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SQL Server INSTEAD OF Trigger

**Summary**: in this tutorial, you will learn how to use SQL Server INSTEAD OF trigger to insert data into an underlying table via a view.

What is an INSTEAD OF trigger

An INSTEAD OF trigger is a trigger that allows you to skip an [INSERT](https://www.sqlservertutorial.net/sql-server-basics/sql-server-insert/), [DELETE](https://www.sqlservertutorial.net/sql-server-basics/sql-server-delete/), or [UPDATE](https://www.sqlservertutorial.net/sql-server-basics/sql-server-update/) statement to a table or a view and execute other statements defined in the trigger instead. The actual insert, delete, or update operation does not occur at all.

In other words, an INSTEAD OF trigger skips a DML statement and execute other statements.

SQL Server INSTEAD OF trigger syntax

The following illustrates the syntax of how to create an INSTEAD OF trigger:

|  |  |
| --- | --- |
| 1  2  3  4  5 | CREATE TRIGGER [schema\_name.] trigger\_name  ON {table\_name | view\_name }  INSTEAD OF {[INSERT] [,] [UPDATE] [,] [DELETE] }  AS  {sql\_statements} |

In this syntax:

* First, specify the name of the trigger and optionally the name of the schema to which the trigger belongs in the CREATE TRIGGER clause.
* Second, specify the name of the table or view which the trigger associated with.
* Third, specify an event such as INSERT, DELETE, or UPDATE which the trigger will fire in the INSTEAD OF clause. The trigger may be called to respond to one or multiple events.
* Fourth, place the trigger body after the AS keyword. A trigger’s body may consist of one or more Transact-SQL statements.

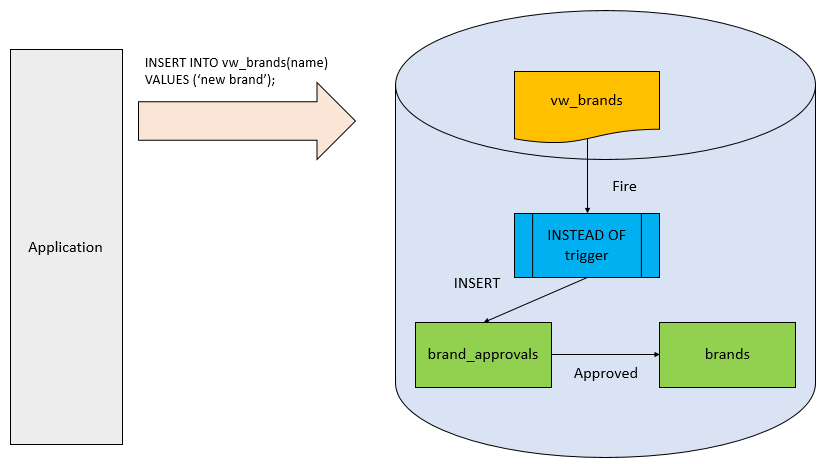
SQL Server INSTEAD OF trigger example

A typical example of using an INSTEAD OF trigger is to override an insert, update, or delete operation on a [view](https://www.sqlservertutorial.net/sql-server-views/).

Suppose, an application needs to insert new brands into the production.brands table. However, the new brands should be stored in another table called production.brand\_approvals for approval before inserting into the production.brands table.

To accomplish this, you [create a view](https://www.sqlservertutorial.net/sql-server-views/sql-server-create-view/) called production.vw\_brands for the application to insert new brands. If brands are inserted into the view, an INSTEAD OF trigger will be fired to insert brands into the production.brand\_approvals table.

The following picture illustrates the process:



This diagram does not show the schema name of all the database objects for the sake of simplicity.

The following statement [creates a new table](https://www.sqlservertutorial.net/sql-server-basics/sql-server-create-table/) named production.brand\_approvals for storing pending approval brands:

|  |  |
| --- | --- |
| 1  2  3  4 | CREATE TABLE production.brand\_approvals(      brand\_id INT IDENTITY PRIMARY KEY,      brand\_name VARCHAR(255) NOT NULL  ); |

The following statement [creates a new view](https://www.sqlservertutorial.net/sql-server-views/sql-server-create-view/) named production.vw\_brands against the production.brands and production.brand\_approvals tables:

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13 | CREATE VIEW production.vw\_brands  AS  SELECT      brand\_name,      'Approved' approval\_status  FROM      production.brands  UNION  SELECT      brand\_name,      'Pending Approval' approval\_status  FROM      production.brand\_approvals; |

Once a row is inserted into the production.vw\_brands view, we need to route it to the production.brand\_approvals table via the following INSTEAD OF trigger:

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21 | CREATE TRIGGER production.trg\_vw\_brands  ON production.vw\_brands  INSTEAD OF INSERT  AS  BEGIN      SET NOCOUNT ON;      INSERT INTO production.brand\_approvals (          brand\_name      )      SELECT          i.brand\_name      FROM          inserted i      WHERE          i.brand\_name NOT IN (              SELECT                  brand\_name              FROM                  production.brands          );  END |

The trigger inserts the new brand name into the production.brand\_approvals if the brand name does not exist in the production.brands.

Let’s insert a new brand into the production.vw\_brands view:

|  |  |
| --- | --- |
| 1  2 | INSERT INTO production.vw\_brands(brand\_name)  VALUES('Eddy Merckx'); |

This INSERT statement fired the INSTEAD OF trigger to insert a new row into the production.brand\_approvals table.

If you query data from the production.vw\_brands table, you will see a new row appear:

|  |  |
| --- | --- |
| 1  2  3  4  5 | SELECT  brand\_name,  approval\_status  FROM  production.vw\_brands; |



The following statement shows the contents of the production.brand\_approvals table:

|  |  |
| --- | --- |
| 1  2  3  4 | SELECT  \*  FROM  production.brand\_approvals; |

SQL Server INSTEAD OF trigger - pending table

In this tutorial, you have learned about SQL Server INSTEAD OF trigger and how to create an INSTEAD OF trigger for inserting data into an underlying table via a view.

* Was this tutorial helpful ?
* [YesNo](https://www.sqlservertutorial.net/sql-server-triggers/sql-server-instead-of-trigger/)



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