



# Directory Integration

---

- [Overview, page 1](#)
- [Directory Integration Import Process and File Formats, page 2](#)
- [Configure Directory Integration, page 2](#)
- [CRON Expressions, page 3](#)
- [User File Formats, page 5](#)
- [Group File Formats, page 8](#)
- [Sign in to a Cisco WebEx Organization Enabled with Directory Integration, page 10](#)

## Overview

With Directory Integration, the following are enabled for your Cisco WebEx organization:

- Automating user provisioning and de-provisioning.
- Keeping user profile information in the Cisco WebEx Administration Tool updated with the information from the corporate directory.
- Exposing groups (for example, distribution lists) to users in Cisco WebEx so that users can add Groups to their contact list without having to add individual members directly.
- Categorizing users into Policy groups. For information about applying policies to groups, see [Assign Policies to a Group](#).
- If your Cisco WebEx organization is enabled with directory integration, users cannot edit the directory information in their profiles. Users need to contact the Organization Administrator for updates to their profiles.
- If your Cisco WebEx organization is enabled with directory integration, you can deactivate users manually in case a user's account needs to be deactivated immediately.

# Directory Integration Import Process and File Formats

Note: Organization Administrators and User Administrators cannot be created using the Directory Integration process.

Cisco WebEx customers who plan to enable Directory Integration for their organizations must:

- Contact your Cisco CSM or representative to request Directory Integration.
- Sign in to the Cisco WebEx Administration Tool to configure Directory Integration settings with the credentials and other settings provided by Cisco.
- Develop and run a script or tool to do the following:
  - Extract the relevant pieces of information from the directory.
  - Convert the extracted information to a CSV file. For information about CSV files, see [Group File Formats](#), on page 8.



## Note

- You can use tab, or comma-separated CSV files.
- Ensure that your CSV file is encoded in the ISO-8859-1 format.
- You must upload four CSV files before you begin Directory Integration; userInactivation\_xxx.csv, userFile\_xxx.csv, groupFile\_xxx.csv, groupDeletion\_xxx.csv.
- Upload the CSV file to Cisco's Secure FTP server.

Job Scheduling uses CRON expressions. For more information, see [CRON Expressions](#), on page 3.

## Configure Directory Integration

### Procedure

**Step 1** Select the **Configuration tab > System Settings > Directory Settings**.

**Step 2** In the **Job Scheduling** field, enter the schedule at which the job runs.

**Step 3** Under **SFTP Server**, enter the details in each field.  
See the Related Topics section for more information about the fields.

The SFTP server is hosted by Cisco, which provides access to customers for uploading and downloading CSV files in a secure manner.

**Step 4** Select **Save**.

**Note** The job running time must be rescheduled if the person that originally scheduled it has left the organization. When a Cisco WebEx Messenger account is disabled or deleted scheduled jobs automatically stop.

You can reschedule the job running time by clearing the existing schedule in the **Job Scheduling** field and entering a new scheduling time. Select **Save** after clearing the existing schedule and after entering the new one.

This ensures that the scheduling change is applied whether the Messenger service is running in primary or backup mode.

## Directory Integration Settings

Field	Description
<b>Server Address</b>	IP address of the SFTP server.
<b>Port</b>	Port number of the SFTP server. Typically, the default port number of an SFTP server is 22.
<b>User ID</b>	ID of the person who has access to the SFTP server. This is typically an administrator of the customer's Cisco WebEx organization.
<b>Password</b>	Password associated with the user ID.
<b>Input Folder Path</b>	Path of the folder on the SFTP server where the administrator will download the input CSV files. The default folder name is <b>Input</b> and is case sensitive.
<b>Output Folder Path</b>	Path of the folder on the SFTP server where the administrator will download the input CSV files. The default folder name is <b>Output</b> and is case sensitive.
<b>Error Folder Path</b>	Path of the folder on the SFTP server where any errors in the output file are stored. The default folder name is <b>error</b> and is case sensitive.
<b>File Password</b>	If encrypting the input CSV files, enter the password for the CSV file. Cisco WebEx supports the standard gpg encryption system. For more information about gpg, see <a href="http://www.gnupg.org/">http://www.gnupg.org/</a> . Alternatively, field can be left blank. In such a case, input CSV files will be treated as plain text.

## CRON Expressions

The job schedule time expression, see [Directory Integration Import Process and File Formats](#), on page 2, is a string comprised of six or seven fields separated by white space that represents a set of times, normally

as a schedule to execute some routine. Fields can contain any of the allowed values, along with various combinations of the allowed special characters.

CRON jobs are run in the GMT time zone

The CRON expression fields are as follows:

Field Sequence	Field Name	Mandatory	Allowed Values	Allowed Special Characters
1st	Seconds		0-59	, - * /
2nd	Minutes	YES	0-59	, - * /
3rd	Hours	YES	0-23	, - * /
4th	Day of Month	YES	1-31	, - * ? / L W
5th	Month	YES	1-12 or JAN-DEC	, - * /
6th	Day of Week	YES	0-7 or SUN-SAT	, - * ? / L #
7th	Year	NO	empty, 1970-2099	, - * /

### Special characters

- \* ("all values") - used to select all values within a field. For example, "\*" in the minute field means "every minute".
- ? ("no specific value") - used to specify something in one of the two fields in which the character is allowed, but not the other. For example, to schedule a job to run on a particular day of the month, but any day of the week, enter "10" in the day-of-month field, and "?" in the day-of-week field. See the examples below for clarification.
- - - used to specify ranges. For example, "8-10" in the hour field means "the hours 8, 9 and 10".
- , - used to specify additional values. For example, "JAN,MAR,MAY" in the month field means "the months January, March, and May".
- / - used to specify increments of ranges. For example, 5-59/30 in the 1st field (minutes) indicate the fifth minute of the hour and every thirty minutes thereafter. You can also specify '/' after the " character - in this case " is the equivalent of '0' before the '/'. '1/5' in the day-of-month field indicates that the job is scheduled every five days starting on the first day of the month.
- L ("last") - performs differently in each of the two fields in which it is allowed. For example, the value "L" in the day-of-month field indicates "the last day of the month" - day 31 for January, day 28 for February on non-leap years. If entered as a standalone special character in the day-of-week field, it indicates "7" or "SAT". When entered in the day-of-week field, you can specify schedules such as "the last Friday" ("5L") of a given month. When using the 'L' option, do not specify lists, or ranges of values.
- W ("weekday") - used to specify the weekday (Monday-Friday) nearest the given day. For example, entering "20W" in the day-of-month field, indicates "the nearest weekday to the 20th of the month". If the 20th is a Wednesday, the job will run on Wednesday the 20th. However, if the 20th is a Saturday, the job will run on Friday the 19th. Similarly, if the 20th is a Sunday, the job will run on Monday the

21st. However, if you enter "1W" as the value for day-of-month, and the 1st is a Saturday, the job will run on Monday the 3rd, as it will not 'jump' over the boundary of a month's days. The 'W' character can only be specified when the day-of-month is a single day, not a range or list of days.

The 'L' and 'W' characters can also be combined in the day-of-month field. 'LW', indicates the "last weekday of the month".

- # - used to specify "the nth" XXX day of the month. It can be entered in the day-of-week field, and must be followed by a number between one and five. It allows you to specify, for example, "the first Monday" of a given month "2#1" or "4#5", the fifth Wednesday of the month. However, if you specify "#5" and there is not 5 of the given day-of-week in the month, the job will not run that month.
- Note: The characters and the names of months and days of the week are not case sensitive. MON is the same as mon.

### Examples

Expression	Meaning
0 0 12 * * ?	Scheduled for 12pm (noon) every day.
0 30 11 ? * *	Scheduled for 11:30am every day.
0 30 11 * * ?	Scheduled for 11:30am every day.
0 30 11 * * ? *	Scheduled for 11:30am every day.
0 * 14 * * ?	Scheduled for every minute starting at 2pm and ending at 2:59pm, every day.
0 0/5 14 * * ?	Scheduled for every 5 minutes starting at 2pm and ending at 2:55pm, every day.
0 0/5 14,18 * * ?	Scheduled for every 5 minutes starting at 2pm and ending at 2:55pm, AND run every 5 minutes starting at 6pm and ending at 6:55pm, every day.
0 0 12 1/5 * ?	Scheduled for 12pm (noon) every 5 days every month, starting on the first day of the month.



#### Note

We do not currently support specifying both a day-of-week and a day-of-month value. You must enter the '?' character in one of these fields.

Be aware of "daylight savings" time when scheduling jobs to run between mid-night and 1:00 AM. The change in the hour causes a skip or a repeat depending on whether the time is adjusted forward or back.

## User File Formats

The directory information for users and groups is imported using files with the following formats. User and group data is imported in separate files. Files need to be saved in ISO-8859-1 format.

User file name format: userFile\_YYYY-MM-DD\_n.csv

Format	Description
YYYY-MM-DD	The date on which the job is run. The date is based on the GMT time zone.
n	The job instance number for that particular day.

### Example

If the job is scheduled to run four times a day, and the job was running on 28th July 2008, the files would be named

userFile\_2008-07-28\_1.csv, userFile\_2008-07-28\_2.csv,  
userFile\_2008-07-28\_3.csv, userFile\_2008-07-28\_4.csv

### User Inactivation File Name Format

userInactivation\_YYYY-MM-DD\_n.csv

A header record should not be present in the file.

User inactivation file format: userSSOID



#### Note

If Single sign-on (SSO) is not enabled, you must enter the email address of the user you want to deactivate or delete in the userSSOID field.

This file contains only userSSOIDs whose record must be either deactivated or deleted.

Format	Description
YYYY-MM-DD	The date on which the job is run. The date is based on the GMT time zone.
n	The job instance number for that particular day.



#### Important

If the user is an Organization Administrator, all jobs scheduled by them are blocked when they are deleted from the system. In this case, contact the Cisco WebEx Messenger Service Engineer team (connectteam@cisco.com) for assistance.

### User file format

A header record should not be present in the file. The file format is:

userSSOID,displayName,firstName,lastName,email,jobTitle,address1,city,state,zip,  
country,phoneOffice,phoneCell,homeGroupSSOID,homeGroupName,businessUnit,userProfilePhotoURL,  
address2,storageAllocated,CUCMClusterName,IMloggingEnable,EndPointName,autoUpgradeSitName,  
center,TC1,TC2,TC3,TC4,TC5,TC6,TC7,TC8,TC9,TC10

Format	Description
userSSOId	<i>Mandatory</i> The userSSOId used internally by the Cisco WebEx organization. This is the main field used to determine the record to be updated. If users with the same userSSOId already exist in the Cisco WebEx database, then such users' details are updated. If not, a new user is provisioned for the Cisco WebEx organization with all the details.
displayName	User's display name on the Cisco WebEx client.
firstName	<i>Mandatory</i> The user's first name.
lastName	<i>Mandatory</i> The user's last name.
email	<i>Mandatory</i> The user's email address. Whenever the address is updated or changed, the username, login and IM contact list are automatically migrated from the old username to the new username. All the user's contacts automatically receive a new presence subscription request with the new username.
jobTitle	<i>Optional</i> The user's job title.
address1	<i>Optional</i> The user's mailing address.
city	<i>Optional</i> City where the user resides.
state	<i>Optional</i> State where the user resides.
zip	<i>Optional</i> ZIPcode of the user's city.
country	<i>Optional</i> Country where the user resides.
phoneOffice	<i>Optional</i> The user's work phone number.
phoneCell	<i>Optional</i> The user's cell phone number.
homeGroupSSOId	<i>Optional</i> Used internally by an organization to identify a group. It determines whether a group has already been created in Cisco WebEx. If it has, the group information is updated. If it has not, a new group is created. If a value is present, the user is associated with that group.
homeGroupName	<i>Optional</i> The name for the group. If a name is not provided, the homeGroupSSOId itself is used.
businessUnit	<i>Optional</i> If present this information is placed in the user's profile area.
userProfilePhotoURL	<i>Optional</i> A URL where the user's profile photo is provided. This URL is used as-is by the Cisco WebEx application to display the photo.
address2	<i>Optional</i> The user's alternate mailing address if any.

Format	Description
storageAllocated	<i>Optional</i> The amount of storage allocated (in Mb) to the user in Cisco WebEx.
CUCMClusterName	<i>Optional</i> Name of the CUCM cluster to which the user is assigned if any.
IMLoggingEnable	<i>Optional</i> The value of this field can be either <b>True</b> or <b>False</b> . <b>Note</b> This value can be used in conjunction with the <b>EndPointName</b> field described below.
EndPointName	<i>Optional</i> Name of the IM archiving endpoint if any, configured for the user. <b>Note</b> If no endpoint is configured for the user and if <b>IMLoggingEnable</b> is set to <b>True</b> , the user's endpoint can be set to the Cisco WebEx organization's default endpoint.
autoUpgradeSiteName	<i>Optional</i>
center	<i>Optional</i> The user's Cisco WebEx Meetings account if an account has been created.
TC	<i>Optional</i> Tracking code for the user's Cisco WebEx Meetings account when Cisco WebEx and Cisco WebEx Meetings are integrated. <b>Note</b> The tracking codes range from TC1 - TC10.

## Group File Formats

The directory information for users and groups is imported using files with the following formats. User and group data is imported in separate files. Files need to be saved in ISO-8859-1 format.

### Group file name format

Group file name format: groupFile\_YYYY-MM-DD\_n.csv

Format	Description
YYYY-MM-DD	The date on which the job is run. The date is based on the GMT time zone.
n	The job instance number for that particular day.

### Group file format

A header record should not be present in the file.

The group file contains three different types of records—Group Information, Child group information and Member information. Each of these types of records are differentiated by providing a recIndicator (Record Indicator).

- Group Information record the record indicator— **g**



- Child group record the record indicator is — **gg**
- Group members record the record indicator is — **gu**

### Group Records

The following table lists the group information records.

recIndicator,ssoGroupId,groupName,groupType

Format	Description
SSOGroupId	This field is used to determine if a group has been created in Cisco WebEx Messenger. If already created, the group information is updated. Otherwise, a new group is created.
groupType	<p><i>Optional.</i> If present, it needs to have a numeric value. groupType can take on the following values:</p> <ul style="list-style-type: none"> <li>• 0 - Normal. Typically, most groups belong to this type.</li> <li>• 4 - Presence. These groups will be available for searching on the Cisco Jabber application.</li> </ul> <p>If groupType is not specified, the value defaults to 0.</p>

### Child Group Records

The child group record fields are:

recIndicator,ssoGroupId,RECURRING\_subGroupSSOID

For example, the subgroupSSOIDs are provided in a comma separated format after the parent record indicator and parent group id to which they belong to.

### Group Member Records

The group member record fields are:

recIndicator,ssoGroupId,RECURRING\_memberSSOID

The member SSOIDs are provided after the record indicator and group ID to which they belong.

The group file can have many types of records, in any order. This example contains records of all three types in any order.

g, groupSSOID1, Group SSO Name1

g, groupSSOID2, Group SSO Name2

g, groupSSOID3, Group SSO Name3

gu,groupSSOID2,userSSOID6, userSSOID7

g, groupSSOID4, Group SSO Name4

g, groupSSOID5, Group SSO Name5

gg, groupSSOID3, groupSSOID10

gu,groupSSOID1,userSSOID1,userSSOID2,userSSOID3, userSSOID4

gg, groupSSOID1, groupSSOID2, groupSSOID3, groupSSOID4, groupSSOID5  
 gg, groupSSOID2, groupSSOID3, groupSSOID4

#### Group Deletion file name format

Group deletion file name format: groupDeletion\_YYYY-MM-DD\_n.csv

A header record should not be present in the file.

Group deletion file format: SSOGroupID.



#### Note

If Single sign-on (SSO) is not enabled, you must enter the name of the group you want to delete in the SSOGroupID field.

This file contains only SSOGroupIDs whose record must be deleted.

Format	Description
YYYY-MM-DD	The date on which the job is run. The date is based on the GMT time zone.
n	The job instance number for that particular day.

## Sign in to a Cisco WebEx Organization Enabled with Directory Integration

After directory integration has been enabled, a welcome email is sent to users who are provisioned in the Cisco WebEx organization. However, if your Cisco WebEx organization is also enabled with Single Sign-on integration, no welcome email is sent.

Users of a Directory Integration-enabled Cisco WebEx organization can sign in to the Cisco Jabber application and change their sign in password. Additionally, the Cisco WebEx organization administrator can reset the password for the entire Cisco WebEx organization.