Triggers are special type of stored procedures which is invoked automatically when we

Perform some DML or DDL Operation

Triggers are of 3 types

DML Triggers : are fired when we perform any DML operation , insert , delete or update

DDL Triggers : are fired when we perform some DDL operation ,create, alter , drop

Log ON Triggers

DML Triggers are of two different types

* After / for
* Instead of

use cts1

select \* from sys.tables

-- print a message when a user inserts a record

create trigger InsertTrigger on student

for insert

as

begin

print 'Record is inserted'

end

select \* from student

insert into student values(7,'Deepk','Delhi')

create trigger DeleteTrigger on student

for delete

as

begin

rollback

print 'Someone was trying to delete record'

end

delete from student

create trigger UpdateTrigger on student

instead of update

as

begin

print 'Someone was trying to edit record'

end

DDL Triggers

create trigger databaseTrigger on database

for alter\_table , drop\_table

As

begin

rollback

end

drop table student

<https://www.sqlshack.com/triggers-in-sql-server/>

**Magical Tables in Triggers**

In Triggers (DML) two tables are created, which are temporary and available only within the trigger

These tables are known as Magical Tables

inserted & deleted

When we insert Record : inserted table is created

When we delete Record : deleted table is created

When we update Record : inserted/deleted table is created

use cts1

select \* from sys.tables

-- print a message when a user inserts a record

drop trigger DeleteTrigger

create trigger InsertTrigger on student

for insert

as

begin

select \* from inserted

print 'Record is inserted'

end

select \* from student

insert into student values(8,'Deepk','Delhi')

create trigger DeleteTrigger on student

for delete

as

begin

select \* from deleted

rollback

print 'Someone was trying to delete record'

end

delete from student

create trigger UpdateTrigger on student

instead of update

as

begin

select \* from inserted

select \* from deleted

print 'Someone was trying to edit record'

end

update student set name='NEW NAME '

where rn =2

<https://www.sqlservertutorial.net/sql-server-triggers/>

Index is used for faster searching of records

Index always stores 2 entries

<Key value , address>

When there is no index, searching is done using Table scan, but when there is a index,

Searching is done using index

Index is of 2 types

Clustered index (Can be only 1 in a table, It arranges records physically)

When we create Primary key, it automatically gets created

Non clustered index (could be more than 1 , it logically arranges records in the table)

999

How do we create index

create index I1 on tempdata1(name)

It by default created non clustered index

Drawback of using Indexes : Take more space

Insertion /Deletion will take time

When we create index, it creates a separate file

|  |  |  |
| --- | --- | --- |
| Id | Name | salary |
| 1 | Ajay | 67778 |
| 2 | Deepak | 9088 |
| 4 | Gagan | 89898 |
| 3 | Pawan | 68688 |
| 5000 | Parul | 6767 |

Create index I1 on student(id)

|  |  |
| --- | --- |
| Id | address |
| 1 | 89887 |
| 2 | 89898967 |
| 3 | 46656 |
| 4 | 4545 |
| 5 | 6767 |

5000

Create index I2 on student(name)

|  |  |
| --- | --- |
| NAme | address |
| Ajay | 89887 |
| Deepak | 89898967 |
| Gagan | 8989 |
| Parul | 4545 |
| Pawan | 6767 |