

Project Title

A CRM Application For FieldForce Optimizer

Name:- RUDRA NARAYAN MISHRA

EMAIL:-rudranarayanmishra1034@gmail.com

University:- DIT University, Dehradun

Wallet Unique ID:-SWUID20240055651

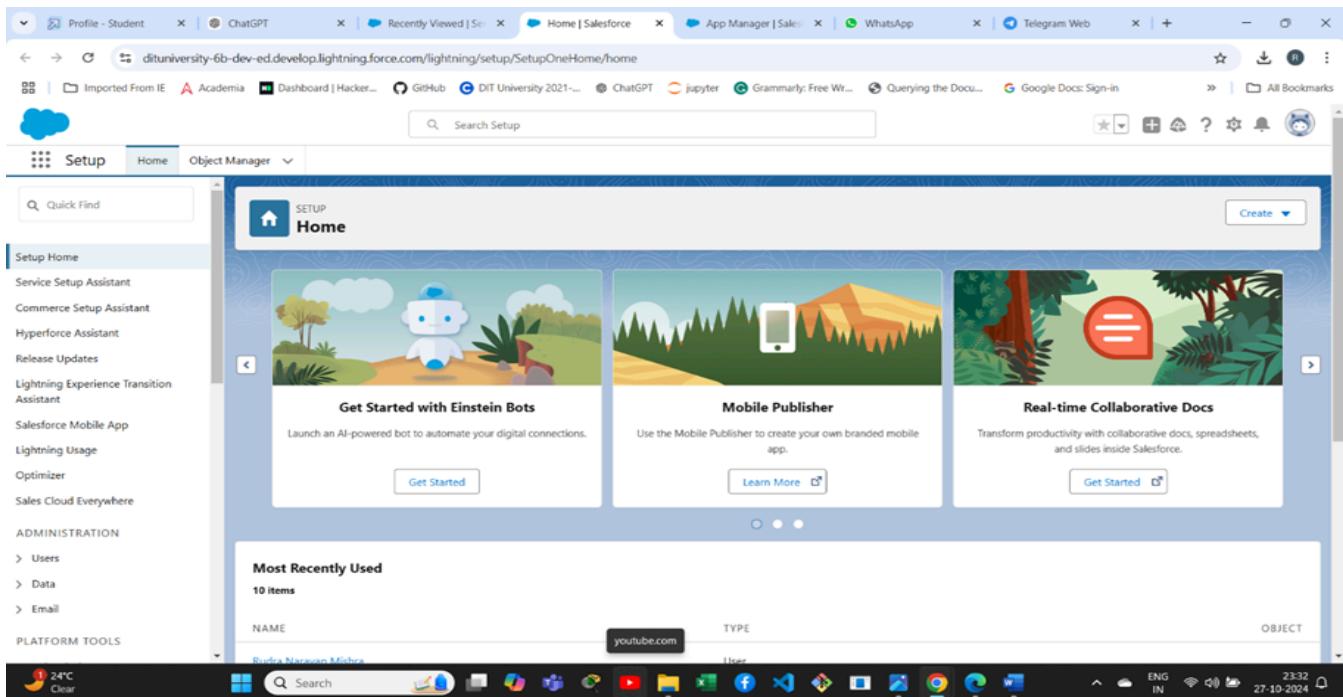
1. Project Overview

This project is focused on "Field Force Optimizer" is the name of the system, enhancing field operations by integrating task management, inventory tracking, and resource allocation within Salesforce. It empowers businesses to streamline their field operations, improve service efficiency, and foster stronger customer relationships, ultimately driving growth and success in a competitive market.

Primary Challenge: List the key problem areas the project aims to address, such as tracking inventory for mobile workers or managing restock requests to prevent shortages.

Key Goals:

- Operational Efficiency:** Define clear efficiency metrics, like reducing manual task assignment times by a set percentage.
- Data Accuracy:** Describe how data accuracy will be improved through real-time tracking and validation.
- Long-Term Vision:** Connect the immediate goals to broader organizational objectives, like optimizing resource use and minimizing downtime.



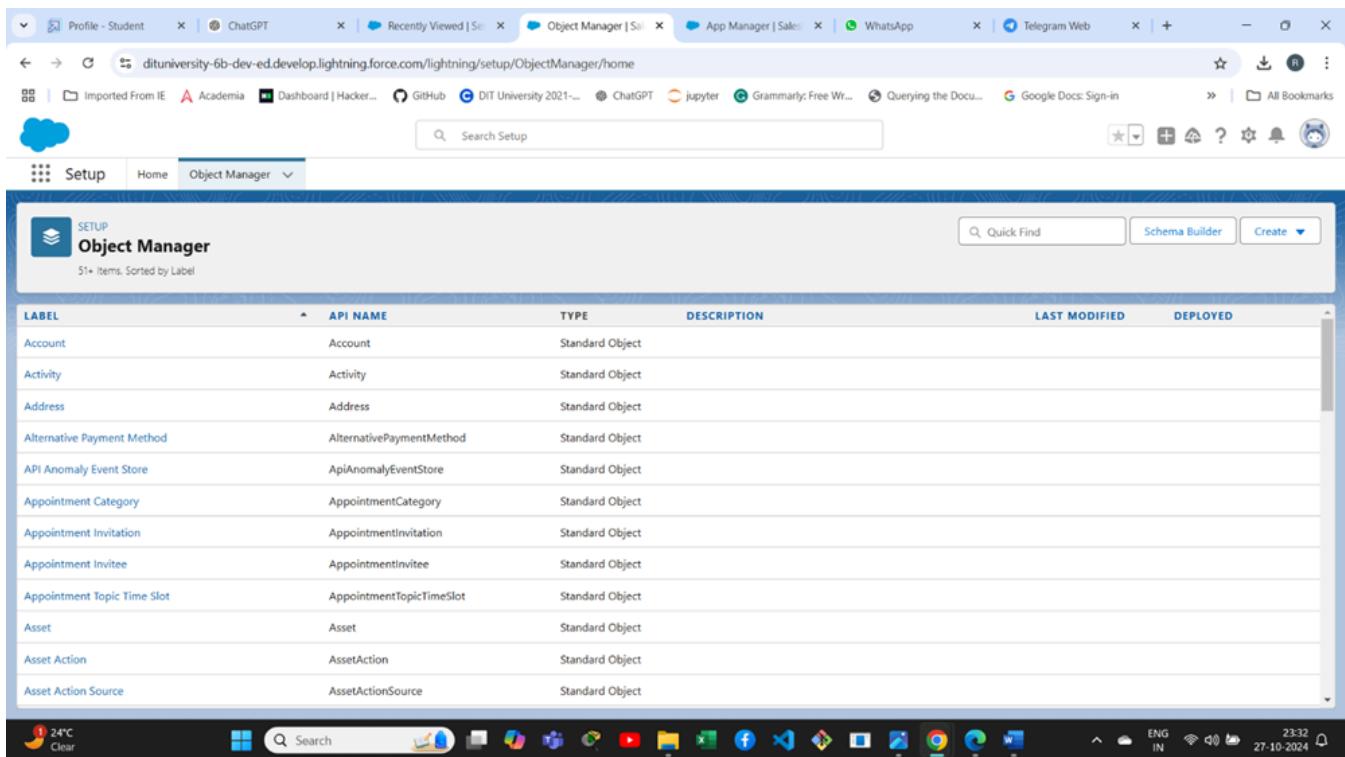
2. Objectives

Business Goals: List high-level goals the project aims to accomplish:

- **Operational Efficiency:** Provide details on how the system will streamline workflows for field agents.
- **Data Accuracy:** Define the accuracy standard, such as having up-to-date inventory levels.
- **Resource Optimization:** Describe how the system will ensure that agents always have the equipment needed for their tasks.

Specific Outcomes:

- **Field Agent Task Report:** Explain the format and frequency (e.g., daily reports) and what insights it will provide (e.g., completion rates).
- **Stock Alerts and Restock Requests:** Detail how alerts will be triggered and escalated based on inventory levels.
- **Real-time Data Visibility:** Describe the dashboards and reports that will provide managers with operational data.



The screenshot shows a browser window with multiple tabs open at the top, including "Profile - Student", "ChatGPT", "Recently Viewed | Se...", "Object Manager | Sales", "App Manager | Sales", "WhatsApp", "Telegram Web", and "Google Docs: Sign-in". Below the tabs is a toolbar with icons for search, refresh, and other functions. The main content area is titled "Object Manager" under "SETUP". It displays a table of objects with columns: LABEL, API NAME, TYPE, DESCRIPTION, LAST MODIFIED, and DEPLOYED. The table lists 51+ items, sorted by Label. The objects include Account, Activity, Address, Alternative Payment Method, API Anomaly Event Store, Appointment Category, Appointment Invitation, Appointment Invitee, Appointment Topic Time Slot, Asset, Asset Action, and Asset Action Source. At the bottom of the page, there is a navigation bar with links for Setup, Home, and Object Manager, along with a "Create" button. The status bar at the bottom of the screen shows the date (27-10-2024), time (23:32), battery level (ENG IN), signal strength, and weather information (24°C Clear).

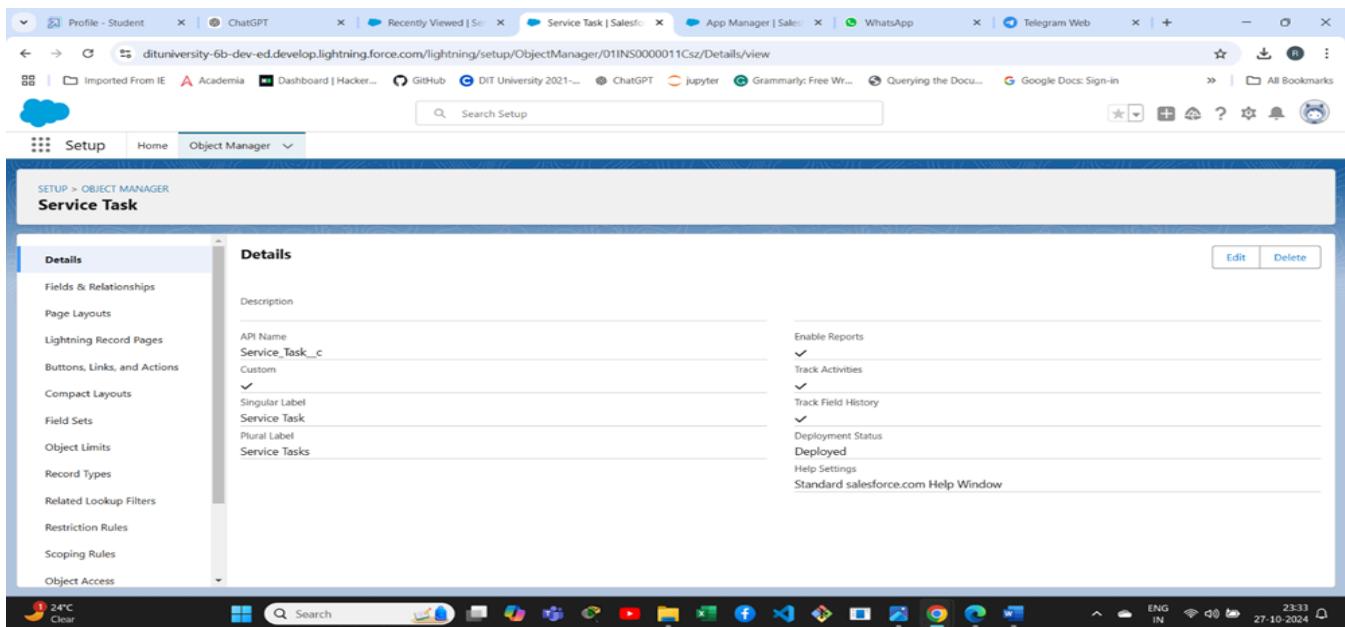
LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Account	Account	Standard Object			
Activity	Activity	Standard Object			
Address	Address	Standard Object			
Alternative Payment Method	AlternativePaymentMethod	Standard Object			
API Anomaly Event Store	ApiAnomalyEventStore	Standard Object			
Appointment Category	AppointmentCategory	Standard Object			
Appointment Invitation	AppointmentInvitation	Standard Object			
Appointment Invitee	AppointmentInvitee	Standard Object			
Appointment Topic Time Slot	AppointmentTopicTimeSlot	Standard Object			
Asset	Asset	Standard Object			
Asset Action	AssetAction	Standard Object			
Asset Action Source	AssetActionSource	Standard Object			

3. Salesforce Key Features and Concepts Utilized

This highlights the main functionalities and concepts applied within the Salesforce project.

Custom Objects:

- **Service Task:** Tracks details on each task (e.g., ID, field agent, due date, status).

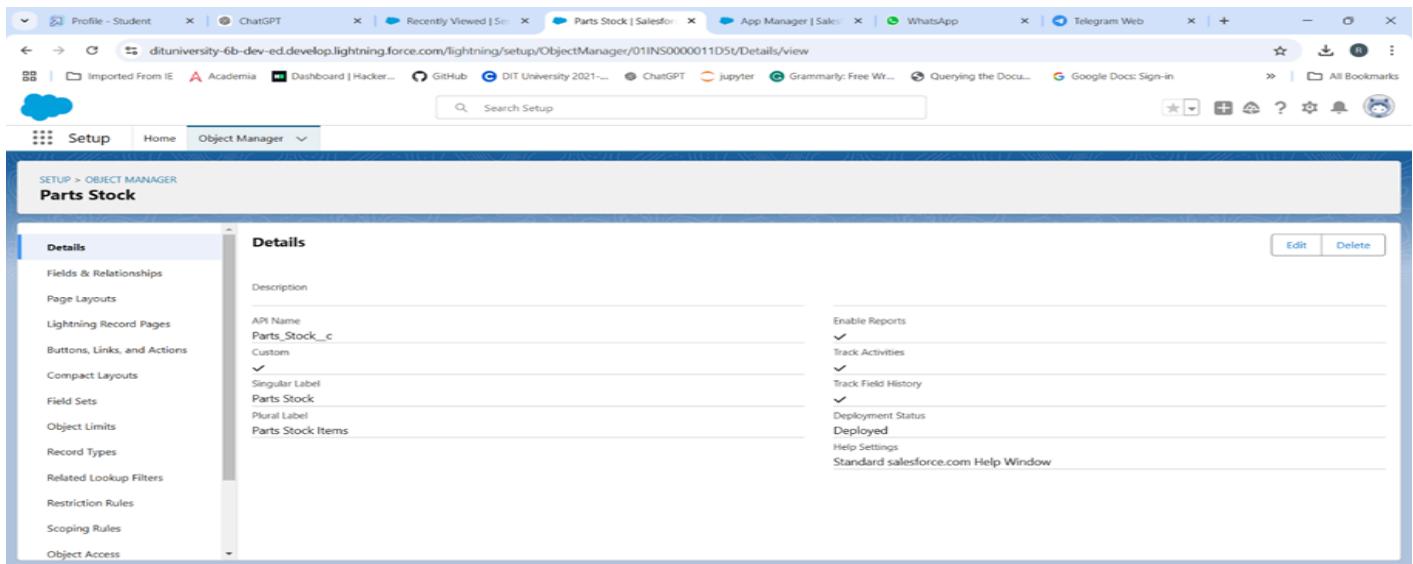


The screenshot shows the Salesforce Object Manager interface for the 'Service Task' object. The left sidebar lists various configuration tabs: Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Restriction Rules, Scoping Rules, and Object Access. The main 'Details' tab is selected, displaying the following information:

Details	
Description	
API Name	Service_Task__c
Custom	✓
Singular Label	Service Task
Plural Label	Service Tasks
Enable Reports	
Track Activities	✓
Track Field History	✓
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

At the bottom right of the main area are 'Edit' and 'Delete' buttons. The browser's address bar shows the URL: dituniversity-6b-dev-ed.lightning.force.com/lightning/setup/ObjectManager/01INS0000011Csz/Details/view.

- **Parts Stock:** Stores each part's quantity and location data; includes thresholds for reordering.

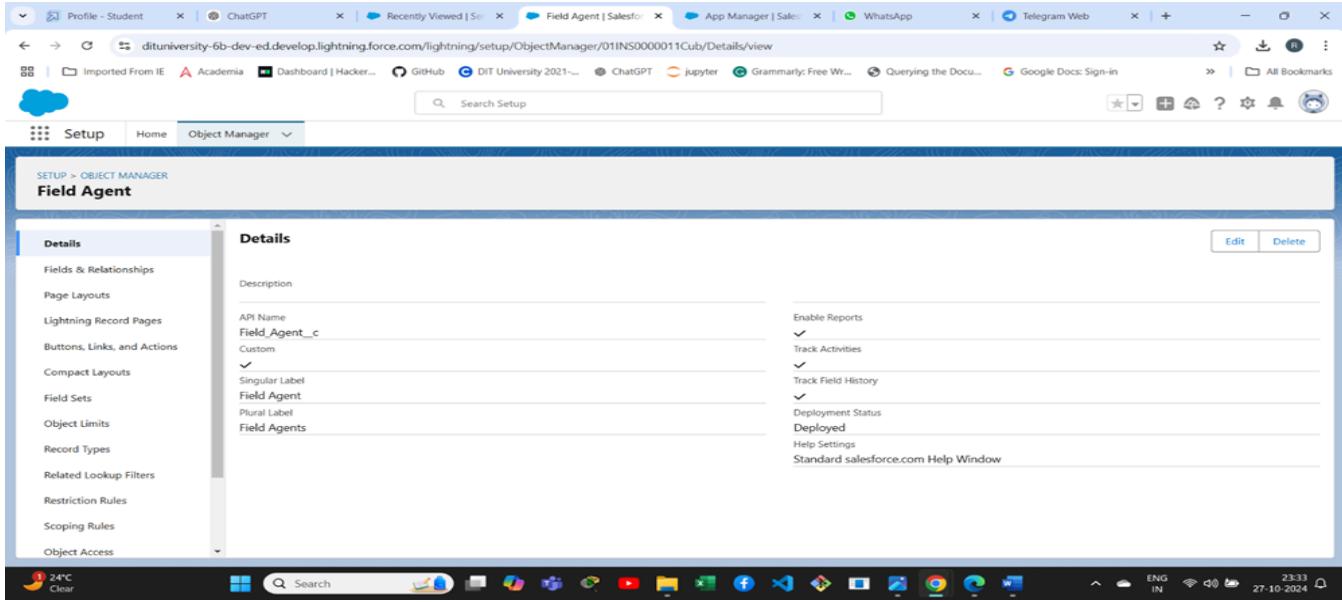


The screenshot shows the Salesforce Object Manager interface for the 'Parts Stock' object. The left sidebar lists various configuration tabs: Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Restriction Rules, Scoping Rules, and Object Access. The main 'Details' tab is selected, displaying the following information:

Details	
Description	
API Name	Parts_Stock__c
Custom	✓
Singular Label	Parts Stock
Plural Label	Parts Stock Items
Enable Reports	
Track Activities	✓
Track Field History	✓
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

At the bottom right of the main area are 'Edit' and 'Delete' buttons. The browser's address bar shows the URL: dituniversity-6b-dev-ed.lightning.force.com/lightning/setup/ObjectManager/01INS0000011D5t/Details/view.

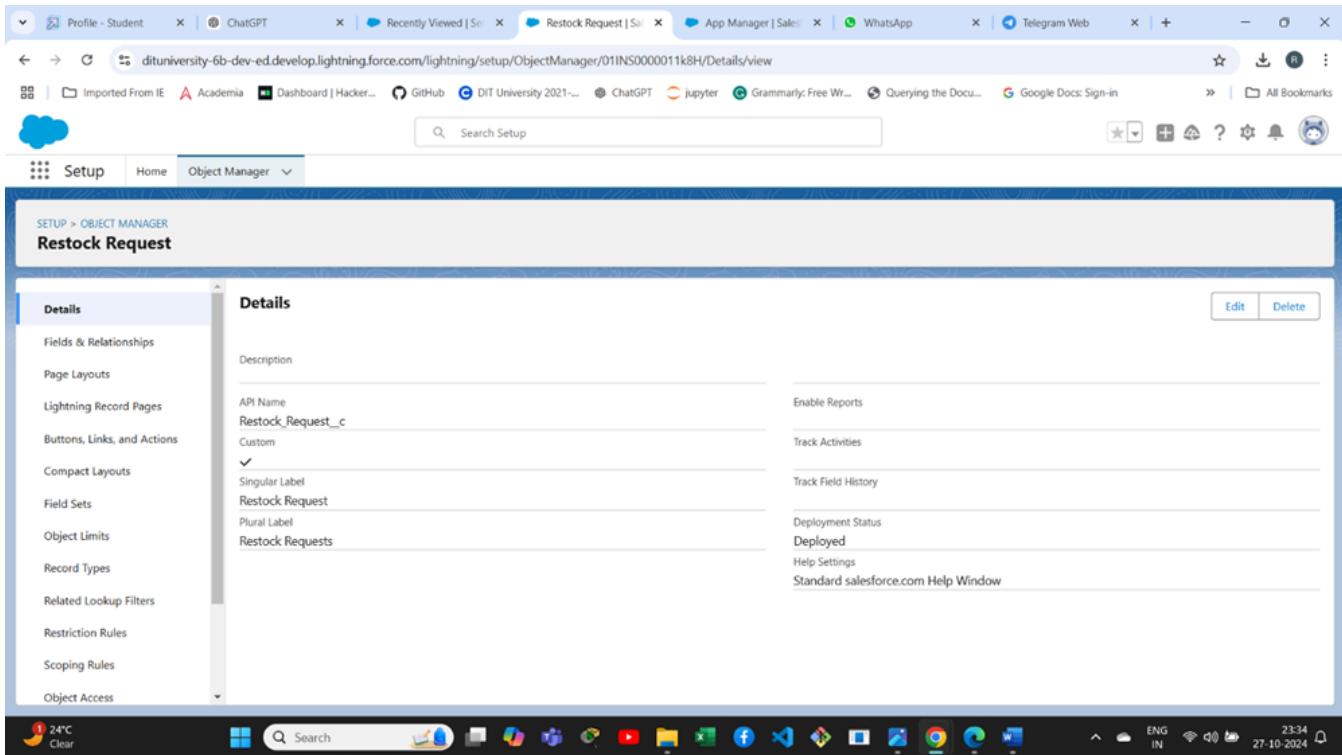
- **Field Agent:** Holds all field agent information, such as name, email, contact details.



The screenshot shows the Salesforce Object Manager interface for the 'Field Agent' object. The left sidebar lists various configuration options like Fields & Relationships, Page Layouts, and Buttons, Links, and Actions. The main 'Details' tab shows the following fields:

Field	Value
Description	
API Name	Field_Agent__c
Custom	✓
Singular Label	Field Agent
Plural Label	Field Agents
Enable Reports	
Track Activities	
Track Field History	
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

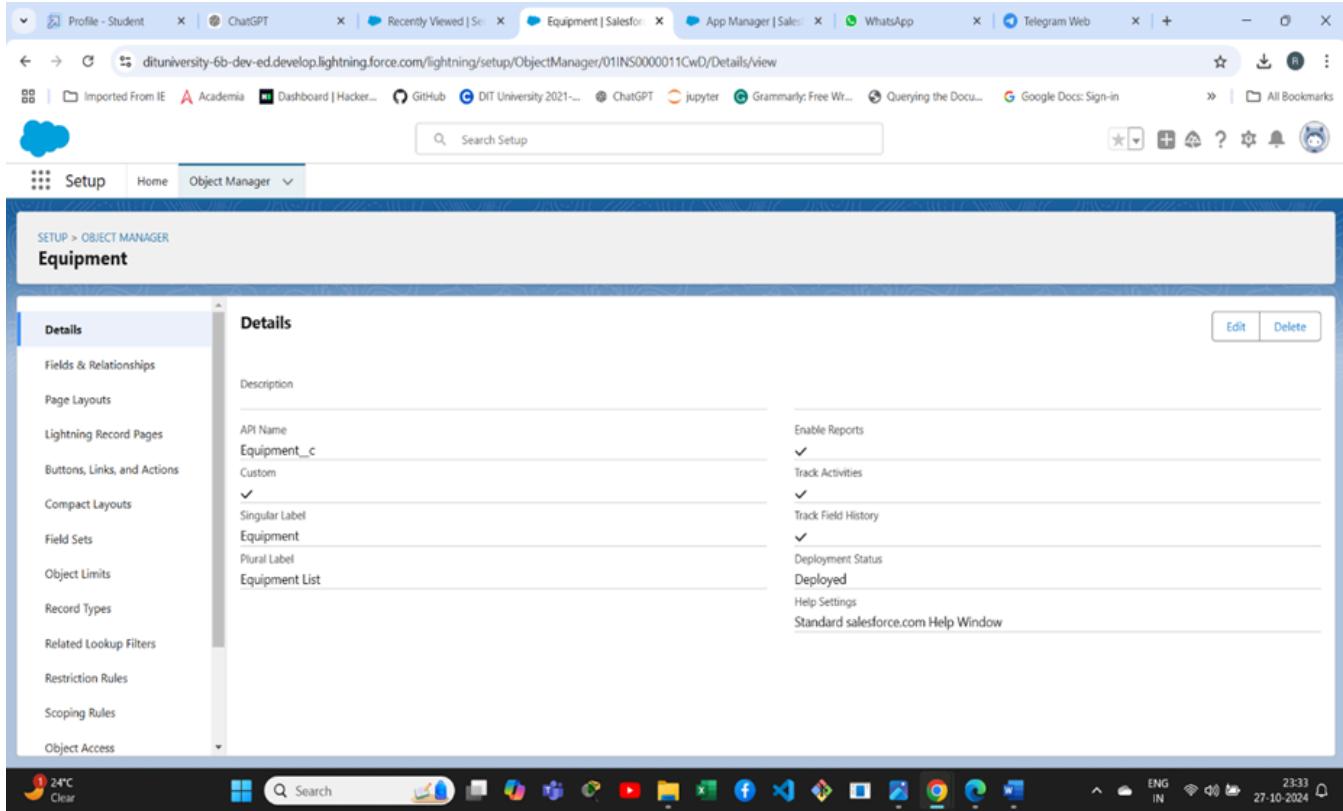
- **Restock Request:** Handles data on restock requirements generated when stock falls below thresholds.



The screenshot shows the Salesforce Object Manager interface for the 'Restock Request' object. The left sidebar lists various configuration options. The main 'Details' tab shows the following fields:

Field	Value
Description	
API Name	Restock_Request__c
Custom	✓
Singular Label	Restock Request
Plural Label	Restock Requests
Enable Reports	
Track Activities	
Track Field History	
Deployment Status	Deployed
Help Settings	Standard salesforce.com Help Window

- **Equipment List:** Maintains the status and location of each piece of equipment used by agents.



Equipment

Details

Description

API Name: Equipment_c

Singular Label: Equipment

Plural Label: Equipment List

Enable Reports: ✓

Track Activities: ✓

Track Field History: ✓

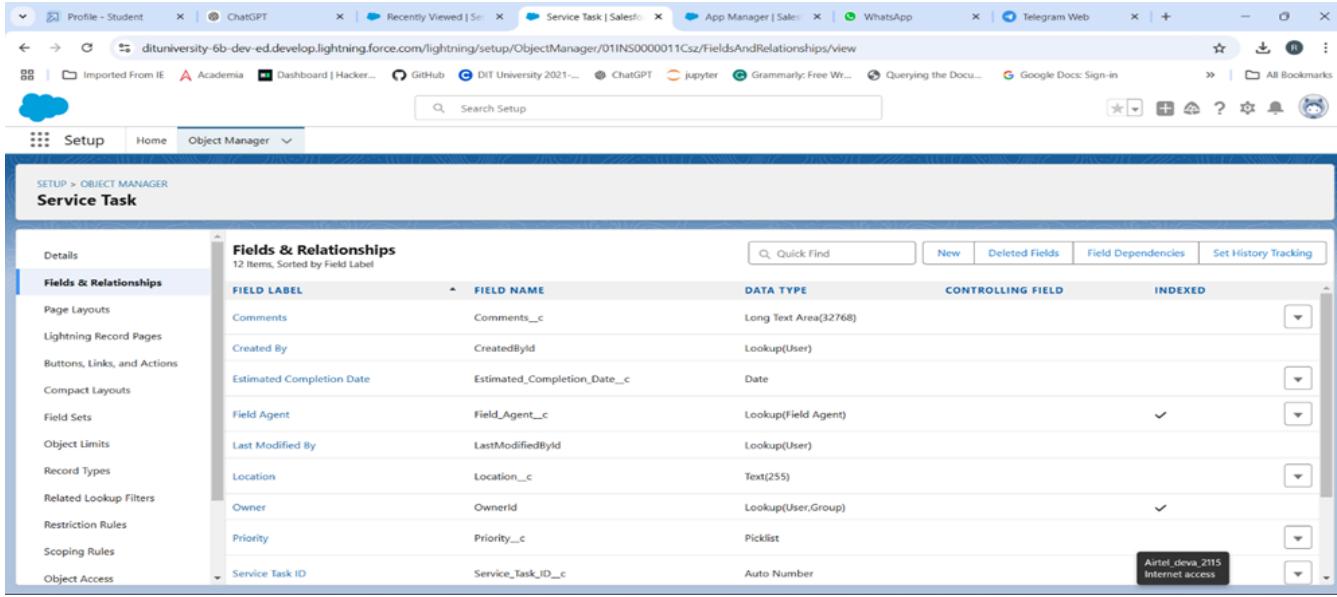
Deployment Status: Deployed

Help Settings: Standard salesforce.com Help Window

Fields & Relationships:

1. Service Task:

- **Fields:** Task ID (unique), Field Agent (lookup to Field Agent), Due Date, Status (e.g., Assigned, Completed).
- **Relationships:** Linked to Field Agent through a lookup relationship, allowing assignment of tasks to specific agents.

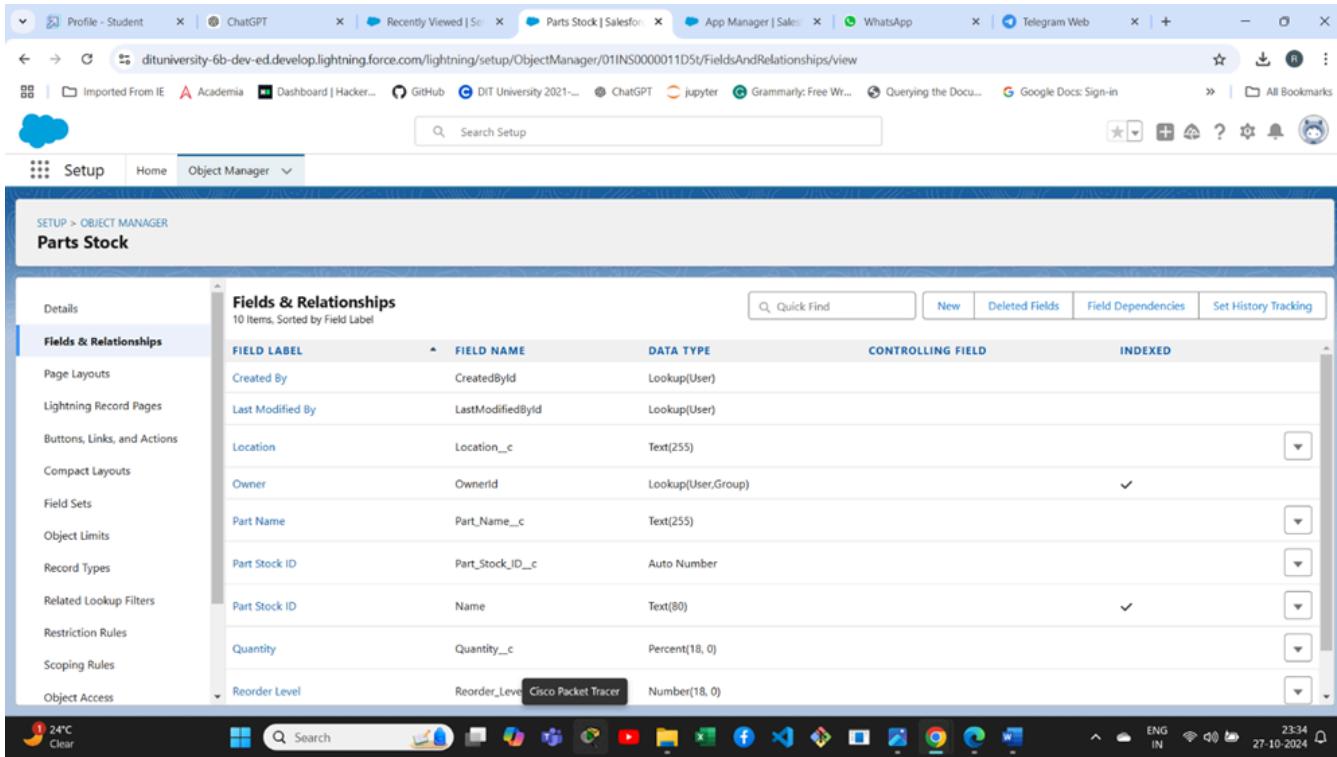


The screenshot shows the Salesforce Object Manager interface for the 'Service Task' object. The left sidebar lists various setup categories like Details, Fields & Relationships, Page Layouts, etc. The main content area displays the 'Fields & Relationships' section with 12 items, sorted by Field Label. The table columns include FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. Key fields shown include Comments, Created By, Estimated Completion Date, Field Agent, Last Modified By, Location, Owner, Priority, and Service Task ID.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Comments	Comments__c	Long Text Area(32768)		
Created By	CreatedById	Lookup(User)		
Estimated Completion Date	Estimated_Completion_Date__c	Date		
Field Agent	Field_Agent__c	Lookup(Field Agent)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(255)		
Owner	OwnerId	Lookup(User,Group)		✓
Priority	Priority__c	Picklist		
Service Task ID	Service_Task_ID__c	Auto Number		

2. Parts Stock

- **Fields:** Part ID (unique), Part Name, Quantity (current stock), Reorder Threshold, Location.
- **Relationships:** No direct relationships; can be referenced by other objects like Restock Request to monitor inventory needs.

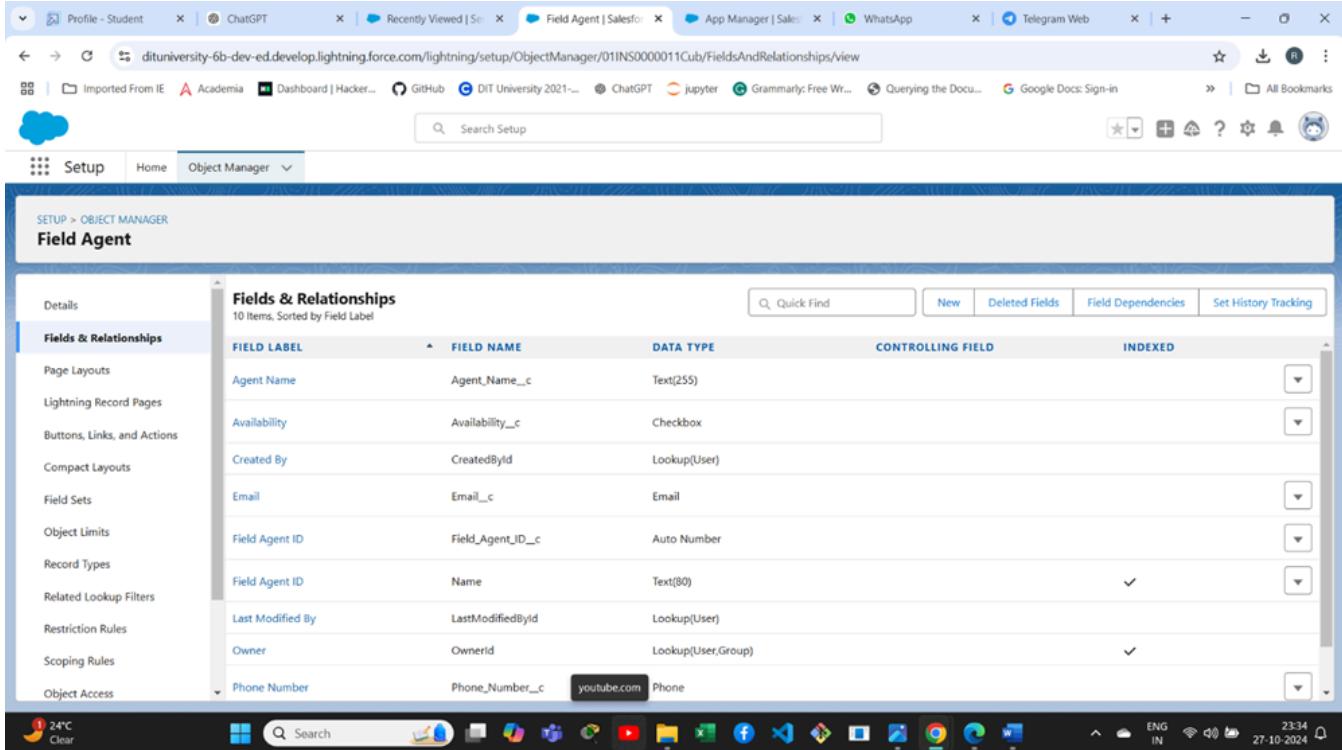


The screenshot shows the Salesforce Object Manager interface for the 'Parts Stock' object. The left sidebar lists various setup categories like Details, Fields & Relationships, Page Layouts, etc. The main content area displays the 'Fields & Relationships' section with 10 items, sorted by Field Label. The table columns include FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. Key fields shown include Created By, Last Modified By, Location, Owner, Part Name, Part Stock ID, Reorder Level, and Quantity.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(255)		
Owner	OwnerId	Lookup(User,Group)		✓
Part Name	Part_Name__c	Text(255)		
Part Stock ID	Part_Stock_ID__c	Auto Number		
Part Stock ID	Name	Text(80)		✓
Quantity	Quantity__c	Percent(18, 0)		
Reorder Level	Reorder_Level	Number(18, 0)		

3. Field Agent

- **Fields:** Agent ID (unique), Name, Email, Phone Number.
- **Relationships:** Referenced by Service Task through a lookup relationship to assign specific agents to tasks.

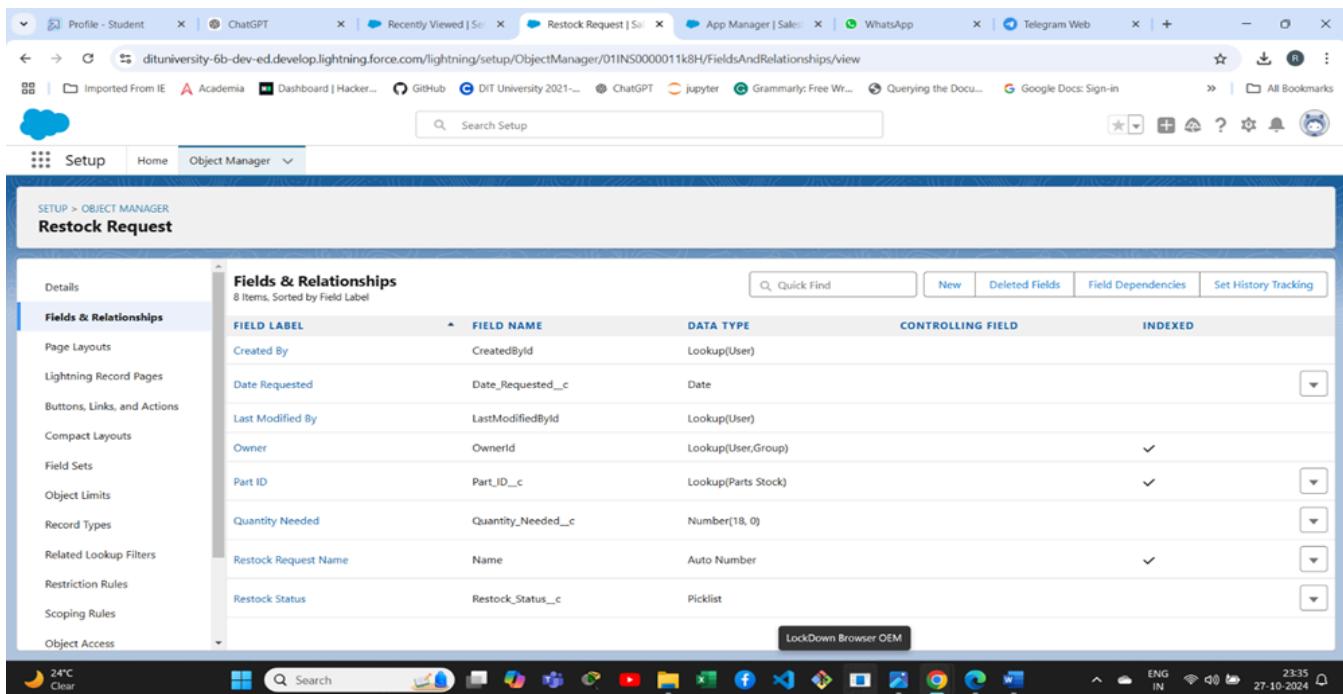


The screenshot shows the Salesforce Object Manager interface for the 'Field Agent' object. The left sidebar lists various configuration tabs: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Restriction Rules, Scoping Rules, and Object Access. The main content area displays the 'Fields & Relationships' section with 10 items, sorted by Field Label. The table includes columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. Key fields listed include Agent Name (Text(255)), Availability (Checkbox), Created By (Lookup(User)), Email (Email), Field Agent ID (Auto Number), Name (Text(80)), Last Modified By (Lookup(User)), Owner (Lookup(User,Group)), and Phone Number (Phone). The 'Name' field is indexed.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Agent Name	Agent_Name__c	Text(255)		
Availability	Availability__c	Checkbox		
Created By	CreatedBy	Lookup(User)		
Email	Email__c	Email		
Field Agent ID	Field_Agent_ID__c	Auto Number		
Field Agent ID	Name	Text(80)		✓
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Phone Number	Phone_Number__c	Phone		

4. Restock Request

- **Fields:** Request ID (unique), Part ID (lookup to Parts Stock), Requested Quantity, Request Date.
- **Relationships:** Lookup to Parts Stock to indicate which part requires restocking, tracking inventory management.

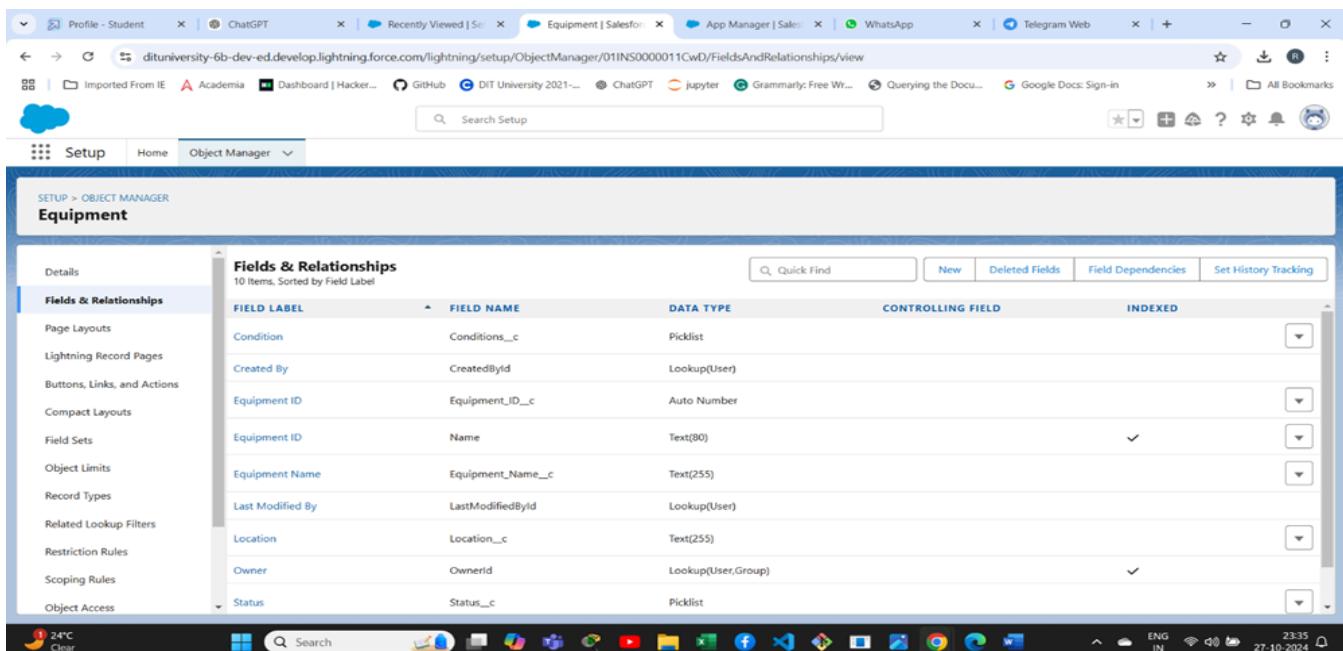


The screenshot shows the Salesforce Object Manager interface for the 'Restock Request' object. The left sidebar has 'Fields & Relationships' selected. The main area displays the 'Fields & Relationships' table with the following data:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Date Requested	Date_Requeste_d_c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Part ID	Part_ID_c	Lookup(Parts Stock)		✓
Quantity Needed	Quantity_Needed_c	Number(18, 0)		
Restock Request Name	Name	Auto Number		✓
Restock Status	Restock_Status_c	Picklist		

5. Equipment List

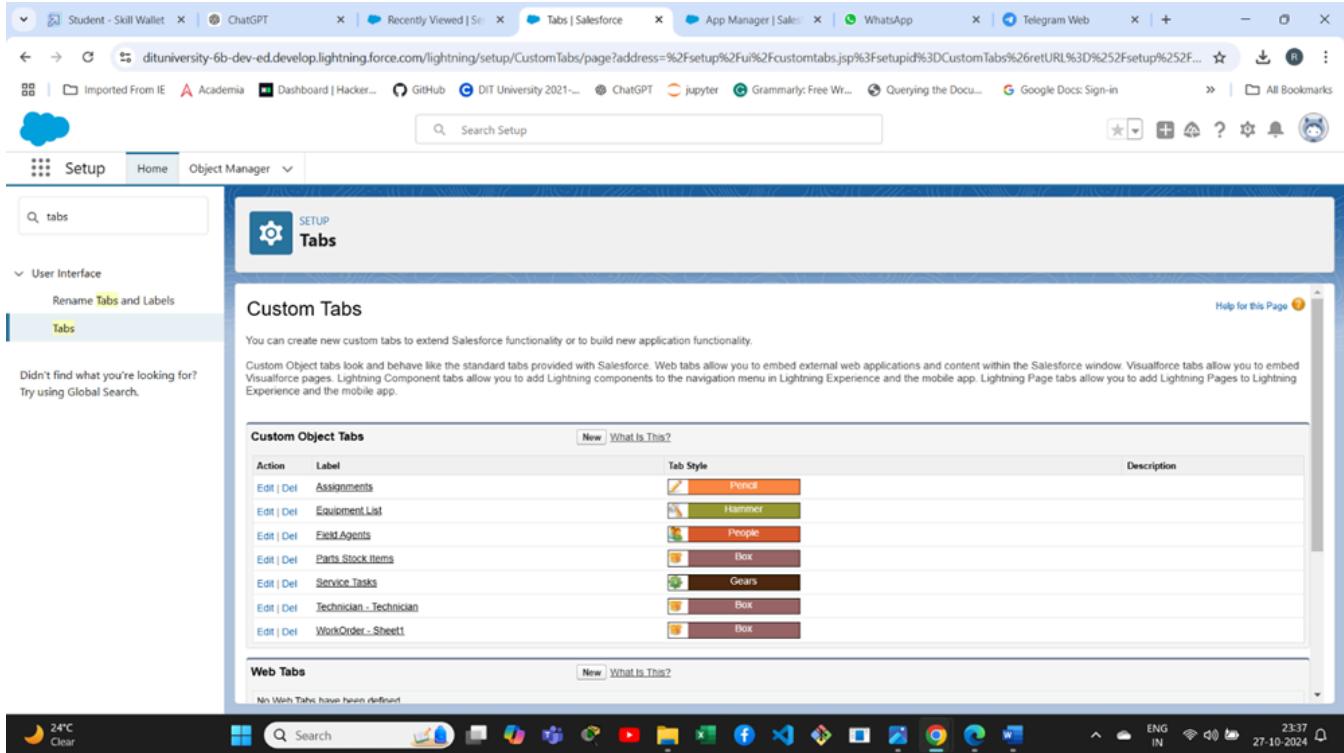
- **Fields:** Equipment ID (unique), Equipment Name, Status (e.g., In Use, Maintenance), Location.
- **Relationships:** Can be referenced by Service Task for assigning equipment, though no direct relationship is defined.



The screenshot shows the Salesforce Object Manager interface for the 'Equipment' object. The left sidebar has 'Fields & Relationships' selected. The main area displays the 'Fields & Relationships' table with the following data:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Condition	Conditions_c	Picklist		
Created By	CreatedById	Lookup(User)		
Equipment ID	Equipment_ID_c	Auto Number		
Equipment ID	Name	Text(80)		✓
Equipment Name	Equipment_Name_c	Text(255)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location_c	Text(255)		
Owner	OwnerId	Lookup(User,Group)		✓
Status	Status_c	Picklist		

Tabs:



Custom Tabs

You can create new custom tabs to extend Salesforce functionality or to build new application functionality.

Custom Object tabs look and behave like the standard tabs provided with Salesforce. Web tabs allow you to embed external web applications and content within the Salesforce window. Visualforce tabs allow you to embed Visualforce pages. Lightning Component tabs allow you to add Lightning components to the navigation menu in Lightning Experience and the mobile app. Lightning Page tabs allow you to add Lightning Pages to Lightning Experience and the mobile app.

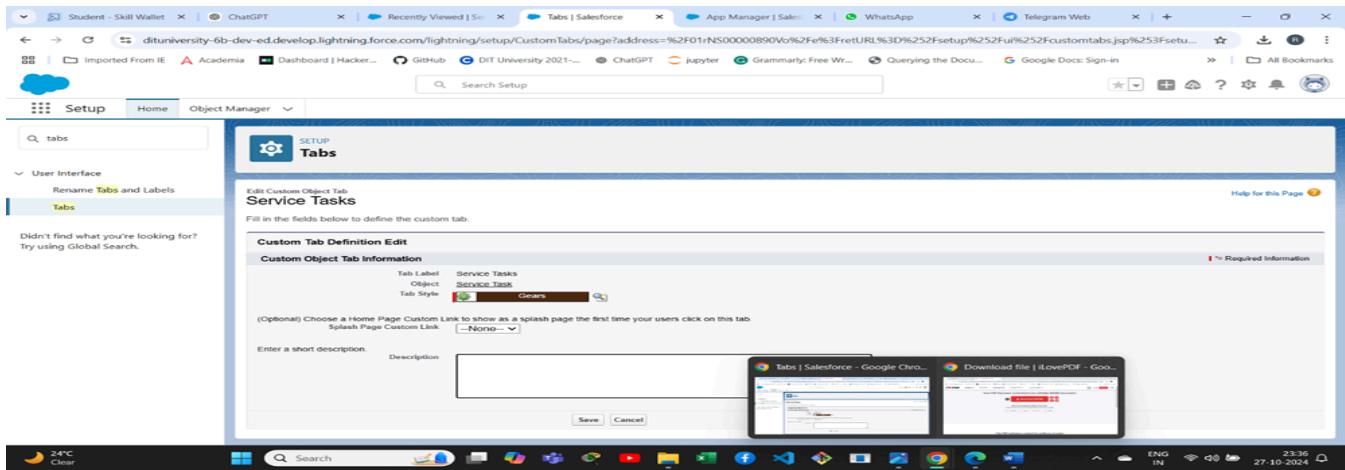
Action	Label	Tab Style	Description
Edit Del	Assignments	Pencil	
Edit Del	Equipment List	Hammer	
Edit Del	Field Agents	People	
Edit Del	Parts Stock Items	Box	
Edit Del	Service Tasks	Gears	
Edit Del	Technician - Technician	Box	
Edit Del	WorkOrder - Sheet	Box	

Web Tabs

No Web Tabs have been defined.

1. Service Task Tab

- Purpose:** Lists all service tasks with details such as assigned agents, due dates, and task statuses (e.g., New, In Progress, Completed).
- Key Actions:** Users can create new tasks, update task statuses, and view pending vs. completed tasks to ensure timely service completion.



Edit Custom Object Tab

Service Tasks

Fill in the fields below to define the custom tab.

Custom Tab Definition Edit

Custom Object Tab Information

Tab Label	Service Tasks
Object	Service Task
Tab Style	Gears

(Optional) Choose a Home Page Custom Link to show as a splash page the first time your users click on this tab.
 Splash Page Custom Link:

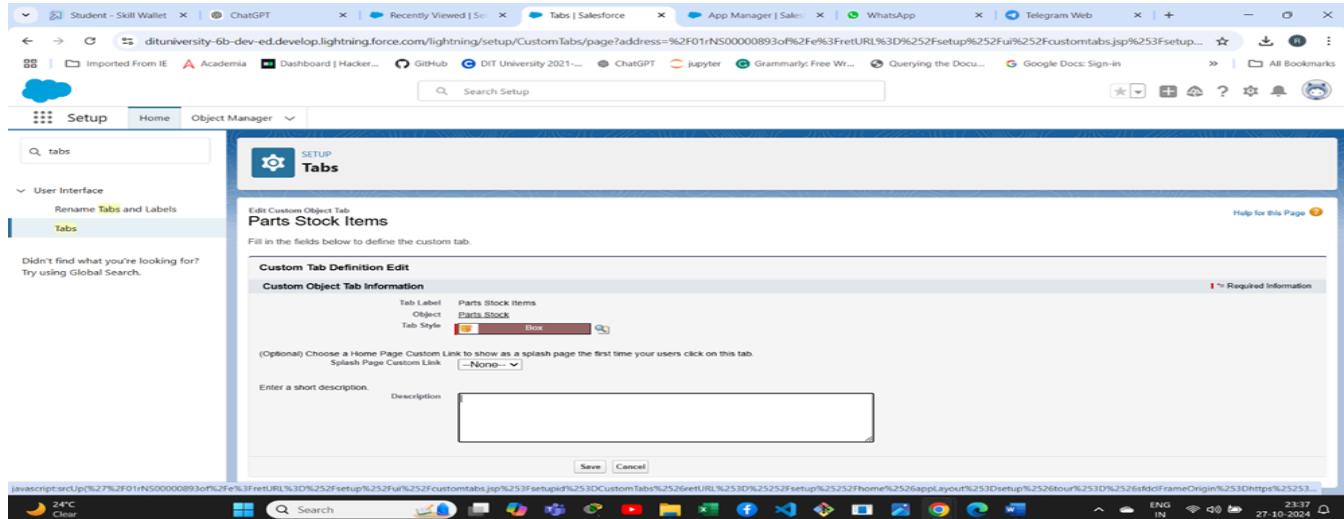
Enter a short description.

Description

Save Cancel

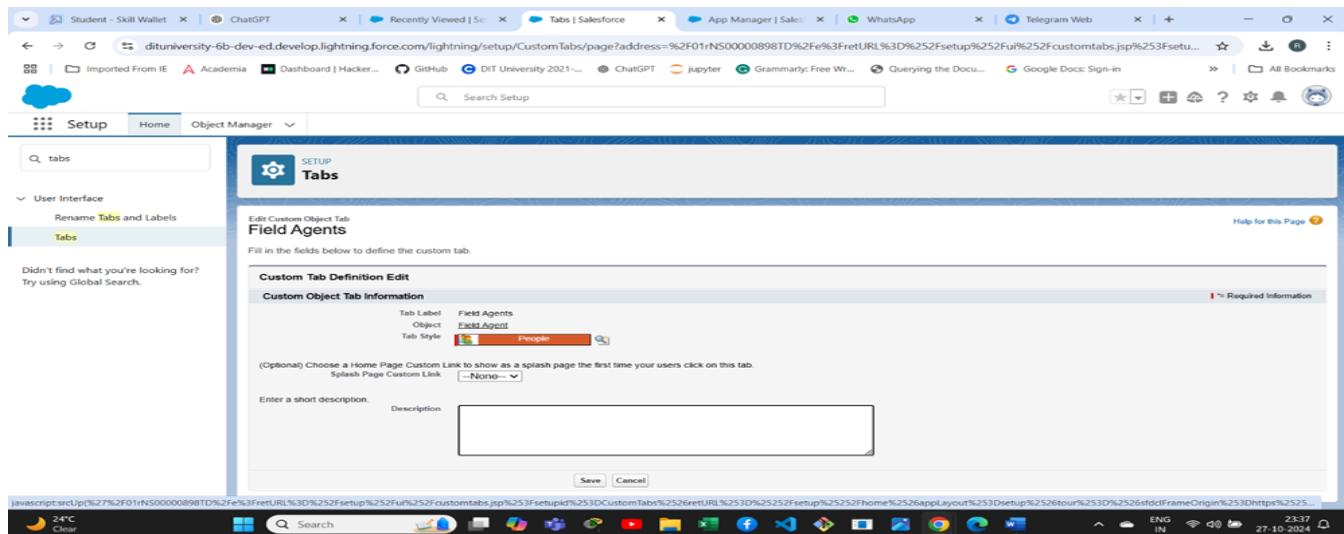
2. Parts Stock Tab

- Purpose:** Displays inventory details, including part names, quantities, reorder thresholds, and locations for each part.
- Key Actions:** Users can track stock levels, monitor low-stock parts, and create restock requests when quantities fall below thresholds.



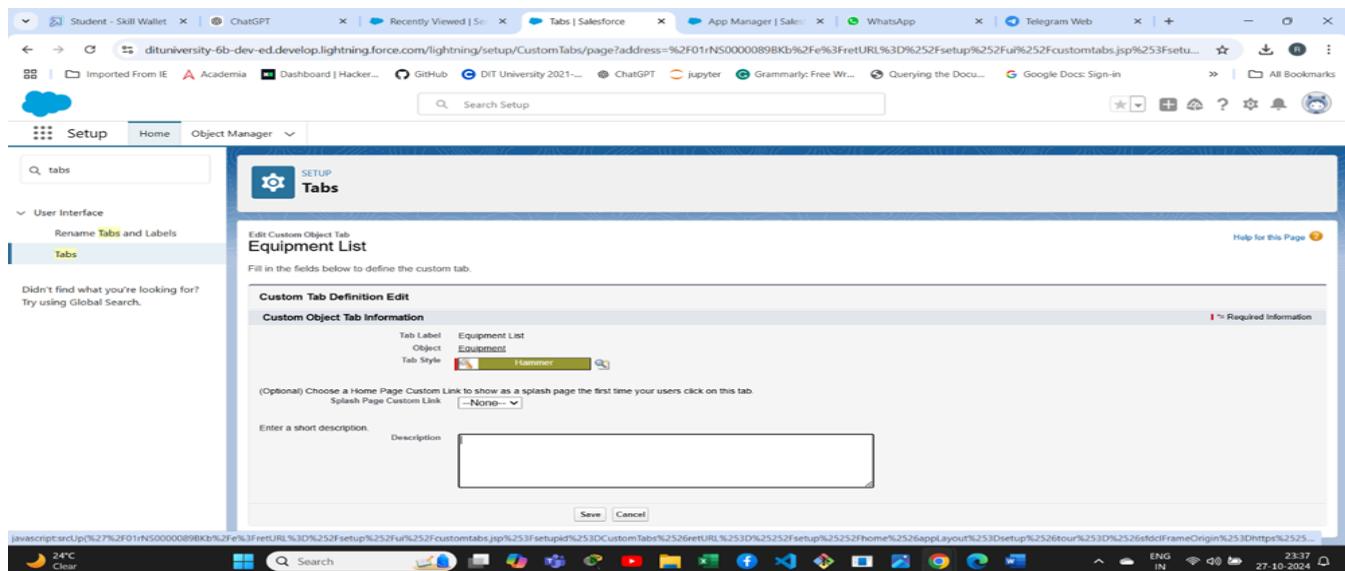
3. Field Agent Tab

- Purpose:** Manages data on field agents, providing information on each agent's contact details and assignments.
- Key Actions:** Users can assign tasks, update agent contact info, and view each agent's active tasks or past assignments.

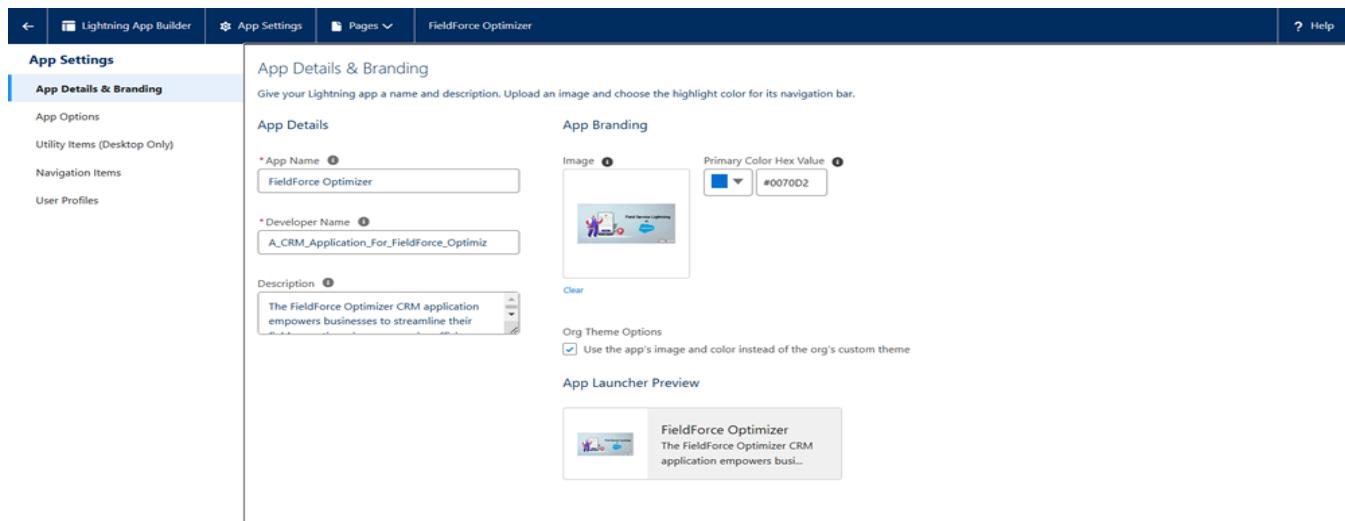


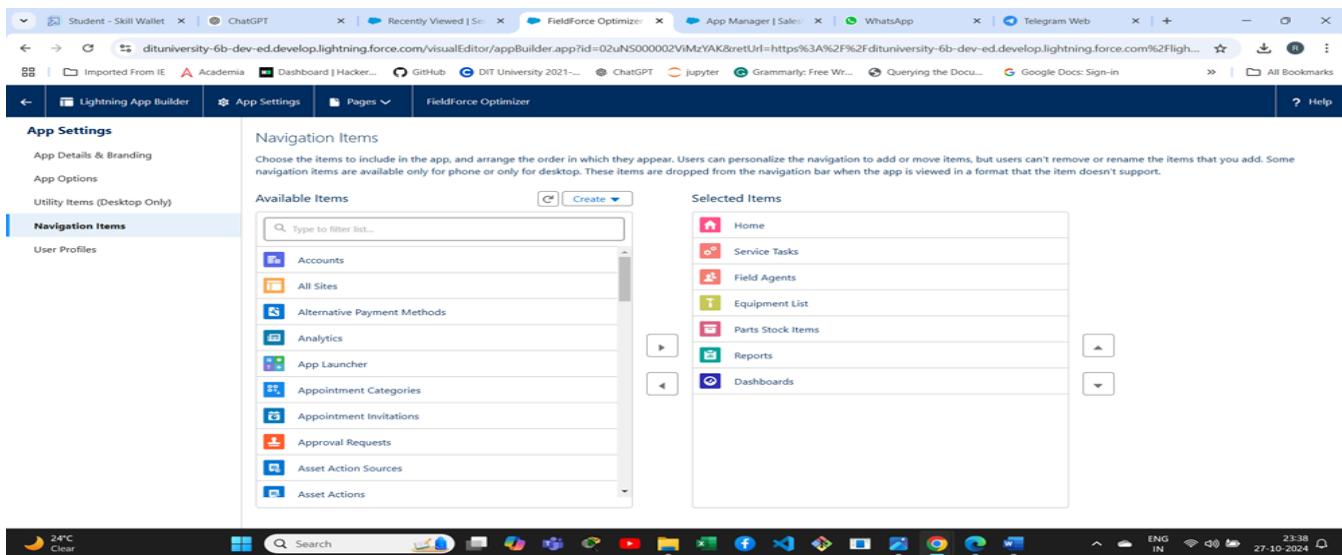
5. Equipment List Tab

- Purpose:** Lists all equipment with fields such as equipment name, model, condition, and location, helping track and manage assets.
- Key Actions:** Users can add new equipment, update conditions (e.g., Excellent, Fair), view assigned locations, and monitor maintenance schedules for each item.



Lightning App Builder: thus empowers teams to create custom Salesforce experiences that meet specific business needs, without heavy development resources.



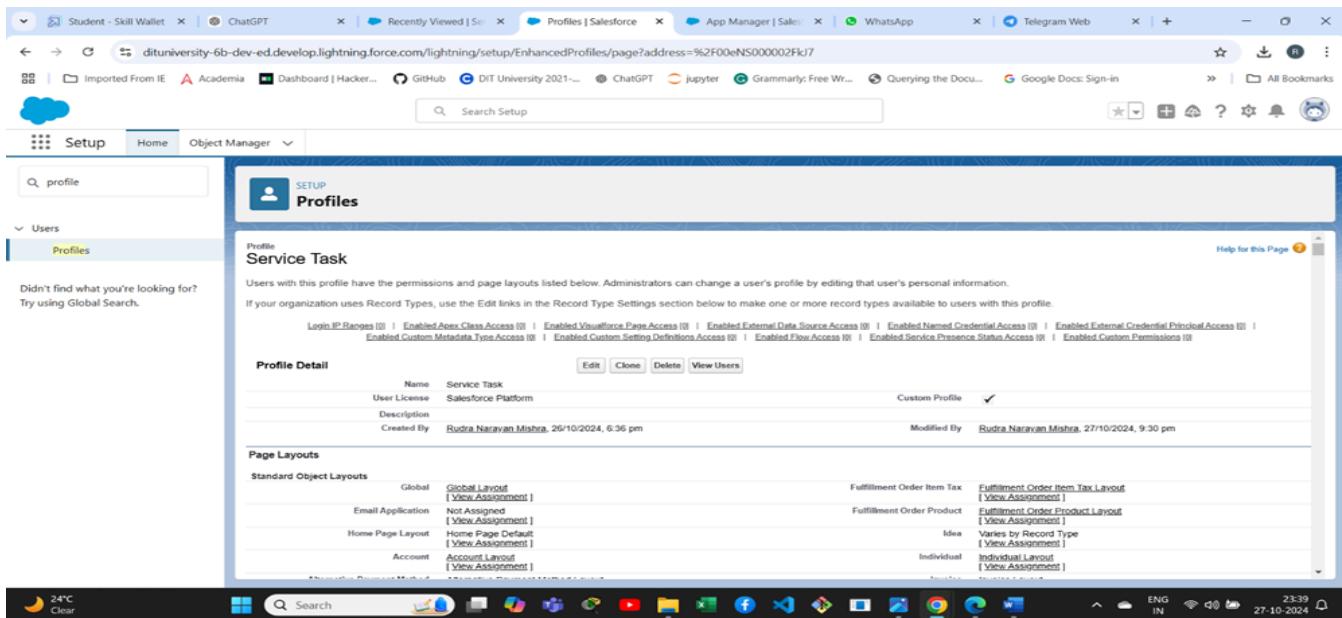


The screenshot shows the 'Navigation Items' configuration screen in the Lightning App Builder. On the left, there's a sidebar with 'App Settings' and 'Navigation Items' selected. Under 'Navigation Items', there are sections for 'Available Items' and 'Selected Items'. The 'Available Items' list includes: Accounts, All Sites, Alternative Payment Methods, Analytics, App Launcher, Appointment Categories, Appointment Invitations, Approval Requests, Asset Action Sources, and Asset Actions. The 'Selected Items' list contains: Home, Service Tasks, Field Agents, Equipment List, Parts Stock Items, Reports, and Dashboards. Navigation arrows between the two lists allow items to be moved.

Profiles:

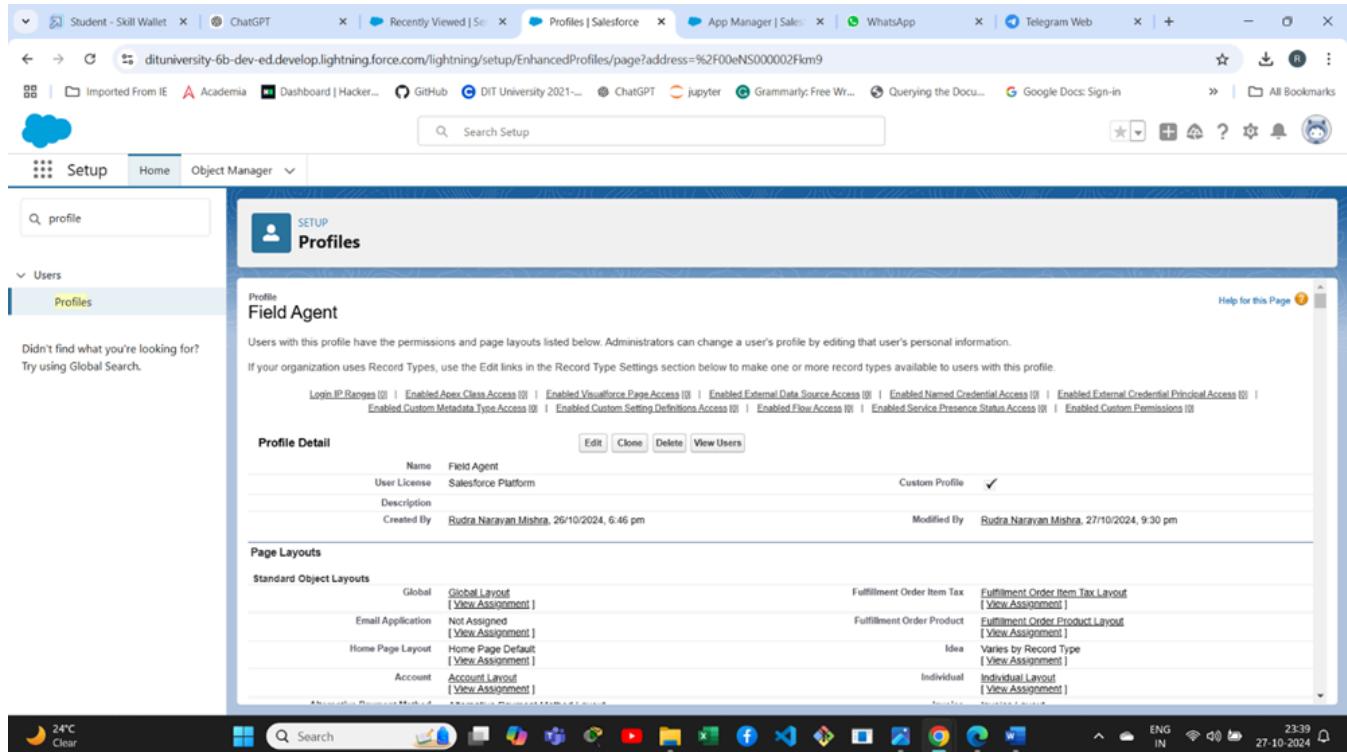
Profiles are key elements in defining permissions, controlling access to data, and setting user capabilities for various objects within an organization.

- **Service Task Profile:** Allows field agents to create, update, and manage service tasks assigned to them, with permissions to track task status and add notes. Managers have broader access, allowing them to assign tasks, monitor progress, and set priorities. Admins have full access, including control over task permissions and field visibility.



The screenshot shows the 'Service Task' profile details in the Salesforce Setup. The top navigation bar includes links for Student - Skill Wallet, ChatGPT, Recently Viewed, Profiles | Salesforce, App Manager | Sales, WhatsApp, Telegram Web, and Help. The main content area is titled 'Profile: Service Task'. It displays the profile's permissions and page layouts. The 'Profile Detail' section shows the name 'Service Task', user license 'Salesforce Platform', and creation details ('Created by Rudra Narayan Mishra, 26/10/2024, 6:36 pm'). The 'Page Layouts' section lists standard object layouts for Global, Email Application, Home Page Layout, and Account, along with their respective global and individual page layout assignments. A note at the bottom states: 'Users with this profile have the permissions and page layouts listed below. Administrators can change a user's profile by editing that user's personal information.' A link to 'Record Type Settings' is also present.

- **Field Agent Profile:** Provides field agents with restricted access to their own records, allowing updates to personal information and status. Managers can view all agent profiles to assign tasks effectively. Admins maintain full access to create, edit, and manage agent records and permissions.



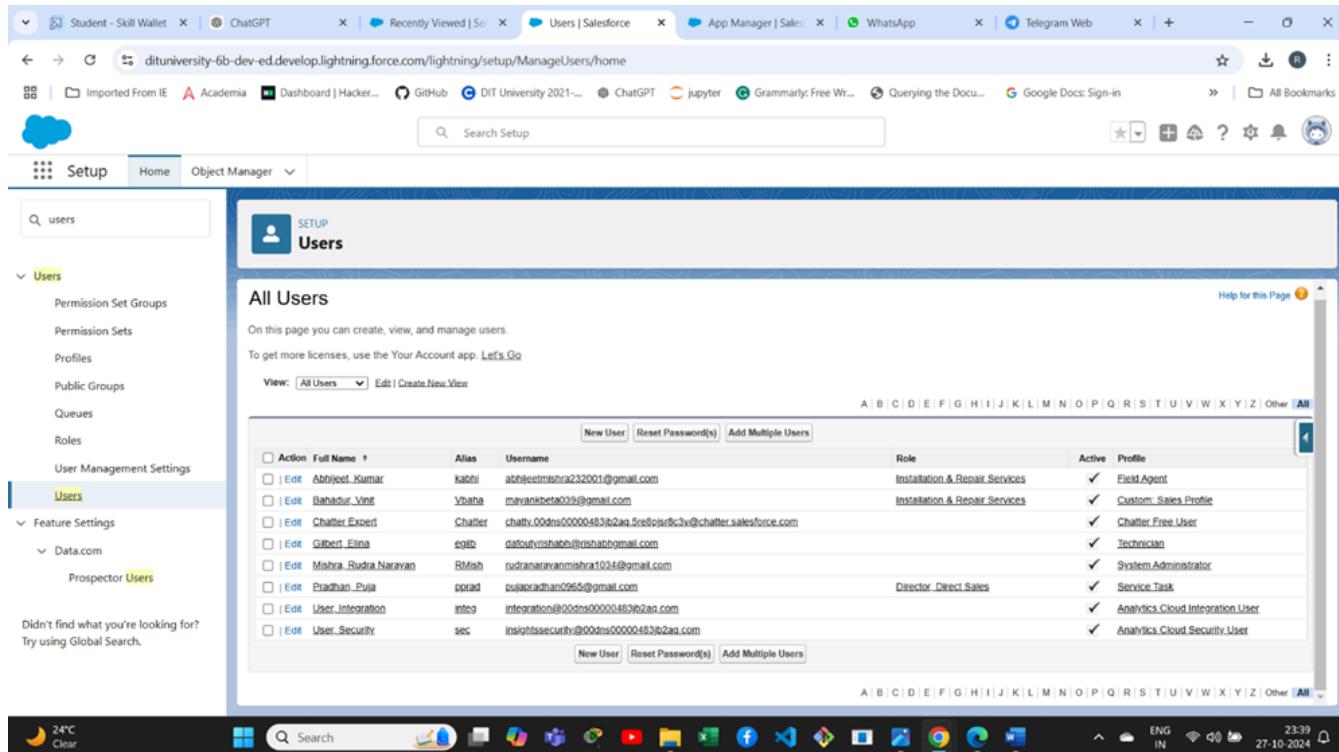
The screenshot shows the Salesforce Setup interface with the following details:

- Profile:** Field Agent
- Description:** Users with this profile have the permissions and page layouts listed below. Administrators can change a user's profile by editing that user's personal information.
- Permissions:** A long list of permissions is shown, including:
 - Login IP Ranges
 - Enabled Apex Class Access
 - Enabled Visualforce Page Access
 - Enabled External Data Source Access
 - Enabled Named Credential Access
 - Enabled External Credential Principal Access
 - Enabled Custom Metadata Type Access
 - Enabled Custom Setting Definitions Access
 - Enabled Flow Access
 - Enabled Service Presence Status Access
 - Enabled Custom Permissions
- Profile Detail:**

Name	Field Agent	Custom Profile	<input checked="" type="checkbox"/>
User License	Salesforce Platform		
Description			
Created By	Rudra Narayan Mishra, 26/10/2024, 6:46 pm	Modified By	Rudra Narayan Mishra, 27/10/2024, 9:30 pm
- Page Layouts:** A table showing standard object layouts for various objects like Global, Email Application, Home Page Layout, and Account.

Users:

user is an individual who has a specific login to access and interact with the system based on their designated role and permissions. Users in Salesforce are assigned user profiles that determine their permissions, access to objects, field visibility, and data they can view or edit.



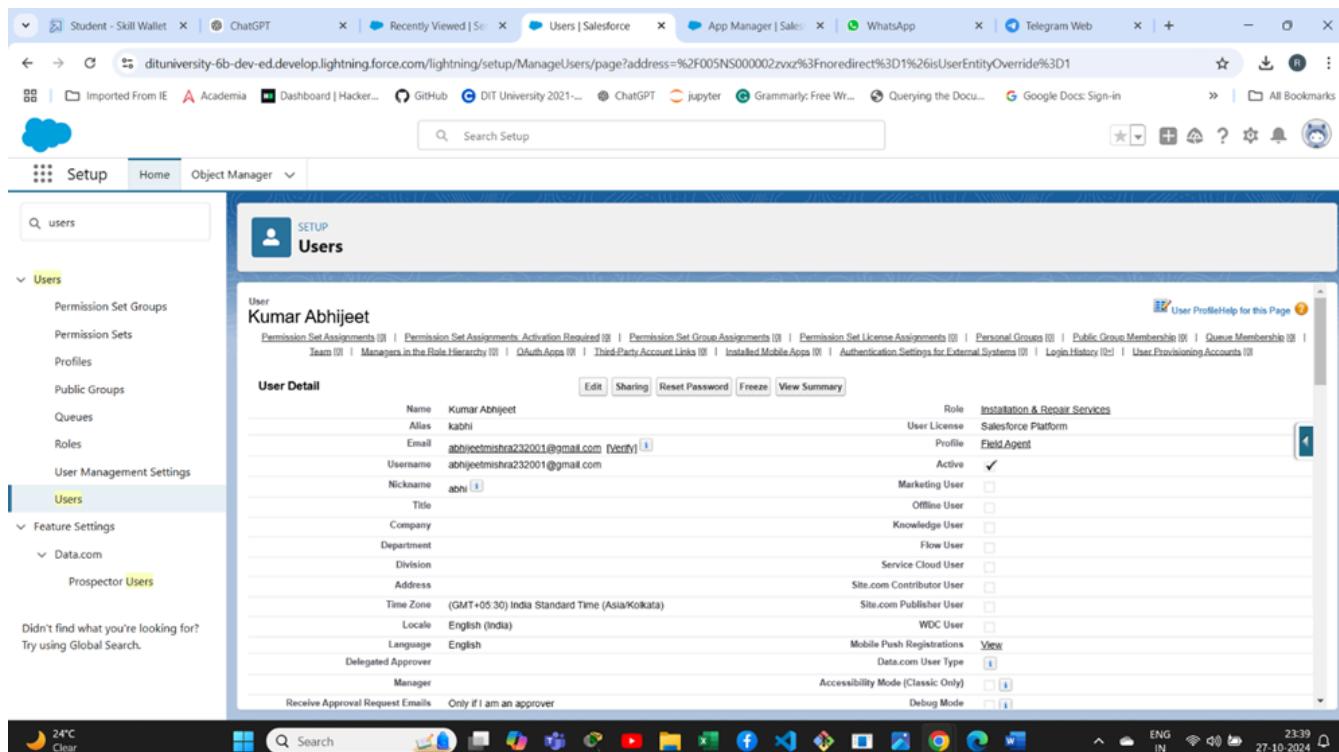
On this page you can create, view, and manage users.

To get more licenses, use the Your Account app. [Let's Go](#)

View: All Users | Edit | Create.New.View

Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/>	Abhijeet Kumar	kabhi	abhjeetmishra232001@gmail.com	Installation & Repair Services	<input checked="" type="checkbox"/>	Field Agent
<input type="checkbox"/>	Bahadur Vint	Vnaha	mavankbeta039@gmail.com	Installation & Repair Services	<input checked="" type="checkbox"/>	Custom Sales Profile
<input type="checkbox"/>	Chatter Expert	Chatty	chatty.000ns00000485bzq.5re8psr8c3v@chatter.salesforce.com	Chatter	<input checked="" type="checkbox"/>	Chatter Free User
<input type="checkbox"/>	Gilbert Elina	elbi	datourishabh@ishabbymail.com	System Administrator	<input checked="" type="checkbox"/>	Technician
<input type="checkbox"/>	Mishra_Rudra Narayan	Rish	rudranarayanimishra1034@gmail.com	Director_Direct Sales	<input checked="" type="checkbox"/>	Service Task
<input type="checkbox"/>	Pradhan_Puja	pprad	pujapradhan0955@gmail.com	Analytics Cloud Integration User	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	User_Integration	inteq	integration@000ns00000485bzq.5re8psr8c3v@salesforce.com	Analytics Cloud Security User	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	User_Security	sec	insightssecurity@000ns00000485bzq.5re8psr8c3v@salesforce.com		<input checked="" type="checkbox"/>	

- **Field Agents:** Perform on-site tasks, update task statuses, and view assigned equipment and parts. Their profile limits them to only the data needed to complete their tasks effectively.



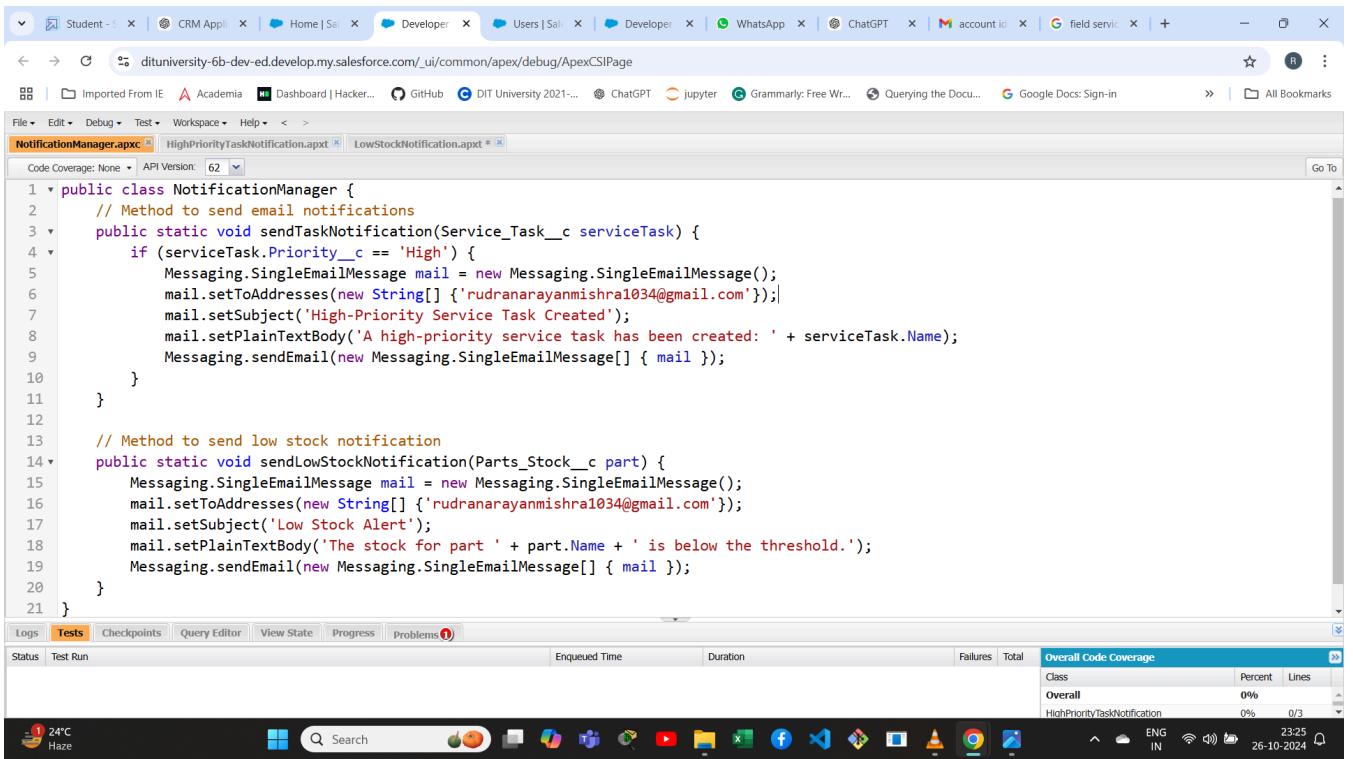
User Detail

Kumar Abhijeet

Name	Kumar Abhijeet	Role	Installation & Repair Services
Alias	kabhi	User License	Salesforce Platform
Email	abhjeetmishra232001@gmail.com [Verify]	Profile	Field Agent
Username	abhjeetmishra232001@gmail.com	Active	<input checked="" type="checkbox"/>
Nickname	abb	Marketing User	<input type="checkbox"/>
Title		Offline User	<input type="checkbox"/>
Company		Knowledge User	<input type="checkbox"/>
Department		Flow User	<input type="checkbox"/>
Division		Service Cloud User	<input type="checkbox"/>
Address		Site.com Contributor User	<input type="checkbox"/>
Time Zone	(GMT+05:30) India Standard Time (Asia/Kolkata)	Site.com Publisher User	<input type="checkbox"/>
Locale	English (India)	WDC User	<input type="checkbox"/>
Language	English	Mobile Push Registrations	View
Delegated Approver		Data.com User Type	Edit
Manager		Accessibility Mode (Classic Only)	<input type="checkbox"/>
Receive Approval Request Emails	Only if I am an approver	Debug Mode	<input type="checkbox"/>

Triggers:

Apex triggers are a powerful feature in Salesforce that allows developers to execute custom actions before or after specific events occur on Salesforce records. They are written in the Apex programming language and are typically used to automate business processes and enforce complex business logic that cannot be handled through declarative tools.



```

1 public class NotificationManager {
2   // Method to send email notifications
3   public static void sendTaskNotification(Service_Task__c serviceTask) {
4     if (serviceTask.Priority__c == 'High') {
5       Messaging.SingleEmailMessage mail = new Messaging.SingleEmailMessage();
6       mail.setToAddresses(new String[] {'rudranarayann mishra1034@gmail.com'});
7       mail.setSubject('High-Priority Service Task Created');
8       mail.setPlainTextBody('A high-priority service task has been created: ' + serviceTask.Name);
9       Messaging.sendEmail(new Messaging.SingleEmailMessage[] { mail });
10    }
11  }
12
13  // Method to send low stock notification
14  public static void sendLowStockNotification(Parts_Stock__c part) {
15    Messaging.SingleEmailMessage mail = new Messaging.SingleEmailMessage();
16    mail.setToAddresses(new String[] {'rudranarayann mishra1034@gmail.com'});
17    mail.setSubject('Low Stock Alert');
18    mail.setPlainTextBody('The stock for part ' + part.Name + ' is below the threshold.');
19    Messaging.sendEmail(new Messaging.SingleEmailMessage[] { mail });
20  }
21}

```

The screenshot shows the Salesforce Developer Console with the code editor open. The tabs at the top include 'NotificationManager.apxc', 'HighPriorityTaskNotification.apxt', and 'LowStockNotification.apxt'. Below the code editor is a 'Logs' tab, followed by a 'Tests' tab which is currently selected. At the bottom, there is a toolbar with various icons and a status bar showing the date and time.

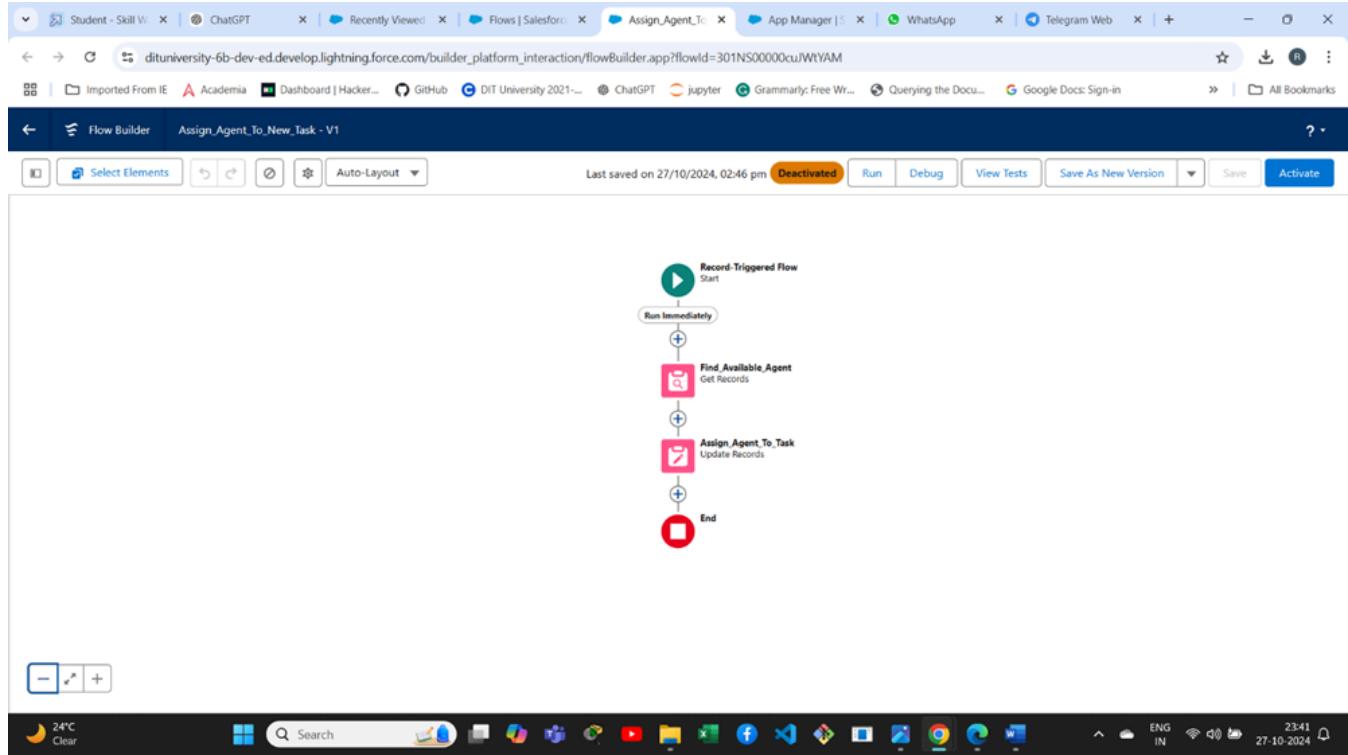
Automation Tools:

Flows: Describe specific flows, like the daily check for low stock that triggers a restock request.

1. Assign Agent to New Task Flow

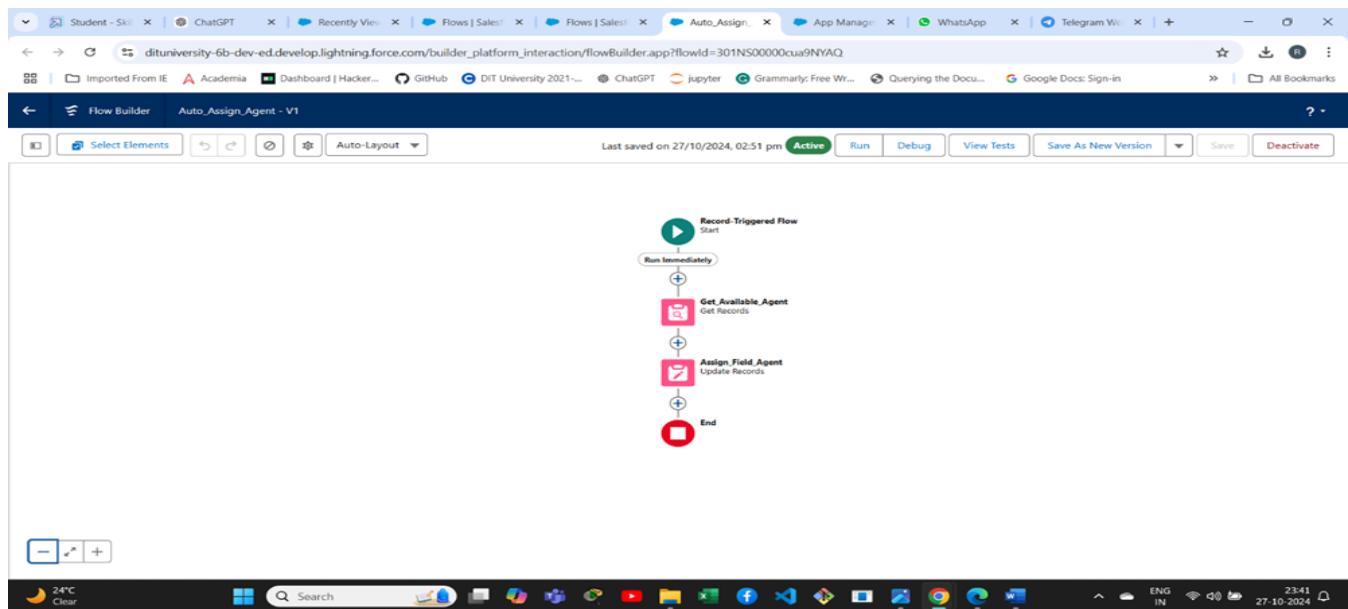
It evaluates the availability and workload of Field Agents and assigns the task to the agent who is best suited based on predefined criteria, such as location and current tasks. The Flow ensures that tasks are distributed fairly among agents.

Notifications are sent to both the assigned agent and the Service Manager for visibility.



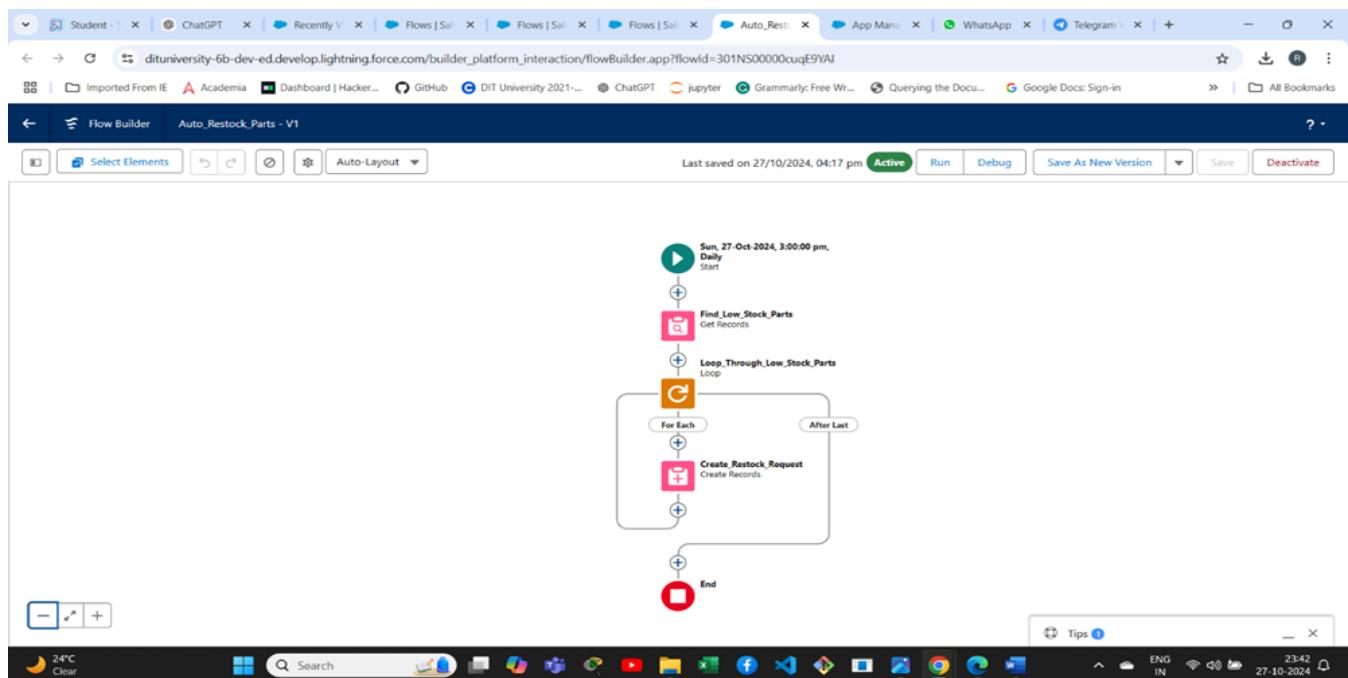
2. Auto Assign Agent Flow

This Flow automatically assigns Service Tasks to Field Agents based on specific rules when a task is created or updated. It checks factors like agent availability, expertise, and task priority, ensuring that high-priority tasks are assigned to qualified agents first. This enhances operational efficiency by reducing manual assignment processes. Agents receive immediate notifications of their new assignments.



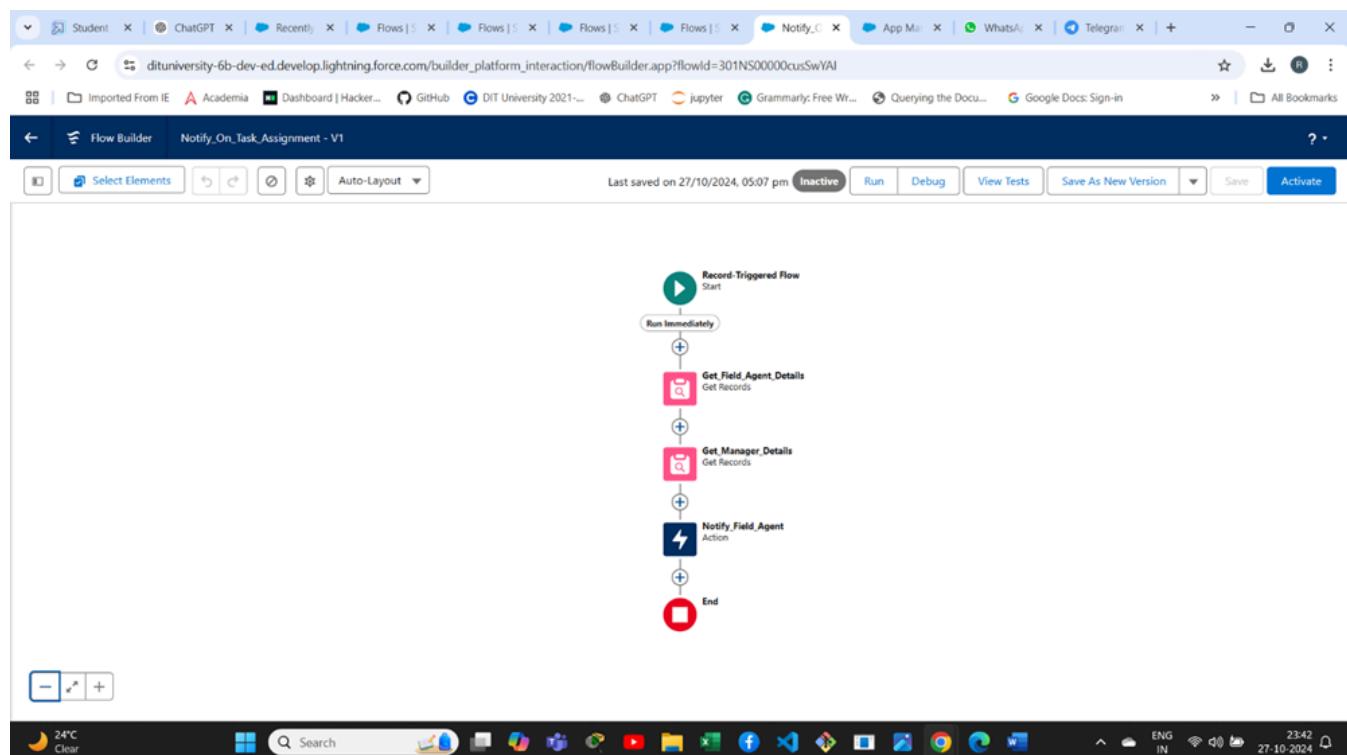
3. Auto Restock Parts Flow

Triggered by updates to the Parts Stock object, this Flow automatically generates Restock Requests when stock levels drop below the defined reorder threshold. It checks quantities and, if necessary, creates a new Restock Request record, ensuring timely replenishment of critical parts. This helps maintain optimal inventory levels and reduces downtime. Notifications are sent to Inventory Managers for quick action on requests.



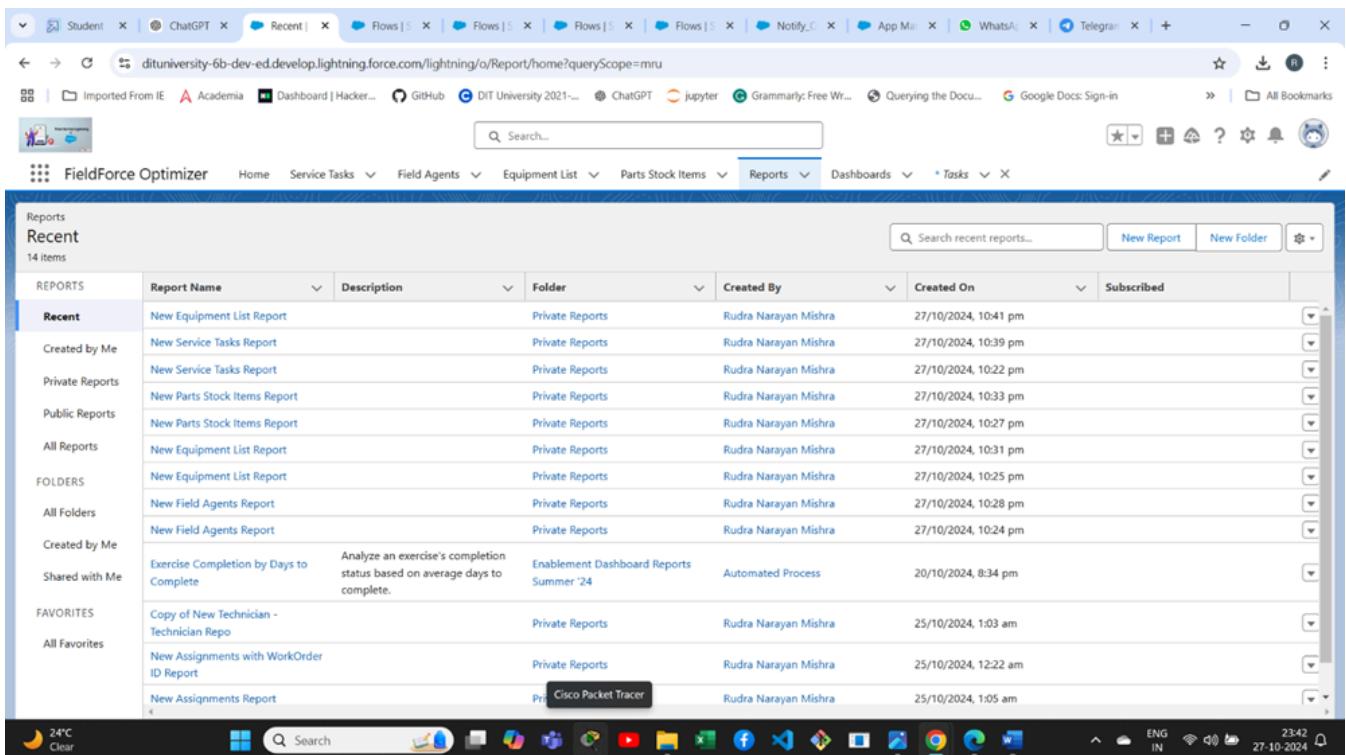
4. Notify on Task Assignment Flow

This Flow sends notifications to Field Agents and Service Managers whenever a new Service Task is assigned. It triggers when a task is created or updated, providing details about the task, including its priority and due date. The notifications ensure that all parties are aware of their responsibilities and timelines. This enhances communication and accountability within the team.



Reports and Dashboards:

1. **Reports** in Salesforce are organized summaries of data that allow users to analyze and interpret their data easily. They present data in a structured format, allowing users to filter, group, and summarize information to gain insights into business performance and trends.



Recent

14 items

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	New Equipment List Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:41 pm	
Created by Me	New Service Tasks Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:39 pm	
Private Reports	New Service Tasks Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:22 pm	
Public Reports	New Parts Stock Items Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:33 pm	
All Reports	New Parts Stock Items Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:27 pm	
	New Equipment List Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:31 pm	
FOLDERS	New Equipment List Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:25 pm	
All Folders	New Field Agents Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:28 pm	
Created by Me	New Field Agents Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:24 pm	
Shared with Me	Exercise Completion by Days to Complete	Analyze an exercise's completion status based on average days to complete.	Enablement Dashboard Reports Summer '24	Automated Process	20/10/2024, 8:34 pm	
FAVORITES	Copy of New Technician - Technician Repo		Private Reports	Rudra Narayan Mishra	25/10/2024, 1:03 am	
All Favorites	New Assignments with WorkOrder ID Report		Private Reports	Rudra Narayan Mishra	25/10/2024, 12:22 am	
	New Assignments Report	Cisco Packet Tracer	Rudra Narayan Mishra	Rudra Narayan Mishra	25/10/2024, 1:05 am	

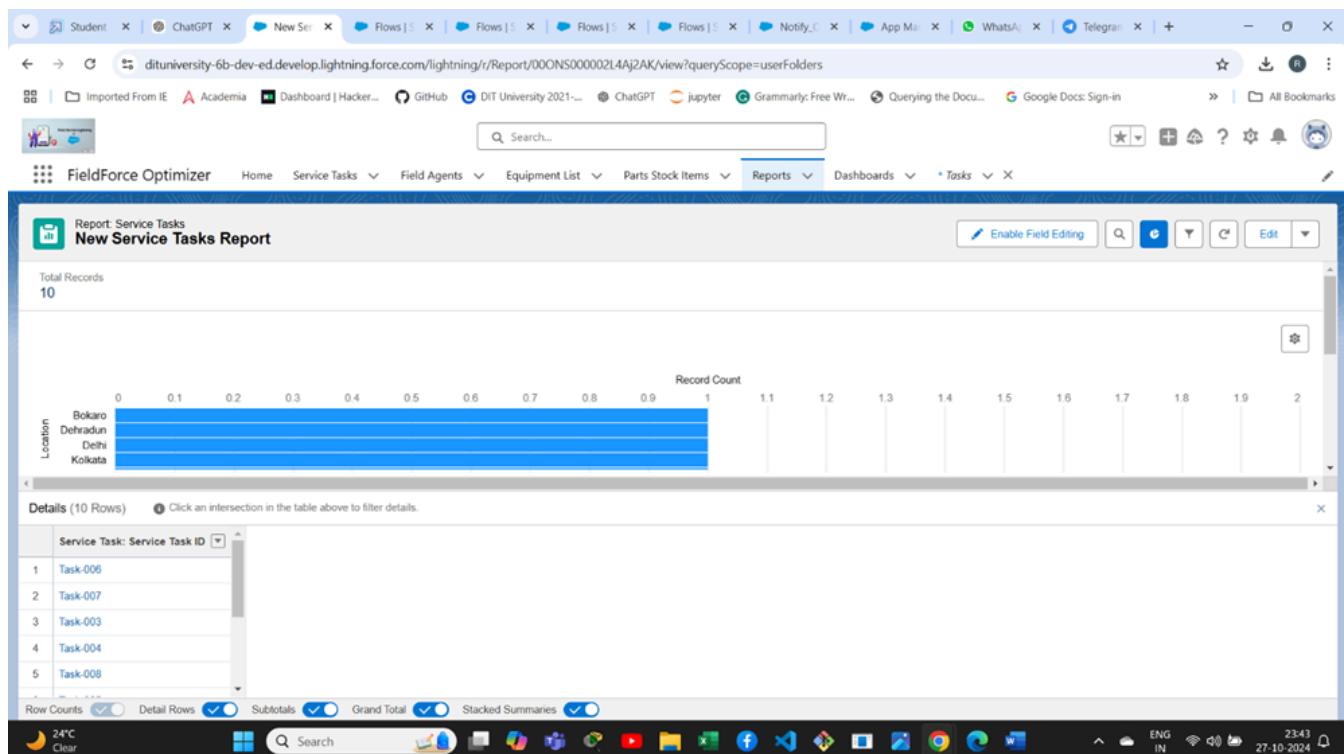
24°C Clear

Search

Cisco Packet Tracer

ENG IN 23:42 27-10-2024

● New Service Tasks Report



Total Records 10

Record Count

Location	Record Count
Bokaro	1
Dehradun	1
Delhi	1
Kolkata	1

Details (10 Rows)

Service Task: Service Task ID
Task-006
Task-007
Task-003
Task-004
Task-008

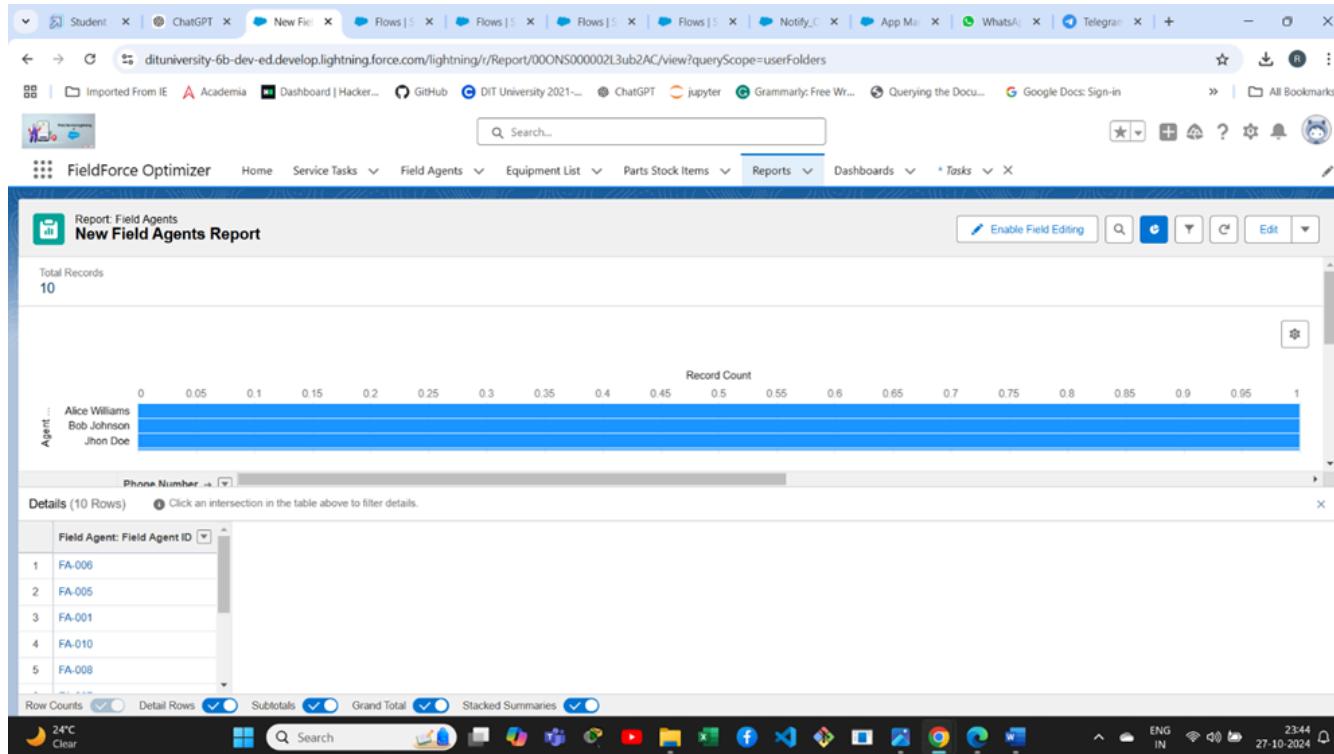
Row Counts Detail Rows Subtotals Grand Total Stacked Summaries

24°C Clear

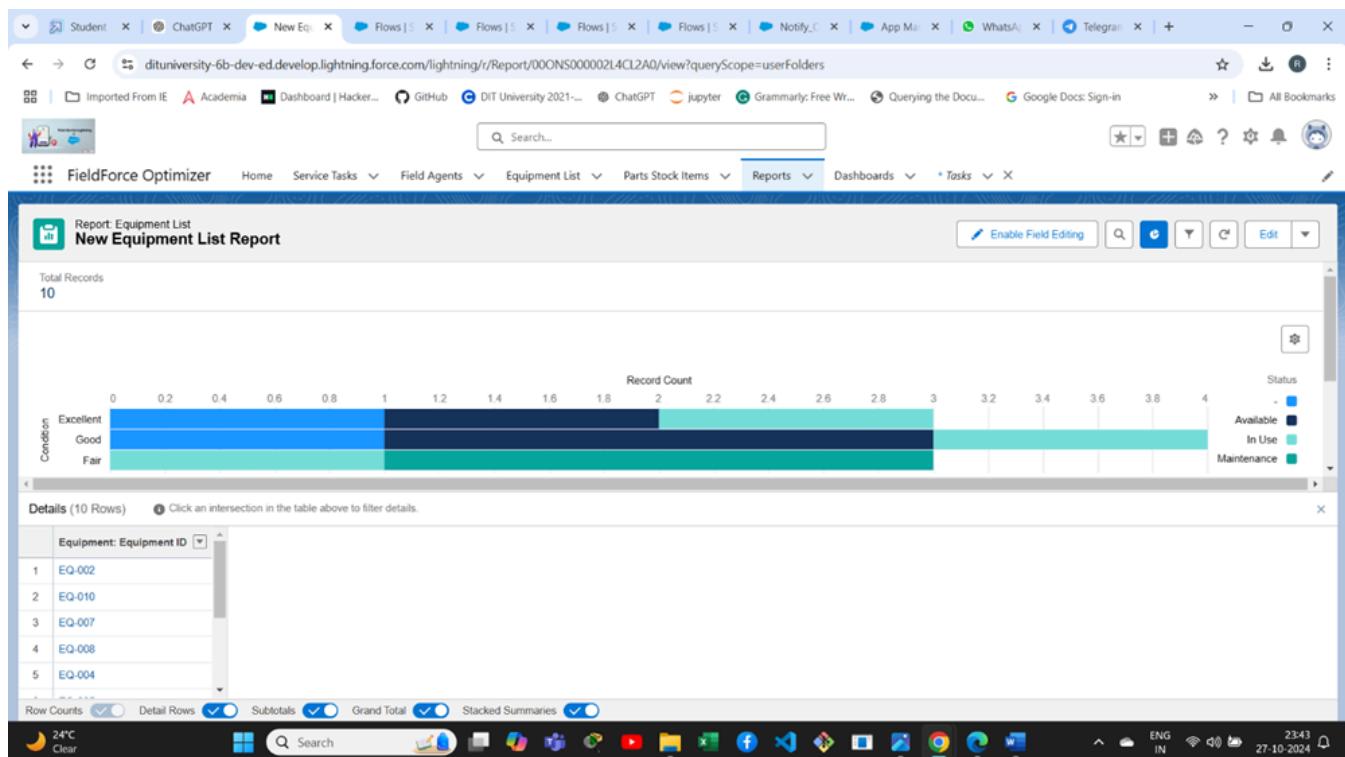
Search

ENG IN 23:43 27-10-2024

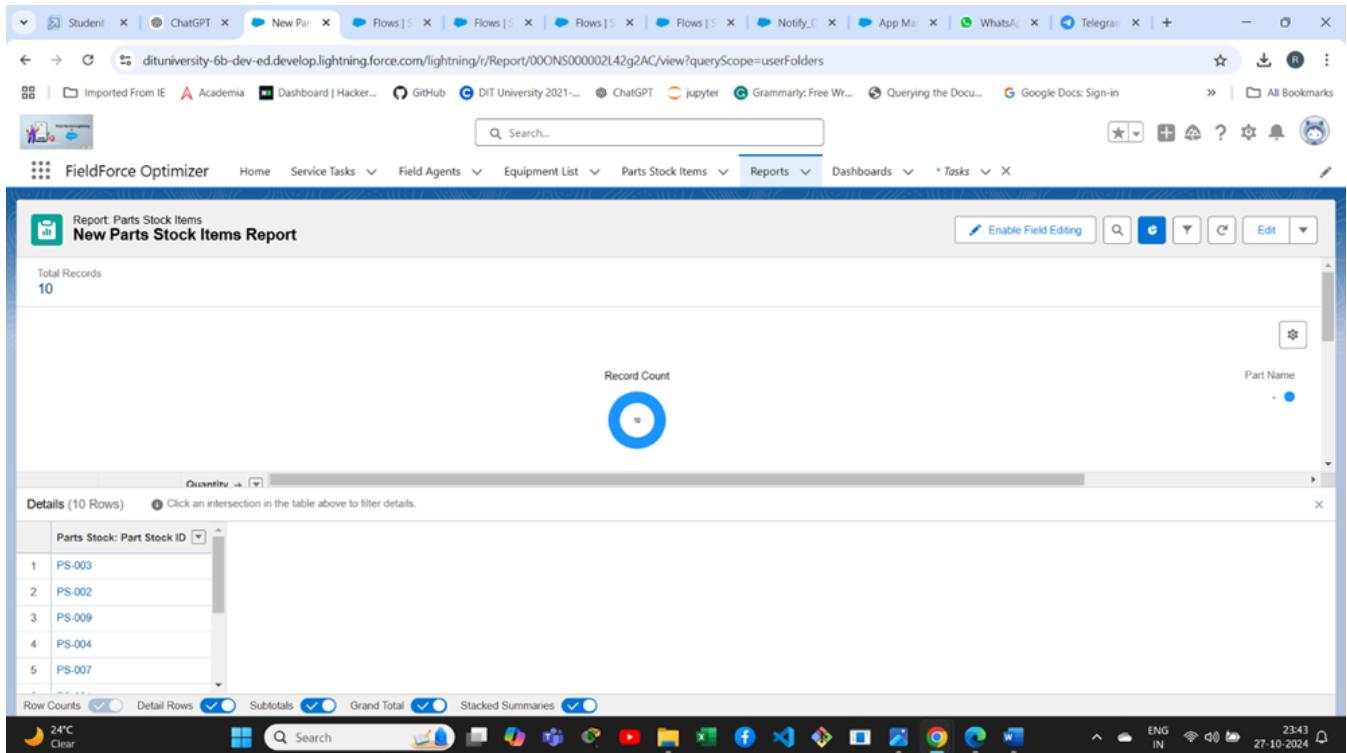
- **New Field Agents Report**



- **New Equipment List Report**



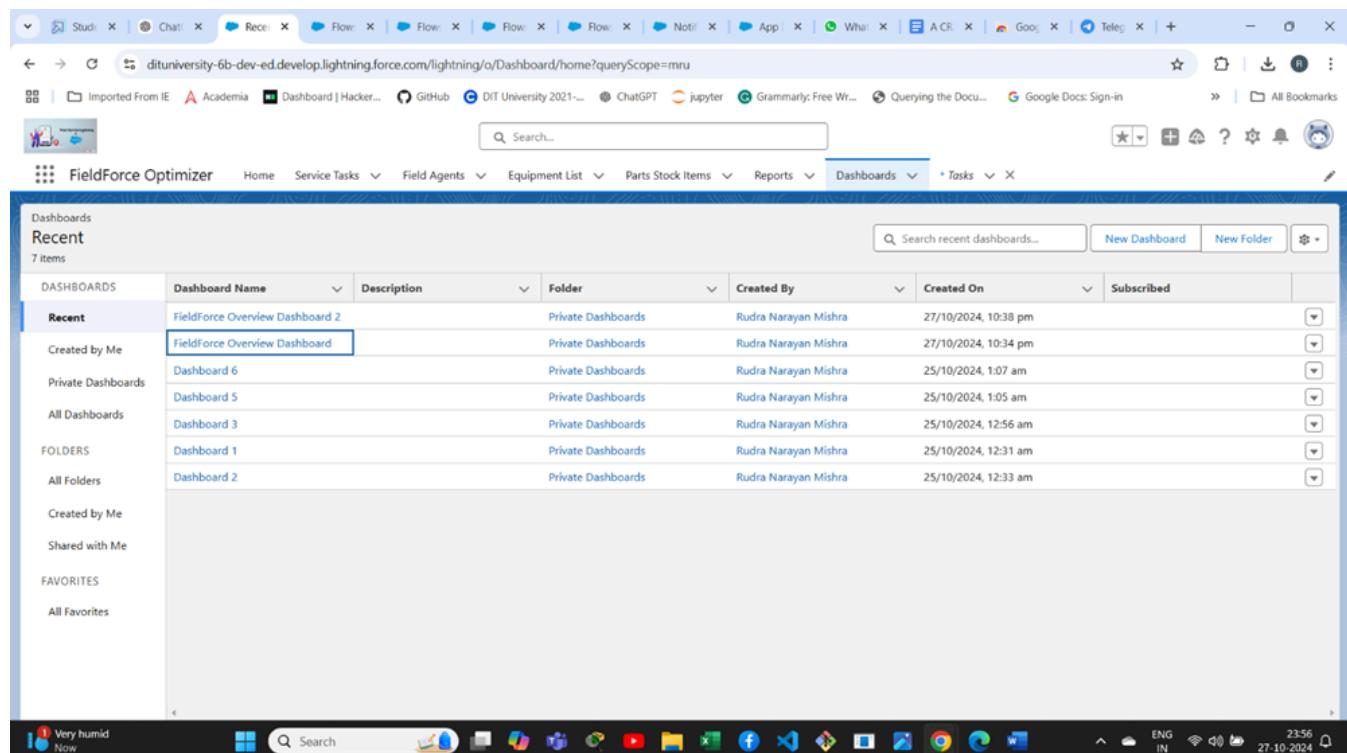
- **New Parts Stock Items Report**



The screenshot shows a Salesforce report titled "Report: Parts Stock Items". The report displays a table with 10 rows, each containing a Part Stock ID (PS-003, PS-002, PS-009, PS-004, PS-007) and a quantity of 1. The interface includes a search bar, filter options, and various navigation tabs like Home, Service Tasks, Field Agents, Equipment List, Parts Stock Items, Reports, Dashboards, and Tasks.

	Parts Stock: Part Stock ID	Quantity
1	PS-003	1
2	PS-002	1
3	PS-009	1
4	PS-004	1
5	PS-007	1

2. Dashboards in Salesforce are visual representations of data, providing a consolidated view of key metrics and performance indicators from multiple reports. Dashboards present data in a graphical format, enabling quick analysis and decision-making.



The screenshot shows a Salesforce dashboard titled "FieldForce Optimizer". The dashboard lists recent dashboards, including "FieldForce Overview Dashboard 2" and "FieldForce Overview Dashboard". It also shows sections for "Created by Me", "Private Dashboards", and "Folders". The interface includes a search bar, filter options, and various navigation tabs like Home, Service Tasks, Field Agents, Equipment List, Parts Stock Items, Reports, Dashboards, and Tasks.

DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Recent	FieldForce Overview Dashboard 2	Private Dashboards	Rudra Narayan Mishra	Rudra Narayan Mishra	27/10/2024, 10:38 pm	
Created by Me	FieldForce Overview Dashboard	Private Dashboards	Rudra Narayan Mishra	Rudra Narayan Mishra	27/10/2024, 10:34 pm	
Private Dashboards	Dashboard 6	Private Dashboards	Rudra Narayan Mishra	Rudra Narayan Mishra	25/10/2024, 1:07 am	
All Dashboards	Dashboard 5	Private Dashboards	Rudra Narayan Mishra	Rudra Narayan Mishra	25/10/2024, 1:05 am	
FOLDERS	Dashboard 3	Private Dashboards	Rudra Narayan Mishra	Rudra Narayan Mishra	25/10/2024, 12:56 am	
All Folders	Dashboard 1	Private Dashboards	Rudra Narayan Mishra	Rudra Narayan Mishra	25/10/2024, 12:31 am	
	Dashboard 2	Private Dashboards	Rudra Narayan Mishra	Rudra Narayan Mishra	25/10/2024, 12:33 am	

● FieldForce Overview Dashboard

Screenshot of the FieldForce Overview Dashboard (Lightning Experience) showing various reports and charts.

New Parts Stock Items Report:



Supplier	Record Count
Battery	1
Cable	1
Capacitor	1
Circuit Board	1
Display Screen	1
Motor	1
Resistor	1
Sensor	1
Switch	1
Transformer	1

[View Report \(New Parts Stock Items Report\)](#)

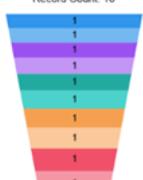
New Equipment List Report:



Equipment Name	Record Count
Air Compressor	1
Crane	1
Drill Machine	1
Forklift	1
Generator	1
Hydraulic Jack	1
Lathe Machine	1
Tractor	1
Truck	1
Welding Torch	1

[View Report \(New Equipment List Report\)](#)

New Field Agents Report:



Agent Name	Record Count
Alice Williams	1
Bob Johnson	1
Jhon Doe	1
Karen Martinez	1
Linda Davis	1
Mike Brown	1
Nancy Lee	1
Puja Pradhan	1
Steve Garcia	1
Vinit Bahadur	1

[View Report \(New Field Agents Report\)](#)

New Parts Stock Items Report:

Part Stock	Part Stock I...	Location	Part Na...	Qua...	Supplier
PS-001	Warehouse-1	-	-	15%	Motor
PS-002	Warehouse-2	-	-	50%	Cable

New Equipment List Report:

Equipment	Equipment I...	Equipment N...	Location	Status	Type
EQ-001	Generator	pune	In Use	Machin	
EQ-002	Air Compressor	Delhi	-	Machin	

New Field Agents Report:

Field Agent	Field...	Ag...	Email	Pho...	Skills
FA-001	Jhon	john.doe@example.com	223	Inspect client site	
FA-002	Nanc	nancy.lee@example.com	012	Equipment installa	

● FieldForce Overview Dashboard2

Screenshot of the FieldForce Overview Dashboard 2 (Lightning Experience) showing various reports and charts.

New Service Tasks Report:



Location	Record Count
Bokaro	1
Dehradun	1
Delhi	1
Kolkata	1
Mumbai	1
New Delhi	1

[View Report \(New Service Tasks Report\)](#)

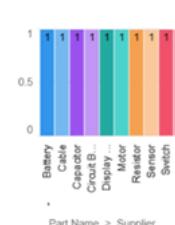
New Equipment List Report:



Condition	Record Count
Excellent	3
Good	3
Fair	4

[View Report \(New Equipment List Report\)](#)

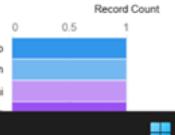
New Parts Stock Items Report:



Supplier	Record Count
Battery	1
Cable	1
Capacitor	1
Circuit Board	1
Display Screen	1
Motor	1
Resistor	1
Sensor	1
Switch	1
Transformer	1

[View Report \(New Parts Stock Items Report\)](#)

New Service Tasks Report:



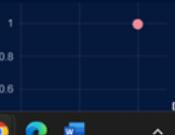
Status	Record Count
New	0
In Progress	0.5
Completed	1
On Hold	1.5

New Equipment List Report:

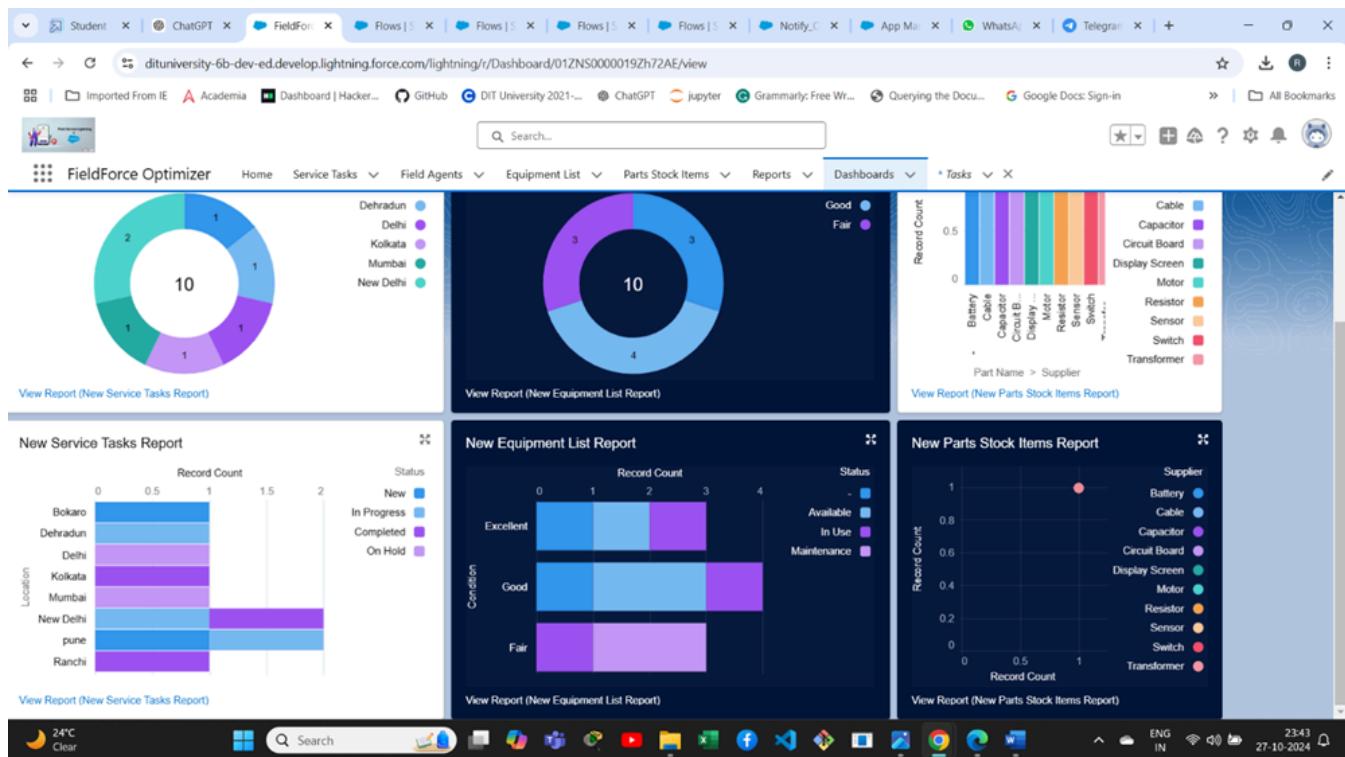


Status	Record Count
Excellent	1
In Use	2
Maintenance	3

New Parts Stock Items Report:

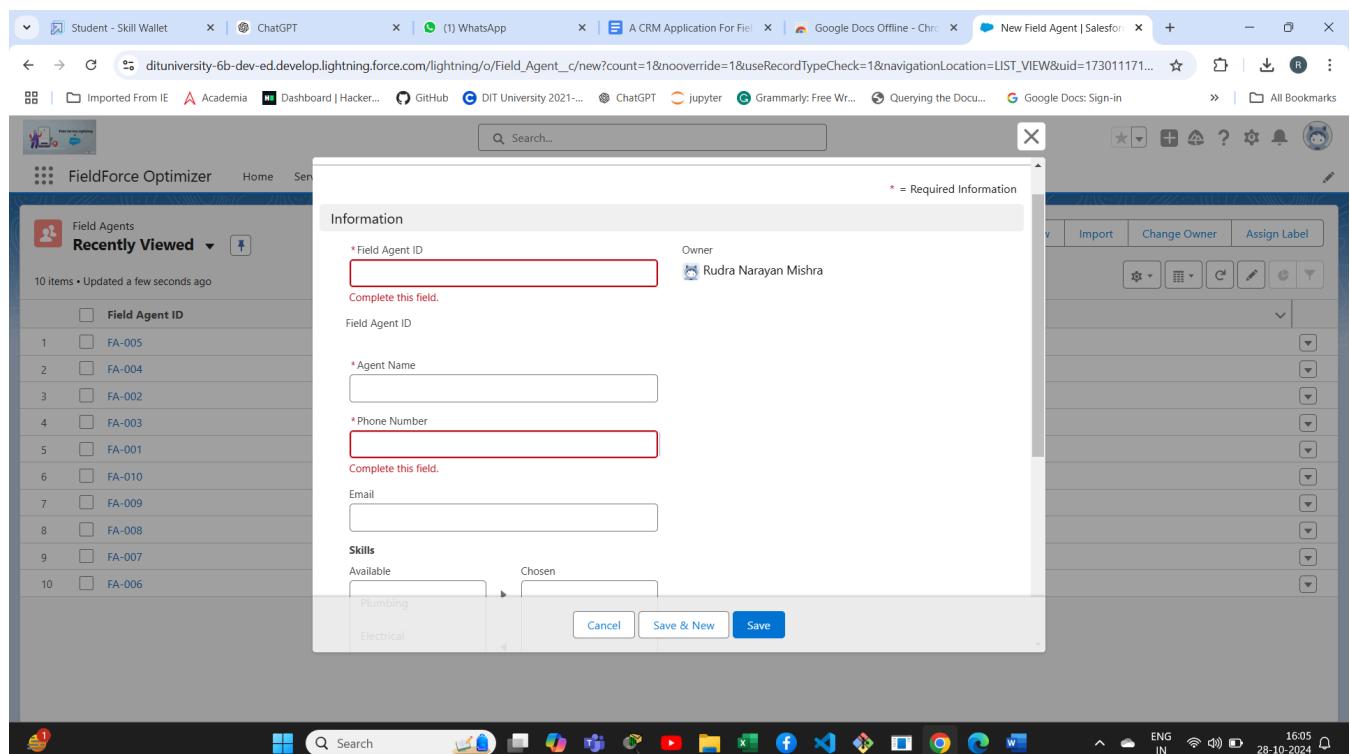


Supplier	Record Count
Battery	1
Cable	1
Capacitor	1
Circuit Board	1
Display Screen	1



Validation Rules:

Examples include mandatory fields (like “Phone Number” in Field Agent) and constraints that ensure data completeness and accuracy.



The screenshot shows a Salesforce page for "Field Agents". A modal dialog box titled "Information" is open, displaying validation errors for required fields:

- * Field Agent ID: "Complete this field."
- * Agent Name: "Complete this field."
- * Phone Number: "Complete this field."

The "Skills" section shows a "Available" list containing "Plumbing" and "Electrical", and a "Chosen" list which is currently empty. Buttons at the bottom of the modal include "Cancel", "Save & New", and "Save".

The background shows a list of recently viewed field agents with IDs FA-005, FA-004, FA-002, FA-003, FA-001, FA-010, FA-009, FA-008, FA-007, and FA-006.

The bottom of the screen shows a Windows taskbar with various icons and system status.

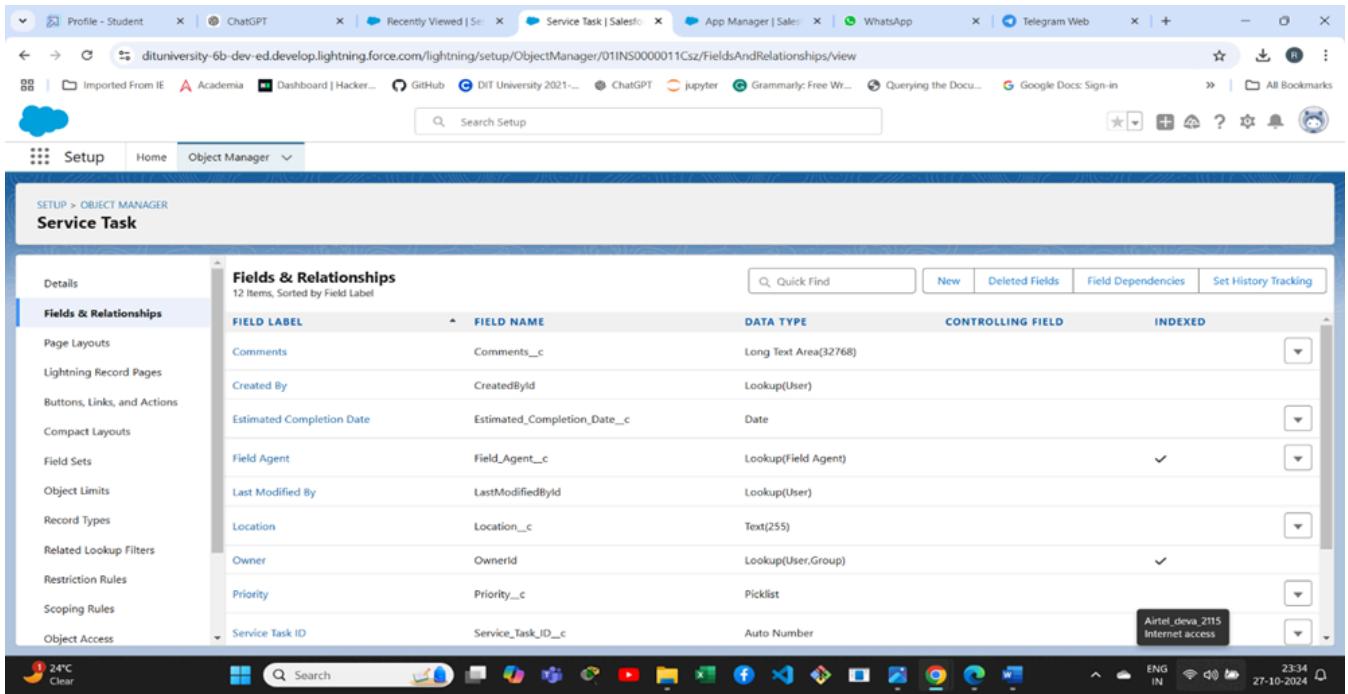
4. Detailed Steps to Solution Design

Develop thorough documentation of the design, encompassing data models, user interface designs, and business logic.

A. Data Models

1. Service Task Data Model:

- Fields like Task ID, Assigned Field Agent (a lookup field to the Field Agent object), Due Date, and Status.
- Relationships: Illustrate the relationships between Service Task and other objects (e.g., related to Field Agent for task assignment).

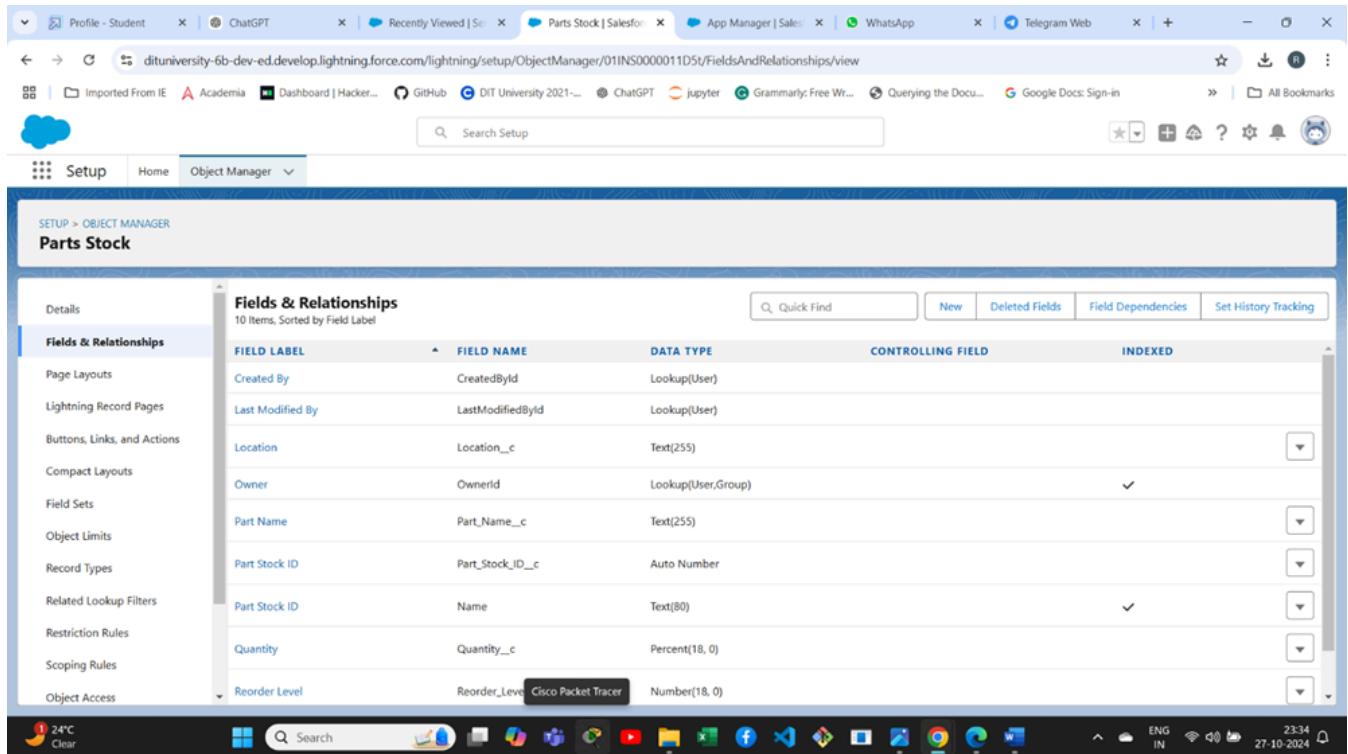


The screenshot shows the Salesforce Object Manager interface for the 'Service Task' object. The left sidebar lists various setup options like Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, etc. The main content area displays the 'Fields & Relationships' section. It shows 12 items, sorted by Field Label. The table includes columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. Key fields listed include Comments (Long Text Area), Created By (Lookup(User)), Estimated Completion Date (Date), Field Agent (Lookup(Field Agent)), Last Modified By (Lookup(User)), Location (Text), Owner (Lookup(User,Group)), Priority (Picklist), and Service Task ID (Auto Number). A tooltip at the bottom right indicates 'Airtel_deva_2115 Internet access'.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Comments	Comments__c	Long Text Area(32768)		
Created By	CreatedById	Lookup(User)		
Estimated Completion Date	Estimated_Completion_Date__c	Date		
Field Agent	Field_Agent__c	Lookup(Field Agent)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(255)		
Owner	OwnerId	Lookup(User,Group)		
Priority	Priority__c	Picklist		
Service Task ID	Service_Task_ID__c	Auto Number		

2. Parts Stock Data Model:

- Fields: Part ID, Part Name, Quantity, Reorder Threshold, and Location.
- Relationships: Describe how Parts Stock links to Restock Requests and Field Agent objects.

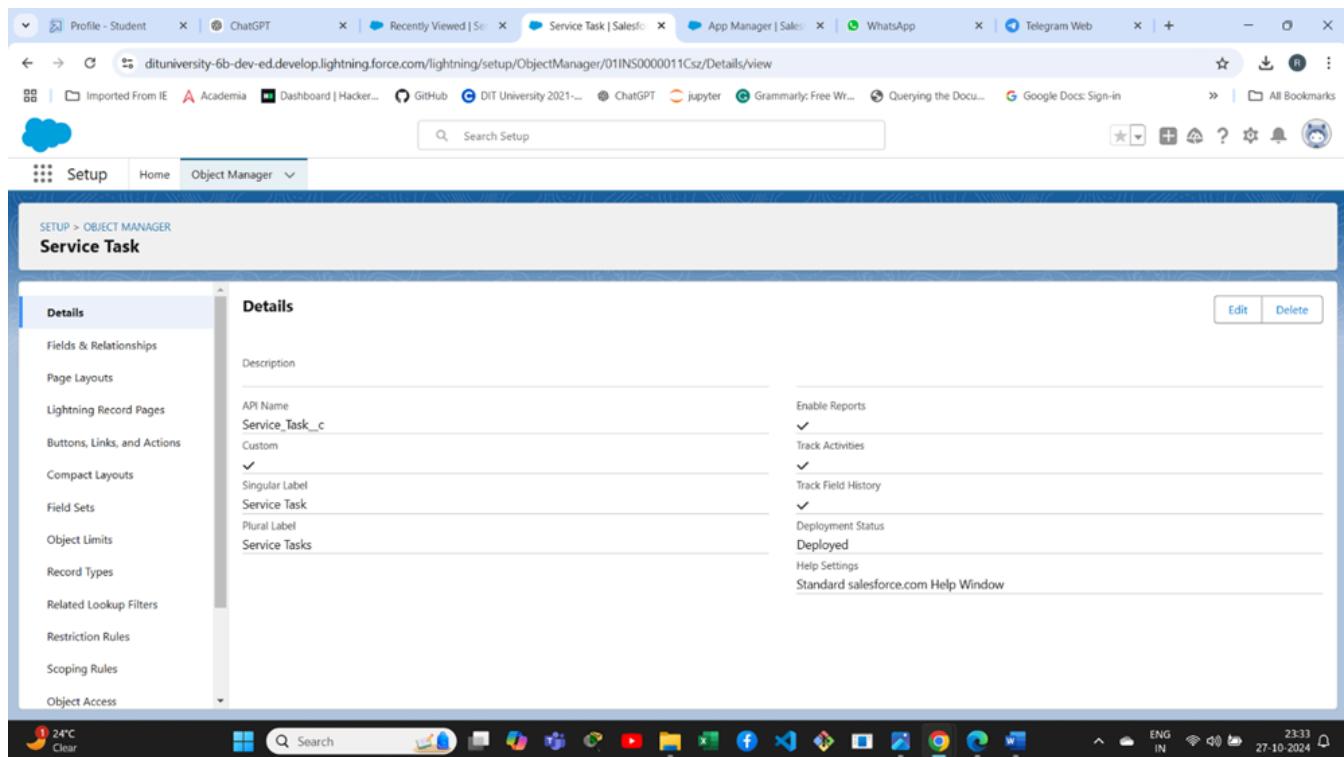


The screenshot shows the Salesforce Setup interface under the Object Manager for the 'Parts Stock' object. The left sidebar lists various setup categories like Fields & Relationships, Page Layouts, and Buttons. The main content area displays a table titled 'Fields & Relationships' with 10 items. The table columns are FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(255)		
Owner	OwnerId	Lookup(User,Group)		✓
Part Name	Part_Name__c	Text(255)		
Part Stock ID	Part_Stock_ID__c	Auto Number		
Part Stock ID	Name	Text(80)		✓
Quantity	Quantity__c	Percent(18, 0)		
Reorder Level	Reorder_Level	Number(18, 0)		

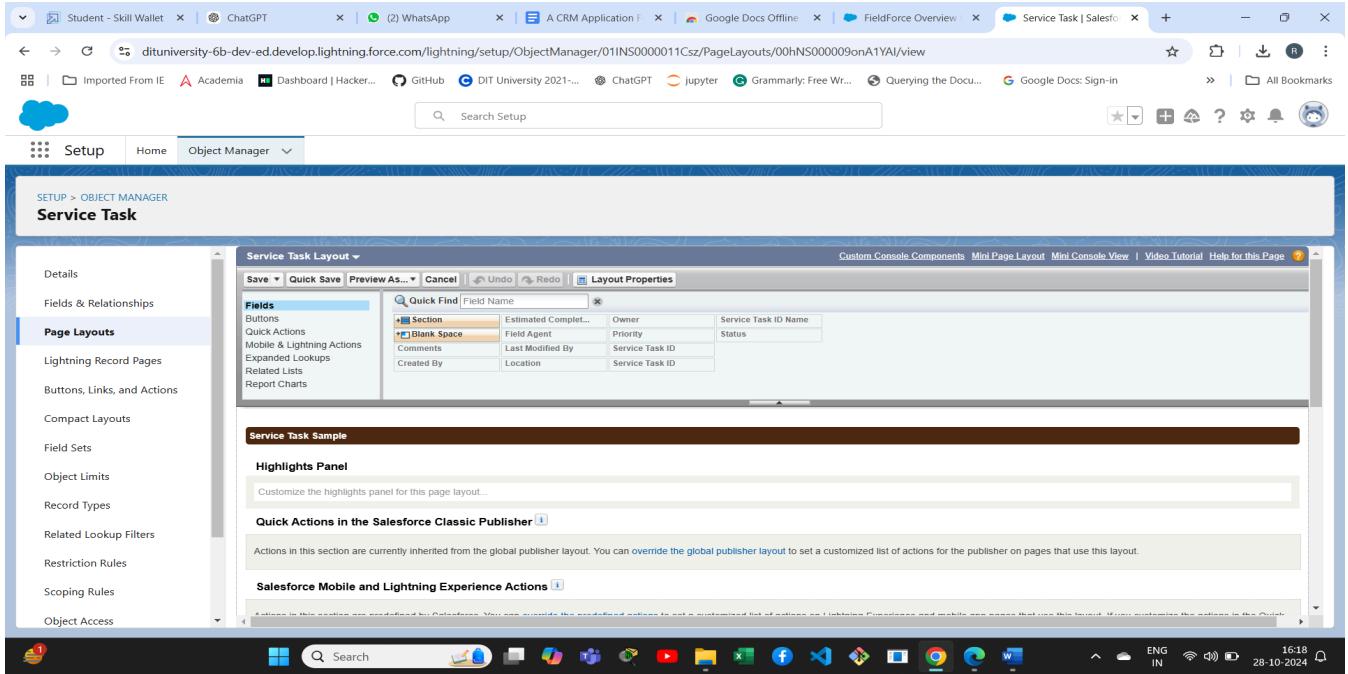
B. User Interface (UI) Design

- **Service Task Interface:** Describe how task details (like due date and task description) are displayed for easy access and updates by field agents.

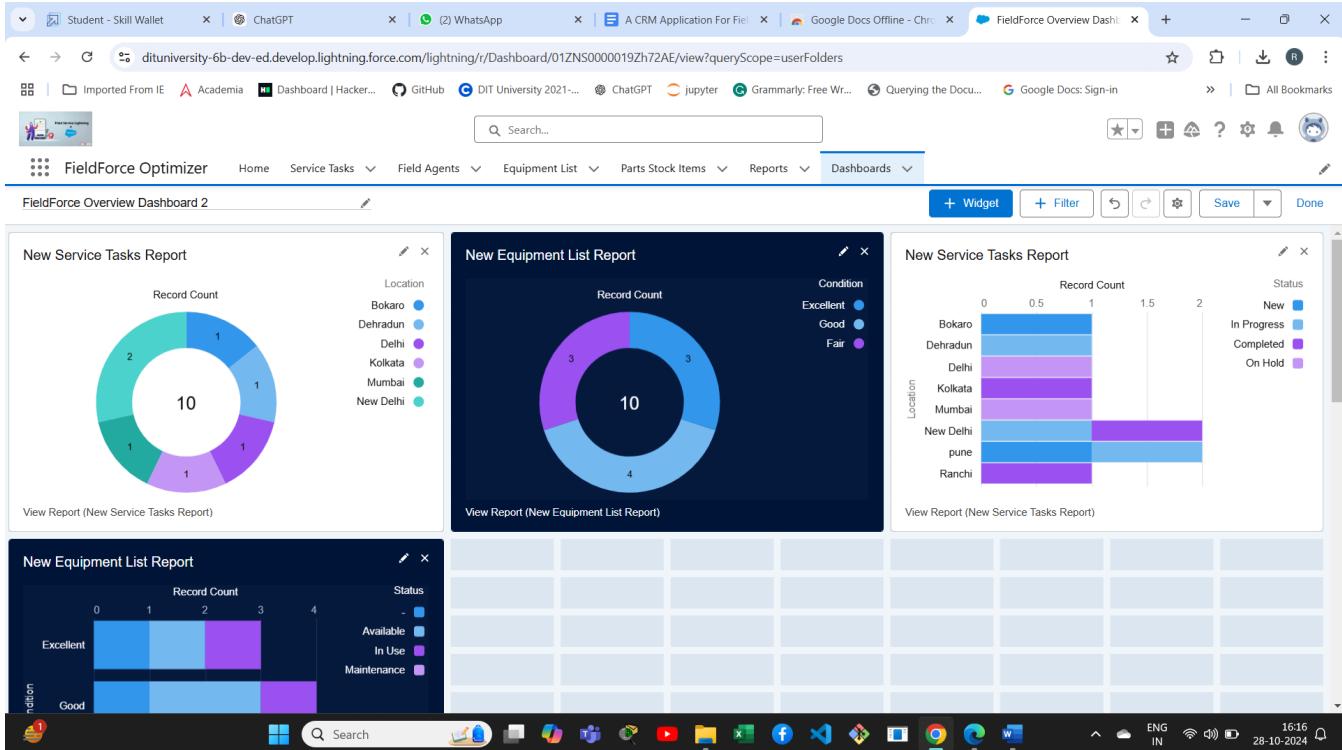


The screenshot shows the Salesforce Setup interface under the Object Manager for the 'Service Task' object. The left sidebar lists various setup categories. The main content area displays a table titled 'Details' with two sections: 'Description' and 'Edit'. The 'Description' section contains fields for API Name (Service_Task__c), Custom (✓), Singular Label (Service Task), and Plural Label (Service Tasks). The 'Edit' section contains settings for Enable Reports (✓), Track Activities (✓), Track Field History (✓), Deployment Status (Deployed), and Help Settings (Standard salesforce.com Help Window).

- **Page Layout:** Discuss customization choices for fields and field ordering to make the interface user-friendly.



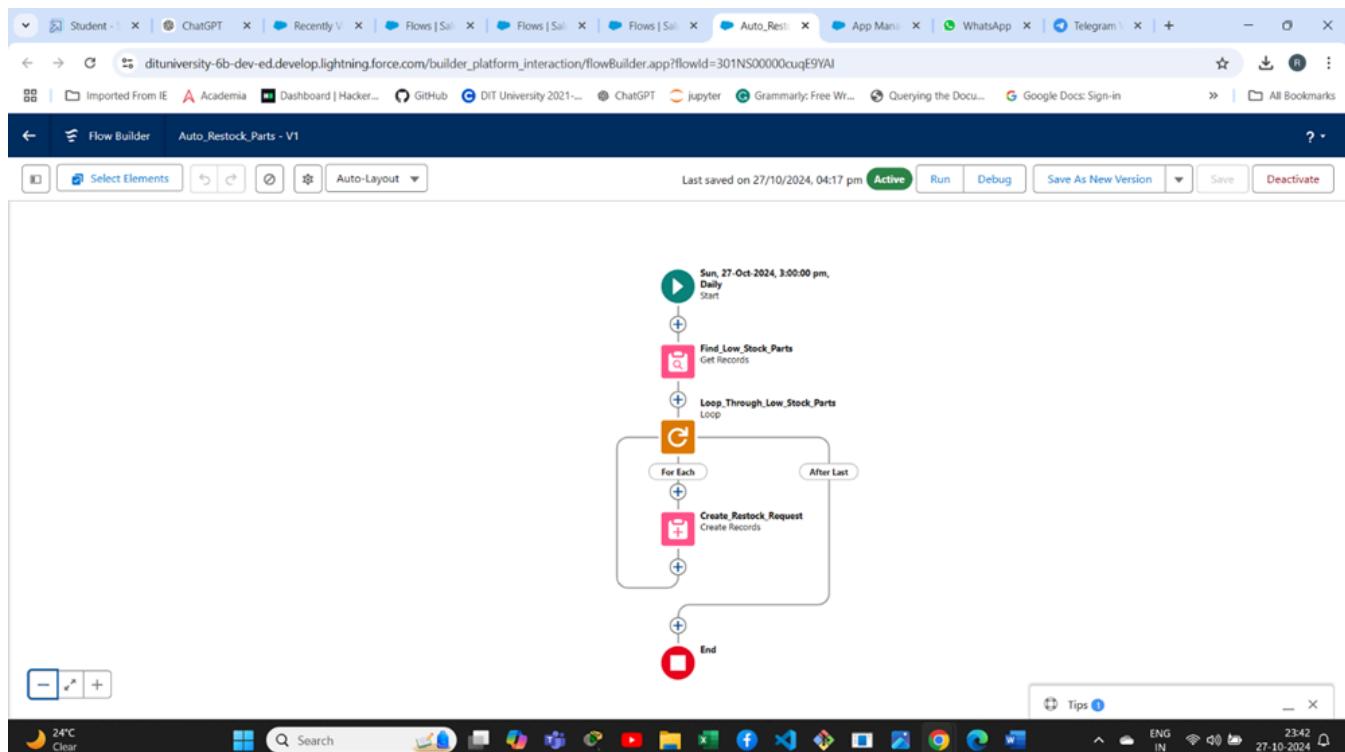
- **Inventory and Equipment Dashboards:**



C. Business Logic

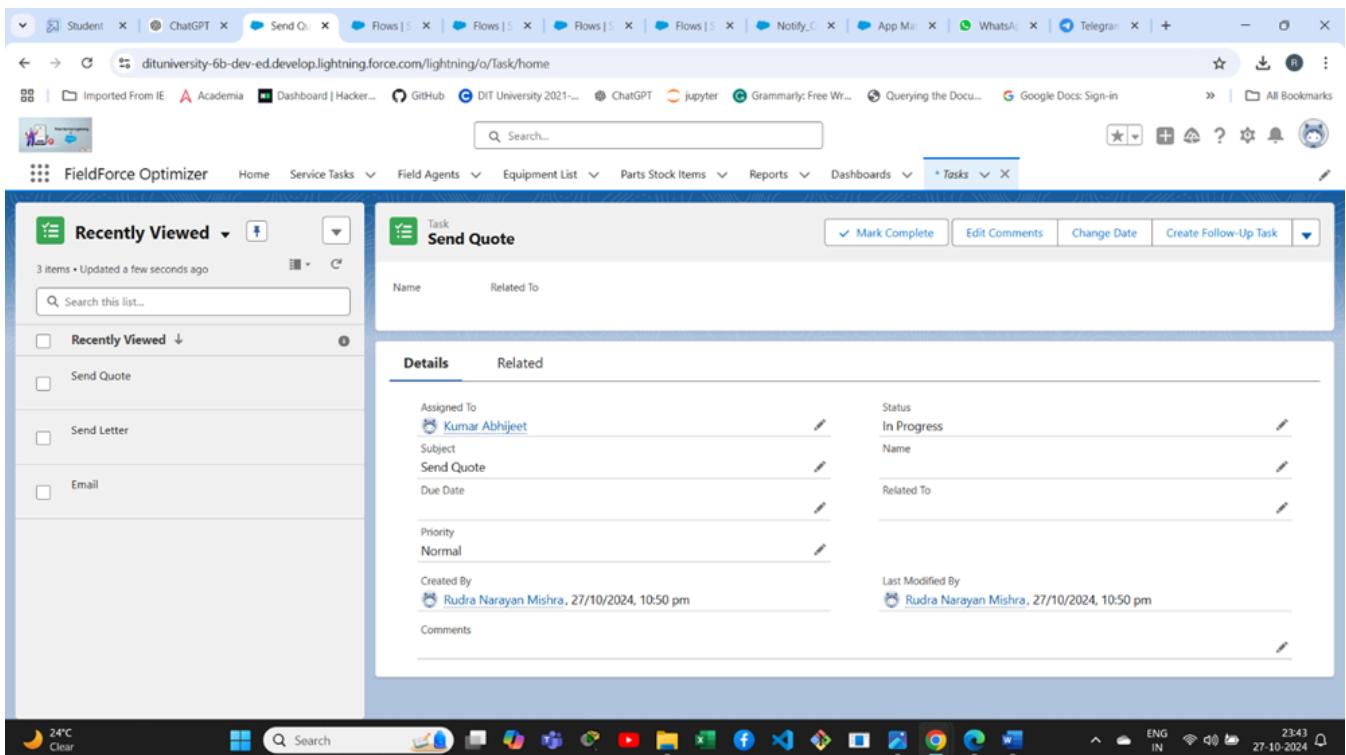
- **Auto Restock Parts Flow**

Triggered by updates to the Parts Stock object, this Flow automatically generates Restock Requests when stock levels drop below the defined reorder threshold. Notifications are sent to Inventory Managers for quick action on requests.



- **Task Assignment Process:**

Describe the automation used to assign tasks based on agent availability and priority, tracking each task's completion.



5. Testing and Validation

A. Unit Testing

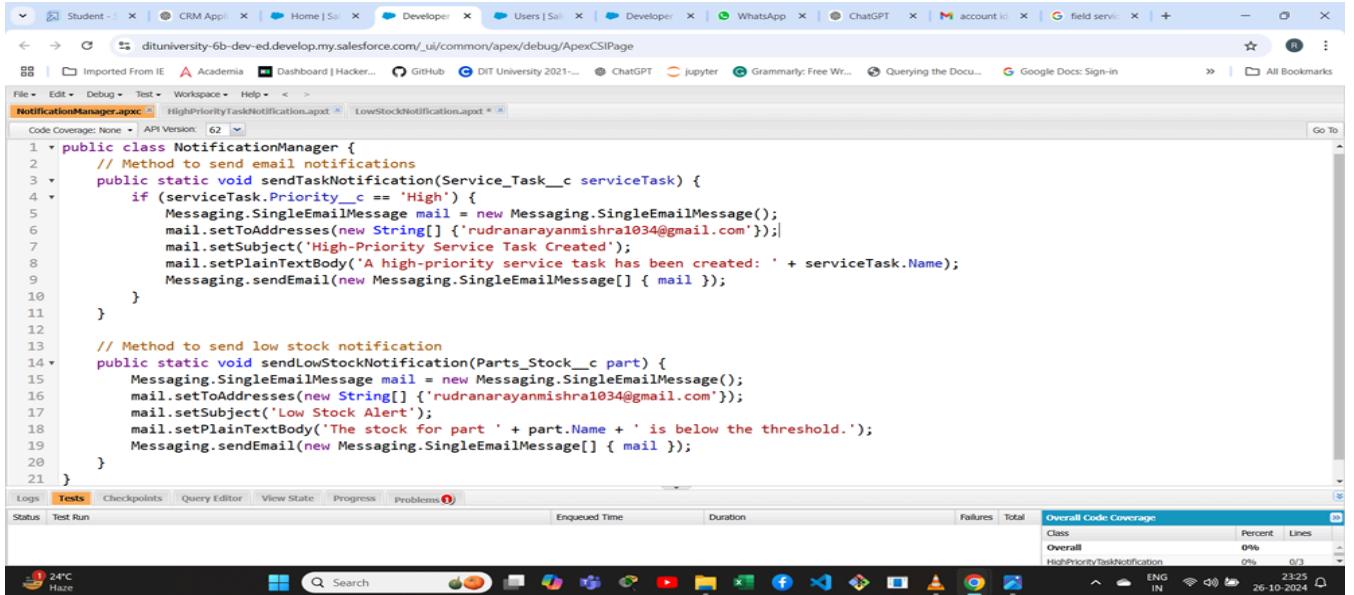
Apex Classes and Triggers:

Apex Classes are server-side scripts written in Salesforce's proprietary programming language, Apex, which encapsulate the logic for business processes and can be used to create reusable components, including custom controllers and services.

Apex Triggers are pieces of code that automatically execute before or after specific data manipulation language (DML) operations, such as insert, update, delete, or undelete, on Salesforce records.

- **Notification Manager Class** is responsible for handling notifications within the FieldForce Optimizer system. It manages the creation, sending, and tracking of notifications related to task assignments and updates, ensuring that users are informed in a timely manner. This class includes methods for configuring

notification settings and for notifying field agents and other stakeholders based on specific triggers or events.



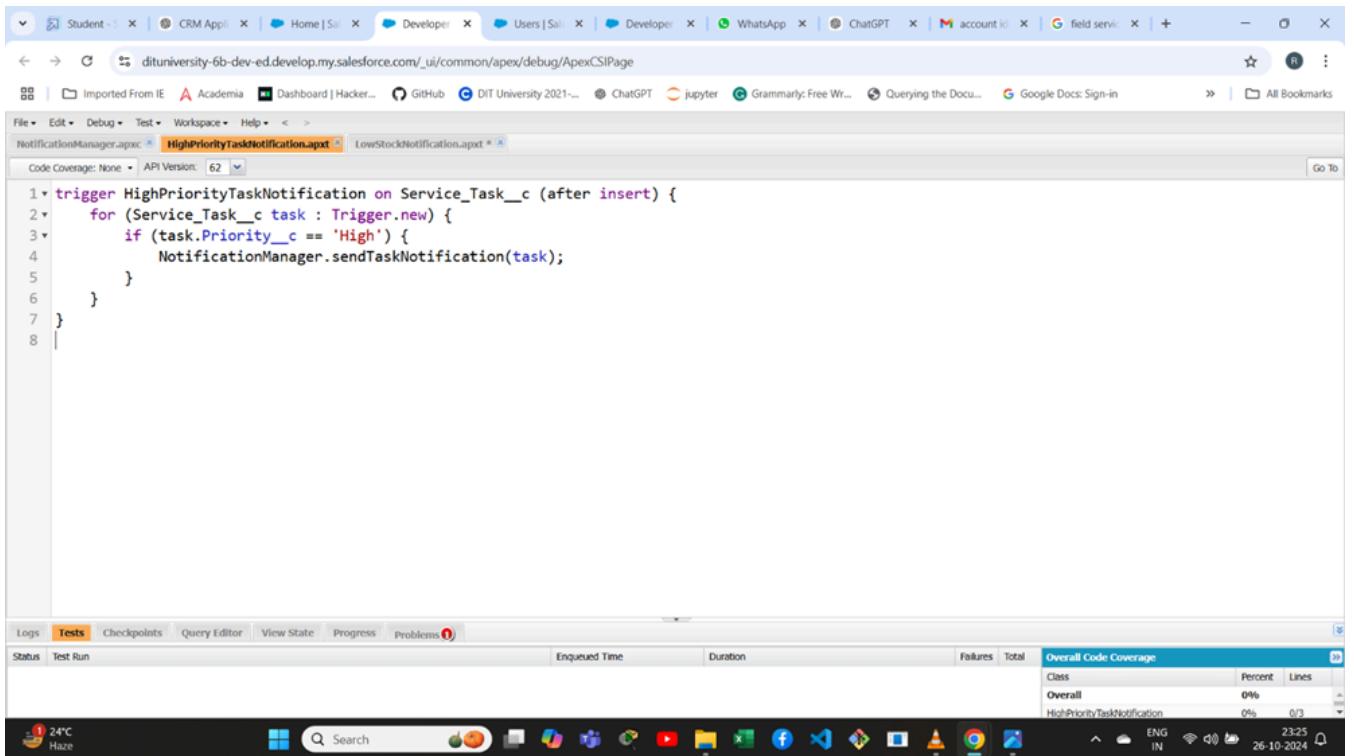
```

1  public class NotificationManager {
2      // Method to send email notifications
3      public static void sendTaskNotification(Service_Task__c serviceTask) {
4          if (serviceTask.Priority__c == 'High') {
5              Messaging.SingleEmailMessage mail = new Messaging.SingleEmailMessage();
6              mail.setToAddresses(new String[] {'rudranarayannmishra1034@gmail.com'});
7              mail.setSubject('High-Priority Service Task Created');
8              mail.setPlainTextBody('A high-priority service task has been created: ' + serviceTask.Name);
9              Messaging.sendEmail(new Messaging.SingleEmailMessage[] { mail });
10         }
11     }
12
13     // Method to send low stock notification
14     public static void sendLowStockNotification(Parts_Stock__c part) {
15         Messaging.SingleEmailMessage mail = new Messaging.SingleEmailMessage();
16         mail.setToAddresses(new String[] {'rudranarayannmishra1034@gmail.com'});
17         mail.setSubject('Low Stock Alert');
18         mail.setPlainTextBody('The stock for part ' + part.Name + ' is below the threshold.');
19         Messaging.sendEmail(new Messaging.SingleEmailMessage[] { mail });
20     }
21 }

```

The screenshot shows the Salesforce Developer Console with two tabs open: **NotificationManager.apxc** and **HighPriorityTaskNotification.apxt**. The code editor displays the implementation of the **NotificationManager** class, which contains methods to send high-priority task notifications and low-stock alerts via email. The interface includes standard developer tools like file operations, code coverage, and a test runner at the bottom.

- **High Priority Task Notification Trigger** This trigger fires when a service task is created or updated with a high priority status. It automatically sends notifications to the assigned field agent to ensure timely attention to critical tasks.



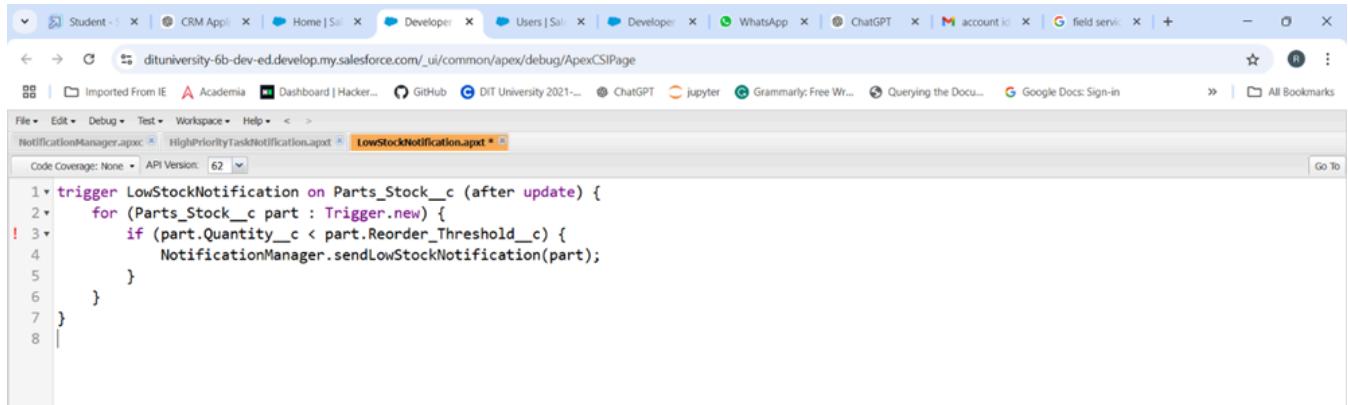
```

1 trigger HighPriorityTaskNotification on Service_Task__c (after insert) {
2     for (Service_Task__c task : Trigger.new) {
3         if (task.Priority__c == 'High') {
4             NotificationManager.sendTaskNotification(task);
5         }
6     }
7 }

```

The screenshot shows the Salesforce Developer Console with the **HighPriorityTaskNotification.apxt** tab selected. It displays the trigger code for the **Service_Task__c** object, specifically the **HighPriority** trigger. The trigger is set to fire after an insert operation and loops through the inserted records to call the **sendTaskNotification** method from the **NotificationManager** class. The interface includes standard developer tools like file operations, code coverage, and a test runner at the bottom.

- **Low Stock Notification Trigger** This trigger activates when the quantity of any part stock falls below the predefined reorder threshold. It generates alerts to inventory managers, enabling timely restocking actions to avoid operational disruptions.

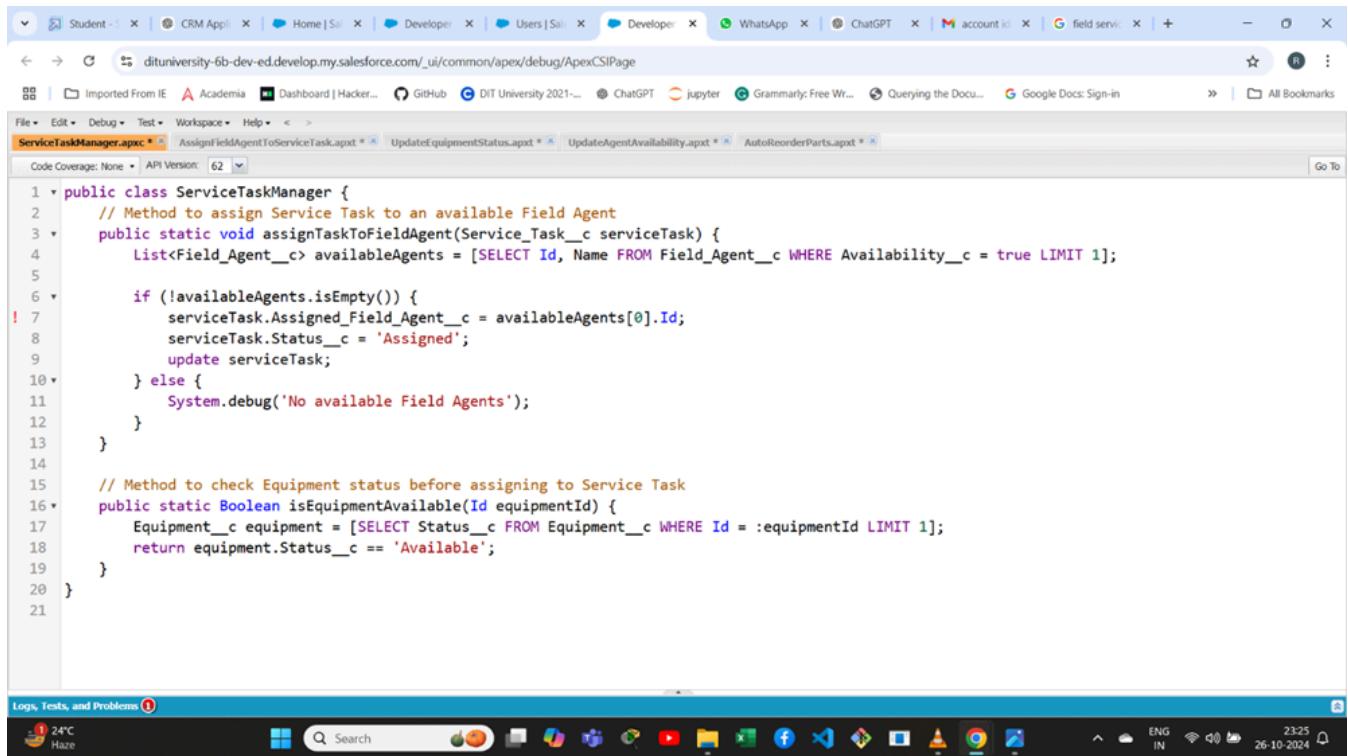


```

trigger LowStockNotification on Parts_Stock__c (after update) {
    for (Parts_Stock__c part : Trigger.new) {
        if (part.Quantity__c < part.Reorder_Threshold__c) {
            NotificationManager.sendLowStockNotification(part);
        }
    }
}

```

- **Service Task Manager Class** oversees the management and lifecycle of service tasks within the FieldForce Optimizer application. It includes functionalities for creating, updating, and retrieving service task records, as well as assigning tasks to field agents based on predefined criteria.



```

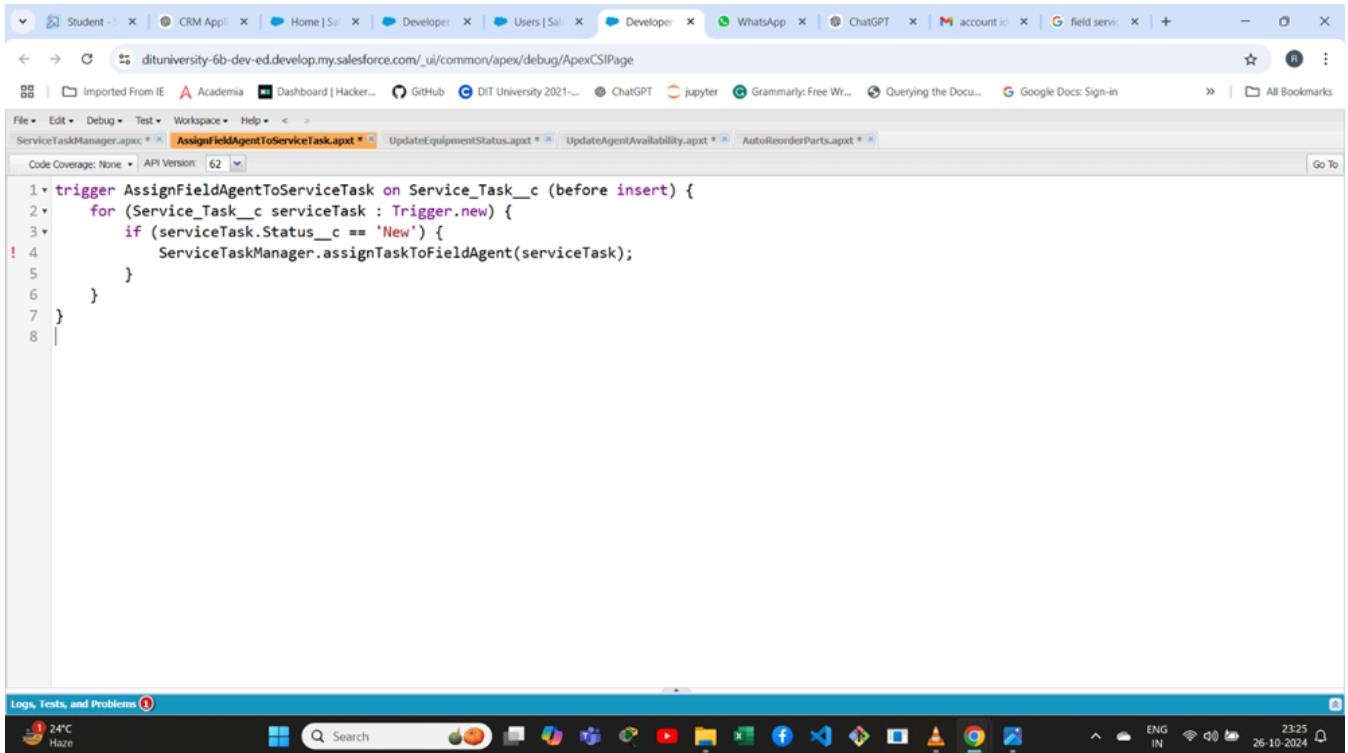
public class ServiceTaskManager {
    // Method to assign Service Task to an available Field Agent
    public static void assignTaskToFieldAgent(Service_Task__c serviceTask) {
        List<Field_Agent__c> availableAgents = [SELECT Id, Name FROM Field_Agent__c WHERE Availability__c = true LIMIT 1];

        if (!availableAgents.isEmpty()) {
            serviceTask.Assigned_Field_Agent__c = availableAgents[0].Id;
            serviceTask.Status__c = 'Assigned';
            update serviceTask;
        } else {
            System.debug('No available Field Agents');
        }
    }

    // Method to check Equipment status before assigning to Service Task
    public static Boolean isEquipmentAvailable(Id equipmentId) {
        Equipment__c equipment = [SELECT Status__c FROM Equipment__c WHERE Id = :equipmentId LIMIT 1];
        return equipment.Status__c == 'Available';
    }
}

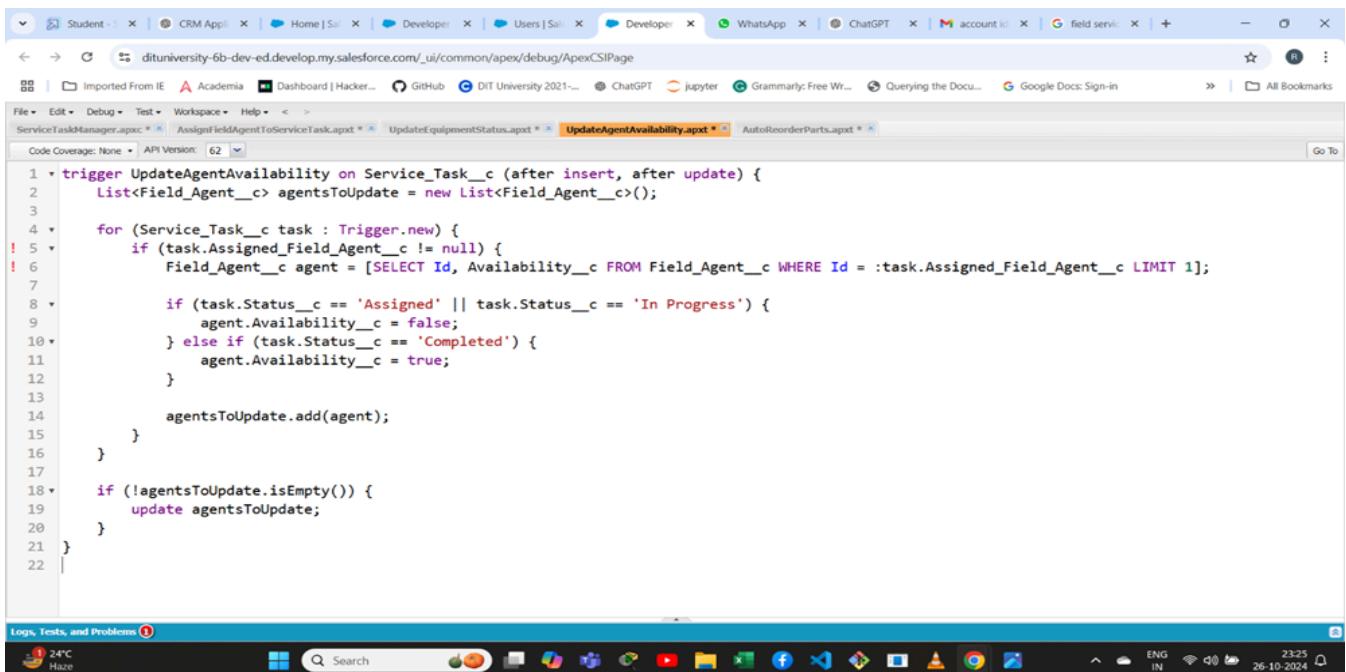
```

- **Assign Field Agent to Service Task Trigger** This trigger automatically assigns a field agent to a service task upon its creation based on predefined criteria, such as agent availability or skill set. It streamlines the task assignment process, ensuring that tasks are promptly allocated to the appropriate personnel.



```
trigger AssignFieldAgentToServiceTask on Service_Task_c (before insert) {
    for (Service_Task_c serviceTask : Trigger.new) {
        if (serviceTask.Status__c == 'New') {
            ServiceTaskManager.assignTaskToFieldAgent(serviceTask);
        }
    }
}
```

- **Update Agent Availability Trigger** This trigger updates the availability status of field agents whenever a service task is assigned or completed. It helps maintain accurate records of agent availability, ensuring that only available agents are assigned to new tasks.



```

trigger UpdateAgentAvailability on Service_Task__c (after insert, after update) {
    List<Field_Agent__c> agentsToUpdate = new List<Field_Agent__c>();

    for (Service_Task__c task : Trigger.new) {
        if (task.Assigned_Field_Agent__c != null) {
            Field_Agent__c agent = [SELECT Id, Availability__c FROM Field_Agent__c WHERE Id = :task.Assigned_Field_Agent__c LIMIT 1];

            if (task.Status__c == 'Assigned' || task.Status__c == 'In Progress') {
                agent.Availability__c = false;
            } else if (task.Status__c == 'Completed') {
                agent.Availability__c = true;
            }

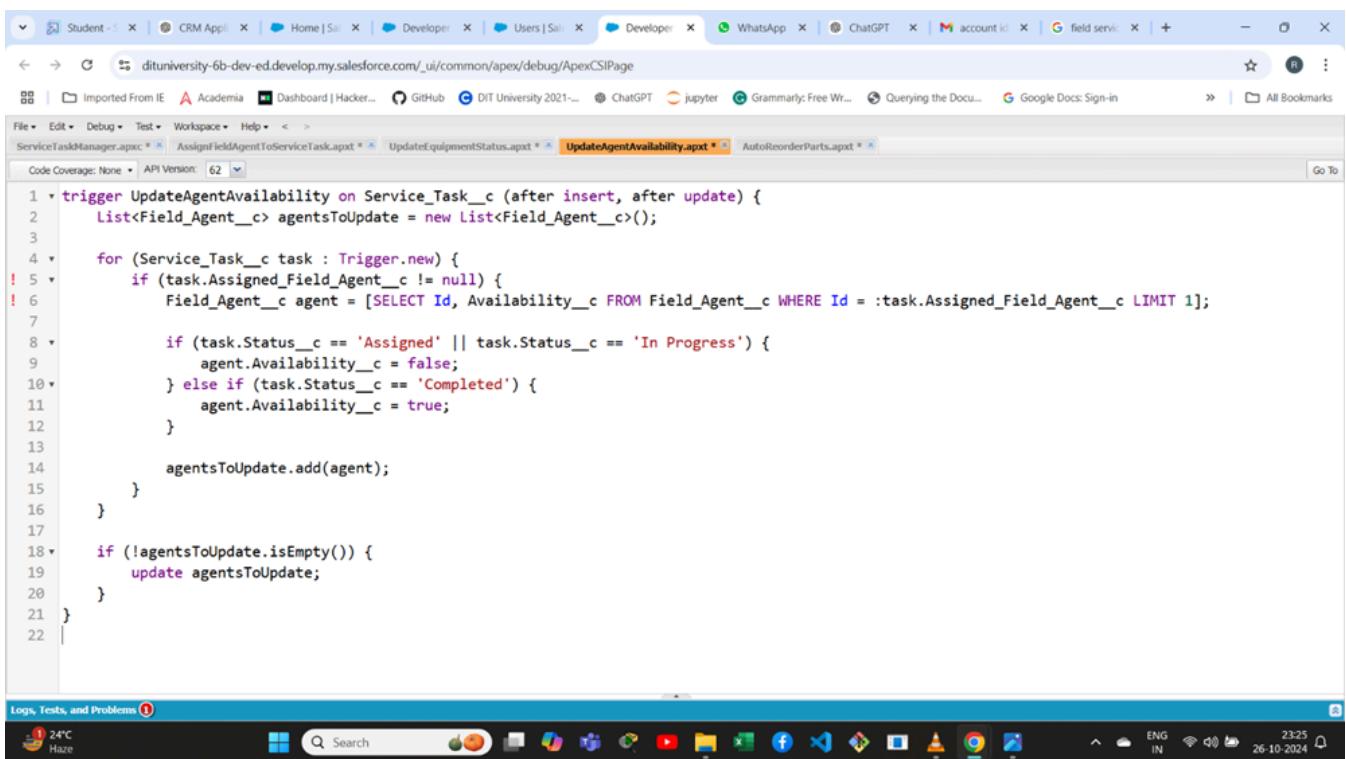
            agentsToUpdate.add(agent);
        }
    }

    if (!agentsToUpdate.isEmpty()) {
        update agentsToUpdate;
    }
}

```

Logs, Tests, and Problems

- **Auto Reorder Parts Trigger** This trigger initiates an automatic reorder process when parts required for a service task are below a certain stock level. It helps maintain optimal inventory levels, ensuring that necessary parts are available for upcoming service tasks without manual intervention.



```

trigger UpdateAgentAvailability on Service_Task__c (after insert, after update) {
    List<Field_Agent__c> agentsToUpdate = new List<Field_Agent__c>();

    for (Service_Task__c task : Trigger.new) {
        if (task.Assigned_Field_Agent__c != null) {
            Field_Agent__c agent = [SELECT Id, Availability__c FROM Field_Agent__c WHERE Id = :task.Assigned_Field_Agent__c LIMIT 1];

            if (task.Status__c == 'Assigned' || task.Status__c == 'In Progress') {
                agent.Availability__c = false;
            } else if (task.Status__c == 'Completed') {
                agent.Availability__c = true;
            }

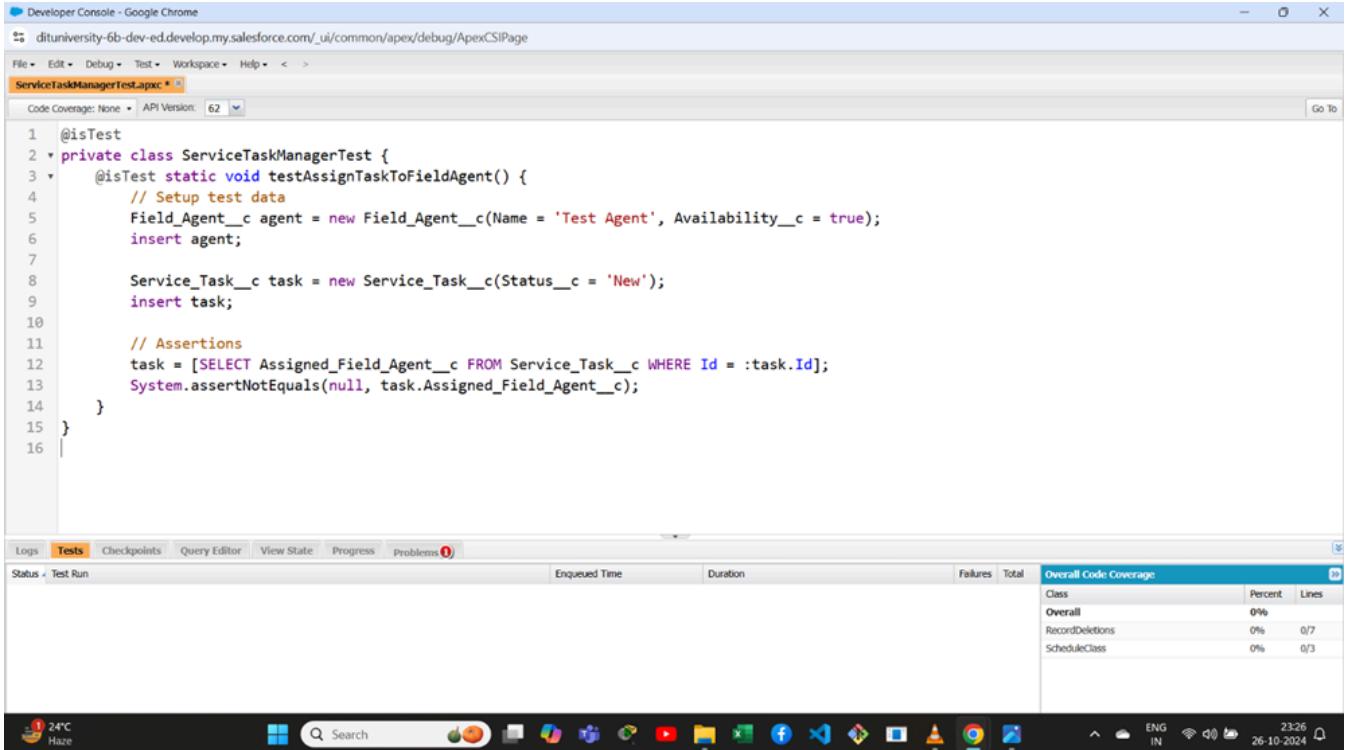
            agentsToUpdate.add(agent);
        }
    }

    if (!agentsToUpdate.isEmpty()) {
        update agentsToUpdate;
    }
}

```

Logs, Tests, and Problems

Trigger Test: Verify triggers for creating restock requests and ensure they meet the criteria (e.g., Service Task Manager test).



```

Developer Console - Google Chrome
dituniversity-6b-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
File • Edit • Debug • Test • Workspace • Help • < >
ServiceTaskManagerTest.apxc: 62
Code Coverage: None • API Version: 62 • Go To
1 @isTest
2 private class ServiceTaskManagerTest {
3     @isTest static void testAssignTaskToFieldAgent() {
4         // Setup test data
5         Field_Agent__c agent = new Field_Agent__c(Name = 'Test Agent', Availability__c = true);
6         insert agent;
7
8         Service_Task__c task = new Service_Task__c(Status__c = 'New');
9         insert task;
10
11        // Assertions
12        task = [SELECT Assigned_Field_Agent__c FROM Service_Task__c WHERE Id = :task.Id];
13        System.assertEquals(null, task.Assigned_Field_Agent__c);
14    }
15 }
16

```

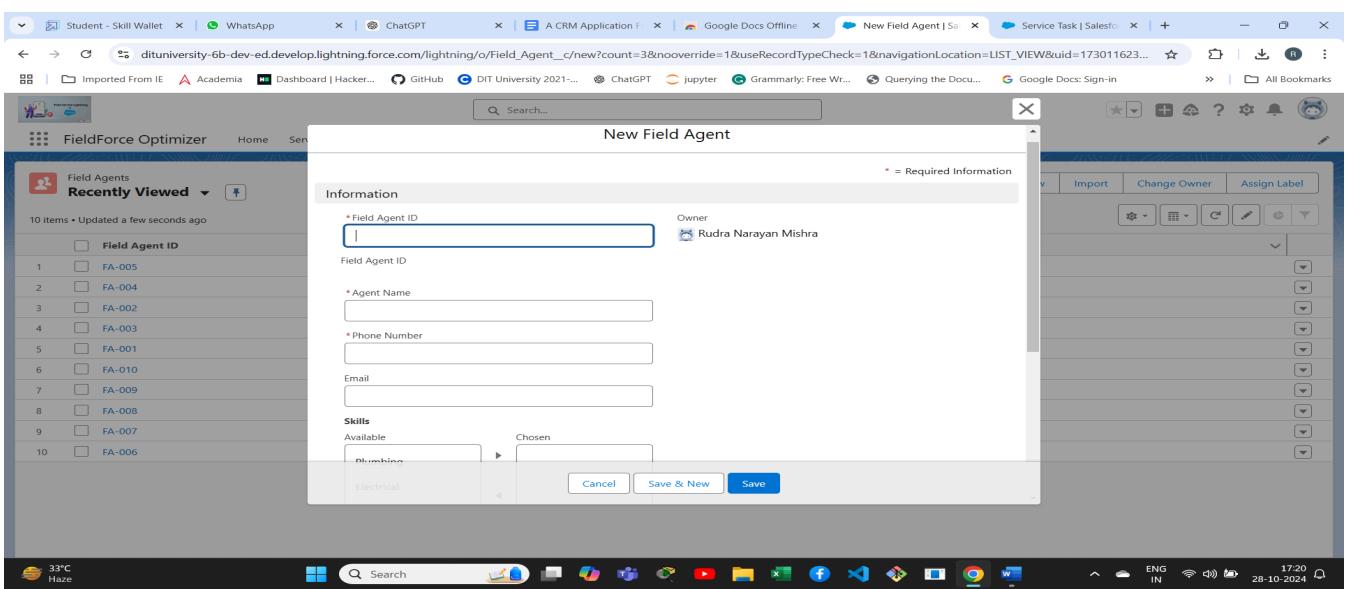
Logs Tests Checkpoints Query Editor View State Progress Problems 1

Status	Test Run	Enqueued Time	Duration	Failures	Total	Overall Code Coverage												
						<table border="1"> <thead> <tr> <th>Class</th> <th>Percent</th> <th>Lines</th> </tr> </thead> <tbody> <tr> <td>Overall</td> <td>0%</td> <td></td> </tr> <tr> <td>RecordDeletions</td> <td>0%</td> <td>0/7</td> </tr> <tr> <td>ScheduleClass</td> <td>0%</td> <td>0/3</td> </tr> </tbody> </table>	Class	Percent	Lines	Overall	0%		RecordDeletions	0%	0/7	ScheduleClass	0%	0/3
Class	Percent	Lines																
Overall	0%																	
RecordDeletions	0%	0/7																
ScheduleClass	0%	0/3																

24°C Haze Search ENG IN 26-10-2024 23:26

B. User Interface Testing

- Field Agent and Service Task Page Layouts:** Ensure fields display accurately and allow data entry without errors.



The screenshot shows a 'New Field Agent' form in a web browser. The form includes fields for 'Field Agent ID' (with a placeholder 'FA-001'), 'Agent Name', 'Phone Number', 'Email', and 'Skills'. A sidebar on the right lists 'Field Agents Recently Viewed' with items like FA-005, FA-004, FA-002, FA-003, FA-001, FA-010, FA-009, FA-008, FA-007, and FA-006. The browser's address bar shows the URL: dituniversity-6b-dev-ed.develop.lightning.force.com/lightning/o/Field_Agent__c/new?count=3&nooverride=1&useRecordTypeCheck=1&navigationLocation=LIST_VIEW&uid=173011623...



Student - Skill Wallet | WhatsApp | ChatGPT | A CRM Application | Google Docs Offline | New Field Agent | Field Agent | Sales | Assign_Agent_Task | + | - | X

dituniversity-6b-dev-ed.lightning.force.com/lightning/setup/ObjectManager/01INS000011Cub/PageLayouts/00hNS000009onl5YAI/view

Imported From IE | Academia | Dashboard | Hacker... | GitHub | DIT University 2021-... | ChatGPT | jupyter | Grammarly: Free Wr... | Querying the Docu... | Google Docs: Sign-in | All Bookmarks

Cloud icon | Search Setup | Search icon | Home | Object Manager | Setup

SETUP > OBJECT MANAGER
Field Agent

Details | Fields & Relationships | **Page Layouts** | Lightning Record Pages | Buttons, Links, and Actions | Compact Layouts | Field Sets | Object Limits | Record Types | Related Lookup Filters | Restriction Rules | Scoping Rules | Object Access

Save | Quick Save | Preview As... | Cancel | Undo | Redo | Layout Properties

Fields: Buttons, Quick Actions, Mobile & Lightning Actions, Expanded Lookups, Related Lists, Report Charts

Quick Find: Field Name

Section	Created By	Last Modified By
Blank Space	Email	Owner
Agent Name	Field Agent ID	Phone Number
Availability	Field Agent ID	Skills

Information (Header visible on edit only):

- * Field Agent ID: Sample Text
- * Field Agent ID: GEN-2004-001234
- * Agent Name: Sample Text
- * Phone Number: 1-415-555-1212
- Email: sarah.sample@company.com
- Skills: Sample Text

System Information (Header visible on edit only):

- Created By: Sample Text
- Last Modified By: Sample Text

Custom Links (Header visible on edit only):

Mobile Cards (Salesforce mobile only) [i]

33°C Haze | Search | Home | Object Manager | Setup | ENG IN | 17:24 | 28-10-2024

Student - Skill Wallet | WhatsApp | ChatGPT | A CRM Application | Google Docs Offline | New Service Task | Service Task | Sales | Assign_Agent_Task | + | - | X

dituniversity-6b-dev-ed.lightning.force.com/lightning/o/Service_Task_c/new?count=2&nooverride=1&useRecordTypeCheck=1&navigationLocation=LIST_VIEW&uid=173011620... | Imported From IE | Academia | Dashboard | Hacker... | GitHub | DIT University 2021-... | ChatGPT | jupyter | Grammarly: Free Wr... | Querying the Docu... | Google Docs: Sign-in | All Bookmarks

FieldForce Optimizer | Home | Search | X | Recently Viewed | 10 items • Updated a few seconds ago | Recently Viewed | Task-010 | Task-009 | Task-008 | Task-007 | Task-006 | Task-005 | Task-004 | Task-003

New Service Task

Information

* Service Task ID: [Input Field] * Required Information

Owner: Rudra Narayan Mishra

Status: --None--

Field Agent: Search Field Agents... [Search Icon]

Location: [Input Field]

Estimated Completion Date: [Input Field] [Calendar Icon]

Priority: --None--

Comments: Service Task ID Name: plumbing

Buttons: Cancel | Save & New | Save

New Contact | Edit | New Opportunity

Activity

Upcoming & Overdue

No activities to show. Get started by sending an email, scheduling a task, and more.

No past activity. Past meetings and tasks marked as done show up here.

Filters: All time • All activities • All types | Refresh | Expand All | View All

33°C Haze | Search | Home | Object Manager | Setup | ENG IN | 17:20 | 28-10-2024



The screenshot shows the Salesforce Setup interface with the Object Manager for the Service Task object. The Page Layouts tab is selected. A screenshot of the 'Blank Space' page layout is displayed, showing a table with columns for Section, Estimated Completion Date, Owner, and Service Task ID Name. Fields like Service Task ID, Status, Field Agent, Location, and Estimated Completion Date are listed with sample text values.

Section	Estimated Completion Date	Owner	Service Task ID Name
Blank Space	Field Agent	Priority	Service Task ID
	Comments	Last Modified By	Status
	Created By	Location	Service Task ID

Fields listed:

- Service Task ID
- Status
- Field Agent
- Location
- Estimated Completion Date
- Comments
- Service Task ID Name

Information (Header visible on edit only):

Service Task ID	Sample Text	Owner	Sample_Text
Service Task ID	GEN-2004-001234		
Status	Sample Text		
Field Agent	Sample_Text		
Location	Sample Text		
Estimated Completion Date	28/10/2024		
Priority	Sample Text		
Comments	Sample Text		
Service Task ID Name	Sample Text		

System Information (Header visible on edit only):

Created By	Sample_Text	Last Modified By	Sample_Text
------------	-------------	------------------	-------------

Custom Links (Header visible on edit only):

- **Dashboard Testing:** Validate real-time accuracy of reports and metrics for Service Task and Parts Stock.

The screenshot shows the FieldForce Optimizer dashboard with the following details:

- New Service Tasks Report:** A bar chart showing the count of service tasks by status: New (1), In Progress (1), On Hold (1), and Completed (1). The chart is color-coded by status.
- New Parts Stock Items Report:** A bar chart showing the count of parts stock items by supplier: Battery (1), Cable (1), Capacitor (1), Circuit Board (1), Display Screen (1), Motor (1), Resistor (1), Sensor (1), Switch (1), and Transformer (1).
- Additional Reports (Bottom Left):** Two more "New Service Tasks Report" and "New Parts Stock Items Report" sections, which appear to be identical to the ones above.

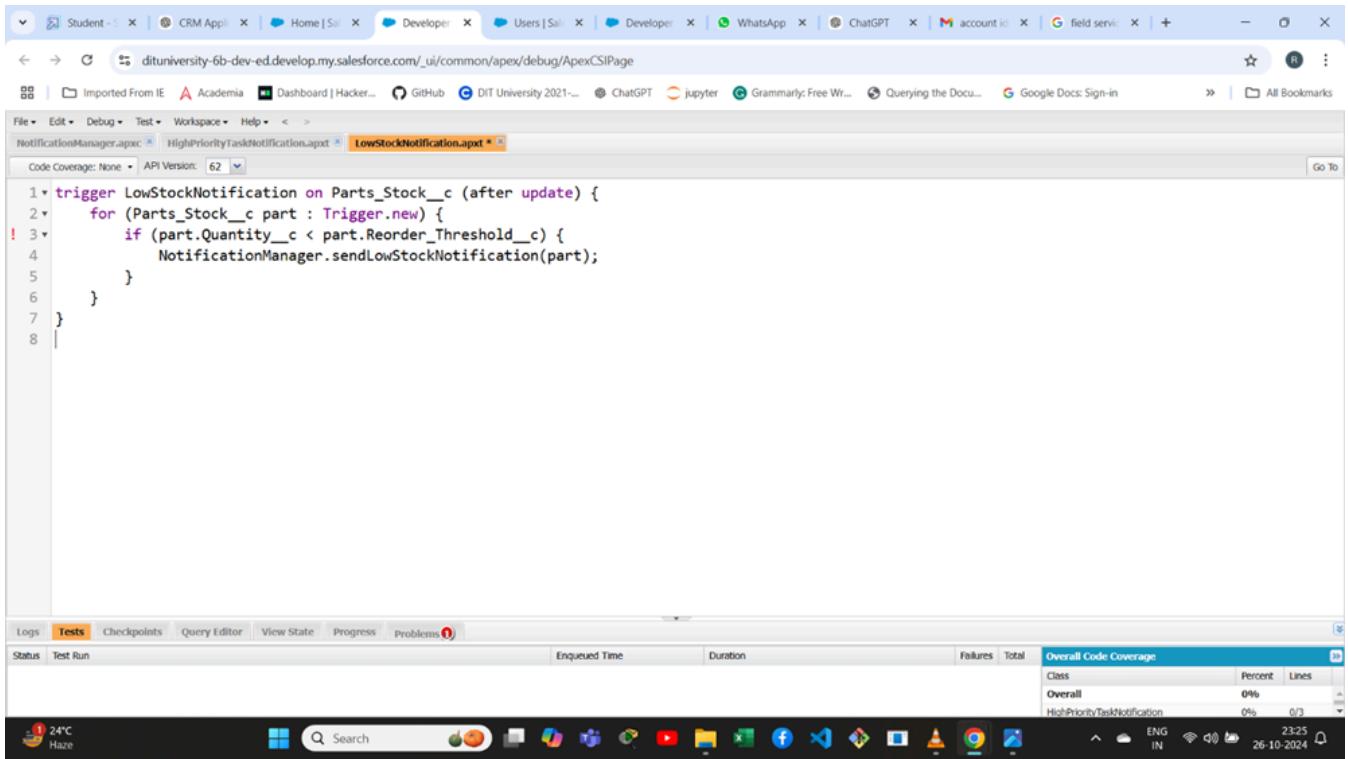
6. Key Scenarios Addressed by Salesforce in the Implementation Project

The main scenarios or use cases solved by the Field Force Optimizer.

Scenario 1: Automatic Restock Request Generation:

- **Requirements:** Automatically generate a restock request when inventory levels fall below a designated threshold.
- **Solution:** A Flow and Apex Trigger monitor stock levels in the **Parts Stock** object.

When a part's quantity falls below the reorder threshold, the automation automatically creates a record in a designated **Inventory Alert** object (no "Restock Request" object exists in the application).

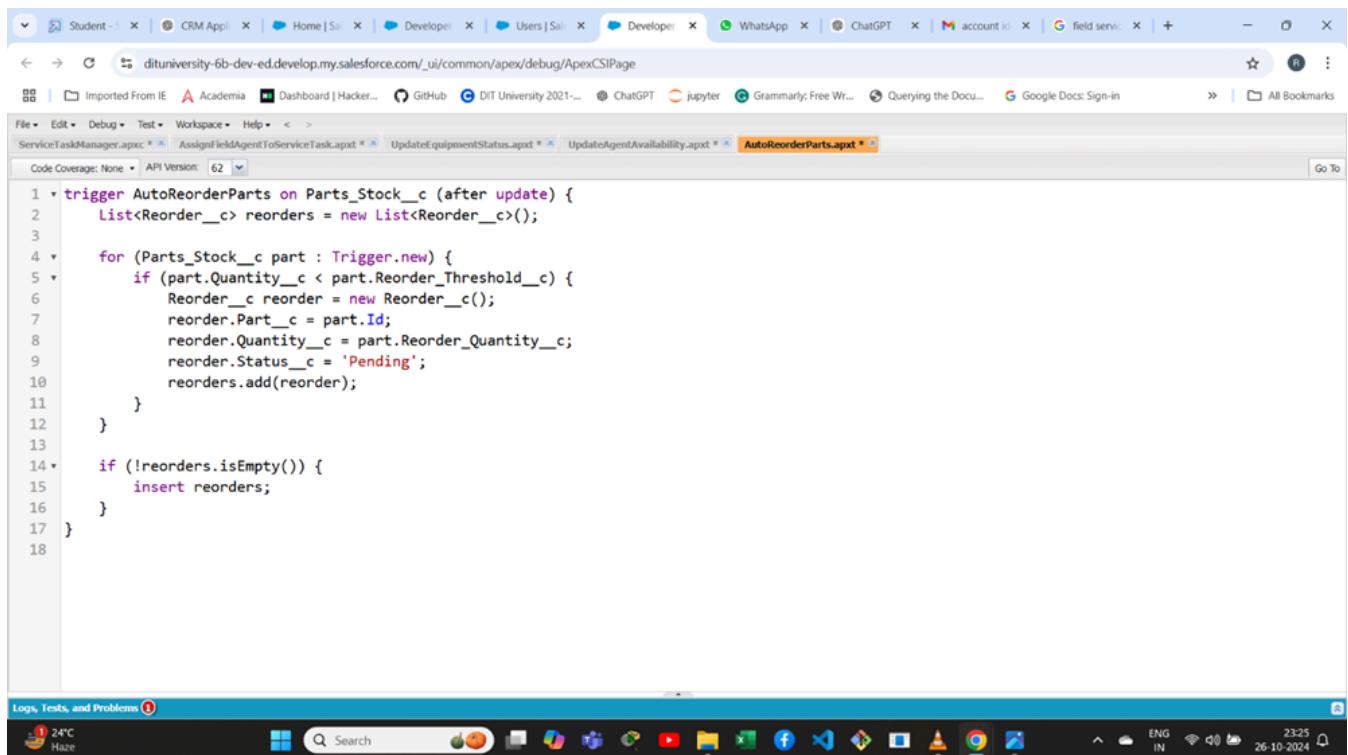


```

trigger LowStockNotification on Parts_Stock__c (after update) {
    for (Parts_Stock__c part : Trigger.new) {
        if (part.Quantity__c < part.Reorder_Threshold__c) {
            NotificationManager.sendLowStockNotification(part);
        }
    }
}

```

The screenshot shows a browser window with multiple tabs open. The active tab is titled 'LowStockNotification.apxt'. The code editor displays the Apex trigger code provided above. Below the code editor, there is a test runner interface with tabs for 'Logs', 'Tests' (which is selected), 'Checkpoints', 'Query Editor', 'View State', 'Progress', and 'Problems'. The 'Tests' tab shows a single test run with status 'Test Run', duration '0ms', and 0 failures. At the bottom of the browser window, there is a taskbar with various icons and system status information.

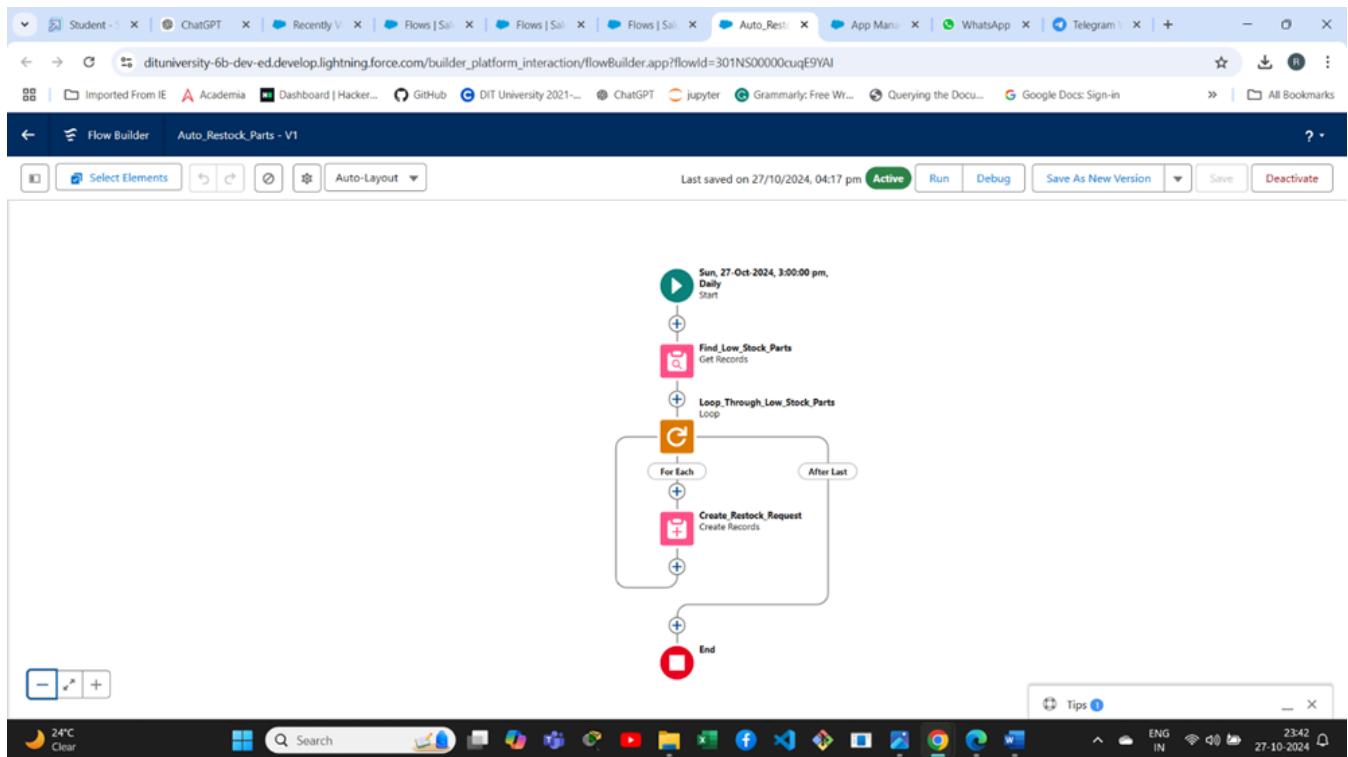


```

1 trigger AutoReorderParts on Parts_Stock__c (after update) {
2     List<Reorder__c> reorders = new List<Reorder__c>();
3
4     for (Parts_Stock__c part : Trigger.new) {
5         if (part.Quantity__c < part.Reorder_Threshold__c) {
6             Reorder__c reorder = new Reorder__c();
7             reorder.Part__c = part.Id;
8             reorder.Quantity__c = part.Reorder_Quantity__c;
9             reorder.Status__c = 'Pending';
10            reorders.add(reorder);
11        }
12    }
13
14    if (!reorders.isEmpty()) {
15        insert reorders;
16    }
17 }
18

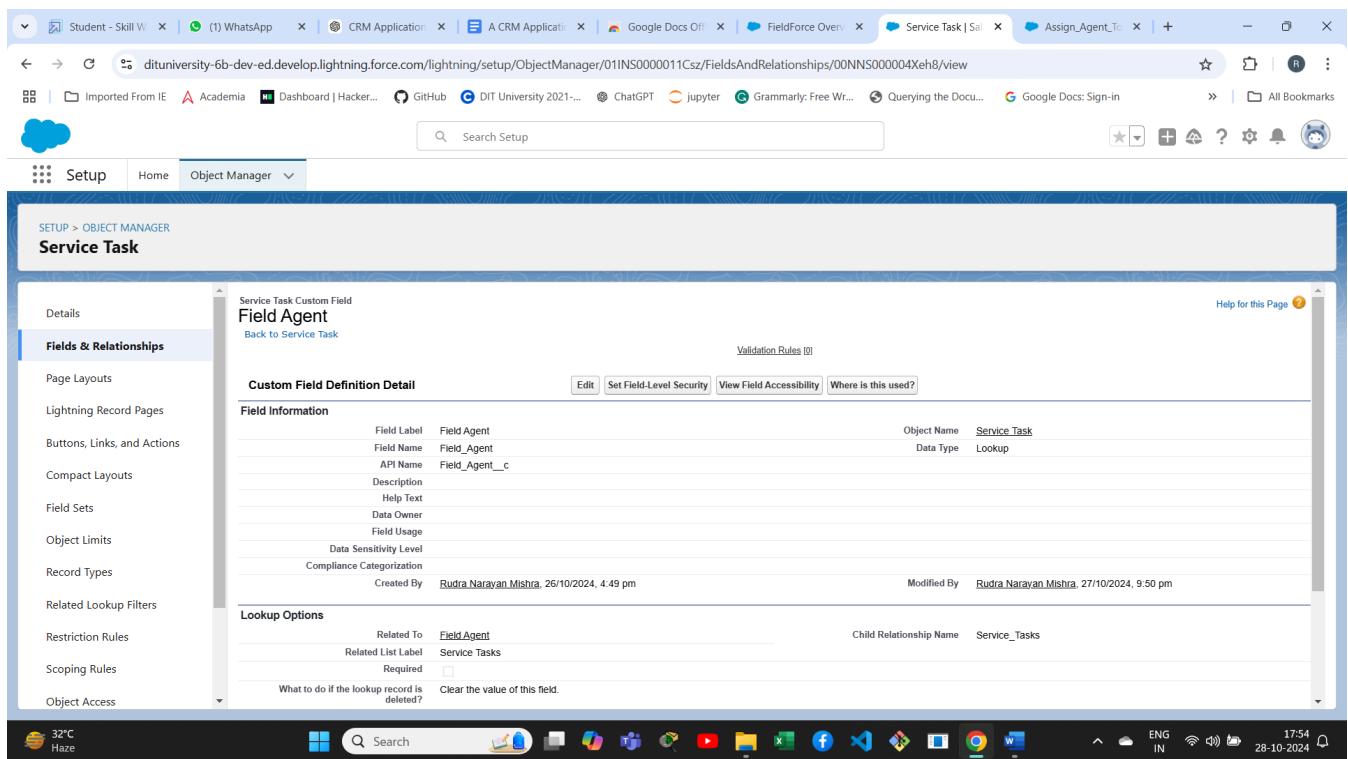
```

This automation notifies relevant stakeholders, like the inventory manager, prompting immediate action to replenish stocks.



Scenario 2: Field Agent Task Assignment:

- **Requirement:** Efficiently assign tasks to field agents and ensure task tracking and completion.
- **Solution:** The **Field Agent** and **Service Task** objects are used to manage and record task assignments.

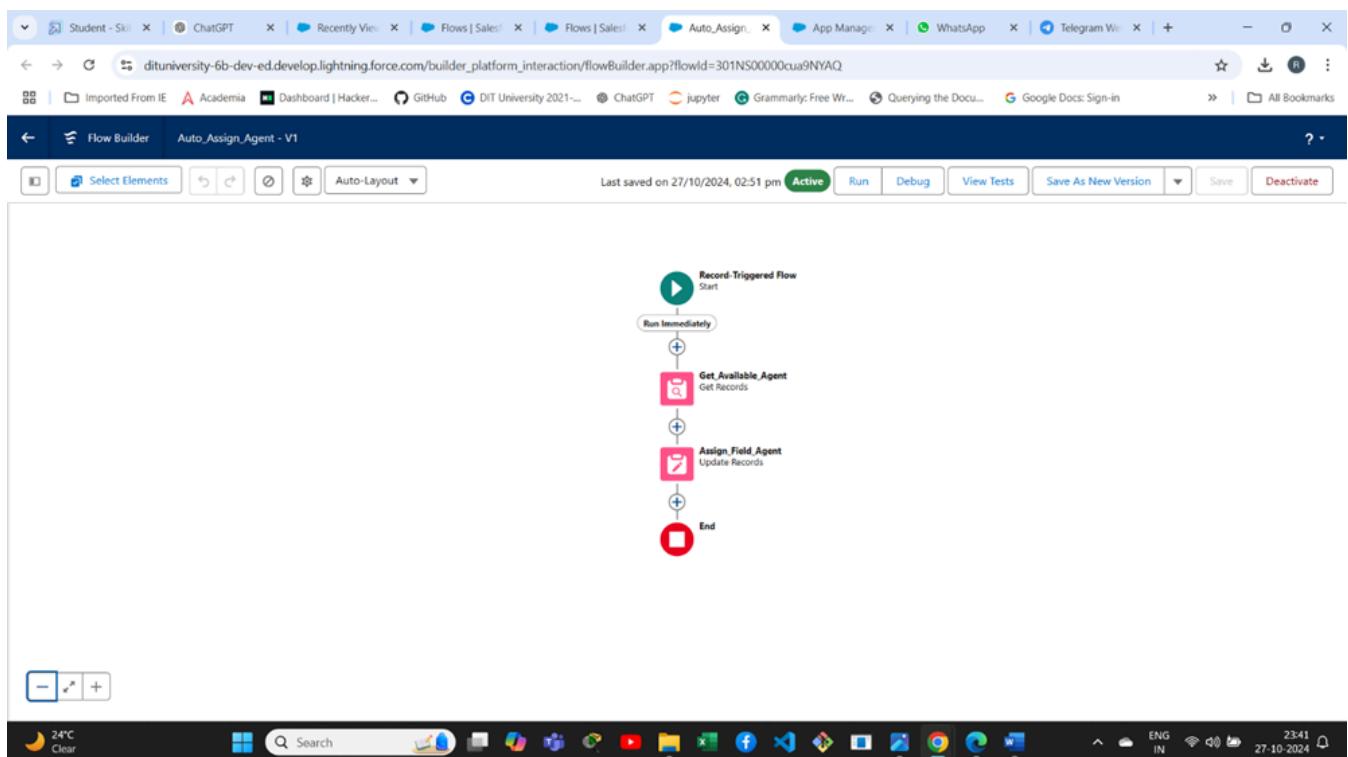


Assignment Flows are set up to automate task assignments based on criteria like agent availability, expertise, or location. The automation updates task status in real time, enabling managers to track each field agent's task load and progress.

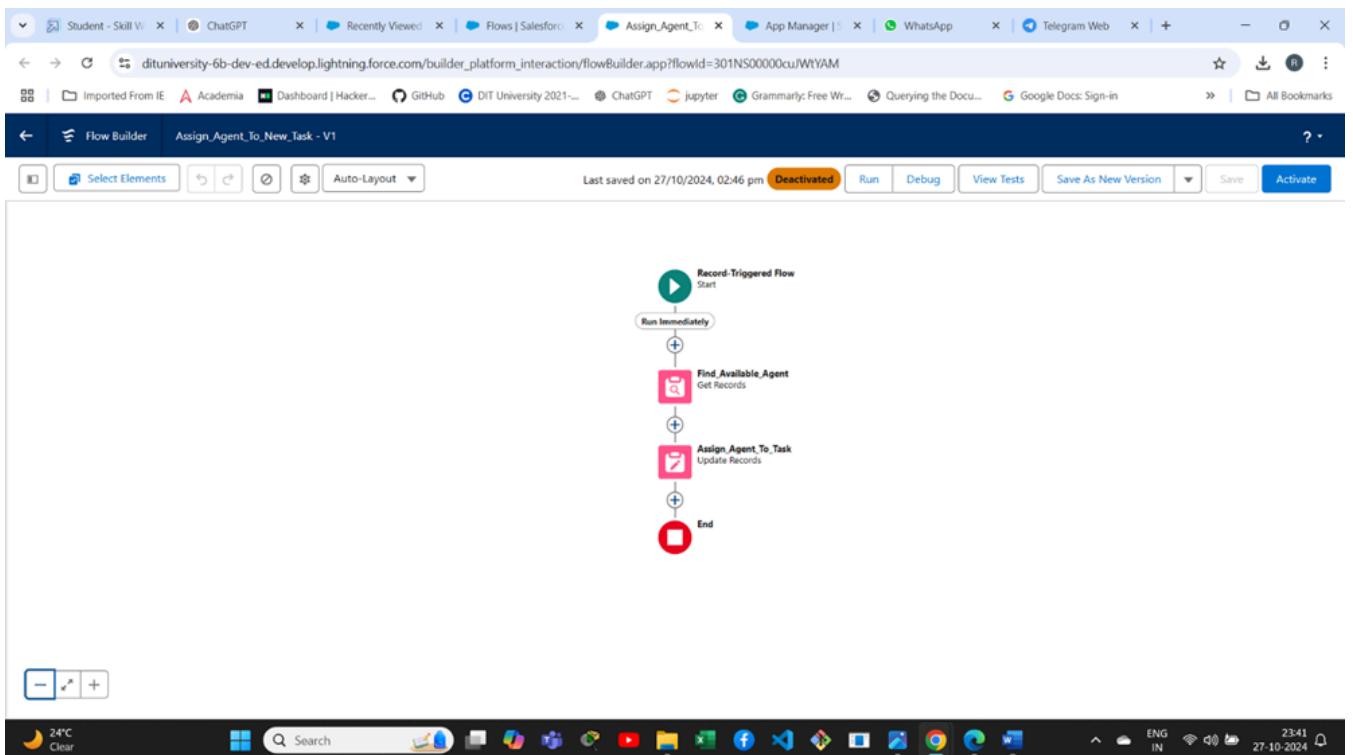


The screenshot shows a browser window with multiple tabs open, including CRM Application, Home | Sales, Developer, Users | Sales, Developer, WhatsApp, ChatGPT, account ID, Google field service, and dituniversity-6b-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage. The main content area displays an Apex class named ServiceTaskManager. The code implements two methods: assignTaskToFieldAgent and isEquipmentAvailable.

```
1 public class ServiceTaskManager {
2     // Method to assign Service Task to an available Field Agent
3     public static void assignTaskToFieldAgent(Service_Task__c serviceTask) {
4         List<Field_Agent__c> availableAgents = [SELECT Id, Name FROM Field_Agent__c WHERE Availability__c = true LIMIT 1];
5
6         if (!availableAgents.isEmpty()) {
7             serviceTask.Assigned_Field_Agent__c = availableAgents[0].Id;
8             serviceTask.Status__c = 'Assigned';
9             update serviceTask;
10        } else {
11            System.debug('No available Field Agents');
12        }
13    }
14
15    // Method to check Equipment status before assigning to Service Task
16    public static Boolean isEquipmentAvailable(Id equipmentId) {
17        Equipment__c equipment = [SELECT Status__c FROM Equipment__c WHERE Id = :equipmentId LIMIT 1];
18        return equipment.Status__c == 'Available';
19    }
20}
```

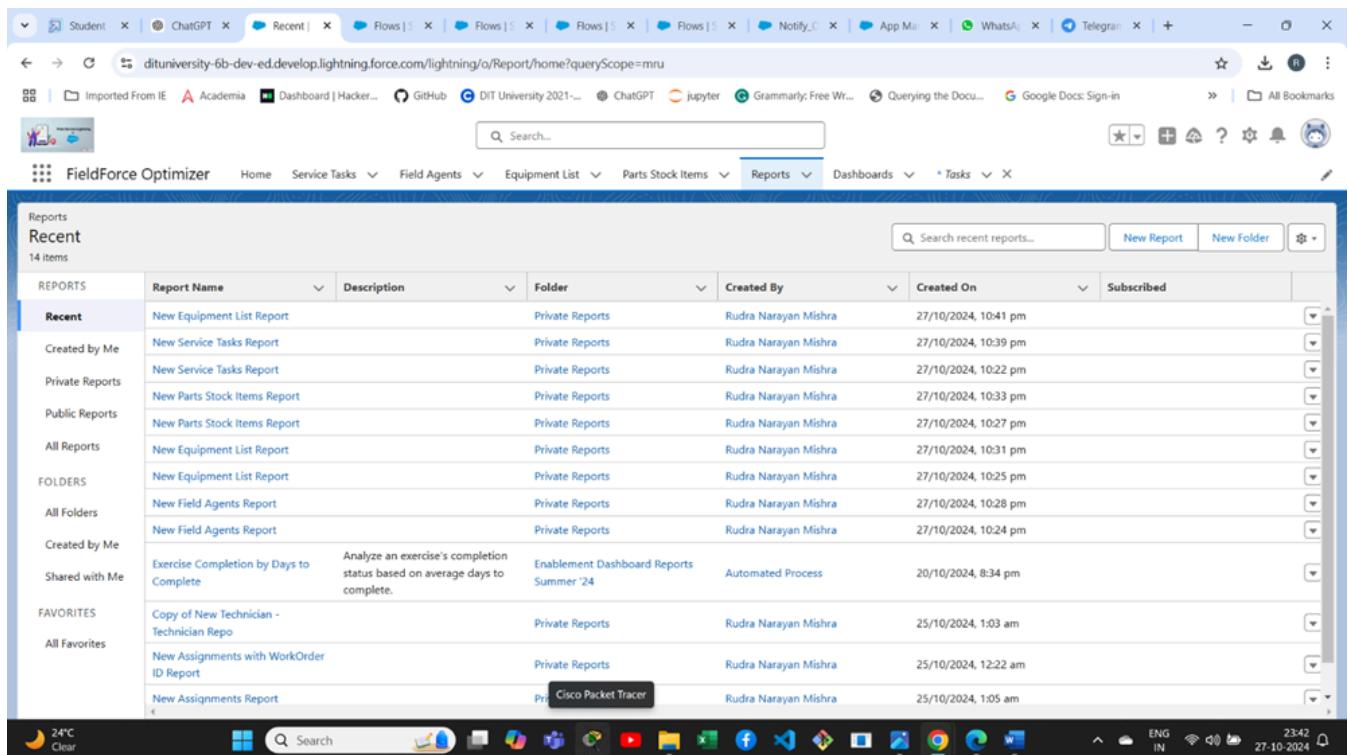


Notifications are sent to both the assigned field agent and their manager when tasks are assigned or updated.



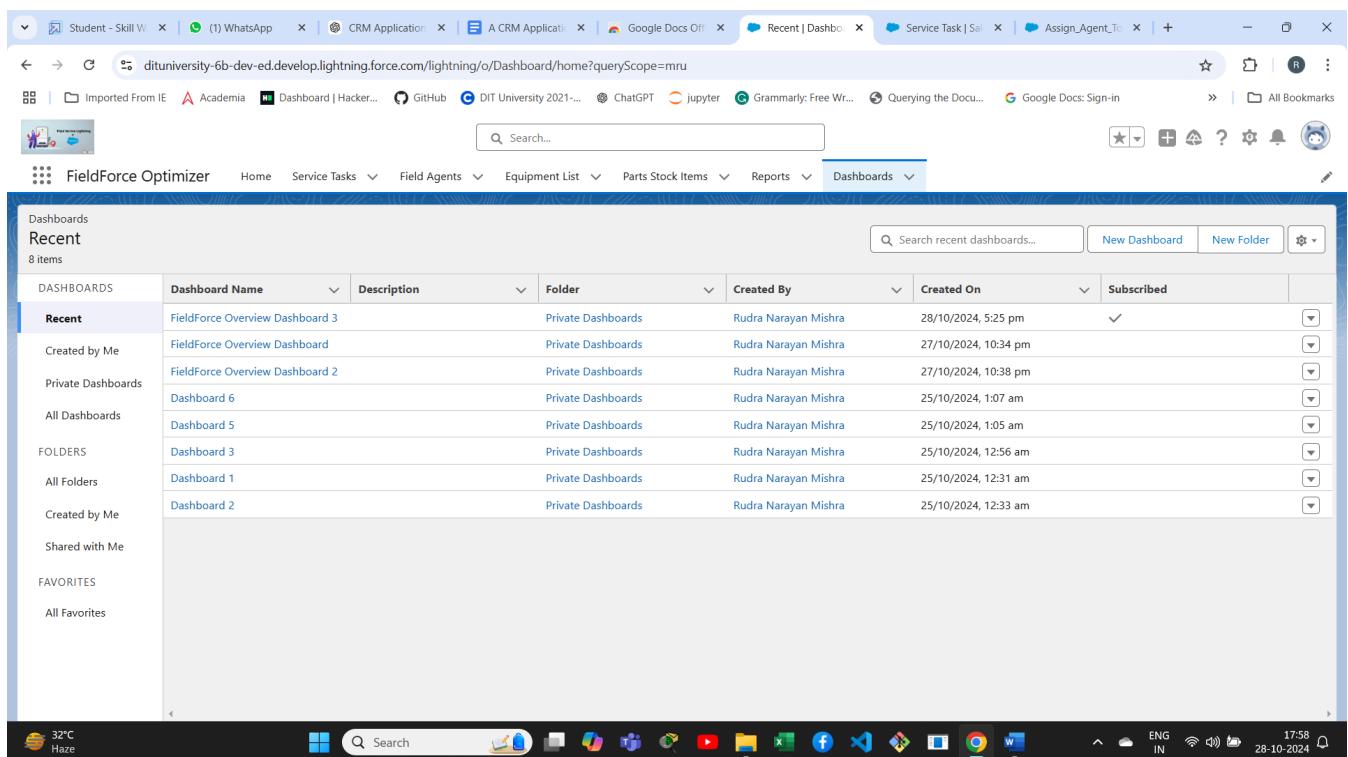
Scenario 3: Monitoring and Reporting:

- Requirement:** Provide managers with real-time data on tasks, stock levels, and equipment to make informed decisions.
- Solution:** Custom Reports and Dashboards are built to consolidate and display real-time data.



The screenshot shows the 'Reports' section of the FieldForce Optimizer interface. The left sidebar lists categories like 'Recent', 'Created by Me', 'Private Reports', 'Public Reports', 'All Reports', 'Folders', 'All Folders', 'Created by Me', 'Shared with Me', and 'Favorites'. The main area displays a table of reports with columns: REPORTS, Report Name, Description, Folder, Created By, Created On, and Subscribed. One report, 'Cisco Packet Tracer', is highlighted with a black background.

REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	New Equipment List Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:41 pm	
Created by Me	New Service Tasks Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:39 pm	
Private Reports	New Service Tasks Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:22 pm	
Public Reports	New Parts Stock Items Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:33 pm	
All Reports	New Parts Stock Items Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:27 pm	
FOLDERS	New Equipment List Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:31 pm	
All Folders	New Field Agents Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:25 pm	
Created by Me	New Field Agents Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 10:28 pm	
Shared with Me	Exercise Completion by Days to Complete	Analyze an exercise's completion status based on average days to complete.	Enablement Dashboard Reports Summer '24	Automated Process	27/10/2024, 8:34 pm	
FAVORITES	Copy of New Technician - Technician Repo		Private Reports	Rudra Narayan Mishra	27/10/2024, 1:03 am	
All Favorites	New Assignments with WorkOrder ID Report		Private Reports	Rudra Narayan Mishra	27/10/2024, 12:22 am	
	New Assignments Report	Cisco Packet Tracer	Rudra Narayan Mishra	Rudra Narayan Mishra	27/10/2024, 1:05 am	



The screenshot shows the 'Dashboards' section of the FieldForce Optimizer interface. The left sidebar lists categories like 'Recent', 'Created by Me', 'Private Dashboards', 'All Dashboards', 'Folders', 'All Folders', 'Created by Me', 'Shared with Me', and 'Favorites'. The main area displays a table of dashboards with columns: DASHBOARDS, Dashboard Name, Description, Folder, Created By, Created On, and Subscribed. One dashboard, 'FieldForce Overview Dashboard 3', is highlighted with a black background.

DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Recent	FieldForce Overview Dashboard 3		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 5:25 pm	
Created by Me	FieldForce Overview Dashboard		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 10:34 pm	
Private Dashboards	FieldForce Overview Dashboard 2		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 10:38 pm	
All Dashboards	Dashboard 6		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 1:07 am	
FOLDERS	Dashboard 5		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 1:05 am	
All Folders	Dashboard 3		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 12:56 am	
Created by Me	Dashboard 1		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 12:31 am	
Shared with Me	Dashboard 2		Private Dashboards	Rudra Narayan Mishra	27/10/2024, 12:33 am	

Key metrics such as open tasks, stock below reorder levels, and equipment status are

visually represented on the **FieldForce Overview Dashboard**.

Screenshot of a web browser showing a Service Task Report in FieldForce Optimizer.

The report title is "Report: Service Tasks
New Service Tasks Report".

Total Records: 10

Record Count by Location:

Location	Record Count
Bokaro	0
Dehradun	0.1
Delhi	0.2
Kolkata	0.7

Details (10 Rows):

Service Task: Service Task ID
1 Task-006
2 Task-007
3 Task-003
4 Task-004
5 Task-008
...

Row Counts, Detail Rows, Subtotals, Grand Total, Stacked Summaries checkboxes are checked.

System status bar at the bottom shows: 24°C Clear, Search, ENG IN, 23:43, 27-10-2024.

Screenshot of a web browser showing an Equipment List Report in FieldForce Optimizer.

The report title is "Report: Equipment List
New Equipment List Report".

Total Records: 10

Record Count by Condition:

Condition	Record Count
Excellent	0.4
Good	0.6
Fair	3.0

Record Count by Status:

Status	Record Count
Available	2.0
In Use	3.0
Maintenance	3.0

Details (10 Rows):

Equipment: Equipment ID
1 EQ-002
2 EQ-010
3 EQ-007
4 EQ-008
5 EQ-004
...

Row Counts, Detail Rows, Subtotals, Grand Total, Stacked Summaries checkboxes are checked.

System status bar at the bottom shows: 24°C Clear, Search, ENG IN, 23:43, 27-10-2024.

Student ChatGPT FieldFor Flows Flows Flows Notify App Mail WhatsApp Telegram

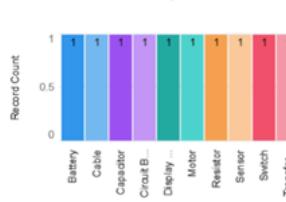
Imported From IE Academia Dashboard | Hacker... GitHub DIT University 2021... ChatGPT jupyter Grammarly: Free Wr... Querying the Docu... Google Docs: Sign-in All Bookmarks

FieldForce Optimizer Home Service Tasks Field Agents Equipment List Parts Stock Items Reports Dashboards Tasks

FieldForce Overview Dashboard

As of 27-Oct-2024, 10:37 pm Viewing as Rudra Narayan Mishra

New Parts Stock Items Report



Supplier	Record Count
Battery	1
Cable	1
Capacitor	1
Circuit Board	1
Display Screen	1
Motor	1
Resistor	1
Sensor	1
Switch	1
Transformer	1

Part Name > Supplier

[View Report \(New Parts Stock Items Report\)](#)

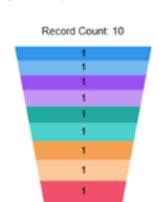
New Equipment List Report



Equipment Name	Record Count
Air Compressor	1
Crane	1
Drill Machine	1
Forklift	1
Generator	1
Hydraulic Jack	1
Lathe Machine	1
Tractor	1
Truck	1
Welding Torch	1

[View Report \(New Equipment List Report\)](#)

New Field Agents Report



Agent Name	Record Count
Alice Williams	1
Bob Johnson	1
Jhon Doe	1
Karen Martinez	1
Linda Davis	1
Mike Brown	1
Nancy Lee	1
Puja Pradhan	1
Steve Garcia	1
Vinit Bahadur	1

[View Report \(New Field Agents Report\)](#)

New Parts Stock Items Report

Parts Stock	Part Stock I...	Location	Part Na...	Qua...	Supplier
PS-001	Warehouse-1	-	15%	Motor	
PS-002	Warehouse-1	-	50%	Cable	

New Equipment List Report

Equipment	Equipment I...	Equipment N...	Location	Status	Type
EQ-001	Generator	pune	In Use	Machin	
EQ-002	Air Compressor	Delhi	-	Machin	

New Field Agents Report

Field Agent	Field...	Ag...	Email	Pho...	Skills
FA-001	Jhon	john.doe@example.com	223	Inspect client site	
FA-002	Nanc	nancy.lee@example.com	012	Equipment installat	

24°C Clear Search

Student ChatGPT FieldFor Flows Flows Flows Notify App Mail WhatsApp Telegram

Imported From IE Academia Dashboard | Hacker... GitHub DIT University 2021... ChatGPT jupyter Grammarly: Free Wr... Querying the Docu... Google Docs: Sign-in All Bookmarks

FieldForce Optimizer Home Service Tasks Field Agents Equipment List Parts Stock Items Reports Dashboards Tasks

FieldForce Overview Dashboard 2

As of 27-Oct-2024, 10:44 pm Viewing as Rudra Narayan Mishra

New Service Tasks Report



Location	Record Count
Bokaro	1
Dehradun	1
Delhi	1
Kolkata	1
Mumbai	1
New Delhi	1

[View Report \(New Service Tasks Report\)](#)

New Equipment List Report



Condition	Record Count
Excellent	3
Good	4
Fair	3

[View Report \(New Equipment List Report\)](#)

New Parts Stock Items Report



Supplier	Record Count
Battery	1
Cable	1
Capacitor	1
Circuit Board	1
Display Screen	1
Motor	1
Resistor	1
Sensor	1
Switch	1
Transformer	1

Part Name > Supplier

[View Report \(New Parts Stock Items Report\)](#)

New Service Tasks Report



Status	Record Count
New	1
In Progress	1
Completed	1
On Hold	1

Bokaro Dehradun Delhi

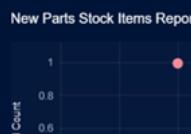
New Equipment List Report



Status	Record Count
Excellent	2
Available	1
In Use	1
Maintenance	1

Excellent Available In Use Maintenance

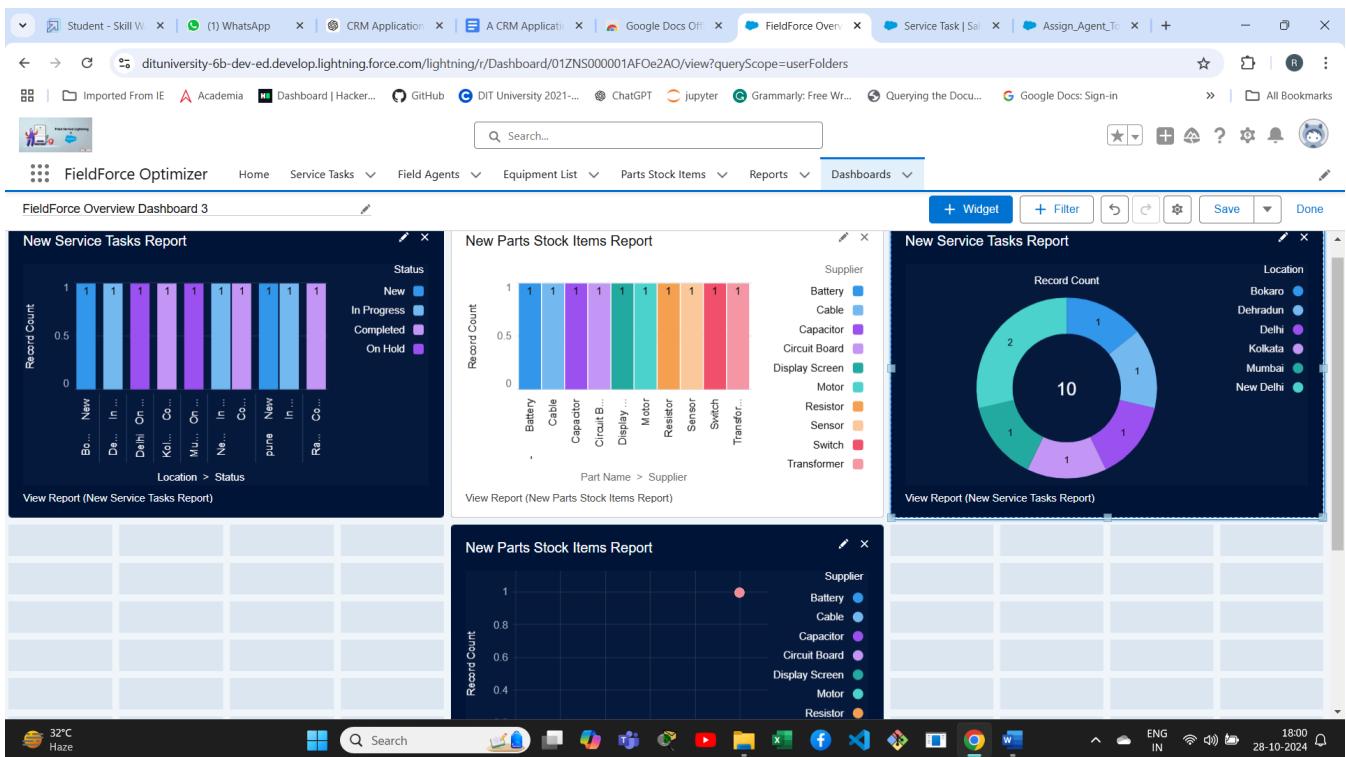
New Parts Stock Items Report



Supplier	Record Count
Battery	1
Cable	1
Capacitor	1
Circuit Board	1
Display Screen	1

Supplier

24°C Clear Search



7. Conclusion

The **FieldForce Optimizer CRM Application** successfully addresses the critical needs of field service management by integrating various Salesforce functionalities tailored to enhance operational efficiency.

Summary of Achievements:

- Streamlined Task Management:** The implementation of Service Task workflows, including automated assignment and notifications, significantly improved the response time and management of tasks. Field agents can now efficiently track and manage their assignments, resulting in increased productivity.
- Enhanced Inventory Control:** The automation of the restocking process for parts and the introduction of low stock notifications have optimized inventory management. This ensures that necessary parts are always available, reducing delays in service delivery and enhancing overall operational readiness.
- Improved User Experience:** Through the customization of Salesforce's user interface, including tailored page layouts and easy navigation, field agents and managers can access critical information quickly and intuitively. This has fostered better communication and collaboration among teams.

- **Data-Driven Decision Making:** The creation of comprehensive reports and dashboards provides real-time insights into field operations, agent performance, and inventory status. This data empowers management to make informed decisions, identify trends, and optimize resource allocation.
- **Robust Automation:** The implementation of various flows and Apex triggers ensures that repetitive tasks are automated, reducing manual effort and minimizing errors. This not only streamlines processes but also allows staff to focus on more strategic activities.