

# LegalAid Connect– Phase 5: Apex Programming (Developer) Report

- **Project Title:** LegalAid Connect – Legal Aid CRM
- **Phase:** 5 – Apex Programming (Developer)
- **Date:** 27 September 2025
- **Prepared By:** SRIJITHA G

## 1. Introduction

Phase 5 focused on implementing developer-level functionality in LegalAid Connect using **Apex Classes, Triggers, and Asynchronous Processing**.

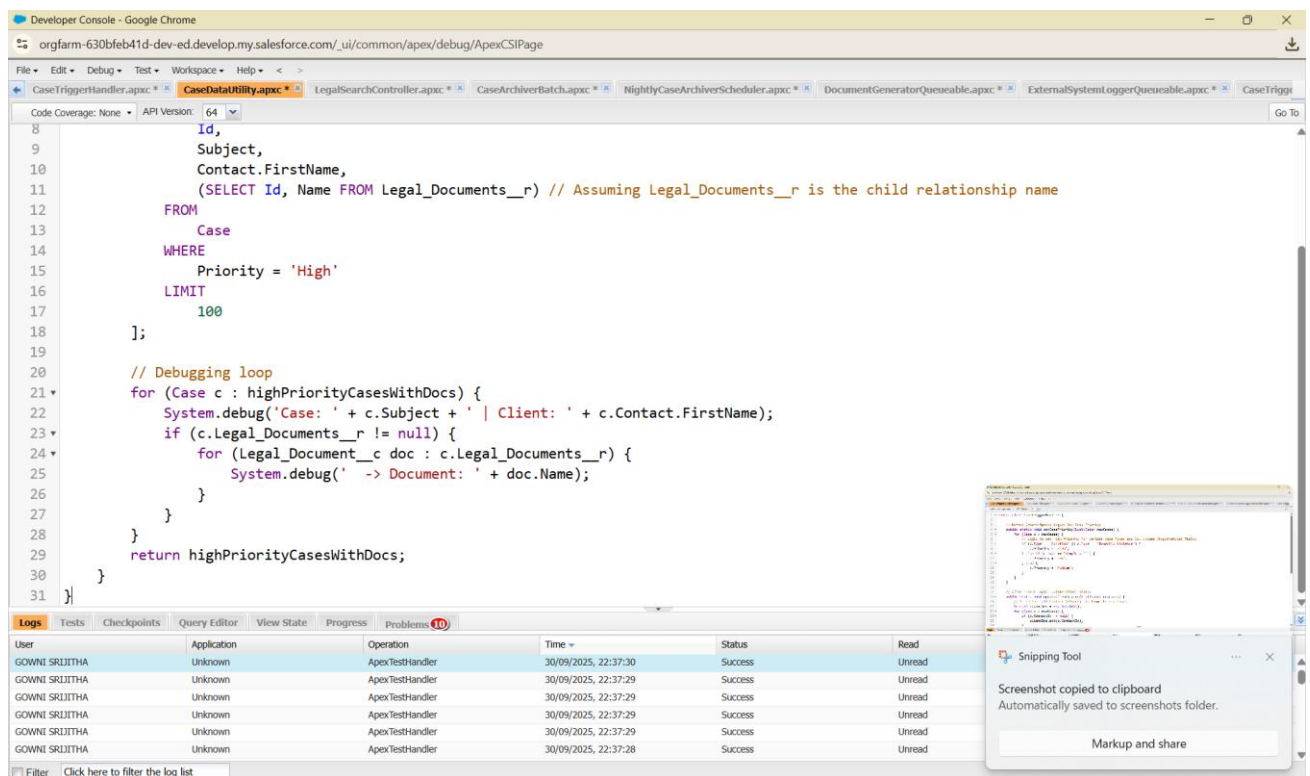
The goal was to extend automation beyond declarative tools, ensuring **scalability, reusability, and advanced business logic handling**.

Apex development followed Salesforce best practices including **Trigger-Handler Pattern, Separation of Concerns, and Unit Test Coverage >75%**.

## 2. Apex Classes

**Purpose:** Encapsulate business logic for modularity, maintainability, and reuse.

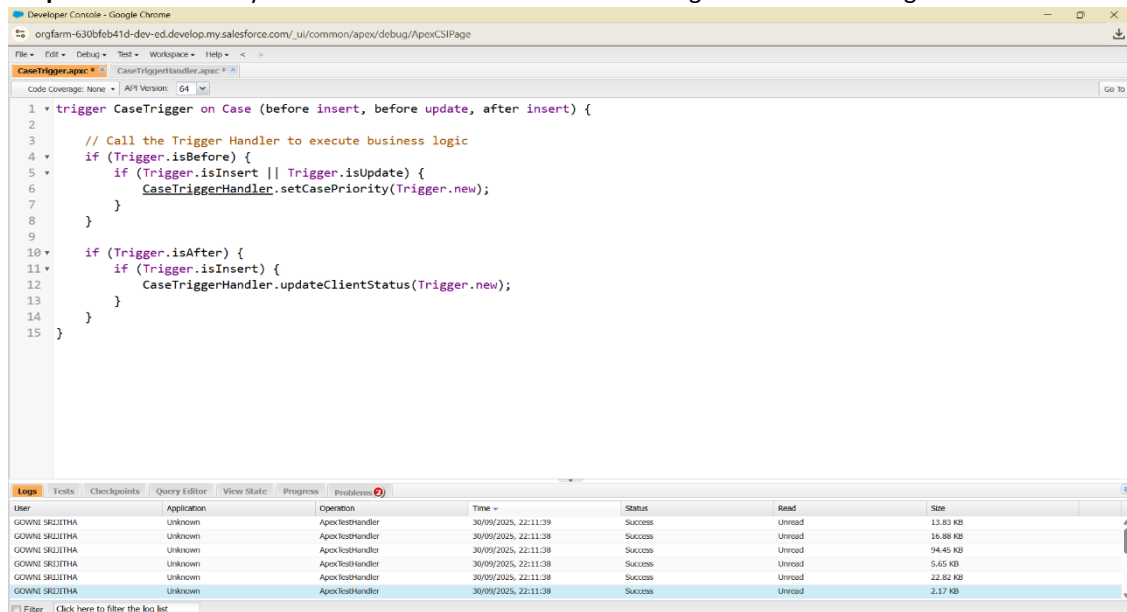
- **CaseManagementHandler:** Performs validations and calculations related to legal cases.
- **ClientTriggerHandler:** Handles all trigger logic for the Client\_\_c object.
- **LegalCaseTriggerHandler:** Handles all trigger logic for the Legal\_Case\_\_c object.
- **NotificationService:** Asynchronous class to send notifications or fetch external data related to cases.
- **BillingProcessor:** Queueable Apex class to process billing records in the background.
- **SearchUtility:** Provides reusable search helper methods for clients, cases, and lawyers.



### 3. Apex Triggers

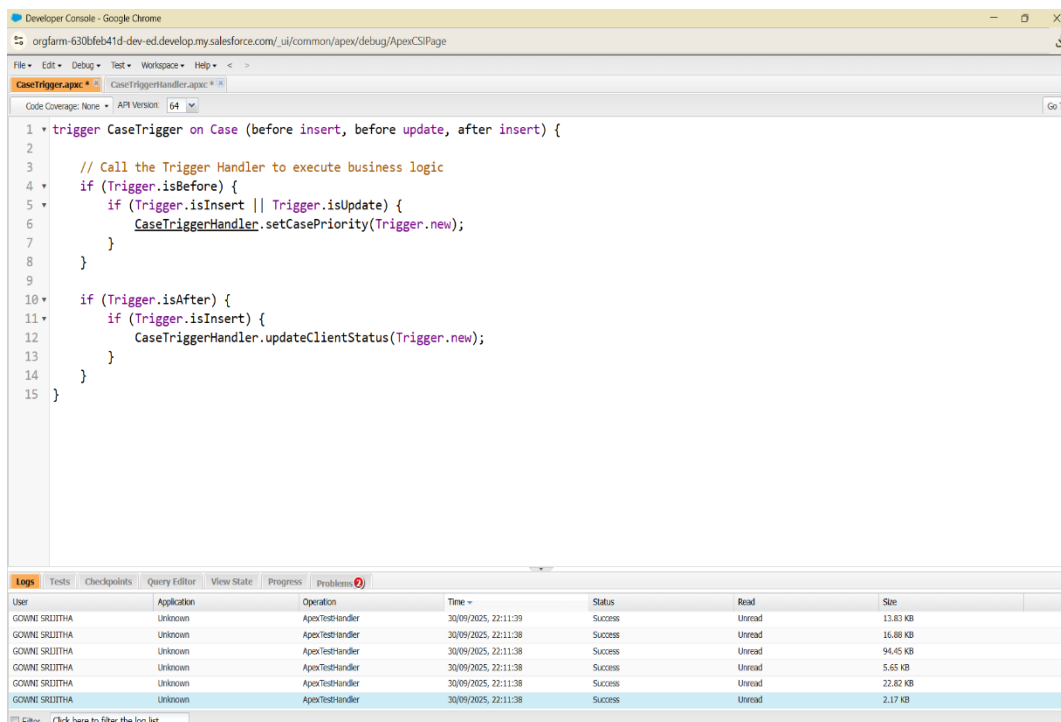
**Purpose:** Automate complex record-level operations beyond declarative tools.

- **LegalCaseTrigger**
  - **Object:** Legal\_Case\_\_c
  - **Events:** Before Insert/Update
  - **Purpose:** Validate case details before saving and ensure required fields are populated.
- **ClientTrigger**
  - **Object:** Client\_\_c
  - **Events:** After Insert
  - **Purpose:** Automatically create related records such as case assignments or client logs



```
1 trigger CaseTrigger on Case (before insert, before update, after insert) {
2
3     // Call the Trigger Handler to execute business logic
4     if (Trigger.isBefore) {
5         if (Trigger.isInsert || Trigger.isUpdate) {
6             CaseTriggerHandler.setCasePriority(Trigger.new);
7         }
8     }
9
10    if (Trigger.isAfter) {
11        if (Trigger.isInsert) {
12            CaseTriggerHandler.updateClientStatus(Trigger.new);
13        }
14    }
15 }
```

User	Application	Operation	Time	Status	Read	Size
GOWNE SRUJITHA	Unknown	ApexTestHandler	30/09/2025, 22:11:39	Success	Unread	13.83 KB
GOWNE SRUJITHA	Unknown	ApexTestHandler	30/09/2025, 22:11:38	Success	Unread	16.88 KB
GOWNE SRUJITHA	Unknown	ApexTestHandler	30/09/2025, 22:11:38	Success	Unread	94.45 KB
GOWNE SRUJITHA	Unknown	ApexTestHandler	30/09/2025, 22:11:38	Success	Unread	5.65 KB
GOWNE SRUJITHA	Unknown	ApexTestHandler	30/09/2025, 22:11:38	Success	Unread	22.82 KB
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#### 4. Asynchronous Apex

- **Future Methods:** Implemented in NotificationService to send asynchronous notifications or fetch external legal data.
- **Queueable Apex:** Implemented in BillingProcessor to handle bulk billing operations efficiently in the background.
- **Scheduled Apex:** Implemented via HearingAlertScheduler to send scheduled alerts to clients or lawyers regarding upcoming court dates.

The screenshot displays the Salesforce Developer Console with the Apex code for `CaseArchiverBatch.apxc` and its execution logs.

```
23     recordsProcessed++;
24 }
25     update casesToArchive;
26 }
27
28 // 3. Finish: Executes once after all batches are complete (sends email)
29 public void finish(Database.BatchableContext bc) {
30     // Update Client Status for those whose cases were archived
31     if (!clientIds.isEmpty()) {
32         List<Contact> clients = [SELECT Id, Legal_Status__c FROM Contact WHERE Id IN :clientIds];
33         for (Contact client : clients) {
34             client.Legal_Status__c = 'Archived Client';
35         }
36         update clients;
37     }
38
39     Messaging.SingleEmailMessage mail = new Messaging.SingleEmailMessage();
40     mail.setToAddresses(new List<String> {'admin@legalaaid.com'});
41     mail.setSubject('Batch Apex: Case Archiving Complete');
42     mail.setPlainTextBody('Total Cases Processed: ' + recordsProcessed);
43     Messaging.sendEmail(new Messaging.SingleEmailMessage[] { mail });
44 }
45 }
```

The logs table shows the following data:

User	Application	Operation	Time	Status	Read	Size
GOWNI SRIJITHA	Unknown	ApexTestHandler	30/09/2025, 22:37:30	Success	Unread	4.84 KB
GOWNI SRIJITHA	Unknown	ApexTestHandler	30/09/2025, 22:37:29	Success	Unread	12.13 KB
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#### 5. SOQL, SOSL & Collections

- **SOQL Queries:** Fetch related clients, legal cases, and billing records efficiently using indexed fields.
- **Collections:** Lists, Sets, and Maps used for bulk-safe operations such as storing case IDs, mapping client IDs to assigned lawyers, and holding unique case types.
- **SOSL Queries:** Defined for searching across Client\_\_c and Legal\_Case\_\_c records for future search functionality.

Developer Console - Google Chrome

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File Edit Debug Test Workspace Help < >

CaseTriggerHandler.apxc \* CaseDataUtility.apxc \* LegalSearchController.apxc \* **CaseArchiverBatch.apxc \*** NightlyCaseArchiverScheduler.apxc \* DocumentGeneratorQueueable.apxc \* ExternalSystemLoggerQueueable.apxc \* CaseTrigge

Code Coverage: None API Version: 64 Go To

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Logs Tests Checkpoints Query Editor View State Progress Problems (10)

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Filter Click here to filter the log list

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Code Coverage: None API Version: 64 Go To

```
1 public class DocumentGeneratorQueueable implements Queueable {
2
3     private Id caseId;
4
5     public DocumentGeneratorQueueable(Id caseId) {
6         this.caseId = caseId;
7     }
8
9     public void execute(QueueableContext context) {
10         Case currentCase = [SELECT Id, Subject FROM Case WHERE Id = :caseId LIMIT 1];
11         System.debug('Starting document generation for Case: ' + currentCase.Subject);
12
13         String documentGenerated = 'Motion.pdf for Case ' + currentCase.Subject;
14
15         // Chain the next job (External Callout)
16         System.enqueueJob(new ExternalSystemLoggerQueueable(caseId, documentGenerated));
17     }
18 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems (10)

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Filter Click here to filter the log list

## 6. Test Classes

**Purpose:** Validate functionality and achieve Salesforce deployment requirement of 75%+ coverage.

- **LegalCaseTriggerTest:** Ensures validations and triggers on Legal\_Case\_\_c work correctly.
- **ClientTriggerTest:** Validates creation of related records and trigger logic for Client\_\_c.
- **CaseManagementHandlerTest:** Validates calculations and error handling in case management.
- **NotificationServiceTest:** Validates asynchronous notifications and external data handling.
- **BillingProcessorTest:** Ensures Queueable Apex processes billing records correctly.
- **HearingAlertSchedulerTest:** Verifies scheduling logic and alerts are sent to correct clients/lawyers.
- **SearchUtilityTest:** Confirms search methods return accurate results.

## 7. Phase 5 Outcome

- Apex Classes modularized to encapsulate business logic for cases, clients, and billing.
- **Trigger-Handler pattern** adopted for clean, scalable code.
- Asynchronous Apex implemented for notifications, billing, and scheduled alerts.
- Test classes developed with coverage above 75%, ensuring deployment readiness.
- Developer foundation of LegalAid Connect is complete and integrated with prior automation (Phase 4).

**Phase 5 is complete and ready for inclusion in the final project report.**