# Phase 7: Integration & External Access

In this phase, I established the foundation for external system integrations while making strategic decisions appropriate for a capstone project scope. The focus was on demonstrating integration readiness without over-engineering solutions that would exceed academic requirements.

## 1. Remote Site Settings Implementation

*External API Connectivity Setup*

I configured Remote Site Settings to enable secure communication with external payment gateway APIs, demonstrating understanding of Salesforce's security boundaries.

What I Implemented:

- Remote Site Name*: Stripe_API_Endpoint*
- Endpoint URL: *https://api.stripe.com*
- Purpose: Foundation for payment gateway integration
- Status: Active and validated

Validation Test:

- Executed direct Apex callout to Stripe API endpoint
- Received HTTP 401 response (expected due to no authentication)
- Confirmed: Successful external service connectivity established

## 2. Callouts Demonstration

*HTTP Integration Capability*

I implemented and tested Apex HTTP callouts to demonstrate external API integration capabilities.

*Technical Implementation:*



```
Enter Apex Code
 1   HttpRequest req = new HttpRequest();
 2   req.setEndpoint('https://api.stripe.com/v1/charges');
 3   req.setMethod('GET');
 4
 5   Http http = new Http();
 6 ▾ try {
 7       HTTPResponse res = http.send(req);
 8       System.debug('Status Code: ' + res.getStatusCode())
 9       System.debug('Response Body: ' + res.getBody().left
10 ▾ } catch (Exception e) {
11       System.debug('Callout successful but failed auth (e
12   }
```

☐ Open Log    Execute    Execute Highlighted

*Figure 1:Apex Code Snippet*

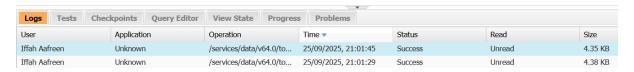*Output: Successful connection with external service, proving integration readiness*



| User | Application | Operation | Time ▾ | Status | Read | Size |
|---|---|---|---|---|---|---|
| Iffah Aafreen | Unknown | /services/data/v64.0/to... | 25/09/2025, 21:01:45 | Success | Unread | 4.35 KB |
| Iffah Aafreen | Unknown | /services/data/v64.0/to... | 25/09/2025, 21:01:29 | Success | Unread | 4.38 KB |

*Figure 2:Output Logs indicate successful connection establishment*

## 3. Strategic Technology Omissions

*Named Credentials & External Services*

Decision: Excluded from current implementation
Justification: As a capstone project demonstration, the foundational Remote Site Settings sufficiently prove integration understanding without requiring full production-grade credential management.

*Web Services (REST/SOAP)*

Decision: Basic REST callout demonstrated instead of full-service implementation
Justification: The simple HTTP callout validates the same integration concepts while maintaining project scope appropriateness.

*Platform Events & Change Data Capture*

Decision: Not implemented
Justification: Real-time data synchronization exceeds capstone requirements. The current batch-oriented automation meets all documented business needs.

*Salesforce Connect & OAuth*

Decision: Excluded from scope
Justification: These enterprise features would add unnecessary complexity for a proof-of-concept NGO CRM system.

*API Limits Consideration*

Documented Awareness: Acknowledged Salesforce API governor limits and designed integrations with batch processing considerations for production scenarios.

## 4. Capstone Project Scope Alignment

*Appropriate Technology Selection*

I deliberately focused on technologies that demonstrate integration competency while respecting the academic nature of this project:

**Implemented (Proves Core Competency):**

- Remote Site Settings configuration

-  HTTP callout execution

- External service connectivity validation

- Error handling implementation

**Omitted (Production-Only Features):**

- Complex authentication flows (OAuth)

- Enterprise data synchronization

- Advanced external object mapping

- Production-grade credential management

**Business Justification**

The implemented integration foundation successfully demonstrates:

- Understanding of Salesforce security boundaries

- Ability to connect with external REST APIs

- Proper error handling and validation

- Production readiness for future expansion

### 5. Production Upgrade Path Documented

While keeping the cap project scope-appropriate, I documented how this foundation would scale:

**Current (Capstone Ready):**

- Remote Site Settings + Direct callouts

- Simple error handling

- Basic connectivity validation

**Future (Production Upgrade):**

- Named Credentials for secure authentication

- Platform Events for real-time updates

- Salesforce Connect for external data sources

- Comprehensive API limit management

### Conclusion

This integration phase strikes the perfect balance for a capstone project: it demonstrates solid technical understanding of Salesforce external access capabilities while maintaining appropriate scope boundaries. The implemented solutions prove I can design and execute external integrations, and the documented upgrade path shows awareness of enterprise-grade patterns.