PingFederate®

# SharePoint 2013 People Picker Extension

**Version 1.0**

# User Guide

Ping Identity®

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Version 1.0
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## Trademarks



## Disclaimer



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# Introduction

The People Picker control is a central component in Microsoft SharePoint Server 2013 that is used to search and select users and groups when a resource owner assigns permissions. By default, when a SharePoint web application is configured to use SAML token-based authentication or "SAML claims", all queries entered in the People Picker are automatically displayed as if they had been resolved, regardless of whether they are valid users or groups. This poses a significant usability problem for SharePoint users and administrators, particularly in collaboration-oriented deployments where potentially every user has the ability to edit file and library permissions using the People Picker.

To address this issue, Microsoft recommends you build a custom claims provider to provide capabilities for custom search and name resolution. The Ping Identity Custom Claims Provider for SharePoint 2013 is an implementation capable of connecting to one or more LDAP user stores or domains to fulfill search and name resolution queries.

When this custom claims provider is associated with a Trusted Login Provider (referred to in the Management Shell as a Trusted Identity Token Issuer) in SharePoint, such as might be configured to accept inbound SAML claims from PingFederate for one or more SharePoint web applications, the People Picker will provide functionality similar to that seen with classic-mode authentication where users and groups in Active Directory are available for search, name resolution, and attribute listing.

## System Requirements

This version of the Ping Identity Custom Claims Provider for SharePoint 2013 requires the following:

- Microsoft SharePoint Server 2013 – specifically an environment that is already configured with PingFederate as the Trusted Identity Token Issuer.
- Connectivity to one or more backing LDAP user stores. Testing has been conducted against Microsoft Active Directory 2008 R2

## User Guide Assumptions and Prerequisites

This document assumes:

- A Trusted Identity Token Issuer, referred to hereon as the Partner STS, has been created and enabled as an Authentication Provider for at least one SharePoint web application.
    - SAML token-based authentication has been successfully tested for the SharePoint web application using the Partner STS
    - The Partner STS is configured to send the user identity claim type that will be used by SharePoint (for example http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress)

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**Note:** Make note of the name of the Partner STS. You will need it when associating the Custom Claims Provider with the Partner STS. You can view all Trusted Identity Token Issuers and their names by executing the following command from the Management Shell: *Get-SPTrustedIdentityTokenIssuer* and looking at the *Name* attribute.

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- Connectivity and trust (for LDAPS connections) exists to all domain controllers that are to be searched.
- A provisioned service account with read access for each domain controller to be searched is available.
- The Sharepoint Administration service must be running prior to installing the solution (.wsp) file.

# Installation

## Adding the Solution

1. Copy the solution (WSP) file to the SharePoint server.
2. Open the SharePoint Management Shell (PowerShell) as Administrator and use the Add-SPSolution command to add the solution to the farm:

```
Add-SPSolution -LiteralPath
C:\path\PingIdentity.SharePoint.PPClaimsProvider.wsp
```

## Deploying the Solution

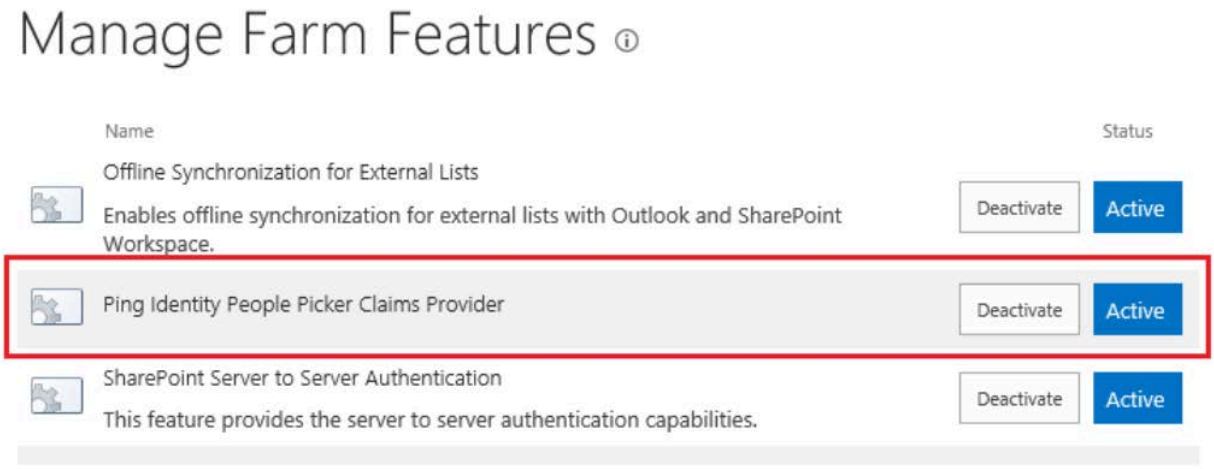
**Note:** The solution must be deployed to all servers in the farm including application servers. In some multi-server farms the SharePoint Web Application service (Microsoft SharePoint Foundation Web Application) is only running on web servers. This service must be started on application servers during deployment in order for the solution assembly to be installed on those servers. If the solution assembly is not deployed to application server the claims picker will not work when assigning permissions in the web application user policy.

Deploy the solution using Central Adminor using the Install-SPSolution command:

```
Add-SPSolution -LiteralPath Install-SPSolution
PingIdentity.SharePoint.PPClaimsProvider.wsp -GACDeployment
```

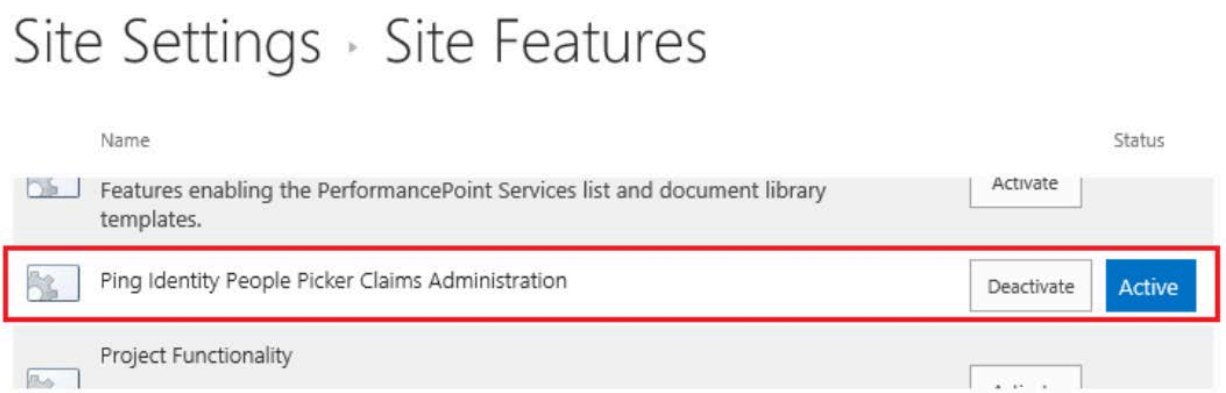
## Activating Features

1. Login to your SharePoint 2013 Central Administration site
2. Go to Central Administration >> System Settings >> Manage farm features
3. Activate the Ping Identity People Picker Claims Provider feature if it is not already Active




**Note:** Activating the feature registers the claim provider in SharePoint.

4. Click on the gear icon on the top right corner of the Central Admin site
5. Click on Site Settings >> go to Site Actions >> click on Manage site features
6. Activate the Ping Identity People Picker Claims Adminstration feature




## Setting the Default Claims Provider

Once the claims provider is installed and activated you can set it as the default claims provider for your PingFederate Partner STS by doing the following:

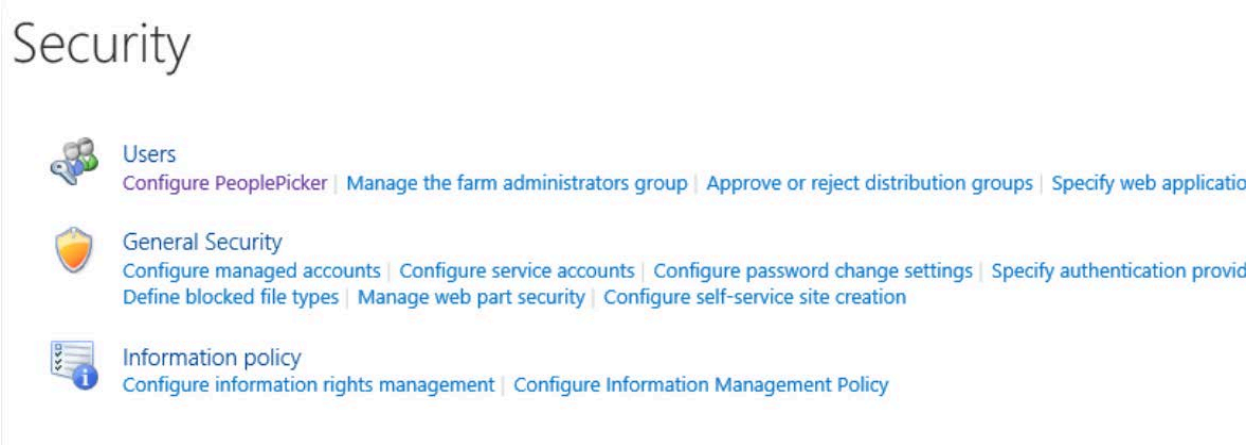
1. Open SharePoint 2013 Management Shell as an Administrator
2. Execute each command listed below
3. Replace "<PartnerSTSName>" with the Nameof your configured Trusted Identity Token Issuer

```
$ti = Get-SPTrustedIdentityTokenIssuer "<Partner STS Name>"
$ti.ClaimProviderName = "PingIdentityPeoplePickerProvider"
$ti.Update()
```

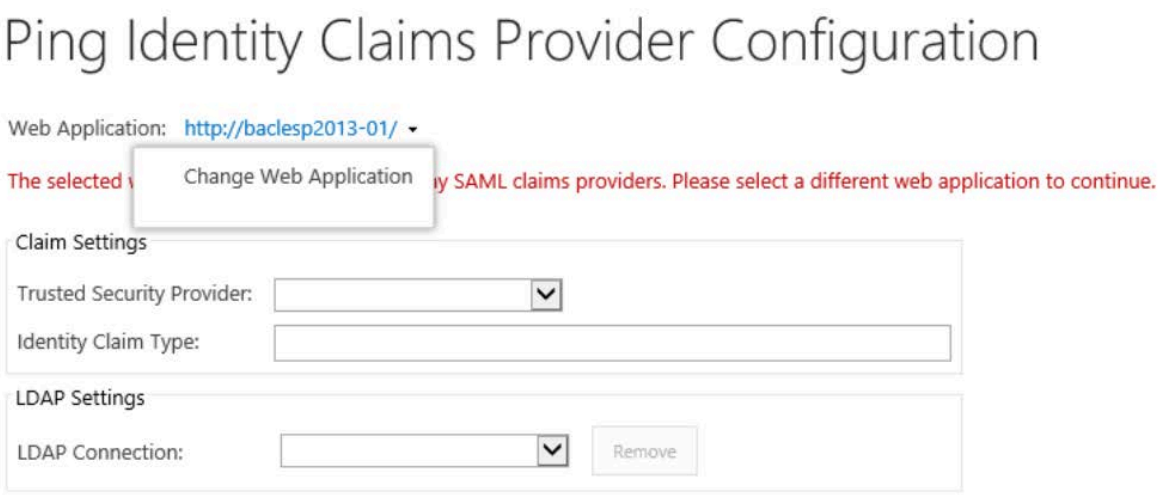
# Configuration

## People Picker Configuration

1. Login to your SharePoint 2013 Central Administration site
2. Go to Central Administration >> Security
3. Click on *Configure People Picker* (under Users)

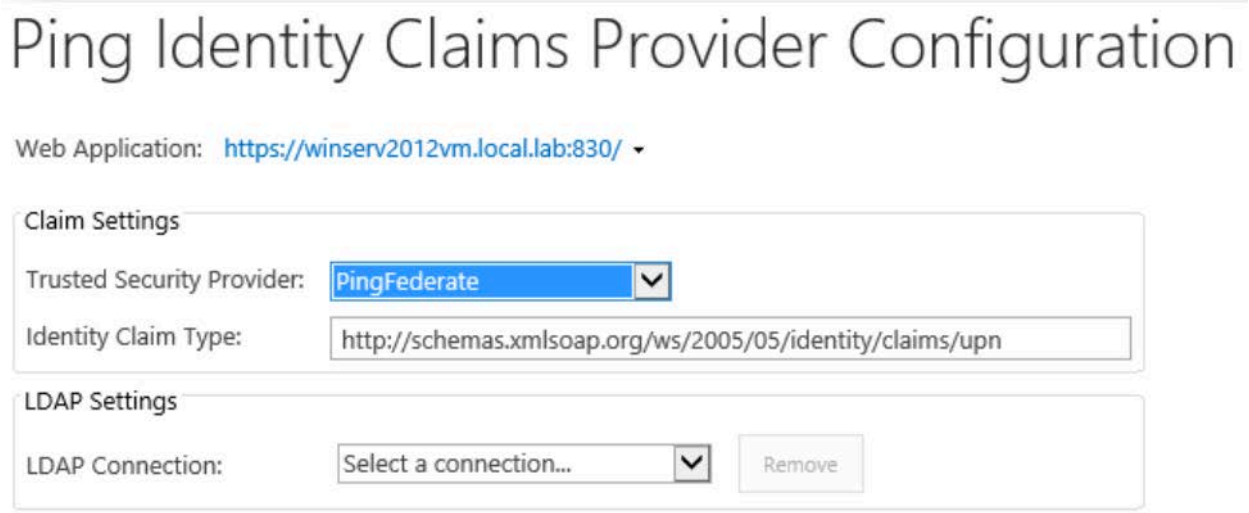



4. Select the web application that is configured to use the Partner STS (Trusted Identity Provider) for authentication from the drop down at the top of the page)

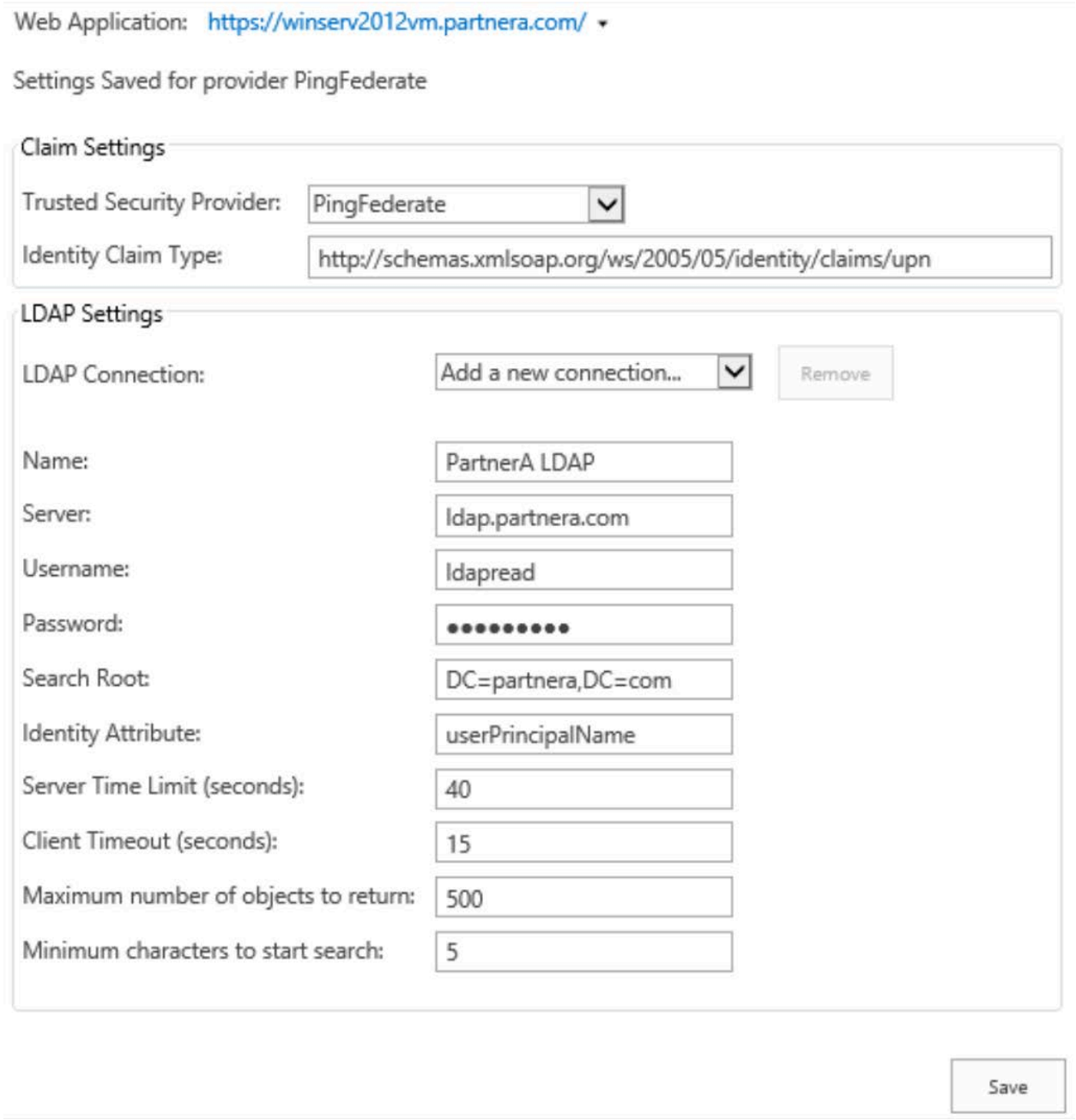



5. Configure the Claim Settings by selecting the Partner STS and specifying the Identity Claim Type

   Identity Claim Type examples:
   http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress
   http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn




6. Add LDAP connections by selecting "Add a new connection…" in the drop down, then proceed to fill out the LDAP connection settings as described below




**Name**
The name of this LDAP connection.

**Server**
The FQDN or IP address for the LDAP server. If using LDAPS, include the relevant port (i.e. ldap.domain.com:636)

**Username**
The username of the LDAP account that will be used to bind to LDAP in order to query users or groups. If the Username field is left blank the LDAP query will be made using the SharePoint farm account.

**Password**
The password for the LDAP account.

**Note:** Passwords are stored in plain text with the other configuration data.

**Search Root**
The root (BaseDN) for the LDAP search.

**Identity Attribute**
The Identity Attribute refers to the LDAP attribute that is used to populated the Identity Claim Type (which you selected in the Claim Settings at the top of the page). The LDAP atribtue configured where must match the LDAP attribute used in PingFederate to populate that WS-Fed attribute.

For example:

| LDAP attribute name "Identity Attribute" | Identity Claim Type |
|---|---|
| `userPrincipalName` | http://schemas.xmlsoap.org/ws/2005/05/identity/claims/upn |
| `givenName` | http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress |

**Server Time Limit (seconds)**
The maximum number of seconds that the server will wait for a search to complete.

**Client Timeout (seconds)**
The maximum number of seconds that the client will wait for the server to return results.

**Maximum number of objects to return**
This refers to the maximum number of search resutls you want the People Picker to return.
- You can set this to a number between 0 and 500.
- If you set this to 0, it will use the SharePoint default size limit of 1000 entries.

**Minimum characters to start search**
This refers to the minimum number of characters (letters) an end user must type into the People Picker search window before the search starts to execute.
- You can set this to a number between 4 and 10.
- If you set this to 0, it will use the SharePoint default setting of 3 characters.

**Note:** Each LDAP connection you add here will only be enabled for the specific SharePoint web application you selected. If you want to add the same LDAP connection to multiple SharePoint web applications, you will need to repeat the same configuration steps (4-5-6) for each SharePoint web application.

## Configuration Storage

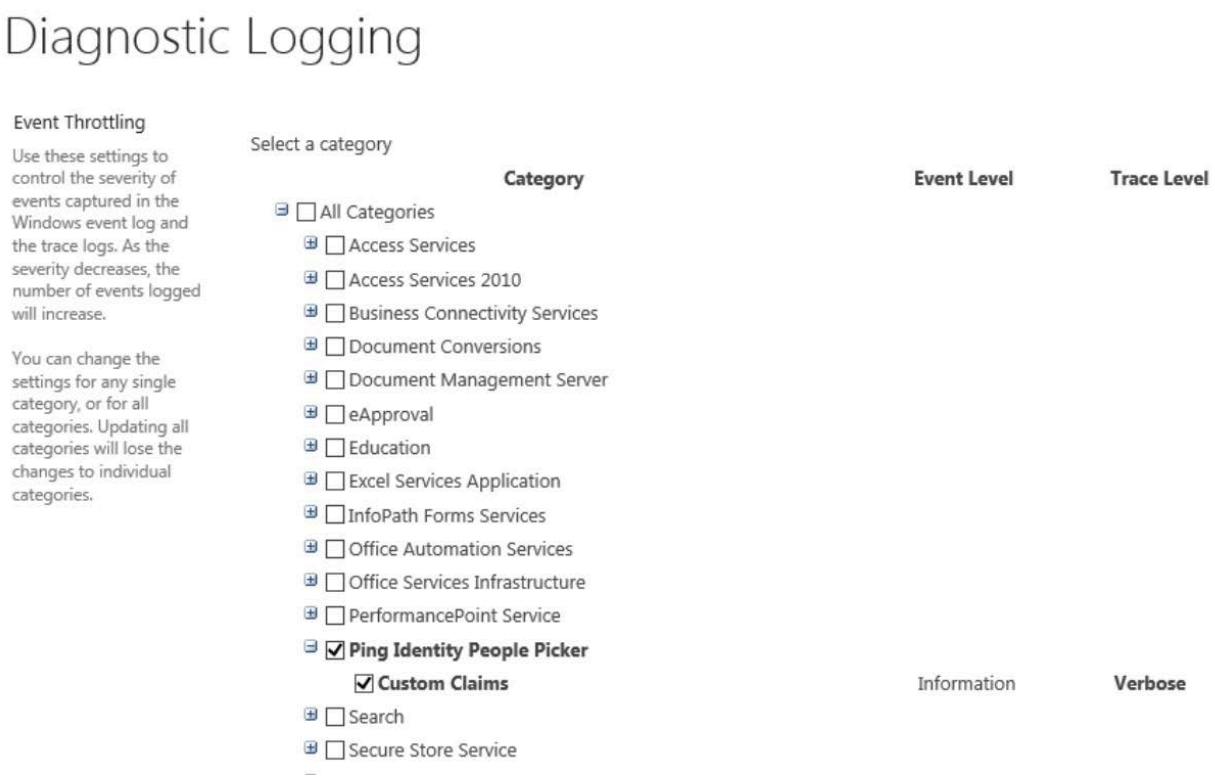
Configuration settings are stored in the web application properties collection with the key "PingClaimsProviderConfig". The configuration is stored in JSON format in plain text (unencrypted).

```
$webApp = Get-SPWebApplication <web app URL>
$webApp.Properties["PingClaimsProviderConfig"]
```

# Diagnostic Logging

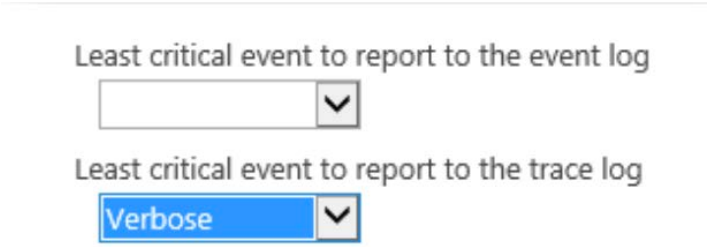
Verbose tracing can be enabled for the Ping Identity People Picker on the Diagnostic Logging page of the Monitoring section in Central Administration.

1. Go to Central Administration >> Monitoring >> Reporting >> Configure diagnostic logging
2. Select the Custom Claims category

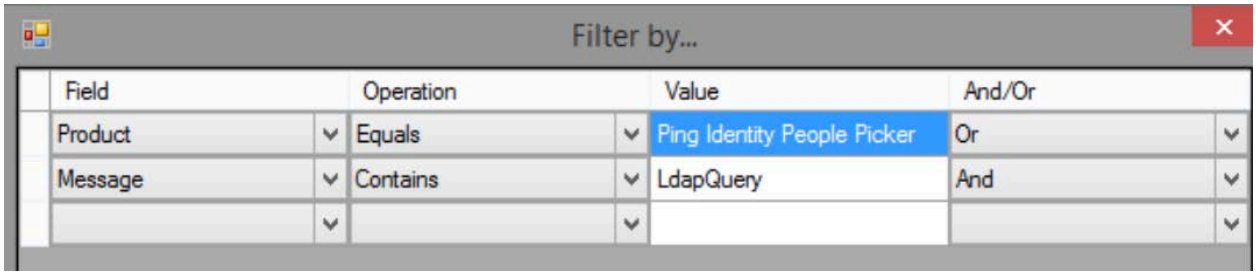



3. (Optional) Select SharePoin Foundation >> Monitoring to enable monitored scopes that will show LDAP queries.


4. Select Verbose as the least critical event to report to the trace log




5. Use the ULS Viewer app to monitor the ULS logs. You can use the following filters to see just the output from the custom claims provider




You can download the ULS Viewer tool from Microsoft here: https://www.microsoft.com/en-us/download/details.aspx?id=44020

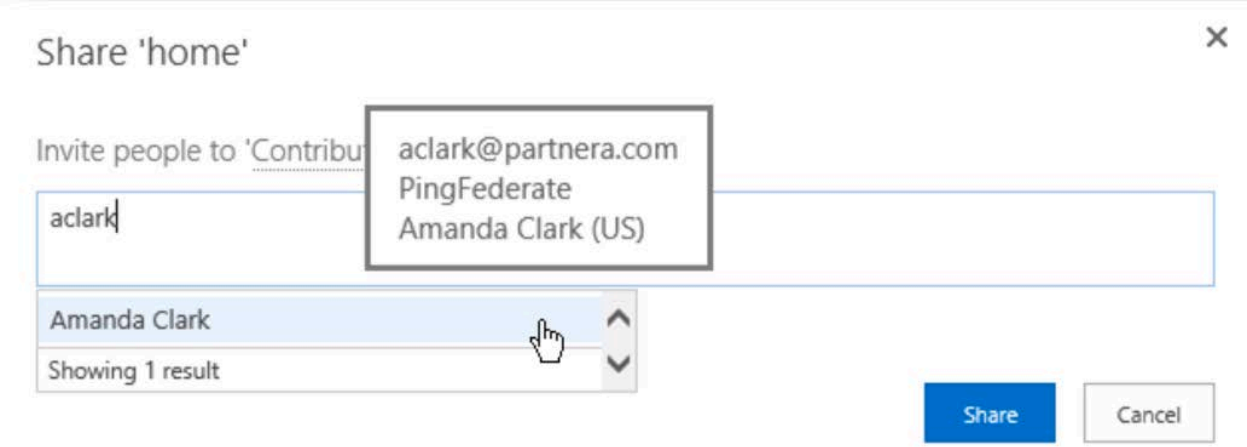
# Supported Search Attributes with Examples

This solution is currently enabled to search for the following LDAP attributes:

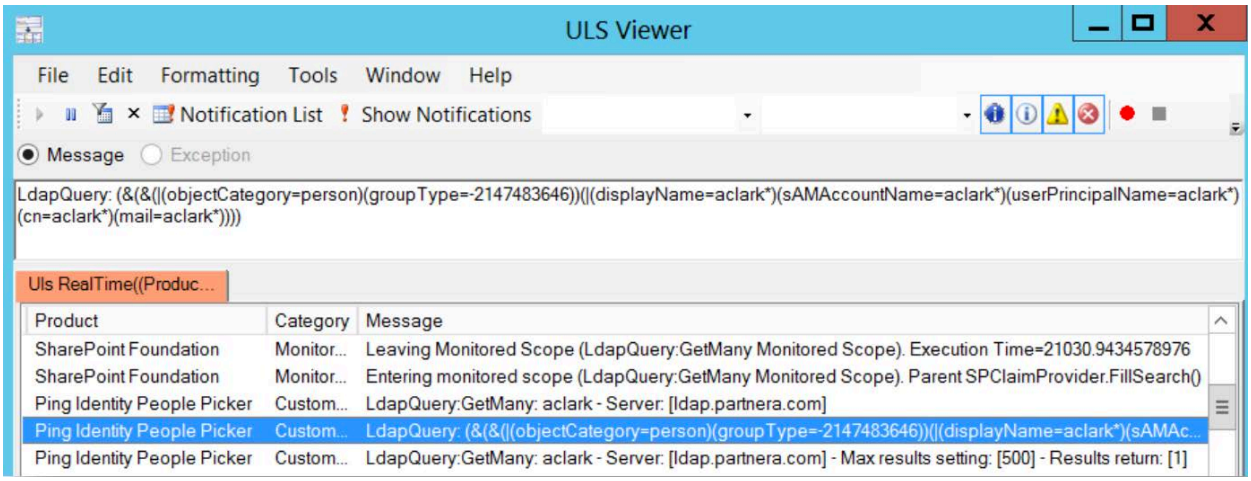
cn
displayName
mail
sAMAccountName
userPrincipalName

## Search by User

Here is an example of a successful search for a user by username (sAMAccountName):



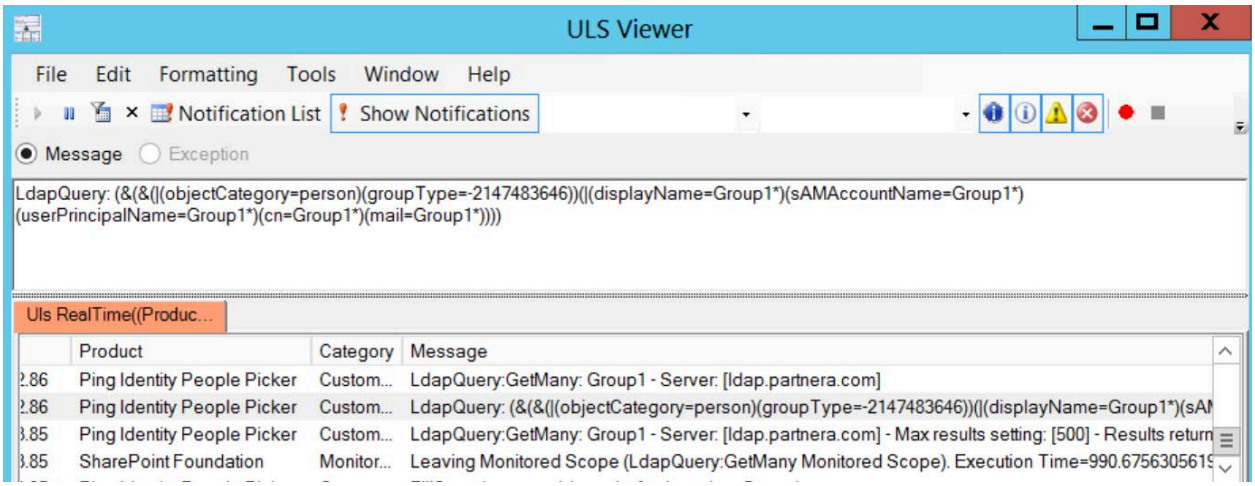

This is the corresponding log entry for the successful search:




## Search by Group

Here is an example of a successful search for a group by the group's name (cn, sAMAccountName):

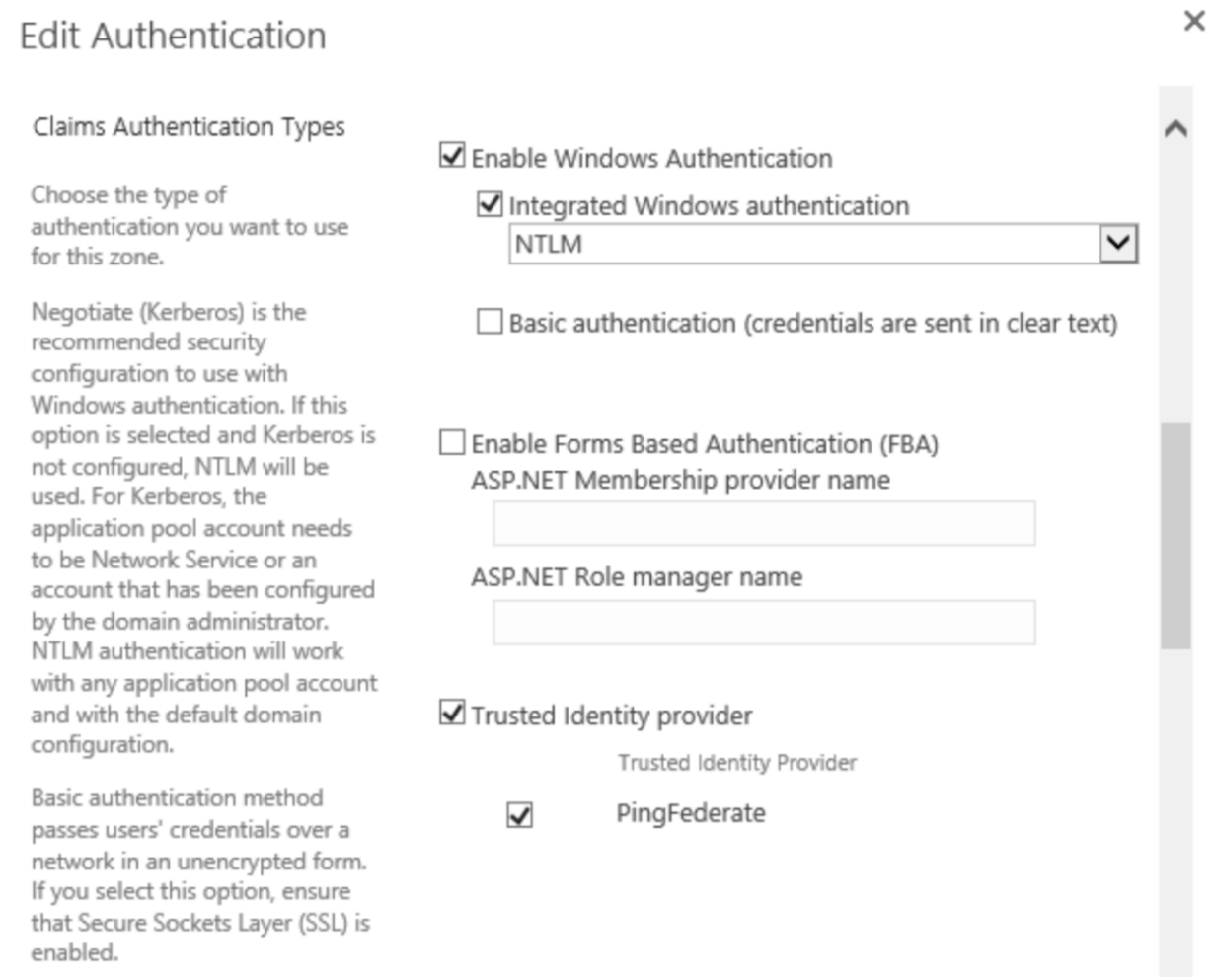

This is the corresponding log entry for the successful search:



# Instructions to Uninstall (Rollback) the solution

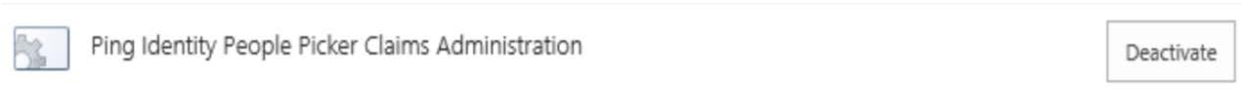
The following steps can be used to remove the Custom Claims Provider (People Picker) solution:

1. In Central Administration disable the Trusted Identity provider from the web application.
    - This step must be completed for each web application that is using that Trusted Identity provider (also known as the Partner STS or Trusted Identity Token Issuer).



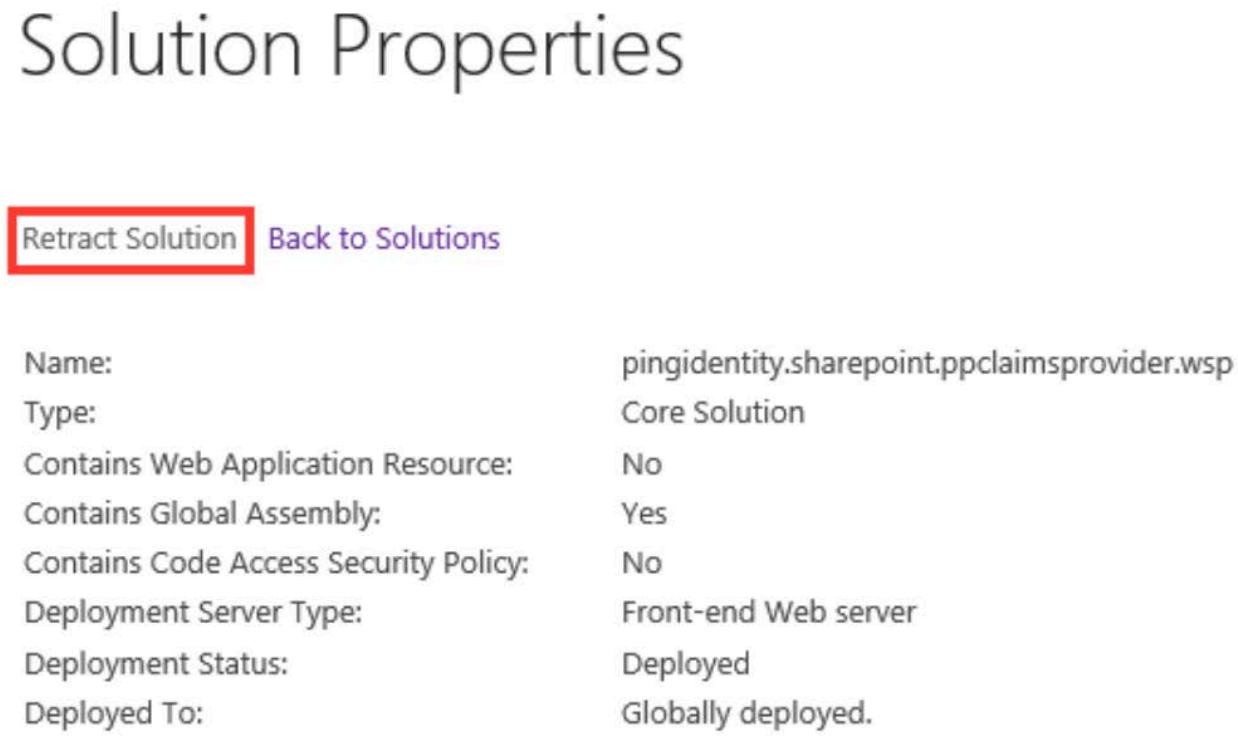

2. In Central Administration >> System Settings >> Farm Features >> deactivate the Ping Identity People Picker Claims Provider farm feature.


3. In Central Administration >> Site Settings >> Site Features >> deactivate the Ping Identity People Picker Claims Administration site feature.

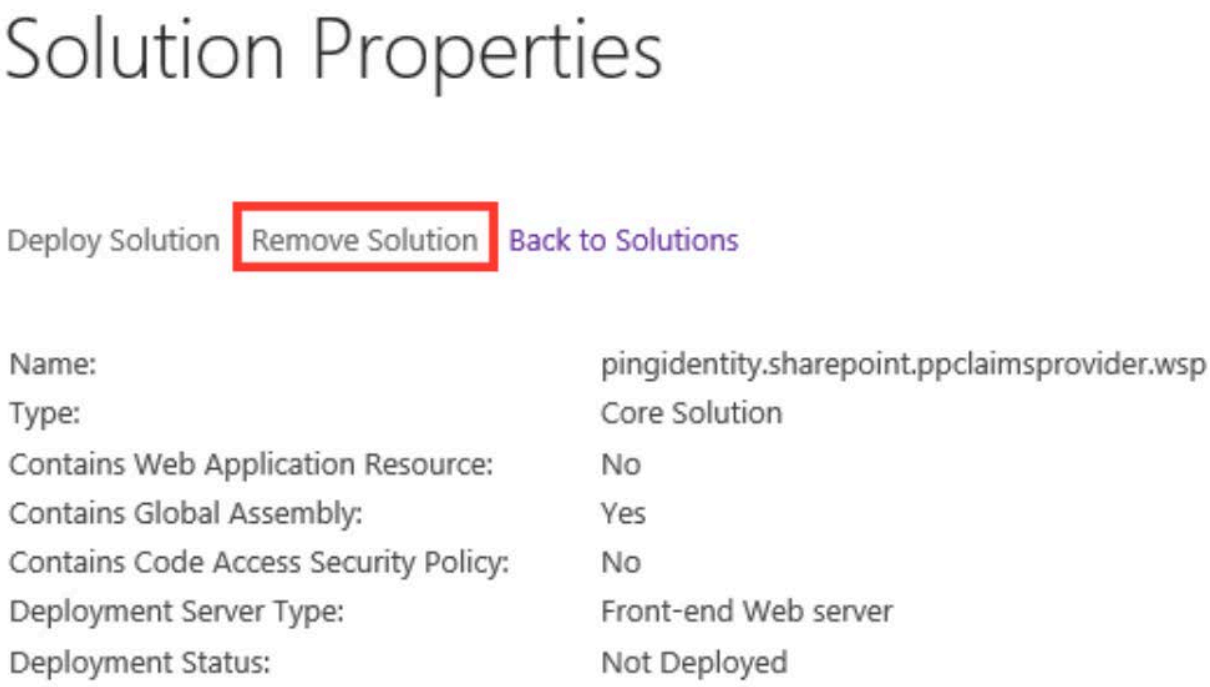


4. In Central Administration >> System Settings >> Farm Solutions >> retract the pingidentity.sharepoint.ppclaimsprovider.wsp solution.

**Note:** The SharePoint Administration service must be running in order for this retraction to be successful.




5. In Central Administration >> System Settings >> Farm Solutions >> remove the pingidentity.sharepoint.ppclaimsprovider.wsp solution.




6. Open SharePoint 2013 Management Shell as an Administrator
7. Make a backup copy of your configuration settings for your existing Trusted Identity Token Issuer. For example: use this command tor produce a file called partnersts.txt that contains your list of token issuers and their settings:
   `Get-SPTrustedIdentityTokenIssuer >partnersts.txt`
8. Use this command to delete your current Trusted Identity Token Issuer:
   `Remove-SPTrustedIdentityTokenIssuer -Identity ''<PartnerSTS>''`
   Replace <PartnerSTS> with the Name of your Trusted Identity Token Issuer.
9. User PowerShell to recreate your SP Trusted Identity Token Issuer (without setting the default claims provider). You can refer to the partnersts.txt to review what settings you used previously.
10. In Centrat Administration reconfigure the web application to use the newly created SPTrustedIdentityTokenIssuer.
11. (Optional) For a complete cleanup, you may also wish to remove the Prople Picker configuration settings that were stored for each web application that you configured to use the People Picker. This can be done by running the following commands via the SharePoint 2013 Management Shll for each web application:
    - Identity fhe web application by replacing <web app URL> with the SharePoint Web Application's URL
      `$webApp = Get-SPWebApplication <web app URL>`
    - To view the settings associated for the web application:
      `$webApp.Properties[''PingClaimsProviderConfig'']`
    - To remove the settings associated for the web application:
      `$webApp.Properties.Remove[''PingClaimsProviderConfig'']`

# SharePoint Log Location

The default log directory will be similar to this path: C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\LOGS

If the Sharepoint admin has changed the default log path, you can find it by going to Central Admin >> Monitoring >> Reporting >> Configure diagnostic logging >> scroll down to Trace Log - the Path configured here is where your Sharepoint Logs are being stored.