Data Manipulation Language (DML)

Insert – Update - Delete

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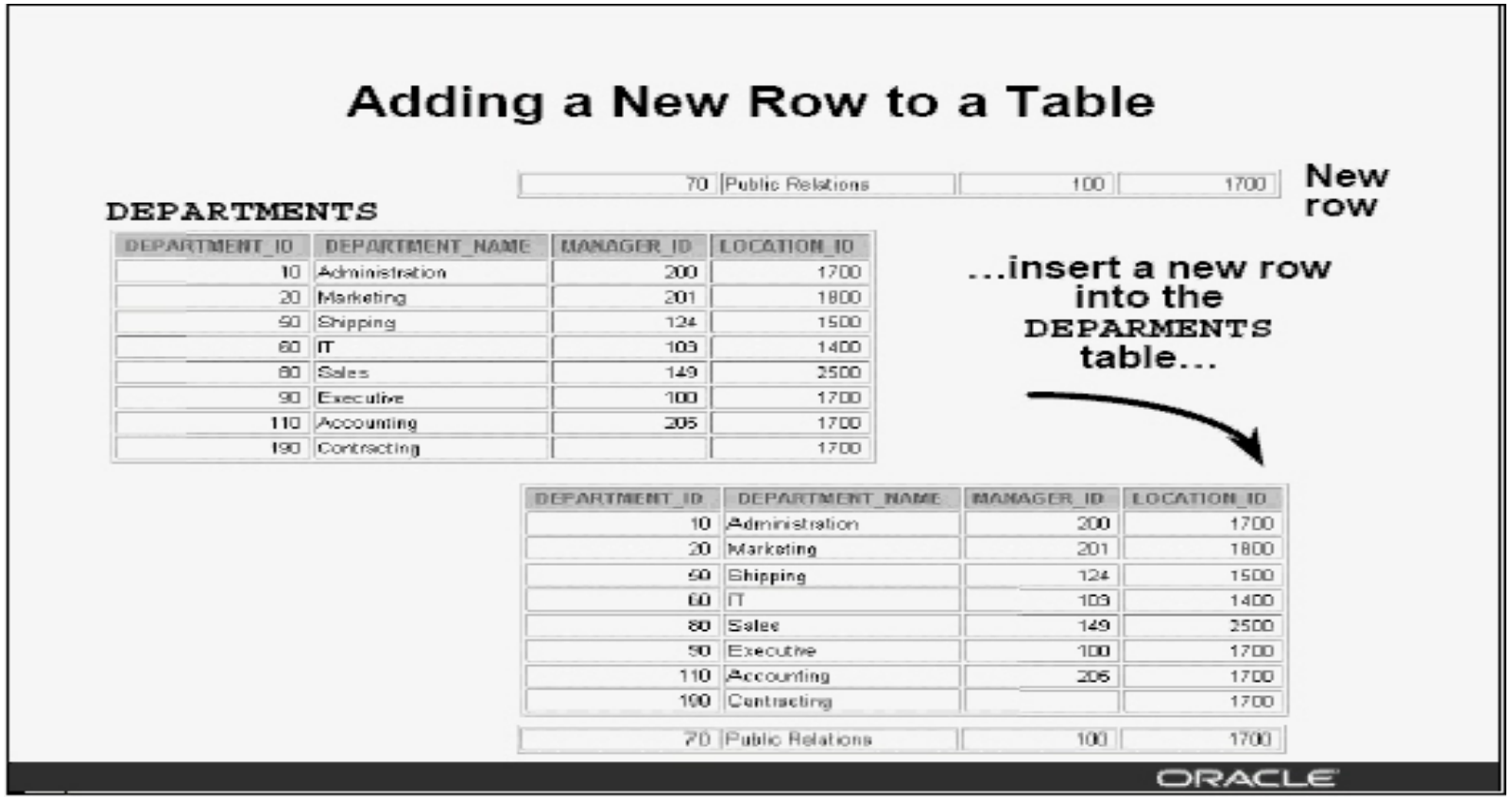
Data Manipulation - INSERT



Data Manipulation - INSERT

- **The first form does not specify the column names where the data will be inserted, only their values:**

```
INSERT INTO table_name VALUES (value1,value2,value3,...);
```

- **The second form specifies both the column names and the values to be inserted:**

```
INSERT INTO table_name (column1,column2,column3,...) VALUES
(value1,value2,value3,...);
```

Data Manipulation - INSERT

```
INSERT INTO departments
VALUES (1,'Public Relations',100,1700)
```

```
1 row(s) inserted.
```

```
SELECT * FROM departments
```

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
1	Public Relations	100	1700
10	Administration	200	1700
20	Marketing	201	1800

```
INSERT INTO departments
(department_id, department_name, manager_id, location_id)
VALUES (1,'Public Relations',100,1700)
```

Data Manipulation – INSERT NULL Values

1. Implicit Method

INSERT INTO departments (department_id,department_name) VALUES
(2,'Purchising')

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
1	Public Relations	100	1700
2	Purchising	-	-

2. Explicit Method

INSERT INTO departments VALUES (3,'Finance',NULL,NULL)

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
1	Public Relations	100	1700
2	Purchising	-	-
3	Finance	-	-

Data Manipulation - INSERT

```
INSERT INTO employees
(employee_id, first_name, last_name, hire_date, email, job_id)
VALUES(1,'Saya','Ali',sysdate,'AAA','AD_VP')
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSI
1	Saya	Ali	AAA	-	21-MAR-09	AD_VP	-	-

```
INSERT INTO employees  (employee_id, first_name, last_name, hire_date, email, job_id)
VALUES(2,'Aso','Ali','01/01/1986','BBB','AD_VP')
```

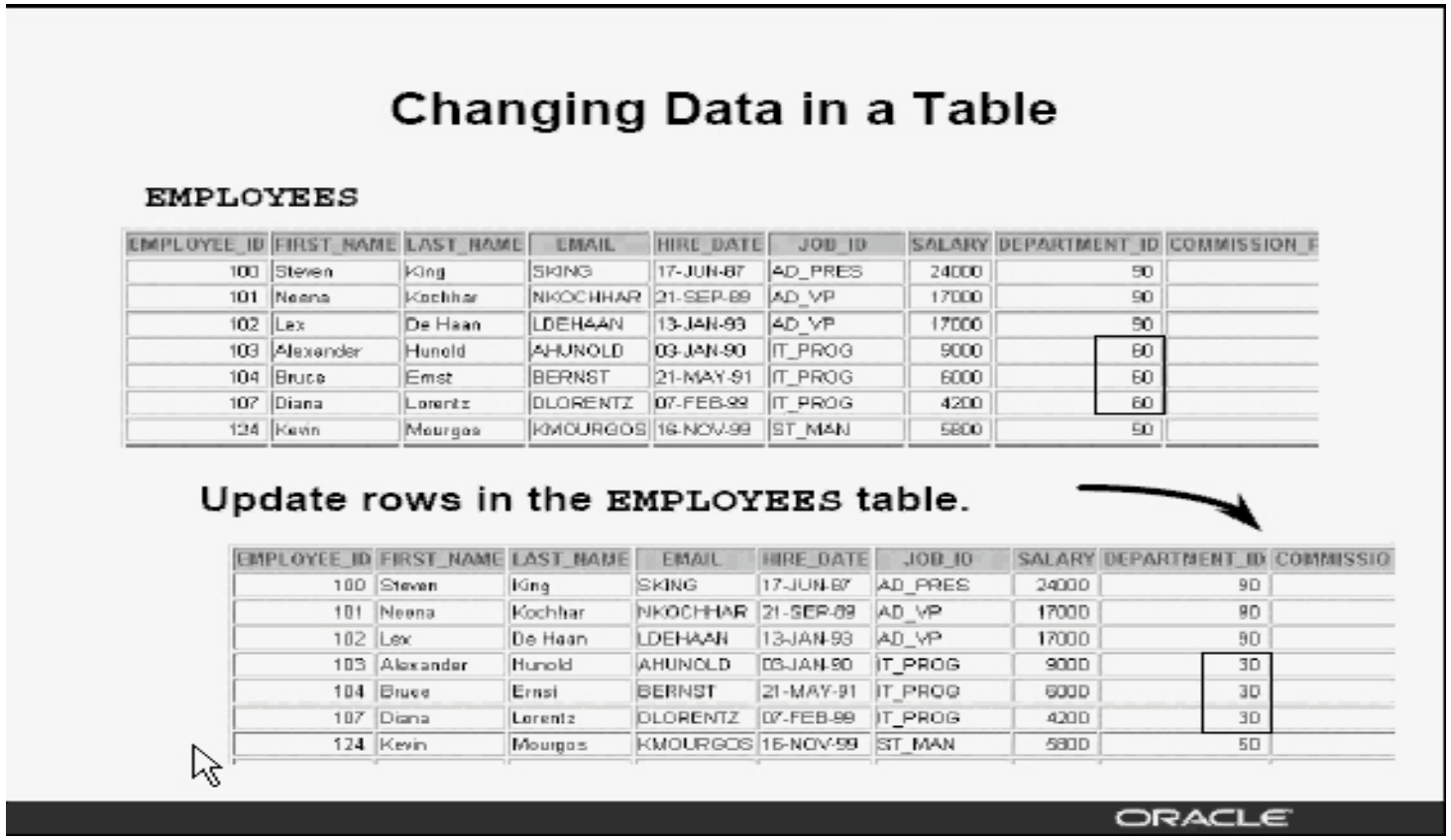
```
ORA-01843: not a valid month
```

```
INSERT INTO employees (employee_id, first_name, last_name, hire_date, email, job_id)
VALUES(2,'Aso','Ali',TO_DATE('01/01/1986‘,’DD/MM/YYYY’),'BBB','AD_VP')
```

INSERT using select statement

```
INSERT INTO sales_reps(id,name,salary,commission_pct) SELECT employee_id,last_name,salary,commission_pct FROM employees WHERE job_id = 'AD_PRES'
```

Data Manipulation - UPDATE



Data Manipulation – UPDATE

The UPDATE Statement Syntax

- Modify existing rows with the UPDATE statement.

```
UPDATE      table
SET         column = value [, column = value, ...]
[WHERE      condition];
```

- Update more than one row at a time, if required.

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Data Manipulation – UPDATE

- ✓ **UPDATE** employees
- ✓ **SET** department_id=70
- ✓ **WHERE** department_id=113

- UPDATE copy_emp
- SET department_id=110

- UPDATE employees
- SET job_id=(SELECT job_id FROM employees WHERE employee_id=205),
- salary=(SELECT salary FROM employees WHERE employee_id=205)
- WHERE employee_id=114

Data Manipulation - UPDATE

```
UPDATE copy_emp
SET department_id=(SELECT department_id FROM employees WHERE employee_id=100)
WHERE job_id=(SELECT job_id FROM employees WHERE employee_id=200)
```

Data Manipulation - DELETE

Removing a Row from a Table

DEPARTMENTS

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
10	Administration	200	1700
20	Marketing	201	1800
30	Purchasing		
100	Finance		
50	Shipping	124	1500
60	IT	103	1400

Delete a row from the DEPARTMENTS table.

DEPARTMENT_ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION_ID
10	Administration	200	1700
20	Marketing	201	1800
30	Purchasing		
50	Shipping	124	1500
60	IT	103	1400

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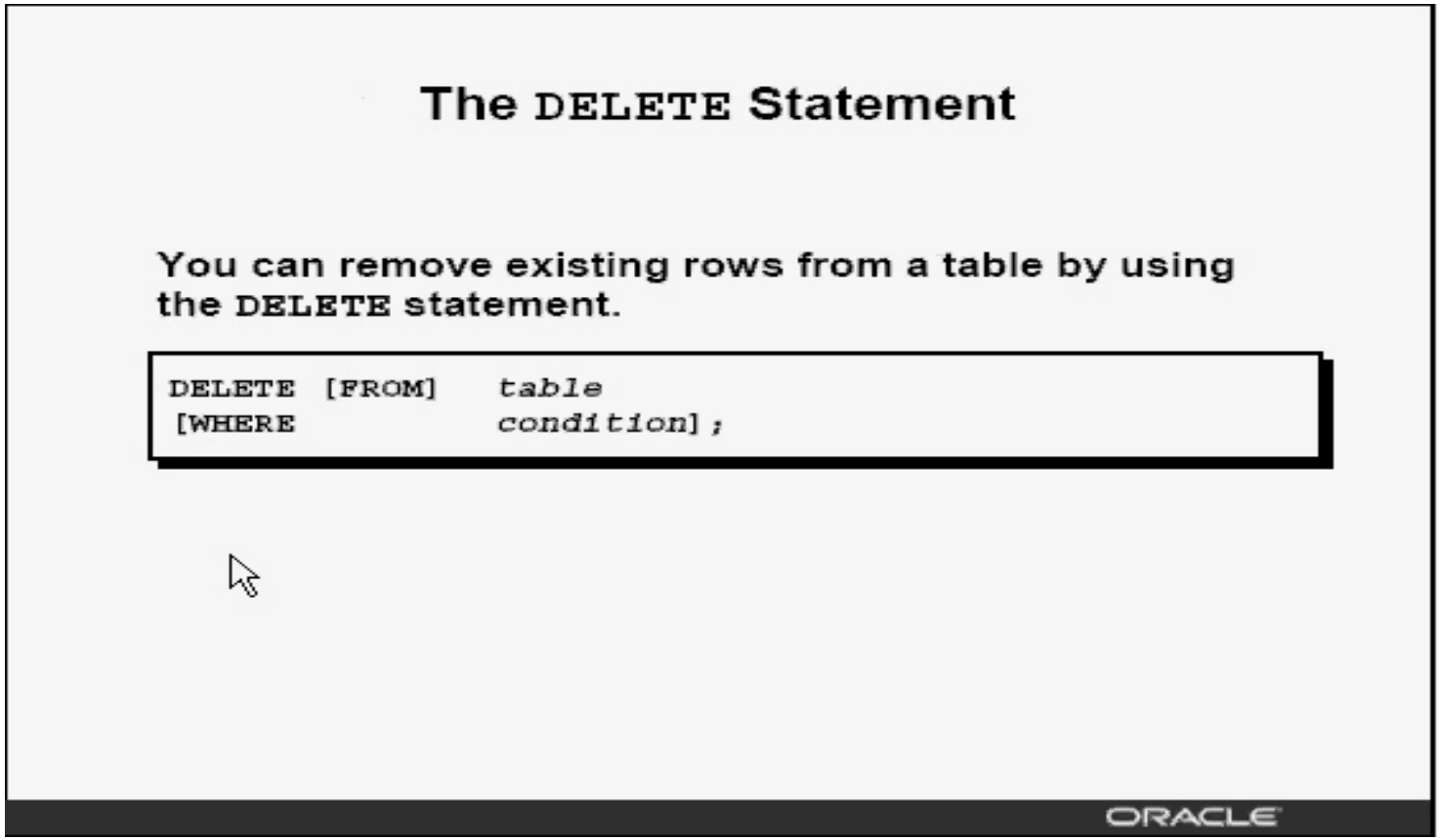
Data Manipulation – DELETE



Data Manipulation – DELETE

```
DELETE FROM employees
WHERE department_id=(SELECT department_id FROM departments
WHERE department_name LIKE ‘’%Public%)
```

Any Question?