RePlastix Innovations: Transforming Plastic Waste into Sustainable Solutions

Trailblazer: trailhead

Summary

The Re Plastic Inventory Manager is a Salesforce-based CRM developed for Re Plastix Innovations, a recycling company focused on sustainable plastic waste management. This project automates the flow of inventory deduction, restock management, and stakeholder communication. It is built with Apex triggers, Lightning UI, flows, test classes, and robust security roles and profiles.

Use Case Scenario

Replastix Innovations, a pioneering organization in the field of plastic and recycle waste management, has embarked on a transformative journey by integrating the Salesforce platform into its operations. This strategic initiative is aimed at automating and streamlining key business processes, including plastic waste recycling, order management, inventory tracking, and reporting. The organization has already established a robust data security framework within Salesforce by creating roles and profiles for different users, each with distinct levels of data accessibility. This ensures that sensitive information is protected while maintaining operational efficiency and facilitating seamless data flow across various departments.

Replastix Innovations has prioritized data security as a cornerstone of its Salesforce integration. By creating detailed roles and profiles, the organization has ensured that each user has access only to the data necessary for their specific responsibilities. This granular approach to data management not only enhances security but also improves the overall user experience by providing a tailored interface for each role. The structured data framework ensures that information is organized in a manner that supports efficient retrieval and analysis, thereby empowering decision-makers with timely and accurate insights.

One of the key areas where Replastix Innovations has focused its automation efforts is inventory management. The organization has developed a sophisticated system to monitor stock levels and trigger automated actions when predefined thresholds are breached. Specifically, whenever the stock level of a product falls below a set threshold, a new task record is automatically created and associated with the same product record. This task is then assigned to the record owner, ensuring that appropriate actions are taken promptly to address the low stock situation. This automation reduces the risk of stockouts and ensures that inventory levels are consistently maintained.

In addition to inventory management, Replastix Innovations has implemented automation processes to enhance order management and streamline the replenishment of low-stock items. If the product stock is low, the system automatically updates the order object to reflect the current status. Simultaneously, a request for replenishment is generated and sent to the relevant department. This ensures that the procurement process is initiated without delay, minimizing the impact of low stock on operations. Once the replenishment request is approved, an email notification is automatically sent to the warehouse manager, providing them with the updated product record. This step ensures that the warehouse team is fully informed and can take immediate action to restock the item. The integration of email notifications into the workflow ensures that all stakeholders are kept in the loop, facilitating seamless communication and coordination across departments.

Replastix Innovations recognizes the importance of accurate and timely reporting in driving operational excellence. The Salesforce platform provides robust reporting and

analytics capabilities, enabling the organization to generate detailed insights into various aspects of its operations. By leveraging these tools, Replastix Innovations can monitor key performance indicators (KPIs), track progress towards sustainability goals, and identify areas for improvement. This data-driven approach supports informed decision-making and continuous process optimization.

Business Need:

The warehouse team needed a system that automates restocking when products run low and alerts the responsible manager. Manual checks caused stock shortages and inefficiencies.

End-to-End Flow

- Sales Rep places an order (Quantity: 150)
- Available stock: 50 → Not enough
- A Restock Request is automatically created (100 units)
- Manager approves → Product stock is updated to 150
- Email notification sent to inventory head

Phase 1 – Requirement Analysis & Planning

Stakeholder Roles

- Sales Representative: Creates orders
- Warehouse Supervisor: Approves restocks
- Inventory Manager: Oversees stock updates

Custom Objects

1. Recycled Product
2. Order
3. Restock Request
4. Plastic Waste

5. Recycling Center

Entity Relationships

- Order → Lookup to Recycled Product
- Restock Request → Lookup to Recycled Product
- Plastic Waste → Lookup to Recycling Center

Role Hierarchy

- CEO → Sales Representative → Warehouse Supervisor
- Profiles: Platform User 1, 2, 3 (with FLS and CRUD configured)

Screenshot: ER diagram of object relationships

- **Gitam**
  - **Add Role**
  - **CEO**   Edit | Del | Assign
    - **Add Role**
    - **CFO**   Edit | Del | Assign
      - **Add Role**
    - **COO**   Edit | Del | Assign
      - **Add Role**
    - **Recycling Manager**   Edit | Del | Assign
      - **Add Role**
    - **Sales Representative**   Edit | Del | Assign
      - **Add Role**
      - **Warehouse Supervisor**   Edit | Del | Assign
        - **Add Role**
    - **SVP, Customer Service & Support**   Edit | Del | Assign
      - **Add Role**
      - **Customer Support, International**   Edit | Del | Assign
        - **Add Role**
      - **Customer Support, North America**   Edit | Del | Assign
        - **Add Role**
      - **Installation & Repair Services**   Edit | Del | Assign
        - **Add Role**
    - **SVP, Human Resources**   Edit | Del | Assign
      - **Add Role**
    - **SVP, Sales & Marketing**   Edit | Del | Assign
      - **Add Role**
      - **VP, International Sales**   Edit | Del | Assign
        - **Add Role**
      - **VP, Marketing**   Edit | Del | Assign
        - **Add Role**
        - **Marketing Team**   Edit | Del | Assign
          - **Add Role**
      - **VP, North American Sales**   Edit | Del | Assign
        - **Add Role**
        - **Director, Channel Sales**   Edit | Del | Assign
          - **Add Role**
          - **Channel Sales Team**   Edit | Del | Assign
            - **Add Role**
        - **Director, Direct Sales**   Edit | Del | Assign
          - **Add Role**
          - **Eastern Sales Team**   Edit | Del | Assign
            - **Add Role**
          - **Western Sales Team**   Edit | Del | Assign
            - **Add Role**

Q Search Setup

SETUP
Object Manager
5 Items, Sorted by Label

Q Re pl | Schema Builder | Create ⌄

LABEL ▲	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED	
Re Plastic Innovations Order	Re_Plastic_Innovations_Order__c	Custom Object		7/24/2025	✓	▼
Re Plastic Innovations Plastic Waste	Re_Plastic_Innovations_Plastic_Waste__c	Custom Object		7/24/2025	✓	▼
Re Plastic Innovations Recycled Product	Re_Plastic_Innovations_Recycled_Product__c	Custom Object		8/10/2025	✓	▼
Re Plastic Innovations Recycling Center	Re_Plastic_Innovations_Recycling_Center__c	Custom Object		7/24/2025	✓	▼
Re Plastic Innovations Restock Request	Re_Plastic_Innovations_Restock_Request__c	Custom Object		7/24/2025	✓	▼

FIELD LABEL ▲	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Collection Date	Collection_Date__c	Date			▼
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Location	Location__c	Geolocation			▼
Owner	OwnerId	Lookup(User,Group)		✓	
Plastic Waste Name	Name	Auto Number		✓	▼
Re Plastic Innovations Recycling Center	Re_Plastic_Innovations_Recycling_Center__c	Lookup(Re Plastic Innovations Recycling Center)		✓	▼
Recycling Center	Recycling_Center__c	Lookup(Re Plastic Innovations Recycling Center)		✓	▼
Status	Status__c	Picklist			▼
Type	Type__c	Picklist			▼
Weight	Weight__c	Number(10, 0)			▼

Fields & Relationships
8 Items, Sorted by Field Label

Q Quick Find | New | Deleted Fields | Field Dependencies | Set History Tracking

FIELD LABEL ▲	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Created By	CreatedById	Lookup(User)			
Customer	Customer__c	Lookup(Account)		✓	▼
Delivery Date	Delivery_Date__c	Date			▼
Last Modified By	LastModifiedById	Lookup(User)			
Owner	OwnerId	Lookup(User,Group)		✓	
Quantity	Quantity__c	Number(18, 0)			▼
Re Plastic Innovations Order Name	Name	Auto Number		✓	▼
Re Plastic Innovations Recycled Product	Re_Plastic_Innovations_Recycled_Product__c	Lookup(Re Plastic Innovations Recycled Product)		✓	▼

Re Plastic Innovations Recycled Product

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

Fields & Relationships
8 Items, Sorted by Field Label

Quick Find | New | Deleted Fields | Field Dependencies | Set History Tracking

FIELD LABEL ▲	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Owner	OwnerId	Lookup(User,Group)		✓	
Price	Price__c	Currency(18, 0)			▼
Re Plastic Innovations Recycled Product Name	Name	Text(80)		✓	▼
Stock Level	Stock_Level__c	Number(18, 0)			▼
Stock Low On Product	Stock_Low_On_Product__c	Formula (Text)			▼
Threshold	Threshold__c	Number(18, 0)			▼

Fields & Relationships
7 Items, Sorted by Field Label

Quick Find | New | Deleted Fields | Field Dependencies | Set History Tracking

FIELD LABEL ▲	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Owner	OwnerId	Lookup(User,Group)		✓	
Product	Product__c	Lookup(Re Plastic Innovations Recycled Product)		✓	▼
Re Plastic Innovations Restock Request Name	Name	Auto Number		✓	▼
Requested Quantity	Requested_Quantity__c	Number(18, 0)			▼
Status	Status__c	Picklist			▼

Fields & Relationships
6 Items, Sorted by Field Label

Quick Find | New | Deleted Fields | Field Dependencies | Set History Tracking

FIELD LABEL ▲	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Capacity	Capacity__c	Number(18, 0)			▼
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Location	Location__c	Geolocation			▼
Owner	OwnerId	Lookup(User,Group)		✓	
Re Plastic Innovations Recycling Cente	Name	Text(80)		✓	▼

Setup | Home | Object Manager ⌄

🔍 Search Setup

SETUP
Users

All Users

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

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**

New User   Reset Password(s)   Add Multiple Users

	Action	Full Name ↑	Alias	Username	Role	Active	Profile
☐	Edit	Albert, Plant Manager	palbe	plant@albert.com	Warehouse Supervisor	✓	Platform 3
☐	Edit	Chatter Expert	Chatter	chatty.00dgl000007euj3uac.gwdybbuog3gb@chatter.salesforce.com		✓	Chatter Free User
☐	Edit	EPIC, OrgFarm	OEPIC	epic.43caafa935bc@orgfarm.salesforce.com		✓	System Administrator
☐	Edit	Mike, Quality Inspector	gmike	quality@mike.com	Sales Representative	✓	Platform 2
☐	Edit	Pethe, Aditya	adi	adityapethe9699@agentforce.com		✓	System Administrator
☐	Edit	Sandbox 1, John Production Engineer	jsand	john9@sanbox.com	Recycling Manager	✓	Platform 1
☐	Edit	User, Integration	integ	integration@00dgl000007euj3uac.com		✓	Analytics Cloud Integration User
☐	Edit	User, Security	sec	insightssecurity@00dgl000007euj3uac.com		✓	Analytics Cloud Security User

New User   Reset Password(s)   Add Multiple Users

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**

Profiles

Help for this Page

All Profiles ⌄ Edit | Delete | Create New View

New Profile ↻

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	Profile Name ↑	User License	Custom
☐	Edit | Clone	Analytics Cloud Integration User	Analytics Cloud Integration User	☐
☐	Edit | Clone	Analytics Cloud Security User	Analytics Cloud Integration User	☐
☐	Edit | Clone	Anypoint Integration	Identity	☐
☐	Edit | Clone	Authenticated Website	Authenticated Website	☐
☐	Edit | Clone	Authenticated Website	Authenticated Website	☐
☐	Edit | Del |...	B2B Reordering Portal Buyer Profile	External Apps Login	✓
☐	Edit | Clone	Chatter External User	Chatter External	☐
☐	Edit | Clone	Chatter Free User	Chatter Free	☐
☐	Edit | Clone	Chatter Moderator User	Chatter Free	☐
☐	Edit | Clone	Contract Manager	Salesforce	☐
☐	Edit | Clone	Cross Org Data Proxy User	XOrg Proxy User	☐
☐	Edit | Del |...	Custom: Marketing Profile	Salesforce	✓
☐	Edit | Del |...	Custom: Sales Profile	Salesforce	✓
☐	Edit | Del |...	Custom: Support Profile	Salesforce	✓
☐	Edit | Clone	Customer Community Login User	Customer Community Login	☐
☐	Edit | Clone	Customer Community Plus Login User	Customer Community Plus Login	☐
☐	Edit | Clone	Customer Community Plus User	Customer Community Plus	☐
☐	Edit | Clone	Customer Community User	Customer Community	☐
☐	Edit | Clone	Customer Portal Manager Custom	Customer Portal Manager Custom	☐
☐	Edit | Clone	Customer Portal Manager Standard	Customer Portal Manager Standard	☐
☐	Edit | Clone	Einstein Agent User	Einstein Agent	☐
☐	Edit | Clone	External Apps Login User	External Apps Login	☐
☐	Edit | Clone	External Identity User	External Identity	☐
☐	Edit | Clone	Force.com - App Subscription User	Force.com - App Subscription	☐
☐	Edit | Clone	Force.com - Free User	Force.com - Free	☐

Sidebar

🔍 users

⌄ **Users**
  - Permission Set Groups
  - Permission Sets
  - Profiles
  - Public Groups
  - Queues
  - Roles
  - User Management Settings
  - Users

⌄ Feature Settings
  ⌄ Data.com
    - Prospector Users

Didn't find what you're looking for?
Try using Global Search.

Phase 2 – Salesforce Development & Backend Automation

Apex Classes

- InventoryManager:
  - processOrderStock(): Checks product stock and creates restock request if needed
  - processRestockApproval(): Updates stock on restock approval and calls EmailNotificationHelper
- EmailNotificationHelper:
  - Sends email notification using Messaging.sendEmail()

Triggers

- UpdateStockAfterOrder: Executes after Order insert
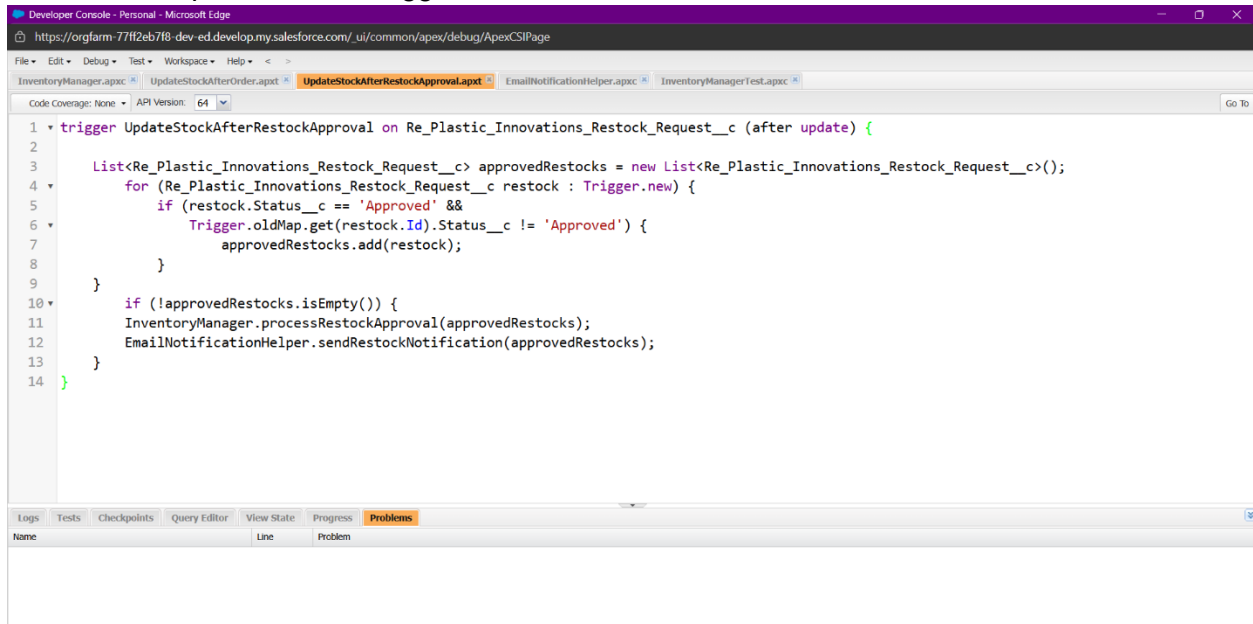- UpdateStockAfterRestockApproval: Executes after Restock update

Validation Rules

- Quantity > 0 (Order)
- Collection_Date__c <= TODAY() (Plastic Waste)

Flow

- Scheduled Flow (Daily 6 AM): Creates Tasks for products below threshold
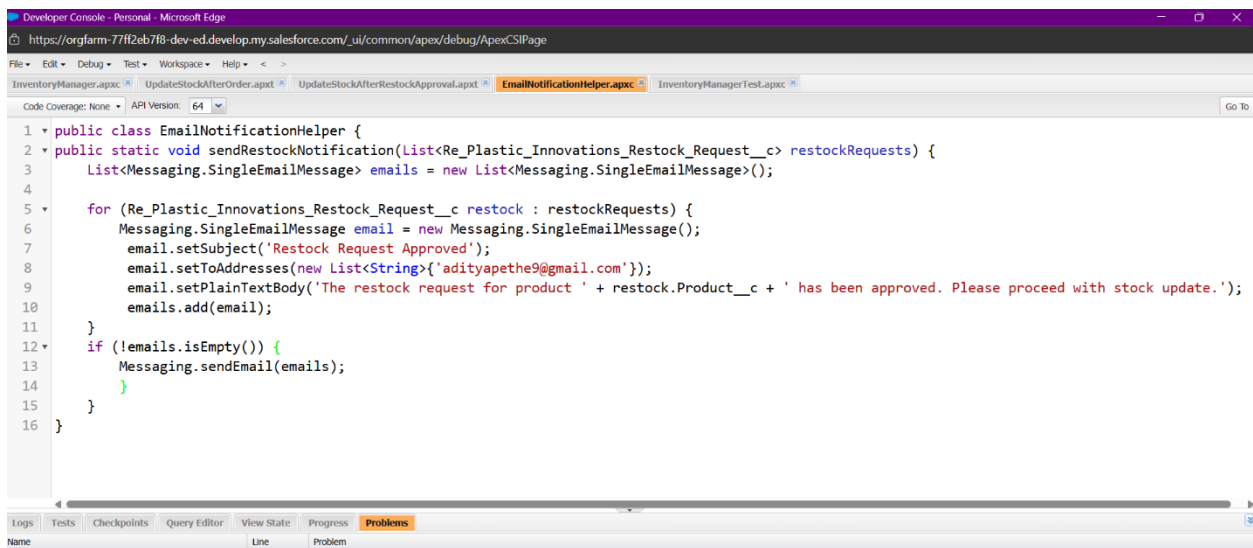
Screenshot: Apex Classes, Triggers, Flow UI

File ▾   Edit ▾   Debug ▾   Test ▾   Workspace ▾   Help ▾

InventoryManager.apxc ✕   UpdateStockAfterOrder.apxt ✕   **UpdateStockAfterRestockApproval.apxt** ✕   EmailNotificationHelper.apxc ✕   InventoryManagerTest.apxc ✕

Code Coverage: None ▾   API Version: 64 ▾   Go To

```
1  ▾ trigger UpdateStockAfterRestockApproval on Re_Plastic_Innovations_Restock_Request__c (after update) {
2
3        List<Re_Plastic_Innovations_Restock_Request__c> approvedRestocks = new List<Re_Plastic_Innovations_Restock_Request__c>();
4  ▾       for (Re_Plastic_Innovations_Restock_Request__c restock : Trigger.new) {
5             if (restock.Status__c == 'Approved' &&
6  ▾             Trigger.oldMap.get(restock.Id).Status__c != 'Approved') {
7                 approvedRestocks.add(restock);
8             }
9         }
10 ▾       if (!approvedRestocks.isEmpty()) {
11        InventoryManager.processRestockApproval(approvedRestocks);
12        EmailNotificationHelper.sendRestockNotification(approvedRestocks);
13        }
14 }
```

Logs   Tests   Checkpoints   Query Editor   View State   Progress   **Problems**

Name   Line   Problem

File ▾   Edit ▾   Debug ▾   Test ▾   Workspace ▾   Help ▾   <   >

InventoryManager.apxc ✕   UpdateStockAfterOrder.apxt ✕   UpdateStockAfterRestockApproval.apxt ✕   **EmailNotificationHelper.apxc** ✕   InventoryManagerTest.apxc ✕

Code Coverage: None ▾   API Version: 64 ▾   Go To

```
1  ▾ public class EmailNotificationHelper {
2  ▾ public static void sendRestockNotification(List<Re_Plastic_Innovations_Restock_Request__c> restockRequests) {
3        List<Messaging.SingleEmailMessage> emails = new List<Messaging.SingleEmailMessage>();
4
5  ▾     for (Re_Plastic_Innovations_Restock_Request__c restock : restockRequests) {
6             Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
7               email.setSubject('Restock Request Approved');
8               email.setToAddresses(new List<String>{'adityapethe9@gmail.com'});
9               email.setPlainTextBody('The restock request for product ' + restock.Product__c + ' has been approved. Please proceed with stock update.');
10              emails.add(email);
11        }
12 ▾     if (!emails.isEmpty()) {
13            Messaging.sendEmail(emails);
14            }
15        }
16 }
```

Logs   Tests   Checkpoints   Query Editor   View State   Progress   **Problems**

Name   Line   Problem

InventoryManager.apxc ✕   **UpdateStockAfterOrder.apxt** ✕   UpdateStockAfterRestockApproval.apxt ✕   EmailNotificationHelper.apxc ✕   InventoryManagerTest.apxc ✕

Code Coverage: None ▾   API Version: 64 ▾   Go To

```apex
1   trigger UpdateStockAfterOrder on Re_Plastic_Innovations_Order__c (after insert) {
2
3       if (Trigger.isAfter && Trigger.isInsert) {
4
5           InventoryManager.processOrderStock(Trigger.new);
6
7       }
8
9   }
```

Logs   Tests   Checkpoints   Query Editor   View State   Progress   **Problems**
Name   Line   Problem

InventoryManager.apxc ✕   UpdateStockAfterOrder.apxt ✕   UpdateStockAfterRestockApproval.apxt ✕   EmailNotificationHelper.apxc ✕   InventoryManagerTest.apxc ✕

Code Coverage: None ▾   API Version: 64 ▾   Go To

```apex
1   public class InventoryManager {
2
3
4       public static void processOrderStock(List<Re_Plastic_Innovations_Order__c> orderList) {
5
6       }
7
8
9       public static void processRestockApproval(List<Re_Plastic_Innovations_Restock_Request__c> approvedRestocks) {
10          Set<Id> productIds = new Set<Id>();
11
12          for (Re_Plastic_Innovations_Restock_Request__c restock : approvedRestocks) {
13              if (restock.Product__c != null) {
14                  productIds.add(restock.Product__c);
15              }
16          }
17
18          if (productIds.isEmpty()) {
19              return;
20          }
21
22
23          Map<Id, Re_Plastic_Innovations_Recycled_Product__c> productMap = new Map<Id, Re_Plastic_Innovations_Recycled_Product__c>(
```

Logs   Tests   Checkpoints   Query Editor   View State   Progress   **Problems**
Name   Line   Problem

Re Plastic Innovations Order Validation Rule

Validation Rule Detail

		Edit	Clone			
Rule Name	Check_Quantity_Not_Zero			Active	✓	
Error Condition Formula	Quantity__c <=0					
Error Message	"Quantity must be greater than zero."			Error Location	Quantity	
Description						
Created By	hanvith reddy, 7/10/2025, 10:30 PM			Modified By	hanvith reddy, 7/10/2025, 10:30 PM	

Edit | Clone

SETUP > OBJECT MANAGER
Re Plastic Innovations Plastic Waste

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters

Validation Rules
1 Items, Sorted by Rule Name

New

RULE NAME ▲	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY	
Future_Date_Collection	Collection Date	Collection Date cannot be in the future.	✓	hanvith reddy, 7/10/2025, 10:40 PM	▼

← ⚡ Flow Builder | 📄 Stock Level Is Low - V1 ▼ | ? ▼

| ▢ | Select Elements | ↶ ↷ ⊘ ⚙ | Auto-Layout ▼ | | Last saved on 7/11/2025, 11:21 AM | Active | Run | Debug | Save As New Version ▼ | Save | Deactivate |

Thu, Jul 10, 2025, 6:00:00 AM, Daily
Start

Flow Starts: **Thu, Jul 10, 2025, ...** Edit
Frequency: **Daily**
Object: **Re Plastic Innovations ...** Edit

⊕

Decision 1
Decision

Outcome 1 of Decision 1   Default Outcome

⊕   ⊕

Create Task
Create Records   **End**

⊕

End

− ⤢ +
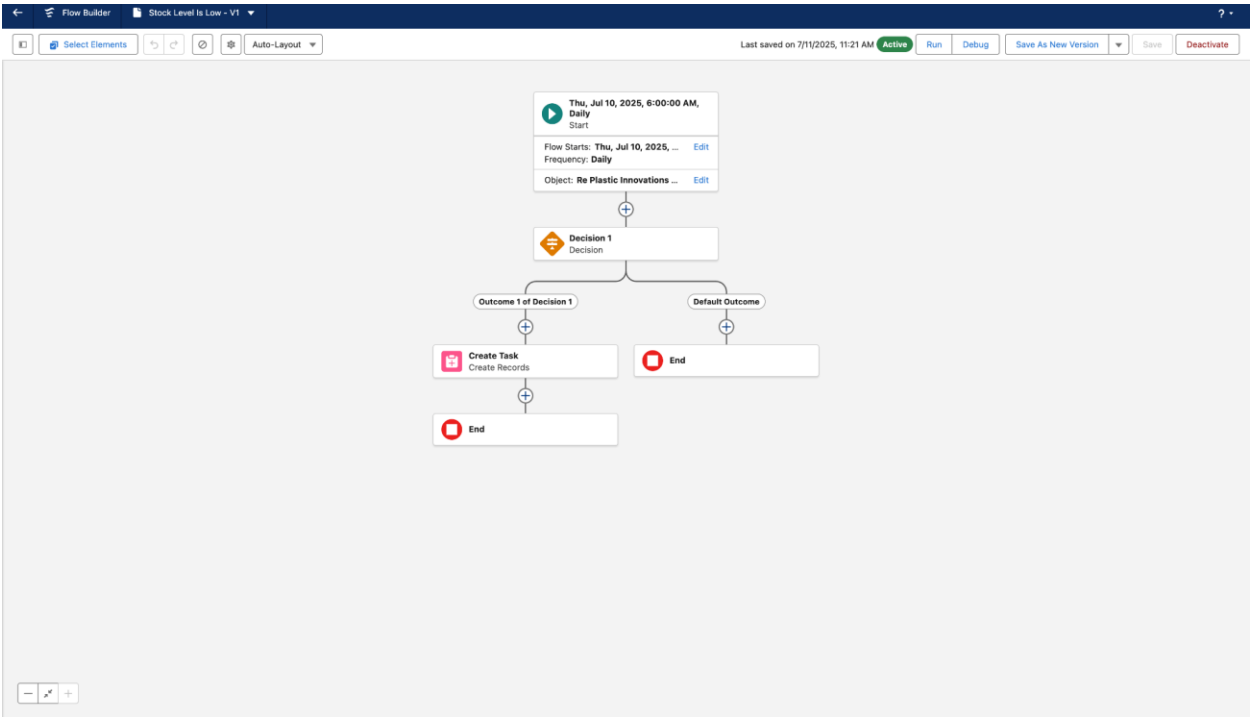
Phase 3 – UI/UX Customization

App & Tabs

- App Name: Re Plastic Innovations
- Tabs Added: Orders, Recycled Products, Restock Requests

Record Pages

- Enhanced Lightning Page Layouts
    - Related lists for Orders and Restocks
    - Conditional field visibility (e.g., Status, Quantity)

Example Walkthrough

1. Create Product: Stock 50, Threshold 100
2. Place Order: Quantity 150
3. System auto-generates Restock Request (100 units)
4. Status changed to Approved
5. Product Stock updated to 150
6. Email sent to manager

Screenshot: Order form, Restock record, Product record with updated stock

Re Plastic Innovations

Q Search...

Re Plastic Innovations Plastic W... ⌄ | Re Plastic Innovations Orders ⌄ | Re Plastic Innovations Recycled... ⌄ | Re Plastic Innovations Recyclin... ⌄ | Re Plastic Innovations Resto...

Re Plastic Innovations Recycled Product
Test Task Record

New Contact | Edit | New Opportunity | ⌄

Related | **Details**

Activity

Re Plastic Innovations Recycled Product Name
Test Task Record

Owner
Aditya Pethe

Stock Level
50

Threshold
100

Price
$900,000

Stock Low On Product
Low Stock - Restock Needed

Created By
Aditya Pethe, 8/9/2025, 5:18 AM

Last Modified By
Aditya Pethe, 8/9/2025, 5:18 AM

Filters: All time • All activities • All types

Refresh • Expand All • View All

⌄ Upcoming & Overdue

☐ Please Look in this Stock Is Low ... ⚑ No due date ⌄
You have an upcoming task

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

Re Plastic Innovations

Q Search...

Re Plastic Innovations Plastic W... ⌄ | Re Plastic Innovations Orders ⌄ | Re Plastic Innovations Recycled... ⌄ | Re Plastic Innovations Recyclin... ⌄ | Re Plastic Innovations Restock ... ⌄

Re Plastic Innovations Order
O-0010

New Contact | Edit | New Opportunity | ⌄

Related | **Details**

Re Plastic Innovations Order Name
O-0010

Owner
Aditya Pethe

Customer
Aero clothing Pvt Ltd

Re Plastic Innovations Recycled Product

Quantity
50

Delivery Date
8/14/2025

Created By
Aditya Pethe, 8/10/2025, 4:57 AM

Last Modified By
Aditya Pethe, 8/10/2025, 6:02 AM
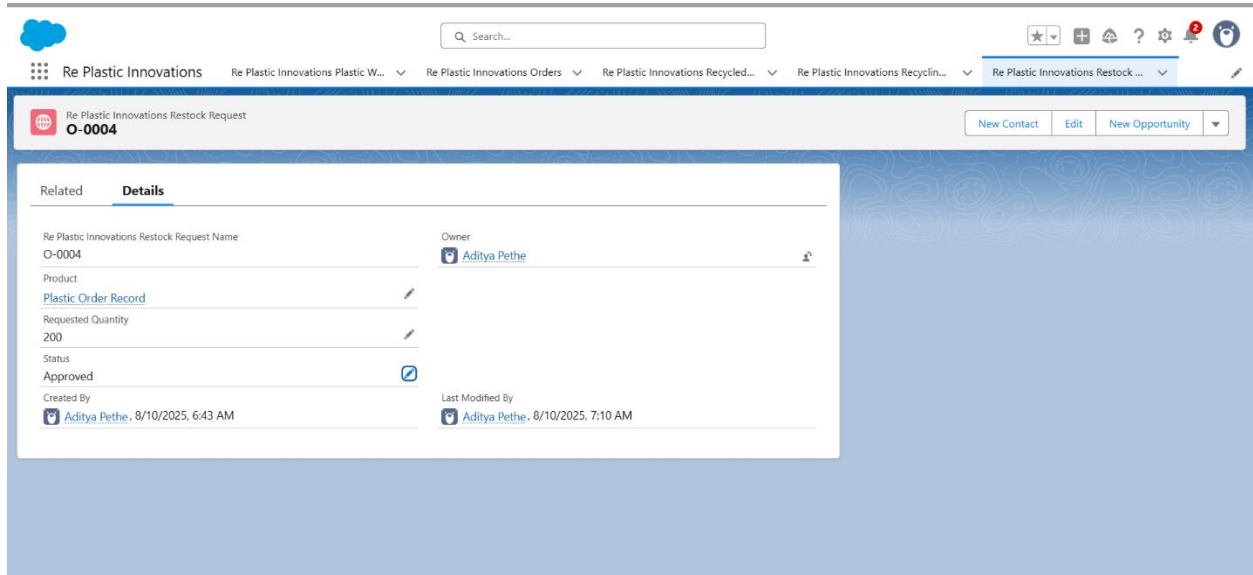
Phase 4 – Data Migration, Testing & Security

Sample Records Created

- Product: Plastic Bottles
- Order: 150 Units

Testing

- Class: InventoryManagerTest
- Tests order stock deduction, restock approval, email
- Code Coverage: 100%

Users & Profiles

- User 1: John (Platform 1 – Manager)
- User 2: Mike (Platform 2 – Sales)
- User 3: Albert (Platform 3 – Warehouse)

Security Model

- Sharing Rules set for Restock visibility
- Profiles with CRUD and FLS configured

Screenshot: Developer Console Test Results,

Phase 5 – Deployment & Maintenance

Deployment

- Components moved using Change Sets
- Verified on sandbox → deployed to production

Maintenance

- Use Apex logs for monitoring
- Threshold or validation logic can be updated via Setup

Suggested Improvements

- Convert email notification to flow-based email alert
- Add field history tracking for Stock changes

Screenshot: Change Set screen, Deployment status

Conclusion

The RePlastic Inventory Manager streamlines the recycled product tracking workflow using Salesforce automation tools. It removes the need for manual stock verification and ensures real-time updates through triggers and scheduled flows.

Benefits

- Saves time and prevents stockouts
- Ensures accuracy with test validation
- Role-based access enhances security

Future Scope

- Add Slack/WhatsApp alerts
- Develop dashboard with LWC for live stock tracking
- Multi-level approval process for restocking

Apex Codes

Apex Classes

Inventory manager :

```apex
public class InventoryManager {

    public static void processOrderStock(List<Re_Plastic_Innovations_Order__c> orderList) {

    }


    public static void
processRestockApproval(List<Re_Plastic_Innovations_Restock_Request__c>
approvedRestocks) {
        Set<Id> productIds = new Set<Id>();

        for (Re_Plastic_Innovations_Restock_Request__c restock : approvedRestocks) {
            if (restock.Product__c != null) {
                productIds.add(restock.Product__c);
            }
        }

        if (productIds.isEmpty()) {
            return;
        }


        Map<Id, Re_Plastic_Innovations_Recycled_Product__c> productMap = new Map<Id,
Re_Plastic_Innovations_Recycled_Product__c>(
            [SELECT Id, Stock_Level__c
             FROM Re_Plastic_Innovations_Recycled_Product__c
             WHERE Id IN :productIds]
        );

        List<Re_Plastic_Innovations_Recycled_Product__c> productsToUpdate = new
List<Re_Plastic_Innovations_Recycled_Product__c>();
```

```
    for (Re_Plastic_Innovations_Restock_Request__c restock : approvedRestocks) {
        Re_Plastic_Innovations_Recycled_Product__c product =
productMap.get(restock.Product__c);

        if (product != null) {
            // Add approved quantity to stock
            product.Stock_Level__c += restock.Requested_Quantity__c;
            productsToUpdate.add(product);
        }
    }

    if (!productsToUpdate.isEmpty()) {
        update productsToUpdate;
    }
  }
}
```

EmailNotificationHelper

```
public class EmailNotificationHelper {
public static void sendRestockNotification(List<Re_Plastic_Innovations_Restock_Request__c>
restockRequests) {
        List<Messaging.SingleEmailMessage> emails = new
List<Messaging.SingleEmailMessage>();

        for (Re_Plastic_Innovations_Restock_Request__c restock : restockRequests) {
        Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
    email.setSubject('Restock Request Approved');
    email.setToAddresses(new List<String>{'adityapethe9@gmail.com'});
    email.setPlainTextBody('The restock request for product ' + restock.Product__c + ' has
been approved. Please proceed with stock update.');
    emails.add(email);
        }
        if (!emails.isEmpty()) {
    Messaging.sendEmail(emails);
            }
        }
}
```

InventoryManagerTest

```apex
@isTest
public class InventoryManagerTest {

    @testSetup
    static void setupTestData() {

        Re_Plastic_Innovations_Recycled_Product__c product = new
Re_Plastic_Innovations_Recycled_Product__c(
            Name = 'Test Product',
            Stock_Level__c = 50,
            Threshold__c = 10
        );
        insert product;
    }

    @isTest
    static void testProcessOrderStock_SufficientAndInsufficientStock() {
        Re_Plastic_Innovations_Recycled_Product__c prod = [
            SELECT Id FROM Re_Plastic_Innovations_Recycled_Product__c LIMIT 1
        ];


        List<Re_Plastic_Innovations_Order__c> orders = new
List<Re_Plastic_Innovations_Order__c>{
            new Re_Plastic_Innovations_Order__c(
                Re_Plastic_Innovations_Recycled_Product__c = prod.Id,
                Quantity__c = 20
            ),
            new Re_Plastic_Innovations_Order__c(
                Re_Plastic_Innovations_Recycled_Product__c = prod.Id,
                Quantity__c = 100
            )
        };

        Test.startTest();
        insert orders;
        Test.stopTest();


        prod = [SELECT Stock_Level__c FROM Re_Plastic_Innovations_Recycled_Product__c
LIMIT 1];
```

```apex
        System.assert(prod.Stock_Level__c <= 50, 'Stock should be reduced');

        List<Re_Plastic_Innovations_Restock_Request__c> pending = [
            SELECT Id, Status__c FROM Re_Plastic_Innovations_Restock_Request__c
        ];
        System.assert(!pending.isEmpty(), 'Restock requests should be created');
        System.assertEquals('Pending', pending[0].Status__c);
    }

    @isTest
    static void testProcessRestockApproval_AndEmailNotification() {

        Re_Plastic_Innovations_Recycled_Product__c prod = [
            SELECT Id FROM Re_Plastic_Innovations_Recycled_Product__c LIMIT 1
        ];

        Re_Plastic_Innovations_Restock_Request__c restock = new
Re_Plastic_Innovations_Restock_Request__c(
            Product__c = prod.Id,
            Requested_Quantity__c = 25,
            Status__c = 'Pending'
        );
        insert restock;


        restock.Status__c = 'Approved';

        Test.startTest();
        update restock;
        Test.stopTest();

        prod = [SELECT Stock_Level__c FROM Re_Plastic_Innovations_Recycled_Product__c
LIMIT 1];
        System.assert(prod.Stock_Level__c >= 25, 'Stock should increase after approval');
    }

    @isTest
    static void testDirectEmailHelper() {

        Re_Plastic_Innovations_Restock_Request__c dummy = new
Re_Plastic_Innovations_Restock_Request__c(
            Product__c = [SELECT Id FROM Re_Plastic_Innovations_Recycled_Product__c LIMIT
1].Id,
            Requested_Quantity__c = 5,
```

```
            Status__c = 'Approved'
        );

        Test.startTest();
        EmailNotificationHelper.sendRestockNotification(new
List<Re_Plastic_Innovations_Restock_Request__c>{ dummy });
        Test.stopTest();


    }
}
```

Apex Triggers

UpdateStockAfterOrder

```
trigger UpdateStockAfterOrder on Re_Plastic_Innovations_Order__c (after insert) {

    if (Trigger.isAfter && Trigger.isInsert) {

        InventoryManager.processOrderStock(Trigger.new);

    }

}
```

UpdateStockAfterRestockApproval

```
trigger UpdateStockAfterRestockApproval on Re_Plastic_Innovations_Restock_Request__c
(after update) {

        List<Re_Plastic_Innovations_Restock_Request__c> approvedRestocks = new
List<Re_Plastic_Innovations_Restock_Request__c>();
                for (Re_Plastic_Innovations_Restock_Request__c restock : Trigger.new) {
                        if (restock.Status__c == 'Approved' &&
                                Trigger.oldMap.get(restock.Id).Status__c != 'Approved') {
                                approvedRestocks.add(restock);
                        }
        }
                if (!approvedRestocks.isEmpty()) {
                InventoryManager.processRestockApproval(approvedRestocks);
        EmailNotificationHelper.sendRestockNotification(approvedRestocks);
```

```
        }
    }
```

THANK YOU