

# Shopify - PayLater Integration Case Study

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## Project Overview

This project involved integrating a PayLater payment gateway into a Shopify-based ecommerce system. The goal was to automate invoice generation, provide customers with instant payment links, and ensure all communication is delivered through email notifications.

## Problem Statement

Shopify's checkout system does not allow custom third-party payment gateways to be added as plugins or redirect-based payment methods unless they are approved providers. Because of this, the PayLater team was unable to integrate the payment option directly at checkout.

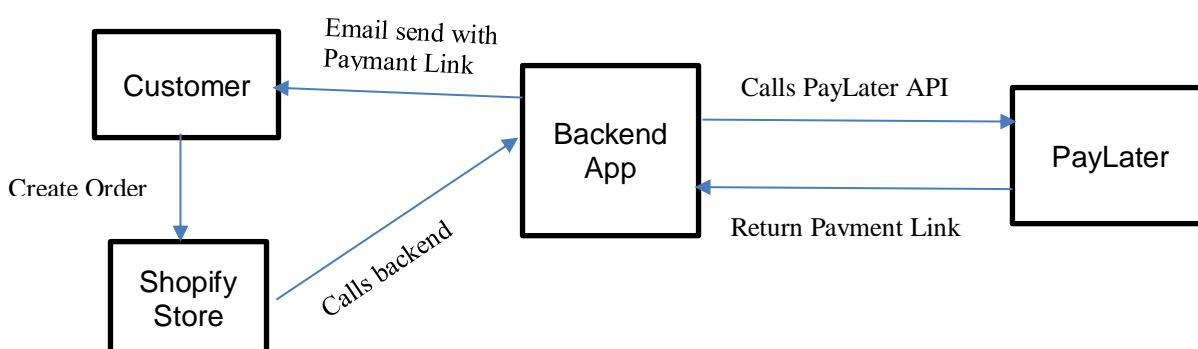
To overcome this limitation, I identified an alternative solution using Shopify order creation webhooks. This allowed us to generate a PayLater invoice after checkout and automatically send the secure payment link to the customer via email.

## Backend Responsibilities

As the backend developer, the tasks included:

- Listening to Shopify order creation webhooks.
- Validating order and customer data.
- Calling PayLater API to generate invoices.
- Handling API responses and errors.
- Sending payment links via email.
- Updating Shopify order timeline through API calls.

## System Architecture Workflow



## API Workflow Summary

1. Customer places an order in Shopify Store.
2. Shopify triggers a webhook to the backend app.
3. Backend calls PayLater API to generate an invoice.
4. PayLater returns a payment link.
5. Backend emails the payment link to the customer.
6. Customer completes payment through PayLater.
7. PayLater notifies backend of payment success.
8. Backend updates Shopify order status.

## **Technical Highlights**

- Implemented retry logic for failed API calls.
- Built structured logging for transaction tracking.
- Created secure signature-based authentication for API requests.
- Ensured idempotency to avoid duplicate invoices.

## **Results**

- Payment link delivery improved from manual to instant.
- Reduced human intervention to zero.
- Reliable error handling increased operational stability.

## **Platform Limitation & Solution**

Shopify does not allow unapproved payment services to appear as checkout payment options or redirect customers to external payment pages. Due to this limitation, the PayLater team was initially unable to integrate the payment gateway directly inside the checkout flow.

I identified a workaround by leveraging Shopify's order creation webhook. Instead of integrating PayLater inside checkout, the backend automatically generates a PayLater invoice immediately after the customer places an order. The payment link is then sent to the customer via email, ensuring a smooth PayLater experience without modifying the checkout flow.