Stack Overflow

Products

PL/SQL trigger for after insert, update, delete that enters Data into Log Table with a Sequence

Asked 9 years, 6 months ago

Modified 7 years, 4 months ago

Viewed 58k times

3

I am working on a homework problem. I am running into compilation issues with my trigger and am having trouble understanding how to create a trigger that references a sequence and another table, and insert those values into a log table that I've created. I have read that using SERIAL not null on the Table column entry may eliminates the need for a sequence and referencing table, but I need that for my homework to work.

I need some help figuring out how to get my trigger to compile. It is having problems with my Bind Variables :NEW from the sequence, and also the idpay value inserted from another Table. I'm not sure if my declarations are correct and the first two statements after the BEGIN statement are correct as that 1st line was flagged as a compilation error. I think something is going on with this example and my lack of the NULL value entry there in the IF statement, but unsure where to put that part in my coding.

And of course the Oracle 11g Reference Doc for Triggers, I've gone over it but you can check it out yourself too.

Here is the setup question: 1. Use the Donations database. The organization wants to track all pledge payment activity. Each time a pledge payment is added, changed, or removed, the following information should be captured in a separate table: username, current date, action taken (INSERT, UPDATE, or DELETE), and the idpay value for the payment record.

Create a table named DD\_PAYTRACK to hold this information. Include a primary key column to be populated by a sequence, and create new sequence named DD\_PTRACK\_SEQ for the primary key column.

Create a single trigger for recording the requested information to track pledge payment activity, and test the trigger for all action types for idpay=1470. Display the records from the DD\_PAYTRACK table by using SELECT statement.

select \* from dd\_paytrack;

IDTRACK PTUSER PTDATE PTACTION PTPAYID

4 AAX5367E220 10-DEC-12 INSERT 1470

5 AAX5367E220 10-DEC-12 UPDATE 1470

6 AAX5367E220 10-DEC-12 DELETE 1470

Here is what I've done so far, even after adding these Insert, Update, and Delete statements, it's still returning an Empty table, but because of the answer below I have fixed what was suggested.

\*I fixed it, I had to add my own Update, Insert, and Delete statements after compiling the Trigger. Works great now. Thanks Noel!!!\*

DROP TABLE dd\_paytrack;

DROP SEQUENCE idtrack\_seq;

CREATE TABLE dd\_paytrack(

idtrack NUMBER,

pt\_user VARCHAR2(30),

pt\_date DATE,

pt\_action VARCHAR2(30),

pt\_payid NUMBER(6,0),

CONSTRAINT pk\_dd\_paytrack PRIMARY KEY (idtrack)

);

CREATE SEQUENCE idtrack\_seq;

CREATE OR REPLACE TRIGGER pledge\_pay\_trigger

AFTER

INSERT OR

UPDATE OR

DELETE

ON dd\_payment

FOR EACH ROW

DECLARE

log\_action dd\_paytrack.pt\_action%TYPE;

id\_pay dd\_paytrack.pt\_payid%TYPE;

BEGIN

id\_pay := :NEW.idpay;

IF INSERTING THEN

log\_action := 'Insert';

ELSIF UPDATING THEN

log\_action := 'Update';

ELSIF DELETING THEN

id\_pay := :OLD.idpay;

log\_action := 'Delete';

ELSE

DBMS\_OUTPUT.PUT\_LINE('This code is not reachable.');

END IF;

INSERT INTO dd\_paytrack (idtrack, pt\_user, pt\_date, pt\_action, pt\_payid)

VALUES(idtrack\_seq.NEXTVAL, USER, TO\_CHAR(SYSDATE, 'DD-MON-YY'), log\_action,

id\_pay);

END pledge\_pay\_trigger;

/

INSERT INTO dd\_payment(idpay, idpledge, payamt, paydate, paymethod)

VALUES (1470, 105, 250, SYSDATE, 'CC');

commit;

UPDATE dd\_payment

SET payamt = 25

WHERE idpay = 1470;

commit;

UPDATE dd\_payment

SET payamt = 2000

WHERE idpay = 1470;

COMMIT;

DELETE

FROM dd\_payment

WHERE idpay = 1470;

COMMIT;

SET serveroutput ON

select \* from dd\_paytrack;

Here is the Donation Table Scheme which it references the dd\_paytrack Table for my Homework problem. I tested it and this schema seems to work okay after cutting and pasting it.

-- The DoGood Donor Database

-- A donor, who represents a person or company that has committed to make a donation to

the DoGood organzation.

DROP TABLE dd\_donor CASCADE CONSTRAINTS;

DROP TABLE dd\_project CASCADE CONSTRAINTS;

DROP TABLE dd\_status CASCADE CONSTRAINTS;

DROP TABLE dd\_pledge CASCADE CONSTRAINTS;

DROP TABLE dd\_payment CASCADE CONSTRAINTS;

CREATE TABLE DD\_Donor (

idDonor number(4),

Firstname varchar2(15),

Lastname varchar2(30),

Typecode CHAR(1),

Street varchar2(40),

City varchar2(20),

State char(2),

Zip varchar2(9),

Phone varchar2(10),

Fax varchar2(10),

Email varchar2(25),

News char(1),

dtentered date DEFAULT SYSDATE,

CONSTRAINT donor\_id\_pk PRIMARY KEY(idDonor) );

CREATE TABLE DD\_Project (

idProj number(6),

Projname varchar2(60),

Projstartdate DATE,

Projenddate DATE,

Projfundgoal number(12,2),

ProjCoord varchar2(20),

CONSTRAINT project\_id\_pk PRIMARY KEY(idProj),

CONSTRAINT project\_name\_uk UNIQUE (Projname) );

CREATE TABLE DD\_Status (

idStatus number(2),

Statusdesc varchar2(15),

CONSTRAINT status\_id\_pk PRIMARY KEY(idStatus) );

CREATE TABLE DD\_Pledge (

idPledge number(5),

idDonor number(4),

Pledgedate DATE,

Pledgeamt number(8,2),

idProj number(5),

idStatus number(2),

Writeoff number(8,2),

paymonths number(3),

Campaign number(4),

Firstpledge char(1),

CONSTRAINT pledge\_id\_pk PRIMARY KEY(idPledge),

CONSTRAINT pledge\_idDonor\_fk FOREIGN KEY (idDonor)

REFERENCES dd\_donor (idDonor),

CONSTRAINT pledge\_idProj\_fk FOREIGN KEY (idProj)

REFERENCES dd\_project (idProj),

CONSTRAINT pledge\_idStatus\_fk FOREIGN KEY (idStatus)

REFERENCES dd\_status (idStatus));

CREATE TABLE DD\_Payment (

idPay number(6),

idPledge number(5),

Payamt number(8,2),

Paydate DATE,

Paymethod char(2),

CONSTRAINT payment\_id\_pk PRIMARY KEY(idPay),

CONSTRAINT pay\_idpledge\_fk FOREIGN KEY (idPledge)

REFERENCES dd\_pledge (idPledge) );

INSERT INTO dd\_donor

VALUES (301, 'Mary', 'Treanor', 'I','243 main St.', 'Norfolk',

'VA','23510',NULL,NULL,'mtrea492@mdv.com','Y','01-SEP-2012');

INSERT INTO dd\_donor

VALUES (302, 'Patrick', 'Lee', 'I','11 Hooper St.', 'Norfolk',

'VA','23510','7572115445',NULL,'pleeNorf@gmail.com','N','09-SEP-2012');

INSERT INTO dd\_donor

VALUES (303, 'Terry', 'Venor', 'I','556 Loop Lane.', 'Chesapeake',

'VA','23320',NULL,NULL,'tervenr@drw.edu','Y','18-SEP-2012');

INSERT INTO dd\_donor

VALUES (304, 'Sherry', 'Pane', 'I','Center Blvd.', 'Virginia Beach',

'VA','23455',NULL,NULL,'toppane@yahoo.com','Y','21-SEP-2012');

INSERT INTO dd\_donor

VALUES (305, 'Thomas', 'Sheer', 'I','66 Train St.', 'Chesapeake',

'VA','23322','7579390022',NULL,'tls3488@sheer.com','Y','01-MAR-2013');

INSERT INTO dd\_donor

VALUES (306, NULL, 'Coastal Developers', 'B','3667 Shore Dr.', 'Virginia Beach',

'VA','23450','8889220004',NULL,'coastVA@cdev.com','Y','30-SEP-2012');

INSERT INTO dd\_donor

VALUES (307, NULL, 'VA Community Org', 'G','689 Bush Dr.', 'Norfolk',

'VA','23513','7578337467','7578337468','vacmorg@biz.com','Y','03-OCT-2012');

INSERT INTO dd\_donor

VALUES (308, 'Betty', 'Konklin', 'I','11 Shark Ln.', 'Virginia Beach',

'VA','23455','7574550087',NULL,'shark11@cox.net','N','04-OCT-2012');

INSERT INTO dd\_donor

VALUES (309, 'Jim', 'Tapp', 'I','200 Pine Tree Blvd.', 'Chesapeake',

'VA','23320','',NULL,'','N','08-OCT-2012');

INSERT INTO dd\_donor

VALUES (310, NULL, 'Unique Dezigns', 'B','Connect Circle Unit 12', 'Chesapeake',

'VA','23320','7574442121',NULL,'UDezigns@cox.net','Y','11-SEP-2012');

INSERT INTO dd\_project

VALUES (500,'Elders Assistance League', '01-SEP-2012','31-OCT-2012',15000,'Shawn

Hasee');

INSERT INTO dd\_project

VALUES (501,'Community food pantry #21 freezer equipment', '01-OCT-2012','31-DEC-

2012',65000,'Shawn Hasee');

INSERT INTO dd\_project

VALUES (502,'Lang Scholarship Fund', '01-JAN-2013','01-NOV-2013',100000,'Traci

Brown');

INSERT INTO dd\_project

VALUES (503,'Animal shelter Vet Connect Program', '01-DEC-2012','30-MAR-

2013',25000,'Traci Brown');

INSERT INTO dd\_project

VALUES (504,'Shelter Share Project 2013', '01-FEB-2013','31-JUL-2013',35000,'Traci

Brown');

INSERT INTO dd\_status

VALUES (10,'Open');

INSERT INTO dd\_status

VALUES (20,'Complete');

INSERT INTO dd\_status

VALUES (30,'Overdue');

INSERT INTO dd\_status

VALUES (40,'Closed');

INSERT INTO dd\_status

VALUES (50,'Hold');

INSERT INTO dd\_pledge

VALUES (100,303,'18-SEP-2012',80,500,20,NULL,0,738,'Y');

INSERT INTO dd\_pledge

VALUES (101,304,'21-SEP-2012',35,500,20,NULL,0,738,'Y');

INSERT INTO dd\_pledge

VALUES (102,310,'01-OCT-2012',500,501,20,NULL,0,749,'Y');

INSERT INTO dd\_pledge

VALUES (103,307,'03-OCT-2012',2000,501,20,NULL,0,749,'N');

INSERT INTO dd\_pledge

VALUES (104,308,'04-OCT-2012',240,501,10,NULL,12,749,'Y');

INSERT INTO dd\_pledge

VALUES (105,309,'08-OCT-2012',120,501,10,NULL,12,749,'Y');

INSERT INTO dd\_pledge

VALUES (106,301,'12-OCT-2012',75,500,20,NULL,0,738,'N');

INSERT INTO dd\_pledge

VALUES (107,302,'15-OCT-2012',1200,501,10,NULL,24,749,'Y');

INSERT INTO dd\_pledge

VALUES (108,308,'20-JAN-2013',480,503,10,NULL,24,790,'N');

INSERT INTO dd\_pledge

VALUES (109,301,'01-FEB-2013',360,503,10,NULL,12,790,'N');

INSERT INTO dd\_pledge

VALUES (110,303,'01-MAR-2013',300,504,10,NULL,12,756,'N');

INSERT INTO dd\_pledge

VALUES (111,306,'01-MAR-2013',1500,504,20,NULL,0,756,'Y');

INSERT INTO dd\_pledge

VALUES (112,309,'16-MAR-2013',240,504,10,NULL,12,756,'N');

INSERT INTO dd\_payment

VALUES (1425,100,80,'18-SEP-2012','CC');

INSERT INTO dd\_payment

VALUES (1426,101,35,'21-SEP-2012','DC');

INSERT INTO dd\_payment

VALUES (1427,102,500,'01-OCT-2012','CH');

INSERT INTO dd\_payment

VALUES (1428,103,2000,'03-OCT-2012','CH');

INSERT INTO dd\_payment

VALUES (1429,106,75,'12-OCT-2012','CC');

INSERT INTO dd\_payment

VALUES (1430,104,20,'01-NOV-2012','CC');

INSERT INTO dd\_payment

VALUES (1431,105,10,'01-NOV-2012','CC');

INSERT INTO dd\_payment

VALUES (1432,107,50,'01-NOV-2012','CC');

INSERT INTO dd\_payment

VALUES (1433,104,20,'01-DEC-2012','CC');

INSERT INTO dd\_payment

VALUES (1434,105,10,'01-DEC-2012','CC');

INSERT INTO dd\_payment

VALUES (1435,107,50,'01-DEC-2012','CC');

INSERT INTO dd\_payment

VALUES (1436,104,20,'01-JAN-2013','CC');

INSERT INTO dd\_payment

VALUES (1437,105,10,'01-JAN-2013','CC');

INSERT INTO dd\_payment

VALUES (1438,107,50,'01-JAN-2013','CC');

INSERT INTO dd\_payment

VALUES (1439,104,20,'01-FEB-2013','CC');

INSERT INTO dd\_payment

VALUES (1440,105,10,'01-FEB-2013','CC');

INSERT INTO dd\_payment

VALUES (1441,107,50,'01-FEB-2013','CC');

INSERT INTO dd\_payment

VALUES (1442,108,20,'01-FEB-2013','CC');

INSERT INTO dd\_payment

VALUES (1443,109,30,'01-FEB-2013','CC');

INSERT INTO dd\_payment

VALUES (1444,104,20,'01-MAR-2013','CC');

INSERT INTO dd\_payment

VALUES (1445,105,10,'01-MAR-2013','CC');

INSERT INTO dd\_payment

VALUES (1446,107,50,'01-MAR-2013','CC');

INSERT INTO dd\_payment

VALUES (1447,108,20,'01-MAR-2013','CC');

INSERT INTO dd\_payment

VALUES (1448,109,30,'01-MAR-2013','CC');

INSERT INTO dd\_payment

VALUES (1449,110,25,'01-MAR-2013','CC');

INSERT INTO dd\_payment

VALUES (1450,111,1500,'01-MAR-2013','CH');

INSERT INTO dd\_payment

VALUES (1451,104,20,'01-APR-2013','CC');

INSERT INTO dd\_payment

VALUES (1452,105,10,'01-APR-2013','CC');

INSERT INTO dd\_payment

VALUES (1453,107,50,'01-APR-2013','CC');

INSERT INTO dd\_payment

VALUES (1454,108,20,'01-APR-2013','CC');

INSERT INTO dd\_payment

VALUES (1455,109,30,'01-APR-2013','CC');

INSERT INTO dd\_payment

VALUES (1456,110,25,'01-APR-2013','CC');

INSERT INTO dd\_payment

VALUES (1457,112,20,'01-APR-2013','CC');

INSERT INTO dd\_payment

VALUES (1458,104,20,'01-MAY-2013','CC');

INSERT INTO dd\_payment

VALUES (1459,105,10,'01-MAY-2013','CC');

INSERT INTO dd\_payment

VALUES (1460,107,50,'01-MAY-2013','CC');

INSERT INTO dd\_payment

VALUES (1461,108,20,'01-MAY-2013','CC');

INSERT INTO dd\_payment

VALUES (1462,109,30,'01-MAY-2013','CC');

INSERT INTO dd\_payment

VALUES (1463,110,25,'01-MAY-2013','CC');

INSERT INTO dd\_payment

VALUES (1464,112,20,'01-MAY-2013','CC');

COMMIT;

sqloracleplsqltriggers

Share

Improve this question

Follow

edited Dec 27, 2013 at 4:38

Noel's user avatar

Noel

8,7732828 gold badges4444 silver badges6363 bronze badges

asked Apr 25, 2013 at 11:57

MeachamRob's user avatar

MeachamRob

36322 gold badges88 silver badges1919 bronze badges

Add a comment

2 Answers

Sorted by:

Highest score (default)

2

Since you are using the sequence value in the insert statement,

INSERT INTO dd\_paytrack

(idtrack, pt\_user, pt\_date,

pt\_action, pt\_payid

)

VALUES (idtrack\_seq.NEXTVAL, USER, TO\_CHAR (SYSDATE, 'DD-MON-YY'),

log\_action, id\_pay

);

there is no need to select it as below.

SELECT idtrack\_seq.NEXTVAL

INTO :NEW.idtrack

FROM DUAL;

Also, you have missed a colon in this line,

id\_pay := :OLD.idpay;

EDIT: One more thing, there is no point in having DBMS\_OUTPUT statement in the trigger. Since you wont see it, even if the execution reaches it.

Share

Improve this answer

Follow

edited Apr 25, 2013 at 12:31

answered Apr 25, 2013 at 12:10

Noel's user avatar

Noel

8,7732828 gold badges4444 silver badges6363 bronze badges

I have fixed the errors, but my select query returns an Empty table now. I will edit my code above to reflect this change. Thank you for your help. Not sure why it's an empty table now with these edits. I included the Set Serveroutput ON –

MeachamRob

Apr 25, 2013 at 12:30

@meachamrob Are you sure you used the correct where clause? I dont see payment id 1470 in the insert statements. –

Noel

Apr 25, 2013 at 12:37

You are correct, looking through the data shows no statements for 1470, I guess I have to create those insert, update, and delete statements myself. The Professor didn't explain that part too well –

MeachamRob

Apr 25, 2013 at 12:58

Thanks It works now after adding those insert, delete, and update statements. I appreciate your quick response to my question and your time today. –

MeachamRob

Apr 25, 2013 at 14:25

Add a comment

2

PL/SQL trigger for after insert, update, delete that enters Data into Log Table with a Sequence

CREATE OR REPLACE TRIGGER pledge\_pay\_trigger2

AFTER

INSERT OR

UPDATE OR

DELETE

ON dd\_payment

FOR EACH ROW

DECLARE

log\_action dd\_payment2.pt\_action%TYPE;

id\_pay dd\_payment2.idpay%TYPE;

id\_Pledge dd\_payment2.idPledge%TYPE;

Pay\_amt dd\_payment2.Payamt%TYPE;

Pay\_date dd\_payment2.Paydate%TYPE;

Pay\_method dd\_payment2.Paymethod%TYPE;

BEGIN

id\_pay := :NEW.idpay;

id\_Pledge := :NEW.IDPLEDGE;

Pay\_amt := :NEW.PAYAMT;

Pay\_date := :NEW.PAYDATE;

Pay\_method := :NEW.PAYMETHOD;

IF INSERTING THEN

log\_action := 'Insert';

INSERT INTO dd\_payment2(idpay, idpledge, payamt, paydate, paymethod,pt\_action)

VALUES (id\_pay, id\_Pledge, Pay\_amt, TO\_CHAR(Pay\_date, 'DD-MON-YY'), Pay\_method,log\_action);

ELSIF UPDATING THEN

log\_action := 'Update';

UPDATE DD\_PAYMENT2 SET PAYAMT=Pay\_amt,PAYDATE=TO\_CHAR(Pay\_date, 'DD-MON-YY'),pt\_action='UPDATE' WHERE idpay=id\_pay;

ELSIF DELETING THEN

id\_pay := :OLD.idpay;

log\_action := 'Delete';

UPDATE DD\_PAYMENT2 SET pt\_action='DELETE' WHERE idpay=id\_pay;

ELSE

DBMS\_OUTPUT.PUT\_LINE('This code is not reachable.');

END IF;

END pledge\_pay\_trigger2;

/

COMMIT;

// if log\_action ='Insert' then

INSERT INTO dd\_payment2(idpay, idpledge, payamt, paydate, paymethod,pt\_action)

VALUES (id\_pay, id\_Pledge, Pay\_amt, TO\_CHAR(Pay\_date, 'DD-MON-YY'), Pay\_method,log\_action);

else if log\_action ='Update' then

UPDATE DD\_PAYMENT2 SET PAYAMT=Pay\_amt,PAYDATE=TO\_CHAR(Pay\_date, 'DD-MON-YY'),pt\_action='UPDATE' WHERE idpay=id\_pay;

else

UPDATE DD\_PAYMENT2 SET pt\_action='DELETE' WHERE idpay=id\_pay;

end if

ALTER TABLE DD\_PAYMENT2 ADD pt\_action VARCHAR2(30 BYTE);

COMMIT;

INSERT INTO dd\_payment(idpay, idpledge, payamt, paydate, paymethod)

VALUES (1470, 105, 250, SYSDATE, 'CC');

commit;

UPDATE dd\_payment

SET payamt = 2000

WHERE idpay = 1470;

COMMIT;

DELETE

FROM dd\_payment

WHERE idpay = 1470;

COMMIT;

Share

Improve this answer

Follow

edited Jun 20, 2015 at 13:08

joe\_young's user avatar

joe\_young

4,04022 gold badges2525 silver badges3838 bronze badges

answered Jun 20, 2015 at 11:59

VISHAL KHALASI's user avatar

VISHAL KHALASI

2122 bronze badges

Add a comment

Your Answer

Sign up or log in

Post as a guest

Name

Email

Required, but never shown

By clicking “Post Your Answer”, you agree to our terms of service, privacy policy and cookie policy

Not the answer you're looking for? Browse other questions tagged sqloracleplsqltriggers or ask your own question.

The Overflow Blog

Introducing the Ask Wizard: Your guide to crafting high-quality questions

How to get more engineers entangled with quantum computing (Ep. 501)

Featured on Meta

The 2022 Community-a-thon has begun!

Mobile app infrastructure being decommissioned

The Ask Wizard (2022) has graduated

Staging Ground Workflow: Canned Comments

34 people chatting

SQL

1 hour ago - WhatsThePoint

WhatsThePoint: 1 hour ago

ARr0w: Oct 6 at 16:43

Linked

0

PLS-00103: Encountered the symbol "INSERT" Need help finding cause of error pl/sql

Related

703

Solutions for INSERT OR UPDATE on SQL Server

0

Removing all references from a tuple using Oracle/Access

1084

Insert into a MySQL table or update if exists

1

SQL - Pivot multiple columns without Aggregrates

0

SQL Table that calculates values from another SQL table

0

Calculate Maturity date in SQL Server 2008

0

getting monthly data for specific months based on SYSDATE

0

Oracle: Trigger to insert values into another Table with one additional auto increment primary key column

Hot Network Questions

Why is a register initialised through bitwise operations instead of a binary string?

What's the point of this quote from Seneca (Stoicism)?

Access current frame number during animation via Python API

Philip Glass Etude 16 fingering

What to do with discarded paragraphs?

Higher Topos Theory- what's the moral?

Is Douglas Station and Earth's Spacedock the same station?

Is this laundering money?

What is \fam command?

Is Levin's Universal Search valid for the integer factorization problem while using the AKS test?

A 90s show using handheld Internet

Why do people use log(x+1) or log(y+1) as their independent/dependent variable?

ATmega 2560 is getting hot controlling MOSFETs

Why did Mayday Parker want to fight crime like her father did?

Can someone explain why this position is judged to be so balanced, and why castling is wrong?

Ignoring the first line of a csv file when sorting in Vim

Is it a good idea to write a paper on new algorithms based on an existing algorithm?

What are these wires coming out of my wall?

Anxious about daily standup meetings

Meaning of a buffer in electronics

If you had an infinite amount of any element, which would be the best metal to make bullets?

If I will show up, I'll let you know at the last minute. Correct?

How do I convert a 14-30R to a 6-20R?

3rd declension accusative plurals

Question feed

STACK OVERFLOW

Questions

Help

PRODUCTS

Teams

Advertising

Collectives

Talent

COMPANY

About

Press

Work Here

Legal

Privacy Policy

Terms of Service

Contact Us

Cookie Settings

Cookie Policy

STACK EXCHANGE NETWORK

Technology

Culture & recreation

Life & arts

Science

Professional

Business

API

Data

Blog

Facebook

Twitter

LinkedIn

Instagram

Site design / logo © 2022 Stack Exchange Inc; user contributions licensed under CC BY-SA. rev 2022.10.31.43000