

# **FIELD SERVICE WORKORDER OPTIMIZATION**

## Report



BY-

Bandi Veera Venkata Satyanarayana

venkatbandi9030@@gmail.com

Malla Reddy University

## **PROJECT ABSTRACT**

The Field Service Workorder Optimization project is designed to improve the efficiency and effectiveness of managing field service operations. By implementing automated scheduling systems, work orders are prioritized and assigned based on technician availability, skill sets, and proximity, reducing both downtime and travel time. Real-time data integration and GPS tracking provide technicians with the most current information and directions, ensuring smooth communication with the back office. Technicians can easily access and update job details through a user-friendly interface, while managers gain insights from dashboards displaying key performance metrics. This optimization not only enhances operational efficiency and lowers costs but also boosts customer satisfaction by ensuring timely, high-quality service. By leveraging technology and data analytics, the project significantly streamlines field service management, leading to better resource utilization and improved service outcomes.

## **INTRODUCTION**

Efficient field service management is essential for organizations striving to deliver prompt, high-quality customer service. The Field Service Workorder Optimization project tackles this challenge by utilizing advanced scheduling algorithms, real-time data integration, and smart resource allocation. In industries where minimizing downtime, reducing travel time, and boosting customer satisfaction are critical, this project aims to optimize the management and execution of work orders. By integrating technology and data-driven strategies, it seeks to modernize traditional field service operations, ensuring efficient resource use and improved service delivery.

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## 1. Salesforce -

- **Creating Developer Account** : Created a developer organization in salesforce platform by filling all the relevant details.

- **Account Activation** : Then I have got the mail, verified my account, and set up a password.

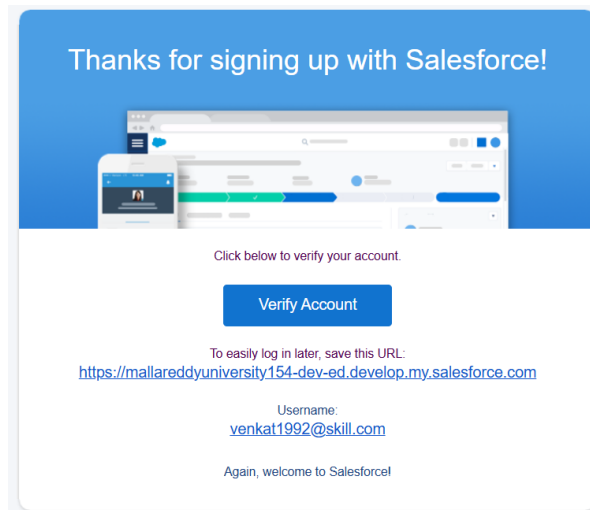


FIG 1.1: Verification Mail

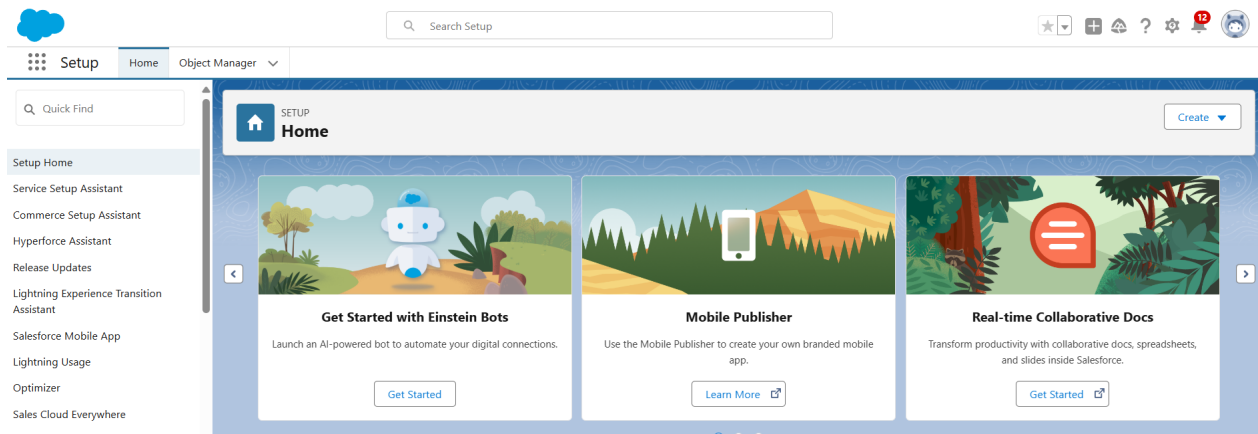


FIG 1.1: Home Page

## 2. Object

- **Create Technician Object** : After downloading the given Technician spreadsheet, create custom object from spreadsheet, upload the technician.csv file and import the data as shown.

- **Create WorkOrder Object** : Same steps to be followed for work order object, here we no need to import the data.

- **Create Assignment Object** : Creating a custom object "Assignment" and enter details, save.

CSV File Details

Encoding Format: Unicode (UTF8) | Values Separated By: Comma | Field Label Source: Detect from row | \* Field Labels Row: 1 | Import 5 rows of Data?: Yes, import data | Record Name Field: Technician ID

Fields 7 of 7 to import | Hide mapped fields

IMPORT FILE FIELD NAME	Salesforce FIELD NAME	Salesforce FIELD TYPE	ADD TO LAYOUTS	FIELD PREVIEW
✓ Technician ID	Technician ID	Text	<input checked="" type="checkbox"/>	T-0001
✓ Name	Name	Text	<input checked="" type="checkbox"/>	Raghu
✓ Phone	Phone	Phone	<input checked="" type="checkbox"/>	7892341560
✓ Email	Email	Email	<input checked="" type="checkbox"/>	example@gmail.com
✓ Location	Location	Picklist	<input checked="" type="checkbox"/>	Hyderabad
✓ Availability	Availability	Picklist	<input checked="" type="checkbox"/>	Available
✓ Skills	Skills	Picklist	<input checked="" type="checkbox"/>	Machine Installation

Back | Next

FIG 2.1: Create Technician Object

CSV File Details

Encoding Format: Unicode (UTF8) | Values Separated By: Comma | Field Label Source: Detect from row | \* Field Labels Row: 1 | Import 2 rows of Data?: No, skip import | Record Name Field: WorkOrder ID

Fields 7 of 7 to import | Hide mapped fields

IMPORT FILE FIELD NAME	Salesforce FIELD NAME	Salesforce FIELD TYPE	ADD TO LAYOUTS	FIELD PREVIEW
✓ WorkOrder ID	WorkOrder ID	Text	<input checked="" type="checkbox"/>	WO-[0001]
✓ Email	Email	Email	<input checked="" type="checkbox"/>	example1@workorder.com
✓ Service Type	Service Type	Picklist	<input checked="" type="checkbox"/>	Maintenance
✓ Description	Description	Text Area (Long)	<input checked="" type="checkbox"/>	
✓ Location	Location	Picklist	<input checked="" type="checkbox"/>	Pune
✓ Priority	Priority	Picklist	<input checked="" type="checkbox"/>	Low
✓ Status	Status	Picklist	<input checked="" type="checkbox"/>	Submitted

Back | Next

FIG 2.2 : Create WorkOrder Object

Setup | Home | Object Manager

### New Custom Object

Custom Object Definition Edit | Save | Save & New | Cancel

**Custom Object Information**

The singular and plural labels are used in tabs, page layouts, and reports.

Label: Assignment | Example: Account  
 Plural Label: Assignments | Example: Accounts  
 Starts with vowel sound: ☐

The Object Name is used when referencing the object via the API.

Object Name: Assignment | Example: Account  
 Description:

Context Sensitive Help Setting: ☒ Open the standard Salesforce.com Help & Training window  
☐ Open a window using a Visualforce page  
 Content Name:

**Enter Record Name Label and Format**

The Record Name appears in page layouts, key lists, related lists, lookups, and search results. For example, the Record Name for Account is "Account Name" and for Case it is "Case Number". Note that the Record Name field is always called "Name" when referenced via the API.

Record Name: Assignment ID | Example: Account Name  
 Data Type: Auto Number | Warning: If you plan to insert a high volume of records in this object, via the API for example, use the Text data type.  
 Display Format: A-0000 | Example: A-0000 | What is This?  
 Starting Number: 1

Optional Features

FIG 2.3 : Create Assignment Object

### 3. Tabs

- **Creating a Custom Tab** : Select the Tabs option in the Quick find box and create a new tab named Assignment.

The screenshot shows the 'Edit Custom Object Tab' page for the 'Assignments' object. The page title is 'Edit Custom Object Tab Assignments'. Below the title, it says 'Fill in the fields below to define the custom tab.' The main section is 'Custom Tab Definition Edit'. Under 'Custom Object Tab Information', there are fields for 'Tab Label' (Assignments), 'Object' (Assignment), and 'Tab Style' (Box). There is also an optional field for 'Splash Page Custom Link' set to '--None--'. A description field is present with the placeholder 'Enter a short description.' At the bottom, there are 'Save' and 'Cancel' buttons.

FIG 3.1 : Custom Tab

- By default, Technician and WorkOrder tabs will be created once the custom object is created.

The screenshot shows the 'Custom Tabs' page in Salesforce Setup. It lists various types of custom tabs: Custom Object Tabs, Web Tabs, Visualforce Tabs, Lightning Component Tabs, and Lightning Page Tabs. Under 'Custom Object Tabs', there is a table with columns 'Action', 'Label', 'Tab Style', and 'Description'. The table lists three tabs: 'Assignments' (Box style), 'Technician' (Box style), and 'WorkOrder' (Box style). Each tab has 'Edit' and 'Delete' links. Below each section, there is a 'New' button and a 'What Is This?' link.

FIG 3.2: Custom tabs List

### 4. The Lightning App

- **Create a Lightning App** : Again, in quick find box, go to app manager and create new lightning app with the name of project and some further details.
- **Add Navigation Items** (i.e, Home, WorkOrder, Assignments, Technician, Reports & Dashboards)
- **Add User Profile** (i.e, System Administrator)
- Then click **save** and finish

New Lightning App

### App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

**App Details**

\* App Name ⓘ  
Field Service WorkOrder Optimization

\* Developer Name ⓘ  
Field\_Service\_WorkOrder\_Optimization

Description ⓘ  
optimizing workorder in field service

**App Branding**

Image ⓘ  
[Image]  
Clear

Primary Color Hex Value ⓘ  
#0070D2

Org Theme Options  
☐ Use the app's image and color instead of the org's custom theme

App Launcher Preview

Next

FIG 4.1: Create Lightning App

New Lightning App

**Available Items**

Create

dash

**Selected Items**

Home

WorkOrder

Assignments

Technician

Reports

Dashboards

Back

Next

FIG 4.2 : Add Navigation Items

New Lightning App

**Available Profiles**

system

Salesforce API Only System Integrations

**Selected Profiles**

System Administrator

Back

Save & Finish

FIG 4.3 Add User Profile

## 5. Fields & Relationships

SETUP > OBJECT MANAGER  
**Assignment**

Details  
**Fields & Relationships**

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Search Layouts  
List View Button Layout  
Restriction Rules  
Scoping Rules  
Object Access  
Triggers

Assignment Custom Field  
**WorkOrder ID**  
[Back to Assignment](#)

Validation Rules (0)

**Custom Field Definition Detail** [Edit](#) [Set Field-Level Security](#) [View Field Accessibility](#) [Where is this used?](#)

**Field Information**

Field Label	WorkOrder ID	Object Name	Assignment
Field Name	WorkOrder_ID	Data Type	Lookup
API Name	WorkOrder_ID__c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:03 pm	Modified By	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:03 pm

**Lookup Options**

Related To	WorkOrder	Child Relationship Name	Assignments
Related List Label	Assignments		
Required	<input type="checkbox"/>		
What to do if the lookup record is deleted?	Clear the value of this field		

**Lookup Filter**

No lookup filters defined.

**Validation Rules** [New](#)

No validation rules defined.

FIG 5.1: Lookup WorkOrder

- **Creating Lookup Field** In Assignment Object : In Assignment go to Fields & Relationships and create a new field labeled as WorkOrder and datatype as Lookup.

SETUP > OBJECT MANAGER  
**WorkOrder**

Details  
**Fields & Relationships**

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Search Layouts  
List View Button Layout  
Restriction Rules  
Scoping Rules  
Object Access  
Triggers

**Picklist Options**

Restrict picklist to the values defined in the value set ☒

Controlling Field [None](#)

**Picklist Values Used**

Active and inactive picklist values 4 (1,000 max)

**Field Dependencies** [New](#)

No dependencies defined.

**Validation Rules** [New](#)

No validation rules defined.

**Values** [New](#) [Reorder](#) [Replace](#) [Printable View](#) [Chart Colors](#)

Action	Values	API Name	Default	Chart Colors	Modified By
<input type="checkbox"/> <a href="#">Edit</a> / <a href="#">Del</a> / <a href="#">Deactivate</a>	Value1	Value1	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 6:50 pm
<input type="checkbox"/> <a href="#">Edit</a> / <a href="#">Del</a> / <a href="#">Deactivate</a>	Nasik	Nasik	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:04 pm
<input type="checkbox"/> <a href="#">Edit</a> / <a href="#">Del</a> / <a href="#">Deactivate</a>	Warangal	Warangal	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:04 pm
<input type="checkbox"/> <a href="#">Edit</a> / <a href="#">Del</a> / <a href="#">Deactivate</a>	Nanded	Nanded	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:04 pm

**Inactive Values** [Delete Unused Values](#)

No Inactive Values values defined.

[Back to Top](#) Always show me [more](#) records per related list

FIG 5.2: Update Location Picklist

- **Manage your Picklist Values** : In Object Manager select WorkOrder object go to fields & relationships. In that location field add new values (i.e, Nasik, Warangal, Nanded).

- **Add more values** in the fields of priority(i.e, High) and Service type(i.e, Hardware repair, Troubleshoot/Debugging, Lane-Management).



SETUP > OBJECT MANAGER

## WorkOrder

Details

**Fields & Relationships**

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

**Field Dependencies** [New](#) [Field Dependencies Help](#)

No dependencies defined.

**Validation Rules** [New](#) [Validation Rules Help](#)

No validation rules defined.

**Values** [New](#) [Reorder](#) [Replace](#) [Printable View](#) [Chart Colors](#) [Delete Selected](#) [Deactivate Selected](#) [Replace Selected](#) [Values Help](#)

Action	Values	API Name	Default	Chart Colors	Modified By
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Value1	Value1	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 6:50 pm
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	High	High	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:04 pm

**Inactive Values** [Delete Unused Values](#) [Inactive Values Help](#)

No inactive values defined.

[Back To Top](#) Always show me [more](#) records per related list

FIG 5.3 Priority Field

SETUP > OBJECT MANAGER

## WorkOrder

Details

**Fields & Relationships**

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

**Validation Rules** [New](#) [Validation Rules Help](#)

No validation rules defined.

**Values** [New](#) [Reorder](#) [Replace](#) [Printable View](#) [Chart Colors](#) [Delete Selected](#) [Deactivate Selected](#) [Replace Selected](#) [Values Help](#)

Action	Values	API Name	Default	Chart Colors	Modified By
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Value1	Value1	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 6:50 pm
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Hardware repair	Hardware repair	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:05 pm
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Troubleshoot/Debugging	Troubleshoot/Debugging	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:05 pm
<a href="#">Edit</a>   <a href="#">Del</a>   <a href="#">Deactivate</a>	Lane-Management	Lane-Management	<input type="checkbox"/>	Assigned dynamically	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:05 pm

**Inactive Values** [Delete Unused Values](#) [Inactive Values Help](#)

No inactive values defined.

[Back To Top](#) Always show me [more](#) records per related list

FIG 5.4 Service Type Field

- **Creating Formula Field** in WorkOrder Object: Now create a Formula Datatype and give the field label as "date". The formula is "CreateDate".

SETUP > OBJECT MANAGER

## WorkOrder

Details

**Fields & Relationships**

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

WorkOrder Custom Field

### Date

[Back to WorkOrder](#) [Help for this Page](#)

**Custom Field Definition Detail** [Edit](#) [Set Field-Level Security](#) [View Field Accessibility](#) [Where is this used?](#)

**Field Information**

Field Label	Date	Object Name	WorkOrder
Field Name	Date		
API Name	Date__c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:06 pm	Modified By	Veera Venkata Satyanarayana Bandi, 27/10/2024, 7:06 pm

**Formula Options**

Data Type	Formula
CreateDate	

FIG 5.5 Date Formula Field

- Now, in the Assignment object, create a Formula Datatype in Fields & relationships. Add Technician ID with return type Date.

SETUP > OBJECT MANAGER  
**Assignment**

Details  
**Fields & Relationships**

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Search Layouts  
List View Button Layout

Assignment Custom Field  
**Technician ID**  
[Back to Assignment](#)

Validation Rules (0)

Custom Field Definition Detail [Edit](#) [Set Field-Level Security](#) [View Field Accessibility](#) [Where is this used?](#)

**Field Information**

Field Label	Technician ID	Object Name	Assignment
Field Name	Technician_ID	Data Type	Lookup
API Name	Technician_ID__c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	Veera Venkata Sahyanarayana Bandi, 27/10/2024, 7:07 pm	Modified By	Veera Venkata Sahyanarayana Bandi, 27/10/2024, 7:07 pm

**Lookup Options**

Related To	Technician	Child Relationship Name	Assignments
Related List Label	Assignments		
Required	<input type="checkbox"/>		

FIG 5.6 Lookup Technician ID

- Add Assignment Date with Formula with return type date (WorkOrder\_ID\_\_r.Date\_\_c).

SETUP > OBJECT MANAGER  
**Assignment**

Details  
**Fields & Relationships**

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Search Layouts  
List View Button Layout

Assignment Custom Field  
**Assignment Date**  
[Back to Assignment](#)

Custom Field Definition Detail [Edit](#) [Set Field-Level Security](#) [View Field Accessibility](#) [Where is this used?](#)

**Field Information**

Field Label	Assignment Date	Object Name	Assignment
Field Name	Assignment_Date		
API Name	Assignment_Date__c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	Veera Venkata Sahyanarayana Bandi, 27/10/2024, 7:08 pm	Modified By	Veera Venkata Sahyanarayana Bandi, 27/10/2024, 7:08 pm

**Formula Options**

Data Type	Formula
	(WorkOrder_ID__r.Date__c)

FIG 5.7 Formula Assignment Date

- Add Completion Date with Formula with return type date " IF(ISPICKVAL(WorkOrder\_ID\_\_r.Status\_\_c , 'Resolved'), WorkOrder\_ID\_\_r.LastModifiedDate , NULL)"

SETUP > OBJECT MANAGER  
**Assignment**

Details  
**Fields & Relationships**

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Search Layouts  
List View Button Layout

Assignment Custom Field  
**Completion Date**  
[Back to Assignment](#)

Custom Field Definition Detail [Edit](#) [Set Field-Level Security](#) [View Field Accessibility](#) [Where is this used?](#)

**Field Information**

Field Label	Completion Date	Object Name	Assignment
Field Name	Completion_Date		
API Name	Completion_Date__c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	Veera Venkata Sahyanarayana Bandi, 27/10/2024, 7:09 pm	Modified By	Veera Venkata Sahyanarayana Bandi, 27/10/2024, 7:09 pm

**Formula Options**

Data Type	Formula
	IF(ISPICKVAL(WorkOrder_ID__r.Status__c , 'Resolved'), WorkOrder_ID__r.LastModifiedDate , NULL)

FIG 5.8 Formula Completion Date

## 6. Profiles -

**Technician Profile :** To create a new profile in Salesforce, navigate to Setup, type "Profiles" in the Quick Find box, and select "Profiles." Click "New Profile," choose "Standard Platform User" as the existing profile, name it "Technician," and click "Save." On the profile page, click "Edit." Scroll to Custom Object Permissions and grant Readonly access for Technician, WorkOrder, and Assignment objects, then click "Save." On the profile detail page, scroll to Custom Field-Level Security, click "View" next to the WorkOrder object, then "Edit." Enable the checkbox for the Status field and click "Save."

The screenshot shows the 'Profile Edit' page for the 'Standard Platform User' profile. The page includes a 'Profile Edit' section with 'Save', 'Save & New', and 'Cancel' buttons. Below this, the 'Name' is 'Standard Platform User' and the 'User License' is 'Salesforce Platform'. The 'Custom Profile' checkbox is unchecked. The 'Custom App Settings' section contains two tables. The first table lists 'Analytics Studio (standard\_\_Insights)', 'App Launcher (standard\_\_AppLauncher)', and 'Field Service WorkOrder Optimization (Field\_Service\_WorkOrder\_Optimization)' with 'Visible' and 'Default' checkboxes. The second table lists 'Platform (standard\_\_Platform)' and 'WDC (standard\_\_Work)' with 'Visible' and 'Default' checkboxes. The 'Service Provider Access' and 'Tab Settings' sections are also visible.

FIG 6.1 Technician Profile

## 7. Users

- Create User : Go to User and create a new one with new name and other details such as last-name, alias, email, username, nickname, user license, and profiles.

The screenshot shows the 'User Edit' page for the user 'Elina Gilbert'. The page includes a 'User Edit' section with 'Save', 'Save & New', and 'Cancel' buttons. Below this, the 'General Information' section contains fields for 'First Name', 'Last Name', 'Alias', 'Email', 'Username', 'Nickname', 'Title', 'Company', 'Department', and 'Division'. The 'Role' dropdown is set to '<None Specified>', the 'User License' is 'Salesforce Platform', and the 'Profile' is 'Technician'. The 'Active' checkbox is checked. The 'Marketing User', 'Offline User', 'Knowledge User', 'Flow User', 'Service Cloud User', 'Site.com Contributor User', and 'Site.com Publisher User' checkboxes are unchecked.

FIG 7.1 User

## 8. Apex Trigger

- **Create Apex Class** : To create a new Apex Class in Salesforce, go to Setup, click the gear icon, and select "Developer Console." The Developer Console will open in a new window. Click on "File," then "New," and select "Apex Class." Name the class "WorkOrderClass" and click "OK."
- **Create Apex Trigger** : To create a new Apex Trigger in Salesforce, open the Developer Console, click on "File," then "New," and select "Apex Trigger." Name the trigger "WorkOrderTrigger" and select "WorkOrder\_\_c" from the sObject dropdown. Click "Submit" to create the trigger.

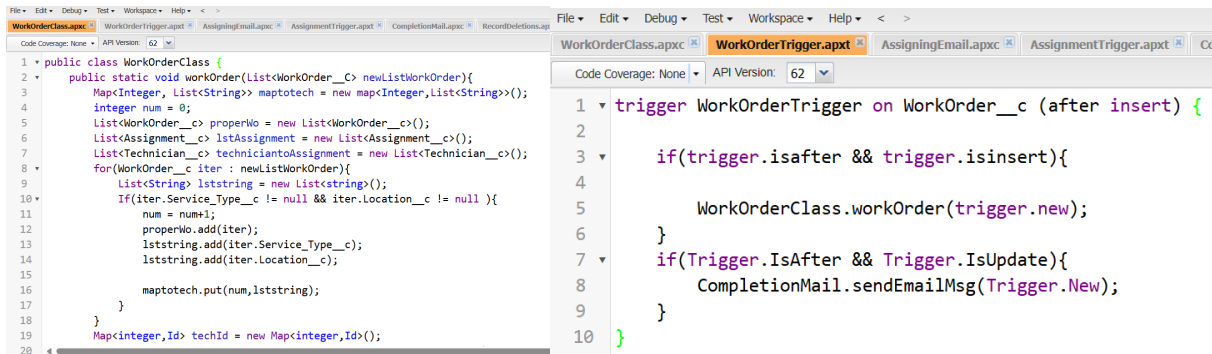


FIG 8.1 WorkOrder Apex Class and Trigger Code

- **Create Apex Class** : To create a new Apex Class in Salesforce, go to Setup, click the gear icon, and select "Developer Console." The Developer Console will open in a new window. Click on "File," then "New," and select "Apex Class." Name the class "AssigningEmail" and click "OK."
- **Create Apex Trigger** : To create a new Apex Trigger in Salesforce, open the Developer Console, click on "File," then "New," and select "Apex Trigger." Name the trigger "AssignmentTrigger" and select "WorkOrder\_\_c" from the sObject dropdown. Click "Submit" to create the trigger.

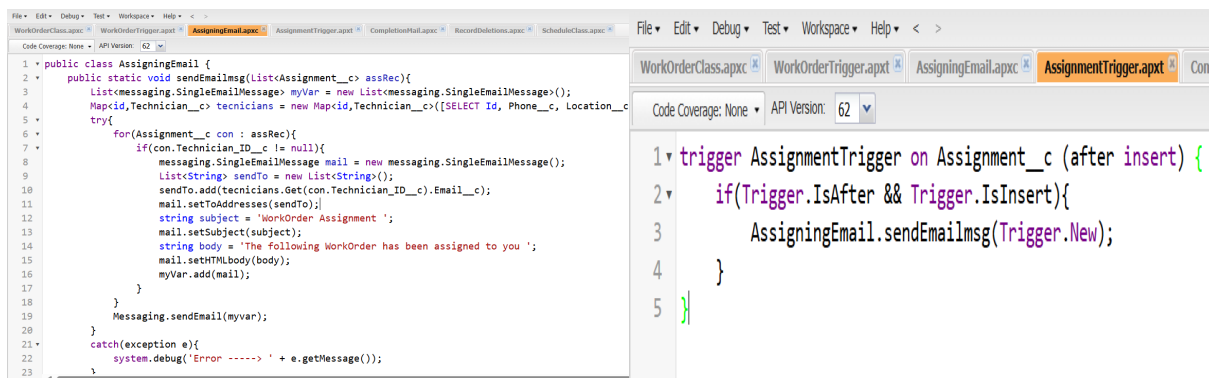
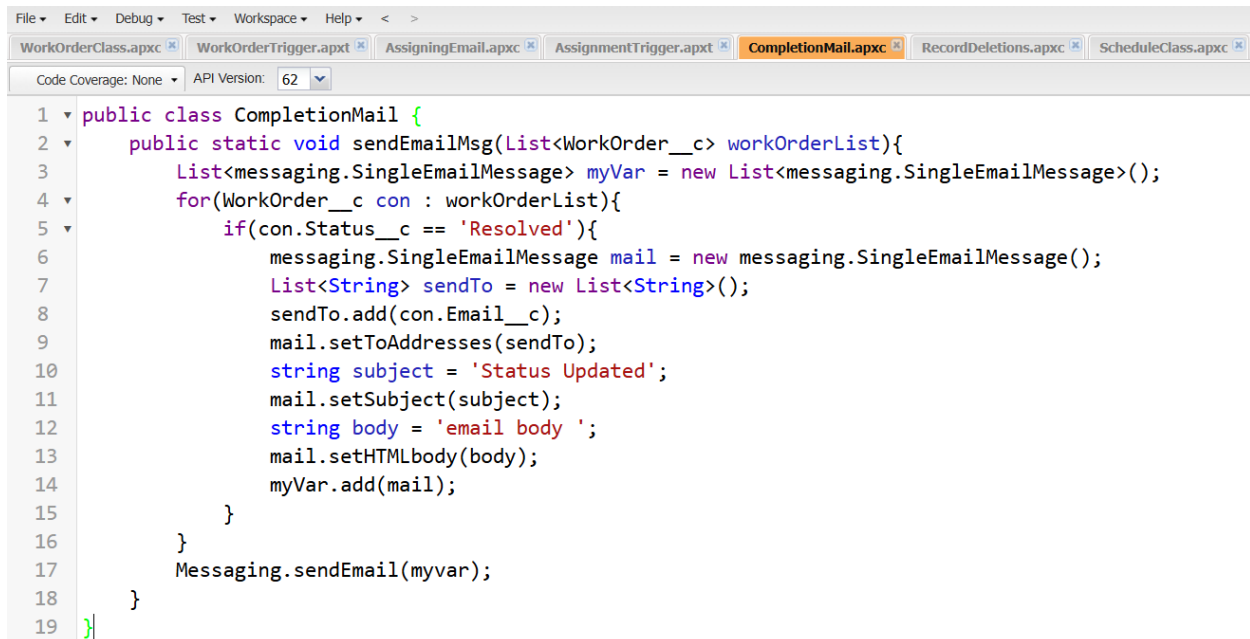


FIG 8.2 Assignment Apex Class and Trigger Code

- **Create Apex Class** : To create a new Apex Class in Salesforce, go to Setup, click the gear icon, and select "Developer Console." The Developer Console will open in a new window. Click on "File," then "New," and select "Apex Class." Name the class "CompletionMail" and click "OK." FIG



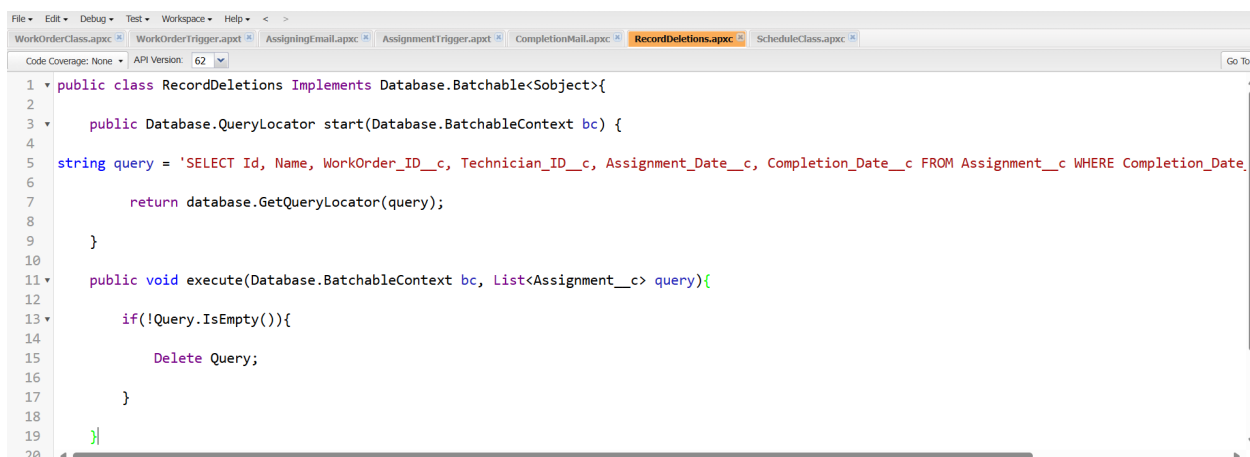
```

1 public class CompletionMail {
2     public static void sendEmailMsg(List<WorkOrder__c> workOrderList){
3         List<messaging.SingleEmailMessage> myVar = new List<messaging.SingleEmailMessage>();
4         for(WorkOrder__c con : workOrderList){
5             if(con.Status__c == 'Resolved'){
6                 messaging.SingleEmailMessage mail = new messaging.SingleEmailMessage();
7                 List<String> sendTo = new List<String>();
8                 sendTo.add(con.Email__c);
9                 mail.setToAddresses(sendTo);
10                string subject = 'Status Updated';
11                mail.setSubject(subject);
12                string body = 'email body ';
13                mail.setHTMLbody(body);
14                myVar.add(mail);
15            }
16        }
17        Messaging.sendEmail(myvar);
18    }
19 }

```

FIG 8.3 Completion Apex Class Code

- **Create an Asynchronous Apex Class** : To create a new Apex Class in Salesforce, go to Setup, click the gear icon, and select "Developer Console." The Developer Console will open in a new window. Click on "File," then "New," and select "Apex Class." Name the class "Record Deletion" and click "OK."



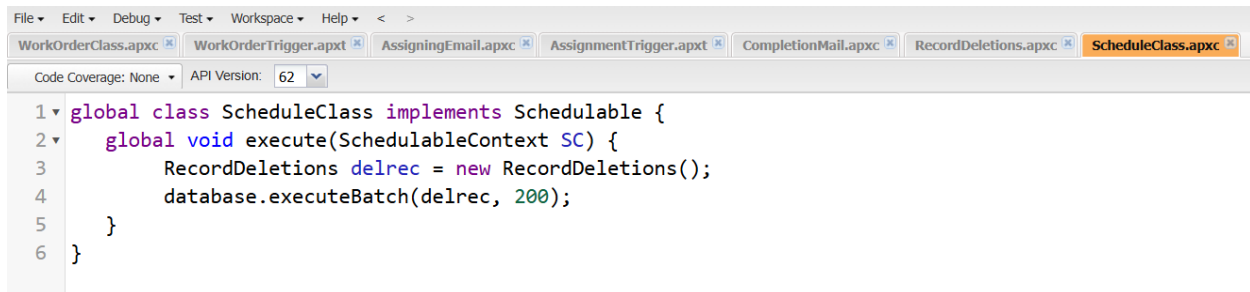
```

1 public class RecordDeletions implements Database.Batchable<Sobj>{
2
3     public Database.QueryLocator start(Database.BatchableContext bc) {
4
5         string query = 'SELECT Id, Name, WorkOrder_ID__c, Technician_ID__c, Assignment_Date__c, Completion_Date__c FROM Assignment__c WHERE Completion_Date__c <= ' & System.now().format('MM/dd/yyyy') & ' AND Completion_Date__c >= ' & System.now().format('MM/dd/yyyy') & ' - 1 day';
6
7         return database.GetQueryLocator(query);
8     }
9
10    }
11
12    public void execute(Database.BatchableContext bc, List<Assignment__c> query){
13
14        if(!Query.IsEmpty()){
15            Delete query;
16        }
17    }
18
19 }
20

```

FIG 8.4 RecordDeletion Apex Class Code

- **Create an Apex Schedule Class** : To create a new Apex Class in Salesforce, go to Setup, click the gear icon, and select "Developer Console." The Developer Console will open in a new window. Click on "File," then "New," and select "Apex Class." Name the class "Schedule" and click "OK."



```

1 global class ScheduleClass implements Schedulable {
2     global void execute(SchedulableContext SC) {
3         RecordDeletions delrec = new RecordDeletions();
4         database.executeBatch(delrec, 200);
5     }
6 }

```

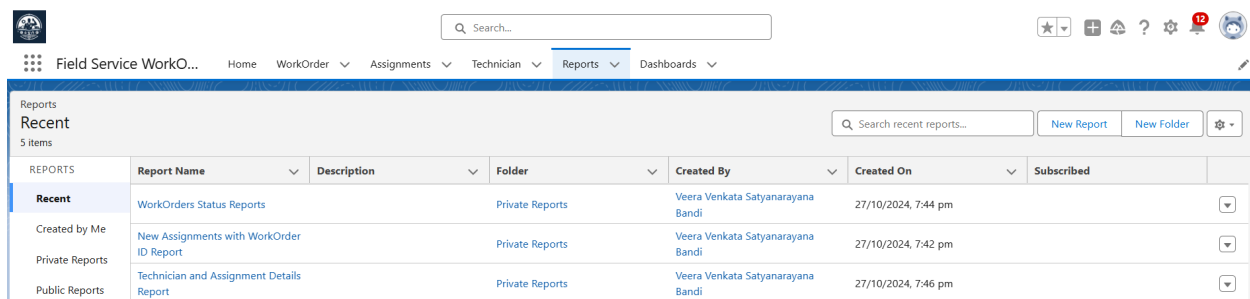
FIG 8.5 Schedule Apex Class Code

- **Create A Schedule Apex** : To schedule an Apex class in Salesforce, go to Setup and search for "Apex Classes" in the Quick Find box. Click on "Schedule Apex." Enter the Job Name as "DeleteAssignmentSchedule," select "ScheduleClass" using the lookup icon for the Apex Class, set the Frequency to "Monthly," and choose a Preferred Start Time. Save the schedule to automate the Apex class execution.

## 9. Reports & Dashboards

- **Create Reports** : To create a new report in Salesforce, go to the app and click on the Reports tab. Click "New Report." Select the report type from the category, report type panel, or search panel, then click "Start Report." Customize your report by adding fields from the left pane. Group the report by Work Order ID for better organization. Save and run the report to view the results.

- **Created a report** type on "WorkOrders Status Reports", "Technician and Assignment Details Reports", "New Assignment with WorkOrder ID Report".



REPORTS	Report Name	Description	Folder	Created By	Created On	Subscribed
Recent	WorkOrders Status Reports		Private Reports	Veera Venkata Satyanarayana Bandi	27/10/2024, 7:44 pm	
Created by Me	New Assignments with WorkOrder ID Report		Private Reports	Veera Venkata Satyanarayana Bandi	27/10/2024, 7:42 pm	
Private Reports	Technician and Assignment Details Report		Private Reports	Veera Venkata Satyanarayana Bandi	27/10/2024, 7:46 pm	
Public Reports						

FIG 9.1 Report List

- **Create Dashboards** : To create a dashboard in Salesforce, go to the app and click on the Dashboards tab. Click "New Dashboard," give it a name, and click "Create." Select "Add Component," choose the report you created previously, and click "Select." Click "Add," then "Save," and finally, click "Done" to complete the dashboard setup.

-Created all three Dashboards on the above Reports.

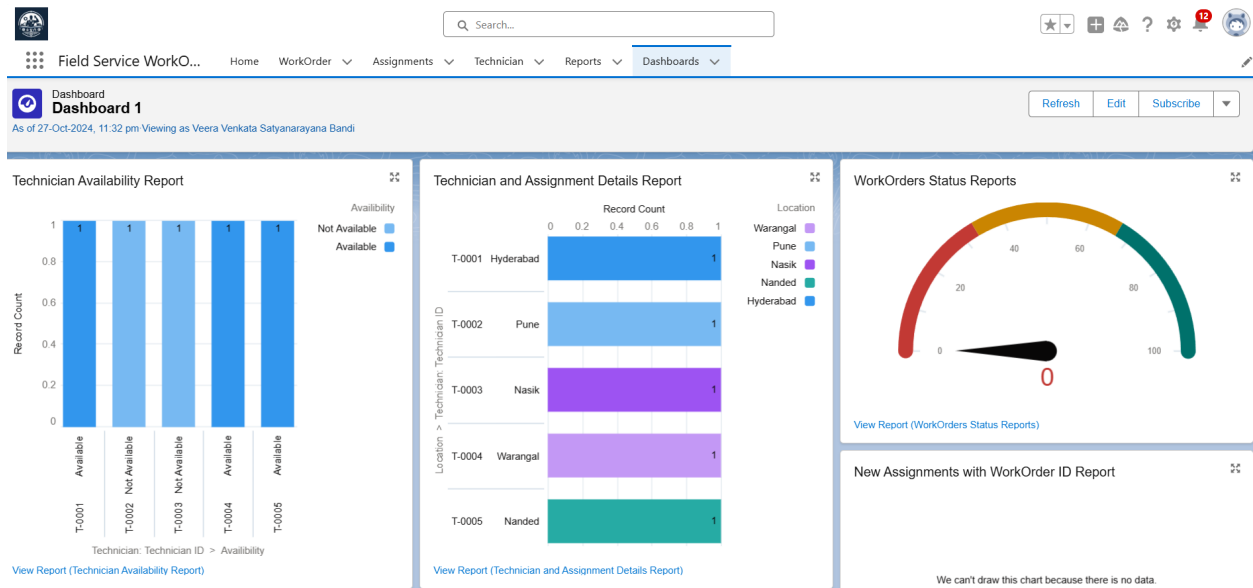


FIG 9.2 Technician and Assignment Details Report Dashboard

Thank You