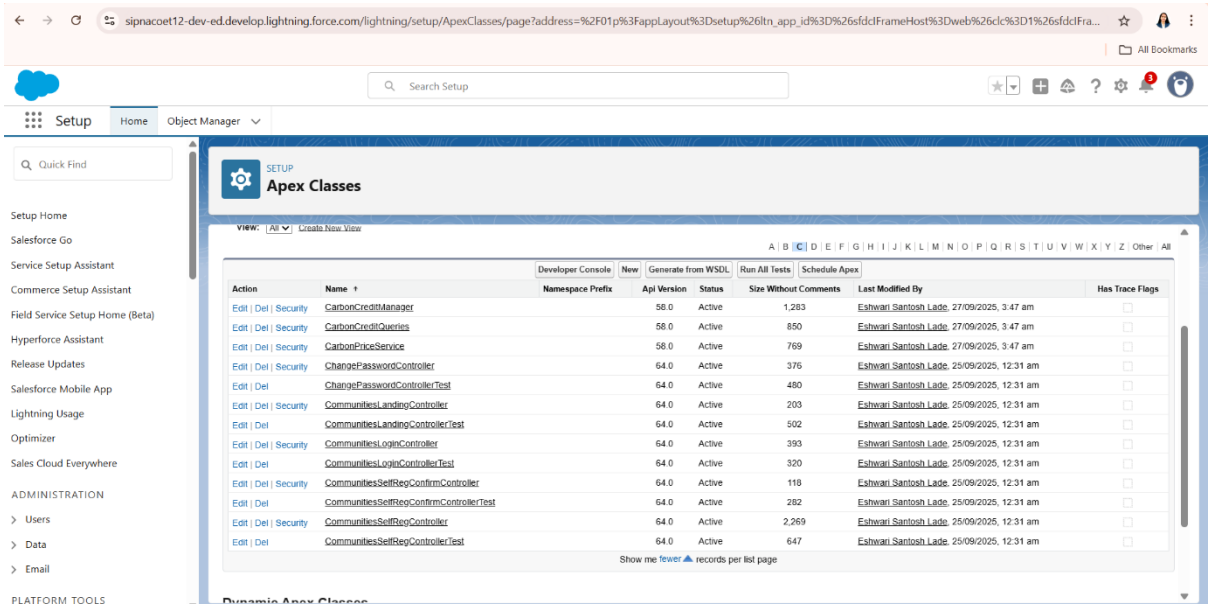
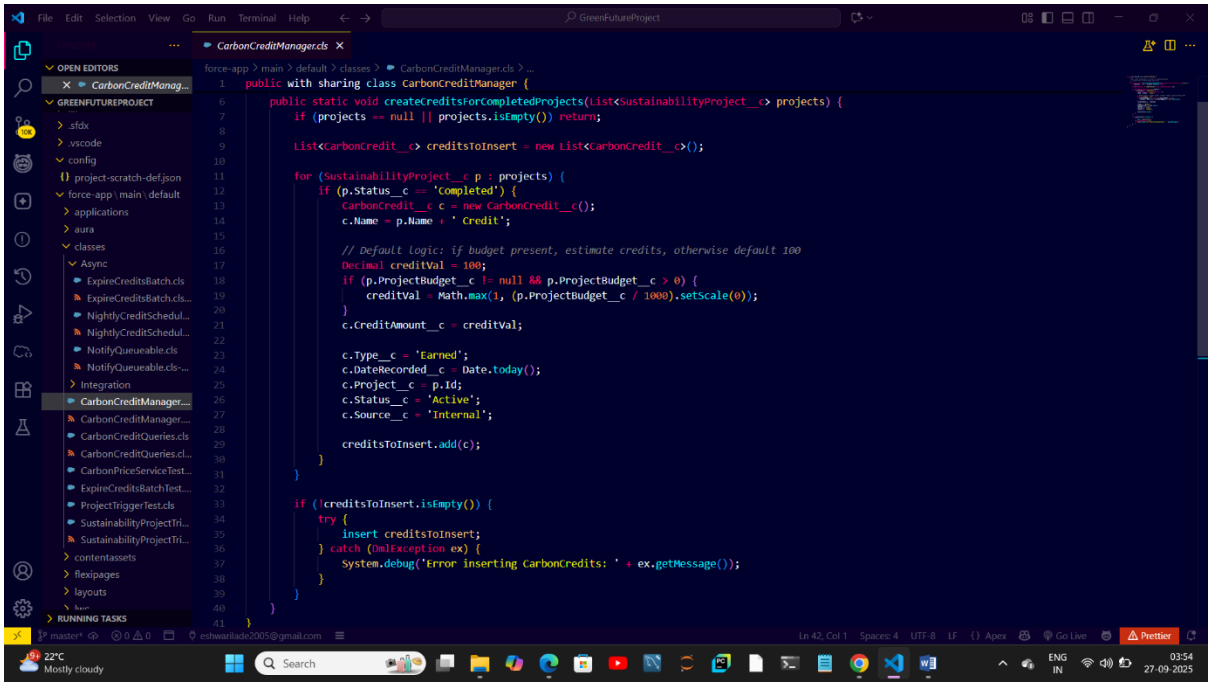
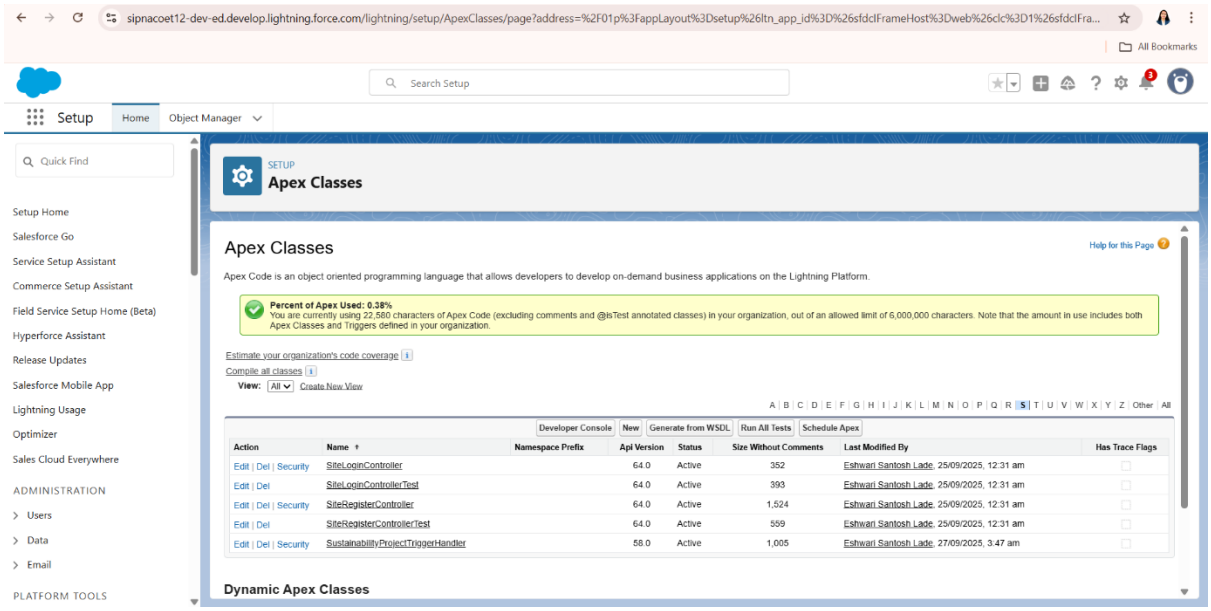
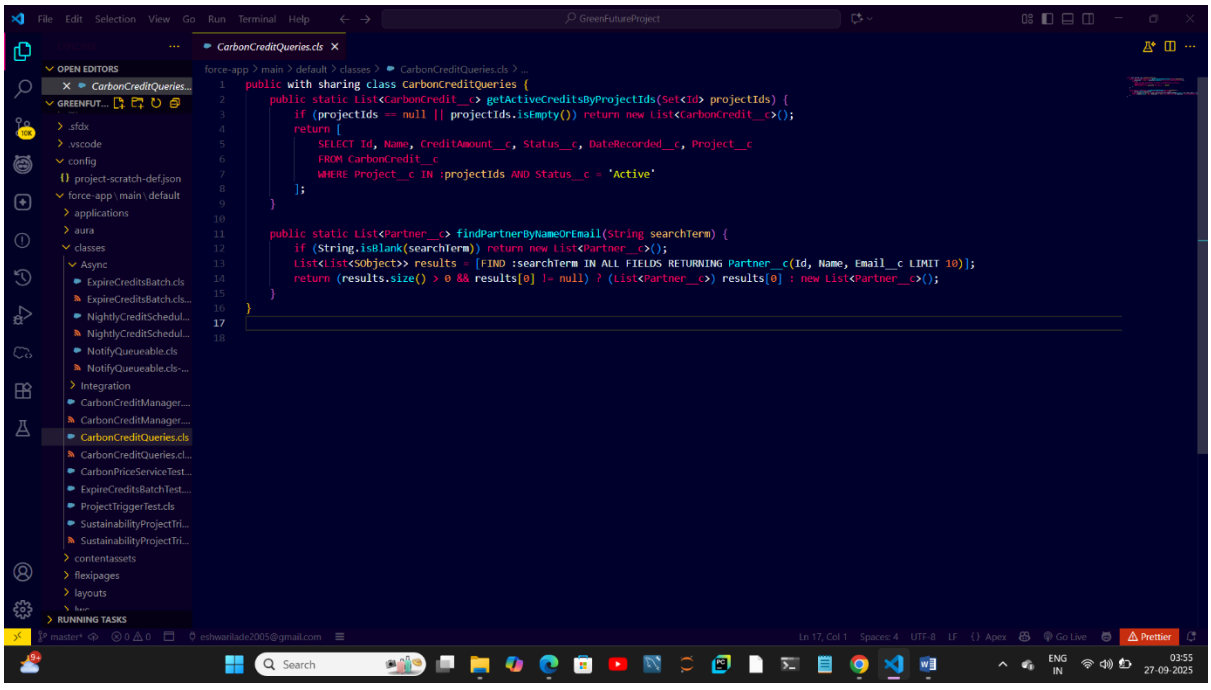
Phase 5 : Apex Programming(Developer)

1. Classes & Objects






Setup
Home
Object Manager
Quick Find
Setup Home
Salesforce Go
Service Setup Assistant
Commerce Setup Assistant
Field Service Setup Home (Beta)
Hyperforce Assistant
Release Updates
Salesforce Mobile App
Lightning Usage
Optimizer
Sales Cloud Everywhere
ADMINISTRATION
Users
Data
Email
PLATFORM TOOLS
SETUP
Apex Classes
Apex Classes
Help for this Page
Apex Code is an object oriented programming language that allows developers to develop on-demand business applications on the Lightning Platform.
Percent of Apex Used: 0.38%
You are currently using 22,580 characters of Apex Code (excluding comments and @isTest annotated classes) in your organization, out of an allowed limit of 6,000,000 characters. Note that the amount in use includes both Apex Classes and Triggers defined in your organization.
Estimate your organization's code coverage
Compile all classes
View: All
Create New View
Developer Console
New
Generate from WSDL
Run All Tests
Schedule Apex
Action
Name
Namespace Prefix
Api Version
Status
Size Without Comments
Last Modified By
Has Trace Flags
Edit | Del | Security
SiteLoginController
64.0
Active
352
Eshwari Santosh Lade, 25/09/2025, 12:31 am
Edit | Del
SiteLoginControllerTest
64.0
Active
393
Eshwari Santosh Lade, 25/09/2025, 12:31 am
Edit | Del | Security
SiteRegisterController
64.0
Active
1,524
Eshwari Santosh Lade, 25/09/2025, 12:31 am
Edit | Del
SiteRegisterControllerTest
64.0
Active
559
Eshwari Santosh Lade, 25/09/2025, 12:31 am
Edit | Del | Security
SustainabilityProjectTriggerHandler
58.0
Active
1,005
Eshwari Santosh Lade, 27/09/2025, 3:47 am
Dynamic Apex Classes


CarbonCreditQueries.cls
public with sharing class CarbonCreditQueries {
public static List<CarbonCredit__c> getActiveCreditsByProjectIds(Set<Id> projectIds) {
if (projectIds == null || projectIds.isEmpty()) return new List<CarbonCredit__c>();
return [
SELECT Id, Name, CreditAmount__c, Status__c, DateRecorded__c, Project__c
FROM CarbonCredit__c
WHERE Project__c IN :projectIds AND Status__c = 'Active'
];
}
public static List<Partner__c> findPartnerByNameOrEmail(String searchTerm) {
if (String.isBlank(searchTerm)) return new List<Partner__c>();
List<List<SObject>> results = [FIND :searchTerm IN ALL FIELDS RETURNING Partner__c(Id, Name, Email__c LIMIT 10)];
return (results.size() > 0 && results[0] != null) ? (List<Partner__c>) results[0] : new List<Partner__c>();
}
}

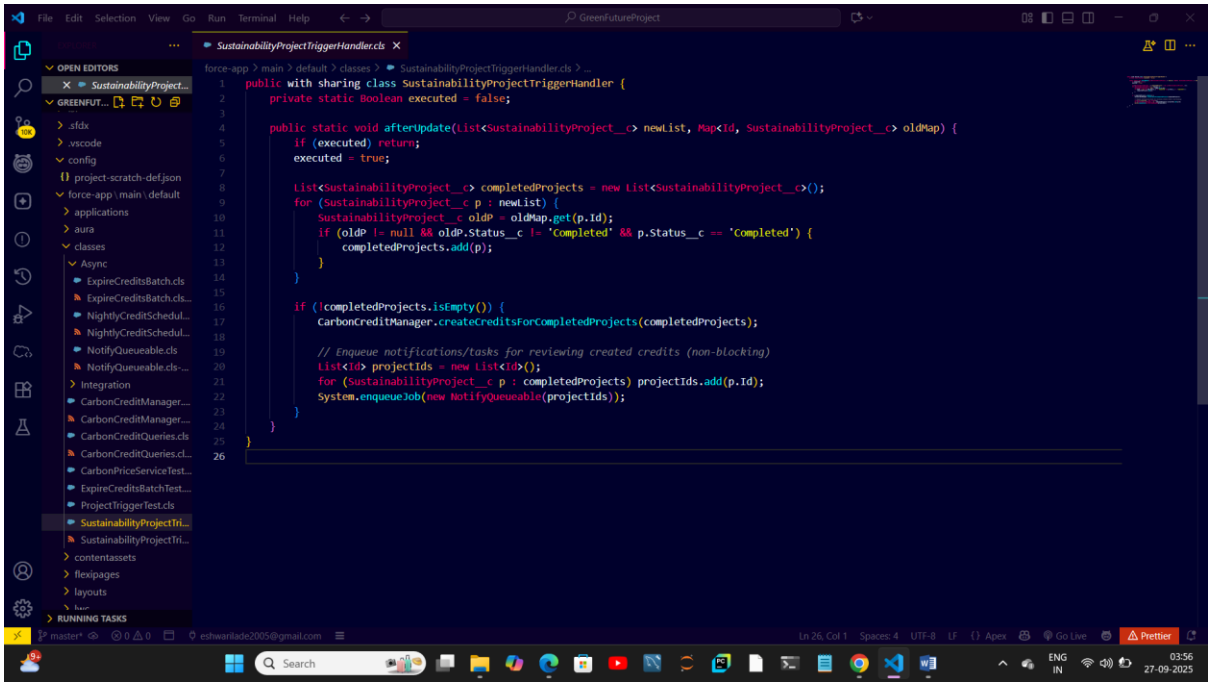


Fig.5.1. Apex Classes List and Code

2. Apex Triggers (before/after insert/update/delete)

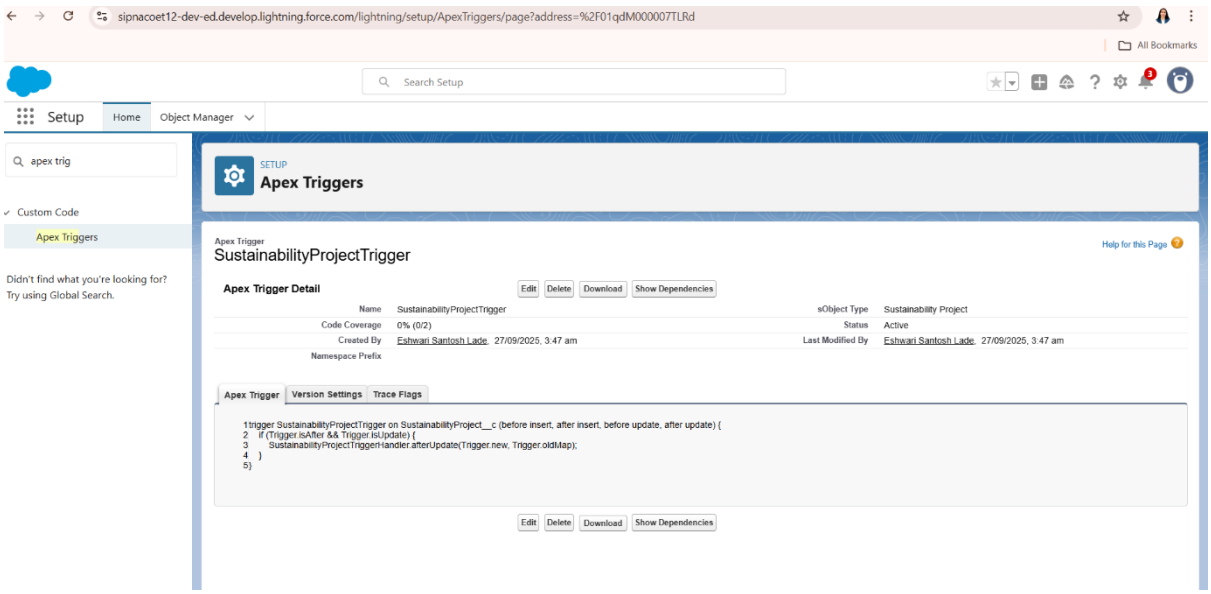


Fig.5.2. Apex Triggers List

3. Trigger Design Pattern

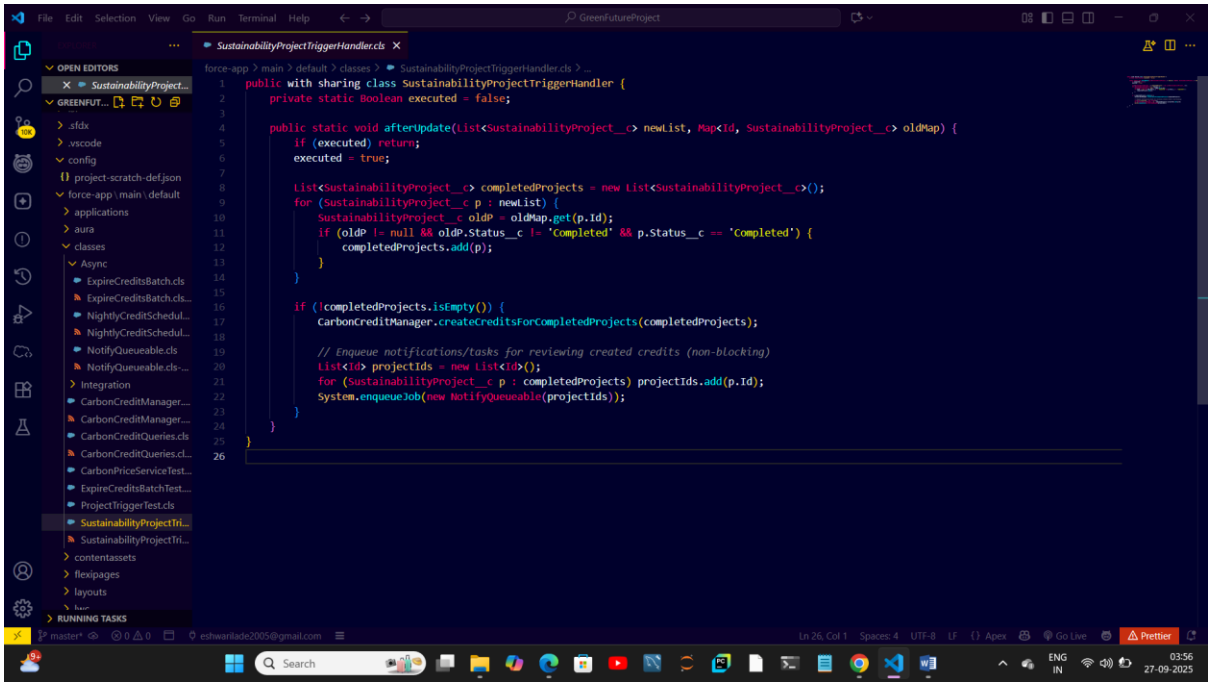


Fig.5.3. Handler Pattern

4. SOQL & SOSL

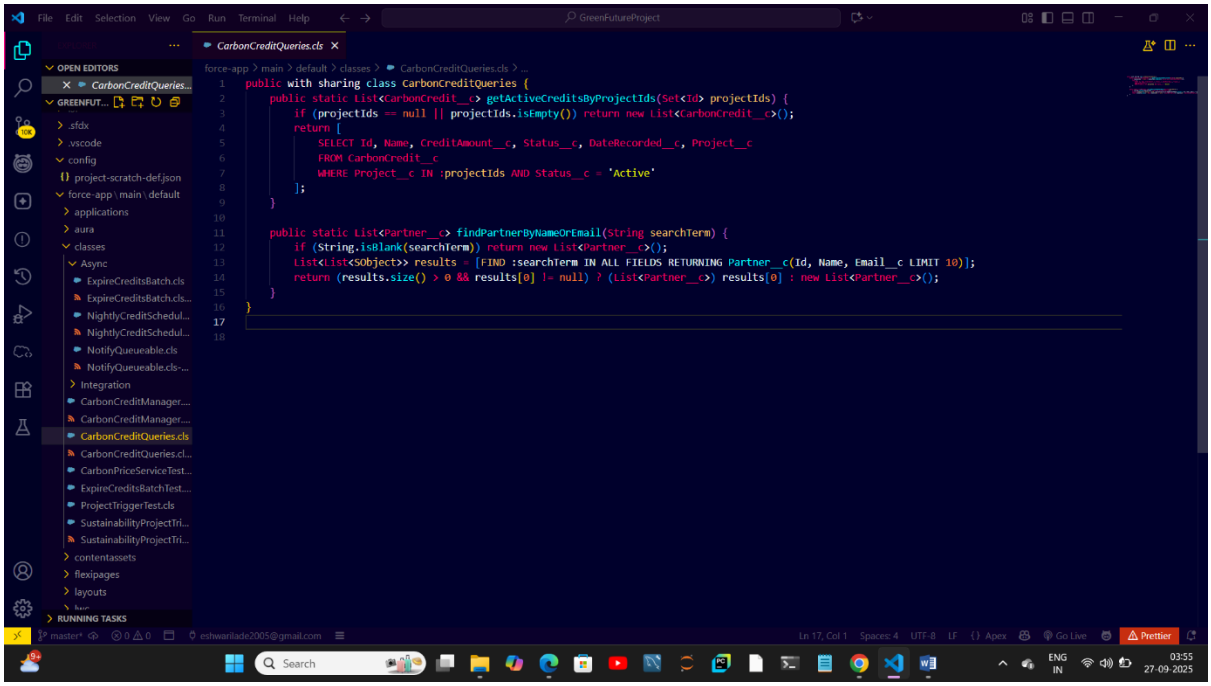


Fig.5.4. CarbonCreditQueries Code

5. Collections: List, Set, Map

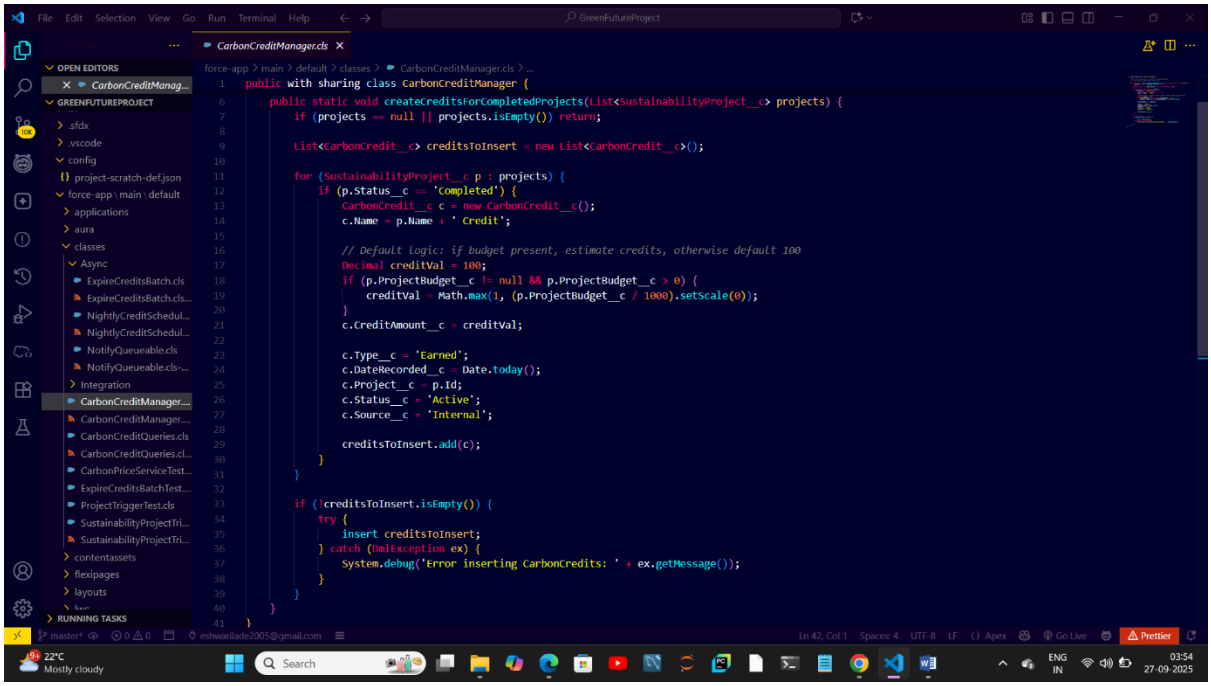


Fig.5.5. CarbonCreditManager Code

6. Control Statements

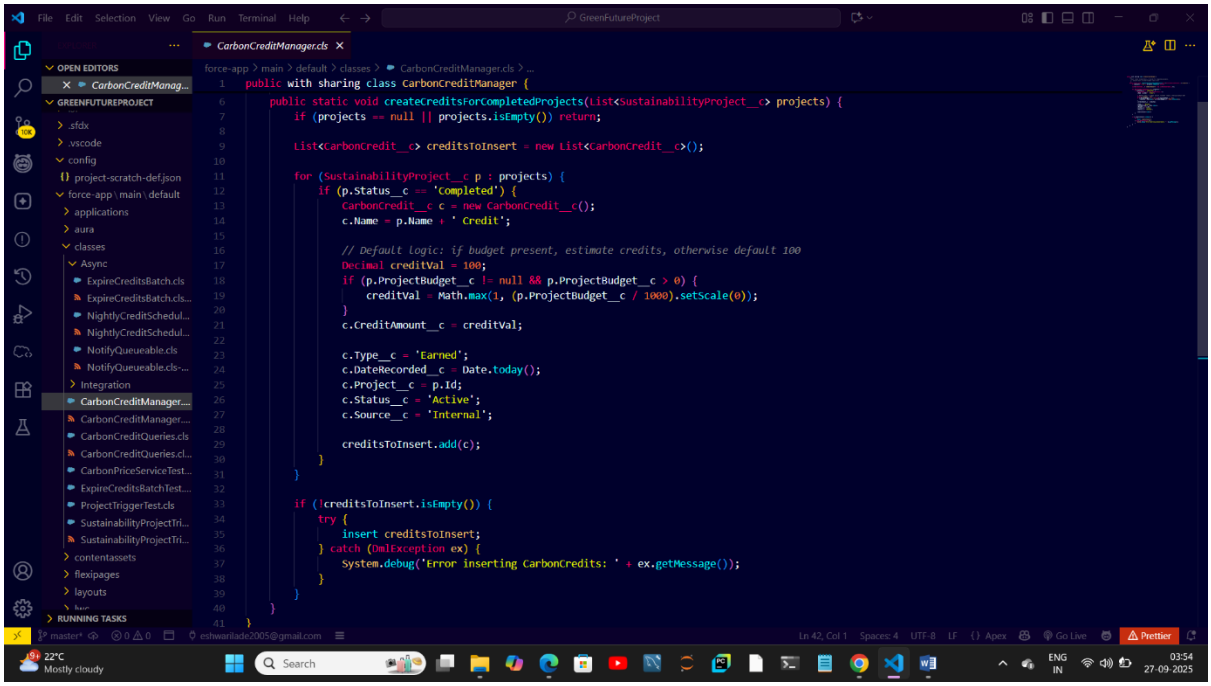


Fig.5.6. CarbonCreditManager Loops & Conditions

7. Batch Apex

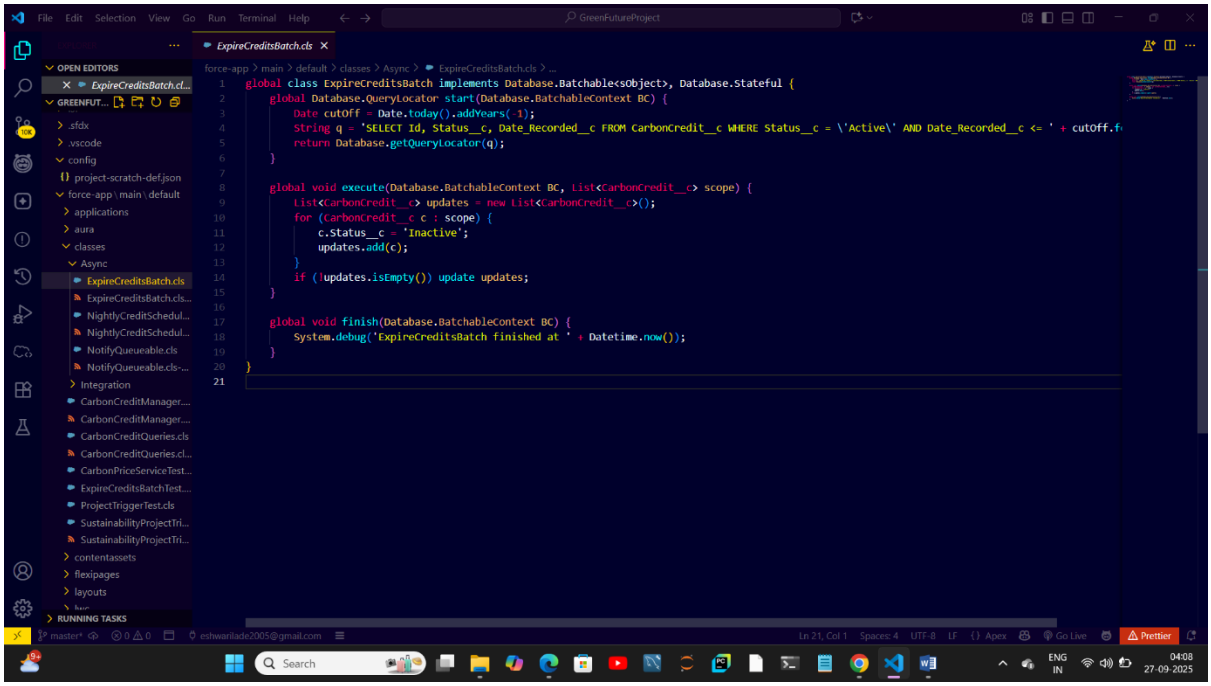


Fig.5.7. ExpireCreditsBatch Code

8. Queueable Apex

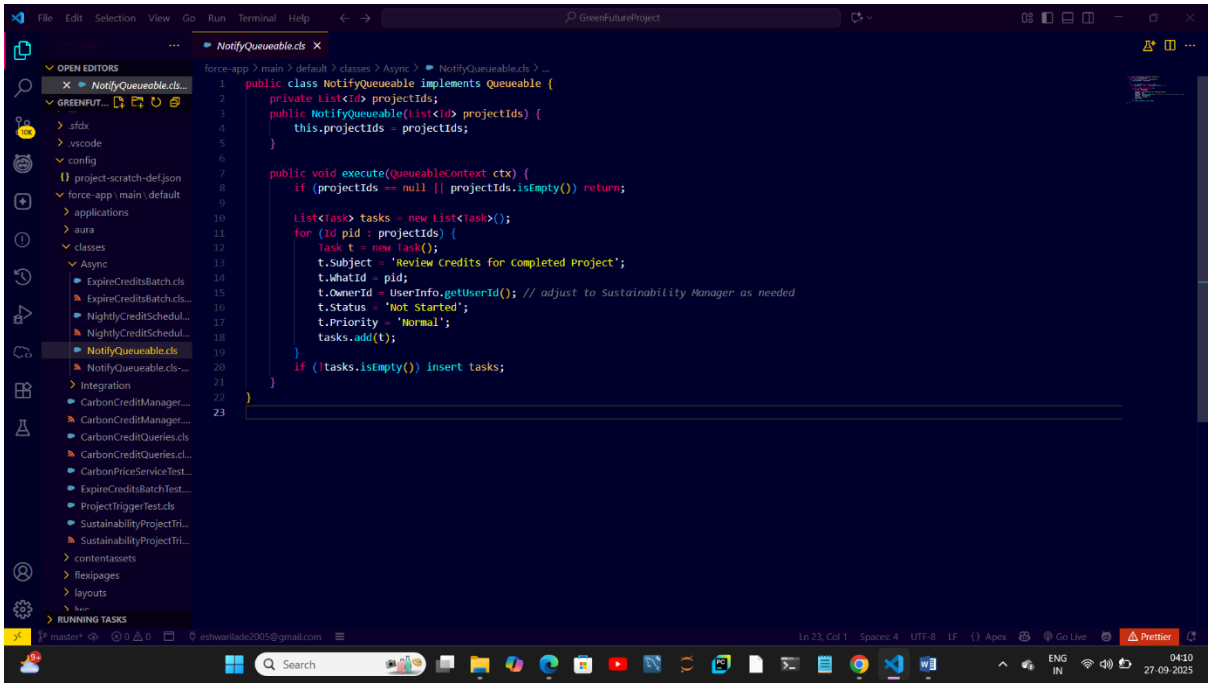


Fig.5.8. NotifyQueueable Code

9. Scheduled Apex

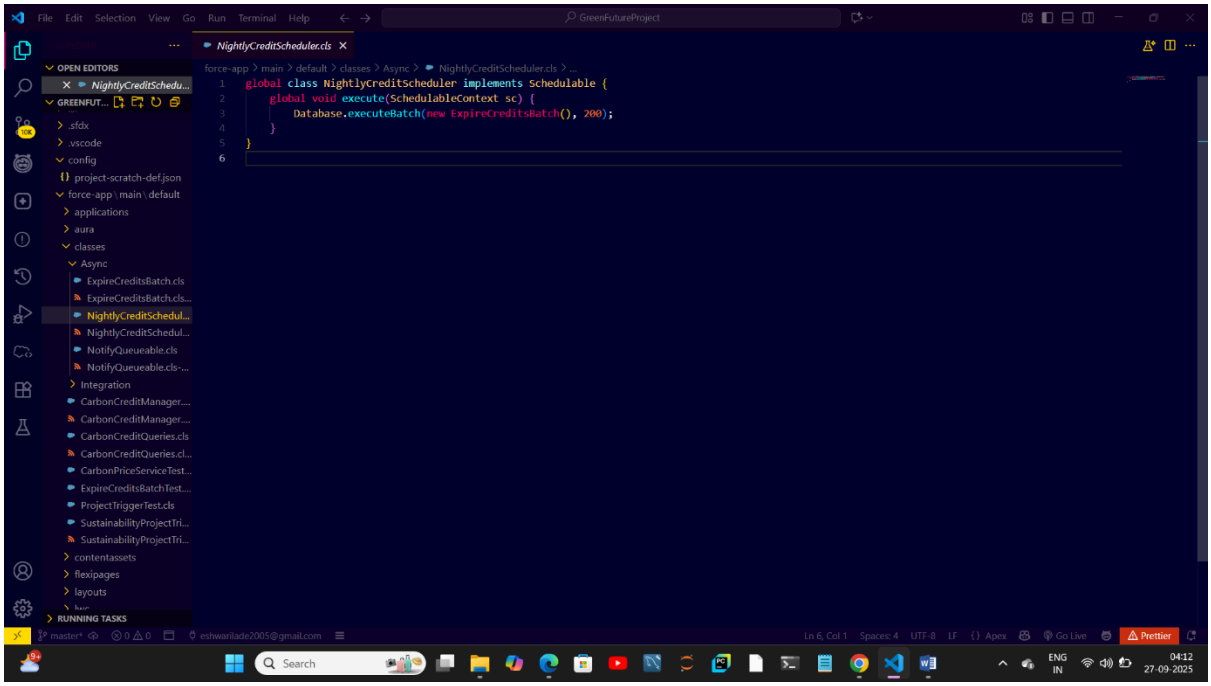


Fig.5.9. NightlyCreditScheduler Code

10. Exception Handling

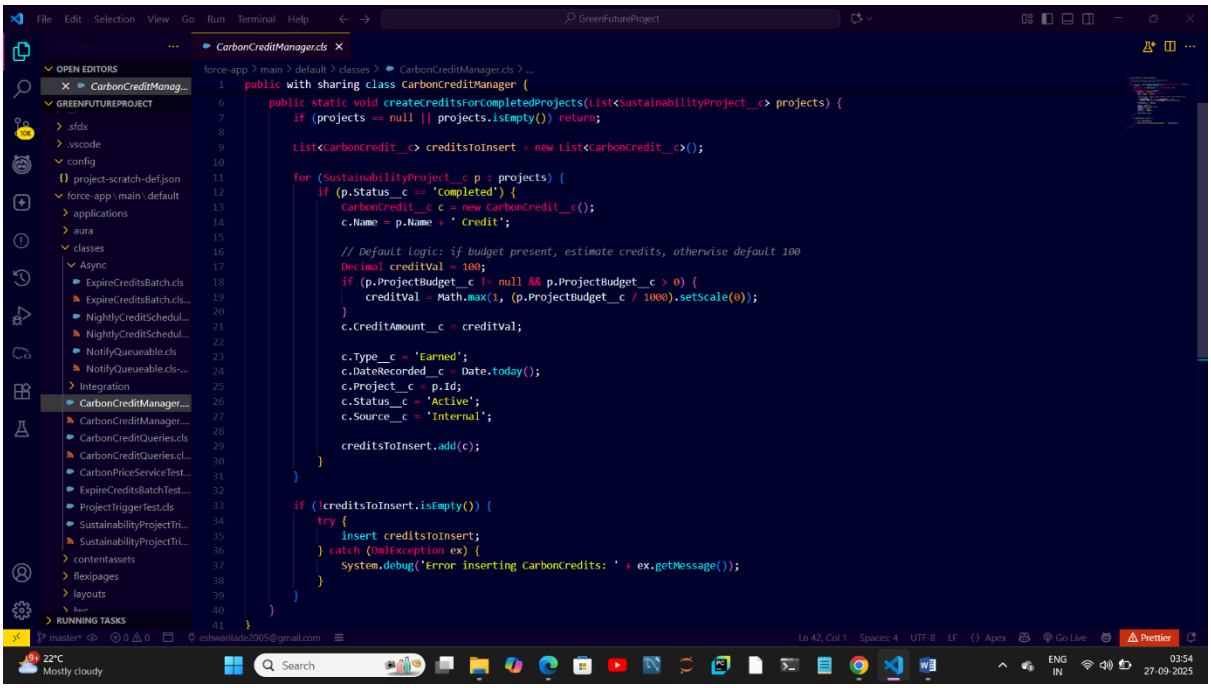


Fig.5.10. CarbonCreditManager Code

11. Test Classes

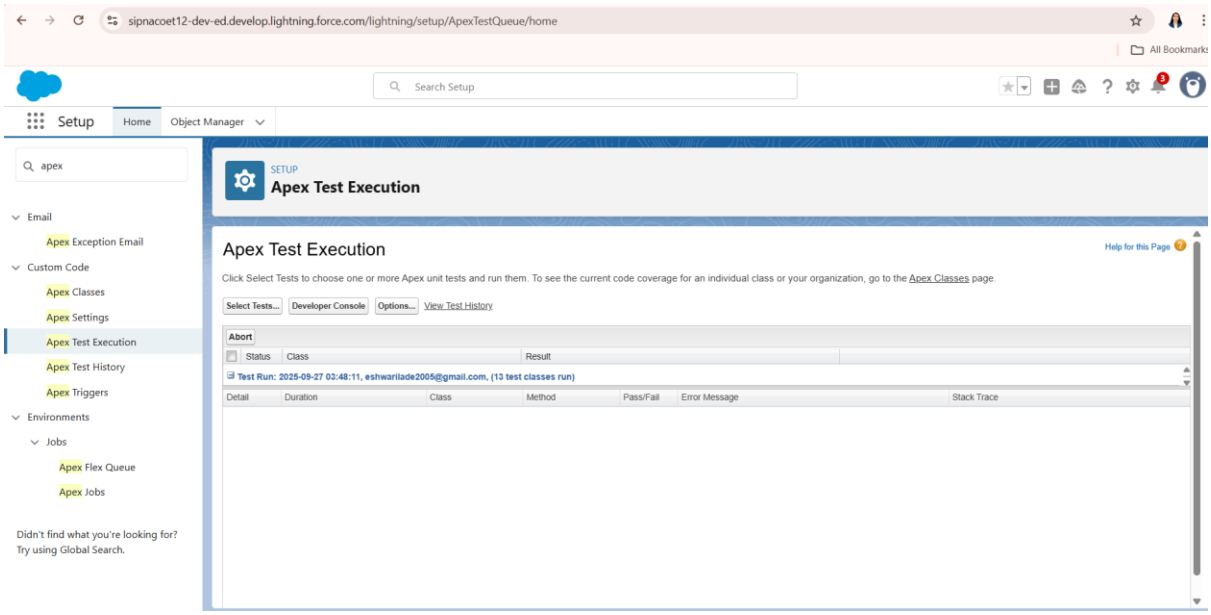
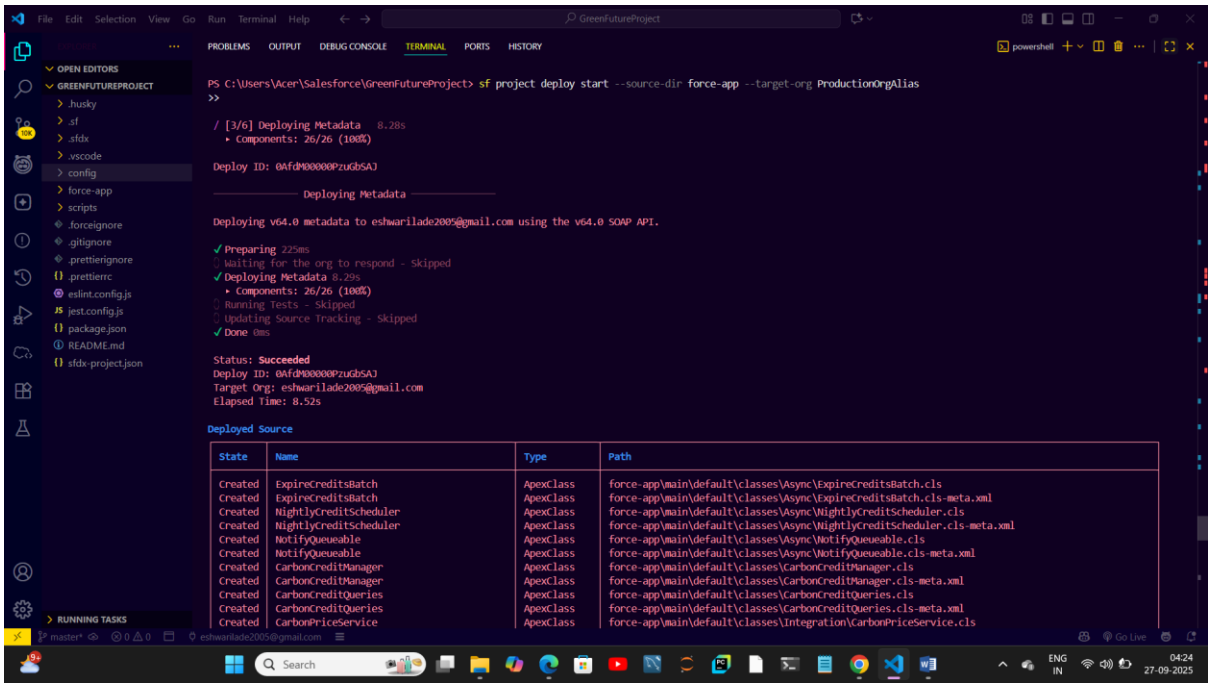
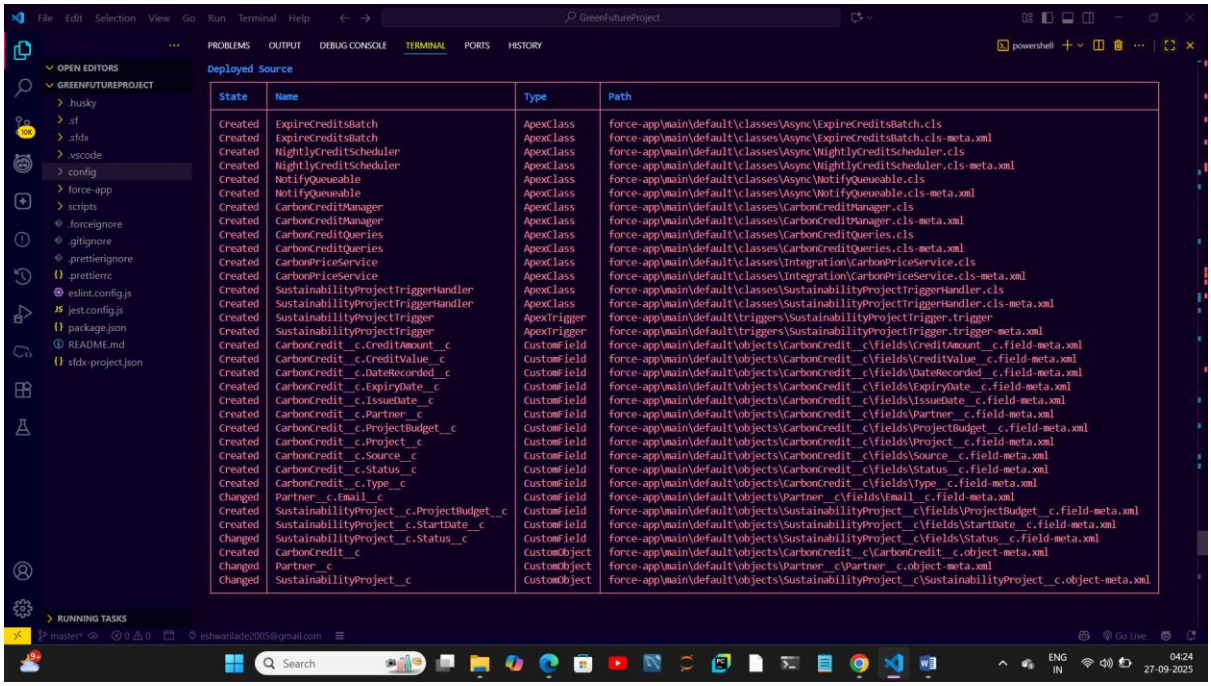


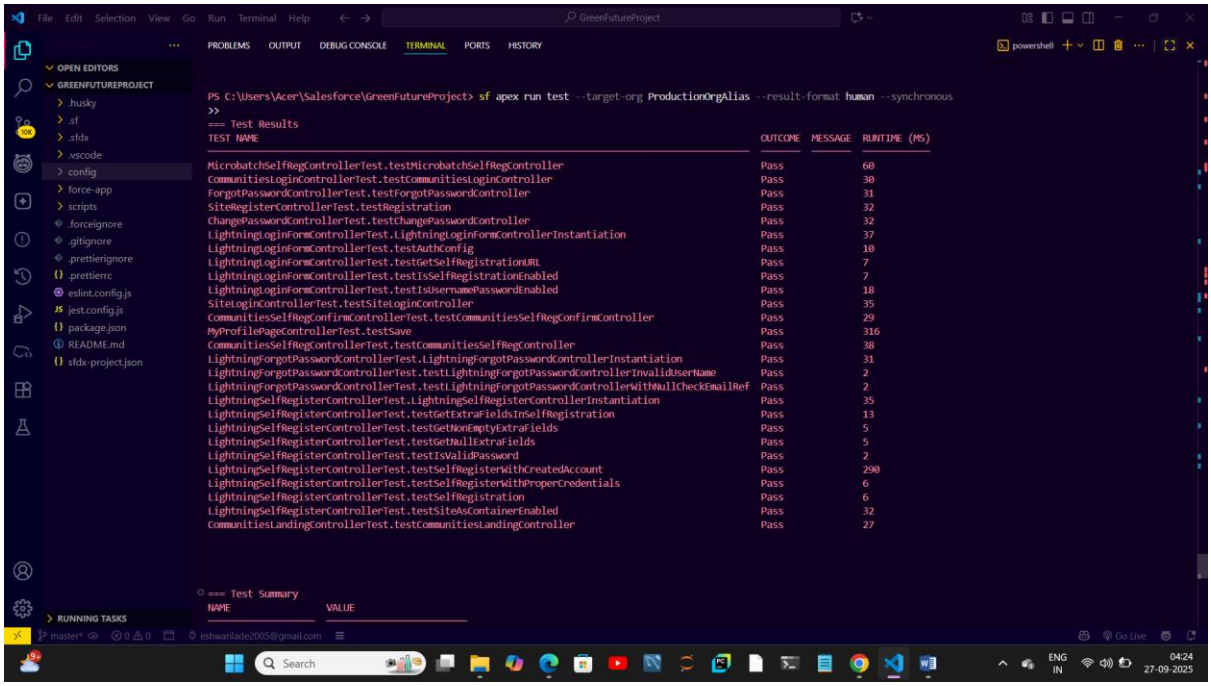
Fig.5.11. Apex Test Execution





Deployed Source

State	Name	Type	Path
Created	ExpireCreditsBatch	ApexClass	force-app\main\default\classes\Async\ExpireCreditsBatch.cls
Created	ExpireCreditsBatch	ApexClass	force-app\main\default\classes\Async\ExpireCreditsBatch.cls-meta.xml
Created	NightlyCreditScheduler	ApexClass	force-app\main\default\classes\Async\NightlyCreditScheduler.cls
Created	NightlyCreditScheduler	ApexClass	force-app\main\default\classes\Async\NightlyCreditScheduler.cls-meta.xml
Created	NotifyQueueable	ApexClass	force-app\main\default\classes\Async\NotifyQueueable.cls
Created	NotifyQueueable	ApexClass	force-app\main\default\classes\Async\NotifyQueueable.cls-meta.xml
Created	CarbonCreditManager	ApexClass	force-app\main\default\classes\CarbonCreditManager.cls
Created	CarbonCreditManager	ApexClass	force-app\main\default\classes\CarbonCreditManager.cls-meta.xml
Created	CarbonCreditQueries	ApexClass	force-app\main\default\classes\CarbonCreditQueries.cls
Created	CarbonCreditQueries	ApexClass	force-app\main\default\classes\CarbonCreditQueries.cls-meta.xml
Created	CarbonPriceService	ApexClass	force-app\main\default\classes\Integration\CarbonPriceService.cls
Created	CarbonPriceService	ApexClass	force-app\main\default\classes\Integration\CarbonPriceService.cls-meta.xml
Created	SustainabilityProjectTriggerHandler	ApexClass	force-app\main\default\classes\SustainabilityProjectTriggerHandler.cls
Created	SustainabilityProjectTriggerHandler	ApexClass	force-app\main\default\classes\SustainabilityProjectTriggerHandler.cls-meta.xml
Created	SustainabilityProjectTrigger	ApexTrigger	force-app\main\default\triggers\SustainabilityProjectTrigger.trigger
Created	SustainabilityProjectTrigger	ApexTrigger	force-app\main\default\triggers\SustainabilityProjectTrigger.trigger-meta.xml
Created	CarbonCredit__c.CreditAmount__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\CreditAmount__c.field-meta.xml
Created	CarbonCredit__c.CreditValue__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\CreditValue__c.field-meta.xml
Created	CarbonCredit__c.DateRecorded__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\DateRecorded__c.field-meta.xml
Created	CarbonCredit__c.ExpiryDate__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\ExpiryDate__c.field-meta.xml
Created	CarbonCredit__c.IssueDate__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\IssueDate__c.field-meta.xml
Created	CarbonCredit__c.Partner__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\Partner__c.field-meta.xml
Created	CarbonCredit__c.ProjectBudget__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\ProjectBudget__c.field-meta.xml
Created	CarbonCredit__c.Project__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\Project__c.field-meta.xml
Created	CarbonCredit__c.Source__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\Source__c.field-meta.xml
Created	CarbonCredit__c.Status__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\Status__c.field-meta.xml
Created	CarbonCredit__c.Type__c	CustomField	force-app\main\default\objects\CarbonCredit__c\fields\Type__c.field-meta.xml
Changed	Partner__c.Email__c	CustomField	force-app\main\default\objects\Partner__c\fields\Email__c.field-meta.xml
Created	SustainabilityProject__c.ProjectBudget__c	CustomField	force-app\main\default\objects\SustainabilityProject__c\fields\ProjectBudget__c.field-meta.xml
Created	SustainabilityProject__c.StartDate__c	CustomField	force-app\main\default\objects\SustainabilityProject__c\fields\StartDate__c.field-meta.xml
Changed	SustainabilityProject__c.Status__c	CustomField	force-app\main\default\objects\SustainabilityProject__c\fields\Status__c.field-meta.xml
Created	CarbonCredit__c	CustomObject	force-app\main\default\objects\CarbonCredit__c\CarbonCredit__c.object-meta.xml
Changed	Partner__c	CustomObject	force-app\main\default\objects\Partner__c\Partner__c.object-meta.xml
Changed	SustainabilityProject__c	CustomObject	force-app\main\default\objects\SustainabilityProject__c\SustainabilityProject__c.object-meta.xml



```
PS C:\Users\Acer\Salesforce\GreenFutureProject> sf apex run test --target-org ProductionOrgAlias --result-format human --synchronous
>>
=== Test Results
```

TEST NAME	OUTCOME	MESSAGE	RUNTIME (MS)
MicrobatchSelfRegControllerTest.testMicrobatchSelfRegController	Pass		60
CommunitiesLoginControllerTest.testCommunitiesLoginController	Pass		30
ForgotPasswordControllerTest.testForgotPasswordController	Pass		31
SiteRegisterControllerTest.testRegistration	Pass		32
ChangePasswordControllerTest.testChangePasswordController	Pass		32
LightningLoginFormControllerTest.LightningLoginFormControllerInstantiation	Pass		37
LightningLoginFormControllerTest.testAuthConfig	Pass		10
LightningLoginFormControllerTest.testGetSelfRegistrationURL	Pass		7
LightningLoginFormControllerTest.testIsSelfRegistrationEnabled	Pass		7
LightningLoginFormControllerTest.testIsUsernamePasswordEnabled	Pass		18
SiteLoginControllerTest.testSiteLoginController	Pass		35
CommunitiesSelfRegConfirmControllerTest.testCommunitiesSelfRegConfirmController	Pass		29
MyProfilePageControllerTest.testSave	Pass		316
CommunitiesSelfRegControllerTest.testCommunitiesSelfRegController	Pass		38
LightningForgotPasswordControllerTest.LightningForgotPasswordControllerInstantiation	Pass		31
LightningForgotPasswordControllerTest.testLightningForgotPasswordControllerInvalidUserName	Pass		2
LightningForgotPasswordControllerTest.testLightningForgotPasswordControllerWithNullCheckEmailRef	Pass		2
LightningSelfRegisterControllerTest.LightningSelfRegisterControllerInstantiation	Pass		35
LightningSelfRegisterControllerTest.testGetExtraFieldsInSelfRegistration	Pass		13
LightningSelfRegisterControllerTest.testGetNonEmptyExtraFields	Pass		5
LightningSelfRegisterControllerTest.testGetNullExtraFields	Pass		5
LightningSelfRegisterControllerTest.testIsValidPassword	Pass		2
LightningSelfRegisterControllerTest.testSelfRegisterWithCreatedAccount	Pass		290
LightningSelfRegisterControllerTest.testSelfRegisterWithProperCredentials	Pass		6
LightningSelfRegisterControllerTest.testSelfRegistration	Pass		6
LightningSelfRegisterControllerTest.testSiteAsContainerEnabled	Pass		32
CommunitiesLandingControllerTest.testCommunitiesLandingController	Pass		27

```
=== Test Summary
```

NAME	VALUE

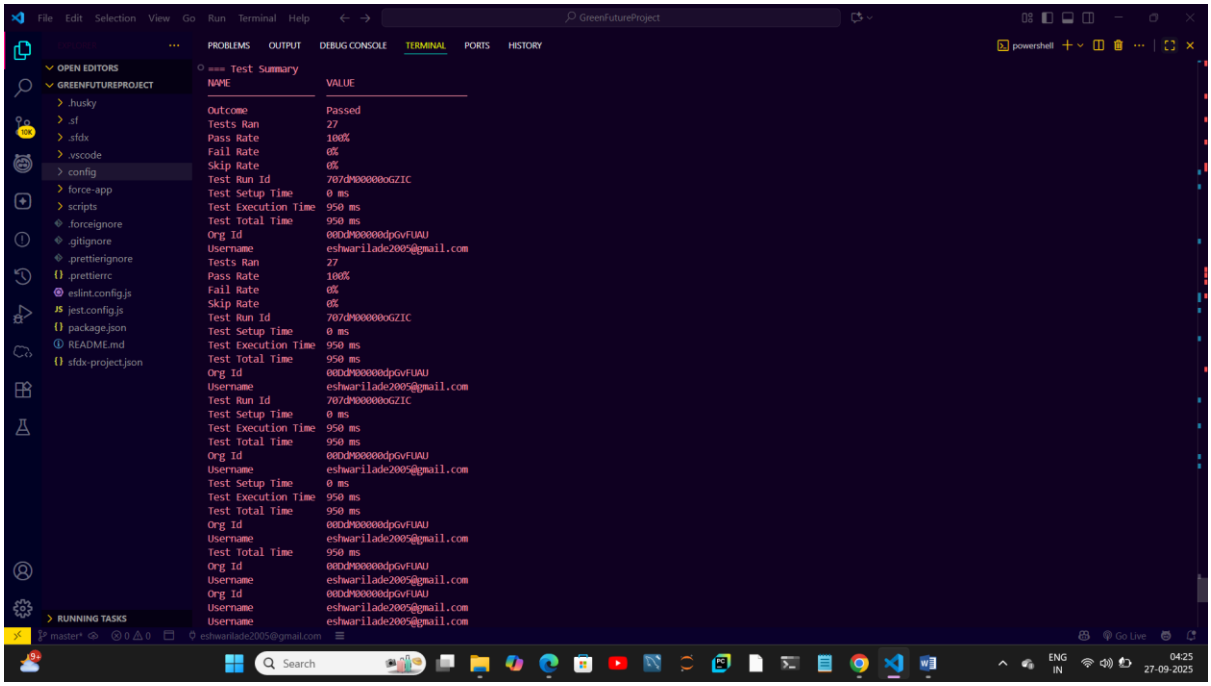


Fig.5.12. Test Results

12.Asynchronous Processing

- Covered with **Batch, Queueable, Scheduled** ☑