**15-2\_SQL\_Trushkova\_DML\_views**

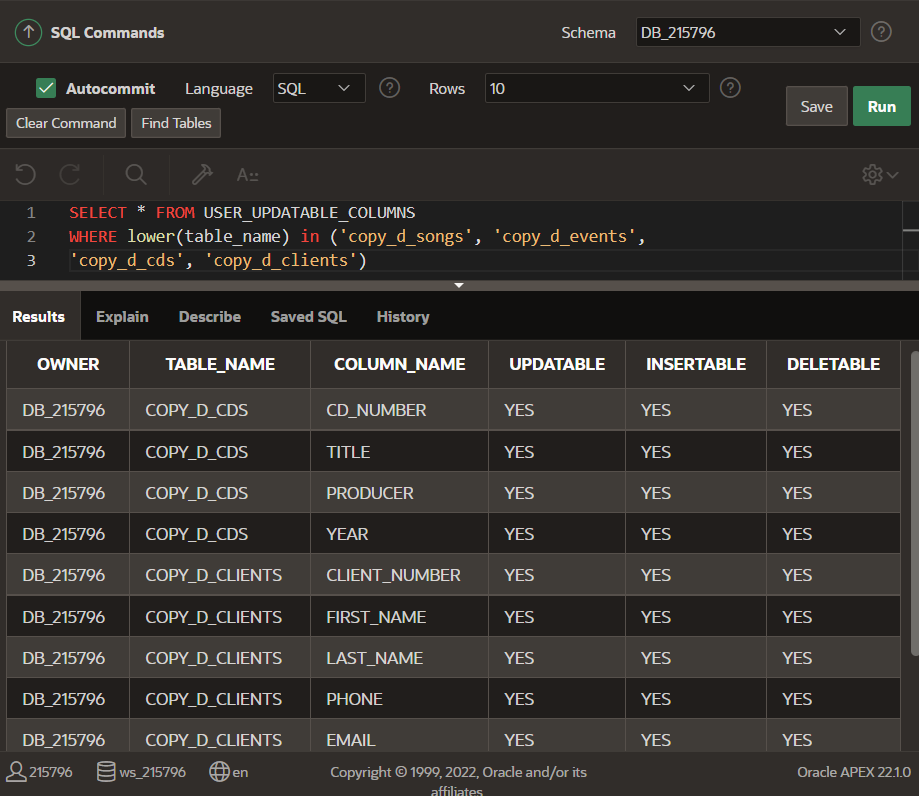
A pseudocolumn which assigns a sequential value starting with 1 to each of the rows returned from the subquery- ROWNUM

Specifies that INSERTS and UPDATES performed through the view can’t create rows which the view cannot select- WITH CHECK OPTION

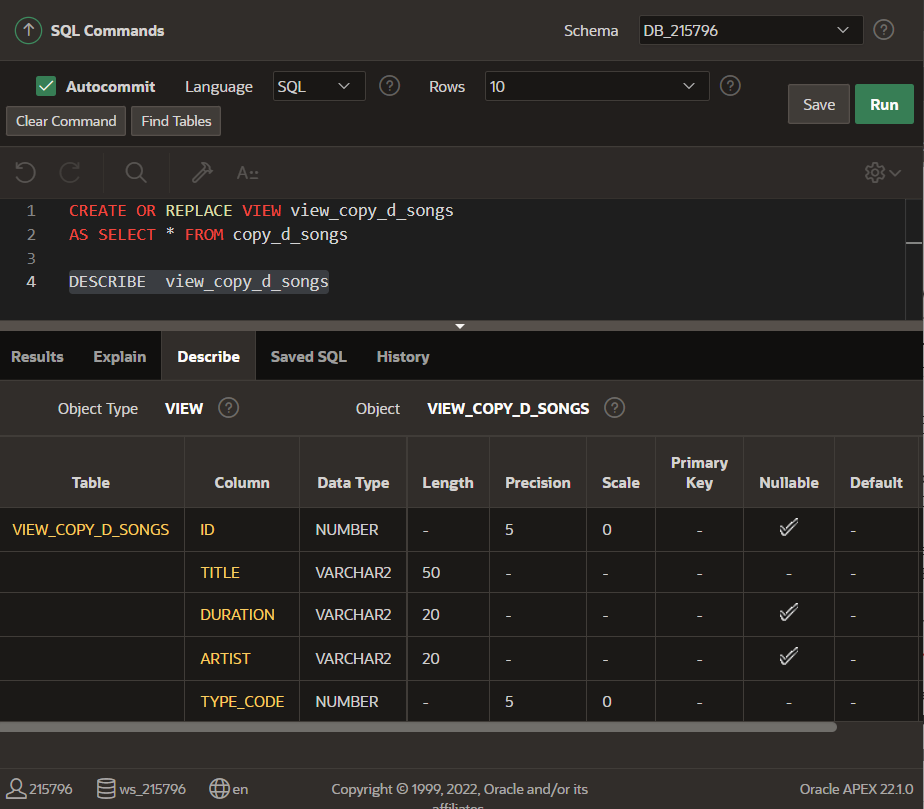
Ensures that no DML operations can be performed on this view- WITH READ ONLY

**Try it/Solve it**

1. Query the data dictionary USER\_UPDATABLE\_COLUMNS to make sure the columns in the base tables will allow UPDATE, INSERT, or DELETE. Use a SELECT statement or the Browse Data Dictionary feature in HTML DB. All table names in the data dictionary are stored in uppercase.

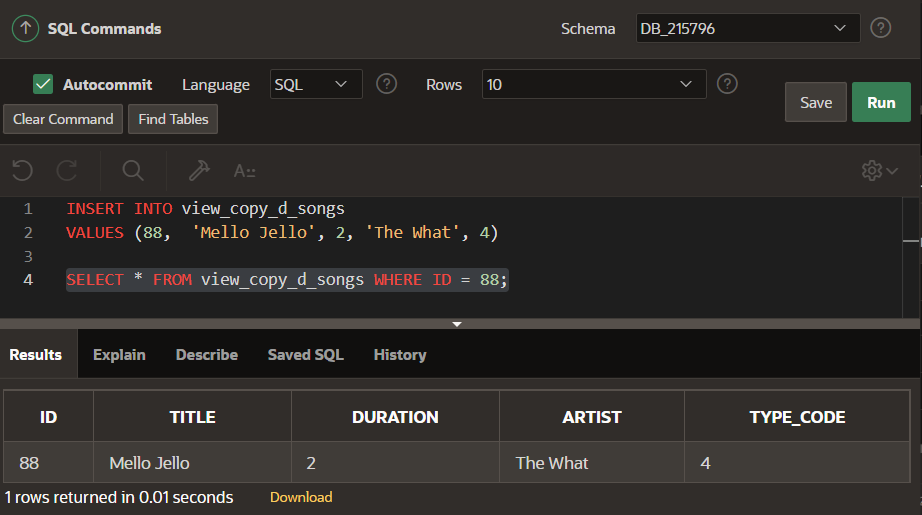


1. Use the CREATE or REPLACE option to create a view of all the columns in the copy\_d\_songs table called view\_copy\_d\_songs.



1. Use view\_copy\_d\_songs to INSERT the following data into the underlying copy\_d\_songs table. Execute a SELECT \* from copy\_d\_songs to verify your DML command. See the graphic.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | TITLE | DURATION | ARTIST | TYPE\_CODE |
| 88 | Mello Jello | 2 | The What | 4 |

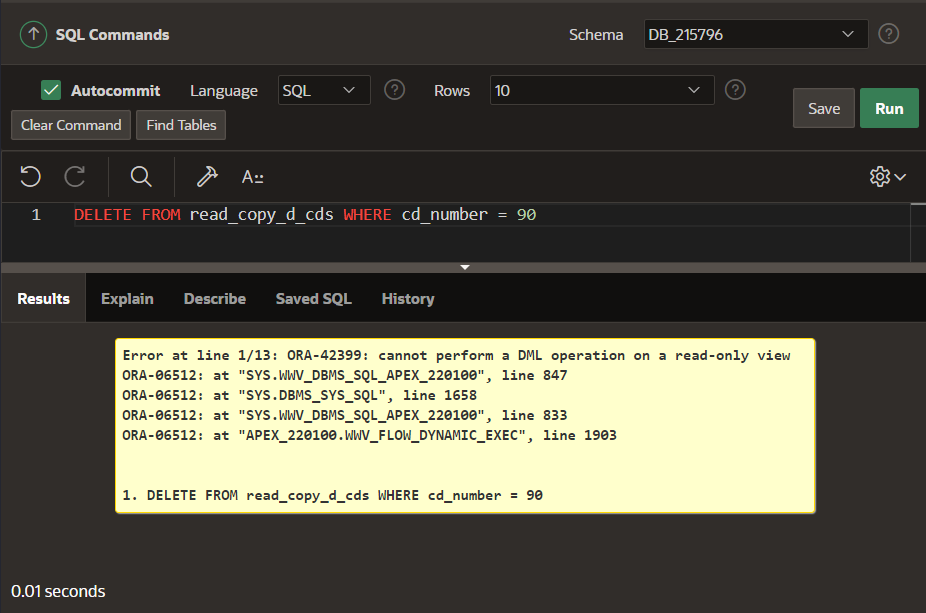


1. Create a view based on the DJs on Demand COPY\_D\_CDS table. Name the view read\_copy\_d\_cds. Select all columns to be included in the view. Add a WHERE clause to restrict the year to 2000. Add the WITH READ ONLY option.

A screenshot of a computer

Description automatically generated with medium confidence

1. Using the read\_copy\_d\_cds view, execute a DELETE FROM read\_copy\_d\_cds WHERE cd\_number = 90;



1. Use REPLACE to modify read\_copy\_d\_cds. Replace the READ ONLY option with WITH CHECK OPTION CONSTRAINT ck\_read\_copy\_d\_cds. Execute a SELECT \* statement to verify that the view exists.

A screenshot of a computer

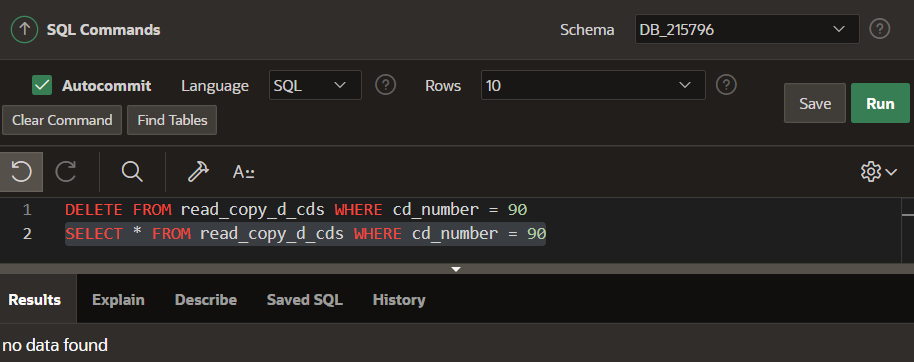
Description automatically generated with medium confidence

1. Use the read\_copy\_d\_cds view to delete any CD of year 2000 from the underlying copy\_d\_cds.

A screenshot of a computer

Description automatically generated with medium confidence

1. Use the read\_copy\_d\_cds view to delete cd\_number 90 from the underlying copy\_d\_cds table.



1. Use the read\_copy\_d\_cds view to delete year 2001 records.

A screenshot of a computer screen

Description automatically generated with medium confidence

1. Execute a SELECT \* statement for the base table copy\_d\_cds. What rows were deleted?

A screenshot of a computer

Description automatically generated with medium confidence

1. What are the restrictions on modifying data through a view?

For simple views, all DML’s are OK, but for complex views:

**Delete restricted if it contains:**

Group functions

GROUP BY CLAUSE

DISTINCT

pseudocolumn ROWNUM  Keyword

**Modify restricted if it contains:**

Group functions

GROUP BY CLAUSE

DISTINCT

ROWNUM Keyword

**INSERT restricted if it contains:**

Group functions

GROUP BY CLAUSE

DISTINCT

ROWNUM

Column defined by expressions