



Starling Connect

Administration Guide

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**WARNING:** A WARNING icon indicates a potential for property damage, personal injury, or death.



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**IMPORTANT, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

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## About this guide

This guide describes each of the supported target cloud applications and how it is onboarded with One Identity Manager. This guide provides an overview of each supported cloud application. Information about each of the supported cloud applications functionality and associated limitations can be gathered from the guide. This guide is intended for end users, system administrators, consultants, analysts, and other IT professionals using the product.

**NOTE:** This guide describes One Identity Starling Connect functionality available to the default user. It is possible that not all the functions described here are available to you. This depends on your system configuration and permissions.

## One Identity Starling Connect overview

Today, more than ever, organizations must address the proliferation of cloud-based applications. While these applications often provide convenient and flexible access for employees and customers, they also present a new set of management and security challenges for IT and line-of-business managers.

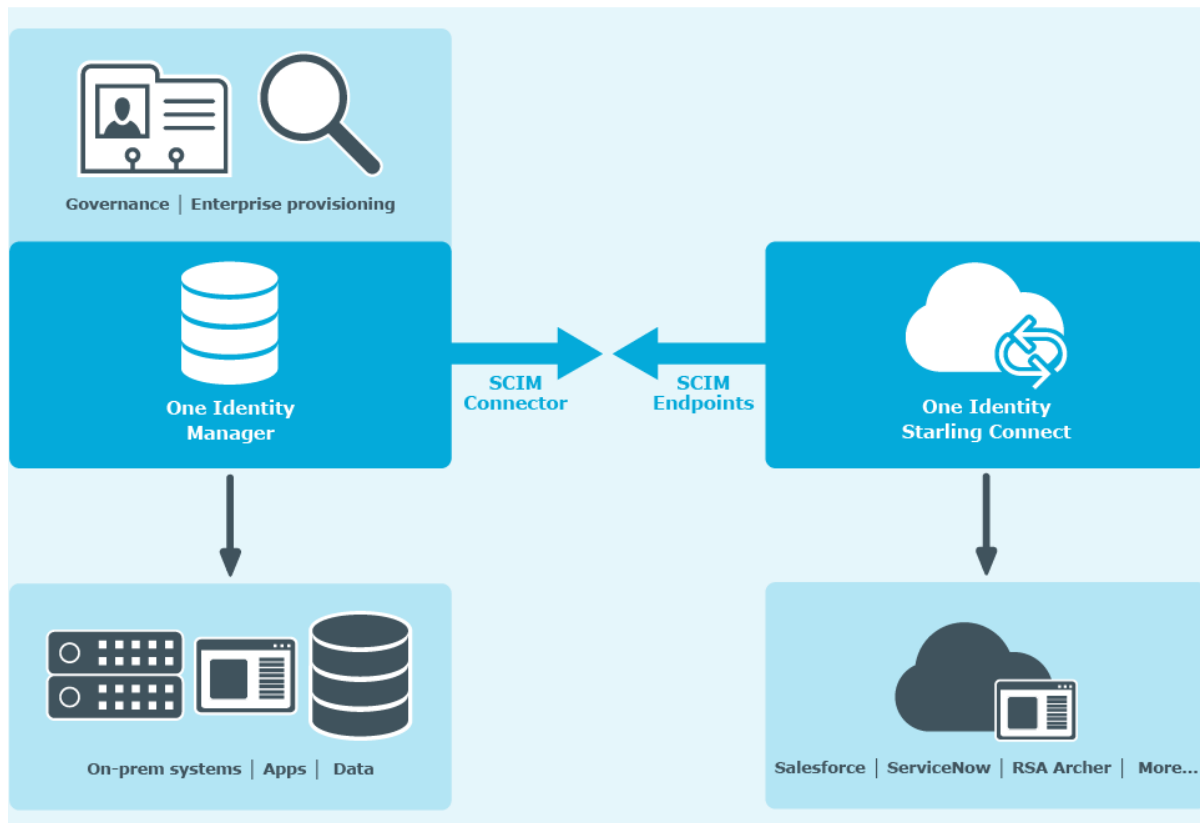
For efficiency and simplicity, an organization's Identity and Access Management (IAM) solution needs to provide an aggregated view of identities across all systems. Additionally, an IAM solution should enable managers to easily define and enforce the policies of their governance initiatives, including those that are on-premises, hybrid and cloud. The above mentioned activities can be performed by One Identity Starling Connect.

A cloud based, managed-service offering, Starling Connect extends the governance capabilities of One Identity Manager (version 7.1.3 or later) to enable organizations to enjoy the benefits of secure hybrid environments. Now, you can extend your One Identity Manager on-premise deployment, to control all your applications, regardless of their installation (on-premise or cloud based).

With Starling Connect, you can extend your investment in identity governance beyond on-premises apps to cloud applications used by your partners. Starling Connect builds on One Identity Manager to unify governance, extend access controls, ensure compliance and to reduce the time taken to provision / de-provision users and groups.

# One Identity Starling Connect architecture

Figure 1: Overview of Starling Connect and One Identity Manager integration



## One Identity Manager Synchronization Editor

Synchronization Editor enables you to connect different target systems using the One Identity Manager SCIM Connector. This tool helps you to configure data synchronization for the supported cloud target system, and to specify which cloud target system data is mapped to the One Identity Manager database.

# Starling Connect SCIM endpoints

Starling Connect SCIM endpoints are SCIM version 2.0 endpoints, that simplifies user management in the target cloud application. The SCIM endpoints define a schema for representing users, groups and a REST API for the necessary CRUD operations.



## One Identity Starling

Starling helps to combine products from the One Identity line to create a secure and customizable cloud service. Administrators use the Starling site to create a new organization, register new accounts, add services to their organization, and gain secure access to those services. Although the main Starling portal can be used to create a free Starling account and provides access to the services currently available for subscriptions, some of the services must be purchased in order for them to be available for full-time use. For more information on adding a service, use the information associated with each service.

There is a service information site (<http://status.cloud.oneidentity.com/>) for viewing the current operational status of each service. This site is useful if you are having difficulties connecting to a service and want to check if there are any reported issues prior to contacting Support for additional assistance.

**IMPORTANT:** One Identity Manager should be configured with merge mode for **Users** and **Groups** synchronization to prevent data loss.

**NOTE:** For more information, see [Introduction to One Identity Starling](#) in the One Identity Starling Hosted User Guide.

# Supported browsers

The following browsers are supported when accessing the Starling service:

**Table 1: Supported desktop browsers**

Browser	Minimum OS/platform	Version
Internet Explorer	Windows 7	11
Google Chrome	Windows 10, Mac OS X Yosemite	Latest
Mozilla Firefox	Windows 8.1	Latest
Microsoft Edge	Windows 10	Latest
Safari	Mac OS X Yosemite	See OS/Platform

**Table 2: Supported mobile browsers**

Browser	Minimum OS/platform	Version
Google Chrome	Android	Latest
Safari	iOS	Latest

**NOTE:** Starling as well as some of the services to which you can subscribe are compatible with mobile devices. Also, be aware that due to space constraints some tables may be condensed when viewed in portrait mode to only display key columns.

For more information, see [Supported browsers](#) in the One Identity Starling Hosted User Guide.

## Additional hardware and software requirements

In addition to the browser compatibility requirements for Starling (see [Supported browsers](#)), some additional requirements may need to be met. See the table below for information on those requirements.

The services available through Starling may also include additional hardware and software requirements. Any requirements that must be met by users of a particular service are available within the documentation specific to the service.

**Table 3: Additional One Identity Starling requirements**

Work accounts	<p>To authenticate using a work account, you need the following:</p> <ul style="list-style-type: none"><li>• Fully configured Azure AD tenant capable of authenticating users</li><li>• In cases where an organization has registered an Azure AD tenant but it is not fully synchronized or an account has not yet been added, the owner of that account will be unable to use Starling at that time unless they register independently from the organization.</li></ul>
Event forwarding	<p>To use the event forwarding feature, you need the following:</p> <ul style="list-style-type: none"><li>• A service that supports SYSLOG (for example, Loggly)</li></ul>

## Creating a new organization

To begin using Starling and its associated services, you must first create an organization.

### ***To create an organization and account***

1. From the Starling home page (<https://www.cloud.oneidentity.com/>), click **TRY STARLING**.
2. In the email address field, enter the email address which will be associated with the account. The email address must be less than 64 characters for the local-part and for each domain part (the full email must be less than 255 characters). You need access to the specified email account to complete your registration and any future communications regarding your organization and account will be sent to this email address.
3. Click **Next**.
4. In the **Organization Name** field, enter the name of your organization (up to 100 characters long).
5. In the **First Name** field, enter the first name of the account holder (up to 64 characters long).
6. In the **Last Name** field, enter the last name of the account holder (up to 64 characters long).
7. In the **Password** field, enter a password for your account. The password must consist of eight to sixteen characters and include three of the following items: uppercase letter, lowercase letter, number, or symbol.
8. Enter a phone number for the account after selecting the relevant country.
9. Read through the Terms of Use, Privacy Policy, Software Transaction Agreement, and SaaS Addendum. If you agree, select the following check box: **I have read, I understand and I accept the Terms of Use, Privacy Policy, Software Transaction Agreement, and SaaS Addendum**.
10. Click **START**.
11. To subscribe to the **Starling** services, click **signing up for a free trial**.

**NOTE:** For more information, see [Creating an new organization](#) in the One Identity Starling Hosted User Guide.

## Signing in to Starling

The following procedure applies to users that are accessing a Starling account that is not associated with an existing work account.

### *To sign in to Starling*

1. From the Starling home page (<https://www.cloud.oneidentity.com/>), click **Sign in to Starling**.
2. In the email address field, enter the email address associated with your account.
3. Click **Next**.
4. Once Starling has confirmed there is no work account associated with your email address, a password prompt will appear. Enter your password then click **SIGN IN**. You are now signed in to Starling.

**IMPORTANT:** You must ensure the following:

- The **Port 443** must be enabled.
- The following IP addresses must be whitelisted in the Firewall:
  - EastUS - 23.96.58.177
  - WestUS - Navigate to <https://www.microsoft.com/en-us/download/details.aspx?id=41653> and download the XML file, that contains the list of IP addresses (uswest).
  - North EU - Navigate to <https://www.microsoft.com/en-us/download/details.aspx?id=56519> and download the XML file, that contains the list of IP addresses (eunorth).
  - STS - 168.63.72.218
  - For information about Outbound IP Addresses, see [Outbound IP addresses](#)

**NOTE:** For more information, see [Signing in to Starling](#) in the One Identity Starling Hosted User Guide.

## Supported cloud applications

Each Starling Connect supported cloud application is explained in this document with the following information:

- Application Name
- Brief Description
- Supported Objects and Operations
- Mandatory Fields
- Known issues or limitations
- **NOTE:** Different cloud applications, that are supported by Starling Connect are represented in this document. The document will be updated to reflect newly added support for other cloud applications, as and when new target cloud application connectors gets developed. For connectivity to other cloud applications which are not listed in this documents, please contact Alex Binotto ([alex.binotto@oneidentity.com](mailto:alex.binotto@oneidentity.com)).

## Configuring connectors

Starling subscribers must register a connector for the required target cloud applications by providing the connection details. After successful registration, the connector can be used by SCIM clients such as One Identity Manager.

### *To configure a connector*

1. Sign in to the Starling service by navigating to <https://connect.cloud.oneidentity.com/>. Make sure that you are subscribed to the service or use a trial account.
2. On the **Services** page, click **View all services**.

The **Connect** service displays as part of the **Services** section.

1. Click **Trial**.

The **Your Location** dialog-box opens.

2. Select the **Country** and **State** from the respective drop-down menus based on your location, and click **Confirm**.

The **Connect** service appears as part of the **My Services** section.

3. Click **Connect**.

The One Identity **Connect** page with different connectors opens.

4. From the **Connectors** section, select and click a connector that you want to configure.

The **Add Connector** dialog box opens.

5. Enter the required details in the **Add Connector** page and click **Save**.

6. A dialog box with **Connector Details (SCIM URL and Legacy SCIM Details)** of the connector that was configured, opens.

The configured connector becomes part of the **My Connectors** section.

7. Navigate to the configured connector (**My Connectors** section). Click **⋮** button that is located at the top-right corner of the configured connector tile.

A list with four options is displayed.

8. Select **Copy legacy SCIM URL**.

**| NOTE:** Note that the values mentioned below must be configured on SCIM

Client (One Identity Manager).

- SCIM Client ID
- SCIM URL
- SCIM Client Secret
- SCIM Token Endpoint URL

For more information, see [Connector versions](#).

# Connector versions

Starling Connect versioning enables administrators to choose the desired version that a customer wants to be on. This enables backward compatibility for the changes done incrementally on the connectors. For example, if the target system APIs are updated or any authentication method is revised.

All the available versions that are available for the connector are displayed. V1.0 is the lowest available version for all the connectors. Also, the latest version is selected by default. Availability of new versions are notified with pop-up messages before and after configuring the connector. You can also change the version later.

Major versions include new features, enhancements, and changes at the target system whereas minor versions consist of bug fixes on the connector.

For more information, see [Configuring connectors](#).



## Salesforce

**Salesforce** offers a cloud-based customer relationship management (CRM) platform that lets users track sales, service, and marketing. It includes a social networking plug-in and analytical tools including email alerts, Google search functionality, and access to contracts.

To login to the Salesforce application, you must create a trail account. For more information, see [Setting a trial account on Salesforce](#)

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- Client ID - Consumer key of the connected app under API. Enable OAuth Settings (Left Menu | Build | Create | Apps).
- Client Secret - Consumer Secret of the connected app under API. Enable OAuth Settings (Left Menu | Build | Create | Apps).
- Username
- Password
- Token URL - Salesforce's token URL (*https://<salesforce\_instance\_url>/services/oauth2/token*)
- Grant Type : password

# Supported objects and operations

## Users

**Table 4: Supported operations for Users**

Operation	VERB
Create	POST
Update (id)	PUT
Delete (id)	DELETE
Get (id)	GET
Get	GET
Pagination	GET

## Groups

**Table 5: Supported operations for Groups**

Operation	VERB
Create	POST
Update (id)	PUT
Delete (id)	DELETE
Get (id)	GET
Get	GET
Pagination	GET

## Roles

**Table 6: Supported operations for Roles**

Operation	VERB
Get All Roles	GET
Get Role (Id)	GET

## Profiles

**Table 7: Supported operations for Profiles**

Operation	VERB
Get All Profiles	GET
Get Profile (Id)	GET

## Permission Sets

**Table 8: Supported operations for Permission Sets**

Operation	VERB
Get All PermissionSets	GET
Get All PermissionSets (Id)	GET

## Mandatory fields

### Users

- Last Name
- Email
- Alias (Auto populated with the combination of First and/or Last name)
- Username (Auto populated from email)
- Nickname (Auto populated from email; takes the name before "@")
- Email Encoding
- Locale Settings (Time Zone, Locale & Language)
- Entitlements - ProfileId

### Groups

- Group Name

## User and Group mapping

The user and group mapping is listed in the table below.

**Table 9: User mapping**

<b>SCIM parameter</b>	<b>Salesforce parameter</b>
Id	id
UserName	Username
ExternalId	FederationIdentifier
Name.GivenName	FirstName
Name.FamilyName	LastName
Name.Formatted	Name
DisplayName	Name
NickName	CommunityNickname
Emails.Value	Email
Photos.Value	FullPhotoUrl
Addresses.StreetAddress	Street
Addresses.Locality	City
Addresses.Region	State
Addresses.PostalCode	PostalCode
Addresses.Country	Country
PhoneNumbers.Values	Phone
UserType	UserType
Title	Title
PreferredLanguage	LanguageLocaleKey
Locale	LocaleSidKey
Timezone	TimeZoneSidKey
Active	IsActive
Groups[].value(OnDemand)	SalesforceGroups[].GroupId
Entitlements[].Value	Profile[].Id
Entitlements[].Display	Profile[].Name
Roles[].Value	UserRole[].Id
Roles[].Display	UserRole[].Name
Extension.PasswordLastSet	LastPasswordChangeDate

SCIM parameter	Salesforce parameter
Extension.EmailEncoding	EmailEncodingKey
Extension.Organization	CompanyName
Extension.Division	Division
Extension.Department	Department
Extension.Description	AboutMe
Extension.Manager.Value	Manager.Id
Extension.Manager.DisplayName	Manager.Name
Extension.LastLogon	LastLoginDate
Extension.EmployeeNumber	EmployeeNumber
Extension.Alias	Alias
Extension.UserPermissionsMobileUser	UserPermissionsMobileUser
Extension.UserPermissionsSFContentUser	UserPermissionsSFContentUser
Extension.UserPermissionsKnowledgeUser	UserPermissionsKnowledgeUser
Extension.UserPermissionsOfflineUser	UserPermissionsOfflineUser
Extension.UserPermissionsMarketingUser	UserPermissionsMarketingUser
Extension.UserPermissionsCallCenterAutoLogin	UserPermissionsCallCenterAutoLogin
Extension.UserPermissionsInteractionUser	UserPermissionsInteractionUser
Extension.UserPermissionsSupportUser	UserPermissionsSupportUser
Extension.FullPhotoUrl	FullPhotoUrl
Meta.Created	CreatedDate
Meta.LastModified	LastModifiedDate

**Table 10: Group mapping**

SCIM parameter	Salesforce parameter
Id	Id
DisplayName	Name
Members.value	UserOrGroupId
Meta.Created	CreatedDate
Meta.LastModified	LastModifiedDate

**Table 11: Role mapping**

SCIM parameter	Salesforce parameter
Id	Id
DisplayName	Name
Members[].value	RoleMembers[].Id
Members[].display	RoleMembers[].Name
Meta.Created	CreatedDate
Meta.LastModified	LastModifiedDate

**Table 12: Profile mapping**

SCIM parameter	Salesforce parameter
Id	Id
DisplayName	Name
Members[].value	ProfileMembers[].Id
Members[].display	ProfileMembers[].Name
Meta.Created	CreatedDate
Meta.LastModified	LastModifiedDate

**Table 13: Permission Sets mapping**

SCIM parameter	Salesforce parameter
Id	ID
DisplayName	Name
Members[].value	PermissionSetMembers[].Id
Members[].display	PermissionSetMembers[].Name
Meta.Created	CreatedDate
Meta.LastModified	LastModifiedDate

## Connector limitations

- Even if the Count value is less than 2000, the resources are returned as 2000.
- Currently, the connector supports only salesforce api version 41.0.
- Salesforce does not display an error when you create Duplicate Groups. It returns the existing group information. A duplicate group will not be created.
- Connector updates the count value of pagination property to 500 when it is more than 500. This is done to solve common validation error.

## Facebook Workplace

**Facebook Workplace** is a collaborative business platform run by Facebook to help users communicate through groups, chat, and social networking in a corporate environment.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- API Key

### Supported objects and operations

#### Users

**Table 14: Supported operations and objects for Users**

Operation	VERB
Create	POST
Update (Id)	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get	GET
Pagination	GET



## Groups

**Table 15: Supported operations and objects for Groups**

Operation	VERB
Create	POST
Update (Id)	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get	GET
Pagination	GET

## Mandatory fields

### Users

- User Name
- Name (Formatted)
- Active

### Groups

- Group Name

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 16: User mapping**

SCIM parameter	Facebook Workplace parameter
Id	Id
UserName	userName
Name.Formatted	name.formatted
Name.GivenName	name.givenName

SCIM parameter	Facebook Workplace parameter
Name.FamilyName	name.familyName
Name.MiddleName	name.middleName
Name.HonorificPrefix	name.honorificPrefix
Name.HonorificSuffix	name.honorificSuffix
DisplayName	displayName
NickName	nickName
UserType	userType
Title	title
PreferredLanguage	preferredLanguage
Locale	locale
Timezone	timezone
Active	active
Emails	emails
Addresses	addresses
PhoneNumbers	phoneNumbers
Groups.value	Group.id
Groups.display	Group.name
Roles.Value	Role.Id
Extension.Organization	organization
Extension.Division	division
Extension.Department	department
Extension.Manager.Value	manager.managerId
Extension.EmployeeNumber	employeeNumber
Extension.CostCenter	costCenter

**Table 17: Group mapping**

SCIM Parameter	Facebook Workplace parameter
Id	Id

SCIM Parameter	Facebook Workplace parameter
DisplayName	Name
Members.value	UserOrGroupId
Meta.Created	CreatedDate
Meta.LastModified	LastModifiedDate

## Connector limitations

- Removal of the last member of a group deletes the group automatically.
- At least one user must be a member of a group to use it.

## SAP Cloud Platform

**SAP Cloud Platform** is an open Platform as a Service (PaaS) that offers users in-memory capabilities, core platform services, and business services for cloud applications.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Username
- Password
- SCIM URL

### Supported objects and operations

#### Users

**Table 18: Supported operations for Users**

Operation	VERB
Create	POST
Update (Id)	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get	GET
Pagination	GET

## Groups

**Table 19: Supported operations for Groups**

Operation	VERB
Create	POST
Update (Id)	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get	GET

## Mandatory fields

### Users

- Email
- Username

### Groups

- Group Name
- Display Name

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 20: User mapping**

SCIM parameter	SAP Cloud Platform parameter
Id	id
UserName	userName
Name.GivenName	givenName
Name.FamilyName	familyName
Name.HonorificPrefix	name.honorificPrefix

<b>SCIM parameter</b>	<b>SAP Cloud Platform parameter</b>
DisplayName	displayName
Emails.Value	email.value
Addresses.StreetAddress	addresses.streetAddress
Addresses.Locality	addresses.locality
Addresses.Region	addresses.region
Addresses.PostalCode	addresses.postalCode
Addresses.Country	addresses.country
Addresses.Type	addresses.type
PhoneNumbers.value	phoneNumbers.value
UserType	userType
Locale	locale
Timezone	timeZone
Active	active
Groups.value	group.\$ref
Groups.display	group.display
Extension.Organization	extension.organization
Extension.Division	extension.division
Extension.Department	extension.department
Extension.Manager.Value	extension.manager.value
Extension.Manager.DisplayName	extension.manager.displayName
Extension.ContactPreferenceTelephone	contactPreferenceTelephone
Extension.IndustryCrm	industryCrm
Extension.PasswordStatus	passwordStatus
Extension.MailVerified	mailVerified
Extension.CompanyRelationship	companyRelationship
Extension.ContactPreferenceEmail	contactPreferenceEmail
Extension.SourceSystem	sourceSystem
Extension.CostCenter	extension.costCenter
Extension.EmployeeNumber	extension.employeeNumber

SCIM parameter	SAP Cloud Platform parameter
Extension.CorporateGroups	corporateGroups.value
Extension.customAttributes.name	attributes.name
Extension.customAttributes.value	attributes.value
Meta.Created	meta.created
Meta.LastModified	meta.lastModified

**Table 21: Group mapping**

SCIM parameter	SAP Cloud Platform parameter
id	name
DisplayName	displayName
Members.value	members.value
Members.display	members.display
Extension.GroupName	extension.name
Extension.Description	extension.description

## Connector limitations

- A performance impact is expected, with a list response of Groups because each record is retrieved and counted, since SCP Groups APIs do not provide *totalResults*.
- *ServiceProviderAuthority* contains only **Id** field with the same value as the tenant id of the SCP instance, as there are no APIs that can fetch the tenant details in SCP.
- *Get All Groups* and *Get particular group with ID* operations do not retrieve **Created** and **Last Modified** fields for Groups object types.

## JIRA Server

**JIRA Server** is an issue-tracking product used for project management, generating project reports, and bug tracking.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Username
- Password
- SCIM URL

### Supported objects and operations

#### Users

**Table 22: Supported operations for Users**

Operation	VERB
Remove/Provision	POST
Update (Id)	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get All Users	GET
Pagination	GET



## Groups

**Table 23: Supported operations for Groups**

Operation	VERB
Create	POST
Update (Id)	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get All Groups	GET
Get Groups (Id)	GET

## Roles

**Table 24: Supported operations for Roles**

Operation	VERB
Get All Roles	GET
Get Role (Id)	GET

## Mandatory fields

### Users

- User name
- Display name
- Email ID

### Groups

- Group Name

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 25: User mapping**

SCIM parameter	JIRA Server parameter
Id	name
UserName	name
password	password
Name.Formatted	displayName
DisplayName	displayName
Emails.Value	emailAddress
Locale	locale
Timezone	timeZone
Active	active
Groups.value	group.name
Groups.display	group.name

**Table 26: Group mapping**

SCIM parameter	JIRA Server parameter
Id	name
DisplayName	name
Members.value	user.name
Members.display	user.displayName

## Connector limitations

- The following dates are not available in User and Group resources.
  - **created**
  - **lastModified**
- Pagination is not supported for Groups.
- Update Group can only be used for membership management.
- Since the application does not support **id**, the URL encoded user name or group name is assigned as **id** for the resource.
- Leading slash (/) in **clientRequest**, in the **RequestWrapper** is restricted in REST

Client (Eg: Postman) testing.

- Invalid host name in target URL returns error 500.

## RSA Archer

**RSA Archer GRC Platform** supports business-level management of governance, risk management, and compliance (GRC). It lets users adapt solutions to their own requirements, build new applications, and integrate with external systems without interacting with code.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name - <RSA Archer>
- Username
- Password
- Instance Name - <Tenant ID ex: 324022>
- Profile Module ID - <Internal ID of an application as specified in the Application Builder Application Detail Report ex: 486>
- Profile ID - <User Profile ID ex: 239109>
- Environment(ISMS) - <Cloud application's environment ex: Test, Prod>
- Field ID - <Filed Id to get specific attribute ex: 18746>
- SCIM URL - <Cloud application's instance URL used as targetURI in payload>

# Supported objects and operations

## Users

**Table 27: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get	GET
Pagination	GET

## Groups

**Table 28: Supported operations for Groups**

Operation	VERB
Create	POST
Update (Id)	PUT
Delete (Id)	DELETE
Get (Id)	GET
Get	GET

## Mandatory fields

### Users

- First Name
- Last Name

### Groups

- Group Name

# User and Group mapping

The user and group mappings are listed in the tables below.

**Table 29: User mapping**

SCIM parameter	RSA Archer parameter
Id	system.userId
UserName	system.userName
Name.GivenName	name.first
Name.FamilyName	name.last
Name.MiddleName	name.middle
Title	system.title
Locale	system.locale
Timezone	timeZone.id
Active	system.status
Emails	contactItems.value if <contactItems.type = Email>
Address.formatted	address
Address.streetAddress	--
Address.locality	--
Address.region	--
Address.postalCode	--
Address.country	--
PhoneNumbers	contactItems.value if <contactItems.type = phone>
Groups.Id	groups.id
Groups.Name	groups.name
Roles.Id	roles.id
Roles.Name	roles.Name

**Table 30: Group mapping**

SCIM parameter	RSA Archer parameter
id	id/id@ISMSGroup
displayName	Name/ISMSGroupName
Members.value	Members.Users.User.Id
Members.display	Members.Users.User.Name
Lead	leads (id,name;id1,name1)
Lead Backup	leadBackup (id,name;id1,name1)
Coaches	coaches (id,name;id1,name1)

## Connector limitations

- The **Created date** and **last modified date** is not retrieved for users / groups.
- Cursor based pagination for Users is supported but pagination is not supported for groups.
- User's contact information cannot be created or updated.
- The following fields are read-only:
  - Phone number
  - Email
- Except the 401 error for Unauthorized and 400 error for Bad Requests, the application returns HTTP status code 500 for all other errors.
- If members are provided in group **create/update** request, the member type is mandatory to differentiate between a user or a group member.
- RSA Archer ISMS Groups that are retrieved in the Standard GROUPS object type are read-only.

**NOTE: Test Connection** validates the target system credentials and endpoints but not the configuration parameters.

## SuccessFactors

**SuccessFactors** is an integrated human-resources platform. It offers users tools for onboarding, social business, and collaboration along with tools for learning management, performance management, recruiting, applicant tracking, succession planning, talent management, and HR analytics. It is also cloud-based.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- Username
- Password
- SCIM URL  
(<https://apps.support.sap.com/sap/support/knowledge/public/en/2215682>)

**NOTE:** SuccessFactors Web Services API are based on OData protocol which is intended to enable access to data in the SuccessFactors system for create, read, update, or delete (CRUD) operations. For more information on SuccessFactors API, see <https://apps.support.sap.com/sap/support/knowledge/public/en/2613670>. For more information on SuccessFactors URLs and Data Centers, see <https://apps.support.sap.com/sap/support/knowledge/public/en/2089448>.

### Supported objects and operations

#### Users

**Table 31: Supported operations for Users**

Operation	VERB
Create User	POST



Operation	VERB
Update User	PUT
Delete	PUT
Get User (Id)	GET
Get All Users	GET
Get All Users with pagination	GET

## Groups

**Table 32: Supported operations for Groups**

Operation	VERB
Update Group	PUT
Get All Groups	GET
Get Groups (Id)	GET
Get All Groups with pagination	GET

## Mandatory fields

### Users

- User Name
- Employee Number
- Status

### Groups

- Group Name
- Group Type
- Group Members

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 33: User mapping**

<b>SCIM parameter</b>	<b>SuccessFactors parameter</b>
Id	userId
UserName	username
Name.GivenName	firstName
Name.FamilyName	lastName
Name.MiddleName	mi
Name.HonorificSuffix	suffix
Name.Formatted	defaultFullName
DisplayName	defaultFullName
Emails.Value	email
Addresses.StreetAddress	addressLine1
Addresses.Locality	state
Addresses.Region	city
Addresses.PostalCode	zipCode
Addresses.Country	country
PhoneNumbers.Value	businessPhone
Groups.value	groupId
Groups.display	groupName
Roles.value	user.role.id
Roles.display	user.role.name
UserType	jobTitle
Title	title
Active	status
Locale	location
Timezone	timeZone
userExtension.EmployeeNumber	empId
userExtension.Division	division
userExtension.Department	department
userExtension.Gender	gender

SCIM parameter	SuccessFactors parameter
userExtension.HireDate	hireDate
userExtension.DateOfBirth	dateOfBirth
Meta.Created	hireDate
Meta.LastModified	lastModified

**Table 34: Group mapping**

SCIM parameter	SuccessFactors parameter
Id	groupID
displayName	groupName
groupType	groupType
groupExtension.value	userId
groupExtension.display	userName
Meta.LastModified	lastModifiedDate

## Connector limitations

- **Create** and **Delete** group operations are not supported due to cloud application limitations.
- When the active status is updated to false while performing the PUT operation for a user, the following error appears: *user not found*. This error occurs because a user is considered as a deleted user when the active status is false.
- User update does not support addition and removal of **Groups** or **Roles** for a particular user. We need to get it done via group update. This is not applicable for role update.
- User employee number cannot be updated because the cloud application considers employee number as a user Id.

## Amazon S3 AWS

**Amazon S3 AWS** offers a suite of cloud-computing services that make up an on-demand computing platform. The most central and best-known of these are Amazon Elastic Compute Cloud (EC2) and Amazon Simple Storage Service (S3). AWS offers more than 70 services, including computing, storage, networking, database, analytics, application services, deployment, management, mobile, developer tools, and tools for the Internet of Things.

For more information about configuring Amazon S3 AWS connector with One Identity Manager, see [Configuring Amazon S3 AWS connector to support entitlements for User and Group](#).

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- Client Id of the cloud account
- Client Secret of the cloud account
- Region of the cloud account
- SCIM URL (Cloud application's REST API's base URL)

# Supported objects and operations

## Users

**Table 35: Supported operations and objects for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all users	GET
Get (Id)	GET
Pagination	GET

## Groups

**Table 36: Supported operations and objects for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all groups	GET
Get (Id)	GET

**NOTE:** Currently, addition or removal of entitlements for Groups is not supported by One Identity Manager.

## Profiles

**Table 37: Supported operations for Profiles**

Operation	VERB
Get All Profiles	GET
Get Profile	GET

# Mandatory fields

## Users

- User Name
- Password - This is applicable only for the **Create** operation.

## Groups

- Group Name

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 38: User mapping**

SCIM parameter	Amazon S3 AWS parameter
Id	UserName
UserName	UserName
Password	password
DisplayName	Arn
Active	(true)
Groups	(ListGroupForUserResult)Group
Entitlements	(ListAttachedUserPoliciesResult)AttachedPolicies
Created	CreateDate
LastModified	PasswordLastUsed

**Table 39: Group mapping**

SCIM parameter	Amazon S3 AWS parameter
Id	GroupName
displayName	UserName
Entitlements	(ListAttachedGroupPoliciesResult)AttachedPolicies

SCIM parameter	Amazon S3 AWS parameter
Members	(GetGroupResult)Users
Created	CreateDate
LastModified	PasswordLastUsed

## Connector limitations

- Signature generation is embedded within a data process. Hence, the performance of the application is affected.
- The Last Modified date is not available. Hence, the field contains the value of the recently used Password.
- While performing **Delete User** or **Delete Group** operation, users or groups that are part of the deleted users or groups get detached from the below mentioned services. However, some services must be detached manually.
  - AccessKey
  - Roles
  - Groups
- The task of assigning entitlements to groups is available with the connector. For successful working, certain changes must be made in One Identity Manager.

## ServiceNow

**ServiceNow** is a service management platform that can be used for many different business units, including IT, human resources, facilities, and field services.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Username for the cloud account
- Password for the cloud account
- Custom Properties (List of custom properties, if any, to be mapped)
- SCIM URL (Cloud application's REST API's base URL)

### Supported objects and operations

#### Users

**Table 40: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all users	GET
Get (Id)	GET
Pagination	GET



## Groups

**Table 41: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all groups	GET
Get (id)	GET
Get	GET
Pagination	GET

## Roles

**Table 42: Supported operations for Roles**

Operation	VERB
Get All Roles	GET
Get Role (Id)	GET

## Mandatory fields

### Users

- Username

### Groups

- Group Name

## User and Group mapping

The user and group mapping is listed in the table below.

**Table 43: User mapping**

SCIM parameter	ServiceNow parameter
userName	user_name
name.familyName	last_name
name.givenName	first_name
name.middleName	middle_name
displayName	name
emails[0].value	email
addresses[0].streetAddress	street
addresses[0].locality	city
addresses[0].region	state
addresses[0].postalCode	zip
addresses[0].country	country
phoneNumbers[0].value	phone
title	title
preferredLanguage	preferred_language
timeZone	time_zone
active	active
password	user_password
roles.value	{resource}.role.value
extension.organization	company
extension.department	department
extension.manager.value	manager.value
extension.employeeNumber	employee_number
id	sys_id
groups.value	{resource}.group.value
extension.lastLogon	last_login_time

**Table 44: Group mapping**

SCIM parameter	ServiceNow parameter
id	sys_id

SCIM parameter	ServiceNow parameter
displayName	name
members.value	{resource}.user.value
extension.description	description
extension.email	email
extension.groupType	type
extension.manager.value	manager.value

## Configuring custom attributes in ServiceNow

This feature allows you to configure custom attributes in Starling Connector during connector subscription. You can provide the list of custom attributes in a defined format with the name, type and allowed values of the attributes. The custom mappings in the One Identity Manager provide the values for these custom attributes.

### To configure custom attributes in ServiceNow:

1. Create a Custom Attribute in ServiceNow.

**NOTE:** The Starling Platform currently supports only the types **String**, **dateTime**, **True/False** and **Choice** in the **ServiceNow sys\_user** table.

2. To configure the custom attributes in Starling UI, enter the **Custom Properties** in the specified format in the Starling Platform.
3. On the One Identity Manager, map the created custom attributes that were specified in the Starling Platform.
4. Perform a synchronization and verify if the custom attributes are available in the One Identity Manager.

#### NOTE:

- The Starling UI for registering a ServiceNow connector has an input field to provide the custom attributes to be mapped in the connector's **User resource** type apart from the default mapped attributes.
- The custom attributes in the **User resource** type must be in the following format:

```
{field_name}|{data_type}|{choice_value1,choice_value2,etc};{field_name}|{data_type}|{choice_value1,choice_value2,etc};etc.
```

Example:

```
u_employee_status|string;u_date_of_termination_of_employments|DateTime;u_test_field_with_canonical_values|string|Choice 1,Choice 2,Choice 3
```

field\_name = Column name in ServiceNow

`data_type = string (or) boolean (or) datetime`

- All custom attributes are mapped in the enterprise user extensions.
- The supported data types in the Starling Connect ServiceNow connector are **string**, **boolean** and **dateTime**.  
**Choice** type in the ServiceNow will become **string** type in OneIM with Canonical Values.
- Only simple json attributes are supported. Complex json attributes are not supported.
- All custom user attributes have '**mutability**': '**readWrite**', '**returned**': '**default**', '**caseExact**': '**false**', '**required**': '**false**', '**multiValued**': '**false**', '**uniqueness**': '**none**'.

## Connector limitations

- *ServiceProviderAuthority* contains only the **Id** field with the value being same as the instance id of the ServiceNow instance, as there are no APIs to fetch the tenant details in ServiceNow.
- If the department name and organization name is provided during user **create** or **update** operations, the user gets assigned to the department and organization if the department and organization with the same name exists in ServiceNow cloud application.
- If the invalid manager id is used for user's manager fields while performing user **create** or **update** operations, ServiceNow does not display any error. Instead, it invalid id is returned as the manager id.
- In the request, if there are invalid values for timezone, language, and so on, ServiceNow does not display any error. Instead, the fields with invalid values would be blank.
- **GET** Roles operation might not fetch all the roles. Some roles must be retrieved based on ServiceNow Access Control List (ACL).
- If an invalid role id is used for user **create** or **update** operation, no error is displayed. Instead, the same invalid id in the role list is returned.
- If an invalid member id is used for group **create** or **update**, no error is displayed. Instead, the same invalid id as the member id is returned.
- Create User operation with existing user details shows the status code as 403 instead 409. The status code and the status message cannot be interpreted.

## Dropbox

**Dropbox** offers secure file sharing and storage. It helps users manage sharing capabilities with groups and external collaborators through central folders with granular permissions.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- API key (access token) for the cloud account

### Supported objects and operations

#### Users

**Table 45: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all users	GET
Get user by Id	GET
Get users with pagination	GET

## Groups

**Table 46: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all groups	GET
Get group by Id	GET
Get groups with pagination	GET

## Roles

**Table 47: Supported operations for Roles**

Operation	VERB
Get all roles	GET
Get role by Id	GET

## Mandatory fields

### Users

- emails.value

### Groups

- displayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 48: User mapping**

SCIM parameter	Dropbox parameter
id	profile.team_member_id
externalId	profile.external_id
userName	profile.email
name.familyName	profile.name.surname
name.givenName	profile.name.given_name
name.formatted	profile.name.display_name
displayName	profile.name.display_name
emails[0].value	profile.email
active	profile.status[".tag"]
groups	profile.groups
roles	role[".tag"]
meta.created	profile.joined_on

**Table 49: Group mapping**

SCIM parameter	Dropbox parameter
id	group_id
displayName	group_name
members[].value	members[].profile.team_member_id
members[].display	members[].profile.name.display_name
enterpriseExtension.externalId	group_external_id
meta.created	created

## Connector limitations

- The **LastModified** date is not applicable for Groups.
- Both **created** and **lastModified** dates are not applicable for Users.
- Invalid Target URL returns the below mentioned status code and error message.
  - Status code: 500
  - Error message: *There was an issue processing this request error.*

- User's role cannot be updated.
- The user cannot be set as active while performing **create** or **update**.
- The information about groups will not be present in the Create user response.
- The Dropbox user statuses *active* and *invited* are considered as active in the connector.
- APIs are not available to retrieve roles from Dropbox. Hence, the endpoints of the connector's roles provide predefined set of roles.
- Deleted members cannot be added to a group. In a request to add multiple members to a group, if any user is deleted (*members\_not\_in\_team*), then the entire request is not executed.
- The `userName` property for user is read-only. However, this can be updated by updating the `emails → value`. The `emails → value` has been mapped against `userName`.
- Dropbox returns error 500 without any message being shown, on cursor pagination with cursor length equal to 1. The same is observed when trying to update a deleted group. In this case, the connector returns the following error code and message:
  - Error Code: 400
  - Error message: *Error occurred*.



## Crowd

Crowd is a single sign-on software that lets your system administrator connect multiple applications to one user login and password. Users only need one user ID and password to access any connected platform.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- Username
- Password
- SCIM URL

### Supported objects and operations

#### Users

**Table 50: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get All Users	GET
Get User by Id	GET
Get All Users with pagination	GET

## Groups

**Table 51: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get All Groups	GET
Get Group by Id	GET
Get All Groups with pagination	GET

## Mandatory fields

### Users

- Username
- Password

### Groups

- DisplayName

## User and Group mapping

The user and group mapping is listed in the table below.

**Table 52: User mapping**

SCIM parameter	Crowd parameter
Id	name
userName	name
password	password
active	active
givenName	first-name

SCIM parameter	Crowd parameter
familyName	last-name
displayName	display-name
Formatted	display-name
email.value	email
Created	createdDate
LastModified	lastModified

**Table 53: Group mapping**

SCIM parameter	Crowd parameter
Id	name
GroupName	name
Active	active
Description	description
members.value	members.name

## Connector limitations

- Crowd application does not have the ID field for Users and Groups. User name is considered as the **userId**, and the group name is considered as **groupId**.
- Crowd cloud application does not have a created date and modified date for Groups.
- UserName and GroupName must be used as a single term as the usage is same for **userId** and **groupId**.
- UserName cannot be updated because it is used as an Id in cloud application.
- DisplayName of Groups cannot be updated as required by the cloud application.

## Atlassian JIRA Confluence

**Atlassian JIRA Confluence** is a connector that links Atlassian software with Jira software. It gives teams the ability to manage projects and track development efforts in the cloud.

| **NOTE:** AtlassianJC supports the Jira software and Confluence

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- Username
- API Key
- SCIM URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 54: Supported operations for Users**

Operation	VERB
Create	POST
Delete	DELETE
Get All Users	GET
Get (Id)	GET
Get All Users with pagination	GET

## Groups

**Table 55: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get All Groups	GET
Get (Id)	GET

## Mandatory fields

### Users

- DisplayName
- Email Id

### Groups

- DisplayName

## User and Group mapping

The user and group mapping is listed in the table below.

**Table 56: User mapping**

SCIM parameter	Atlassian JIRA Confluence parameter
Id	accountId
userName	emailAddress
password	password
Name.Formatted	displayName
DisplayName	displayName
email.value	emailAddress

SCIM parameter	Atlassian JIRA Confluence parameter
Active	active
Timezone	timeZone
Locale	locale
Groups.Value	name

**Table 57: Group mapping**

SCIM parameter	Atlassian JIRA Confluence parameter
Id	name
DisplayName	name
members.value	accountId
members.display	displayName

## Connector limitations

- Cloud application does not support the **Created date** and **Modified date**.
- **Timezone**, **Active**, and **Locale** are readonly fields.
- Cloud application does not support the PUT operation for User objects.
- While trying to create a duplicate user, the cloud application returns an error with the status code 201. But the existing user is retrieved as the result.
- The Stride application is no longer part of Atlassian.
- Cloud application does not supports the *Get All groups with pagination* operation.
- The cloud application attributes for the cloud API URL is case-sensitive.

## Trello

**Trello** is a web-based project organizer with both free and paid services. Users can create projects, with room to add comments, additional information, and attachments.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- API Key for the cloud account
- Access token for the cloud account

### Supported objects and operations

#### Users

**Table 58: Supported operations and objects for Users**

Operation	VERB
Get (Id)	GET
Get all users	GET

#### Groups

**Table 59: Supported operations and objects for Groups**

Operation	VERB
Create	POST

Operation	VERB
Update	PUT
Delete	DELETE
Get (Id)	GET
Get all groups	GET

## Mandatory fields

### Groups

- displayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 60: User mapping**

SCIM parameter	Trello parameter
id	id
userName	username
name.formatted	fullName
displayName	fullName
emails[0].value	email
active	confirmed
groups[].value	organizations[].id boards[].id
groups[].display	organizations[].displayName boards[].name



**Table 61: Group mapping**

SCIM parameter	Trello parameter
id	id
displayName	organization.displayName board.name
extension.description	organization.desc board.desc
extension.name	organization.name
extension.organizationId	board.idOrganization
members[].value	members[].id
members[].display	members[].fullName

## Connector limitations

- The **Created** and **LastModified** dates are not supported for Users and Groups.
- Pagination is not supported for getting Users and Groups.
- Invalid Target URL throws the following status code and message:
  - Code: 500
  - Message: *There was an issue processing this request error*
- Create, Update and Delete operations are not supported for Users.
- When a group of the type board created without associating any organization or team, users can not be added to this board (group). Only the user whose credentials are used to create the board can be added.
- As there is no concept of users under an account under Trello, the *get users* operation is achieved by retrieving members of the groups (organizations and boards) to which the user (whose credentials are used for authorizing the API requests) has access.
- As there are no APIs to retrieve all users or groups, it is required to use /search API by setting the query with characters from [a-z] and [0-9]. This introduces a performance hit.
- Both organizations and boards of Trello are considered as groups in the connector. Boards can be associated with organizations but organizations cannot be associated with boards.
- A board cannot be added under organization via group membership operations. Instead, board can be associated with the organization by providing the organization id while performing create or update operation.
- While performing the group membership operation, removal of membership of a user, whose credentials are used for the authorization of the connector, from the

group (organization or board) , will not be executed because after removing membership, any operation on that particular group cannot be performed with these credentials, as the user is unauthorized.

- While performing group membership operation, removal of the membership of a user who is the only admin of the group (organization or board), is not possible as the group requires at least one admin.
- Group update or deletion of a group (organization or board) is not possible if the user whose credentials are used to authorize the connector is not the admin of the particular group.
- All users would be added as *normal* users for group membership management operations.
- While performing the update of an organization (group) with the short name and invalid id, Trello initially checks for the uniqueness of the short name and then checks for the existence of the id.
- All group memberships are of the users type.
- A board can only be associated with a single organization. Disassociation of a board from organization is not possible. Hence, the group membership does not support addition or removal of boards as a member of the organization.

**IMPORTANT:** Please note the important points below:

- If the Organization short name is available, it has to be unique.
- While creating a group (of type either organization or board), the user will be a member of the group by default, whose credentials are used for the connector authorization.
- The *type* property will not be returned as a group response. To differentiate the group type, the *id* of the group will be appended with *@o* or *@b* for organization type or board type respectively.
- While creating a group, it is necessary to provide a property *type* in group extension to differentiate the type of the group (organization or board) that is created. The *type* property takes values *o* or *b* for organization and board respectively. If the *type* is not provided, it will be assumed as *o*.

## Box

**Box** lets users securely store, access, share, and collaboratively work on files across devices. It is accessible through web and mobile applications and REST APIs. It features functions such as search, metadata, granular permission models, enterprise-grade security, retention policies, and preview capabilities.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Client Id
- Client Secret
- Public Key
- Private Key
- Pass Phrase
- Enterprise Id

#### **To get the Box credentials**

1. Create an account in Box.
2. Log in to the Box account . The URL will be similar to *https://{Business\_Name}.app.box.com/folder/0*.
3. Navigate to the **Developer** console.
4. Create a new custom application.
5. Select **OAuth 2.0 with JWT** (server authentication) as the authentication method.
6. Enter a relevant name for the application that is to be created.
7. Click **View App** and navigate to the **Configuration** section.
8. Set the value of **Application Access** to *Enterprise*.
9. Enable the advanced features by selecting the following options:

- Perform action as Users
  - Generate User access token
10. In the **Add and manage public keys** section, click **generate Public/Private Key pair** button. A config JSON file gets downloaded and it includes the credentials, that are required to get the access token for authentication.

## Supported objects and operations

### Users

**Table 62: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get user by Id	GET
Get all users	GET
Get all users with pagination	GET

### Groups

**Table 63: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get group by Id	GET
Get all groups	GET
Get all groups with pagination	GET

# Mandatory fields

## Users

- DisplayName
- Email ID

## Groups

- DisplayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 64: User mapping**

SCIM parameter	Box parameter
id	id
email[0].value	login
userName	login
name.formatted	name
displayName	name
active	status
address[0].formatted	address
userType	type
PhoneNumbers[0].Value	phone
active	status
title	job_title
preferredLanguage	language
timezone	timezone
meta.created	created_at
meta.astModified	modified_at

**Table 65: Group mapping**

<b>SCIM parameter</b>	<b>Box parameter</b>
id	id
name	displayName
created	created_at
lastModified	modified_at
members[].value	user[].id
members[].display	user[].name

## Pipedrive

**Pipedrive** is a cloud-based sales management tool offered on a web platform and as a mobile app.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- API key
- SCIM URL (Cloud application's instance URL used as targetURL in payload)

### Supported objects and operations

#### Users

**Table 66: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get user by Id	GET
Get all users	GET

# Mandatory fields

## Users

- Emails.value
- DisplayName

## User mapping

The user mappings are listed in the tables below.

**Table 67: User mapping**

SCIM parameter	Pipedrive parameter
Id	id
userName	email
displayName	name
Name.Formatted	name
email.value	email
Active	active_flag
Timezone	timezone_name
Locale	locale
Created	created
LastModified	modified

## Connector limitations

- The **Groups** object type is not supported.
- Pagination is not supported.
- Deleted user object can be retrieved using *Get user by ID*.
- Creation of a duplicate user does not return an error. Instead, the existing object is returned.
- Deactivated or Deleted users can be deactivated or deleted multiple number of times.
- Deactivated or Deleted users can be activated again.
- The *Update* operation supports only the change of active flag field.



# SuccessFactors HR

**SuccessFactors HR** is an integrated human-resources platform. It offers users tools for onboarding, social business, and collaboration along with tools for learning management, performance management, recruiting, applicant tracking, succession planning, talent management, and HR analytics. It is also cloud-based.

## Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector Name
- Username
- Password
- SuccessFactors HR instance URL  
(<https://apps.support.sap.com/sap/support/knowledge/public/en/2215682>)
- Minimal Attributes

**NOTE:** The default value is **false**. When the value is set to **true**, only the minimal set of attributes for all the objects will be queried from the **SuccessFactors HR** system.

**Table 68: Minimal set of attributes for the objects**

SuccessFactors HR	Attributes
BusinessUnit	externalCode, name, description, status, startDate, createdOn, lastModifiedOn
Company	externalCode, name, description, status, createdOn, lastModifiedOn
CostCenter	name, description, externalCode, status, startDate, createdOn, lastModifiedOn
Division	externalCode, name, description, status, startDate, createdOn, lastModifiedOn
Department	name, description, externalCode, status, startDate, createdOn, lastModifiedOn
EmpEmployment	userId, startDate, createdOn, lastModifiedOn
Employee	EmpJob attributes: userId, businessUnit, company, costCenter, createdOn, division, event, eventReason, jobTitle, location, managerId, emplStatus, startDate, jobCode, position

SuccessFactors HR	Attributes
	User attributes: userId, username, defaultFullName, hireDate, lastModified, status, department, location, firstName, lastName, mi, suffix, email, addressLine1, state, city, zipCode, country, businessPhone, cellPhone
EventReason	externalCode, name, status, event, createdOn, lastModifiedOn
JobCode	externalCode, name, description, status, createdOn, lastModifiedOn
Location	externalCode, name, description, status, geozoneFlx, createdOn, lastModifiedOn
PerPersonal	personIdExternal, firstName, lastName, preferredName, createdOn, lastModifiedOn
PerPhone	personIdExternal, phoneNumber, phoneType, createdOn, lastModifiedOn
PicklistLabel	id,externalCode, status
PicklistOption	id,externalCode, status
Position	code, description, jobTitle, effectiveStatus, jobCode, businessUnit, company, department, externalName_defaultValue, createdDate, lastModifiedDate

**NOTE:** For consuming Starling Connect HR connectors (for example, SuccessFactors HR) into the One Identity Manager Synchronization Client, the One Identity Manager CHS module has to be installed and configured. You can download the appropriate CHS module from the One Identity Manager Support site.

## Supported objects and operations

### Employees

**Table 69: Supported operations for Employees**

Operation	VERB
Get Employee	GET
Get All Employees with Pagination	GET
Update Employees	PUT

## Companies

**Table 70: Supported operations for Companies**

Operation	VERB
Get Company	GET
Get All Company With Pagination	GET

## BusinessUnits

**Table 71: Supported operations for BusinessUnits**

Operation	VERB
Get BusinessUnit	GET
Get All Business Units with Pagination	GET

## Departments

**Table 72: Supported operations for Departments**

Operation	VERB
Get Department	GET
Get All Departments with Pagination	GET

## Locations

**Table 73: Supported operations for Locations**

Operation	VERB
Get Location	GET
Get All Locations with Pagination	GET

## Divisions

**Table 74: Supported operations for Divisions**

Operation	VERB
Get Division	GET
Get All Division With Pagination	GET

## CostCenters

**Table 75: Supported operations for CostCenters**

Operation	VERB
Get CostCenter	GET
Get All CostCenter with Pagination	GET

## JobCodes

**Table 76: Supported operations for JobCodes**

Operation	VERB
Get JobCode	GET
Get All JobCodeWith Pagination	GET

## Positions

**Table 77: Supported operations for Positions**

Operation	VERB
Get Position	GET
Get All Position With Pagination	GET

## EmpEmployments

**Table 78: Supported operations for EmpEmployments**

Operation	VERB
Get EmpEmployment	GET
Get All EmpEmployment With Pagination	GET

## PerPersonals

**Table 79: Supported operations for PerPersonals**

Operation	VERB
Get PerPersonal	GET
Get All PerPersonal With Pagination	GET

## PerPhones

**Table 80: Supported operations for PerPhones**

Operation	VERB
Get PerPhone	GET
Get All PerPhone With Pagination	GET

## EventReasons

**Table 81: Supported operations for EventReasons**

Operation	VERB
Get EventReason	GET
Get All EventReason With Pagination	GET

## PicklistLabels

**Table 82: Supported operations for PicklistLabels**

Operation	VERB
Get PicklistLabel	GET
Get All PicklistLabel With Pagination	GET

## PicklistOptions

**Table 83: Supported operations for PicklistOptions**

Operation	VERB
Get PicklistOption	GET
Get All PicklistOption With Pagination	GET

# Mappings

## Endpoints mapping

**Table 84: Target system objects mapping**

Target system objects	SCIM endpoints
Employees	EmpJob
BusinessUnits	FOBusinessUnit
Departments	FODepartment
CostCenters	FOCostCenter
Locations	FOLocation
Divisions	Divisions
Companies	FOCompany
JobCodes	FOJobCode
Positions	Position
EmpEmployments	EmpEmployment
PerPersonals	PerPersonal
PerPhones	PerPhone
PicklistLabels	PicklistLabel
PicklistOptions	PicklistOption
EventReasons	EventReason

## Attributes mapping

Different mappings associated with this connector are listed in the tables below.

**Table 85: Employee mapping**

SCIM parameter	SuccessFactors HR parameter
Id	id

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
UserName	userNav /username
Name.GivenName	userNav/firstName
Name.Familyname	userNav/lastName
Name.MiddleName	userNav/mi
Name.HonorificSuffix	userNav/suffix
Name.Formatted	userNav/defaultFullName
DisplayName	userNav/defaultFullName
Emails[0].Value	userNav/email
Addresses.StreetAddress	userNav/addressLine1
Addresses.Locality	userNav/state
Addresses.Region	userNav/city
Addresses.PostalCode	userNav/zipCode
Addresses.Country	userNav/country
PhoneNumbers.businessPhone	userNav/businessPhone
PhoneNumbers.cellPhone	userNav/cellPhone
Meta.LastModified	userNav/lastModified
Meta.Created	createdOn
userId	userId
department	department
businessUnit	businessUnit
division	division
location	location
costCenter	costCenter
startDate	startDate
seqNumber	seqNumber
workingTimeDirective	workingTimeDirective
endDate	endDate
timeTypeProfileCode	timeTypeProfileCode

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
timeRecordingVariant	timeRecordingVariant
employmentType	employmentType
workscheduleCode	workscheduleCode
regularTemp	regularTemp
payScaleGroup	payScaleGroup
probationPeriodEndDate	probationPeriodEndDate
payScaleType	payScaleType
createdBy	createdBy
managerId	managerId
jobCode	jobCode
retired	retired
employeeClass	employeeClass
familyRelationshipWithEmployer	familyRelationshipWithEmployer
isCompetitionClauseActive	isCompetitionClauseActive
jobTitle	jobTitle
standardHours	standardHours
countryOfCompany	countryOfCompany
hazard	hazard
travelDistance	travelDistance
isSideLineJobAllowed	isSideLineJobAllowed
payScaleArea	payScaleArea
holidayCalendarCode	holidayCalendarCode
timezone	timezone
contractType	contractType
payGrade	payGrade
workLocation	workLocation
workingDaysPerWeek	workingDaysPerWeek
empRelationship	empRelationship



<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
company	company
isFulltimeEmployee	isFulltimeEmployee
laborProtection	laborProtection
payScaleLevel	payScaleLevel
workerCategory	workerCategory
position	position
event_	event_
eventReason	eventReason
emplStatus	emplStatus
status	status

**Table 86: Departments mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	externalCode
name	name
description	description
createdBy	createdBy
externalCode	externalCode
costCenter	costCenter
headOfUnit	headOfUnit
status	status
startDate	startDate
endDate	endDate
lastModifiedDateTime	lastModifiedDateTime
parent	parent
lastModifiedOn	lastModifiedOn
createdOn	createdOn
lastModifiedBy	lastModifiedBy

SCIM parameter	SuccessFactors HR parameter
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 87: Locations mapping**

SCIM parameter	SuccessFactors HR parameter
Id	externalCode
name	name
description	description
timezone	timezone
externalCode	externalCode
geozoneFlx	geozoneFlx
locationGroup	locationGroup
locationGroupFlx	locationGroupFlx
createdBy	createdBy
status	status
startDate	startDate
endDate	endDate
lastModifiedOn	lastModifiedOn
lastModifiedDateTime	lastModifiedDateTime
lastModifiedBy	lastModifiedBy
createdDateTime	createdDateTime
standardHours	standardHours
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 88: BusinessUnits mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	externalCode
name	name
description	description
createdBy	createdBy
externalCode	externalCode
status	status
startDate	startDate
endDate	endDate
headOfUnit	headOfUnit
description_de_DE	description_de_DE
name_de_DE	name_de_DE
lastModifiedOn	lastModifiedOn
lastModifiedBy	lastModifiedBy
createdOn	createdOn
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 89: Divisions mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	externalCode
name	name
description	description
createdBy	createdBy
externalCode	externalCode
startDate	startDate
endDate	endDate

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
status	status
lastModifiedDate	lastModifiedDate
parent	parent
lastModifiedOn	lastModifiedOn
createdOn	createdOn
lastModifiedBy	lastModifiedBy
createdDateTime	createdDateTime
headOfUnit	headOfUnit
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 90: CostCenters mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	externalCode
name	name
description	description
createdBy	createdBy
externalCode	externalCode
costcenterManager	costcenterManager
status	status
startDate	startDate
endDate	endDate
parent	parent
lastModifiedOn	lastModifiedOn
createdOn	createdOn
lastModifiedBy	lastModifiedBy
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 91: Companies mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	externalCode
name	name
description	description
externalCode	externalCode
status	status
startDate	startDate
endDate	endDate
defaultLocation	defaultLocation
country	country
standardHours	standardHours
defaultPayGroup	defaultPayGroup
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 92: JobCodes mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	externalCode
name	name
description	description
externalCode	externalCode
status	status
startDate	startDate
endDate	endDate
lastModifiedOn	lastModifiedOn
lastModifiedBy	lastModifiedBy

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
createdBy	createdBy
createdOn	createdOn
parentJobCode	parentJobCode
supervisorLevel	supervisorLevel
defaultSupervisorLevel	defaultSupervisorLevel
standardHours	standardHours
workerCompCode	workerCompCode
grade	grade
isFulltimeEmployee	isFulltimeEmployee
jobFunction	jobFunction
regularTemporary	regularTemporary
employeeClass	employeeClass
defaultJobLevel	defaultJobLevel
isRegular	isRegular
jobLevel	jobLevel
defaultEmployeeClass	defaultEmployeeClass
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 93: Positions mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	code
code	code
description	description
effectiveStartDate	effectiveStartDate
effectiveEndDate	effectiveEndDate
effectiveStatus	effectiveStatus
standardHours	standardHours

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
department	department
businessUnit	businessUnit
division	division
location	location
costCenter	costCenter
createdBy	createdBy
jobTitle	jobTitle
employeeClass	employeeClass
jobCode	jobCode
company	company
payGrade	payGrade
comment	comment
createdDate	createdDate
jobLevel	jobLevel
lastModifiedBy	lastModifiedBy
lastModifiedDate	lastModifiedDate
positionTitle	positionTitle
vacant	vacant
regularTemporary	regularTemporary
payRange	payRange
Meta.LastModified	lastModifiedDate
Meta.Created	createdDate

**Table 94: EmpEmployments mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	userId
userId	userId
personIdExternal	personIdExternal

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
startDate	startDate
createdBy	createdBy
createdOn	createdOn
firstDateWorked	firstDateWorked
lastDateWorked	lastDateWorked
lastModifiedBy	lastModifiedBy
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 95: PerPersonals mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	personIdExternal
personIdExternal	personIdExternal
startDate	startDate
createdBy	createdBy
createdOn	createdOn
firstName	firstName
lastName	lastName
gender	gender
preferredName	preferredName
lastModifiedBy	lastModifiedBy
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn



**Table 96: PerPhones mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	personIdExternal
personIdExternal	personIdExternal
phoneType	phoneType
areaCode	areaCode
phoneNumber	phoneNumber
countryCode	countryCode
isPrimary	isPrimary
createdBy	createdBy
createdOn	createdOn
lastModifiedOn	lastModifiedOn
lastModifiedBy	lastModifiedBy
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 97: EventReasons mapping**

<b>SCIM parameter</b>	<b>SuccessFactors HR parameter</b>
Id	externalCode
externalCode	externalCode
name	name
status	status
event_	event_
emplStatus	emplStatus
description	description
startDate	startDate
createdOn	createdOn
createdBy	createdBy

SCIM parameter	SuccessFactors HR parameter
lastModifiedOn	lastModifiedOn
lastModifiedBy	lastModifiedBy
Meta.LastModified	lastModifiedOn
Meta.Created	createdOn

**Table 98: PicklistOptions mapping**

SCIM parameter	SuccessFactors HR parameter
Id	id
externalCode	externalCode
status	status

**Table 99: PicklistLabels mapping**

SCIM parameter	SuccessFactors HR parameter
Id	optionId
id_	id
optionId	optionId
locale	locale
label	label

## Connector limitations

- **Create** and **Delete** operations are not supported for any object.
- Currently, the **Update** functionality is functional only for the following attributes of the Employee object:
  - cellPhone

- businessPhone
- email

## NutShell

**NutShell** is a customer relationship management (CRM) service. It can be integrated with other SaaS services for small businesses, including Google Apps.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Username for the cloud account
- Password - API Key
- Target URL of the cloud account

### Supported objects and operations

#### Users

**Table 100: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get user by Id	GET
Get all users	GET
Get all users with pagination	GET

## Groups

**Table 101: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get group by Id	GET
Get all groups	GET
Get all groups with pagination	GET

## Mandatory fields

### Users

- emails.value

### Groups

- displayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 102: User mapping**

SCIM parameter	NutShell parameter
id	id
userName	email
name.familyName	lastName
name.givenName	firstName
displayName	name
emails[0].value	email
active	isEnabled

SCIM parameter	NutShell parameter
groups	teams
meta.created	createdTime
meta.lastModified	modifiedTime

**Table 103: Group mapping**

SCIM parameter	NutShell parameter
id	id
displayName	name
enterpriseExtension.division	division
meta.created	createdTime
meta.lastModified	modifiedTime

## Connector limitations

- Error messages and status codes are not customized. The following status codes are returned:
  - 200
  - 201
  - 204
  - 400
  - 401
  - 404
- Members cannot be added or retrieved from teams (groups) via the team endpoints. This can be achieved using the user endpoints and, updating the individual users. However, considering the large number of users in live production environments, membership management is not supported by the connector, as performance issues may arise.
- The delete operation is soft delete. Hence, it is possible to delete, or retrieve the deleted user or group multiple number of times. However, a deleted group will not be retrieved as part of the list groups response.
- Multiple email addresses can be associated to a user. Hence, the first email Id from the Nutshell user response is considered as the email id for the SCIM user.
- The NutShell API does not provide information on retrieval of all resources through

paginated requests. Hence, the connector provides a *nextCursor* value, when the total resource count is divisible by requested count.

**Insightly** provides customer relationship management software for small and midsize businesses. It can be integrated with other applications such as Box, Dropbox, Gmail, Outlook, and QuickBooks. Its dashboard lets users create custom reports and track projects.

## Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- API Key
- SCIM URL (Cloud application's instance URL, used as the target URL in payload)

## Supported objects and operations

### Users

**Table 104: Supported operations for Users**

Operation	VERB
Get user by Id	GET
Get all users	GET

### Groups

**Table 105: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get group by Id	GET
Get all groups	GET



# Mandatory fields

## Users

- Creation of users is not supported.

## Groups

- DisplayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 106: User Mapping**

SCIM Parameter	Insightly Parameter
Id	USER_ID
emails[0].value	EMAIL_ADDRESS
DisplayName	FIRST_NAME + LAST_NAME
name.FirstName	FIRST_NAME
name.LastName	LAST_NAME
name.Formatted	FIRST_NAME + LAST_NAME
active	ACTIVE
timezone	TIMEZONE_ID
meta.created	DATE_CREATED_UTC
userName	EMAIL_ADDRESS
meta.lastModified	DATE_UPDATED_UTC

**Table 107: Group mapping**

SCIM parameter	Insightly parameter
id	TEAM_ID
displayName	TEAM_NAME

SCIM parameter	Insightly parameter
created	DATE_CREATED_UTC
lastModified	DATE_UPDATED_UTC
members[].value	TEAMMEMBERS[].MEMBER_USER_ID

## Connector limitations

- Create, Update, and Delete operation (for Users) are not supported.
- During the process of creating or updating a group, if the member data is incorrect, the operation fails with *Bad request* status code.
- It is possible to create multiple groups with the same name in Insightly cloud application.

**NOTE:** If the version of One Identity Manager is 8.0.2 , an error is returned, if the Group objects are more than four. If the version of One Identity Manager is 7.1.4, the display names of few groups would be missing in the Manager console of One Identity Manager, if the Group objects are more than twenty. The cause for the above mentioned irregularities is that, the Insightly cloud application can handle only five requests per second, if the account is a trial version.

## Egnyte

**Egnyte** lets users store files on either a company's existing data center infrastructure or in the cloud. It can be integrated with the cloud, storage, devices, and business applications to let you control data with your current hardware.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Client\_Id (API Key provided for the application)
- Username
- Password
- Target URL (cloud application's instance URL used as target URL in payload)

#### *To get the Client\_id*

1. Login to the Egnyte cloud application.
2. Register an application under **My API Keys** menu. Registered Application will have an API key that can be used as Client\_Id.

### Supported objects and operations

#### Users

**Table 108: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT

Operation	VERB
Delete	DELETE
Get user by Id	GET
Get all users	GET
Get all users with pagination	GET

## Groups

**Table 109: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all groups	GET
Get all groups with pagination	GET

## Mandatory fields

### Users

- userName
- emails.value
- name.givenName
- name.familyName
- EnterpriseExtension.authType
- userType
- active

### Groups

- displayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 110: User mapping**

SCIM parameter	Egnyte parameter
Id	Id
externalId	externalId
userName	userName
Name.FamilyName	name.FamilyName
Name.givenName	name.givenName
Name.Formatted	name.Formatted
DisplayName	name.Formatted
email.value	email
Active	active
userType	userType
EnterpriseExtension.authType	authType
Groups.DisplayName	groups.DisplayName
Groups.Value	groups.Value
Created	createdDate
LastModified	lastModificationDate

**Table 111: Group mapping**

SCIM parameter	Egnyte parameter
Id	id
displayName	displayName
members.value	members.value
members.display	members.display

## Connector limitations

- The Role object type is not supported by cloud application for trial account. Hence, the connector does not support the role endpoint.

## SugarCRM

**SugarCRM** is a customer relationship management (CRM) system. It allows users to manage sales-force automation, marketing campaigns, customer support, collaboration, mobile CRM, social CRM, and reporting.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Client Id
- Client Secret
- Username
- Password
- Platform
- Target URL (cloud application's instance URL used as target URL in payload)

### Supported objects and operations

#### Users

**Table 112: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get user by Id	GET
Get all users	GET

## Groups

**Table 113: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all groups	GET
Get all groups by Id	GET

## Mandatory fields

### Users

- UserName

### Groups

- Not Applicable

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 114: User mapping**

SCIM parameter	SugarCRM parameter
Id	id
UserName	user_name
Title	title
PreferredLanguage	preferred_language
name.FirstName	first_name
name.LastName	last_name
name.Formatted	full_name
Address.StreetAddress	address_street

SCIM parameter	SugarCRM parameter
Address.Region	address_city
Address.Country	address_country
Address.PostalCode	address_postalcode
Emails.value	email[0].email_address
Active	status.Value == "Active"
Groups[].display	team_name[].name
Groups[].value	team_name[].id
PhoneNumbers[].Value	phone_home
PhoneNumbers[].Value	phone_mobile
PhoneNumbers[].Value	phone_work
Meta.Created	date_entered
Meta.LastModified	date_modified

**Table 115: Group mapping**

SCIM parameter	SugarCRM parameter
id	id
displayName	name
Meta.created	date_entered
Meta.lastModified	date_modified

## Connector limitations

- Creation of a duplicate user returns the following status code:
  - 403:Forbidden
- A CRUD operation on Users and Groups can be performed only by users with Admin credentials.
- Multiple groups can be created with same name.
- Group memberships cannot be added, retrieved, or modified using API calls.
- Cloud application allows creation of a group without the *Name* being specified.



## Oracle IDCS

**Oracle IDCS** is a cloud-based identity management service that integrates with existing systems and directories. Users can develop, access and deploy their applications from one platform. It works with both cloud and on-premises applications.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Client Id for the trusted app
- Client Secret of the trusted app (see [https://docs.oracle.com/en/cloud/paas/identity-cloud/rest-api/OATOAuthClientWebApp.html#GUID-51E5C29A-6B7E-487A-8832-5D709410C16A\\_\\_RegisterAnOAuthClientWebApplication-29DDFF36](https://docs.oracle.com/en/cloud/paas/identity-cloud/rest-api/OATOAuthClientWebApp.html#GUID-51E5C29A-6B7E-487A-8832-5D709410C16A__RegisterAnOAuthClientWebApplication-29DDFF36) for more details).
- Target URL (Cloud application's instance URL used as target URI in payload - Example: `https://{tenant-base-url}/admin/v1`)

### Supported objects and operations

#### Users

**Table 116: Supported operations for Users**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get all users	GET

Operation	VERB
Get user by id	GET
Get users with Pagination	GET

## Groups

**Table 117: Supported operations for Groups**

Operation	VERB
Create	POST
Update	PUT
Delete	DELETE
Get	GET
Get	GET

## Mandatory fields

### Users

- userName
- emails.value
- name.familyName

### Groups

- displayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 118: User mapping**

SCIM Parameter	Oracle IDCS parameter
Id	id

<b>SCIM Parameter</b>	<b>Oracle IDCS parameter</b>
userName	userName
externalId	externalId
name.givenName	name.givenName
name.familyName	name.familyName
name.middleName	name.middleName
name.formatted	name.formatted
name.honorificPrefix	name.honorificPrefix
name.honorificSuffix	name.honorificSuffix
displayName	displayName
nickName	nickName
emails.value	email.value
emails.type	email.type
emails.primary	email.primary
addresses.formatted	addresses.formatted
addresses.streetAddress	addresses.streetAddress
addresses.locality	addresses.locality
addresses.region	addresses.region
addresses.postalCode	addresses.postalCode
addresses.country	addresses.country
addresses.type	addresses.type
phoneNumbers.value	phoneNumbers.value
phoneNumbers.type	phoneNumbers.type
phoneNumbers.primary	phoneNumbers.primary
password	password
profileUrl	profileUrl
title	title
userType	userType
preferredLanguage	preferredLanguage
locale	locale

<b>SCIM Parameter</b>	<b>Oracle IDCS parameter</b>
timezone	timeZone
active	active
entitlements.value	entitlements.value
entitlements.display	entitlements.display
entitlements.type	entitlements.type
roles.value	roles.value
roles.display	roles.display
roles.type	roles.type
groups.value	groups.value
groups.display	groups.display
extension.organization	extension.organization
extension.division	extension.division
extension.department	extension.department
extension.manager.value	extension.manager.value
extension.manager.displayName	extension.manager.displayName
extension.costCenter	extension.costCenter
extension.employeeNumber	extension.employeeNumber
meta.created	meta.created
meta.lastModified	meta.lastModified

**Table 119: Group mapping**

<b>SCIM parameter</b>	<b>Oracle IDCS parameter</b>
id	id
displayName	displayName
Members.value	members.value
Members.display	members.display
extension.externalId	extension.externalId
extension.description	extension.description
meta.created	meta.created
meta.lastModified	meta.lastModified

## Connector limitations

- Oracle IDCS does not validate the values provided for the **roles** in the user request and the same is getting assigned to the user. No validation is performed for the **type, value** properties for the **roles**. Same is the case with **entitlements**.
- Groups will not be returned with the create user response.
- Sub-Groups cannot be added in Group Memberships.

## Statuspage

**Statuspage** is a status and incident communication tool that helps service providers keep customers and employees informed during downtime. It lets users add separate components for each part of the infrastructure or functional part of service.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- API key (user API key under **Manage Account** → **API** tab) for the cloud account
- Organization Id (Organization Id under **Manage Account** → **API** tab) for the cloud account
- Target URL of the cloud account

### Supported objects and operations

#### Users

**Table 120: Supported operations for Users**

Operation	VERB
Create User	POST
Delete User	DELETE
Get User	GET
Get All Users	GET

#### Groups

Not Applicable

# Mandatory fields

## Users

- emails.value
- password

## Groups

Not Applicable

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 121: User mapping**

SCIM parameter	Statuspage parameter
Id	id
UserName	email
last_name	name.familyName
first_name	name.givenName
first_namelast_name	name.formatted
first_namelast_name	displayName
email	emails[0].value
created_at	meta.created
updated_at	meta.lastModified

## Groups

Not Applicable

## Connector limitations

- Update operation for **Users**, resource type **Groups** and **Pagination** are not supported.
- Retrieving a specific user would be relatively slow due to API limitations.



## Zendesk Sell

**Zendesk Sell** provides a web-based sales platform with tools for emailing, phone dialing, pipeline management, forecasting, and reporting.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- API Key
- Target URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 122: Supported operations for Users**

Operation	VERB
Get User	GET
Get All Users	GET
Get All Users with Pagination	GET

#### Groups

Not Applicable

## Mandatory fields

### Users

Not Applicable

### Groups

Not Applicable

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 123: User mapping**

SCIM parameter	Zendesk Sell parameter
Id	id
userName	email
name.Formatted	name
DisplayName	name
email.value	email
PhoneNumbers.value	phone_number
Active	status
Timezone	timeZone
Groups.Value	group.id
Groups.display	group.name
Extension.manager.value	reports_to
Created	created_at
LastModified	updated_at

### Groups

Not Applicable

## Connector limitations

- **Create**, **Update**, and **Delete** users are not supported by Zendesk Sell connector.
- The resultant (User) objects count of pagination is always in the multiples of 100, unless cloud has less than 100 records in a page.

## Workbooks

**Workbooks** is a cloud-based CRM and business application for users in sales, marketing, and customer support. It also offers services for order management and fulfillment, invoicing, and supplier management.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- API key for the cloud account (obtained from Start > Configuration > Email & Integration > API Keys in Workbooks Desktop instance)
- Target URL of the cloud account

### Supported objects and operations

#### Users

**Table 124: Supported operations for Users**

Operation	VERB
Get User	GET
Get All Users	GET

#### Groups

Not Applicable

## Mandatory fields

### Users

Not Applicable

### Groups

Not Applicable

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 125: User mapping**

SCIM parameter	Workbooks parameter
Id	id
userName	login_name
name.Formatted	person_name
displayName	person_name
emails[0].value	login_name
timezone	timezone
locale	date_time_locale
active	is_enabled
meta.created	created_at
meta.lastModified	updated_at

### Groups

Not Applicable

## Connector limitations

- **Create**, **Update**, and **Delete** users are not supported.
- Groups and group memberships are not supported through APIs.

- Username is available only for the activated users.
- **Get All Users** retrieves automation users that are not listed in the users list in Workbooks user interface. The automation users are created while generating the first API key of type **automation** in Workbooks Desktop instance.
- The application returns the user details instead of 404 error though the user id is appended with alphabetic characters.

## DocuSign

**DocuSign** allows users to manage digital transactions for electronic documents including contracts and signatures. Its features include authentication services, user identity management, and workflow automation.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Client Id
- User Name
- Password
- Account ID
- Target URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 126: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PUT
Delete User	DELETE
Get User	GET
Get All Users	GET
Get All Users with Pagination	GET

## Groups

**Table 127: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PUT
Delete Group	DELETE
Get Group	GET
Get All Groups	GET
Get All Groups with Pagination	GET
Update Membership	PUT

## Mandatory fields

### Users

- UserName
- Email

### Groups

- DisplayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 128: User mapping**

SCIM parameter	DocuSign parameter
Id	userId
UserName	userName
UserType	userType
DisplayName	userName



SCIM parameter	DocuSign parameter
Title	jobTitle
name.GivenName	firstName
name.FamilyName	lastName
Addresses.StreetAddress	workAddress.address1
Addresses.Locality	workAddress.address2
Addresses.Region	workAddress.city
Addresses.Country	workAddress.country
Addresses.postalCode	workAddress.postalCode
PhoneNumbers.Value	workAddress.phone
Emails.Value	email
Active	userStatus
Groups	groupList
Meta.Created	createdDateTime

**Table 129: Group mapping**

SCIM parameter	DocuSign parameter
id	groupId
displayName	groupName

## Connector limitations

- Username update is accepted only when no first and last name provided.
- Add and update of Users address not supported.
- Intermittently, you cannot update the users when the activation is in pending status.
- Active user cannot be created. After the created user activates the account through the email link, the user is considered to be an Active user.
- Combination of user name and email duplication will result in conflict error response.

## Citrix ShareFile

**ShareFile** offers users a platform for secure content collaboration, file sharing, and synchronization for documents and workflows. It offers cloud-based and on-premises storage, virtual data rooms, and client portals.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- UserName
- Password
- Client\_Id
- Client\_Secret
- Target URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 130: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PATCH
Delete User	DELETE
Get User	GET
Get All Users	GET

## Groups

**Table 131: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PATCH
Delete Group	DELETE
Get Group	GET
Get Group Members	GET
Add Group Members	POST
Remove Group Members	DELETE
Get All Groups	GET

## Mandatory fields

### Users

- emails.value
- name.familyName
- name.givenName

### Groups

Not Applicable

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 132: User mapping**

SCIM Parameter	Citrix ShareFile parameter
Id	id
userName	email

SCIM Parameter	Citrix ShareFile parameter
name.Formatted	FullName
Name.FamilyName	LastName
Name.GivenName	FirstName
Password	Password
DisplayName	FullName
email.value	email
Active	IsDeleted
Extension.Organization	Company
Created	DateCreated

## Groups

**Table 133: User mapping**

SCIM parameter	Citrix ShareFile parameter
Id	id
DisplayName	Name
members.value	User.Id
members.display	User.FirstName+User.LastName

## Connector limitations

- Pagination is not supported by cloud application for both **Users** and **Groups** object
- Group Information such as, the groups to which the user is associated is not displayed when we retrieve **Users** object.
- Only 5 users can be created for trial instance on the Cloud Application.
- Email id is considered as your user name. To update the username, you should update the email id.
- **Last modified date** is not supported by the Cloud application for **User** object.
- **Last Modified** and **Created** date is not supported by the Cloud application for **Group** object.
- Deleted users can be retrieved as the Cloud application supports soft delete of users.
- Deleted user can be updated though the **User Id**.

- Group membership operation can be ignored when you have an invalid **User Id** in the members list.

## Zendesk

**Zendesk** is a unified customer service platform. It features a common user interface, single login, and a platform for sharing customer data.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- User Name
- Password
- Target URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 134: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PUT
Delete User	DELETE
Get User	GET
Get All Users	GET
Get All Users with Pagination	GET

## Groups

**Table 135: Supported operations for Users**

Operation	VERB
Create Group	POST
Update Group	PUT
Delete Group	DELETE
Get Groups	GET
Get All Groups	GET
Get All Users with Pagination	GET
Update Membership	PUT

## Mandatory fields

### Users

- DisplayName
- Email

### Groups

DisplayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 136: User mapping**

SCIM parameter	Zendesk parameter
Id	id
UserName	email
DisplayName	name
Timezone	time_zone

SCIM parameter	Zendesk parameter
Locale	locale
PhoneNumbers[].Value	phone
Emails[].Value	email
Active	active
Meta.Created	created_at
Meta.LastModified	updated_at

## Groups

**Table 137: Groups mapping**

SCIM parameter	Zendesk parameter
Id	id
DisplayName	name
Meta.Created	created_at
Meta.LastModified	updated_at

## Connector limitations

- A user with **Agent** role only can be added to group membership.
- Get resource by pagination will always return the resources in multiples of hundred. For example, if the count is specified as 126, 200 records are returned.
- If any value for **startIndex** is passed when using get resources by pagination parameter, the result from the connector is always the nearest 100 records from the requested number.
- Users can be deleted multiple times as the cloud application supports soft delete.



## Azure AD

**Azure AD** is a connector that gives users a cloud-based platform for their on-premises resources. Using single sign-on, companies have access to any number of network or web-based applications along with hosting access and identity management resources.

**NOTE:** Update the synchronization shell or create a new synchronization shell in One Identity Manager as changes are introduced in the schema.

For more information on registering the application, providing permissions, retrieving client ID or client secret, see [Working with Azure AD](#).

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Client Id for the app
- Client Secret of the app
- Directory Id of the Active Directory
- Target URL (Cloud application's instance URL used as target URI in payload - For example, <https://graph.microsoft.com/v1.0>).

### Supported objects and operations

#### Users

**Table 138: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PATCH

Operation	VERB
Delete User	DELETE
Get User	GET
Get All Users	GET

## Groups

**Table 139: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PATCH
Delete Group	DELETE
Get Group	GET
Get All Groups	GET

## Mandatory fields

### Users

- email.value
- nickName
- displayName
- password
- active

### Groups

- displayName
- mailEnabled (value needs to be 'false')
- mailNickname
- securityEnabled (value needs to be 'true')

## User and group mapping

The user and group mappings are listed in the tables below.

**Table 140: User mapping**

<b>SCIM parameter</b>	<b>Azure AD parameter</b>
Id	id
userName	userPrincipalName
name.familyName	surname
name.givenName	givenName
displayName	displayName
nickName	mailNickname
emails[0].value	userPrincipalName
addresses[0].streetAddress	streetAddress
addresses[0].locality	city
addresses[0].region	state
addresses[0].postalCode	postalcode
addresses[0].country	country
phoneNumbers[0].value	businessPhones[0]
title	jobTitle
active	accountEnabled
preferredLanguage	preferredLanguage
userType	userType
groups[].value	memberOf[].id
groups[].display	memberOf[].displayName
userExtension.organization	companyName
userExtension.department	department
userExtension.employeeNumber	employeeId
userExtension.manager.value	manager.id
userExtension.manager.displayName	manager.displayName
meta.created	createdDateTime

## Groups

**Table 141: User mapping**

SCIM parameter	Azure AD parameter
Id	id
displayName	displayName
members[].value	members[].id
members[].display	members[].displayName
enterpriseExtension.description	description
enterpriseExtension.mailNickname	mailNickname
meta.created	createdDateTime

## Connector limitations

- **lastModified** is not provided along with the **Users** and **Groups**.
- Groups are of two types: **Security groups** and **Office 365** groups. Azure AD supports users and groups as the members of groups. **Security groups** can have users and other Security groups as members. However, only users can be added as members for **Office 365** groups.
- With the trial Azure AD account, it is possible to create only **Security groups** through APIs. For information on mapping the appropriate properties, see **User and Group** section.
- Azure AD resource Id's follow GUID formats. When trying to edit, retrieve, or delete a group by Id with an invalid GUID format, the connector displays 400 as the response code. However with invalid id and a proper GUID format, connector displays 404 as the response code.
- Email value for the user should have only those domains which are verified in the selected Active Directory. To find out the verified domain, go to the Azure Active Directory in the Azure portal and in the **Overview** page above the directory name, the verified domain names are displayed.
- You can create multiple groups with the same name.
- For more information on password policy settings applied to user accounts that are created and managed in Azure AD, see, [Password policies that only apply to cloud user accounts](#).

## GSuite

**GSuite** is a cloud computing, productivity, and collaboration tool. It includes the Google web applications Gmail, Drive, Hangouts, Calendar, and Docs. It also includes an interactive whiteboard. The enterprise version offers custom-domain email addresses, additional storage, and 24/7 phone and email support.

You must create a service account to access the G Suite services. For information on creating a service account, see [Creating a service account in GSuite](#).

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- UserName
- Private\_Key (Whole JSON content of private key file created for service account)
- Target URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 142: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PUT
Delete User	DELETE
Get User	GET

Operation	VERB
Get All Users	GET
Get All Users with Pagination	GET

## Groups

**Table 143: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PUT
Delete Group	DELETE
Get Group	GET
Get All Groups	GET
Get All Groups with Pagination	GET
Update Membership	PUT

## Mandatory fields

### Users

- FirstName
- LastName
- Password

### Groups

Email

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 144: User mapping**

SCIM parameter	GSuite parameter
Id	id
userName	primaryEmail
Name.GivenName	name.givenName
Name.FamilyName	name.familyName
Name.Formatted	name.fullName
DisplayName	name.fullName
Emails[0].value	primaryEmail
Addresses[0].StreetAddress	streetAddress
Addresses[0].Locality	locality
Addresses[0].Region	region
Addresses[0].PostalCode	postalcode
PhoneNumbers[0].Value	phones[0].value
PhoneNumbers[0].Type	phones[0].type
Active	suspended
ExternalId	externalIds.value
Extension.Organization	organizations.name
Extension.Department	organizations.department
Extension.Division	organizations.location
Created	creationTime

## Groups

**Table 145: User mapping**

SCIM parameter	GSuite parameter
Id	id
displayName	name
members.value	groupMembers.id
members.type	groupMembers.type
groupExtension.Email	email
groupExtension.Description	description

## Connector limitations

- Connector supports cursor based pagination even with any change at count in subsequent requests.
- **Created date** is displayed for **Users**. **Created date** and **Modified date** are not displayed for **Groups**.
- Group information of user is not displayed in user details.
- The **Email ID** of **Users** and **Groups** to be created should be provided along with the domain name of target instance.



## Concur

**Concur** offers two on-demand Software as a Service (SaaS) products to help manage travel. Concur Travel & Expense gives you web and mobile solutions for travel and expense management, and TripIt is a mobile travel organizer for individuals.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Client Id
- Client Secret
- Username
- Password
- Geolocation
- Target URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 146: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	POST
Delete User	DELETE
Get User	GET

Operation	VERB
Get All Users	GET
Get All Users with Pagination	GET

## Groups

NA

## Mandatory fields

### Users

- userName
- name.givenName
- name.familyName
- enterpriseUserExtension.empId
- emails.value
- password
- scimUser.locale
- enterpriseUserExtension.ctrCode
- enterpriseUserExtension.crnKey
- enterpriseUserExtension.ledgerKey
- enterpriseUserExtension.custom21

## Groups

NA

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 147: User mapping**

SCIM parameter	Concur parameter
Id	LoginId

SCIM parameter	Concur parameter
userName	LoginId
Name.GivenName	FirstName
name.MiddleName	Mi
Name.FamilyName	LastName
DisplayName	FirstName+LastName
Emails[0].value	EmailAddress
Active	Active
Locale	LocaleName
Extension.EmpId	EmpId
Extension.LedgerKe	LedgerName
Extension.CtryCode	CtryCode
Extension.CrnKey	CrnKey
Extension.ExpenseApprover	ExpenseApprover
Extension.Custom21	Custom21

## Groups

NA

## Connector limitations

- Only user end-points are supported in Concur connector.
- Inactive user's information is not displayed when **Get All Users** operation is performed.
- The search result status for inactive user is **NotFound**.
- While **Get Users by Pagination** with **StartIndex** and **count** specified, next nearest multiple of 100 records to the **count** value are fetched.
- Invalid **Geolocation** url returns **BadRequest** status.
- **Created** and **LastModified** dates are not supported.
- API does not return the details of groups to which a user is associated.
- **POST** user with the details similar to that of existing user's id, email and EmpId will update existing user's information. In such case, status code 201 is returned.
- Inactive user cannot be created or edited.

- **GivenName** and **FamilyName** are not updated in **PUT** user operation.
- Custom21 value accepts only the Expense list code. For example, a valid Custom21 value are IN - 890, IN - 562, AU - 510, NL - 842, NO - 432, and so on.
- Currently, an authentication related issue is observed while **Get User** by Id for a user "cteadmin@quest.com". This issue causes integration failure. To fix this, two keys are introduced in **AppSettings** of function host named **ShouldExcludeUsers** and **ExcludeUserIds**.
- **ShouldExcludeUsers** key accepts either true or false as value, and **ExcludeUserIds** takes comma separated user's ids.
- If value for **ShouldExcludeUsers** is true, the user ids mentioned in **ExcludeUserIds** will not appear in GetAll Users response.

## Tableau

**Tableau** offers data visualization software to let users upload files to a server or the cloud. You can create custom dashboards to analyze business intelligence and data.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Username
- Password
- Site name (Example: <https://online.tableau.com/#/site/MarketingTeam/users>)
- Target URL (Cloud application's instance URL used as target URI in payload - Example: <https://{instance-name}.online.tableau.com/api/{api-version}>)

### Supported objects and operations

#### Users

**Table 148: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PUT
Delete User	DELETE
Get User	GET
Get Users	GET
Get All Users with Pagination	GET

## Groups

**Table 149: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PUT
Get Group	GET
Get Groups	GET
Get All Groups with Pagination	GET
Update Membership	PUT

## Mandatory fields

### Users

Email

### Groups

displayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 150: User mapping**

SCIM parameter	Tableau parameter
Id	LoginId
userName	name
name.formatted	fullName
displayName	fullName
emails[0].value	name
roles[0].value	siteRole

## Groups

**Table 151: Group mapping**

SCIM parameter	Tableau parameter
Id	LoginId
displayName	name
members[].value	members[].id

## Connector limitations

- User update is supported for **User** role only.
- **Created** and **last modified** dates are not available.
- Group deletion is not supported.
- Adding or removing a member from a renamed group is possible only after a full synchronization .

## GoToMeeting

**GoToMeeting** is an online tool for meeting planning. The connector integrates with multiple other products and plug-ins, allowing users to easily connect to create, organize, and host meetings across a common platform.

For more information on generating a private key for a service account, see [Generating a private key in GoToMeeting](#).

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Username
- Password
- Client Id
- Client Secret
- Account key
- Target URL (Cloud application's instance URL used as target URI in payload - Example: <https://api.getgo.com/admin/rest/v1/>)

### Supported objects and operations

#### Users

**Table 152: Supported operations for Users**

Operation	VERB
Create User	POST



Operation	VERB
Update User	PUT
Delete User	DELETE
Get User	GET
Get Users	GET
Get All Users with Pagination	GET

## Groups

**Table 153: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PUT
Delete Group	DELETE
Get Group	GET
Get Groups	GET
Get All Groups with Pagination	GET

## Mandatory fields

### Users

- Email
- givenName
- familyName

### Groups

displayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 154: User mapping**

SCIM parameter	GoToMeeting parameter
Id	key
UserName	email
Name.givenName	firstName
Name.familyName	lastName
Name.formatted	firstName+""+lastName
DisplayName	firstName+""+lastName
emails[0].value	email
locale	locale
Timezone	timeZone
Groups[].Value	groupKey
Groups[].display	groupName

## Groups

**Table 155: Group mapping**

SCIM parameter	GoToMeeting parameter
Id	key
DisplayName	name
members[].value	userKeys[]

## Connector limitations

- For **Users** and **Groups** objects, the **Created** and **Last Modified** date are not displayed.
- When trying to create a duplicate entry of the user who already exists, the connector returns status code 201.
- Group membership operation is not supported.
- When trying to retrieve a user by their ID using invalid alphanumeric IDs, the connector returns status code 502 instead of 404.
- When trying to create a new user with the same email ID of a deleted user, the connector activates the deleted user instead of creating a new user.

## Coupa

A **Coupa** connector allows users to move data in and out of Coupa. It lets you manage spend more efficiently by being able to integrate and access spend management and data for expenses, and integrate with other cloud applications.

### Supervisor configuration parameters

To configure the connector, the following parameters are required:

- Connector name
- API key
- Custom Properties (List of custom properties, if any, to be mapped).  
For more information, see [Configuring custom attributes in Starling](#).
- Target URL (Cloud application's instance URL used as target URI in payload)

### Supported objects and operations

#### Users

**Table 156: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PUT
Get User by id	GET
Get All Users	GET
Get All Users with Pagination	GET
Update Role Membership	PUT

Operation	VERB
Update Group Membership	PUT
Update UserGroups Membership	PUT
Update AccountGroups Membership	PUT

**NOTE:** The membership operations are user based operations according to target system behavior from Coupa.

## Groups

**Table 157: Supported operations for Groups**

Operation	VERB
Get Group by id	GET
Get All Groups	GET
Get All Groups with Pagination	GET

## Roles

**Table 158: Supported operations for Roles**

Operation	VERB
Get Roles by id	GET
Get All Roles	GET
Get All Roles with Pagination	GET

## UserGroups

**Table 159:**

Operation	VERB
Get UserGroups by id	GET
Get All UserGroups	GET
Get All UserGroups with pagination	GET

## AccountGroups

**Table 160:**

Operation	VERB
Get AccountGroups by id	GET
Get All AccountGroups	GET
Get All AccountGroups with pagination	GET

## Mandatory fields

### Users

- Username
- Email
- FirstName
- LastName

### Groups

NA

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 161: User mapping**

SCIM parameter	Coupa parameter
Id	id
UserName	login
Name.GivenName	firstname
Name.FamilyName	lastame
Name.Formatted	fullname
DisplayName	fullname

SCIM parameter	Coupa parameter
Emails[0].value	email
Photos	avatar-thumb-url
Addresses.StreetAddress	default-address[0].street1
Addresses.Locality	default-address[0].city
Addresses.Region	default-address[0].state
Addresses.PostalCode	default-address[0].postal-code
Addresses.Country	default-address[0].country[0].name
Groups.value	user-groups[X].id
Groups.display	user-groups[X].name
Roles.value	roles.id
Roles.display	roles.name
Active	active
Locale	default-locale
PreferredLanguage	default-locale
Extension.Manager.value	manager.id
Extension.EmployeeNumber	employee-number
Extension.CostCenter	custom-fields.default-user-cost-center
Extension.AuthenticationMethod	authentication-method
Extension.SsoIdentifier	sso-identifier
Extension.PurchasingUser	purchasing-user
Extension.ExpenseUser	expense-user
Extension.SourcingUser	sourcing-user
Extension.InventoryUser	inventory-user
Extension.ContractsUser	contracts-user
Extension.AnalyticsUser	analytics-user
Extension.UserGroups	User-groups
Extension.ApprovalGroups	Approval-groups
Extension.invoiceApprovalLimit	invoice-approval-limit
Extension.invoiceSelfApprovalLimit	invoice-self-approval-limit

SCIM parameter	Coupa parameter
Extension.requisitionApprovalLimit	Requisition-approval-limit
Extension.requisitionSelfApprovalLimit	Requisition-self-approval-limit
Extension.contractApprovalLimit	Contract-approval-limit
Extension.contractSelfApprovalLimit	Contract-self-approval-limit
Extension.workConfirmationApprovalLimit	work-confirmation-approval-limit
Extension.defaultChartOfAccountsName	default-account.name
Extension.defaultAccountCode	default-account.code
Extension.defaultAccountCodeSegment1	default-account.segment1
Extension.defaultAccountCodeSegment2	default-account.segment2
Extension.defaultCurrency	default-currency
Extension.defaultAddressLocationCode	default-address.location-code
Extension.accountSecurityType	account-security-type
Extension.businessGroupSecurityType	business-group-security-type
Extension.mentionName	mention-name
Created	created-at
LastModified	updated-at

## Groups

**Table 162: Group mapping**

SCIM parameter	Coupa parameter
Id	id
DisplayName	name
Created	created-at
LastModified	updated-at

## Roles

**Table 163: Roles mapping**

SCIM parameter	Coupa parameter
Id	id
DisplayName	name
Created	created-at
LastModified	updated-at

## UserGroups

**Table 164: UserGroups (or ApprovalGroups) mapping**

SCIM parameter	Coupa parameter
Id	id
DisplayName	name
Created	created-at
LastModified	updated-at

## AccountGroups

**Table 165: AccountGroups mapping**

SCIM parameter	Coupa parameter
Id	id
DisplayName	name
Created	created-at
LastModified	updated-at

## Configuring custom attributes in Starling

**NOTE:** Only **String** and **Boolean** data types are supported currently by Coupa connector.



### To configure custom attributes:

1. Enter the **custom properties** in the mentioned format in the Starling Platform.
2. In the One Identity Manager, map the created custom attributes that were specified in the Starling Platform.
3. Perform a synchronization and verify if the custom attributes are available in the One Identity Manager.

#### NOTE:

- The Starling UI has default mapped attributes.
- Apart from the default mapped attributes, the Starling UI used for registering a Coupa connector has an input field where you can provide the custom attributes that have to be mapped in the connector's **User resource** type.  
The format of the custom attributes in the **User resource** type must be as follows:  
`{field_name}|{data_type}`  
Example: `custom_attribute_name1|string;custom_attribute_name2|string;`  
`custom_attribute_name1` = name of the custom attribute  
`data_type` = string (or) boolean
- All custom attributes are mapped in the enterprise user extensions.
- All custom user attributes have **mutability: readWrite, returned: default, caseExact: false, required: false, 'multiValued: false, uniqueness: none.**
- Only the data types **String** and **Boolean** are supported currently by Coupa connector.

## Connector limitations

- Total results are not supported due to cloud application limitations.
- The target application supports soft delete of users. The deleted users are returned in **GET** and **GET All**. The users can also be deleted repeatedly.
- **Account-Groups** will not work as of now. It will work when the Coupa team shares the source of information.
- **Approval-Groups** will not work as of now. It will work when the new endpoint is implemented.
- **User-Groups** will not work as of now. It will work when the new endpoint is implemented.
- Coupa supports specific attribute updates in **PUT** operation. So we cannot empty the value of any attribute by removing attributes from json body.
- Connector does two update operations to set the account-security-type (operation-1), default-account-type.name(operation-1), default-account.segment-1(operation-

2) & default-account.segment-2(operation-2).

- Connector sets account-security-type =1 when account-security-type =2, default-account-type.name is already set and account-groups array list is empty.
- When the value of the custom attribute **new\_user** (boolean type) is set to false, the connector returns an empty value for this attribute due to the limitation of Coupa.

## AWS Cognito

**AWS Cognito** is a connector from Amazon Web Services that helps developers build web and mobile apps that are more secure. It helps to better authenticate users. It also handles user data, including passwords, token-based authentication, scalability, permissions, and so on.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- AccessKey Id
- Access Secret
- Region
- User Pool Id
- Target URL (Cloud application's instance URL used as target URI in payload)

### Supported objects and operations

#### Users

**Table 166: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PUT
Delete User	DELETE
Get User	GET

Operation	VERB
Get All Users	GET
Get All Users with Pagination	GET

## Groups

**Table 167: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PUT
Delete Group	DELETE
Get Group	GET
Get All Groups	GET
Get All Users with Pagination	GET
Update Membership	PUT

## Mandatory fields

### Users

- Username
- Email

### Groups

DisplayName

## User and Group mapping

The user and group mappings are listed in the tables below.

**Table 168: User mapping**

SCIM parameter	AWS Cognito parameter
Id	Username
userName	Username
Name.Formatted	Username
DisplayName	Username
Emails[0].value	UserAttributes.email
Active	UserStatus.CONFIRMED
PhoneNumbers[0].Value	phone_number
Password	Password
Extension.IsPasswordPermanent	Permanent
Extension.DesiredDeliveryMediums	DesiredDeliveryMediums
Extension.email_verified	UserAttributes.email_verified
Extension.phone_number_verified	UserAttributes.phone_number_verified
Created_at	UserCreateDate
lastModified_at	UserLastModifiedDate

## Groups

**Table 169: Group mapping**

SCIM parameter	AWS Cognito parameter
Id	GroupName
displayName	GroupName
members[].value	Users[].Username
members[].display	Users[].Username
Extension.Precedence	Precedence
Extension.RoleArn	RoleArn
Created_at	CreationDate
lastModified_at	LastModifiedDate

## Connector limitations

- Creating or updating the User or a Group executes in multiple steps. Failure in any step is reported as a complete failure of operation. However, the record is persisted until succeeded steps.
- Noncompliance to password policy returns an error. However, an User is created.
- **DesiredDeliveredMedium** is write only property. By default, SMS is the default option and it is not returned in **Get specific user** response.
- A User can be a member of a maximum of 25 groups.

## Okta

Okta provides cloud software that helps companies manage and secure user authentication into modern applications, and for developers to build identity controls into applications, website web services and into devices.

### Supervisor configuration parameters

To configure the connector, following parameters are required:

- Connector name
- Token
- Target URL (Cloud application's instance URL used as targetURI in payload)

### Supported objects and operations

#### Users

**Table 170: Supported operations for Users**

Operation	VERB
Create User	POST
Update User	PUT
Delete User	DELETE
Get User	GET
Get All Users	GET
Get All Users with pagination	GET

## Groups

**Table 171: Supported operations for Groups**

Operation	VERB
Create Group	POST
Update Group	PUT
Delete Group	DELETE
Get Group	GET
Get All Groups	GET
Get All Groups with pagination	GET
Create Membership	POST
Add Membership	POST
Delete Membership	DELETE

## Mandatory fields

### Users

- GivenName
- FamilyName
- Username
- Email
- Password

### Groups

- DisplayName

## User and Group mapping

The user and group mappings are listed in the tables below.



**Table 172: User mapping**

<b>SCIM parameter</b>	<b>Okta parameter</b>
Id	id
UserName	login
DisplayName	displayName
NickName	nickName
Name.GivenName	firstName
Name.FamilyName	lastName
Name.MiddleName	middleName
Name.HonorificPrefix	honorificPrefix
Name.HonorificSuffix	honorificSuffix
Addresses.StreetAddress	streetAddress
Addresses.Locality	city
Addresses.Region	state
Addresses.PostalCode	zipCode
Addresses.Country	countryCode
Emails.value	email
PhoneNumbers.value	primaryPhone
UserType	userType
Title	title
PreferredLanguage	preferredLanguage
Locale	locale
Timezone	timezone
Groups[].value (On Demand)	Id (groupsForUserResponse)
Groups[].display (On Demand)	Profile.name (groupsForUserResponse)
Active	tatus == "ACTIVE"
Extension.EmployeeNumber	employeeNumber
Extension.Division	division
Extension.Department	department
Extension.CostCenter	costCenter

SCIM parameter	Okta parameter
Extension.Organization	organization
Extension.Manager.value	managerId
Extension.Manager.DisplayName	manager
Meta.Created	created
Meta.LastModified	lastUpdated

## Groups

**Table 173: Group mapping**

SCIM parameter	Okta parameter
Id	id
displayName	profile.name
Extension.Description	profile.description
Members[].value	id (GetGroupMembersResponse[])
Members[].display	profile.displayName (GetGroupMembersResponse[])
Meta.Created	created
Meta.LastModified	lastUpdated

## Connector limitations

- **Get Users** and **Groups** by pagination will return resources in multiples of 100. The **resource count** will be same as the next nearest multiple of 100. For example, if the count is specified as 325, the resource count will be 400.
- **Disabled User** can be still be fetched.
- Password update is not possible through the connector since it expects old and new passwords as parameter. Old password can never be fetched for any user.
- UserName should be in the format of **email id**.
- When you delete a user for the first time, the user will be deactivated. When you delete the user for the second time, the user will be deleted permanently from target system.
- When you modify the email value, both the **username** and **email** values get updated. But when you modify the username alone, only the username gets updated with the username value.

## Creating a service account in GSuite

You must obtain a JSON file with Private Key to authorize the APIs to access data on G Suite domain. Create and enable the service account to obtain the private key (JSON file).

### *To create a project and enable the API*

1. Login to **Google Cloud Platform**.
2. Click on the drop-down list next to the **Google Cloud Platform** label and select an organization.  
The **Select a Project** window is displayed.
3. Click **New Project**.  
The **New Project** page is displayed.
4. Enter the specific details in the relevant text field.
5. Click **Create**.
6. Click on the drop-down list next to the **Google Cloud Platform** label and select the project you created.
7. Click **APIs & Services** tab.
8. Click **Library** tab.
9. Search for the phrase **Admin SDK** in the search bar and select **Admin SDK** from the results.

The **API Library** page is displayed.

10. Click **Enable** to enable the API.

### *To create a service account*

1. Click **APIs & Services** tab.
2. Click **Credentials**.
3. On the **Credentials** tab, click **Manage Service Accounts** available at the bottom right corner.

The **Service Accounts** window is displayed.

4. Click + **CREATE SERVICE ACCOUNT**.

**Create service account** window is displayed.

5. Enter the name of the service account in **Service account name** text field.
6. Select **Owner** as the **Role** from the drop-down menu.
7. Select the service **JSON** as an account **Key type**.

**IMPORTANT:** A JSON file is required to generate an access token and it is downloaded automatically after selecting the above option.

8. Click **Create**.

### ***To select and authorize the API scopes***

1. Login to the G Suite admin console with your domain.
2. On the Admin console home page, click **Security**.
3. Click **Advanced settings**.
4. Click **Managed API client access**.
5. Enter the client name and the description in the **Name** and **Description** text field respectively.
6. Enter the email in the **Email** text field.
7. Add the preferred API scopes that you want to use.

For example, API scopes can be

<https://www.googleapis.com/auth/admin.directory.user>,  
<https://www.googleapis.com/auth/admin.directory.group>, or  
<https://www.googleapis.com/auth/admin.directory.group.member>.

For more information on API scopes, see

<https://developers.google.com/identity/protocols/googlescopes>

8. After adding the API scopes, click **Authorize**.

The unique Id and the scopes added is displayed.

## Setting a trial account on Salesforce

To login to the Salesforce application, you must create a trail account. The sections below briefs about the process to create a trial account .

### ***To setup a trial account***

1. Login to the Salesforce developer edition link:  
<https://developer.salesforce.com/signup?d=70130000000td6N>.
2. Provide the relevant details and click **Sign me up**.  
A trail account is created and an instance is assigned.
3. Switch the view to Salesforce classic view by clicking **Switch to Salesforce Classic**.
4. Click the **Setup** tab.
5. Click **Build | Create | Apps**.
6. In the **Connected Apps** section, click **New**.
7. In the **Basic Information** section, enter the relevant details.
8. In the **API (Enable OAuth Settings)** section, select **Enable OAuth Settings** checkbox.
9. Provide the <https://app.getpostman.com/oauth2/callback> URL in the **Callback URL** text field.
10. From the **Selected OAuth Scopes** drop-down menu, select **Full Access (full)**.
11. Click **Save**.
12. From the **API (Enabel OAuth Settings)** section, retrieve the **Consumer Key** and **Consumer Secret**.

### ***To generate a security token***

A security token is sent to the registered email address. If not received, follow the below steps to generate a token.

1. On the home page, click **My Settings**.
2. Click **Personal | Reset My Security Token**.
3. Review the information displayed on the screen and click **Reset Security Token**.

4. Provide the relevant information such as:

- Client Id: Consumer key
- Client Secret: Consumer secret
- Username
- Password and security token
- Token URL (<https://login.salesforce.com/services/oauth2/token>)

**IMPORTANT:**

- To enable API in Salesforce, see <https://ebstalimited.zendesk.com/hc/en-us/articles/229295368-How-do-I-enable-API-access-in-Salesforce> and <https://developer.salesforce.com/forums/?id=906F0000000BaW7IAK>.
- By default, REST API permission is enable in **Developer Edition, Enterprise Edition, Unlimited Edition, Performance Edition**.
- The API package is not available for purchase on the **Contact Edition** and **Group Edition**.
- The API feature can be requested for **Professional Edition** through purchase. To enable the REST API, contact the Salesforce support team.

## Working with Azure AD

The following procedure briefs about the steps to register application, provide appropriate permissions, retrieve client ID, and client secret.

### ***Working with Azure AD***

1. Login to the Microsoft Azure portal and select **Azure Active Directory** from **FAVORITES**.
2. From Manage section, select **App Registrations (Preview)**.
3. Click **New registration** and provide the necessary details.
4. Select the created application and click **View API Permissions**.
5. Add the required permissions for Microsoft Graph API (delegated and application permissions).

The registered application must have **User.ReadBasic.All**, **User.Read**, **User.ReadWrite**, **User.ReadWrite.All**, **Directory.Read.All**, **Directory.ReadWrite.All**, **Directory.AccessAsUser.All**, **Group.Read.All**, and **Group.ReadWrite.All** permissions.

6. Click **Grant admin consent for Default Directory** checkbox to grant necessary permissions.
7. From the created application, click App Registrations (Preview) and note the **Application (client) ID** and **Directory (tenant) ID**.
8. Select **Certificates & secrets** and click **New client secret** to generate the secret.
9. Paste the following URL in the browser,  
[https://login.microsoftonline.com/common/adminconsent?client\\_id={Client ID}&state=12345&redirect\\_uri=http://localhost/myapp/permissions](https://login.microsoftonline.com/common/adminconsent?client_id={Client ID}&state=12345&redirect_uri=http://localhost/myapp/permissions).
10. Click **Accept**.

### ***Providing permission to update or delete users password***

1. Install the Azure AD PowerShell v1 module (MSOnline).
2. Connect to your Azure AD B2C tenant.
3. Use the Application(client) ID in the PowerShell script to assign the application the user account administrator role.

For more details on Azure AD, refer the following links:

- To register an application: <https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-register-app>.
- To configure an application to access web APIs: <https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-configure-app-access-web-apis>.
- To Configure an application to expose web APIs: <https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-configure-app-expose-web-apis>.
- To modify the accounts supported by an application: <https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-modify-supported-accounts>
- To configure permissions to update or delete permission for the application: <https://docs.microsoft.com/en-us/azure/active-directory-b2c/active-directory-b2c-devquickstarts-graph-dotnet#configure-delete-or-update-password-permissions-for-your-application>.



# Generating a private key for service account in GoToMeeting

A private key has to be generated to access the GoToMeeting service account.

### ***Generating a private key***

1. Create an account in **GoToMeeting**.
2. Login to the **GoTo Developer Center**. For more information use the link here: <https://goto-developer.logmeininc.com/>.
3. Click **MyApp** and create an application. Note the **Consumer key** and **Consumer secret**.
4. Login to the GoToMeeting administrator portal to find the admin key in the URL.

# Appendix E

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## OneIM limitations

This limitation is common for all connectors:

- Group memberships should be handled either at group side as **members** or user side as **groups**. This should not be handled at both **Users** and **Groups Objects**.

## Configuring Amazon S3 AWS connector to support entitlements for User and Group

This section gives the details of the configuration changes to be made to the Amazon (S3 and AWS) connector to support entitlements for **User** and **Group**. The **Designer** tool and the **Synchronization Editor** tool are used to configure the **Amazon S3 AWS** connector to support entitlements for **User** and **Group**.

For more information, see:

[Configuring Amazon S3 AWS connector to support entitlements for User](#)

[Configuring Amazon S3 AWS connector to support entitlements for Group](#)

- [Configuring Amazon S3 AWS connector to support entitlements for User](#)
  - [Viewing the default custom process for User](#)
  - [Configuring Amazon S3 AWS connector to support entitlements for User using the Synchronization Editor](#)
- [Configuring Amazon S3 AWS connector to support entitlements for Group](#)
  - [Creating a custom process for Amazon S3 AWS connector to support entitlements for Group using the Designer tool](#)
  - [Configuring Amazon S3 AWS connector to support entitlements for Group using the Synchronization Editor](#)

## Configuring Amazon S3 AWS connector to support entitlements for User

To configure the **Amazon S3 AWS** connector to support entitlements for **User**, use the **Synchronization Editor**.

For more information, see:

- [Viewing the default custom process for User](#)
- [Configuring Amazon S3 AWS connector to support entitlements for User using the Synchronization Editor](#)

## Viewing the default custom process for User

**To view the default custom process for User:**

1. Open the **Designer** tool.
2. In the **Navigation** pane, select **Process Orchestration| Process| UCIUserHasItem| UCI\_UCIUserHasItem\_Update**.
3. In the **Tasks** pane, under the **Edit Process** option, click **Edit process| UCI\_UCIUserHasItem\_Update**.  
The **Process properties** window is displayed.

**NOTE:** Refer to the values in the **Process properties** window for **User** when you create a custom process for **Group**. For more information about how to create a custom process for **Group**, see [Creating a custom process for Amazon S3 AWS connector to support entitlements for Group using the Designer tool](#)

## Configuring Amazon S3 AWS connector to support entitlements for User using the Synchronization Editor

The **Synchronization Editor** tool is used to configure the Amazon (S3 and AWS) connector to support entitlements for **User**.

**To configure Amazon S3 AWS connector to support entitlements for User:**

1. Open the **Synchronization Editor**.
2. Open the specific synchronization project.
3. Navigate to the **Mappings** tab and select **User**.
4. Remove **vrtEntitlements** from the One Identity Manager side in the **Mapping** window.
5. In the **Property mapping rules** section, add the new mapping rule **Value Comparison Rule**, with the value **vrtProfiles <--> Entitlements~value**.
6. Run the synchronization.

The users and entitlements that exist on the target system instance are synchronized with One Identity Manager.

# Configuring Amazon S3 AWS connector to support entitlements for Group

To configure the Amazon (S3 and AWS) connector to support entitlements for **Group**, create a custom process using the **Designer** tool and then configure the connector using the **Synchronization Editor**.

**To configure the Amazon S3 AWS Connector to support entitlements for Group, do the following:**

- [Creating a custom process for Amazon S3 AWS connector to support entitlements for Group using the Designer tool](#)
- [Configuring Amazon S3 AWS connector to support entitlements for Group using the Synchronization Editor](#)

## Creating a custom process for Amazon S3 AWS connector to support entitlements for Group using the Designer tool

The **Designer** tool is used to create a custom process for **Group**.

**NOTE:** Refer to the default custom process for **User**. For more information, see [Viewing the default custom process for User](#).

**To create a custom process for Amazon S3 AWS connector to support entitlements for Group:**

1. Open the **Designer** tool.
2. In the **Navigation** pane, select **Process Orchestration | Custom process | Navigation | Process Editor | Create a new process**. The **Process properties** window is displayed.
3. In the **General** tab, enter the following values:

**Table 174: Values for creating custom process for Group**

Process properties	Value
Name	UCI_UCIGroupHasItem_Update
Table	UCIGroupHasItem

Process properties	Value
Pre-script for generating	<pre> If Not CBool(Connection.Variables("FULLSYNC")) AndAlso _ Not CBool(Connection.Variables("PendingChangeReady")) AndAlso _ Not \$FK(UID_UCIGroup).FK(UID_ UCIRoot).IsManualProvisioning:Bool\$ Then Imports System.Collections.Generic Dim data As IDictionary(Of String,string) = Nothing values("AdHocDataFound") = False values("NeedExecute") = true ' try to get UCI data Try Dim myUCIGroup As ISingleDbObject = Connection.CreateSingle ("UCIGroup",\$UID_UCIGroup\$) data = DPR_GetAdHocData(\$FK(UID_UCIGroup).FK(UID_ UCIRoot).XObjectKey\$,"SCIM","", "Update",myUCIGroup.GetEntity ()) Catch ex As AdHocDataException End Try If Not data is Nothing values("AdHocDataFound") = True values("ObjectKey") = New DbObjectKey("UCIGroup",\$UID_ UCIGroup\$).ToXmlString() values("UID_DPRSystemVariableSet") = data("VariableSetUID") values("UID_DPRProjectionConfiguration") = data ("ProjectionConfigUID") values("UID_QBMServer") = data("ExecutionServerUID") End if End If </pre>
Generating condition	<pre> Value = Not CBool(Connection.Variables("FULLSYNC")) AndAlso _ Not CBool(Connection.Variables("PendingChangeReady")) AndAlso _ Not \$FK(UID_UCIGroup).FK(UID_ </pre>

Process properties	Value
	UCIRoot).IsManualProvisioning:Bool\$ AndAlso _ CBool(values("AdHocDataFound")) AndAlso _ UCI_TargetUsesProfiles(\$FK(UID_UCIGroup).UID_UCIRoot\$)

4. In the **Events** tab, at the bottom of the page, click **+**.  
The **Edit event** window is displayed.
5. In the **Edit event** window, click **+** next to the **Object Event** field.  
The **Edit object event** window is displayed
6. In the **Edit object event**, select **Delete** and then **Insert** from the list. Click **OK**.  
The **Process step properties** window is displayed.
7. In the **Process step properties** window, select the values as follows:
  - a. In the **General** tab, in the **Name** field, enter the value PUT/PATCH Group.
  - b. Select **ProjectorComponent – AdHocProjectionSingle** from the **Process Task** drop down list.
  - c. In the **Generation** tab, enter the script for server selection: Value = values ("UID\_QBMServer").ToString().
  - d. In the **Error Handling** tab, select **Stop on Error**.
8. In the **Parameters** tab at the bottom, add the values for **ForceSyncOf**.
9. Set the parameter **CausingEntityPatch** to the following value:  

```
Dim myUCIGroup As ISingleDBObject =
Connection.CreateSingle("UCIGroup",$UID_UCIGroup$)
Value = DPR_WrapObjectForProjection(myUCIGroup.GetEntity())
```

 The custom process **UCI\_UCIGroupHasItem\_Update** is created for **Group**.
10. Click **Commit to Database**.
11. Select **Database| Compile Database** in the **Designer** tool.
12. Use the **Synchronization Editor Tool** to create a new mapping for **Group**. For more information, see [Configuring Amazon S3 AWS connector to support entitlements for Group using the Synchronization Editor](#)

## Configuring Amazon S3 AWS connector to support entitlements for Group using the Synchronization Editor

The **Synchronization Editor** tool is used to configure the Amazon (S3 and AWS) connector to support entitlements for **Group**.

**| NOTE:** Create a multivalued array property to hold entitlements for **Group**.

**To configure Amazon S3 AWS connector to support entitlements for Group:**

1. Open the **Synchronization Editor** tool.
2. Open the specific synchronization project.
3. Navigate to **Configuration | One Identity Manager Connection | Update Schema**.
4. Activate the project.
5. Navigate to the **Mappings** tab and select **Group**.
6. In the **Property** pane, select **UID\_UCIGroup**.
7. Click **Add** under **UID\_UCIGroup**.  
The **Edit property** window is displayed.
8. Enter the **Name** and **Display name** for the property to be created. For example, vrtProfilesArr.
9. Select the options in the check boxes below the **Display name** field according to your requirements.
10. Click the **+** button to add the schema type.
11. Select the **Member key properties** for **Group** as listed in the table below:

**Table 175: Member key properties**

Entity	Value
<b>M:N schema type</b>	UCIGroupHasItem
	UID_UCIGroup
	UID_UCIItem
<b>Primary key property</b>	OjectGUID

12. Click **OK**.
13. Add a new mapping rule **Value Comparison Rule** with **vrtProfiles <--> Entitlements~value**.
14. Run the synchronization.  
The groups and entitlements that exist on target system instance are synchronized with One Identity Manager.



## Outbound IP addresses

This section has the list of outbound IP Addresses for all the Starling Connect connectors. The outbound connection from a given Starling Connect connector uses one of the outbound IP addresses as the origin IP address. To white list the connector in firewall environments, administrators are recommended to open its firewall to all the possible outbound IP addresses listed against the each given connector.

### NOTE:

- As Starling Connect connectors are SaaS based deployments, the outbound IP list may get added with new IP addresses. This happens very rarely and only after the given Additional Possible Outbound IP addresses are consumed.
- We recommend customers to check this list for latest IP addresses in case of failures in the communication.

Click the connector name in the list below for the outbound IP addresses of the particular connector:

[Salesforce](#)

[Facebook Workplace](#)

[SAP Cloud Platform](#)

[JIRA Server](#)

[RSA Archer](#)

[SuccessFactors](#)

[Amazon S3 AWS](#)

[ServiceNow](#)

[Dropbox](#)

[Crowd](#)

[Atlassian JIRA Confluence](#)

[Trello](#)

[Box](#)

[Pipedrive](#)

[SuccessFactors](#)

[SuccessFactors HR](#)

NutShell  
Insightly  
Egnyte  
SugarCRM  
Oracle IDCS  
Statuspage  
Zendesk Sell  
Workbooks  
DocuSign  
Citrix ShareFile  
Zendesk  
Azure AD  
GSuite  
Concur  
Tableau  
GoToMeeting  
Coupa  
AWS Cognito  
Okta

## Salesforce

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# Facebook Workplace

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## SAP Cloud Platform

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# JIRA Server

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## RSA Archer

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254



## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188,
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# SuccessFactors

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	10.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Amazon S3 AWS

Delete this text and replace it with your own content.

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	0.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.115.99.5

## ServiceNow

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188,
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46,
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# Dropbox

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Crowd

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5



# Atlassian JIRA Confluence

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Trello

### West US

Current IP address	Additional outbound IP addresses
Not yet deployed with MRF	Not yet deployed with MRF

### East US

Current IP address	Additional outbound IP addresses
Not yet deployed with MRF	Not yet deployed with MRF

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Box

### West US

Current IP address	Additional outbound IP addresses
Not yet deployed with MRF	Not yet deployed with MRF

### East US

Current IP address	Additional outbound IP addresses
Not yet deployed with MRF	Not yet deployed with MRF

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Pipedrive

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# SuccessFactors

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	10.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## SuccessFactors HR

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

### East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## NutShell

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254



## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# Insightly

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Egnyte

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# SugarCRM

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Oracle IDCS

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# Statuspage

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238



## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Zendesk Sell

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

### East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Workbooks

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46,
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# DocuSign

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81
	188,104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Citrix ShareFile

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

### East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	12,168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Zendesk

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# Azure AD

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238



## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## GSuite

### West US

Current IP address	Additional outbound IP addresses
Not yet deployed with MRF	Not yet deployed with MRF

### East US

Current IP address	Additional outbound IP addresses
Not yet deployed with MRF	Not yet deployed with MRF

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Concur

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# Tableau

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46,
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# GoToMeeting

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Coupa

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

# AWS Cognito

## West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238



## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

## Okta

### West US

Current IP address	Additional outbound IP addresses
104.40.63.98	104.40.57.101
	104.40.82.23
	104.40.81.188
	104.40.85.254

## East US

Current IP address	Additional outbound IP addresses
191.238.33.50	191.238.32.104
	191.238.32.154
	191.238.34.67
	191.238.35.12
	168.62.174.199
	23.96.6.200
	23.96.2.128
	23.96.5.238

## North Europe

Current IP address	Additional outbound IP addresses
40.85.74.227	40.85.74.227
	40.115.100.46
	40.115.100.121
	40.115.105.188
	40.115.103.43
	40.115.109.52
	40.112.77.214
	40.115.99.5

One Identity solutions eliminate the complexities and time-consuming processes often required to govern identities, manage privileged accounts and control access. Our solutions enhance business agility while addressing your IAM challenges with on-premises, cloud and hybrid environments.

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- Chat with support engineers online
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