MERGE

Performs insert, update, delete operations on a target table based on the results of a join with a source table. For example, two tables can be synchronized by inserting, updating, deleting rows in one table based on differences found in the other table.

The conditional behavior described for the MERGE statement works best when the two tables have a complex mixture of matching characteristics. For example, inserting a row if it does not exist, or updating the row if it does match.

The MERGE statement is used to perform the following operations:

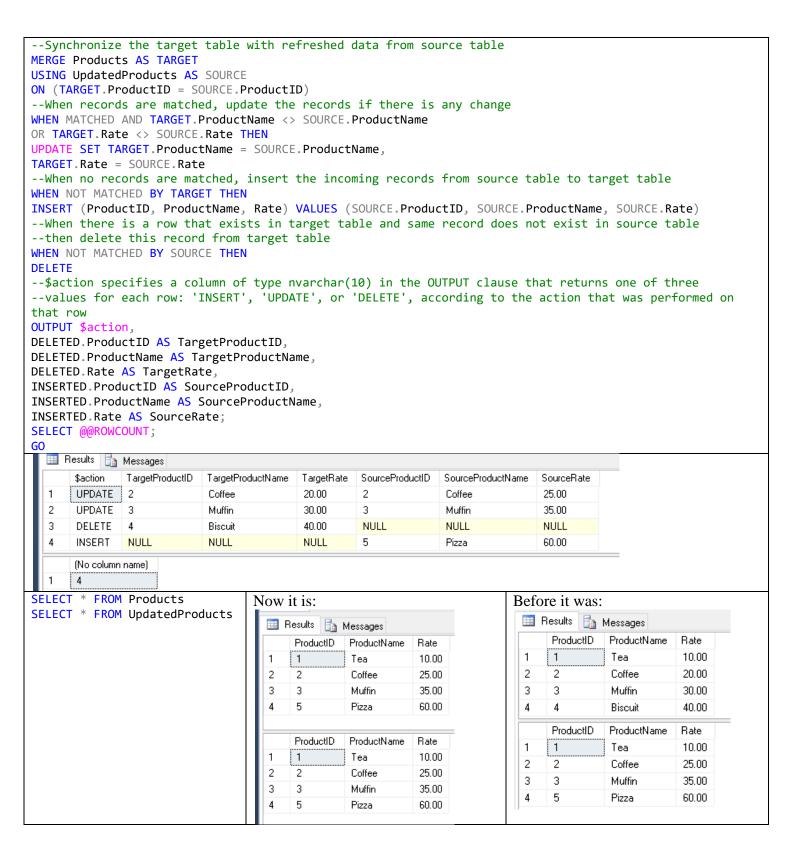
- Conditionally insert or update rows in a target table.

 If the row exists in the target table, update one or more columns; otherwise, insert the data into a new row.
- Synchronize two tables.
- Insert, update, or delete rows in a target table based on differences with the source data.

The MERGE syntax contain five primary clauses:

- The MERGE clause specifies the table or view that is the target of the insert, update, or delete
 operations.
- The USING clause specifies the data source being joined with the target.
- The ON clause specifies the join conditions that determine where the target and source match.
- The WHEN clauses (WHEN MATCHED, WHEN NOT MATCHED BY TARGET, and WHEN NOT MATCHED BY SOURCE) specify the actions to take based on the results of the ON clause and any additional search criteria specified in the WHEN clauses.
- The OUTPUT clause returns a row for each row in the target that is inserted, updated, or deleted.

```
--Create a target table
CREATE TABLE Products (ProductID INT PRIMARY KEY, ProductName VARCHAR(100), Rate MONEY)
-- Insert records into target table
INSERT INTO Products VALUES (1, 'Tea', 10.00), (2, 'Coffee', 20.00), (3, 'Muffin', 30.00), (4,
'Biscuit', 40.00)
GO.
--Create source table
CREATE TABLE UpdatedProducts (ProductID INT PRIMARY KEY, ProductName VARCHAR(100), Rate MONEY)
-- Insert records into source table
INSERT INTO UpdatedProducts VALUES (1, 'Tea', 10.00), (2, 'Coffee', 25.00), (3, 'Muffin', 35.00), (5,
'Pizza', 60.00)
GO.
SELECT * FROM Products
SELECT * FROM UpdatedProducts
 🛅 Results 🔓 Messages
     ProductID
             ProductName
                       Rate
                       10.00
             Tea
 2
     2
             Coffee
                       20.00
 3
     3
             Muffin
                       30.00
                       40.00
             Biscuit
     ProductID
             ProductName
                       Rate
 1
             Tea
                       10.00
     1
 2
             Coffee
                       25.00
 3
     3
                       35.00
             Muffin
 4
     5
             Pizza
                       60.00
```



References:

https://docs.microsoft.com/en-us/sql/t-sql/statements/merge-transact-sql?view=sql-server-2017

https://www.mssqltips.com/sqlservertip/1704/using-merge-in-sql-server-to-insert-update-and-delete-at-the-same-time/