Phase 5 Summary: Apex Programming

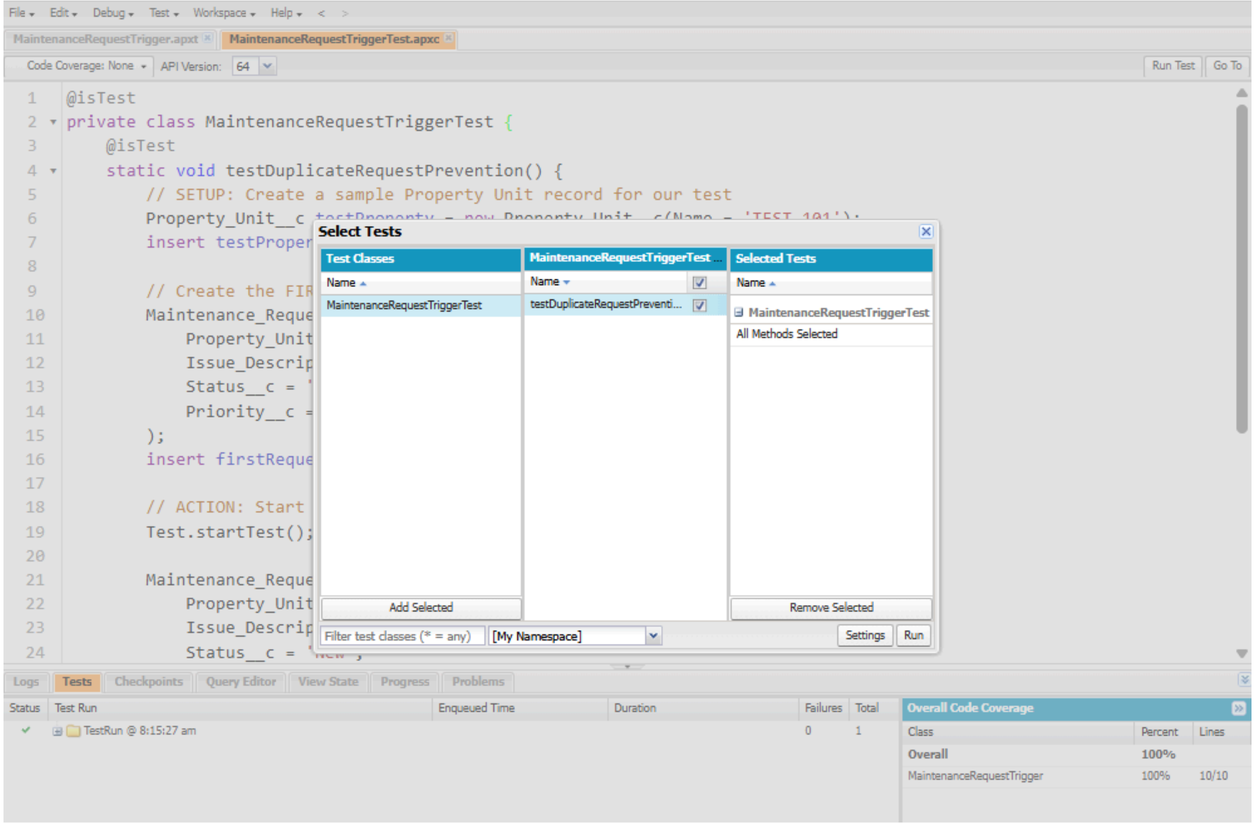
Project: Residential Maintenance Request Portal

This phase focused on using Apex code to implement a complex business rule that cannot be handled with declarative tools, ensuring a higher level of data integrity.

1. Apex Trigger: MaintenanceRequestTrigger

- **Purpose**: To automatically prevent users from creating a duplicate open maintenance request for the same property unit, which avoids sending multiple technicians to the same job.
- **How it Works**: This code runs automatically **before** a new Maintenance_Request__c record is saved. It queries the database to see if any other requests for that same property are still open (i.e., not "Completed"). If an open request is found, the trigger stops the new record from being saved and displays an error message to the user.

2. Apex Test Class: MaintenanceRequestTriggerTest



```
@isTest
private class MaintenanceRequestTriggerTest {
    @isTest
    static void testDuplicateRequestPrevention() {
        // SETUP: Create a sample Property Unit record for our test
        Property_Unit__c testProperty = new Property_Unit__c(Name = 'TEST-101');
        insert testProper

        // Create the FIR
        Maintenance_Reque
            Property_Unit
            Issue_Descrip
            Status__c = '
            Priority__c =
        );
        insert firstReque

        // ACTION: Start
        Test.startTest();

        Maintenance_Reque
            Property_Unit
            Issue_Descrip
            Status__c = 'New';
```

Select Tests

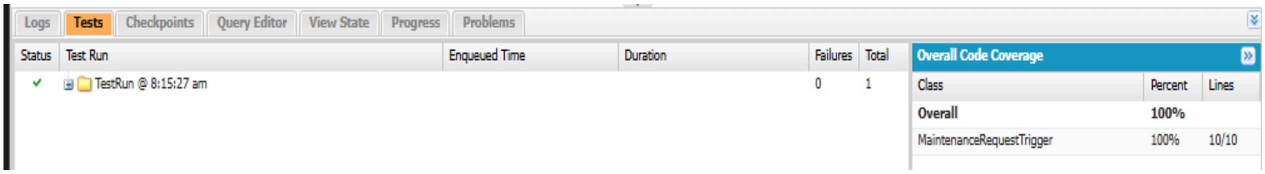
Test Classes	MaintenanceRequestTriggerTest ...	Selected Tests
Name	Name ☑	Name
MaintenanceRequestTriggerTest	testDuplicateRequestPreventi... ☑	⊟ MaintenanceRequestTriggerTest
		All Methods Selected

Status	Test Run	Enqueued Time	Duration	Failures	Total
✓	TestRun @ 8:15:27 am			0	1

Overall Code Coverage

Class	Percent	Lines
Overall	100%	
MaintenanceRequestTrigger	100%	10/10

- **Purpose**: To verify that the MaintenanceRequestTrigger works correctly and to meet Salesforce's mandatory 75% code coverage requirement for deployment.
- **How it Works**: This class creates a test scenario by first creating a sample property and a valid maintenance request. It then attempts to create a **second**, duplicate request for the same property. The test confirms that the trigger successfully blocks the second record from being saved and throws the expected error message. This test achieved 100% code coverage.



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