

# DATA DICTIONARY FACILITIES

RDBMSs store database definition information in secure system-created tables; we can consider these system tables as a data dictionary.

Becoming familiar with the systems tables for any RDBMS being used will provide valuable information, whether you are a user or a database administrator.

Because the information is stored in tables, it can be accessed by using SQL SELECT statements that can generate reports about system usage, user privileges, constraints, and so on.

Also, the RDBMS will provide special SQL (proprietary) commands, such as SHOW, HELP, or DESCRIBE, to display pre defined contents of the data dictionary, including the DDL that created database objects.

Further, a user who understands the systems-table structure can extend existing tables or build other tables to enhance built-in features (e.g., to include data on who is responsible for data integrity).

Each RDBMS keeps various internal tables for these definitions. In Oracle 12c, there are more than 500 data dictionary views for DBAs to use

- Those view names begin with USER (anyone authorized to use the database) or ALL (any user) rather than DBA.

Here is a short list of some of the tables (accessible to DBAs) that keep information about tables, clusters, columns, and security. There are also tables related to storage, objects, indexes, locks, auditing, exports, and distributed environments.

Table	Description
DBA_TABLES	Describes all tables in the database
DBA_TAB_COMMENTS	Comments on all tables in the database
DBA_CLUSTERS	Describes all clusters in the database
- DBA_TAB_COLUMNS	Describes columns of all tables, views, and clusters
DBA_COL_PRIVS	Includes all grants on columns in the database
DBA_COL_COMMENTS	Comments on all columns in tables and views
DBA_CONSTRAINTS	Constraint definitions on all tables in the database
DBA_USERS	Information about all users of the database

## Example:

To give an idea of the type of information found in the system tables, consider DBA\_USERS. DBA\_USERS contains information about the valid users of the database; its 12 attributes include user name, user ID, encrypted password, default tablespace, temporary tablespace, date created, and profile assigned. DBA\_TAB\_COLUMNS has 31 attributes, including owner of each table, table name, column name, data type, data length, precision, and scale, among others. An SQL query against DBA\_TABLES to find out who owns PRODUCT\_T follows. (Note that we have to specify PRODUCT\_T, not Product\_T, because Oracle stores data names in all capital letters.)

*Query:* Who is the owner of the PRODUCT\_T table?

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SELECT OWNER, TABLE_NAME
FROM DBA_TABLES
WHERE TABLE_NAME = 'PRODUCT_T';
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*Result:*

OWNER	TABLE_NAME
MPRESCOTT	PRODUCT_T