

Triggers

Presentation by Aaron Buma
Dev Lead and DBA



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Session Overview

- The “AFTER” triggers
- “Instead Of” triggers
- Nesting
- DDL Triggers
- Demos



The AFTER Triggers

- A stored procedure that runs after an event occurs, but before initial event is committed
- Event Types:
 - AFTER INSERT, AFTER DELETE and AFTER UPDATE
- Only one of each event type allowed
- They can be 'disabled' or 'enabled'



The AFTER Triggers

- Will fire only if at least one row is affected
- Logic in the trigger can rollback the insert or run other logic
- A copy of the data can be referenced by special tables: “Inserted” or “Deleted”
- Synonymous with a “FOR” trigger



AFTER DELETE

- Using “TRUNCATE” to clear a table ignores triggers
- The deleted row is moved from the table into the “Deleted” special table



AFTER UPDATE

- Before and After data are stored in the special tables:
 - Deleted
 - Inserted

```
INSERT INTO dbo.TableC (Column1)
SELECT Inserted.Column1
FROM Inserted;
```



Instead Of Triggers

- Similar to “After” triggers, but prevents direct action against table (with Insert, Update or Delete)
- You can:
 - Access “Inserted” and “Deleted” special tables
 - Rollback the Insert, Update or Delete



Nesting Triggers

- A trigger on one table will activate a trigger on another
- @@NESTLEVEL:
 - Level 1 = In the trigger of the initial action
 - Level 2 = In the trigger of an action generated in Level 1



DDL Triggers

- Triggers at the Database Level

- AFTER CREATE_TABLE

- AFTER DROP_TABLE

```
CREATE TRIGGER QueryTraining_CreateTable  
ON DATABASE  
FOR CREATE_TABLE AS  
BEGIN
```

- Only “AFTER”, or “FOR” allowed

- Special Tables are not available (“Inserted”, “Deleted”)



DDL Triggers and EVENTDATA()

- EVENTDATA() – Shows Event details, XML Datatype

```
PRINT CONVERT(VARCHAR(MAX), EVENTDATA());
```
- Can be searched in a DDL Trigger to look for non-conforming (coding standards) values



DEMOS



Review

Presentation Recording, Slides and Scripts

– <http://www.AaronBuma.com/2016/01/SQLTriggers/>

- Contact:

– Aaron@EmergencyReporting.com

