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Introduction to Oracle Supplied PL/SQL Packages & Types

Oracle supplies many PL/SQL packages with the Oracle server to extend database functionality and provide PL/SQL access to SQL features. You can use the supplied packages when creating your applications or for ideas in creating your own stored procedures.

This manual covers the packages provided with the Oracle database server. Packages supplied with other products, such as Oracle Developer or the Oracle Application Server, are not covered.

Note that not every package or type described in this manual or elsewhere in the Oracle Database Documentation Library is installed by default. In such cases, the documentation states this and explains how to install the object. Run this query as a suitably privileged user:

```
SELECT DISTINCT Owner, Object_Type, Object_Name FROM DBA_Objects_AE
    WHERE Owner IN (
        'SYS', 'OUTLN', 'SYSTEM', 'CTXSYS', 'DBSNMP',
        'LOGSTDBY_ADMINISTRATOR', 'ORDSYS',
        'ORDPLUGINS', 'OEM_MONITOR', 'MDSYS', 'LBACSYS',
        'DMSYS', 'WMSYS', 'OLAPDBA', 'OLAPSVR', 'OLAP_USER',
        'OLAPSYS', 'EXFSYS', 'SYSMAN', 'MDDATA',
        'SI_INFORMTN_SCHEMA', 'XDB', 'ODM')
    AND Object_Type IN ('PACKAGE', 'TYPE')
    ORDER BY Owner, Object_Type, Object_Name
```

This lists every Oracle-supplied package and type that is currently installed in the database. Note that it lists a number of objects not mentioned in the Oracle Database Documentation Library. This is deliberate. Some of the Oracle-supplied packages and types are intended to be used only by other Oracle-supplied components. Any package or type that is not described in the Oracle Database Documentation Library is not supported for direct customer use.

This chapter contains the following topics:

- Package Overview
- Summary of Oracle Supplied PL/SQL Packages and Types

> ✏️ **See Also:**
>
> *Oracle Database Development Guide* for information on how to create your own packages

Package Overview

A *package* is an encapsulated collection of related program objects stored together in the database. Program objects are procedures, functions, variables, constants, cursors, and exceptions.

Package Components

PL/SQL packages have two parts: the specification and the body, although sometimes the body is unnecessary. The specification is the interface to your application; it declares the types, variables, constants, exceptions, cursors, and subprograms available for use. The body fully defines cursors and subprograms, and so implements the specification.

Unlike subprograms, packages cannot be called, parameterized, or nested. However, the formats of a package and a subprogram are similar:

```
CREATE PACKAGE name AS  -- specification (visible part)
   -- public type and item declarations
   -- subprogram specifications
END [name];

CREATE PACKAGE BODY name AS  -- body (hidden part)
   -- private type and item declarations
   -- subprogram bodies
[BEGIN
   -- initialization statements]
END [name];
```

The specification holds public declarations that are visible to your application. The body holds implementation details and private declarations that are hidden from your application. You can debug, enhance, or replace a package body without changing the specification. You can change a package body without recompiling calling programs because the implementation details in the body are hidden from your application.

Using Oracle Supplied Packages

Most Oracle supplied packages are automatically installed when the database is created. Certain packages are not installed automatically. Special installation instructions for these packages are documented in the individual chapters.

To call a PL/SQL function from SQL, you must either own the function or have EXECUTE privileges on the function. To select from a view defined with a PL/SQL function, you must have SELECT privileges on the view. No separate EXECUTE privileges are needed to select from the view. Instructions on special requirements for packages are documented in the individual chapters.

Creating New Packages

To create packages and store them permanently in an Oracle database, use the CREATE PACKAGE and CREATE PACKAGE BODY statements. You can execute these statements interactively from SQL*Plus or Enterprise Manager.

To create a new package, do the following:

1. Create the package specification with the CREATE PACKAGE statement.

   You can declare program objects in the package specification. Such objects are called *public* objects. Public objects can be referenced outside the package, as well as by other objects in the package.

> **✎ Note:**
>
> It is often more convenient to add the `OR REPLACE` clause in the `CREATE PACKAGE` statement. But note that `CREATE PACKAGE` warns you if you are about to overwrite an existing package with the same name while `CREATE OR REPLACE just` overwrites it with no warning.

2. Create the package body with the `CREATE PACKAGE BODY` statement.

   You can declare and define program objects in the package body.

   - You must define public objects declared in the package specification.

   - You can declare and define additional package objects, called *private* objects. Private objects are declared in the package body rather than in the package specification, so they can be referenced only by other objects in the package. They cannot be referenced outside the package.

   > **✎ See Also:**
   >
   > – *Oracle Database PL/SQL Language Reference*
   > – *Oracle Database Development Guide* for more information on creating new packages
   > – *Oracle Database Concepts*
   >
   > for more information on storing and executing packages

Separating the Specification and Body

The specification of a package declares the public types, variables, constants, and subprograms that are visible outside the immediate scope of the package. The body of a package defines the objects declared in the specification, as well as private objects that are not visible to applications outside the package.

Oracle stores the specification and body of a package separately in the database. Other schema objects that call or reference public program objects depend only on the package specification, not on the package body. Using this distinction, you can change the definition of a program object in the package body without causing Oracle to invalidate other schema objects that call or reference the program object. Oracle invalidates dependent schema objects only if you change the declaration of the program object in the package specification.

Creating a New Package: Example

The following example shows a package specification for a package named `EMPLOYEE_MANAGEMENT`. The package contains one stored function and two stored procedures.

```
CREATE PACKAGE employee_management AS
   FUNCTION hire_emp (name VARCHAR2, job VARCHAR2,
      mgr NUMBER, hiredate DATE, sal NUMBER, comm NUMBER,
      deptno NUMBER) RETURN NUMBER;
   PROCEDURE fire_emp (emp_id NUMBER);
   PROCEDURE sal_raise (emp_id NUMBER, sal_incr NUMBER);
END employee_management;
```

The body for this package defines the function and the procedures:

```
CREATE PACKAGE BODY employee_management AS
   FUNCTION hire_emp (name VARCHAR2, job VARCHAR2,
      mgr NUMBER, hiredate DATE, sal NUMBER, comm NUMBER,
      deptno NUMBER) RETURN NUMBER IS
```

The function accepts all arguments for the fields in the employee table except for the employee number. A value for this field is supplied by a sequence. The function returns the sequence number generated by the call to this function.

```
      new_empno     NUMBER(10);

   BEGIN
      SELECT emp_sequence.NEXTVAL INTO new_empno FROM dual;
      INSERT INTO emp VALUES (new_empno, name, job, mgr,
         hiredate, sal, comm, deptno);
      RETURN (new_empno);
   END hire_emp;

   PROCEDURE fire_emp(emp_id IN NUMBER) AS
```

The procedure deletes the employee with an employee number that corresponds to the argument emp_id. If no employee is found, then an exception is raised.

```
   BEGIN
      DELETE FROM emp WHERE empno = emp_id;
      IF SQL%NOTFOUND THEN
      raise_application_error(-20011, 'Invalid Employee
         Number: ' || TO_CHAR(emp_id));
   END IF;
END fire_emp;

PROCEDURE sal_raise (emp_id IN NUMBER, sal_incr IN NUMBER) AS
```

The procedure accepts two arguments. Emp_id is a number that corresponds to an employee number. Sal_incr is the amount by which to increase the employee's salary.

```
   BEGIN

   -- If employee exists, then update salary with increase.

      UPDATE emp
         SET sal = sal + sal_incr
         WHERE empno = emp_id;
      IF SQL%NOTFOUND THEN
         raise_application_error(-20011, 'Invalid Employee
            Number: ' || TO_CHAR(emp_id));
      END IF;
   END sal_raise;
END employee_management;
```

> **✎ Note:**
>
> If you want to try this example, then first create the sequence number emp_sequence. You can do this using the following SQL*Plus statement:
>
> ```
> SQL> CREATE SEQUENCE emp_sequence
>    > START WITH 8000 INCREMENT BY 10;
> ```

Referencing Package Contents

When you want to reference the types, items, and subprograms declared in a package specification, use the dot notation.

For example:

```
package_name.type_name
package_name.item_name
package_name.subprogram_name
```

Summary of Oracle Supplied PL/SQL Packages and Types

PL/SQL packages are supplied with the Oracle server that extend database functionality and provide PL/SQL access to SQL features.

These packages, listed in the following table, run as the invoking user, rather than the package owner. Unless otherwise noted, the packages are callable through public synonyms of the same name.

> **Note:**
>
> - The procedures and functions provided in these packages and their external interfaces are reserved by Oracle and are subject to change.
> - Modifying Oracle supplied packages can cause internal errors and database security violations. Do not modify supplied packages.

Table 1-1   Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
APEX_APPLICATION through APEX_ZIP	For a complete description of all the packages that ship with Oracle Application Express, see *Oracle Application Express API Reference*
CTX_ADM	Lets you administer servers and the data dictionary
CTX_ANL	The CTX_ANL package is used with AUTO_LEXER and provides procedures for adding and dropping a custom dictionary from the lexer.
CTX_CLS	Lets you generate CTXRULE rules for a set of documents
CTX_DDL	Lets you create and manage the preferences, section lists and stopgroups required for Text indexes
CTX_DOC	Lets you request document services
CTX_ENTITY	The CTX_ENTITY package enables you to search for terms that are unknown to you without specifying a particular search text.
CTX_OUTPUT	Lets you manage the index log
CTX_QUERY	Lets you generate query feedback, count hits, and create stored query expressions
CTX_REPORT	Lets you create various index reports

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
CTX_THES	Lets you to manage and browse thesauri
CTX_ULEXER	For use with the user-lexer
DBMS_ADDM	Facilitates the use of Advisor functionality regarding the Automatic Database Diagnostic Monitor
DBMS_ADVANCED_REWRITE	Contains interfaces for advanced query rewrite users to create, drop, and maintain functional equivalence declarations for query rewrite
DBMS_ADVISOR	Part of the SQLAccess Advisor, an expert system that identifies and helps resolve performance problems relating to the execution of SQL statements
DBMS_AUTOIM	Provides functions to manage the execution of the AIM feature
DBMS_ALERT	Provides support for the asynchronous notification of database events
DBMS_APP_CONT	The DBMS_APP_CONT package provides an interface to determine if the in-flight transaction on a now unavailable session committed or not, and if the last call on that session completed or not.
DBMS_APP_CONT_ADMIN	This package provides a collection dba level admin operations in relation to Application Continuity
DBMS_APP_CONT_REPORT	This procedure generates a report of ACCHK trace collected while ACCHK_SET(TRUE)
DBMS_APPLICATION_INFO	Lets you register an application name with the database for auditing or performance tracking purposes
DBMS_APPLY_ADM	Provides administrative procedures to start, stop, and configure an apply process
DBMS_AQ	Lets you add a message (of a predefined object type) onto a queue or to dequeue a message
DBMS_AQADM	Lets you perform administrative functions on a queue or queue table for messages of a predefined object type
DBMS_AQELM	Provides procedures to manage the configuration of Advanced Queuing asynchronous notification by e-mail and HTTP
DBMS_AQIN	Plays a part in providing secure access to the Oracle JMS interfaces
DBMS_AQMIGTOOL	The DBMS_AQMIGTOOL package provides procedures for migrating AQ queues toTransactional Event Queues (TxEventQ)
DBMS_ASSERT	Provides an interface to validate properties of the input value
DBMS_AUDIT_UTIL	The DBMS_AUDIT_UTIL package provides functions that enable you to format the output of queries to the DBA_FGA_AUDIT_TRAIL, DBA_AUDIT_TRAIL, UNIFIED_AUDIT_TRAIL, and V$XML_AUDIT_TRAIL views.
DBMS_AUDIT_MGMT	The DBMS_AUDIT_MGMT package provides subprograms to manage audit trail records. These subprograms enable audit administrators to manage the audit trail.

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_AUTO_REPORT	The DBMS_AUTO_REPORT package provides an interface to view SQL Monitoring and Real-time Automatic Database Diagnostic Monitor (ADDM) data that has been captured into Automatic Workload Repository (AWR). It also provides subprograms to control the behavior of how these data are captured to AWR.
DBMS_AUTO_SQLTUNE	The DBMS_AUTO_SQLTUNE package is the interface for managing the Automatic SQL Tuning task
DBMS_AUTO_INDEX	The DBMS_AUTO_INDEX package provides the interface for managing auto indexes in an Oracle database
DBMS_AUTO_MV	The DBMS_AUTO_MV contains subprograms for configuring automatic materialized views.
DBMS_AUTO_TASK_ADMIN	Used by the DBA as well as Enterprise Manager to access the AUTOTASK controls
DBMS_AUTO_ZONEMAP	The DBMS_AUTO_ZONEMAP package provides autonomous maintenance and creation of zonemap
DBMS_AVTUNE	The DBMS_AVTUNE package analyzes query access levels and aggregation workloads for each auto-cache enabled analytic view (AV) and creates or drops AV auto-caches to improve the overall performance of the SQL queries on that AV.
DBMS_AW_STATS	Contains a subprogram that generates and stores optimizer statistics for cubes and dimensions
DBMS_BLOCKCHAIN_TABLE	A blockchain table is an append-only table designed for centralized blockchain applications.
DBMS_BLOCKER_RESOLVER	The DBMS_BLOCKER_RESOLVER package provides a method of changing some Blocker Resolver configuration parameters.
DBMS_CACHEUTIL	Provides an interface to control object-level cache fusion locking policies in an Oracle Real Application Clusters (Oracle RAC) environment and to manage assignments to the KEEP buffer pool for Oracle True Cache.
DBMS_CAPTURE_ADM	Describes administrative procedures to start, stop, and configure a capture process; used in Replication
DBMS_CLOUD	The DBMS_CLOUD package provides comprehensive support for working with data in ObjectStorage
DBMS_CLOUD_AI	Allows you to create AI profiles and configure them for access to a Large Language Model (LLM).
DBMS_CLOUD_NOTIFICATION	Allows you to send messages or the output of a SQL query to a provider.
DBMS_CLOUD_PIPELINE	Allows you to create data pipelines for loading and exporting data in the cloud.
DBMS_CLOUD_REPO	Provides for use of and management of cloud hosted code repositories from Oracle Database.
DBMS_COMPARISON	Provides interfaces to compare and converge database objects at different databases
DBMS_COMPRESSION	Provides an interface to facilitate choosing the correct compression level for an application
DBMS_CONNECTION_POOL	Provides an interface to manage the Database Resident Connection Pool

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_CQ_NOTIFICATION	Is part of a set of features that clients use to receive notifications when result sets of a query have changed. The package contains interfaces that can be used by mid-tier clients to register objects and specify delivery mechanisms.
DBMS_CREDENTIAL	The DBMS_CREDENTIAL package provides an interface for authenticating and impersonating EXTPROC callout functions, as well as external jobs, remote jobs and file watchers from the SCHEDULER.
DBMS_CRYPTO	Lets you encrypt and decrypt stored data, can be used in conjunction with PL/SQL programs running network communications, and supports encryption and hashing algorithms
DBMS_CSX_ADMIN	Provides an interface to customize the setup when transporting a tablespace containing binary XML data
DBMS_CUBE	Contains subprograms that create OLAP cubes and dimensions, and that load and process the data for querying
DBMS_CUBE_ADVISE	Contains subprograms for evaluating cube materialized views to support log-based fast refresh and query rewrite
DBMS_CUBE_LOG	DBMS_CUBE_LOG contains subprograms for creating and managing logs for cubes and cube dimensions.
DBMS_DATA_MINING	Implements the Oracle Data Mining interface for creating, evaluating, and managing mining models
DBMS_DATA_MINING_TRANSFORM	Provides subroutines that can be used to prepare data for Oracle Data Mining
DBMS_DATAPUMP	Lets you move all, or part of, a database between databases, including both data and metadata
DBMS_DB_VERSION	The DBMS_DB_VERSION package specifies the Oracle version numbers and other information useful for simple conditional compilation selections based on Oracle versions.
DBMS_DBCOMP	The DBMS_DBCOMP package performs block comparison to detect lost writes or database inconsistencies between a primary database and one or more physical standby databases.
DBMS_DBFS_CONTENT	Provides an interface comprising a file system-like abstraction backed by one or more Store Providers
DBMS_DBFS_CONTENT_SPI	Provides the Application Programming Interface (API) specification for DBMS_DBFS_CONTENT service providers
DBMS_DBFS_HS	Provides users the ability to use tape or Amazon S3 Web service as a storage tier when doing Information Lifecycle Management for their database tables
DBMS_DBFS_SFS	Provides an interface to operate a SecureFile-based store (SFS) for the content interface described in the DBMS_DBFS_CONTENT package
DBMS_DDL	Provides access to some SQL DDL statements from stored procedures, and provides special administration operations not available as DDLs
DBMS_DEBUG	Implements server-side debuggers and provides a way to debug server-side PL/SQL program units

Table 1-1 (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_DEBUG_JDWP	The DBMS_DEBUG_JDWP provides the interface to initiate and control the debugging of PL/SQL stored procedures and Java stored procedures over Java Debug Wire Protocol (JDWP).
DBMS_DEBUG_JDWP_CUSTOM	The DBMS_DEBUG_JDWP_CUSTOM package is a PL/SQL package that provides database users a means to perform custom handling of a debug connection request of a database session to a debugger using the Java Debug Wire Protocol (JDWP).
DBMS_DESCRIBE	Describes the arguments of a stored procedure with full name translation and security checking
DBMS_DEVELOPER	The package DBMS_DEVELOPER provides simple and developer friendly methods to retrieve information about database objects.
DBMS_DG	Allows applications to notify the primary database in an Oracle Data Guard broker environment to initiate a fast-start failover when the application encounters a condition that warrants a failover
DBMS_DICTIONARY_CHECK	Enables you to identify Oracle Database dictionary inconsistencies.
DBMS_DIMENSION	Enables you to verify dimension relationships and provides an alternative to the Enterprise Manager Dimension Wizard for displaying a dimension definition
DBMS_DISTRIBUTED_TRUST_ADMIN	Maintains the Trusted Database List, which is used to determine if a privileged database link from a particular server can be accepted
DBMS_DNFS	The DBMS_DNFS package provides an interface to assists in creating a database using files in the backup set.
DBMS_DST	The DBMS_DST package provides an interface to apply the Daylight Saving Time (DST) patch to the Timestamp with Time Zone datatype.
DBMS_EDITIONS_UTILITIES	The DBMS_EDITIONS_UTILITIES package provides helper functions for edition related operations.
DBMS_EPG	Implements the embedded PL/SQL gateway that enables a Web browser to invoke a PL/SQL stored procedure through an HTTP listener
DBMS_ERRLOG	Provides a procedure that enables you to create an error logging table so that DML operations can continue after encountering errors rather than abort and roll back
DBMS_FGA	Provides fine-grained security functions
DBMS_FILE_TRANSFER	Lets you copy a binary file within a database or to transfer a binary file between databases
DBMS_FLASHBACK	Lets you flash back to a version of the database at a specified wall-clock time or a specified system change number (SCN)
DBMS_FLASHBACK_ARCHIVE	Contains procedures for disassociation and re-association of a Flashback Data Archive (FDA) enabled table from/with its underlying FDA respectively

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_FLASHBACK_ARCHIVE_MIGRATE	Enables you to export and import the Flashback Archive base tables along with their history to another database using the Transportable Tablespaces
DBMS_FREQUENT_ITEMSET	Enables frequent itemset counting
DBMS_FS	The DBMS_FS package for performing operations on an Oracle file system (make, mount, unmount and destroy operations) in an Oracle database.
DBMS_GOLDENGATE_ADM	The DBMS_GOLDENGATE_ADM package provides subprograms to configure and manage Oracle GoldenGate conflict detection and resolution
DBMS_GOLDENGATE_AUTH	The DBMS_GOLDENGATE_AUTH package provides subprograms for granting privileges to and revoking privileges from GoldenGate administrators.
DBMS_HADOOP	The DBMS_HADOOP package provides a PL/SQL procedure called CREATE_EXTDDL_FOR_HIVE(), that creates an Oracle external table for a given hive table.
DBMS_HEAT_MAP	The DBMS_HEAT_MAP package provides an interface to externalize heatmaps at various levels of storage including block, extent, segment, object and tablespace.
DBMS_HIERARCHY	Contains functions and procedures for validating the data in tables used by analytic views and hierarchies and for creating a log table.
DBMS_HM	Contains constants and procedure declarations for health check management
DBMS_HPROF	Provides an interface for profiling the execution of PL/SQL applications
DBMS_HS_PARALLEL	Enables parallel processing for heterogeneous targets access
DBMS_HS_PASSTHROUGH	Lets you use Heterogeneous Services to send pass-through SQL statements to non-Oracle systems
DBMS_HYBRID_VECTOR	Contains a SEARCH API that lets you to perform hybrid searches by both vectors and keywords against hybrid vector indexes.
DBMS_ILM	The DBMS_ILM package provides an interface for implementing Information Lifecycle Management (ILM) strategies using Automatic Data Optimization (ADO) policies.
DBMS_ILM_ADMIN	The DBMS_ILM_ADMIN package provides an interface to customize Automatic Data Optimization (ADO) policy execution.
DBMS_IMMUTABLE_TABLE	The DBMS_IMMUTABLE_TABLE package allows you to delete the expired rows in an immutable table and add interval partitioning
DBMS_INMEMORY	The DBMS_INMEMORY package provides an interface for In-Memory Column Store (IM column store) functionality.
DBMS_INMEMORY_ADMIN	The DBMS_INMEMORY_ADMIN package provides interfaces for managing an In-Memory FastStart (IM FastStart) area and In-Memory Expressions (IM expressions).

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_IOT	Creates a table into which references to the chained rows for an Index Organized Table can be placed using the ANALYZE command
DBMS_JAVA	Provides a PL/SQL interface for accessing database functionality from Java
DBMS_JAVASCRIPT	The DBMS_JAVASCRIPT package provides a PL/SQL procedure for running DBMS-residingJavaScript code from the location identified by its argument
DBMS_JOB	Schedules and manages jobs in the job queue (Deprecated)
DBMS_JSON_DUALITY	The DBMS_JSON_DUALITY package provides PL/SQL interface for accessing JSON relational duality functionality
DBMS_JSON	Provides an interface for data-guide operations
DBMS_KAFKA	The DBMS_KAFKA package provides a PL/SQL interface for enabling Oracle SQL access to topics in Kafka clusters
DBMS_KAFKA_ADM	The DBMS_KAFKA_ADM package provides a PL/SQL interface to create cluster definitions, which you can then use to grant access to Kafka cluster data for applications
DBMS_LDAP	Provides functions and procedures to access data from LDAP servers
DBMS_LDAP_UTL	Provides the Oracle Extension utility functions for LDAP
DBMS_LIBCACHE	Prepares the library cache on an Oracle instance by extracting SQL and PL/SQL from a remote instance and compiling this SQL locally without execution
DBMS_LOB	Provides general purpose routines for operations on Oracle Large Object (LOBs) datatypes - BLOB, CLOB (read/write), and BFILEs (read-only)
DBMS_LOCK	Lets you request, convert and release locks through Oracle Lock Management services
DBMS_LOGMNR	Provides functions to initialize and run the log reader
DBMS_LOGMNR_D	Queries the dictionary tables of the current database, and creates a text based file containing their contents
DBMS_LOGSTDBY	Describes procedures for configuring and managing the logical standby database environment
DBMS_LOGSTDBY_CONTEXT	You can use the procedures provided in the DBMS_LOGSTDBY_CONTEXT package to set and retrieve various parameters associated with LSBY_APPLY_CONTEXT.
DBMS_MEMOPTIMIZE	The DBMS_MEMOPTIMIZE package provides the interface for managing the Memoptimized Rowstore data buffered in the large pool and the memoptimize pool
DBMS_MEMOPTIMIZE_ADMIN	The DBMS_MEMOPTIMIZE_ADMIN package provides the interface for flushing the Memoptimized Rowstore data buffered in the large pool to disk
DBMS_METADATA	Lets callers easily retrieve complete database object definitions (metadata) from the dictionary

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_METADATA_DIFF	Contains the interfaces for comparing two metadata documents in SXML format. The result of the comparison is an SXML difference document. This document can be converted to other formats using the DBMS_METADATA submit interface and the CONVERT API.
DBMS_MGD_ID_UTL	Provides a set of utility subprograms
DBMS_MGWADM	Describes the Messaging Gateway administrative interface; used in Advanced Queuing
DBMS_MGWMSG	Describes object types (used by the canonical message types to convert message bodies) and helper methods, constants, and subprograms for working with the Messaging Gateway message types; used in Advanced Queuing.
DBMS_MLE	The DBMS_MLE package allows users to execute JavaScript code inside the Oracle Database and exchange data seamlessly between PL/SQL and JavaScript.
DBMS_MONITOR	Let you use PL/SQL for controlling additional tracing and statistics gathering
DBMS_MVIEW	Lets you refresh snapshots that are not part of the same refresh group and purge logs. DBMS_SNAPSHOT is a synonym.
DBMS_MVIEW_STATS	The DBMS_MVIEW_STATS package provides an interface to manage the collection and retention of statistics for materialized view refresh operations.
DBMS_NETWORK_ACL_ADMIN	Provides the interface to administer the network Access Control List (ACL)
DBMS_NETWORK_ACL_UTILITY	The DBMS_NETWORK_ACL_UTILITY package provides the utility functions to facilitate the evaluation of access control list (ACL) assignments governing TCP connections to network hosts.
DBMS_ODCI	Returns the CPU cost of a user function based on the elapsed time of the function
DBMS_OPTIM_BUNDLE	This package is used to manage the installed but disabled module bug fixes that cause an execution plan change.
DBMS_OUTLN	Provides the interface for procedures and functions associated with management of stored outlines Synonymous with OUTLN_PKG
DBMS_OUTPUT	Accumulates information in a buffer so that it can be retrieved later
DBMS_PARALLEL_EXECUTE	Enables the user to incrementally update table data in parallel
DBMS_PART	The DBMS_PART package provides an interface for maintenance and management operations on partitioned objects.
DBMS_PCLXUTIL	Provides intra-partition parallelism for creating partition-wise local indexes
DBMS_PDB	The DBMS_PDB package provides an interface to examine and manipulate data about pluggable databases (PDBs) in a multitenant container database (CDB). It also contains an interface specify which database objects are application common objects.

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_PDB_ALTER_SHARING	In an application container with a pre-installed application, the DBMS_PDB_ALTER_SHARING package provides an interface to set database objects as application common objects or to specify that a database object is not an application common object.
DBMS_PERF	The DBMS_PERF package provides and interface to generate active reports for monitoring database performance.
DBMS_PIPE	Provides a DBMS pipe service which enables messages to be sent between sessions
DBMS_PLSQL_CODE_COVERAGE	The DBMS_PLSQL_CODE_COVERAGE package provides an interface for the collection of code coverage data of PL/SQL applications at the basic block level.
DBMS_PREDICTIVE_ANALYTICS	Provides subroutines that implement automatic data mining operations for predict, explain, and profile
DBMS_PREPROCESSOR	Provides an interface to print or retrieve the source text of a PL/SQL unit in its post-processed form
DBMS_PRIVILEGE_CAPTURE	The DBMS_PRIVILEGE_CAPTURE package provides an interface to database privilege analysis.
DBMS_PROCESS	The DBMS_PROCESS package provides an interface to manage the prespawned servers.
DBMS_PROFILER	Provides a Probe Profiler API to profile existing PL/SQL applications and identify performance bottlenecks
DBMS_PROPAGATION_ADM	Provides administrative procedures for configuring propagation from a source queue to a destination queue
DBMS_QOPATCH	The DBMS_QOPATCH package provides an interface to view the installed database patches.
DBMS_RANDOM	Provides a built-in random number generator
DBMS_REDACT	The DBMS_REDACT package provides an interface to Oracle Data Redaction, which enables you to mask (redact) data that is returned from queries issued by lowprivileged users or an application.
DBMS_REDEFINITION	Lets you perform an online reorganization of tables
DBMS_REFRESH	Lets you create groups of snapshots that can be refreshed together to a transactionally consistent point in time Requires the Distributed Option
DBMS_REPAIR	Provides data corruption repair procedures
DBMS_RESCONFIG	Provides an interface to operate on the Resource Configuration List, and to retrieve listener information for a resource
DBMS_RESOURCE_MANAGER	Maintains plans, consumer groups, and plan directives; it also provides semantics so that you may group together changes to the plan schema
DBMS_RESOURCE_MANAGER_PRIVS	Maintains privileges associated with resource consumer groups
DBMS_RESULT_CACHE	Provides an interface to operate on the Result Cache

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_RESUMABLE	Lets you suspend large operations that run out of space or reach space limits after executing for a long time, fix the problem, and make the statement resume execution
DBMS_RLS	Provides row level security administrative interface
DBMS_ROLLING	The DBMS_ROLLING PL/SQL package is used to implement the Rolling Upgrade Using Active Data Guard feature, which streamlines the process of upgrading Oracle Database software in a Data Guard configuration in a rolling fashion.
DBMS_ROWID	Provides procedures to create rowids and to interpret their contents
DBMS_RULE	Describes the subprograms that enable the evaluation of a rule set for a specified event
DBMS_RULE_ADM	Provides the subprograms for creating and managing rules, rule sets, and rule evaluation contexts
DBMS_SAGA_ADM	The DBMS_SAGA_ADM package provides a collection of saga administration functions and procedures to define and manage saga participants, coordinators, and brokers.
DBMS_SAGA	The DBMS_SAGA package provides a collection of saga functions and procedures to initiate and finalize sagas.
DBMS_SCHEDULER	Provides a collection of scheduling functions that are callable from any PL/SQL program
DBMS_SEARCH	Enables the indexing of multiple schema objects in a single index
DBMS_SERVER_ALERT	Lets you issue alerts when some threshold has been violated
DBMS_SERVICE	Lets you create, delete, activate and deactivate services for a single instance
DBMS_SESSION	Provides access to SQL ALTER SESSION statements, and other session information, from stored procedures
DBMS_SFW_ACL_ADMIN	The DBMS_SFW_ACL_ADMIN package provides interfaces for administering and managing access control policies for the "database service firewall" feature
DBMS_SHARED_POOL	Lets you keep objects in shared memory, so that they will not be aged out with the normal LRU mechanism
DBMS_SHARDED_DIRECTORY	Provides procedures to manage an Oracle Globally Distributed Database (sharded database) created with directory-based data distribution.
DBMS_SODA	Implements Simple Oracle Document Access (SODA) which allows you to use the Oracle Database as a NoSQL document store.
DBMS_SPACE	Provides segment space information not available through standard SQL
DBMS_SPACE_ADMIN	Provides tablespace and segment space administration not available through the standard SQL
DBMS_SPD	The DBMS_SPD package provides subprograms for managing SQL plan directives (SPD).

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_SPM	Supports the SQL plan management feature by providing an interface for the DBA or other user to perform controlled manipulation of plan history and SQL plan baselines maintained for various SQL statements
DBMS_SQL	Lets you use dynamic SQL to access the database
DBMS_SQL_FIREWALL	Lets you monitor users and prevent them from performing SQL injection attacks
DBMS_SQL_MONITOR	The DBMS_SQL_MONITOR package provides information about Real-time SQL Monitoring and Real-time Database Operation Monitoring.
DBMS_SQL_TRANSLATOR	The DBMS_SQL_TRANSLATOR package provides an interface for creating, configuring, and using SQL translation profiles.
DBMS_SQLDIAG	Provides an interface to the SQL Diagnosability functionality
DBMS_SQLPA	Provides an interface to implement the SQL Performance Analyzer
DBMS_SQLQ	The DBMS_SQLQ package provides the interface for configuring quarantine thresholds for execution plans of SQL statements
DBMS_SQLSET	The DBMS_SQLSET package provides an interface to manage SQL tuning sets
DBMS_SQLTUNE	Provides the interface to tune SQL statements
DBMS_STAT_FUNCS	Provides statistical functions
DBMS_STATS	Provides a mechanism for users to view and modify optimizer statistics gathered for database objects
DBMS_STORAGE_MAP	Communicates with FMON to invoke mapping operations
DBMS_SYNC_REFRESH	The DBMS_SYNC_REFRESH package provides an interface to perform a synchronous refresh of materialized views.
DBMS_TABLE_DATA	The DBMS_TABLE_DATA package provides procedures that can be used to retrieve the byte value of a single column, or a series of columns, in any table.
DBMS_TDB	Reports whether a database can be transported between platforms using the RMAN CONVERT DATABASE command. It verifies that databases on the current host platform are of the same endian format as the destination platform, and that the state of the current database does not prevent transport of the database.
DBMS_TF	The DBMS_TF package contains utilities for POLYMORPHIC TABLE functions (PTFs) implementation. You can use DBMS_TF subprograms to consume and produce data, and get information about its execution environment..
DBMS_TNS	The DBMS_TNS package provides the RESOLVE_TNSNAME function to resolve a TNS name and return the corresponding Oracle Net8 connection string.
DBMS_TRACE	Provides routines to start and stop PL/SQL tracing
DBMS_TRANSACTION	Provides access to SQL transaction statements from stored procedures and monitors transaction activities

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_TRANSFORM	Provides an interface to the message format transformation features of Oracle Advanced Queuing
DBMS_TSDP_MANAGE	The DBMS_TSDP_MANAGE package provides an interface to import and manage sensitive columns and sensitive column types in the database.
DBMS_TSDP_PROTECT	The DBMS_TSDP_PROTECT package provides an interface to configure transparent sensitive data protection (TSDP) policies in conjunction with the DBMS_TSDP_MANAGE package. The DBMS_TSDP_PROTECT package is available with the Enterprise Edition only.
DBMS_TTS	Checks if the transportable set is self-contained
DBMS_TYPES	Consists of constants, which represent the built-in and user-defined types
DBMS_UMF	The DBMS_UMF package provides an interface for deploying the Remote Management Framework (RMF) for an Oracle Database. The RMF is used for collecting performance statistics for an Oracle Database.
DBMS_USER_CERTS	The DBMS_USER_CERTS package allows you add and delete certificates.
DBMS_UTILITY	Provides various utility routines.
DBMS_VECTOR	Simplifies common operations with Oracle AI Vector Search, such as chunking and embedding data, generating text for prompts and images, or managing vector indexes.
DBMS_VECTOR_CHAIN	Enables advanced operations with Oracle AI Vector Search, such as chunking and embedding data, generating text for prompts and images along with text processing and end-to-end similarity search.
DBMS_WARNING	Provides the interface to query, modify and delete current system or session settings.
DBMS_WM	Describes how to use the programming interface to Oracle Database Workspace Manager to work with long transactions
DBMS_WORKLOAD_CAPTURE	Configures the Workload Capture system and produce the workload capture data.
DBMS_WORKLOAD_REPLAY	Provides an interface to replay and report on a record of a workload on a production or test system
DBMS_WORKLOAD_REPOSITORY	Lets you manage the Workload Repository, performing operations such as managing snapshots and baselines
DBMS_XA	Contains the XA/Open interface for applications to call XA interface in PL/SQL
DBMS_XDB	Describes Resource Management and Access Control interface for PL/SQL
DBMS_XDB_ADMIN	Provides an interface to implement XMLIndex administration operation
DBMS_XDB_CONFIG	The DBMS_XDB_CONFIG package provides an interface for configuring Oracle XML DB and its repository.
DBMS_XDB_CONSTANTS	The DBMS_XDB_CONSTANTS package provides an interface to commonly used constants.

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Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
DBMS_XDB_REPOS	The DBMS_XDB_REPOS package provides an interface to operate on the Oracle XML database Repository.
DBMS_XDBRESOURCE	Provides an interface to operate on the XDB resource's metadata and contents
DBMS_XDB_VERSION	Describes the versioning interface
DBMS_XDBZ	Controls the Oracle XML DB repository security, which is based on Access Control Lists (ACLs)
DBMS_XEVENT	Provides event-related types and supporting subprograms
DBMS_XMLDOM	Explains access to XMLType objects
DBMS_XMLGEN	Converts the results of a SQL query to a canonical XML format
DBMS_XMLINDEX	Provides an interface to implement asychronous indexing and apply node referencing
DBMS_XMLPARSER	Explains access to the contents and structure of XML documents
DBMS_XMLSCHEMA	Explains procedures to register and delete XML schemas
DBMS_XMLSCHEMA_ANNOTATE	The DBMS_XMLSCHEMA_ANNOTATE package provides an interface to manage and configure the structured storage model, mainly through the use of pre-registration schema annotations
DBMS_XMLSCHEMA_UTIL	The DBMS_XMLSCHEMA_UTIL package provides an interface for XML schema validation
DBMS_XMLSTORAGE_MANAGE	The DBMS_XMLSTORAGE_MANAGE package provides an interface to manage and modify XML storage after schema registration has been completed
DBMS_XMLSTORE	Provides the ability to store XML data in relational tables
DBMS_XMLTRANSLATIONS	Provides an interface to perform translations so that strings can be searched or displayed in various languages
DBMS_XPLAN	Describes how to format the output of the EXPLAIN PLAN command
DBMS_XSTREAM_ADM	The DBMS_XSTREAM_ADM package provides interfaces for streaming database changes between an Oracle database and other systems
DBMS_XSTREAM_AUTH	The DBMS_XSTREAM_AUTH package provides subprograms for granting privileges to and revoking privileges from XStream administrators
DBMS_XSLPROCESSOR	Explains access to the contents and structure of XML documents
DEBUG_EXTPROC	Lets you debug external procedures on platforms with debuggers that attach to a running process
HTF	Hypertext functions generate HTML tags
HTP	Hypertext procedures generate HTML tags
OWA_CACHE	Provides an interface that enables the PL/SQL Gateway cache to improve the performance of PL/SQL Web applications

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
OWA_COOKIE	Provides an interface for sending and retrieving HTTP cookies from the client's browser
OWA_CUSTOM	Provides a Global PLSQL Agent Authorization callback function
OWA_IMAGE	Provides an interface to access the coordinates where a user clicked on an image
OWA_OPT_LOCK	Contains subprograms that impose optimistic locking strategies so as to prevent lost updates
OWA_PATTERN	Provides an interface to locate text patterns within strings and replace the matched string with another string
OWA_SEC	Provides an interface for custom authentication
OWA_TEXT	Contains subprograms used by OWA_PATTERN for manipulating strings. They are externalized so you can use them directly.
OWA_UTIL	Contains utility subprograms for performing operations such as getting the value of CGI environment variables, printing the data that is returned to the client, and printing the results of a query in an HTML table
SDO_CS	Provides functions for coordinate system transformation
SDO_CSW_PROCESS	Contains subprograms for various processing operations related to support for Catalog Services for the Web (CSW)
SDO_GCDR	Contains the Oracle Spatial geocoding subprograms, which let you geocode unformatted postal addresses
SDO_GEOM	Provides functions implementing geometric operations on spatial objects
SDO_GEOR	Contains functions and procedures for the Spatial GeoRaster feature, which lets you store, index, query, analyze, and deliver raster image data and its associated Spatial vector geometry data and metadata
SDO_GEOR_ADMIN	Contains subprograms for administrative operations related to GeoRaster.
SDO_GEOR_AGGR	The SDO_GEOR_AGGR package provides an interface to the SDO_GEOR_AGGR package for performing aggregate operations on GeoRaster objects
SDO_GEOR_RA	The SDO_GEOR_RA package provides an interface to the SDO_GEOR_RA package for performing raster algebra and analytic operations related to GeoRaster
SDO_GEOR_UTL	Contains utility functions and procedures for the Spatial GeoRaster feature, including those related to using triggers with GeoRaster data
SDO_LRS	Provides functions for linear referencing system support
SDO_MIGRATE	Provides functions for migrating spatial data from previous releases
SDO_NET	Provides functions and procedures for working with data modeled as nodes and links in a network
SDO_NET_MEM	Contains functions and procedures for performing editing and analysis operations on network data using a network memory object

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
SDO_NFE	The SDO_NFE package contains functions and procedures for performing network feature editing
SDO_OLS	Contains functions and procedures for performing editing and analysis operations on network data using a network memory object
SDO_PC_PKG	Contains subprograms to support the use of point clouds in Spatial
SDO_SAM	Contains functions and procedures for spatial analysis and data mining
SDO_TIN_PKG	Contains subprograms to support the use of triangulated irregular networks (TINs) in Spatial
SDO_TOPO	Provides procedures for creating and managing Spatial topologies
SDO_TOPO_MAP	Contains subprograms for editing Spatial topologies using a cache (TopoMap object)
SDO_TUNE	Provides functions for selecting parameters that determine the behavior of the spatial indexing scheme used in Oracle Spatial
SDO_UTIL	Provides utility functions and procedures for Oracle Spatial
SDO_WFS_LOCK	Contains subprograms for WFS support for registering and unregistering feature tables
SDO_WFS_PROC	Provides utility functions and procedures for Oracle Spatial
SEM_APIS	Contains subprograms for working with the Resource Description Framework (RDF) and Web Ontology Language (OWL) in an Oracle database.
SEM_OLS	The SEM_OLS package provides an interface to the SEM_OLS package for providing triple-level security to RDF data, using Oracle Label Security (OLS)
SEM_PERF	Contains subprograms for examining and enhancing the performance of the Resource Description Framework (RDF) and Web Ontology Language (OWL) support in an Oracle database
SEM_RDFCTX	Contains subprograms for managing extractor policies and semantic indexes created for documents
SEM_RDFSA	Contains subprograms for providing fine-grained access control to RDF data, using either a virtual private database (VPD) or Oracle Label Security (OLS)
UTL_CALL_STACK	The UTL_CALL_STACK package provides an interface to provide information about currently executing subprograms
UTL_COLL	Enables PL/SQL programs to use collection locators to query and update
UTL_COMPRESS	Provides a set of data compression utilities
UTL_ENCODE	Provides functions that encode RAW data into a standard encoded format so that the data can be transported between hosts
UTL_FILE	Enables your PL/SQL programs to read and write operating system text files and provides a restricted version of standard operating system stream file I/O

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
UTL_HTTP	Enables HTTP callouts from PL/SQL and SQL to access data on the Internet or to call Oracle Web Server Cartridges
UTL_I18N	Provides a set of services (Oracle Globalization Service) that help developers build multilingual applications
UTL_INADDR	Provides a procedure to support internet addressing
UTL_IDENT	Specifies which database or client PL/SQL is running
UTL_LMS	Retrieves and formats error messages in different languages
UTL_MAIL	A utility for managing email which includes commonly used email features, such as attachments, CC, BCC, and return receipt
UTL_MATCH	The UTL_MATCH package facilitates matching two records. This is typically used to match names, such as two First Names or two Last Names
UTL_NLA	Exposes a subset of the BLAS and LAPACK (Version 3.0) operations on vectors and matrices represented as VARRAYs
UTL_RAW	Provides SQL functions for manipulating RAW datatypes
UTL_RECOMP	Recompiles invalid PL/SQL modules, invalid views, Java classes, indextypes and operators in a database, either sequentially or in parallels
UTL_REF	Enables a PL/SQL program to access an object by providing a reference to the object
UTL_SMTP	Provides PL/SQL functionality to send emails
UTL_RPADV	Provides subprograms to collect and analyze statistics for the Oracle Replication components in a distributed database environment
UTL_TCP	Provides PL/SQL functionality to support simple TCP/IP-based communications between servers and the outside world
UTL_URL	Provides escape and unescape mechanisms for URL characters
WPG_DOCLOAD	Provides an interface to download files, both BLOBs and BFILEs
ANYDATA TYPE	A self-describing data instance type containing an instance of the type plus a description
ANYDATASET TYPE	Contains a description of a given type plus a set of data instances of that type
ANYTYPE TYPE	Contains a type description of any persistent SQL type, named or unnamed, including object types and collection types; or, it can be used to construct new transient type descriptions
Oracle Database Advanced Queuing Types	Describes the types used in Advanced Queuing
DBFS Content Interface Types	Describes public types defined to support the DBMS_DBFS_CONTENT interface.
Database URI Type	Contains URI Support, UriType Super Type, HttpUriType Subtype, DBUriType Subtype, XDBUriType Subtype, UriFactory Package

Table 1-1   (Cont.) Summary of Oracle Supplied PL/SQL Packages

Package Name	Description
JMS TYPES	Describes JMS types so that a PL/SQL application can use JMS queues of JMS types
LOGICAL CHANGE RECORD TYPES	Describes LCR types, which are message payloads that contain information about changes to a database.
MG_ID Package Types	Provides an extensible framework that supports current RFID tags with the standard family of EPC bit encodings for the supported encoding types
POLYMORPHIC TABLE FUNCTION (PTF) Package Types	Describes types defined in the DBMS_TF package to support PTF
RULES TYPEs	Describes the types used with rules, rule sets, and evaluation contexts
SODA Types	Describes the SODA Types.
UTL Streams Types	Describes abstract streams types used with Oracle XML functionality
XMLType	Describes the types and functions used for native XML support in the server