Mastering Oracle SQL: DDL Commands Decoded

Build, Modify, and Manage Database Structures Like a Pro

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What is DDL?

DDL (Data Definition Language) defines and manages database objects.

CREATE

Tables, views, indexes

ALTER

Modify structures

DROP

Delete objects

Note:

⚠ *DDL auto-commits—changes are permanent!*

What You Will Learn

1. Understand Oracle data types
2. Create tables with rules (constraints)
3. Use default values in tables
4. Alter and delete tables safely
5. Identify different Oracle objects
6. Understand schema-level design

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Oracle Database Objects

Table

Stores data

View

Virtual table (query result)

Index

Speeds up searches

Sequence

Generates unique IDs

Oracle Naming Rules

1

✅ Start with a **letter**

Can contain letters, numbers, _ , $, #

Max length: 30 characters

2

✅ Avoid Oracle **reserved keywords**

Case-insensitive unless quoted

❗ `"EMP_ID"` **is not the same as** `"emp_id"` **if quoted.**

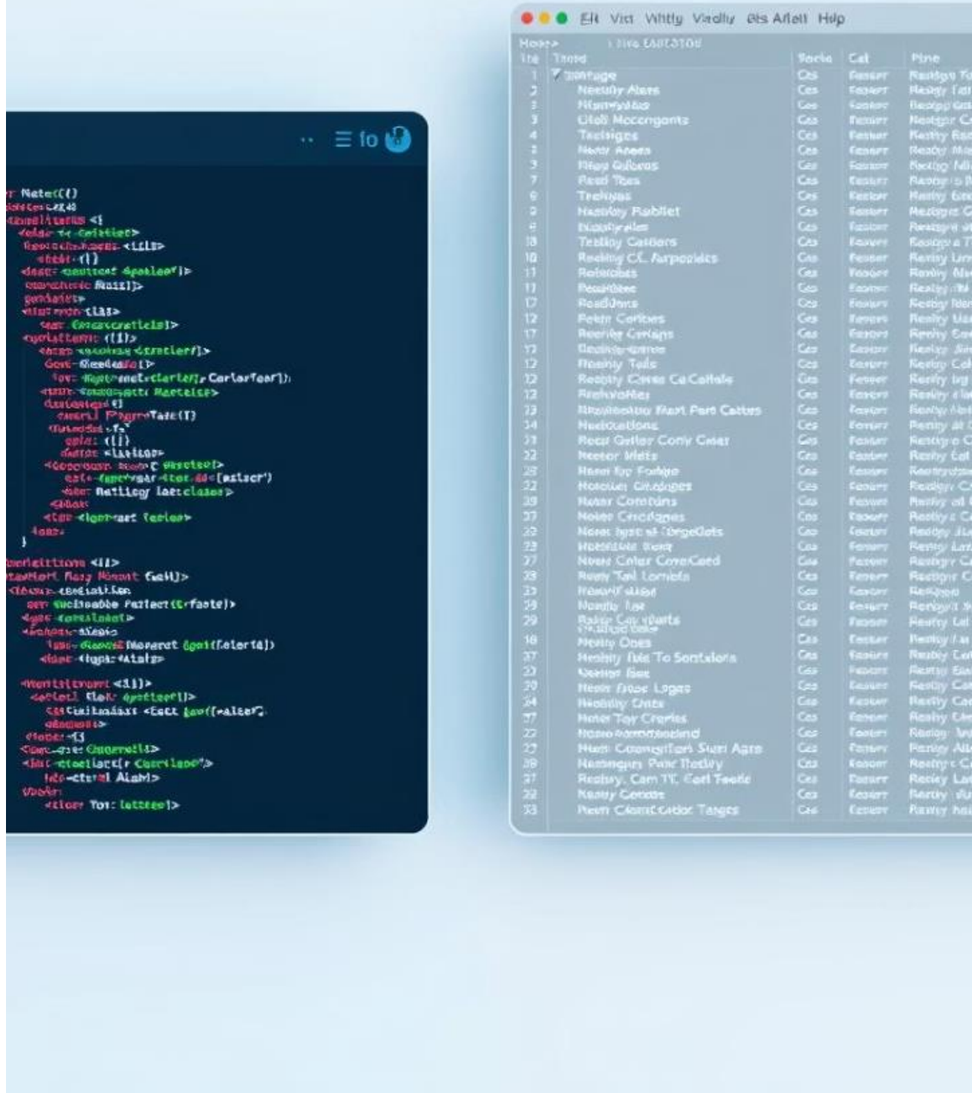
Oracle Data Types

Data Type	Description
`VARCHAR2(n)`	Text, up to n characters
`NUMBER(p,s)`	Numbers (precision & scale)
`DATE`	Stores date & time
`CLOB/BLOB`	Big character/binary files
`RAW/LONG RAW`	Binary data
`ROWID`	Row location in a table

Create Table Example

```
CREATE TABLE employees (

emp_id NUMBER PRIMARY KEY,

name VARCHAR2(50) NOT NULL,

salary NUMBER(10,2) CHECK
(salary > 0),

hire_date DATE DEFAULT SYSDATE

);
```

- 🟢 PRIMARY KEY: Unique row identifier
- 🟡 DEFAULT: Auto-fills if empty



Constraints Explained

`NOT NULL`: Value must be given

`UNIQUE`: No duplicate values

`PRIMARY KEY`: Uniquely identifies a row

`FOREIGN KEY`: Links to another table

`CHECK`: Must meet a condition

💡 Constraints = Data quality guardrails

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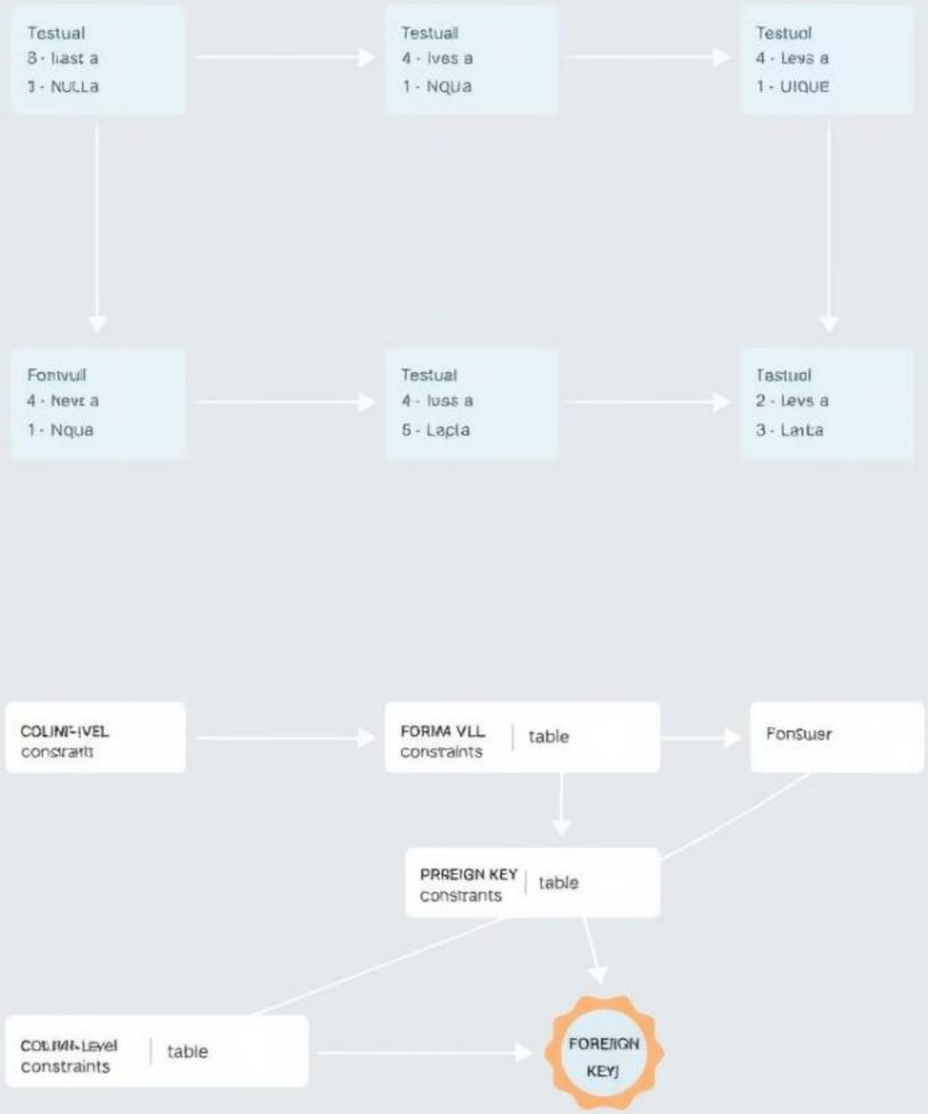


Column vs Table-Level Constraints

Column-level

📌 **Column-level: Defined inside a column**

⚠ `NOT NULL` **can only be column-level**

Table-level

📌 **Table-level: Defined after all columns**

✅ **Use table-level when:**

- **Defining multi-column constraints**
- **Adding a foreign key**

ALTER TABLE Commands

Add column

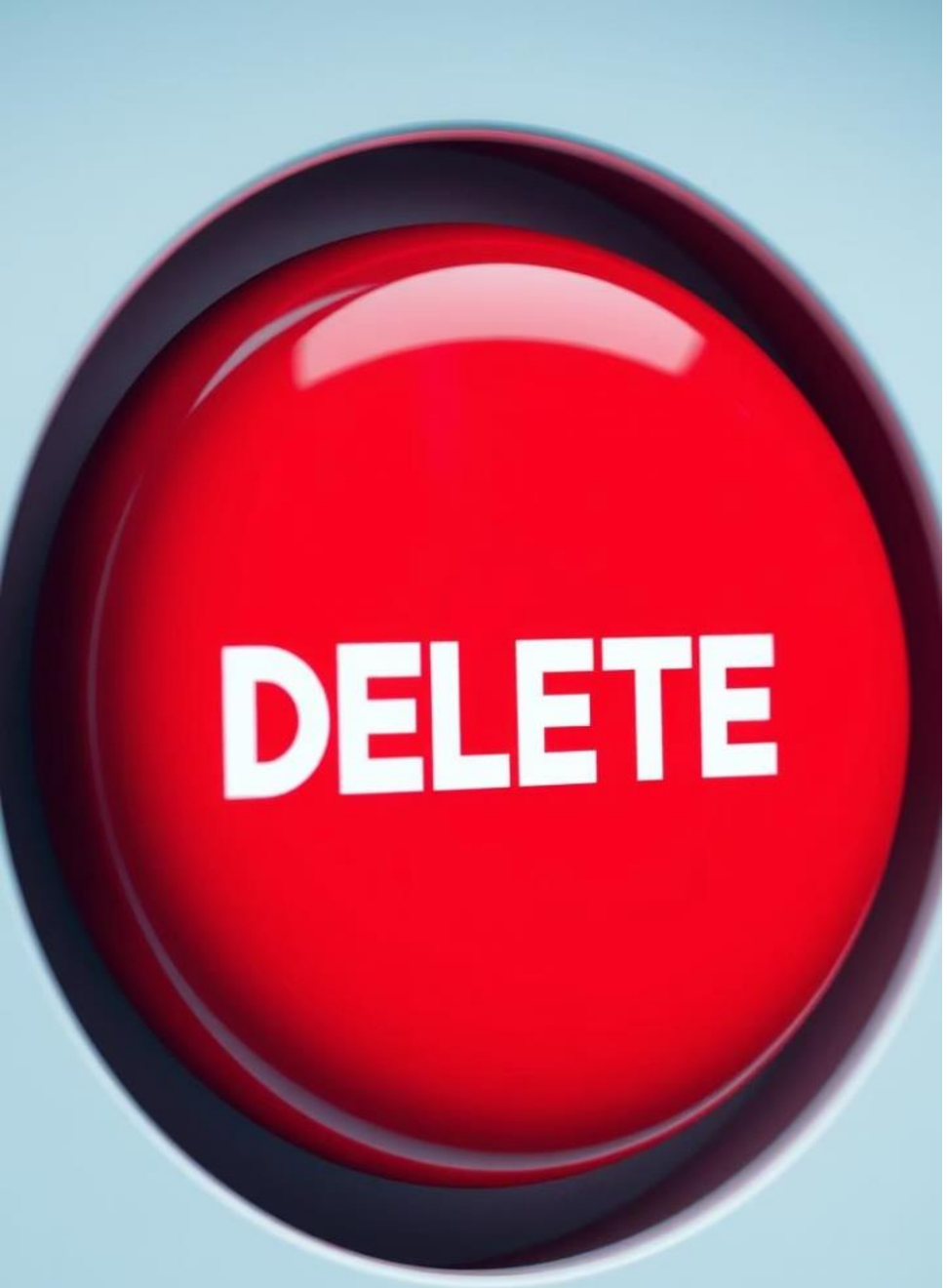
ALTER TABLE dept80 ADD job_id VARCHAR2(10);

Modify column

ALTER TABLE dept80 MODIFY last_name VARCHAR2(30);

Drop column

ALTER TABLE dept80 DROP COLUMN job_id;



DROP TABLE Command

DROP TABLE dept80;

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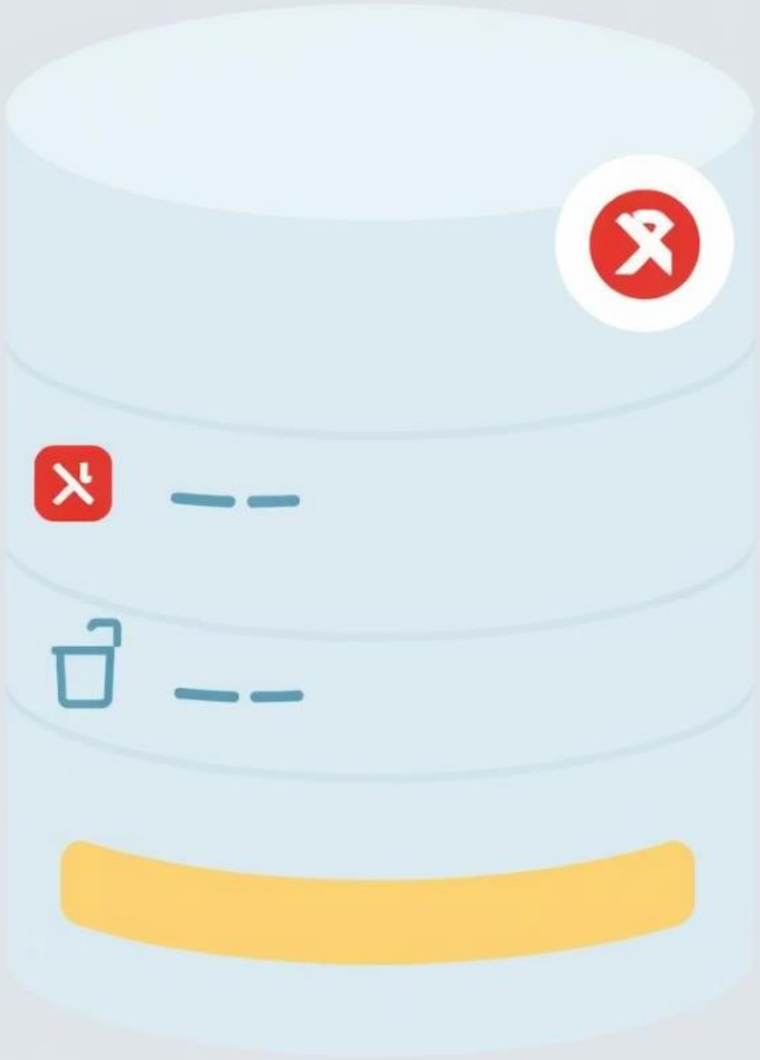
1. 🧨 Deletes the table and all its data
2. ♻️ Moves it to **recycle bin** (can be recovered)
3. 🚫 Use PURGE to delete it permanently

```
DROP TABLE dept80 PURGE;
```



Summary (DDL Practice)

Lab 1

Create table with `DEFAULT`

Lab 2

Add `PRIMARY KEY` constraint

Lab 3

Add `FOREIGN KEY` with `ON DELETE CASCADE`

Lab 4

Use `CHECK` for value validation

Lab 5

Create table using a subquery

Lab 6–9

Add/modify/drop columns & tables

Practice makes SQL perfect! 🔄

Thank You!

We appreciate your time and attention.

Master Oracle SQL with practice and confidence.

Keep Practicing

Consistent practice ensures mastery of DDL commands.

Explore Further

Continue learning advanced Oracle SQL concepts.

Ask Questions

Engage with the community for deeper understanding.

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