

# Brennan McHugh

D191 Advanced Data Management

Performance Assessment

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13 September 2022

A. The corporate leadership of the DVD rental company wants to institute an employee rewards program. The awards of “Employee of the Month” and “Employee of the Year” will go to the employees with the most associated rentals. The purpose of this initiative is to reward employees who go above and beyond and to incentivize other employees to increase their own performance through friendly competition.

1. The information needed for this report will be information pertaining to the rentals themselves as well as the staff members associated with the transactions.

2. The tables that will be required to gather all necessary data are “rental” and “staff”

3. For the detailed table, the fields used from the “rental” table will be: rental\_id and rental\_date. The fields used from the “staff” table will be: staff\_id, first\_name, last\_name, email, and store\_id.

For the summary table, the data needed from the “rental” table is still rental\_id and rental\_date. The only data needed from the “staff” table is first\_name, last\_name, staff\_id, and rental\_id.

4. Two fields that are going to receive a transformation are the first\_name and last\_name fields. Currently, they are separated into two different fields. By concatenating them into one field, the report will be easier to read.

5. As stated above, one use for these reports is to reward high-achievers within the company. Another use is to incentivize other employees to work harder in order to receive awards. Additionally, these reports can also be used to identify employees exhibiting trends of low performance. This can assist in discovering root causes of low performance and help to remedy any instances of this within company stores.

6. The report should be refreshed and generated monthly in time to announce the month’s winners. This will also allow the employees to know where they stand throughout the year if they are interested in competing for the annual prize.

B. Two tables have been created to hold both the detailed and summary report sections

--detailed table

```
CREATE TABLE detailed (  
Rental_id INT,  
Rental_date TIMESTAMP WITHOUT TIME ZONE,  
Staff_id INT,  
First_name VARCHAR(45)  
Last_name VARCHAR(45),  
Email VARCHAR(50),  
Store_id SMALLINT  
);
```

--summary table

```
CREATE TABLE summary (  
Total INT,  
Full_name VARCHAR (90),  
Staff_id INT  
);
```

C. –A SQL query has been written to populate the detailed table from the source database. Specifying the source database tables in the population database ensured data integrity and also provides a clear route to follow should anyone need to verify the data further.

```
INSERT INTO detailed (  
Rental_id,  
Rental_date,  
Staff_id,  
First_name,  
Last_name,  
Email,  
Store_id)  
SELECT  
Rental.rental_id, rental.rental_date, staff.staff_id, staff.first_name, staff.last_name, staff.email,  
staff.store_id  
FROM rental  
INNER JOIN staff ON staff.staff_id = rental.staff_id;
```

D. A function has been written that performs the data transformation identified in A4.

```

CREATE FUNCTION refresh_summary_func()
RETURNS TRIGGER
LANGUAGE plpgsql
AS $$
BEGIN
DELETE FROM summary;
INSERT INTO summary (
SELECT
CONCAT(first_name,' ',last_name) AS full_name,
COUNT(staff_id)
FROM detailed
GROUP BY full_name, staff_id
HAVING COUNT(staff_id)>0
ORDER BY COUNT(staff_id) DESC
LIMIT 10
);
RETURN NEW;
END;$$

```

E. A trigger has been created that will continually refresh the summary table with new data every time new data is introduced into the detailed table.

```

CREATE TRIGGER summary_table_refresh
AFTER INSERT ON detailed
FOR EACH STATEMENT
EXECUTE PROCEDURE refresh_summary_func()

```

F. A stored procedure has been created in order to refresh the data in both tables, clears the contents of detailed and summary tables, and performs the ETL process.

1. This procedure should be run monthly in order to generate the reports to decide the Employee of the Month. A job scheduling agent such as pgAgent can be utilized in order to automate this task.

```

CREATE PROCEDURE refresh_proc()
LANGUAGE plpgsql
AS $$
BEGIN
DELETE FROM detailed;

INSERT INTO detailed (rental_id, rental_date, staff_id, first_name, last_name, email, store_id)
SELECT
rental.rental_id, rental.rental_date, staff.staff_id, staff.first_name, staff.last_name, staff.email,
staff.store_id
FROM rental
INNER JOIN staff ON staff.staff_id = rental.staff_id;

```

```
DELETE FROM summary;  
INSERT INTO summary (  
SELECT  
CONCAT(first_name,' ',last_name) AS full_name,  
COUNT(staff_id)  
FROM detailed  
GROUP BY full_name, staff_id  
HAVING COUNT(staff_id)>0  
ORDER BY COUNT(staff_id) DESC  
LIMIT 10  
);  
END; $$;
```

G. Video link has been uploaded

H. No web sources were used to support the completion of this assignment.

I. No external sources were used to support the completion of this assignment.