



**Facultad de Ciencias Exactas y Naturales Escuela de
Informática y computación**

EIF 211 - Administración de Bases de Datos

Investigación

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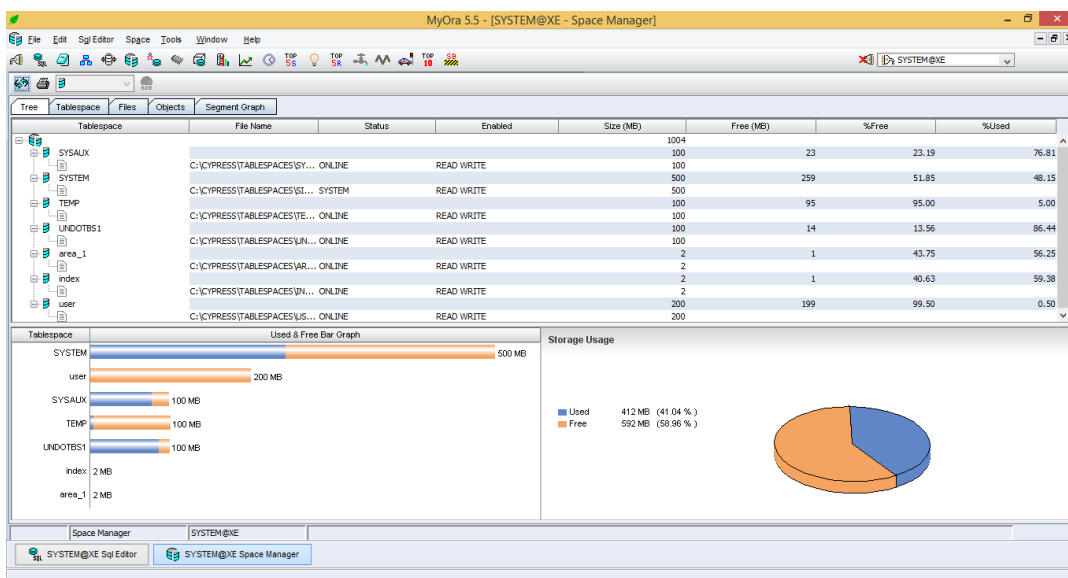
II Ciclo 2016

Lagunilla, Heredia 26 de Agosto, 2016

Space Manager

En general el space manager provee información acerca del espacio libre y el espacio ocupado por los files, tables spaces, entre otros.

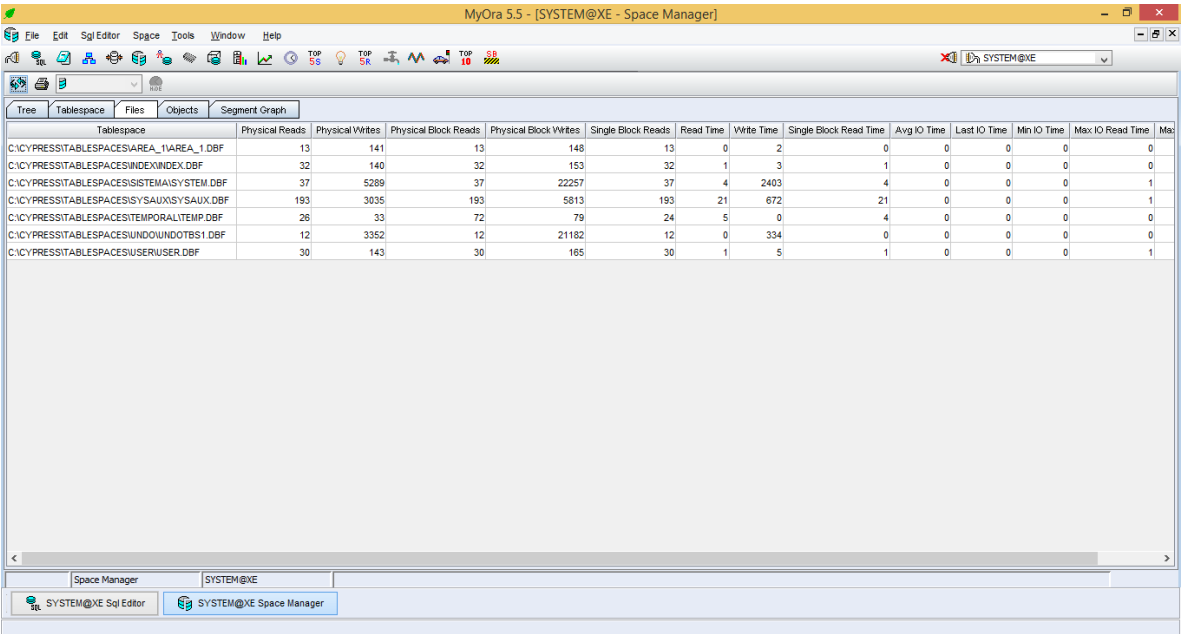
En la primera pestaña llamada “Tree” muestra una tabla con la información del table space, ubicación, espacio libre, espacio ocupado y más información. Un gráfico de barras con información del espacio de cada tablespace, adicionalmente un gráfico de pastel con la información general.



En la segunda pestaña información más detallada de los tablespaces.

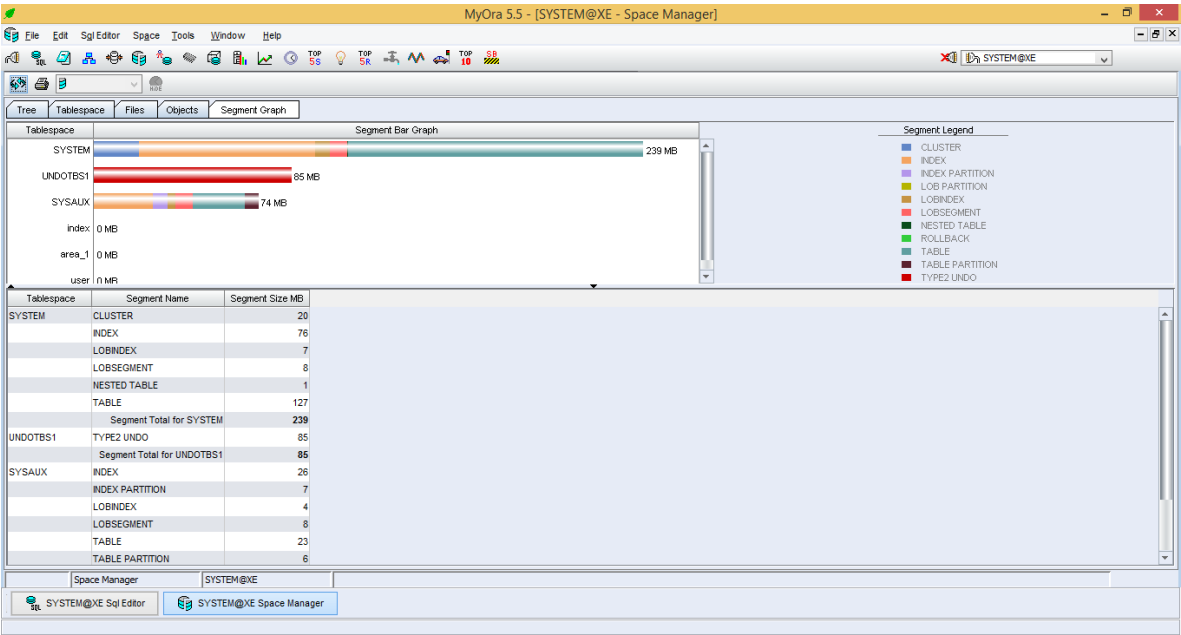
| Tablespace | Status | Contents | Logging | Block Size | Initial Extent | Next Extent | Min Extents | Max Extents | PCT Increase | Min Extent length | % Blocks Coalesced | Size | Free | %Free | %Used |
|------------|--------|-----------|-----------|------------|----------------|-------------|-------------|-------------|--------------|-------------------|--------------------|--------|--------|-------|-------|
| SYSAUX | ONLINE | PERMANENT | LOGGING | 8192 | 65536 | | 1 | 2147483645 | | 65536 | 100 | 100.00 | 23.00 | 23.19 | 76.81 |
| SYSTEM | ONLINE | PERMANENT | LOGGING | 8192 | 65536 | | 1 | 2147483645 | | 65536 | 100 | 500.00 | 259.00 | 51.85 | 48.15 |
| TEMP | ONLINE | TEMPORARY | NOLOGGING | 8192 | 1048576 | 1048576 | 1 | | 0 | 1048576 | | 100.00 | 95.00 | 95.00 | 5.00 |
| UNDOTBS1 | ONLINE | UNDO | LOGGING | 8192 | 65536 | | 1 | 2147483645 | | 65536 | 100 | 100.00 | 14.00 | 13.56 | 86.44 |
| area_1 | ONLINE | PERMANENT | LOGGING | 8192 | 65536 | | 1 | 2147483645 | | 65536 | 100 | 2.00 | 1.00 | 43.75 | 56.25 |
| index | ONLINE | PERMANENT | LOGGING | 8192 | 65536 | | 1 | 2147483645 | | 65536 | 100 | 2.00 | 1.00 | 40.63 | 59.38 |
| user | ONLINE | PERMANENT | LOGGING | 8192 | 65536 | | 1 | 2147483645 | | 65536 | 100 | 200.00 | 199.00 | 99.50 | 0.50 |

Tercera pestaña más información de los tablespaces en términos de ubicación.



| Tablespace | Physical Reads | Physical Writes | Physical Block Reads | Physical Block Writes | Single Block Reads | Read Time | Write Time | Single Block Read Time | Avg IO Time | Last IO Time | Min IO Time | Max IO Read Time | Max |
|--|----------------|-----------------|----------------------|-----------------------|--------------------|-----------|------------|------------------------|-------------|--------------|-------------|------------------|-----|
| C:\CYPRESS\TABLESPACES\AREA_1\AREA_1.DBF | 13 | 141 | 13 | 148 | 13 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| C:\CYPRESS\TABLESPACES\INDEX\INDEX.DBF | 32 | 140 | 32 | 153 | 32 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| C:\CYPRESS\TABLESPACES\SISTEM\SYSTEM.DBF | 37 | 5289 | 37 | 22257 | 37 | 4 | 2403 | 4 | 0 | 0 | 0 | 0 | 1 |
| C:\CYPRESS\TABLESPACES\SYS\SAUX\SYS\SAUX.DBF | 193 | 3035 | 193 | 5813 | 193 | 21 | 672 | 21 | 0 | 0 | 0 | 0 | 1 |
| C:\CYPRESS\TABLESPACES\TEMPORAL\TEMP.DBF | 26 | 33 | 72 | 79 | 24 | 5 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| C:\CYPRESS\TABLESPACES\UNDO\UNDOTBS1.DBF | 12 | 3352 | 12 | 21182 | 12 | 0 | 334 | 0 | 0 | 0 | 0 | 0 | 0 |
| C:\CYPRESS\TABLESPACES\USER\USER.DBF | 30 | 143 | 30 | 165 | 30 | 1 | 5 | 1 | 0 | 0 | 0 | 0 | 1 |

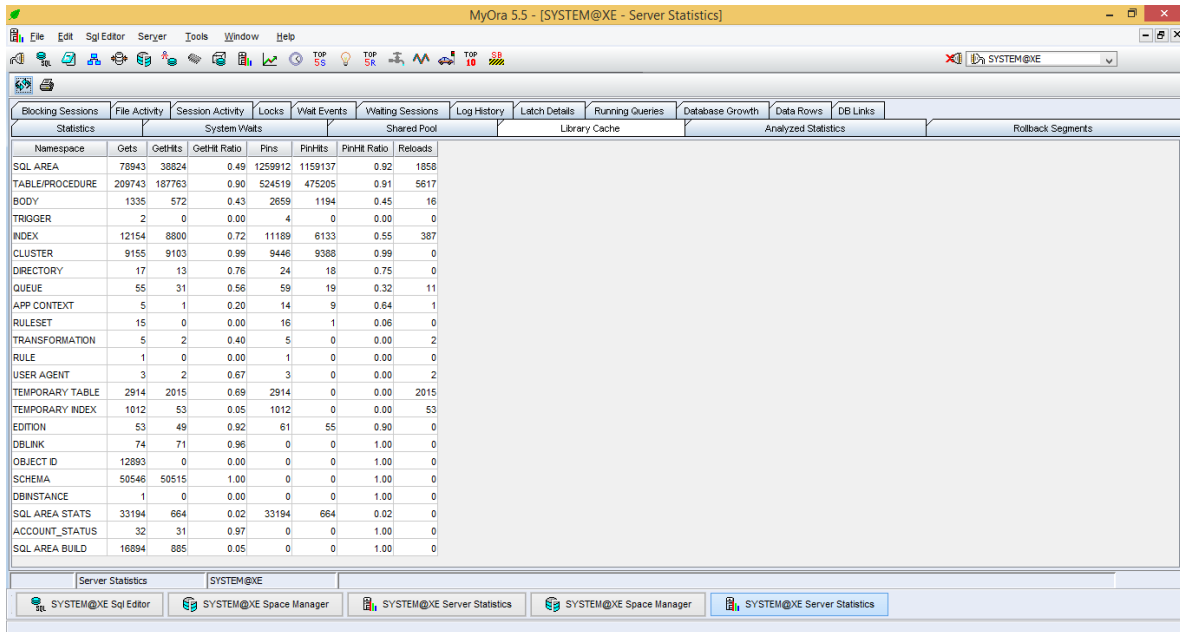
La quinta pestaña muestra un gráfico segmentado, con información detallada por el espacio usado por las tablas, índices, punteros, entre otros.



Server Statistics

Library Cache

Almacena información de ejecuciones SQL, triggers y procedimientos almacenados.

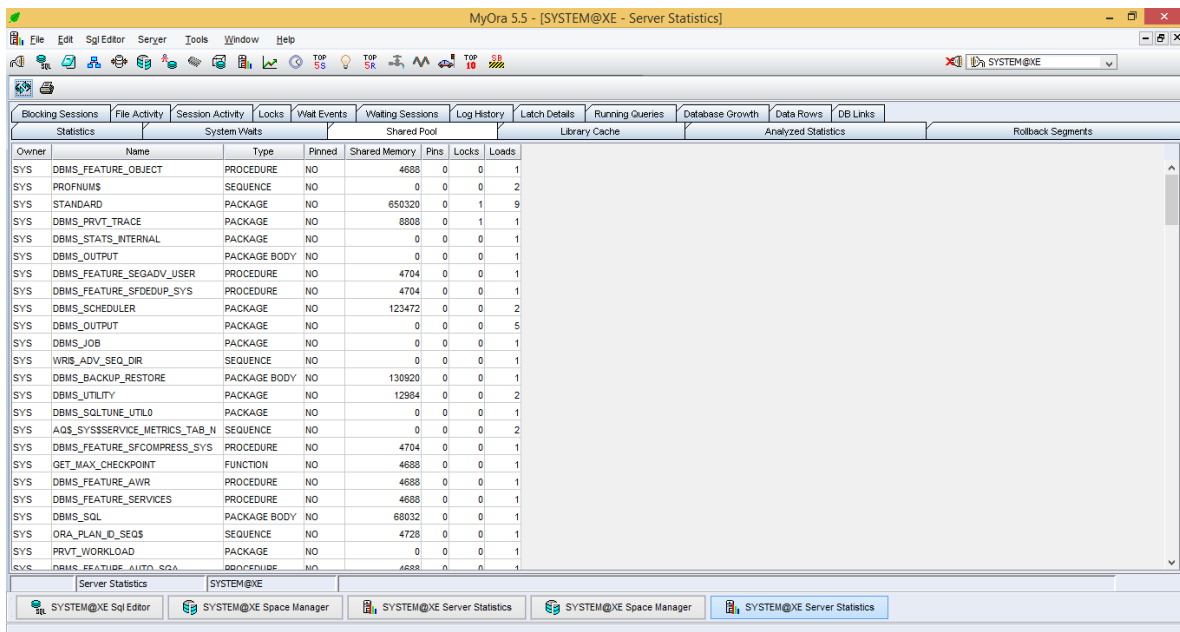


The screenshot shows the 'Library Cache' tab in the MyOra 5.5 - [SYSTEM@XE - Server Statistics] window. The table displays various statistics for the library cache, including Namespace, Gets, GetHts, GetHit Ratio, Pins, PinHts, PinHit Ratio, and Reloads.

| Namespace | Gets | GetHts | GetHit Ratio | Pins | PinHts | PinHit Ratio | Reloads |
|-----------------|--------|--------|--------------|---------|---------|--------------|---------|
| SQL AREA | 78943 | 38024 | 0.49 | 1259912 | 1159137 | 0.92 | 1856 |
| TABLE/PROCEDURE | 209743 | 187763 | 0.90 | 524519 | 475205 | 0.91 | 5617 |
| BODY | 1335 | 572 | 0.43 | 2659 | 1194 | 0.45 | 16 |
| TRIGGER | 2 | 0 | 0.00 | 4 | 0 | 0.00 | 0 |
| INDEX | 12154 | 8800 | 0.72 | 11189 | 6133 | 0.55 | 387 |
| CLUSTER | 9155 | 9103 | 0.99 | 9446 | 9388 | 0.99 | 0 |
| DIRECTORY | 17 | 13 | 0.76 | 24 | 18 | 0.75 | 0 |
| QUEUE | 55 | 31 | 0.56 | 59 | 19 | 0.32 | 11 |
| APP CONTEXT | 5 | 1 | 0.20 | 14 | 9 | 0.64 | 1 |
| RULESET | 15 | 0 | 0.00 | 16 | 1 | 0.06 | 0 |
| TRANSFORMATION | 5 | 2 | 0.40 | 5 | 0 | 0.00 | 2 |
| RULE | 1 | 0 | 0.00 | 1 | 0 | 0.00 | 0 |
| USER AGENT | 3 | 2 | 0.67 | 3 | 0 | 0.00 | 2 |
| TEMPORARY TABLE | 2914 | 2015 | 0.69 | 2914 | 0 | 0.00 | 2015 |
| TEMPORARY INDEX | 1012 | 53 | 0.05 | 1012 | 0 | 0.00 | 53 |
| EDITION | 53 | 49 | 0.92 | 61 | 55 | 0.90 | 0 |
| DBLINK | 74 | 71 | 0.96 | 0 | 0 | 1.00 | 0 |
| OBJECT ID | 12893 | 0 | 0.00 | 0 | 0 | 1.00 | 0 |
| SCHEMA | 50546 | 50515 | 1.00 | 0 | 0 | 1.00 | 0 |
| DBINSTANCE | 1 | 0 | 0.00 | 0 | 0 | 1.00 | 0 |
| SQL AREA STATS | 33194 | 664 | 0.02 | 33194 | 664 | 0.02 | 0 |
| ACCOUNT STATUS | 32 | 31 | 0.97 | 0 | 0 | 1.00 | 0 |
| SQL AREA BUILD | 16894 | 885 | 0.05 | 0 | 0 | 1.00 | 0 |

Shared Pool

Despliega informacion relacionada con las ejecuciones SQL en la RAM, es decir guarda información de las sentencias SQL ya ejecutadas.

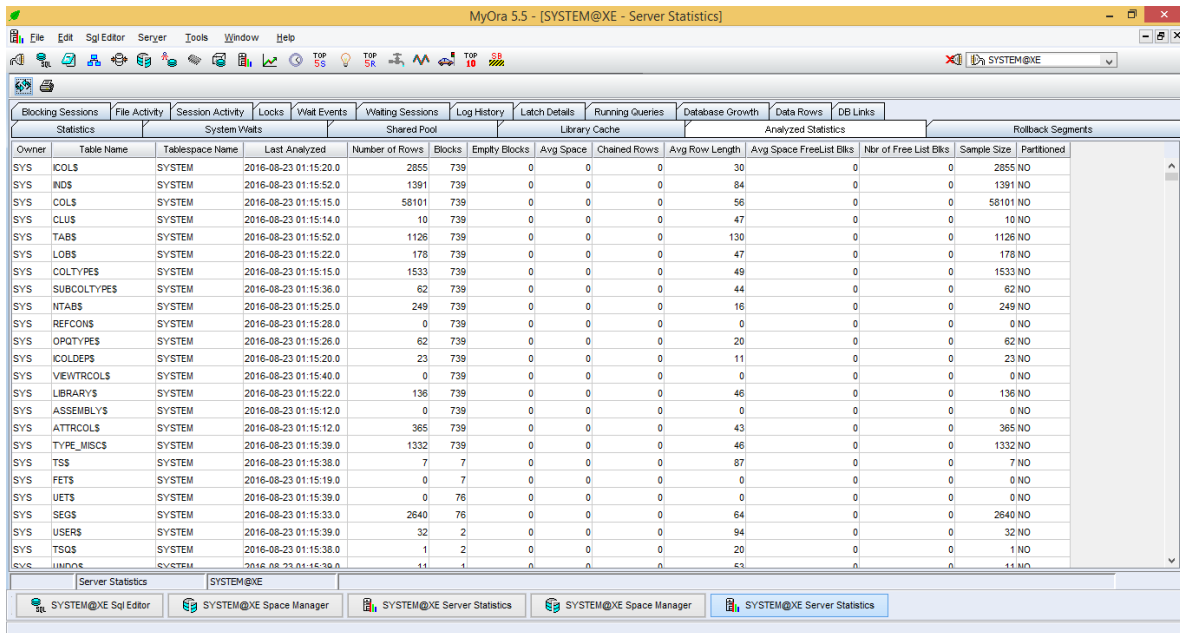


The screenshot shows the 'Shared Pool' tab in the MyOra 5.5 - [SYSTEM@XE - Server Statistics] window. The table displays various statistics for the shared pool, including Owner, Name, Type, Pinned, Shared Memory, Pins, Locks, and Loads.

| Owner | Name | Type | Pinned | Shared Memory | Pins | Locks | Loads |
|-------|------------------------------|--------------|--------|---------------|------|-------|-------|
| SYS | DBMS_FEATURE_OBJECT | PROCEDURE | NO | 4688 | 0 | 0 | 1 |
| SYS | PROFNUMS | SEQUENCE | NO | 0 | 0 | 0 | 2 |
| SYS | STANDARD | PACKAGE | NO | 650320 | 0 | 1 | 9 |
| SYS | DBMS_PRIVT_TRACE | PACKAGE | NO | 8608 | 0 | 1 | 1 |
| SYS | DBMS_STATS_INTERNAL | PACKAGE | NO | 0 | 0 | 0 | 1 |
| SYS | DBMS_OUTPUT | PACKAGE BODY | NO | 0 | 0 | 0 | 1 |
| SYS | DBMS_FEATURE_SEGADV_USER | PROCEDURE | NO | 4704 | 0 | 0 | 1 |
| SYS | DBMS_FEATURE_SFDEDUP_SYS | PROCEDURE | NO | 4704 | 0 | 0 | 1 |
| SYS | DBMS_SCHEDULER | PACKAGE | NO | 123472 | 0 | 0 | 2 |
| SYS | DBMS_OUTPUT | PACKAGE | NO | 0 | 0 | 0 | 5 |
| SYS | DBMS_JOB | PACKAGE | NO | 0 | 0 | 0 | 1 |
| SYS | WRHS_ADV_SEQ_DIR | SEQUENCE | NO | 0 | 0 | 0 | 1 |
| SYS | DBMS_BACKUP_RESTORE | PACKAGE BODY | NO | 130920 | 0 | 0 | 1 |
| SYS | DBMS_UTILITY | PACKAGE | NO | 12984 | 0 | 0 | 2 |
| SYS | DBMS_SQLTUNE_UTIL0 | PACKAGE | NO | 0 | 0 | 0 | 1 |
| SYS | AQS_SYSSERVICE_METRICS_TAB_N | SEQUENCE | NO | 0 | 0 | 0 | 2 |
| SYS | DBMS_FEATURE_SFDCOMPRESS_SYS | PROCEDURE | NO | 4704 | 0 | 0 | 1 |
| SYS | GET_MAX_CHECKPOINT | FUNCTION | NO | 4688 | 0 | 0 | 1 |
| SYS | DBMS_FEATURE_AWR | PROCEDURE | NO | 4688 | 0 | 0 | 1 |
| SYS | DBMS_FEATURE_SERVICES | PROCEDURE | NO | 4688 | 0 | 0 | 1 |
| SYS | DBMS_SQL | PACKAGE BODY | NO | 68032 | 0 | 0 | 1 |
| SYS | ORA_PLAN_ID_SEQS | SEQUENCE | NO | 4728 | 0 | 0 | 1 |
| SYS | PRVT_WORKLOAD | PACKAGE | NO | 0 | 0 | 0 | 1 |
| SYS | DBMS_FEATURE_AUTO_SQL | PROCEDURE | NO | 4688 | 0 | 0 | 1 |

Analized Statistics

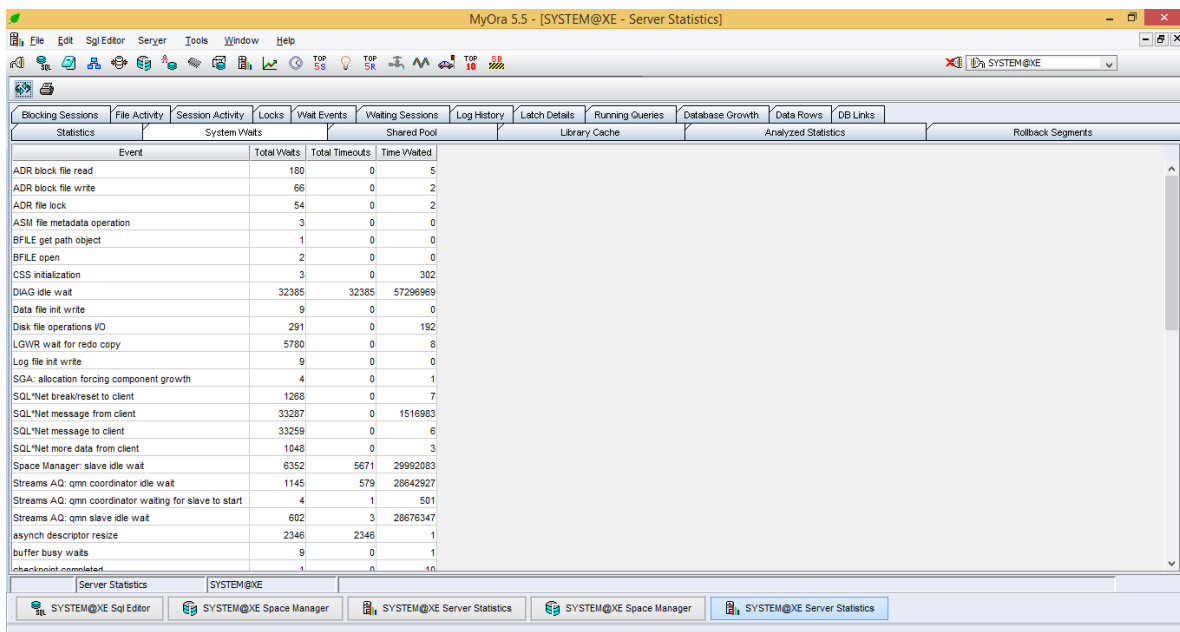
Brinda información con las estadísticas de las tablas, validez de la tabla, encadenamientos (importante monitorear para evitar problemas con índices), entre otros.



| Owner | Table Name | Tablespace Name | Last Analyzed | Number of Rows | Blocks | Empty Blocks | Avg Space | Chained Rows | Avg Row Length | Avg Space FreeList Blks | Nbr of Free List Blks | Sample Size | Partitioned |
|-------|-------------|-----------------|-----------------------|----------------|--------|--------------|-----------|--------------|----------------|-------------------------|-----------------------|-------------|-------------|
| SYS | ICOLS | SYSTEM | 2016-08-23 01:15:20.0 | 2855 | 739 | 0 | 0 | 0 | 30 | 0 | 0 | 2855 | NO |
| SYS | INDS | SYSTEM | 2016-08-23 01:15:52.0 | 1391 | 739 | 0 | 0 | 0 | 84 | 0 | 0 | 1391 | NO |
| SYS | COLS | SYSTEM | 2016-08-23 01:15:15.0 | 58101 | 739 | 0 | 0 | 0 | 56 | 0 | 0 | 58101 | NO |
| SYS | CLUS | SYSTEM | 2016-08-23 01:15:14.0 | 10 | 739 | 0 | 0 | 0 | 47 | 0 | 0 | 10 | NO |
| SYS | TABS | SYSTEM | 2016-08-23 01:15:52.0 | 1126 | 739 | 0 | 0 | 0 | 130 | 0 | 0 | 1126 | NO |
| SYS | LOBS | SYSTEM | 2016-08-23 01:15:22.0 | 178 | 739 | 0 | 0 | 0 | 47 | 0 | 0 | 178 | NO |
| SYS | COLTYPES | SYSTEM | 2016-08-23 01:15:15.0 | 1533 | 739 | 0 | 0 | 0 | 49 | 0 | 0 | 1533 | NO |
| SYS | SUBCOLTYPES | SYSTEM | 2016-08-23 01:15:36.0 | 62 | 739 | 0 | 0 | 0 | 44 | 0 | 0 | 62 | NO |
| SYS | NTABS | SYSTEM | 2016-08-23 01:15:25.0 | 249 | 739 | 0 | 0 | 0 | 16 | 0 | 0 | 249 | NO |
| SYS | REFCONS | SYSTEM | 2016-08-23 01:15:28.0 | 0 | 739 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NO |
| SYS | OPQTYPES | SYSTEM | 2016-08-23 01:15:26.0 | 62 | 739 | 0 | 0 | 0 | 20 | 0 | 0 | 62 | NO |
| SYS | ICOLDEPS | SYSTEM | 2016-08-23 01:15:20.0 | 23 | 739 | 0 | 0 | 0 | 11 | 0 | 0 | 23 | NO |
| SYS | VIEWTRCOLS | SYSTEM | 2016-08-23 01:15:40.0 | 0 | 739 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NO |
| SYS | LIBRARYS | SYSTEM | 2016-08-23 01:15:22.0 | 136 | 739 | 0 | 0 | 0 | 46 | 0 | 0 | 136 | NO |
| SYS | ASSEMBLYS | SYSTEM | 2016-08-23 01:15:12.0 | 0 | 739 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NO |
| SYS | ATTRCOLS | SYSTEM | 2016-08-23 01:15:12.0 | 365 | 739 | 0 | 0 | 0 | 43 | 0 | 0 | 365 | NO |
| SYS | TYPE_MISC\$ | SYSTEM | 2016-08-23 01:15:39.0 | 1332 | 739 | 0 | 0 | 0 | 46 | 0 | 0 | 1332 | NO |
| SYS | TSS | SYSTEM | 2016-08-23 01:15:38.0 | 7 | 7 | 0 | 0 | 0 | 87 | 0 | 0 | 7 | NO |
| SYS | FETS | SYSTEM | 2016-08-23 01:15:19.0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NO |
| SYS | UETS | SYSTEM | 2016-08-23 01:15:39.0 | 0 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NO |
| SYS | SEGS | SYSTEM | 2016-08-23 01:15:33.0 | 2640 | 76 | 0 | 0 | 0 | 64 | 0 | 0 | 2640 | NO |
| SYS | USERS | SYSTEM | 2016-08-23 01:15:39.0 | 32 | 2 | 0 | 0 | 0 | 94 | 0 | 0 | 32 | NO |
| SYS | TSQS | SYSTEM | 2016-08-23 01:15:38.0 | 1 | 2 | 0 | 0 | 0 | 20 | 0 | 0 | 1 | NO |
| SYS | UNDOO | SYSTEM | 2016-08-23 01:15:39.0 | 11 | 1 | 0 | 0 | 0 | 53 | 0 | 0 | 11 | NO |

System Waits

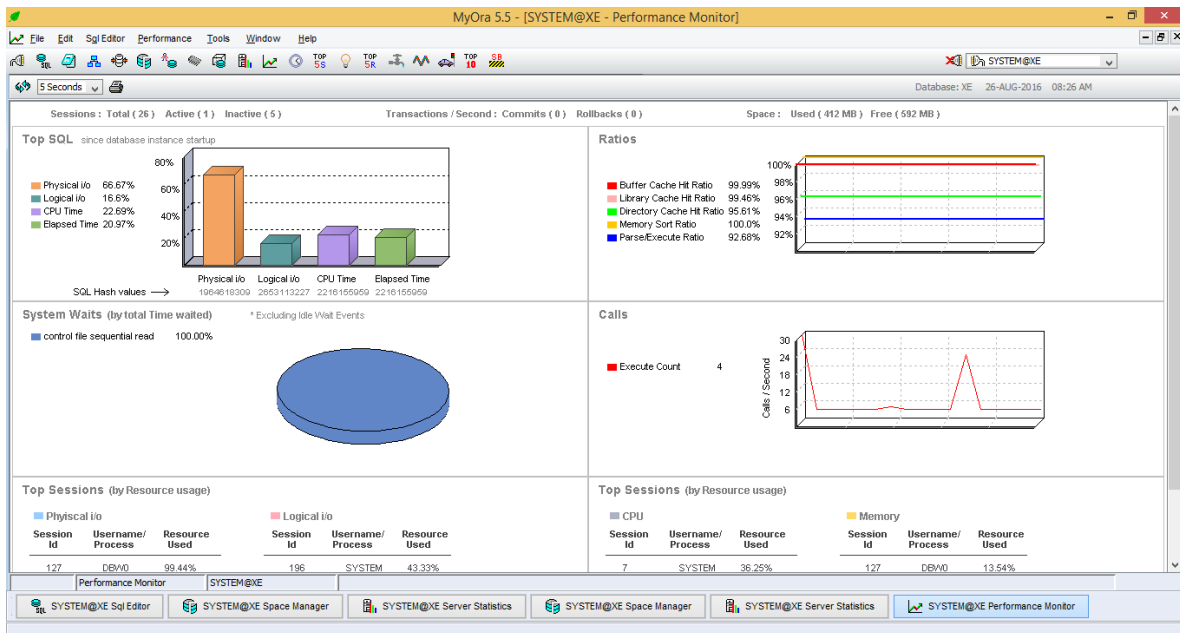
Información acerca de la espera del sistema



| Event | Total Waits | Total Timeouts | Time Waited |
|--|-------------|----------------|-------------|
| ADR block file read | 180 | 0 | 5 |
| ADR block file write | 66 | 0 | 2 |
| ADR file lock | 54 | 0 | 2 |
| ASM file metadata operation | 3 | 0 | 0 |
| BFILE get path object | 1 | 0 | 0 |
| BFILE open | 2 | 0 | 0 |
| CSS initialization | 3 | 0 | 302 |
| DIAG idle wait | 32385 | 32385 | 57296969 |
| Data file init write | 9 | 0 | 0 |
| Disk file operations I/O | 291 | 0 | 192 |
| LGWR wait for redo copy | 5780 | 0 | 8 |
| Log file init write | 9 | 0 | 0 |
| SGA: allocation forcing component growth | 4 | 0 | 1 |
| SQL*Net break/reset to client | 1268 | 0 | 7 |
| SQL*Net message from client | 33287 | 0 | 1516983 |
| SQL*Net message to client | 33259 | 0 | 6 |
| SQL*Net more data from client | 1048 | 0 | 3 |
| Space Manager: slave idle wait | 6352 | 5671 | 29992083 |
| Streams AQ: qmn coordinator idle wait | 1145 | 579 | 28642927 |
| Streams AQ: qmn coordinator waiting for slave to start | 4 | 1 | 501 |
| Streams AQ: qmn slave idle wait | 602 | 3 | 28676347 |
| asynch descriptor resize | 2346 | 2346 | 1 |
| buffer busy waits | 9 | 0 | 1 |
| checkpoint completed | 1 | 0 | 10 |

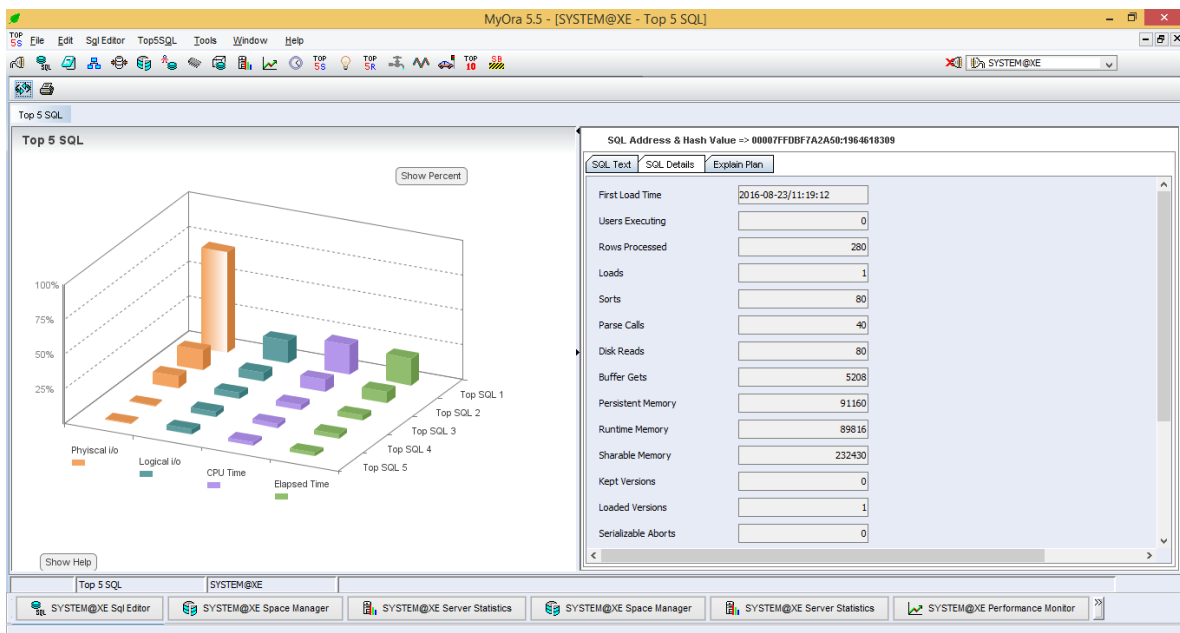
Performance Monitor

Despliega información con el rendimiento de la base de datos en general, mediante gráficos.



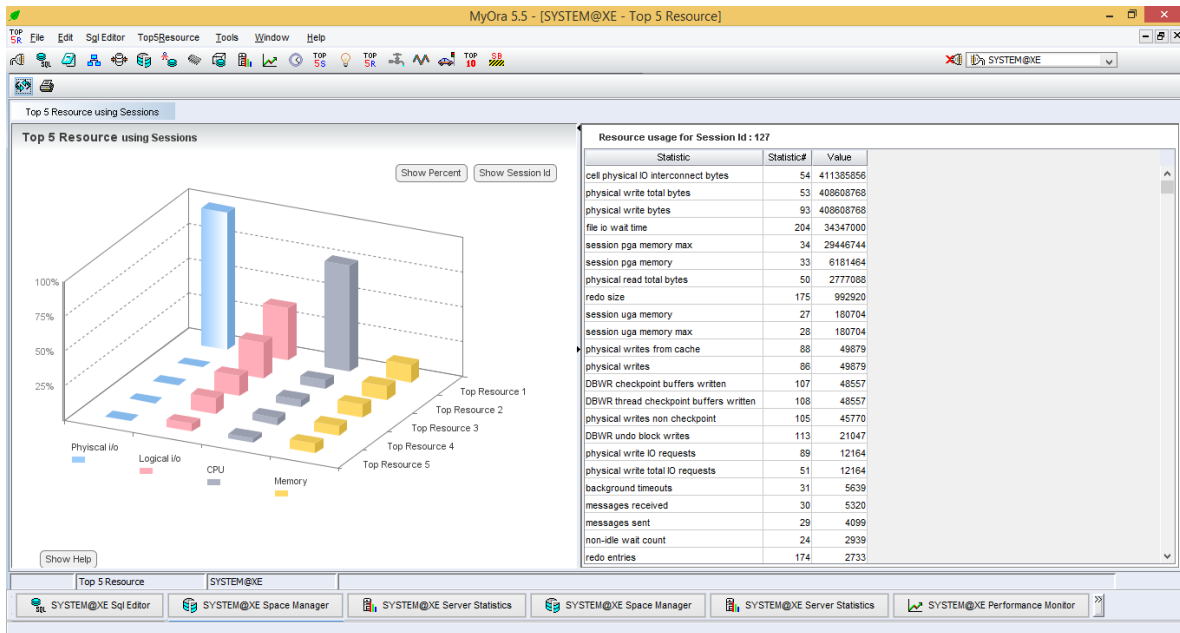
Top 5 SQL

Información acerca de los recursos almacenados en el Top 5 de ejecuciones SQL.



Top 5 Resource

Muestra información con el top 5 de la utilización de recursos que se encuentran grabados en la sesiones de la base de datos.



Top 10 SQL

Muestra información de escritura, lectura ejecuciones, tiempo, entre otras del Top 10 de sentencias SQL. Despliega 9 gráficos en total.

