TRIGGERS: A trigger is a special type of procedure that will used to provide

restrict on the tables when a language events executed. Sql server includes two

types of triggers are

 DML Triggers

 DDL Triggers

DML Triggers: DML triggers execute when the user tries to modify or change

data through data manipulation language events. Those are Inserting, Update and

Delete statements on the table.

DML triggers can be used to enforce business rules and data integrity. With the

help of a DML trigger we can enforce integrity which cannot be done with

constraints.

Syntax: Create Trigger <Trigger Name> on <table Name>

For [Insert, Update, Delete]

AS

Begin

<Statements>

End

Ex: A trigger that will convert the dname and location into upper case when the

user insert in lowercase.

create trigger per\_trg

on person after insert

as

begin

declare @pid int,@pname varchar(50),@loc varchar(50)

select @pid=pid,@pname=pname,@loc=loc from inserted

update person set pname=upper(@pname),loc=upper(@loc) where pid=@pid

end

Ex:Create a trigger to restric DML operations on the table

create trigger nnn on person

for insert,update,delete

as

begin

print 'DML OPeration are Not Allowed'

rollback transaction

end

Dropping DML Triggers:

Syntax: Drop <Trigger> <Trigger Name>

EX: Drop Trigger rest drop

**DDL Triggers:** DDL triggers fire in response to a data definition language event

like create, Alter, drop etc.A DDL triggers is a special type of procedure that

executes in response to a server scoped or database scoped events.

Syntax:

Create Trigger <Trigger Name> on database after <Event type>

As

Begin

<Statements>

End

Ex: Write a trigger which restricts dropping of a table from the database.

create trigger restdrop on database after drop\_table

as

begin

rollback

raiserror('Can not drop table under this database',1,1)

end

Ex2: Write a trigger which restricts Creating of a table from the database.

create trigger restcret on database after create\_table

as

begin

rollback

raiserror('Can not create table under this database',1,1)

end

Ex3: Write a trigger which restricts Alter of a table from the database.

create trigger restalt on database after Alter\_table

as

begin

rollback

raiserror('Can not Alter table under this database',1,1);end

Dropping DDL Triggers:

Syntax: Drop <Trigger> <Trigger Name> on Database

EX: Drop Trigger rest drop on database

Magic Tables: SQL Server allows you to define a Magic Table. Magic

Tables are invisible tables or virtual tables. You can see them only with the help

Triggers in SQL Server.

 Magic Tables are those tables which allow you to hold inserted, deleted and

updated values during insert delete and update DML operations on a table in

SQL Server.

 Basically there are two types of magic table in SQL server namely inserted

and deleted magic tables update can be performed with help of these twos.

Generally we cannot see these two table, we can only see it with the help

Trigger's in SQL server.

Inserted Magic Table: Whenever you insert a record on that table, that

record will be shown in the INSERTED Magic Table. Now creating a trigger to

see the data in Inserted Magic table.

Example:

Create TRIGGER Trigger\_ForInsertmagic

ON Employee

FOR INSERT

AS

Begin

SELECT \* FROM INSERTED

End

Now insert a new record in Employee table to see data within Inserted virtual

tables.

Insert into Employee values (12, 'Rahul', 25000,’HYD’)

SELECT \* FROM Employee

Now press F5 to execute it.

Deleted Magic Table: Whenever you delete the record on that table, that

record will be shown in the DELETED Magic Table Only. To create a trigger to

see the data in the deleted Magic table use the following,

Example:

Create TRIGGER Trigger\_Fordeletemagic

ON Employee

FOR DELETE

AS

Begin

SELECT \* FROM Deleted

End

Now delete a record in the Employee table to see the data in the Deleted virtual

tables.

Delete from Employee where Eid=12

SELECT \* FROM Employee

Update the Record in Table: To update the record in the Employee

table, we use it for both virtual/Magic tables. One shows the inserted table and the

other shows the deleted table. The following trigger defines both the inserted table

and the deleted table:

Example:

Create TRIGGER Trigger\_ForInsertdeletemagic

ON Employee

FOR UPDATE

AS

Begin

SELECT \* FROM INSERTED

SELECT \* FROM DELETED

End

Now update the records in the Employee table to see the data in the inserted and

deleted virtual tables.

Update employee set ename=’sai’ where Eid=12

SELECT \* FROM Employee

Now press F5 to execute it.

Exception Handling: We handle errors of a program both in a

programming language as well as databases also. whereas handling an error in a

programming language needs stopping the abnormal termination and allowing the

statements which are not related with the error to execute where as handling as

error in sqlserver means stopping the execution of statements which are related

with the error

Handling Errors In SQL Server: From sqlserver 2005 we are

provided with a structure error handling mechanism with the help of TRY and

CATCH blocks which should be used as following,

Begin Try

<Statements>

End Try

Begin Catch

<Statements>

End Catch

Ex: A procedure for dividing two numbers

CREATE PROCEDURE PDIV(@X INT,@Y INT)

AS

BEGIN

DECLARE @Z INT

BEGIN TRY

SET @Z=@X/@Y

PRINT 'THE RESULT IS:-'+CAST(@Z AS CHAR)

END TRY

BEGIN CATCH

PRINT ERROR\_NUMBER()

END CATCH

END

Exec PDIV 100,5

Error Message(): It is used to display the information about the error occurred