Triggers.md 2023-12-08

### 1. BEFORE INSERT Trigger:

```
CREATE OR REPLACE TRIGGER before_insert_trigger

BEFORE INSERT ON employees

FOR EACH ROW

BEGIN

-- Set current date as the hire date if it is not provided

IF :NEW.hire_date IS NULL THEN

:NEW.hire_date := SYSDATE;

END IF;

END;

/
```

### 2. AFTER INSERT Trigger:

```
CREATE OR REPLACE TRIGGER after_insert_trigger

AFTER INSERT ON employees

FOR EACH ROW

BEGIN

-- Log the inserted employee information into a separate audit table

INSERT INTO audit_table (employee_id, action, action_date)

VALUES (:NEW.employee_id, 'INSERT', SYSDATE);

END;

/
```

### 3. **BEFORE UPDATE Trigger**:

```
CREATE OR REPLACE TRIGGER before_update_trigger

BEFORE UPDATE ON employees

FOR EACH ROW

BEGIN

-- Prevent updating the salary to a lower value

IF :NEW.salary < :OLD.salary THEN

raise_application_error(-20001, 'Salary cannot be decreased.');

END IF;

END;

/
```

# 4. AFTER UPDATE Trigger:

```
CREATE OR REPLACE TRIGGER after_update_trigger

AFTER UPDATE ON employees

FOR EACH ROW

BEGIN

-- Log the updated employee information into a separate audit table
```

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```
INSERT INTO audit_table (employee_id, action, action_date)
   VALUES (:OLD.employee_id, 'UPDATE', SYSDATE);
END;
/
```

### 5. **BEFORE DELETE Trigger**:

```
CREATE OR REPLACE TRIGGER before_delete_trigger
BEFORE DELETE ON employees
FOR EACH ROW
BEGIN
    -- Prevent deleting employees with a higher salary than a threshold
    IF :OLD.salary > 10000 THEN
        raise_application_error(-20001, 'Employees with salary higher than 10000
cannot be deleted.');
    END IF;
END;
//
```

## 6. AFTER DELETE Trigger:

```
CREATE OR REPLACE TRIGGER after_delete_trigger

AFTER DELETE ON employees

FOR EACH ROW

BEGIN

-- Log the deleted employee information into a separate audit table

INSERT INTO audit_table (employee_id, action, action_date)

VALUES (:OLD.employee_id, 'DELETE', SYSDATE);

END;

/
```

In each trigger, the table name is set to "employees" for illustration purposes. Replace it with the actual name of your table. Adjust the trigger logic within the BEGIN and END block as per your specific requirements for each trigger type.