

Subqueries separated by " ***** "
Questions separated by " ===== "

18.Trigger

a) Write a update, delete trigger on clientmstr table. The System should keep track of the records that ARE BEING updated or deleted. The old value of updated or deleted records should be added in audit_trade table. (separate implementation using both row and statement triggers).

ANSWER:-

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CREATE DATABASE practest;
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Use practest;
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```
CREATE TABLE clientmstr (  
    client_id INT PRIMARY KEY,  
    client_name VARCHAR(100),  
    client_email VARCHAR(100),  
    client_phone VARCHAR(20)  
);
```

```
CREATE TABLE audit_trade (  
    audit_id INT AUTO_INCREMENT PRIMARY KEY,  
    client_id INT,  
    client_name VARCHAR(100),  
    client_email VARCHAR(100),  
    client_phone VARCHAR(20),  
    operation VARCHAR(10),    -- 'UPDATE' or 'DELETE'  
    operation_time TIMESTAMP DEFAULT CURRENT_TIMESTAMP  
);
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INSERT INTO clientmstr (client_id, client_name, client_email, client_phone) VALUES  
(1, 'Aarav Sharma', 'aarav.sharma@example.com', '987-654-3210'),  
(2, 'Priya Gupta', 'priya.gupta@example.com', '998-765-4321'),  
(3, 'Rahul Patel', 'rahul.patel@example.com', '967-843-2101');
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DELIMITER $$
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```
CREATE TRIGGER after_update_clientmstr_row  
AFTER UPDATE ON clientmstr  
FOR EACH ROW  
BEGIN  
    INSERT INTO audit_trade (client_id, client_name, client_email, client_phone,  
operation)  
    VALUES (OLD.client_id, OLD.client_name, OLD.client_email, OLD.client_phone,  
'UPDATE');  
END$$
```

```
DELIMITER ;
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```
DELIMITER $$
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```

BEFORE INSERT ON Emp
FOR EACH ROW
BEGIN
    IF NEW.salary < 50000 THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Salary cannot be less than Rs. 50,000 for new
employees.';
    END IF;
END$$
DELIMITER ;
*****
*****
DELIMITER $$

CREATE TRIGGER before_update_emp
BEFORE UPDATE ON Emp
FOR EACH ROW
BEGIN
    IF NEW.salary < 50000 THEN
        SIGNAL SQLSTATE '45000'
        SET MESSAGE_TEXT = 'Salary cannot be reduced to less than Rs. 50,000.';
    END IF;
END$$

DELIMITER ;
*****
*****
INSERT INTO Emp (e_no, e_name, salary) VALUES (1, 'Rahul Singh', 60000);
INSERT INTO Emp (e_no, e_name, salary) VALUES (2, 'Anita Deshmukh', 75000);
INSERT INTO Emp (e_no, e_name, salary) VALUES (3, 'Vikas Kumar', 52000);
*****
*****
INSERT INTO Emp (e_no, e_name, salary) VALUES (4, 'Priya Mehta', 45000);
-- Expected result: An error message saying, "Salary cannot be less than Rs. 50,000
for new employees."
*****
*****
UPDATE Emp SET salary = 40000 WHERE e_no = 1;
--Expected result: An error message saying, "Salary cannot be reduced to less than
Rs. 50,000."

```