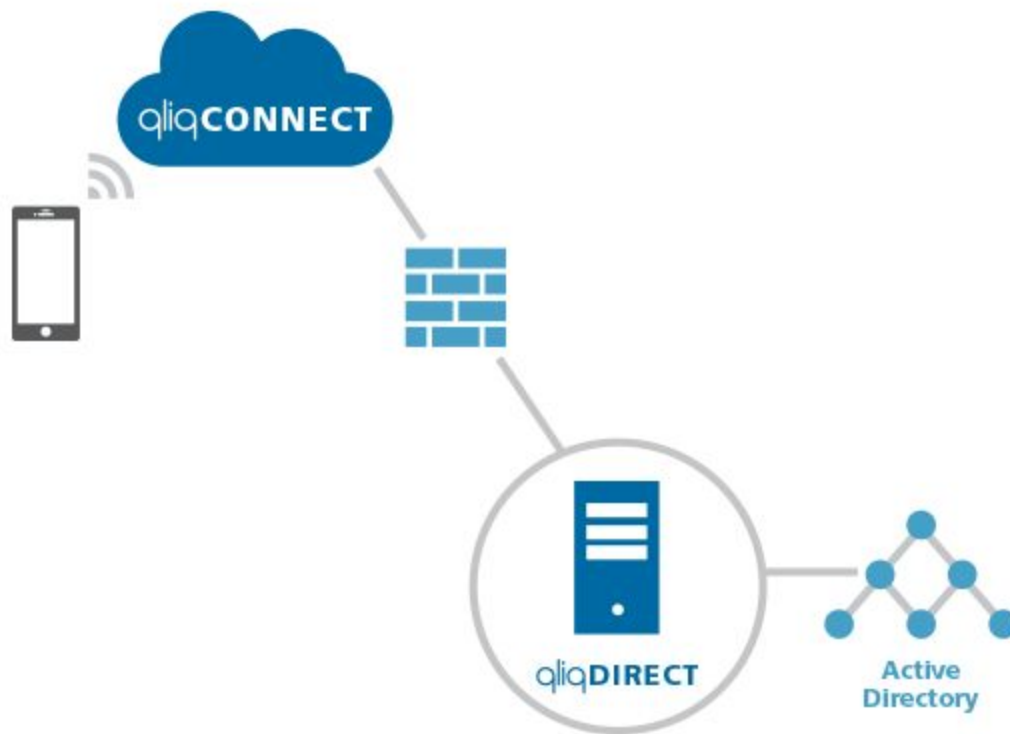
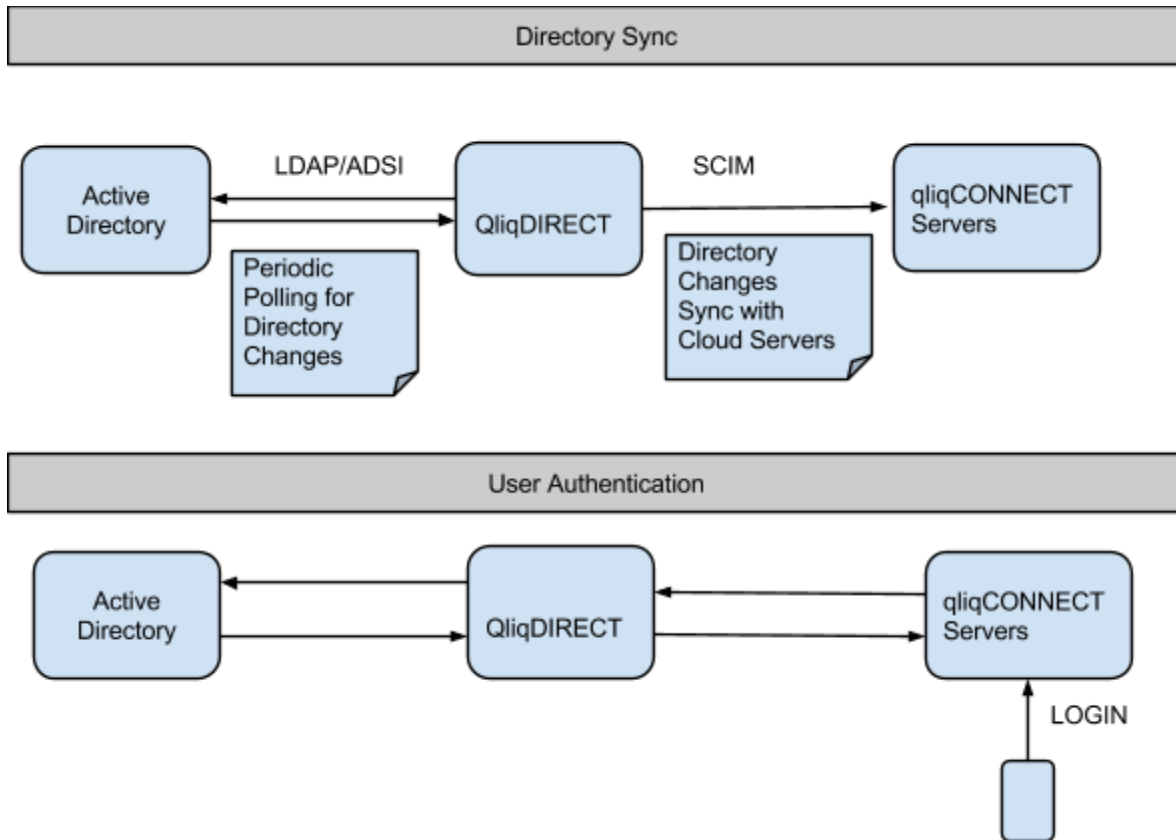


# QliqDIRECT Active Directory Guide

QliqDIRECT is a Windows Service with Active Directory Interface. QliqDIRECT resides in your network/server and communicates with Qliq cloud servers securely. QliqDIRECT connects to the Active Directory Server and performs Directory Sync and User Authentication Services for the Qliq secure messaging service.



QliqDIRECT Network Diagram



Before you can use QliqDIRECT as Active Directory connector, you must first install QliqDIRECT on any Windows Server that can connect to Active Directory Servers.

## Installation

1. Download the QliqDIRECT from your Qliq Admin Web Console.

Memorial Hospital  
123 Main Street. Cary, NC 27714 - 8005551212 Edit

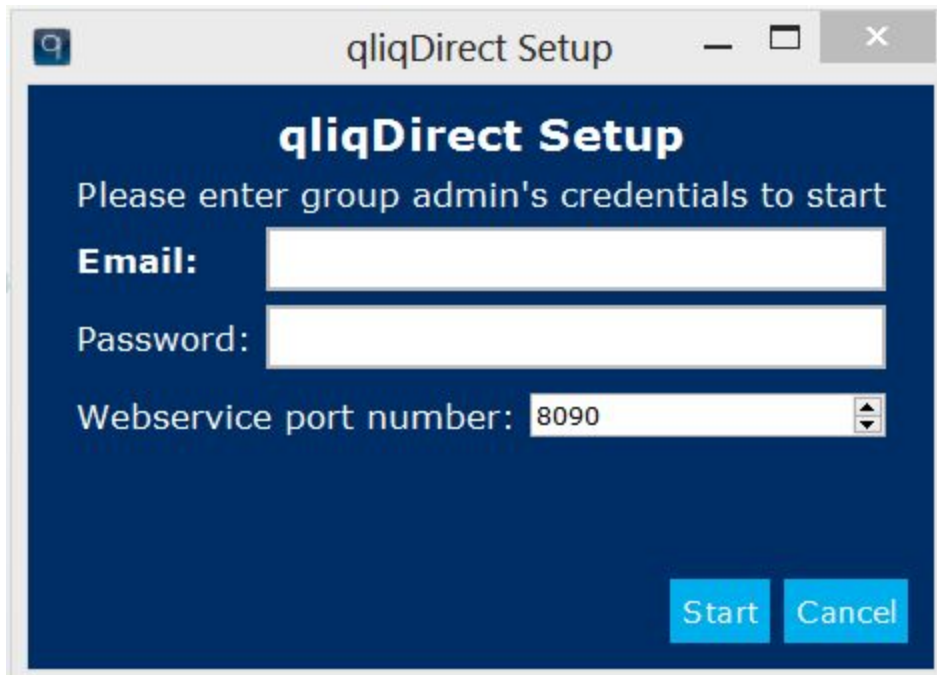
Memorial Hos... Add Export To CSV

Members Non Members Quick Messages

Search All

	<b>Krishna K. Kurapat</b> kkurapati@qliqsoft.com	Pediatrics Hospitalists	No Full Group Access	10 msgs	active	
	<b>Norman Bethune MD</b> nbethune@provider.pilot	Pediatrics Hospitalists Surgery OnCall	No Full Group Access	0 msgs	active	
	<b>John Hunter3 MD</b> Physician jhunter1@provider.pilot	Hospitalists	No Full Group Access	0 msgs	active	

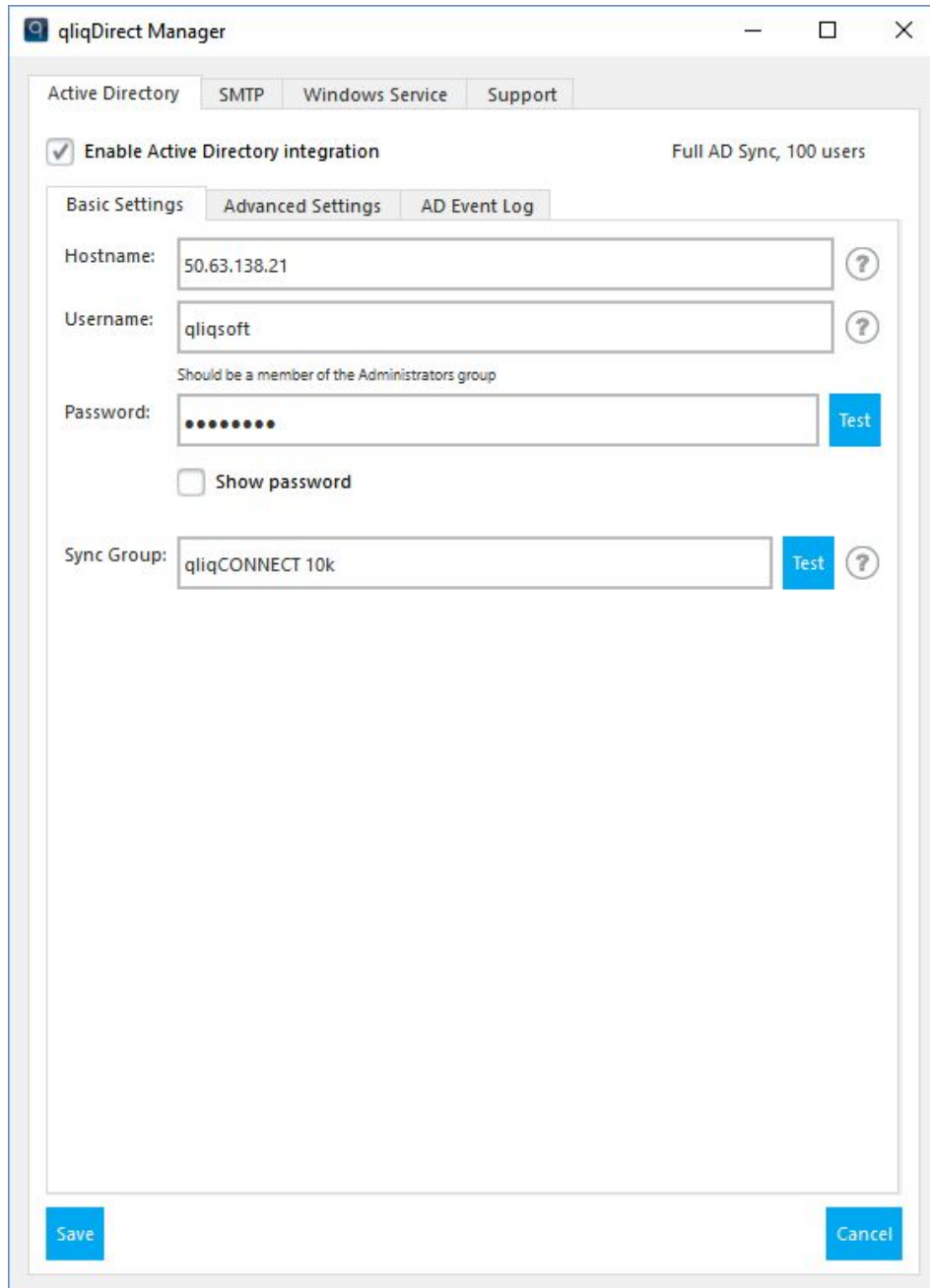
2. Once you download and install the application, you need to enter the qliqCONNECT Admin’s credentials to setup the QliqDIRECT application. This needs to be done only once during installation. Once the service is installed, it will be started with the Windows System and stays connected.



3. The QliqDIRECT is a HTTP Server that takes the requests on Port 8090 by default. You can change the port to your choice.

## QliqDIRECT Active Directory Configuration

Following screen show the QliqDIRECT Configuration when you launch QliqDIRECT Manager.



The screenshot shows the 'Active Directory' configuration tab in the QliqDirect Manager. The 'Enable Active Directory integration' checkbox is checked, and the status is 'Full AD Sync, 100 users'. The 'Basic Settings' tab is active, showing fields for Hostname (50.63.138.21), Username (qliqsoft), Password (masked with dots), and Sync Group (qliqCONNECT 10k). There are 'Test' buttons next to the Password and Sync Group fields, and a 'Show password' checkbox. The window has 'Save' and 'Cancel' buttons at the bottom.

You must enable the Active Directory integration before you can set the configuration.

**Hostname:** The domain or IP address of the Active Directory Domain Controller. This IP/Domain must be reachable.

**Username:** The Active Directory Admin's username. This username you normally use to manage Active Directory

**Password:** Password for the Active Directory Admin’s username.

**Sync Group:** QliqDIRECT queries Active Directory for all the users and groups belonging to the Sync Group. When you add an existing Active Directory group (Security or Distribution Group) to the Sync Group, the group as well as the members of the group are synced with the qliqCONNECT server.

When you click on TEST button, you can see the sample results of the query that QliqDIRECT will perform to sync the users and groups. Please cross verify the results with the objects in the Active Directory.

Before you proceed further, you should click on “Test” button next to Password and the “Test” button next to Sync Group to verify the settings.

Click on “Advanced settings” tab to show the options below.

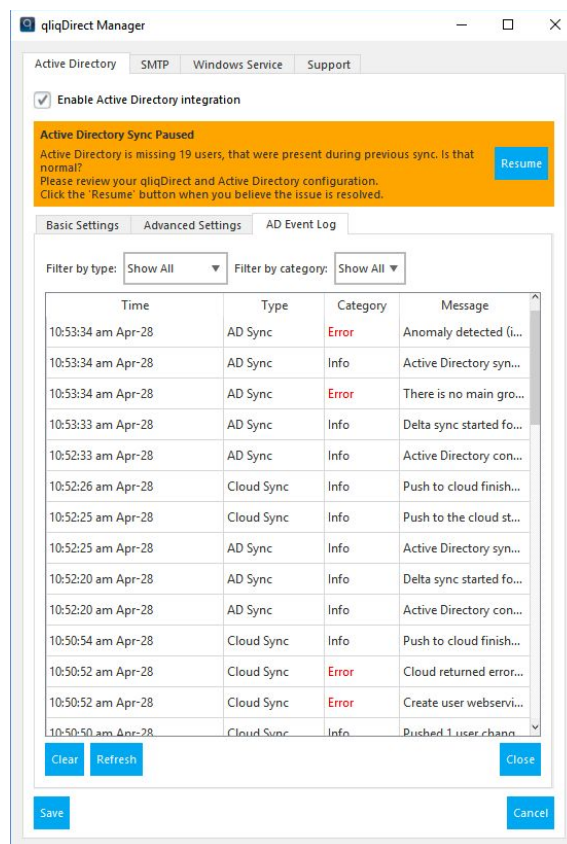
The screenshot shows the 'qliqDirect Manager' application window with the 'Advanced Settings' tab selected. The 'Active Directory' section is active, and the 'Enable Active Directory integration' checkbox is checked. The 'Sync Settings' section includes a 'Sync Interval' of 10 minutes, an 'Auto Accept New Users' checkbox (unchecked), an 'Invitation Message Subject' text box, a 'Sync AD subgroups as qliqCONNECT subgroups' checkbox (checked), a 'Sync Thumbnail Pictures' checkbox (unchecked), and a 'Pause AD Sync' checkbox (checked). Below these, there are two input fields for percentages: 'When 5 % of users are missing but not less than 5 users'. The 'Authentication Settings' section includes a 'Authenticate Using AD Credentials' checkbox (checked), a 'Use DistinguishedName to Authenticate User' checkbox (checked), and an 'Auth Test' button. There are also text boxes for 'Change Password URL' and 'Forgot Password URL'. At the bottom of the window, there are 'Save' and 'Cancel' buttons.

**Sync interval:** The polling interval that the QliqDIRECT contacts the Active Directory Server to check for changes to the directory. If the interval is too long, it takes more time to sync the changes to users to the qliqCONNECT servers. You can trigger “Sync Now” any time to trigger on-demand syncing.

**Auto Accept New Users:** New users discovered in the sync process are "Staged" in the qliqCONNECT server. With Auto Accept unchecked, admin has to login to web Admin Dashboard and accept the new users from the Staged Users list on User List page. Once the new user is accepted, the user receives an email invitation to download qliqCONNECT app. If you check the Auto Accept flag, the users will be automatically accepted by the qliqCONNECT server and the user will receive the email invitation.

**Sync Thumbnail Pictures:** QliqDIRECT can sync the profile image from either thumbnailPhoto or jpegPhoto attribute of the Active Directory user. The sync process will be slower when you enable this flag since the images are retrieved and uploaded for each user along with the user information.

**Pause AD Sync:** QliqDIRECT on periodically syncs from Active Directory. After initial sync, due to network connectivity, or resource issue on AD domain controller, the response from Domain Controller may contain drastically low number of user/groups. Turning on this option will make the AD Sync from propagating these changes to the Qliq Cloud servers. The thresholds can be used to tune the amount of changes to be tolerated during AD Sync. Admin can resume AD Sync after recovering from the errors. The Qliq Admins who are designated as “IT/Server Admin” will receive an email when the anomaly is detected and the AD Sync is paused. The Admin should promptly attend the event and should take corrective actions. Prolonged pausing of AD sync may severely impact the service for the organization.



**Authenticate using AD Credentials** QliqDIRECT performs two independent tasks as shown in the workflow at the beginning of the document. “Syncing Directory”, “Authenticating Users”. The Admin can choose not to use AD

credentials for Authenticating users using Qliq Application. Please check with QliqSOFT support before you turn off this feature.

**Use Distinguished Name to Authenticate User** QliqDIRECT by default performs authentication using “AD User Name”. If you have multiple domain controllers and require Distinguished Name based authentication, please turn it on. You can review the User Name and User DN from “Qliq Admin Portal”

**Adam Sowa**  
adam@ad.test

First name: Adam

MI:

Last name: Sowa

AD User Name: adam@dir.qliqsoft.com

AD User DN: CN=Adam Sowa,CN=Users,D

Mobile: +48603845095

Title: Technical Lead

Department: Department

Full group access:

Broadcasting:

Group Messaging:

Add to Subgroup: Select Some Options

**Done** Save and return to Group Management.

**Change password URL:** If you have a Portal that is used for user password self service, you can set that URL here. When the user’s password has expired and the user tries to login, the qliqCONNECT application directs the user to the URL so that user can change the password and proceed to login to the qliqCONNECT app. If the URL is only accessible on the intranet, the user will not be able to change the password from the public network unless the user is connected to intranet over a VPN.

**Forgot password URL:** If the user mistypes or enters a wrong password, the qliqCONNECT app presents this URL so that user can reset the password. This URL could be same as “Change password URL” depending on how you have setup password management portal.

Once you complete the configuration, make sure that you save it by clicking “Save” button.

This completes AD setup. Now you can see the synced users on qliqCONNECT Admin dashboard.

Please login with Group Admin’s credentials to qliqsoft.com

You will see new tab called “Staged” with the synced directory entries if have turned off “Auto Accept New Users”. Otherwise you will see them in the members tab.

Dashboard Subgroups **Users** External Groups Devices Admins Security Settings qliqSTOR qliqDIRECT User Activity  
 Service Logs Message Activity API Settings Profile

Memorial Hospital - qliqID: 783975978 123 Main Street. Cary, NC 27714 - 8005551212 Edit Admin guide | User guide

**Memorial Hos...**











**Staged** (highlighted)

Members

Non Members

Quick Messages

**List of Staged Members from Active Directory**

<input type="checkbox"/>	Name	Title	Email	Subgroups	Status
<input type="checkbox"/>	 AD Demo4	Other	addemo4@dir.qliqsoft.com		inactive 
<input type="checkbox"/>	 Adam Sowa	Technical Lead	adam@dir.qliqsoft.com		inactive 
<input type="checkbox"/>	 AD User1	Other	aduser1@dir.qliqsoft.com		inactive 
<input type="checkbox"/>	 AD User4	Other	aduser4@dir.qliqsoft.com		inactive 
<input type="checkbox"/>	 AD User6	Other	aduser6@dir.qliqsoft.com		inactive 

Here you can either accept them as qliqCONNECT users or remove them. When you accept them, they will receive an email invitation with instructions on downloading qliqCONNECT application and using the App.

#### AD Attributes exported to qliqCONNECT Server

First Name	YES
Middle Name	YES
Last Name	YES
Title	YES
Department	YES
Work Phone Number	YES
Mobile Phone Number	YES
Primary Email Address	YES
Distinguished Name	YES
AD User Name (Network ID @ Domain)	YES
Profile Picture	YES
Groups	YES



## AD Attributes to check for account status

pwdLastSet	YES
userAccountControl	YES
msDS-User-Account-Control-Computed	YES

Based on these values, following statuses are synced

account-disabled	YES (1)
account-locked	YES
password-changed	YES (2)
password-expired	YES

(1) Account will be deleted from Qliq when “account-disabled” status is set.

(2) When the password changed, the user can use old password for upto an hour. This is AD issue.

## Firewall Requirements

QliqDIRECT acts like an Internet client accessing cloud services. QliqDIRECT does not listen on any TCP/UDP port. However, if you have installed QliqDIRECT behind a firewall (most likely), you must let QliqDIRECT connect to the qliqSOFT servers in the cloud. Please whitelist following domains/ports on your firewall:

webprod.qliqsoft.com      port 443

msg.qliqsoft.com          port 443

## Monitoring

QliqDIRECT is a Windows service. It starts when the Windows Server is restarted and keeps running until the service is either stopped manually or the Server is shut off. However, QliqDIRECT could be stalled or stopped due to resource exhaustion or a software bug. If you have a service monitoring software, add QliqDIRECT to Enterprise monitored service.

QliqDIRECT has internal monitoring mechanism that sends emails to Admin in case of issues with the service.

When there is an issue with connecting to Active Directory Server, you might receive following email:



### HELLO KRISHNA KURAPATI-2

qliqDIRECT is unable to connect to the Active Directory: 50.63.138.21  
Reason: (AD error code: -2147016646) Impact: Authentication and Directory Sync no longer work . Please resolve the issue by updating the AD configuration using qliqDIRECT Manager. Make sure that you test the configuration before saving.

If you need further assistance, do not hesitate to contact qliqSOFT support team.

qliqSOFT support team  
[support@qliqsoft.com](mailto:support@qliqsoft.com)

Please do not reply to this email. For questions regarding this message contact [support@qliqsoft.com](mailto:support@qliqsoft.com).

© 2014 qliqSOFT, Inc. All rights reserved.

## qliq account behavior for AD account status

After the AD account has been added to qliq, the data is synced with qliq cloud server. The fields are described in “AD Attributes exported to qliqCONNECT Server” table. The other considerations do affect the user experience with the app.

### AD Account is disabled

The account could be disabled by the AD administrator. This would cause the account to be removed from the group. The user can no longer communicate with anyone in the group and no one from the group can communicate with the disabled user.

### AD Account Locked

The user account could be locked when user attempts to login with invalid password and exceeds maximum tries. When AD Account is Locked, the user is forced logged out of qliq application and the account has to be unlocked in AD before user will be able to login to qliq application again.

### AD Password Changed

User or Helpdesk can change the AD password at anytime. This causes qliq to logout the user from the app forces the user to enter the new password.

NOTE: AD allows User to use old password for up to one hour.

### AD Password Expired

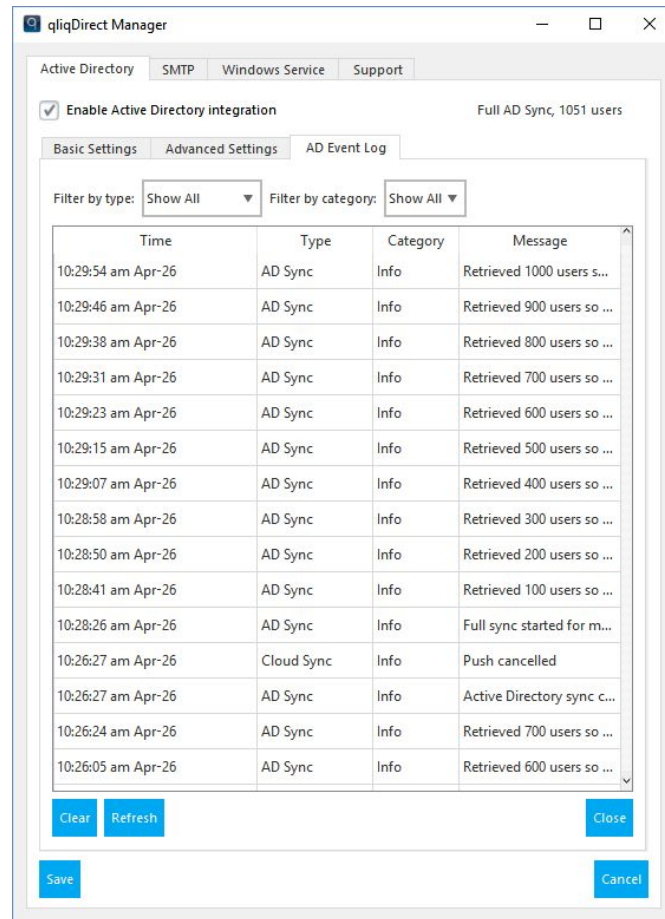
When the password expires in AD, the user is logged out of the qliq application. Until the user sets up new password, and logs in with the password, user cannot access qliq application.

If the “Change Password URL” is specified in the qliqDirect manager, qliq application redirects the user to the URL for user to get help to reset the password.

# Troubleshooting

If you are not seeing the Active Directory users in qliqSOFT cloud servers please check following:

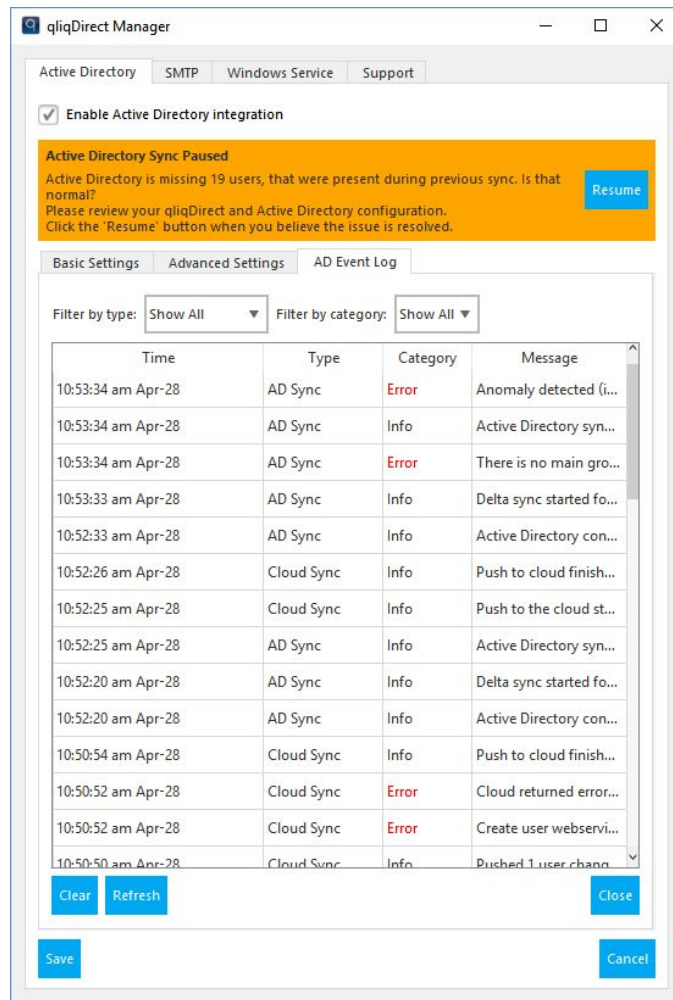
1. Turn off Windows Firewall if it is running
2. Test the AD connectivity.
3. Test “Sync Group” and make sure that the sample users and groups appear in the output.
4. Make sure that the AD Admin has the permissions to query Active Directory for Groups and Members.
5. Check the “Event Log” to see for Errors and Warnings. The data not complete or invalid can cause the AD users not sync to qliqSOFT servers.



6. Check if Network Firewall is not blocking the traffic to qliqSOFT’s servers. Please review the “Firewall Requirements” section for domains and ports that need to be whitelisted in the firewall.
7. Old password still works on AD password change. This is an Active Directory flaw, not an qliq issue. You can refer to MS-KB Article ID 906305 <http://support.microsoft.com/kb/906305> NTLM (NT LAN Manager) is a Microsoft authentication protocol used to authenticate clients in various Microsoft network protocol implementations, including Active Directory, Exchange Server services (POP3, IMAP, SMTP), SMB, etc. Windows Server modifies the NTLM network authentication behavior in such a way that users can use their old password to access network resources for a definite amount of time after the password is changed. This is also the case for LDAP authentication into Microsoft Active Directory. The period of time for which the old password will be active is configured by editing a registry key on the domain controller; its default value is set to an hour. This "feature" only applies to network access and to domain user accounts. The domain controller will not allow interactive logon with the old password. Which means, the old password is still good for mapping a network drive using IP address (when using a machine name - NTLM is not involved as Kerberos authentication occurs), logging into any application that uses NTLM, logging into Active Directory through LDAP functions, etc. This behavior is described in article 906305 of the Microsoft

Knowledge Base. It is also noted in the article that no security weakness is caused by this kind of behavior as long as only one user knows both passwords.

- AD Sync is not happening. Check if the “AD Sync” is paused.



- Monitoring Sync from the Cloud. You can login to “Qliq Admin Portal” and goto service logs tab and select “AD Sync Service” You can review each sync request for user or group here. This is the first place you can visit when a user data is not syncing properly.

Adam's Clinic4 qliqID: 996197504 Admin  
2035 Zumbuhl Rd. Saint Charles, MO 633032723 • 1234567890 Edit[Admin Guide](#) | [User Guide](#)

## Service Log

 Filter by **AD Sync ...**

Time	Browser	Source IP	Name/Email	Group	Service	Request	Response	Status
28 Apr 2016 04:45am		127.0.0.1	Kittu Four	Adam's Clinic4	scimv2/users[create]	✓	✓	created
28 Apr 2016 04:45am		127.0.0.1	Sree Kurapati	Adam's Clinic4	scimv2/users[create]	✓	✓	created
27 Apr 2016 11:57pm		127.0.0.1	Kittu Three	Adam's Clinic4	scimv2/users[destroy]	✓	✓	ok
27 Apr 2016 11:57pm		127.0.0.1	Kittu Two	Adam's Clinic4	scimv2/users[destroy]	✓	✓	ok
27 Apr 2016 11:55pm		127.0.0.1	Kittu Four	Adam's Clinic4	scimv2/users[update]	✓	✓	ok
27 Apr 2016 11:55pm		127.0.0.1	Kittu Three	Adam's Clinic4	scimv2/users[update]	✓	✓	ok
27 Apr 2016 11:55pm		127.0.0.1	Kittu Two	Adam's Clinic4	scimv2/users[update]	✓	✓	ok
27 Apr 2016 11:55pm		127.0.0.1	John Skowlung	Adam's Clinic4	scimv2/users[update]	✓	✓	ok
27 Apr 2016 11:55pm		127.0.0.1	Krishnam Raju	Adam's Clinic4	scimv2/users[update]	✓	✓	ok
27 Apr 2016 11:55pm		127.0.0.1	Shoban Babu	Adam's Clinic4	scimv2/users[update]	✓	✓	ok
27 Apr 2016 11:55pm		127.0.0.1	Adam Sowa	Adam's Clinic4	scimv2/users[update]	✓	✓	ok

10. Monitoring Authentication flow. Select "AD Auth Service". The status will be the response from Active Directory. If the user has entered Invalid Password or if the Account is Locked or Password Expired or Password Changed, you will see here.

Adam's Clinic4 qliqID: 996197504 Admin  
2035 Zumbuhl Rd. Saint Charles, MO 633032723 • 1234567890 Edit[Admin Guide](#) | [User Guide](#)

## Service Log

 Filter by **AD Auth ...**

Time	Browser	Source IP	Name/Email	Group	Service	Request	Response	Status
24 Apr 2016 12:23am			Adam Admin	Adam's Clinic4	remote authreq	✓	✓	invalid-password
22 Apr 2016 12:48am			Adam Admin	Adam's Clinic4	remote authreq	✓	✓	invalid-password
22 Apr 2016 12:47am			Adam Admin	Adam's Clinic4	remote authreq	✓	✓	invalid-password
20 Apr 2016 07:58pm			Adam Macintosh2	Adam's Clinic4	remote authreq	✓	✓	invalid-password
15 Apr 2016 12:14am			Adam P. Desktop	Adam's Clinic4	remote authreq	✓	✓	485
13 Apr 2016 03:15am			Adam P. Desktop	Adam's Clinic4	remote authreq	✓	✓	invalid-password
12 Apr 2016 07:46am			Adam P. Desktop	Adam's Clinic4	remote authreq	✓	✓	485
12 Apr 2016 07:46am			Adam P. Desktop	Adam's Clinic4	remote authreq	✓	✓	485
04 Apr 2016 11:29pm			Adam Macintosh2	Adam's Clinic4	remote authreq	✓	✓	485
04 Apr 2016 11:29pm			Adam P. Desktop	Adam's Clinic4	remote authreq	✓	✓	485