

## **Salesforce Lab Experiments for Students**

This document lists practical experiments for students to gain hands-on experience in various Salesforce development areas such as Apex, Triggers, Flow Builder, Visualforce Pages, and Lightning Web Components (LWC).

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### **1. Apex Classes (5 Experiments)**

#### **Experiment 1: Basic Apex Class with Method**

Objective: Create a class with a method that calculates the area of a rectangle.

#### **Experiment 2: Apex Class with Constructor and SOQL**

Objective: Query Account records and display them using constructors.

#### **Experiment 3: Apex Class with List and Loop**

Objective: Accept a list of contacts and return contact names using loops.

#### **Experiment 4: Apex Class for DML Operations**

Objective: Insert, update, and delete records in a custom object.

#### **Experiment 5: Apex Class Calling Another Class**

Objective: Design modular classes where one class performs calculations used by another.

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### **2. Triggers (5 Experiments)**

#### **Experiment 6: Before Insert Trigger on Contact**

Objective: Set default description for new Contact records.

#### **Experiment 7: After Insert Trigger to Create Related Record**

Objective: Automatically create an Opportunity when an Account is created.

#### **Experiment 8: Before Update Trigger for Validation**

Objective: Prevent users from changing an Account name to "Test".

#### **Experiment 9: Trigger for Rollup Summary**

Objective: Count Contacts related to an Account and store the value in a custom field.

#### **Experiment 10: Trigger Framework**

Objective: Implement a handler class and trigger for the Account object.

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### 3. Flow Builder (4 Experiments)

**Experiment 11: Record-Triggered Flow - Auto Assign Owner**

Objective: Assign default owner to Leads based on Lead Source.

**Experiment 12: Screen Flow - Student Registration Form**

Objective: Create a form to capture inputs and create a Student\_\_c record.

**Experiment 13: Auto-Launched Flow - Update Case Status**

Objective: Change Case status automatically based on priority change.

**Experiment 14: Flow with Decision Element**

Objective: Route Opportunities based on Stage using a decision block.

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### 4. Visualforce Pages (3 Experiments)

**Experiment 15: Basic Visualforce Page with Input and Output**

Objective: Take user input and display a greeting.

**Experiment 16: VF Page with Controller Class**

Objective: Create a form for Account creation using a controller class.

**Experiment 17: VF Page with Dynamic Table**

Objective: Display a list of Accounts with pagination.

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### 5. Lightning Web Components (LWC) (3 Experiments)

**Experiment 18: Display Data Using LWC**

Objective: Fetch and display Contact records using wire service.

**Experiment 19: LWC Form for Object Creation**

Objective: Build a form to create Student\_\_c record with fields: name, email, and course.

**Experiment 20: LWC with Event Handling**

Objective: Use one component to select an Account and another to display its Contacts using custom events.

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### Bonus Projects

- **Mini Project:** Student Admission Management System (Apex, LWC, Flow, VF)
  - **Public Portal:** Apex REST API + LWC Public Access
  - **Approval Flow:** Leave Request System with Approval via Flow + Apex
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**End of Lab Manual**