



## 1. Write a script for trigger to audit employee table and merge statement.

```
create table employee
(
    empno int not null primary key,
    ename varchar(10),
    job varchar(10),
    mgr int,
    hiredate date,
    sal int,
    comm int,
    deptno int not null
)
```

 Messages   
Command(s) completed successfully.

### //Table to audit employee table using triggers

```
create table employee_audit
(
    empno int not null primary key,
    ename varchar(10),
    job varchar(10),
    mgr int,
    hiredate date,
    sal int,
    comm int,
    deptno int not null,
    employee_audit_action varchar(15),
    employee_audit_timestamp datetime
)
```

 Messages   
Command(s) completed successfully.


### //After Insert Trigger

```
create trigger trg_afterInsertEmp
on dbo.employee
```

```

after insert as
begin
insert into employee_audit
select *from inserted
select convert(datetime,getdate(),105)
end
go



```

 Messages   
 Command(s) completed successfully.

```

insert into employee values
(7369,'Smith','Clerk',7902,'1980-12-17',800,null,20),
(7499,'Allen','Salesman',7698,'1981-2-20',1600,300,30),
(7521,'Ward','Salesman',7698,'1981-2-22',1250,500,30),
(7566,'Jones','Manager',7839,'1981-4-2',2975,null,20),
(7654,'Martin','Salesman',7698,'1981-9-28',1250,1400,30),
(7698,'Blake','Manager',7839,'1981-5-1',2850,null,30),
(7782,'Clark','Manager',7839,'1981-6-9',2450,null,10),
(7788,'Scott','Analyst',7566,'1982-12-9',3000,null,20),
(7839,'King','President',null,'1981-11-17',5000,null,10),
(7844,'Turner','Salesman',7698,'1981-9-8',1500,0,30),
(7876,'Adams','Clerk',7788,'1983-1-12',1100,null,20),
(7900,'James','Clerk',7698,'1981-12-3',950,null,30),
(7902,'Ford','Analyst',7566,'1981-12-4',3000,null,20),
(7934,'Miller','Clerk',7782,'1982-1-23',1300,null,10)

```

 Results  Messages

```

(14 row(s) affected)

(1 row(s) affected)

(14 row(s) affected)

```

```

select *from employee
select *from employee_audit

```

Results		Messages							
	empno	ename	job	mgr	hiredate	sal	comm	deptno	
1	7369	Smith	Clerk	7902	1980-12-17	800	NULL	20	
2	7499	Allen	Salesman	7698	1981-02-20	1600	300	30	
3	7521	Ward	Salesman	7698	1981-02-22	1250	500	30	
4	7566	Jones	Manager	7839	1981-04-02	2975	NULL	20	
5	7654	Martin	Salesman	7698	1981-09-28	1250	1400	30	
6	7698	Blake	Manager	7839	1981-05-01	2850	NULL	30	
7	7782	Clark	Manager	7839	1981-06-09	2450	NULL	10	
8	7788	Scott	Analyst	7566	1982-12-09	3000	NULL	20	
9	7839	King	President	NULL	1981-11-17	5000	NULL	10	
10	7844	Turner	Salesman	7698	1981-09-08	1500	0	30	
11	7876	Adams	Clerk	7788	1983-01-12	1100	NULL	20	
12	7900	James	Clerk	7698	1981-12-03	950	NULL	30	
13	7902	Ford	Analyst	7566	1981-12-04	3000	NULL	20	
14	7934	Miller	Clerk	7782	1982-01-23	1300	NULL	10	

Query executed successfully.

### //After Update Trigger

```

create trigger tgr_afterUpdateEmp
on employee
after update
as
begin
    update employee
    set comm = 0
    from employee
    where exists (select 1 from inserted i where i.empno = employee.empno);
end

```

Messages

Command(s) completed successfully.

```

update employee
set comm=0
where empno=7369

```

Messages

Execution plan

(1 row(s) affected)

```

select *from employee where empno=7369

```

Results		Messages						
	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	7369	Smith	Clerk	7902	1980-12-17	800	0	20

### //After Delete Trigger

```
create table employee_history
(
  empno int not null primary key,
  ename varchar(10),
  job varchar(10),
  mgr int,
  hiredate date,
  sal int,
  comm int,
  deptno int not null,
)
```

Messages   
Command(s) completed successfully.

```
create trigger tgr_afterDeleteEmp
on employee
after delete as
begin
    insert into employee_history
    select *from deleted
end
go
```

Messages   
Command(s) completed successfully.

```
delete from employee where empno=7934
```

Messages   
(1 row(s) affected)  
(1 row(s) affected)

```
select *from employee_history
```

Results		Messages						
	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	7934	Miller	Clerk	7782	1982-01-23	1300	NULL	10

### //Merge Statement Script

```
create table department
(
  deptno int not null primary key,
  dname varchar(10),
  loc varchar(10)
)
```

Messages

Command(s) completed successfully.

```
insert into department values
(10,'Accounting','New York'),
(20,'Research','Dallas'),
(30,'Sales','Chicago'),
(40,'Operations','Boston')
```

Messages


(4 row(s) affected)

```
select *from department
```

Results		Messages	
	deptno	dname	loc
1	10	Accounting	New York
2	20	Research	Dallas
3	30	Sales	Chicago
4	40	Operations	Boston

### //Merge with delete

```
merge employee e
using department d
on e.deptno=d.deptno
when matched and
      e.deptno=10 then
      delete;
```

 Messages

(2 row(s) affected)


(2 row(s) affected)

select \*from employee

Results		Messages						
	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	7369	Smith	Clerk	7902	1980-12-17	800	0	20
2	7499	Allen	Salesman	7698	1981-02-20	1600	300	30
3	7521	Ward	Salesman	7698	1981-02-22	1250	500	30
4	7566	Jones	Manager	7839	1981-04-02	2975	NULL	20
5	7654	Martin	Salesman	7698	1981-09-28	1250	1400	30
6	7698	Blake	Manager	7839	1981-05-01	2850	NULL	30
7	7788	Scott	Analyst	7566	1982-12-09	3000	NULL	20
8	7844	Turner	Salesman	7698	1981-09-08	1500	0	30
9	7876	Adams	Clerk	7788	1983-01-12	1100	NULL	20
10	7900	James	Clerk	7698	1981-12-03	950	NULL	30
11	7902	Ford	Analyst	7566	1981-12-04	3000	NULL	20

**//Merge with update**

```
merge employee e
using department d
on e.deptno=d.deptno
when matched and
    e.deptno=20 then
    update
    set e.sal=e.sal*2;
```

 Messages

(5 row(s) affected)

(5 row(s) affected)

select \*from employee

	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	7369	Smith	Clerk	7902	1980-12-17	1600	0	20
2	7499	Allen	Salesman	7698	1981-02-20	1600	300	30
3	7521	Ward	Salesman	7698	1981-02-22	1250	500	30
4	7566	Jones	Manager	7839	1981-04-02	5950	0	20
5	7654	Martin	Salesman	7698	1981-09-28	1250	1400	30
6	7698	Blake	Manager	7839	1981-05-01	2850	NULL	30
7	7788	Scott	Analyst	7566	1982-12-09	6000	0	20
8	7844	Turner	Salesman	7698	1981-09-08	1500	0	30
9	7876	Adams	Clerk	7788	1983-01-12	2200	0	20
10	7900	James	Clerk	7698	1981-12-03	950	NULL	30
11	7902	Ford	Analyst	7566	1981-12-04	6000	0	20

### //Merge with insert

merge employee e

using department d

on e.deptno=d.deptno

when not matched by target and

d.deptno=40 then

insert (empno,ename,job,mgr,hiredate,sal,comm,deptno)

values (8000,'Scofield','Manager',8900,'2018-01-20',9000,2000,40);

Results	Messages
---------	----------

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

select \*from employee

	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	7369	Smith	Clerk	7902	1980-12-17	1600	0	20
2	7499	Allen	Salesman	7698	1981-02-20	1600	300	30
3	7521	Ward	Salesman	7698	1981-02-22	1250	500	30
4	7566	Jones	Manager	7839	1981-04-02	5950	0	20
5	7654	Martin	Salesman	7698	1981-09-28	1250	1400	30
6	7698	Blake	Manager	7839	1981-05-01	2850	NULL	30
7	7788	Scott	Analyst	7566	1982-12-09	6000	0	20
8	7844	Turner	Salesman	7698	1981-09-08	1500	0	30
9	7876	Adams	Clerk	7788	1983-01-12	2200	0	20
10	7900	James	Clerk	7698	1981-12-03	950	NULL	30
11	7902	Ford	Analyst	7566	1981-12-04	6000	0	20
12	8000	Scofield	Manager	8900	2018-01-20	9000	2000	40

## 2. Write a sample stored procedure by using employee and department tables.

```
create procedure uspGetdetails @deptno int
as
    select *from employee
    where deptno=@deptno
go
```

Messages

Command(s) completed successfully.

```
exec uspGetdetails @deptno=20
```


	empno	ename	job	mgr	hiredate	sal	comm	deptno
1	7369	Smith	Clerk	7902	1980-12-17	1600	0	20
2	7566	Jones	Manager	7839	1981-04-02	5950	0	20
3	7788	Scott	Analyst	7566	1982-12-09	6000	0	20
4	7876	Adams	Clerk	7788	1983-01-12	2200	0	20
5	7902	Ford	Analyst	7566	1981-12-04	6000	0	20

## 3. Write a sample procedure by using dynamic sql concepts.


```
//Creating user defined type student
create type student as table
```



```
(
    id int not null primary key,
    name varchar(10),
    age int,
    address varchar(10)
)
go
```

 Messages   
Command(s) completed successfully.

```
create procedure usp_StudentDetails @myparam student readonly, @studentid int
as
    select *from @myparam where id=@studentid
```

 Messages   
Command(s) completed successfully.

### **//Passing table as a parameter**

```
declare @student_details student
insert into @student_details (id,name,age,address)
values
(1,'Aman',22,'Chennai'),
(2,'Upendra',23,'Delhi'),
(3,'Deepak',24,'Kolkata'),
(4,'Vishal',23,'Mumbai'),
(5,'Pradeep',24,'Bangalore')
select *from @student_details
exec usp_StudentDetails @student_details, @studentid=1
go
```

Results		Messages		
	id	name	age	address
1	1	Aman	22	Chennai
2	2	Upendra	23	Delhi
3	3	Deepak	24	Kolkata
4	4	Vishal	23	Mumbai
5	5	Pradeep	24	Bangalore

	id	name	age	address
1	1	Aman	22	Chennai