

Problem:

Someone has dropped or create & truncate a table from your database and you want to track who did it, but no one will say who did. In this tip, we will look at how you can use the database Triggers to track down some of this information.

Solution:

We will create the below event tables to store the audit information.

```
/* this table to tracks the truncate of table */  
  
CREATE TABLE "SYSTEM"."EVENT_TRUNCATE" ("OBJECT_NAME"  
VARCHAR2(30),  
"OBJECT_TYPE" VARCHAR2(20), "DATE_CREATED" DATE, "USER_NAME"  
VARCHAR2(15), "MACHINE_NAME" VARCHAR2(20), "OS_USER"  
VARCHAR2(20))  
TABLESPACE "USERS" PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS  
255  
STORAGE ( INITIAL 64K NEXT 0K MINEXTENTS 1 MAXEXTENTS  
2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1)  
NOLOGGING;
```

```
/* this table to tracks the creation of table or index */  
  
CREATE TABLE "SYSTEM"."EVENT_CREATE" ("OBJECT_NAME" VARCHAR2(30),  
"OBJECT_TYPE" VARCHAR2(20), "DATE_CREATED" DATE, "USER_NAME"  
VARCHAR2(15), "MACHINE_NAME" VARCHAR2(20), "OS_USER"  
VARCHAR2(20))  
TABLESPACE "USERS" PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS  
255  
STORAGE ( INITIAL 64K NEXT 0K MINEXTENTS 1 MAXEXTENTS  
2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1)  
NOLOGGING ;
```

```
/* this table to tracks the creation of table or index */  
  
CREATE TABLE "SYSTEM"."EVENT_DROP" ("OBJECT_NAME" VARCHAR2(30),  
"OBJECT_TYPE" VARCHAR2(20), "DATE_CREATED" DATE, "USER_NAME"  
VARCHAR2(15), "MACHINE_NAME" VARCHAR2(20), "OS_USER"  
VARCHAR2(20))  
TABLESPACE "USERS" PCTFREE 10 PCTUSED 40 INITRANS 1 MAXTRANS  
255  
STORAGE ( INITIAL 64K NEXT 0K MINEXTENTS 1 MAXEXTENTS  
2147483645 PCTINCREASE 0 FREELISTS 1 FREELIST GROUPS 1)  
NOLOGGING ;
```

```

/* create PUBLIC SYNONYM for the event tables */
CREATE PUBLIC SYNONYM "EVENT_CREATE" FOR "SYSTEM"."EVENT_CREATE";
CREATE PUBLIC SYNONYM "EVENT_DROP" FOR "SYSTEM"."EVENT_DROP";
CREATE PUBLIC SYNONYM "EVENT_TRUNCATE" FOR "SYSTEM"."EVENT_DROP";

```

Now we will create the below database event triggers to track each event and insert the audit information into event tables.

```

/* this trigger tracks the creation of table or index */
CREATE OR REPLACE TRIGGER "SYSTEM"."EVENT_CREATE" AFTER
CREATE ON DATABASE begin
if sys.dictionary_obj_type='TABLE'
then
insert into system.event_create values
(sys.dictionary_obj_name, sys.dictionary_obj_type,
sysdate,user,sys_context('userenv','ip_address'),sys_context('use
renv','OS_USER'));
else
insert into system.event_create values
(sys.dictionary_obj_name, sys.dictionary_obj_type,
sysdate,user,sys_context('userenv','ip_address'),sys_context('use
renv','OS_USER'));
end if;
end;
/

```

```

/* this trigger tracks the creation of table or index */
CREATE OR REPLACE TRIGGER "SYSTEM"."EVENT_DROP" BEFORE
DROP ON DATABASE begin
if sys.dictionary_obj_type='TABLE'
then
insert into system.event_drop values
(sys.dictionary_obj_name, sys.dictionary_obj_type,
sysdate,user,sys_context('userenv','ip_address'),sys_context('use
renv','OS_USER'));
else
insert into system.event_drop values
(sys.dictionary_obj_name, sys.dictionary_obj_type,
sysdate,user,sys_context('userenv','ip_address'),sys_context('use
renv','OS_USER'));
end if;
end;
/

```

```

/* this trigger tracks the truncate of table */

CREATE OR REPLACE TRIGGER "SYSTEM"."EVENT_TRUNCATE" AFTER
TRUNCATE ON DATABASE begin
if sys.dictionary_obj_type='TABLE'
then
insert into system.event_TRUNCATE values
(sys.dictionary_obj_name, sys.dictionary_obj_type,
sysdate,user,sys_context('userenv','ip_address'),sys_context('use
renv','OS_USER'));
else
insert into system.event_TRUNCATE values
(sys.dictionary_obj_name, sys.dictionary_obj_type,
sysdate,user,sys_context('userenv','ip_address'),sys_context('use
renv','OS_USER'));
end if;
end;
/

```

Testing:

Now for testing create and drop or truncate any table and you will found the entries when you run the query.

```

CREATE TABLE "SYSTEM"."TEST" ("OBJECT_NAME" VARCHAR2(30);
Drop TABLE "SYSTEM"."TEST";
Truncate TABLE "SYSTEM"."TEST";

select * from event_create;
select * from event_drop;
select * from event truncate;

```