

Budrys Assignment 8

1.

CREATE OR REPLACE TRIGGER products_before_update
BEFORE UPDATE OF discount_percent
ON Products
FOR EACH ROW

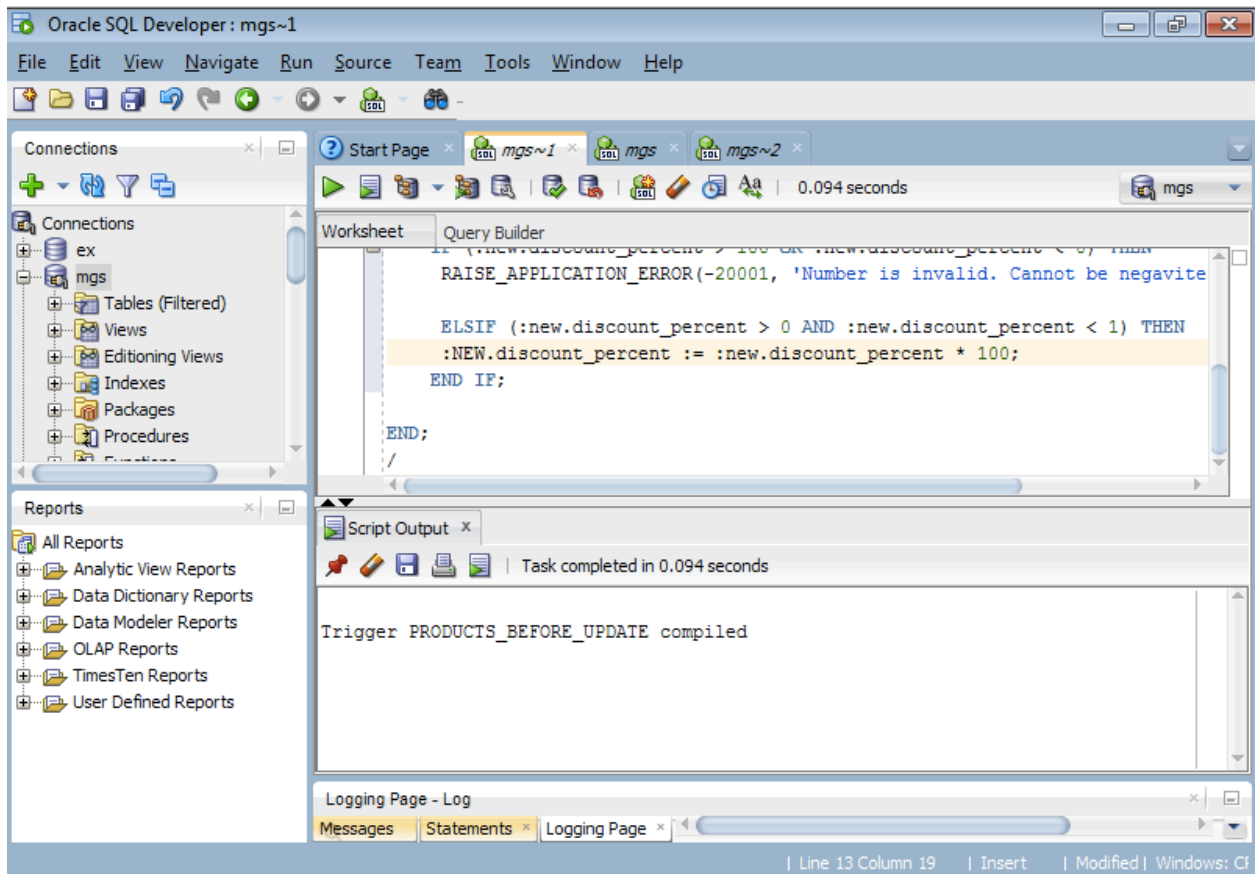
BEGIN

IF (:new.discount_percent > 100 OR :new.discount_percent < 0) THEN
RAISE_APPLICATION_ERROR(-20001, 'Number is invalid. Cannot be negative or more than 100');

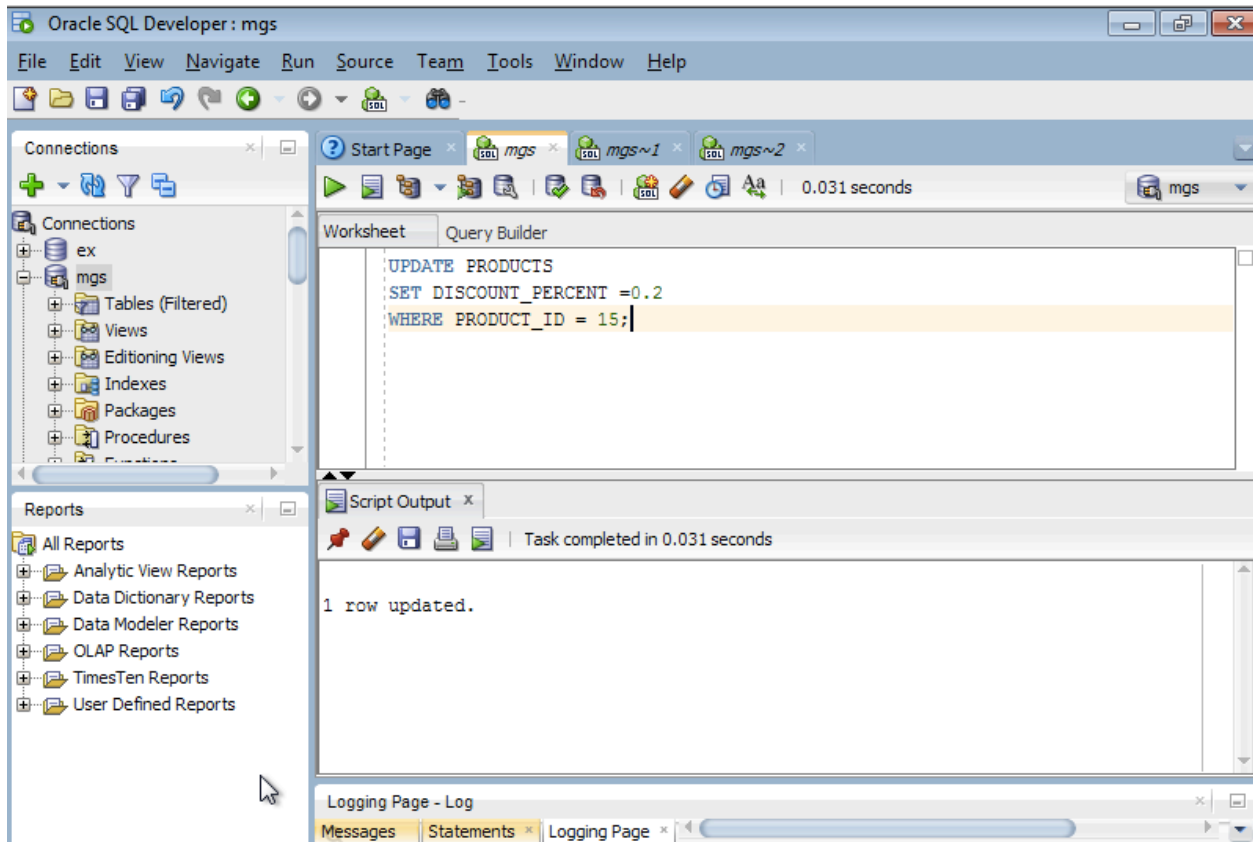
ELSIF (:new.discount_percent > 0 AND :new.discount_percent < 1) THEN
:NEW.discount_percent := :new.discount_percent * 100;
END IF;

END;

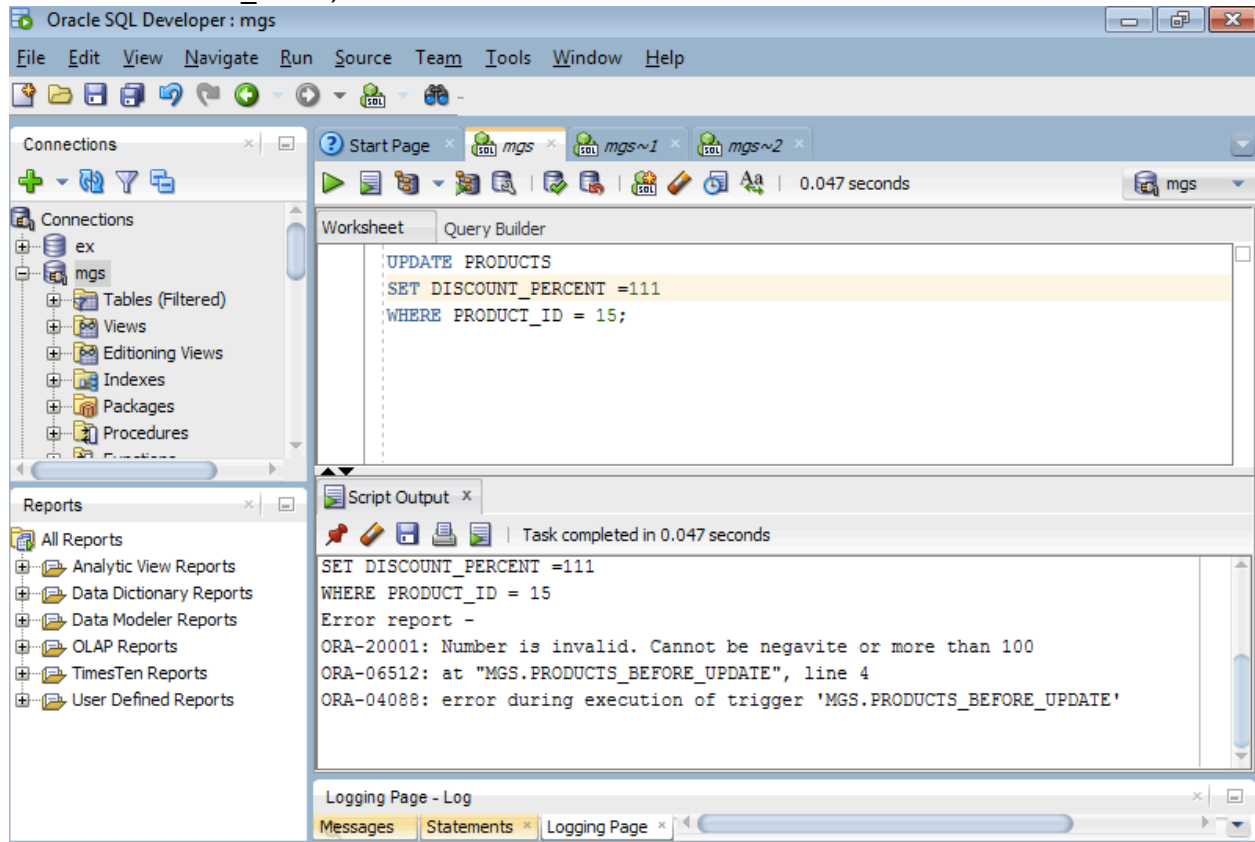
/



UPDATE PRODUCTS
SET DISCOUNT_PERCENT =0.2
WHERE PRODUCT_ID = 15;



UPDATE PRODUCTS
SET DISCOUNT_PERCENT =111
WHERE PRODUCT_ID = 1;



SELECT PRODUCT_ID, DISCOUNT_PERCENT FROM PRODUCTS;

The screenshot displays the Oracle SQL Developer interface. The title bar reads "Oracle SQL Developer : mgs~2". The menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The toolbar contains icons for file operations, database connections, and execution. The left sidebar shows the "Connections" tree with "ex" and "mgs" connections, and the "Reports" tree with various report types. The main workspace is divided into a "Worksheet" and a "Query Builder". The "Worksheet" tab is active, showing the SQL query: `SELECT PRODUCT_ID, DISCOUNT_PERCENT FROM PRODUCTS;`. Below the worksheet, the "Script Output" and "Query Result" tabs are visible. The "Query Result" tab is active, displaying the execution results. The status bar indicates "All Rows Fetched: 11 in 0.016 seconds". The query results are shown in a table with two columns: PRODUCT_ID and DISCOUNT_PERCENT.

PRODUCT_ID	DISCOUNT_PERCENT
1	15
2	1
3	2
4	3
5	4
6	5

2.

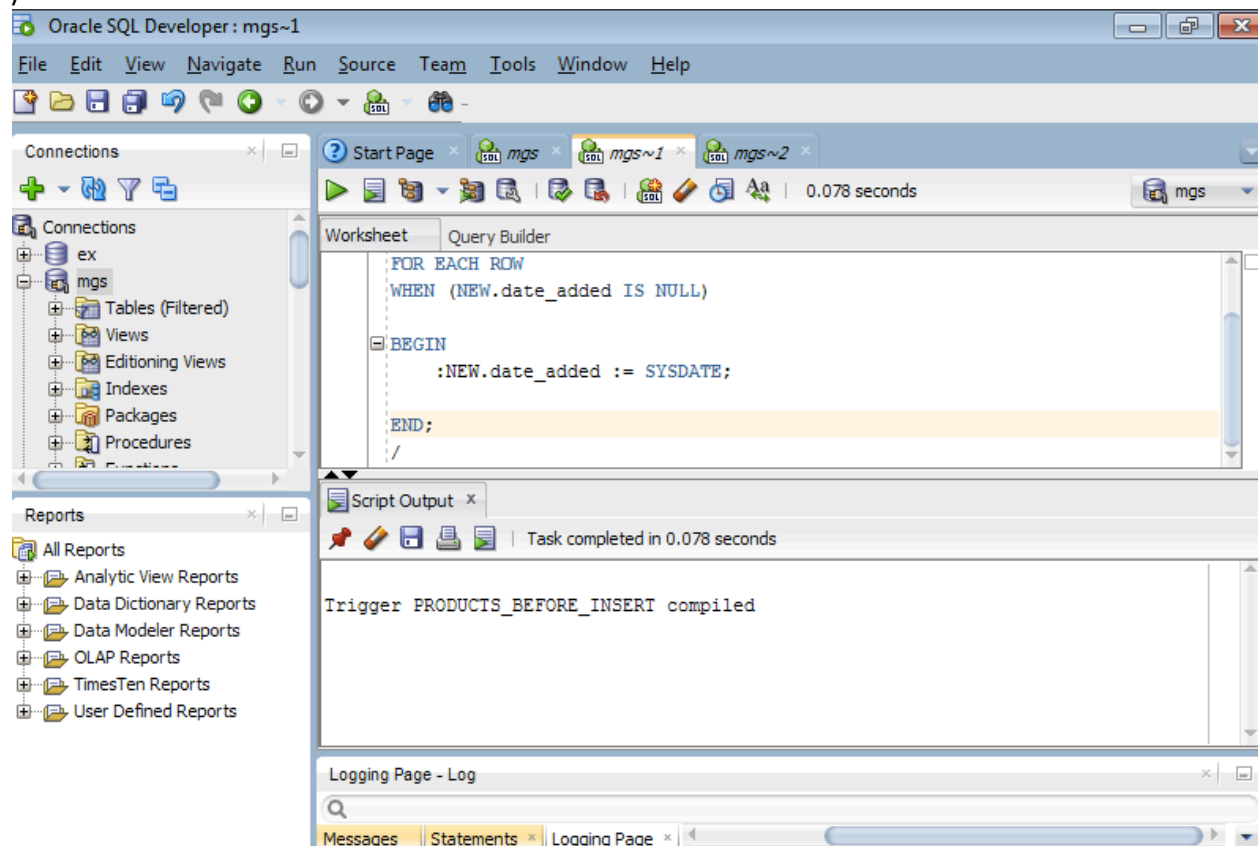
```
CREATE OR REPLACE TRIGGER products_before_insert  
BEFORE INSERT ON Products  
FOR EACH ROW  
WHEN (NEW.date_added IS NULL)
```

```
BEGIN
```

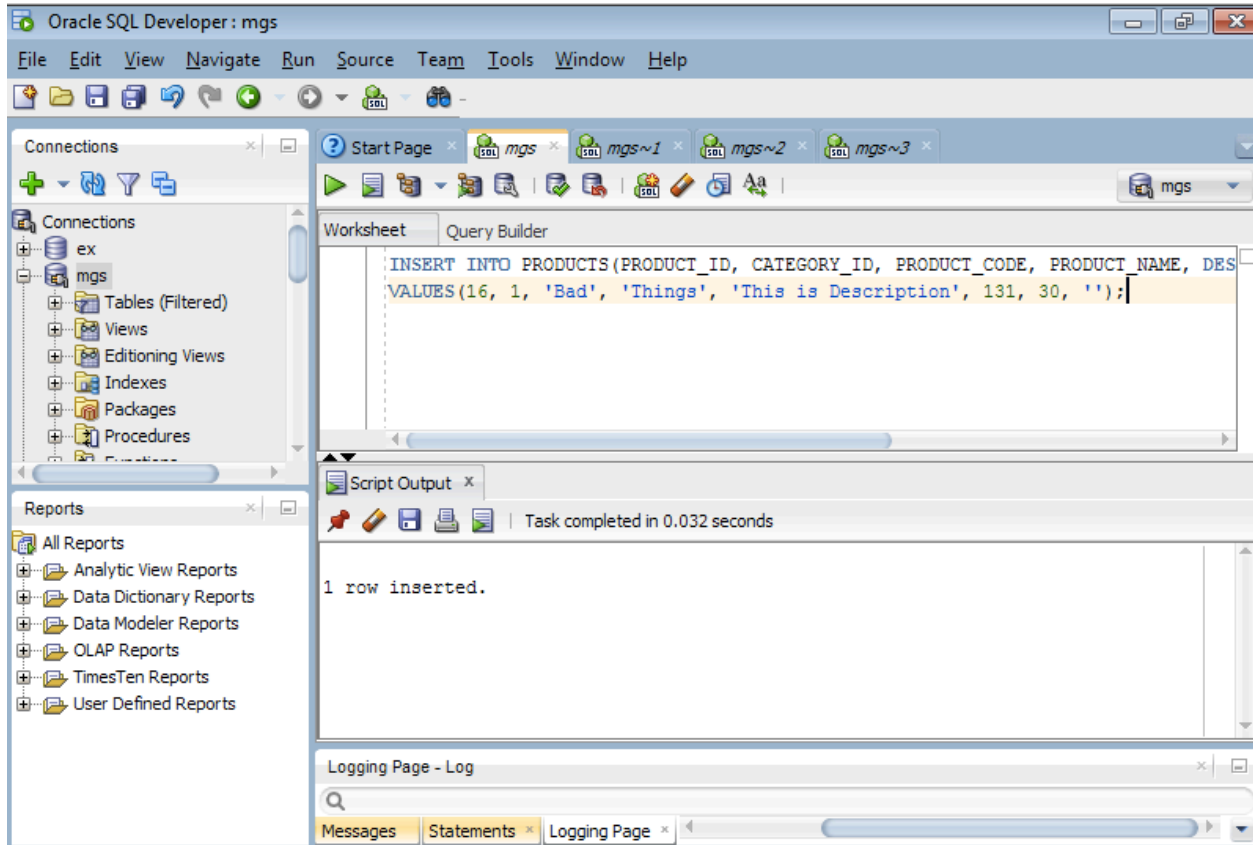
```
  :NEW.date_added := SYSDATE;
```

```
END;
```

```
/
```



```
INSERT INTO PRODUCTS(PRODUCT_ID, CATEGORY_ID, PRODUCT_CODE, PRODUCT_NAME,  
DESCRIPTION, LIST_PRICE, DISCOUNT_PERCENT, DATE_ADDED)  
VALUES(16, 1, 'Bad', 'Things', 'This is Description', 131, 30, '');
```



SELECT PRODUCT_ID, PRODUCT_CODE, DATE_ADDED FROM PRODUCTS;

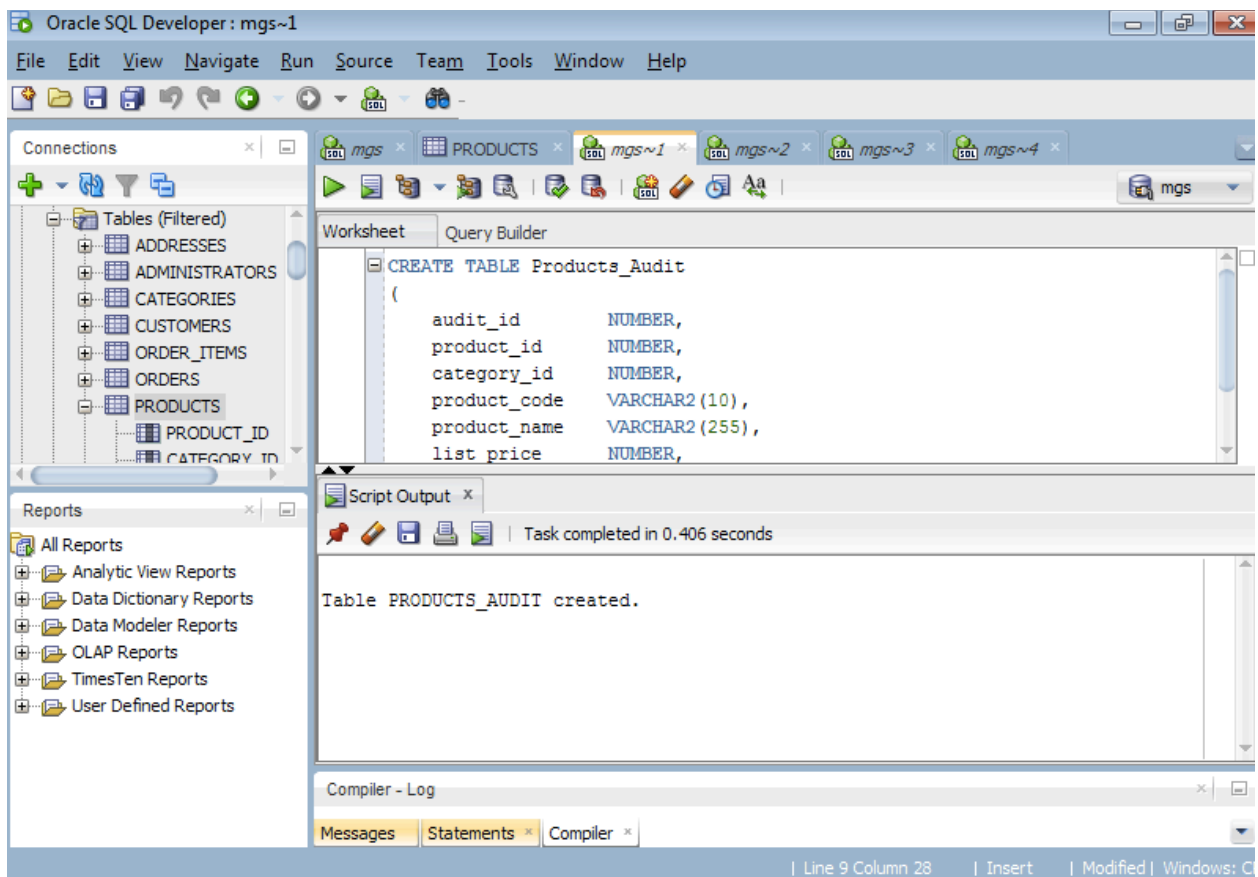
The screenshot displays the Oracle SQL Developer interface. The main window shows a query executed in the 'Query Builder' tab. The query is: `SELECT PRODUCT_ID, PRODUCT_CODE, DATE_ADDED FROM PRODUCTS;`. The results are displayed in the 'Query Result' tab, showing 12 rows fetched in 0 seconds. The results are organized into a table with three columns: PRODUCT_ID, PRODUCT_CODE, and DATE_ADDED. The first five rows are visible, showing product details like '16 Bad', '15 Good', '1 strat', '2 les_paul', and '3 sg'.

PRODUCT_ID	PRODUCT_CODE	DATE_ADDED
1	16 Bad	27-JUL-17
2	15 Good	21-JUL-17
3	1 strat	30-OCT-11
4	2 les_paul	05-DEC-11
5	3 sg	04-FEB-12

3.

CREATE TABLE Products_Audit

```
(  
  audit_id    NUMBER,  
  product_id  NUMBER,  
  category_id NUMBER,  
  product_code VARCHAR2(10),  
  product_name VARCHAR2(255),  
  list_price  NUMBER,  
  discount_percent NUMBER,  
  date_updated DATE  
);
```




```
CREATE OR REPLACE TRIGGER product_after_update
AFTER INSERT OR UPDATE
ON Products
FOR EACH ROW
```

```
BEGIN
```

```
  IF INSERTING THEN
```

```
    INSERT INTO PRODUCTS_AUDIT VALUES
```

```
      (AUDIT_SEQ.NEXTVAL, :new.product_id, :new.category_id, :new.product_code,
       :new.product_name, :new.list_price, :new.discount_percent, SYSDATE);
```

```
  ELSIF UPDATING THEN
```

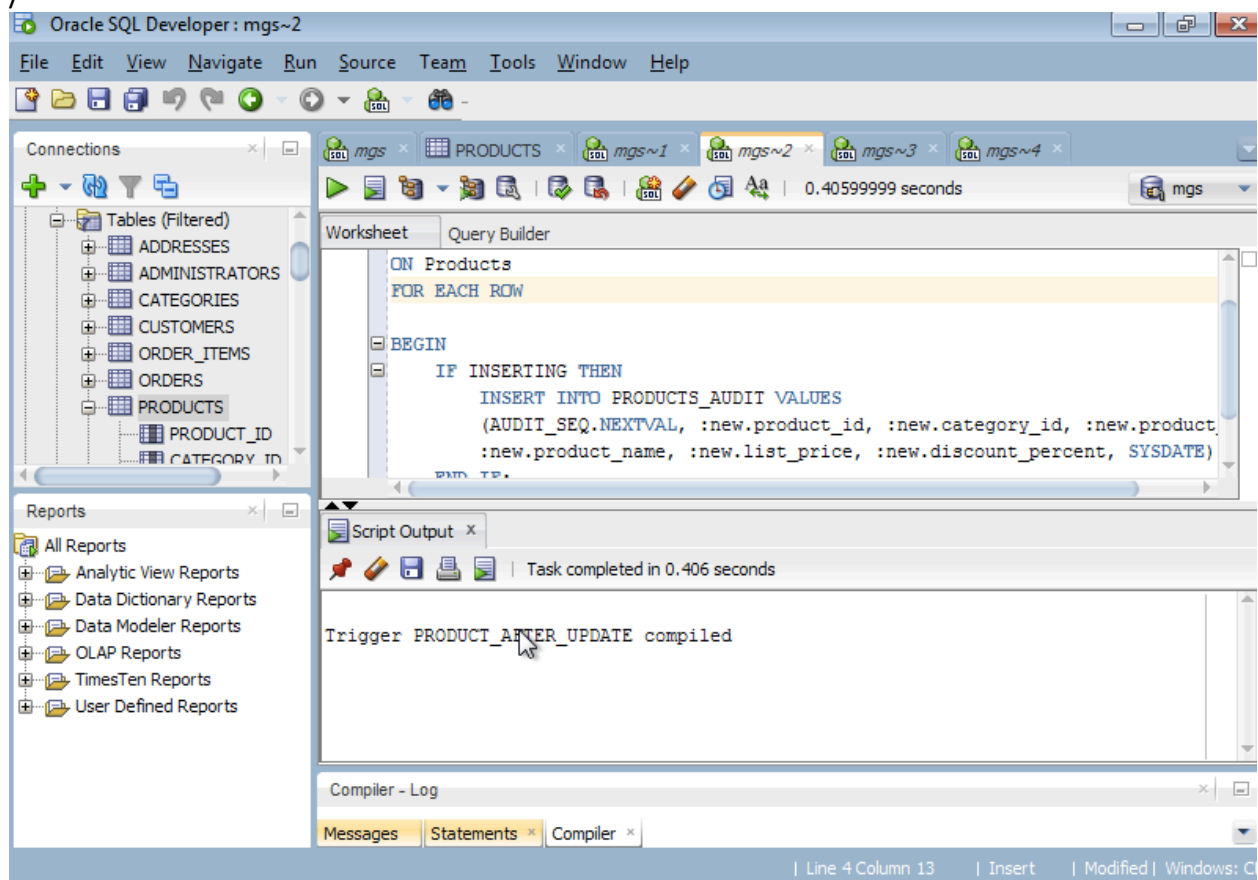
```
    INSERT INTO PRODUCTS_AUDIT VALUES
```

```
      (AUDIT_SEQ.NEXTVAL, :new.product_id, :new.category_id, :new.product_code,
       :new.product_name, :new.list_price, :new.discount_percent, SYSDATE);
```

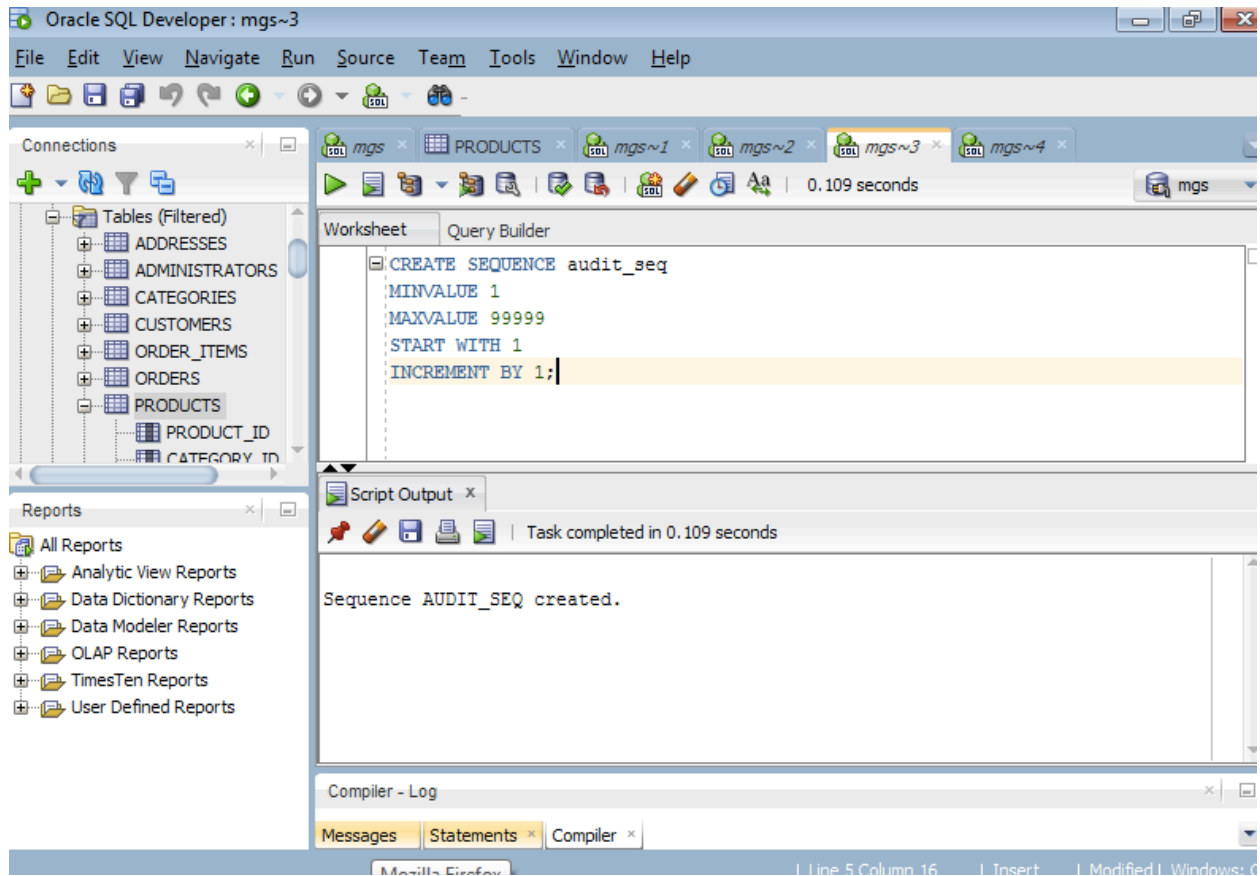
```
  END IF;
```

```
END;
```

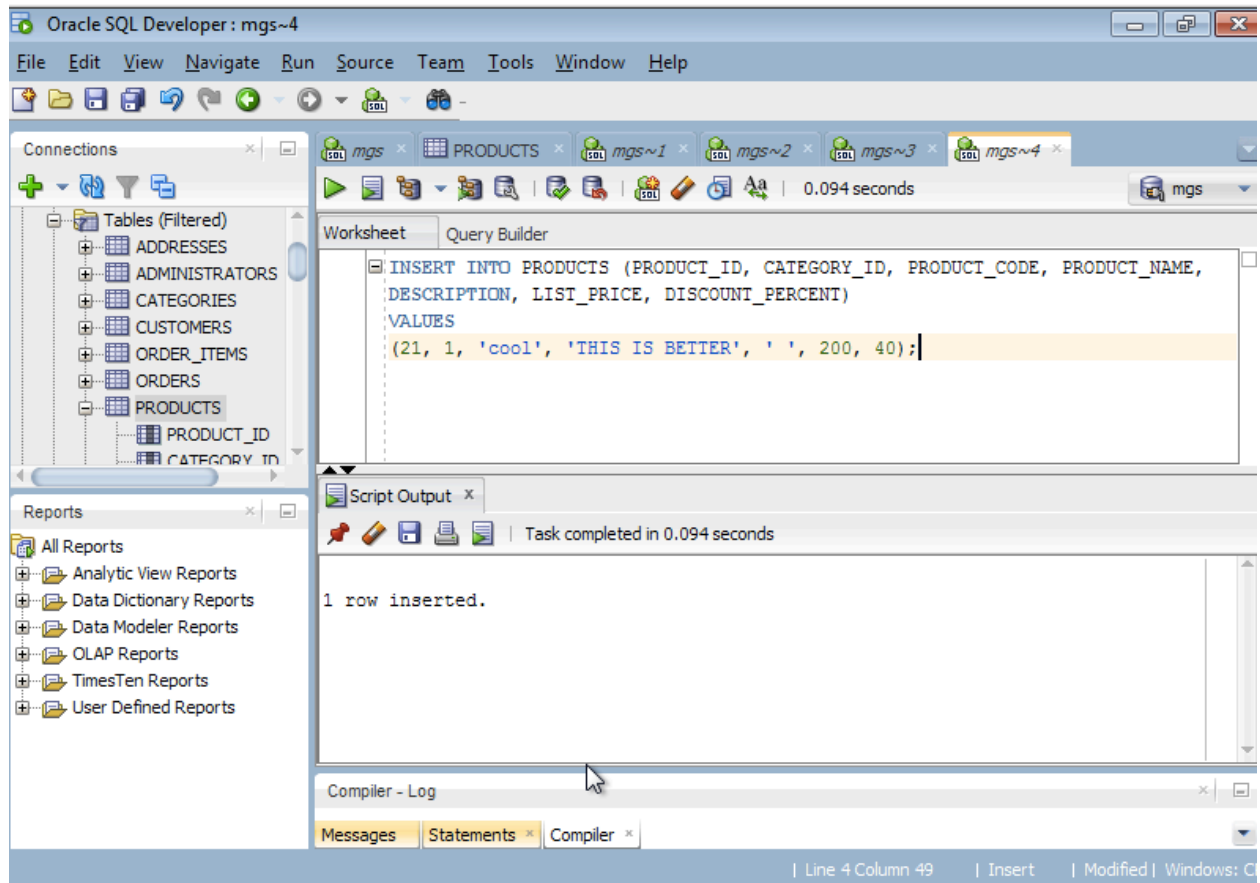
```
/
```



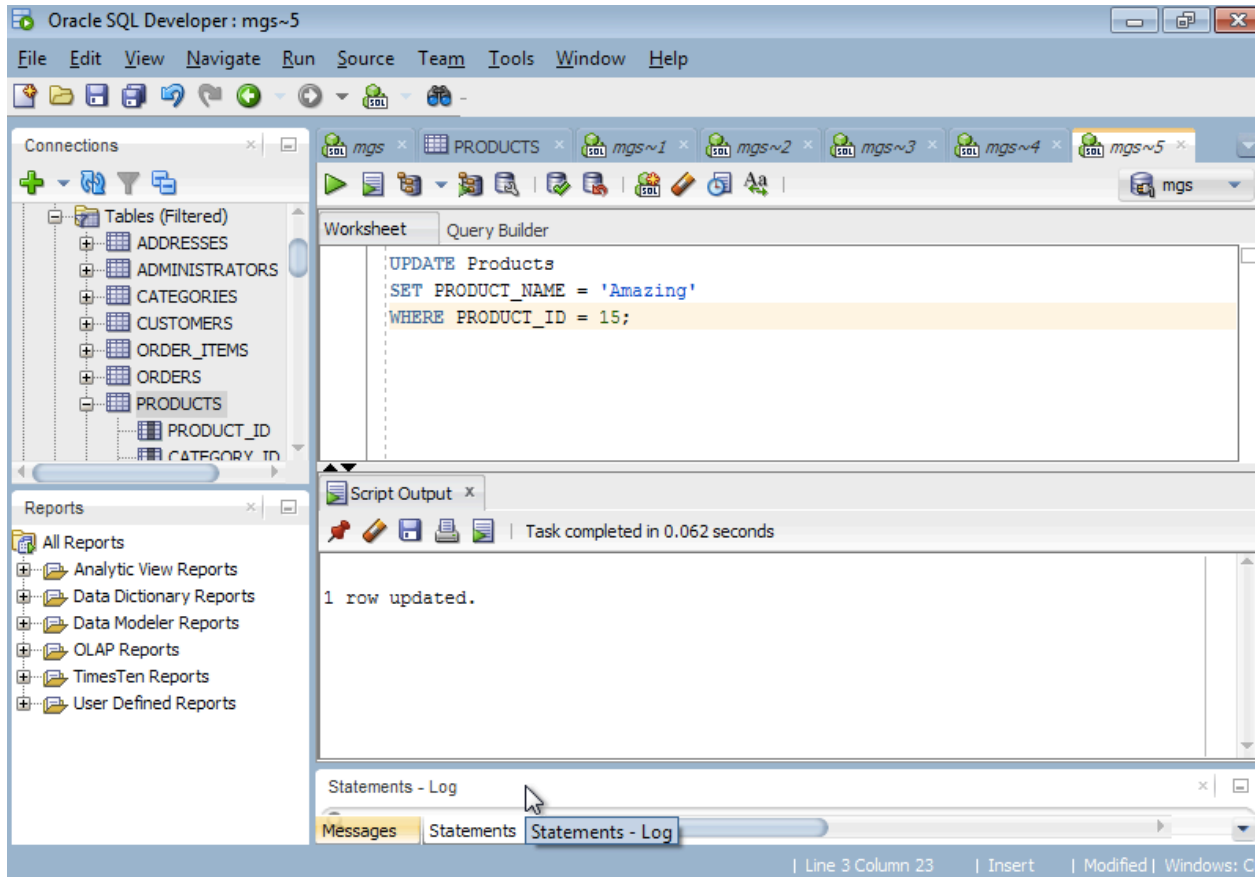
```
CREATE SEQUENCE audit_seq  
MINVALUE 1  
MAXVALUE 99999  
START WITH 1  
INCREMENT BY 1;
```



```
INSERT INTO PRODUCTS (PRODUCT_ID, CATEGORY_ID, PRODUCT_CODE, PRODUCT_NAME,  
DESCRIPTION, LIST_PRICE, DISCOUNT_PERCENT)  
VALUES  
(21, 1, 'cool', 'THIS IS BETTER', ' ', 200, 40);
```



UPDATE Products
SET PRODUCT_NAME = 'Amazing'
WHERE PRODUCT_ID = 15;



SELECT * FROM PRODUCTS_AUDIT

The screenshot displays the Oracle SQL Developer interface. The 'Connections' pane on the left shows a tree of database objects, including 'Tables (Filtered)' and 'Reports'. The 'Worksheet' pane in the center contains the SQL query: `SELECT * FROM PRODUCTS_AUDIT`. The 'Query Result' pane at the bottom shows the execution results, indicating 'All Rows Fetched: 2 in 0.032 seconds'. The results are displayed in a table with the following columns: AUDIT_ID, PRODUCT_ID, CATEGORY_ID, PRODUCT_CODE, PRODUCT_NAME, LIST_PRICE, and I. The table contains two rows of data.

AUDIT_ID	PRODUCT_ID	CATEGORY_ID	PRODUCT_CODE	PRODUCT_NAME	LIST_PRICE	I
1	1	21	1 cool	THIS IS BETTER	200	
2	2	15	1 Good	Amazing	111	

The 'Statements - Log' pane at the bottom shows the executed SQL statement. The 'Messages' pane is also visible, showing the execution status.