

B.Tech. Computer Science & Engineering

Semester : 3rd

Introduction To Database Management System

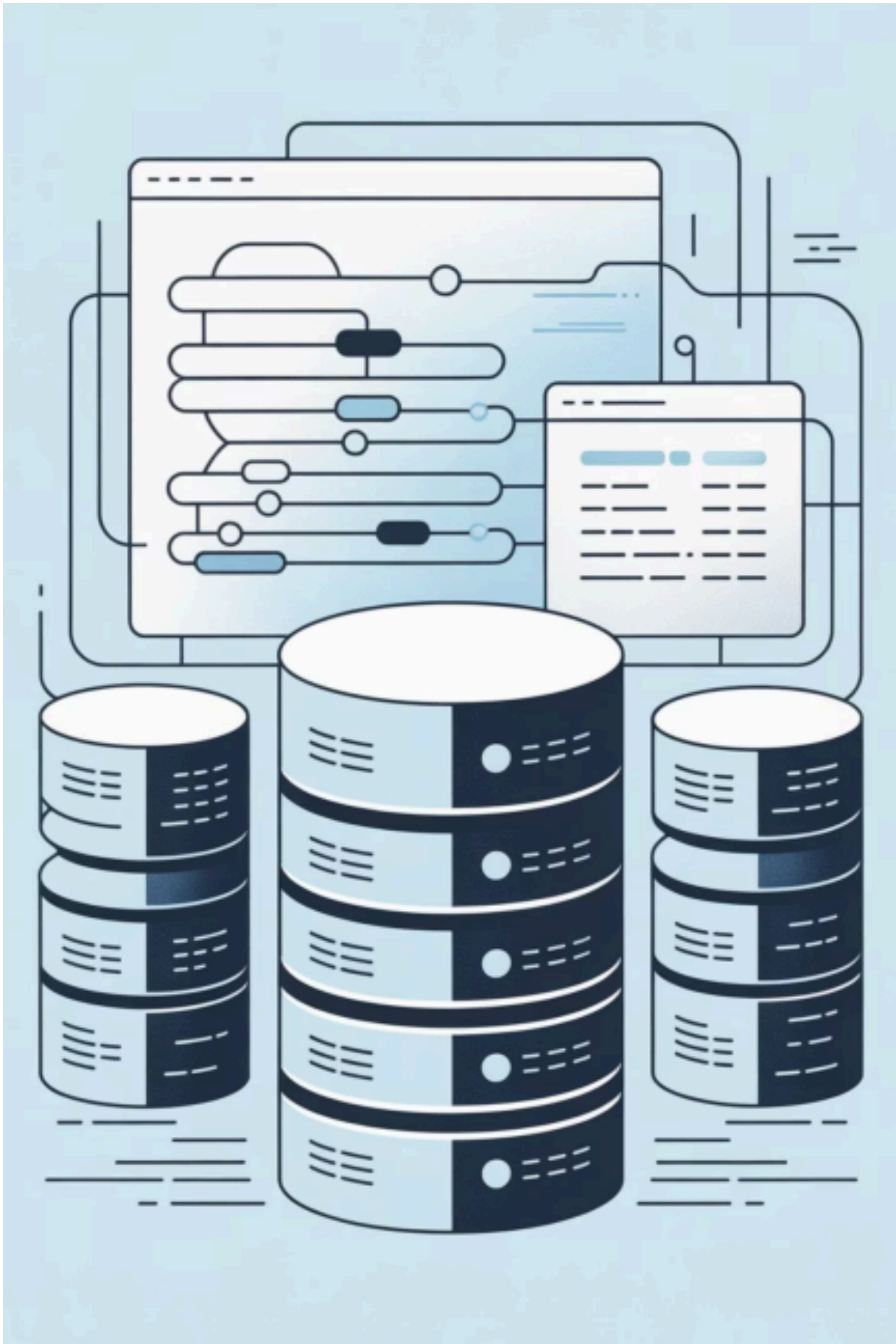
Course Code: 71203002003

Unit – 3 : STRUCTURED QUERY LANGUAGE - SQL AND PL/SQL

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Views in SQL



What is a View in SQL?

A View is a virtual table based on the result of a SQL query. It looks like a table, but it doesn't store data itself — it just displays data stored in other tables.

Think of it like a window (view) to look at certain data, without giving access to the entire table.

Syntax:

```
CREATE VIEW view_name AS SELECT column1, column2, ... FROM table_name WHERE condition;
```

Simple Example

Students

Let's say you have two tables:

student_id name department_id 1 Riya 101 2 Arjun 102 3

Sneha 101

department_id department_name 101 Computer

Science 102 Electronics

Departments

Example 1: Create a View

We want a view showing **students along with their department names**.

```
CREATE VIEW student_details AS  
SELECT s.student_id, s.name, d.department_name  
FROM Students s  
JOIN Departments d ON  
s.department_id = d.department_id;
```

Now you can query it like a normal table:

```
SELECT * FROM student_details;
```

Output:

student_id name department_name 1 Riya Computer Science 2 Arjun Electronics 3 Sneha Computer Science

Example 2: View with Filter

If you only want Computer Science students:

```
CREATE VIEW cs_students AS SELECT name FROM Students WHERE department_id = 101;
```

Now query it:

```
SELECT * FROM cs_students;
```

Output:

name

Riya

Sneha

Example 3: Update View

You can update the view definition:

```
CREATE OR REPLACE VIEW cs_students AS  
SELECT name, department_id  
FROM Students  
WHERE department_id = 101;
```

Example 4: Drop View

To delete a view:

```
DROP VIEW cs_students;
```

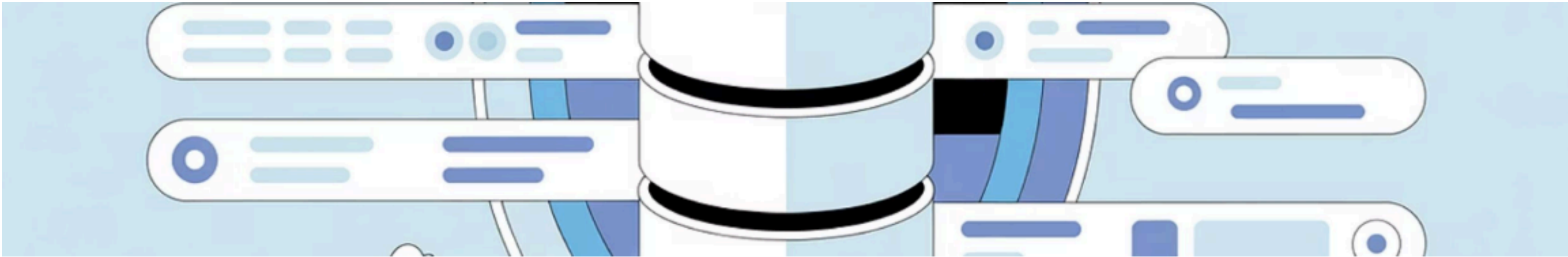
Key Concept:

Concept Description

Virtual Table Does not store data, only shows data from real tables. **Security** You can restrict

access to specific columns or rows. **Simplifies Queries** Saves complex joins and filters for reuse.

Updatable View Some views (not all) allow INSERT, UPDATE, or DELETE.



Example of Security Use Case

Instead of giving users access to the full Employees table (which includes salary), you can create a safe view:

```
CREATE VIEW public_employees AS  
SELECT name, department  
FROM Employees;
```

This way, users can only see name and department — not sensitive data like salary.

Views in SQL

Virtual tables that simplify data access and enhance security



Thank You!