

## The **ALTER TABLE** Statement

Use the `ALTER TABLE` statement to:

- **Add a new column**
- **Modify an existing column**
- **Define a default value for the new column**
- **Drop a column**

## The ALTER TABLE Statement

Use the ALTER TABLE statement to add, modify, or drop columns.

```
ALTER TABLE table
ADD          (column datatype [DEFAULT expr]
             [, column datatype]...);
```

```
ALTER TABLE table
MODIFY      (column datatype [DEFAULT expr]
             [, column datatype]...);
```

```
ALTER TABLE table
DROP        (column);
```

## Adding a Column

- You use the **ADD** clause to add columns.

```
ALTER TABLE dept80
ADD          (job_id VARCHAR2(9));
Table altered.
```

- The new column becomes the last column.

EMPLOYEE_ID	LAST_NAME	ANNSAL	HIRE_DATE	JOB_ID
145	Russell	14000	01-OCT-96	
146	Partners	13500	05-JAN-97	
147	Errazuriz	12000	10-MAR-97	
148	Cambraut	11000	15-OCT-99	
149	Zlotkey	10500	29-JAN-00	

...

## Modifying a Column

- You can change a column's data type, size, and default value.

```
ALTER TABLE dept80
MODIFY      (last_name VARCHAR2(30));
Table altered.
```

- A change to the default value affects only subsequent insertions to the table.

## Dropping a Column

Use the `DROP COLUMN` clause to drop columns you no longer need from the table.

```
ALTER TABLE dept80
DROP COLUMN job_id;
Table altered.
```

EMPLOYEE_ID	LAST_NAME	ANNSAL	HIRE_DATE
145	Russell	14000	01-OCT-96
146	Partners	13500	05-JAN-97
147	Errazuriz	12000	10-MAR-97
148	Cambraut	11000	15-OCT-99
149	Zlotkey	10500	29-JAN-00

## Adding a Constraint

Add a FOREIGN KEY constraint to the EMP2 table indicating that a manager must already exist as a valid employee in the EMP2 table.

```
ALTER TABLE emp2  
modify employee_id Primary Key;  
Table altered.
```

```
ALTER TABLE emp2  
ADD CONSTRAINT emp_mgr_fk  
FOREIGN KEY(manager_id)  
REFERENCES emp2(employee_id);  
Table altered.
```

## ON DELETE CASCADE

**Delete child rows when a parent key is deleted.**

```
ALTER TABLE Emp2 ADD CONSTRAINT emp_dt_fk  
FOREIGN KEY (Department_id)  
REFERENCES departments ON DELETE CASCADE);  
Table altered.
```

## Dropping a Constraint

- **Remove the manager constraint from the EMP2 table.**

```
ALTER TABLE emp2  
DROP CONSTRAINT emp_mgr_fk;  
Table altered.
```

- **Remove the PRIMARY KEY constraint on the DEPT2 table and drop the associated FOREIGN KEY constraint on the EMP2.DEPARTMENT\_ID column.**

```
ALTER TABLE dept2  
DROP PRIMARY KEY CASCADE;  
Table altered.
```



# Disabling Constraints

- Execute the `DISABLE` clause of the `ALTER TABLE` statement to deactivate an integrity constraint.
- Apply the `CASCADE` option to disable dependent integrity constraints.

```
ALTER TABLE emp2  
DISABLE CONSTRAINT emp_dt_fk;  
Table altered.
```

## Enabling Constraints

- **Activate an integrity constraint currently disabled in the table definition by using the `ENABLE` clause.**

```
ALTER TABLE      emp2
ENABLE CONSTRAINT emp_dt_fk;
Table altered.
```

- **A `UNIQUE` index is automatically created if you enable a `UNIQUE` key or `PRIMARY KEY` constraint.**