TRIPADVISOR E-MANAGEMENT

PROJECT CREATED BY

B.E – CSE [V Semester]

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TRIPADVISOR E-MANAGEMENT

➢ Project Overview:

The Tripadvisor E-Management project will integrate Salesforce CRM to streamline sales, customer service, and marketing processes. It will centralize customer data, automate workflows, and improve case management through Service Cloud. Marketing Cloud will enable personalized campaigns, while custom reports will provide real-time insights. The solution will be tailored to Tripadvisor's needs and integrated with existing systems.

➢ Project Objectives:

- Customer Data Management: Centralize customerinformation to provide a 360-degree view of customer interactions and sales activities.

- Lead and Opportunity Management: Improve lead generation, tracking, and conversion processes through Salesforce automation and analytics.

- Enhanced Reporting and Analytics: Create robust Dashboards and reports to track sales performance, customer engagement, and support cases.

➢ Salesforce Key Features and Concepts Utilized

❖ Sales Cloud:

Manages leads, opportunities, accounts, and contacts, streamlining the sales pipeline and enhancing lead conversion processes.

❖ Service Cloud:

Improves customer support by automating case management, ensuring faster response times, and providing a unified view of customer issues.

❖ Marketing Cloud:

Facilitates personalized marketing campaigns, customer segmentation, and targeted communications to boost engagement and sales.

❖ Reports & Dashboards:

Provides real-time, customizable analytics to track sales performance, customer satisfaction, and operational metrics

❖ Process Builder & Flow:

Automates complex workflows like lead routing, task creation, and approval processes, reducing manual effort and increasing efficiency.

❖ Apex:

Custom code for advanced business logic, triggers, and integrations with external systems, enabling tailored functionality.

❖ Salesforce Lightning:

A modern, user-friendly interface for both desktop and mobile, enhancing user experience and simplifying navigation.

❖ Chatter:

Facilitates internal collaboration across departments by providing a social platform for sharing updates, comments, and documents in real-time.

➢ Detailed Steps to Solution Design

Acceptance Criteria & Solution

- As the Salesforce User we have to manage the data for the Hotels, Flights, and Food Options for this we have to create some automation for simplification.
- To ensure that when a new Food Option is added or updated, the corresponding Hotel's information is updated accordingly. For example, you might want to maintain a total count of food options for each hotel.
- Also there is automation for the customer benefits if the there buying amount is with respect to some amount then they will get some discounts on their bill
- For the flights there schedule process being involved where the customer who has booked the flight will get the reminder mail alert for

knowing proper timing of the flight before 24 hrs it's important to manage the in a good way.

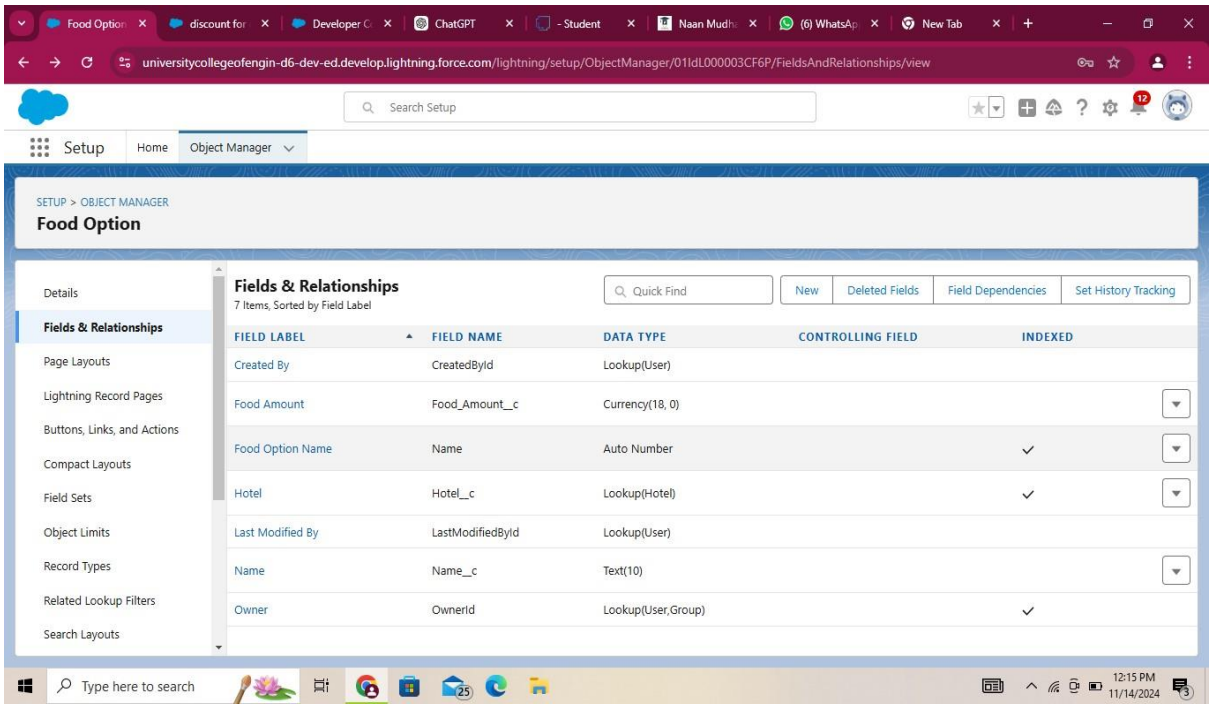
Solution: For the Above requirements of Trip Advisor we have created the solutions by creating the custom objects and Fields the Custom Objects that are created are Hotels, Food Options, Customer & Flights.

Procedure:

Create Hotel Object

1. **Label**: Hotel ▫ **Plural Name**: Hotels
2. **Fields**:
    a. **Hotel Name** (Text)
    b. **TotalFood Options** (Number)
    c. **Date** (Date)
3. **Allow Reports**: Yes
4. **Allow Search**: Yes

FIGURE



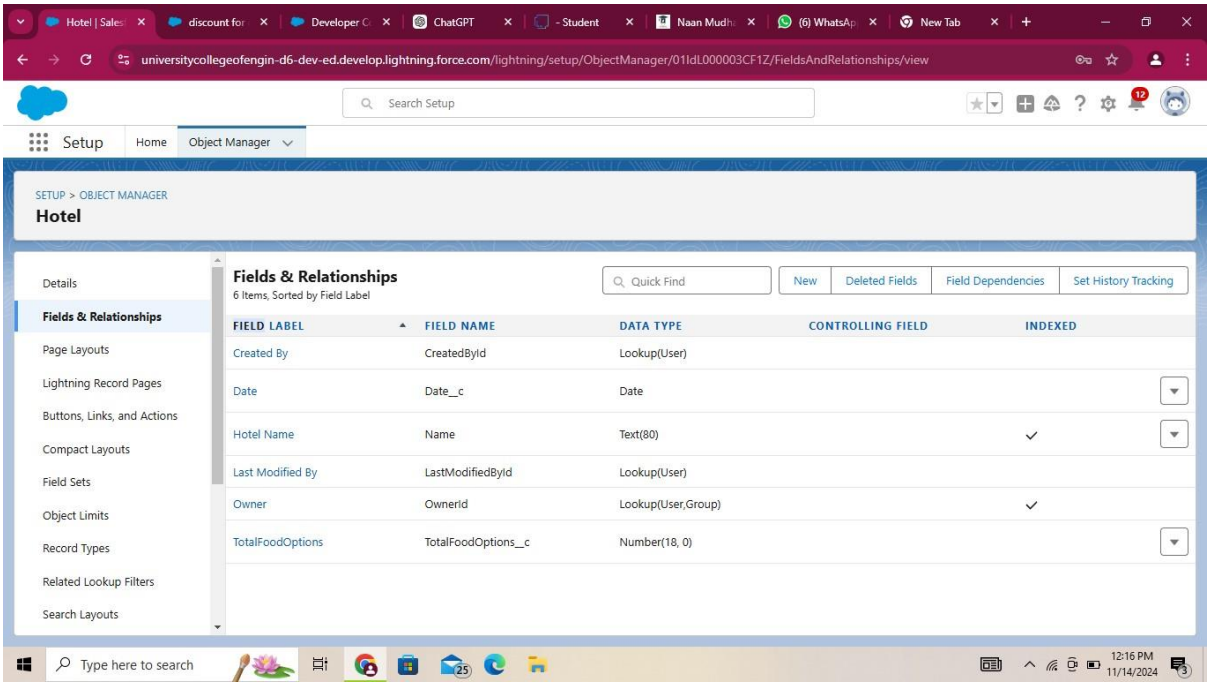
Create Food Option Object

- **Data Type**: Auto Number □ **Format**: FO-{0000}
- **Fields**: **Name(Text)**

Hotel (Lookup to Hotel Object) **Food**

Amount (Currency)

FIGURE



Create Flight Object

Data Type: Auto Number □ **Format**: FL-{0000}

Fields:

Name (Date/Time)

DepartureDateTime (Date/Time) ◦ **Hotel** (Lookup to Hotel Object)

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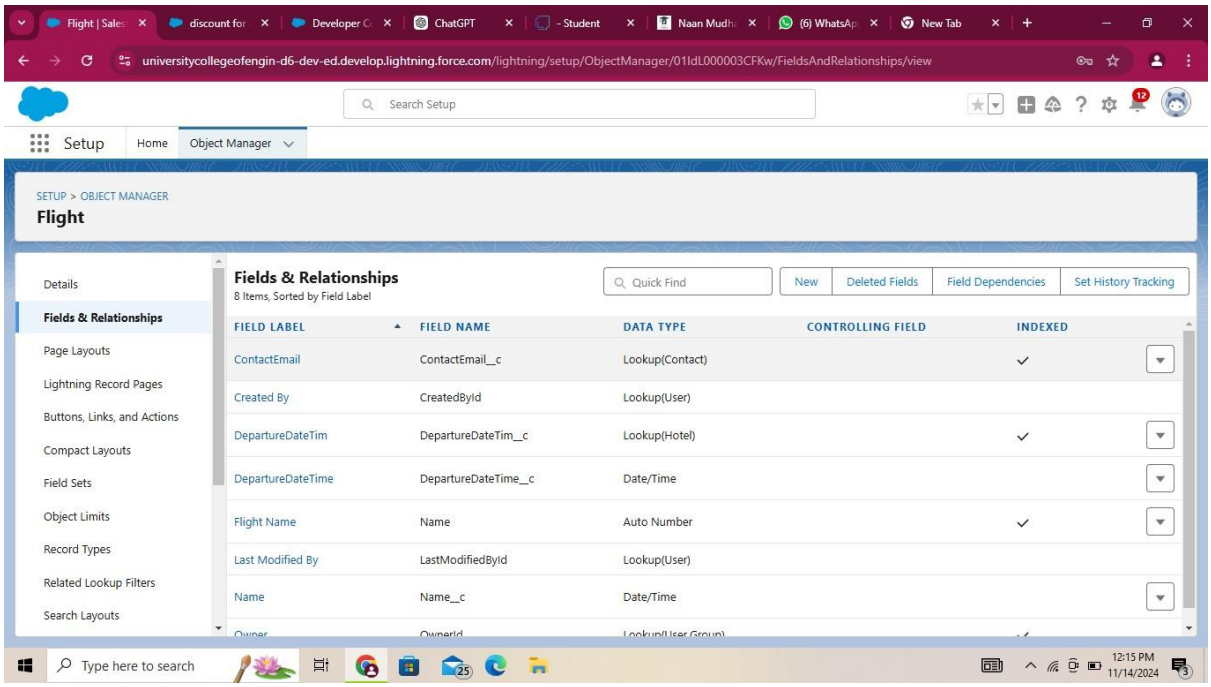


Create Customer Object

Fields:

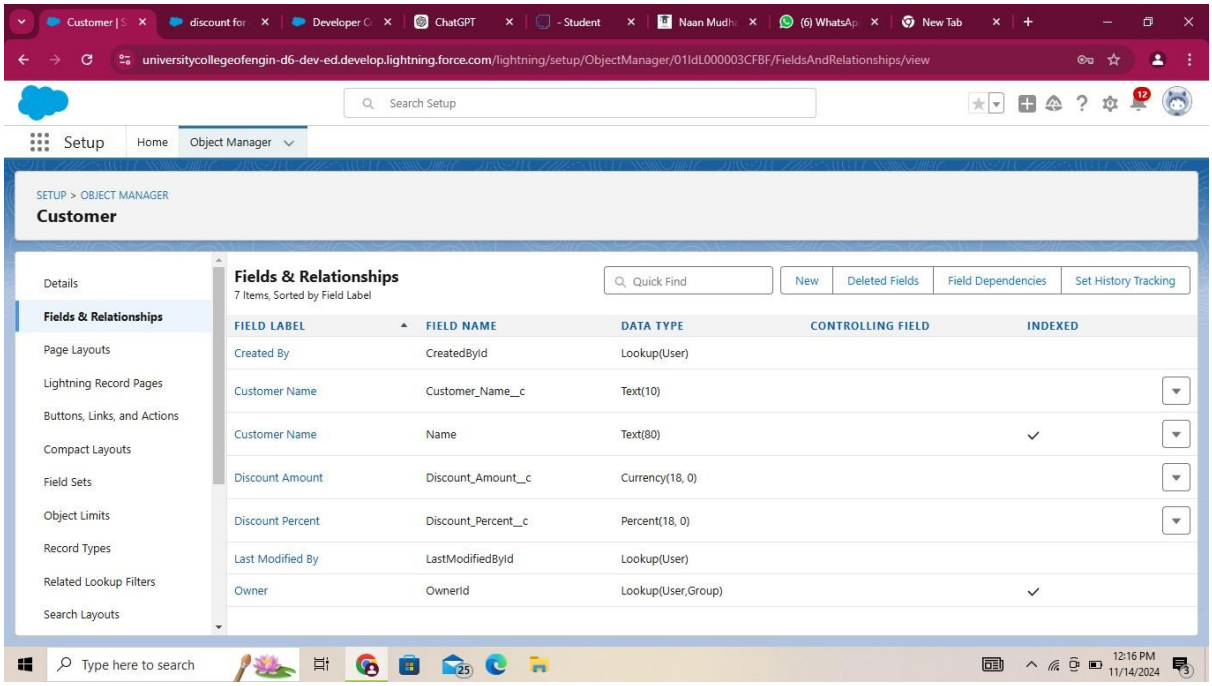
Customer Name (Name)

Discount Amount (Formula – Currency)

Discount Percent (Percentage)

FIGURE

STEP 2:



Create Flow

Create the Flow for the discount for customer when the Amount is greater than 3000 some some Amount of Discounts will be there if the Amount is between 1500 to 3000 so Some Amount of Discount will be there for them.

Create Variables

- **foId**: Text (Available for Input)
- **csId**: Text (Available for Input)
- **discount**: Number (Available for Input)

Flow Steps

Get Records Get relevant records based on foId and csId. This can be used to pull the records you will need for your flow processing.

Decision Element

Create a decision element that will evaluate whether the discount a Full, Partial, or No Discount based on the discount variable.

Example conditions for decision:

- **Full Discount**: If discount = 100%
- **Partial Discount**: If discount > 0% and < 100%
- **No Discount**: If discount = 0% or null

Assignments

- **Full Discount**: Apply actions for a full discount.
- **Partial Discount**: Apply actions for a partial discount.
- **No Discount**: Apply actions for no discount.

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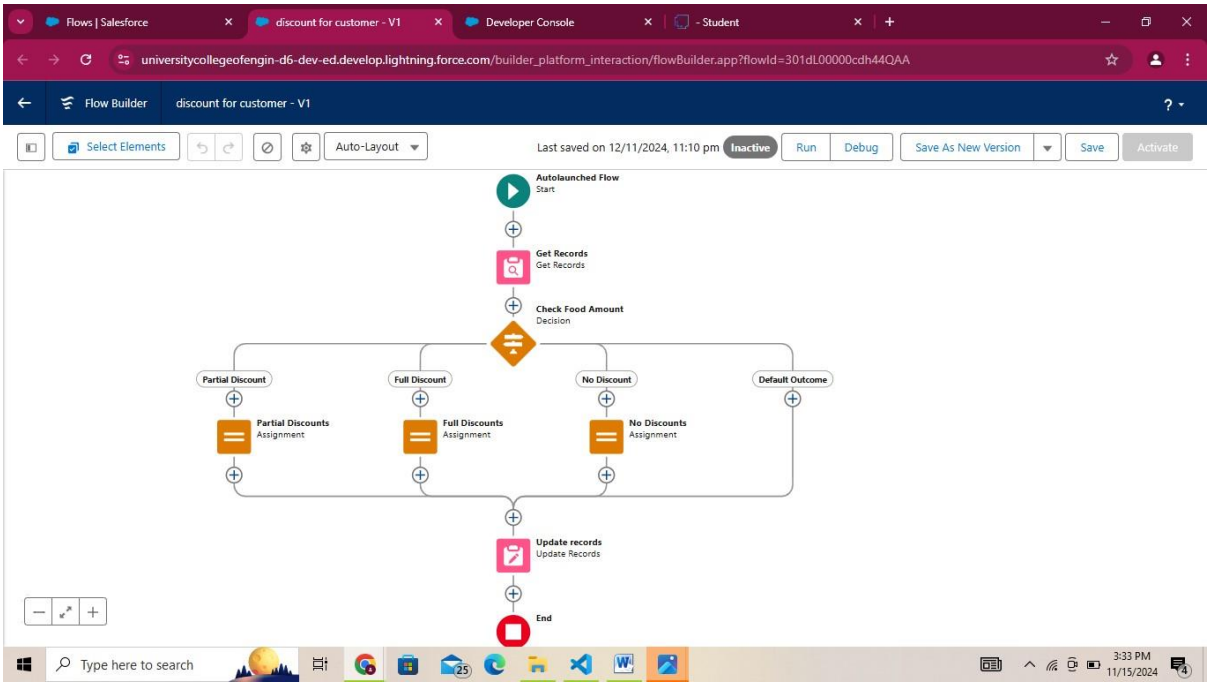

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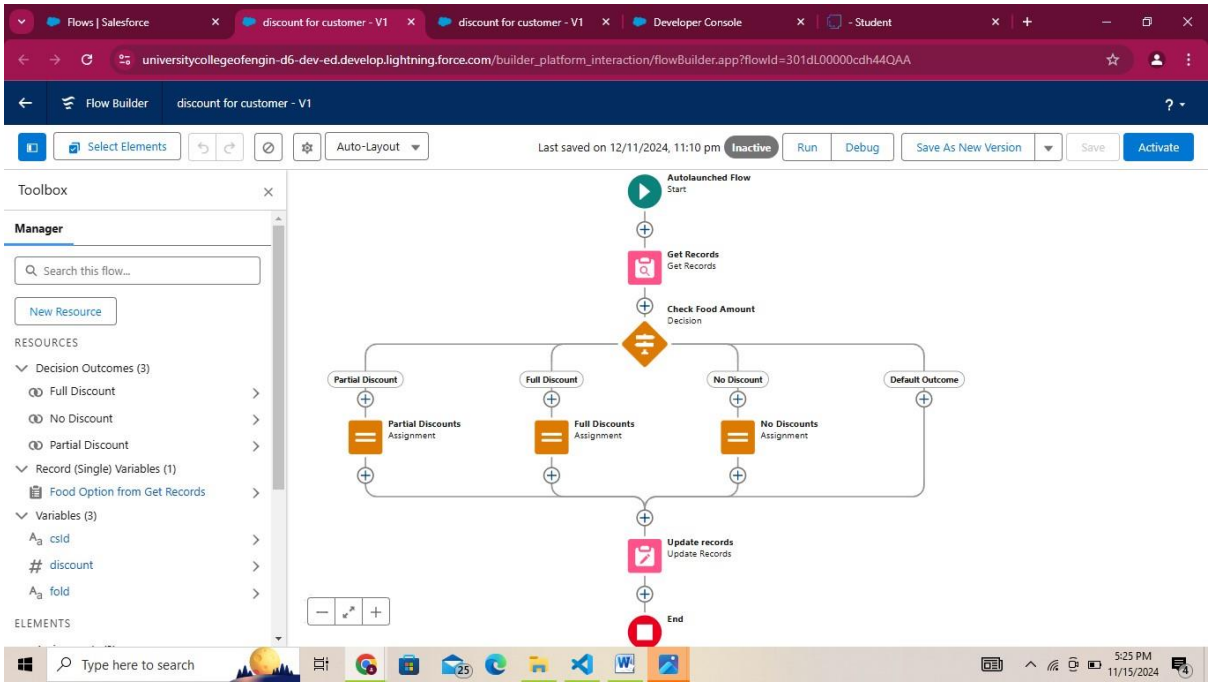

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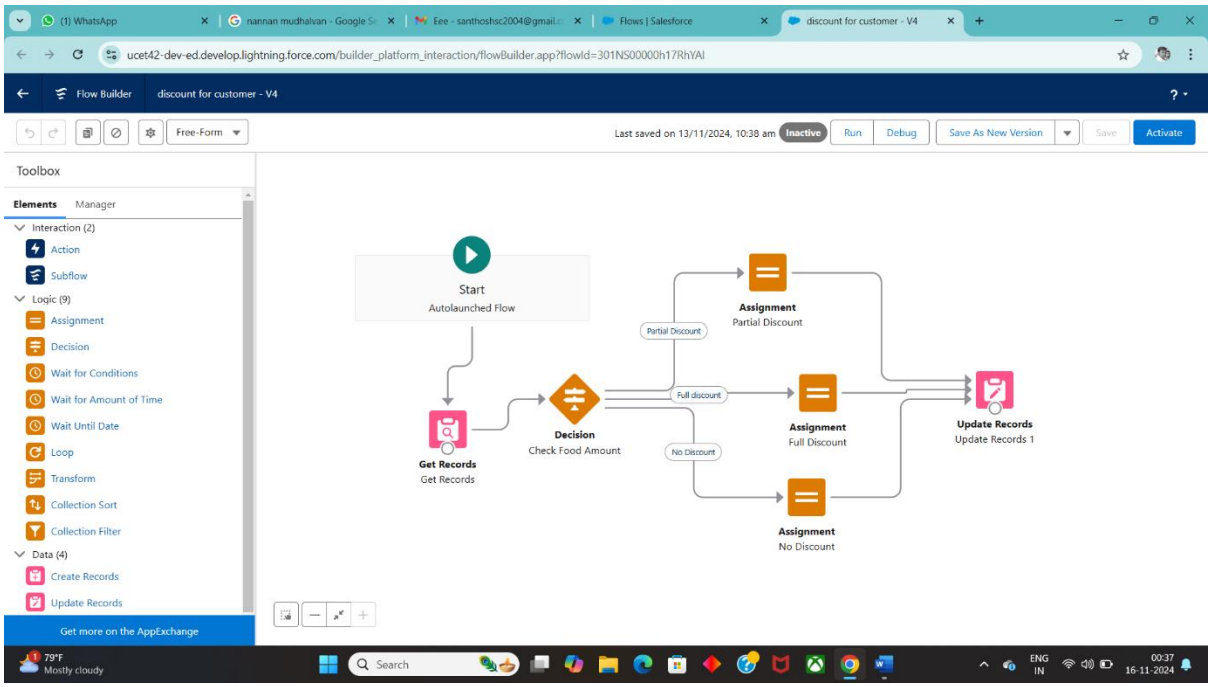

STEP 3:

Apex Triggers : Scenario: In the Hotel you have to ensure that when a new Food Option is added or updated, the corresponding Hotel's information is updated accordingly. For example, you might want to maintain a total count of food options for each hotel. To manage the things properly with perspective to the Hotel things should be clearly manageable for making the food options available with respect to hotels

Scenario: In the Hotel you have to ensure that when a new Food Option is added or updated, the corresponding Hotel's information is updated accordingly

Apex trigger With Handler

APEX CLASS

```
public class FoodOptionTrigger {

// Method to update hotel information based on food options

public static void updateHotelInformation(List<Food_Option__c>
newFoodOptions, List<Food_Option__c> oldFoodOptions, String
operation) {

    Set<Id> hotelIdsToUpdate = new Set<Id>();

    // Collect unique Hotel Ids affected by food options changes

    for (Food_Option__c foodOption : newFoodOptions) {

        hotelIdsToUpdate.add(foodOption.Hotel__c);
```

```
        }

        // Update hotel information based on food options

 List<Hotel__c> hotelsToUpdate = [SELECT Id, Name,
TotalFoodOptions__c FROM Hotel__c WHERE Id IN
:hotelIdsToUpdate];

        for (Hotel__c hotel : hotelsToUpdate) {

            // Recalculate total food options count

            Integer totalFoodOptions = [SELECT COUNT() FROM
Food_Option__c WHERE Hotel__c = :hotel.Id];

            hotel.TotalFoodOptions__c = totalFoodOptions;

        }

        // Update hotels with new total food options count

        update hotelsToUpdate;

    }

}
```

APEX TRIGGER

```
trigger FoodOptionTriggerHandler on Food_Option__c (after insert,
after update, after delete) {

    if (Trigger.isInsert && Trigger.isAfter) {
        // Call the handler for after insert, passing Trigger.new, an
empty list for old records, and the operation type 'INSERT'

FoodOptionTriggerHandler.updateHotelInformation(Trigger.new,
new List<Food_Option__c>(), 'INSERT');
    }

    if (Trigger.isUpdate && Trigger.isAfter) {
        // Call the handler for after update, passing Trigger.new,
Trigger.old, and the operation type 'UPDATE'

FoodOptionTriggerHandler.updateHotelInform
ation(Trigger.new, Trigger.old, 'UPDATE');
    }

    if (Trigger.isDelete && Trigger.isAfter) {
        // Call the handler for after delete, passing an empty list for
new records, Trigger.old, and the operation type 'DELETE'

      FoodOptionTriggerHandler.updateHotelInformation(new
List<Food_Option__c>(), Trigger.old, 'DELETE');
    }


}
```

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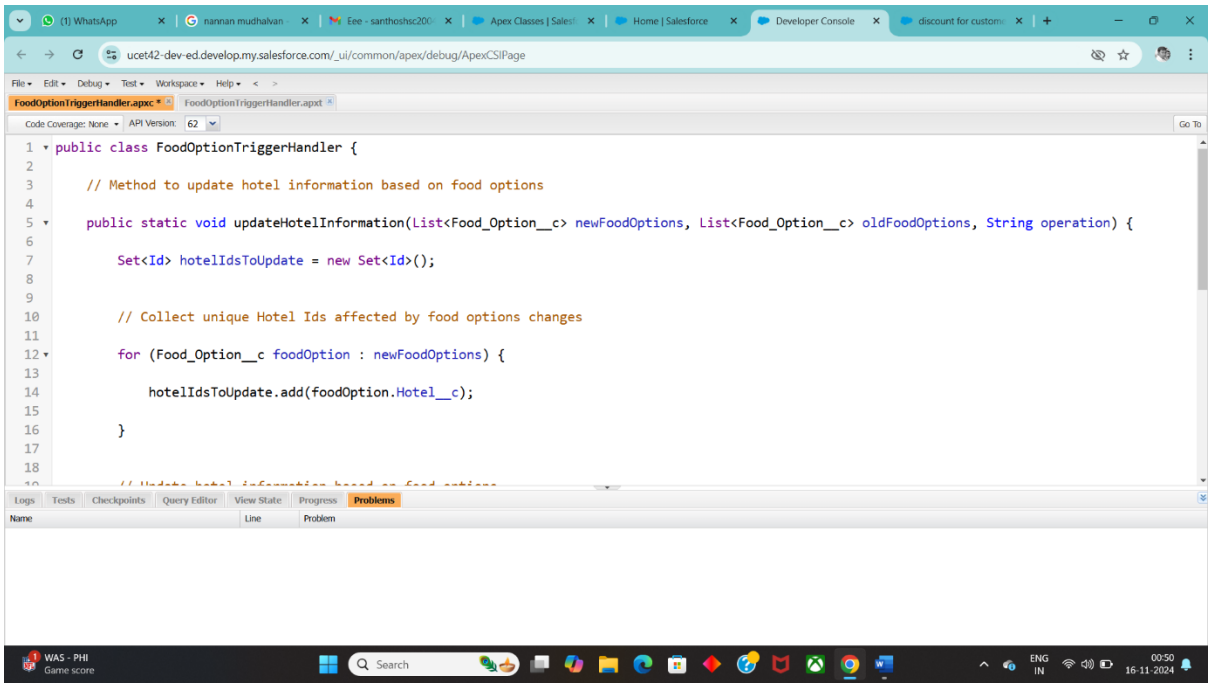

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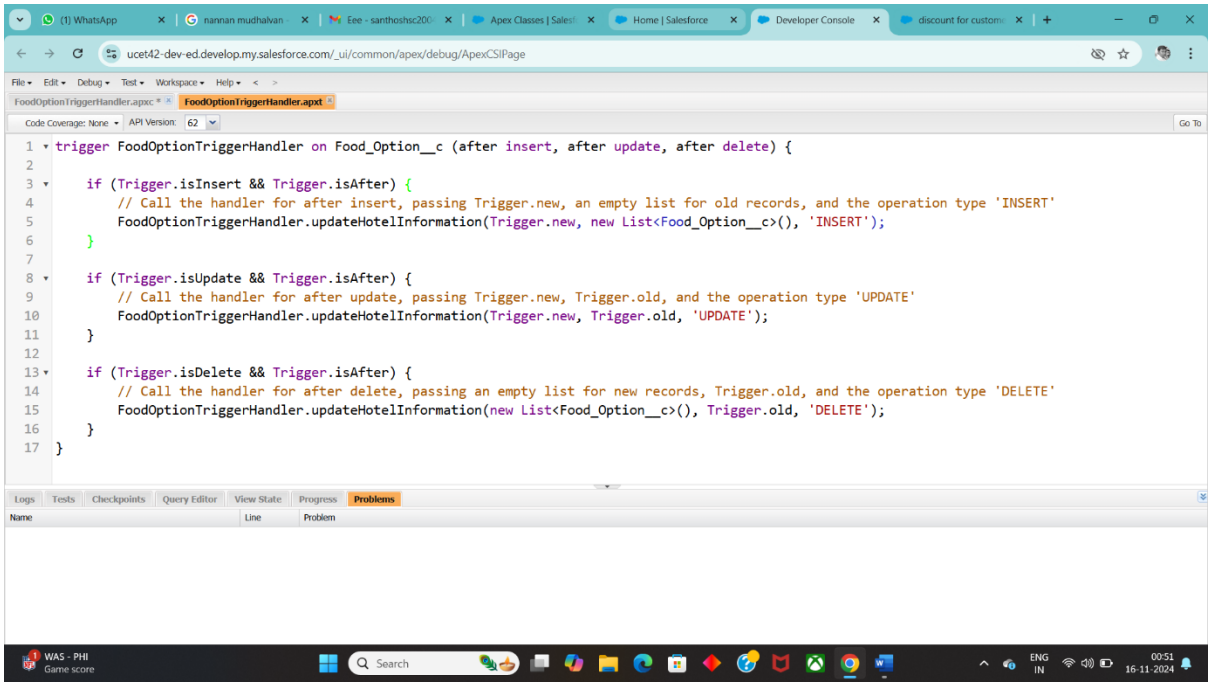


STEP 4:

Apex Schedule

Create the Reminder mail for the customer who has booked the flight according to that booking set the Apex schedule so mail will be sent prior to 24hrs.

Apex Schedule Class Solution

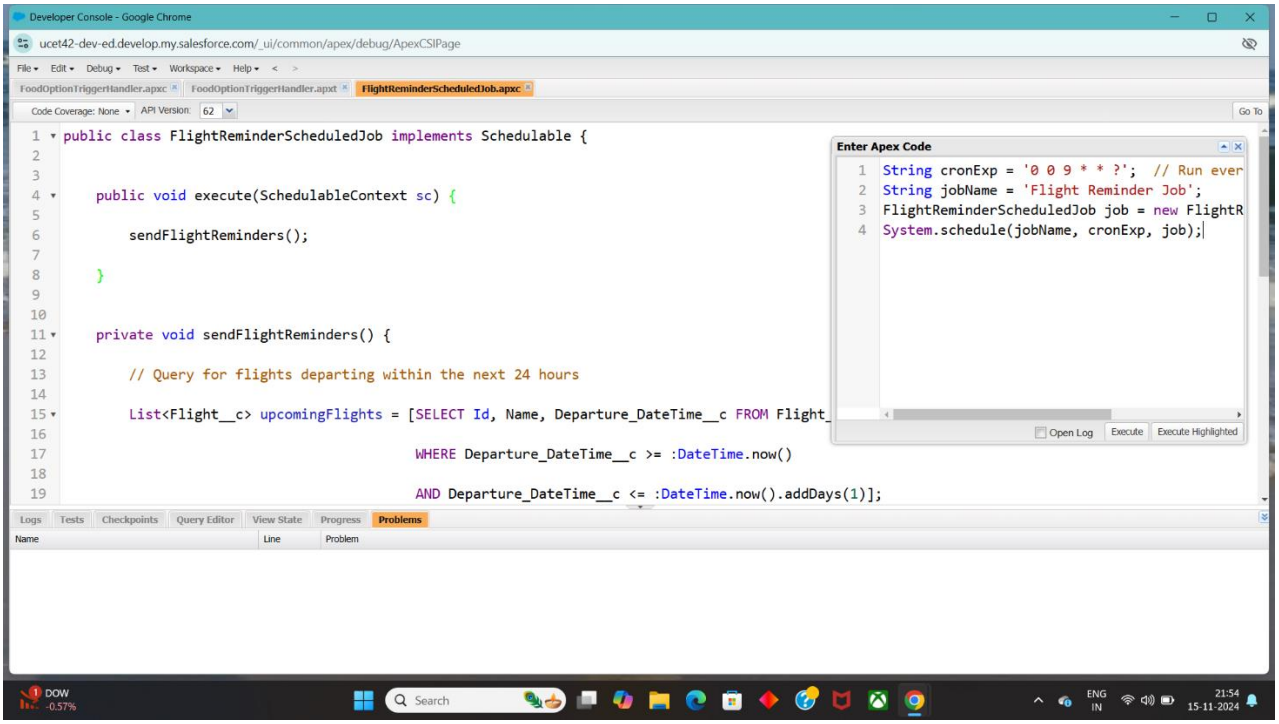
```
public class FlightReminderScheduledJob implements Schedulable {


   public void execute(SchedulableContext sc) {

      sendFlightReminders();
   }


   private void sendFlightReminders() {

      // Query for flights departing within the next 24 hours

      List<Flight_c> upcomingFlights = [SELECT Id, Name, Departure_DateTimec FROM Flight_c

                                        WHERE Departure_DateTime__c >= :DateTime.now()

                                        AND Departure_DateTime__c <= :DateTime.now().addDays(1)];


      for (Flight__c flight : upcomingFlights) {

         // Customize the logic to send reminder emails
```

```
        // For this example, we'll print a log message; replace this with your email sending logic.

        System.debug('Sending reminder email for Flight ' + flight.Name + ' to ' + flight.Contact_Email__c);


        // Example: Send email using Messaging.SingleEmailMessage

        Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();

        email.setToAddresses(new List<String>{ flight.Contact_Email__c });
        email.setSubject('Flight Reminder: ' + flight.Name);

        email.setPlainTextBody('This is a reminder for your upcoming flight ' + flight.Name +

                               ' departing on ' + flight.Departure_DateTime__c);

        Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{ email });

    }

  }

}
```

APEX CODE

```
String cronExp = '0 0 9 * * ?';  // Run every day at 9:00 AM

String jobName = 'Flight Reminder Job';

FlightReminderScheduledJob job = new

FlightReminderScheduledJob();

System.schedule(jobName, cronExp, job);
```

FIGURE



➢ Testing and Validation

Testing Approach

- ❖ Unit Testing: Verifying individual discount logic component
- ❖ Integration Testing: Ensuring proper interaction between discount rules and booking data.
- ❖ System Testing: Full validation of the discount application across all booking scenarios.
- ❖ User Acceptance Testing (UAT): Confirming business requirements are met for discount calculations.
- ❖ Performance Testing: Ensuring fast and accurate processing of discounts during peak traffic.

➢ Test Scenarios

- ❖ Discount Calculation: Verifying full, partial, and no discounts are applied correctly based on rules (e.g., percentage-based, fixed amount).
- ❖ Discount Eligibility: Ensuring only eligible users receive discounts (e.g., loyalty members, special promotions).
- ❖ Discount Application: Confirming discounts are reflected in booking totals.

- Edge Cases: Handling situations like expired discounts, invalid promo codes, and conflicts between discount types.

Test Results

- Functional: All discount types (full, partial, no discount) were correctly applied in booking scenarios

.

- Usability: The discount process was intuitive for users, with no major UI issues.

- Performance: The system processed discount calculations in under 2 seconds, even under high load.

- Security: Discount data was securely handled, with no vulnerabilities found.

➢ Key Scenarios Addressed by Salesforce in This Implementation Process

- Booking Management: Streamlined the process of booking travel services, including automated confirmations and itinerary management.

- Customer Communication: Centralized all customer communication channels to provide a consistent experience across platforms.

- Personalized Marketing: Leveraged customer data to execute targeted marketing campaigns based on travel history and preferences.

➢ Conclusion

The implementation of the Trip Advisor E-Management system using Salesforce successfully addressed the challenges faced by travel agencies in managing customer relationships and bookings. By utilizing Salesforce's powerful CRM and automation capabilities, the system provided a centralized, efficient, and data-driven solution for the travel and tourism industry. This implementation ensures that travel businesses can offer a seamless experience to customers, enhance operational efficiency, and make informed business decisions.

***** *Thank you* *****