

EW Dupe Finder

By Erudite Works

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ERUDITEWORKS

This document outlines steps by steps guide to configure the EW Dupe Finder.

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Introduction

Salesforce has an outdated functionality for merging records, which at the moment has the ability to combine up to **three duplicate records** with all of their child records for specific SObjects. (Supported SObject by existing Merge Tool is Lead, Contact, Account, Person Account, and Individual).

A similar merging tool that can combine more than three duplicate records at once is in high demand. As a result, we have created a Merge Tool that can combine any amount of records (less than 50,000 at once) with all of their child records for a specific SObject at once. For now it supports **4 SObject: Account, Case, Contact, Lead**.

Features

1. It Supports 4 SObject. Account, Case, Contact, Lead.
2. It Searches for duplication on any set of fields that could be controlled by the user, we call it scenario.

Scenario: It contains multiple fields, it can be used by the user later on to start searching or schedule a job on the Dup Finder tab. One SObject can have many Scenarios. All SObject have a default Scenario which can't be deleted or edited.

Default Scenario on object:

Account Default – name

Contact Default – name

Lead Default – name

Case Default – subject

1. The object, scenario, start date, and end date can be chosen by the user to apply for a search for duplicate records.
2. The user can choose the frequency and start time of the duplicate record search. And the search will be conducted automatically (on **schedule time**).
3. Our solution provides **direct search** functionality if the user wants to execute a straight search to discover duplicate data based on any condition without using up memory in Salesforce.
4. When duplicate records are discovered, the user can perform **automerge**. It will handle the merging depending on the “field value strategy” and “master record strategy” that the user specifies.
5. The **manual merging** option allows the user to designate which data should stay in the master record.

Future Scope

- The tool will work with other standard and custom objects.
- Scheduled job can have Active or Deactivate job option
- Add create new scenario option at "Add new Job" page.
- Default Strategy - If specified value gets blank, or undefined then by default it considers the default strategy for taking the master record.

Post Installation Steps

Deactivate Duplicate Rules -

Upon successful installation of the package, User must Deactivating duplicate rules for Salesforce Subjects is a critical step in preventing the system from flagging or blocking the creation of duplicate records. Duplicate rules are designed to identify and prevent the creation of duplicate data in your Salesforce instance.

To deactivate duplicate rules, follow these steps:

1. Log in to your Salesforce account.
2. In Salesforce, click on the gear icon (⚙️) located in the top-right corner, then select "Setup."
3. In the Quick Find box on the left-hand side, type "Duplicate Rules" and select the "Duplicate Rule" option from the dropdown.
4. Click on the name of the duplicate rule you want to deactivate.
5. On the Duplicate Rule detail page, Click on "Deactivated" button to apply the deactivation.



Setup Dupe Finder App

Config Case Object -

Upon successful installation of the package, it is crucial for users to enable the "Merge Case" checkbox in order to perform a manual merge (Standard Merge) successfully for the Case object.

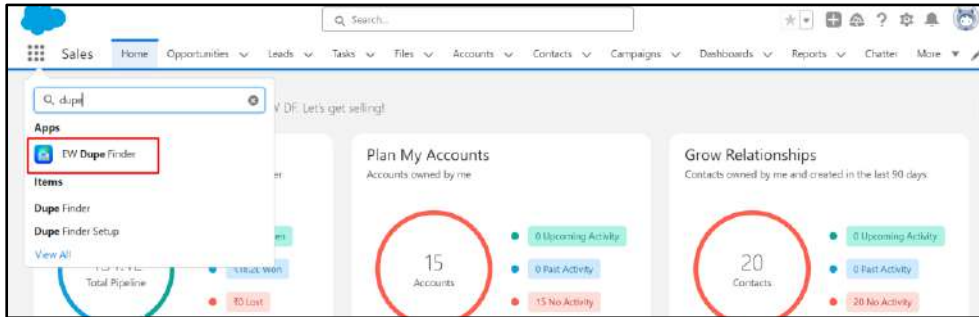
In order to delete duplicate records after merge, you must select a radio button as "Delete duplicate cases after merge".

The following steps should be followed in order to implement the Case Merge rule:

1. Log in to your Salesforce account.
2. In Salesforce, click on the gear icon (⚙️) located in the top-right corner, then select "Setup."
3. In the Quick Find box on the left-hand side, type "Case Merge" and select the "Case Merge" option from the dropdown.
4. Check the checkbox of "Merge Cases".
5. Once the checkbox is checked, it will display options to select the appropriate option as per our requirements.
6. From the list of options, choose "Delete duplicate cases after merge".

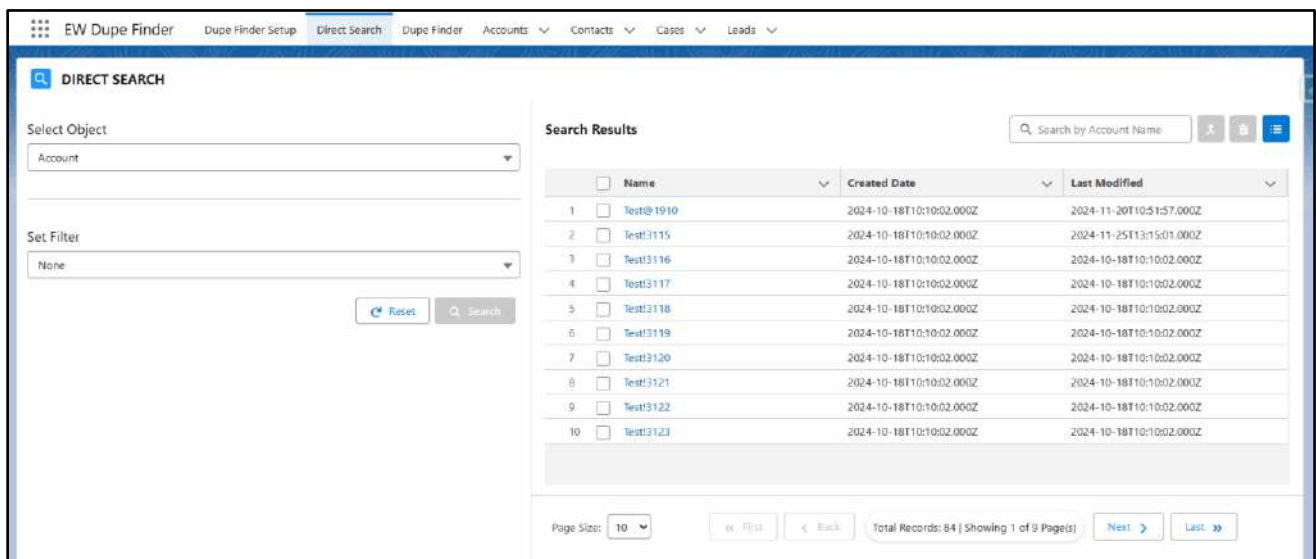


1. Login to the Salesforce, click on app launcher, search EW Dupe Finder App and open it.



Direct Search Tab

The user can directly search for duplicate records by selecting an object and setting the conditions.



1. Object - The user can choose from a list of objects (Account, Contact, Case & Lead).
2. Condition Requirements - Users can set the conditions by selecting the AND, OR or Custom Logic
3. Once selected the Condition requirement, it displays the 3 fields
 - a. Fields - Displays all the fields related to the selected object
 - b. Operator - Equal, Does not equal
 - c. Value - User has to give the input value based on the data type
 - i. Text - show the text input
 - ii. Picklist - display the related field picklist values
 - iii. Boolean - True or False
4. Reset - Users can reset all selected options if needed
5. Add Condition - Users have the flexibility to add multiple conditions.

6. Search - It displays the search results.

Search Results

Search by Account Name

	☐ Name	Created Date	Last Modified
1	☐ Test@1910	2024-10-18T10:10:02.000Z	2024-11-20T10:51:57.000Z
2	☐ Test@3115	2024-10-18T10:10:02.000Z	2024-11-25T13:15:01.000Z
3	☐ Test@3116	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z
4	☐ Test@3117	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z
5	☐ Test@3118	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z
6	☐ Test@3119	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z
7	☐ Test@3120	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z
8	☐ Test@3121	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z
9	☐ Test@3122	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z
10	☐ Test@3123	2024-10-18T10:10:02.000Z	2024-10-18T10:10:02.000Z

Page Size: 10

First

Back

Total Records: 84 | Showing 1 of 9 Page(s)

Next

Last

Merge Selected Records

Merge Duplicate Records

+ Merge Preview

Field Name	✓ Master	— Master
Account ID	001dL00000EPCKNQAW	001dL00000pqnQAA
Account Name	aa	aa
Billing Street	eru	
Billing City	Nasvati	
Billing Zip/Postal Code	386450	
Billing Country	India	
Owner ID	005dL000001MSQQAQ	005dL000001MSQQAQ
Clean Status	Not Compared	Not Compared
Is cloned?	false	false

Cancel

Merge confirm

Once the user clicks on the “Merge Confirm” button it initiates the merging process and merges duplicate pairs to eliminate the duplicate records and retain the master records.

Merge Preview

The Merge Preview column shows the preview of the master record based on the user selection.

Once the user clicks the "Merge Preview" button, the 'Preview Record' column will be displayed according to their configuration.

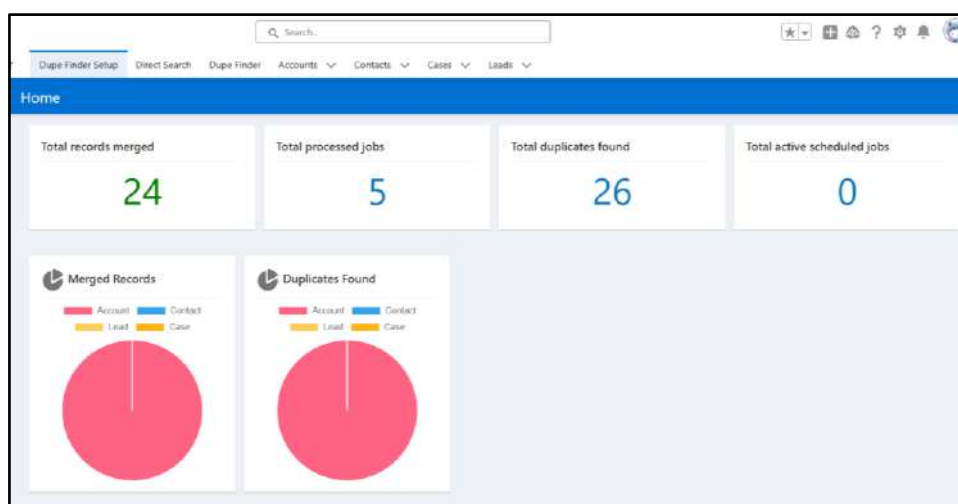
Field Name	Preview Record	Master	Duplicate
Account ID	001dL00000SPOMNQAW	001dL00000SPOMNQAW	001dL00000SPOMQAW
Account Name	as	as	as
Billing Street	eru	eru	
Billing City	Naxosri	Naxosri	
Billing Zip/Postal Code	356450	356450	
Billing Country	India	India	
Owner ID	005dL000001HRS3QAG	005dL000001HRS3QAG	005dL000001HRS3QAG
Clean Status	Not Compared	Not Compared	Not Compared
is cloned?	false	false	false

Click on Merge Confirm -> Go ahead. Job Merged successfully.

2. The Dupe Finder Setup tab

Home/Dashboard

It displays Total records merged, Total processed jobs, Total duplicates found, Total active scheduled job of Dupe Finder.



- 1. Total records merged -**
Displays the count of all duplicate records that have been merged through Dup Finder.
- 2. Total duplicates found -**
Displays the count of all duplicate records that have been searched through Dup Finder
- 3. Total Processed jobs -**
Displays the count of all active duplicate records that have not been merged through Dupe Finder.
- 4. Total active scheduled jobs -**
Displays the count of all active scheduled jobs.

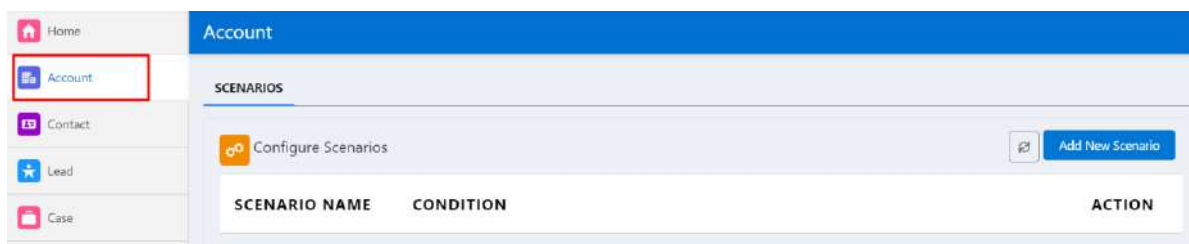
5. Merged Records -

The chart displays the number of merged records counted for each object through dupe finder.

6. Duplicates Found -

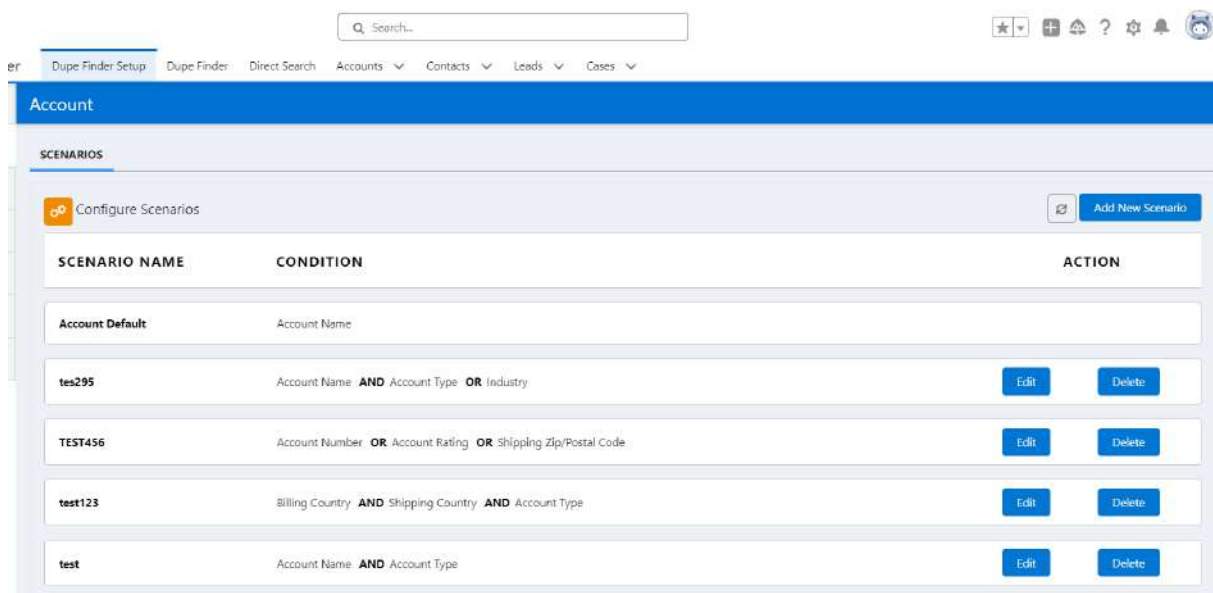
The chart displays the number of duplicate records counted for each object through dupe finder.

3. Now, Go to Left Panel Choose Any Object (Account/ Contact/ Lead/ Case) For, E.g. We choose Account Object.



Display the Scenario on the right side.

The user has the flexibility to set search criteria for identifying duplicate records. A default scenario will be available with the field 'Name' for reference.



1. Refresh Icon -

It refreshes the scenarios data

2. Add New Scenario

To create a new scenario just click the “Add New Scenario” button and display the popup to configure the scenarios.

At Least one field should be there to create a new scenario.

New Scenario Name

The "New Scenario Name" input field allows you to specify a unique name for your scenario. This name will help you identify and manage your scenarios effectively.

Condition Requirements

The "Condition Requirements" section defines how different conditions are combined to create your scenario. You have three options:

AND: This condition requires that all specified conditions must be met for the scenario to be valid.

OR: This condition allows the scenario to be valid if any of the specified conditions are met.

Fields: Specify the fields you want to include in the condition. These fields will be used to evaluate whether the condition is met.

Custom: In this mode, you can define complex condition logic using a combination of fields and operators.

Can create custom conditions using a combination of logical operators like "AND," "OR," parentheses, and field references. For example:

(1 AND 2) OR 3 translates to "Condition 1 AND Condition 2 OR Condition 3."

3. Delete Button -

When the user clicks the "Delete" button, a confirmation dialog will appear. From there, he can choose to proceed with deleting the scenario or cancel the action.

4. Edit Button-

Users can edit the existing scenario, by clicking the edit button.

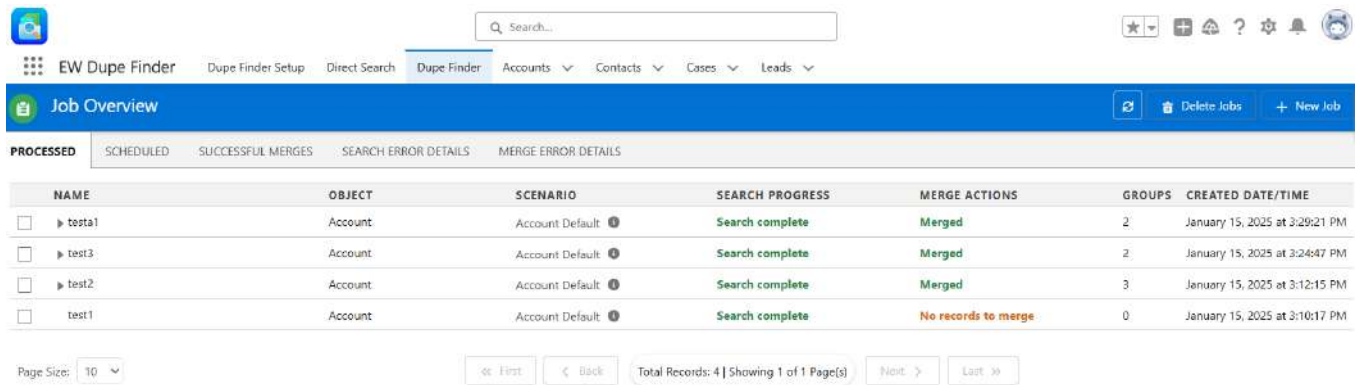
Limitations

1. Users can add up to 10 scenarios, for each object.
2. Users can merge duplicate records up to 50,000 in a single group.
3. EW Dupe Finder Tool supports 4 SObjects - Account, Contact, Lead, Case.
4. On a Single Job, Users can retrieve duplicate records up to 50,000.

Dupe Finder Tab -> Processed Tab

Now, Go to the Second Dupe Finder Tab.

Add New Job



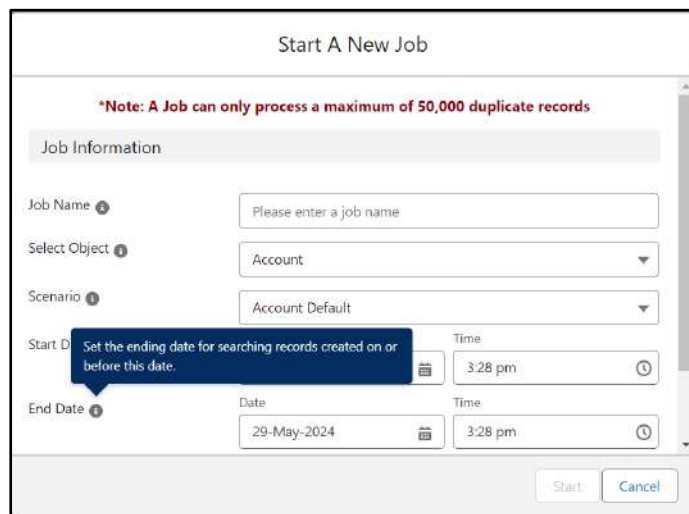
The screenshot shows the 'Job Overview' tab in the EW Dupe Finder application. The 'PROCESSED' tab is selected, displaying a table with the following data:

NAME	OBJECT	SCENARIO	SEARCH PROGRESS	MERGE ACTIONS	GROUPS	CREATED DATE/TIME
☐ ▶ test1	Account	Account Default ⓘ	Search complete	Merged	2	January 15, 2025 at 3:29:21 PM
☐ ▶ test3	Account	Account Default ⓘ	Search complete	Merged	2	January 15, 2025 at 3:24:47 PM
☐ ▶ test2	Account	Account Default ⓘ	Search complete	Merged	3	January 15, 2025 at 3:12:15 PM
☐ test1	Account	Account Default ⓘ	Search complete	No records to merge	0	January 15, 2025 at 3:10:17 PM

Below the table, there is a 'Page Size' dropdown set to 10, and navigation buttons: '< First', '< Back', 'Total Records: 4 | Showing 1 of 1 Page(s)', 'Next >', and 'Last >>'.

1. "By clicking the 'Add New Job' button, users can create a job with the option to either perform an immediate search or schedule it for later at a dynamic time and date of their choice.
2. **Delete Selected Job** - Users have the ability to select specific jobs and delete them.
3. **Refresh Icon** - It refreshes the jobs data.

Once the user clicks on "Add new Job" the below popup will display.



The 'Start A New Job' popup form contains the following fields and options:

- Note:** A Job can only process a maximum of 50,000 duplicate records.
- Job Information** section:
 - Job Name**: Text input field with placeholder 'Please enter a job name'.
 - Select Object**: Dropdown menu with 'Account' selected.
 - Scenario**: Dropdown menu with 'Account Default' selected.
 - Start Date**: Date and time input fields. A tooltip says 'Set the ending date for searching records created on or before this date.' The date is '29-May-2024' and the time is '3:28 pm'.
 - End Date**: Date and time input fields. The date is '29-May-2024' and the time is '3:28 pm'.
- Buttons**: 'Start' and 'Cancel' buttons at the bottom right.

1. **Select Object:** Choose the specific object you want to search within.

2. **Scenario:** Retrieve data based on the scenario you select.
3. **Start Date:** Set the starting date for searching records created on or after this date.
4. **End Date:** Set the ending date for searching records created on or before this date.
5. **Options (Schedule):** Schedule the search job to run automatically at a defined frequency and time.

Once a user enters all the necessary input values and clicks the 'Start' button, the system will create a new job and initiate the search process based on the selected scenario.

When the user selects the "Schedule Options," the system will display choices to set the frequency for running the job

1. Frequency - daily, weekly, monthly and custom
 - a. Daily: The job will run on a daily basis.
 - b. Weekly: The job will run on the specified week.
 - c. Monthly: The job will run on the specified date of each month.
 - d. Custom: The job will run based on the user-provided cron expression.
2. Start Time - The user can specify the job's start time.

Manual Merge (Standard Merge)

- Click on Any Job -> Group -> Manual Merge

NAME	OBJECT	SCENARIO	SEARCH PROGRESS	MERGE ACTIONS	GROUPS	CREATED DATE/TIME
☐ Accounts by Name	Account	Account Default	Search complete	Auto Merge	1	January 15, 2025 at 6:21:02 PM
Admin G-1 Records Number - 2/2 Scenario						
☒ Name						
☒ Admin						January 15, 2025 at 6:20:30 PM
☒ Admin						January 15, 2025 at 6:20:21 PM
☐ testa1	Account	Account Default	Search complete	Merged	2	January 15, 2025 at 3:29:21 PM
☐ test3	Account	Account Default	Search complete	Merged	2	January 15, 2025 at 3:24:47 PM
☐ test2	Account	Account Default	Search complete	Merged	3	January 15, 2025 at 3:12:15 PM
☐ test1	Account	Account Default	Search complete	No records to merge	0	January 15, 2025 at 3:10:17 PM

It merges duplicate pairs to eliminate the duplicate records and retain the master records.

1. **Merge selected records** - Allow users to select the desired records, and upon clicking the "Merge selected Records" button, a merge popup will appear. This popup empowers users to choose the master record and select the specific fields they wish to retain during the merge operation.

2. **Delete** - In addition to merging, Users can select multiple records and eliminate duplicates by simply clicking the "Delete" button.

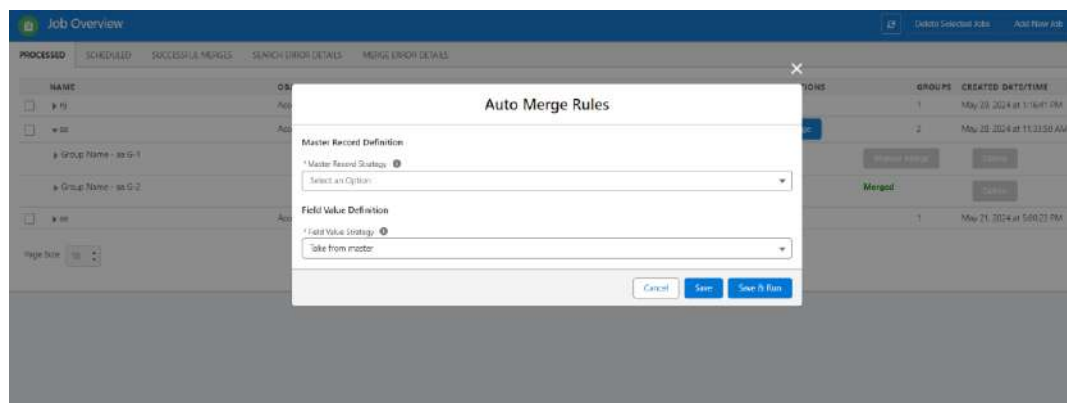
If the user wishes to perform a manual merge, click on the "Merge Select Record" button, and the below pop-up will appear for you to choose the master record or select which fields you wish to retain during merge operation.

Same as Merge Selected Records -> Merge Preview -> Merge Confirm.

Auto Merge

It gives seamless merging based on setting up the "Auto Merge Rules", saving time and ensuring accurate insights for better decision-making.

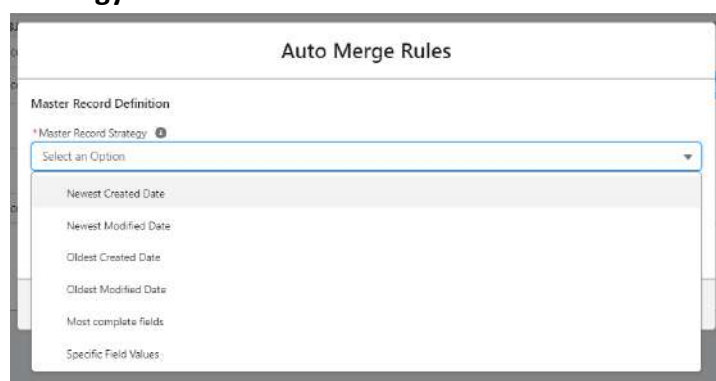
Click on Auto Merge to display the below dialogue box.



Master Record Definition

This is to choose which record should be taken as a master.

Master Record Strategy



1. **Newest Created Date** - Recent created record will be taken as a master
2. **Oldest Created Date** - Oldest created record will be taken as master
3. **Newest Modified Date** - Recent modified record will be taken as a master record.
4. **Oldest Modified Date** - Oldest modified record will be taken as master record.
5. **Most Completed Fields** - Record has most fields completed(not blank, which has some value) will be taken as master record.

Note: If multiple records have the same number of fields, the most recently modified record will be selected as the master record.

6. **Specified Field Values** - Record will be taken as master, based on the user specified field value. Once the user selects the specified field value, it displays the “Select Field” and “Specified Value” fields.
 - a. Select Field - It displays the object related fields, user can select any one of those fields to be taken as master record
 - b. Specified Field Value - User has to specify the field value based on the selected input field.
 - i. Text Input - It displays the input text field
 - ii. Email - User has to provide the correct email format.
 - iii. Date - it displays the date input field
 - iv. Datetime - It displays the datetime input field
 - v. Boolean - it displays the checkbox
 - vi. Picklist

Note: If multiple records have met the criteria, the most recently modified record will be selected as the master record.

Default Strategy - If specified value gets blank, or undefined then by default it considers the default strategy for taking the master record. (need to implement in future)

Field Value Definition

Field Value Strategy

Auto Merge Rules

Master Record Definition

* Master Record Strategy ⓘ
 Select an Option ▼

Field Value Definition

* Field Value Strategy ⓘ
 Take from master ▼

✓ Take from master

Take any when master blank

Once master record chooses from the “Master Record Strategy”, field values will be populated based on the “Field Value Definition”

1. **Take From Master** - It will take all field values from the master record, whether it is blank or not
2. **Take Any When Master Blank** - If the master record field value is blank, then it will take the recent modified field value.

Once user setup the “Auto Merge Rule” and

- Clicking on **Save**, it will save the record into the Job Object and whenever the user opens the auto merge rule for that job, it will display the configured auto merge rule.
- Click on **Save & Run** - it will save the record into the Job Object and that job will start the auto merge based on the user's Auto merge rule configuration.

Dupe Finder Tab -> Scheduled Tab

It displays all the active scheduled jobs.

Job Overview					
Delete Selected Jobs Add New Job					
PROCESSED	SCHEDULED	SUCCESSFUL MERGES	SEARCH ERROR DETAILS	MERGE ERROR DETAILS	
NAME	OBJECT	SCENARIO	SCHEDULED TIME	CREATED DATE/TIME	
☐ Test 4	Account	Account Default ⓘ	At 11:00 AM, every day	May 29, 2024 at 4:01:31 PM	
☐ Test 2	Account	Account Default ⓘ	At 12:00 AM, every day	May 29, 2024 at 4:01:13 PM	
☐ Test 1	Account	Account Default ⓘ	At 12:00 AM, every day	May 29, 2024 at 4:00:57 PM	
☐ test	Account	Account Default ⓘ	At 12:00 AM, every day	May 29, 2024 at 4:00:35 PM	

Dupe Finder Tab -> Successful Merges Tab

It displays the jobs where all duplicate records within a group have been successfully merged through Dupe Finder.

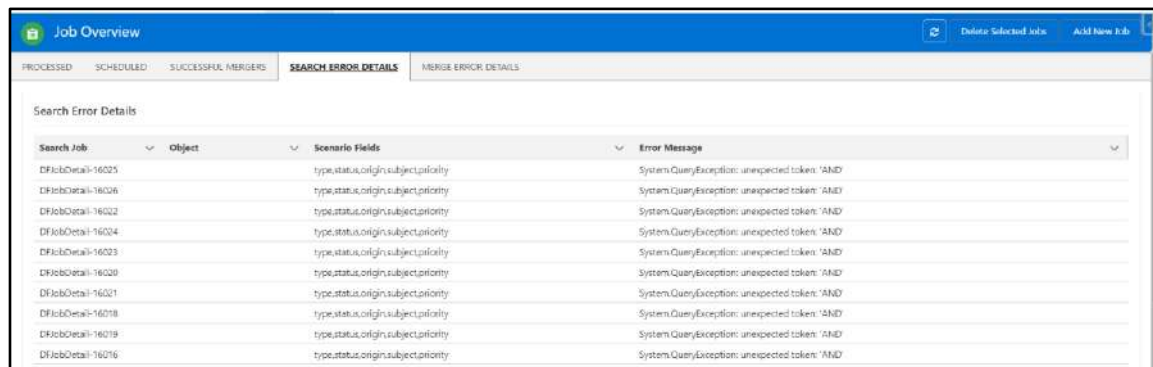
EW Dupe Finder Dupe Finder Setup Direct Search Dupe Finder Accounts Contacts Cases Leads					
Job Overview					
Delete Jobs + New Job					
PROCESSED	SCHEDULED	SUCCESSFUL MERGES	SEARCH ERROR DETAILS	MERGE ERROR DETAILS	
NAME	OBJECT	SCENARIO	GROUPS	CREATED DATE/TIME	
test2	Account	Account Default ⓘ	3	January 15, 2025 at 3:12:15 PM	
aa G-1	Records Number - 0/4	Scenario ⓘ		Deleted	
T1 G-2	Records Number - 0/2	Scenario ⓘ		Deleted	
X1 G-3	Records Number - 0/2	Scenario ⓘ		Deleted	

Page Size: 10

First
Back
Total Records: 1 | Showing 1 of 1 Page(s)
Next
Last

Dupe Finder Tab -> Search Error Details Tab

The tab provides a detailed description or explanation of the error, offering insights into what went wrong during the search of duplicate records.

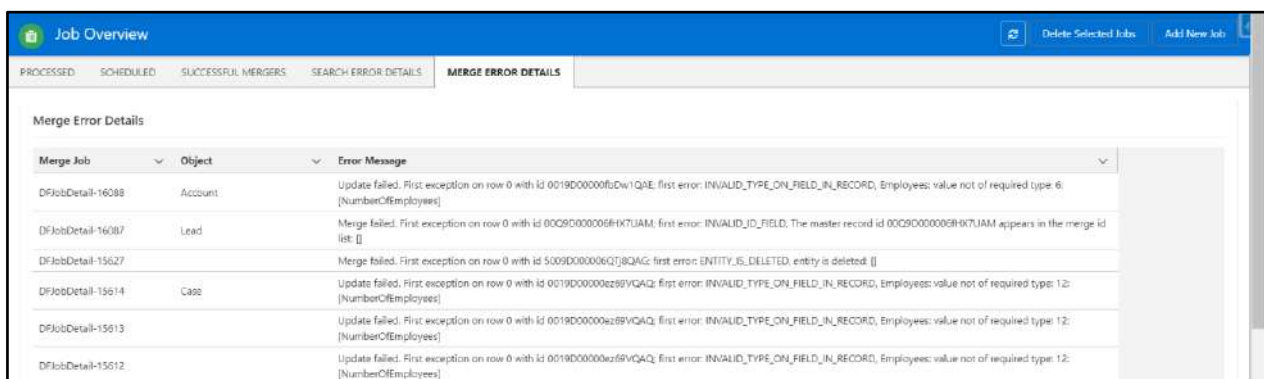


The screenshot shows the 'Job Overview' interface with the 'SEARCH ERROR DETAILS' tab selected. The table below lists search jobs and their associated error messages.

Search Job	Object	Scenario Fields	Error Message
DFJobDetail-16025		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16026		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16022		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16024		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16023		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16020		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16021		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16018		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16019		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'
DFJobDetail-16016		type,status,origin,subject,priority	System.QueryException: unexpected token: 'AND'

Dupe Finder Tab -> Merge Error Details Tab

The tab provides a detailed description or explanation of the error encountered during the process of merging duplicate records.



The screenshot shows the 'Job Overview' interface with the 'MERGE ERROR DETAILS' tab selected. The table below lists merge jobs and their associated error messages.

Merge Job	Object	Error Message
DFJobDetail-16088	Account	Update failed. First exception on row 0 with id 0019D000000fDw1QAQ: first error: INVALID_TYPE_ON_FIELD_IN_RECORD, Employees: value not of required type: 6: [NumberOfEmployees]
DFJobDetail-16087	Lead	Merge failed. First exception on row 0 with id 00C9D0000006HKTUAM: first error: INVALID_ID_FIELD. The master record id 00C9D0000006HKTUAM appears in the merge id list: []
DFJobDetail-15627		Merge failed. First exception on row 0 with id 5009D0000006QJ8QAG: first error: ENTITY_IS_DELETED. entity is deleted: []
DFJobDetail-15614	Case	Update failed. First exception on row 0 with id 0019D000000e289VGAQ: first error: INVALID_TYPE_ON_FIELD_IN_RECORD, Employees: value not of required type: 12: [NumberOfEmployees]
DFJobDetail-15613		Update failed. First exception on row 0 with id 0019D000000e289VGAQ: first error: INVALID_TYPE_ON_FIELD_IN_RECORD, Employees: value not of required type: 12: [NumberOfEmployees]
DFJobDetail-15612		Update failed. First exception on row 0 with id 0019D000000e289VGAQ: first error: INVALID_TYPE_ON_FIELD_IN_RECORD, Employees: value not of required type: 12: [NumberOfEmployees]

Remove unnecessary fields

Setup Custom Metadata

Created Custom metadata to remove unnecessary fields for SObjects.

Usually users will not use all fields for creating a scenario or to search duplicate records.

1. Log in to your Salesforce account.
2. In Salesforce, click on the gear icon (⚙️) located in the top-right corner, then select "Setup."

3. In the Quick Find box on the left-hand side, type "Custom Metadata" and select the "Custom Metadata Types" option from the dropdown.
4. Choose Custom Metadata Name - DupFinderunnecessaryField -> Manage Records
5. Choose Any Objects -> Edit -> There you can add unnecessary fields.

Conclusion

EW Dupe Finder significantly enhances Salesforce's record merging capabilities, overcoming the limitations of the Salesforce. It allows merging up to 50,000 duplicate records at once, including child records, for four key SObjects: Account, Case, Contact and Lead. This tool streamlines data management, ensures comprehensive data integrity, and supports efficient database organization, making it an essential asset for businesses looking to optimize their Salesforce data.