Manager**.

DB Activity

DB Activity shows database activity in real time using interactive graphs. The Refresh Interval for **DB Activity** process can be set between 5 seconds and 10 minutes on **Options** window. **DB Activity** window is divided into 6 graphs. Each graph shows information about:

- Logical I/O
- Physical I/O
- Call Rate
- Event Waits
- Latch Misses
- Sessions

1) **Logical I/O** graph shows

- db block changes
- db block gets
- consistent gets

2) **Physical I/O** graph shows

- physical writes
- physical reads
- redo writes

3) **Call Rate** graph shows

- execute count
- user commits
- user rollbacks
- parse count (hard)
- parse count (total)

4) **Sessions** graph shows

- active sessions
- inactive sessions

- total sessions

5) **Event Waits** graph shows

- time waited

6) **Latch Misses** graph shows

- latch misses

To see more detailed information about Event Waits, open a new **System Waits** window from the tool bar or Tools menu.

To open **DB Activity**

1. On the toolbar, click the icon  .

OR

On the **Tools** menu, click **DB Activity**.

Each graph has **Graph Types** which can be selectable by placing the cursor over the small rectangle boxes (located left side of each graph).

To select Graph Type (for each graph)

- Graph type let you select the required graph (for example Logical I/O graph has three individual moving graphs, each graph corresponding to db block changes, db block gets and consistent gets). You can select one of the three moving graphs by placing the cursor over the empty rectangle box, then box is filled with a color dot corresponding to Graph Type. Now place the cursor on the graph area, a small dot is shown on the graph and the value corresponding to the Graph Type is shown on the top of the graph.

To see Graph Values at any given time

- Place the cursor over the graph area. A small dot is shown on the graph and value is shown on the top of the graph. If the cursor is moved across the graph area, the dot is also moved across the graph and values are shown on the top of the graph.

Note: Wait Events graph shows Top 5 wait events and % total time waited (at left side of graph).

Latch Misses graph shows Top 5 latch misses and % total number of misses (at left side to graph).

To see One Graph

- Click on One Graph rectangle box to see the graph corresponding to the Graph Type selected.

To see All Graphs

- Click on All Graphs rectangle box to see all graphs.

Note: By default Refresh Interval is being set to 5 seconds. The Refresh Interval can be set between 5 seconds and 10 minutes on **Options** window (Navigate to Tools -> **Options**).

Currently running **DB Activity** processes are not affected if you make any changes on **Options** window. Only new **DB Activity** processes will have the changed settings.

Wait Analysis

Wait Analysis shows mostly Wait Class details, CPU Usage, Events, Objects, Sessions and SQL statements. **Wait Analysis** screen is divided into two sections. The upper section shows Wait Time Bar graph and the lower section shows Activity for Events, Sessions, Objects and SQL statements.

Note:

- MyOra does not access Active Session History or ASH table.
- MyOra does not access Automatic Workload Repository or AWR tables.
- MyOra does not access DBA history tables.

Wait Analysis works with Oracle 10g, 11g and 12c.

Wait Analysis will allow you to examine and perform detailed analysis on Events, Sessions, Objects and SQL statements. **Wait Analysis** cannot show SQL information, if SQL statements are flushed from SQL Area.

The bar graph shows:

- Time Waited values for each Wait Class within last 30 minutes (or within last 5 days).

The lower section shows:

- Events, Sessions, Objects and SQL statements within last 30 minutes (or within last 5 days).

Note: **Wait Analysis** screen must be running (should not be closed) to see Time Waited values, Events, Sessions, Objects and SQL statements.

By default Refresh Interval is being set to 30 seconds. The Refresh Interval can be set between 30 seconds and 120 minutes (2 hours) on **Options** window (navigate to Tools -> **Options**). If you choose Refresh Interval of 120 minutes (2 hours), then you can see Wait Time analysis for last 5 days.

You can also run multiple Wait Analysis screens for same database with different Refresh Intervals. Always choose desired Refresh Interval on **Options** window before starting Wait Analysis screen.

Bar graph is based on actual time interval on X axis and Time Waited value on Y axis. Wait details for a time interval can be analyzed. While analyzing the bar graph, 'CPU Usage' value must read as 'CPU Time' (not CPU wait time). Idle events are excluded from the Wait Analysis.

The bar graph displays Time Waited value for following Wait Classes:

- Queueing
- User I/O
- System I/O
- Scheduler
- Others
- Cluster
- Network
- Configuration
- Concurrency
- Commit
- Application
- Administrative
- CPU Usage (CPU Time, not an wait event)

The lower section detailed information.

- Events
 - a) Event Name
 - b) Class Name
 - c) Value%
- Objects
 - a) Owner
 - b) Object Name
 - c) Object Type
 - d) Statistics Name
 - e) Value%
- Sessions
 - a) Sid
 - b) Serial#
 - c) User Name
 - d) Machine
 - e) Terminal
 - f) OS User
 - g) Program
 - h) CPU Usage%
- SQL Statements
 - a) SQL Text
 - b) SQL Id

c) CPU Time%

To open **Wait Analysis**

- On the toolbar, click the icon .
- OR
- On the **Tools** menu, click **Wait Analysis**.

To see Wait Details for one time interval

- On the bar graph, click on any vertical bar.
- A vertical line appears along the vertical bar and an blue color arrow is shown on X-axis to indicate time interval.
- In the lower section, %Activity is shown for Events, Objects, Sessions and SQL statements for the selected time interval.

To see Wait Details for a range of Time interval

- To select a range of Time interval, on the bar graph, click on any vertical bar and drag the cursor to either left or to right (similar to selecting the text in any word document).
- A transparent area is shown for the selected Time interval (range). Two blue color arrows are shown on the X-axis to indicate Begin time and End time of selected time interval.
- %Activity is shown for Events, Objects, Sessions and SQL statements in the lower section for range of Time interval.

Currently running **Wait Analysis** screens (processes) are not affected if you make any changes on Options window. Only new **Wait Analysis** screens will have the changed settings.

Top Ten SQL

Shows **Top Ten SQLs** in nine different categories using interactive 2-D / 3-D pie charts. These categories are disk reads, buffer gets, cpu time, elapsed time, direct writes, sharable mem, executions, fetches, rows processed. **Top Ten SQLs** are retrieved from the database system tables for every 5 seconds (can be changed to any value between 5 seconds and 10 minutes).

Each 2-D/3-D interactive pie chart is responsive to cursor. The SQL id and percentage values for each SQL is listed left of pie chart. If you place the cursor on SQL Id, then the first 60 character of SQL text is shown.

Top Ten SQL works with Oracle 10g, 11g and 12c.

Top Ten SQL let you see the following

- disk reads
- buffer gets
- cpu time
- elapsed time
- direct writes

- sharable mem
- executions
- fetches
- rows processed

To open **Top Ten SQL**

- On the toolbar, click the icon  .
OR
On the **Tools** menu, click **Top Ten SQL**.

To see **SQL Text**

- Click on **SQL** rectangle box to select SQL check box and place the cursor on SQL Id to see SQL text.

To see **Related values of the SQL Id**

- Click on **Related** rectangle box to select Related check box and place the cursor on SQL Id to see values of disk reads, buffer gets, cpu time, elapsed time, direct writes, sharable mem, executions, fetches and rows processed.

Currently running **Top Ten SQL** processes are not affected if you make any changes on Options window. Only new **Top Ten SQL** processes will have the changed settings.

Blockers Waiters

Blockers Waiters shows Session Blockers, Session Waiters, Locks and Long Running Queries. Also shows all Resource Usage details of each Session.

The window is divided into four sections. Each section shows Session Blockers, Session Waiters, Locks and Long Running Queries respectively. Data rows in each section are sorted by User Name.

Each section is color coded with small colored block at top left corner.

To see **Resource Usage of each session**

- Click the mode change icon  to see data rows from one section.
- Click desired Session row to see details in the right side.

Click the icon  to see all four sections. The icons  and  will allow you to toggle between four sections and one section.

Blockers Waiters let you see the following

- Physical i/o
- Logical i/o
- CPU

- Memory

To open **Blockers Waiters**

- On the toolbar, click the icon . OR
On the **Tools** menu, click **Blockers Waiters**.

Options Window

Currently running processes are not affected if you make any changes on **Options** window (except the date format change in SQL editor). Only new processes (new screens) will have the changed configuration settings.

All the changes made on **Options** window will be saved to **Configuration file** except **SQL Editor's** Result Grid Date format change.

You can use **Options** window to change the default configuration settings of **SQL Editor**, **Space Manager**, **Performance Monitor**, **DB Activity** and **System Waits** screens. The left pane of the **Options** window contains a tree view of above features. The right pane displays the default settings or default values for the selected feature from the tree.

To open **Options** window

- On the **Tools** menu, click **Options**.

SQL Editor settings

1. Result Grid Date format
The default date format for SQL Editor's Result grid is DD-Mon-YYYY.

You can change the default date format by selecting the desired date format from drop down list.

Space Manager settings

By default Storage Used & Free Bar Graph is Enabled, this means Storage Used & Free Bar Graph is shown at lower left side of **Space Manager's** Tree tab.

By clicking the appropriate radio button you can choose Storage Used & Free Bar Graph or Storage by Segment Type Pie Chart as the default setting.

Performance Monitor settings

General Tab

- a) By default Refresh Button  and Refresh Interval selection dropdown list are enabled.
- b) If you choose to disable Refresh Button  and Refresh Interval selection list, then you need to set Refresh Interval between 5 seconds and 10 minutes. In disable Refresh Button mode, the **Call graph** and **Ratios graph** will show Time scale on X-axis.

Top SQL Tab

You can choose any one of the three options

Top SQL since database instance startup (processed by Oracle database)

Top SQL since database instance startup (processed by MyOra in memory)

Top SQL in current refresh interval (processed by MyOra in memory)

By default Top SQL since database instance startup (processed by Oracle database) is enabled.

Space Used/Free Tab

By default Show Used/Free is selected, this means Space Used / Free values are shown on top right portion of Performance Monitor screen.

System Waits settings

The default Refresh Interval is being set to 5 seconds. You can change default Refresh Interval between 5 seconds and 10 minutes.

DB Activity settings

The default Refresh Interval is being set to 5 seconds. You can change default Refresh Interval between 5 seconds and 10 minutes.

Wait Analysis settings

The default Refresh Interval is being set to 30 Seconds. You can change default Refresh Interval between 30 seconds and 120 minutes (2 hours).

Text on X-axis (Begin Time and End Time) by default shown in inclined direction. You can change the direction to Straight.

Top Ten SQL settings

The default Refresh Interval is being set to 5 Seconds. You can change default Refresh Interval between 5 seconds and 10 minutes.

You can choose any one of the two options.

1. Top Ten SQLs since database instance startup (processed by MyOra in memory)
2. Top Ten SQLs in current refresh interval (processed by MyOra in memory)

By default Top Ten SQLs since database instance startup is enabled.

All the changes made on **Options** window will be saved to a configuration file except **SQL Editor's** Result Grid Date format change.

MyOra Console

MyOra has 18 different modules (screens), the main purpose of MyOra Console is to show all active modules at once in a easy accessible manner. MyOra Console shows all active modules in form of icons. Each icon represents one module and at the middle of each icon module code is shown. (Please refer module codes and module names below). If you click on an icon, the module corresponding to the module code will be activated.

If there is more than one active connection for a given module, then the total number of active connections will be shown at the top right corner of the icon. If you click on an icon with multiple active connections, means an icon with a number on top right corner, then the icon will explode into individual connections and each icon will represent one connection.

Note: On MyOra Console the maximum active connection display limit is 16 for any module. In general, MyOra can have up to 100 active connections (for a single module or combination of modules), but on Console only the first 16 connections of a module will be shown.

To open MyOra **Console**

- On the **Window** menu, click **Console**.
OR
Press ALT + B

To refresh MyOra Console press Refresh Button on Console.

To remove MyOra Console from screen press ESC key.

MyOra module codes on Console

Se SQL Editor
Sx Schema Explorer
Sm Session Manager

Pm	Performance Monitor
Sw	System Waits
St	Server Tuning
Sp	Space Manager
Um	User Manager
Sg	SGA Display
Id	Instance Details
Ss	Server Statistics
Rm	Resource Manager
Tr	Top 5 Resource
Ts	Top 5 SQL
Da	DB Activity
Wa	Wait Analysis
Tt	Top Ten SQL
Bw	Blockers Waiters
Te	Text Editor

The bottom row of the Console has four anchor icons which corresponds to four modules, these modules are **SQL Editor**, **Schema Explorer**, **Session Manager** and **Performance Monitor**. The anchor icons are always shown at the same location on Console. If there is no active module corresponding to anchor icons, then that icon will not be shown.