

## Project Documentation: CRM Application for Laptop Rentals

**Category:** Salesforce

**Skills Required:** Salesforce Developer

### Project Description:

The CRM Application for Laptop Rentals is designed to streamline the process of renting laptops to customers. The application utilizes Salesforce's robust CRM capabilities to enhance customer interactions, optimize store operations, and increase overall efficiency. A key feature of the application is the integration of email communication, enabling effective engagement with potential and existing customers.

### Features and Functionalities

- Laptop Inventory Management: Efficiently track and manage the available inventory of laptops for rent, ensuring smooth operations.
- Customer Management: Maintain detailed records of customers, including their interactions and rental history, to streamline service management.
- Laptop Booking System: Facilitate the complete laptop booking lifecycle, from availability checks to confirmation, providing a seamless rental experience.
- Automated Billing System: Simplify and automate the billing and payment processes, ensuring accuracy and timely transactions for rentals.
- User Roles & Access Control: Define distinct roles like Owner and Agent, providing different levels of access and privileges within the application for better security and control.
- Data Validation Rules: Enforce validation rules to maintain the accuracy of essential data fields like phone numbers and emails, ensuring data reliability.
- Automation with Flows & Apex: Leverage Salesforce Flows and Apex triggers to automate critical tasks such as laptop distribution, improving operational efficiency.
- Reports & Dashboards: Generate insightful reports and visual dashboards to provide actionable data, enabling informed decision-making and business optimization.

## Detailed Setup Instructions

### 1. Creating Custom Objects

#### 1. Navigate to Setup:

- Go to the Setup page in Salesforce and click on Object Manager.

#### 2. Create Custom Object: Total Laptops

- Click on Create > Custom Object.
- Fill in the following details:
  - **Label Name:** Total Laptops
  - **Plural Label Name:** Total Laptops
  - **Record Name Label:** Total Laptops
  - **Data Type:** Text
- Enable the following options:
  - Allow Reports
  - Allow Search
  - Track Field History
- Click Save.

#### 3. Repeat the process for the following custom objects:

- Consumer
- Laptop Bookings
- Billing Process

Total Laptops Object:

Setup

Home

Object Manager

Search Setup

Setup > OBJECT MANAGER

Total Laptops

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

Restriction Rules

Scoping Rules

Triggers

Flow Triggers

Details

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

EditDelete

Consumer Object:

Setup

Home

Object Manager

Search Setup

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

Restriction Rules

Scoping Rules

Triggers

Flow Triggers

Details

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

EditDelete

Laptop bookings Object:

Setup

Home

Object Manager

Search Setup

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

Restriction Rules

Scoping Rules

Triggers

Flow Triggers

Details

Description

API Name  
Laptop\_Bookings\_\_c

Custom

Singular Label  
Laptop Bookings

Plural Label  
Laptop Bookings

Enable Reports

Track Activities

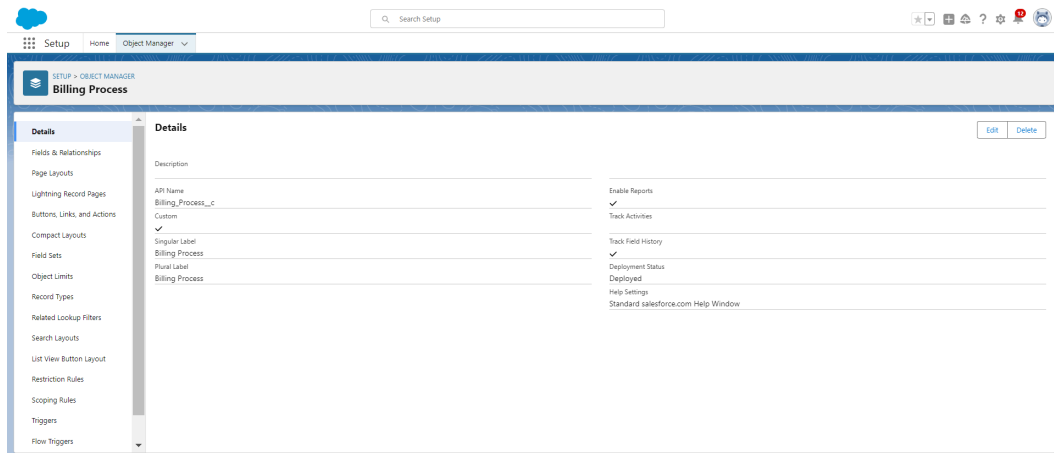
Track Field History

Deployment Status  
Deployed

Help Settings  
Standard salesforce.com Help Window

EditDelete

## Billing process Object:



## 2. Creating Tabs

### 1. Navigate to Setup:

- Type "Tabs" in the Quick Find bar and select Tabs.

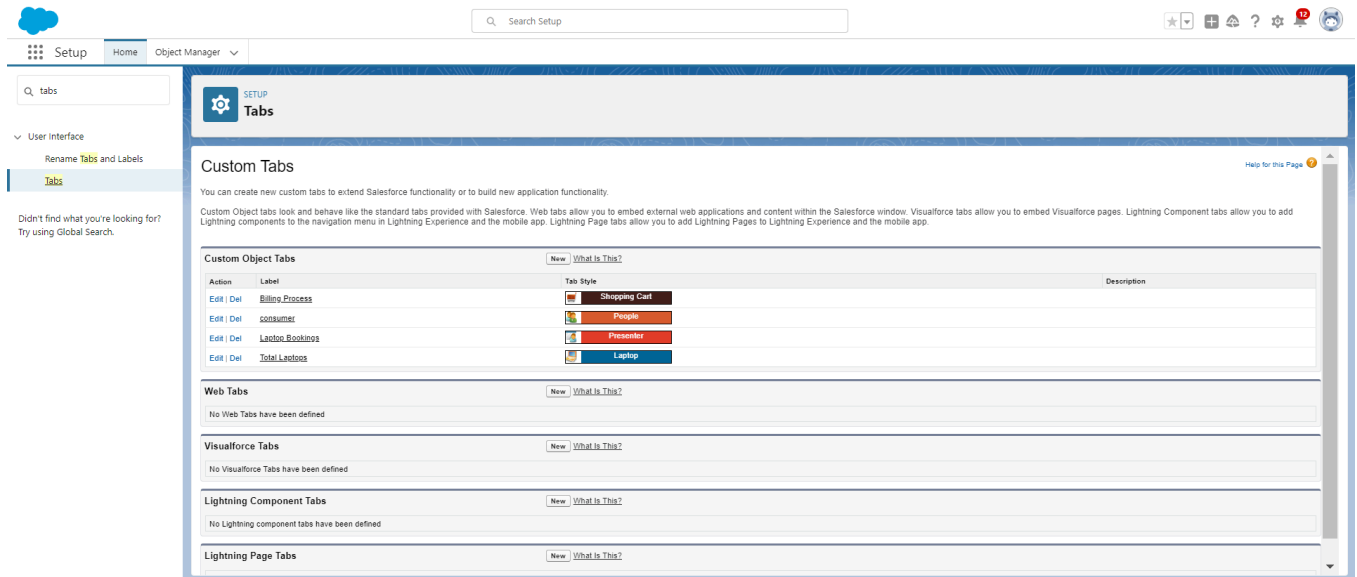
### 2. Create a New Tab:

- Click on New under Custom Object Tabs.
- Select the custom object Total Laptops and choose a Tab Style.
- Keep default settings and uncheck Include Tab in Custom App.
- Click Save.

### 3. Repeat for the following objects:

- Consumer
- Laptop Bookings
- Billing Process

## Tabs:



## 3. Creating a Lightning App Page

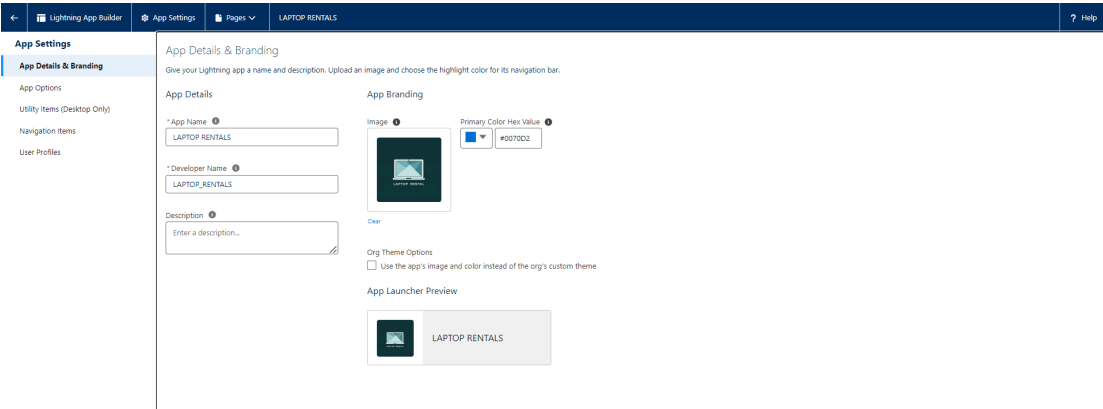
### 1. Navigate to App Manager:

- Search for App Manager in the Quick Find bar.

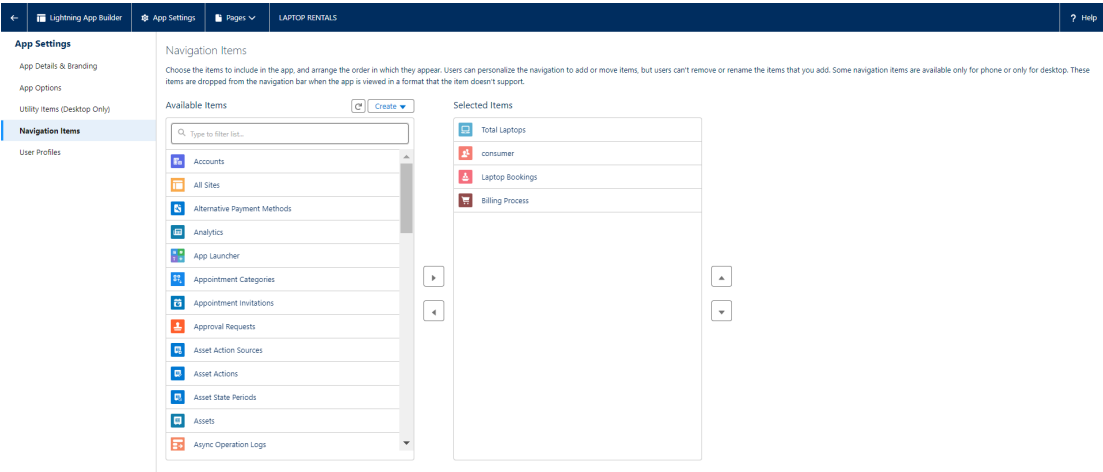
### 2. Create a New Lightning App:

- Click New Lightning App and name it LAPTOP RENTALS.
- Add relevant Navigation Items such as Total Laptops, Consumer, Laptop Booking, and Billing Process.
- Add System Administrator to the User Profiles section.
- Click Save & Finish.

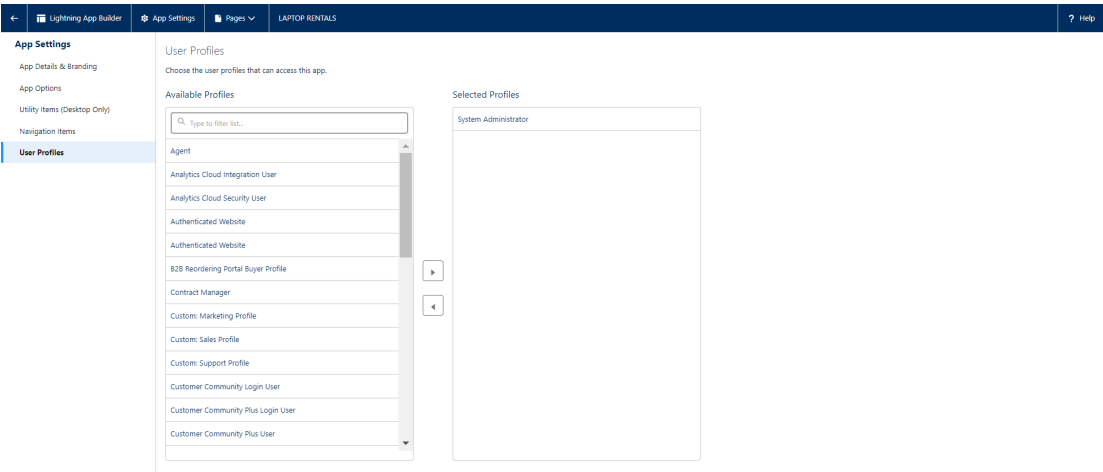
App Details:



App navigation:



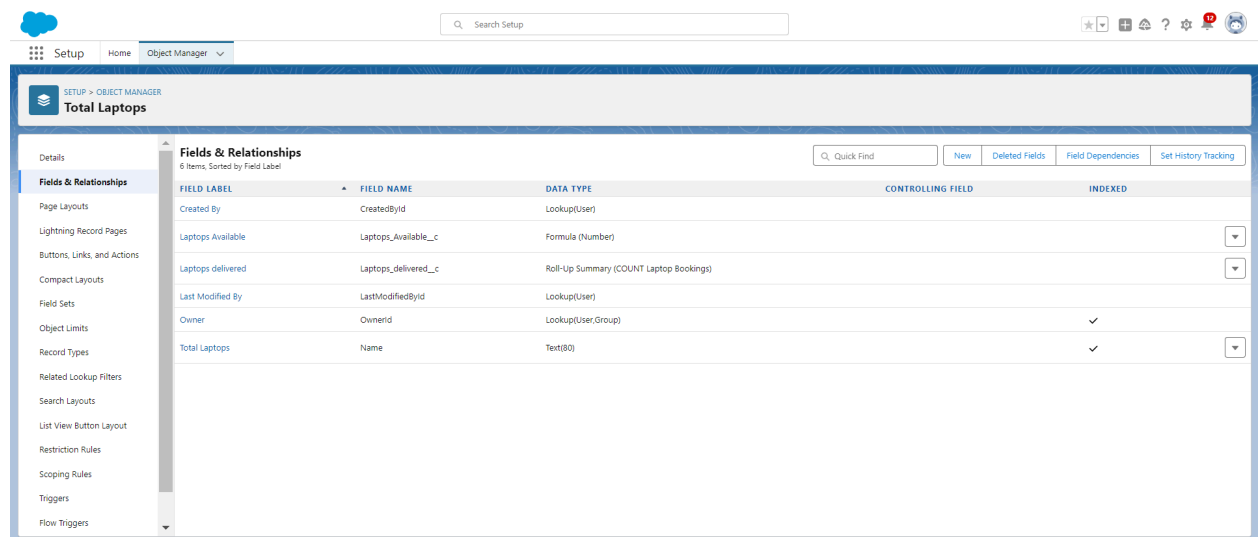
App user profiles:



## 4. Adding Fields to the Objects

Follow standard Salesforce procedures to add required fields to the following objects:

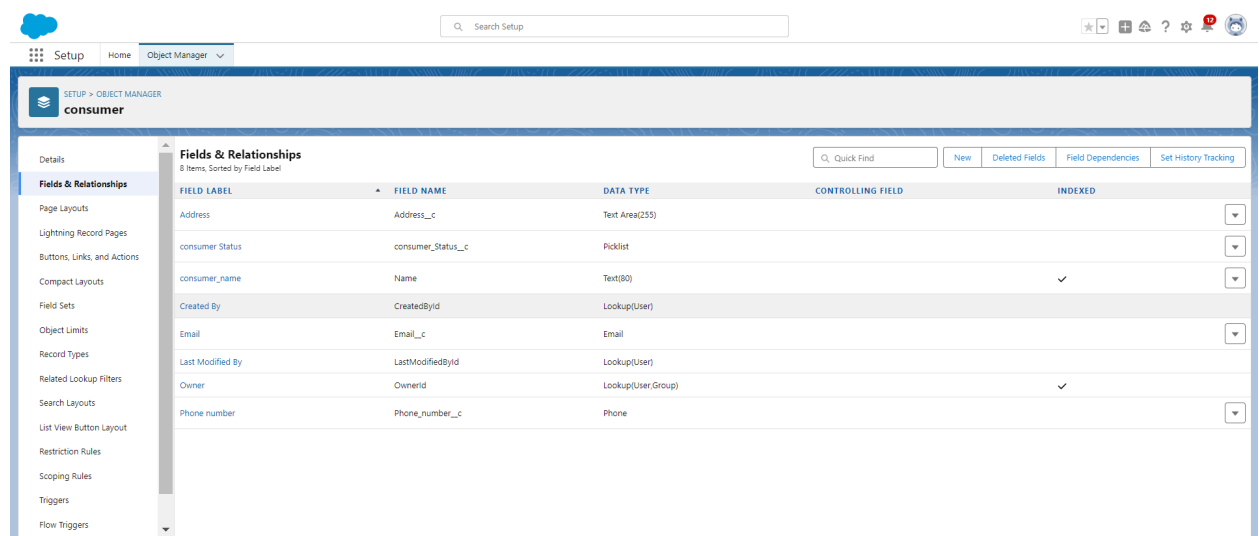
### 1. Total Laptops



The screenshot shows the Salesforce Setup interface for the 'Total Laptops' object. The 'Fields & Relationships' tab is selected, displaying a table of fields. The table has columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed. The fields listed are: Created By (Lookup(User)), Laptops Available (Formula (Number)), Laptops delivered (Roll-Up Summary (COUNT Laptop Bookings)), Last Modified By (Lookup(User)), Owner (Lookup(User, Group)), and Total Laptops (Text(80)).

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Laptops Available	Laptops_Available__c	Formula (Number)		
Laptops delivered	Laptops_delivered__c	Roll-Up Summary (COUNT Laptop Bookings)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User, Group)		✓
Total Laptops	Name	Text(80)		✓

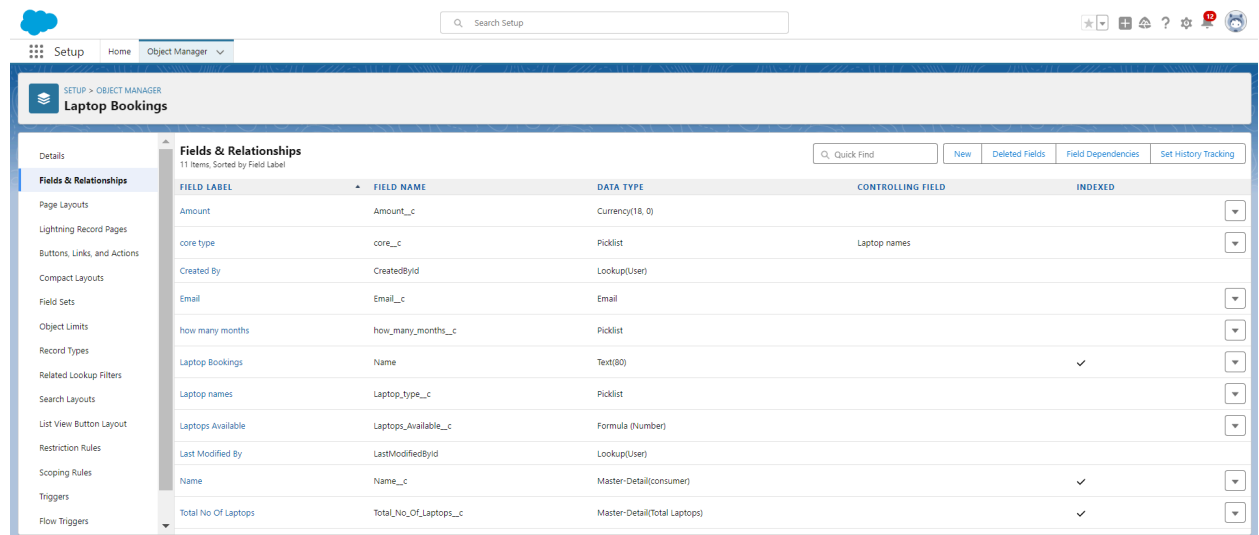
### 2. Consumer



The screenshot shows the Salesforce Setup interface for the 'consumer' object. The 'Fields & Relationships' tab is selected, displaying a table of fields. The table has columns for Field Label, Field Name, Data Type, Controlling Field, and Indexed. The fields listed are: Address (Text Area(255)), consumer Status (Picklist), consumer\_name (Text(80)), Created By (Lookup(User)), Email (Email), Last Modified By (Lookup(User)), Owner (Lookup(User, Group)), and Phone number (Phone).

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Address__c	Text Area(255)		
consumer Status	consumer_Status__c	Picklist		
consumer_name	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Email	Email__c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User, Group)		✓
Phone number	Phone_number__c	Phone		

### 3. Laptop Bookings



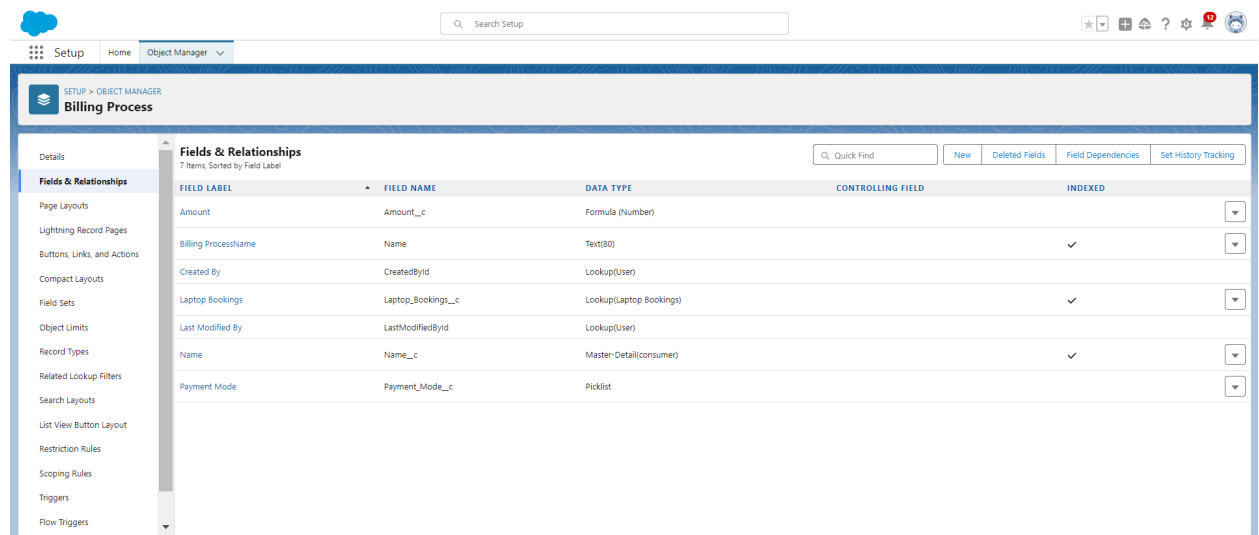
Setup > OBJECT MANAGER  
**Laptop Bookings**

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  
Restriction Rules  
Scoping Rules  
Triggers  
Flow Triggers

**Fields & Relationships**  
11 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Currency(18, 0)		
core type	core__c	Picklist	Laptop names	
Created By	CreatedById	Lookup(User)		
Email	Email__c	Email		
how many months	how_many_months__c	Picklist		
Laptop Bookings	Name	Text(80)		✓
Laptop names	Laptop_type__c	Picklist		
Laptops Available	Laptops_Available__c	Formula (Number)		
Last Modified By	LastModifiedById	Lookup(User)		
Name	Name__c	Master-Detail(consumer)		✓
Total No Of Laptops	Total_No_Of_Laptops__c	Master-Detail(Total Laptops)		✓

### 4. Billing Process



Setup > OBJECT MANAGER  
**Billing Process**

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  
Restriction Rules  
Scoping Rules  
Triggers  
Flow Triggers

**Fields & Relationships**  
7 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Formula (Number)		
Billing ProcessName	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Laptop Bookings	Laptop_Bookings__c	Lookup(Laptop Bookings)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Name	Name__c	Master-Detail(consumer)		✓
Payment Mode	Payment_Mode__c	Picklist		

### 5. Creating a Validation Rule

#### 1. Navigate to Object Manager:

- Go to the Setup page and select Object Manager.



## 2. Edit Consumer Object:

- Choose the Consumer object and click Edit.

## 3. Create a Validation Rule:

- Click on Validation Rules > New.
- Enter the following details:
  - **Rule Name:** Phonenumeroemailblankrule
  - **Description:** Ensure that both phone number and email are not blank.
  - **Formula:** OR(ISBLANK(Phone\_number\_\_c), ISBLANK(Email\_\_c))
- Click Save.

## Rule:

The screenshot displays the Salesforce Setup interface for creating a validation rule for the 'consumer' object. The left sidebar shows the navigation menu with 'Validation Rules' selected. The main content area is titled 'consumer Validation Rule' and includes a 'Back to consumer' link. The 'Validation Rule Detail' section contains the following information:

Field	Value	Action
Rule Name	Phonenumeroemailblankrule	<a href="#">Edit</a> <a href="#">Clone</a>
Active	✓	
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	Isha Dutta Mazumdar: 07/10/2024, 7:11 pm	Modified By: Isha Dutta Mazumdar: 07/10/2024, 7:11 pm

At the bottom of the 'Validation Rule Detail' section, there are 'Edit' and 'Clone' buttons.

## 6. Creating Users

Follow these steps to create users in Salesforce for the Laptop Rentals CRM:

### 1. Navigate to Users:

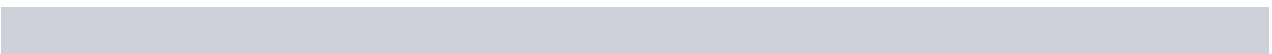
- Go to Setup in Salesforce.
- In the Quick Find box, type Users and select the Users option.

### 2. Create New User (Owner):

- Click on New User.
- Fill in the following details:
  - **First Name:** vicky
  - **Last Name:** y
  - **Alias:** vy
  - **Email:** ishadutta.193@gmail.com
  - **Username:** ishadutta.193@11gmail.com
  - **Nickname:** vic
  - **Role:** Owner
  - **User License:** Salesforce
  - **Profiles:** Owner
- Click Save.

### 3. Create Another User (Agent):

- Click on New User again.



■ Fill in the following details:

- **First Name:** ram
- **Last Name:** ram
- **Alias:** rram
- **Email:** ishadutta.193@gmail.com
- **Username:** ishadutta.193@111gmail.com
- **Nickname:** rama
- **Role:** Agent
- **User License:** Salesforce Platform
- **Profiles:** Standard Platform User

■ Click Save.

## Users:

The screenshot displays the Salesforce 'Users' management interface. The top navigation bar includes 'Setup', 'Home', and 'Object Manager'. A search bar is present. The left sidebar lists various setup options under 'ADMINISTRATION', with 'Users' selected. The main content area, titled 'All Users', provides instructions on creating, viewing, and managing users. It includes a table with columns for Action, Full Name, Alias, Username, Role, Active, and Profile. The table lists several users, including 'ChatterExpert', 'Isha Dutta Mazumdar', 'ram', 'User\_Integration', 'User\_Security', and 'v\_usdx'. Each user entry has an 'Edit' link and a checkbox. The 'Active' column shows checkmarks for all listed users. The 'Profile' column lists various roles like 'Chatter.Force.User', 'System Administrator', 'Standard Platform User', 'Analytics Cloud Integration User', 'Analytics Cloud Security User', and 'Standard User'. At the bottom of the table, there are buttons for 'New User', 'Reset Passwords', and 'Add Multiple Users'.

## 7. Creating a Flow for Laptop Distribution

To automate the laptop distribution process, follow these steps to create a Salesforce Flow that assigns laptops to customers based on availability and booking details.

## **Steps to Create a Salesforce Flow for Laptop Distribution:**

### **1. Navigate to Setup:**

- In Salesforce, go to Setup and type Flows in the Quick Find bar.
- Select Flows from the dropdown menu.

### **2. Create a New Flow:**

- Click on New Flow and choose Record-Triggered Flow as the type of flow.
- This type of flow will trigger automatically when a laptop booking is created or updated.

### **3. Select the Trigger Object:**

- In the next step, choose the Laptop Booking object as the trigger for the flow.
- Set the trigger to fire when a record is created or updated.

### **4. Define Criteria:**

- Add a condition to check the availability of laptops in the Total Laptops object.
- The flow should only proceed if there are available laptops that match the booking details, such as laptop type and configuration.

### **5. Assignment Element:**

- Add an Assignment element to assign laptops to customers.
- The flow should retrieve available laptops from the Total Laptops object and assign the first available one to the booking.

### **6. Update Records:**

- Add an Update Records element to update the booking with the assigned laptop details.

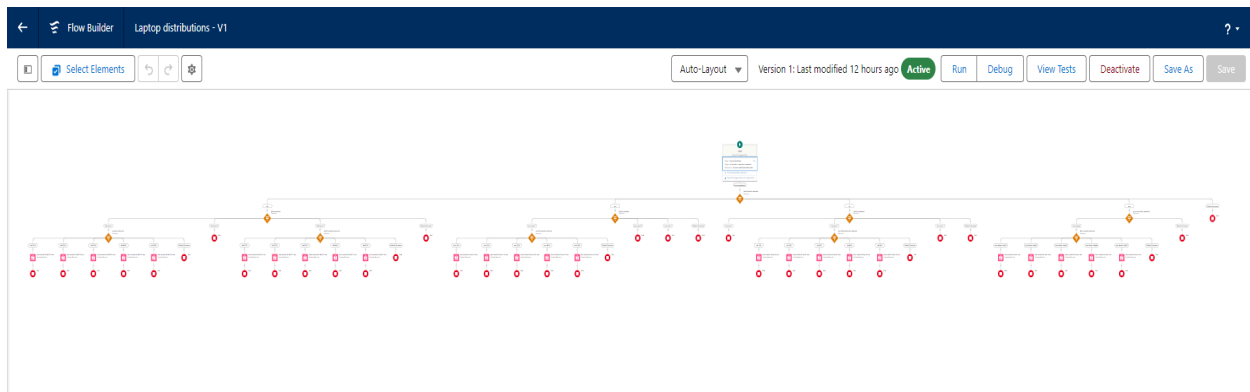
- Update the Laptop Booking record with the assigned laptop's ID, status (Booked), and any additional details.

## 7. Send Confirmation:

- Optionally, add an email notification to confirm the booking and notify the customer. Use Email Alert or Apex Action to send emails.

## 8. Test the Flow:

- Save and activate the flow.
- Run tests to ensure that it correctly assigns laptops based on availability and updates the booking records.



## 8. Developing Apex Code

To automate the business processes involved in laptop bookings, such as updating laptop availability and sending notifications, you need to create both an Apex class and an Apex trigger.

### Apex Class: LaptopBookingHandler

The **LaptopBookingHandler** class contains the business logic for handling the key processes, including sending email notifications when a laptop is booked.

## Isha Dutta Mazumdar

```
public class LaptopBookingHandler {
    public static void sendEmailNotification (List<Laptop_Bookings__c> lapList){
        for(Laptop_Bookings__c lap:lapList)
        {
            Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
            email.setToAddresses( new List<String>{lap.Email__c});
            email.setSubject('Welcome to our company');
            string body = 'Dear ' +lap.Name +', \n';
            body += 'Welcome to Laptop Rentals! You have been seen as a valuable customer to us.\n Please
continue your journey with us, while we try to provide you with good quality resources. \n Laptop Amount = '
+ lap.Amount__c + ' \n core type = '+lap.core__c +' \n Laptop type = '+lap.Laptop_type__c;
            email.setPlainTextBody(body);
            Messaging.sendEmail(new List<Messaging.SingleEmailMessage>{email});

        }
    }
}
```

### Apex Trigger: LaptopBooking

The trigger you've provided is designed to send email notifications after a laptop booking record is inserted or updated. Below is a refined version with some improvements in readability and clarity.

```
trigger LaptopBooking on Laptop_Bookings__c (After insert,after update) {

    if(trigger.isAfter && ( trigger.isInsert || trigger.isupdate))
    {
        LaptopBookingHandler.sendEmailNotification(trigger.new);
    }

}
```

9. Generating Reports and Dashboards

In Salesforce, Reports and Dashboards are powerful tools that allow you to visualize and analyze key metrics. Here's how you can generate reports and create a dashboard for the Laptop Rentals CRM application.

Reports:

LAPTOP RENTALS

Total Laptops

consumer

Laptop Bookings

Billing Process

\* consumer with laptops on...

Q Search...

★

+

🔔

?

⚙️

🔴

👤

Report: consumer with Laptop Bookings and Total Laptops

consumer with laptops and total laptops

Enable Field Editing

Q

Add Chart

▼

🔄

Edit

▼

Total Records

Total Laptops Available

Total Amount

10

476

₹28,900

<input type="checkbox"/> types of versions	Laptop Bookings: Laptop Bookings	consumer: consumer_name	Total No Of Laptops: Total Laptops	Laptops Available	Address	Phone number	Email	Laptop names	core type	Amount
<input type="checkbox"/> basic (3)	Parul	Parul	5	47	delhi	9963825071	parul@gmail.com	Hp	core i7	₹700
	Sania	Sania	4	48	bilashpur	8495247017	sania@gmail.com	Hp	core i7	₹500
	Evan	Evan	10	49	kolikata	9463384102	evan@gmail.com	Acer	core i3	₹900
Subtotal				144						₹2,100
<input type="checkbox"/> intermediate (1)	Esha	Esha	5	47	kolikata	6359421863	esha@gmail.com	Hp	core i7	₹1,000
Subtotal				47						₹1,000
<input type="checkbox"/> high (6)	Ishaan	Ishaan	20	47	ambikapur	6938752854	ishaan@gmail.com	Dell	core i3	₹4,000
	Kitty	Kitty	20	47	ambikapur	9858634572	kitty@gmail.com	Dell	core i7	₹2,000
	Abhigyan	Abhigyan	4	48	patna	9783562289	abhi@gmail.com	Mac	Bionic chip	₹3,400
	Zoya	Zoya	5	47	delhi	9245832875	zoya@gmail.com	Dell	core i5	₹2,500
	Manas	Manas	2	49	ranchi	7165384301	manas@gmail.com	Acer	core i5	₹5,400
	Parth	Parth	20	47	mumbai	8931632873	parth@gmail.com	Mac	Bionic chip	₹8,500
Subtotal				285						₹25,800
Total (10)				476						₹28,900

Row Counts

Detail Rows

Subtotals

Grand Total

Dashboard:

