

LESSON 2.3a

98-364 Database Administration Fundamentals

# Create Views Using T-SQL

## Lesson Overview

In this lesson, you will learn:

- What is T-SQL?
- How is T-SQL different from other graphical designers?
- What is a view?
- What advantages do views have?
- How is a view created?

## What is T-SQL?

- Transact-SQL (T-SQL) is an extension of the SQL database programming language.
- T-SQL is a sophisticated SQL dialect loaded with features in addition to what is defined in the ANSI SQL-92 standard.

## How is T-SQL different from graphical designers?

- T-SQL uses a command-line interface for working with the database rather than a graphical interface.
- It is a procedural programming language.
- Graphical designers (such as Microsoft<sup>®</sup> Access<sup>®</sup>) are object-oriented and use a drag-and-drop interface, not a command-line interface. Graphical designers will be explored in detail in Review Lesson 2.3b.

## What is a view?

- In relational database management systems (RDMSs), a logical table is created through the specification of one or more relational operations on one or more tables.
- A view is a virtual table that displays the data from a selected table or tables.
- Example:

Student ID	LastName	FirstName	Address	City
Char(9) 123456789	Vchar(20) Jones	Vchar(20) William	Vchar(40) 5200 Central Ave.	Vchar(20) New York

- A *user* of the database should see only virtual tables. Only the database *manager* should see the real tables.

## What advantages do views have?

- A view can be thought of as a stored query.
- The data accessible through a view is not stored in the database as a distinct object.
- What is stored in the database is a **SELECT** statement. The result set of the **SELECT** statement forms the virtual table.
- The virtual table is accessed by referencing the view name in T-SQL statements, as follows:

```
SELECT * from <The views name>
```

```
Where <condition = x>
```

## How can views be used?

- A view can be used to:
  - — Restrict a user to specific rows in a table. Example: you can allow an employee to see only the rows recording his or her work in a labor-tracking table.
  - — Restrict a user to specific columns. Example: you can allow employees who do not work in payroll to see the name, office, work phone, and department columns, but not any columns with salary or personal information.
  - — Restrict information rather than supplying details. Example: you can present the sum of a column, or the maximum or minimum value from a column.

## How is a view created?

```
CREATE VIEW <name of the view> AS  
SELECT <column_name(s)>  
FROM <table_name>
```

### Example:

```
CREATE VIEW seniors AS  
SELECT student_id, student_name  
FROM enrolled_students
```

- The above code creates a virtual table called seniors that holds the data Student Id and Student Name. The data was pulled from the table enrolled\_students.



## Create a view with conditions

To create a view, use the following command:

```
CREATE VIEW <name of the view> AS
SELECT <column_name(s)>
FROM <table_name>
WHERE condition
```

Example: this code creates a virtual table that contains only girls.

```
CREATE VIEW seniors AS
SELECT student_id, student_name
FROM enrolled_students
WHERE Gender = "F"
```

## Quiz

Write the code to create each view, using only one conditional per view.

1. Create a view from the table named `medical_school_students` that will select all the male medical students.
2. Create a view from the table named `employees_skills` that will select all employees that have first aid training.
3. Create a view from the table named `enrolled_students` that will select all students over 62.