*Edson Sanchez* ITI-3400 Database Programming

**9-1**

CREATE OR REPLACE TRIGGER bb\_reorder\_trg AFTER

UPDATE OF stock ON bb\_product

FOR EACH ROW

DECLARE

v\_onorder\_num NUMBER(4);

BEGIN

IF

:new.stock <=:new.reorder

THEN

SELECT

SUM(qty)

INTO v\_onorder\_num

FROM

bb\_product\_request

WHERE

idproduct =:new.idproduct

AND dtrecd IS NULL;

IF

v\_onorder\_num IS NULL

THEN

v\_onorder\_num := 0;

END IF;

IF

v\_onorder\_num = 0

THEN

INSERT INTO bb\_product\_request (

idrequest,

idproduct,

dtrequest,

qty

) VALUES (

bb\_prodreq\_seq.NEXTVAL,

:new.idproduct,

SYSDATE,

:new.reorder

);

END IF;

END IF;

END;

Trigger BB\_REORDER\_TRG compiled

SELECT

stock,

reorder

FROM

bb\_product

WHERE

idproduct = 4;

STOCK REORDER

26 25

UPDATE bb\_product

SET

stock = 25

WHERE

idproduct = 4;

SELECT

\*

FROM

bb\_product\_request;

1 row updated.

IDREQUEST IDPRODUCT DTREQUEST DTRECD COST QTY IDVENDER

1 4 25-MAR-20 25

**This trigger solves the business problem by automatically putting in a request to order more of a product when the stock becomes too low. This saves the hassle of having to have an employee constantly be manually checking the stock level to make sure the company does not run out of a product.**

**9-2**

CREATE OR REPLACE TRIGGER bb\_refill\_trg AFTER

UPDATE OF dtrecd ON bb\_product\_request

FOR EACH ROW

BEGIN

UPDATE bb\_product

SET

stock = stock +:new.qty

WHERE

idproduct =:new.idproduct;

END;

Trigger BB\_REFILL\_TRG compiled

SELECT

stock,

reorder

FROM

bb\_product

WHERE

idproduct = 5;

SELECT

\*

FROM

bb\_product\_request

WHERE

idproduct = 5;

STOCK REORDER

41 45

IDREQUEST IDPRODUCT DTREQUEST DTRECD COST QTY IDVENDER

3 5 25-MAR-20 45

UPDATE bb\_product\_request

SET

dtrecd = SYSDATE,

cost = 225

WHERE

idrequest = 3;

SELECT

\*

FROM

bb\_product\_request

WHERE

idproduct = 5;

SELECT

stock,

reorder

FROM

bb\_product

WHERE

idproduct = 5;

1 row updated.

IDREQUEST IDPRODUCT DTREQUEST DTRECD COST QTY IDVENDER

3 5 25-MAR-20 25-MAR-20 225 45

STOCK REORDER

86 45

**9-6**

CREATE OR REPLACE TRIGGER bb\_change\_trg AFTER

UPDATE OF idproduct ON bb\_product

FOR EACH ROW

BEGIN

UPDATE bb\_basketitem

SET

idproduct =:new.idproduct

WHERE

idproduct =:old.idproduct;

UPDATE bb\_productoption

SET

idproduct =:new.idproduct

WHERE

idproduct =:old.idproduct;

END;

Trigger BB\_CHANGE\_TRG compiled

SELECT

\*

FROM

bb\_product;

SELECT

\*

FROM

bb\_basketitem

ORDER BY

idproduct;

SELECT

\*

FROM

bb\_productoption

ORDER BY

idproduct;

IDPRODUCT PRODUCTNAME DESCRIPTION PRODUCTIMAGE PRICE SALESTART SALEEND SALEPRICE ACTIVE FEATURED FEATURESTART FEATUREEND TYPE IDDEPARTMENT STOCK ORDERED REORDER

1 CapressoBar Model #351 A fully programmable pump espresso machine and 10-cup coffee maker complete with GoldTone filter capresso.gif 99.99 1 E 2 23 0 12

2 Capresso Ultima Coffee and Espresso and Cappuccino Machine. Brews from one espresso to two six ounce cups of coffee capresso2.gif 129.99 1 E 2 15 0 9

3 Eileen 4-cup French Press A unique coffeemaker from those proud craftsmen in windy Normandy. frepress.gif 32.5 1 E 2 30 0 15

4 Coffee Grinder Avoid blade grinders! This mill grinder allows you to choose a fine grind to a coarse grind. grind.gif 28.5 1 E 2 26 0 25

5 Sumatra Spicy and intense with herbal aroma. sumatra.jpg 10.5 1 C 1 86 0 45

6 Guatamala heavy body, spicy twist, aromatic and smokey flavor. Guatamala.jpg 10 01-JUN-12 15-JUN-12 8 1 C 1 42 0 35

7 Columbia dry, nutty flavor and smoothness columbia.jpg 10.8 1 C 1 61 0 35

8 Brazil well-balanced mellow flavor, a medium body with hints of cocoa and a mild, nut-like aftertaste brazil.jpg 10.8 9.49 1 C 1 53 0 35

9 Ethiopia distinctive berry-like flavor and aroma, reminds many of a fruity, memorable wine. ethiopia.jpg 10 1 C 1 54 0 35

10 Espresso dense, caramel-like sweetness with a soft acidity. Roasted somewhat darker than traditional Italian. espresso.jpg 10 1 C 1 50 50 50

10 rows selected.

IDBASKETITEM IDPRODUCT PRICE QUANTITY IDBASKET OPTION1 OPTION2

23 2 129.99 1 6

32 4 28.5 1 10

17 4 28.5 1 4

30 6 5 1 10 1 3

15 6 5 1 3 1 4

36 6 10 2 12 2 3

26 7 10.8 1 8 2 3

43 7 5.4 1 16 1 3

24 7 10.8 1 7 2 3

41 7 5.4 1 15 1 3

28 7 10.8 1 9 2 3

18 7 10.8 1 5 2 3

37 7 10.8 1 12 2 3

31 8 5.4 1 10 1 3

29 8 10.8 1 9 2 3

27 8 10.8 1 8 2 3

25 8 10.8 1 7 2 3

19 8 10.8 1 5 2 3

16 8 10.8 2 3 2 4

42 8 10.8 1 16 2 3

40 8 10.8 1 15 2 3

34 8 10.8 2 12 2 3

38 9 10 2 13 2 3

35 9 10 2 12 2 3

20 9 10 1 5 2 3

33 9 10 1 11 2 3

21 10 10 1 5 2 3

22 10 10 2 6 2 4

28 rows selected.

IDPRODUCTOPTION IDOPTION IDPRODUCT

3 3 5

2 2 5

1 1 5

4 4 5

5 1 6

6 2 6

7 3 6

8 4 6

11 3 7

10 2 7

9 1 7

12 4 7

13 1 8

14 2 8

15 3 8

16 4 8

17 1 9

18 2 9

20 4 9

19 3 9

21 1 10

23 3 10

22 2 10

24 4 10

24 rows selected.

UPDATE bb\_product

SET

idproduct = 22

WHERE

idproduct = 7;

1 row updated.

SELECT

\*

FROM

bb\_product;

SELECT

\*

FROM

bb\_basketitem

ORDER BY

idproduct;

SELECT

\*

FROM

bb\_productoption

ORDER BY

idproduct;

IDPRODUCT PRODUCTNAME DESCRIPTION PRODUCTIMAGE PRICE SALESTART SALEEND SALEPRICE ACTIVE FEATURED FEATURESTART FEATUREEND TYPE IDDEPARTMENT STOCK ORDERED REORDER

1 CapressoBar Model #351 A fully programmable pump espresso machine and 10-cup coffee maker complete with GoldTone filter capresso.gif 99.99 1 E 2 23 0 12

2 Capresso Ultima Coffee and Espresso and Cappuccino Machine. Brews from one espresso to two six ounce cups of coffee capresso2.gif 129.99 1 E 2 15 0 9

3 Eileen 4-cup French Press A unique coffeemaker from those proud craftsmen in windy Normandy. frepress.gif 32.5 1 E 2 30 0 15

4 Coffee Grinder Avoid blade grinders! This mill grinder allows you to choose a fine grind to a coarse grind. grind.gif 28.5 1 E 2 26 0 25

5 Sumatra Spicy and intense with herbal aroma. sumatra.jpg 10.5 1 C 1 86 0 45

6 Guatamala heavy body, spicy twist, aromatic and smokey flavor. Guatamala.jpg 10 01-JUN-12 15-JUN-12 8 1 C 1 42 0 35

22 Columbia dry, nutty flavor and smoothness columbia.jpg 10.8 1 C 1 61 0 35

8 Brazil well-balanced mellow flavor, a medium body with hints of cocoa and a mild, nut-like aftertaste brazil.jpg 10.8 9.49 1 C 1 53 0 35

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10 Espresso dense, caramel-like sweetness with a soft acidity. Roasted somewhat darker than traditional Italian. espresso.jpg 10 1 C 1 50 50 50

10 rows selected.

IDBASKETITEM IDPRODUCT PRICE QUANTITY IDBASKET OPTION1 OPTION2

23 2 129.99 1 6

17 4 28.5 1 4

32 4 28.5 1 10

36 6 10 2 12 2 3

15 6 5 1 3 1 4

30 6 5 1 10 1 3

19 8 10.8 1 5 2 3

16 8 10.8 2 3 2 4

42 8 10.8 1 16 2 3

40 8 10.8 1 15 2 3

34 8 10.8 2 12 2 3

31 8 5.4 1 10 1 3

29 8 10.8 1 9 2 3

27 8 10.8 1 8 2 3

25 8 10.8 1 7 2 3

20 9 10 1 5 2 3

35 9 10 2 12 2 3

38 9 10 2 13 2 3

33 9 10 1 11 2 3

21 10 10 1 5 2 3

22 10 10 2 6 2 4

24 22 10.8 1 7 2 3

26 22 10.8 1 8 2 3

43 22 5.4 1 16 1 3

37 22 10.8 1 12 2 3

41 22 5.4 1 15 1 3

18 22 10.8 1 5 2 3

28 22 10.8 1 9 2 3

28 rows selected.

IDPRODUCTOPTION IDOPTION IDPRODUCT

3 3 5

2 2 5

1 1 5

4 4 5

7 3 6

6 2 6

5 1 6

8 4 6

13 1 8

14 2 8

15 3 8

16 4 8

20 4 9

19 3 9

18 2 9

17 1 9

23 3 10

24 4 10

22 2 10

21 1 10

9 1 22

10 2 22

11 3 22

12 4 22

24 rows selected.

**9-8**

CREATE OR REPLACE TRIGGER bb\_audit\_trg AFTER

INSERT OR DELETE OR UPDATE OF productname,price,salestart,saleend,saleprice ON bb\_product

FOR EACH ROW

BEGIN

IF

inserting

THEN

INSERT INTO bb\_prodchg\_audit VALUES (

user,

:new.idproduct,

'I',

SYSDATE,

NULL,

:new.productname,

NULL,

:new.price,

NULL,

:new.salestart,

NULL,

:new.saleend,

NULL,

:new.saleprice

);

END IF;

IF

deleting

THEN

INSERT INTO bb\_prodchg\_audit VALUES (

user,

:old.idproduct,

'D',

SYSDATE,

:old.productname,

NULL,

:old.price,

NULL,

:old.salestart,

NULL,

:old.saleend,

NULL,

:old.saleprice,

NULL

);

END IF;

IF

updating

THEN

INSERT INTO bb\_prodchg\_audit VALUES (

user,

:old.idproduct,

'U',

SYSDATE,

:old.productname,

:new.productname,

:old.price,

:new.price,

:old.salestart,

:new.salestart,

:old.saleend,

:new.saleend,

:old.saleprice,

:new.saleprice

);

END IF;

END;

Trigger BB\_AUDIT\_TRG compiled

UPDATE bb\_product

SET

salestart = '05-MAY-2012',

saleend = '12-MAY-2012',

saleprice = 9

WHERE

idproduct = 10;

INSERT INTO bb\_product (

idproduct,

productname,

price,

salestart,

saleend,

saleprice

) VALUES (

11,

'Trigger Test',

95,

'06-JUN-2012',

'22-JUN-2012',

50

);

DELETE FROM bb\_product

WHERE

idproduct = 1;

1 row updated.

1 row inserted.

1 row deleted.

select \* from bb\_prodchg\_audit;

USER\_ID PROD\_ID ACTION CHG\_DATE NAME\_OLD NAME\_NEW PRICE\_OLD PRICE\_NEW START\_OLD START\_NEW END\_OLD END\_NEW SALE\_OLD SALE\_NEW

ERSANCHEZ 10 U 02-APR-20 Espresso Espresso 10 10 05-MAY-12 12-MAY-12 9

ERSANCHEZ 11 I 02-APR-20 Trigger Test 95 06-JUN-12 22-JUN-12 50

ERSANCHEZ 1 D 02-APR-20 CapressoBar Model #351 99.99