*ECOCYCLE SOLUTION: A COMPREHENSIVE SALESFORCE PLATFORM FOR SMART WASTE MANAGEMENT, VENDOR COLLABORATION, AND SUSTAINABLE COMMUNITY ENGAGEMENT*  
**Project implementation phases documentation**  
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**Phase 1: Problem Understanding & Industry Analysis**

**Problem Statement**  
EcoCycle Solutions and local communities face challenges in efficiently managing sustainable waste collection, vendor contracts, and pickup schedules. Manual tracking, slow response times, and disconnected data make it difficult to monitor operations, optimize routes, comply with regulations, and improve customer satisfaction. This project leverages Salesforce to automate, centralize, and optimize the entire operational workflow for sustainable waste management.

**Requirement Gathering**

* Capture service requests, customer feedback, and schedule pickups digitally
* Automate assignment of pickups and vendor notifications
* Track vendor contracts, materials handled, and compliance documentation
* Role-based access for staff, management, and vendors
* Generate real-time reports and dashboards for operational insights
* Integrate IoT sensor data and regulatory reporting

**Stakeholder Analysis**

* Customers requesting pickups and feedback
* Field teams performing waste collection
* Vendors and recycling partners fulfilling contracts
* Operations managers overseeing schedules, inventory, and compliance
* Regulatory agencies requiring periodic environmental reports

**Business Process Mapping**

* Customers place pickup requests online or via staff entry
* Automatic assignment of pickups based on location and vendor availability
* Scheduled routes and daily task lists for field teams
* Vendor contract terms and performance tracked in Salesforce
* Real-time sensor data from IoT-enabled bins captured and acted upon
* Compliance reports generated and sent automatically
* Dashboards updated for managers to monitor KPIs

**Industry-specific Use Case Analysis**  
Applicable to municipal bodies, recycling enterprises, and private eco-friendly service providers, ensuring compliance, customer engagement, and optimized waste logistics.

**AppExchange Exploration**  
Reviewed solutions like *WasteLogix*, *Route Planner*, and *Field Service Lightning*; identified the need for custom LWC dashboards, IoT integration, and contract automation.

**Phase 2: Org Setup & Configuration**

I will set up a Salesforce Developer Edition org tailored to EcoCycle Solutions, configure company details, business hours, holidays, and fiscal settings. I will create users, profiles, roles, and permission sets for field staff, vendors, managers, and customers. I’ll enforce appropriate sharing rules, OWD, and access policies, employ sandboxes for safe development, and plan staged deployments.

**Phase 3: Data Modeling & Relationships**

I will design standard and custom objects (Accounts, Contacts, Cases; Waste Pickup Schedule, Recycling Contract, Material Type, IoT Bin Sensor). Fields, record types, and page layouts will reflect workflow needs. Schema Builder will visualize relationships, including master-detail and lookup links, such as: field staff to pickups, vendors to contracts, and sensors to bins.

**Phase 4: Process Automation (Admin)**

I will set up validation rules, workflows, and Process Builder for automated scheduling, notifications, and follow-up tasks. Flows will automate contract renewals and route optimization. Approval processes will manage vendor agreements, and email alerts (or mobile notifications) will keep stakeholders updated on routing and compliance.

**Phase 5: Apex Programming (Developer)**

I will implement Apex triggers for automatic case creation when pickups fail, scoring vendor performance, and sensor-based task creation. SOQL/SOSL will power custom LWC data and batch jobs for bulk status updates. Scheduled, batch, and queueable Apex will automate reporting and sensor sync. Robust test classes will ensure reliability and high code coverage.

**Phase 6: User Interface Development**

I will use Lightning App Builder to create EcoCycle staff, manager, and vendor apps. Tabs and record pages will support easy access to pickups, contracts, and reports. Custom Lightning Web Components (LWCs) will provide dashboards, customer portals for pickup requests, and real-time notifications. Apex integration with LWCs will ensure live data and responsive UI.

**Phase 7: Integration & External Access**

I will configure Named Credentials, Remote Site Settings, and authentication for secure integration. REST/SOAP API callouts will enable automated regulatory reporting and IoT sensor data retrieval. Platform Events and Change Data Capture will synchronize status with external partner systems.

**Phase 8: Data Management & Deployment**

Data Import Wizard and Data Loader will support initial migrations and routine data loads. Duplicate rules will ensure clean records; scheduled exports and backups will protect data. Changes will be deployed using change sets, VS Code, SFDX/ANT tools, and careful sandbox testing.

**Phase 9: Reporting, Dashboards & Security Review**

I will create reports and dynamic dashboards to track waste collection, vendor efficiency, and compliance KPIs. Field-level security, sharing rules, and role hierarchies will protect sensitive data. Session settings, login ranges, and audit trails will be enabled for security and compliance.

**Phase 10: Final Presentation & Demo Day**

Project completion will be showcased with a pitch summarizing business impact and Salesforce features. A live demo will walk through end-to-end process workflows: from customer request to operational dashboard and compliance reporting. Feedback will be collected for future improvements. Documentation will be prepared for handoff, LinkedIn, and portfolio display.

**Conclusion**  
This document outlines all phases for implementing EcoCycle Solutions using Salesforce, combining both admin and developer perspectives, and ensuring a robust, scalable approach to sustainable waste management.