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# Manage Duplicate Records in Salesforce

Salesforce, Spring '20





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# DUPLICATE DETECTION AND HANDLING PROCESS

Salesforce finds and handles duplicates using a combination of matching rules and duplicate rules. Duplicate rules and duplicate jobs specify matching rules that determine how duplicates are identified. Duplicate sets and reports list the duplicates found.

## 1. A Matching Rule Compares Records and Detects Duplicates

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The matching rule specified in a duplicate rule or job can compare records on the same object, such as leads, or one other object. For example, a rule can compare leads that duplicate contacts.

A matching rule consists of an equation that determines how to compare the fields in a pair of records. Criteria on the fields determine how broadly a match is defined. Indexing and algorithms speed up the matching process.

When a matching rule is activated, one or more match keys are applied to existing records. The matching rule looks only for duplicates among records with the same match key. If two records don't share match keys, they aren't considered duplicates, and the matching algorithms aren't applied to them. This indexing process improves performance and returns a better set of match candidates.

## 2. A Duplicate Rule or Job Handles Duplicates

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Duplicates can be detected when a sales rep creates, clones, or edits a record and a duplicate rule runs, or when you run a duplicate job. They can also be detected as part of other processes, such as importing or an API.

A duplicate rule alerts a sales rep and lists possible duplicates.

Duplicate job results list duplicates across an org.

## 3. Sets and Reports List Duplicates Found

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Duplicate record sets list the duplicates found when duplicate rules or jobs run. Reports of duplicates are generated from these sets.

### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

# MANAGE DUPLICATE RECORDS

Maintaining clean, accurate data is one of the most important things you can do to get the most out of Salesforce. It builds the trust of your sales team and helps you work toward complying with various data protection and privacy regulations. Salesforce gives you tools for managing duplicates one at a time and across your org, and to track your progress in eliminating duplicates.

## IN THIS SECTION:

### [Manage Duplicates One at a Time](#)

Give your sales team the tools they need for maintaining great relationships with customers, and keep your leads, accounts, and contacts clutter free. By activating duplicate rules and the Potential Duplicates component, you can control whether and when sales reps can create duplicate accounts, contacts, and leads. You can also give them permission to merge duplicate leads, business and person accounts, and contacts.

## EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## USER PERMISSIONS

To view duplicate rules and matching rules:

- View Setup and Configuration

To create, edit, delete, activate, and deactivate duplicate rules and matching rules:

- Customize Application

# Manage Duplicates One at a Time

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Give your sales team the tools they need for maintaining great relationships with customers, and keep your leads, accounts, and contacts clutter free. By activating duplicate rules and the Potential Duplicates component, you can control whether and when sales reps can create duplicate accounts, contacts, and leads. You can also give them permission to merge duplicate leads, business and person accounts, and contacts.

- ▶ [Take Control of Duplicates: Use Duplicate Rules and the Potential Duplicates Component \(English only\)](#)
- ▶ [Use Matching Rules to Hunt Down Duplicate Records \(English only\)](#)

## IN THIS SECTION:

### [Stop Users from Creating Duplicate Records](#)

When sales reps are in the process of creating or editing a record, alert them that the data they're entering duplicates an existing record. Or block sales reps from creating duplicate records altogether, whether or not they have access to the existing record. Activate duplicate rules and customize the settings.

### [Show Duplicate Records in Lightning Experience](#)

If a record duplicates other records, you can alert sales reps when they open the record in Lightning Experience. Activate duplicate rules and add alerts to page layouts.

### [Show Duplicate Records in Salesforce Classic](#)

If a record duplicates other records, you can alert sales reps when they open the record in Salesforce Classic by activating duplicate rules.

## EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## USER PERMISSIONS

To view duplicate rules and matching rules:

- View Setup and Configuration

To create, edit, delete, activate, and deactivate duplicate rules and matching rules:

- Customize Application

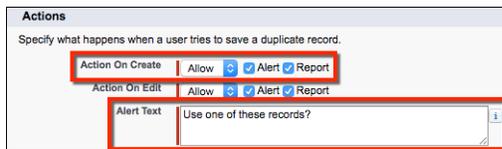
## Stop Users from Creating Duplicate Records

When sales reps are in the process of creating or editing a record, alert them that the data they're entering duplicates an existing record. Or block sales reps from creating duplicate records altogether, whether or not they have access to the existing record. Activate duplicate rules and customize the settings.

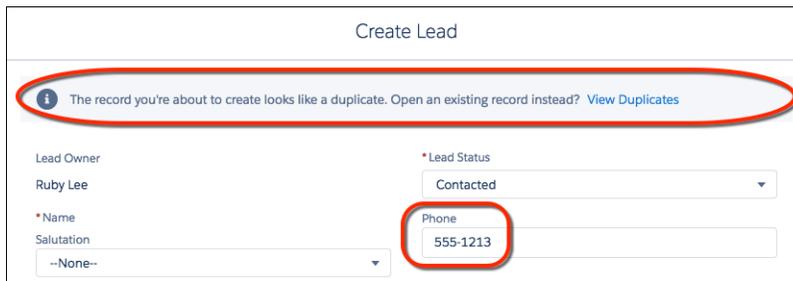
Standard duplicate rules are activated by default for business accounts, contacts, and leads. If your org was created before Summer '17, the rules came activated for you. To use duplicate rules for person accounts, first enable person accounts, and then activate person account matching and duplicate rules in Setup.

Here are three ways to use a duplicate rule to handle duplicates, using leads as an example.

- Alert sales reps when they're about to create a duplicate lead.
  - In Setup, use the Quick Find box to find **Duplicate Rules**. Make sure that the Standard Lead Duplicate Rule is set to display the alert.



With the Standard Lead Duplicate Rule activated, suppose that a sales rep starts creating a lead. The rep enters a phone number that matches the phone number of a lead already in Salesforce. The rule detects the duplicate and alerts the rep. The rep can choose to save the lead, because the rule is set to show an alert but not block duplicates. Or the rep can click **View Duplicates** to see existing records instead.



In this example, the lead the rep started to create is a duplicate of two other leads and a contact. Lightning Experience displays up to 15 duplicate records.

### EDITIONS

Available in: Lightning Experience and Salesforce Classic (not available in all orgs)

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

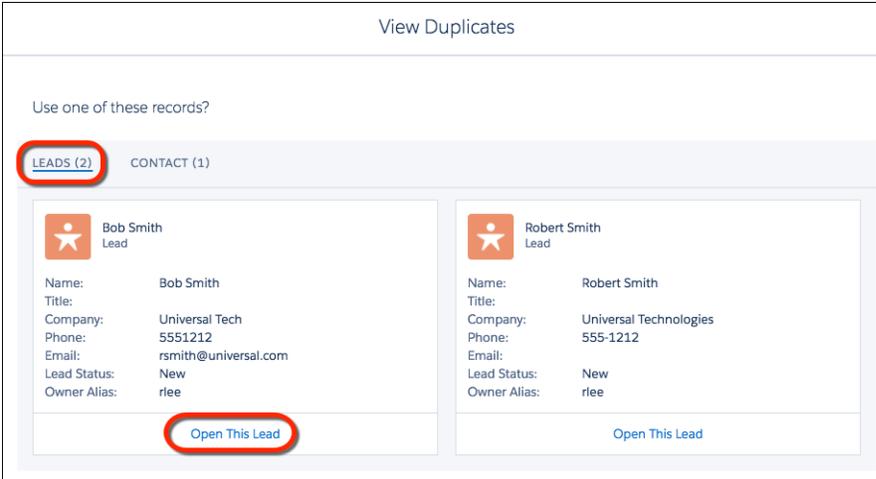
### USER PERMISSIONS

To view duplicate rules and matching rules:

- View Setup and Configuration

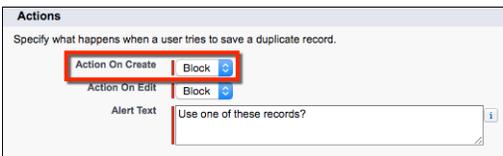
To create, edit, delete, activate, and deactivate duplicate rules and matching rules:

- Customize Application

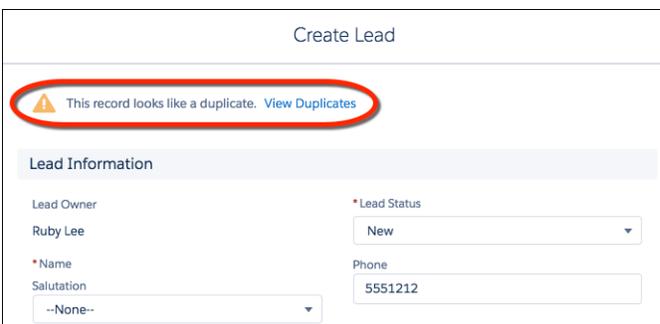


**Note:** In Salesforce Classic, when users create accounts using a quick action, they can't view duplicate records or save the new record if it's a duplicate. This condition applies even if you've set Action on Create to **Allow**.

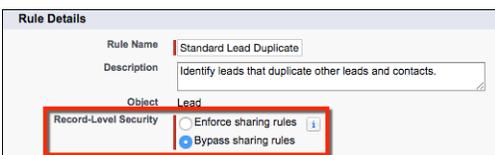
- Block sales reps from creating duplicate leads.  
In the Standard Lead Duplicate Rule, select **Block** instead of **Allow**.



With the Standard Lead Duplicate Rule set to block duplicates, a rep can click to view duplicates of leads but can't save a new lead.



- Prevent reps from creating duplicates of records they don't have permission to view.  
In the duplicate rule, change **Enforce sharing rules** to **Bypass sharing rules**.



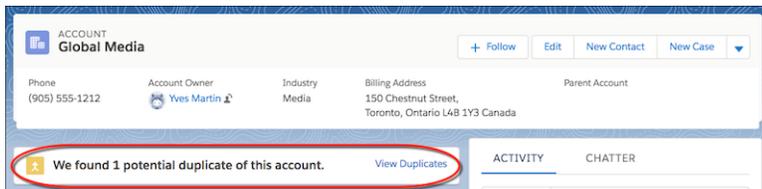
When the duplicate rule is set to bypass sharing rules, it operates on all potential duplicates regardless of ownership. Suppose that a rep starts creating a record that duplicates a record the rep doesn't have access to. Salesforce alerts the rep and allows or blocks the duplicate according to your Action on Create setting. But Salesforce doesn't display the record the rep doesn't have access to.

## Show Duplicate Records in Lightning Experience

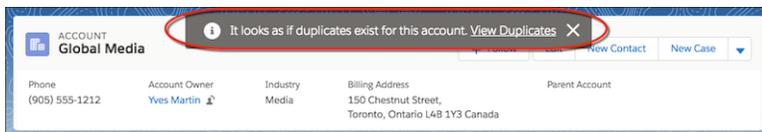
If a record duplicates other records, you can alert sales reps when they open the record in Lightning Experience. Activate duplicate rules and add alerts to page layouts.

In orgs created in Summer '17 and later, standard duplicate rules and the Potential Duplicates component are set up and activated for business accounts, contacts, and leads. To use duplicate rules and the Potential Duplicates component for person accounts, first enable person accounts. Then activate person account matching rules and duplicate rules, and add the Potential Duplicates component to your person accounts layout.

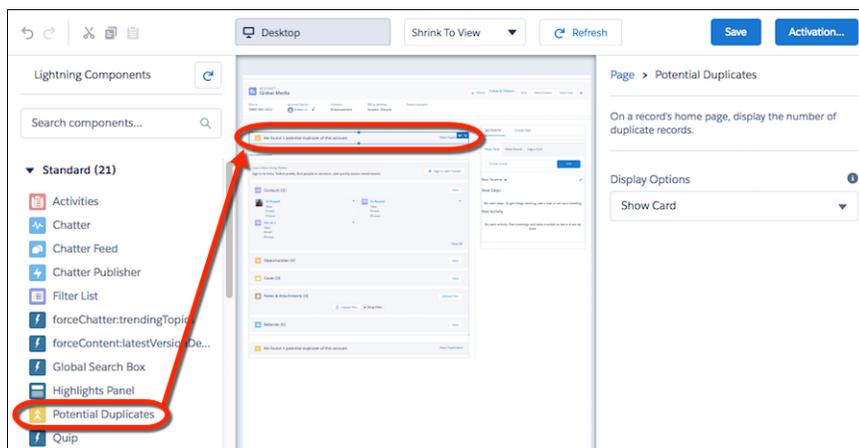
You can alert sales reps to duplicates by showing a card on record home pages.



Or you can show a temporary toast message. You can also display both types of alerts.



1. In Setup, use the Quick Find box to find **Lightning App Builder**.
2. On accounts, contacts, or leads, add the Potential Duplicates component.



3. Select how you want to alert sales reps to duplicates.

### EDITIONS

Available in: Lightning Experience and Salesforce Classic (**not available in all orgs**)

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

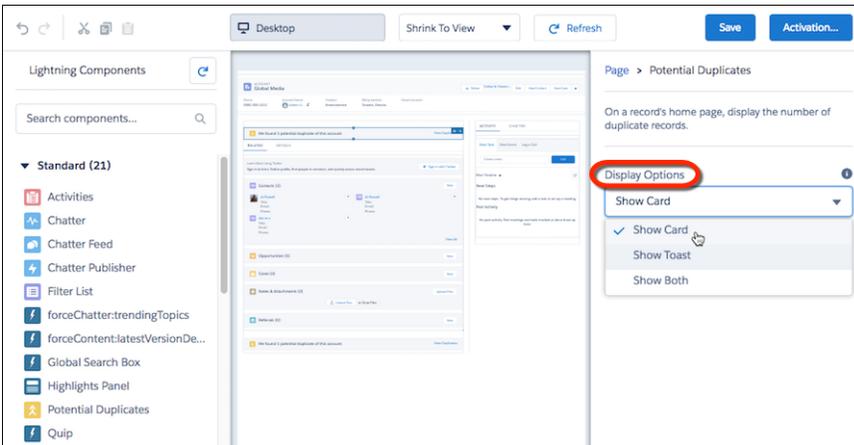
### USER PERMISSIONS

To view duplicate rules and matching rules:

- View Setup and Configuration

To create, edit, delete, activate, and deactivate duplicate rules and matching rules:

- Customize Application



You can't add the Potential Duplicates component to custom objects. However, you can create rules to handle custom-object records that duplicate an account, contact, or lead.

Reps who have permission to merge duplicates can choose up to three records on the same object to merge.

## Show Duplicate Records in Salesforce Classic

If a record duplicates other records, you can alert sales reps when they open the record in Salesforce Classic by activating duplicate rules.

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions

### USER PERMISSIONS

To view duplicate rules and matching rules:

- View Setup and Configuration

To create, edit, delete, activate, and deactivate duplicate rules and matching rules:

- Customize Application

Lead Owner

Lead Edit **marc benioff**
Help for this Page

**Lead Edit**

Save (Ignore Alert)
Save & New (Ignore Alert)
Cancel

8 Possible Duplicate Records Found  
 You're creating a duplicate record. We recommend you use an existing record instead.

**Leads**

Name	Street	Phone	Zip/Postal Code	Email	Company	City	Title	Lead Owner	Last Modified Date
<a href="#">marc benioff</a>	1 market street	(800) 555-5555		mbenioff@salesforce.com	salesforce.com, Inc	San Francisco		<a href="#">Madison Rigsby</a>	10/3/2014 2:47 PM
<a href="#">m benioff</a>	1 market street	(800) 555-1234		mbenioff@salesforce.com	salesforce.com, Inc	San Francisco		<a href="#">Madison Rigsby</a>	10/3/2014 2:48 PM
<a href="#">marc benioff</a>	1 market street	(800) 555-5555		marc.benioff@salesforce.com	salesforce.com, Inc	San Francisco		<a href="#">Madison Rigsby</a>	10/3/2014 2:51 PM
<a href="#">marc benioff</a>	1 market street	(800) 555-5555		marc.benioff@salesforce.com	salesforce.com, Inc	San Francisco		<a href="#">Madison Rigsby</a>	10/10/2014 3:37 PM
<a href="#">marc benioff</a>	100 market street	(800) 555-5555		m.benioff@salesforce.com	salesforce.com, Inc	San Francisco		<a href="#">Madison Rigsby</a>	10/17/2014 1:12 PM

[Show All >>](#)

**Contacts**

Name	Phone	Mailing City	Account Name	Email	Mailing Street	Mailing Zip/Postal Code	Title	Contact Owner	Last Modified Date
<a href="#">marc Benioff</a>	(800) 555-5555	San Francisco	<a href="#">Salesforce.com, Inc</a>	mbenioff@salesforce.com	1 Market Street			<a href="#">Madison Rigsby</a>	10/17/2014 10:27 AM
<a href="#">Mike Benioff</a>		San Francisco	<a href="#">Salesforce.com, Inc</a>	mbenioff@salesforce.com	1 Market Street			<a href="#">Madison Rigsby</a>	10/17/2014 10:28 AM

**Lead Information** - Required Information

Lead Owner	Madison Rigsby	Lead Status	Open
First Name	marc	Phone	(800) 555-5555
Last Name	benioff	Email	mbenioff@salesforce.com
Company	salesforce.com	Rating	--None--
Title			

1. Reps see a message with the number of duplicates found. The number represents only the records that a rep has access to. If you've selected the **Bypass sharing rule** option, which compares all records regardless of a rep's access, the message indicates whether duplicates were detected. If a rep doesn't have access to any of the duplicates, the message indicates that there are duplicates but doesn't include the number.
2. If your duplicate rule includes an alert, it appears beneath the message.
3. If your duplicate rule lets reps save duplicates, they see the Save (Ignore Alert) button. If your duplicate rule blocks reps from saving duplicates, they see the Save button, but they can't save the record.
4. The list of duplicates includes only records that a rep has access to. The fields shown include only fields that the rep has access to, up to the first seven fields compared by the associated matching rule. The list displays a maximum of five records. If more than five duplicates are found, clicking **Show All >>** displays a full list of records, up to 100.
5. The highlighted fields were defined as matches by the associated matching rule.

# MANAGE DUPLICATES GLOBALLY

## USER PERMISSIONS

To run duplicate jobs:	Customize Application
To create or update custom report types:	Manage Custom Report Types
To delete custom report types:	Modify All Data
To view duplicate record sets and items:	View on accounts, contacts, or leads
To merge duplicate record items:	Edit and Delete on accounts, contacts, or leads
To view error logs:	View Setup and Configuration

## EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

Find duplicates across your org by running duplicate jobs. Use reports to share job results with others, and use duplicate record sets to merge the duplicates. Use information about completed jobs to track your progress in reducing duplicate records.

### IN THIS SECTION:

#### [Find Duplicates Across Your Org Using Duplicate Jobs in Lightning Experience](#)

Use duplicate jobs with standard or custom matching rules to scan your Salesforce business or person accounts, contacts, or leads for duplicates.

#### [Create Reports on Duplicate Records](#)

Use duplicate record reports to fine-tune your duplicate and matching rules and share the results of duplicate jobs.

#### [Manage Duplicates Using Duplicate Record Sets](#)

A duplicate record set is a list of items identified as duplicates. It's created when a duplicate rule or job runs. Let your Lightning Experience users merge duplicates by granting them access to duplicate record sets.

#### [View Error Logs for Duplicate Rules and Matching Rules](#)

Troubleshoot system errors that prevent duplicate rules or matching rules from running. Error logs are deleted after 90 days.

# Find Duplicates Across Your Org Using Duplicate Jobs in Lightning Experience

Use duplicate jobs with standard or custom matching rules to scan your Salesforce business or person accounts, contacts, or leads for duplicates.

**IN THIS SECTION:**

[Run Duplicate Jobs in Lightning Experience](#)

Run jobs to find duplicate business and person accounts, contacts, or leads across your org.

[Things to Know About Duplicate Jobs](#)

Review considerations for using duplicate jobs.

## Run Duplicate Jobs in Lightning Experience

Run jobs to find duplicate business and person accounts, contacts, or leads across your org.

▶ [Use Matching Rules to Hunt Down Duplicate Records \(English only\)](#)

1. In Setup, use the Quick Find box to find **Duplicate Jobs**.
2. Click **New Job**.

JOB	MATCHING RULE	DUPLICATES	SCANNED	CREATED BY	STARTED	JOB STATUS
Lead Dec 6, 2017 2:25 PM	Standard Lead Matching Rule...	40,364	100,313	Ruby Lee	Dec 6, 2017 2:25:14 PM	Completed
Person Account 8-Nov-201...	Standard Person Account Ma...	48,818	58,749	Ruby Lee	Nov 8, 2017 10:52:34 AM	Results Deleted
Standard Contact Matchin...	Standard Contact Matching R...	102	210	Ruby Lee	Nov 8, 2017 10:50:46 AM	Completed

3. Select an object. Select an existing matching rule or create one. Only matching rules for the object you select are available. If you like, edit the default job name. Click **Run**.

**EDITIONS**

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Performance** and **Unlimited** Editions

**USER PERMISSIONS**

- To run duplicate jobs:
- Customize Application
- AND
- View All Data

**EDITIONS**

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Performance** and **Unlimited** Editions

**USER PERMISSIONS**

- To run duplicate jobs:
- Customize Application
- AND
- View All Data

You can't delete or edit the name or description after creating a job. If you're working toward complying with various data protection and privacy regulations, consider excluding personal data from the name and description.

The job summary page shows the status of jobs. You're notified by email when a job is finished.

	100,313 Records Scanned	15,124 Duplicate Sets	40,364 Duplicates Found
	DUPLICATE RECORD SET NAME ↑      RECORD COUNT ↓		
1	DRS-0000082186	2	▼
2	DRS-0000082187	2	▼
3	DRS-0000082188	2	▼

- To rerun a job, click **New Job**, and then select the same object and matching rule.
- To view and merge duplicates, open a job summary page, and then open a record set. Click the **Related** tab. Select the **Compare and Merge** action.

DUPLICATE RECORD ITEM NAME	RECORD	CREATED DATE
DRS-000029913	Aaron Hughes	12/6/2017 2:31 PM
DRS-000029914	Aaron Hughes	12/6/2017 2:31 PM

To let users merge duplicates in sets, give them access to duplicate record sets in Lightning Experience.

- To share the results of a job, run a report on the duplicate record set generated by the job.

## Things to Know About Duplicate Jobs

Review considerations for using duplicate jobs.

### Compare and Merge Not Supported for Custom Objects

You can run duplicate jobs on custom objects, but you can't compare and merge duplicate records.

### Job Limits

New jobs are blocked, or job results are deleted or overwritten, under the following circumstances.

- Creating a job with the same settings (object and matching rule) as a completed job overwrites the earlier job. We alert you before running the job to confirm.
- Suppose that you run a job, and then you edit the matching rule you used. When you run another job using the rule, we delete the results of the first job without alerting you.
- When the total number of duplicates in all completed jobs reaches 1,000,000, you can't run new jobs. To run a job, delete the results of one or more jobs until the number of duplicate record items falls below 1,000,000.
- In an org with many records, duplicate jobs can fail.

When the results of a duplicate job are deleted, the information about the job is preserved: the number of records scanned, sets of duplicates found, and individual duplicates found.

### Duplicate Record Sets and List Views

For each job you run, a list view of duplicate record sets is generated.

- If you delete the list view, the duplicate record sets and duplicate record items persist, and information about the job in Setup also persists.
- However, if you delete the job's results in Setup, the corresponding list view, duplicate record sets, and duplicate record items are all deleted.

### Required Custom Fields on Duplicate Record Set or Duplicate Record Item Layouts

When duplicate record sets or items in a set generated by a duplicate job contain required custom fields, the job fails.

### Encrypted Fields Used for Matching

If a field included in a matching rule used for a duplicate job is encrypted, the job fails.

#### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Performance** and **Unlimited** Editions

## Create Reports on Duplicate Records

Use duplicate record reports to fine-tune your duplicate and matching rules and share the results of duplicate jobs.

A duplicate records report can include the following records.

- Duplicates created when a rule alerts a user to a possible duplicate, but the user creates the duplicate anyway. (To generate this report, select the **Report** option in a duplicate rule.)
  - Records manually added to a duplicate record set
  - Records in duplicate record sets generated by duplicate jobs
1. In Setup, use the Quick Find box to find **Report Types**.
  2. Create a report type, selecting **Account, Contact, Lead, or Duplicate Record Set** as the primary object.
 

If you use person accounts, distinguish them from business accounts by adding the **Is Person Account** field in the field layout properties for your report type.

If you're working toward complying with various data protection and privacy regulations, consider excluding personal data from the report name and description.
  3. Click **Next**.
  4. Relate **Duplicate Record Items** to the primary object that you selected. Save the report type.
  5. Give your users access to the Duplicate Record Set and Duplicate Record Items objects. Then they can create reports based on the custom record type you've created.



**Example:** Let's say that you're using the standard duplicate rule for leads. You want to report on the duplicate leads that your rule detected. Create a custom report type with Lead as the primary object. Then create reports based on that report type.

Or let's say that you want to share the results of duplicate jobs, or see how well your duplicate rules are working overall. Create a custom report type with Duplicate Record Sets as the primary object. Then create reports based on that report type.

### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

### USER PERMISSIONS

To create or update custom report types:

- Manage Custom Report Types

To delete custom report types:

- Modify All Data

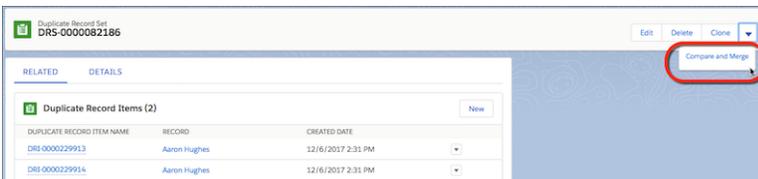
## Manage Duplicates Using Duplicate Record Sets

A duplicate record set is a list of items identified as duplicates. It's created when a duplicate rule or job runs. Let your Lightning Experience users merge duplicates by granting them access to duplicate record sets.

You can grant access to duplicate record sets and duplicate record items to users with a Sales Cloud, Service Cloud, or Sales & Service Cloud license.

Duplicate record sets containing the results of duplicate jobs don't include a link to the job by default. To include the link, use Lightning App Builder to add the Parent field to your duplicate record set layout.

- View duplicate record sets.
  - In Lightning Experience, from the App Launcher, find and open **Duplicate Record Sets**.
  - In Salesforce Classic, click the Duplicate Record Sets tab.
- To manage duplicates that aren't surfaced by a duplicate rule, create a duplicate record set.
  - On a duplicate record set list view, click **New**.
  - Specify a duplicate rule (in the Duplicate Rule field) or a duplicate job (in the Parent field).
  - In Lightning Experience, in the Related tab, click **New**. In Salesforce Classic, on the duplicate record set detail page, click **New Duplicate Record Item**.
- In Lightning Experience only, merge duplicates in a set by selecting the **Compare and Merge** action.



To let users merge duplicates in sets, give them access to duplicate record sets in Lightning Experience.

### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

### USER PERMISSIONS

To view duplicate record sets and items:

- View on accounts, contacts, or leads

To merge duplicate record items:

- Edit and Delete on accounts, contacts, or leads

## View Error Logs for Duplicate Rules and Matching Rules

Troubleshoot system errors that prevent duplicate rules or matching rules from running. Error logs are deleted after 90 days.

1. From Setup, use the Quick Find box to find **Duplicate Error Logs**.
2. View the error logs. Logs are displayed in a list view.

All Duplicate Error Logs Help for this Page

View: All Duplicate Error Logs + [Create New View](#)

Object	Record	Duplicate Rule	Matching Rule	Error Message	Created Date
Lead	Smith, Andy	Standard Lead Duplicate Rule	Standard Lead Matching Rule v1.0	Unable to report on duplicate records. DuplicateRecordItem : Required fields are missing: Duplicate Record Set.Account	11/7/2017 5:23 AM
Lead	Smith, Andy	Standard Lead Duplicate Rule	Standard Lead Matching Rule v1.0	Unable to report on duplicate records. DuplicateRecordItem : Required fields are missing: Duplicate Record Set.Account	11/7/2017 5:23 AM
Contact	Martinez, Kate	Standard Contact Duplicate Rule	Standard Contact Matching Rule v1.1	Unable to report on duplicate records. DuplicateRecordSet : Required fields are missing: [Account]	11/7/2017 5:22 AM
Contact	Martinez, Kate	Standard Contact Duplicate Rule	Standard Contact Matching Rule v1.1	Unable to report on duplicate records. DuplicateRecordSet : Required fields are missing: [Account]	11/7/2017 5:22 AM
Lead	Smith, Andy	Standard Lead Duplicate Rule	Standard Lead Matching Rule v1.0	Unable to report on duplicate records. DuplicateRecordItem : Required fields are missing: Duplicate Record Set.Account	10/24/2017 7:17 PM
Lead	Smith, Andy	Standard Lead Duplicate Rule	Standard Lead Matching Rule v1.0	Unable to report on duplicate records. DuplicateRecordItem : Required fields are missing: Duplicate Record Set.Account	10/16/2017 4:11 PM



**Example:** Here are some scenarios that can produce errors.

- The match engine used for fuzzy matching methods is temporarily unavailable. Matching rules that include fuzzy matching methods don't run.
- The Report option on duplicate rules is selected, but a report isn't generated because the system can't create a duplicate record set. (Reports on duplicates are based on duplicate record sets.)

### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

### USER PERMISSIONS

To view error logs:

- View Setup and Configuration

# CUSTOMIZE DUPLICATE MANAGEMENT

Configure duplicate management to align with other customizations you make and detect duplicates missed by standard rules. Customize the user interface for handling duplicates: For example, block users from creating duplicates instead of just warning them, or run different duplicate rules for different user profiles. Customize the logic used to identify duplicates: For example, include a custom field in a matching rule, specify field mapping, or customize matching criteria on fields.

## IN THIS SECTION:

### [Duplicate Rules](#)

A duplicate rule defines what happens when a user views a record with duplicates or starts creating a duplicate record. Salesforce provides standard duplicate rules for business and person accounts, contacts, and leads. You can also create duplicate rules.

### [Matching Rules](#)

A matching rule defines how duplicate records are identified in duplicate rules and duplicate jobs. Salesforce provides standard matching rules for business and person accounts, contacts, and leads. You can also create custom matching rules.

## Duplicate Rules

---

A duplicate rule defines what happens when a user views a record with duplicates or starts creating a duplicate record. Salesforce provides standard duplicate rules for business and person accounts, contacts, and leads. You can also create duplicate rules.

## IN THIS SECTION:

### [Customize Duplicate Rules](#)

Manage duplicates more effectively by adjusting the settings in standard duplicate rules or creating custom rules.

### [Things to Know About Duplicate Rules](#)

Review considerations for using and customizing duplicate rules.

### [Standard Duplicate Rules](#)

Each standard duplicate rule includes a corresponding standard matching rule that determines how records are identified as duplicates.

## EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## USER PERMISSIONS

To create, edit, or delete duplicate rules and matching rules:

- Customize Application

To activate and deactivate duplicate rules and matching rules:

- Customize Application

To view duplicate rules and matching rules:

- View Setup and Configuration

## EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## Customize Duplicate Rules

Manage duplicates more effectively by adjusting the settings in standard duplicate rules or creating custom rules.

To see the duplicates detected by a duplicate rule, users must have Read access to the object defined in the rule.

1. From Setup, use the Quick Find box to find **Duplicate Rules**.
2. To edit a rule, click the rule name, and click **Edit**. To create a rule, click **New Rule**, and select the object you want the rule to apply to.
3. Enter the rule details, including a name, description, and record-level security settings.  
If you're working toward complying with various data protection and privacy regulations, consider excluding personal data from the name and description.
4. Select the actions you want to occur when a user starts creating a duplicate.  
The default actions are to alert users when they start to create a duplicate, and report on duplicates created when users create or edit records. You can customize the provided alert text.

5. In the Matching Rules section, select the object to compare records on. Then select the matching rule that determines how records are identified as duplicates.

The list includes all available matching rules for the selected object.



**Tip:** If you want to use a new custom matching rule, we recommend that you finish creating your duplicate rule before selecting **Create New Matching Rule**. Then create and activate the matching rule. The new matching rule is automatically associated with the duplicate rule.

6. Select the field mapping for each matching rule, if needed.  
If the matching rule compares records on two different objects or uses custom fields, consider the following:
  - Decide how you want to compare the fields on the first object to the fields on the second object. For example, map a custom field called Work Email to the standard Email field.
  - If two text fields with different maximum lengths are compared, data in the fields can be truncated before a match is determined.
7. If you want your duplicate rule to run only when specific conditions are met, enter the conditions.  
For example, the rule runs only if a user with a certain profile or role creates a record. Or set a condition for the rule to run only if the record includes a specific country, state, or province.
8. Save and activate the rule.  
For the activation to succeed, all associated matching rules must be active.
9. If you have more than one active duplicate rule for a particular object, consider adjusting the order in which the rules are processed. Reorder rules by clicking **Reorder** on any rule's detail page.



**Tip:** If the first duplicate rule finds a match for a particular record, subsequent duplicate rules skip that record. Arrange your duplicate rules so that rules with the Block option run before rules with the Allow option.

### EDITIONS

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### USER PERMISSIONS

To create, edit, or delete duplicate rules:

- Customize Application

To activate and deactivate duplicate rules:

- Customize Application

To view duplicate rules:

- View Setup and Configuration

## Things to Know About Duplicate Rules

Review considerations for using and customizing duplicate rules.

### Number of Duplicate and Matching Rules

- You can use up to five active duplicate rules per object.
- You can include up to three matching rules in each duplicate rule, with one matching rule per object.

### Duplicate Record Sets Generated by Selecting the Report Option

If you select the Report option for duplicates identified using a duplicate rule, and a user saves a record identified as a duplicate, the following happens.

- The saved record and the maximum number of duplicates are reassigned to a new or existing duplicate record set. For each matching rule run on a record, up to 100 duplicates can be reassigned to a duplicate record set. A matching rule can be associated with a duplicate rule or a duplicate job.
- The saved record and each of its duplicates are listed as duplicate record items in the duplicate record set.
- If the duplicate rule looks for duplicates across objects (for example, contacts that duplicate leads), the duplicate record set includes duplicates on the other objects.

If a duplicate lead is converted before the duplicate record set is created, the duplicate record set doesn't include the converted lead.

### Records with More Than 100 Matches

Match keys help to increase the performance of duplicate rules through a preliminary comparison that narrows the matches to the 100 most likely duplicate records. Then the rule applies the matching equation only to those likely matches.

### How Rules Operate on Edited Fields

You can configure a duplicate rule to perform an action when a record is created or edited. However, the rule only runs on edited records when the edited fields are included in the associated matching rule. For example, if a sales rep edits a custom field, the rule doesn't run unless you've created a matching rule which includes that field.

### Global Picklist Value Sets

Global picklist values aren't supported in duplicate rules.

### Custom Picklists

Custom picklist fields aren't supported in matching rules used in cross-object duplicate rules. For example, you can't use a custom picklist field on the lead object in a rule that matches contacts which duplicate leads.

### Conditions Under Which Duplicate Rules Don't Run

- Records are created using Quick Create or Community Self-Registration.
- Leads are converted to accounts or contacts, and **Use Apex Lead Convert** isn't enabled.
- Records are restored with the Undelete button.
- Records are added using Lightning Sync.
- Records are manually merged.
- A Self-Service user creates records, and the rules include conditions based on the User object.
- Duplicate rule conditions are set for lookup relationship fields and records but no value for these fields has been saved. For example, you have a condition which specifies that a duplicate rule runs when a campaign doesn't contain "Salesforce." If you then add a record with no value for the Campaign field, the duplicate rule doesn't run.

### Conditions Under Which Duplicate Rule Settings Are Overridden

In the following situations, no alert is shown and users can't save records.

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- Records are added using the data import tools.
- A person account is converted to a business account, and the newly created business account matches an existing business account.
- Records are added or edited using Salesforce APIs.

### Timing of Saves

If multiple records are saved simultaneously and your duplicate rule is set to block or alert sales reps, those records aren't compared with each other. They're compared only with records already in Salesforce. This behavior doesn't affect the Report option, and duplicate record sets do include records that match other records saved simultaneously.

### Translation Workbench

The Translation Workbench doesn't support the customizable alert text in duplicate rules.

## Standard Duplicate Rules

Each standard duplicate rule includes a corresponding standard matching rule that determines how records are identified as duplicates.

### IN THIS SECTION:

#### [Standard Account Duplicate Rule](#)

The standard account duplicate rule defines what happens when a user views an account with duplicates or starts to create a duplicate account. It's activated by default.

#### [Standard Person Account Duplicate Rule](#)

The standard person account duplicate rule defines what happens when a user views a person account with duplicates or starts to create a duplicate person account. To use this rule, enable person accounts, and then activate the standard person account matching and duplicate rules in Setup.

#### [Standard Contact Duplicate Rule](#)

The standard contact duplicate rule defines what happens when a user views a duplicated contact or starts to create a record that duplicates a contact. If your org was created in Summer '17 or later, this duplicate rule includes a cross-object matching rule: It matches contacts that duplicate other contacts and leads that duplicate contacts. If your org was created before Summer '17, you can get the same functionality by activating a new duplicate rule available in Setup. Otherwise, your default rule matches only contacts that duplicate other contacts.

#### [Standard Lead Duplicate Rule](#)

The standard lead duplicate rule defines what happens when a user views a lead with duplicates or starts to create a record that duplicates a lead. If your org was created in Summer '17 or later, this duplicate rule includes a cross-object matching rule: It matches leads that duplicate other leads and contacts that duplicate leads. If your org was created before Summer '17, you can get the same functionality by activating a new duplicate rule available in Setup. Otherwise, your default rule matches only leads that duplicate other leads.

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## Standard Account Duplicate Rule

The standard account duplicate rule defines what happens when a user views an account with duplicates or starts to create a duplicate account. It's activated by default.

## Rule Details

**Rule Name**

Standard Account Duplicate Rule

**Description**

Handle accounts that duplicate other accounts.

**Object**

Account

**Default Record-Level Security Setting**

Enforce Sharing Rules

## Actions

An action specifies what happens when a user starts creating a duplicate record.

**Default Action On Create**

Allow: The user is alerted but allowed to create the record.

**Default Action On Edit**

Allow: You can generate a report of duplicates created when this rule runs.

**Customizable Alert Text**

Use one of these records?

## Matching Rules Included in This Duplicate Rule

**Matching Rule**

Standard Account Matching Rule

**Description**

Match accounts that duplicate other accounts.

**Default Field Mapping**

Mapping Selected

## Standard Person Account Duplicate Rule

The standard person account duplicate rule defines what happens when a user views a person account with duplicates or starts to create a duplicate person account. To use this rule, enable person accounts, and then activate the standard person account matching and duplicate rules in Setup.

## Duplicate Rule

**Rule Name**

Standard Person Account Duplicate Rule

**Description**

Handle person accounts that duplicate other person accounts.

**Object**

Person Account

**Default Record-Level Security Setting**

Enforce Sharing Rules

## Actions

Action options specify what happens when a user starts creating a duplicate record.

### Default Action On Create

Allow: The user is alerted but allowed to create the record.

### Default Action On Edit

Allow: You can generate a report of duplicates created when this rule runs.

### Customizable Alert Text

Use one of these records?

## Matching Rules

This duplicate rule is based on the following matching rule.

### Matching Rule

Standard Person Account Matching Rule

### Default Field Mapping

Mapping Selected

## Standard Contact Duplicate Rule

The standard contact duplicate rule defines what happens when a user views a duplicated contact or starts to create a record that duplicates a contact. If your org was created in Summer '17 or later, this duplicate rule includes a cross-object matching rule: It matches contacts that duplicate other contacts and leads that duplicate contacts. If your org was created before Summer '17, you can get the same functionality by activating a new duplicate rule available in Setup. Otherwise, your default rule matches only contacts that duplicate other contacts.

## Rule Details

### Rule Name

Standard Account Duplicate Rule

### Description

Handle contacts that duplicate other contacts and leads that duplicate contacts.

### Object

Contact

### Default Record-Level Security Setting

Enforce Sharing Rules

## Actions

An action specifies what happens when a user starts creating a duplicate record.

### Default Action On Create

Allow: The user is alerted but allowed to create the record.

### Default Action On Edit

Allow: You can generate a report of duplicates created when this rule runs.

### Customizable Alert Text

Use one of these records?

## Matching Rules Included in This Duplicate Rule

### Matching Rules

Standard Contact Matching Rule, Standard Lead Matching Rule

### Description

Match contacts that duplicate other contacts and leads that duplicate contacts.

### Default Field Mapping

Mapping Selected

## Standard Lead Duplicate Rule

The standard lead duplicate rule defines what happens when a user views a lead with duplicates or starts to create a record that duplicates a lead. If your org was created in Summer '17 or later, this duplicate rule includes a cross-object matching rule: It matches leads that duplicate other leads and contacts that duplicate leads. If your org was created before Summer '17, you can get the same functionality by activating a new duplicate rule available in Setup. Otherwise, your default rule matches only leads that duplicate other leads.

## Rule Details

### Rule Name

Standard Lead Duplicate Rule

### Description

Handle leads that duplicate other leads and contacts that duplicate leads.

### Object

Lead

### Default Record-Level Security Setting

Enforce Sharing Rules

## Actions

An action specifies what happens when a user starts creating a duplicate record.

### Default Action On Create

Allow: The user is alerted but allowed to create the record.

### Default Action On Edit

Allow: You can generate a report of duplicates created when this rule runs.

### Customizable Alert Text

Use one of these records?

## Matching Rules Included in This Duplicate Rule

### Matching Rules

Standard Lead Matching Rule, Standard Contact Matching Rule

### Description

Match leads that duplicate other leads and contacts that duplicate leads.

### Default Field Mapping

Mapping Selected

## Matching Rules

A matching rule defines how duplicate records are identified in duplicate rules and duplicate jobs. Salesforce provides standard matching rules for business and person accounts, contacts, and leads. You can also create custom matching rules.

### IN THIS SECTION:

#### [Customize Matching Rules](#)

Find more duplicates by creating custom matching rules.

#### [Things to Know About Matching Rules](#)

Find out how matching rules work, review what to know when you customize matching rules, and look at some examples to get started. Or go further: Do a deep-dive on matching criteria, methods, algorithms, match keys, and normalization criteria.

#### [Standard Matching Rules](#)

You can use the provided standard matching rules with duplicate rules and duplicate jobs. You can't edit these standard matching rules, but you can create custom matching rules.

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## Customize Matching Rules

Find more duplicates by creating custom matching rules.

1. From Setup, use the Quick Find box to find **Matching Rules**.
2. If editing an existing matching rule, make sure that the rule is inactive.
3. Click **New Rule** or **Edit**.
4. Apply the matching rule to an object.
5. Enter a name and description for the rule.

If you're working toward complying with various data protection and privacy regulations, consider excluding personal data from the name and description.

6. Enter the matching criteria.

The matching criteria define which fields to compare and how. To add fields (up to 10 total) or adjust the matching equation (for example, to change an AND expression to an OR expression), add filter logic.

7. Save and activate the rule.

The activation process can take some time. You're notified by email when your matching rule is ready to use.

When a matching rule is active, you can use it with duplicate rules and duplicate jobs.

### EDITIONS

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### USER PERMISSIONS

To create, edit, or delete matching rules:

- Customize Application

To activate and deactivate matching rules:

- Customize Application

To view matching rules:

- View Setup and Configuration

## Things to Know About Matching Rules

Find out how matching rules work, review what to know when you customize matching rules, and look at some examples to get started. Or go further: Do a deep-dive on matching criteria, methods, algorithms, match keys, and normalization criteria.

### IN THIS SECTION:

#### [Things to Know Before You Customize Matching Rules](#)

Review considerations for customizing matching rules.

#### [Matching Rule Examples](#)

Review these examples to understand how records are compared and evaluated as duplicates.

#### [Matching Criteria in Matching Rules](#)

A matching rule applies criteria to determine how closely a field on a new or edited record matches the same field on an existing record. Standard matching rules include predefined criteria. When you create a custom matching rule, you define the criteria.

#### [Matching Methods Used in Matching Rules](#)

The matching method determines how a specific field in a record is compared to the same field in another record. Each matching method is defined by normalization criteria, match key definitions, and matching algorithms.

#### [Matching Algorithms Used with Matching Methods](#)

The matching method and its corresponding matching algorithms are part of the matching rule's matching criteria. They help determine how a specific field in one record is compared to the same field in another record and whether the fields are considered matches.

#### [How Match Keys Are Generated and Used in Matching Rules](#)

When a matching rule runs, it applies one or more match key formulas before applying a comprehensive matching equation. Match keys help to increase the performance of duplicate rules through a preliminary comparison that narrows the matches to the 100 most likely duplicate records. Then the rule applies the matching equation only to those likely matches.

#### [Normalization Criteria for Match Keys](#)

As part of the process of creating match key values, matching rule field values are normalized. How a field value is normalized depends on several factors, including the matching method for that field as specified in the matching rule. In addition, some commonly used fields are normalized to optimize duplicate detection.

### EDITIONS

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Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## Things to Know Before You Customize Matching Rules

Review considerations for customizing matching rules.

### Limits

- Up to five matching rules can be activated or deactivated at a time.
- Up to five active matching rules are allowed per object.
- Up to 25 total active matching rules are allowed.
- Up to 100 total matching rules are allowed (both active and inactive).
- Only one lookup relationship field is allowed per matching rule.

### International Data

Standard and custom matching rules that use fuzzy matching methods support only Latin characters. If you're using international data, we recommend using the exact matching method with your matching rules.

### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

### Lookup Fields

If the value of a lookup field is a person account and the matching rule includes a contact lookup field, the matching rule isn't applied. All contact lookup fields, except Reports To on the Contact object, contain both contacts and person accounts. You can configure a lookup filter to exclude person accounts. To match on person account values, use an account lookup field instead.

### Records in Hierarchies

If the record chosen as master is below another selected duplicate in a hierarchy, you can't finish merging. Choose a different master or edit the Parent Account or Reports To value on one of the records.

### Fields That Become Unavailable

If a field on an object is no longer available in your org, it can cause matching rules with mappings to this field to be ignored. When the fields in your org change, check all duplicate rule field mappings for an object. For example, the Clean Status field is only available to customers with a Data.com license. If your org no longer has a Data.com license, this field is no longer available. Matching rules with mappings to this field are ignored.

### Shield Platform Encryption

Standard matching rules that include fields with Shield Platform Encryption don't detect duplicates. However, custom matching rules can reference encrypted fields as long as those fields are encrypted deterministically. Probabilistic encryption isn't supported.

When you rotate your key material, you must update custom matching rules that reference encrypted fields. After you rotate your key material, deactivate and then reactivate the affected matching rules. Then contact Salesforce to request the background encryption process. When the background encryption process is finished, your matching rules can access the data encrypted with your active key material.

Service protections ensure that loads are balanced across the system. The matching service searches for match candidates until they find all matches or up to 200 matches. With Shield Platform Encryption, the service search maximum is 100 candidates. With encryption, you could find fewer or no possible duplicate records.

Duplicate jobs aren't supported.

## Matching Rule Examples

Review these examples to understand how records are compared and evaluated as duplicates.

### Example: Custom Lead Matching Rule with Fuzzy Matching Methods

Table 1: Matching Criteria

	Field	Matching Method
1	Company	<i>Fuzzy: Company Name</i>
2	Email	<i>Exact</i>
3	Phone	<i>Fuzzy: Phone</i>
Matching equation is (Company OR Email) AND (Phone)		

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Based on these matching criteria, here's how matching works.

- 1. Match key values are generated for existing leads.** Based on the matching equation and the specified matching methods, two match keys are created. From these keys, match key values are generated.

**Table 2: Match Keys**

Matching Equation in Standardized Format	Match Key	Sample Matching Field Values	Sample Match Key Values
(Company AND Phone) OR	Company (2,6) Phone	Company = Global Guitars Inc. Phone = 415-123-4567	globalguitar415123
(Email AND Phone)	Email Phone	Email = sally.smith@globalguitars.com Phone = 415-123-4567	sally.smith@globalguitars.com415123

2. **Match key values for the new record are generated.** The values are generated when the new record is saved.

**Table 3: New Record**

Matching Field Values	Match Key Values
Company = Eltie Sports Email = john.doe@elitesport.com Phone = 1-415-555-1234	eltiesports415555 john.doe@elitesport.com415555

3. **Match key values for the new record are compared with values from existing records.**

**Table 4: Existing Records Compared with New Record**

Record	Matching Field Values	Match Key Values	Match?
1	Company = Elite Sports Email = john.doe@elitesports.com Phone = 1-415-555-1234	elitesports415555 john.doe@elitesports.com415555	No. Not considered a duplicate.
2	Company = Elite Sport Email = john.doe@elitesport.com Phone = 1-415-555-1234	elitesport415555 john.doe@elitesport.com415555	Yes. The first match key values don't match. However, the second match key values are identical, so the record is considered a potential duplicate. Only one match key value match is needed.

4. **Determine if the new record is a potential duplicate.** Does the new record have the same match key value as an existing record?

- Yes, the new record is considered a potential duplicate. It's evaluated further using other matching resources, including matching algorithms.
- No, the new record isn't considered a duplicate.

 **Example: Custom Contact Matching Rule with Exact Matching Methods**

**Table 5: Matching Criteria**

	Field	Matching Method
1	City	Exact
2	Email	Exact
3	Phone	Exact
Matching equation is (City OR Email) AND (Phone)		

Based on these matching criteria, here’s how matching works.

- 1. Match key values are generated for existing contacts.** Based on the matching equation and the specified matching methods, two match keys are created. From these keys, match key values are generated.

**Table 6: Match Key**

Matching Equation in Standardized Format	Match Key	Sample Matching Field Values	Sample Match Key Values
(City AND Email) OR	City Email	City = San Francisco Email = john.doe@elitesports.com	sanfrnciscojohn.doe@elitesports.com
(City AND Phone)	City Phone	City = San Francisco Phone = 415-555-1234	sanfra415555

- 2. Match key values for the new record are generated.** The values are generated when the new record is saved.

**Table 7: New Record**

Matching Field Values	Match Key Values
City = San Francisco Email = john.doe@elitesports.com Phone = 415-555-1234	sanfrnciscojohn.doe@elitesports.com sanfra415555

- 3. Match key values for the new record are compared with values from existing records.**

**Table 8: Existing Records Compared with New Record**

Record	Matching Field Values	Match Key Values	Match?
1	City = San Francisco Email = john.doe@elitesports.com Phone = 1-415-555-1234	sanfrnciscojohn.doe@elitesports.com sanfrn415555	No. Not considered a duplicate.

Record	Matching Field Values	Match Key Values	Match?
2	City = San Francisco Email = john.doe@elitesports.com Phone = 1-415-555-1111	sanfranciscojohn.doe@elitesports.com sanfra415555	Yes. The first match key values are identical, so the record is considered a potential duplicate. Only one match key value match is needed.

- 4. Determine if the new record is a potential duplicate.** Does the new record have the same match key value as an existing record?
- Yes—The new record is considered a potential duplicate. It’s evaluated further using other matching resources, including matching algorithms.
  - No—The new record is not considered a duplicate.

Although this matching rule is within the field limit, it exceeds the row limit of 10 when written in the standardized format. Therefore, it can’t be saved. Refine the matching rule so that it uses fewer OR operators within groupings.

 **Example:** You get an error that your matching rule uses too many OR operators within groupings. The error is generated because a matching rule has a limit of 10 fields arranged into an equation. When a matching rule is saved, the equation is rewritten into a standardized format that translates the OR statements to AND statements. The standardized format has a limit of 10 rows.

Suppose that your matching rule includes the following equation.

(Field 1 OR Field 2) AND  
 (Field 3 OR Field 4) AND  
 (Field 5 OR Field 6) AND  
 (Field 7 OR Field 8)

It’s rewritten as follows. Although this matching rule is within the field limit, it exceeds the row limit of 10 when written in the standardized format. Therefore, it can’t be saved. Refine the matching rule so that it uses fewer OR operators within groupings.

(Field 1 AND Field 3 AND Field 5 AND Field 7) OR  
 (Field 1 AND Field 3 AND Field 5 AND Field 8) OR  
 (Field 1 AND Field 3 AND Field 6 AND Field 7) OR  
 (Field 1 AND Field 3 AND Field 6 AND Field 8) OR  
 (Field 1 AND Field 4 AND Field 5 AND Field 7) OR  
 (Field 1 AND Field 4 AND Field 5 AND Field 8) OR  
 (Field 1 AND Field 4 AND Field 6 AND Field 7) OR  
 (Field 1 AND Field 4 AND Field 6 AND Field 8) OR  
 (Field 2 AND Field 3 AND Field 5 AND Field 7) OR  
 (Field 2 AND Field 3 AND Field 5 AND Field 8) OR  
 (Field 2 AND Field 3 AND Field 6 AND Field 7) OR  
 (Field 2 AND Field 3 AND Field 6 AND Field 8) OR  
 (Field 2 AND Field 4 AND Field 5 AND Field 7) OR  
 (Field 2 AND Field 4 AND Field 5 AND Field 8) OR

(Field 2 AND Field 4 AND Field 6 AND Field 7) OR

(Field 2 AND Field 4 AND Field 6 AND Field 8)

## Matching Criteria in Matching Rules

A matching rule applies criteria to determine how closely a field on a new or edited record matches the same field on an existing record. Standard matching rules include predefined criteria. When you create a custom matching rule, you define the criteria.

Criterion	Definition	Automatically Defined for Custom Matching Rules
Field	<p>Indicates which field to compare. When selecting fields, keep the following in mind.</p> <ul style="list-style-type: none"> <li>The available fields depend on which object the matching rule applies to and include both standard and custom fields.</li> <li>The supported input field types are email, lookup relationship, master-detail relationship, number, phone, standard picklists, custom picklists (single-select only), text, and URL.</li> <li>You can't use an auto-numbered lookup or master-detail relationship field in a matching rule.</li> <li>If you enable state and country picklists, we recommend using State/Province Code and Country Code in your matching rules. These fields yield better results than the state and country text fields.</li> </ul>	
Matching Method	<p>Defines the method for how the fields are compared. You can use the provided exact matching method for almost any field, including custom fields. A fuzzy matching method is available for commonly used standard fields. Each matching method is defined by normalization and match key definitions, matching algorithms, and other criteria.</p>	
Match Blank Fields	<p>Specifies how blank fields affect whether the two fields being compared are considered matches. If you select <b>Match Blank Fields</b> for a field and that field is blank in both records being compared, the fields are considered matches. However, if you select <b>Match Blank Fields</b> for a field and that field is blank in only one of the records being compared, the fields aren't considered matches.</p> <p>If you don't select <b>Match Blank Fields</b> for a field and that field is blank in both records being compared, the fields aren't considered matches.</p>	
Match Key	<p>A formula that improves the speed and performance of duplicate detection. When the matching rule runs, it compares the match key values of the saved record with existing records. If the saved record has the same match key value as an existing record, it's a potential duplicate</p>	

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Criterion	Definition	Automatically Defined for Custom Matching Rules
	and evaluated further. If the saved record has a unique match key value, it's not considered a duplicate.	
Matching Algorithm	Defines the logic that determines whether two fields match. For the exact matching method, the exact matching algorithm is automatically used. For the fuzzy matching method, various fuzzy matching algorithms can be used. Each matching algorithm is scored based on how closely it matches the two fields. For example, if you select exact matching and the two fields match, the match score is 100. If the two fields don't match, the score is 0.	✔
Scoring Method	Determines how the matching algorithms' match scores are calculated to come up with one match score for the field. Each matching algorithm is scored based on how closely it matches the two fields. Only standard matching rules use the scoring method.  Average: Uses the average match score.  Maximum: Uses the highest match score.  Minimum: Uses the lowest match score.  Weighted Average: Uses the weight of each matching method to determine the average match score.	✔
Threshold	Determines the minimum match score needed for the field to be considered a match. The field is given a match score based on how closely it matches the same field in an existing record.	✔

## Matching Methods Used in Matching Rules

The matching method determines how a specific field in a record is compared to the same field in another record. Each matching method is defined by normalization criteria, match key definitions, and matching algorithms.

The exact matching method looks for strings that exactly match a pattern. If you're using international data, we recommend using the exact matching method with your matching rules. You can use the exact matching method for almost any field, including custom fields.

The fuzzy matching methods look for strings that approximately match a pattern. Specific fuzzy matching methods are available for commonly used standard fields on accounts, contacts, and leads.

Matching Method	Matching Algorithms	Scoring Method	Threshold	Special Handling
Exact	Exact			
Fuzzy: First Name	Exact Initials Jaro-Winkler	Maximum	85	The Middle Name field, if used in your matching rule, is compared by the Fuzzy: First Name matching method.

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Matching Method	Matching Algorithms	Scoring Method	Threshold	Special Handling
	Name Variant			
Fuzzy: Last Name	Exact Keyboard Distance Metaphone 3	Maximum	90	
Fuzzy: Company Name	Acronym Exact Syllable Alignment	Maximum	70	Removes words such as “Inc” and “Corp” before comparing fields. Also, company names are normalized. For example, “IBM” is normalized to “International Business Machines”.
Fuzzy: Phone	Exact	Weighted Average	80	<p>Phone numbers are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to come up with one score for the field. This process works best with North American data.</p> <ul style="list-style-type: none"> <li>• International code (exact, 10% of field’s match score)</li> <li>• Area code (exact, 50% of field’s match score)</li> <li>• Next 3 digits (exact, 30% of field’s match score)</li> <li>• Last 4 digits (exact, 10% of field’s match score)</li> </ul> <p>For example, these phone numbers are being compared: 1-415-555-1234 and 1-415-555-5678.</p> <p>All sections match exactly except the last four digits, so the field has a match score of 90, which is considered a match because it exceeds the threshold of 80.</p>
Fuzzy: City	Edit Distance Exact	Maximum	85	
Fuzzy: Street	Exact	Weighted Average	80	<p>Addresses are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to come up with one score for the field. This process works best with North American data.</p> <ul style="list-style-type: none"> <li>• Street Name (Edit Distance, 50% of field’s match score)</li> </ul>

Matching Method	Matching Algorithms	Scoring Method	Threshold	Special Handling
				<ul style="list-style-type: none"> <li>Street Number (exact, 20% of field's match score)</li> <li>Street Suffix (exact, 15% of field's match score)</li> <li>Suite Number (exact, 15% of field's match score)</li> </ul> <p>For example, these billing streets are being compared: 123 Market Street, Suite 100 and 123 Market Drive, Suite 300.</p> <p>Because only the street number and street name match, the field has a match score of 70, which is not considered a match because it's less than the threshold of 80.</p>
Fuzzy: ZIP	Exact	Weighted Average	80	<p>ZIP codes are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to come up with one score for the field.</p> <ul style="list-style-type: none"> <li>First five digits (Exact, 90% of field's match score)</li> <li>Next four digits (Exact, 10% of field's match score)</li> </ul> <p>For example, these ZIP codes are being compared: 94104-1001 and 94104.</p> <p>Because only the first five digits match, the field has a match score of 90, which is considered a match because it exceeds the threshold of 80.</p>
Fuzzy: Title	Acronym Exact Kullback-Liebler Distance	Maximum	50	

## Matching Algorithms Used with Matching Methods

The matching method and its corresponding matching algorithms are part of the matching rule’s matching criteria. They help determine how a specific field in one record is compared to the same field in another record and whether the fields are considered matches.

We provide an exact matching method and several fuzzy matching methods. When the exact matching method is selected, the exact matching algorithm is used to compare the fields. When a fuzzy matching method is selected, various fuzzy matching algorithms are used to compare the fields.

More than one matching algorithm can be used to compare a field. Each matching algorithm is scored based on how closely it matches the fields. The fields being compared aren’t case sensitive.

### Matching Algorithms Available with the Exact Matching Method

Matching Algorithm	Description
Exact	Determines whether two strings are the same. For example, salesforce.com and Salesforce aren’t considered a match because they’re not identical. The algorithm returns a match score of 0.

### Matching Algorithms Available with Fuzzy Matching Methods

Matching Algorithm	Description
Acronym	Determines whether a business name matches its acronym. For example, Advanced Micro Devices and its abbreviation AMD are considered a match, returning a score of 100.
Edit Distance	Determines the similarity between two strings based on the number of deletions, insertions, and character replacements needed to transform one string into the other. For example, VP Sales matches VP of Sales with score of 73.
Initials	Determines the similarity of two sets of initials in personal names. For example, the first name Jonathan and its initial J match and return a score of 100.   <b>Note:</b> When First Name is set to fuzzy matching and Last Name is set to exact matching, in the index, the initials include the last letter of a contact’s first name. For example, Jane Smith is indexed as jsmith instead of jsmith. To match only the first initial of a first name, create a custom matching rule with both First Name and Last Name set to fuzzy matching.
Jaro-Winkler Distance	Determines the similarity between two strings based on the number of character replacements needed to transform one string into the other. This method is best for short strings, such as personal names. For example, Johnny matches Johny with a score of 97.
Keyboard Distance	Determines the similarity between two strings based on the number of deletions, insertions, and character replacements needed to transform one string into the other, weighted by the position of the keys on the keyboard.

#### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

Matching Algorithm	Description
Kullback Liebler Distance	Determines the similarity between two strings based on the percentage of words in common. For example, Director of Engineering matches Engineering Director with a score of 65.
Metaphone 3	Determines the similarity between two strings based on their sounds. This algorithm attempts to account for the irregularities among languages and works well for first and last names. For example, Joseph matches Josef with a score of 100.
Name Variant	Determines whether two names are a variation of each other. For example, Bob is a variation of Robert and returns a match score of 100. Bob is not a variation of Bill and returns a score of 0.
Syllable Alignment	Determines the similarity between two strings based on their sounds. First, the character strings are converted into syllable strings. Then the syllable strings are also compared and scored using the Edit Distance algorithm. This matching algorithm works well for company names.  For example, Syllable Alignment gives Department of Energy and Department of Labor a relatively low score of 59. The syllable sequences of these two company names differ more than their character sequences (energy sounds very different from labor). Edit Distance gives the two strings a score of 74. Therefore, Syllable Alignment works better because the two strings aren't good match candidates.

## How Match Keys Are Generated and Used in Matching Rules

When a matching rule runs, it applies one or more match key formulas before applying a comprehensive matching equation. Match keys help to increase the performance of duplicate rules through a preliminary comparison that narrows the matches to the 100 most likely duplicate records. Then the rule applies the matching equation only to those likely matches.

In rare instances, match keys result in undetected duplicates, but generally, match keys greatly improve the performance of duplicate rules.

### How Match Keys Are Generated

1. The matching equation that determines the arrangement of the fields is rewritten into a standardized format that translates the OR statements into AND statements.
2. Values for fields in the matching rule are normalized.
3. A match key is generated using the field combinations specified in the standardized field format. A matching rule can have multiple match keys. A custom matching rule can have up to 10 match keys; you're prevented from saving a matching rule that requires more.
4. The match key is used to combine normalized field values for each record.

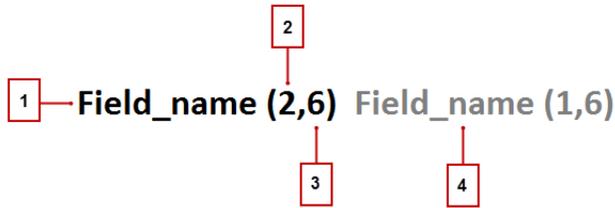
 **Note:** No match key is generated for the Title field.

The match key notation shows which fields and which characters in those fields are used in a match key.

#### EDITIONS

Available in: Lightning Experience and Salesforce Classic ([not available in all orgs](#))

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions



- The field used in the match key (1).
- Number of words (or tokens) in the field value to include in the match key (2). If no number is present, all words are included.
- Number of characters per word to include in the match key (3). If no number is present, all characters are included.
- Additional field used in the match key (4).

### Match Keys for Standard and Custom Rules

Standard matching rules use predefined match keys. Custom rules that contain standard field combinations also use predefined match keys. For example, the matching rule equation for a custom contact matching rule is (First Name AND Last Name AND Company). A fuzzy matching method is selected for at least one field. The notation for its match key is: First\_Name (1,1) Last\_Name Company (2,6).

For nonstandard field combinations, custom rules use keys generated from their corresponding matching criteria.

### Normalization Criteria for Match Keys

As part of the process of creating match key values, matching rule field values are normalized. How a field value is normalized depends on several factors, including the matching method for that field as specified in the matching rule. In addition, some commonly used fields are normalized to optimize duplicate detection.

 **Note:** Fields, including custom fields and fields to which the exact matching method is applied, are normalized by lowercasing all letters and removing leading and trailing spaces.

#### EDITIONS

Available in: Lightning Experience and Salesforce Classic (not available in all orgs)

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

Field	Normalization Details	Applies to Standard and Custom Matching Rules?	Examples
City	Lowercases all characters. Removes non-alphabetical and non-numeric characters, including white spaces. Retains up to the first six characters.	Yes. But on custom matching rules, the matching method must be <b>Fuzzy: City</b> .	San Francisco = sanfra Rome = rome
Company	Expands abbreviations. Lowercases all characters. Removes suffixes, such as Corporation, Incorporated, Inc, Limited, and Ltd. Removes the words and, the, of. Removes special characters and accents.	Yes. But on custom matching rules, the matching method must be <b>Fuzzy: Company</b> .	IBM = international business machines Intel Corp. = intel

Field	Normalization Details	Applies to Standard and Custom Matching Rules?	Examples
First Name	Replaces the first name with an alias, if applicable. Removes salutations, special characters, and accents. Keeps only the first letter of the first word, and lowercases this letter.	Yes. But on custom matching rules, the matching method must be <b>Fuzzy: First Name</b> .	Dr. Jane = j Mr. Bob = robert = r
Last Name	Removes special characters and suffixes. Replaces consecutive identical consonants with a single consonant. Lowercases the first letter. After normalization, the double metaphone algorithm is applied so that misspellings and spelling variants are accounted for.	Yes. But on custom matching rules, the matching method must be <b>Fuzzy: Last Name</b> .	O'Reilly, Jr. = oreily (without double metaphone) O'Reilly, Jr. = oreily = arl (with double metaphone)
Email	Removes special characters, such as underscores and periods, from both parts of the email address. Retains the @ character.	No. Applies only to standard matching rules.	john.doe@us.salesforce.com = johndoe@salesforcecom
Phone	Removes all non-alphabetical and non-numeric characters. For all U.S. phone numbers, converts alphabetical characters to numeric characters, and removes leading international code. Removes last four digits.	Yes. But on custom matching rules, the matching method must be <b>Fuzzy: Phone</b> .	1-800-555-1234 = 800555 44 20 0540 0202 = 44200540
Street Address	Removes all punctuation except hyphens. Removes common stop words, such as Avenue and Street. Takes the first five characters of the first two tokens.	Yes. But on custom matching rules, the matching method must be <b>Fuzzy: Street Address</b> .	123 Ocean View Avenue = 123ocean 567 Fifty-fourth St. = 567fifty
Website	Removes the protocol (http), subdomain (www), and file path. Then takes only the last two or three tokens, depending on whether there are international designations. Retains the periods.	No. Applies only to standard matching rules.	http://www.us.salesforce.com/product = salesforce.com http://www.ox.ac.uk/ = ox.ac.uk

## Standard Matching Rules

You can use the provided standard matching rules with duplicate rules and duplicate jobs. You can't edit these standard matching rules, but you can create custom matching rules.

### IN THIS SECTION:

#### [Standard Account Matching Rule](#)

The standard account matching rule identifies duplicate accounts using match keys, a matching equation, and matching criteria. It's activated by default.

#### [Standard Person Account Matching Rule](#)

The standard person account matching rule identifies duplicate person accounts using match keys, a matching equation, and matching criteria. To use the rule, first enable person accounts, and then activate rule in Setup.

### EDITIONS

Available in: Lightning Experience and Salesforce Classic (not available in all orgs)

Available in: **Essentials, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

[Standard Contact Matching Rule and Standard Lead Matching Rule](#)

The standard contact matching rule and standard lead matching rule identify duplicate contacts and leads using match keys, a matching equation, and matching criteria. They're activated by default.

## Standard Account Matching Rule

The standard account matching rule identifies duplicate accounts using match keys, a matching equation, and matching criteria. It's activated by default.

### Match Keys

Match keys speed up matching by narrowing the potential matches to the most likely duplicates before the rule applies the comprehensive matching equation.

Match Key Notation	Match Key Value Examples
Company (2,6) City (_6)	Account: Orange Sporting Company = orangesporti City: San Francisco = sanfra Key: orangesportisanfra
Company (2,6) ZIP (1,3)	Account Name: salesforce.com = salesf ZIP: 94105-5188 = 941 Key: salesf941
Website City (_6)	Website: https://www.salesforce.com = salesforce.com City: San Francisco = sanfra Key: salesforce.comsanfra
Website ZIP (1,3)	Website: https://www.salesforce.com = salesforce.com ZIP: 94105-5188 = 941 Key: salesforce.com941

### Matching Equation

 **Important:** For accurate matches, the new or edited record must include a value in the Account Name field and either the City or the ZIP Code field.

- (*Account Name* AND *Billing Street*)
- OR (*Account Name* AND *City* AND *State*)
- OR (*Account Name* AND *ZIP*)
- OR (*Account Name* AND *Phone*)
- OR (*Website* AND *Phone*)
- OR (*Website* AND *Billing Street*)

## Matching Criteria

Field	Matching Algorithms	Scoring Method	Threshold	Blank Fields	Special Handling
Account Name	Acronym Edit Distance Exact	Maximum	70	Don't match	Removes words such as "Inc" and "Corp" before comparing fields. Company names are normalized. For example, "1st National Bank" is normalized to "First National Bank".
Phone	Exact	Weighted Average	80	Don't match on all sections except Area Code, which ignores blank fields	<p>Phone numbers are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to come up with one score for the field. This process works best with North American data.</p> <ul style="list-style-type: none"> <li>• International code (Exact, 10% of field's match score)</li> <li>• Area code (Exact, 50% of field's match score)</li> <li>• Next three digits (Exact, 30% of field's match score)</li> <li>• Last four digits (Exact, 10% of field's match score)</li> </ul> <p>For example, these two phone numbers are being compared: 1-415-555-1234 and 1-415-555-5678.</p> <p>All sections match exactly, except the last four digits, so the field has a score of 90, which is considered a match because it exceeds the threshold of 80.</p>
Billing Street	Edit Distance Exact	Weighted Average	80	Don't match	<p>Addresses are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to come up with one score for the field. This process works best with North American data.</p> <ul style="list-style-type: none"> <li>• Street Number (exact, 20% of field's match score)</li> <li>• Street Name (Edit Distance, 50% of field's match score)</li> <li>• Street Suffix (exact, 15% of field's match score)</li> <li>• Suite Number (exact, 15% of field's match score)</li> </ul> <p>For example, these two billing streets are being compared: 123 Market Street, Suite 100, and 123 Market Drive, Suite 300.</p> <p>Because only the street number and street name match, the field has a match score of 70. The field isn't considered a match because the score is below the threshold of 80.</p>
ZIP	Exact	Weighted Average	80	Don't match	<p>ZIP codes are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to come up with one score for the field.</p> <ul style="list-style-type: none"> <li>• First five digits (exact, 90% of field's match score)</li> <li>• Next four digits (exact, 10% of field's match score)</li> </ul>

Field	Matching Algorithms	Scoring Method	Threshold	Blank Fields	Special Handling
					<p>For example, these two ZIP codes are being compared: 94104-1001 and 94104.</p> <p>Because only the first five digits match, the field has a match score of 90. The field is considered a match because the score exceeds the threshold of 80.</p>
City	Edit Distance Exact	Maximum	85	Don't match	
Website	Exact	Maximum	100	Don't match	The prefix "http://" is appended to the website domain. For example, the field value www.salesforce.com becomes http://www.salesforce.com for matching purposes. Matching for an account record that has a website without the "http://" prefix identifies the record as a duplicate.

## Standard Person Account Matching Rule

The standard person account matching rule identifies duplicate person accounts using match keys, a matching equation, and matching criteria. To use the rule, first enable person accounts, and then activate rule in Setup.

### Match Keys

Match keys speed up matching by narrowing the potential matches to the most likely duplicates before the rule applies the comprehensive matching equation.

Match Key Notation	Examples
Email	Email: john_doe@us.ibm.com = johndoe@ibm.com Key: johndoe@ibm.com
First_Initial (1,1) Last_Name City (1,6)	First Initial: J = j Last Name: Doe = doe = t (with double metaphone applied) City: Philadelphia = philad Key: jtphilad
First_Initial (1,1) Last_Name ZIP (1,3)	First Initial: J = j Last Name: Doe = doe = t (with double metaphone applied) ZIP: 10001 = 100 Key: jt100
Street Address	123 Maple Avenue Key: 123maple

Match Key Notation	Examples
Phone (drop last four digits)	415-555-1234 Key: 415555 555-1234-5678 Key: 5551234

### Matching Equation

The threshold for the first three conditions in the equation is 85; the threshold for the fourth condition is 75.

*(First Name AND Last Name AND Email)*

OR *(First Name AND Last Name AND Billing Street AND (City OR ZIP))*

OR *(First Name AND Last Name AND Phone )*

OR *(First Name AND Last Name AND Phone AND (City OR ZIP) AND Mailing Street AND Phone)*

### Matching Criteria

Fields on Contacts	Fields on Leads	Matching Algorithms	Scoring Method	Threshold	Blank Fields	Special Handling
First Name	First Name	Exact Initials Jaro-Winkler Distance Metaphone 3 Name Variant	Maximum	85 and 75	Don't match (ignores blank fields when Email is included in field grouping)	If the record contains a value for both the First Name and Last Name fields, the values are transposed to account for possible data entry mistakes.  For example, suppose that the first name is George and the last name is Michael. The matching rule also evaluates the first name as Michael and the last name as George.
Last Name	Last Name	Exact Keyboard Distance Metaphone 3	Maximum	90 and 75	Don't match (ignores blank fields when Email is included in field grouping)	If the record contains a value for both the First Name and Last Name fields, the values are transposed to account for possible data entry mistakes.  For example, suppose that the first name is George and the last name is Michael. The matching rule also evaluates the first name as Michael and the last name as George.
Account Name	Company	Acronym Edit Distance Exact	Maximum	70	Don't match	
Email	Email	Exact	Maximum	100	Don't match	

Fields on Contacts	Fields on Leads	Matching Algorithms	Scoring Method	Threshold	Blank Fields	Special Handling
Phone	Phone	Exact	Weighted Average	80	Don't match on all sections except Area Code, which ignores blank fields	<p>Phone numbers are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to determine a single score for the field. This process works best with North American data.</p> <ul style="list-style-type: none"> <li>• International code (exact, 10% of field's match score)</li> <li>• Area code (exact, 50% of field's match score)</li> <li>• Next three digits (exact, 30% of field's match score)</li> <li>• Last four digits (exact, 10% of field's match score)</li> </ul> <p>For example, these phone numbers are being compared: 1-415-555-1234 and 1-415-555-5678.</p> <p>All sections match exactly except the last four digits. The field has a match score of 90, which is considered a match because it exceeds the threshold of 80.</p>
Billing Street	Street	Edit Distance Exact	Weighted Average`	80	Don't match	<p>Addresses are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to determine a single score for the field. This process works best with North American data.</p> <ul style="list-style-type: none"> <li>• Street Name (Edit Distance, 50% of field's match score)</li> <li>• Street Number (exact, 20% of field's match score)</li> <li>• Street Suffix (exact, 15% of field's match score)</li> <li>• Suite Number (exact, 15% of field's match score)</li> </ul> <p>For example, these addresses are being compared: 123 Market Street, Suite 100, and 123 Market Drive, Suite 300.</p> <p>Only the street number and street name match. The field has a match score of 70, which isn't considered a match because it's less than the threshold of 80.</p>

Fields on Contacts	Fields on Leads	Matching Algorithms	Scoring Method	Threshold	Blank Fields	Special Handling
Billing ZIP/Postal Code	ZIP/Postal Code	Exact	Weighted Average	80		ZIP codes are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to determine a single score for the field. <ul style="list-style-type: none"> <li>• First five digits (exact, 90% of field’s match score)</li> <li>• Next four digits (exact, 10% of field’s match score)</li> </ul>
Billing City	City	Edit Distance Exact	Maximum	85	Don’t match	

## Standard Contact Matching Rule and Standard Lead Matching Rule

The standard contact matching rule and standard lead matching rule identify duplicate contacts and leads using match keys, a matching equation, and matching criteria. They’re activated by default.

### Match Keys

Match keys speed up matching by narrowing the potential matches to the most likely duplicates before the rule applies the comprehensive matching equation.

Contact Match Key Notation	Contact Examples
Email	Email: john_doe@us.ibm.com = johndoe@ibm.com Key: johndoe@ibm.com
First_Name (1,1) Last_Name Email	First Name: John = j Last Name: Doe = doe = t (with double metaphone applied) Email: john_doe@us.salesforce.com = johndoe@salesforce.com Key: jt@salesforce.com
First_Name (1,1) Last_Name Company (2,5)	First Name: Marc = m Last Name: Benioff = pnf (with double metaphone applied) Company: salesforce.com = sales Key: mpnfsales
First_Name (1,1) Last_Name Phone (drop leading 1 and last four digits)	First Name: Marc = m Last Name: Benioff = pnf (with double metaphone applied)

Contact Match Key Notation	Contact Examples
	Phone: 1-415-555-1234 = 415555 Key: mpnf415555

Lead Match Key Notation	Lead Examples
Email	Email: john_doe@us.ibm.com = johndoe@ibm.com Key: johndoe@ibm.com
First_Name (1,1) Last_Name Email	First Name: John = j Last Name: Doe = doe = t (with double metaphone applied) Email: john_doe@us.salesforce.com = johndoe@salesforce.com Key: jt@salesforce.com
First_Name (1,1) Last_Name Company (2,5)	First Name: Marc = m Last Name: Benioff = pnf (with double metaphone applied) Company: salesforce.com = sales Key: mpnfsales
First_Name (1,1) Last_Name Phone (drop leading 1 and last four digits)	First Name: Marc = m Last Name: Benioff = pnf (with double metaphone applied) Phone: 1-415-555-1234 = 415555 Key: mpnf415555

## Matching Equations

The standard contact matching rule uses the following matching equation.

*(First Name AND Last Name AND Title AND Account Name)*

OR *(First Name AND Last Name AND Email)*

OR *(First Name AND Last Name AND Phone AND Account Name)*

OR *(First Name AND Last Name AND Mailing Street AND (City OR ZIP OR Phone))*

OR *(First Name AND Last Name AND Mailing Street AND Title)*

OR *(First Name AND Last Name AND Title AND Email)*

OR *(First Name AND Last Name AND Phone)*

The standard lead matching rule uses the following matching equation.

*(First Name AND Last Name AND Title AND Company)*

OR *(First Name AND Last Name AND Email)*

OR *(First Name AND Last Name AND Phone AND Company)*

OR(*First Name* AND *Last Name* AND *Mailing Street* AND (*City* OR *ZIP* OR *Phone*))

OR(*First Name* AND *Last Name* AND *Mailing Street* AND *Title*)

OR(*First Name* AND *Last Name* AND *Title* AND *Email*)

OR(*First Name* AND *Last Name* AND *Phone*)

### Matching Criteria

Fields on Contacts	Fields on Leads	Matching Algorithms	Scoring Method	Threshold	Blank Fields	Special Handling
First Name	First Name	Exact Initials Jaro-Winkler Distance Metaphone 3 Name Variant	Maximum	85	Don't match (ignores blank fields when Email is included in field grouping)	If record contains a value for the First Name and Last Name fields, the values are transposed to account for possible data entry mistakes.  For example, suppose that the first name is Felix and the last name is Michael. The matching rule also evaluates the first name as Michael and the last name as Felix.
Last Name	Last Name	Exact Keyboard Distance Metaphone 3	Maximum	90	Don't match (ignores blank fields when Email is included in field grouping)	If record contains a value for the First Name and Last Name fields, those values are transposed to account for possible data entry mistakes.  For example, suppose that the first name is Felix and the last name is Michael. The matching rule also evaluates the first name as Michael and the last name as Felix.
Title	Title	Acronym Exact Kullback-Liebler Distance	Maximum	50	Don't match	
Account Name	Company	Acronym Edit Distance Exact	Maximum	70	Don't match	
Email	Email	Exact	Maximum	100	Don't match	
Phone	Phone	Exact	Weighted Average	80	Don't match on all sections except Area Code, which ignores blank fields	Phone numbers are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to determine a score for the field. This process works best with North American data.  <ul style="list-style-type: none"> <li>International code (exact, 10% of field's match score)</li> </ul>

Fields on Contacts	Fields on Leads	Matching Algorithms	Scoring Method	Threshold	Blank Fields	Special Handling
						<ul style="list-style-type: none"> <li>• Area code (exact, 50% of field's match score)</li> <li>• Next three digits (exact, 30% of field's match score)</li> <li>• Last four digits (exact, 10% of field's match score)</li> </ul> <p>For example, these phone numbers are being compared: 1-415-555-1234 and 1-415-555-5678.</p> <p>All sections match exactly except the last four digits. The field has a match score of 90, which is considered a match because it exceeds the threshold of 80.</p>
Mailing Street	Street	Edit Distance Exact	Weighted Average`	80	Don't match	<p>Addresses are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to determine a score for the field. This process works best with North American data.</p> <ul style="list-style-type: none"> <li>• Street Name (Edit Distance, 50% of field's match score)</li> <li>• Street Number (exact, 20% of field's match score)</li> <li>• Street Suffix (exact, 15% of field's match score)</li> <li>• Suite Number (exact, 15% of field's match score)</li> </ul> <p>For example, these addresses are being compared: 123 Market Street, Suite 100, and 123 Market Drive, Suite 300.</p> <p>The street number and street name match. The field has a match score of 70, which isn't considered a match because it's less than the threshold of 80.</p>
Mailing ZIP/Postal Code	ZIP/Postal Code	Exact	Weighted Average	80	Don't match	<p>ZIP codes are broken into sections and compared by those sections. Each section has its own matching method and match score. The section scores are weighted to determine a score for the field.</p> <ul style="list-style-type: none"> <li>• First five digits (exact, 90% of field's match score)</li> <li>• Next four digits (exact, 10% of field's match score)</li> </ul>

<b>Fields on Contacts</b>	<b>Fields on Leads</b>	<b>Matching Algorithms</b>	<b>Scoring Method</b>	<b>Threshold</b>	<b>Blank Fields</b>	<b>Special Handling</b>
Mailing City	City	Edit Distance Exact	Maximum	85	Don't match	