



Creating Views

Objectives

After completing this lesson, you should be able to do:

- Create simple and complex views
- Retrieve data from views

Lesson Agenda

- Overview of views
- Creating, modifying, and retrieving data from a view
- Dropping a view

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Database Objects

Object	Description
Table	Basic unit of storage; composed of rows
View	Logically represents subsets of data from one or more tables
Sequence	Generates numeric values
Index	Improves the performance of data retrieval queries
Synonym	Gives alternative names to objects

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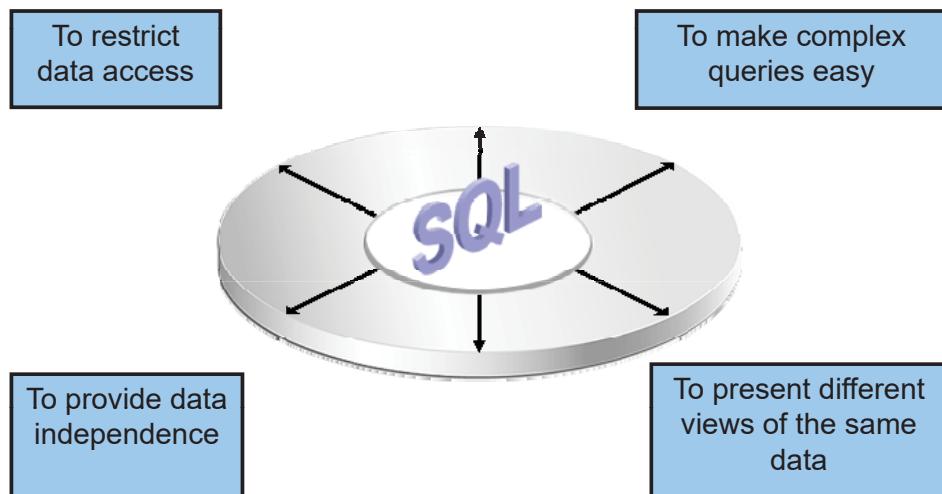
What Is a View?

EMPLOYEES table

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY
100	Steven	King	SKING	515.123.4567	17-JUN-87	AD_PRES	24000
101	Neena	Kochhar	NKOCHHAR	515.123.4568	21-SEP-89	AD_VP	17000
102	Lex	De Haan	LDEHAAN	515.123.4569	13-JAN-93	AD_VP	17000
103	Alexander	Hunold	AHUNOLD	590.423.4567	03-JAN-90	IT_PROG	9000
104	Bruce	Ernst	MERNST	515.123.4565	20-APR-94	SA_MAN	6000
105	David	Kochhar	DKOCHHAR	515.123.4566	07-SEP-95	SA_REP	4200
106	Pat	Roe	PROE	515.123.4567	09-JUN-95	SA_REP	4200
107	Shelley	Higgins	SHIGGINS	515.123.8080	07-JUN-94	AC_MGR	6900
108	William	Gietz	WGIETZ	515.123.8181	07-JUN-94	AC_ACCOUNT	5800
109	Janet	King	JKING	515.123.4569	03-JAN-90	CLERK	3500
110	Michael	Schoen	MSCHOEN	515.123.4565	20-APR-94	CLERK	3100
111	Susan	Murphy	SUMURPHY	515.123.4564	03-JAN-90	CLERK	2600
112	Ismael	Spencer	ISPENCER	515.123.4563	03-JAN-90	CLERK	2500
113	Lex	De Haan	LDEHAAN	515.123.4569	13-JAN-93	SA_MAN	10500
114	Neena	Kochhar	NKOCHHAR	515.123.4568	21-SEP-89	SA_REP	11000
115	Elisabeth	Albrecht	EALBRECHT	515.123.4565	07-SEP-95	SA_REP	8600
116	Lex	De Haan	LDEHAAN	515.123.4569	13-JAN-93	SA_REP	7000
117	Alexander	Hunold	AHUNOLD	590.423.4567	03-JAN-90	AD_ASST	4400
118	Bruce	Ernst	MERNST	515.123.4565	20-APR-94	MK_MAN	13000
119	David	Kochhar	DKOCHHAR	515.123.4566	07-SEP-95	MK_REP	6000
120	Pat	Roe	PROE	515.123.4567	09-JUN-95	MK_REP	6000
121	Shelley	Higgins	SHIGGINS	515.123.8080	07-JUN-94	AC_MGR	12000
122	William	Gietz	WGIETZ	515.123.8181	07-JUN-94	AC_ACCOUNT	8300

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Advantages of Views



Simple Views and Complex Views

Feature	Simple Views	Complex Views
Number of tables	One	One or more
Contain functions	No	Yes
Contain groups of data	No	Yes
DML operations through a view	Yes	Not always

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Creating a View

- You embed a subquery in the CREATE VIEW statement:

```
CREATE [OR REPLACE] [FORCE|NFORCE] VIEW view  
[(alias[, alias]...)]  
AS subquery  
[WITH CHECK OPTION [CONSTRAINT constraint]]  
[WITH READ ONLY [CONSTRAINT constraint]];
```

- The subquery can contain complex SELECT syntax.

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Creating a View

- Create the EMPVU80 view, which contains details of the employees in department 80:

```
CREATE VIEW empvu80  
AS SELECT employee_id, last_name, salary  
      FROM employees  
     WHERE department_id = 80;  
view EMPVU80 created.
```

- Describe the structure of the view by using the SQL*Plus DESCRIBE command:

```
DESCRIBE empvu80;
```

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Creating a View

- Create a view by using column aliases in the subquery:

```
CREATE VIEW    salvu50
AS SELECT    employee_id ID_NUMBER, last_name NAME,
              salary*12 ANN_SALARY
      FROM     employees
      WHERE    department_id = 50;
view SALVU50 created.
```

- Select the columns from this view by the given alias names.

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Retrieving Data from a View

```
SELECT *
FROM    salvu50;
```

	ID_NUMBER	NAME	ANN_SALARY
1	120 Weiss		96000
2	121 Fripp		98400
3	122 Kaufling		94800
4	123 Vollman		78000
5	124 Mourgos		69600
6	125 Nayer		38400
7	126 Mikkilineni		32400

...

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Modifying a View

- Modify the EMPVU80 view by using a CREATE OR REPLACE VIEW clause. Add an alias for each column name:

```
CREATE OR REPLACE VIEW empvu80
  (id_number, name, sal, department_id)
AS SELECT employee_id, first_name || ' '
      || last_name, salary, department_id
  FROM employees
 WHERE department_id = 80;
view EMPVU80 created.
```

- Column aliases in the CREATE OR REPLACE VIEW clause are listed in the same order as the columns in the subquery.

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Creating a Complex View

Create a complex view that contains group functions to display values from two tables:

```
CREATE OR REPLACE VIEW dept_sum_vu
  (name, minsal, maxsal, avgsal)
AS SELECT d.department_name, MIN(e.salary),
          MAX(e.salary), AVG(e.salary)
  FROM employees e JOIN departments d
 USING (department_id)
 GROUP BY d.department_name;
view DEPT_SUM_VU created.
```

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Removing a View

You can remove a view without losing data because a view is based on underlying tables in the database.

```
DROP VIEW view;
```

```
DROP VIEW empvu80;
```

```
view EMPVU80 dropped.
```

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Summary

In this lesson, you should have learned how to:

- Create, use, and remove views