CSE2004
Database Management System

Slot: L15+L16
Week -III

Venue: AB1-605B
DML with Constraints

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Data Manipulation Language (DML) Statements

Data manipulation language (DML) statements query and manipulate data in existing schema objects.

These statements do not implicitly commit the current transaction.

The following are the DML statements available in Oracle.

INSERT   : Use to Add Rows to existing table.
UPDATE   : Use to Edit Existing Rows in tables.
DELETE   : Use to Delete Rows from tables.
MERGE   : Use to Update or Insert Rows on condition basis.

INSERT- Command

INSERT INTO table_name (column_list) VALUES(value_list);

INSERT INTO table_name VALUES (value_list);

```
CREATE TABLE discounts (
    discount_id NUMBER GENERATED BY DEFAULT AS IDENTITY,
    discount_name VARCHAR2(255) NOT NULL,
    amount NUMBER(3,1) NOT NULL,
    start_date DATE NOT NULL,
    expired_date DATE NOT NULL);
```

INSERT INTO discounts(discount_name, amount, start_date, expired_date)
VALUES('Summer Promotion', 9.5, DATE '2017-05-01', DATE '2017-08-31');

INSERT INTO discounts(discount_name, amount, start_date, expired_date)
VALUES('Winter Promotion 2017', 10.5, CURRENT_DATE, DATE '2017-12-31');

INSERT INTO SELECT

Sometimes, you want to select data from a table and insert it into another table.
Syntax:
INSERT INTO target_table (col1, col2, col3)
SELECT col1, col2, col3 FROM source_table WHERE condition;

INSERT INTO SELECT statement requires match b/w the data types of the source and target .

If you want to copy all rows from the source table to the target table, you remove the WHERE clause.

INSERT ALL

Used to insert multiple rows into a table

Syntax:

INSERT ALL
   INTO table_name(col1,col2,col3) VALUES(val1,val2, val3)
   INTO table_name(col1,col2,col3) VALUES(val4,val5, val6)
   INTO table_name(col1,col2,col3) VALUES(val7,val8, val9)
Subquery;

In this statement, each value expression val1, val2, or val3 must refer to a column returned by the select list of the subquery.

If you want to use literal values instead of the values returned by the subquery, use subquery: SELECT * FROM dual;

INSERT ALL

Example:
CREATE TABLE fruits (fruit_name VARCHAR2(100) PRIMARY KEY,
color VARCHAR2(100) NOT NULL);

INSERT ALL

INTO fruits(fruit_name, color)

VALUES ('Apple','Red')

INTO fruits(fruit_name, color)

VALUES ('Orange','Orange')

INTO fruits(fruit_name, color)

VALUES ('Banana','Yellow')

SELECT 1 FROM dual;

UPDATE

Used to changes existing values in a table

Syntax : UPDATE   table_name SET
  column1 = value1, column2 = value2,   column3 = value3, ...
WHERE   condition;

Example :
  UPDATE   parts SET   cost = 130 WHERE   part_id = 1;

Update Multiple Columns of the same row:
  UPDATE   parts SET   lead_time = 30,   cost = 120,   status
  WHERE   part_id = 5;

Update Multiple rows:
UPDATE   parts SET   cost = cost * 1.05;

DELETE

Used to delete one or more rows from a table.

Syntax: DELETE FROM table_name WHERE condition;

Example: DELETE FROM sales WHERE order_id = 1 AND
           item_id = 1;

DELETE FROM sales; // all rows will be deleted.

MERGE

MERGE statement selects data from one or more source tables and updates or inserts it into a target table.

Syntax:

MERGE INTO target_table USING source_table

ON search_condition   WHEN MATCHED THEN

UPDATE SET col1 = value1, col2 = value2,...

WHERE <update_condition>

[DELETE WHERE <delete_condition>]

WHEN NOT MATCHED THEN

INSERT (col1,col2,...)

values(value1,value2,...)

WHERE <insert_condition>;

Thank You!