

**Apex** is a strongly typed, object-oriented programming language developed by Salesforce. It allows developers to execute flow and transaction control statements on the Salesforce server in response to events such as user actions or changes in the database. Apex is used to create custom business logic, automate processes, and interact with Salesforce data.

➤ Key features of Apex:

- **Runs on Salesforce Servers:** Apex code is executed on Salesforce's cloud infrastructure.
- **Integration with Salesforce Data:** It allows access to Salesforce objects and records through SOQL (Salesforce Object Query Language) and DML (Data Manipulation Language)
- **Triggers and Classes:** You can write triggers (for event-driven actions) and classes (for encapsulating reusable logic).
- **Governor Limits:** Apex operates within Salesforce's governor limits to ensure efficient resource usage across all users.
- **Security:** Apex respects Salesforce's security model (field-level security, sharing rules).

## WHY TO CHOOSE

- **Custom Business Logic:** Apex gives you the flexibility to implement custom business rules and workflows, allowing Salesforce to work exactly how your organization needs.
- **Cloud-Based Execution:** Apex runs on Salesforce's cloud infrastructure, eliminating the need for developers to manage servers, hardware, or software updates. It is scalable and always up to date with Salesforce updates.

## APPLICATION

- Automating lead or case assignment
- Custom validation rules
- Auto-updating related records
- Sending custom email alerts
- Scheduled jobs (e.g., monthly reports)

## ✓ Working Structure of Apex in Salesforce (Simple Explanation)

### User Action:

A user performs an action in Salesforce (e.g., saving a record, clicking a button).

### Trigger/Event Fires:

If a trigger is set (like `before insert`, `after update`), the **Apex code** starts running.

### Apex Code Executes:

Apex classes or triggers run the custom logic written by the developer.

### SOQL/DML Operations:

Apex interacts with Salesforce data using **SOQL** (queries) and **DML** (insert, update, delete, etc.).

### Governor Limits Checked:

Salesforce checks resource usage to ensure the code stays within allowed **limits**.

### Validation & Commit:

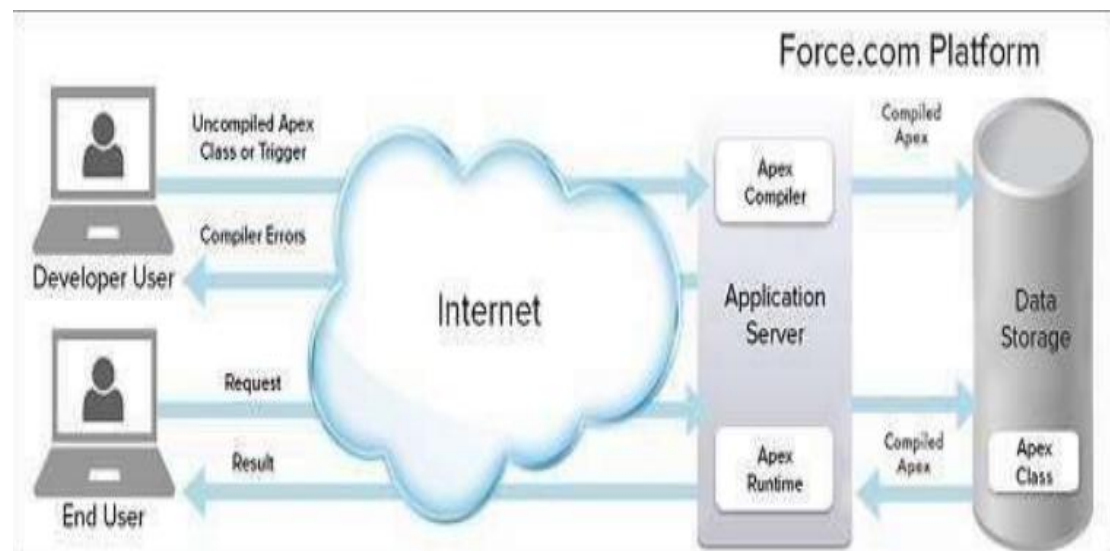
If all logic passes, Salesforce commits changes to the database.

### Post-Processing (if any):

Additional steps like sending emails, calling APIs, or scheduling tasks are executed.

### User Sees Result:

The user gets confirmation or sees the changes on the screen.



```
public class FirstClass1
{
    public static void firstMethod()
    {
        Double temperature=98.0;

        temperature = (((temperature - 32)*5)/9);

        System.debug('temperature in Celsius =' + temperature);
    }
}
```