GOVERNMENT COLLEGE OF TECHNOLOGY

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DEPARTMENT OF INFORMATION TECHNOLOGY

MALL MANAGEMENT CRM APPLICATION

TEAM MEMBERS:

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PROJECT OVERVIEW:

The Mall Management CRM Application is a comprehensive solution designed to streamline and optimize operations within a shopping mall environment. It integrates advanced customer relationship management features to facilitate seamless communication between mall administration, tenants, and customers. The application supports tenant onboarding, lease management, sales tracking, and issue resolution while providing real-time analytics for informed decision-making. With functionalities such as event scheduling, marketing campaign management, and footfall analysis, the CRM ensures efficient resource allocation and enhances the overall shopping experience for customers. The platform is scalable, customizable, and incorporates secure data management practices to cater to the dynamic needs of modern malls. This innovative app offers a suite of features designed to optimize the lease tracking process, improve tenant interactions, and provide actionable insights for effective decision-making.

OBJECTIVES:

- **Streamline Tenant Management:** Simplify the onboarding, lease management, and renewal processes for tenants to ensure efficient and transparent operations.

- **Enhance Customer Engagement:** Enable personalized communication, targeted promotions, and loyalty programs to improve customer satisfaction and retention.

- **Optimize Operational Efficiency:** Automate routine tasks such as billing, maintenance scheduling, and issue tracking to reduce manual intervention and operational delays.

- **Provide Actionable Insights:** Deliver real-time analytics on sales performance, footfall patterns, and marketing campaign effectiveness for data-driven decision-making.

- **Facilitate Seamless Communication:** Create a centralized platform for collaboration between mall management, tenants, and customers for effective coordination and problem-solving.

- **Support Marketing Efforts:** Streamline event management and campaign tracking to increase mall visibility and attract more visitors.

- **Ensure Scalability and Security:** Offer a robust, scalable, and secure system that adapts to the evolving needs of malls while safeguarding sensitive data.

SPECIFIC OUTCOMES:

- **Efficient Tenant Management:** The application ensures smooth tenant onboarding, detailed tenant record tracking, and seamless lease renewal processes, saving time and reducing manual errors.

- **Streamlined Lease Tracking:** With the Lease Tracking object, users can automatically generate and manage lease numbers, track lease terms, and monitor renewals, ensuring no missed deadlines or lapses in documentation.

- **Enhanced Issue Resolution:** The Tenant Issues object enables efficient tracking and resolution of tenant concerns, improving tenant satisfaction and fostering stronger relationships.

- **Centralized Data Management:** The custom objects—Tenant, Lease Tracking, and Tenant Issues—ensure organized, easily searchable, and reportable data to support informed decision-making.

- **Actionable Reporting and Insights:** By allowing reports on all key objects, the CRM empowers mall administrators to generate insights into tenant performance, lease status, and issue resolution trends for effective management.

- **Improved Operational Efficiency:** Automation of critical processes such as lease numbering and issue tracking reduces operational overhead, enhancing productivity and focus on strategic initiatives.

- **Scalability and Customization:** Built on Salesforce, the app can adapt to growing mall operations, offering customization options to meet specific requirements.

- **Enhanced Collaboration:** The application fosters better communication and coordination between mall management and tenants, resulting in a cohesive working relationship and improved overall mall operations.

Salesforce Key Features and Concepts Utilized:

Create Custom Objects

To store the data as per business requirement.

- Creation of custom objects such as Tenant, Lease Tracking, and Tenant Issues to store and manage critical data tailored to the mall's requirements.
- Custom fields for capturing specific tenant, lease, and issue-related information.

- **Tenant Object**: This object tracks all tenant-related information.
    - **Label Name**: Tenant
    - **Record Name**: Tenant Name (Text)
    - **Fields**:
        - **Tenant Name** (Text)
        - **Tenant ID** (Auto Number)
        - **Contact Information** (Phone, Email)
        - **Lease Start Date** (Date)
        - **Lease End Date** (Date)
        - **Tenant Type** (Picklist: Retail, Office, etc.)
        - **Payment Terms** (Picklist: Monthly, Quarterly, Annually)
- **Lease Tracking Object**: This object manages lease details and lease renewal tracking.
    - **Label Name**: Lease Tracking
    - **Record Name**: Lease Tracking No (Auto Number, Format: TT-{000000})
    - **Fields**:
        - **Lease Start Date** (Date)
        - **Lease End Date** (Date)
        - **Lease Type** (Picklist: Standard, Premium, etc.)
        - **Lease Status** (Picklist: Active, Expired, Renewed)
        - **Tenant Name** (Lookup to Tenant Object)

        - **Rent Amount** (Currency)
        - **Lease Terms** (Text)
- **Tenant Issues Object**: This object tracks any issues raised by tenants for resolution.
    - **Label Name**: Tenant Issue
    - **Record Name**: Issue (Auto Number)
    - **Fields**:
        - **Issue Title** (Text)
        - **Issue Description** (Long Text Area)
        - **Priority** (Picklist: Low, Medium, High)
        - **Status** (Picklist: Open, In Progress, Resolved, Closed)
        - **Tenant Name** (Lookup to Tenant Object)
        - **Reported Date** (Date)
        - **Resolution Date** (Date)
        - **Assigned To** (Lookup to User Object)

- **Reports and Dashboards:**

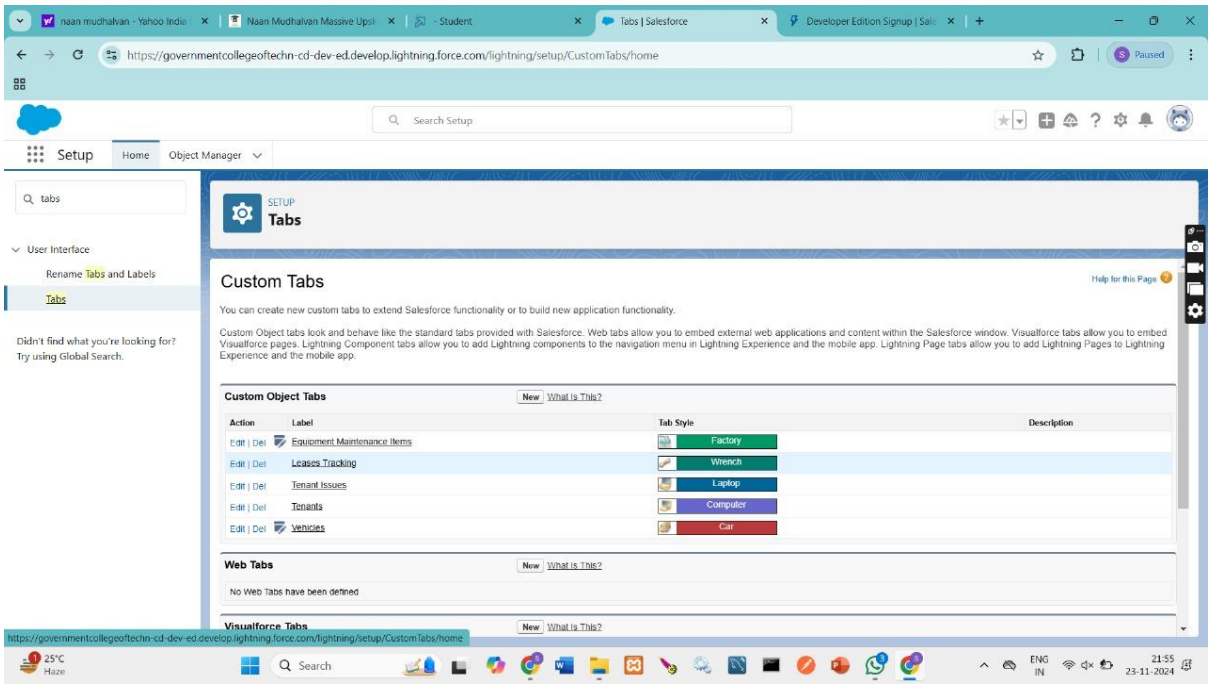
    - **Allow Reports**: All three objects (Tenant, Lease Tracking, and Tenant Issues) are enabled for reporting. This allows for the creation of comprehensive reports that display key metrics such as lease renewal timelines, tenant issue resolution progress, and rent collection details.
    - **Dashboards**: Visual representations of operational data, such as the number of open issues, lease renewal statuses, and tenant occupancy rates.

- **Record Types**:

    - Record types are used to manage different layouts or business processes. For example:
        - **Lease Tracking Record Type**: Different layouts for different types of leases (e.g., short-term vs. long-term leases).
        - **Tenant Issues Record Type**: Distinguishing between different types of issues (e.g., maintenance vs. billing).

Creating a Custom Tab for the Tenant Object

1. Navigate to the **Setup** page, type **Tabs** in the **Quick Find** bar, and select **Tabs**. Under **Custom Object Tabs**, click **New**.
2. Choose the **Tenant** object, select a tab style, and click **Next**.
    - For the **Add to Profiles** section, leave the default settings as they are.
    - For the **Add to Custom App** section, uncheck the **Include Tab** option.
3. Ensure the **Append Tab to Users' Existing Personal Customizations** option is selected, then click **Save**.



Creating Fields and Relationships in the Tenant Object

To define the type of information stored in the **Tenant** object, follow these steps:

1. Log in to your Salesforce account and click on the **Gear Icon** in the top-right corner. Select **Setup**.
2. On the **Setup** page, navigate to **Object Manager** and search for the **Tenant** object.
3. Open the **Tenant** object and select **Fields & Relationships** from the left-hand panel.
4. Click **New**, select the **Phone** data type, and name the field **Phone Number**. Click **Next**, and fill in the required details.
5. Click **Next**, then **Next** again, and finally click **Save & New**.

Additional Fields to Create:

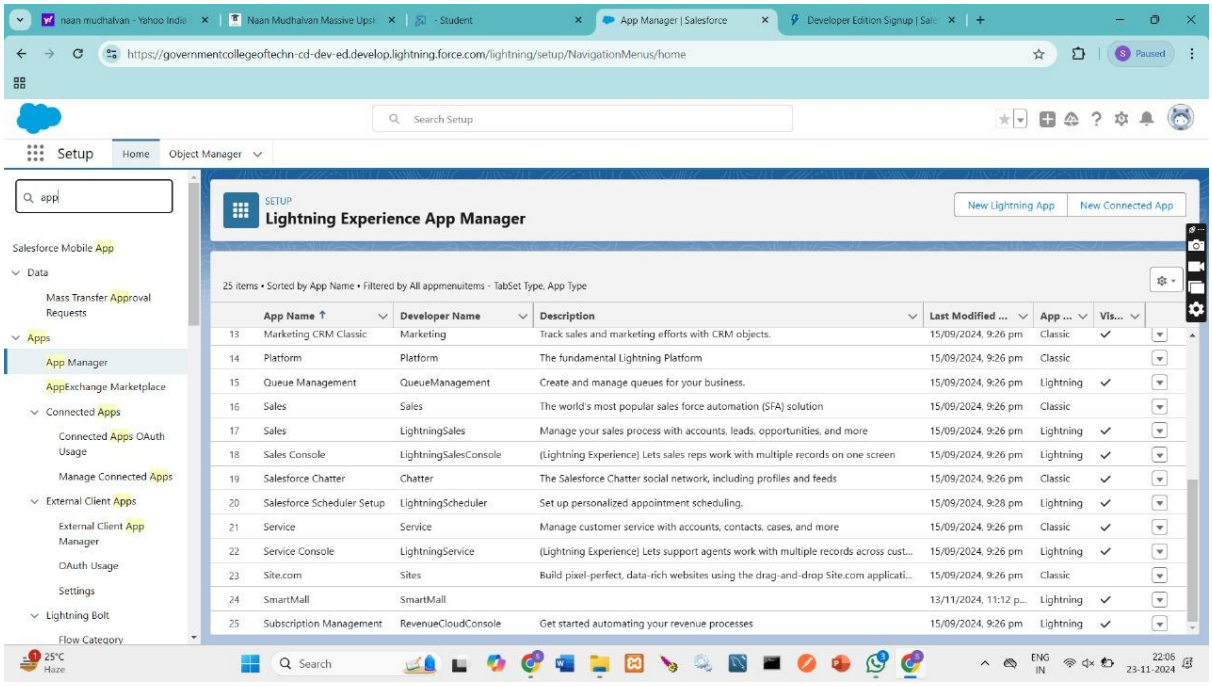
S.No	Field Label	Data Type
1	Address	Text Area (255)
2	PAN Card	Text
3	Date of Reg	Date
4	Email	Email
5	GST No	Text

Creating a Lightning App in Salesforce

Lightning apps in the Lightning Experience provide users with an integrated navigation bar that includes access to objects, tabs, and other features. These apps can also be customized with unique branding, such as colors and logos.

Steps to Create a Custom App in Salesforce:

1. Click the **Gear Icon** in the top-right corner to access **Setup**.
2. In the **Quick Find** box, type **App** and select **App Manager** from the results.
3. Click **New Lightning App** and enter the app name as **Smart Mall**.

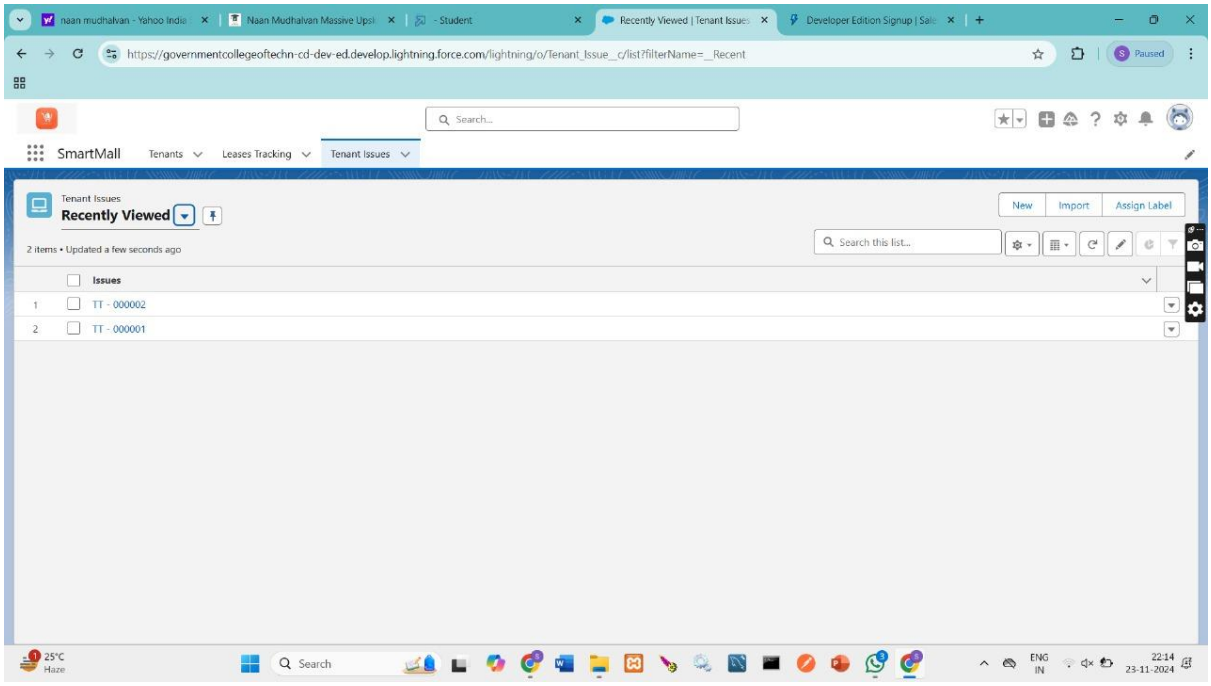


Record Insertion in Salesforce

Creating records in Salesforce is a key activity that enables efficient data management, supports streamlined workflows, and enhances organizational productivity.

Steps to Insert Records in the Tenant Object:

1. Open the **App Launcher**, search for the **Tenant** object, and click on it. Then, click **New** in the top-right corner to create a new record.
2. Populate all fields with valid data, ensuring compliance with any existing validation rules.
3. If the **Phone Number** field contains fewer or more than 10 digits, an error message will appear.
4. Similarly, entering a **Date of Reg** in the past will trigger a validation error.



Creating a Record-Triggered Flow in Salesforce

Record-triggered flows automate business processes by performing specific tasks or data manipulations based on record changes. Here's how to set up a flow that sends an email when a **Tenant** record is created and the **GST No** field is empty.

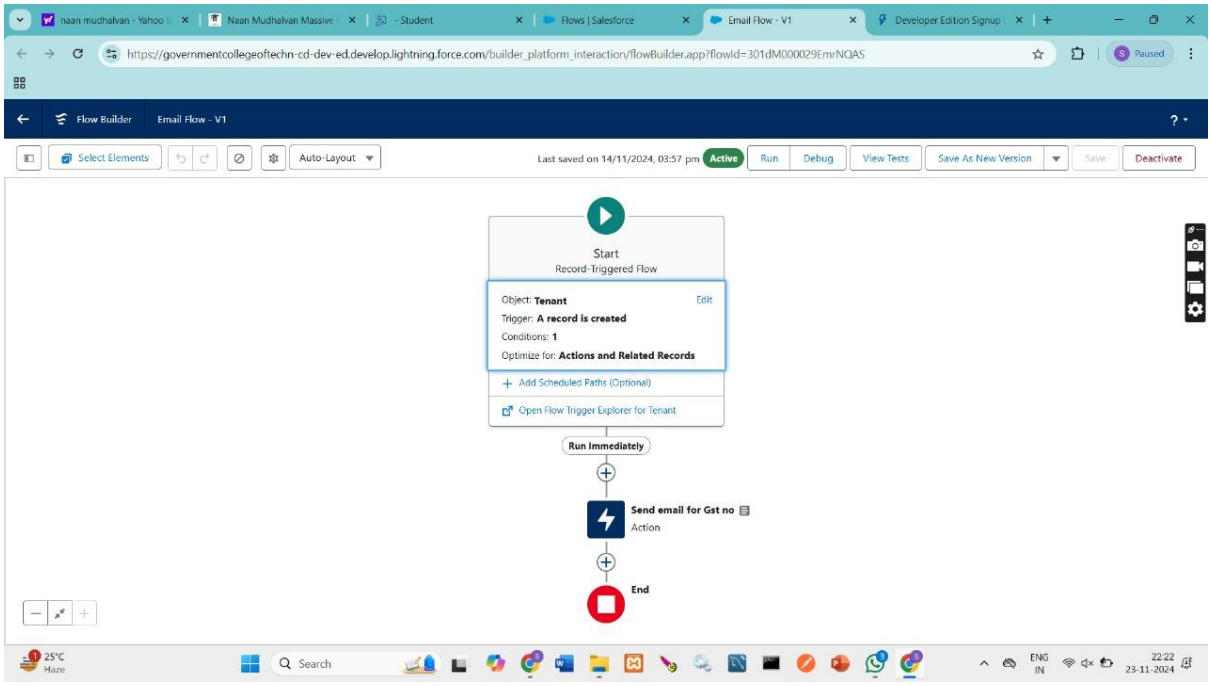
Steps to Create the Flow:

1. Go to **Setup**, type **Flows** in the **Quick Find** box, and click **Flows**.
2. Click **New Flow** and select **Record-Triggered Flow**.
3. Configure the trigger:
    - Under **Trigger the Flow When**, select **A record is created**.
4. Set the conditions:
    - Choose **All Conditions Are Met (AND)**.
    - Define the condition as:
        - **Field**: GST_No__c
        - **Operator**: Is Null

- **Value**: True

5. Optimize the flow for **Actions and Related Records**.

This setup ensures that whenever a **Tenant** record is created without a **GST No**, an email is automatically sent to the tenant requesting the missing information.



Apex Triggers

An Apex Trigger is a block of code that executes automatically before or after specific DML (Data Manipulation Language) events on Salesforce objects.

Activity: Send an Email Notification for Unpaid Rent

Objective: Create an Apex Trigger to send an email if the tenant has not paid at least 50% of the total rent.

1. Open the **Developer Console** by clicking the **Gear Icon**.
2. From the **File** menu, select **New** and choose **Apex Trigger**.
3. Provide the name as **leasetrackingtrigger** and associate it with the object **Lease_Tracking__c**.

4. Configure the trigger to run on **After Insert** and **After Update** events. Use trigger context variables like IsAfter and IsUpdate to define the conditions.

Apex Class

Objective: Create an Apex class to handle the trigger logic.

1. Create a new Apex class and name it **LeaseTrackingTriggerHandler**.
2. The class contains a method that checks if the amount to be paid exceeds 50% of the yearly rent. If so, it sends an email notification to the tenant, reminding them to pay the due rent by the end of the month.

This setup ensures efficient handling of notifications, separating the trigger logic from the business logic for better maintainability.

CODE SNIPPET:

```
trigger leasetrackingtrigger on Lease_Tracking__c (After insert,After

update) {

if(Trigger.isAfter && Trigger.IsUpdate)

{

LeaseTrackingTriggerHandler.method1(trigger.old);

}

}
```

1) Create an apex class and Name it LeaseTrackingTriggerHandler

CODE SNIPPET:

```
public class LeaseTrackingTriggerHandler {

public static void method1(List<Lease_Tracking c> lt1)
```

```
{
for(Lease_Tracking__c lt2: lt1 ){
if(lt2.Amount_to_be_paid__c > (lt2.Total_rent_Yearly__c)/2)
{
Messaging.SingleEmailMessage M = New
Messaging.SingleEmailMessage();
List<String> ToADD = New List<String>{lt2.Email_id__c};
M.setToAddresses(ToADD);
M.setSubject('Regarding the Pending Rent');
M.setPlainTextBody('Hello, This is an Reminder for you to
complete your due rent by the end this month, your due rent thatneeds
to be paid is' +lt2.Amount_to_be_paid__c;
List<Messaging.Email> AB = New List<Messaging.Email>{};
AB.add(M);
Messaging.sendEmail(AB);
}
}
}
```

Asynchronous Apex

This approach is designed to handle long-running processes, heavy

computations, or tasks that should not block user interactions.

Activity: Schedule Apex

Delete the Tenant Records Monthly whose Status Of Possession is

closed.

1) Create a class with name tenantschedulable

2) Give extension Schedulable to the class.

3) Open the Anonymous Window.

4) Schedule the class

tenantschedulable a = new tenantschedulable();

string cron = '0 0 0 1 * ? * ';

system.schedule('Delete the records monthly', cron, a);

CODE SNIPPET

public class tenantschedulable implements Schedulable

{

public void execute(Schedulablecontext sc)

{

list<Tenant__c> ten = [SELECT Id, Status_of_Possession c

FROM Tenant__c];

list<Tenant c> tenantstodelete = New List<Tenant__c>()

for(Tenant c te: ten)

```
{

if(te.Status_of_Possession__c == 'Closed'){tenantstodelete.add(te);

}

}

Delete tenantstodelete;

}

}
```

Creating Reports and Dashboards

Salesforce Reports and Dashboards allow users to effectively visualize and analyze data, providing actionable insights, tracking performance, and enabling data-driven decision-making.

Activity: Generate a Report for Lease Management Records

Objective: Create a report for the manager that includes tenant details, their joining date, remaining payment information, and groups the data by registration date. The report will also include a bucket field to categorize the remaining payment amounts using color codes.

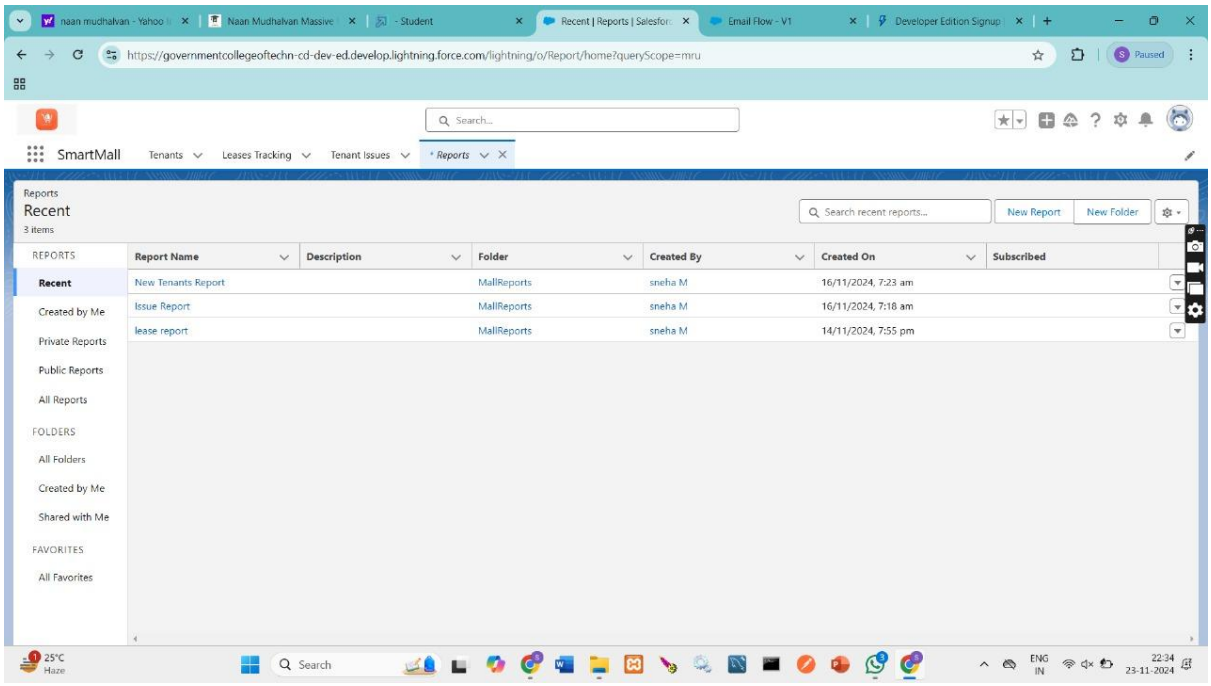
Steps to Create the Report:

1. **Create a Folder:**
    - Create a new folder named **MallReports** to store the report.
2. **Create the Report:**
    - Click on **New Report** and select the object **Activities with LeaseTracking**.
    - Click **Start Report** to begin creating the report.
3. **Bucket the Data:**
    - In the **Amount to be Paid** column, click on **Bucket This Field** and name it **Remaining Amount**.
    - Define the bucket categories as follows:
        - Amount greater than **1,000,000**: **Red**.
        - Amount less than **1,000,000** but greater than **500,000**: **Blue**.

- Amount less than or equal to **500,000**: **Yellow**.

4. **Save the Report:**
    - Name the report **Lease Report** and save it in the **MallReports** folder.

This report provides an organized view of lease management records, enabling the manager to quickly identify payment statuses and trends.



Creating a Dashboard

Dashboards in Salesforce provide a visual representation of reports, enabling users to monitor key metrics and analyze data effectively.

Activity: Create a Dashboard

Objective: Build a dashboard to visualize tenant details, issue reports, and lease reports using specific display settings.

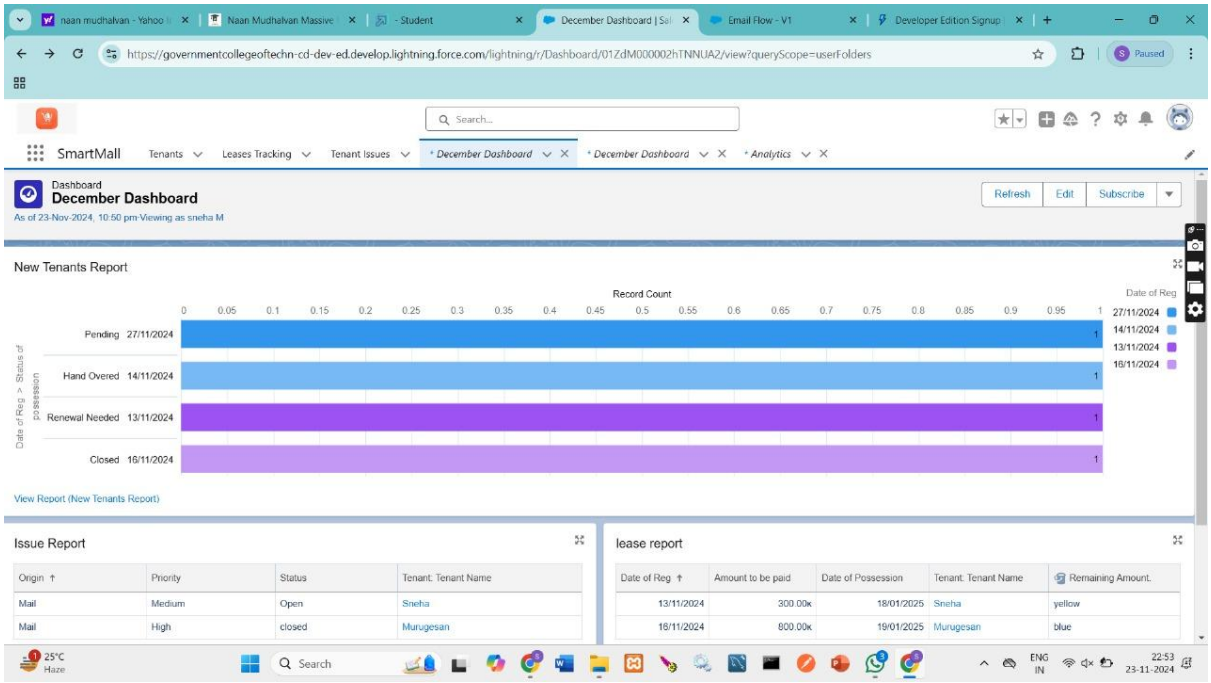
Steps to Create the Dashboard:

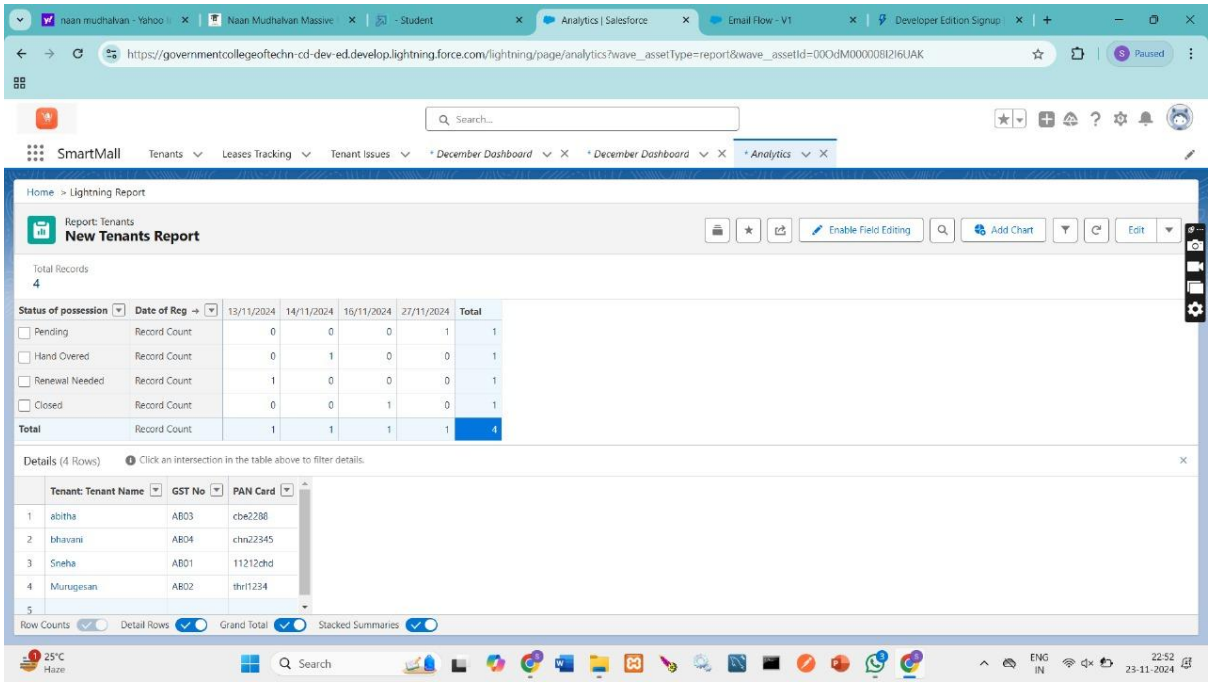
1. **Create a Folder:**
    - Start by creating a folder named **Mall Dashboard** to store the dashboard.
2. **Create the Dashboard:**
    - Click on **New Dashboard**.

- Enter the name **December Dashboard**, select the **Mall Dashboard** folder, and click **Create**.

3. **Add Components:**
   - **First Component:**
     - Select **Tenant Details** as the data source.
     - Display it as a **Horizontal Bar Chart**.
     - Set the dimensions to **Height: 10, Width: 12**.
   - **Second Component:**
     - Select **Issue Report** as the data source.
     - Display it as a **Lightning Table**.
     - Set the dimensions to **Height: 8, Width: 6**.
   - **Third Component:**
     - Select **Lease Report** as the data source.
     - Display it as a **Lightning Table**.
     - Set the dimensions to **Height: 8, Width: 6**.
4. **Save the Dashboard:**
   - Click **Save** and then **Done** to finalize the dashboard.

This dashboard organizes critical reports and visualizations, making it easy to analyze tenant and lease data at a glance.





Conclusion:

The **CRM application for mall management** highlights the value of a centralized system in enhancing operational efficiency and fostering strong customer relationships. By integrating features such as tenant management, customer analytics, event scheduling, and promotional tools, the application simplifies processes, delivering personalized shopper experiences and efficient tenant support.

This system improves communication, offers actionable insights, and boosts customer satisfaction while driving engagement and supporting the growth of the mall. With its potential to incorporate AI-driven insights and automation, the CRM solution lays a scalable foundation to meet the ever-changing demands of the retail industry.