# Technology Stack:

## Technology Stack (Architecture & Stack)

**Date:** 24 June 2025  
**Team ID: LTVIP2025TMID30526  
Project Name:** Jewelry Inventory Management System using Salesforce **Maximum Marks:** 4 Marks

## Technical Architecture:

This Jewelry Inventory CRM Application is developed using Salesforce to digitize and streamline jewelry operations such as customer handling, item tracking, billing, and pricing. The system efficiently manages gold/silver item data, pricing logic based on purity and type, and automates billing calculations.

Key functionalities include:

* Customer and employee record management
* Item classification by type, purity, and weight
* Automatic billing and price calculations using formula fields and triggers
* Role-based access for Admins, Workers, and Goldsmiths
* Dashboards and reports for billing summaries and item tracking
* Validations and flows for secure, error-free data entry  
    
  The application enhances user experience, data accuracy, and operational visibility across the RTC department.

## Table-1: Components & Technologies

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| 1 | User Interface | Manage jewelry operations and roles | Salesforce Lightning App Builder |
| 2 | Application Logic-1 | Billing logic based on weight, purity, and type | Apex Triggers, Flows, Formula Fields |
| 3 | Application Logic-2 | Auto price computation and paid amount calculation | Flows, Triggers |
| 4 | Application Logic-3 | Field validation and layout assignment per Record Type | Validation Rules, Flows |
| 5 | Database | Customer, Item, Billing, and Price data | Salesforce Custom Objects |
| 6 | Cloud Database | Hosted data model and object storage | Salesforce Platform Database |
| 7 | File Storage | Store billing records, customer slips, gold rates | Salesforce Files / ContentVersion |

## Table-2: Application Characteristics

|  |  |  |
| --- | --- | --- |
| **S.No** | **Characteristics** | **Description / Technology** |
| 1 | Open-Source Frameworks | Not applicable (Salesforce is proprietary) / N/A |
| 2 | Security Implementations | Role/Profile-based access control, FLS |
| 3 | Scalable Architecture | Multi-tenant, scalable cloud architecture / Salesforce Platform |
| 4 | Availability | Salesforce Cloud availability (99.9%) / Load Balanced |
| 5 | Performance | Fast load times with optimized Flows and Triggers / SOQL, Apex |

## Milestones Implemented:

1. Created Salesforce Developer Org for Jewelry CRM System
2. Designed custom objects – Customer, Gold/Silver Item, Billing, Pricing
3. Created tabs for each object for easier access
4. Built Lightning App – “Jewelry Inventory CRM”
5. Added required fields (standard, picklist, formula, lookup, checkbox)
6. Customized page layouts and record types for Gold and Silver categories
7. Applied validation rules to ensure item data integrity
8. Built flows to auto-calculate total price and check purity logic
9. Created Apex Trigger to calculate and auto-fill Paid Amount
10. Generated reports for Items by Type, Customers by Billing
11. Built dashboards for billing trends and item tracking
12. Finalized project delivery with summary, use cases, and business value

## References:

* <https://www.salesforce.com/products/platform/overview/>
* <https://trailhead.salesforce.com/>
* <https://developer.salesforce.com/docs>
* <https://help.salesforce.com/s/articleView?id=sf.flow_build.htm>