

A CRM APPLICATION FOR LAPTOP RENTALS

CRM Application on Laptop rentals is about delivering the items to the customers by rental purpose. It leverages the power of customer relationship management (CRM) to enhance customer experiences, optimize store operations, and improve overall efficiency. Additionally to these, we also need to do an effective CRM i.e via communicating through email with the potential customers identified. Below is a breakdown down how the CRM system functions in the context of laptop rentals, and how it can improve both the rental process and customer relationship management (CRM).

1. Customer Relationship Management (CRM) Basics

CRM stands for Customer Relationship Management, and its goal is to understand and anticipate customer needs. It uses data analytics about customers' history with the company to improve business relationships, assist in customer retention, and drive sales growth. In the context of a laptop rental business, CRM can be leveraged in several key areas:

- Customer Interaction Tracking: Track and manage every interaction a customer has with the company. This includes inquiries, complaints, orders, payments, and feedback.
- Personalized Communication: Based on customer history, send tailored offers, reminders, promotions, and updates. This can be done through email, SMS, or app notifications.
- Sales and Marketing: Identify high-value customers, leads, and untapped markets, allowing for targeted marketing campaigns.
- Customer Segmentation: Group customers based on various characteristics, such as rental frequency, type of laptop rented, or geographical location, to deliver more relevant and personalized offers.

2. Key Features of a Laptop Rental CRM Application

A. Customer Profiles

- Data Collection: Store and manage detailed profiles of customers, including personal details (name, contact information), rental history, payment methods,

preferences, and feedback.

- Customer Segmentation: Organize customers into groups (e.g., business customers, students, occasional renters) to provide tailored services and communication.
- Behaviour Tracking: Track when customers last rented, what models they rented, their frequency of rentals, etc. This data can be used to personalize offers and ensure timely communication.

B. Rental Management

- Inventory Management: Track available laptops in real-time, noting which ones are available for rent, in use, or under maintenance.
- Rental Duration & Scheduling: Customers can select rental periods (daily, weekly, or monthly), and the system ensures proper billing based on the duration.
- Availability Alerts: Customers receive automatic notifications if a laptop they're interested in is available again after being rented out.

C. Order and Payment Management

- Order Creation: Customers can book laptops through the application by selecting models, rental period, and other preferences (e.g., accessories).
- Invoicing & Payments: Automatically generate invoices based on rental duration, model, and any additional services. The system should support multiple payment methods, including credit/debit cards, bank transfers, and digital wallets.
- Late Fees: Implement automatic late fee calculations if customers return laptops past the rental period.

D. Communication & Engagement

- Email Automation: Send personalized emails at various stages of the rental process: order confirmation, rental reminders, maintenance updates, return reminders, etc.
- Customer Support: Integrated help desk for handling queries or issues related to rentals, laptop issues, or payments.
- Feedback Collection: After a rental period, ask customers for feedback to improve services. Automated surveys or ratings can be sent via email or the app.

E. Reporting and Analytics

- Sales Analytics: Track rental volumes, popular models, customer demographics, and rental trends. This helps in inventory management and decision-making for future acquisitions.
- Customer Lifetime Value (CLV): Calculate the long-term value of each customer based on repeat rentals and their engagement with special offers or marketing campaigns.
- Revenue and Expense Tracking: Maintain detailed financial records, such as income from rentals, payment processing fees, and laptop maintenance costs.

3. CRM for Effective Communication with Customers

A significant part of CRM in a laptop rental application is the ability to effectively communicate with customers, especially potential ones who may not have rented yet. Here's how the system can enhance communication and engagement:

A. Automated Email Campaigns

- New Customer Onboarding: When a new customer registers or shows interest in renting a laptop, send a welcome email explaining the rental process, policies, and special offers for first-time renters.
- Personalized Rental Reminders: Send emails or notifications when it's time to return rented laptops or renew the rental period, helping customers avoid late fees.
- Promotional Offers: Target customers based on their rental history with personalized email promotions or discounts (e.g., "20% off your next rental if you rent for 7 days or more").
- Re-engagement Campaigns: For customers who haven't rented in a while, send re-engagement emails offering them a special discount reminding them.

B. Customer Support via Email

Issue Resolution: Use the CRM system to automatically generate support tickets when customers email regarding issues with their rentals, such as laptop malfunctions or damage. This ensures the issue is tracked and resolved promptly.

Post-Rental Communication: After a rental period ends, you can ask for feedback via email to gauge customer satisfaction and improve your services.

C. Segmentation for Targeted Marketing

By analysing customer behaviour data, CRM tools allow you to segment customers

into various categories (e.g., frequent renters, long-term renters, seasonal renters). Based on this segmentation, you can craft highly-targeted marketing campaigns:

- Frequent Renters: Send loyalty discounts, offers for long-term rentals, or personalized emails about new laptop models in stock.
- First-Time Renters: Offer a discount or incentive for their second rental to build repeat business. Seasonal Renters: For instance, students renting during exam time, or business professionals during travel periods. Send emails with promotions tailored to their rental needs.

4. Enhancing Customer Experience

To foster better relationships and increase customer loyalty, the application should focus on customer experience. Here are ways CRM can enhance it:

- Easy Booking Process: Make it simple and quick for customers to reserve laptops, view available models, and choose their rental period.
- Real-Time Updates: Send real-time notifications or emails regarding the status of the rental (e.g., dispatch confirmation, expected delivery time).
- Loyalty Programs: Integrate loyalty programs, rewarding customers with discounts, free accessories, or extended rental periods based on their repeat business.
- Proactive Maintenance: Keep customers informed about any maintenance needs on rented laptops. If a laptop is unavailable for any reason, offer an alternative or compensation.

5. Technical Integration

A well-integrated CRM system will connect with other business systems such as:

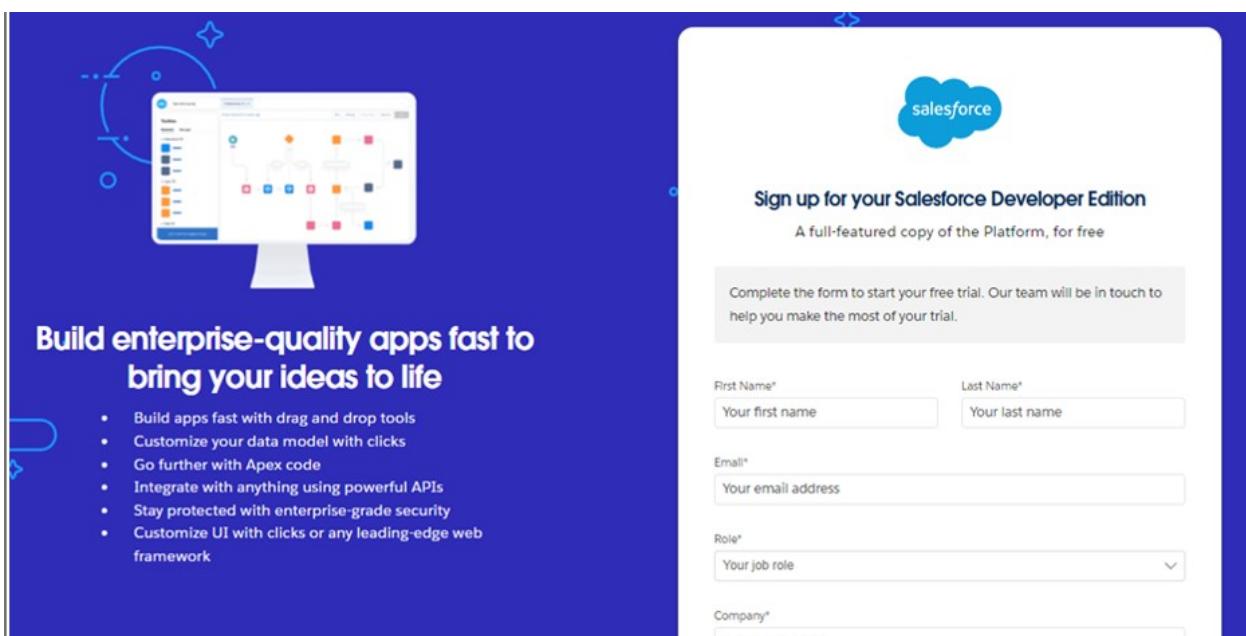
- Inventory Management Software: Sync rental data with inventory, so you always know which laptops are in use and which are available for rent.
- Payment Gateways: Seamlessly integrate with payment platforms like PayPal, Stripe, or bank accounts to handle payments efficiently.
- Customer Support Systems: Integrate with help desk tools like Zendesk or Freshdesk to ensure that customer issues are logged, tracked, and resolved.
- Steps to Create a Salesforce Developer Account: To create a Salesforce Developer Account by signing up for a Salesforce Developer Organization (org), follow the steps outlined below:

- Go to the Signup Page: On the sign-up page, you'll need to fill in the following details:

First Name: Enter your first name.|| Last Name: Enter your last name.|| Email: Enter your email address (this email will be used for notifications related to your Salesforce Developer org).|| Role: Select Developer from the drop-down list.|| Company: Enter your college name (as you are using it for academic or learning purposes). Country: Choose India from the drop-down list. || Postal Code: Enter the postal code (PIN code) of your location in India.|| Username: This should be a unique Salesforce username. It does not need to be a real email address, but it must be in the following Format:username@organization.com

For example: johnsmith@mycollege.com. The username must be unique across Salesforce, so ensure you use a combination of your name and collegename or any unique identifier.

- Agree to the Terms: After filling out all the details, read and agree to Salesforce's terms of service.
- Complete the Sign-Up: Once the form is complete, click on Sign Me Up.
- Check Your Email: After submitting the form, Salesforce will send you a verification email to the address you provided. Follow the instructions in the email to verify your account.
- Access Your Developer Organization: After verifying your email, you can log in to your newly created Salesforce Developer Organization using the username and password you set during registration.



Object Creation

Create Total Laptops Object

From the setup page >>Click on Object Manager >>Click on Create>> Click on CustomObject.

1. Enter the label name>> Total Laptops
2. Plural label name>> Total Laptops
3. Enter Record Name, Label, and FormatRecord Name >>Total Laptops
Data Type >> Text

Click on Allow reports,Allow search, and Track FieldHistory,Allow search >> Save.

6 Items, Sorted by Field Label			
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLS
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)	

Create consumer Object

From the setup page >>Click on Object Manager >>Click on Create>> Click on CustomObject.

1. Enter the label name >> consumer
2. Plural label name >> consumer
3. Enter Record Name, Label, and FormatRecord Name >> consumer_name
Data Type >> Name

Click on Allow reports,Allow search, and TrackField History,Allow search >> Save.

Fields & Relationships			
8 Items, Sorted by Field Label			
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD
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	

Create Laptop Bookings Object

From the setup page >> Click on ObjectManager >> Click on Create>> Click on Custom. Object.

1. Enter the label name >> Laptop Bookings
2. Plural label name >> Laptop Bookings
3. Enter Record Name, Label, and FormatRecord Name >> Laptop Bookings
Data Type >> Name

Click on Allow reports,Allow search, and TrackField History,Allow search >> Save.

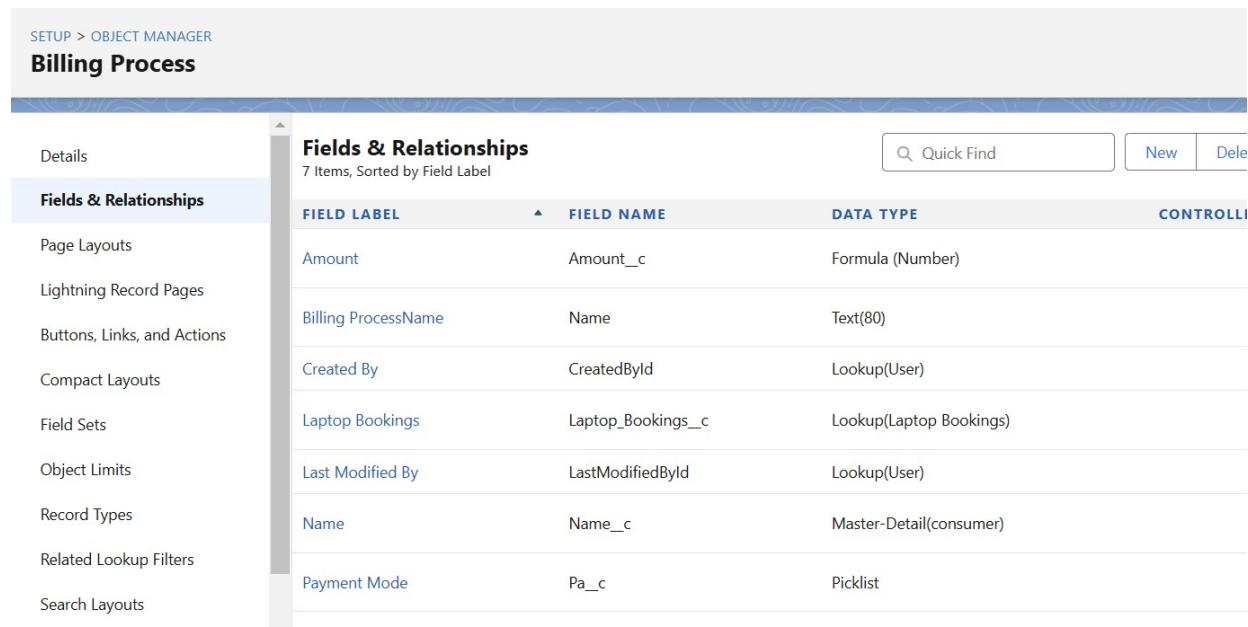
Fields & Relationships			
11 Items, Sorted by Field Label			
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD
Amount	Amount_c	Currency(18, 0)	
core type	core_type_c	Picklist	Laptop names
Created By	CreatedById	Lookup(User)	
Email	Email_c	Email	
how many months	how_many_months_c	Picklist	
Laptop Bookings	Name	Text(80)	
Laptop names	Laptop_names_c	Picklist	
Laptops Available	Laptops_Available_c	Formula (Number)	
Last Modified By	LastModifiedById	Lookup(User)	
Name	Name_c	Master-Detail(consumer)	

Create Billing Process Object

From the setup page >>Click on Object Manager >>Click on Create>> Click on CustomObject.

1. Enter the label name >> Billing Process
2. Plural label name >> Billing Process
3. Enter Record Name, Label, and Format Record Name >> Billing ProcessName Data Type >> Name

Click on Allow reports,Allow search, and Track FieldHistory,Allow search >> Save.



The screenshot shows the Salesforce Object Manager interface. The top navigation bar has 'SETUP > OBJECT MANAGER'. Below it, the object name 'Billing Process' is displayed. On the left, a sidebar lists various settings like Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, etc. The main content area is titled 'Fields & Relationships' with a sub-header '7 Items, Sorted by Field Label'. It contains a table with columns: FIELD LABEL, FIELD NAME, DATA TYPE, and CONTROLLERS. The table data is as follows:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLERS
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	Pa_c	Picklist	

Steps to Create a Lightning App in Salesforce:

1. Go to Setup:

Log in to your Salesforce org.

Click the Gear Icon (⚙) in the top-rightcorner of the screen and select Setup from the dropdown.

2. Access the App Manager:

In the Quick Find box (on the left side), type "App Manager" and press Enter. Under the App Setup section, select App Manager from the search results.

3. Create a New Lightning App:

In the App Manager, click the New Lightning App button in the top-rightcorner.

4. Enter App Details:

App Name: In the App Details section, enter the name of your app as LAPTOP RENTALS.

Developer Name: This is auto-filled based on your app

name. You can leave it as default.

ClickNext.

5. App Options Page:

In the App Options section, leave everything as default. You can keep the default settings for "App Page" and click Next.

6. Utility Items:

In the Utility Items section, leave everything as default as well. This step can be skipped or you can add utility items later.

ClickNext.

7. Upload a Photo for Your App:

In the App Branding section, you will be prompted to upload a photo related to your app.

Recommended Image Size: 128 x 128 pixels.

Choose a logo or image that reflects your app's purpose (for example, an image of a laptop).

After uploading the photo, click next.

8. Add Navigation Items:

In this step, you will add the navigation items that will appear in your app. Search for Navigation Items:

In the SearchBar, type and search for the following items:

Total Laptops Consumer Laptop Booking Billing Process

For each item, select it from the list and click the right arrow to add it to your app's navigation. Once all items are added, click Next.

9. Add User Profiles:

In the Assign Profiles section, search for SystemAdministrator in the search bar. This profile will have full access to the app.

Select System Administrator and click the right arrow to add it to the list of profiles with access to the app.

Once the profile is added, click Save & Finish.

10. App Creation Complete:

Your LAPTOP RENTALS Lightning App has now been created! You can click on View to preview the app or start customising the pages, objects, and components further.

You can access the app from the App Launcher (the 9-dot grid in the top left corner of Salesforce) and search for LAPTOP RENTALS.

Creating the field in consumer object

- a. To create fields in an object:

- b. Go to setup >> click on Object Manager >> type object name(consumer) in search bar >>click on the object.
- c. Now click on “Fields & Relationships” >> New
- d. Select Data Type as a “Phone”
- e. Click on next
- f. Fill the Above as following:
- g. Field Label: Phone number
- h. Field Name : gets auto generated
- i. Click the required option checkbox.
- j. Click on Next >>Next >> Save and new.
- k. To create another field in an object:
- l. Go to setup >> click on Object Manager >> type object name(consumer) in search bar >>click on the object.
- m. Now click on “Fields & Relationships” >> New
- n. Select Data type as “Email” and Click on Next
- o. Fill the Above as following:
- p. Field Label: Email
- q. Field Name :It's gets auto generated

The screenshot shows the Salesforce Setup interface for the 'consumer' object. The left sidebar lists various configuration options like Details, Fields & Relationships, Page Layouts, etc. The main area is titled 'New Custom Field' under 'Step 2. Enter the details'. The 'Field Label' is set to 'Email' and the 'Field Name' is also 'Email'. There are several optional settings at the bottom, including checkboxes for 'Always require a value in this field in order to save a record', 'Do not allow duplicate values', 'Set this field as the unique record identifier from an external system', and 'Add this field to existing custom report types that contain this entity'. A 'Default Value' field contains the formula '=Current Formula Value'.

Click on Next >> Next >> Save and new.

To create another field in an object:

1. Go to setup >> click on Object Manager >> type object name(consumer) in search bar >> click on the object.
2. Now click on “Fields & Relationships” >> New
3. Select Data type as a “Text Area” and Click on Next
4. Fill the Above as following:
5. Field Label: Address

6. Field Name : It's gets auto generated
7. Select Required field.
8. Click on Next >> Next >> Save and new.

Step 2. Enter the details

Field Label: Address

Field Name: Address

Description:

Help Text:

Required: Always require a value in this field in order to save a record.

Auto-add to custom report type: Add this field to existing custom report types that contain this entity.

Default Value: Show Formula Editor

Use formula editor. Formula text and picklist value API names: Address, Address numbers, unit numbers, (010), show coordinates as decimal, (010), and express code calculations in the standard format. (Example = "1,75 reference a field from a Custom Metadata type record uses @Item[Metadata type]@Item[RecordName]@Item[Field]

To create another field in an object:

1. Go to setup >> click on Object Manager >> type object name(consumer) in search bar >> click on the object.
2. Now click on “Fields & Relationships” >> New
3. Select Data type as a “Picklist” and Click on Next
4. Fill the Above as following:
5. Field Label: consumer Status

Fields & Relationships

Field Label: consumer_status

Values: Enter values, with each value separated by a new line
student
employee
others

Field Name: consumer_status

Description:

Help Text:

Required: Always require a value in this field in order to save a record.

6. Value - Select enter values with each valueseparated by a new line

Creating the field in Laptops Bookings object

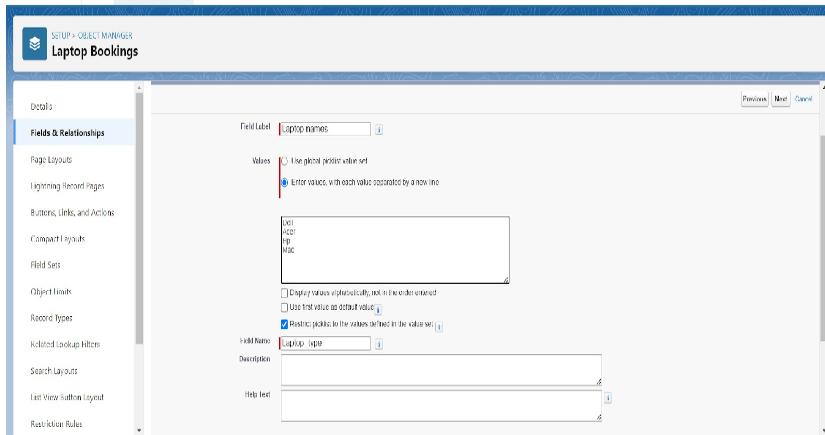
To createfields in an object:

Go to setup >>click on ObjectManager >> type object name(Laptop Booking) in the

search bar >> click on the object.

Now click on “Fields & Relationships” >> NewSelectData Type as a “Picklist”

Picklist values are:- 1.Dell 2.Acer 3.Hp 4.Mac



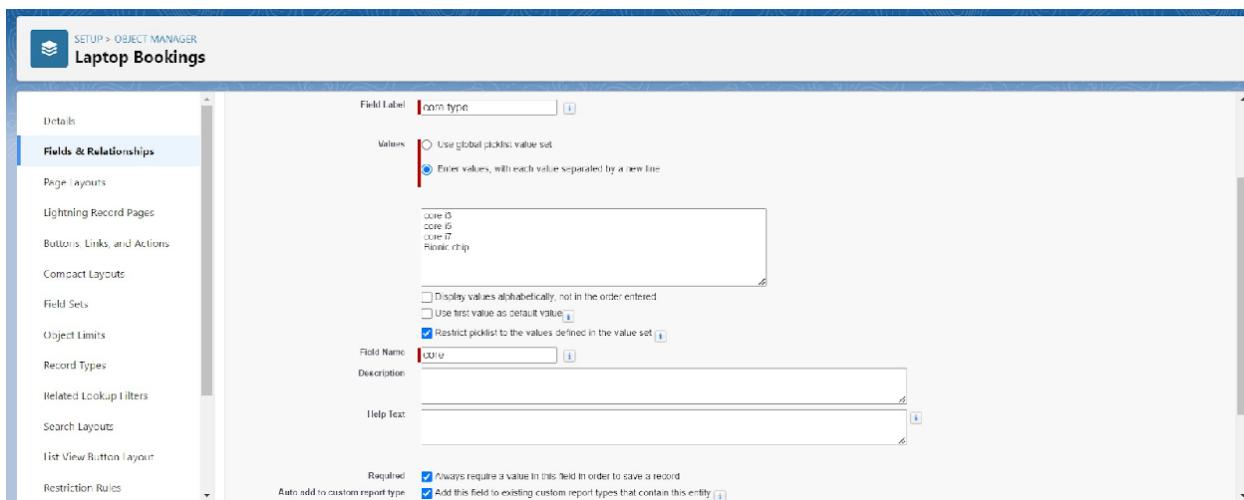
Select required Click on Next>> Next >> Save and new

2. To Create a Fields & Relationship to an Laptop Booking Object

To create fields & relationships to an object:

Go to setup >> click on ObjectManager >> type object name(Laptop Booking) in the search bar >> click on the object.

Now click on “Fields & Relationships” >> NewselectData Type as a “Picklist”



Picklist Select required

Click on Next>> Next >> Save and new

To Create a Fields& Relationship to an LaptopBooking Object

To createfields & relationships to an object:

1. Goto setup >>click on Object Manager >> type object name(Laptop Booking) in the searchbar >> click on the object.
2. click field dependency and next
3. Click the include value for dell-corei3,i5,i7 and for acer i3,i4,i5 and for hip i3,i4,i5and also for macbionic chip include the values for it.

Click save.

To Create a Fields& Relationship to an LaptopBooking Object

To createfields & relationships to an object:

Go to setup >>click on ObjectManager >> type object name(Laptop Booking) in the search bar >> click on the object.

Now click on “Fields & relationships” >> NewSelectData Type as a “LookupRelationship”

Clickon Next

Click on the Related to drop down and Select the “consumer” object and click on NextFill the Above as following:

Change the Field Label: Name Field Name :It's gets auto generated

Clickon Next >> Next >>Save and new.

To create fields in an object:

- 1.Go to setup >> click on Object Manager >>type object name(Laptop Booking)in the
- 2.searchbar >> click on the object.
- 3.Now click on “Fields & Relationships” >> New
- 4.SelectData Type as a “Currency”
- 5.Clickon Next Fill the Above as following:Field Label: Amount Length: (18,0)

Field Name :It's gets auto generated

The screenshot shows the 'Step 2. Enter the details' page for creating a new field. The field name is 'Amount'. Configuration includes:

- Field Label:** Amount
- Length:** 18
- Decimal Places:** 0
- Field Name:** Amount
- Description:** Amount
- Help Text:** (empty)
- Required:** Always require a value in this field in order to save a record
- Auto add to custom report type:** Add this field to existing custom report types that contain this entity
- Default Value:** Show Formula Editor

Click on Next >> Next >> Save and new

To Create a Fields& Relationship to an Object

1. Goto setup >>click on Object Manager >> type object name(Laptop Booking) in the search bar >> click on the object.
2. Now click on "Fields& Relationships" >>New Select Data Type as a "LookupRelationship"

Click on Next

The screenshot shows the 'Step 2. Choose the related object' page for creating a relationship. The 'Related To' dropdown is set to 'Total Laptops'.

3. Click on the Relatedto drop down and Selectthe "Total Laptops"object and click on NextFill the Above as following:

Change the Field Label: TotalNo Of Laptops Field Name :It's gets auto generated Click on Next >> Next >>Save and new.

4. ToCreate a Fields& Relationship to an LaptopBooking ObjectTo create fields&

relationships to an object:

Go to setup >>click on ObjectManager >> type object name(Laptop Booking) in the search bar >> click on the object.

Now click on “Fields & Relationships” >> NewSelectData Type as an “Email”

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount__c	Currency(10, 0)		
core type	core__c	Picklist	Laptop names	
Created By	CreatedById	Lookup(User)		
Laptop Bookings Name	Name	Text(20)		✓
Laptop names	Laptop_type__c	Picklist		
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]		✓

click on Next and save it.

To Createa Rollup SummaryField in “Total Laptops Object”

After Creating the Lookup Relationship Than Only you can create the Rollup Summary

Go to setup>> click on Object Manager>> type objectname(Total Laptops) in the searchbar >>click on the object.

Now click on “Fields &Relationships” >> New Select Data type as a “Roll-up Summary” and Click on NextFill the Above as following:

Field Label: Laptopsdelivered Field Name :It's gets auto generated

The screenshot shows the 'Total laptops' object setup page. In the sidebar, 'Fields & Relationships' is selected. On the main panel, 'Step 2. Enter the details' is shown, where 'Field Label' is set to 'Laptops delivered' and 'Field Name' is also 'Laptops delivered'. Below these fields are 'Description' and 'Help Text' input boxes. A note at the bottom says 'Auto add to custom report type' with a checkbox for 'Add this field to existing custom report types that contain this entity'. Navigation buttons 'Previous', 'Next', and 'Cancel' are at the bottom right.

Click on Next

Select the Laptop Bookings in the Summarized Object Select the count Radio button in the select Roll-up Type

The screenshot shows 'Step 3. Define the summary calculation'. Under 'Select Object to Summarize', 'Master Object' is 'Total laptops' and 'Summarized Object' is 'Laptop Bookings'. Under 'Select Roll-Up Type', the 'COUNT' radio button is selected. A note below says 'Field to Aggregate' with a dropdown set to 'None'. Under 'Filter Criteria', there are two options: 'All records should be included in the calculation' (selected) and 'Only records meeting certain criteria should be included in the calculation'. Navigation buttons 'Previous', 'Next', and 'Cancel' are at the bottom right.

8. To create fields in an object:

Go to setup >> click on ObjectManager >> type object name(Laptop Booking) in the search bar >> click on the object.

Now click on “Fields & Relationships” >> New Select Data type as a “Formula” and Click on NextFill the Above as following:

FieldLabel: Laptops Available

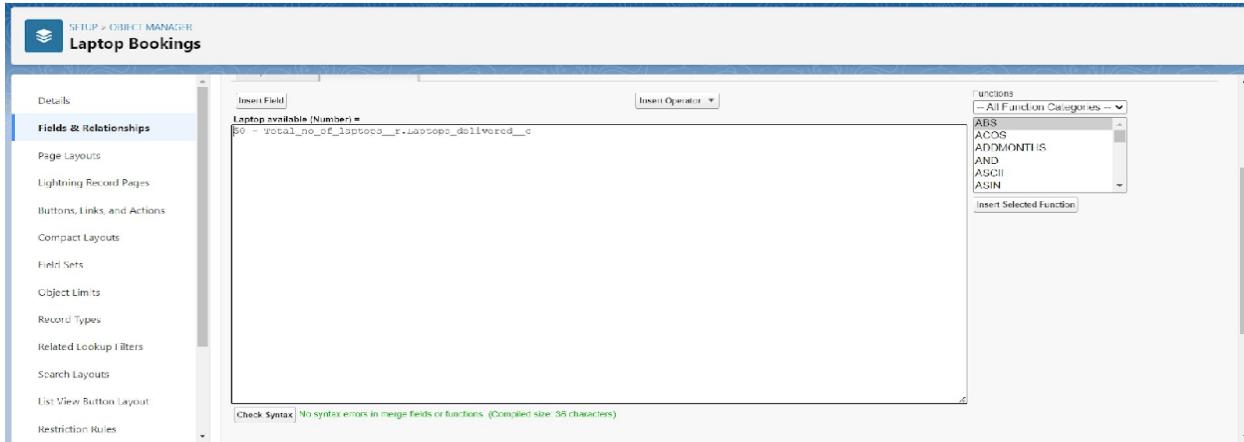
Field Name : It's gets auto generated

Select the Formula ReturnType as “Number”

Select the Decimal places as “0” and Click on Next

Click on the Advanced Formula and Enter the value in the formula box “ 50 - ” and

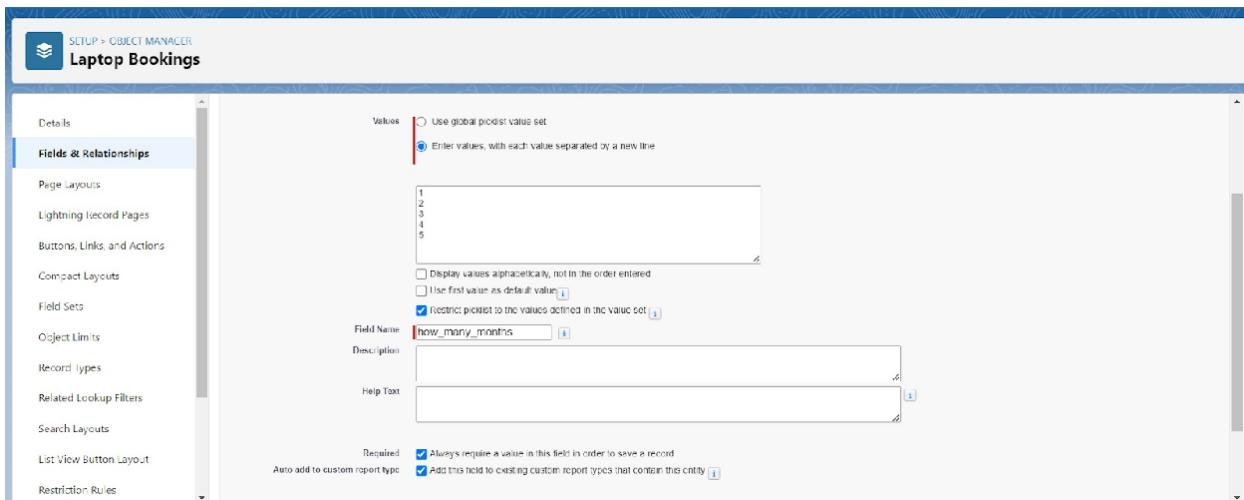
Click on the insert field; then you will find a pop window under the Laptop Booking select the Total No Of Laptops in the second Column and select the Laptops delivered in the third column and click on insert



" 50 - Total_no_of_laptops__r.Laptops_delivered__c" and Check Syntax

Click on Next >> Next >> Save and newTo create fieldsin an object:

- 1.Go to setup >> click on Object Manager >>type object name(Laptop Booking)in the
 - 2.searchbar >> click on the object.
 - 3.Now click on “Fields & Relationships” >>New4.SelectData Type as a “picklist”
- Picklist values are 1.2.3.4.5Click and save it.



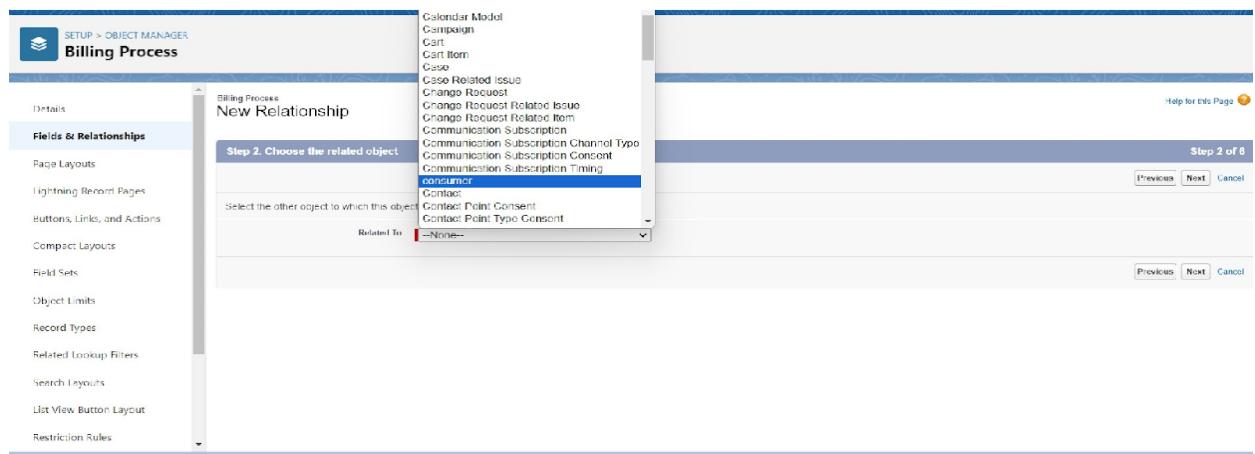
Creation of Fields &Relationships for BillingProcess Object

To createfields & relationships to an object:

Go to setup >>click on Object Manager >>type object name(Billing Process) in the search bar >> click on the object.

Now click on “Fields & Relationships” >> New Select Data Type as a “Master-detail Relationship”

Click on Next



Click on the Related to drop down and Select the consumer object and click on Next

Fill the Above as following:

Change the Field Label: Name Field Name :It's gets auto generated

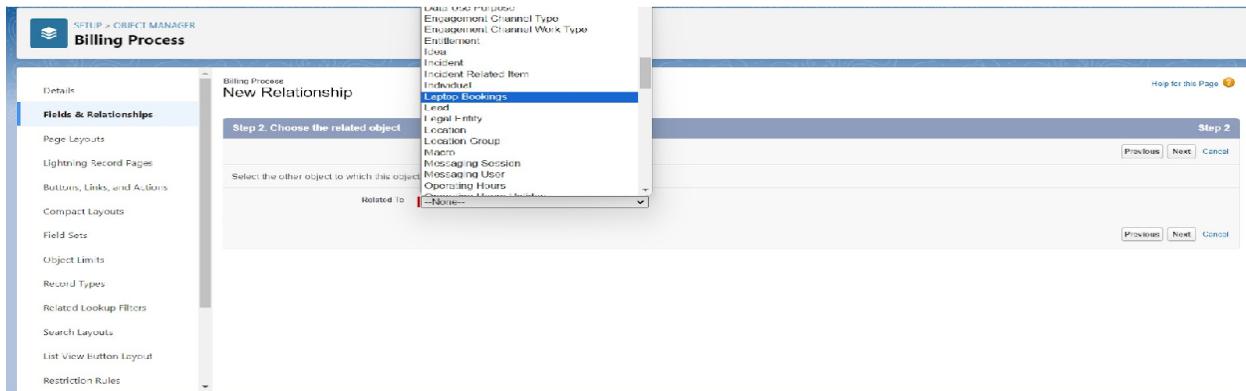
Click on Next >> Next >> Save and new.

To create another field & relationship to an object:

Go to setup >> click on Object Manager >> type object name(Billing Process) in the search bar >> click on the object.

Now click on “Fields & Relationships” >> NewSelectData Type as a “LookupRelationship”

Click on Next, Click on the Related to drop down and Select the Laptop Booking object and click on Next



Fill the Above as following:

Change the Field Label: Laptop BookingField Name :It's gets auto generated

Click on Next >> Next >> Save and new.

Creation of another fields for the billing process object To create fields in an object:

Go to setup >> click on Object Manager >> type object name(Billing Process) in the search bar >> click on the object.

Now click on "Fields & Relationships" >> NewSelectData Type as a "Picklist"

Fill the Above as following:

Field Label: PaymentMode

Value >>Select enter valueswith each valuesseparated by a new line

Cross Object Formula Field:

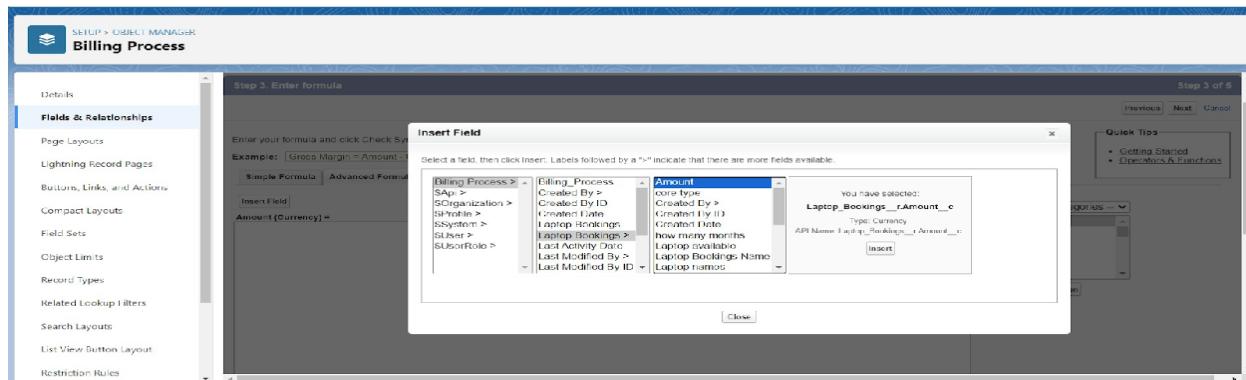
In Salesforce, a cross-object formula field allows you to create a formula that references fields from related objects. It enables you to perform calculations or display data from related records without the need for custom code or complex workflows.

Create a Cross object formula Field in billing process Object Go to setup >>click on Object Manager >>type object name(Billing Process) in the search bar >> click on the object.Now click on "Fields & Relationships" >> NewSelectData type as a "Formula" Clickon Next

Enter the Fieldlabel: Amount, the Field name gets auto generated, and click on Next.(Formulareturn type Number).

In the AdvancedFormula, Click on the Insertfield in the popup ScreenSelect the Billing Process, and in the seconddrop down selectthe Laptop Booking, and in the three drop down select the Amount field and click on Insert

" Laptop_Booking__r.Amount__c".



Click on the Check syntax: No syntax errors inmerge fields

Click on Next >>Next >> Save and new.

The screenshot shows the Salesforce Object Manager for the 'Billing Process' object. In the 'Fields & Relationships' section, a new formula field is being created. The formula is defined as `= [Total_Laptops__c] * r_Amount__c`. A function library is open on the right, showing various mathematical functions like ABS, ACOS, ADDMONTHS, AND, ASCII, ASIN, etc. The status bar at the bottom indicates no syntax errors.

Creating the field in the TotalLaptops object

1. To create fields in an object:

Go to setup>> click on Object Manager>> type object name(Total Laptops)in search bar >>click on the object.

Now click on “Fields & Relationships” >> New Select Data type as a “Formula” and Click on NextFill the Above as following:

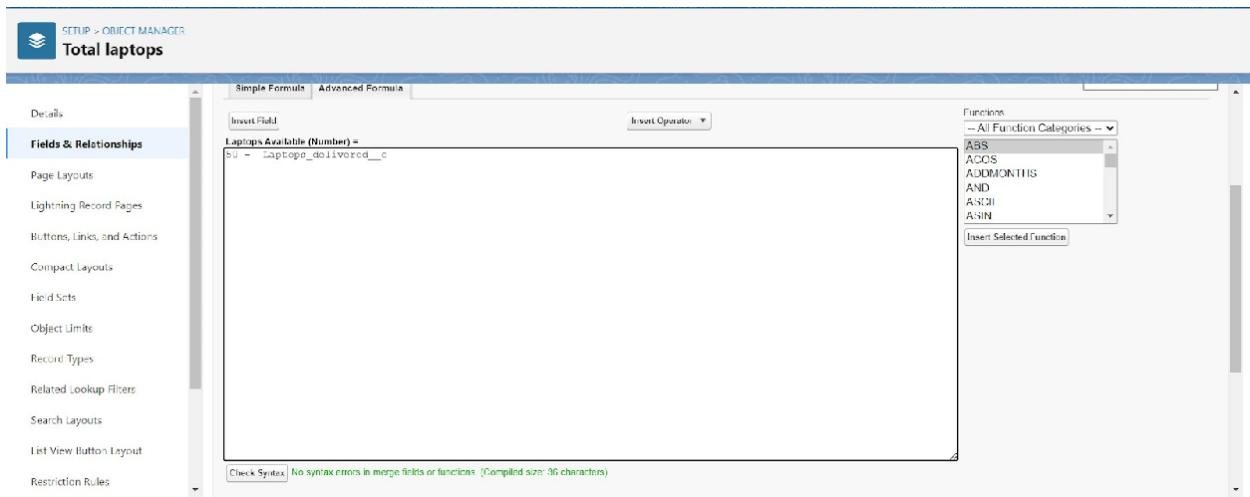
FieldLabel: Laptops Available

Field Name : It's gets auto generated

Select the Formula ReturnType as “Number”

The screenshot shows the Salesforce Object Manager for the 'Total laptops' object. A new formula field 'Laptops Available' is being created. The formula is set to `= [Total_Laptops__c] * r_Amount__c`. The 'Formula Return Type' is selected as 'Number'. The status bar at the bottom indicates no syntax errors.

Select the Decimal places as “0” and Click on NextClick on the Advanced



Formula " 50 - Laptops_delivered_c " and Check Syntax

Click on Next >>Next >>Save and new.

Validation rule:

Validation rules are applied when a user tries to save a record and are used to check if the data meets specified criteria. If the criteria are not met, the validation rule triggers an error message and prevents the user from saving the record until the issues are resolved.

Improve the quality of your data using validation rules. Validation rules verify that the data a user enters in a record meets the standards you specify before the user can save the record. A validation rule can contain a formula or expression that evaluates the data in one or more fields and returns a value of "True" or "False". Validation rules also include an error message to display to the user when the rule returns a value of "True" due to an invalid value.

Creating the validation rule for the phone number field in the consumer object

Creating the validation rule for the phone number field in the consumer object

Go to the setup page >> click on the object manager>> From the drop down, click edit for consumer object.

Click on the validation rule >> click New.

Enter the Rule name as "Phone number or email blank rule".

Enter the description as "phone number and email number should not be blank".

Enter the formula as "OR(ISBLANK(phone_number_c), ISBLANK(email_c))" and check the syntax.

Save the validation rule.

Profiles:

A profile is a group/collection of settings and permissions that define what a user can do in salesforce. Profile controls Object permissions, Field permissions, User permissions, Tab settings, App settings, Apex class access, Visual-force page access, Page layouts, Record Types, Login hours & Login IP ranges. You can define profiles by the user's job function. For example, System Administrator, Developer, Sales Representative.

Types of profiles in salesforce

Standard profiles:

By default, Salesforce provides below-standard profiles. Contract Manager

Read Only Marketing User Solutions Manager Standard User System Administrator.

We cannot delete standard ones, Each of these standard ones includes a default set of permissions for all of the standard objects available on the platform.

Custom profiles: Custom ones defined by us.

They can be deleted if there are no users assigned to that particular one owner Profile

To create a new profile:

Go to setup>> type profiles in the quick find box >> click on profiles >> clone the desired profile (Standard User) >> enter profile name (owner) >> Save.

Scroll down to Custom Object Permissions and Give access permissions for Total Laptops, consumers, Laptop Booking and Billing Process objects as mentioned in the below diagram.

Give Access and Save it.

Agent Profile

Go to setup>> type profiles in the quick find box >> click on profiles >> clone the desired profile

(Standard Platform User)>> enter profile name (Agent) >>Save.

While still on the profile page, then click Edit.

Scroll down to Custom ObjectPermissions and Give access permissions for Total Laptops, consumer, Laptop Bookings and Billing Process objects as mentioned in the below diagram.

Give access and save it.

Roles and Hierarchy:

A role in Salesforce defines a user's visibility access at the record level. Roles may be used to specify the types of access that people in your Salesforce organization can have to data. Simply put, it describes what a user could see within the Salesforce organization.

Creating owner Role Creating ownerRole:

Go to quick find >> Search for Roles >> click on set up roles.

2. Click on Expand All and click on add role under whom this role works.

Give Label as "owner" and Role name gets auto populated. Then click on Save.

The screenshot shows the 'Role Edit' page in the Salesforce setup. The 'Label' field contains 'owner', the 'Role Name' field also contains 'owner', and the 'This role reports to' field contains 'CEO'. The 'Role Name as displayed on reports' field is empty. At the bottom, there are three buttons: 'Save', 'Save & New', and 'Cancel'.

Click and save it.

Activity 2: Creating Agent roles

Creating another two roles under the manager

Go to quick find - Search for Roles - click on set up roles. Click plus on the CEO role, and click add role under owner.

Creating the Role Hierarchy

You can build on the existing role hierarchy shown on this page. To insert a new role, click **Add Role**.

Your Organization's Role Hierarchy

Collapse All | Expand All

- smartbridge
 - Add Role
 - CEO Edit | Del | Assign
 - CFO Edit | Del | Assign
 - COO Edit | Del | Assign
 - HR Edit | Del | Assign
 - owner Edit | Del | Assign
 - SVP_Customer Service & Support Edit | Del | Assign
 - SVP_Human Resources Edit | Del | Assign
 - SVP_Sales & Marketing Edit | Del | Assign

Show in List View

Give Label as "Agent" and Role name gets auto populated. Then click on Save.

Users:

A user is anyone who logs in to Salesforce. Users are employees at your company, such as sales reps, managers, and IT specialists, who need access to the company's records. Every user in Salesforce has a user account. The user account identifies the user, and the user account settings determine what features and records the user can access. Create User

Go to setup - type users in the quick find box - select users - click New user. Fill in the fields

First Name : Vicky Last Name : y

Alias: Give an Alias Name

Email id : Give your Personal Email id

Username : Username should be in this form:

text@text.text Nick Name : Give a Nickname

Role : owner

User license : SalesforceProfiles : owner.

New User

User Edit

General Information

First Name	vicky
Last Name	rushi
Alias	vrush
Email	udayrushi00@gmail.com
Username	udayrushi00@4567@gmail
Nickname	vicky
Title	
Company	
Department	
Division	

Role: owner

User Profile: Salesforce

Profile: Standard User

Active:

Marketing User:

Offline User:

Knowledge User:

Flow User:

Service Cloud User:

Site.com Contributor User:

Site.com Publisher User:

WMC User:

Data.com User Type: --None--

Data.com Monthly Addition Limit: Default Limit (300)

Accessibility Mode (Classic Only):

Save it.

Activity 2: creating another user

Go to setup -type users in the quick find box - select users-click

New user.Fill in the fields

First Name : ramLast Name : ram

Alias: Give an Alias Name

Email id : Give your Personal Email id

Username : Username should be in this form:

text@text.textNick Name : Give a Nickname

Role :Agent

User license : Salesforce platformProfiles : standard platformuser.

The screenshot shows the 'New User' creation page in Salesforce. The 'General Information' section includes fields for First Name, Last Name, Alias, Email, Username, and Nickname. The 'Role' is set to 'Agent', 'User License' to 'Salesforce Platform', and 'Profile' to 'Standard Platform User'. Other optional fields like Marketing User, Offline User, Knowledge User, How User, Service Cloud User, Site.com Contributor User, Site.com Publisher User, and WIKI User are all empty. The 'Data.com User Type' field is set to 'None', 'Data.com Monthly Addition Limit' is set to 'Default Limit (300)', and the 'Accessibility Mode (Classic Only)' field is empty.

Save it.

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.

- Auto launched 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.

Sub flows: 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.

Activity -

1. Go to setup >> type Flow in the quick find box >> Click on the Flow and Select the New Flow.

Flow Label	Process Type	Ac...	Te...	Package State	Po...	Last Modified By	Last Modified ...
Ac Amount update	Autolaunched Flow	<input type="checkbox"/>	<input type="checkbox"/>	Unmanaged	Viree Venkata Varaprasad Anurodh	07/06/2023, 11:35 AM	
Book Appointment from invitation	Salesforce Scheduler Flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Managed-Installed			
Cancel Item Flow	Screen Flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Managed-Installed			
Change Case Owner to Incident Owner	Screen Flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Managed-Installed			
Close Change Request & Related Issues	Screen Flow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Managed-Installed			

2. Select the Object as a Laptop Booking in the Drop down list.
3. Select the Trigger Flow when: "A record is Created or Updated".
4. Select the Optimize the flow for: "Actions and Related Records" and Click on Done.

Configure Start

Set Entry Conditions

Specify entry conditions to reduce the number of records that trigger the flow and the number of times the flow is executed. Minimizing unnecessary flow executions helps to conserve your org's resources.

If you create a flow that's triggered when a record is updated, we recommend first defining entry conditions. Then select the **Only when a record is updated to meet the condition requirements** option for When to Run the Flow for Updated Records.

Condition Requirements

None

*** Optimize the Flow for:**

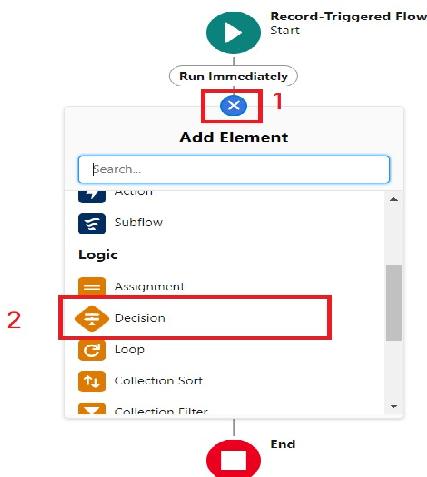
Fast Field Updates
Update fields on the record that triggers the flow to run. This high-performance flow runs before the record is saved to the database.

Actions and Related Records
Update any record and perform actions, like send an email. This more flexible flow runs after the record is saved to the database.

Include a Run Asynchronously path to access an external system after the original transaction for the triggering record is successfully committed

[Cancel](#) [Done](#)

5. Under the Record-triggered Flow Click on “+” Symbol and In the Drop down List select the “DecisionElement”.



6. Enter the Details Label: Field should be Updated, API name: Gets AutomaticallyGenerated.
7. Enter the Outcome DetailsLabel: dell, OutcomeAPI name: Gets Automatically Generated.
8. Resource: Select Record.Laptop booking_c.
9. Operator: Select Equals.
10. Value: SelectDell
11. Add the same outcome order to acer , hp,mac.

Click done.

Edit Decision

* Label	* API Name
field should updated	field_should_updated
Description	
the field should be automatically updated	
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 + OUTCOME DETAILS	
dell acer hp mac false	* Label dell * Outcome API Name dell Condition Requirements to Execute Outcome All Conditions Are Met (AND) Resource \$Record > Laptop names Operator Equals Value Dell
<input type="button" value="Delete Outcome"/> <input type="button" value="Cancel"/> <input type="button" value="Done"/>	

12. So go to the flow page select '+' after core i3 then again select the decision.
13. Enter the Details Label: months selected, API name: Gets Automatically Generated.
14. Enter the Outcome DetailsLabel: dell 1(i3) , OutcomeAPI name: Gets AutomaticallyGenerated.
15. Resource: Select Record.how many months.
16. Operator: Select Equals.
17. Value: 1.
18. Enter the Outcome DetailsLabel: dell 2(i3) , OutcomeAPI name: Gets AutomaticallyGenerated.

Edit Decision

* Label	* API Name
months selected	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 + OUTCOME DETAILS	
1 2 3 4 5	* Label * Outcome API Name X* Condition Requirements to execute Outcome All Conditions Are Met (AND) Resource \$Record > how many months Operator Equals Value 1
<input type="button" value="Delete Outcome"/> <input type="button" value="Cancel"/> <input type="button" value="Done"/>	

19. Follow the above picture, and you will understand.
20. After dell 1(i3) there is '+' symbol like dell 2(i3),dell 3(i3),dell 4(i3),dell 5(i3).
21. Click on '+' then select update records
22. Enter the Details Label: one month of Dell I3 rate , API name: Gets AutomaticallyGenerated.

23. Field:- Amount__c , value:- for dell 1(i3)-1000, dell 2(i3)-2000, dell 3(i3)-3000,dell 4(i3)-4000, dell 5(i3)-5000. Follow for all these finally

24. Click done.

25. Follow the above picture, and you will understand.

26. After dell 1(i7) there is '+' symbol like dell 2(i7),dell 3(i7),dell 4(i7),dell 5(i7).

27. Click on '+' then select update records

28. Enter the Details Label: one month of Dell i5 rate , API name: Gets AutomaticallyGenerated.

29. Field:- Amount__c , value:- for dell 1(i7)-2000, dell 2(i7)-4000, dell 3(i7)-6000,dell 4(i7)-8000, dell 5(i7)-10000. Follow for all these finally

30. Click done.

Creating flow on Acer laptop

- Go to the flow page
- Beside acer there is a symbol '+' click on that.
- Again, select decision
- Enter the Details Label: Field is Update, API name: Gets Automatically Generated.
- select the Outcome Details Label: acer core i3, Outcome API name: Gets Automatically Generated.
- Resource: Select Record.core type.
- Operator: Select Equals.

Edit Decision

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	OUTCOME DETAILS
# acer core i3	*Label acer core i3 *Outcome API Name acer_core_i3
# acer core i5	
# acer core i7	

Condition Requirements to Execute Outcome All Conditions Are Met (AND)

Resource	Operator	Value
\$Record > core type	Equals	core i3

+ Add Condition

When to Execute Outcome

If the condition requirements are met
 Only if the record that triggered the flow to run is updated to meet the condition requirements

Cancel Done

1. Beside dell there is a symbol '+' click on that.

2. Again, select decision

3. Enter the Details Label: months selected, API name: Gets Automatically Generated.
4. Enter the Outcome Details Label: acer 1(i3) , Outcome API name: Gets AutomaticallyGenerated.
5. Resource: Select Record.how many months.
6. Operator: Select Equals.
7. Value:
8. t6y8ui90o-p=[Field:- Amount__c , value:- for acer 1(i3)-900, acer 2(i3)-1800, acer 3(i3)-2700,acer 4(i3)-3600, acer 5(i3)-4800. Follow for all these finally Click done.

creating a flow on hp laptop:

1. Go to the flow page
2. Beside hp there is a symbol '+' click on that.
3. Again, select decision
4. Enter the DetailsLabel: Field is Update, API name: Gets Automatically Generated.select the OutcomeDetails Label: hp core i5 , Outcome API name: Gets Automatically Generated.

Resource: Select Record.core type.Operator: Select Equals.

Value:Select hp i5.

1. Beside hp there is a symbol '+' click on that.Again select decision
2. Enter the Details Label: hp field should be updated , API name: Gets Automatically Generated. 8.Enterthe Outcome DetailsLabel: hp 1(i5) , OutcomeAPI name: Gets Automatically Generated.

Resource: Select Record.how many months.Operator: Select Equals.

9.After hp 1(i5) there is '+' symbol like hp 2(i5), hp 3(i5), hp 4(i5),hp 5(i5).10.Click on '+'then select update records

Enter the Details Label: one month of hp i5 rate , API name: Gets Automatically Generated.

Field:- Amount__c , value:- for hp 1(i5)-1700, hp 2(i5)-3400, hp 3(i5)-5100, hp 4(i5)-6800, hp5(i5)-8500.

Edit Update Records

one month of hp i5 rate (one_month_of_hp_i5_rate)

* How to Find Records to Update and Set Their Values

- Use the laptop bookings record that triggered the flow
- Update records related to the laptop bookings record that triggered the flow
- Use the IDs and all field values from a record or record collection
- Specify conditions to identify records, and set fields individually

Set Filter Conditions

Condition Requirements to Update Record

None—Always Update Record

Set Field Values for the Laptop Bookings Record

Field	Value
Amount__c	1700

Add Field

Click done.

creating a flow on mac laptop

1. Go to the flow page

2. Beside mac there is a symbol '+' click on that.3 Again, select decision

3. Enter the Details Label: mac should be Updated, API name: Gets Automatically Generated. select the OutcomeDetails Label: mac laptop, OutcomeAPI name: Gets Automatically Generated.

Resource: Select Record.core type.Operator: Select Equals.

Value:Select Bionic Chip

Beside Mac there is a symbol '+' click on that. Again select decision

Enter the Details Label: Mac months selected, API name: Gets Automatically Generated. 7. Enter the OutcomeDetails Label: mac bionic chip(1), Outcome API name: Gets Automatically Generated.

Resource: Select Record.how many months.Operator: Select Equals.

Value:1.

1. Click done.

2. After mac bionic chip(1) there is '+' symbol like mac bionic chip(2), mac bionic chip(3), macbionic chip(4), mac bionicchip(5).

3. Click on '+' then select update records

4. Enter the Details Label: one month of mac rate, API name: Gets Automatically Generated.

12. Field:- Amount_c , value:- for one month of mac bionic chip rate-1700, two month of mac bionicchip rate-3400, three month of mac bionic chip rate-5100, four month of mac bionicchiprate-6800, month of mac bionic chip rate-8500. Follow for all these finally

Edit Update Records

* How to Find Records to Update and Set Their Values

Use the laptop bookings record that triggered the flow
 Update records related to the laptop bookings record that triggered the flow
 Use the IDs and all field values from a record or record collection
 Specify conditions to identify records, and set fields individually

Set Filter Conditions

Condition Requirements to Update Record

None—Always Update Record

Set Field Values for the Laptop Bookings Record

Field	Value
Amount_c	2000

Cancel Done

Click done.

APEX

Apex OverView

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.

Creating Classes :

Apex classes are modeled on their counterparts in Java. You'll define, instantiate, and extend classes, and you'll work with interfaces, Apex class versions, properties, and other related class concepts.

Class:

As in Java, you can create classes in Apex. A class is a template or blueprint from which objects are created. An object is an instance of a class.

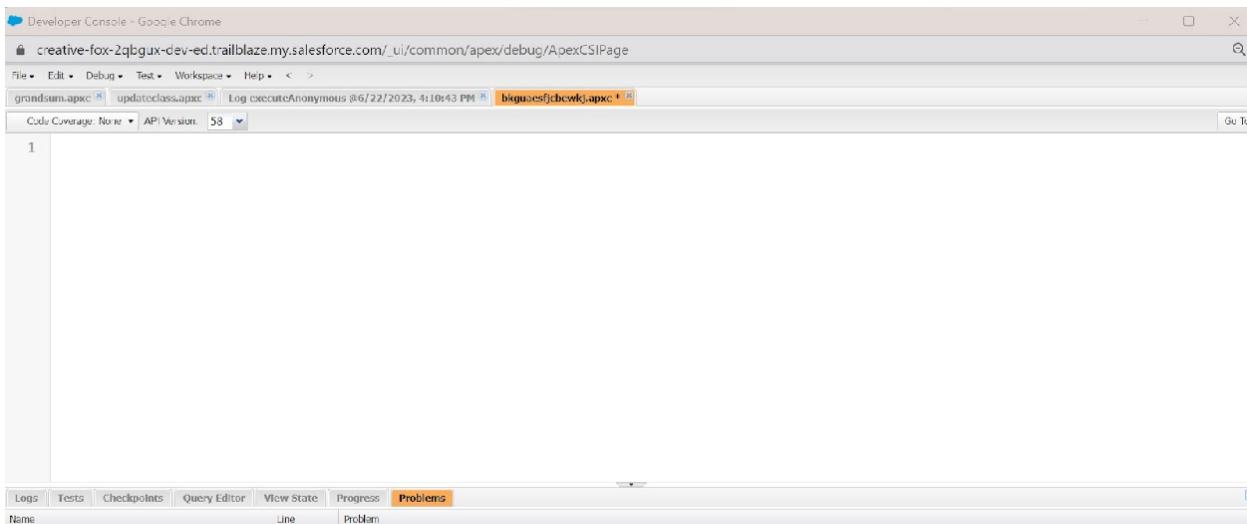
Object

Object is an instance of a class, where it can access all the properties that are present in a class i.e, variables and methods.

Steps to create a class in APEX:

Login to the trailhead account and navigate to the gear icon in the top right corner.

Then we can see the Developer console. Click on the developer console, and you will navigate to a new console window.



Then you can see many tools in the Toolbar of the new console window. Click on File, New, and Apex Class.

Enter the name of the class to create a new class file.

Access specifiers in Apex :

Apex allows you to use the private, protected, public, and global access modifiers when defining methods and variables.

While triggers and anonymous blocks can also use these access modifiers, they aren't as useful in smaller portions of Apex. For example, declaring a method as global in an anonymous block doesn't enable you to call it from outside of that code.

Private: This access modifier is the default, and means that the method or variable is accessible only within the Apex class in which it's defined. If you don't specify an access modifier, the method or variable is private.

Protected: This means that the method or variable is visible to any inner classes in the defining Apex class and to the classes that extend the defining Apex class. You can only use this access modifier for instance methods and member variables. This setting is strictly more permissive than the default (private) setting, just like Java.

Public : This means that the method or variable is accessible by all Apex within a specific package. For accessibility by all second-generation (2GP) managed packages that share a namespace, use public with the @NamespaceAccessible annotation. Using the public access modifier in no-namespace packages implicitly renders the Apex code as @NamespaceAccessible.

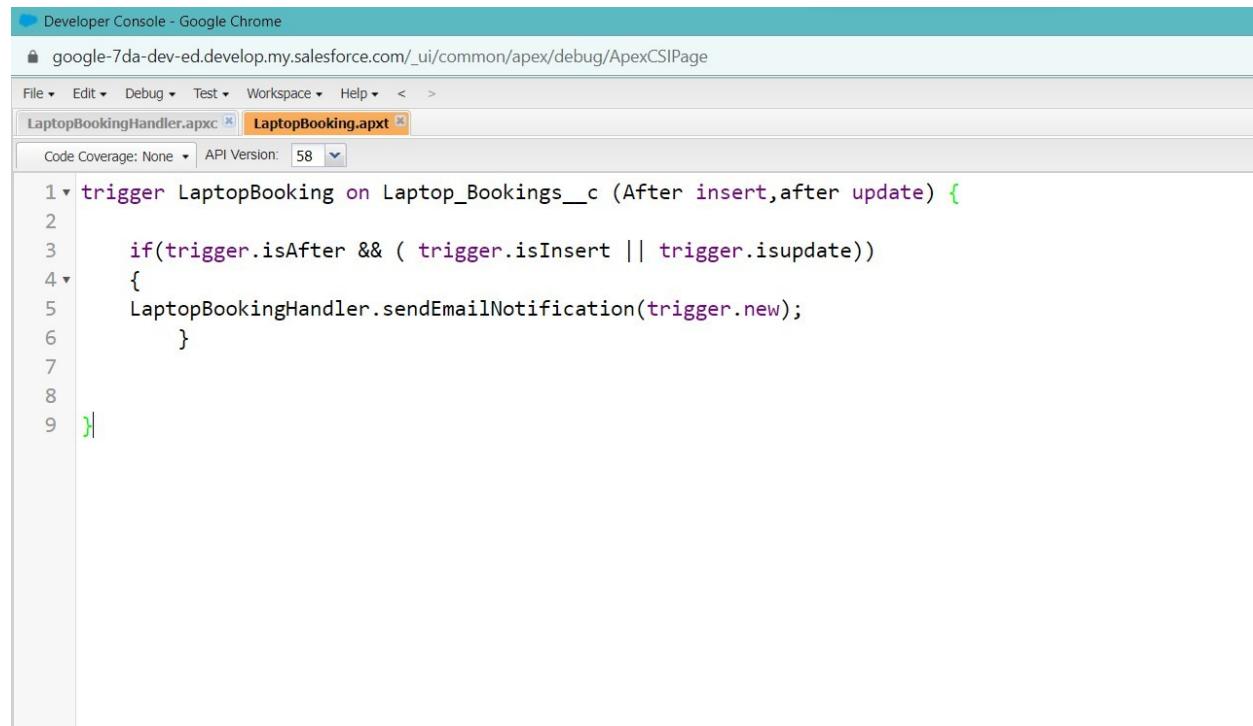
Global: This means the method or variable can be used by any Apex code that has access to the class, not just the Apex code in the same application. This access modifier must be used for any method that must be referenced outside of the application, either in SOAP API or by other Apex code. If you declare a method or variable as global, you must also declare the class that contains it as global.

Triggers :

A trigger is a set of Apex code that runs before or after DML(Data Manipulation Language) events.

A DML event could be a variety of data processing tasks that include the standard insert, update, and delete commands.

With Apex triggers,you can automate tasks that would otherwise be nearly impossible to accomplish using only the Salesforce user interface. Triggers enable you to create custom scripts that you can implement according to your needs, and the only limitation is your coding skills.



The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is google-7da-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage. The tabs at the top show 'LaptopBookingHandler.apxc' and 'LaptopBooking.apxt'. The main area displays the following Apex trigger code:

```
1 trigger LaptopBooking on Laptop_Bookings__c (After insert,after update) {
2     if(trigger.isAfter && ( trigger.isInsert || trigger.isupdate))
3     {
4         LaptopBookingHandler.sendEmailNotification(trigger.new);
5     }
6 }
```

Create Report Go to the app -click on the reports tabClick New Report.

1. Select report type from the category or from report type panel or from search panel "consumerwithLaptop Bookings and total laptops" >> click on start report.
2. Customize your report
3. Add fields from the left pane as shown below Follow the above image to group rows and columns.6.Click the column drop down and select bucket list.Click apply it.

Follow the picture and save or run it.

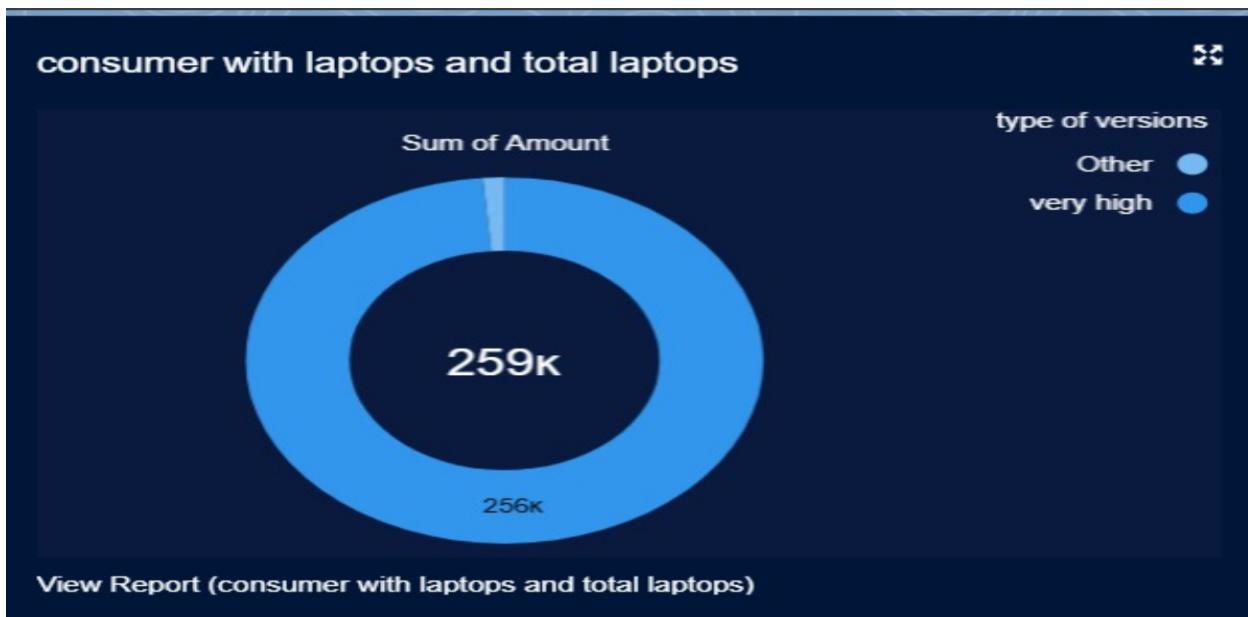
The screenshot shows a Salesforce Lightning Report titled "consumer with laptops and total laptops". The report displays a table with the following data:

	Total Records	Total Amount				
5	5	2,59,400.00				
<input type="checkbox"/> type of versions	consumer: consumer_name	Laptop Booking: Total No Of Laptops	Laptop Booking: Laptop names	Laptop Booking: Name	Laptop Booking: core type	Amount
<input type="checkbox"/> high (1)	Amrutha	8	Mac	Boomer	Bionic chip	3,400.00
<input type="checkbox"/> Subtotal						3,400.00
<input type="checkbox"/> very high (4)	Sakshi	10	Dell	owner	Core i5	78,000.00
	Likitha	10	Dell	owner	Core i5	78,000.00
	Vivek	12	Hp	sakshi	Core i5	50,000.00
	Likitha	12	Hp	sakshi	Core i5	50,000.00
<input type="checkbox"/> Subtotal						2,56,000.00
<input type="checkbox"/> Total (5)						2,59,400.00

At the bottom of the report, there are buttons for Row Counts, Detail Rows, Subtotals, and Grand Total.

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.



Thank You