

A CRM APPLICATION FOR LAPTOP RENTALS

1. Overview of the project

This project is focused on developing a CRM application for laptop rentals, designed to address the primary challenge of efficiently managing customer relationships and rental transactions. The goal is to deliver a comprehensive solution by leveraging customer relationship management (CRM) technology to enhance customer experiences, optimize store operations, and improve overall efficiency.

2. Objectives

Business Goals

1. **Increase Customer Acquisition:** Achieve a 20% increase in new customer sign-ups within the first six months of launching the CRM application.
2. **Enhance Customer Retention:** Improve customer retention rates by 15% over the next year through personalized communication and targeted marketing campaigns.
3. **Optimize Rental Operations:** Reduce the average time taken to process rental transactions by 30%, streamlining operations and improving service delivery.
4. **Boost Revenue:** Increase overall revenue from laptop rentals by 25% within the first year by leveraging data analytics to identify trends and optimize pricing strategies.

Specific Outcomes

1. **CRM Application Development:** Deliver a fully functional CRM application tailored for laptop rentals, including features for customer management, rental tracking, and reporting.
2. **Automated Communication System:** Implement an automated email communication system that sends personalized messages to potential customers, resulting in a 50% increase in engagement rates.
3. **Data Analytics Dashboard:** Create a user-friendly dashboard that provides real-time insights into rental performance, customer behavior, and sales trends, enabling data-driven decision-making.
4. **User Training Program:** Develop and conduct a training program for staff on how to effectively use the CRM application, ensuring at least 90% of employees are proficient within two months of launch.

3. Salesforce Key Features and Concepts Utilized

In our Salesforce project, we leveraged several key features and concepts that significantly enhanced our ability to manage customer relationships, automate processes, and analyze data effectively. Below are the main functionalities we utilized:

1. **Account and Contact Management:**
 - We utilized Salesforce's robust account and contact management features to maintain comprehensive records of customer interactions. This allowed us to track all communications, preferences, and history, enhancing our ability to provide personalized service.

2. Opportunity Management:

- The opportunity management functionality enabled us to oversee sales deals throughout their lifecycle. We could track stages of each opportunity, ensuring that our sales team was equipped with the information needed to close deals successfully.

3. Reports and Dashboards:

- We created various reports and dashboards to visualize our data effectively. This included tabular, summary, matrix, and joined reports that helped us analyze trends and measure performance metrics in real-time. Dashboards provided a consolidated view of KPIs, enabling quick decision-making.

4. Automation with Flows:

- Salesforce Flows were implemented to automate business processes such as data entry and updates. This included screen flows for user interactions and autolaunched flows for background processes, streamlining operations and reducing manual effort.

5. Apex Programming:

- We utilized Apex to add custom business logic where necessary, such as creating triggers for automating actions based on specific events (e.g., record creation or updates). This allowed us to tailor the platform to our unique business requirements.

6. User Profiles and Roles:

- User profiles were configured to define what actions users could perform within the system, while roles established visibility access at the record level. This ensured that sensitive data was protected while allowing appropriate access based on job functions.

7. Validation Rules:

- Validation rules were implemented to maintain data integrity by ensuring that users entered valid information before saving records. For example, we created rules that required either a phone number or email address in the consumer object.

8. Custom Objects and Fields:

- We created custom objects and fields tailored to our specific business needs, allowing for enhanced data tracking and reporting capabilities beyond standard Salesforce functionality.

9. Integration Capabilities:

- The integration features of Salesforce allowed us to connect with other applications used within our organization, facilitating seamless data flow between systems and enhancing overall operational efficiency.

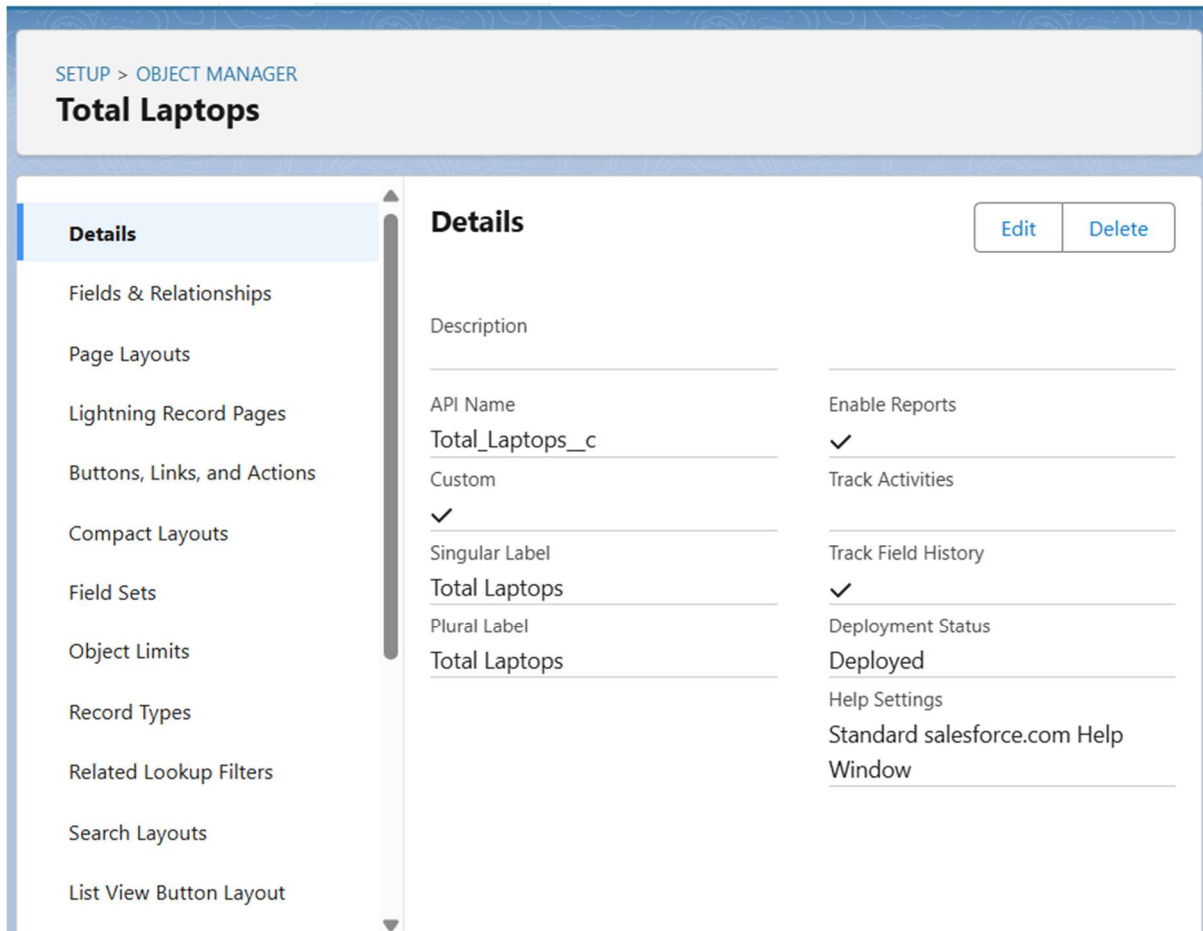
10. Scalability and Customization:

- Salesforce's scalability enabled us to adapt the platform as our business grew, ensuring that we could continue to meet evolving needs without significant reconfiguration.

4. Detailed Steps to Solution Design

1. Object Creation

- Navigate to Object Manager in Setup to create new custom objects.
- Create the Total Laptop object to store information about laptops available for rent.
- Create the consumer object to manage customer details and interactions.
- Create the Laptop Booking object to track rental transactions and bookings.
- Create the Billing Process object to handle billing information related to rentals.



The screenshot shows the Salesforce Object Manager interface for the 'Total Laptops' object. The breadcrumb trail at the top indicates the path: **SETUP > OBJECT MANAGER**. The main heading is **Total Laptops**. On the left, a sidebar lists various configuration options: **Details** (selected), Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, and List View Button Layout. The main content area is titled **Details** and includes **Edit** and **Delete** buttons. The configuration details are as follows:

Property	Value
Description	
API Name	Total_Laptops__c
Custom	✓
Singular Label	Total Laptops
Plural Label	Total Laptops
Enable Reports	✓
Track Activities	
Track Field History	✓
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

Fig 1. Total laptops object

SETUP > OBJECT MANAGER

consumer

Details

- Fields & Relationships
- Page Layouts
- Lightning Record Pages
- Buttons, Links, and Actions
- Compact Layouts
- Field Sets
- Object Limits
- Record Types
- Related Lookup Filters
- Search Layouts
- List View Button Layout

Details

Edit Delete

Description

API Name
consumer__c

Custom
✓

Singular Label
consumer

Plural Label
consumer

Enable Reports
✓

Track Activities

Track Field History
✓

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

Fig 2. Consumer object

SETUP > OBJECT MANAGER

Laptop Bookings

Details

- Fields & Relationships
- Page Layouts
- Lightning Record Pages
- Buttons, Links, and Actions
- Compact Layouts
- Field Sets
- Object Limits
- Record Types
- Related Lookup Filters
- Search Layouts
- List View Button Layout

Details

Edit Delete

Description

API Name
Laptop_Bookings__c

Custom
✓

Singular Label
Laptop Bookings

Plural Label
Laptop Bookings

Enable Reports
✓

Track Activities

Track Field History
✓

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

Fig 3. Laptop booking's object

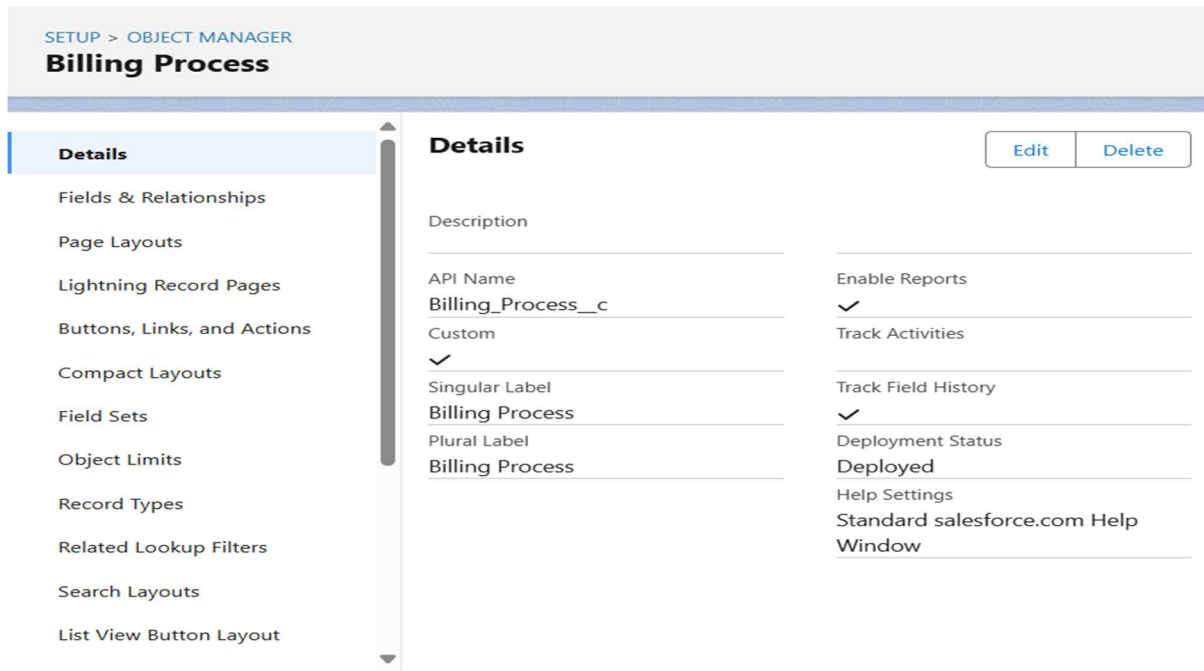


fig 4. Billing process object

2. Creating Tabs

- In Setup, go to Tabs and click on "New" to create custom tabs for each of your objects.
- Create a tab for the Total Laptop, Customer, Laptop Booking, and Billing Process objects for easy navigation.
- Choose appropriate tab styles and labels that align with user expectations.

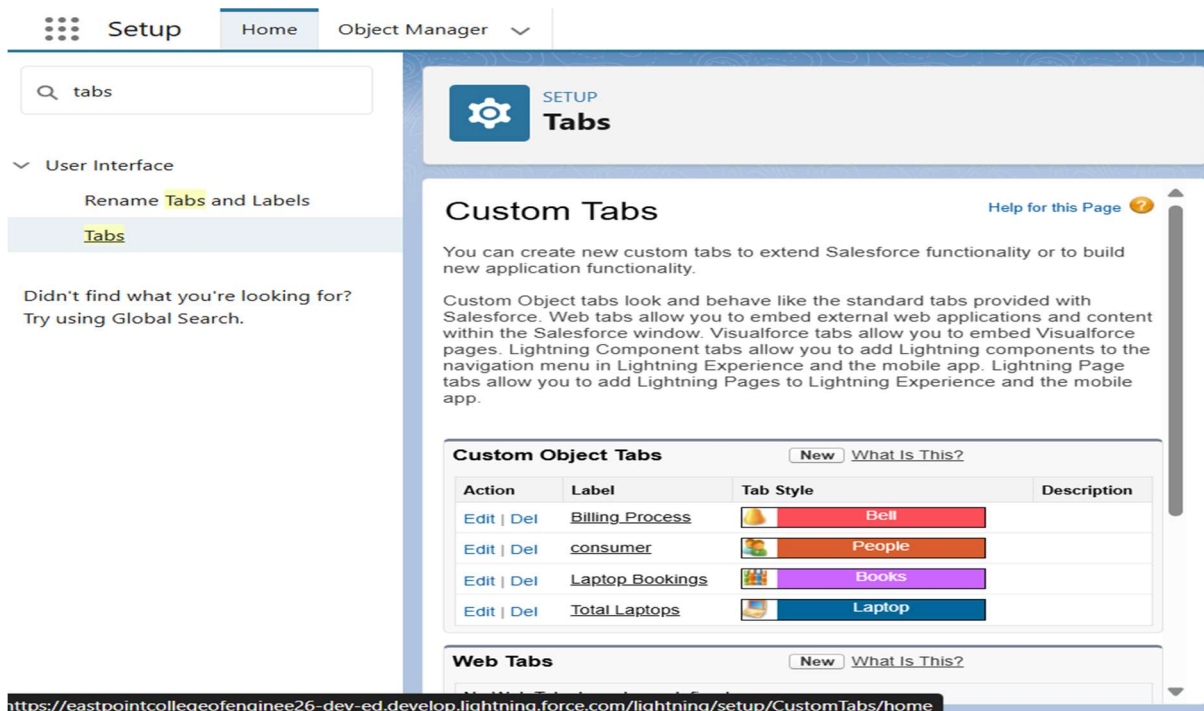
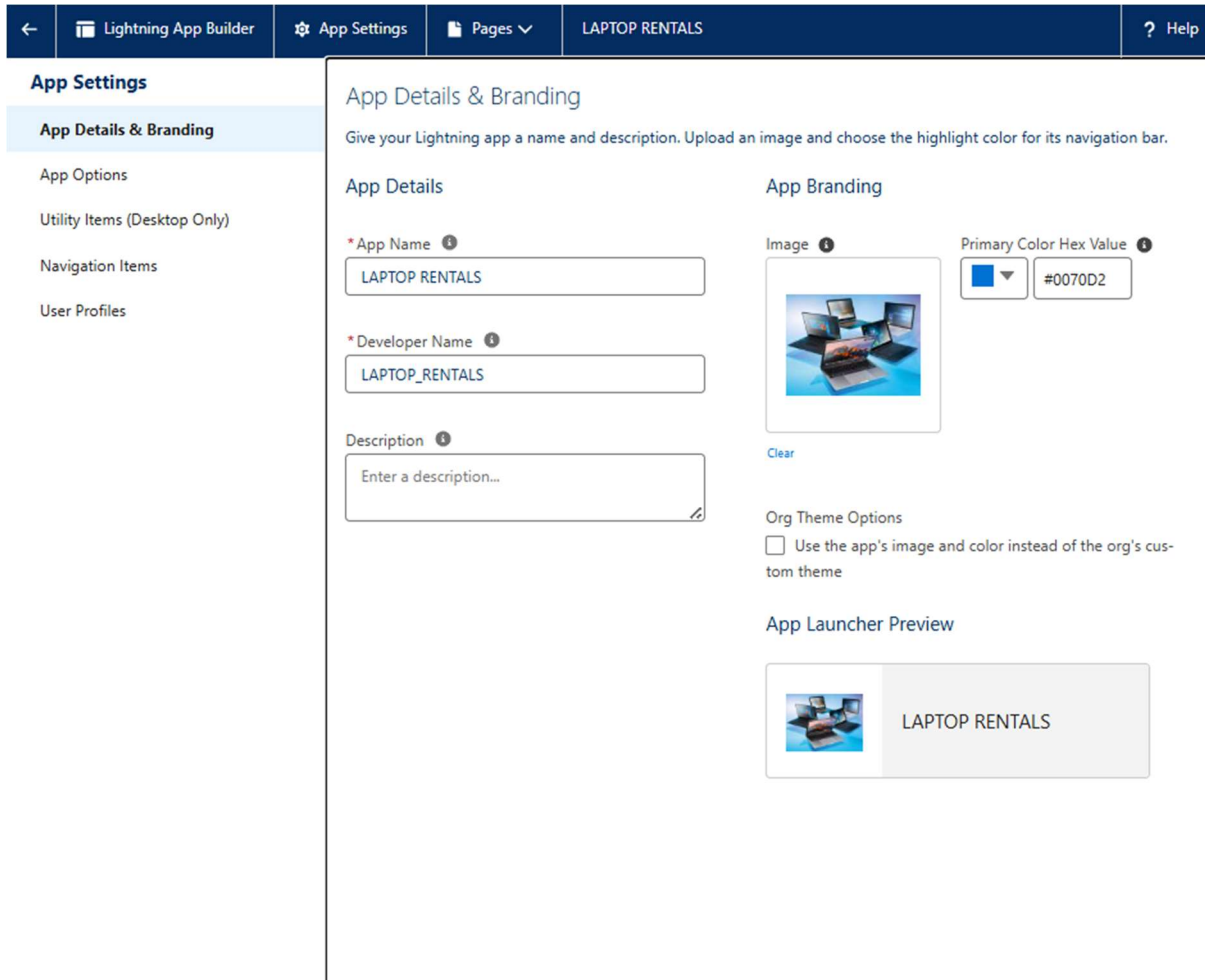


Fig 5. Creating tabs for each object

3. Creating a Lightning App

- Navigate to App Manager in Setup and click on “New Lightning App”.
- Enter the app name (e.g., "Laptop Rentals") and configure app options such as navigation items.
- Add relevant tabs (Total Laptop, Customer, Laptop Booking, Billing Process) to the app.
- Save the app configuration and ensure it is accessible to users through their profiles.



The screenshot displays the 'Lightning App Builder' interface. The top navigation bar includes a back arrow, 'Lightning App Builder', 'App Settings', 'Pages', and 'LAPTOP RENTALS'. The left sidebar shows 'App Settings' with a sub-menu 'App Details & Branding' selected. The main content area is titled 'App Details & Branding' and contains the following sections:

- App Details:**
 - * App Name: LAPTOP RENTALS
 - * Developer Name: LAPTOP_RENTALS
 - Description: Enter a description...
- App Branding:**
 - Image: A placeholder image showing multiple laptops.
 - Primary Color Hex Value: #0070D2
 - Org Theme Options: ☐ Use the app's image and color instead of the org's custom theme
- App Launcher Preview:** A preview of the app launcher showing the 'LAPTOP RENTALS' app icon and name.

Fig 6. Lightning app creation

4. Creating Fields

- For each object created (Customer, Laptop Booking, Billing Process), navigate to the object's field settings in Object Manager.
- Add necessary fields such as phone number in the Customer object and rental dates in Laptop Booking.
- Establish relationships between objects where applicable (e.g., linking Laptop Booking with Total Laptop).
- Document field specifications including data types and validation rules.

SETUP > OBJECT MANAGER					
consumer					
Details	Fields & Relationships <input type="text" value="Q, Quick Find"/> New Deleted Fields Field Dependencies Set History Tracking				
Fields & Relationships	8 Items, Sorted by Field Label				
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Address	Address__c	Text Area(255)		<input type="checkbox"/>
Lightning Record Pages	consumer Status	consumer_Status__c	Picklist		<input type="checkbox"/>
Buttons, Links, and Actions	consumer_name	Name	Text(80)		<input checked="" type="checkbox"/>
Compact Layouts	Created By	CreatedById	Lookup(User)		<input type="checkbox"/>
Field Sets	Email	Email__c	Email		<input type="checkbox"/>
Object Limits	Last Modified By	LastModifiedById	Lookup(User)		<input type="checkbox"/>
Record Types	Owner	OwnerId	Lookup(User,Group)		<input checked="" type="checkbox"/>
Related Lookup Filters	Phone number	Phone_number__c	Phone		<input type="checkbox"/>
Search Layouts					
List View Button Layout					
Restriction Rules					
Scoping Rules					
Object Access					

Fig 7.Consumer fields and relationship

SETUP > OBJECT MANAGER

Laptop Bookings

Details

Fields & Relationships [New](#) [Deleted Fields](#) [Field Dependencies](#) [Set History Tracking](#)

11 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Currency(18, 0)		<input type="checkbox"/>
Consumer	Consumer__c	Master-Detail(consumer)		<input checked="" type="checkbox"/>
Core Type	Core_Type__c	Picklist	Laptop Names	<input type="checkbox"/>
Created By	CreatedById	Lookup(User)		<input type="checkbox"/>
Email	Email__c	Email		<input type="checkbox"/>
how many months	how_many_months__c	Picklist		<input type="checkbox"/>
Laptop Bookings	Name	Text(80)		<input checked="" type="checkbox"/>
Laptop Names	Laptop_Names__c	Picklist		<input type="checkbox"/>
Laptops Available	Laptops_Available__c	Formula (Number)		<input type="checkbox"/>
Last Modified By	LastModifiedById	Lookup(User)		<input type="checkbox"/>
Total No Of Laptops	Total_No_Of_Laptops__c	Master-Detail(Total Laptops)		<input checked="" type="checkbox"/>

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

Object Access

Triggers

Flow Triggers

Validation Rules

Conditional Field Formatting

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Fig 8. Laptop booking fields and relationships

SETUP > OBJECT MANAGER

Billing Process

Details

Fields & Relationships [New](#) [Deleted Fields](#) [Field Dependencies](#) [Set History Tracking](#)

7 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIE...	INDEXED
Amount	Amount__c	Formula (Currency)		<input type="checkbox"/>
Billing Process Name	Name	Text(80)		<input checked="" type="checkbox"/>
Created By	CreatedById	Lookup(User)		<input type="checkbox"/>
Laptop Booking	Laptop_Booking__c	Lookup(Laptop Bookings)		<input checked="" type="checkbox"/>
Last Modified By	LastModifiedById	Lookup(User)		<input type="checkbox"/>
Name	Name__c	Master-Detail(consumer)		<input checked="" type="checkbox"/>
Payment Mode	Payment_Mode__c	Picklist		<input type="checkbox"/>

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

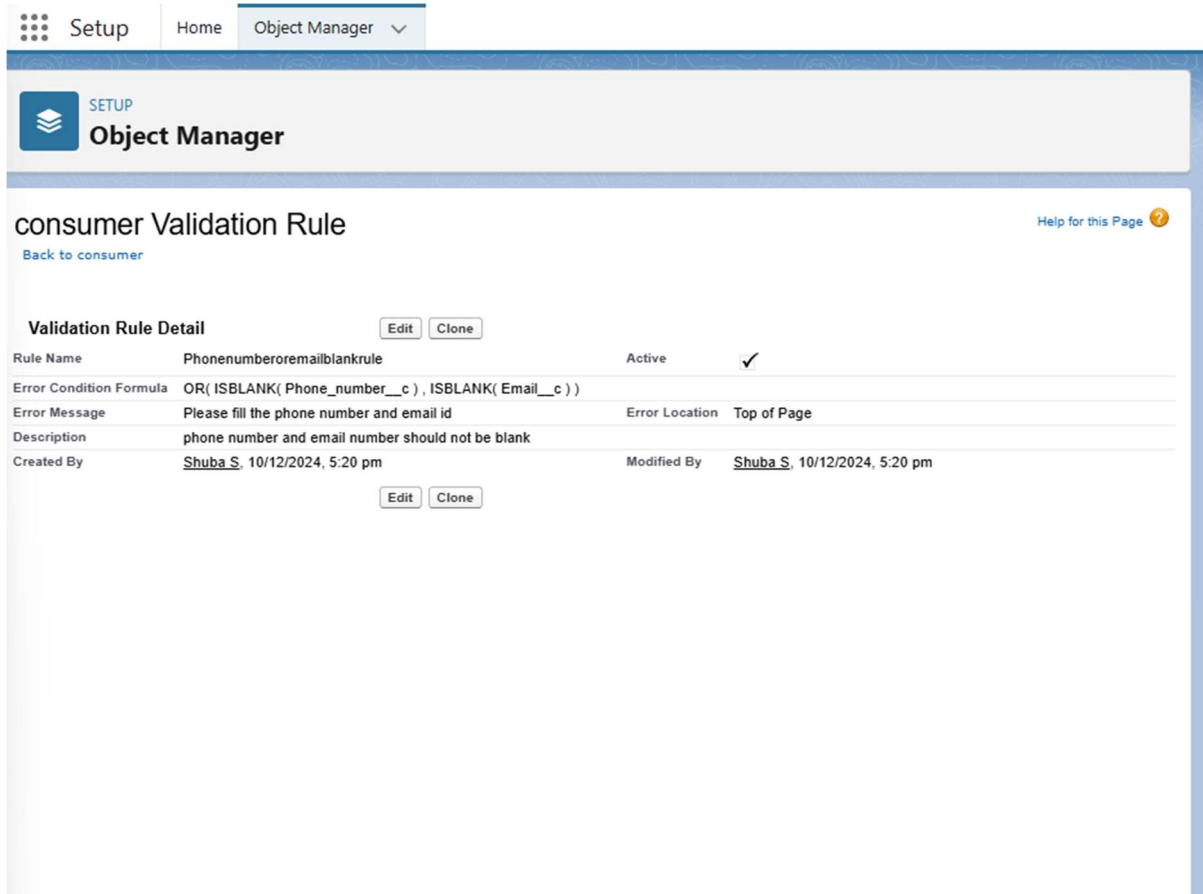
Object Access

Triggers

Fig 9. Billing process Fields and relationships

5. Validation Rule Creation

- In Object Manager, select the Consumer object and navigate to Validation Rules.
- Click on “New” to create a validation rule that ensures either a phone number or email is provided before saving records.
- Use the formula: `OR(ISBLANK(phone_number__c), ISBLANK(email__c))` for validation logic.
- Provide an error message that guides users on correcting their input if validation fails.



The screenshot shows the 'Object Manager' page in the Salesforce Setup interface. The breadcrumb trail is 'Setup > Home > Object Manager'. The page title is 'consumer Validation Rule' with a 'Back to consumer' link. Below the title is a 'Validation Rule Detail' section with 'Edit' and 'Clone' buttons. The details are as follows:

Rule Name	Phonenumberoremailblankrule	Active	<input checked="" type="checkbox"/>
Error Condition Formula	OR(ISBLANK(Phone_number__c), ISBLANK(Email__c))		
Error Message	Please fill the phone number and email id	Error Location	Top of Page
Description	phone number and email number should not be blank		
Created By	Shuba S. 10/12/2024, 5:20 pm	Modified By	Shuba S. 10/12/2024, 5:20 pm

At the bottom of the details section, there are 'Edit' and 'Clone' buttons.

Fig 10. Consumer validation rule

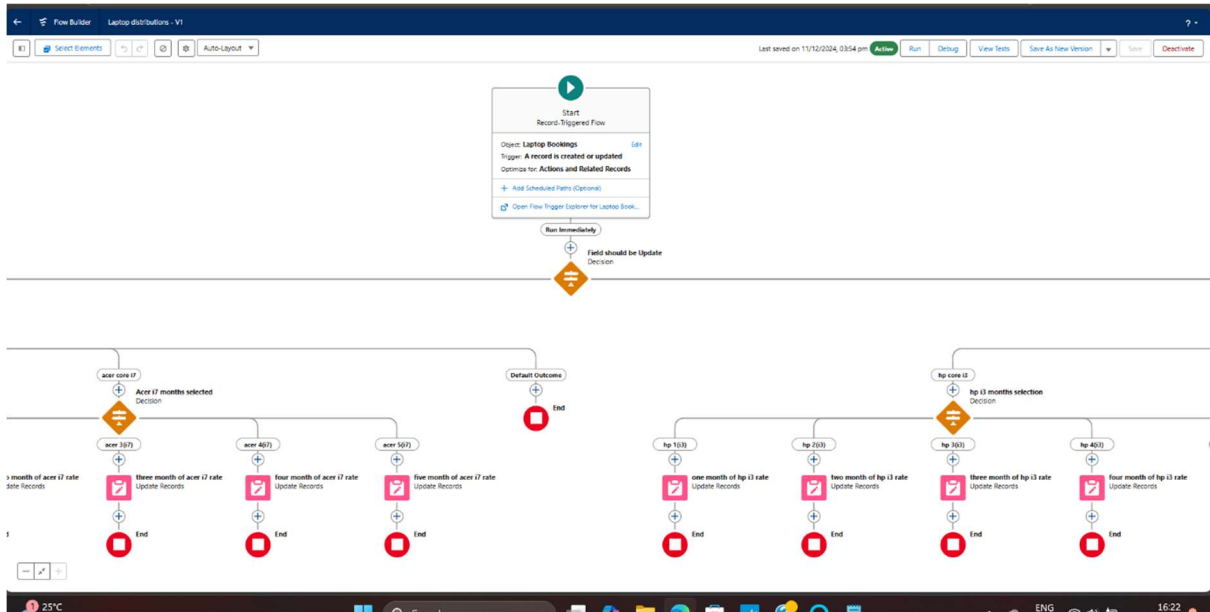
6. Profile Creation

- Go to Profiles in Setup and create new profiles such as Owner Profile and Agent Profile based on user roles.
- Define permissions for each profile regarding object access, field visibility, and record types.
- Assign users to these profiles based on their job functions within the organization.
- Save profile settings and ensure they align with organizational security policies.

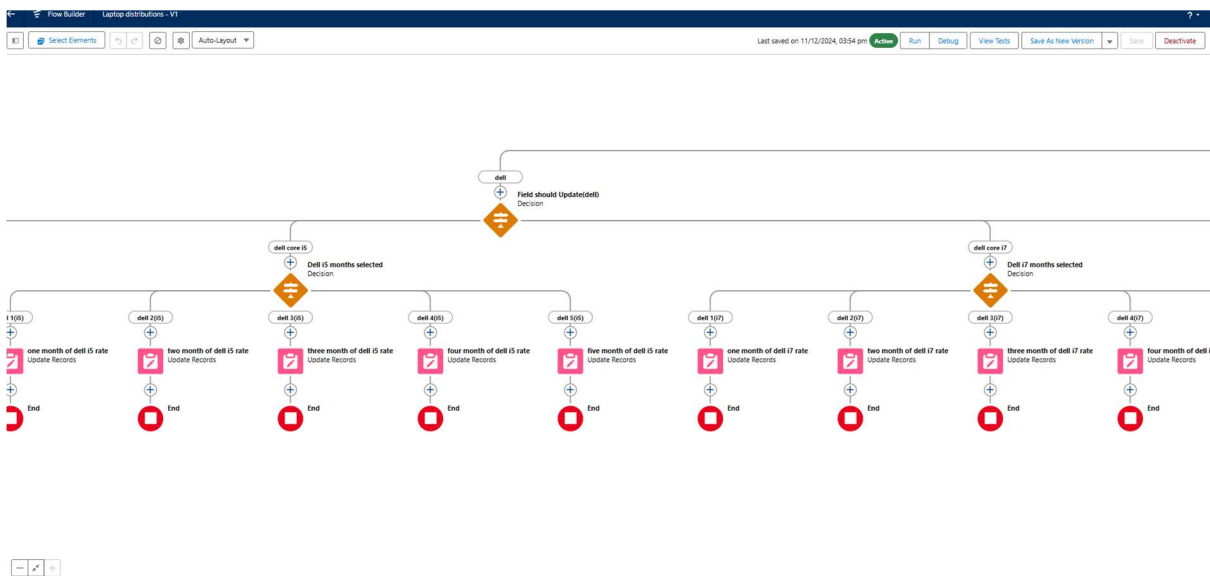
7. Role Hierarchy Creation

- Navigate to Roles in Setup and click on “Set Up Roles”.
- Create an Owner role that defines visibility access for users managing laptop rentals.
- Establish hierarchy levels as necessary (e.g., CEO > owner > Agent).
- Ensure that roles are assigned correctly so that data visibility aligns with organizational structure.

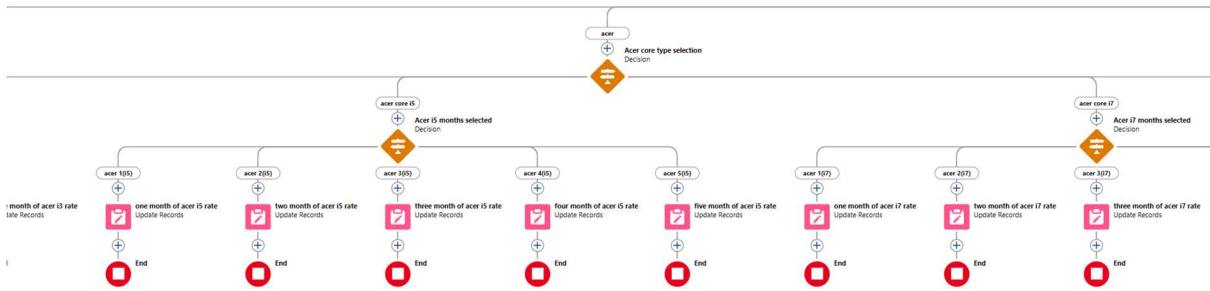
Steps are as follows:



1

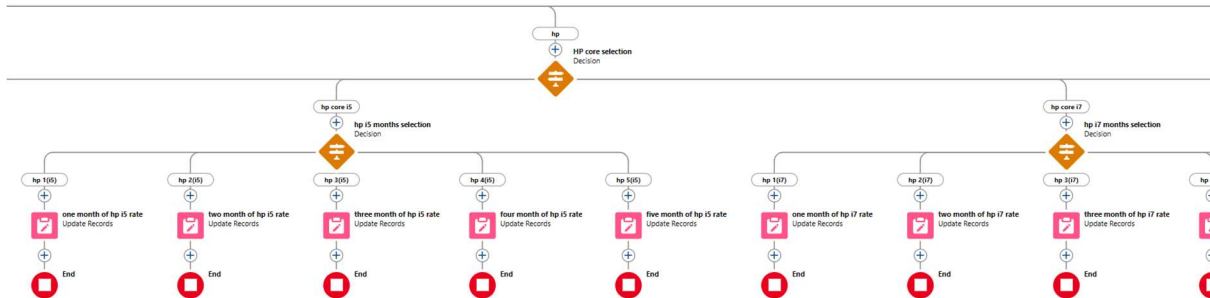


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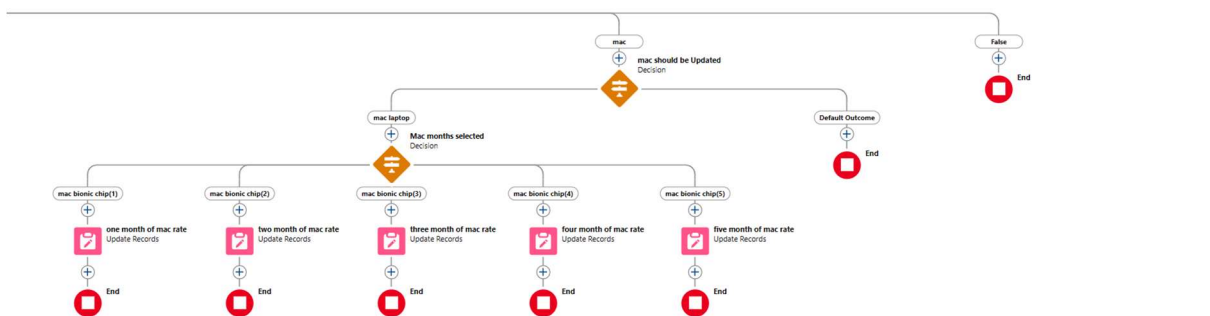


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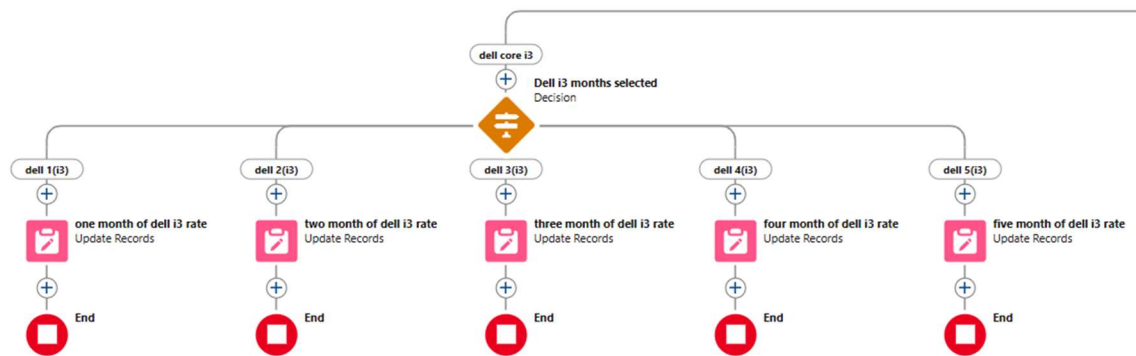
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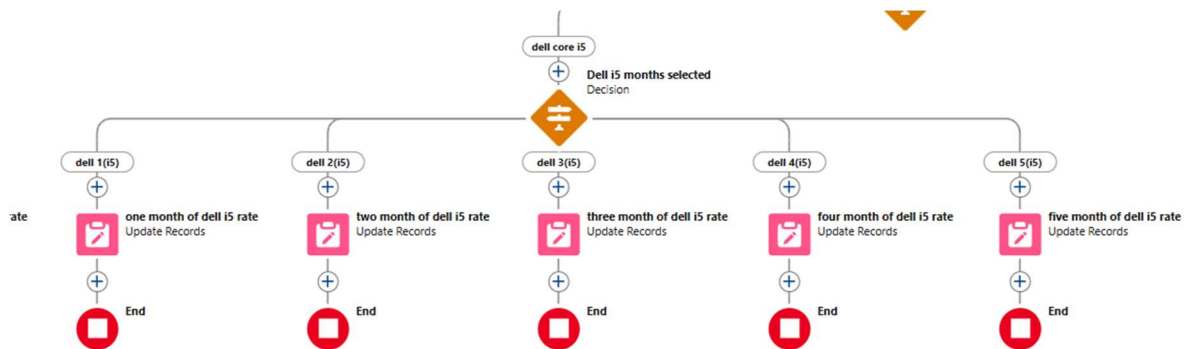
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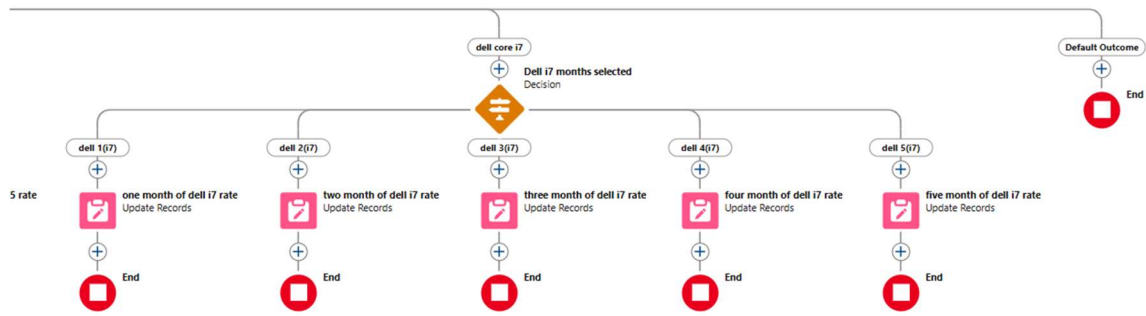
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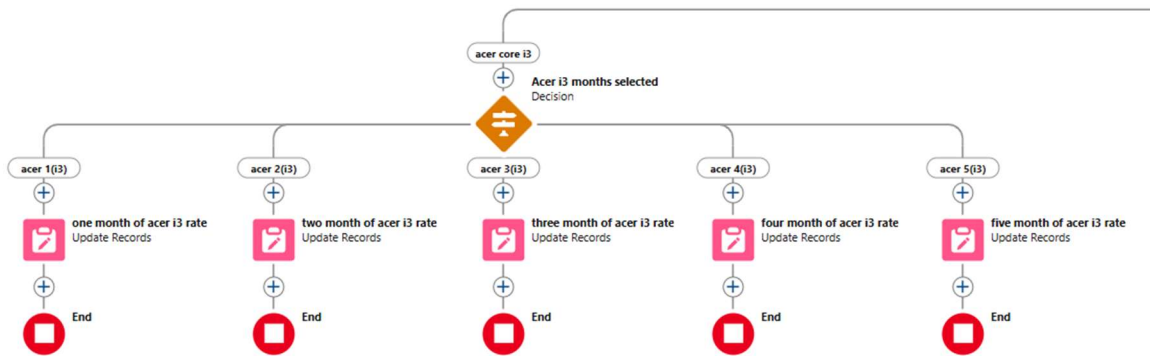
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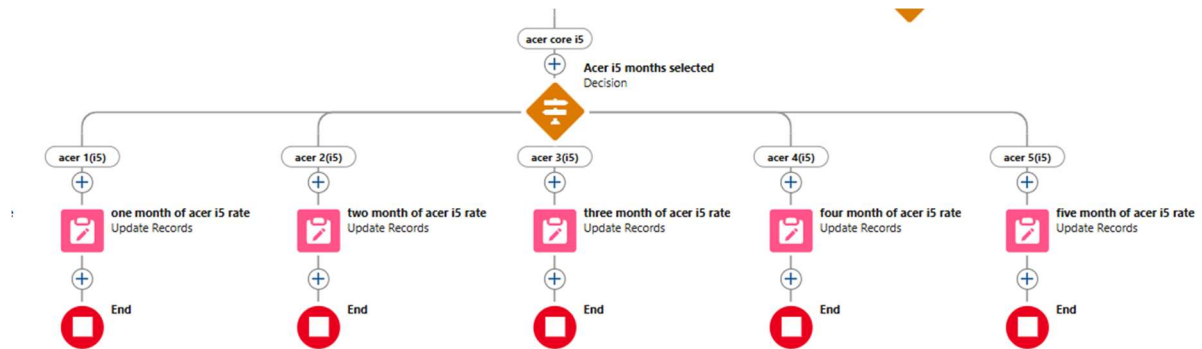
7



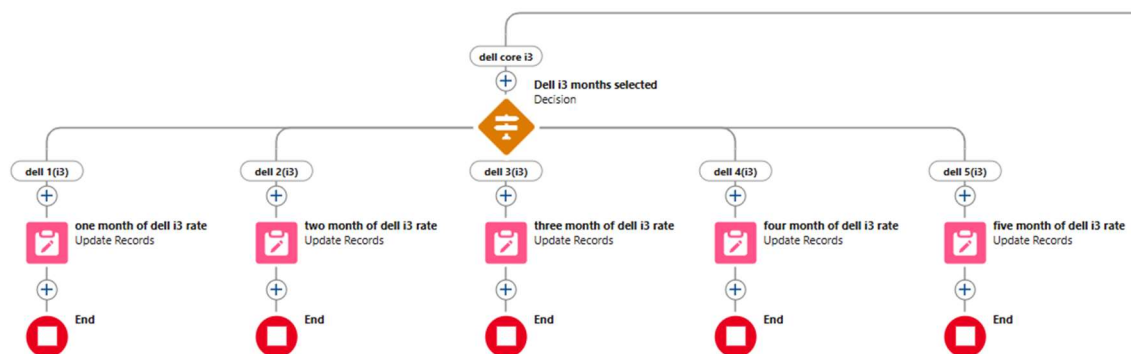
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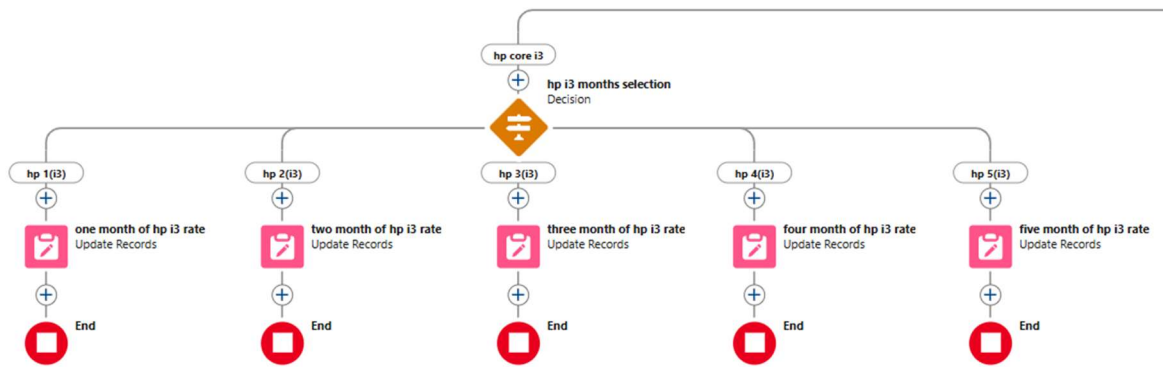
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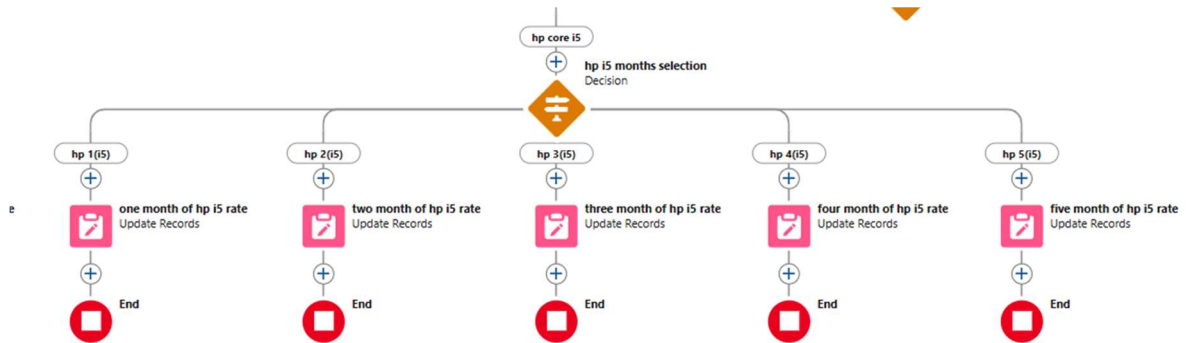
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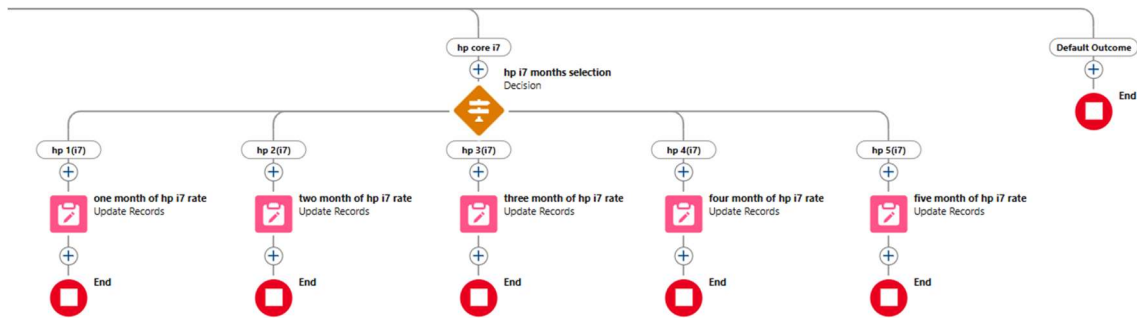
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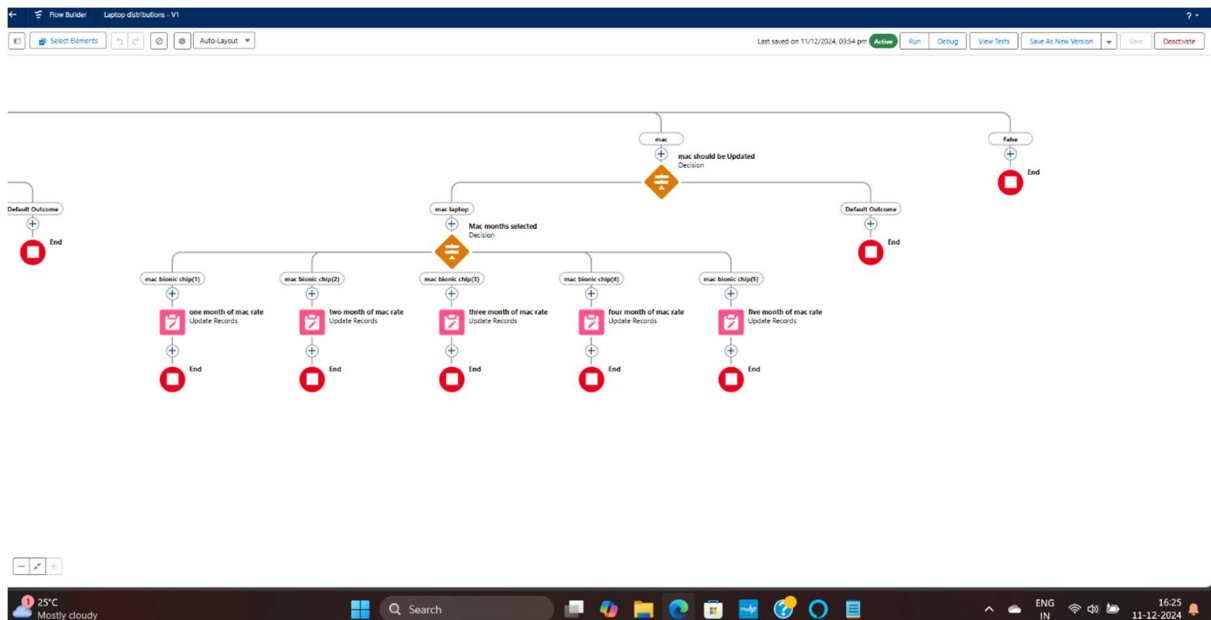
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13



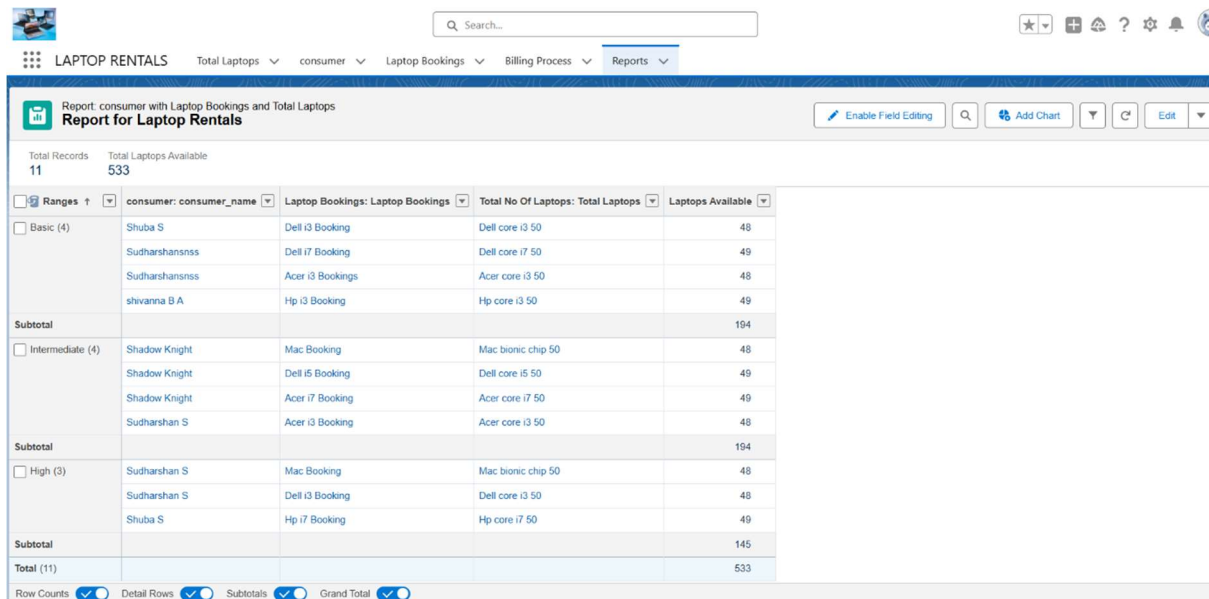
14



15

10. Report Creation

- Go to the Reports tab and click “New Report” to create reports based on relevant objects
- Use filters and groupings as needed to summarize data effectively
- Save reports with meaningful names and descriptions for easy identification by users.
- Share reports with stakeholders by setting appropriate sharing settings.



The screenshot shows a Salesforce report interface. At the top, there's a search bar and navigation tabs for 'LAPTOP RENTALS', 'Total Laptops', 'consumer', 'Laptop Bookings', 'Billing Process', and 'Reports'. The report title is 'Report: consumer with Laptop Bookings and Total Laptops' and 'Report for Laptop Rentals'. It shows 11 total records and 533 total laptops available. The report is organized into three categories: Basic (4), Intermediate (4), and High (3). Each category has a 'Subtotal' row. The table columns are: consumer: consumer_name, Laptop Bookings: Laptop Bookings, Total No Of Laptops: Total Laptops, and Laptops Available. The data is as follows:

Category	consumer: consumer_name	Laptop Bookings: Laptop Bookings	Total No Of Laptops: Total Laptops	Laptops Available
Basic (4)	Shuba S	Dell i3 Booking	Dell core i3 50	48
	Sudharshansnss	Dell i7 Booking	Dell core i7 50	49
	Sudharshansnss	Acer i3 Bookings	Acer core i3 50	48
	shivanna B A	Hp i3 Booking	Hp core i3 50	49
Subtotal				194
Intermediate (4)	Shadow Knight	Mac Booking	Mac bionic chip 50	48
	Shadow Knight	Dell i5 Booking	Dell core i5 50	49
	Shadow Knight	Acer i7 Booking	Acer core i7 50	49
	Sudharshan S	Acer i3 Booking	Acer core i3 50	48
Subtotal				194
High (3)	Sudharshan S	Mac Booking	Mac bionic chip 50	48
	Sudharshan S	Dell i3 Booking	Dell core i3 50	48
	Shuba S	Hp i7 Booking	Hp core i7 50	49
Subtotal				145
Total (11)				533

At the bottom, there are checkboxes for 'Row Counts', 'Detail Rows', 'Subtotals', and 'Grand Total', all of which are checked.

Fig 14. Report Creation

11. Dashboard Creation

- Navigate to the Dashboards tab in Salesforce and click “New Dashboard” to create a visual representation of key metrics.
- Add components such as charts or tables sourced from previously created reports.
- Organize components logically within the dashboard layout for clarity.
- Save dashboards in folders accessible by relevant user profiles for ongoing monitoring of performance metrics.

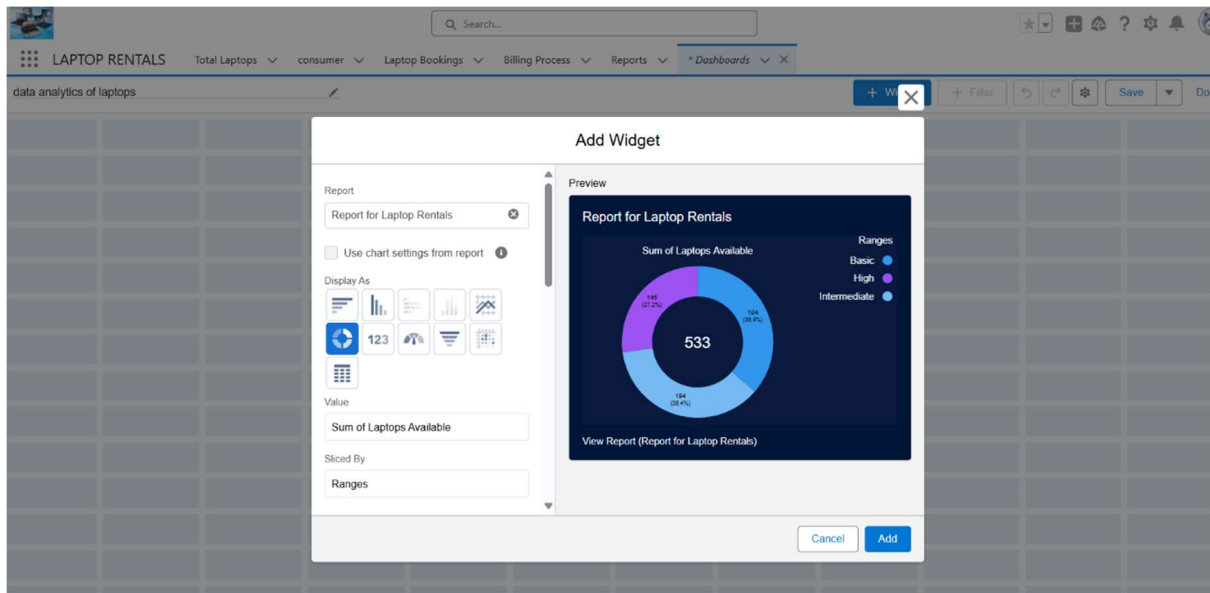


Fig 15. Adding Widget

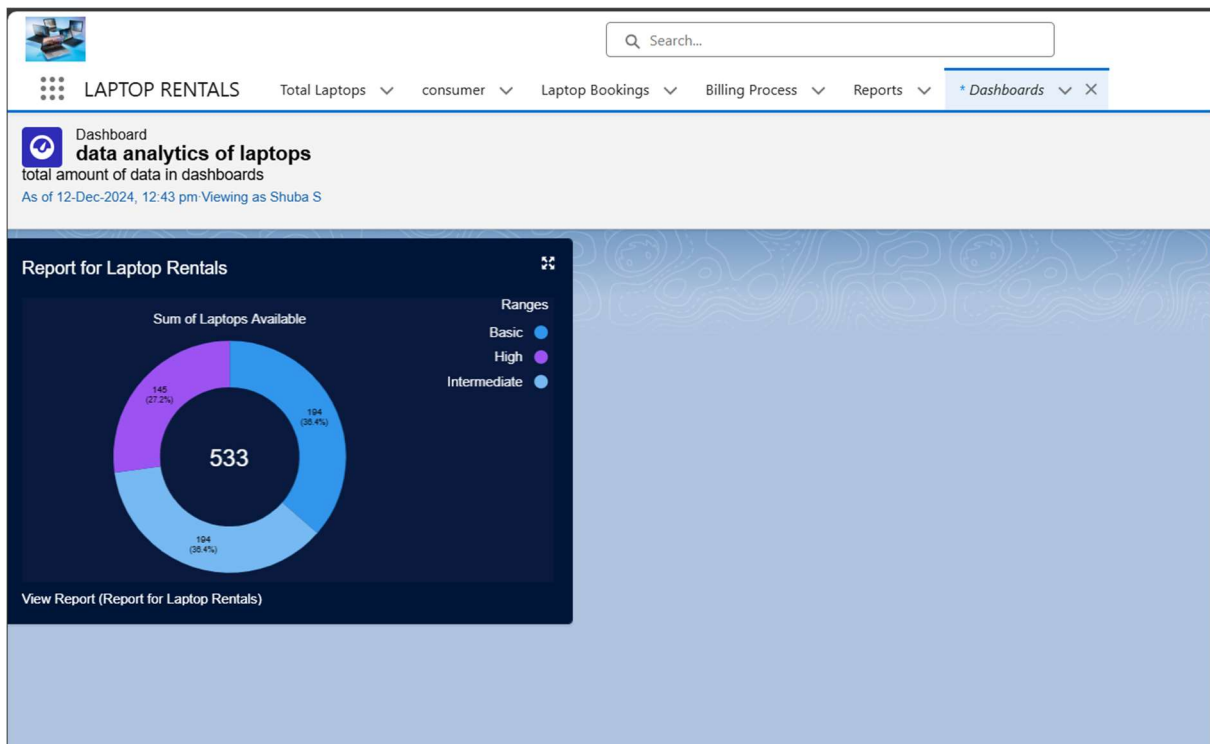
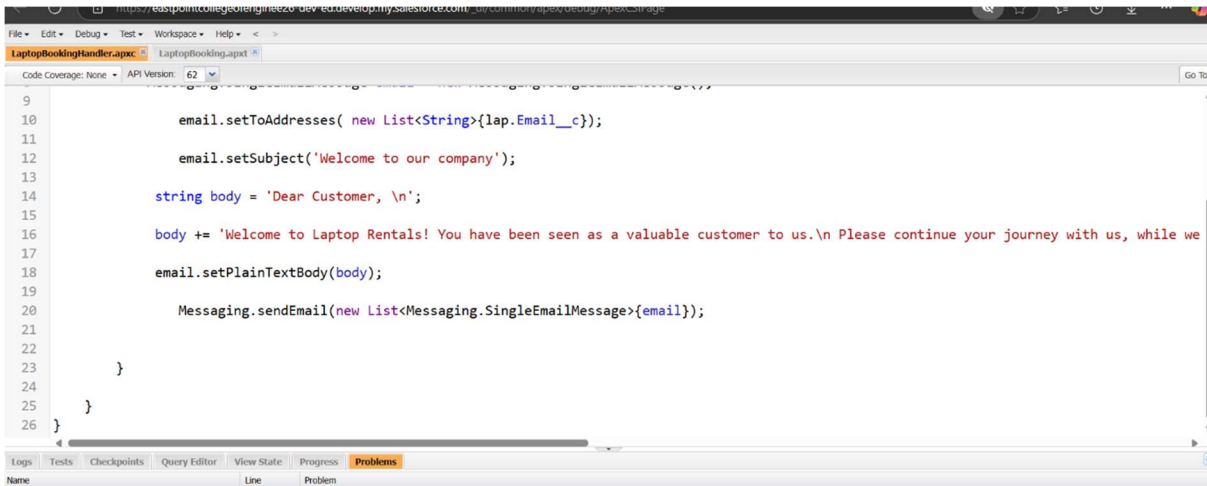


Fig 16. Dashboard of Data analytics of laptops

5. Testing and Validation

Apex Class and Trigger Creation

- In Setup, navigate to Apex Classes and create an Apex trigger that responds to DML events on relevant objects (e.g., Laptop Booking).
- Write trigger logic that handles actions such as sending notifications or updating related records upon changes.
- Implement handler classes if necessary for better organization of code logic.
- Test triggers using unit tests within Salesforce's testing framework.



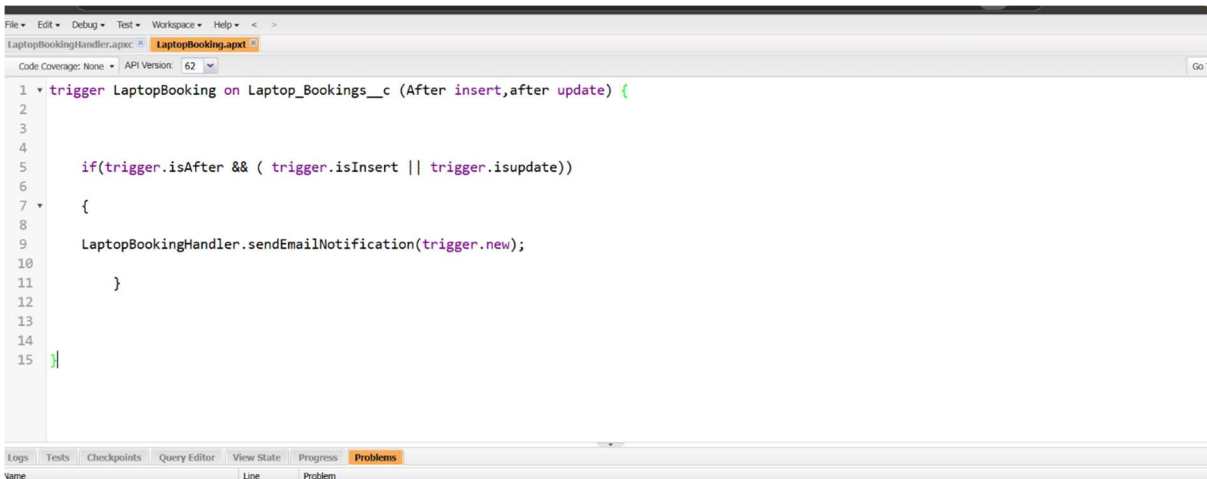
```

9
10     email.setToAddresses( new List<String>{lap.Email__c});
11
12     email.setSubject('Welcome to our company');
13
14     string body = 'Dear Customer, \n';
15
16     body += 'Welcome to Laptop Rentals! You have been seen as a valuable customer to us.\n Please continue your journey with us, while we
17
18     email.setPlainTextBody(body);
19
20     Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});
21
22
23 }
24
25 }
26

```



Fig 12. Class Laptop booking handler



```

1 trigger LaptopBooking on Laptop_Bookings__c (After insert,after update) {
2
3
4
5     if(trigger.isAfter && ( trigger.isInsert || trigger.isupdate))
6
7     {
8
9         LaptopBookingHandler.sendEmailNotification(trigger.new);
10
11     }
12
13
14
15 }

```



Fig 13. Laptop booking trigger

6. Key Scenarios Addressed by Salesforce in the Implementation Project

In our Salesforce implementation project, we focused on several important scenarios to ensure the platform meets our business needs effectively. Here are the main use cases we addressed:

1. Managing Customer Relationships:

- Salesforce helps us keep track of customer interactions, leads, and opportunities in one place, improving our ability to serve customers.

2. Automating Business Processes:

- We used Salesforce Flows and triggers to automate tasks like laptop bookings and billing, which reduces manual work and errors.

3. Ensuring Data Accuracy:

- Validation rules were set up to make sure that important information, like phone numbers or emails, is entered correctly when creating records.

4. Custom Reporting and Analytics:

- We created reports and dashboards in Salesforce to provide real-time insights into sales performance, helping us make better decisions.

5. Controlling User Access:

- We defined profiles and roles to manage who can see and edit different records, ensuring sensitive information is protected while allowing necessary access.

6. Scalability for Future Growth:

- The system was designed to be flexible so we can easily add new features or objects as our business grows.

7. Conclusion

In this Salesforce project, we successfully built a system that greatly improves how we manage our customers and run our operations. We created a solid way to track customer interactions, leads, and opportunities, which has helped us serve our customers better.

- We automated important tasks like laptop bookings and billing using Salesforce Flows and Apex triggers. This automation has made our processes faster and reduced mistakes. We also set up validation rules to ensure that the data entered into the system is accurate and trustworthy.
- Our work on reporting and analytics led to the creation of custom reports and dashboards that give us real-time insights into sales performance. This helps us make informed decisions quickly.
- Additionally, we established user profiles and roles to control who can access sensitive information, ensuring that data is protected while still allowing necessary access for team members. The system was designed to be flexible, so we can easily add new features as our business grows.
- Overall, this project has provided us with a strong foundation for using Salesforce effectively. It positions our organization to respond well to changing needs and enhances our ability to serve our customers in the future.