

Project

A CRM Application for Laptop Rentals

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1. Project Overview

The **CRM Application for Laptop Rentals** focuses on managing laptop rentals effectively by leveraging customer relationship management (CRM) tools. The application is designed to streamline rental operations, provide seamless customer experiences, and ensure efficient communication with potential and existing customers. It enables businesses to:

- Manage customer relationships through targeted email communication.
- Optimize overall operations to improve service quality and customer satisfaction.

2. Background

With the rising demand for flexible and cost-effective solutions, laptop rentals have become a popular option for individuals and organizations. Businesses often require laptops for short-term projects, training sessions, or events, while individuals may need them temporarily for education or personal use. However, managing the logistics of rentals—such as tracking inventory, handling customer queries, generating agreements, and ensuring timely returns—can be challenging without a streamlined system.

CRM systems provide a centralized platform to manage customer relationships, automate tasks, and optimize operations. By leveraging CRM technology, businesses can enhance customer satisfaction, improve operational efficiency, and scale their rental services seamlessly.

3.Objectives

Business Goals:

1. Simplify the rental process for both customers and store operators.
2. Enhance customer engagement through personalized communication strategies.
3. Improve inventory management and ensure timely laptop delivery and returns.

Specific Outcomes:

1. Centralized system for managing rentals, customer interactions, and payments.
2. Effective email-based communication campaigns for reaching potential customers.
3. Accurate tracking of inventory and rental histories.

4. Target Beneficiaries

1. Laptop Rental Businesses:

Small and Medium Enterprises (SMEs): Businesses that rent out laptops but struggle with manual processes can benefit from automation and centralized management.

Corporate Rental Services: Larger rental firms requiring efficient inventory tracking, automated invoicing, and personalized customer service.

Freelancers and Entrepreneurs: Individuals offering laptop rentals on a smaller scale who need a cost-effective solution for managing operations.

2. Customers:

Individual Customers:

Students or professionals renting laptops for short-term needs like exams, online courses, or remote work.

Event organizers requiring laptops for conferences, workshops, or exhibitions.

Corporate Clients:

Companies needing laptops for employees during short-term projects, training programs, or business travel.

Startups looking to minimize upfront costs by renting instead of purchasing laptops.

3. Technical Teams:

Inventory Managers:

The CRM application allows easy tracking of inventory,

maintenance schedules, and rental statuses.

Customer Service Teams:

Helps streamline communication with customers, reducing response times and improving satisfaction.

Sales and Marketing Teams:

Empowers teams to identify potential customers, send targeted email campaigns, and nurture leads effectively.

4. Decision Makers and Stakeholders:

Business Owners: Gain insights into key performance indicators (KPIs) like revenue trends, inventory utilization, and customer retention to make data-driven decisions.

Investors: Transparency and operational efficiency demonstrated by the application can attract potential investors and support business expansion.

5. Educational Institutions and Event Management Firms:

Colleges and Training Centers: Institutions renting laptops for temporary use in classrooms or labs can streamline operations with the CRM application.

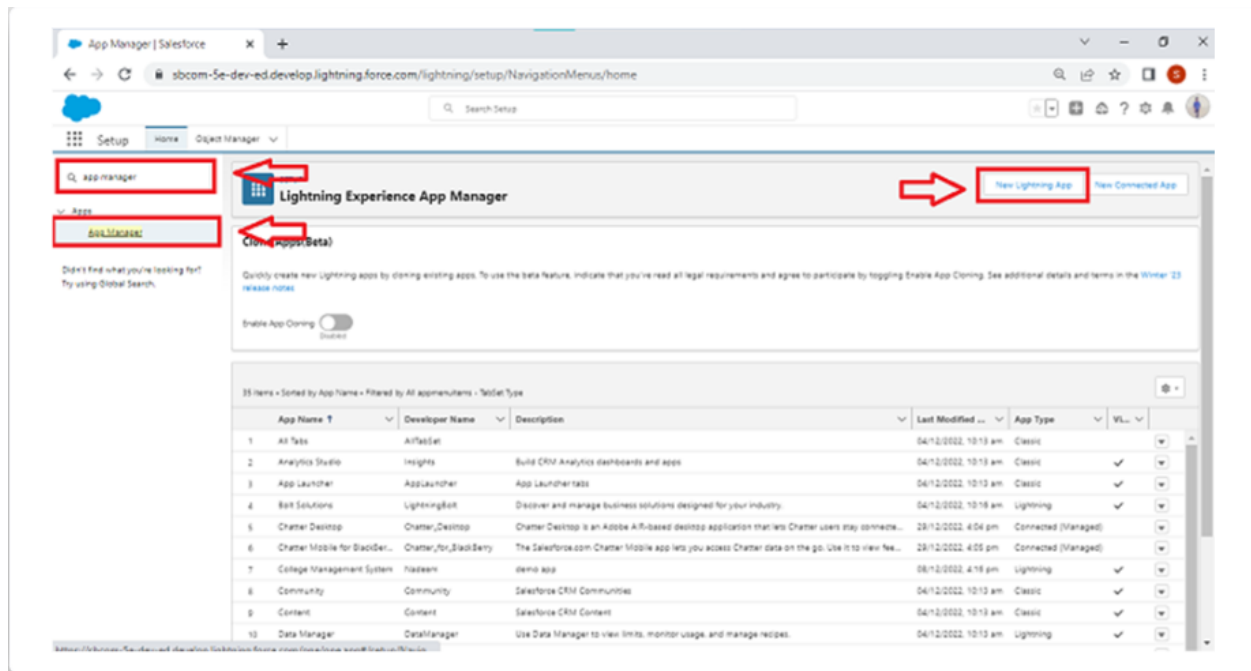
Event Management Companies: Teams managing tech setups for events can benefit from efficient tracking of rentals and client communication.

5.Solution Design

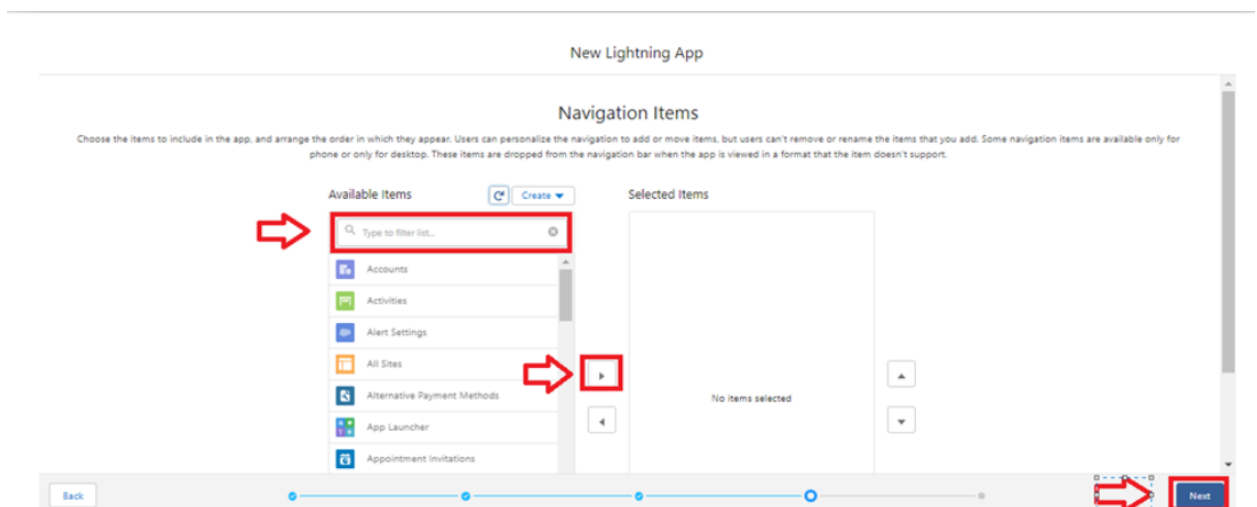
Tab: A tab is like a user interface that is used to build records for objects and to view the records in the objects.



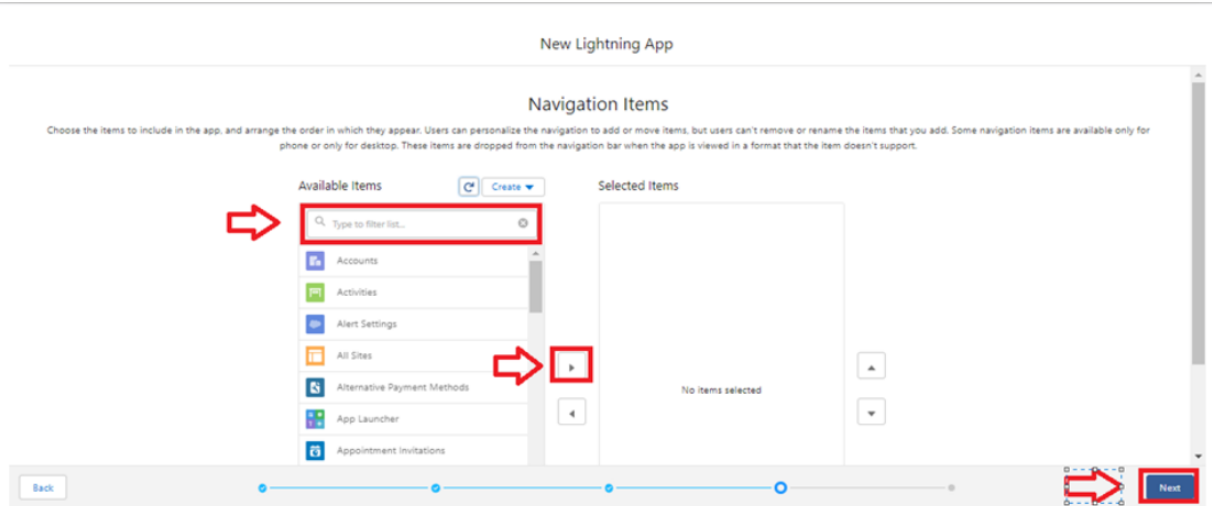
Lightning App : An app is a collection of items that work together to serve a particular function. In Lightning Experience, Lightning apps give your users access to sets of objects, tabs, and other items all in one convenient bundle in the navigation bar.



Adding Navigation Items:



User Profiles :



Fields: Fields represent the data stored in the columns of a relational database.

The screenshot shows the 'consumer' object manager setup page. The left sidebar contains a navigation menu with options: 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, and Restriction Rules. The main area is titled 'Details' and contains a configuration for an error message. It includes a formula editor with the formula: `OR (ISBLANK (phone_number__c) , ISBLANK (email__c))`. Below the formula editor is a 'Check Syntax' button and the text 'No errors found'. The 'Error Message' section shows an example: 'Discount percent cannot exceed 30%'. It states that the message will appear when the Error Condition formula is 'True'. The 'Error Message' field contains the text: 'Please fill the phone number and email id'. The 'Error Location' is set to 'Top of Page'.

The screenshot shows the 'New consumer' form. The form has a title 'New consumer' and a search bar on the right. The form is divided into sections: 'Information' and 'Owner'. The 'Information' section contains fields for 'consumer_name' (Shruthi), 'Phone number' (1234567890), 'Email', and 'Address'. The 'Owner' section shows 'Jayanti Venkata Sai Rama Lakshmi Amruta'. A red error message box is displayed over the form, stating: 'We hit a snag. Review the errors on this page. Please fill the phone number and email id'. The form has a 'Cancel' button, a 'Save & New' button, and a 'Save' button.

okings

Required Information

Information

Laptop Bookings

Acer

Laptop Name

Acer

View all dependencies

Core Type

core i3

View all dependencies

Consumer

☒ Sweetha

Amount

₹1,500

Total No Of Laptops

☒ 50

Email

sweetha@gmail.com

Total Laptops

☒ 50

How many months

2

Cancel

Save & New

Save

Validation: Validation rules are applied when a user tries to save a record and are used to check if the data meets specified criteria.

The screenshot displays the Salesforce Setup - Object Manager interface for the 'consumer' object. The left sidebar contains a navigation menu with the following items: 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, and Restriction Rules. The main content area is titled 'Validation Rule' and includes the following sections:

- Details:** A section for defining the validation rule. It includes a description: 'Display an error if Discount is more than 50%'. Below this, it states: 'If this formula expression is **true**, display the text defined in the ErrorMessage area'. There are fields for 'Insert Field' and 'Insert Operator'. The formula expression is: `OR (ISBLANK (phone_number__c) > ISBLANK (email__c))`. A 'Check Syntax' button is present, and the status is 'No errors found'.
- Error Message:** A section for defining the error message. It includes an example: 'Discount percent cannot exceed 50%'. Below this, it states: 'This message will appear when Error Condition formula is **true**'. The 'Error Message' field contains the text: 'Please fill the phone number and email id'. Below this, it states: 'This error message can either appear at the top of the page or below a specific field on the page'. The 'Error Location' is set to 'Top of Page'.
- Function:** A section for defining the function. It includes a dropdown menu for 'All Function Categories' and a list of functions: ABS, ACOS, ADDMONTHS, AND, ASCB, ASIN. Below this, it states: 'Insert Selected Function'. The function is 'ABS(number)' and its description is 'Returns the absolute value of a number, a number without its sign'. A 'Help on this function' link is present.

Flows:

In Salesforce, a flow is a powerful tool that allows you to automate business processes, collect and update data, and guide users through a series of screens or steps. Flows are built using a visual interface and can be created without any coding knowledge.

In Salesforce, "flows" typically refer to Salesforce Flow, which is a powerful automation tool that allows you to create custom, automated processes in your Salesforce org without writing code. Salesforce Flow is a point-and-click tool that enables you to design and automate complex business processes, collect data, and interact with users in a visual interface. There are different types of flows in Salesforce, including:

Screen Flows: These are used to guide users through a series of screens to collect or display information. Screen Flows are often used for data entry and updates.

Autolaunched Flows: These are flows that are triggered by events, such as when a record is created or updated. They don't require user interaction and can be used for background

automation.

Flow Builder: Flow Builder is the visual interface used to create flows. It allows you to design flows by adding elements, like screens, logic, and actions, using a drag-and-drop approach.

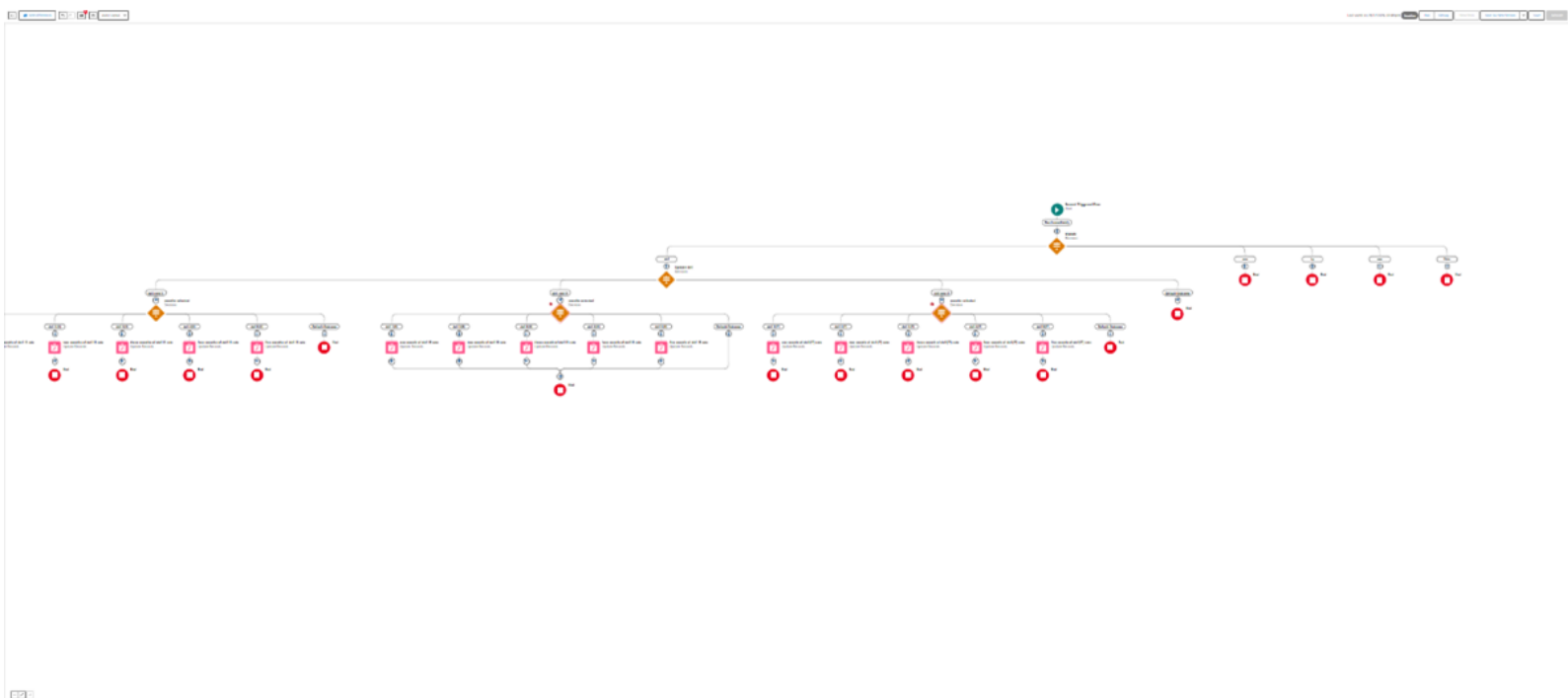
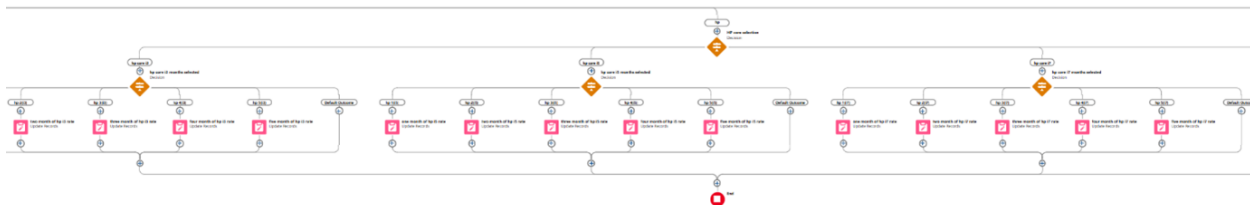
Flow Templates: Salesforce provides a library of pre-built flow templates that you can use as a starting point for your own flows. These templates cover a variety of use cases, from simple to complex.

Scheduled Flows: These are flows that you can schedule to run at specific times or intervals. They are often used for automating recurring tasks.

Flow Elements: Flow Builder offers various elements that you can use to create flows, such as variables, decisions, loops, and more. These elements allow you to build sophisticated logic into your flows.

Subflows: Subflows are reusable flow elements that you can incorporate into multiple flows, making it easier to manage and maintain complex processes.

Record-Triggered Flows: These are flows that are triggered when records meet specified criteria. They are often used for automating record updates and related actions.



Edit Decision

*Label

months selected

*API Name

months_selected

Description

Outcomes

For each path the flow can take, create an outcome. For each outcome, specify the conditions that must be met for the flow to take that path.

OUTCOME ORDER

+

1

2

3

4

5

OUTCOME DETAILS

Delete Outcome

*Label

1

*Outcome API Name

X1

Condition Requirements to Execute Outcome

All Conditions Are Met (AND)

Resource

Operator

Value

Record > how many months X

Equals

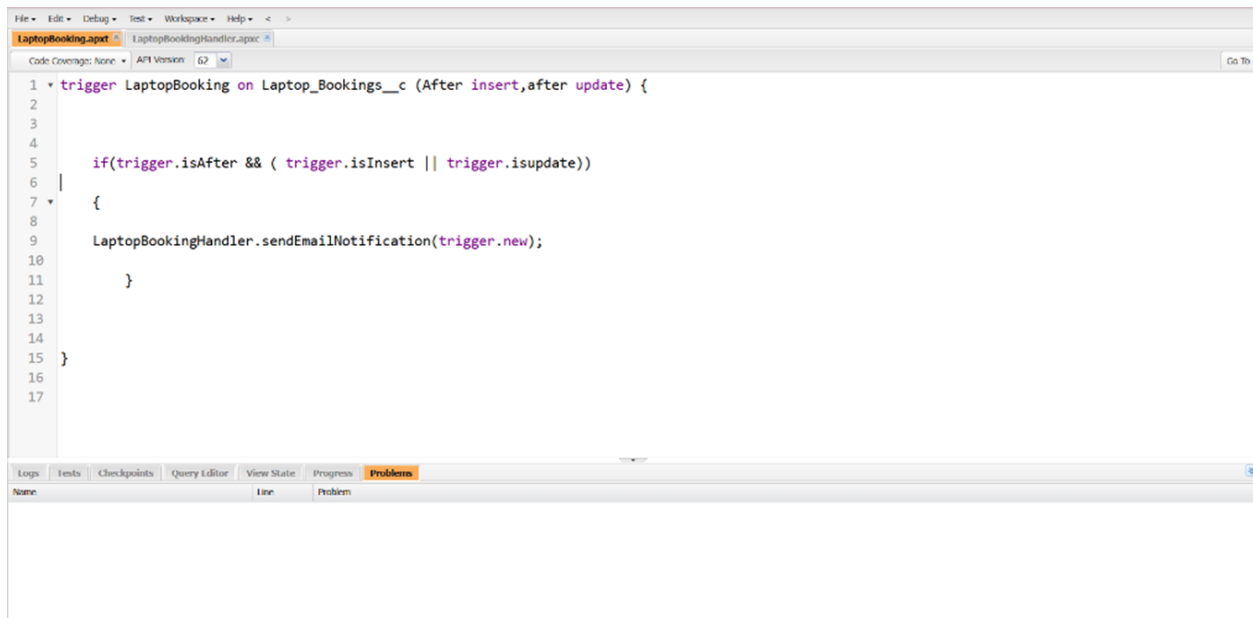
1

Cancel

Done

Apex Trigger and Handle Class: Apex is a strongly typed, object-oriented programming language that allows developers to execute flow and transaction control statements on the Lightning platform server in conjunction with calls to the Lightning Platform? API. Using syntax that looks like Java and acts like database stored procedures, Apex enables developers to add business logic to most system events, including button clicks, related record updates, and Visualforce pages. Apex code can be initiated by Web service requests and from triggers on objects.

It is as similar as java i.e, it also supports OOP(Object oriented programming) like Classes, objects, methods.



LaptopBooking.aspx LaptopBookingHandler.aspx

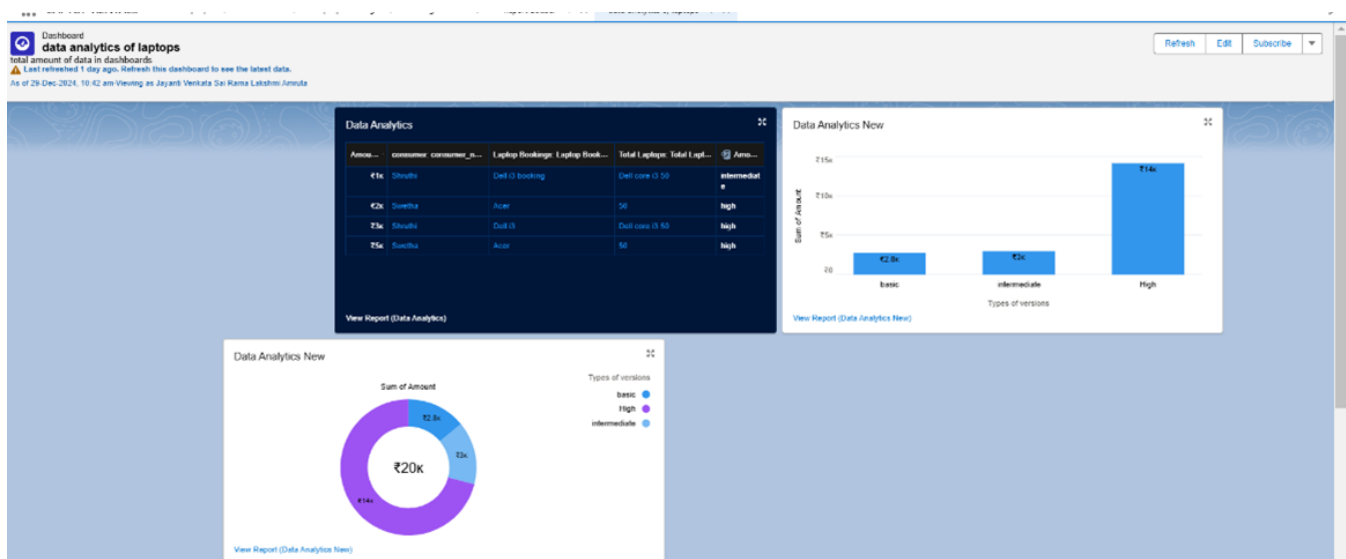
Code Coverage: None API Version: 62 Go to

```
1 public class LaptopBookingHandler {
2
3     public static void sendEmailNotification (List<Laptop_Bookings__c> lapList){
4
5         for(Laptop_Bookings__c lap:lapList)
6
7         {
8
9             Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
10
11             email.setToAddresses( new List<String>{lap.Email__c});
12
13             email.setSubject('Welcome to our company');
14
15             string body = 'Dear Customer, \n';
16
17             body += 'Welcome to Laptop Rentals! You have been seen as a valuable customer to us.\n Please continue your journey with us, while we
18
19             email.setPlainTextBody(body);
20
21         }
22     }
23 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name	Line	Problem
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Dashboards: Dashboards help you visually understand changing business conditions so you can make decisions based on the real-time data you've gathered with reports. Use dashboards to help users identify trends, sort out quantities, and measure the impact of their activities. Before building, reading, and sharing dashboards, review these dashboard basics.



Reports: Reports give you access to your Salesforce data. You can examine your Salesforce data in almost infinite combinations, display it in easy-to-understand formats, and share the resulting insights with others. Before building, reading, and sharing reports, review these reporting basics.

The screenshot shows the Salesforce Reports interface. On the left, there's a sidebar with a search bar and a list of reports. The main area displays a report titled 'consumer with Laptop Bookings and Total Laptop'. The report is organized into a table with columns for 'Amount', 'consumer: consumer_name', 'Laptop Bookings: Laptop Bookings', and 'Total Laptop: Total Laptop'. The table is grouped by 'Amount' into three categories: 'Basic (2)', 'Intermediate (1)', and 'High (2)'. Each category has a 'Subtotal' row. The 'Total (5)' row at the bottom shows the overall totals. The interface includes various controls like 'Add Chart', 'Save & Run', 'Save', 'Close', and 'Run' buttons. A note at the top indicates 'Previewing a limited number of records. Run the report to see everything.'

Amount	consumer: consumer_name	Laptop Bookings: Laptop Bookings	Total Laptop: Total Laptop
Basic (2)	\$1,000 Shouko	Det 1 booking	Det row (2) 50
	\$1,000 Shouko	Accn	50
Subtotal	\$2,000		
Intermediate (1)	\$3,000 Shouko	Det 2	Det row (2) 50
Subtotal	\$3,000		
High (2)	\$5,200 Shouko	Accn	50
	\$9,000 Shouko	HP	50
Subtotal	\$14,200		
Total (5)	\$19,000		

6. Key Scenarios Addressed by Salesforce in the Implementation Project for Laptop Rentals

Scenario 1:

Daily automated reports sent to owners, summarizing:

- The number of laptops rented, returned, and available in inventory.
- Revenue trends and payment statuses.
- Key performance metrics for the rental business.

Scenario 2:

Suppliers' payment details calculated automatically based on:

- The number of laptops rented from suppliers.
- Pricing per rental day or unit, along with additional charges like maintenance.

Scenario 3:

Role-based dashboards enabling:

- Owners to view overall business performance, revenue, and supplier details.
- Employers (managers) to monitor rental transactions, customer requests, and overdue returns.
- Workers (staff) to check inventory status, process rentals, and track laptop conditions.

Scenario 4:

Alerts for low inventory levels to:

- Notify staff when the number of available laptops drops below a critical threshold.
- Trigger automated restocking requests to suppliers.

Scenario 5:

Insights into customer preferences and usage behavior for:

- Identifying popular laptop models and features to guide future inventory purchases.
- Developing targeted marketing strategies, such as promotions for frequent renters or corporate clients.

7. Testing and Validation

Unit Testing:

- **Apex Classes and Triggers:**
 - Tested custom classes and triggers for accurate handling of rental agreements, overdue calculations, and payment processing.
 - Verified the logic for edge cases, such as handling cancellations or invalid inputs.
 - Achieved >90% code coverage to comply with Salesforce standards.

User Interface Testing:

- Validated all forms and pages for laptop rentals, including:
 - Rental request forms, return processes, and payment details.
 - Compatibility across various browsers (Chrome, Firefox, Safari) and devices (desktop, tablet, mobile).
- Ensured a consistent user experience with accurate presentation of data such as inventory availability and customer rental history.

End-to-End Testing:

- Simulated real-world scenarios to ensure seamless functionality, including:
 - Renting laptops, updating inventory, and generating automated daily reports for rental and revenue trends.
 - Handling overdue returns with automatic alerts and payment adjustments.
 - Low inventory notifications and restocking requests triggered without manual intervention.

8. Conclusion

Summary of Achievements:

The **CRM Application for Laptop Rentals** successfully addresses key challenges by providing an integrated, automated, and user-friendly solution. Key accomplishments include:

- **Automated workflows and reports**, saving time and reducing manual errors in managing rentals, inventory, and payments.
- **Enhanced decision-making** with real-time dashboards and analytics for tracking rental trends, revenue, and customer behavior.
- **Streamlined data management** with rollup summary and cross-object formula fields for inventory, rental history, and payment details.
- **Role-based access controls**, ensuring secure and efficient data handling for owners, managers, and staff.

THANK YOU