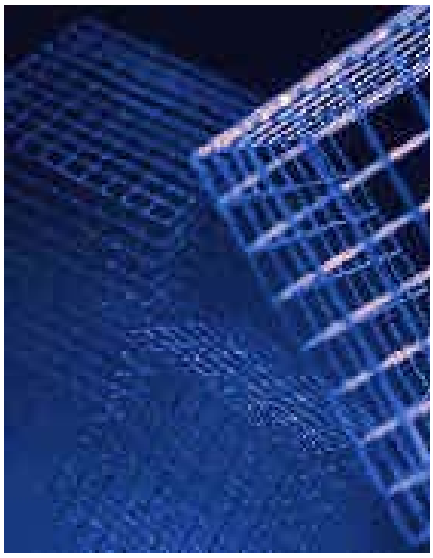
ORACLE SQL Mode: SAP DB



Version 7.4

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Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

Typographic Conventions

Type Style	Description
Example text	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths and options. Cross-references to other documentation.
Example text	Emphasized words or phrases in body text, titles of graphics and tables.
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE.
`Example text`	Screen output. This includes file and directory names and their paths, messages, source code, names of variables and parameters as well as names of installation, upgrade and database tools.
`EXAMPLE TEXT`	Keys on the keyboard, for example, function keys (such as `F2`) or the `ENTER` key.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.

ORACLE SQL Mode: SAP DB 7.4 7
General Differences 7
SQL Syntax Elements 8
Schema Object 8
Name 9
Namespace 9
Access to Objects 10
Integer 10
Number 10
Data Type 10
Pseudo Column 11
Operator 11
Function 11
Format 12
SQL Statements 12
alter_cluster_statement 12
alter_database_statement 12
alter_function_statement 13
alter_index_statement 13
alter_package_statement 13
alter_procedure_statement 13
alter_profile_statement 13
alter_resource_cost_statement 13
alter_role_statement 13
alter_rollback_segment_statement 14
alter_sequence_statement 14
alter_snapshot_statement 14
alter_snapshot_log_statement 14
alter_system_statement 14
alter_table_statement 14
alter_tablespace_statement 15
alter_trigger_statement 15
alter_user_statement 15
alter_view_statement 15
analyze_statement 15
audit_statement 15
commit_statement 15
constraint_clause 16
create_cluster_statement 16

create_controlfile_statement ... 16
create_database_statement ... 16
create_database_link_statement ... 16
create_function_statement ... 16
create_index_statement ... 16
create_package_statement ... 17
create_package_body_statement ... 17
create_procedure_statement ... 17
create_profile_statement ... 17
create_rollback_segment_statement ... 17
create_schema_statement ... 17
create_sequence_statement ... 17
create_snapshot_statement ... 18
create_snapshot_log_statement ... 18
create_synonym_statement ... 18
create_table_statement ... 18
create_tablespace_statement ... 18
create_trigger_statement ... 19
create_user_statement ... 19
create_view_statement ... 19
declare_statement ... 19
declare_table_statement ... 19
delete_statement ... 19
describe_statement ... 20
drop_cluster_statement ... 20
drop_database_link_statement ... 20
drop_function_statement ... 20
drop_index_statement ... 20
drop_procedure_statement ... 20
drop_profile_statement ... 21
drop_rollback_segment_statement ... 21
drop_snapshot_statement ... 21
drop_snapshot_log_statement ... 21
drop_table_statement ... 21
drop_tablespace_statement ... 21
drop_trigger_statement ... 21
drop_view_statement ... 22
execute_statement ... 22
explain_plan_statement ... 22
grant_statement ... 22

insert_statement (embedded SQL) 22
lock_table_statement 22
noaudit_statement 23
rename_statement 23
revoke_statement 23
rollback_statement 23
select_statement 23
set_transaction_statement 23
update_statement 24
System Tables 24
Error Messages 27

ORACLE SQL Mode: SAP DB 7.4

This documentation describes the differences in logical data storage and the definition of SQL syntax for the database systems **Oracle Version 7** and **SAP DB Version 7.4, ORACLE SQL mode**.

For general information about the SAP DB database system, see the documentation The SAP DB Database System [See SAP DB Library] at the following Internet address: **www.sapdb.org**.

For information about the SQL syntax of the database system, see the Reference Manual: SAP DB 7.4 [See SAP DB Library].

The differences are described in the following sections:

- General Differences [Page 7]
- SQL Syntax Elements [Page 8]
- SQL Syntax Statements [Page 12]
- System Tables [Page 24]
- Error Messages [Page 27]

General Differences

Logical database structure

There are basic differences between the logical database structures of the database systems Oracle Version 7 and SAP DB Version 7.4.

- From a logical point of view, an Oracle database consists of tablespaces, segments, extents, blocks, tables, and data records.
- From a logical point of view, SAP DB consists basically of the tables in the database catalog and the application data in the form of data records.

All Oracle statements referring to the administration of tablespaces, segments, extents, or blocks are therefore meaningless in SAP DB.

Consistent reading/locking

The consistent reading offered by Oracle can be achieved in SAP DB using locks in isolation level >= 2 (Lock Strategy).

Oracle allows an unlimited number of exclusive row locks. In SAP DB, an escalation takes effect from a certain number of row locks; i.e., the whole table will be locked. The time of escalation depends on the defined lock list size.

Database procedures/triggers

- In Oracle, database procedures, DB functions, and triggers are defined in PL/SQL, a language similar to ADA.
- In SAP DB, database procedures and triggers are defined in a language similar to C.

Database objects and their schemas

Database users can only create or delete SAP DB database objects in or from their own schemas, or create database objects that are not assigned to a particular user (index, for example). It is not possible to create database objects in the schema of another user.

DBA users and privileges

In contrast to Oracle, DBA users in SAP DB are also subject to the privileges concept and cannot execute DDL statements (such as CREATE INDEX) or DML statements (such as DELETE) for which they have not received the corresponding privileges.

SQL Syntax Elements

The SQL syntax elements for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ in the following areas:

- Schema Object [Page 8]
- Name [Page 9]
- Namespace [Page 9]
- Access to Objects [Page 10]
- Integer [Page 10]
- Number [Page 10]
- Data Type [Page 10]
- Pseudo Column [Page 11]
- Operator [Page 11]
- Function [Page 11]
- Format [Page 12]

Schema Object

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of possible schema objects.

The following schema objects are **not** supported in SAP DB:

- Cluster
- Database link
- Package
- Profile
- Rollback segment
- Snapshot
- Snapshot log
- Tablespace

The following schema objects are supported by SAP DB, but use a **different syntax** than Oracle:

Procedure (object in SAP DB: database procedure)

Name

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of names for objects.

If SAP assigns names for objects, these names differ from the names generated by Oracle.

The following keywords are reserved in Oracle 7 but not in SAP DB:

ACCESS	COMPRESS	ELSE	FILE
IMMEDIATE	INCREMENT	INITIAL	MAXEXTENTS
NOAUDIT	NOCOMPRESS	OFFLINE	ONLINE
PRIOR	SIZE	START	SUCCESSFUL
THEN	VALIDATE		

If possible, these key words should not be used to designate objects in SAP DB.

You can find a list of all the keywords reserved in SAP DB in the section reserved_key_word of the *Reference Manual: SAP DB 7.4*.

You can find a list of all the keywords not reserved in SAP DB in the section not reserved_key_word of the *Reference Manual: SAP DB*.

Namespace

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of namespaces.

Differences in the namespace

Oracle 7	**SAP DB 7.4**
All indexes of a database instance form a namespace.	All indexes of a table form a namespace.
All constraints of a database instance form a namespace.	All constraints of a table form a namespace.
All triggers of a database instance form a namespace.	All triggers of a table form a namespace.
All sequences, together with the tables, views, synonyms, procedures, and further objects, form a namespace.	All sequences of a database instance form a separate namespace.
All procedures, together with the tables, views, sequences, synonyms, and further objects, form a namespace.	All database procedures of a database instance form a separate namespace.

Access to Objects

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, with regard to object access.

If an owner is not specified when a database object is accessed, and no object belonging to the current user exists with this name, the following procedure, different to the Oracle procedure, applies when the database object is accessed:

1. SAP DB searches for this object in the PUBLIC synonyms.
2. If the object is not found here, SAP DB searches for this object in the part of the database catalog of the DBA that the current user generated.
3. If the object is not found here, SAP DB searches for this object in SYSDBA's part of the database catalog.

Integer

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of integers.

In contrast to Oracle, an integer in SAP DB has 20 significant characters.

Number

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of numbers.

- For Oracle, the permitted value area for numbers covers values from 0.999E-128 to 0.999E126.
- In SAP DB, the permitted value area for floating point numbers (Number) consists of the interval from -9.99999999999999999999999999999999999E+62 to -1E-64, the value 0.0, and the interval from +1E-64 to +9.99999999999999999999999999999999999E+62.

Data Type

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of data types.

- In contrast to Oracle, columns with the data type CHAR[ACTER] are only stored up to a length of 30 characters with fixed length in SAP DB.
- The Oracle data type VARCHAR2 does not differ from VARCHAR in SAP DB.
- The data types INT[EGER] and SMALLINT have 20 significant digits in SAP DB.
- In SAP DB, the data type FLOAT is always represented with 20 significant digits.
- In SAP DB, data types cannot be defined for numbers with a negative scale. It is not possible to specify a scale that is greater than the number of significant digits.
- In SAP DB, numbers are not implicitly converted into date values or vice versa.

- In Oracle, date values extend from 1.1.4712 BC to 31.12.4712 AD.
  In SAP DB, date values extend from 1.1.0001 to 31.12.9999.
- SAP DB does not support the comparison of character strings denoted as "non padded comparison" in Oracle.
- The data types NCHAR, NVARCHAR2, MLSLABEL, BLOB, CLOB, NCLOB, BFILE, and UROWID, which are supported by Oracle, are not supported by SAP DB.

Pseudo Column

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of pseudo columns.

- The pseudo column LEVEL is not supported in SAP DB.
- Pseudo column ROWID can only be used if the option ROWID was specified in the CREATE TABLE statement. In contrast to Oracle, SAP DB produces a logical column identification of the data type RAW(8).
- In SAP DB, pseudo column ROWNUM cannot be used in the UPDATE statement.
- The pseudo column ROWNUM is entered into a selected column (select_column) after the result table has been sorted.

Operator

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of operators.

The Oracle operator PRIOR is not supported in SAP DB.

Function

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of functions.

- The following Oracle functions are not supported as functions in SAP DB:
  - CHARTOROWID
  - ROWIDTOCHAR
  - CONVERT
  - DUMP
  - USERENV
  - NLS_INITCAP
  - NLS_LOWER
  - NLS_UPPER
  - TO_MULTI_BYTE
  - TO_SINGLE_BYTE
  - INSTRB

  - LENGTHB
  - SUBSTRB
- When string functions LPAD and RPAD is specified in SAP DB, the character string x cannot be longer than n.
- When string function SUBSTR is specified in SAP DB, a cannot be less than 1.
- When the function INSTR is specified, the parameter "n" must not be smaller than 1.
- When functions TO_CHAR, TO_DATE, and TO_NUMBER are specified, the parameter "nlsparams" is not available.

Format

The SQL syntax elements [Page 8] for Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE differ, among other things, in the definition of the date format.

If not specified otherwise in the ALTER SESSION statement, date format DD-MON-YY, language English, and BINARY sorting are assumed for a database session in SAP DB.

SQL Statements

This section lists all the Oracle SQL statements with different behavior in Oracle Version 7 and SAP DB Version 7.4 in SQL mode ORACLE.

A detailed description of the syntax of the Oracle SQL statements can be found in the *ORACLE7 Server SQL Reference Manual*, and not in the sections below. The Oracle SQL statements are listed in the same order that is used in the *ORACLE7 Server SQL Reference Manual*.

To enable a better understanding of the system explanations, a reference to the syntax description of the relevant SAP DB-SQL statement in the Reference Manual: SAP DB 7.4 [See SAP DB Library] has been provided where appropriate.

For SQL statements not listed below, it can be assumed that there are no differences other than those described in the section General Differences [Page 7].

alter_cluster_statement

The schema object [Page 8] cluster is not supported by SAP DB. The SQL statement [Page 12] ALTER CLUSTER (alter_cluster_statement) is therefore not accepted by SAP DB.

alter_database_statement

The SQL statement [Page 12] ALTER DATABASE (alter_database_statement) is not accepted by SAP DB.

alter_function_statement

The SQL statement [Page 12] ALTER FUNCTION (alter_function_statement) is rejected by SAP DB.

alter_index_statement

Since SAP DB needs no reorganization, you do not have to modify the memory characteristics for indexes. The SQL statement [Page 12] ALTER INDEX (alter_index_statement) is known in SAP DB, but has different syntax and semantics to Oracle (ALTER INDEX statement).

alter_package_statement

The SQL statement [Page 12] ALTER PACKAGE (alter_package_statement) is not accepted by SAP DB.

alter_procedure_statement

The SQL statement [Page 12] ALTER PROCEDURE (alter_procedure_statement) is not accepted by SAP DB.

alter_profile_statement

The schema object [Page 8] profile is not supported by SAP DB. The SQL statement [Page 12] ALTER PROFILE (alter_profile_statement) is therefore not accepted by SAP DB.

alter_resource_cost_statement

The SQL statement [Page 12] ALTER RESOURCE COST (alter_resource_cost_statement) is not accepted by SAP DB.

alter_role_statement

The SQL statement [Page 12] ALTER ROLE (alter_role_statement) is not accepted by SAP DB.

alter_rollback_segment_statement

The schema object [Page 8] rollback segment is not supported by SAP DB. The SQL statement [Page 12] ALTER ROLLBACK SEGMENT (alter_rollback_segment_statement) is therefore not accepted by SAP DB.

alter_sequence_statement

The SQL statement [Page 12] ALTER SEQUENCE (alter_sequence_statement) is not accepted by SAP DB.

alter_snapshot_statement

The schema object [Page 8] snapshot is not supported by SAP DB. The SQL statement [Page 12] ALTER SNAPSHOT (alter_snapshot_statement) is not accepted by SAP DB.

alter_snapshot_log_statement

The schema object [Page 8] snapshot log is not supported by SAP DB. The SQL statement [Page 12] ALTER SNAPSHOT LOG (alter_snapshot_log_statement) is therefore not accepted by SAP DB.

alter_system_statement

The SQL statement [Page 12] ALTER SYSTEM (alter_system_statement) is not accepted by SAP DB.

alter_table_statement

The SQL statement [Page 12] ALTER TABLE (alter_table_statement) is known in SAP DB, but has different syntax and semantics to Oracle (ALTER TABLE statement).

- The variants PCTFREE, PCTUSED, INITRANS, MAXTRANS, STORAGE, DROP, and ALLOCATE are meaningless in SAP DB and are rejected.
- SAP DB cannot deactivate constraints. SAP DB therefore ignores the specification of DISABLE.
- SAP DB cannot delete any UNIQUE constraints using the DROP clause. The DROP INDEX statement must be used for this instead.
- When columns are inserted, SAP DB automatically inserts these columns in all view tables that use the "*" in the <select_list>, in order to identify all columns of the table.

alter_tablespace_statement

The schema object [Page 8] tablespace is not supported by SAP DB. The SQL statement [Page 12] ALTER TABLESPACE (alter_tablespace_statement) is not accepted by SAP DB.

alter_trigger_statement

SAP DB cannot deactivate triggers. The SQL statement [Page 12] ALTER TRIGGER (alter_trigger_statement) is therefore not accepted by SAP DB.

alter_user_statement

The SQL statement [Page 12] ALTER USER (alter_user_statement) is rejected by SAP DB. In SAP DB, the ALTER USER- statement can only be used to change the user's password. SAP DB rejects the specification of EXTERNALLY.

All other variants of the ALTER USER statement are rejected by SAP DB.

alter_view_statement

SAP DB always keeps view tables in an executable state. The SQL statement [Page 12] ALTER VIEW (alter_view_statement) is therefore not necessary, and is not accepted.

analyze_statement

SAP DB only supports the variant ANALYZE TABLE for SQL statement [Page 12] ANALYZE (analyze_statement). The options DELETE, VALIDATE STRUCTURE, and LIST CHAINED ROWS are not valid in SAP DB.

audit_statement

The SQL statement [Page 12] AUDIT (audit_statement) is not accepted by SAP DB.

commit_statement

SAP DB does not accept the specification of FORCE or COMMENT for the SQL statement [Page 12] COMMIT (commit_statement).

constraint_clause

The following restrictions exist for the syntax element CONSTRAINT clause used in SQL statements [Page 12] in SAP DB:

- A constraint_name for a key or [NOT] NULL is not stored in the database catalog.
- USING INDEX is allowed within the syntax, but meaningless in SAP DB.
- SAP DB ignores the DISABLE option.

create_cluster_statement

The schema object [Page 8] cluster is not supported by SAP DB. The SQL statement [Page 12] CREATE CLUSTER (create_cluster_statement) is therefore not accepted by SAP DB.

create_controlfile_statement

The SQL statement [Page 12] CREATE CONTROLFILE (create_controlfile_statement) is not accepted by SAP DB.

create_database_statement

The SQL statement [Page 12] CREATE DATABASE (create_database_statement) is not accepted by SAP DB.

create_database_link_statement

The schema object [Page 8] database link is not supported by SAP DB. The SQL statement [Page 12] CREATE DATABASE LINK (create_database_link_statement) is therefore not accepted by SAP DB.

create_function_statement

The SQL statement [Page 12] CREATE FUNCTION (create_function_statement) is not accepted by SAP DB.

create_index_statement

The SQL statement [Page 12] CREATE INDEX (create_index_statement) is known in SAP DB, but has different syntax and semantics to Oracle (CREATE INDEX statement).

- The specification of CLUSTER <cluster>, INITRANS <integer>, MAXTRANS <integer>, TABLESPACE <tablespace>, STORAGE <storage_clause>, PCTFREE <integer>, and NOSORT is meaningless in SAP DB, but is accepted by the syntax.

- The index is generated in descending order in SAP DB when DESC is specified.

create_package_statement

The SQL statement [Page 12] CREATE PACKAGE (create_package_statement) is not accepted by SAP DB.

create_package_body_statement

The SQL statement [Page 12] CREATE PACKAGE BODY (create_package_body_statement) is not accepted by SAP DB.

create_procedure_statement

The SQL statement [Page 12] CREATE PROCEDURE (create_procedure_statement) is not accepted by SAP DB.

create_profile_statement

The schema object [Page 8] profile is not supported by SAP DB. The SQL statement [Page 12] CREATE PROFILE (create_profile_statement) is therefore not accepted by SAP DB.

create_rollback_segment_statement

The schema object [Page 8] rollback segment is not supported by SAP DB. The SQL statement [Page 12] CREATE ROLLBACK SEGMENT (create_rollback_segment_statement) is therefore not accepted by SAP DB.

create_schema_statement

The SQL statement [Page 12] CREATE SCHEMA (create_schema_statement) is not accepted by SAP DB.

create_sequence_statement

SAP DB accepts the SQL statement [Page 12] CREATE SEQUENCE (create_sequence_statement) with the following syntax restrictions: the options CACHE and ORDER are meaningless for SAP DB (CREATE SEQUENCE statement).

create_snapshot_statement

The schema object [Page 8] snapshot is not supported by SAP DB. The SQL statement [Page 12] CREATE SNAPSHOT (create_snapshot_statement) is therefore not accepted by SAP DB.

create_snapshot_log_statement

The schema object [Page 8] snapshot log is not supported by SAP DB. The SQL statement [Page 12] CREATE SNAPSHOT LOG (create_snapshot_log_statement) is therefore not accepted by SAP DB.

create_synonym_statement

SAP DB does not permit any synonyms for sequences, database procedures or synonyms.

At the time of execution of the SQL statement [Page 12] CREATE SYNONYM (create_synonym_statement), the object for which the synonym is defined must exist. The current user must have at least one privilege for this object.

create_table_statement

The SQL statement [Page 12] CREATE TABLE (create_table_statement) is known in SAP DB, but has different syntax and semantics to Oracle (CREATE TABLE statement).

- The specification of PCTFREE <integer>, PCTUSED <integer>, INITRANS <integer>, MAXTRANS <integer>, TABLESPACE <tablespace>, STORAGE <storage clause>, and CLUSTER <cluster> is allowed by the syntax, but all are meaningless in SAP DB.
- SAP DB ignores the specification of DISABLE.
- If a subquery is specified, SAP DB does not generate NOT NULL constraints.
- In Oracle, each table row has a unique address that can be accessed as ROWID. The row can be addressed directly by using the ROWID. The ROWID also exists if the table has a key. Such an address is not available in SAP DB, because the rows are always addressed using the key.
  Table option ROWID can be used to better imitate Oracle behavior. This has the following effect: The table implicitly received key column ROWID from data type RAW(8). This column is usually invisible and can only be selected using the ROWID function.
  - If the CREATE TABLE statement contains a key_definition, an index with the UNIQUE attribute that corresponds to the key definition is generated.

  In this way, a row has a ROWID and can be selected with the ROWID and the key.

create_tablespace_statement

The schema object [Page 8] tablespace is not supported by SAP DB. Nevertheless, SAP DB still accept the SQL statement [Page 12] CREATE TABLESPACE (create_tablespace_statement), even though it has no effect.

create_trigger_statement

In SAP DB, SQL statement [Page 12] CREATE TRIGGER (create_trigger_statement) can only be used to define the triggers described in Oracle as “after row trigger”.

create_user_statement

The SQL statement [Page 12] CREATE USER (create_user_statement) is supported in SAP DB with restricted syntax. In the CREATE USER_statement, SAP DB does not accept the specification of IDENTIFIED EXTERNALLY, GLOBALLY AS <external_name>, DEFAULT TABLESPACE <tablespace>, TEMPORARY TABLESPACE <tablespace>, QUOTA, and PROFILE <profile>.

The created user has RESOURCE status.

create_view_statement

The SQL statement [Page 12] CREATE VIEW (create_view_statement) is supported in SAP DB with restricted syntax. The following restrictions exist in SAP DB for the syntax of the CREATE VIEW statement:

- SAP DB rejects the specification of FORCE or NOFORCE.
- A constraint_name given to the CHECK OPTION is not stored in the database catalog. If no constraint name is specified, SAP DB does not generate a name.
- View tables that are updatable in Oracle are not necessarily updatable in SAP DB. This is especially true for view tables whose definition contains subqueries.

declare_statement

In SAP DB, it is possible to specify the SQL statement [Page 12] DECLARE (declare_statement) with the following syntax restriction: the specification of a PL/SQL block is not accepted.

declare_table_statement

The SQL statement [Page 12] DECLARE TABLE (declare_table_statement) is accepted by SAP DB, even though it is meaningless for SAP DB.

delete_statement

The SQL statement [Page 12] DELETE (delete_statement) is supported in SAP DB with restricted syntax (DELETE statement).

- If CURRENT OF <cursor> is specified, the result table must be based on an updatable table.
- A cursor built by a join or join view table is rejected.

describe_statement

In SAP DB, it is possible to specify the SQL statement [Page 12] DESCRIBE (describe_statement) with the following syntax restriction: the specification of a PL/SQL block is not accepted.

drop_cluster_statement

The schema object [Page 8] cluster is not supported by SAP DB. The SQL statement [Page 12] DROP CLUSTER (drop_cluster_statement) is therefore not accepted by SAP DB.

drop_database_link_statement

The schema object [Page 8] database link is not supported by SAP DB. The SQL statement [Page 12] DROP DATABASE LINK (drop_database_link_statement) is therefore not accepted by SAP DB.

drop_function_statement

The SQL statement [Page 12] DROP FUNCTION (drop_function_statement) is not accepted by SAP DB.

drop_index_statement

The SQL statement [Page 12] DROP INDEX (drop_index_statement) is accepted by SAP DB with the following restriction: because of the different namespaces for indexes, the specification of an index name does not always uniquely identify an index. In such a case, the table to which the index refers must be explicitly specified.

drop_procedure_statement

The SQL statement [Page 12] DROP PROCEDURE (drop_procedure_statement) is not accepted by SAP DB.

drop_profile_statement

The schema object [Page 8] profile is not supported by SAP DB. The SQL statement [Page 12] DROP PROFILE (drop_profile_statement) is therefore not accepted by SAP DB.

drop_rollback_segment_statement

The schema object [Page 8] rollback segment is not supported by SAP DB. The SQL statement [Page 12] DROP ROLLBACK SEGMENT (drop_rollback_segment_statement) is therefore not accepted by SAP DB.

drop_snapshot_statement

The schema object [Page 8] snapshot is not supported by SAP DB. The SQL statement [Page 12] DROP SNAPSHOT (drop_snapshot_statement) is therefore not accepted by SAP DB.

drop_snapshot_log_statement

The schema object [Page 8] snapshot log is not supported by SAP DB. The SQL statement [Page 12] DROP SNAPSHOT LOG (drop_snapshot_log_statement) is therefore not accepted by SAP DB.

drop_table_statement

The SQL statement [Page 12] DROP TABLE (drop_table_statement) is known in SAP DB but with the following syntax restrictions:

- All synonyms and view tables based on the table are dropped.
- Specifying CASCADE CONSTRAINTS has no effect.

drop_tablespace_statement

The schema object [Page 8] tablespace is not supported by SAP DB. The SQL statement [Page 12] DROP TABLESPACE (drop_tablespace_statement) is therefore not accepted by SAP DB.

drop_trigger_statement

Because of the different namespaces for triggers, specification of a trigger name in SAP DB does not uniquely identify the trigger.

Therefore, SAP DB only accepts the SQL statement [Page 12] DROP TRIGGER (drop_trigger_statement) with the following restriction: the table that the trigger relates to must be explicitly specified.

drop_view_statement

In SAP DB, the SQL statement [Page 12] DROP VIEW (drop_view_statement) is used to drop all the view tables and synonyms [Ext.] based on the view table.

execute_statement

In SAP DB, it is possible to specify the SQL statement [Page 12] EXECUTE (execute_statement) with the following syntax restriction: the specification of a PL/SQL block is not accepted.

explain_plan_statement

The SQL statement [Page 12] EXPLAIN PLAN (explain_plan_statement) is not accepted by SAP DB.

However, there is a similar SQL statement in SAP DB: EXPLAIN statement.

grant_statement

The SQL statement [Page 12] GRANT (grant_statement) is known in SAP DB, but behaves differently to Oracle in the following areas (GRANT statement):

- SAP DB does not accept the granting of system privileges.
- The schema object [Page 8] package cannot be specified when object privileges are granted.

insert_statement (embedded SQL)

The SQL statement [Page 12] INSERT (insert_statement) is accepted in SAP DB with the following restriction (INSERT statement): SAP DB does not accept the specification of array host variables in the WHERE clause.

lock_table_statement

The SQL statement [Page 12] LOCK TABLE (lock_table_statement) is accepted by SAP DB with the following syntax restrictions: if ROW EXCLUSIVE, SHARE ROW EXCLUSIVE or EXCLUSIVE are specified, SAP DB assigns an exclusive table lock. Concurrent requests on the table are therefore not possible.

noaudit_statement

The SQL statement [Page 12] NOAUDIT (noaudit_statement) is not accepted by SAP DB.

rename_statement

The SQL statement [Page 12] RENAME (rename_statement) is known in SAP DB, but behaves differently to Oracle: in SAP DB, only Basis tables can be renamed.

revoke_statement

The SQL statement [Page 12] REVOKE (revoke_statement) is known in SAP DB, but behaves differently to Oracle in the following areas (REVOKE statement):

- SAP DB does not accept the revoking of system privileges.
- The schema object [Page 8] package cannot be specified when object privileges are revoked.

rollback_statement

The SQL statement [Page 12] ROLLBACK (rollback_statement) is supported in SAP DB with restricted syntax (ROLLBACK statement).

- SAP DB rejects the specification of FORCE.
- SAP DB does not release any locks when ROLLBACK TO [SAVEPOINT] <savepoint> is specified.

select_statement

The SQL statement [Page 12] SELECT (select_statement) is supported in SAP DB with restricted syntax (SELECT statement).

- SAP DB does not support the specification of START WITH <condition> or CONNECT BY <condition>.
- SAP DB sometimes rejects outer joins with more than two tables in the FROM clause valid in Oracle.

set_transaction_statement

The SQL statement [Page 12] SET TRANSACTION (set_transaction_statement) is not accepted by SAP DB.

update_statement

The SQL statement [Page 12] UPDATE (update_statement) is supported in SAP DB with restricted syntax (UPDATE statement).

- A correlated subquery is not permitted as a subquery of a SET UPDATE clause in SAP DB.
- If CURRENT OF <cursor> is specified, the result table must be based on an updatable table. A cursor built by a join or join view table is rejected.

System Tables

The following system tables are known in SAP DB, but they are empty because the corresponding objects or information does not exist in SAP DB:

ALL_ERRORS
ALL_SOURCE
ALL_SNAPSHOTS
ALL_TRIGGER_COLS

DBA_2PC_NEIGHBORS
DBA_2PC_PENDING
DBA_AUDIT_EXISTS
DBA_AUDIT_OBJECT
DBA_AUDIT_SESSION
DBA_AUDIT_STATEMENT
DBA_AUDIT_TRAIL
DBA_BLOCKERS
DBA_CLUSTERS
DBA_CLU_COLUMNS
DBA_DATA_FILES
DBA_DDL_LOCKS
DBA_DML_LOCKS
DBA_ERRORS
DBA_EXP_FILES
DBA_EXP_OBJECTS
DBA_EXTENTS
DBA_LOCKS
DBA_OBJECT_SIZE
DBA_PRIV_AUDIT_OPTS
DBA_PROFILES
DBA_ROLLBACK_SEGS
DBA_SNAPSHOTS
DBA_SNAPSHOT_LOGS
DBA_SOURCE
DBA_STMT_AUDIT_OPTS
DBA_SYS_PRIVS
DBA_TABLESPACES
DBA_TRIGGER_COLS
DBA_TS_QUOTAS

RESOURCE_COST
ROLE_SYS_PRIVS
ROLE_TAB_PRIVS

USER_AUDIT_OBJECT
USER_AUDIT_SESSION
USER_AUDIT_TRAIL

USER_CLUSTERS
USER_CLU_COLUMNS
USER_ERRORS
USER_EXTENTS
USER_OBJECT_SIZE
USER_SNAPSHOTS
USER_SNAPSHOT_LOGS
USER_SOURCE
USER_SYS_PRIVS
USER_TABLESPACES
USER_TRIGGER_COLS
USER_TS_QUOTAS

The following system table columns always contain a NULL value because the information is not available in the format required in SAP DB:

System table(s)	**Column(s)**
ALL_CONSTRAINT, USER_CONSTRAINTS, DBA_CONSTRAINTS	R_CONSTRAINT_NAME
ALL_DEPENDENCIES, USER_DEPENDENCIES, DBA_DEPENDENCIES	REFERENCED_LINK_NAME
ALL_INDEXES, USER_INDEXES, DBA_INDEXES	PREFIX_LENGTH INI_TRANS MAX_TRANS INITIAL_EXTENT NEXT_EXTENT MIN_EXTENT MAX_EXTENTS PCT_INCREASE PCT_FREE BLEVEL LEAF_BLOCKS AVG_LEAF_BLOCKS_PER_KEY AVG_DATA_BLOCKS_PER_KEY CLUSTERING_FACTOR NUM_ROWS SAMPLE_SIZE LAST_ANALYZED DEGREE INSTANCES BUFFER_POOL DUARTION PCT_DIRECT_ACCESS ITYP_OWNER ITYP_NAME PARAMETERS GLOBAL_STATS
ALL_OBJECTS, USER_OBJECTS, DBA_OBJECTS	SUBOBJECT_NAME DATA_OBJECT_ID
ALL_SYNONYMS, USER_SYNONYMS, DBA_SYNONYMS	DB_LINK

ALL_TABLES, USER_TABLES, DBA_TABLES	CLUSTER_NAME IOT_NAME PCT_FREE PCT_USED INI_TRANS MAX_TRANS INITIAL_EXTENT NEXT_EXTENT MIN_EXTENT MAX_EXTENTS PCT_INCREASE FREELISTS FREELIST_GROUPS BLOCKS EMPTY_BLOCKS AVG_SPACE CHAIN_CNT AVG_ROW_LEN AVG_SPACE_FREELIST_BLOCKS NUM_FREELIST_BLOCKS DEGREE INSTANCES IOT_TYPE BUFFER_POOL ROW_MOVEMENT GLOBAL_STATS DUARTION SKIP_CORRUPT MONITORING
ALL_TAB_COLUMNS, USER_TAB_COLUMNS, DBA_TAB_COLUMNS	DATA_TYPE_MOD DATA_TYPE_OWNER LOW_VALUE HIGH_VALUE DENSITY NUM_NULLS NUM_BUCKETS LAST_ANALYZED SAMPLE_SIZE GLOBAL_STATS AVG_COL_LENGTH
ALL_TRIGGERS, USER_TRIGGERS, DBA_TRIGGERS	COLUMN_NAME REFERENCING_NAME WHEN_CLAUSE ACTION_TYPE
ALL_VIEWS, USER_VIEWS, DBA_VIEWS	TYPE_TEXT_LENGTH TYPE_TEXT OID_TEXT_LENGTH OID_TEXT VIEW_TYPE_OWNER VIEW_TYPE
DBA_IND_COLUMNS	COLUMN_EXPRESSION
USER_FREE_SPACE, DBA_FREE_SPACE	RELATIVE_FNO
USER_RESOURCE_LIMITS	RESOURCE_NAME LIMIT

USER_SEGMENTS, DBA_SEGMENTS	BYTES BLOCKS EXTENTS INITIAL_EXTENT NEXT_EXTENT IN_EXTENT MAX_EXTENTS PCT_INCREASE FREELISTS FREELIST_GROUPS BUFFER_POOL RESOURCE_NAME
USER_SYS_PRIVS	PRIVILEGE
USER_USERS, DBA_USERS	ACCOUNT_STATUS LOCK_DATE EXPIRY_DATE PROFILE INITIAL_RSRC_CONSUMER_GROUP EXTERNAL_NAME

Error Messages

If the following errors occur, SAP DB produces the same error number as Oracle Version 7:

Message number	Message text
1403	ROW NOT FOUND
-1	DUPLICATE SECONDARY KEY
-51	LOCK REQUEST TIMEOUT
-54	LOCK COLLISION
-602	SYSTEM ERROR
-942	UNKNOWN TABLE NAME
-955	DUPLICATE NAME
-1402	INTEGRITY VIOLATION
-1452	DUPLICATE SECONDARY KEY
-1556	DATA SPACE FULL (EMERGENCY SHUTDOWN)

For all other errors, SAP DB produces the error numbers described in the manual Messages: SAP DB 7.4 [See SAP DB Library]. These are different to the numbers for the corresponding Oracle errors.