Phase 5 : Apex Programming (Developer)

Problem Statement:

Apex is Salesforce’ s proprietary programming language used to implement custom business logic, automation, and data operations. In a Banking & Financial CRM scenario, Apex enables the bank to handle complex processes that go beyond standard Salesforce configuration.

1.Classes & Objects:

. A class is a blueprint or template in Apex (Salesforce’ s programming language) that defines properties (variables) and behaviors (methods) for objects.

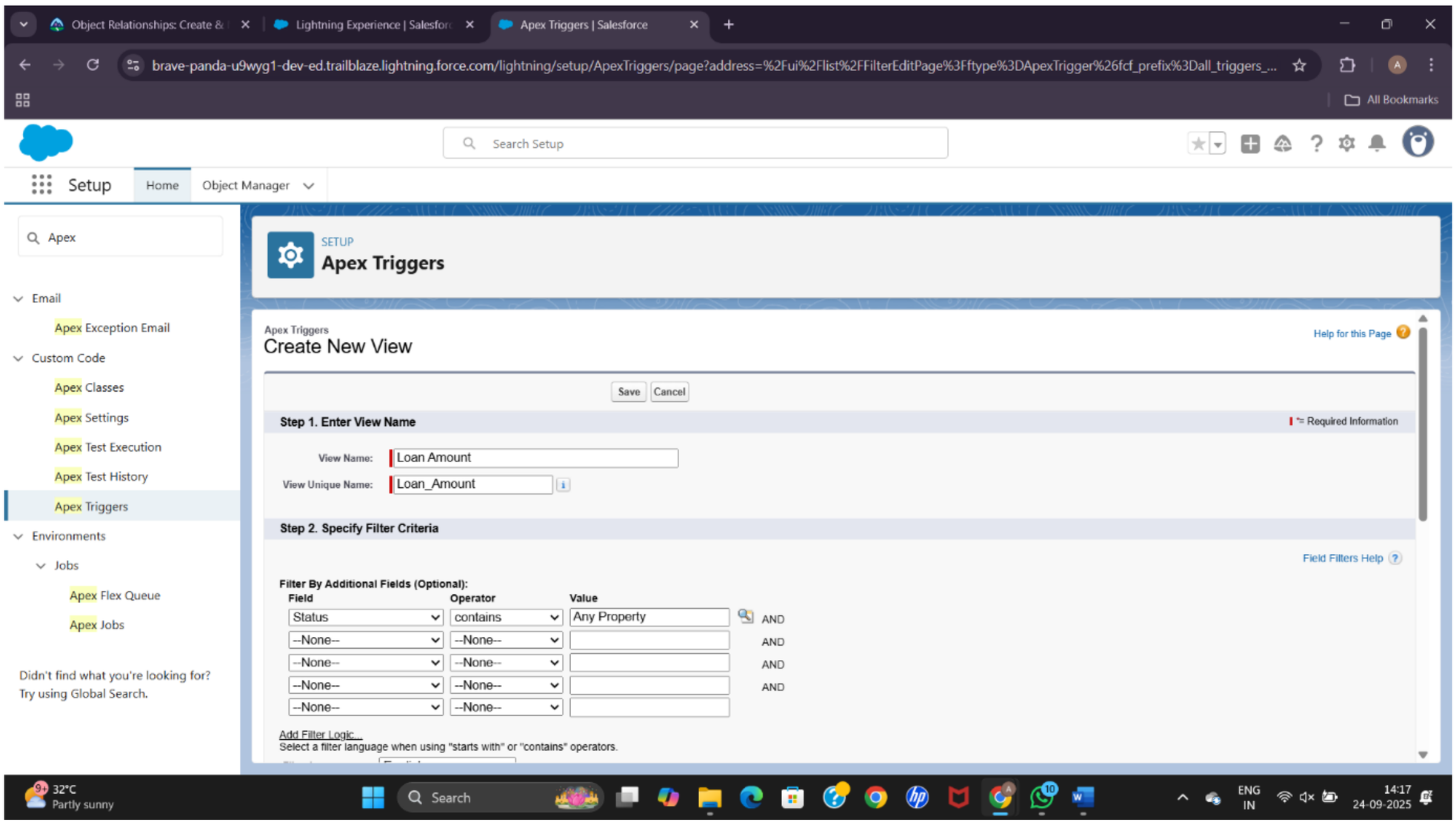
. In Banking CRM, a class can represent a Loan, Customer Account, or Service Request process with logic to calculate interest, validate loan status, or generate reports.

. An object is an instance of a class. It holds real values for the properties defined in the class.

2.ApexTriggers:

. An Apex Trigger is a piece of Apex code that executes before or after records are inserted, updated, deleted, or undeleted in Salesforce.

. Automatically update or validate loan, account, or service request records.



Loan Approval: After a Loan record is approved, automatically update the customer account with loan status.

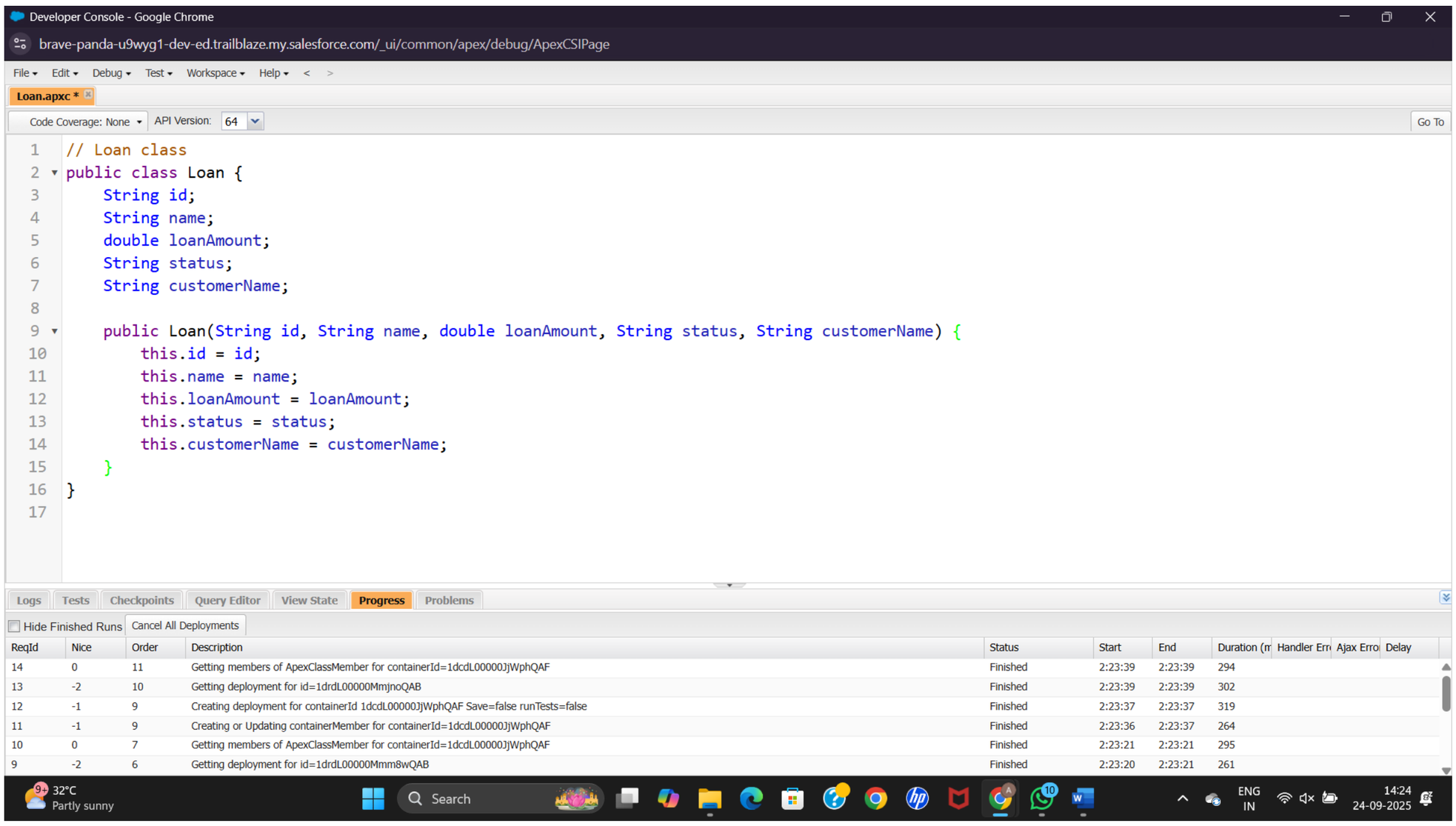
3.Trigger Design Platform:

An Apex Trigger is a piece of code on the Salesforce Platform that executes automatically before or after records are inserted, updated, deleted, or undeleted.

- **Trigger.new / Trigger.old** → access new and old record values.
- **Trigger.isBefore / Trigger.isAfter** → control execution timing.
- **Bulkified operations** → handle multiple records efficiently.
- **Integration with Apex Classes** → keeps trigger logic clean.

4.SOQL & SOSL:

- **SOQL** → Use when querying specific objects/fields.
- **SOSL** → Use for global searches across multiple objects.
- SOSL is used to search text, email, and phone fields across multiple objects simultaneously.
- Returns records that match the search term.
- SOQL is used to query Salesforce records from a single object or related objects.



. Similar to SQL, but designed specifically for Salesforce objects.

5.Control Statements:

Control statements are used to **control the flow of execution** in Apex code. They allow conditional execution, looping, and decision-making in your Salesforce programs.

- Conditional statements validate **loan criteria, customer eligibility, or account status**.
- Loops process **lists of loans, accounts, or service requests** in bulk.
- Jump statements help optimize **batch processing** and avoid unnecessary operations.

6.Batch Apex:

. Batch Apex is used to process large volumes of records asynchronously in Salesforce.

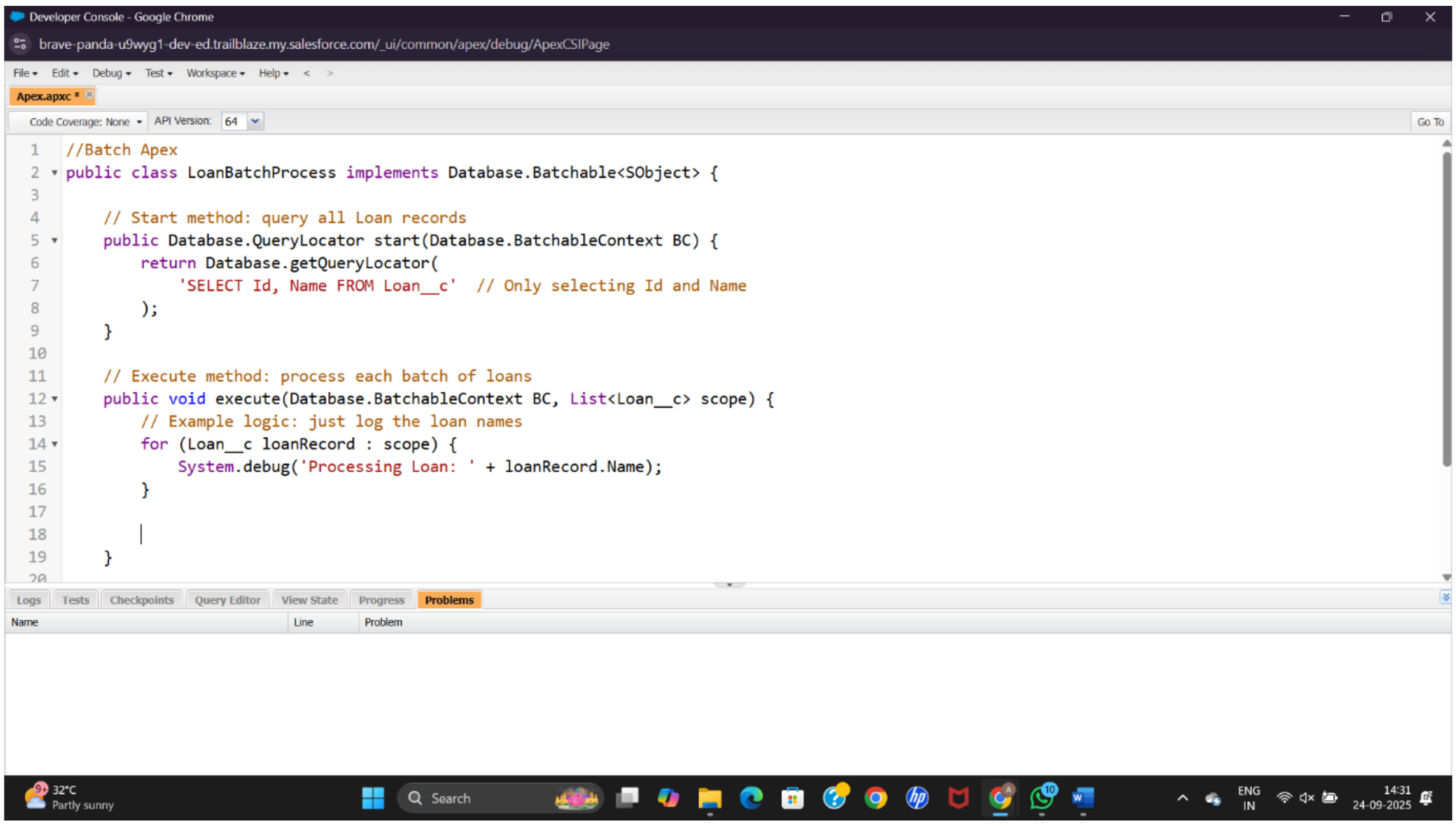
. It splits records into manageable chunks (batches) and processes them in the background.

. Useful when operations exceed governor limits in Salesforce.

· Automatically update or process **thousands of loan, account, or service request records**.

· Examples:

- Recalculate EMI for all loans at month-end.
- Update loan statuses for overdue payments.
- Send mass notifications or tasks to Relationship Managers.



7. Asynchronous Processing:

Asynchronous processing allows code to run in the background without blocking the user interface. It is used for operations that are time-consuming, involve large data volumes, or external callouts.

. Processing thousands of loan records.

. Sending bulk notifications to Relationship Managers or customers.

. Performing complex calculations like EMI schedules or interest recalculations.