

# College Facility Issue Tracker using Salesforce CRM

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Roll no :- 43

## Phase 1 — Project Setup & Requirements

**Goal:** Clarify scope, stakeholders, and what "done" looks like.

### Tasks

- Define actors: Student/Faculty (reporter), Facility Agent, Facility Manager, Contractor (Contact).
- List issue categories: Electrical, Plumbing, IT Equipment, Furniture, Hostel, Other.
- Decide submission channels: Experience Cloud portal (authenticated) **or** Web-to-Case form.
- Decide mandatory fields: Category, Location (building/room), Description, Photo (optional), Priority.
- Define business rules: SLA by category, cost threshold for approval, auto-assignment zones.

## Phase 2 — Data Model & Design

**Goal:** Create object model, fields, and relationships.

### Tasks

- Standard objects to use: **Case, User, Contact** (for contractors).
- Custom objects:
  - Facility\_Asset\_\_c (optional): Asset\_Name, Asset\_Type, Location\_\_c, Warranty\_Expiry\_\_c.
  - Building\_\_c or Zone\_\_c (optional) to map areas.
- Case fields (custom):
  - Category\_\_c (Picklist)
  - Location\_Detail\_\_c (Text or Lookup to Building\_\_c)
  - Photo\_\_c (File)
  - Reported\_By\_\_c (Lookup to Contact or Auto-populated from User)
  - Estimated\_Cost\_\_c (Currency)

- Repair\_Completion\_Date\_\_c (Date)
- Contractor\_\_c (Lookup to Contact)
- SLA\_Deadline\_\_c (DateTime)
- Sharing model: Cases visible to Facility Team (Role hierarchy / Sharing rules).

Facility Management | Cases | **Contacts** | Reports | Dashboards

Search...

Contacts | **My Contacts**

Created: This Quarter | Owner: Me

Total Contacts: 3 | No Activity: 3 | Idle: 0 | No Upcoming: 0 | Overdue: 0 | Due Today: 0 | Upcoming: 0

3 items • Filtered by Created Date, Me, Total Contacts

Name	Title	Account Name	Last Activity	Actions
1 <input type="checkbox"/> Jamie Rock		YCCE		[Email] [Phone] [Dropdown]
2 <input type="checkbox"/> Henry Smith		YCCE		[Email] [Phone] [Dropdown]
3 <input type="checkbox"/> Olivia Gim		YCCE		[Email] [Phone] [Dropdown]

Facility Management | **Cases** | Contacts | Reports | Dashboards

Search...

Cases | **Recently Viewed**

New | Change Owner | Assign Label

2 items • Updated a few seconds ago

Search this list...

Case Number	Subject	Status	Date/Time Opened	Case Owner Alias	Actions
1 <input type="checkbox"/> 00001027	Fan not working	New	10/19/2025, 8:09 AM	Electrical Queue	[New] [Change Owner] [Assign Label] [Dropdown]
2 <input type="checkbox"/> 00001026	Electrical Queue	New	10/19/2025, 6:05 AM	cha	[New] [Change Owner] [Assign Label] [Dropdown]

## Phase 3 — Web Form / Portal & UX

**Goal:** Build the user-facing submission channel.

### Options & recommendation

- **Experience Cloud (recommended):** Authenticated student portal lets students track status.
- Or **Web-to-Case** (if anonymous submissions ok).

### Tasks

- Create Experience site with a “Report Issue” page & record-triggered Lightning component / Flow screen.
- Form fields: Category, Building, Room Number, Priority, Description, Attachment upload.
- Add a “My Reports” page showing reporter’s Cases.
- Add mobile responsiveness.

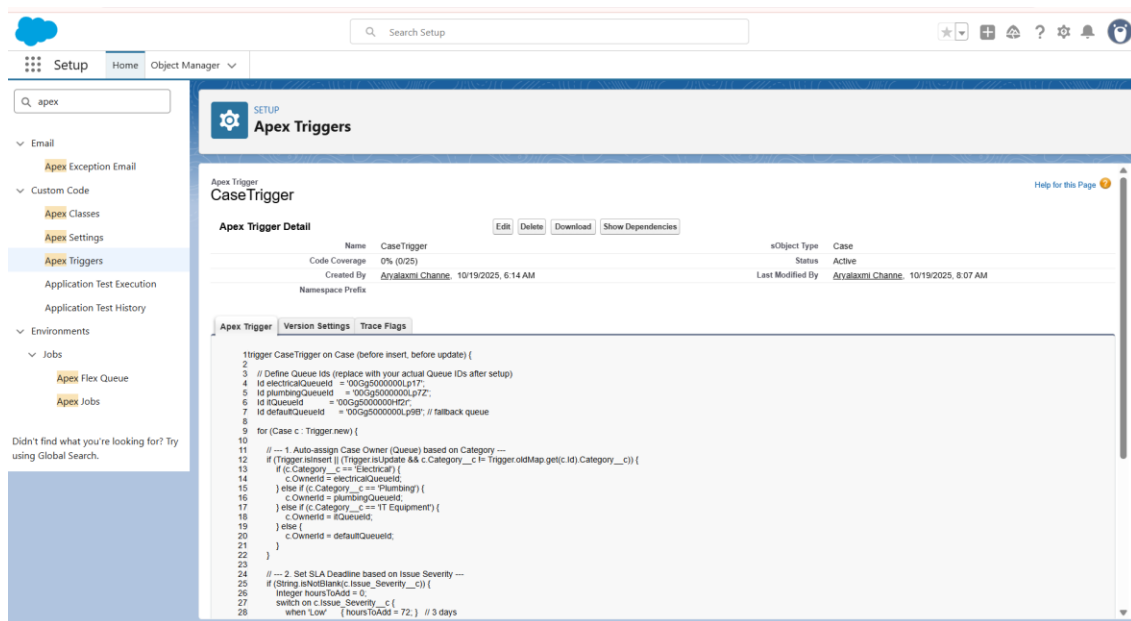
The screenshot shows a web browser window with the URL `orgfarm-785b048b66-dev-ed.develop.my.site.com/s/`. The page has a light pink header with navigation icons. The main content area is white and features a 'WELCOME!' message with the subtitle 'A place where you can easily find solutions and ask questions'. A blue button labeled 'ASK A QUESTION' is positioned in the top right. Below this, the 'CREATE A CASE' section contains a form with the following fields: a '\* STATUS' dropdown menu set to 'New', a 'SUBJECT' text input field, a 'CATEGORY' dropdown menu set to '--None--', and a 'DESCRIPTION' text area. A blue 'SUBMIT' button is located below the description field. At the bottom of the page, there is a link 'Don't see what you're looking for?' followed by two blue buttons: 'ASK A QUESTION' and 'CONTACT SUPPORT'.

## Phase 4 — Automation: Assignment & Prioritization (Flows + Triggers)

**Goal:** Auto-route and prioritize incoming cases.

### Tasks

- Create a **Record-Triggered Flow** on Case (after create) to:
  - Set SLA\_Deadline\_\_c based on Category (e.g., Classroom IT = Now + 24 hours).
  - Auto-assign OwnerId to Facility Queue or specific user based on Category/Building.
  - If Estimated\_Cost\_\_c > Approval\_Threshold → set Requires\_Approval\_\_c = TRUE.
- Use an Apex Trigger only where Flow can't (e.g., complex cross-object logic). But prefer Flows for admin friendliness.



The screenshot shows the Salesforce Setup interface. On the left is a navigation menu with options like Email, Custom Code, Apex Settings, Apex Triggers, and Jobs. The main content area is titled 'Apex Triggers' and shows details for a trigger named 'CaseTrigger'. The trigger is active, created by 'Arivalaxmi Channe', and has a code coverage of 0% (0/25). Below the details, there are tabs for 'Apex Trigger', 'Version Settings', and 'Trace Flags'. The 'Apex Trigger' tab is selected, displaying the following Apex code:

```
1 trigger CaseTrigger on Case (before insert, before update) {
2
3   // Define Queue Ids (replace with your actual Queue IDs after setup)
4   Id electricalQueueId = '00Gg50000000.p17';
5   Id plumbingQueueId = '00Gg50000000.p1Z';
6   Id itQueueId = '00Gg50000000H2r';
7   Id defaultQueueId = '00Gg50000000.p9d'; // fallback queue
8
9   for (Case c : Trigger.new) {
10
11     // --- 1. Auto-assign Case Owner (Queue) based on Category ---
12     if (Trigger.isInsert || (Trigger.isUpdate && c.Category__c != Trigger.oldMap.get(c.Id).Category__c)) {
13       if (c.Category__c == 'Electrical') {
14         c.OwnerId = electricalQueueId;
15       } else if (c.Category__c == 'Plumbing') {
16         c.OwnerId = plumbingQueueId;
17       } else if (c.Category__c == 'IT Equipment') {
18         c.OwnerId = itQueueId;
19       } else {
20         c.OwnerId = defaultQueueId;
21       }
22     }
23
24     // --- 2. Set SLA Deadline based on Issue Severity ---
25     if (String.isNotBlank(c.Issue_Severity__c)) {
26       Integer hoursToAdd = 0;
27       switch on c.Issue_Severity__c {
28         when 'Low' [hoursToAdd = 72;] // 3 days
```

## Phase 5 — Approval Process & Cost Controls

**Goal:** Implement approval for expensive repairs.

### Tasks

- Create an **Approval Process** on Case:
  - Entry Criteria: Estimated\_Cost\_\_c > 50000 (example).
  - Approver: Facility Head / Principal.
  - On approval: auto-create Purchase Order task or mark Case actionable and assign to contractor.
  - On rejection: notify agent and reporter.

The screenshot shows the Salesforce Setup interface for configuring an Approval Process. The left sidebar contains navigation links for Setup, Home, and Object Manager. The main content area is titled "Approval Processes" and displays the configuration for a process named "CostlyRepairApproval".

**Process Definition Detail**

Field	Value
Process Name	CostlyRepairApproval
Unique Name	CostlyRepairApproval
Description	
Entry Criteria	Estimated_Cost__c > 50000
Record Editability	Administrator ONLY
Approval Assignment Email Template	Commerce Reorder Portal Invitation
Initial Submitters	Case Owner
Created By	Ayalaam Channe, 10/19/2025, 6:55 AM
Modified By	Ayalaam Channe, 10/19/2025, 6:55 AM

**Initial Submission Actions**

Action	Type	Description
Record Lock		Lock the record from being edited

**Approval Steps**

You have not yet defined any approval steps

**Final Approval Actions**

Action	Type	Description
Record Lock		Lock the record from being edited

## Phase 6 — Validation Rules, Triggers & Business Logic Enforcement

**Goal:** Enforce data integrity and prevent incorrect status transitions.

### Important Validation Rules

- Prevent closure if no completion date:

AND(ISPICKVAL(Status, "Closed"), ISBLANK(Repair\_Completion\_Date\_\_c))

- Require Category and Location:

OR(ISBLANK(Category\_\_c), ISBLANK(Location\_Detail\_\_c))

**Apex Trigger (example)** — block closing without completion date (if you choose trigger over validation rule):

```
trigger PreventCloseWithoutCompletion on Case (before update) {  
    for (Case c : Trigger.new) {  
        Case old = Trigger.oldMap.get(c.Id);  
  
        if (old.Status != 'Closed' && c.Status == 'Closed' && c.Repair_Completion_Date__c ==  
null) {  
            c.addError('Please enter Repair Completion Date before closing the Case.');        }  
    }  
}
```

The screenshot shows the Salesforce Setup interface. The breadcrumb trail is: SETUP > OBJECT MANAGER > Case. The left sidebar contains a list of setup categories: Details, Fields & Relationships, Case Page Layouts, Case Close Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Hierarchy Columns, Scoping Rules, and Object Access. The main content area is titled 'Validation Rules' and shows '3 Items, Sorted by Rule Name'. A 'New' button is in the top right. Below is a table with the following data:

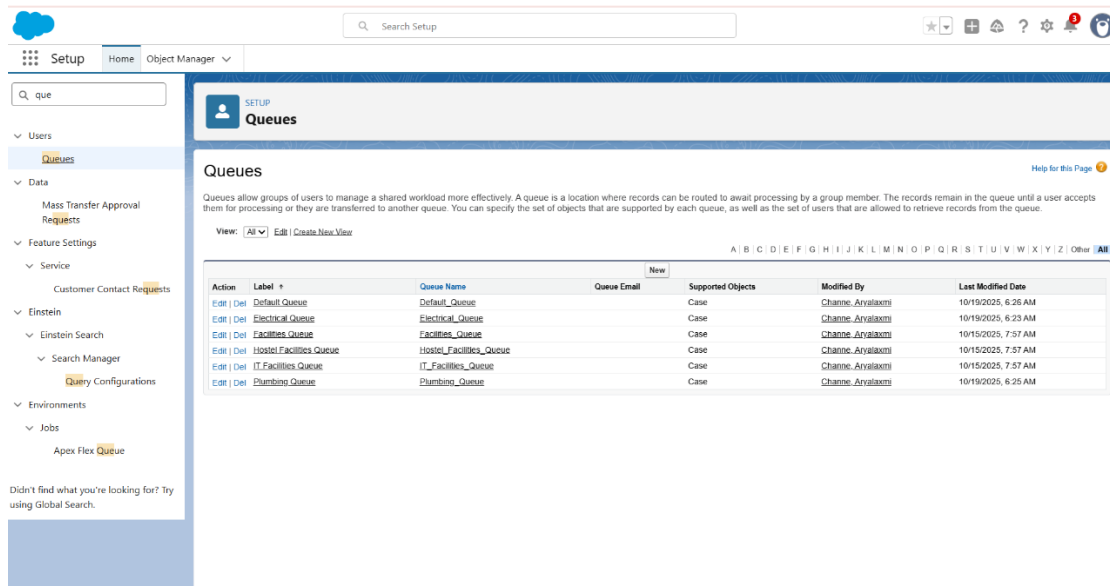
RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY
Prevent_Close_Without_Completion_Date	Top of Page	"Enter Repair Completion Date before closing the Case."	✓	Aryalaxmi Channe, 10/19/2025, 6:41 AM
Require_Category_Location	Top of Page	"Please select Category and enter Location."	✓	Aryalaxmi Channe, 10/19/2025, 6:39 AM
Require_Cost_For_Approval	Top of Page	"Enter Estimated Cost before requesting approval."	✓	Aryalaxmi Channe, 10/19/2025, 6:43 AM

## Phase 7 — Contractor Assignment & External Updates

**Goal:** Enable contractors to receive work and update status.

### Tasks

- Use **Contact** records for contractors; optionally create Partner Community licenses if you want contractors to log in.
- Implement assignment: Facility Agent assigns Contractor\_\_c (Contact) on Case.
- Notifications: Email/SMS to contractor with Case details.
- Provide contractor update options:
  - If external login: contractor portal (Experience) with limited access.
  - Or contractors use Salesforce Mobile App (User accounts if internal)



The screenshot shows the Salesforce Setup interface for the 'Queues' section. The left sidebar contains a navigation menu with categories like Users, Data, Feature Settings, Service, Einstein, Search Manager, Query Configurations, Environments, and Jobs. The main content area is titled 'Queues' and includes a description: 'Queues allow groups of users to manage a shared workload more effectively. A queue is a location where records can be routed to await processing by a group member. The records remain in the queue until a user accepts them for processing or they are transferred to another queue. You can specify the set of objects that are supported by each queue, as well as the set of users that are allowed to retrieve records from the queue.' Below the description is a table of existing queues.

Action	Label	Queue Name	Queue Email	Supported Objects	Modified By	Last Modified Date
<a href="#">Edit</a>   <a href="#">Del</a>	Default Queue	Default_Queue		Case	Channe_Anyalaxmi	10/19/2025, 6:26 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Electrical Queue	Electrical_Queue		Case	Channe_Anyalaxmi	10/19/2025, 6:23 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Facilities Queue	Facilities_Queue		Case	Channe_Anyalaxmi	10/15/2025, 7:57 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Hotel/Facilities Queue	Hotel_Facilities_Queue		Case	Channe_Anyalaxmi	10/15/2025, 7:57 AM
<a href="#">Edit</a>   <a href="#">Del</a>	IT/Facilities Queue	IT_Facilities_Queue		Case	Channe_Anyalaxmi	10/15/2025, 7:57 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Plumbing Queue	Plumbing_Queue		Case	Channe_Anyalaxmi	10/19/2025, 6:25 AM

Case

Fan not working

+ FollowChange OwnerAcceptEdit▼

Priority  
Medium

Status  
New

Case Number  
00001027

FeedRelated

PostPoll


Share an update...Share

Most Recent Activity▼

Search this feed...⌵⌵

All UpdatesCall LogsText PostsStatus Changes

▼

Aryalaxmi Channe


Case updated

Case Owner: Aryalaxmi Channe to Electrical Queue

Comment

3h ago▼

▶

Aryalaxmi Channe

Case created

3h ago▼

Details

Case Owner  
Electrical Queue

Status  
New

Case Number  
00001027

Priority  
Medium

Contact Name  
Olivia Gim

Contact Phone  
(885) 577-3344

Account Name  
YCCE

Contact Email

Type  
Electrical

Case Origin  
Web

Case Reason

Location Detail  
Hostel Room No 1

Reported By Contact







Estimated Cost

Contractor

Repair Completion Date

Setup

HomeObject Manager▼



- 
- ▼ Users

Public Groups

▼ Feature Settings

▼ Salesforce Files

Content Deliveries and Public Links

▼ User Interface

▼ Global Actions

Publisher Layouts

▼ Company Settings

▼ Calendar Settings

Public Calendars and Resources
- Didn't find what you're looking for? Try using Global Search.

SETUP

Public Groups

Help for this Page

A public group is a set of users. It can contain individual users, other groups, the users in a particular role or territory, or the users in a role or territory plus all of the users below that role or territory in the hierarchy.

View: All▼EditCreate New View

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Other All

Action	Label +	Group Name	Created By	Created Date
<a href="#">Edit</a>   <a href="#">Del</a>	Default	Default	Charne Aryalaxmi	10/15/2025, 6:22 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Electrical	Electrical	Charne Aryalaxmi	10/15/2025, 6:21 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Facilities	Facilities	Charne Aryalaxmi	10/15/2025, 7:55 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Hostel Facilities	Hostel Facilities	Charne Aryalaxmi	10/15/2025, 7:56 AM
<a href="#">Edit</a>   <a href="#">Del</a>	IT Facilities	IT Facilities	Charne Aryalaxmi	10/15/2025, 7:56 AM
<a href="#">Edit</a>   <a href="#">Del</a>	Plumbing	Plumbing	Charne Aryalaxmi	10/15/2025, 6:22 AM

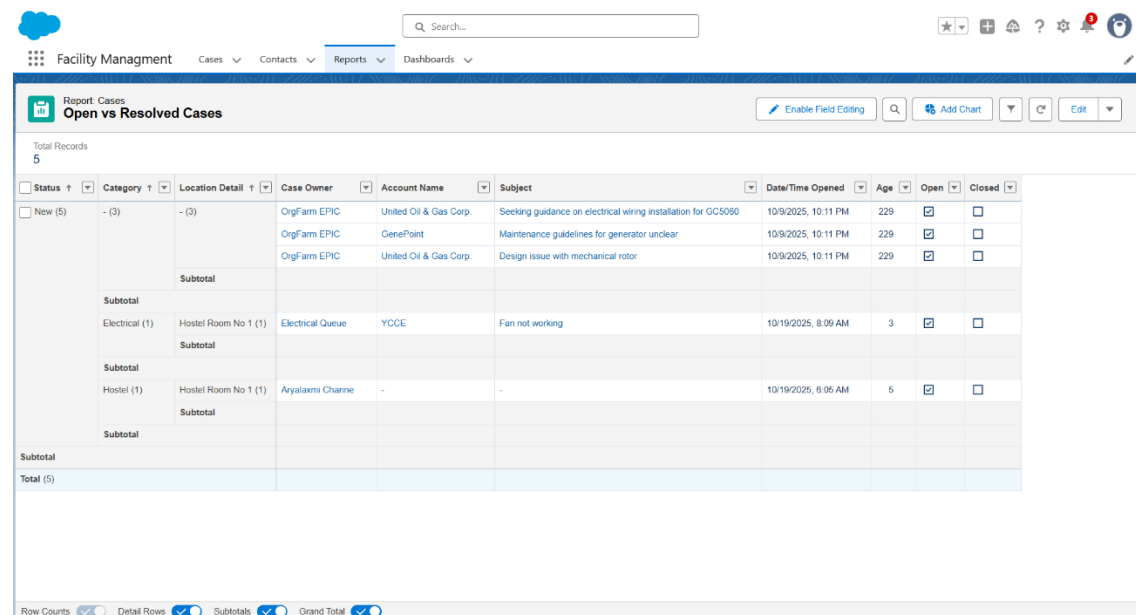


## Phase 8 — SLA, Escalation & Reports/Dashboards

**Goal:** Track SLAs, escalate breaches, and create meaningful dashboards.

### Tasks

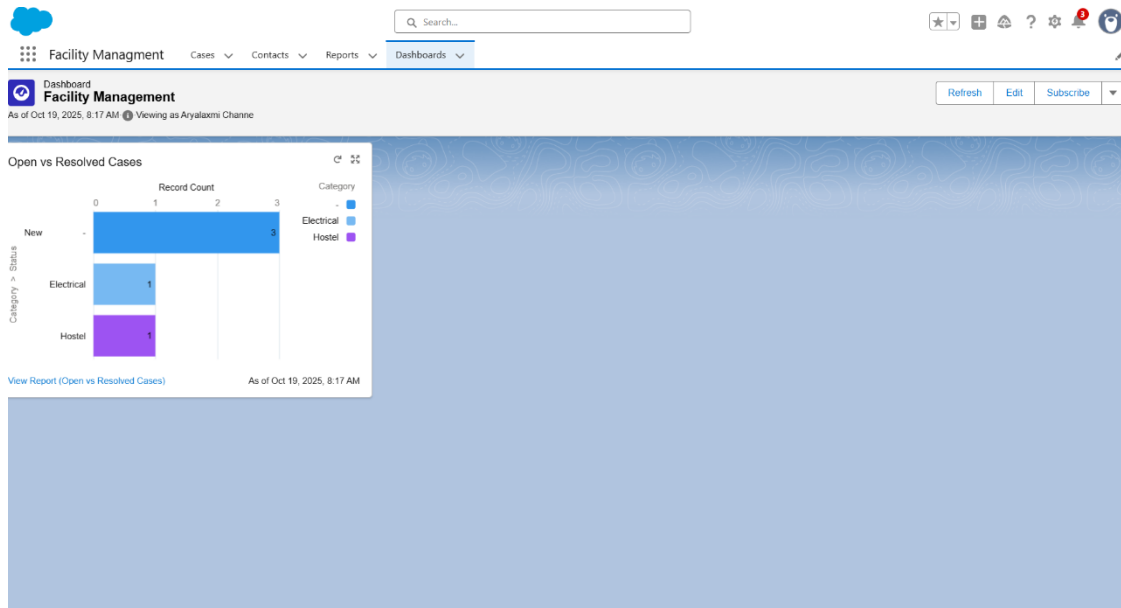
- Use SLA\_Deadline\_\_c and scheduled flows (or Entitlements/Milestones if available) to check deadlines.
- Create scheduled job/Flow that:
  - Sends escalation email to Facility Head 24 hours before SLA breach or immediately on breach.
- Reports:
  - Open vs Resolved Cases by Building/Category
  - Avg resolution time by Category
  - Top recurring issues
  - Contractor performance (avg resolution time)
- Dashboard: single page with widgets for the above.



The screenshot displays a Salesforce Reports page for 'Facility Management'. The report is titled 'Open vs Resolved Cases' and shows 5 total records. The table includes columns for Status, Category, Location Detail, Case Owner, Account Name, Subject, Date/Time Opened, Age, Open, and Closed. The data is organized into subtotals for different categories and locations.

Status	Category	Location Detail	Case Owner	Account Name	Subject	Date/Time Opened	Age	Open	Closed
New (5)	- (3)	- (3)	OrgFam EPIC	United Oil & Gas Corp.	Seeking guidance on electrical wiring installation for GC5080	10/9/2025, 10:11 PM	229	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			OrgFam EPIC	GenePoint	Maintenance guidelines for generator unclear	10/9/2025, 10:11 PM	229	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			OrgFam EPIC	United Oil & Gas Corp.	Design issue with mechanical rotor	10/9/2025, 10:11 PM	229	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Subtotal							
	Electrical (1)	Hostel Room No 1 (1)	Electrical Queue	YCCE	Fan not working	10/19/2025, 8:09 AM	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Subtotal							
	Hostel (1)	Hostel Room No 1 (1)	Aryalaxmi Channe	-	-	10/19/2025, 6:05 AM	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Subtotal							
		Subtotal							
		Total (5)							

Row Counts: ☒ Detail Rows: ☒ Subtotals: ☒ Grand Total: ☒



## Phase 9 — Testing, UAT & Training

**Goal:** Verify the system and prepare users.

### Testing

- Unit tests for Apex (if any).
- Flow tests for all branches.
- Integration tests (if using Google Maps/SMS).
- UAT scenarios (example cases):
  - Submit classroom projector issue → auto-assign to IT queue → contractor completes → reporter receives closed notification.
  - Submit hostel flood issue → SLA 24h → escalate on breach.

### User Training

- Create short user guides:
  - Student quick guide (how to raise & track)
  - Agent guide (how to assign/update/approve)
  - Contractor guide (how to update and close)

## Phase 10 — Deployment, Documentation & Demo

**Goal:** Move to production, document everything, and prepare final deliverables.

### Google drive link:

[https://drive.google.com/file/d/1zXDc7UMKs4CkTglieXR3Qf0dx3sAyj2a/view?usp=drive\\_link](https://drive.google.com/file/d/1zXDc7UMKs4CkTglieXR3Qf0dx3sAyj2a/view?usp=drive_link)