# Tutorial: Azure Active Directory Integration with Qualys Cloud Platform using SAML SSO

In this tutorial we'll show you how to integrate Microsoft Azure Active Directory (Azure AD) with Qualys Cloud Platform using SAML 2.0 SP-initiated SSO.

Integrating Qualys Cloud Platform with Azure AD provides you with these benefits:

- Control who has access to Qualys Cloud Platform from Azure AD
- Enable users to automatically log in to Qualys with their Azure AD credentials
- Manage your accounts from the Azure portal

## Prerequisites

- Qualys Cloud Platform subscription
- SAML SSO must be enabled for your subscription. Follow the steps below to get this feature.
- The New Data Security Model must be accepted for the subscription. A Manager can opt in by going to Users > Setup > Security in the Qualys UI.

## How do I request SAML SSO

To initiate SAML onboarding complete these steps:

1) Download and complete sections 1 and 2 of the SAML 2.0 Integration Request Form
   You'll provide these details:
   - Entity ID string from IdP (SAML Identity Provider)
   - Public key certificate for the IdP (your organization's IdP base64 cert in .txt format)
   - Organization's SAML IdP SSO URL (SP initiated authentication requests)
   - Qualys Subscription Login (for Manager POC)
   - Custom exit URL for a subscription (optional)

2) Submit the form to Qualys Support

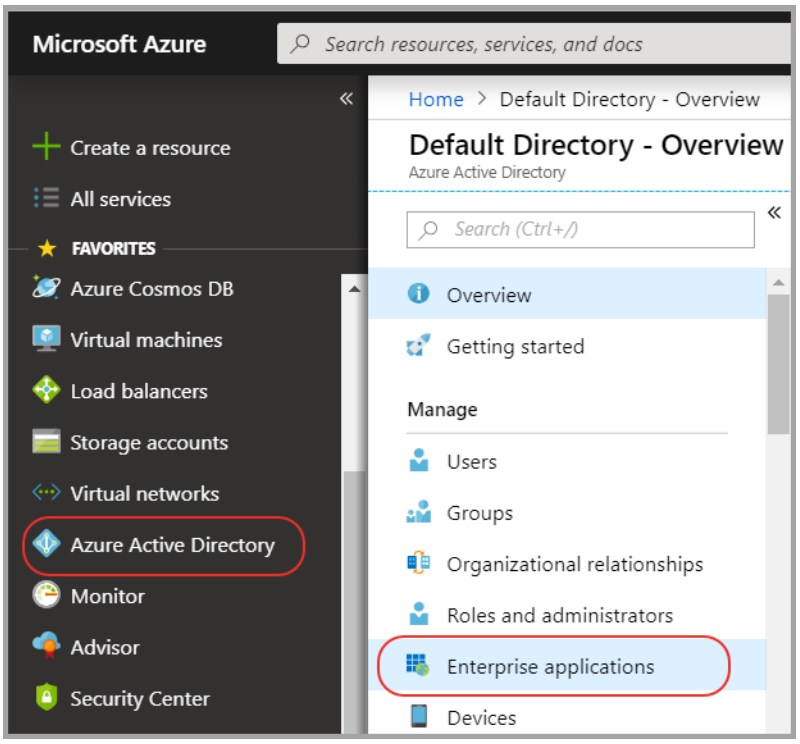
3) Qualys Support will work with you to configure the trust relationship between your Identity Provider (IdP) and the Qualys SAML 2.0 Service Provider (SP). Qualys will provide you with 2 URLs: Identifier and Reply URL. You'll need these URLs to configure Azure AD in Azure portal.

# Configure Azure Active Directory

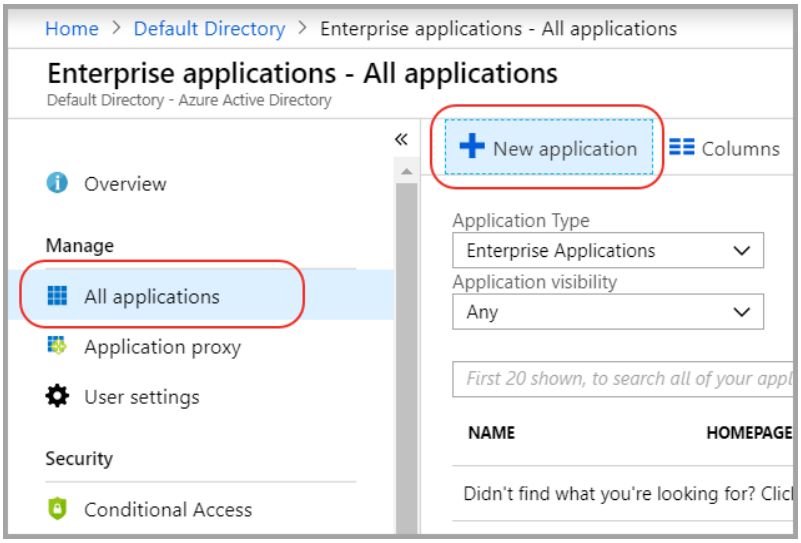
Complete these steps in Azure portal.

## Add new application (non-gallery application)

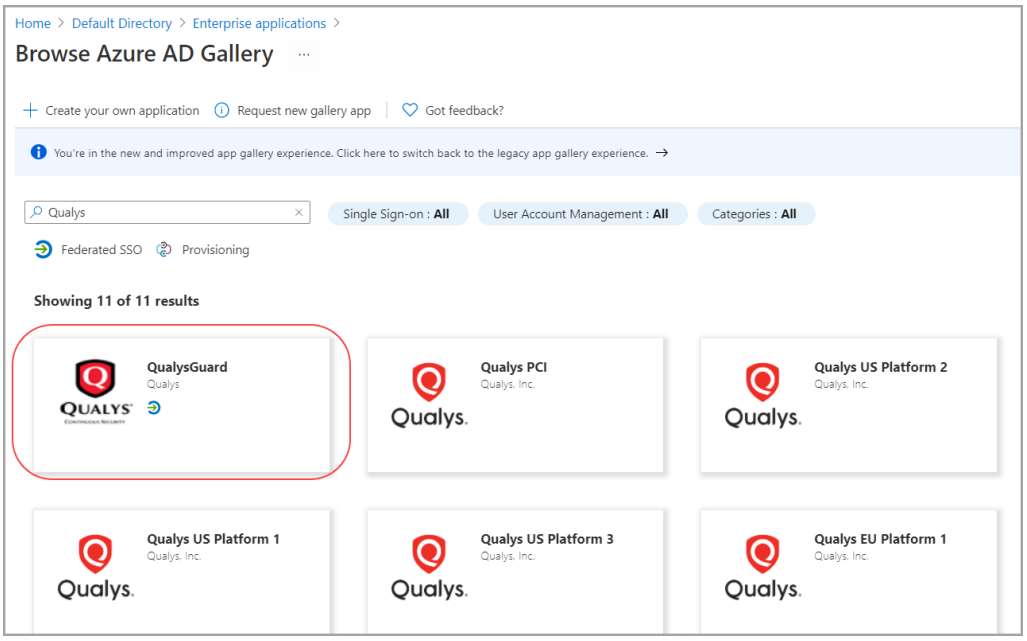
Select Azure Active Directory on the left navigation pane. Then choose Enterprise applications.



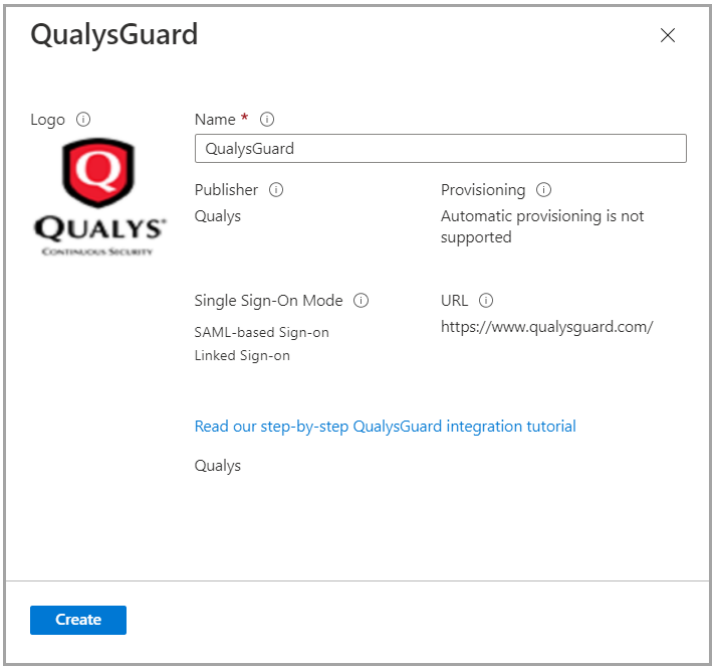

Choose All applications and click New application.



Perform a search for “Qualys”. You’ll see various Qualys applications available. Choose the first application, which has the Federated SSO tag.




After you click on the application with the Federated SSO tag, the application appears in the right pane. Click Create.



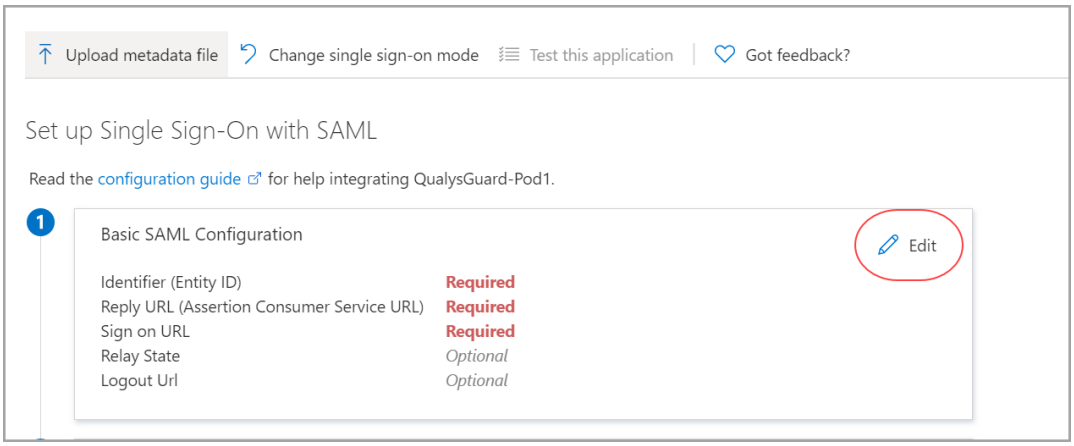

The new application is added and you can now configure it to use SAML single sign-on.

## Configure the application to use SAML single sign-on

From the Qualys application page, select Single sign-on and choose SAML for the sign-on method.

Provide SAML configuration details in these sections:

1) Basic SAML Configuration. Click the Edit icon to provide required SAML configuration settings.



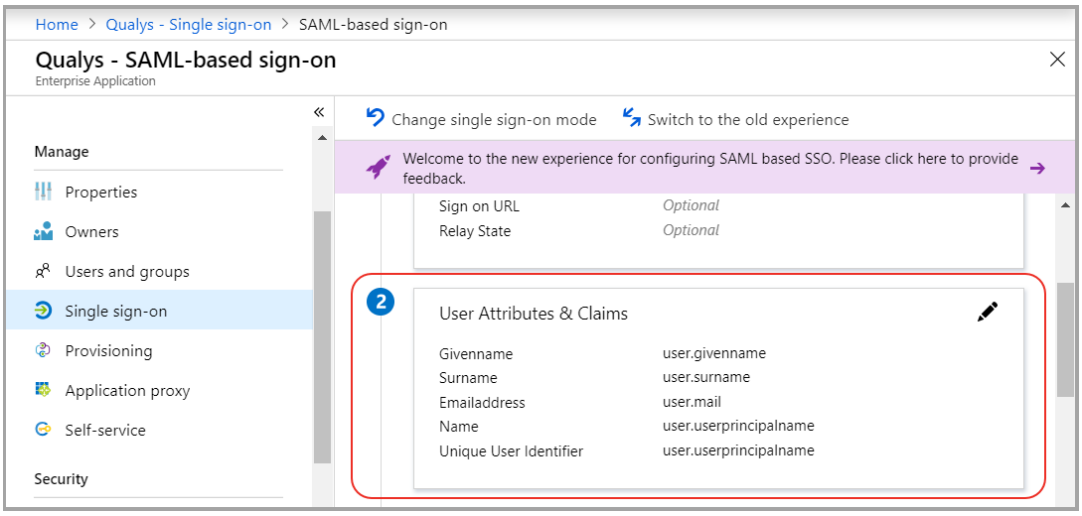

Enter the Identifier ID, Reply URL and Sign on URL provided to you by Qualys. Other values are not required. Follow the Patterns shown on the screen for each of the fields.

Samples:

Identifier: https://QualysGuard_SharedPlatform-SAML20-SP

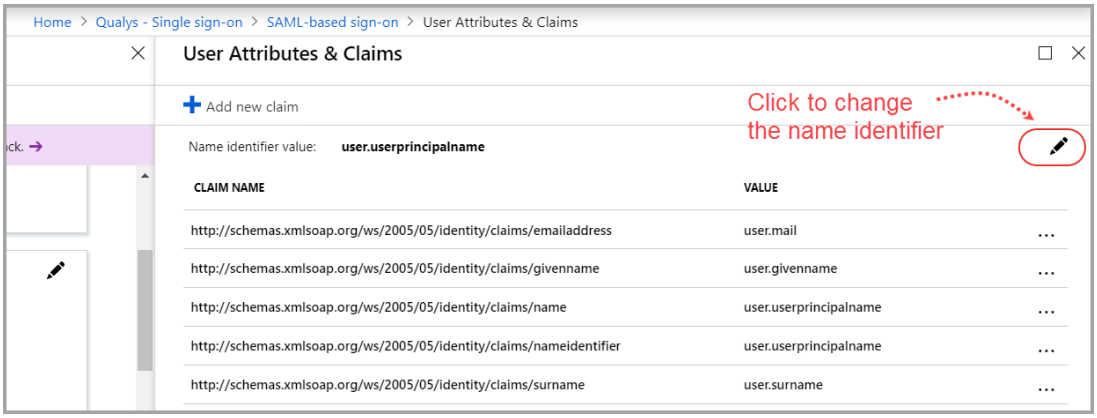
Reply URL (based on the Qualys Cloud Platform for your subscription):
https://qualysguard.qualys.com/IdM/saml2/
https://qualysguard.qg2.apps.qualys.com/IdM/saml2/
https://qualysguard.qg3.apps.qualys.com/IdM/saml2/
https://qualysguard.qualys.eu/IdM/saml2/
https://qualysguard.qg2.apps.qualys.eu/IdM/saml2/
https://qualysguard.qg1.apps.qualys.in/IdM/saml2/
https://qualysguard.BASE_URL/IdM/saml2/ (for Private Cloud Platform)

2) User Attributes & Claims. When a user authenticates to an application through Azure AD using the SAML 2.0 protocol, Azure AD sends a token to the application as a part of SAML Auth Response (via an HTTP POST). And then, the application validates and uses the token to log the user in instead of prompting for a username and password. These SAML tokens contain pieces of information about the user known as "claims".




## Change the name identifier (optional)

You'll notice that the Unique User Identifier is mapped to the value of the Azure user's username (user.userprincipalname). Click the Edit icon to change the name identifier to a different source attribute like user.employeeid.

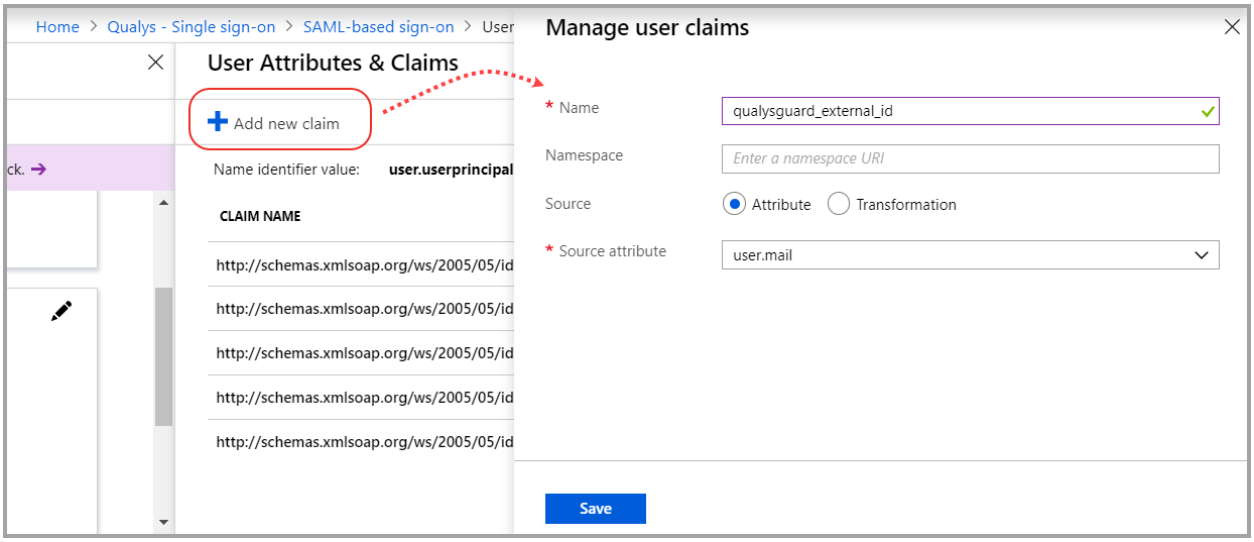


### Add claim for Qualys external ID (required)

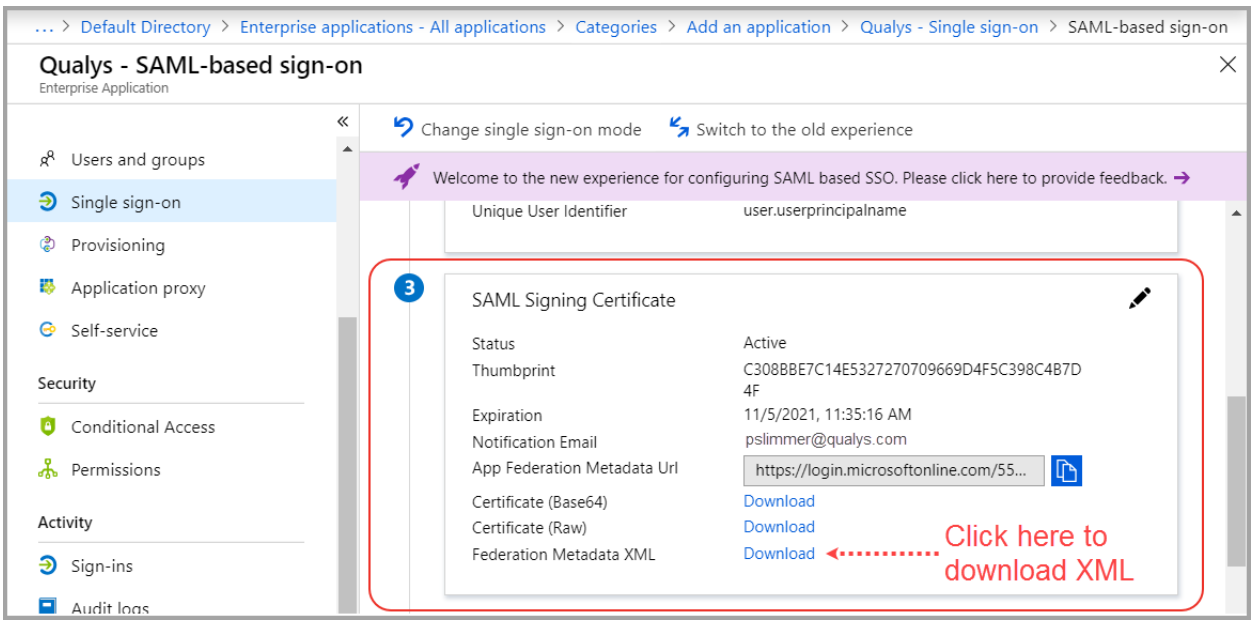
By default, Qualys Cloud Platform is configured to parse the value of qualysguard_external_id that is issued with the SAML token. You'll need to add this claim to the list.

Click Add new claim, and provide these settings:
Name: qualysguard_external_id
Namespace: leave blank
Source attribute: user.mail (recommended)

When the source attribute is set to user.mail you'll enter the user's email address in the External ID field in the user's Qualys account to validate the claim. You can choose to set the source attribute to another value. If you do, be sure to set the External ID value to match.



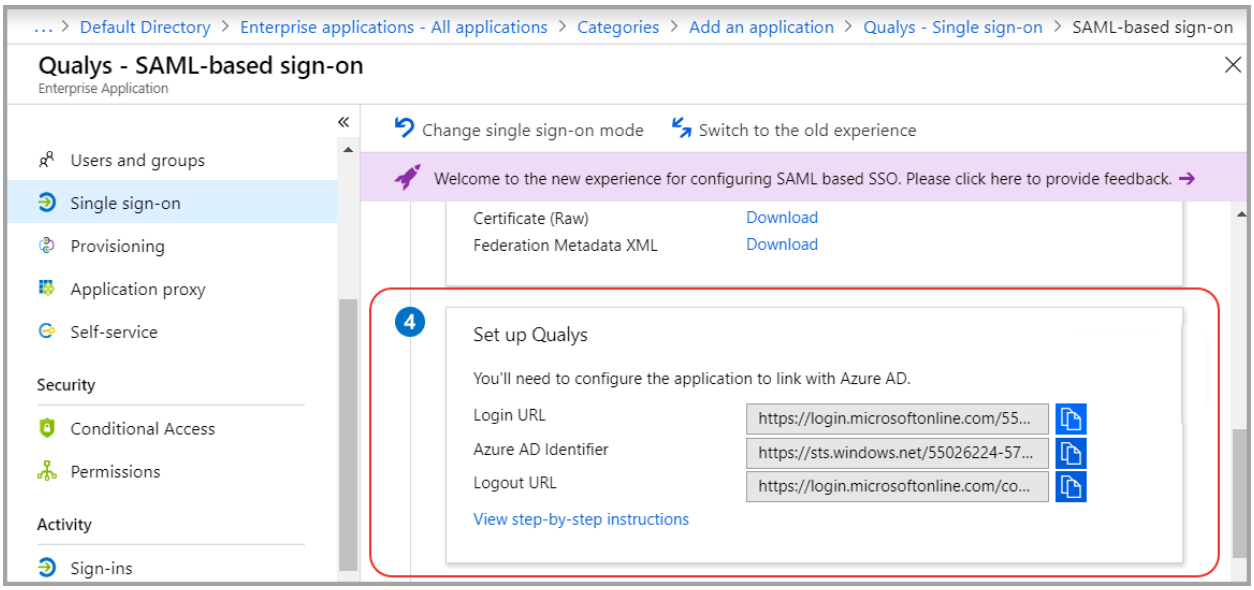

3) SAML Signing Certificate. Click Download next to Federation Metadata XML to save the metadata file to your computer. Send this file to Qualys.



The Federation Metadata XML file is used by Qualys to create the IDP and IDM profile for your subscription. It contains useful information like IDP Entity ID, SSO Re-Direct URL and the Base64 encoded Token Signing certificate.

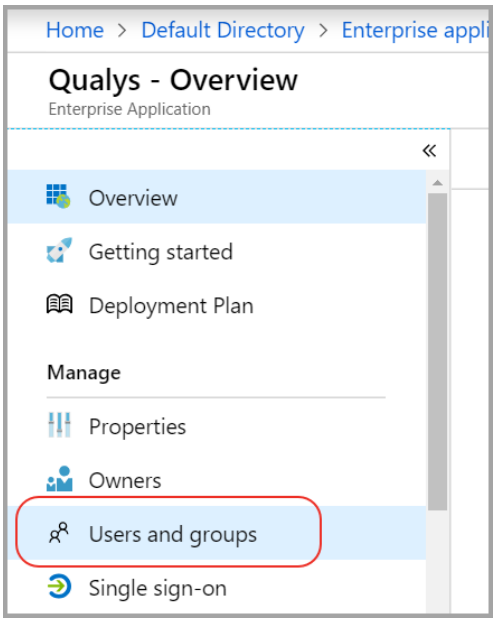
4) Set up Qualys. The Federation Metadata XML file downloaded in the previous step has the info that Qualys needs. You can skip this step unless you want to customize the logout URL.

By default, the logout URL is set to https://www.qualys.com. You can add a custom logout URL to section 2 of the SAML 2.0 Integration Request Form.



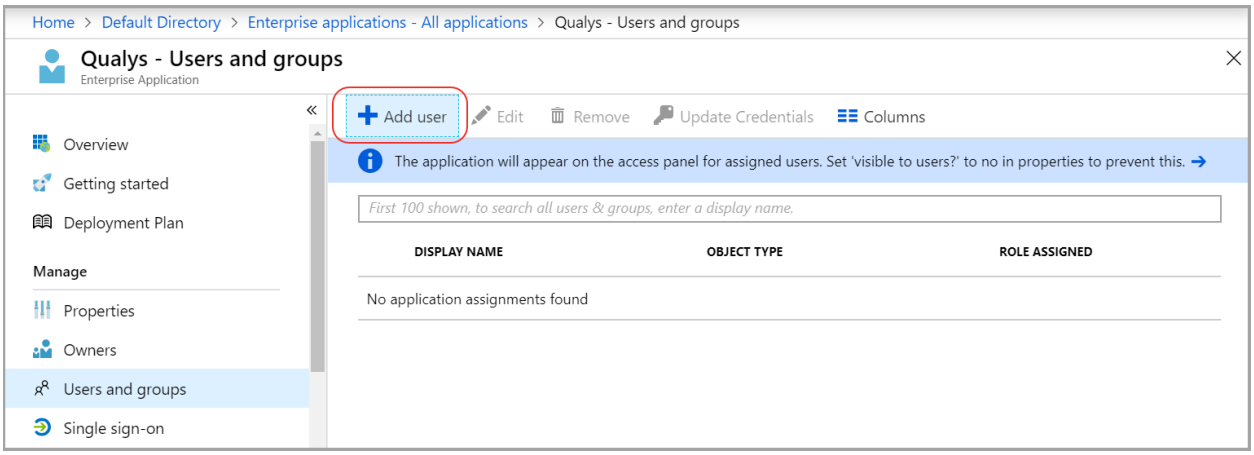

## Assign the Azure AD user to Qualys application

You'll need to assign users or groups to the application. Azure AD will not allow a user to sign into the Qualys application unless Azure AD has granted access to the user.

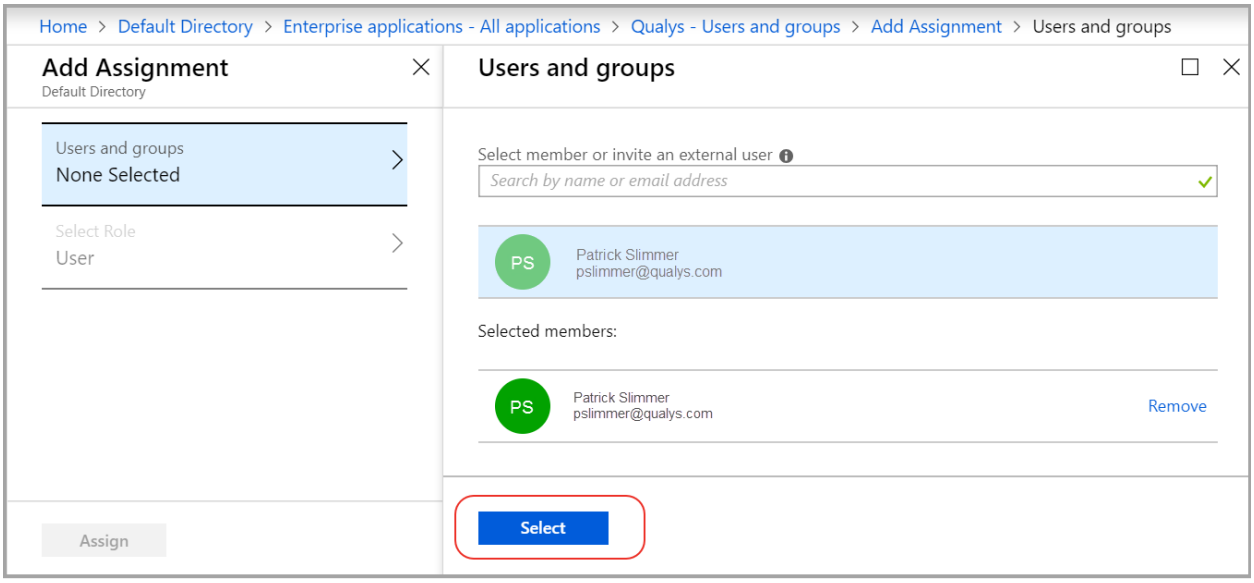


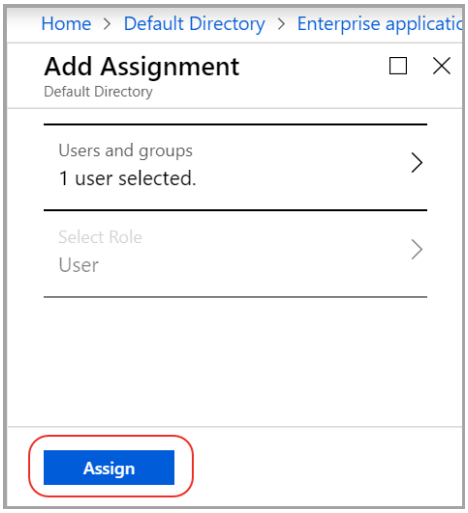

Pick the Qualys application from your list of applications. Then choose Users and groups.

Click the Add user button.




Select Users and groups under Add Assignment. Click on one or more users in the list to select them, then click the Select button.



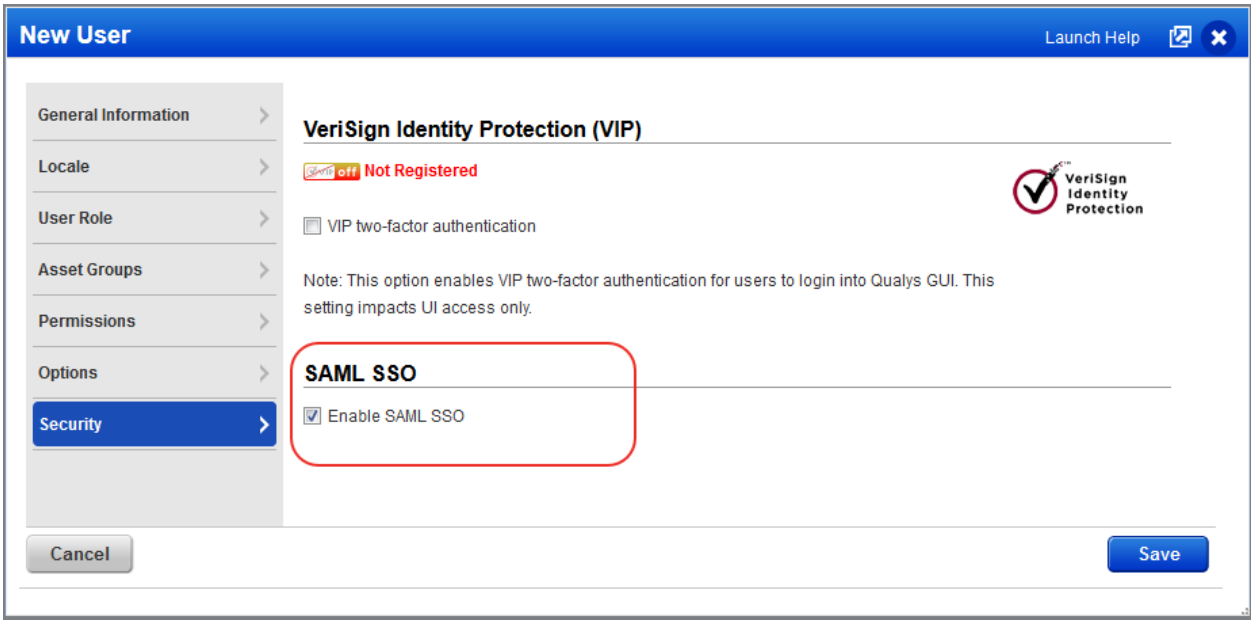

Finally, click the Assign button. The selected user is now assigned the Qualys application.

# Enable SAML SSO for Qualys User

Complete these steps using Qualys Cloud Platform.

## Enable SAML SSO in user account

Go to the Users section in the Qualys UI. Create a new user or edit an existing one. In the user account settings, select Enable SAML SSO in the Security section.




## Set the external ID

You'll need to set the external ID for the user. The external ID value corresponds to the qualysguard_external_id claim that you've defined in your Azure SAML configuration. We've recommended that the external ID is set to the user's email address. You may have changed this to another attribute present in the SAML Auth Response.

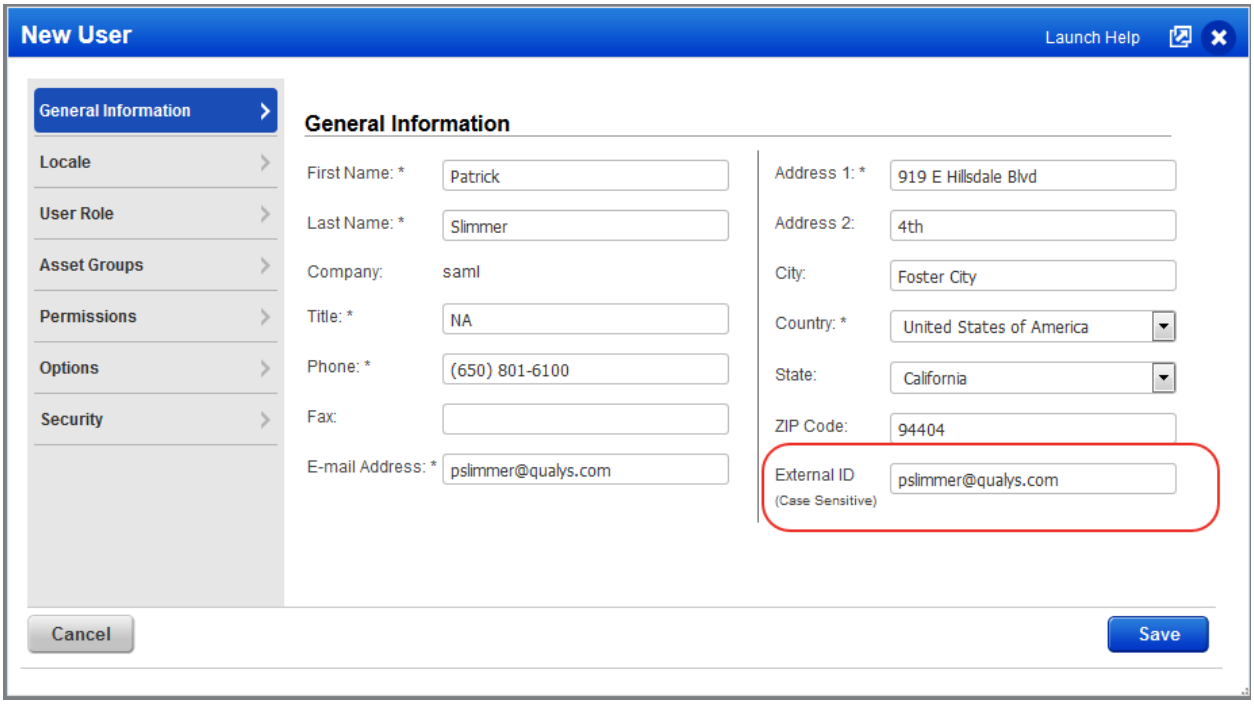
You can set the external ID from the UI (as shown below) or via the Add/Edit User API (/msp/user.php). See the Qualys API (VM,PC) User Guide to learn more.

### Good to Know

- The external ID can be set to any string but the string must be unique for each user in the subscription and the same value should be passed in the claim.

- By default the external ID validation is case sensitive. If you need this to be case insensitive then we can configure it that way. Please reach out to Qualys Support to customize your IDM settings.

- Initially, only the Manager Primary Contact has permission to edit the external ID for a user. Other managers may be granted this permission. Click here to learn more.




# Test Qualys login using SAML SSO

1) Use a web browser and open the unique Login URL

2) The web browser should redirect you to the SAML SSO page where you'll enter your Azure Active Directory login and password.

3) Upon successful authentication, the web browser should be redirected to Qualys and a valid session should be opened with the expected user identity.

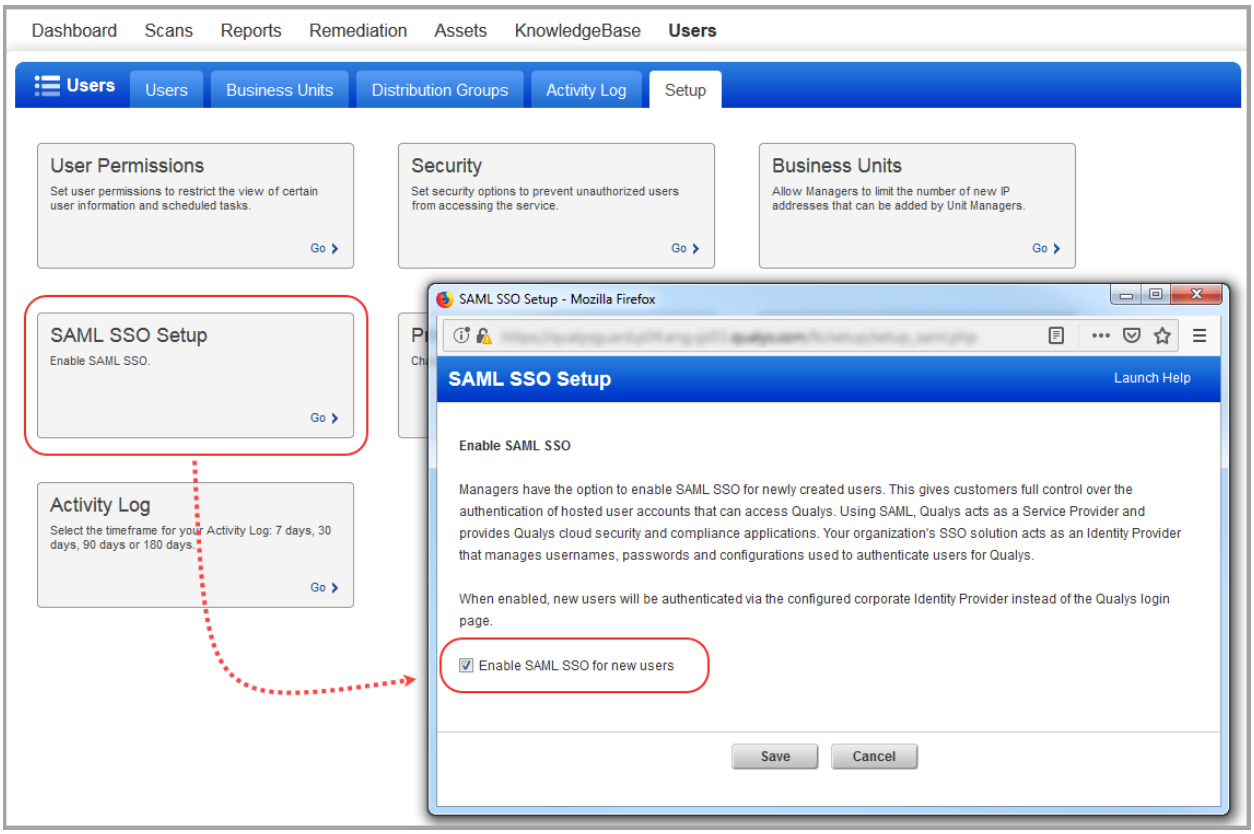
4) When logging out of Qualys, the web browser should be redirected to https://www.qualys.com or a custom logout URL provided by the customer.

# Roll out SAML SSO for more Qualys users

You can enable SAML SSO for all new users or select users.

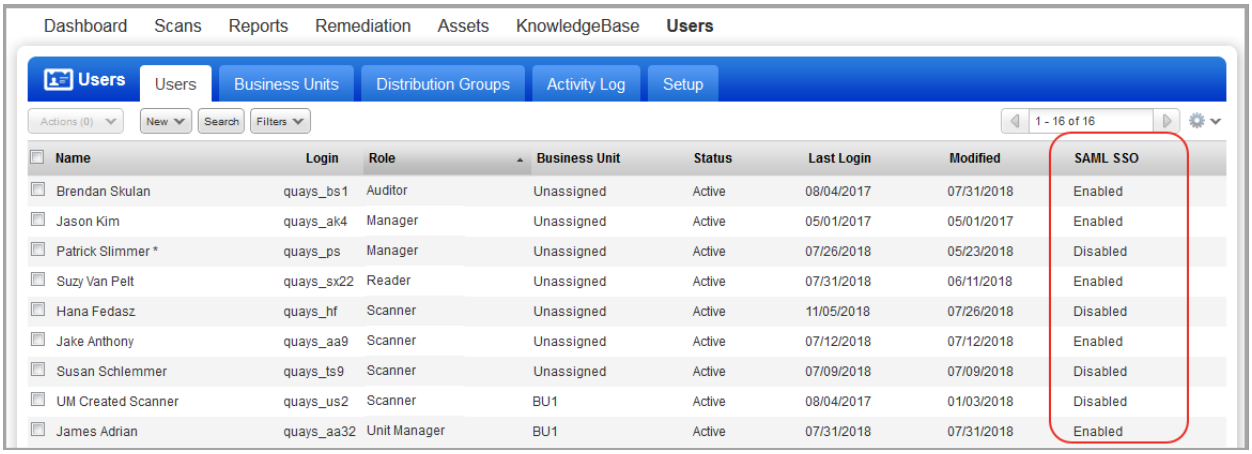
## Enable SAML SSO for all new users

Go to Users > Setup > SAML SSO Setup. Select the option “Enable SAML SSO for new users”.

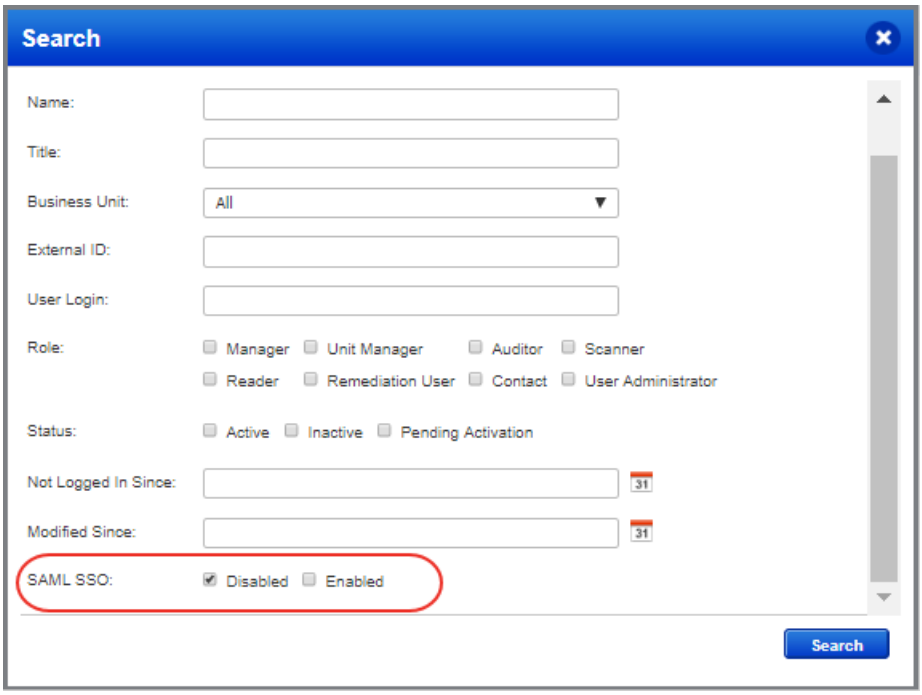



## Bulk Enable SAML SSO for multiple users

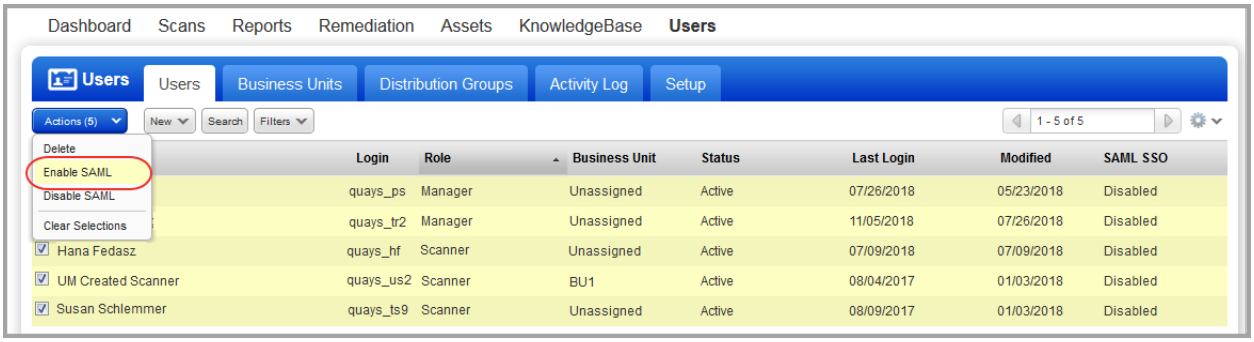
The Users list will show you whether users have SAML SSO enabled.



Click the Search button (above the list) to quickly find accounts with SAML SSO disabled.




Select all the rows in your search results and pick Enable SAML from the Actions menu. Note that you can disable SAML in this same way by choosing Disable SAML.

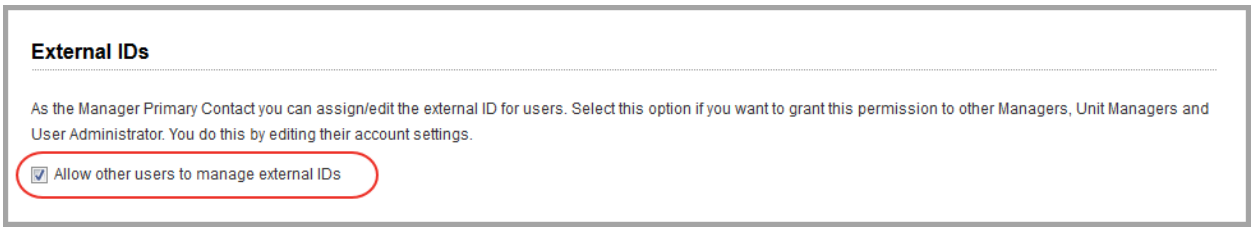


## Granting Managers permission to add external IDs

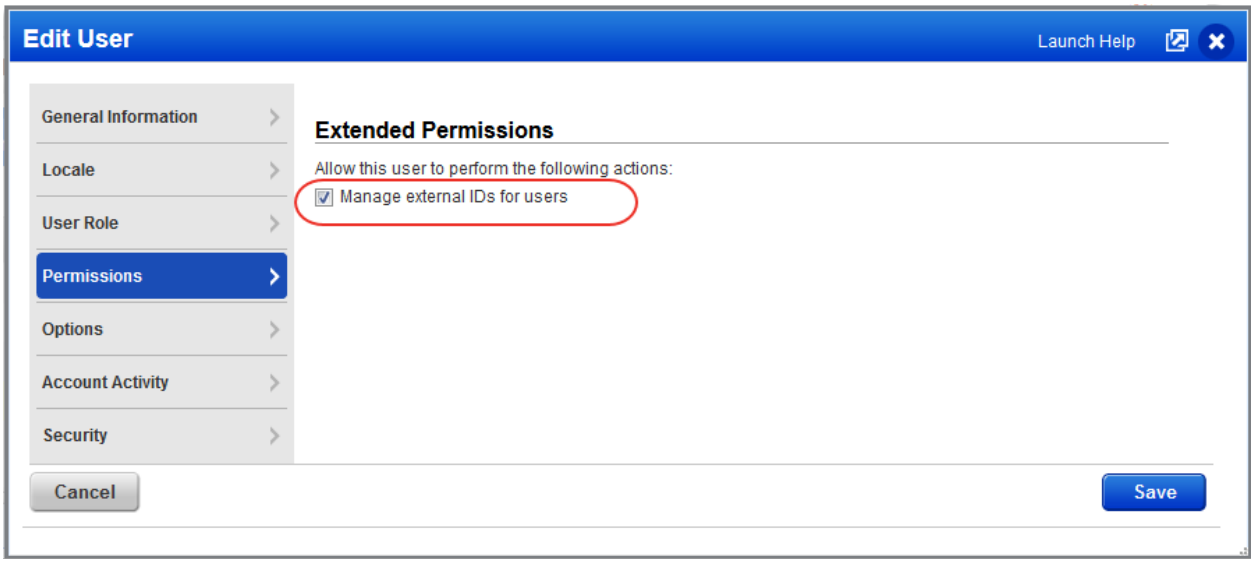
External IDs can be added by the Manager Primary Contact (for the subscription).

The Manager Primary Contact has the option to allow other Managers, Unit Managers and User Administrators to edit external IDs for users by following these steps:

1) Go to Users > Setup > Security and select “Allow other users to manage external IDs”




2) Edit a manager’s account to grant this extended permission. Once granted, the manager can assign external IDs to other users.

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