

## **Phase 5: Apex Programming**

### **1. Apex Classes & Objects**

Apex is an object-oriented programming language used in Salesforce. Classes define the structure and behavior of objects.

### **2. Apex Triggers**

Triggers execute automatically before or after DML operations such as insert, update, delete, and undelete.

### **3. Trigger Design Pattern**

Business logic is separated into handler classes to ensure bulk-safe and maintainable triggers.

### **4. SOQL & SOSL**

SOQL is used to query records from Salesforce objects. SOSL searches across multiple objects and fields.

### **5. Collections**

Lists, Sets, and Maps are used to store and manage collections of data efficiently.

### **6. Control Statements**

Includes if-else, loops, and switch statements for logic control.

### **7. Asynchronous Apex**

Includes Batch Apex, Queueable Apex, Scheduled Apex, and Future Methods to process large or long-running tasks.

### **8. Exception Handling**

Try-catch blocks are used to handle runtime errors safely.

### **9. Test Classes**

Test classes ensure code reliability and must provide at least 75% coverage for deployment.