SQL Trigger Basics
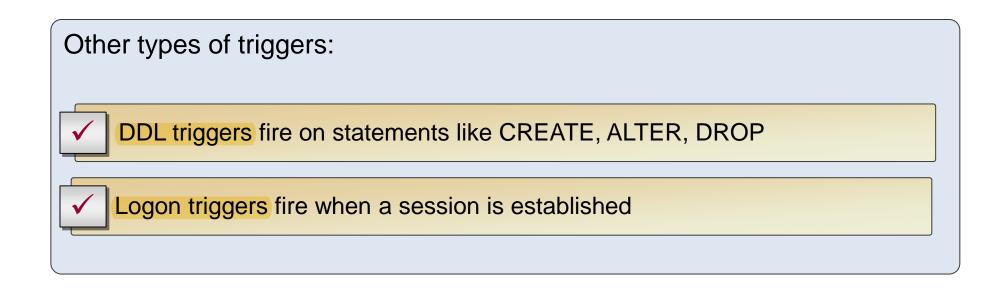
What are DML Triggers?

Triggers are special stored procedures that execute when events occur. DML triggers fire on INSERT, UPDATE, DELETE.

Other types of triggers:

✓ DDL triggers fire on statements like CREATE, ALTER, DROP

✓ Logon triggers fire when a session is established

AFTER Triggers vs. INSTEAD OF Triggers

- AFTER triggers
  - Fire after the event that they relate to
  - Are treated as part of the same transaction as the statement that triggered them
  - Can roll back the statement that triggered them (and any transaction that statement was part of)

- INSTEAD OF triggers
  - Allow executing alternate code – unlike a BEFORE trigger in other database engines
  - Are often used to create updatable views with more than one base table

- Both can be implemented in managed code or T-SQL

AFTER INSERT Triggers

- INSERT statement is executed

- AFTER INSERT trigger then fires

- Support auditing

```
CREATE TRIGGER TR_Opportunity_Insert
ON Sales.Opportunity
AFTER INSERT AS
BEGIN
  SET NOCOUNT ON;
  INSERT INTO Sales.OpportunityAudit
    (OpportunityID, ActionPerformed, ActionOccurredAt)
    SELECT i.OpportunityID,
            'I',
            SYSDATETIME()
    FROM inserted AS i;
END;
```