# **Salesforce Project Phase-5**

## Phase 5: Data Modeling & Relationships

### **Classes & Objects**

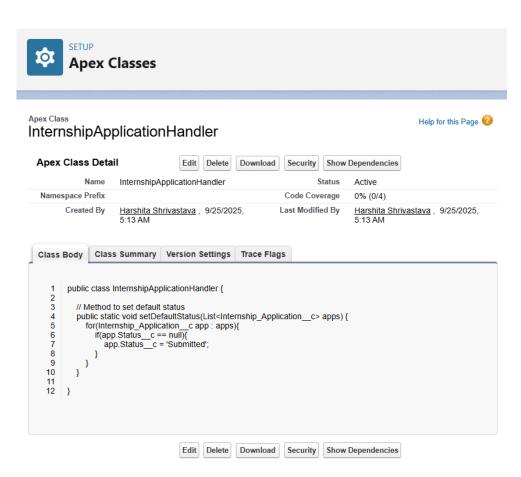
#### **Purpose:**

Apex classes are used to implement **complex logic, reusability, and automation** that Flow or standard configuration cannot handle easily. Classes
encapsulate code into reusable blocks, while objects represent the data (records) they
act upon.

Class: InternshipApplicationHandler

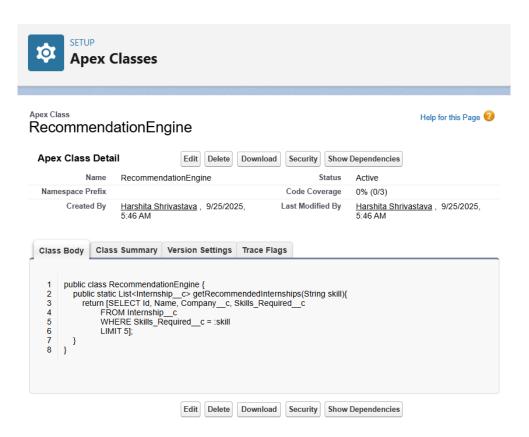
Objects Used: Internship\_Application\_c, Student\_c, Internship\_c.

**Use in Project:** Whenever a student submits an internship application, we want the **status field** of the application to be automatically set to "Submitted" if the user didn't fill it.



Class: RecommendationEngine

Purpose: Suggest internships to students based on skills or course.



### **Apex Triggers**

#### **Definition:**

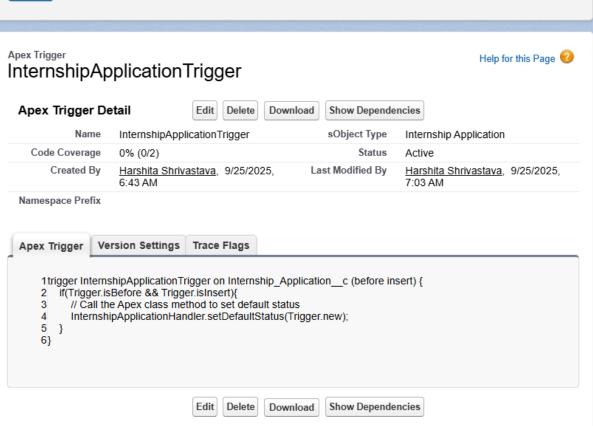
Triggers automate logic before or after record events (insert, update, delete).

They allow actions to run automatically when records change.

#### **Trigger Design Pattern:**

- The trigger calls a Handler Class.
- Keeps logic centralized and maintainable.
- Supports **bulkification** (process multiple records efficiently)
- **Before triggers** are used to update fields **before saving** the record.
- After triggers are used to perform actions on related objects or external processes after the record is saved.





3. SOQL & SOSL SOQL(Salesforce Object Query Language)

#### Purpose in your project:

Fetch records from a specific object like Internship\_c, Student\_c, or Internship\_Application\_c for filtering, reporting, or automation.

```
public class RecommendationEngine {
 1
 2
 3
       @AuraEnabled(cacheable=true)
       public static List<Internship__c> getRecommendedInternships(Id studentId) {
 4
 5
          // Get the student's skills
          Student cs = [SELECT Id, Skills cFROM Student cWHERE Id = :studentId LIMIT 1];
 6
 7
 8
          // Fetch top 5 internships matching the student's skill
 9
          List<Internship c> recommended = [
            SELECT Id, Name, Company_c, Skills_Required_c
10
11
            FROM Internship c
            WHERE Skills_Required__c = :s.Skills__c
12
13
            LIMIT 5
14
          ];
15
          return recommended:
16
17
       }
    }
18
```

#### **SOSL (Salesforce Object Search Language)**

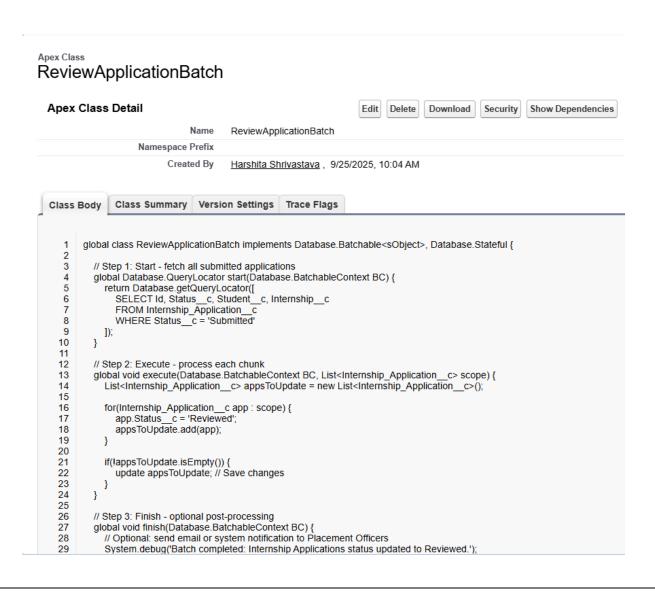
#### Purpose in your project:

Search text across multiple objects/fields. Useful if a student or admin wants to **quickly** search internships or applications by keyword.

- ② **Use SOQL** when you know the object and fields you want (e.g., filter internships by skill).
- Use SOSL when you want a broader keyword search across multiple objects (e.g., student searching for internships, or admin searching for students & applications).

### **Batch Apex**

- Fetch all Internship Application records with Status\_c = 'Submitted'.
- Update their status to Reviewed.



### **Tesst Classes**

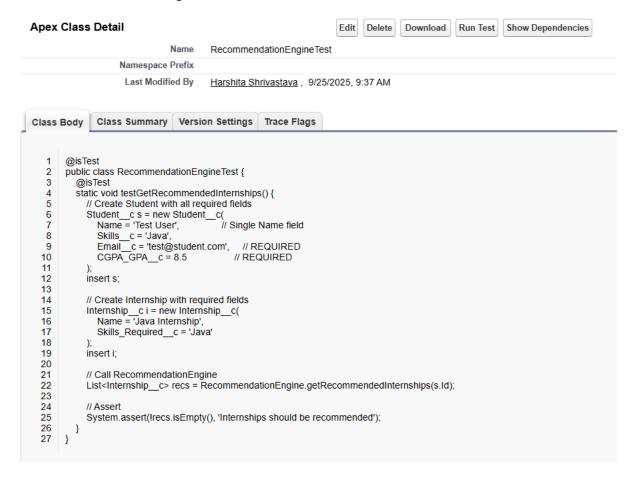
Purpose: Validate logic, ensure code coverage ≥75%

Recommendation Engine

Test Other Test Classes: Review Application Batch Test(same format)

Apex Class

#### RecommendationEngineTest



#### 9. Best Practices

- Always bulkify triggers
- Avoid SOQL/DML inside loops
- Use Handler classes for logic
- Write robust test classes with positive/negative scenarios