Project Files – Field Service WorkOrder Optimization

Date	24 June 2025
Team ID	LTVIP2025TMID31109
Project Name	Field Service WorkOrder Optimization

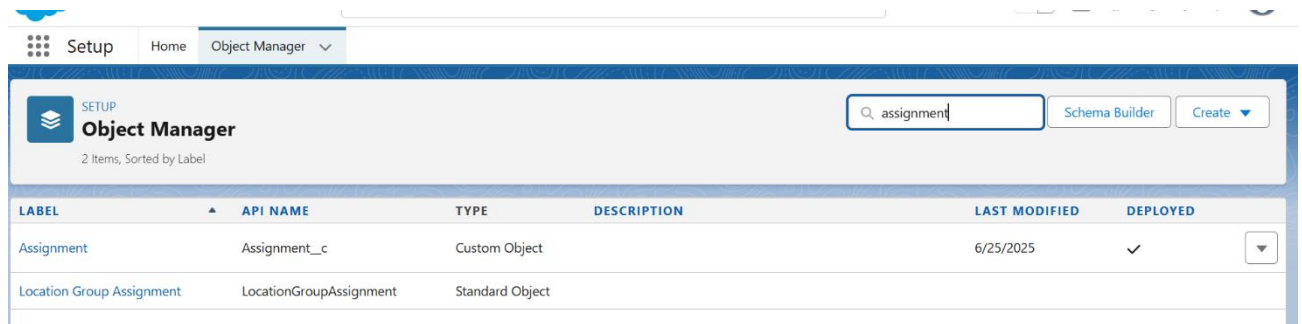## Custom Objects

1. Technician
2. WorkOrder
3. Assignment

Custom Object Tabs:

Lightning App

An app named **"Field Service WorkOrder Optimization"** was created.
It includes the tabs for:
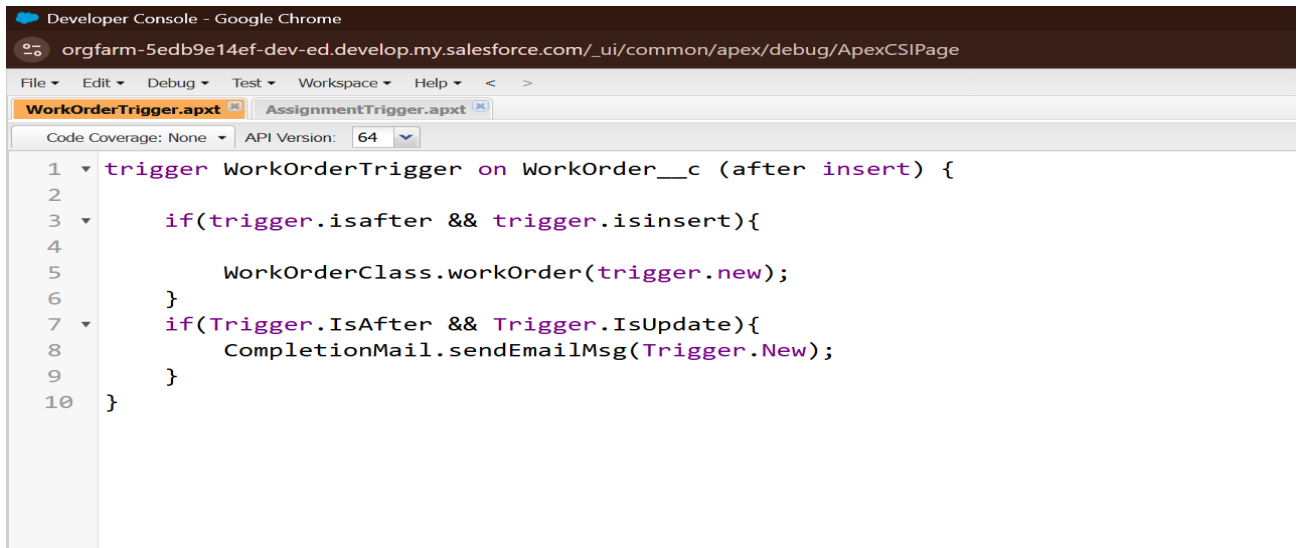
Triggers: Apex Trigger

Two triggers were implemented:
WorkOrderTrigger, which fires after insert and update to assign technicians and send resolution notifications.
AssignmentTrigger, which fires after insert to notify the technician via email.
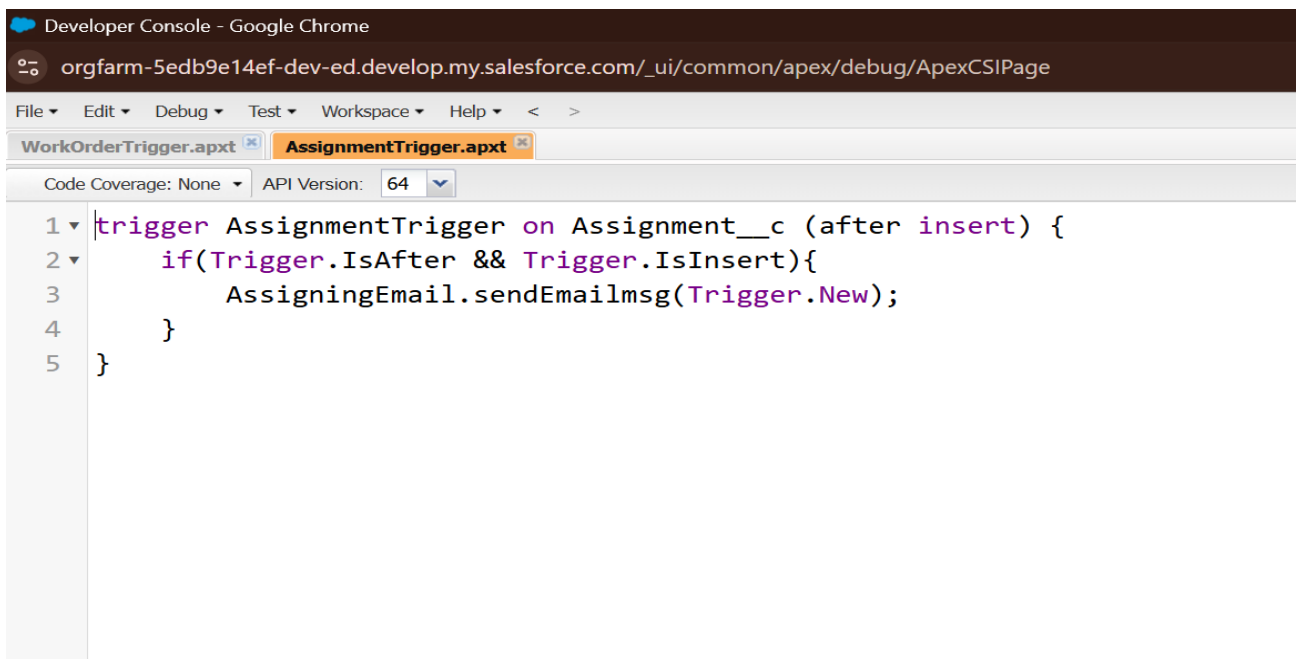
```
trigger WorkOrderTrigger on WorkOrder__c (after insert) {

    if(trigger.isafter && trigger.isinsert){

        WorkOrderClass.workOrder(trigger.new);
    }
    if(Trigger.IsAfter && Trigger.IsUpdate){
        CompletionMail.sendEmailMsg(Trigger.New);
    }
}
```



```
trigger AssignmentTrigger on Assignment__c (after insert) {
    if(Trigger.IsAfter && Trigger.IsInsert){
        AssigningEmail.sendEmailmsg(Trigger.New);
    }
}
```

Apex Code:Apex Classes

The project includes five Apex classes:

WorkOrderClass, AssigningEmail, CompletionMail, RecordDeletions, and ScheduleClass.

These classes are used to automate assignments, send email alerts, and clean up old records through scheduled jobs.

File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >

WorkOrderClass.apxc ✕   **AssigningEmail.apxc** ✕

Code Coverage: None ▾ API Version: 64 ▾ Go To

```
1 ▾ public class AssigningEmail {
2 ▾     public static void sendEmailmsg(List<Assignment__c> assRec){
3           List<messaging.SingleEmailMessage> myVar = new List<messaging.SingleEmailMessage>();
4           Map<id,Technician__c> tecnicians = new Map<id,Technician__c>([SELECT Id, Phone__c, Location__c, Skills__c, Name__
5           try{
6 ▾
7 ▾
8                                                                                                      age();
9
10
11
12
13
14                                                                                                     ;
15
16
17
```

Open ⊟ ☒

Entity Type	Entities		Related		
Entity Type	Name	Namespace ▲	Name	Extent	Direction
Classes	WorkOrderClass		← Assignmen...	ApexTrigger	Reference...
Triggers	AssigningEmail		Phone	CustomFiel...	References
Pages	CompletionMail		Location	CustomFiel...	References
Page Components	RecordDeletions		Skills	CustomFiel...	References
Objects	ScheduleClass		Availibility	CustomFiel...	References
Static Resources	Workorderobject		Name	CustomFiel...	References
Packages			Email	CustomFiel...	References
			Technician ...	CustomFiel...	References
			← Technician...	SObject	References

Open ☐ Filter Filter the repository (* = any string) ☐ Hide Managed Packages Refresh

Logs Tests Checkpoints Query Editor View State Progress Problems

User Application Operation Time ▾ Status Read Size

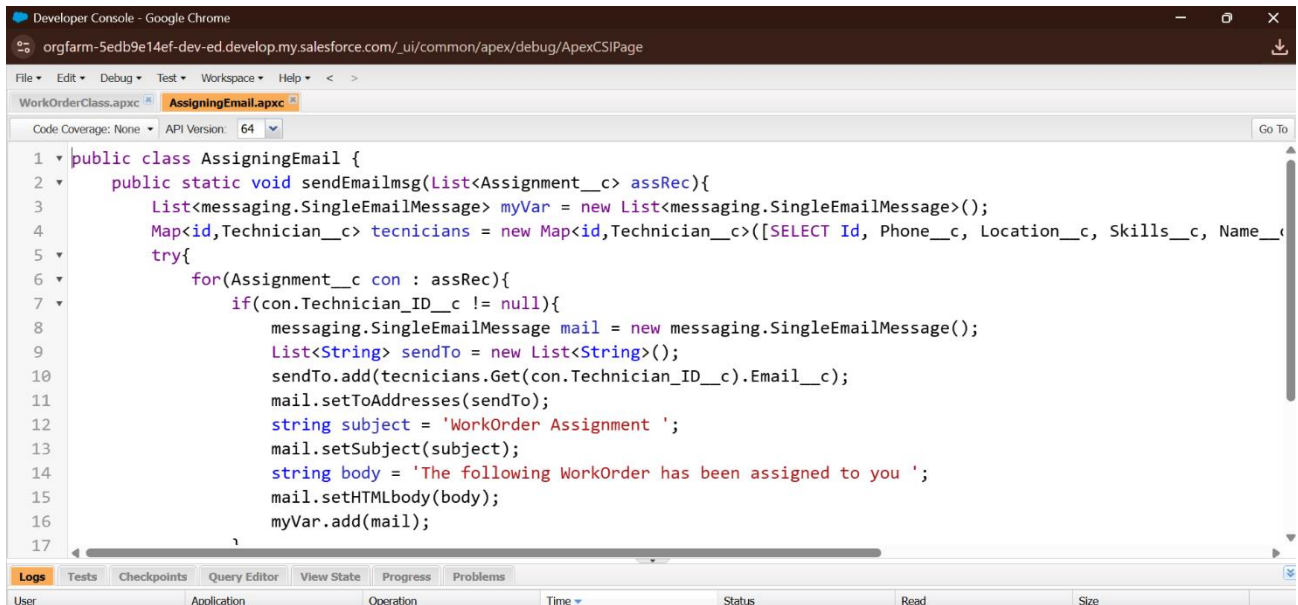File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >

WorkOrderClass.apxc ✕

Code Coverage: None ▾ API Version: 64 ▾ Go To

```
1 ▾ public class WorkOrderClass {
2 ▾     public static void workorder(List<Workorder__C> newListWorkOrder){
3           Map<Integer, List<String>> maptotech = new map<Integer,List<String>>();
4           integer num = 0;
5           List<WorkOrder__c> properWo = new List<Workorder__c>();
6           List<Assignment__c> lstAssignment = new List<Assignment__c>();
7           List<Technician__c> technicantoAssignment = new List<Technician__c>();
8 ▾         for(WorkOrder__c iter : newListWorkOrder){
9               List<String> lststring = new List<string>();
10 ▾            If(iter.Service_Type__c != null && iter.Location__c != null ){
11                   num = num+1;
12                   properWo.add(iter);
13                   lststring.add(iter.Service_Type__c);
14                   lststring.add(iter.Location__c);
15
16                   maptotech.put(num,lststring);
17               }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

User Application Operation Time ▾ Status Read Size

```
public class AssigningEmail {
    public static void sendEmailmsg(List<Assignment__c> assRec){
        List<messaging.SingleEmailMessage> myVar = new List<messaging.SingleEmailMessage>();
        Map<id,Technician__c> tecnicians = new Map<id,Technician__c>([SELECT Id, Phone__c, Location__c, Skills__c, Name__c
        try{
            for(Assignment__c con : assRec){
                if(con.Technician_ID__c != null){
                    messaging.SingleEmailMessage mail = new messaging.SingleEmailMessage();
                    List<String> sendTo = new List<String>();
                    sendTo.add(tecnicians.Get(con.Technician_ID__c).Email__c);
                    mail.setToAddresses(sendTo);
                    string subject = 'WorkOrder Assignment ';
                    mail.setSubject(subject);
                    string body = 'The following WorkOrder has been assigned to you ';
                    mail.setHTMLbody(body);
                    myVar.add(mail);
```

Validation Rules:

1. Technician Email Format

plaintext

CopyEdit

NOT(

REGEX(Email__c, "^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\\.[a-zA-Z]{2,4}$")

)

2. WorkOrder Required Fields

plaintext

CopyEdit

OR(

ISBLANK(Status__c),

ISBLANK(Location__c),

ISBLANK(Service_Type__c)

)

Permission Sets

Permission Set Name: TechnicianAccess
Access: Read-only access to Technician, WorkOrder, and Assignment custom objects.
Also includes field-level security permissions.

Recycle Bin	DeleteEvent	--	--	--
Reports	report	--	--	--
Resource Preferences	ResourcePreference	--	8	--
Salesforce Scheduler Setup Assistant	LightningSchedulerSetupAssistant	--	--	--
Sellers	Seller	No Access	12	--
Semantic Layer	SemanticModel	--	--	--
Site.com	Sites	--	--	--
Skill Requirements	SkillRequirement	--	8	--
Social Personas	SocialPersona	--	9	--
Streaming Channels	StreamingChannel	No Access	--	--
Subscriptions	ContentSubscriptions	--	--	--
Tasks	Task	--	23	--
Technicians	Technician__c	Read, Create, Edit	10	--
Today	Today	--	--	--
User External Credentials	UserExternalCredential	No Access	--	--
User Provisioning Requests	UserProvisioningRequest	--	14	--
Users	User	--	--	--
Voice Calls	VoiceCall	--	--	--
Web Cart Credits	WebCartCredit	--	5	--
workorder	workorder__c	Read, Create, Edit	11	--

Reports & Dashboards

Reports were created to monitor the system.

These include a WorkOrder Status Report and a Technician and Assignment Summary Report.

Dashboards visualize the data, showing overall WorkOrder optimization performance and comparing resolved vs unresolved work orders.

Reports:

- WorkOrder Status Report

- Technician and Assignment Summary Report

Dashboards:

- WorkOrder Optimization Overview

- Completed vs Pending WorkOrders (bar chart)

Field Service WorkO...   Home   workorder ⌄   Assignments ⌄   Technicians ⌄   Reports ⌄   Dashboards ⌄

Report: Technicians
Technician and Assignment Details Report

✏ Enable Field Editing   🔍   ●   ▼   ↻   Edit ⌄

Total Records
5
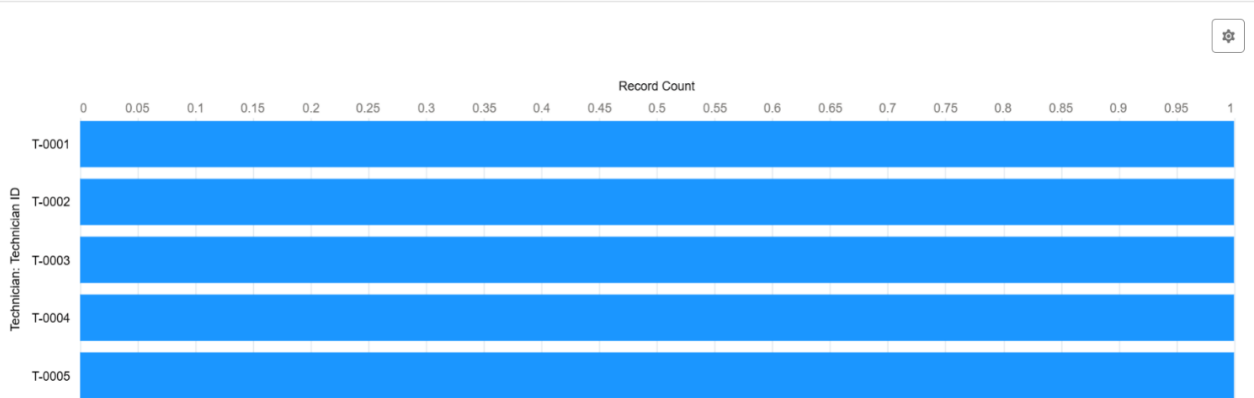
Record Count

Row Counts ✓   Detail Rows ○   Subtotals ✓   Grand Total ✓

Report: Assignments with WorkOrder ID
New Assignments with WorkOrder ID Report

✏ Enable Field Editing   🔍   ●   ▼   ↻   Edit ⌄

Total Records
5

Record Count

Row Counts ✓   Detail Rows ○   Subtotals ✓   Grand Total ✓

Dashboard
Technician and Assignment Details Reports
As of Jun 27, 2025, 10:51 AM·ⓘ·Viewing as kale Satya Sai Nivas

Refresh   Edit   Subscribe

Technician and Assignment Details Report

Record Count

| | 0 | 0.2 | 0.4 | 0.6 | 0.8 | 1 |

T-0001 — 1
T-0002 — 1
T-0003 — 1
T-0004 — 1
T-0005 — 1

Technician: Technician ID

View Report (Technician and Assi...   As of Jun 27, 2025, 10:51 AM

WorkOrders Status Reports

Record Count

workorder: WorkOrder ID
W-101 ●
W-102 ●
W-103 ●
W-104 ●
W-105 ●

5

(1, 1, 1, 1, 1)

View Report (WorkOrders Status Reports)   As of Jun 27, 2025, 10:50 AM