



**MAS**  
4.0

## **MAS 4.0 Manual**

# Login Terms

**Username:** Name given to a user for access to the MAS application.

**Password:** Unique identifier for authenticating the user's access to the MAS application.



# Dashboard Terms

**Dashboard Taskbar Button:** Brings the user to the dashboard page.

**Jobs Taskbar Button:** Brings the user to the jobs page.

**System Taskbar Button:** Brings the user to systems options.

**Compliance Taskbar Button:** Brings the user to compliance options.

**Search Bar:** Gives the user search abilities for any command issued in MAS.

**Calendar:** Filters jobs by date range using determined by month/day.

**Filter Button:** Allows the user to sort jobs by day, status, or user.

**Daemon Status Button:** Confirms that the MAS Daemon is active or dormant.

**Executing Button:** Lists all jobs that are currently Executing.

**Succeeded Button:** Lists all jobs that have been successfully run.

**Scheduled Button:** Lists all jobs that are scheduled to be run.



## Dashboard Terms Cont.'

**Aborted Button:** Lists all jobs that were aborted.

**Failed Button:** Lists all jobs that were run but failed.

**Job List:** List of all jobs that are either scheduled, completed successfully, or have failed.

**Job Graph:** Shows a graph assigning a total number of jobs to each day within the month/day requested via the calendar.

**Server Performance Monitor:** Shows a list of servers and their current CPU status.



## Jobs (General)

**All Jobs Tab:** Lists all jobs that have been scheduled, completed, or failed.

**Upcoming Tab:** List all jobs that have been scheduled in advance.

**Search Bar:** Provides the user with search ability for any job command issued with MAS.

**Calendar:** Filters jobs to a date range determined by month/day.

**DBMS Filter:** Dropdown that filters jobs by DBMS: MSSQL, MYSQL, Oracle, PSSQL, MariaDB.

**Database Filter:** Filters jobs by databases connected to MAS.

**Server Filter:** Filters jobs by servers connected to MAS.

**Display Workload/Hide Workload Button:** Toggles a graph displaying daily job workload

**Job List:** List of all jobs that are either currently executing, succeeded, scheduled, aborted, or have failed.



## Jobs (New)

**Job Details Tab:** Gives users options to run jobs with variables of platform, process, date, hour, user, and multiple parameters.

**Output Tab:** Displays the output of the job performed.

## Jobs (Details Tab)

**Platform Filter:** Allows the user to select a DBMS to filter processes: MariaDB, MySQL, Oracle, PostgreSQL, MS SQL Server, Oracle RDS.

**Process Filter:** Provides a list of processes available based on the selected DBMS.

**Date Scheduler:** Allows the user to run a job based on a calendar date (month/day/year).

**Hour Scheduler:** Allows the user to run a job based on a 24-hour clock.

**User:** Displays the user currently running the selected job process.



## Jobs (Parameters)

**Shell Filter:** A shell account accessed via SSH on the server where the database resides.

**Instance Input:** The name of the database instance to be checked.

**Show Account URLs Checkbox:** Shows the user connection details.

**Target Shell Filter:** An SSH account on the server where the database to be scanned resides.

**DBMS Filter:** An account for a database or a connection to a database.

**Form Filter:** A form containing the set of information necessary to dump a database to a backup file.

**Repo Shell Filter:** An SSH account on the repository server that will be used on store Oracle LMS scan reports.

**Repo Working Directory Input:** A directory on the repository server (see `repo_shell` argument) to contain the scan report files.

**Oracle\_Home Input:** An optional value for the Oracle Home environment variable.

**Oracle\_Base Input:** An optional value for the ORACLE\_BASE environment variable.

**Dbconn Filter:** An account for a database or a connection to a database.



**Dbquery Input:** Query to run in the database server.

**Oformat Filter:** The data format of the process result.

**Pargs Input:** Bind variable values to be specified positionally within the SQL statement (refer to the process description for the definition of these values).

**Compact Filter:** Whether the compact form of the output format should be used.

**Db\_user Input:** The name of the schema or role to be granted permissions.

**Object\_name Input:** The name of the object to grant privileges for. The object can be directory, function, package, procedure, sequence, table or view. Object names must be spelled exactly as they appear in DBA\_OBJECTS. Note\*\*: Most system objects are defined in upper case.

**Privilege Input:** The type of privilege --SELECT or EXECUTE -- to grant.

**Db\_password Input:** The new password to be assigned to the account or the credential associated with the database access account.

**Db\_host Input:** The account host for which the password will be changed.

**Db\_account Input:** The account for which the password will be changed.

**Grant\_password Input:** The password assigned to the new account.

**Grant\_account Input:** The account to which access should be granted.

**Grant\_database Input:** The database to which access should be granted.



**Grant\_host Input:** The account to which access should be granted.

**Table Input:** The name of the table to describe.

**Directory Input:** The directory on the database server in which the file will be stored.

**Database Input:** The name of the database to be dumped. The database must reside on the server associated with the specified shell account.

**Db\_username Input:** The database username to use when connecting to the server. Note that the connection will come from 'user'@'localhost' with respect to authentication.

**To\_shell Filter:** A shell account accessed via SSH on the server where the file will be copied.

**From\_shell Filter:** A shell account accessed via SSH on the server where the database resides.

**Copy\_dest Input:** Fully qualified target filename on the server where the file will be copied.

**Dump\_directory Input:** The directory on the database server in which the file will be stored.

**Full\_backup\_directory Input:** The directory on the database server in which a previously created full backup exists. The incremental backup will be made from the differences between the current state of the database and this backup.

**Full\_backup Input:** The directory on the database server from which the base, full backup will be stored.

**Incremental\_backup\_ (1-6) Input:** A directory containing the selected incremental backup to restore.



**Master Filter:** An account to be used to specify the protocol, username and password for all the accounts to be built from the database list.

**Query Input:** The SQL statement to be executed against each database.

**Backup\_file Input:** The fully qualified path name of backup file from which the database is to be loaded.

**Session\_id Input:** The ID of the database session to be killed.

**Directory\_name Input:** The name of the directory to create.

**File\_name Input:** The name of the data transfer file.

**dumpfilename Input:** dumpfile existence

**Schema Input:** The name of the schema to be transferred.

**Sid Input:** The database SID from which the session should be disconnected.

**Serial\_number Input:** The serial number of the session to be disconnected.

**Timezone Input:** The time zone to use, either as an offset ("+3:00") or name ("Africa/Algiers").

**rman\_to\_dbms\_output Filter:** When TRUE, the RMAN output is sent to the DBMS\_OUTPUT package in addition to a file in the BDUMP directory. When using SQL\*Plus, execute SET SERVEROUTPUT ON to see the output. When FALSE, the RMAN output is only sent to a file in the BDUMP directory.



**Parallel Input:** The number of channels between 1 and 254 to be used for validation.

**Section\_size Input:** The section size in megabytes. The validation will occur in parallel by dividing each file into the specified section size.

**Validation\_type Input:** The level of corruption detection; either "PHYSICAL" or "PHYSICAL+LOGICAL".

**aru Input:** The ARU value for the files on the Oracle site to be downloaded.

**Oracle\_support\_account\_:** An account containing the credentials for an Oracle support account.

**Target\_directory Input:** Directory where Oracle files are to be placed.

**Parameter Input:** The name of the parameter being checked.

**cleanDefNet Filter:** Cleans up the default public network.

**CheckHeader Filter:** Checks for OAK/ASM header on disks after successfully running the cleanup script; used to validate if the OAK/ASM header was erased by the cleanup script or not.

**Force Filter:** Run in force mode, all commands will use the force option. The ASM disk header is erased. The oakd header on the disk is erased in both default and force modes.

**Groups Input:** Describes the list of groups. The default groups are oinstall, dba, asmadmin, asmoper, asmdba.



**Erasedata Filter:** Completely erases all disks on system. It is mandatory to run this option if the intention of the cleanup is to reuse or move these disks on other systems.

**Json Filter:** Option for true or false relation.

**Path Input:** The fully qualified file name that contains the JSON formatted data use to be used for provisioning the appliance.

**Use\_DHCP Filter:** Options for true or false.

**Interface Filter:** Dropdown filtering BTBOND1, BTBOND2, SFPBOND1.

**IP\_Address Input:** Static IP Address to be used if DHCP is not to be used.

**NetMask Input:** NetMask to be used if DHCP is not to be used.

**Use\_Bonding\_Public\_Interface Filter:** Options for true or false.

**VLAN\_ID Input:** If using VLAN, the VLAN ID.

**Gateway Input:** Gateway to be used if DHCP is not to be used.

**ilom Input:** The connection to the Oracle Database Appliance ILOM command line interface.

**Start\_date Input:** Job created since a specified date. In the format as YYYY-MM-DD or YYYY-MM-DD HH:mm:ss, e.g. 2018-01-01, 2018-01-01 01:00:00.

**Tail Input:** The maximum number of latest jobs to be displayed, values 1 to 200.

**Head Input:** The maximum number of oldest jobs to be displayed, values 1 to 200.



**End\_date Input:** Job created ahead of a specified date. In the format as YYYY-MM-DD or YYYY-MM-DD HH:mm:ss, e.g. 2018-01-01, 2018-01-01 01:00:00.

**Specific\_date Input:** Job created on a specified date. In the format as YYYY-MM-DD, e.g. 2018-01-01.

**Status Input:** Job status (Created, Scheduled, Running, Failure, Success, and InternalError).

**replace Filter:** Options for true or false.

**Mac Input:** The MAC address to match.

**Net Input:** The network to search, e.g. 10.1.1.0/24.

**Server\_list Input:** A list of IP addresses for nameservers to be placed in the file.

**Repetitions Input:** The number of times to display the information, a value of 0 will cause the process to loop until the job is no longer executing.

**Delay Input:** The number of minutes between displays.

**target Input:** The path of the target to be specified in the command.

**Shell\_param Input:** The name of the shell parameter as defined for the MAS process supplied by the work parameter.

**Work\_params Input:** Additional parameter values to be supplied to the process passed via the work parameter.



**Work Filter:** Definition depends on environment.

**Format Filter:** Dropdown with IGNORE, BLOCK, LINES, DISPLAY options.

**os\_directory Input:** The name of a new directory as referenced from the underlying operating system.

**Oracle\_directory Input:** The name of a new directory as referenced from Oracle.

**Full Filter:** Options for true or false.

**Schemas Input:** List of schemas to export.

**Tables Input-** List of tables to export.

**Dump\_file Input:** List of destination dump file names. For example, DUMPFIL+scott1.dmp, scott2.dmp, dmpdir:sott3.dmp.

**Log\_file Input:** The name of the log file.

**Append\_timestamp Filter:** Options for true or false.

**Reuse-dumpfiles Filter:** Options for true or false.

**Job\_name Input:** The name of the export job.

**Exclude Input:** Exclude specific object types.



**Include Input:** Include specific object types.

**Content Filter:** Dropdown with ALL, METADATA\_ONLY, DATA\_ONLY options.

**Estimate Filter:** Dropdown with BLOCKS or STATISTIC options.

**Estimate\_only Filter:** Options for true or false.

**filesize Input:** The size of each dump file in units of bytes.

**Views\_as\_tables Input:** List of views to be exported as tables.

**nologfile Filter:** Options for true or false.

**flashback\_scn Input:** SCN used to reset session snapshot.

**flashback\_time Input:** Time used to find the closest SCN value.

**remap\_data Input:** Specify a data conversion function.

**attach Input:** The name of an existing job to attach to.

**log\_time Filter:** Dropdown with NONE, ALL, LOGFILE, STATUS options.

**Sample Input:** percentage of data to be exported.

**Source\_edition Input:** Edition to be used for extracting metadata.



**tablespaces Input:** A list of tablespaces to export.

**transportable Filter:** Dropdown with NEVER OR ALWAYS as options.

**transport\_full\_check Filter:** Options for true or false.

**transport\_tablespaces Input:** List of tablespaces from which metadata will be unloaded.

**database\_version Input:** Version of objects to export, valid values are COMPATIBLE, LATEST, or any valid database version.

**Encryption Filter:** Dropdown with ALL, DATA\_ONLY, ENCRYPTED\_COLUMNS\_ONLY, METADATA\_ONLY options.

**encryption\_algorithm Filter:** Dropdown with USE\_DEFAULT, AES128, AES192, AES256 options.

**encription\_mode Filter:** Dropdown with USE\_DEFAULT, TRANSPARENT, DUAL, PASSWORD options.

**encription\_password Input:** The password key for creating encrypted data within a dump file.

**access\_method filter:** Dropdown with AUTOMATIC, DIRECT\_PATH, EXTERNAL\_TABLE options.

**Compression Filter:** Dropdown with METADATA\_ONLY, ALL, DATA\_ONLY, NONE options.

**compression\_algorithm Filter:** Dropdown with BASIC, LOW, MEDIUM, HIGH options.

**Cluster Filter:** Options for true or false.



**Service\_name Input:** Name of an active Service and associated resource group to constrain Oracle RAC resources.

**keep\_master Filter:** Options for true or false.

**Metrics Filter:** Options for true or false.

**Network\_link Input:** Name of remote database link to the source system.

**sql\_file Input:** Write all the SQL DDL to a specified file.

**Expired Filter:** Options for true or false.

**list\_type Filter:** Dropdown with options for BACKUP, BACKUPSET, COPY, INCARNATION.

**Summary Filter:** Options for true or false.

**by\_file Filter:** Options for true or false.

**connection\_format Filter:** Dropdown with options for LOCAL, REMOTE\_SHORT, REMOTE\_LONG.

**exclude\_password Filter:** Options for true or false.

**Version Input:** Optionally supply the version of the Oracle client tools to utilize.

**debug Filter:** Options for true or false.

**Script Input:** A script to be executed within RMAN.



**checksyntax Filter:** Options for true or false.

**rmancat Filter:** List of available server accounts.

**check\_instance Filter:** Options for true or false.

**Name Input:** The relative or fully qualified name of the process to be created.

**Description Input:** A description to detail the purpose of the newly created MAS process.

**Replvars-add Button:** Way to add name, type, deflt, and description to a script executed within SQL\*Plus.

**Replvalues Input:** A dictionary of replacement variable values to be bound to the SQL\*Plus script as PL/SQL variables for parameterized execution of the script.

**Work Input:** The SQL\*Plus script to be executed on each server.

**Signal Filter:** Options for true or false.

**reuse\_datafiles Filter:** Options for true or false.

**remap\_table Input:** Table names are remapped to another table.

**remap\_tablespace Input:** Tablespace objects are remapped to another tablespace.

**partition\_options Filter:** Dropdown with options for NONE, DEPARTITION, MERGE.



**data\_options Filter:** Dropdown with options for NONE, DISABLE\_APPEND\_HIT, SKIP\_CONSTRAINT\_ERRORS, REJECT\_ROWS\_WITH\_REPL\_CHAR.

**table\_exists\_action Filter:** Dropdown with options for SKIP, APPEND, REPLACE, TRUNCATE.

**target\_edition Input:** Edition to be used for loading metadata.

**master\_only Filter:** Options for true or false.

**Skip\_unusable\_indexes Filter:** Options for true or false.

**streams\_configuration Filter:** Options for true or false.

**filename Input:** The name of the file on the server that will contain the dbid.

**option Filter:** The type of shutdown to be performed.

**run\_as Filter:** Definition depends on environment.

**source\_shell Filter:** Definition depends on environment.

**upgrade Filter:** Options for true or false.

**patch\_file\_account Filter:** Definition depends on environment.

**release\_1/2 Input:** A release number in the format n.n.n.n.n.

**src\_directory Input:** The directory of the file to be copied.



**src\_shell Filter:** Definition depends on environment.

**dst\_directory Input:** A directory to where the file data should be copied to.

**dst\_shell Filter:** Definition depends on environment.

**patch\_directory Input:** The fully qualified name of the patch directory/ Directory where the Oracle PSU, JVM, and Opatch patch files are to be placed.

**apply Filter:** Options for true or false.

**jvm\_patch\_directory Input:** The JVM patch directory, the README.html file will be found here.

**psu\_patch\_directory Input:** The PSU patch directory, the README.html file will be found here.

**opatch\_zipped\_file Input:** The full qualified name of the opatch zip file.

**zipped\_file Input:** The fully qualified name of the opatch zip file.

**patch\_file Input:** The base name of the patch file to be downloaded.

**patch\_ARU Input:** The ARU value for the patch file when it is being downloaded from the Oracle site.

**source\_directory Input:** Source directory if retrieving the patch files for a source other than the Oracle support site.

**remote Filter:** Definition depends on environment.



**encpass Input:** The encrypted password for authenticating.

**Remote\_Host Input:** The hostname where the patch is to be applied.

**new\_state Filter:** Dropdown with options including INITIALIZE, JVM\_PATCH\_RETRIEVE, JVM\_PATCH\_UNZIP, PSU\_PATCH\_RETRIEVE, PSU\_PATCH\_UNZIP, OPATCH\_RETRIEVE, OPATCH\_COMPAT, DB\_COUNT, JVM\_PREREQ, PSU\_PREREQ, LONG\_TRANS, JVM\_SHUTDOWN\_DBS, JVM\_APPLY, JVM\_DATAPATCH, PSU\_SHUTDOWN\_DBS, PSU\_APPLY, PSU\_DATAPATCH, COMPLETED.

**master\_user\_account Input:** The user account to be used when connecting to the linked database.

**master\_user\_password Input:** The password associated with the master user account.

**remote\_sid Input:** The SID of the remote database to be linked.

**link\_name Input:** The name of the Oracle database link to be removed.

**remote\_port Input:** The IP port number used to connect with liked database host machine.

**destination\_file Input:** The name of the file to be placed in the destination file system. A file with the same name must not exist in the destination directory.

**destination\_directory Input:** The Oracle directory object into which the file is placed at the destination site. This directory object must exist in the destination file system.

**destination\_database Input:** The name of an Oracle database link to the destination database to which the file is copied.



**verbose Filter:** Options for true or false.

**target\_working\_dir Input:** LMS working directory on target host.

**schema\_name Input:** The gather statistics process will be run against this schema in this database.

**estimate\_percent Input:** The estimate percent value to be used for the gather table statistics process.

**state\_percentage Input:** The percentage of changed rows in a table to trigger a table to be reported as stale. The default is 30.

**base\_filename Input:** File name to be used in the standard export container.

**table\_name Input:** The name of the table to be exported.

**azure\_server Input:** The fully qualified name of the Azure server where the source DB resides.

**azure\_database Input:** The name of the on-prem database to be created on import.

**azure\_admin\_user Input:** The username of the Azure server Administrator account where the source DB resides.

**azure\_admin\_pw Input:** The full password of the Azure server Administrator where the source DB resides.

**target\_dbms Filter:** List of available database accounts.



**target\_database Input:** The name of the on-prem database to be created on import.

**azure\_sa\_userid Input:** The name of the system admin account on Azure that is to be the target of the import.

**azure\_sa\_pw Input:** The password of the system admin account on Azure that is to be the target of the import.

**pathfile Input:** For instances with no default backup destination defined, this is the path and filename for the backup. If a default is defined, use just the filename.

**data Input:** A dictionary of the arguments and their values to be passed to the process specified in the work argument.

**working\_directory Input:** The base directory INCLUDING TRAILING SLASH for where to back up the databases. If blank, default directory for the server is used.

**ddb input:** The database of the user to be created.

**ds input:** The default schema of the user to be created.

**login input:** The login to be created.

**Username Input:** The DB user to be created.

**Catalog Input:** The name of the catalog for the linked server to be created.

**dsource Input:** The name of the data source for the linked server to be created.

**provstring Input:** The name of the provider string for the linked server to be created.



**prodname Input:** The name of the product for the linked server to be created.

**location Input:** The name of the location for the linked server to be created.

**ruser Input:** The remote user of the linked server to be created.

**isname Input:** The name of the linked server to be created.

**rpw Input:** The remote password of the linked server to be created.

**pw Input:** The password of the login to be created.

**db Input:** The MSSQL database to be backed up.



## Jobs (New Schedule)

**Process Filter:** Database process to be run in MAS.

**Name:** Name given by the user to the database process being performed in MAS.

**Description:** Description given by the user to the database process being performed in MAS.

**T\_min:** Cron time format for minute of the hour.

**T\_hr:** Cron time format for hour of the day.

**T\_Day:** Cron time format for day of the month.

**T\_mon:** Cron time format for the month of the year.

**T\_wkd:** Cron time format for the day of the week.

**Notifications:** Gives the user the ability to alert Groups and/or Users to job events, such as: Job Start, Job Completion, Abnormal Event, via email notification.

**Add:** Opens the Notifications area for alerting Groups and/or Users to job events, such as: Job Start, Job Completion, Abnormal Event, via email notification.

**Save:** Saves the information used to fill out the "New Schedule" form.



## System Entities

**Vendita:** Dropdown that displays MAS Vendita Solution Pacs and provides routines to be used as building blocks for Vendita products.

**Microsoft:** Option that provides Vendita SQL Server Product Pac, providing routines to be used when managing SQL Server databases.

**SQLServer:** Vendita SQL Server Product Pac, providing routines to be used when managing SQL Server databases.

**Util:** Namespace for Microsoft SQL Server utilities.

**export\_folder:** A constant value containing the absolute path of the export folder on the MAS server to be used for MS SQL exports.

**export\_nexus:** A constant value used for MS SQL export and import processing on the MAS server.

**export\_owner:** A constant value used for MS SQL export and import processing on the MAS server.

**sqlpackage:** A constant value containing the fully qualified name of the sqlpackage program on the MAS server.

**exp:** Use the MS SQL Server SQL Package to export a database to a file.

**exp\_table:** Use the MS SQL Server SQL Package to export a database table to a file.

**imp:** Use the MS SQL Server SQL Package to export a file into a database.

**imp\_table:** Use the MS SQL Server SQL Package to import a table from a file of data into a database.



**migrate\_db\_from\_azure:** Use the MS SQL Server SQL Package to export a database from Azure and import to on-prem.

**migrate\_db\_to\_azure:** Use the MS SQL Server SQL Package to migrate a database from on-prem to Azure.

**Monitor:** MAS Vendita Solution Pacs, providing routines to be used as building blocks for Vendita products.

**lock\_report:** List locks in SQL Server instance sessions.

**sqlagent\_executions:** List executions of SQL Server Agent jobs.

**sqlagent\_jobs:** List SQL Server Agent jobs.

**sqlagent\_job\_step\_executions:** List executions of SQL Server Agent job steps.

**sqlagent\_job-steps:** List SQL Server Agent job steps.

**sqlagent\_schedules:** List SQL Server Agent job schedules.

**sqlserver\_start:** Start a SQL Server database service.

**sqlserver-status:** Show status of a SQL Server database service.

**sqlserver\_stop:** Stop a SQL Server database service.

**Wallet:** MAS Vendita Solution Pacs, providing routines to be used as building blocks for Vendita products.

**adhoc\_query:** Run an adhoc query in SQL Server.

**all\_objects:** List all objects in a SQL Server database.

**backup\_db:** Back up a SQL Server database.

**backup\_list:** List backups for a SQL Server database.

**backup\_multiple\_dbs:** Back up a group of SQL Server databases from a form.

**cpu\_session:** Show CPU usage by session in a SQL Server instance.

**create\_db\_user:** Create a SQL-authenticated database user in SQL Server.

**create\_linked\_server:** Create a linked server in SQL Server.



**create\_login:** Create a SQL-authenticated login in SQL Server.

**drop\_linked\_server:** Drop a linked server in SQL Server.

**file\_storage:** Show the file systems in SQL Server.

**index\_fragmentation:** Show index fragmentation in SQL Server.

**kill\_session:** Kill a SQL Server instance session.

**linked\_server\_list:** List linked servers in SQL Server.

**listall\_sp:** Show all system stored procedures in SQL Server.

**listdatabases:** List databases for a SQL Server instance.

**make\_user\_dbreader:** Grant the db\_datareader role to a SQL Server user.

**make\_user\_dbwriter:** Grant the db\_datawriter role to a SQL Server user.

**multi\_user\_mode:** Shutdown a SQL Server database and bring it back up in multi-user mode.

**query\_multiple\_dbs:** Run a T-SQL query in multiple SQL Server databases based on a form list.

**recovery\_model\_list:** Show the SQL Server database recovery model.

**restore\_db:** Restore a SQL Server database from a backup.

**revoke\_user\_dbreader:** Revoke the db\_datareader from a SQL Server user.

**revoke\_user\_dbwriter:** Revoke the db\_datawriter from a SQL Server user.

**single\_user\_mode:** Shutdown a SQL Server database and bring it back up in single-user mode.

**sp\_who:** Run the sp\_who system stored procedure.

**sp\_who2:** Run the sp\_who system stored procedure.

**tables\_index\_compression\_info:** Show compression in tables and indexes in a SQL Server database.

**tables\_indexes\_stats:** Generate system statistics for tables or indexes in a SQL Server database.



**Kerberos:** Namespace containing objects for supporting Kerberos as it relates to Microsoft SQL Server products.



**osnexus:** An alias to the constant for user key of the MAS Utility account on the MAS server.

**osuser:** An alias to the constant for the MAS utility account on the MAS server.

**x\_user\_not\_in\_ad\_format:** An exception for when the user field in an account is not in the Active Directory format (<domain>\<user>).

**create\_ticket:** Create a Kerberos ticket for the user in the specified account if it does not already exist.

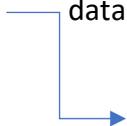
**delete\_ticket:** Destroy a Kerberos ticket, if it exists, for the username specified in the provided account.

**list\_ticket:** List any Kerberos tickets that may exist for the username specified in the provided account.

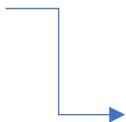
**ticket\_cache:** Determine if the specified user has a Kerberos ticket, and if so, return the cache name.

**verify\_ticket:** Determine if the specified username has an existing Kerberos ticket.

**Oracle:** Vendita Oracle Product Pac, providing routines to be used when managing Oracle databases.

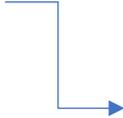


**rdbms:** Vendita Oracle RDBMS related Product Pac, providing routines to be used as building blocks for Vendita products.



**cli:** The Oracle RDBMS includes several command line tools that can be used to configure and to interact with the database server. This namespace includes links to the command line tools.





**env:** A namespace defining entities used to set up the Oracle execution environment within a shell connection to a remote system.



**unix\_base:** A constant defined to be the default installation location for Oracle products.

**unix\_oratab:** A constant defined for the location of the Oracle oratab file.

**linux\_base:** UNIX and LINUX both use the same default install location for Oracle.

**linux\_oratab:** UNIX and LINUX both use the same location for the Oracle oratab file.

**x\_base\_not\_prefix:** An exception to be thrown when the Oracle Base value is not a prefix of the Oracle Home value.

**x\_env:** An exception to be thrown when the Oracle environment cannot be set up for a remote shell connection.

**x\_file\_does\_not\_exist:** An exception to be thrown when a usable Oracle Home value is not an existing path.

**x\_no\_home\_found:** An exception to be thrown when a usable Oracle Home value can't be determined.

**x\_unable\_to\_determine\_base:** An exception to be thrown when unable to determine an Oracle Base value from the Oracle Home value.

**find\_base:** Determine the absolute location to be assigned to the environment variable within a remote shell.

**find\_home:** Determine the home directory within an Oracle version to be used for the command line tools.

**find\_oracle\_home:** Find a suitable Oracle Home value on a server. The values will be taken from the Oracle oratab file and checked for existence.



**find\_version:** Determine the subdirectory under as the version of the client command line tools to be used.

**oravars:** If required, set up the Oracle environment variables necessary to execute Oracle RDBMS command line programs.

**set:** If required, set up the Oracle environment variables necessary to execute Oracle RDBMS command line programs.

**set\_path:** If required, set up the Oracle environment variables necessary to execute Oracle RDBMS command line programs.

**conn:** The Oracle Relational Database Management System (RDBMS) includes several command line tools that can be used to configure and to interact with the database server. This namespace includes processes to facilitate connecting from the tools to the database.



**x\_unknown\_format:** An exception for when the connect stringspec format requested has a value that has not been coded for.

**stringspec:** Build an Oracle connection string from information in an account argument.

**format:** An enumerated data type to specify different formatting options for an Oracle connection specification. LOCAL  
REMOTE\_SHORT REMOTE\_LONG.

**expdp:** A namespace containing processes to interact with the Oracle Datapump Export (expdp) client running on a remote server.



**x\_expdp\_error:** An exception for when the expdp process throws a command error.



**cmd:** Execute Datapump expdp using the list of provided commands after placing them in a file.

**impdp:** A namespace containing processes to interact with the Oracle Datapump Import (impdp) client running on a remote server.



**x\_impdp\_error:** An exception for when the impdp process throws a command error.

**cmd:** Execute Datapump impdp using the list of provided commands after placing them in a file.

**rman:** A namespace containing processes to interact with the Oracle Recovery Manager (RMAN) client running on a remote server.



**x\_rman\_error:** An exception for when the rman process throws a command error.

**x\_vars\_not\_supported:** An exception for when the rman script contains substitution variables.

**cmd:** Execute rman using the list of provided commands after placing them in a file.

**execute:** Execute a single RMAN script in a remote shell.

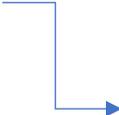
**script:** Import a RMAN script, embedding it into a MAS process for repeated\nexecution.

**sqlplus:** A namespace containing processes to interact with the Oracle SQL\*Plus client running on a remote server.



**x\_failed\_sqlplus\_init:** An exception for when the sqlplus cmd process is unable to establish a sqlplus session.





**var:** A namespace containing processes used to bind variable values within SQL\*Plus to avoid the possibility of SQL injection attacks via the MAS SQL\*Plus process.



**bind:** Convert the definition of a SQL replacement variable into a SQL\*Plus variable assignment, binding the value to the variable for use within a SQL script.

**define:** Convert the definition of a SQL replacement variable into a SQL\*Plus variable definition to be prepended to a SQL\*Plus script.

**bind:** Define and incorporate variables as PL/SQL bind variables with respect to a SQL\*Plus script. This avoids the possibility of SQL injection attacks via MAS processes.

**cmd:** Initiate the SQL\*Plus command on an already open connection to a remote server.

**cmd\_v2:** Initiate the SQL\*Plus command on an already open connection to a remote server.

**execute:** Start SQL\*Plus in a remote shell and execute a single SQL\*Plus script. This process returns the result data of the script as a single string.

**execute\_v2:** Start SQL\*Plus in a remote shell and execute a single SQL\*Plus script. This process returns the result data of the script as a single string.

**query\_multiple\_dbs:** Given a list of SSH and Oracle accounts, iterate through a list of server identifiers and invoke a given query through SQL\*Plus.



**query\_multiple\_dbs\_adv:** Given a list of SSH and Oracle accounts, iterate through a list of server identifiers and invoke a given query through SQL\*Plus.

**script:** Import a SQL\*Plus script, embedding it into a MAS process for repeated execution. In addition, this process enables defining parameters for script replacement variables, allowing parameterized execution of scripts.

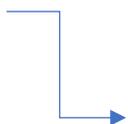
**script\_v2:** Import a SQL\*Plus script, embedding it into a MAS process for repeated execution. In addition, this process enables defining parameters for script replacement variables, allowing parameterized execution of scripts.

**session:** Start SQL\*Plus in a remote shell and wrap the connection in a program instance allowing multiple SQL commands to be executed. This process returns the program instance wrapping the shell executing the SQL\*Plus command line program.

**server\_list:** List of servers, either by host name or IP Address, for multiprocessing a process.

**server\_list\_adv:** List of servers, either by host name or IP Address, for multiprocessing a process.

**util:** Vendita Oracle RDBMS related Product Pac, providing routines to be used as building blocks for Vendita products.



**lms:** Vendita Oracle LMS Utility.



**form\_data\_folder:** A constant value containing the absolute path of the folder on the MAS server containing the files to be used to populate the fields for the LMS Software Scan form.



**form\_name:** A constant value containing the name to be used for the LMS Software Scan form.

**form\_data\_nexus:** An alias to the constant for the user key of the MAS Utility account on the MAS server.

**form\_data\_owner:** An alias to the constant for the MAS Utility account on the MAS server.

**x\_lms\_directory\_not\_found:** An exception for when user specified directory does not exist.

**x\_lms\_file\_not\_found:** An exception for when user specified file does not exist.

**form\_load:** Create an empty LMS Software Scan form and populate the fields from external files.

**hw\_scan:** Process to run Oracle LMS script ct\_cpuq.sh using MAS directives on a unix Server.

**packager:** Process to package/concatenate Oracle LMS CSV files collected and deposited into repo\_working\_dir by MAS sw\_scan and hw\_scan processes.

**sw\_scan:** Oracle License Management Service (LMS) software scan (db\_usage\_tracking\_queries\_v2.sql) of an Oracle DB.

**sw\_scan\_pt:** DBMS Oracle Compliance sw main 1 script prototype.

**directory:** Namespace for processes for maintaining Oracle RDBMS Directory objects.



**x\_directory\_os\_path\_not\_found:** An exception for when a check for OS path of an Oracle Directory fails to find the OS path.



**x\_dir\_not\_found:** An exception for when a check for an Oracle Directory fails to find the Directory.

**exists:** Determine if one or more of the Oracle Directories exists and if the OS path a Directory refers to also exists. Return True if they all exist, throw an exception if any of the directories do not exist or their OS path does not exist.

**dblink:** Vendita Oracle RDBMS backup related Product Pac, providing routines to be used as building blocks for Vendita products.



**create:** Kill a directory in an Oracle RDS environment.

**drop:** Remove an Oracle database links.

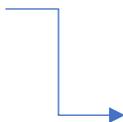
**ls:** Display all defined Oracle database links.

**file\_transfer:** Vendita Oracle RDBMS backup related Product Pac, providing routines to be used as building blocks for Vendita products.



**put\_file:** This process uses the Oracle DBMS\_FILE\_TRANSFER package PUT\_FILE subprogram to read a file and contact a destination database to create a copy of the file in the destination file system.

**monitor:** Vendita Oracle RDBMS backup related Product Pac, providing routines to be used as building blocks for Vendita products.



**host:** Oracle Namespace Host Monitoring Utilities.



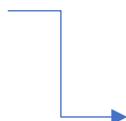
**cpu\_load\_server:** Show percentage of CPU usage for server that hosts Oracle database server.

**licensed\_feature\_usage:** Vendita Oracle RDBMS related Product Pac, providing routines to be used for licensed feature usage support.



**full\_report:** Report on the licensable Oracle features in use within a database.

**object\_management:** Vendita Oracle RDBMS related Product Pac, providing routines to be used for object management.



**compile\_invalid:** Run the utlrp utility in an Oracle database to Compile invalid objects.

**list\_invalid:** Identify invalid objects in an Oracle database.

**locks:** List object locks currently being held in an Oracle database.

**optimizer:** Vendita Oracle RDBMS backup related Product Pac, providing routines to be used as building blocks for Vendita products.



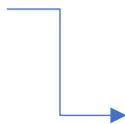
**gather\_schema:** Run gather\_schema\_stats against a specified schema in an Oracle database.

**gather\_table:** Run gather\_table\_stats process against a table in an Oracle database.

**stale:** Identify stale objects in the specified Oracle database, objects that should have their statistics updated.



**session:** Vendita Oracle RDBMS related Product Pac, providing routines for monitoring session.

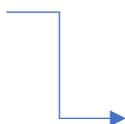


**list:** Vendita Oracle RDBMS related Product Pac, containing routines to be used for listing database sessions.



**all:** List all active sessions in an Oracle database.

**performance:** Vendita Oracle RDBMS related Product Pac, providing routines to be used for monitoring session performance.

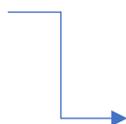


**cpu:** List CPU utilization for the sessions in an Oracle database.

**cpu\_load\_session:** Show percentage of CPU usage for activity on an Oracle database that is NOT an internal process. This will primarily be connected sessions. Does NOT exclude activity by the SYS or SYSTEM users.

**wait:** List wait statistics for the sessions in an Oracle database.

**storage:** Vendita Oracle RDBMS related Product Pac, providing routines to be used for monitoring storage aspects Oracle RDBMS products.



**all\_sessions\_v2:** All sessions export for API compatibility.

**data\_files:** List information about the data files in an Oracle database.

**datafile\_usage:** Report on the licensable Oracle features in use within a database.

**filesystem\_info:** List information about the filesystems on a Server.

**rman\_backup\_last24hrs:** Report on the licensable Oracle features in use within a database.



**rman\_backup\_last24hrsv3:** Display storage utilization and free space available to an Oracle database.

**tablespace\_detail:** Show percentage of CPU usage for activity on an Oracle database that is NOT an internal process. This will primarily be connected sessions. Does NOT exclude activity by the SYS or SYSTEM users.

**tablespaces:** List information about the tablespaces in an Oracle database.

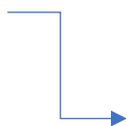
**tablespace\_usage:** Report on the licensable Oracle features in use within a database.

**ts\_usage:** Display storage utilization and free space available to an Oracle database.

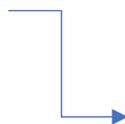
**ad\_hoc\_query:** Execute an ad-hoc query against an Oracle instance.

**adhoc\_query:** Execute an ad-hoc query against an Oracle instance.

**backup:** Vendita Oracle RDBMS backup related Product Pac, providing routines to be used as building blocks for Vendita products.



**physical:** Vendita Oracle RDBMS backup physical related Product Pac, providing routines to be used as building blocks for Vendita products.



**rman:** A namespace containing physical rman backup routines.

**x\_controlfile\_not\_found:** An exception for when the most recent controlfile backup file cannot be identified.



**x\_directory\_not\_found:** An exception for when a directory does not exist.

**create:** Backup a database instance and, optionally, the archive logs and spfile.

**list:** Perform various versions of the Oracle RMAN list command.

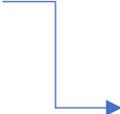
**restore:** Restore the most recent controlfile and then the database instance.

**rman\_backup\_pt:** Prototype for RMAN backup.

**rman\_restore\_pt:** Prototype for RMAN restore.

**list\_type:** An enumerated data type to specify the various of Oracle RMAN list reports. BACKUP  
BACKUPSET COPY INCARNATION.

**logical:** Vendita Oracle RDBMS backup logical related Product Pac, providing routines to be used as building blocks for Vendita products.



**datapump:** Vendita Oracle RDBMS Product Pac, providing functionality for Datapump in Oracle database deployments.



# System Explorer

**Explorer:** List of database systems connected to MAS in a collapsing layout.

**DBMS:** Visual links to each database system connected to MAS.

**Add New Server:** Connect a new server to the MAS application.

## Details:

**Name:** ID given by the user for the added server.

**Protocol:** Selected protocol option for the added server: SSH, ILOM, Credential.

**Description:** Description given by the user for the added server.

**Connection Info:** Information used to establish a connection to the server.

**Host:** IP or DNS name of the host for the added server.

**Port:** Port number for the added server.

**User:** Name of the user adding the new server to MAS.

**Password:** Credentials used to access the new server.

**Confirm Password:** Second entry of credentials used to access the new server.

**Check box - Use RSA Key:** Gives the user an option to use an RSA key for the selected server.

**Add New Database:** Connect a new database to the MAS application.



**Details:**

**Name:** ID given by the user for the added database.

**Protocol:** Type of database to be added to MAS: MSSQL, Oracle, MYSQL, PGSQL.

**Description:** Description given by the user for the added database.

**Connection Info:** Information used to establish a connection to the database.

**Host:** IP or DNS name of the host for the added database.

**Port:** Port number for the added database.

**User:** Name of the user adding the new database to MAS.

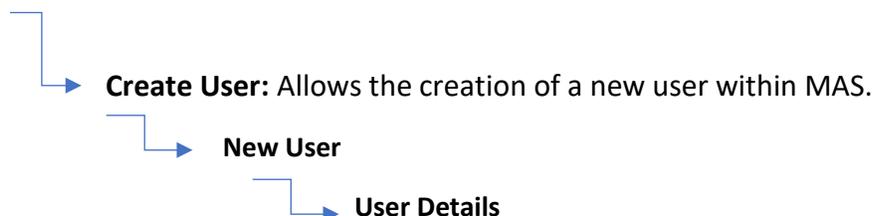
**Password:** Credentials used to access the new database.

**Confirm Password:** Second entry of credentials used to access the new database.



## System Users and Groups

**Users Tab:** List of all users with access to MAS.



**Create User:** Allows the creation of a new user within MAS.

**New User**

**User Details**

**Username:** Name used to identify the created user within MAS.

**Short Description:** Description to provide user ID details for the user.

**Password:** Credentials used to establish the user's access to MAS.

**Confirm Password:** Second entry of credentials to gain access to MAS.

**Member of Groups:** List of the groups the selected user belongs to within MAS.

**Add to Group:** List of groups the user can be associated with in MAS.

**User Viewer:** Selects a user from the Users List to view or edit their details.

**Global Privileges:** Checkboxes used to give/deny access to the following areas of MAS: Account, Alias, Constant, Exception, Form, Namespace, Process, Prototype, Schedule, Type.

**Member of Groups:** List of groups the selected user belongs to within MAS.

**Remove:** Allows for the selected user to be removed from MAS.

**User Details:** Displays details for the selected MAS user.

**Created:** Day, Month, Year the user was created.



**Updated on:** Day, Month, Year the user was most recently updated.

**Short Description:** Description of MAS user.

**Change Password:** Allows the user to establish new credentials to MAS.



**Password:** Credentials used to establish the user's access to MAS.

**Confirm Password:** Second entry of credentials to gain access to MAS.

**Contact Info:** Information available for contacting the MAS user.

**First Name:** User's first name.

**Last Name:** User's last name.

**Address:** User's physical address.

**Phone Number:** User's phone number.

**Email Address:** User's email address (NOTE: This email will be used for notifications by the MAS application).

**Groups Tab:** List of all groups within MAS.

**Create Group:** Allows the creation of a new user within MAS.



**New Group**



**Group Details**

**Group Name:** Name used to identify the group within MAS

**Short Description:** Description to provide ID details for the group.

**Member of Groups:** List of groups the selected group belongs to.



**Add to Group:** List of groups the group can be associated with in MAS.



# Compliance: License Collection

## License Collection

### Hardware Data Requirements Collection

**Job:** Hardware scan for Oracle Audit.

**Process:** Process to run Oracle LMS script `ct_cpuq.sh` using MAS directives on a UNIX server.

**Job Parameters:** SSH connection to repo server, working directory in the repo host, SSH connection to target server, working directory in the target host.

**Repo server SSH:** Server to be used as a repository for the gathered hardware data.

**Repo directory:** The directory on the repository server (see `repo_shell` argument) that contains the Oracle LMS scripts.

**Target server SSHL:** Server to be used as the target for the hardware data script.

**Working directory:** LMS working directory on target host.

**View Output:** Once a scan has been completed, this will make the output file viewable.



## Software Data Requirements Collection

**Job:** Database features scan for Oracle audit.

**Process:** Oracle License Management (LMS) software scan (db\_usage\_tracking\_queries\_v2sql) of an Oracle DB.

**Job Parameters:** SSH connection to target server, Target DBMS, Database form for the target database, SSH connection to the target host, working directory in the repo host.

**Target server SSH:** Server to be used as the target for the software data script.

**Target DBMS:** Database to be used as the target for the software data script.

**Database form:** MAS form created to run the software collection process (mas0000.user.mas.form.lms\_sw\_scan\_queries)

**Repo server SSH:** Server to be used as a target for the gathered software data.

**Repo directory:** A directory on the repository server (see repo\_shell argument) to contain the scan report files.

**View Output:** Once a scan has been completed, this will make the output file viewable.

## Packaging Process

**Job:** Package (Hardware and Software) file for Oracle audit.



**Job Parameters:** Repo working directory, repo SSH connection.

**Repo server SSH:** Server to be used as a repository for the packaged hardware and software data.

**Repo directory:** LMS repo directory.

**Download:** Creates a download of the packaged data files.

**Email:** Allow the user to email the packaged data files.



# Compliance: Executive Dashboard

## Executive Dashboard

**On-Prem/VM display:** Toggles the dashboard display for on-premises servers or Virtual Machines that have been scanned.

**Refresh button:** Refreshes the dashboard.

### On-premises Server Information:

**Search Bar:** Allows for the user to search through the list of servers scanned for the dashboard.

**Server List:** Displays all servers that have been scanned for the dashboard.

**Total servers:** Displays the total number of cores and Server Core Distribution of the scanned server list.

**Total databases:** Displays the total number of databases, and which are running Enterprise Edition or Standard Edition.

**Options Installed:** Displays all Oracle database options installed in the scanned servers.

**Select All/Deselect All:** Allow the user to select or deselect all scanned servers for display within the dashboard.

### VM Server Information

