



# BeyondTrust

## **BeyondInsight and Password Safe Authentication Guide 21.1**

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## BeyondInsight and Password Safe Authentication Guide

BeyondInsight and Password Safe support BeyondInsight user account authentication, as well as multi-factor authentication, smart card authentication, and third-party authentication for web tools supporting the SAML 2.0 standard. Various authentication methods, such as smart card authentication, two-factor authentication using a RADIUS server, Ping Identity, Okta, and Active Directory Federation Services (AD FS) are detailed in this guide.

BeyondInsight provides authentication for users who are managed exclusively by BeyondInsight. You can also add Active Directory users and groups and apply BeyondInsight authentication.

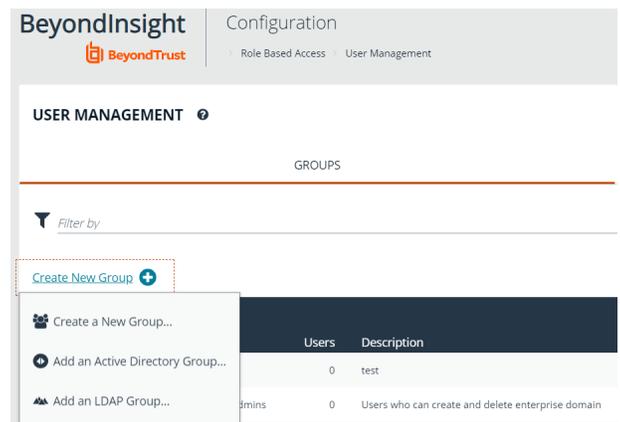
For a user to log in to BeyondInsight using BeyondInsight authentication, the user account must reside in the BeyondInsight database.

# Create and Configure Groups in BeyondInsight

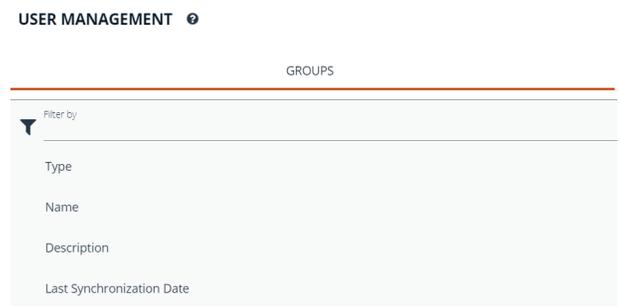
BeyondInsight offers a role-based delegation model so that you can explicitly assign permissions to groups on specific product features based on their role.

 **Note:** By default, an **Administrators** group is created. The permissions assigned to the group cannot be changed. The user account you created when you configured BeyondInsight is a member of the group.

You can create BeyondInsight local groups, as well as add Active Directory and LDAP groups into BeyondInsight.



You can filter the groups displayed in the grid by type of group, name of the group, group description, and the date the group was last synchronized.



 **Tip:** By default, the first 100 groups are displayed per page. You can change this by selecting a different number from the Items per page dropdown at the bottom of the grid.



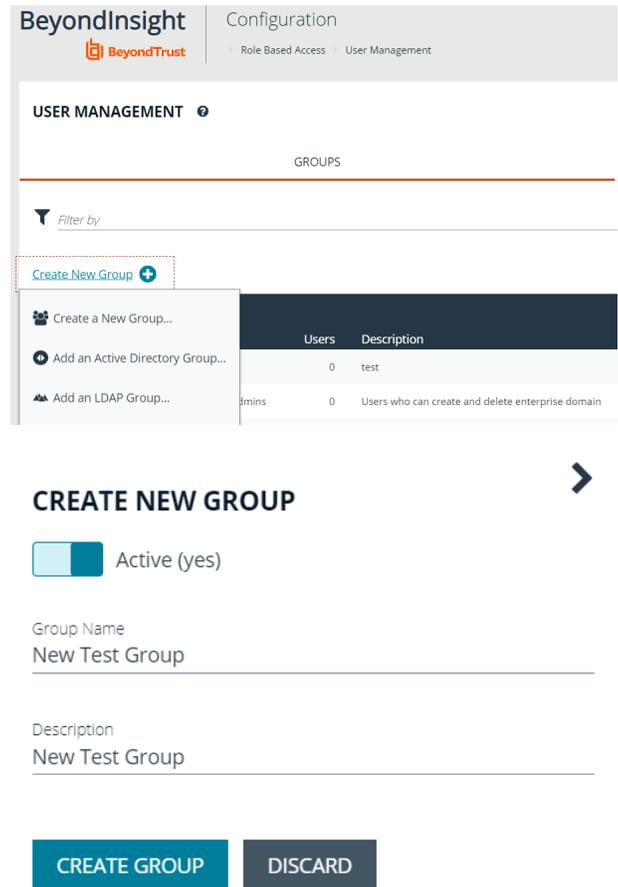
After a group is created, add user accounts to the group. When a user is added to a group, the user is assigned the permissions assigned to the group.

## Create a BeyondInsight Local Group

1. Select **Configuration**.
2. Under **Role Based Access**, select **User Management**.

3. Under **Groups**, click **Create New Group**.
3. Select **Create a New Group**.

4. Enter a **Group Name** and **Description** for the group.
5. The group is set to **Active (yes)** by default. Click the toggle to set the group to **Active (no)** if you wish to activate it later.
6. Click **Create Group**.



**Configuration** > Role Based Access > User Management

**USER MANAGEMENT** ⓘ

GROUPS

Filter by

Create New Group +

- Create a New Group...
- Add an Active Directory Group...
- Add an LDAP Group...

Users	Description
0	test
0	Users who can create and delete enterprise domain

**CREATE NEW GROUP**

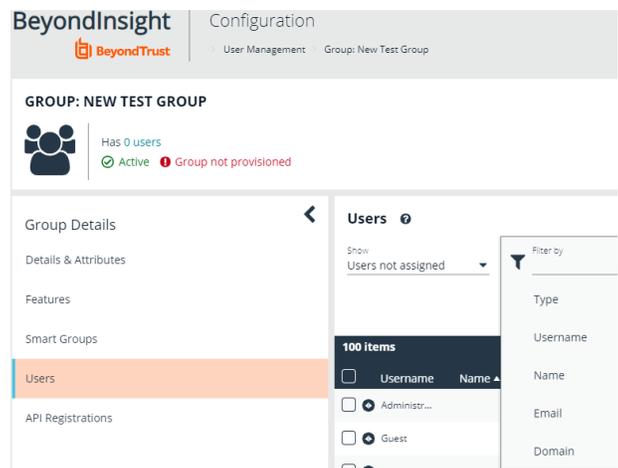
Active (yes)

Group Name  
New Test Group

Description  
New Test Group

**CREATE GROUP** **DISCARD**

7. Assign users to the group:
  - Under **Group Details**, select **Users**.
  - From the **Show** dropdown list, select **Users not assigned**.
  - Filter the list of users displayed in the grid by **Type**, **Username**, **Name**, **Email**, and **Domain**, if desired.



**Configuration** > User Management > Group: New Test Group

**GROUP: NEW TEST GROUP**

Has 0 users  
Active Group not provisioned

Group Details

- Details & Attributes
- Features
- Smart Groups
- Users**
- API Registrations

Users ⓘ

Show: Users not assigned

Filter by

- Type
- Username
- Name
- Email
- Domain

100 items

Username	Name
Administr...	
Guest	

- a. Select the users you wish to add to the group, and then click **Assign User**.

**Users** ⓘ

Show  
Users not assigned ▾

Username  
name ✕

Filter by

**Assign User** +

**7 items (6 selected)**

<input type="checkbox"/>	Username	Name ▲	Email	Domain
<input checked="" type="checkbox"/>	a.name4	a.name4	e@mail4.null	n
<input checked="" type="checkbox"/>	a.name5	a.name5	e@mail5.null	n
<input checked="" type="checkbox"/>	a.name6	a.name6	e@mail6.null	n
<input checked="" type="checkbox"/>	a.name7	a.name7	e@mail7.null	n
<input checked="" type="checkbox"/>	a.name8	a.name8	e@mail8.null	n
<input checked="" type="checkbox"/>	a.name9	a.name9	e@mail9.null	n

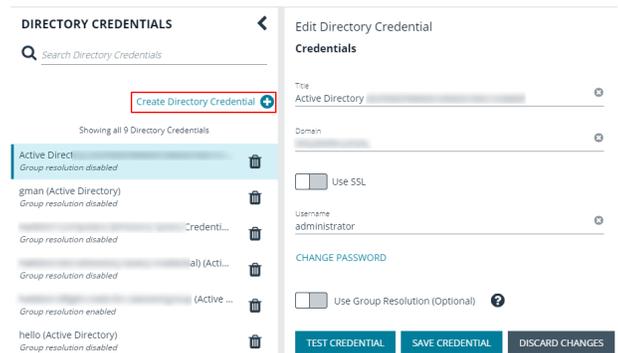
**i** *By default, new groups are not assigned any permissions. You must assign permissions on features and smart groups after creating a new group. For more information on permissions and how to assign them, please see ["Assign Group Permissions"](#) on page 14.*

# Active Directory and LDAP

## Create and Edit Directory Credentials

A directory credential is required for querying Active Directory and LDAP, and also for adding Active Directory and LDAP groups and users in BeyondInsight.

1. Select **Configuration**.
2. Under **Role Based Access**, select **Directory Credentials**.
3. Click **Create Directory Credential**.



4. Select the directory type and provide a name for the credential.
5. Enter the name of the domain where the directory and user credentials reside.
6. Enable the SSL option to use a secure connection when accessing the directory.

 **Note:** If **Use SSL** is enabled, **SSL authentication must also be enabled in the BeyondInsight Configuration tool.**

7. Enter the credentials for the account that has permissions to query the directory.
8. Enable the **Use Group Resolution** option to use this credential to for resolving groups from the directory.

 **Note:** Only one credential can be set for group resolution per domain or server.

9. Click **Test Credential** to ensure the credential can successfully authenticate with the domain or domain controller before saving the credential.
10. Click **Save Credential**.

### New Directory Credential

#### Directory Type

- Active Directory
- LDAP

#### Credentials

Title

Domain

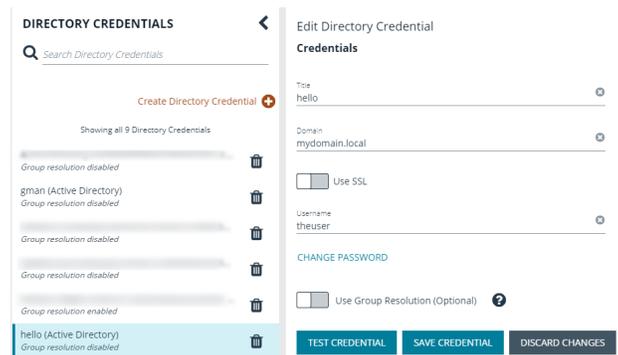
Use SSL

Username

Password

Use Group Resolution (Optional) ?

11. To edit a directory credential, select the credential and edit as desired.
  - If you change the **Domain**, **Use SSL** option, or the **Username**, you must change the password.
  - The **Change Password** section expands to display fields to enter and confirm the new password.
12. Click **Test Credential** to ensure the edited credential can successfully authenticate with the domain or domain controller before saving the credential.
13. Click **Save Credential**.



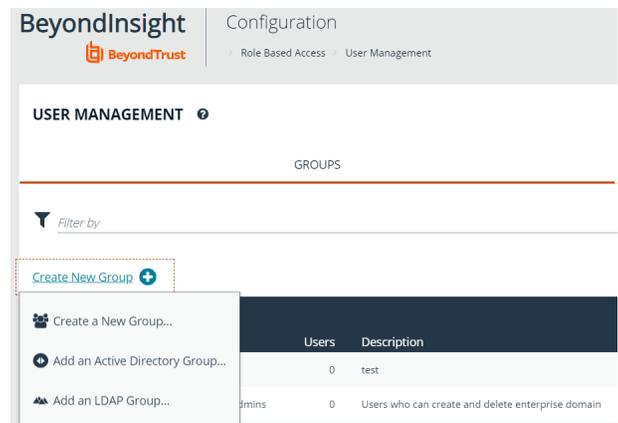
## Add an Active Directory Group

Active Directory group members can log in to the management console or a specific domain controller and perform tasks based on the permissions assigned to the group. The group can authenticate against either a domain or domain controller.

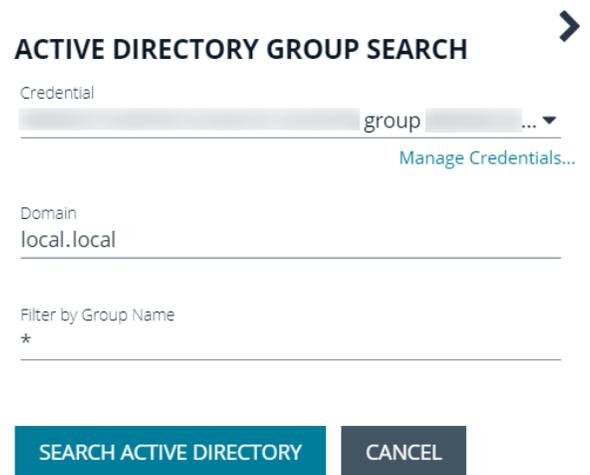


**Note:** Active Directory users must log in to the management console at least once to receive email notifications.

1. Select **Configuration**.
2. Under **Role Based Access**, select **User Management**.
3. Under **Groups**, click **Create New Group**.
3. Select **Add an Active Directory Group**.



4. Select a credential, or click **Manage Credentials** to add or edit a credential.

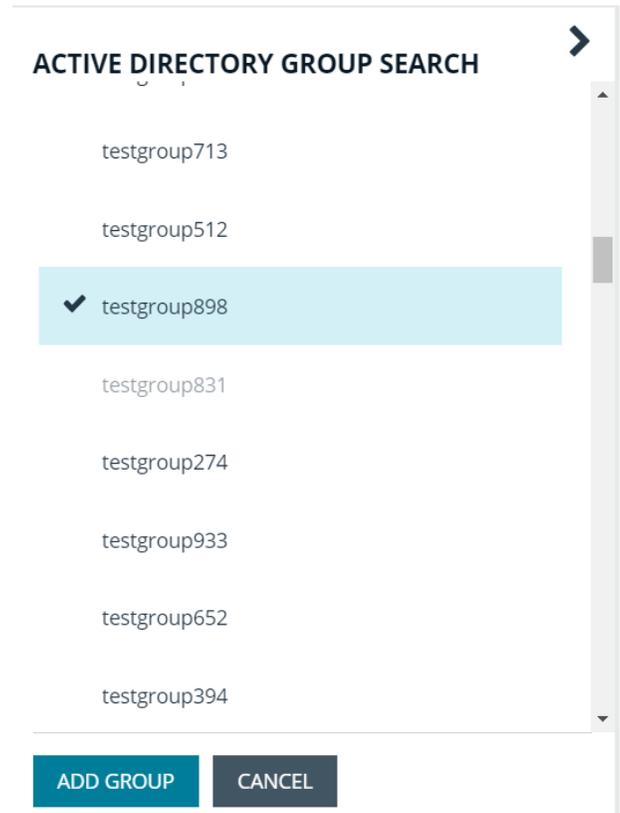


5. If the **Domain** field is not automatically populated, enter the name of a domain or domain controller.
6. After you enter the domain or domain controller credential information, click **Search Active Directory**. A list of security groups in the selected domain is displayed.

 **Note:** For performance reasons, a maximum of 250 groups from Active Directory is retrieved. The default filter is an asterisk (\*), which is a wildcard filter that returns all groups. Use the group filter to refine the list.

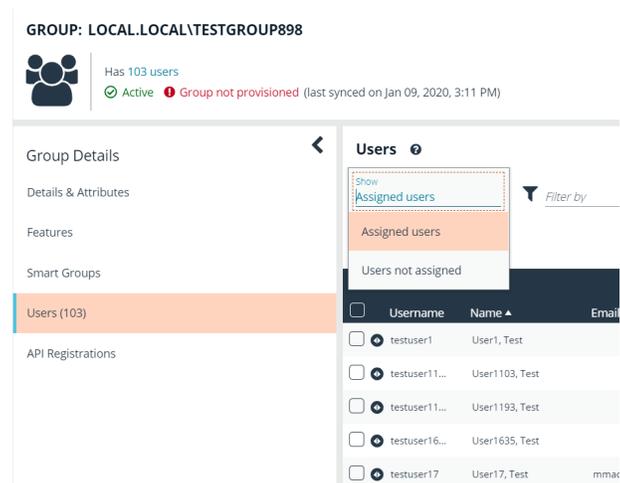
7. Set a filter on the groups that are to be retrieved, and then click **Search Active Directory**. Example filters:
  - **a\*** returns all group names that start with **a**.
  - **\*d** returns all group names that end with **d**.
  - **\*sql\*** returns all groups that contain **sql** in the name.

8. Select a group, and then click **Add Group**.



9. The group is added and set to **Active** but not provisioned or synchronized with Active Directory. Synchronization with Active Directory to retrieve users begins immediately.

10. Once the group has been synced with Active Directory, you can view the users assigned to the group, as well as unassigned users, by selecting **Users** from the **Group Details** section and then using the filters.



Username	Name	Email
<input checked="" type="checkbox"/> testuser1	User1, Test	
<input checked="" type="checkbox"/> testuser11...	User1103, Test	
<input checked="" type="checkbox"/> testuser11...	User1193, Test	
<input checked="" type="checkbox"/> testuser16...	User1635, Test	
<input checked="" type="checkbox"/> testuser17	User17, Test	mimac

**Note:** By default, new groups are not assigned any permissions. You must assign permissions on features and smart groups after creating a new group. For more information on permissions and how to assign them, please see "[Assign Group Permissions](#)" on page 14.

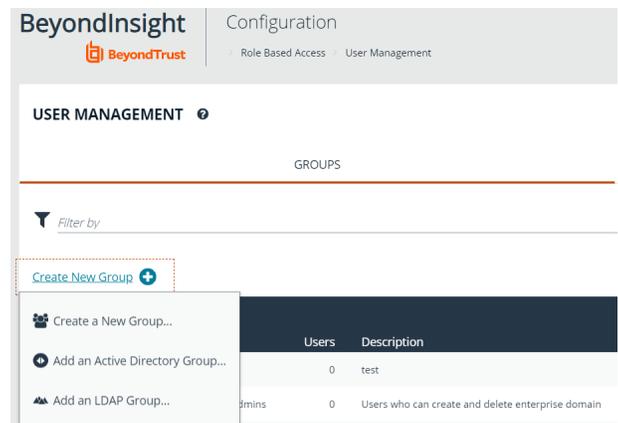
**i** For more information on creating and editing directory credentials, please see *"Create and Edit Directory Credentials"* on page 7.

## Add an LDAP Directory Group

LDAP group members can log in to the management console or a specific domain controller and perform tasks based on the permissions assigned to the group. The group can authenticate against either a domain or domain controller.

**Note:** LDAP users must log in to the management console at least once to receive email notifications.

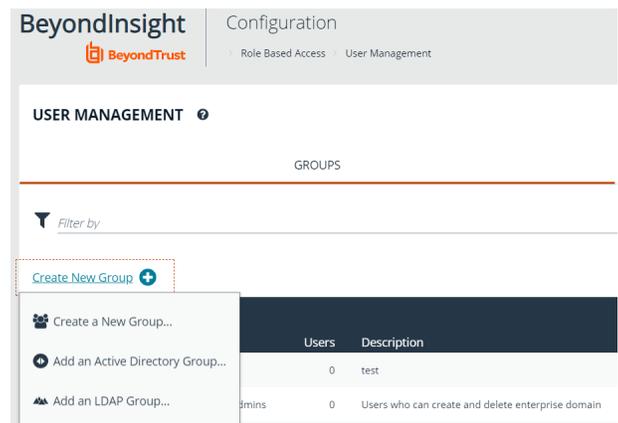
1. Select **Configuration**.
2. Under **Role Based Access**, select **User Management**.



The screenshot shows the BeyondTrust Configuration console. The breadcrumb trail is Configuration > Role Based Access > User Management. The main heading is USER MANAGEMENT. Below it is a section for GROUPS with a 'Filter by' dropdown. A 'Create New Group' button with a plus icon is highlighted with a red dashed box. A dropdown menu is open, showing three options: 'Create a New Group...', 'Add an Active Directory Group...', and 'Add an LDAP Group...'. Below the dropdown is a table with columns 'Users' and 'Description'.

Users	Description
0	test
0	Users who can create and delete enterprise domain

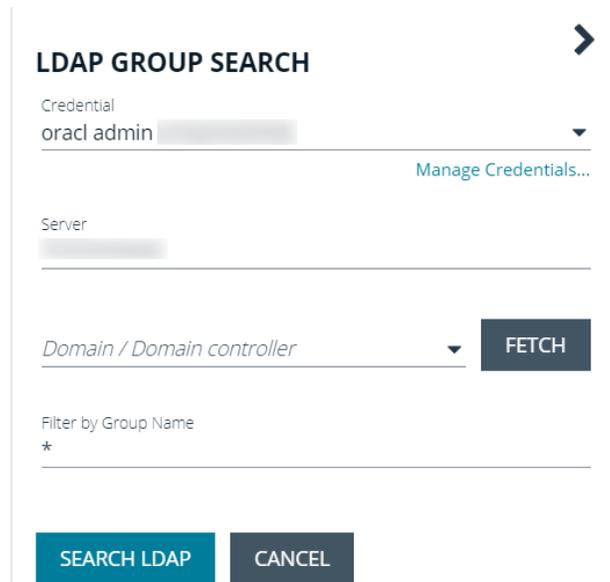
3. Under **Groups**, click **Create New Group**.
3. Select **Add an LDAP Directory Group** from the list.



This screenshot is identical to the one above, showing the BeyondTrust Configuration console with the 'Groups' section and the 'Create New Group' dropdown menu open. The table below the dropdown shows the same data.

Users	Description
0	test
0	Users who can create and delete enterprise domain

4. Select a credential, or click **Manage Credentials** to edit a credential or create a new one.



**LDAP GROUP SEARCH** ➤

Credential  
 oracl admin  ▼  
[Manage Credentials...](#)

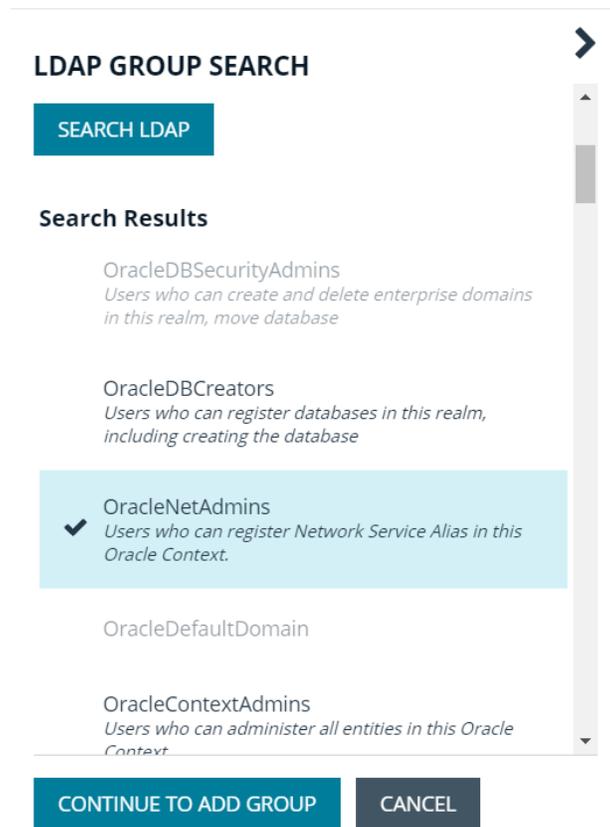
Server

Domain / Domain controller ▼ **FETCH**

Filter by Group Name  
 \*

**SEARCH LDAP** **CANCEL**

5. Click **Fetch** to load the list of Domain Controllers, and then select one.
6. To filter the group search, enter keywords in the group filter or use a wildcard.
7. Click **Search LDAP**.
8. Select a group, and then click **Continue to Add Group**.



**LDAP GROUP SEARCH** ➤

**SEARCH LDAP**

**Search Results**

OracleDBSecurityAdmins  
*Users who can create and delete enterprise domains in this realm, move database*

OracleDBCreators  
*Users who can register databases in this realm, including creating the database*

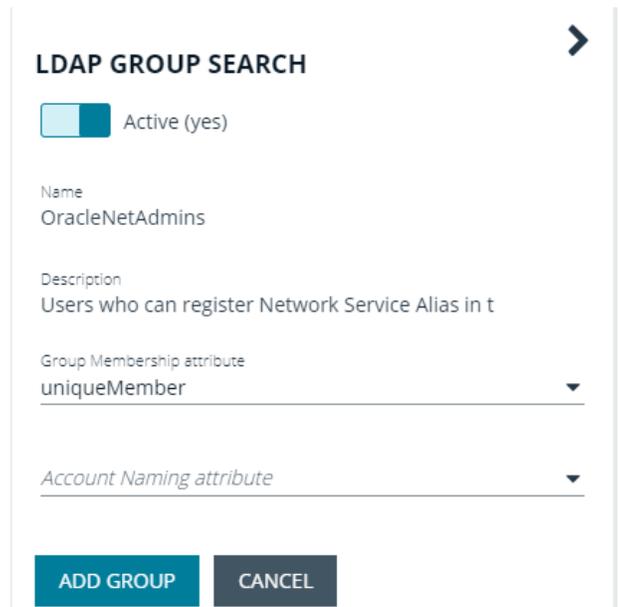
OracleNetAdmins  
*Users who can register Network Service Alias in this Oracle Context.*

OracleDefaultDomain

OracleContextAdmins  
*Users who can administer all entities in this Oracle Context.*

**CONTINUE TO ADD GROUP** **CANCEL**

9. Select the **Group Membership Attribute** and **Account Naming Attribute**.
10. Click **Add Group**.
11. The group is added and set to **Active** but not provisioned or synchronized with LDAP. Synchronization with LDAP to retrieve users begins immediately.



**LDAP GROUP SEARCH**

Active (yes)

Name  
OracleNetAdmins

Description  
Users who can register Network Service Alias in t

Group Membership attribute  
uniqueMember

Account Naming attribute

**ADD GROUP** **CANCEL**

12. Once the group has been synced with LDAP, you can view the users assigned to the group, as well as unassigned users, by selecting **Users** from the **Group Details** section, and then using the filters.

**GROUP: LOCAL.LOCAL\TESTGROUP898**

Has 103 users  
✔ Active ❌ Group not provisioned (last synced on Jan 09, 2020, 3:11 PM)

Group Details

- Details & Attributes
- Features
- Smart Groups
- Users (103)**
- API Registrations

**Users**

Show **Assigned users** Filter by

Assigned users

Users not assigned

<input type="checkbox"/>	Username	Name	Email
<input checked="" type="checkbox"/>	testuser1	User1, Test	
<input checked="" type="checkbox"/>	testuser11...	User1 103, Test	
<input checked="" type="checkbox"/>	testuser11...	User1 193, Test	
<input checked="" type="checkbox"/>	testuser16...	User1 635, Test	
<input checked="" type="checkbox"/>	testuser17	User17, Test	mamac

 **Note:** By default, new groups are not assigned any permissions. You must assign permissions on features and smart groups after creating a new group. For more information on permissions and how to assign them, please see ["Assign Group Permissions"](#) on page 14.

 For more information on creating and editing directory credentials, please see ["Create and Edit Directory Credentials"](#) on page 7.

# Assign Permissions

## Assign Group Permissions

### Permissions

Permission	Description
No Access	Users cannot access the selected feature. In most cases, the feature is not visible to the users.
Read Only	Users can view selected areas, but cannot change information.
Full Control	Users can view and change information for the selected feature.

Permissions must be assigned cumulatively. For example, if you want a BeyondInsight administrator to manage configuration compliance scans only, then you must assign **Full Control** for the following features:

- **Asset Management**
- **Benchmark Compliance**
- **Reports Management**
- **Scan - Job Management**
- **Scan Management**

## Assign Features Permissions

1. Under **Group Details**, select **Features**.
2. Filter the list of features displayed in the grid using the **Show** and **Filter by** dropdown lists.
3. Select the features you wish to assign permissions to, and then click **Assign Permissions**.
4. Select **Assign Permissions Read Only**, **Assign Permissions Full Control**, or **Disable Permissions**.



The following table provides information on the features permissions that you can assign to your groups.

Feature	Provides Permissions To:
Analytics & Reporting	Log in to the console and access <b>Analytics &amp; Reporting</b> to generate and subscribe to reports. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <b>Note:</b> After you create a group, go to the <b>Analytics &amp; Reporting Configuration</b> page and run the process daily cube job. Data between the management console and the reporting cube must be synchronized.                     </div>
Asset Management	Create Smart Rules. Edit and delete buttons on the <b>Asset Details</b> window. Create Active Directory queries. Create address groups.
Attribute Management	Add, rename, and delete attributes when managing user groups.
Audit Manager	<b>Audit Manager</b> on the <b>Configuration</b> page in the management console.
Audit Viewer	Use the <b>Audit Viewer</b> in <b>Analytics &amp; Reporting</b> .
Benchmark Compliance	Configure and run benchmark compliance scans.
Credential Management	Add and change credentials when running scans and deploying policies.
Directory Credential Management	Grant access to the configuration area where directory credentials are managed. This feature must be enabled to support access to directory queries as well.
Directory Query Management	Grant access to the configuration area where directory queries are managed. Please note, access to Directory Credential Management must also be granted.
Endpoint Privilege Management	Use the <b>Endpoint Privilege Management</b> module, including asset details and the exclusions section on the <b>Configuration</b> page.
Endpoint Privilege Management for Unix and Linux	Use the <b>Endpoint Privilege Management for Unix and Linux</b> module.
File Integrity Monitoring	Work with <b>File Integrity</b> rules.
License Reporting	View the <b>Licensing</b> folder in <b>Analytics &amp; Reporting</b> (MSP reports, Privilege Management for Windows, Privilege Management for Mac true-up reports, and Assets Scanned report).
Management Console Access	Access the BeyondInsight management console.
Manual Range Entry	Allow the user to manually enter ranges for scans and deployments rather than being restricted to smart groups. The specified ranges must be within the selected smart group.
Option Management	Change the application options settings (for example, account lockout and account password settings).
Options - Connectors	Access the configuration area where connectors are managed.
Options - Scan Options	Access the configuration area where scan options are managed.
Password Safe Account Management	Read or write managed accounts through the public API.
Password Safe Admin Session	Password Safe web portal admin sessions.
Password Safe Global API Quarantine	Access to the Quarantine APIs.

Feature	Provides Permissions To:
Password Safe Bulk Password Change	Change more than one password at a time.
Password Safe Domain Management	Check the <b>Read</b> and <b>Write</b> boxes to permit users to manage domains.
Password Safe Role Management	Allow a user to manage roles, provided they have the following permissions: <b>Password Safe Role Management</b> and <b>User Account Management</b> .
Password Safe System Management	Read and write managed systems through the public API.
Password Safe Ticket System Management	This feature is not presently used.
Patch Management	Use Patch Management module.
Protection Policy Management	Activate the protection policy feature. User groups can deploy policies, and manage protection policies on the <b>Configuration</b> page.
Reports Management	Run scans, create reports, and create report categories.
Scan - Audit Groups	Create, delete, update, and revert audit group settings.
Scan - Job Management	Activate <b>Scan</b> and <b>Start Scan</b> buttons. Activate <b>Abort</b> , <b>Resume</b> , <b>Pause</b> , and <b>Delete</b> on the <b>Job Details</b> page.
Scan - Policy Manager	Activate the settings on the <b>Edit Scan Settings</b> view.
Scan - Port Groups	Create, delete, update, and revert port group settings.
Scan - Report Delivery	Allow a user to set report delivery options when running a scan: <ul style="list-style-type: none"> <li>• Export Type</li> <li>• Do not create a report for this vulnerability scan</li> <li>• Notify when complete</li> <li>• Email report to</li> <li>• Include scan metrics in email (only available for All Audits Scan, PCI Compliance Report, and Vulnerabilities Report)</li> </ul>
Scan Management	Delete, edit, duplicate, and rename reports on the <b>Manage Report Templates</b> page. Activate <b>New Report</b> and <b>New Report Category</b> . Activate the <b>Update</b> button on the <b>Edit Scan Settings</b> view.
Session Monitoring	Use the session monitoring features.
Ticket System	View and use the ticket system.
Ticket System Management	Mark a ticket as inactive. The ticket no longer exists when <b>Inactive</b> is selected.
User Accounts Management	Add, delete, or change user groups and user accounts.
User Audits	View audit details for management console users on the <b>User Audits</b> page.
Vulnerability Exclusions	Select this option to prevent users from excluding vulnerabilities from the display. You can exclude vulnerabilities from the display to view those that require remediation to satisfy regulatory compliance. In some situations, you might not want all of your users to set an exclusion on a vulnerability.

**i** For more information, please see the Managed Accounts section in the [BeyondInsight and Password Safe API Guide](https://www.beyondtrust.com/docs/beyondinsight-password-safe/ps/index.htm) at <https://www.beyondtrust.com/docs/beyondinsight-password-safe/ps/index.htm>.

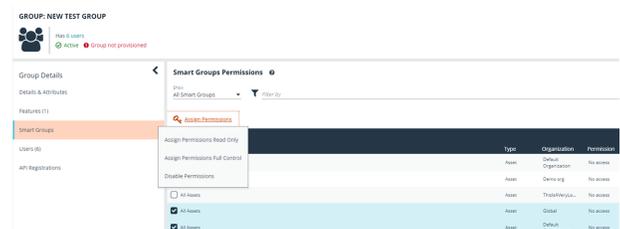
**i** For more information, please see the Managed Accounts section in the [BeyondInsight and Password Safe API Guide](https://www.beyondtrust.com/docs/beyondinsight-password-safe/ps/api/password-safe/managed-accounts.htm) at <https://www.beyondtrust.com/docs/beyondinsight-password-safe/ps/api/password-safe/managed-accounts.htm>.

## Features Permissions Required for Configuration Options

Configuration Option	Feature and Permission
Active Directory Queries	Asset Management - Full Control.
Address Groups	Asset Management - Full Control.
Attributes	Asset Management - Full Control.
Benchmark Compliance	Benchmark Management - Full Control.
Connectors	Asset Management and Management Console Access - Full Control.
Organizations	User Accounts Management - Full Control.
Patch Management	Patch Management - Full Control.
Password Safe Connections	Member of the built-in BeyondInsight Administrators group.
Endpoint Privilege Management Module	Management Console Access and Endpoint Privilege Management - Full Control.
Protection Policies	Everyone can access.
Scan Options	Scan Management - Full Control.
SCCM	Patch Management - Full Control.
Services	Member of the built-in BeyondInsight Administrators group.
User Audits	User Audits - Full Control.
User Management	Everyone can access.  Users without the Full Control permission to <b>User Account Management</b> feature can edit only their user record.
Workgroups	User Accounts Management - Full Control.

## Assign Smart Groups Permissions

- Under **Group Details**, select **Smart Groups**.
- Filter the list of smart groups displayed in the grid using the **Show** and **Filter by** dropdown lists.
- Select the smart groups you wish to assign permissions to, and then click **Assign Permissions**.
- Select **Assign Permissions Read Only**, **Assign Permissions Full Control**, or **Disable Permissions**.



# Configure Two-Factor Authentication for BeyondInsight and Password Safe Using RADIUS Server

You can configure two-factor authentication to log in to the BeyondInsight management console, Analytics & Reporting, and Password Safe.

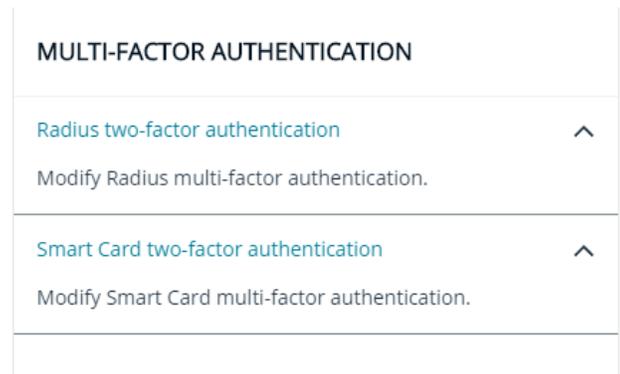
After you set up two-factor authentication, users must log in using the two-factor authentication method.

To set up two-factor authentication, you must:

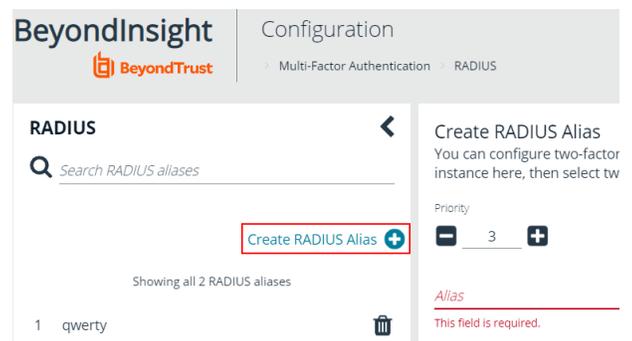
- Configure the RADIUS server.
- Configure the two-factor authentication settings for users.

## Configure the RADIUS Server

1. Select **Configuration > Multi-factor Authentication > Radius two-factor authentication**.



2. Click **Create Radius Alias**.



3. In the **Create RADIUS Alias** pane, set the following:

- **Alias:** Provide a name used to represent the RADIUS server instance. This is displayed in the RADIUS server grid and must be unique.
- **Filter:** Select a filter that will be used to determine if this RADIUS server instance should be used. If you select one of the domain filters, you must enter a **Value**.
- **Value:** If one of the domain filters is selected, enter a value that will identify the domain. Enter a domain or comma-separated list of domains, depending on the setting selected for the filter.
- **Host:** Enter the DNS name or the IP address for your RADIUS server.

- **Authentication Mechanism:** Select **PAP**, or **MSCHAPv2** if applicable. MSCHAPv2 is supported only if the Duo proxy is configured to use a RADIUS client.
- **Authentication Port:** Enter the listening port that is configured on your RADIUS server to receive authentication requests. The default port is **1812**.
- **Authentication Request Timeout:** Enter the time in seconds that you want BeyondInsight to wait for a response from the RADIUS server before the request times out. The default value is ten seconds.
- **Shared Secret:** Enter the shared secret that is configured on your RADIUS server.
- **Initial Request:** Provide the value passed to the RADIUS server on the first authentication request. Select from the following: **Forward User Name** (default), **Forward User Name and Password**, **Forward User Name and Token**.
- **Initial Prompt:** Provide the first message that displays to the user when they log in to the application. This setting is available only when **Forward User Name and Token** is selected as the initial request value.
- **Transmit NAS Identifiers:** Enable this option if it is applicable to your environment. When this option is enabled, NAS identifiers are transmitted to permit access. In some cases, a RADIUS server does not permit access if NAS identifiers are not transmitted. BeyondInsight transmits its NAS IP Address and its NAS Identifier.

4. Click **Create RADIUS Alias**.

## Configure RADIUS Two-Factor Authentication Using Duo

This section is a high-level overview on the configuration required for BeyondInsight and Password Safe to work with a RADIUS infrastructure using Duo.

BeyondInsight and Password Safe can work with the following Duo configurations:

- RADIUS Auto
- RADIUS Challenge
- RADIUS Duo only

## Configure Two-Factor for RADIUS Auto and RADIUS Challenge Configurations Using Duo

Follow the steps outlined above in "[Configure the RADIUS Server](#)" on page 18, using the following settings:

- For **Alias**, enter **Duo**.
- For **Authentication Mechanism**, select **PAP**.
- For **Initial Request**, select **Forward User Name and Password**.

**Create RADIUS Alias**  
You can configure two-factor authentication using a RADIUS server. You must first configure the alias to represent the RADIUS server instance here, then select two-factor authentication settings for the user.

Priority  
3

Alias  
Duo

Filter  
All domain users

Host  
10.101.10.23

Authentication mechanism  
PAP

Authentication port  
1812

Authentication request timeout  
500 seconds

Shared secret  
.....

Initial request  
Forward username and password

Transmit NAS identifiers

**CREATE RADIUS ALIAS** **DISCARD CHANGES**

## Configure Two-Factor for a RADIUS Duo-only Configuration

Follow the steps outlined above in "Configure the RADIUS Server" on page 18, using the following settings:

- For **Alias**, enter **Duo**.
- For **Authentication Mechanism**, select **PAP**.
- For **Initial Request**, select **Forward User Name and Token**.
- For **Initial Prompt**, enter a message to display on the BeyondInsight login page to provide guidance to users on the information to enter. In this case, the user must enter the RADIUS code.

**Create RADIUS Alias**  
You can configure two-factor authentication using a RADIUS server. You must first configure the alias to represent the RADIUS server instance here, then select two-factor authentication settings for the user.

Priority: 3

Alias: Duo

Filter: All domain users

Host: 10.101.10.23

Authentication mechanism: PAP

Authentication port: 1812

Authentication request timeout: 500 seconds

Shared secret: [REDACTED]

Initial request: Forward username and token      Prompt: Enter RADIUS code:

Transmit NAS identifiers

**CREATE RADIUS ALIAS**    **DISCARD CHANGES**



### Example: Duo-Only Login Page

After RADIUS two-factor authentication is configured, the login page for end user varies, depending on the configured settings.

The screenshot shows a login page configured for Duo-only authentication. The user can enter a passcode to log in or select a device to send a code to. The user then enters the code on the login page.

Duo two-factor login for user1. Enter a passcode or select one of the following options: 1. Duo Push to XXX-XXX-6313 2. Phone call to XXX-XXX-6313 3. SMS passcodes to XXX-XXX-6313 (next code starts with: 2) Passcode or option (1-3):

## Configure Alternate Directory Attribute for RADIUS

To configure an alternate directory attribute for Active Directory and LDAP users for RADIUS authentication, follow the below steps.



**Note:** This setting is optional.

1. Select **Configuration**.
2. Under **Role Based Access**, select **Options**.
3. Under **RADIUS Two-Factor Authentication**, set the following:
  - **Alternate directory attribute:** Enter the Active Directory or LDAP attribute that is matched on the RADIUS server to identify the user account. This can be any attribute in Active Directory or LDAP. The default value is **extensionName**.
  - **Enable for new directory accounts:** Click the toggle to enable this attribute for new accounts when they are discovered.
4. Click **Update RADIUS Two-Factor Authentication Options**.

## Configure SecureAuth with Password Safe using RADIUS

Use the following procedures to configure SecureAuth multi-factor authentication with Password Safe and RADIUS.

1. Install the SecureAuth app on a mobile device and click the bar code to scan.
2. In the BeyondInsight console, perform the following:
  - Configure RADIUS, ensuring **UDP port 1812** is open for the SecureAuth instance.
  - Create a group with role access for managed accounts.
  - Create a user. The user must also be a user in the SecureAuth system.
  - Enable two-factor authentication for the user. Map the user to the account name in SecureAuth.

### Test the Configuration:

1. Log in to the Password Safe web portal using the user account that you created.
2. Enter **1** to receive the passcode in a text message.
3. Retrieve the passcode from your mobile device.
4. Enter the passcode on the Password Safe web portal login page, and then click **Login**.
5. Test other login methods.



**Note:** For the push method (4), increase the timeout to **30 seconds**.

# Configure Smart Card Authentication

Smart cards can be used for authentication when logging into BeyondInsight and Password Safe. Your network must already be configured to use smart card technology to use this feature.

This section is written with the understanding that you have a working knowledge of PKI, Certificate Based Authentication, and IIS. To configure smart card authentication for a user in BeyondInsight and Password Safe, follow the below steps.

1. Select **Configuration > Multi-factor Authentication > Smart Card two-factor authentication**.

2. Click the toggle to **Enable Smart Cards**.
3. Click the toggle to enable the **Allow UPN Override On User** option. This enables a BeyondInsight user with a smart card that has a different Subject Alternative Name to log into BeyondInsight and maps the smart card to the user.
4. Click **Update Smart Card Authentication**.

## MULTI-FACTOR AUTHENTICATION

Radius two-factor authentication ^

Modify Radius multi-factor authentication.

Smart Card two-factor authentication ^

Modify Smart Card multi-factor authentication.

## SMART CARD AUTHENTICATION

You can configure Smart Card authentication to log in to the system. Your network must already be configured to use Smart Card technology to use this feature.

Enable Smart Cards (Yes)

Allow UPN override on user (No)

**UPDATE SMART CARD AUTHENTICATION**

## Multi-Factor Authentication

Override Smart Card User (yes)

*User Principal Name*

The user principal name is required

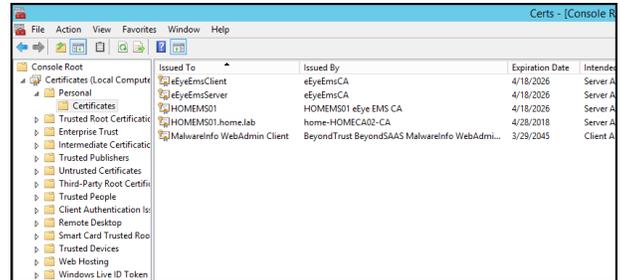


**Note:** You must also enable the **Override Smart Card User** setting for the user accounts that use smart cards to authenticate. The User Principal Name is also required. This can be set when creating a new user or editing an existing user.

## Verify the BeyondInsight Server Certificate

During the BeyondInsight installation, self-signed certificates are created for client and server authentication. These certificates are placed in your **Personal > Certificates** store and show as **Issued By eEyeEmsCA**.

To authenticate using smart cards, the server where BeyondInsight is running also requires a certificate issued and signed by a certificate authority (CA). Verify that your BeyondInsight server has the correct certificates issued before continuing.

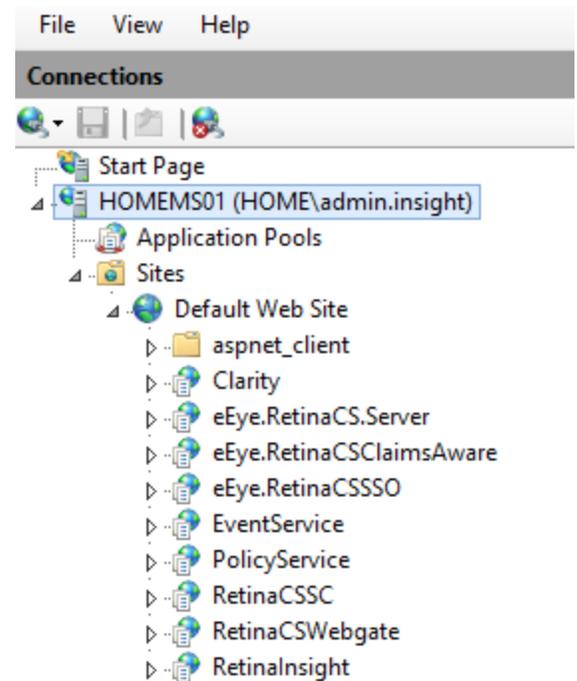


## Verify the Web Server Certificate

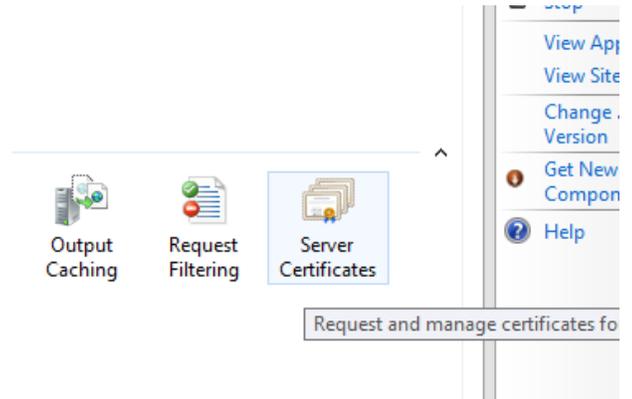
During the BeyondInsight installation, a self-signed web server certificate is created. This certificate must be replaced with a CA-issued certificate.

To verify you have a CA-signed certificate issued to the web server:

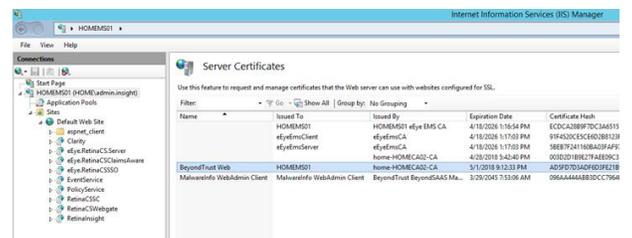
1. Open **IIS**.
2. Select your web server.



3. Select **Server Certificates**.



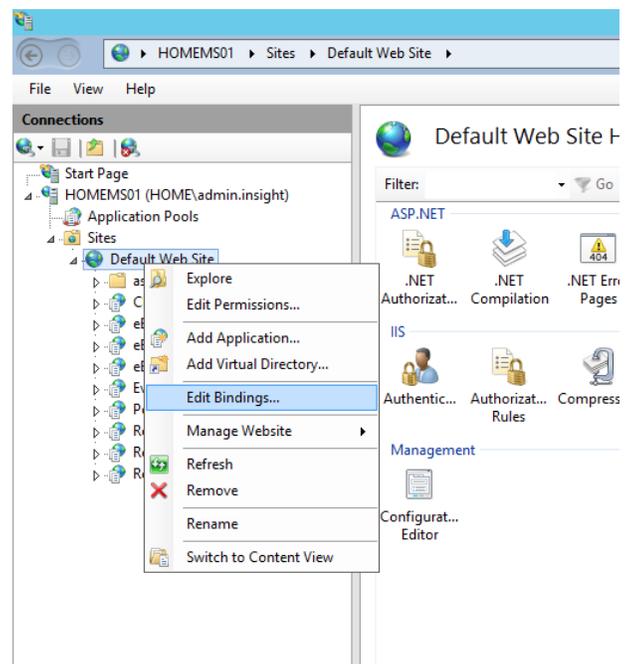
4. Verify you have a CA-issued certificate. If you do not see one listed, request one from your certificate authority.



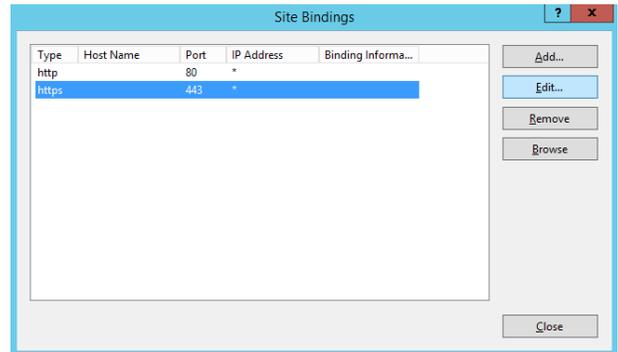
## Update Default Web Site Bindings with CA-Issued Certificate

Once you have a CA-issued certificate in place, you must edit the bindings of the **Default Web Site**, replacing the self-signed certificate.

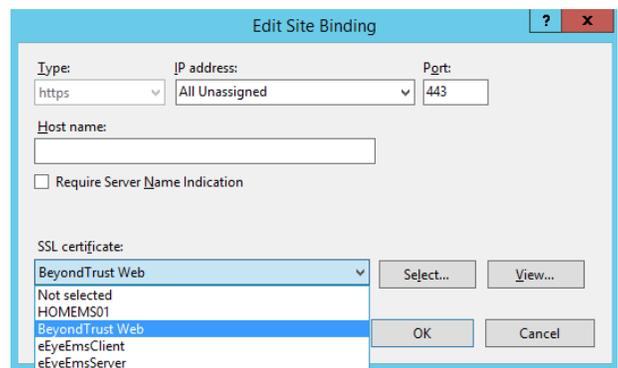
1. Open **IIS**.
2. Expand **Sites**, and then select **Default Web Site**.
3. Right-click **Default Web Site**, and then select **Edit Bindings**.



1. Select **https**, and then click **Edit**.



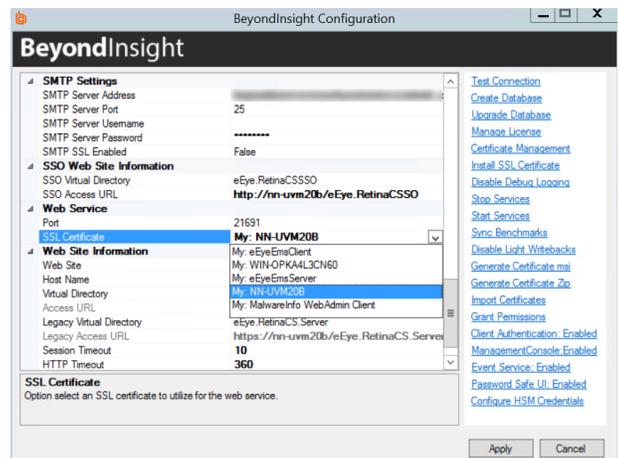
1. Select the issued domain certificate in the **SSL certificate** list, and then click **OK**.



## Update SSL Certificate in BeyondInsight Configuration Tool

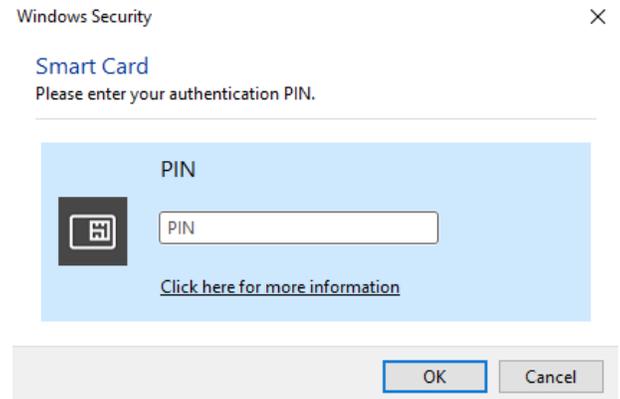
The next step is to change the domain issued certificate in the BeyondInsight Configuration tool.

1. Open the BeyondInsight Configuration tool. The default path is: **C:\Program Files (x86)\eEye Digital Security\Retina CS\REMEMConfig.exe**.
2. Scroll to **Web Service**.
3. From the **SSL Certificate** menu, select the **Domain Issued** certificate.
4. Click **Apply**.



## Log In to BeyondInsight and Password Safe Using a Smart Card

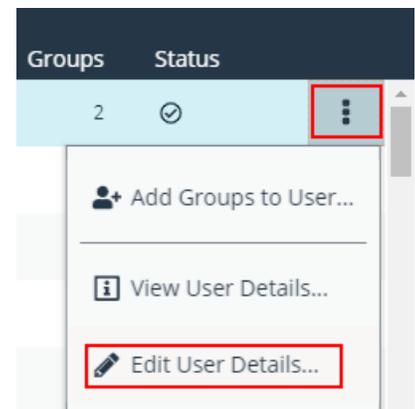
With the correct certificates now applied, you can now open the BeyondInsight console or go to <https://<servername>/WebConsole/PasswordSafe>, where you are prompted to select your certificate and enter your pin. You are logged in using a secure encrypted connection.



## Configure Two-Factor Authentication Settings for User Accounts

Two-factor authentication can be configured for Local, Active Directory, and LDAP user accounts as follows:

1. From the left navigation pane in the console, select **Configuration**.
2. Under **Role Based Access**, select **User Management**.
  1. Select the user.
  2. Click the **More Options** icon, and then select **Edit User Details**.
  3. On the **Edit User** page, select **RADIUS** from the **Two Factor Authentication** list.
  4. From the **Map Two Factor User** list, select one of the options listed. The user type selected maps to a user on the RADIUS server. The options displayed in the list change depending on the user logging in.
    - **Local BeyondInsight Users options:**
      - **As Logged in:** Use the BeyondInsight user account login.
      - **Manually Specified:** Enter the username the user enters when logging in.



- **Active Directory and LDAP Users options:**

- **SAM Account Name:** This is the default value.
- **Manually Specified:** This is the username the user enters when logging in.
- **Alternate Directory Attribute:** This is the Active Directory or LDAP attribute that you set above when configuring the RADIUS server.
- **Distinguished Name:** This is a combination of common name and domain component.
- **User Principal Name:** This is a combination of user account name (prefix) and DNS domain name (suffix), joined using the @ symbol.



**Note:** The information for Active Directory and LDAP user settings is retrieved from the corresponding setting in the directory for the user account logging in.

**EDIT USER**
›

e@mail4.null

---

Username  
a.name4

---

Account Quarantined (no)

**Multi-Factor Authentication**

Override Smart Card User (no)

Disable Forms Login (no)

Two Factor Authentication  
RADIUS

---

Map Two Factor User

Manually Specified

Alternate Directory Attribute (extensionName)

Distinguished Name

User Principle Name

SAM Account Name

Domain\User Name

Map Two Factor User

5. Click **Update User**.

## Configure a Claims-Aware Website in BeyondInsight

You can configure a claims-aware website to bypass the current BeyondInsight login page and authenticate against any configured Federated Service that uses SAML to issue claims.

The claims-aware website is configured to redirect to a defined Federation Service through the **web.config**. Upon receiving the required set of claims, the user is redirected to the existing BeyondInsight website. At that point, it is determined if the user has the appropriate group membership to log in, given the claims associated with them.

If users attempting to access BeyondInsight have group claims matching a group defined in BeyondInsight, and the group has the **Full Control** permission to the **Management Console Access** feature, the user bypasses the BeyondInsight login screen. If the user is new to BeyondInsight, they are created in the system using the same claims information. The user is also added to all groups they are not already a member of that match in BeyondInsight, and as defined in the group claim information.

If the user is not a member of at least one group defined in BeyondInsight or that group does not have the **Full Control** permission to the **Management Console Access** feature, they are redirected to the BeyondInsight login page.

### Create a BeyondInsight Group

Create a BeyondInsight group and ensure the group is assigned the **Full Control** permission to the **Management Console Access** feature.

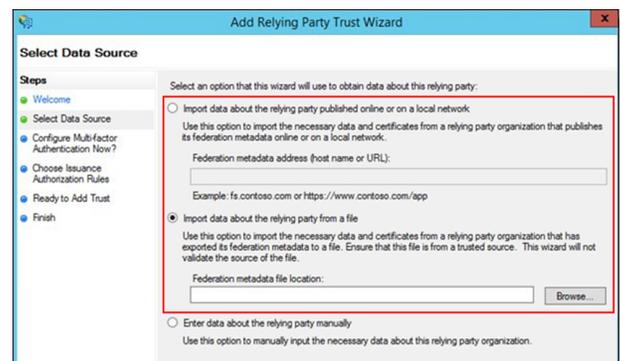
### Add Relying Party Trust

After BeyondInsight is installed, metadata is created for the claims-aware website. Use the metadata to configure the relying party trust on the Federation Services instance.

The metadata is located in the following directory:

**<Install path>\eEye Digital Security\Retina CS\WebSiteClaimsAware\FederationMetadata\2007-06\**

When selecting a **Data Source** in the **Add Relying Party Trust Wizard**, select the **FederationMetadata.xml** generated during the install.



## Set Up Claim Rules



**Note:** Claims rules can be defined in a number of different ways. The example provided is simply one way of pushing claims to BeyondInsight. As long as the claims rules are configured to include at least one claim of outgoing type **Group** (with **Group** claim matching exactly what is in BeyondInsight) and a single outgoing claim of type **Name**, then BeyondInsight has enough information to potentially grant access to the site to the user.

## Supported Federation Service Claim Types

Outgoing Claim Type	Outgoing Claim Type	Mapping to BeyondInsight User Detail
http://schemas.xmlsoap.org/claims/Group	Required	Group membership
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/name	Required	User name
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/surname	Optional	Surname
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/givenname	Optional	First name
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress	Optional	Email address

## Claims-Aware SAML

The following procedure shows you how to set up a claims-aware website using the Windows Identity Foundation (WIF) SDK.

1. Start the **Windows Identity Foundation Federation Utility**.
2. On the **Welcome** page, browse to and select the **web.config** file for **BeyondInsight Claims Aware** site. The application URI automatically populates.
3. Click **Next**.
4. Select **Using an existing STS**.
5. Enter **Root URL of Claims Issuer or STS**.
6. Select **Test location**. **FederationMetadata.xml** is downloaded.
7. Click **Next**.
8. Select a STS signing certificate option, and then click **Next**.
9. Select an encryption option, and then click **Next**.
10. Select the appropriate claims, and then click **Next**.
11. Review the settings on the **Summary** page, and then click **Finish**.

# Set Up SAML With a Generic Security Provider

The following steps show how to set up BeyondInsight with a generic security provider.

## Configure SAML

To configure SAML, go to the Dashboard or **Menu** and click **Configuration**, then, under **Multi-Factor Authentication**, click **SAML Configuration**.

### Identity Provider Settings:

1. **Entity ID:** The name of the identity provider (IdP) entry, normally supplied by the provider.
2. **Single Sign-on Service URL:** The SSO URL, from the provider.
3. Select **SSO URL Protocol Binding** type, **Redirect** or **Post**.
4. **Single Logout Service URL:** The SLO URL, from the provider.
5. Select **SLO URL Protocol Binding** type, **Redirect** or **Post**.
6. Under **Encryption and Signing Configuration**, check applicable boxes as required by your service provider.
7. Select the **Signature Method** from the dropdown list of methods. The correct method is as required by your IdP.
8. Upload the identity provider certificate.

### SAML Configuration

Identity Provider Settings

Entity ID

Single Sign-on Service URL

SSO URL Protocol Binding  
 HTTP Redirect  HTTP POST

Single Logout Service URL

SLO URL Protocol Binding  
 HTTP Redirect  HTTP POST

Encryption and Signing Configuration

<input type="checkbox"/> Sign Authentication Request	<input type="checkbox"/> Want Logout Request Signed
<input type="checkbox"/> Sign Logout Request	<input type="checkbox"/> Override Pending Authentication Request
<input type="checkbox"/> Sign Logout Response	<input type="checkbox"/> Disable Audience Restriction Check
<input type="checkbox"/> Want SAML Response Signed	<input type="checkbox"/> Disable In Response To Check
<input type="checkbox"/> Want Assertion Signed	<input type="checkbox"/> Disable Inbound Logout
<input type="checkbox"/> Want Assertion Encrypted	<input type="checkbox"/> Disable Outbound Logout
<input type="checkbox"/> Want Logout Response Signed	

Signature Method  
SHA-256

**Current Identity Provider Certificate**

Subject	--
Issuer	--
Valid from	0001-01-01T00:00:00
Valid to	0001-01-01T00:00:00

Upload Certificate

Drop File to upload  
(or click)

## Service Provider Settings

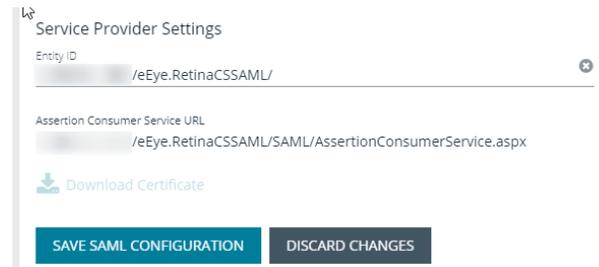
9. **Entity ID:** The fully qualified domain, followed by the file name:

**https://<serverURL>/eEye.RetinaCSSAML**

This is used for the audience restriction.

10. Click **SAVE SAML CONFIGURATION**.

Once the SAML configuration is saved, a public SP certificate is available to download. It can be uploaded to the IdP, if required.



The screenshot shows the 'Service Provider Settings' form. It includes a text input field for 'Entity ID' containing '/eEye.RetinaCSSAML', a text input field for 'Assertion Consumer Service URL' containing '/eEye.RetinaCSSAML/SAML/AssertionConsumerService.aspx', a 'Download Certificate' button, and two buttons at the bottom: 'SAVE SAML CONFIGURATION' and 'DISCARD CHANGES'.

## Update Host Name and SAML access URL

 **Note:** This is applicable to on-premises installations only. For PS Cloud or on-premises installations, Access URLs can also be set in the BI configuration.

1. Open the BeyondInsight Configuration Tool.
2. Scroll Down to **SAML Access URL**.
3. Update it to the fully qualified domain, followed by the file name:  
**https://<server>/eEye.RetinaCSSAML**
4. Scroll down to the **Host Name** field under the **Web Site Information** section.
5. Update it to the fully qualified domain, for example, **https://bidev.shines.test.cloud**.
6. Click **Apply**

 **Note:** The host name is the fully qualified domain name used to access BI/PS. If this is a load-balanced instance, the host name is the same on all servers.

## Configure Identity Provider (IdP)

Below are some of the values an IdP might need:

- Audience Restriction: **https://<server>/eEye.RetinaCSSAML**
- SSO Service URL: **https://<server>/eEye.RetinaCSSAML/SAML/AssertionConsumerService.aspx**
- SLO Service URL: **https://<server>/eEye.RetinaCSSAML/SAML/SLOService.aspx**
- Service Provider Certificate: (generated when SAML configuration is saved)

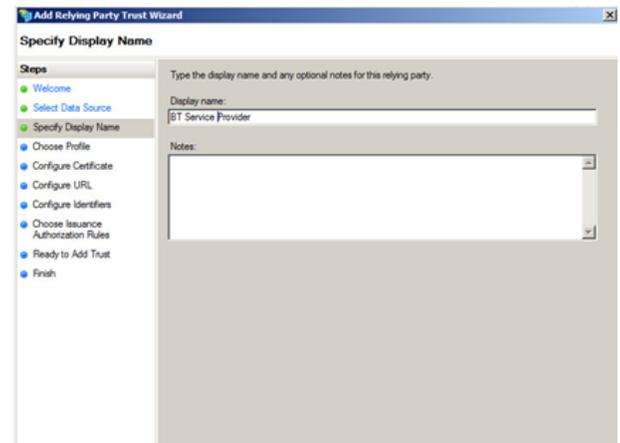
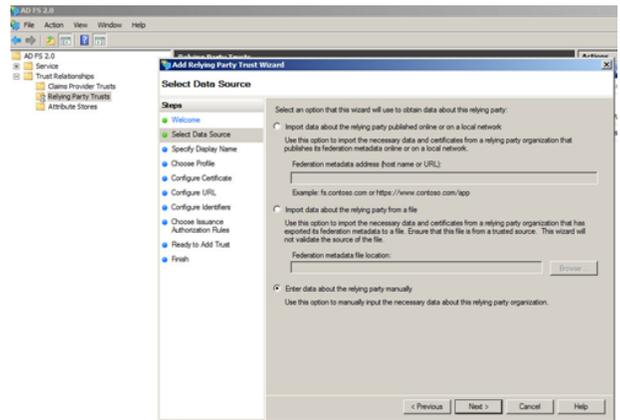
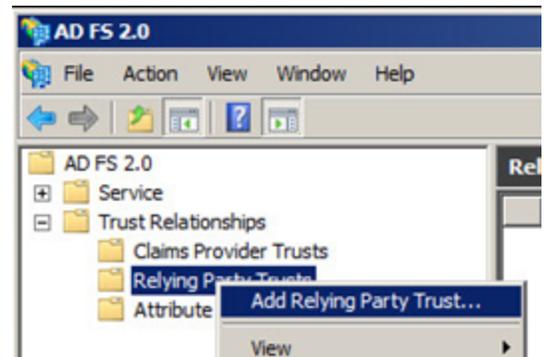
Your identity provider needs to provide the following attributes in the assertion:

- **Group:** (Required) This must match the group created in BeyondInsight or imported from Active Directory. If an Active Directory group is used, it must match the BI format **Domain\GroupName**.
- **Name:** (Required) This should be the be in the format **domain\username** or UPN.
- **Email:** (Optional).
- **Surname:** (Optional).
- **GivenName:** (Optional).

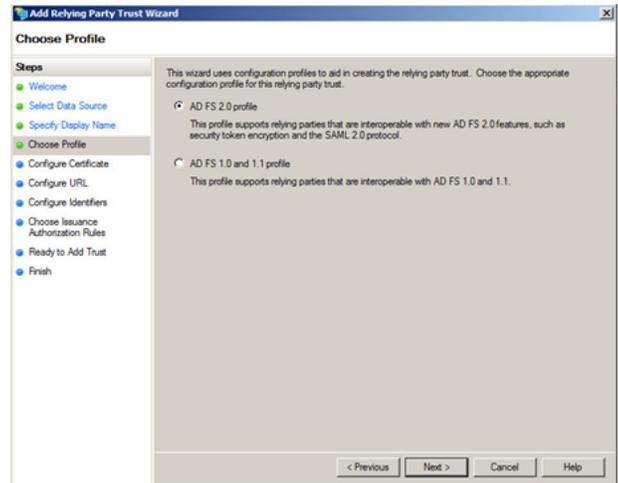
# Configure ADFS with Password Safe Using SAML

## Configure ADFS on the Identity Provider Server

1. Open the ADFS management console.
2. Expand **Trust Relationships**.
3. Right-click **Relying Party Trusts**.
4. Select **Add Relying Party Trust**.
  
5. Click **Start**.
6. Select **Enter data about the relying party manually**, and then click **Next**.
  
7. Enter a **Display name**, and then click **Next**.



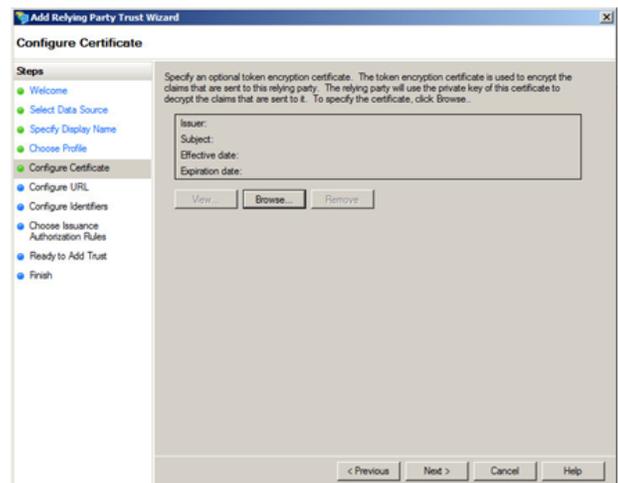
8. Leave **AD FS 2.0 profile** selected, and then click **Next**.



9. Click **Browse** on the **Configure Certificate** screen to import the service provider (SP) public certificate.

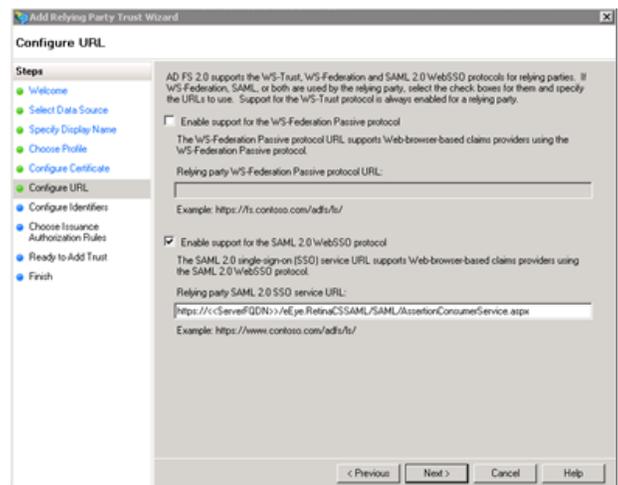
10. Navigate to the location of the SP certificate.

11. Select the certificate, click **Open**, and then click **Next**.

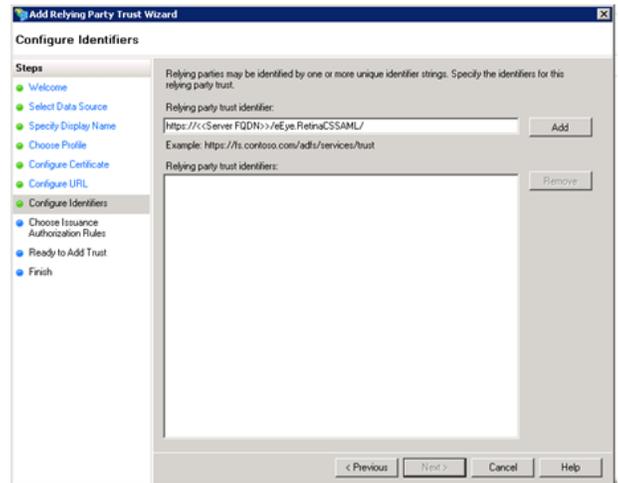


12. Select **Enable support for the SAML 2.0 WebSSO protocol**.

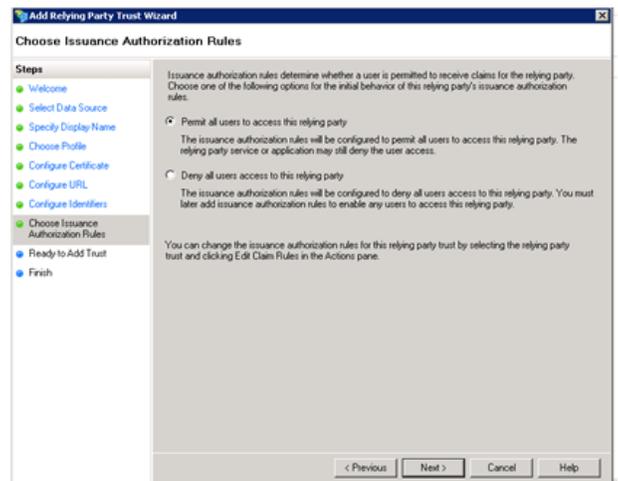
13. Enter the **Relying party SAML 2.0 SSO service URL**, and then click **Next**.



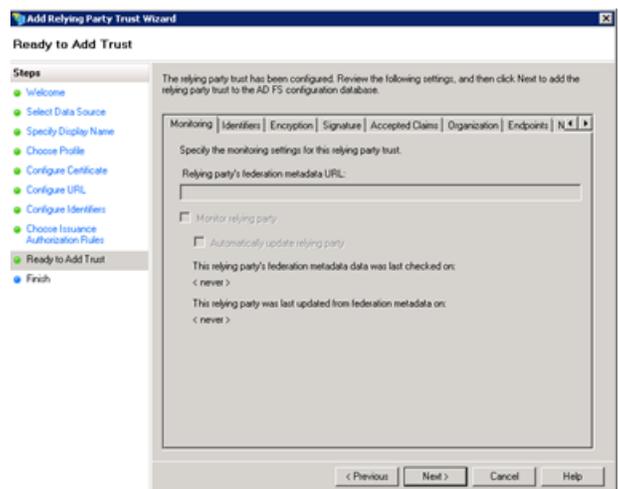
- Enter the **Relying party trust identifier**, click **Add**, and then click **Next**.



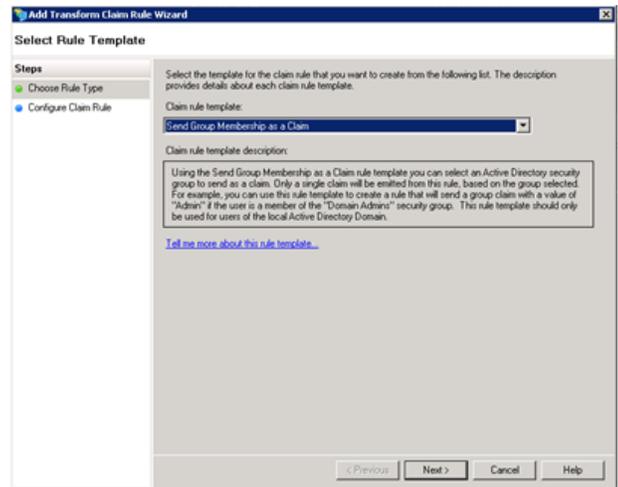
- Select the preferred method of access, and then click **Next**. The default is **Permit all users**.



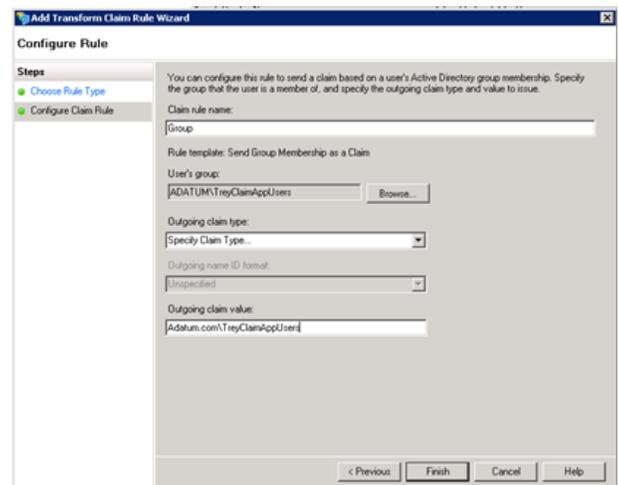
- Click **Next**, and then click **Close**.



17. Click **Add Rule**.
18. Select the **Send Group Membership as a Claim** rule template, and then click **Next**.

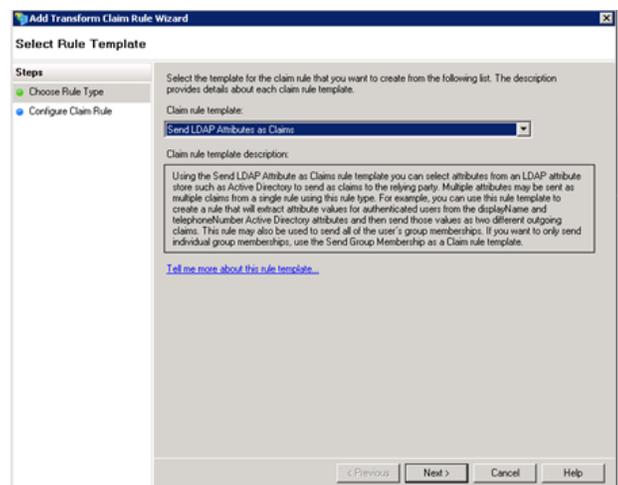


19. Enter a name for the claim rule.
20. Select the **User's group**.
21. Select the **Outgoing claim type**.
22. Select the **Outgoing claim value**.
23. Click **Finish**.

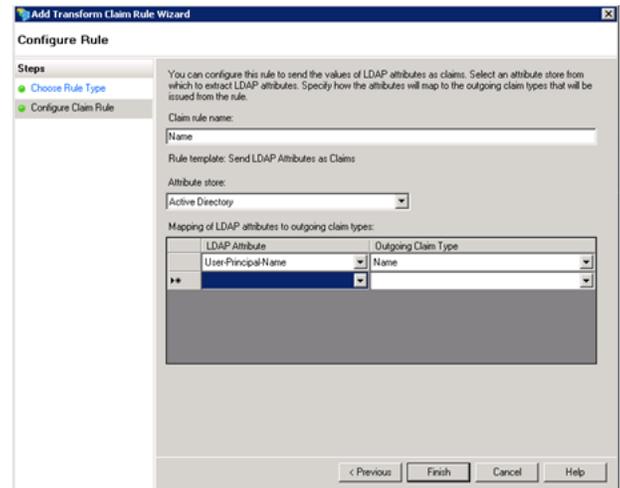


 **Note:** The outgoing Group claim must match exactly what is in BeyondInsight.

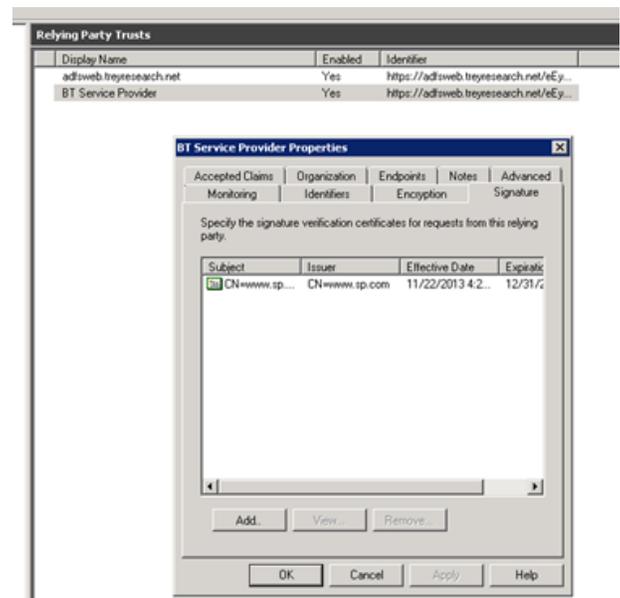
24. Click **Add Rule**.
25. Select the **Send LDAP Attributes as Claims** rule template, and then click **Next**.



26. Enter a **Claim rule name**.
27. Select the **Attribute store**.
28. Select **User-Principal-Name** for the **LDAP Attribute**.
29. Select **Name** as the **Outgoing Claim Type**.
30. Click **Finish**.



31. On the **Relying Party Trusts** page, right-click **BT Service Provider**, and then select **Properties**.
32. Select the **Signature** tab.
33. Click **Add**, and then enter the service provider public certificate.

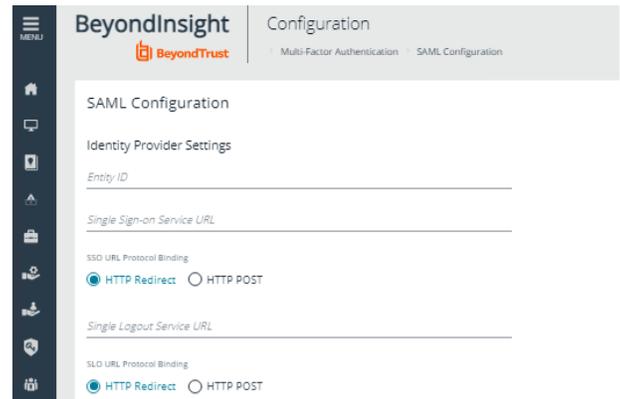


### Configure SAML on the Service Provider Server (UVM)

To configure SAML, go to the Dashboard or **Menu** and click **Configuration**. Under **Multi-Factor Authentication**, click **SAML Configuration**.

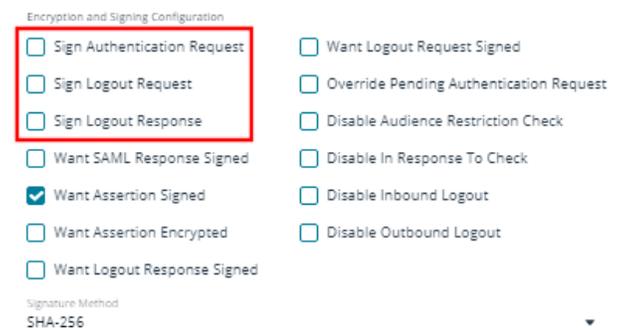
### Identity Provider Settings:

1. **Entity ID:** The name of the identity provider (IdP) entry, normally supplied by the provider.
2. **Single Sign-on Service URL:** The SSO URL, from the provider.
3. Select **SSO URL Protocol Binding** type, **Redirect** or **Post**.
4. **Single Logout Service URL:** The SLO URL, from the provider.
5. Select **SLO URL Protocol Binding** type, **Redirect** or **Post**.



### Encryption and Signing Configuration:

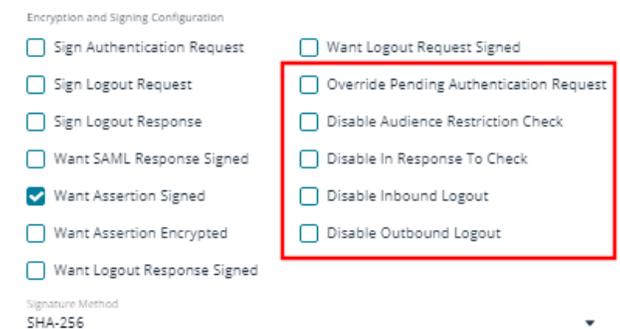
6. Depending on IdP configuration, check any of the first 3 settings, **Sign Authentication Request**, **Sign Logout Request**, and **Sign Logout Response**.



7. Check the appropriate service provider (SP) settings.



8. Check any required miscellaneous settings.



- Select the **Signature Method**, from the dropdown list of methods. The correct method is as required by your IdP.

Encryption and Signing Configuration

<input type="checkbox"/> Sign Authentication Request	<input type="checkbox"/> Want Logout Request Signed
<input type="checkbox"/> Sign Logout Request	<input type="checkbox"/> Override Pending Authentication Request
<input type="checkbox"/> Sign Logout Response	<input type="checkbox"/> Disable Audience Restriction Check
<input type="checkbox"/> Want SAML Response Signed	<input type="checkbox"/> Disable In Response To Check
<input checked="" type="checkbox"/> Want Assertion Signed	<input type="checkbox"/> Disable Inbound Logout
<input type="checkbox"/> Want Assertion Encrypted	<input type="checkbox"/> Disable Outbound Logout
<input type="checkbox"/> Want Logout Response Signed	

Signature Method  
SHA-256

- Upload the identity provider certificate.

Current Identity Provider Certificate

Subject	--
Issuer	--
Valid from	0001-01-01T00:00:00
Valid to	0001-01-01T00:00:00

Upload Certificate

Drop File to upload  
(or click)

### Service Provider (SP) Settings:

- Entity ID:** The fully qualified domain, followed by the file name:  
**https://<serverURL>/eEye.RetinaCSSAML**
- Click **SAVE SAML CONFIGURATION**.
- Once the SAML configuration is saved, a public SP certificate is available to download and upload to the IdP, if required.

Service Provider Settings

Entity ID  
https://adfsweb.treyresearch.net/eEye.RetinaCSSAML/

Assertion Consumer Service URL  
https://adfsweb.treyresearch.net/eEye.RetinaCSSAML/SAML/AssertionConsumerService.aspx

[Download Certificate](#)

---

Service Provider Settings

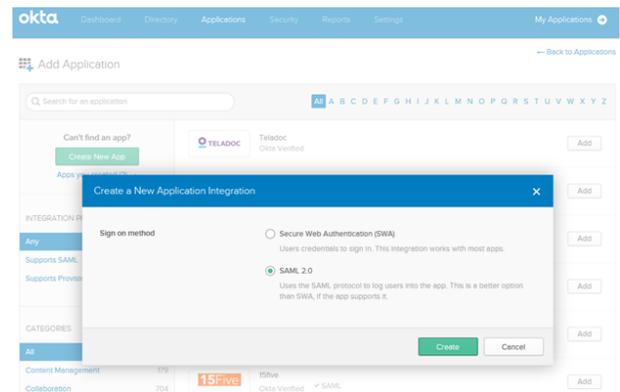
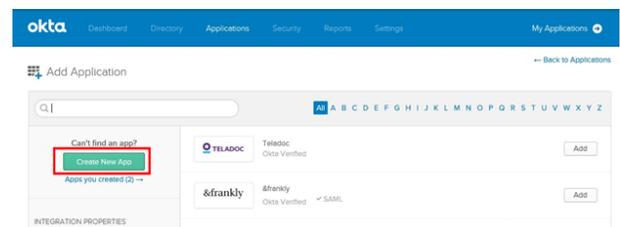
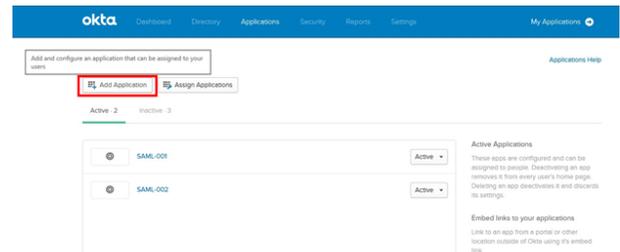
Entity ID  
https://adfsweb.treyresearch.net/eEye.RetinaCSSAML/

Assertion Consumer Service URL  
https://adfsweb.treyresearch.net/eEye.RetinaCSSAML/SAML/AssertionConsumerService.aspx

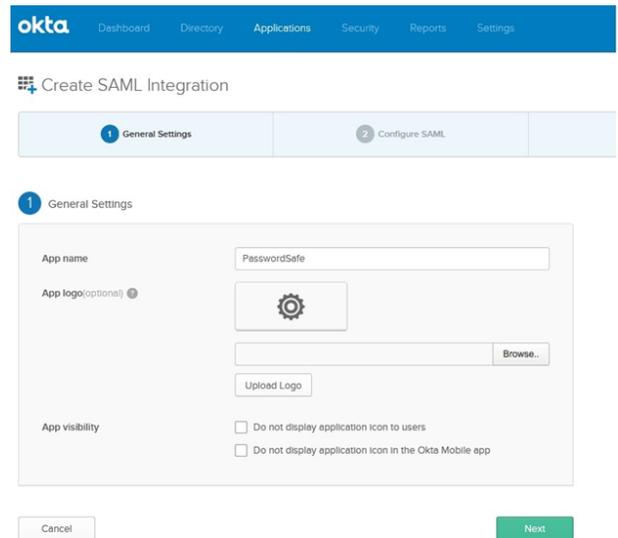
[Download Certificate](#)

## Configure Okta with Password Safe

1. Log in to the Okta admin portal.
2. Click **Add Application**.
3. Click **Create New App**.
4. Select **SAML 2.0** as the sign-in method.
5. Click **Create**.



6. Enter the application name, and then click **Next**.



The screenshot shows the 'Create SAML Integration' wizard in Okta. The first step, 'General Settings', is active. The 'App name' field contains 'PasswordSafe'. There is a gear icon for the app logo and a 'Browse...' button. Below that is an 'Upload Logo' button. Under 'App visibility', there are two unchecked checkboxes: 'Do not display application icon to users' and 'Do not display application icon in the Okta Mobile app'. At the bottom, there are 'Cancel' and 'Next' buttons.

7. Enter the single sign on URL:

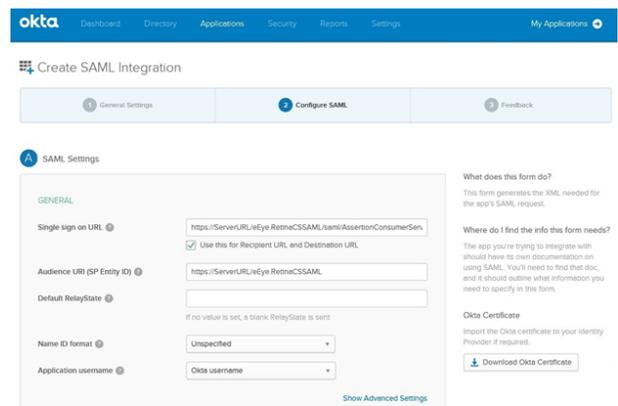
**https://ServerURL/eEye.RetinaCSSAML/saml/AssertionConsumerService.aspx**

8. Check the **Use this for Recipient and Destination URL** box.

9. Enter the audience URI (SP entity ID):

**https://<ServerURL>/eEye.RetinaCSSAML**

10. From the **Application username** list, select **Okta username**.



The screenshot shows the 'SAML Settings' step of the 'Create SAML Integration' wizard. The 'GENERAL' section includes: 'Single sign on URL' with the value 'https://ServerURL/eEye.RetinaCSSAML/saml/AssertionConsumerSen...', a checked box for 'Use this for Recipient URL and Destination URL', 'Audience URI (SP Entity ID)' with 'https://ServerURL/eEye.RetinaCSSAML', 'Default RelayState' (empty), 'Name ID format' set to 'Unspecified', and 'Application username' set to 'Okta username'. A 'Show Advanced Settings' link is at the bottom right. On the right side, there is a 'What does this form do?' section, a 'Where do I find the info this form needs?' section, and an 'Okta Certificate' section with a 'Download Okta Certificate' button.

### SLO Optional Setting

11. Click **Show Advanced Settings**.

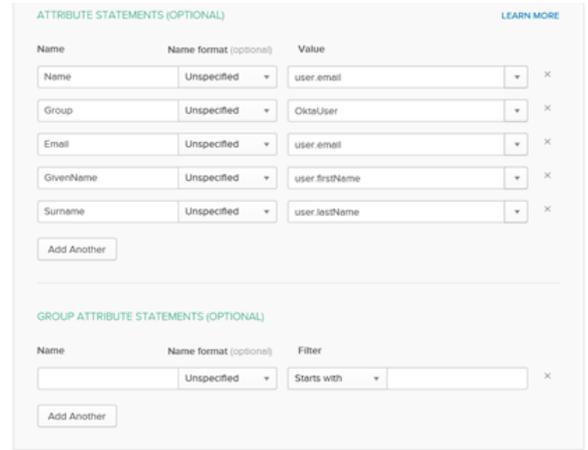
12. Select **Enable Single Logout**.

13. Fill in the **Single Logout URL**:

**HTTPS://<FQDN>/eEye.RetinaCSSAML/SAML/SLOService.aspx**

14. Fill in the **SP Issuer**: **HTTPS://<FQDN>/eEye.RetinaCSSAML**.

15. Select the **SP Public Certificate.cer** certificate.
16. Click **Upload Certificate**.
17. Add attributes, and then click **Next**.
  - **Group:** Set as a literal. This must match the group created in BeyondInsight or imported from AD. If an AD group is used, it must match the BI format **Domain\GroupName**.
  - **Name:** (optional)
  - **Email:** (optional)
  - **Surname:** (optional)
  - **GivenName:** (optional)



**B** Preview the SAML assertion generated from the information above

<> Preview the SAML Assertion

This shows you the XML that will be used in the assertion - use it to verify the info you entered above

Previous Cancel **Next**

18. Select appropriate settings for Okta support, and then click **Finish**.

**3** Help Okta Support understand how you configured this application

Are you a customer or partner?  I'm an Okta customer adding an internal app  I'm a software vendor. I'd like to integrate my app with Okta

**1** The optional questions below assist Okta Support in understanding your app integration.

App type  This is an internal app that we have created  Contact app vendor  It's required to contact the vendor to enable SAML

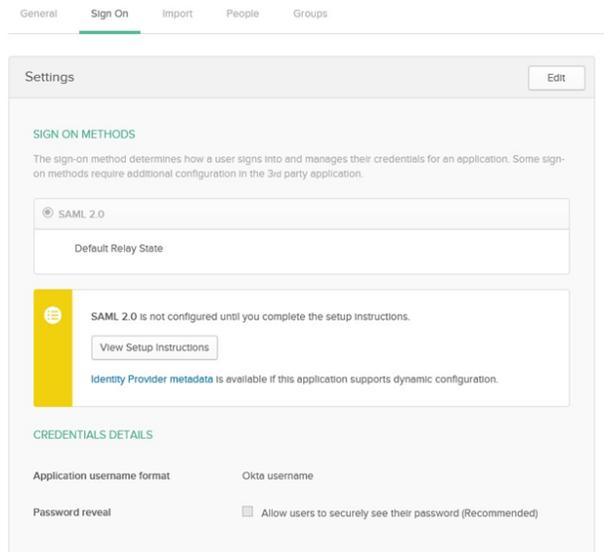
Which app pages did you consult to configure SAML?  
Enter links, describe where the pages are, or anything else you think is helpful

Did you find SAML docs for this app?  
Enter any links here

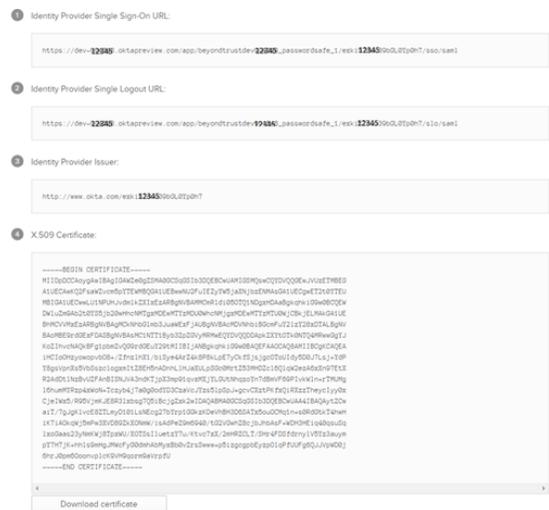
Any tips or additional comments?  
Placeholder text

Previous **Finish**

19. Click **View Setup Instructions**.



20. Copy the **Identity Provider Single Sign-On URL**. Save the value to be used in the next step.
21. Copy the **Identity Provider Issuer**. Save the value to be used in the next step.
22. Click **Download certificate**.



### Configure SAML in Password Safe

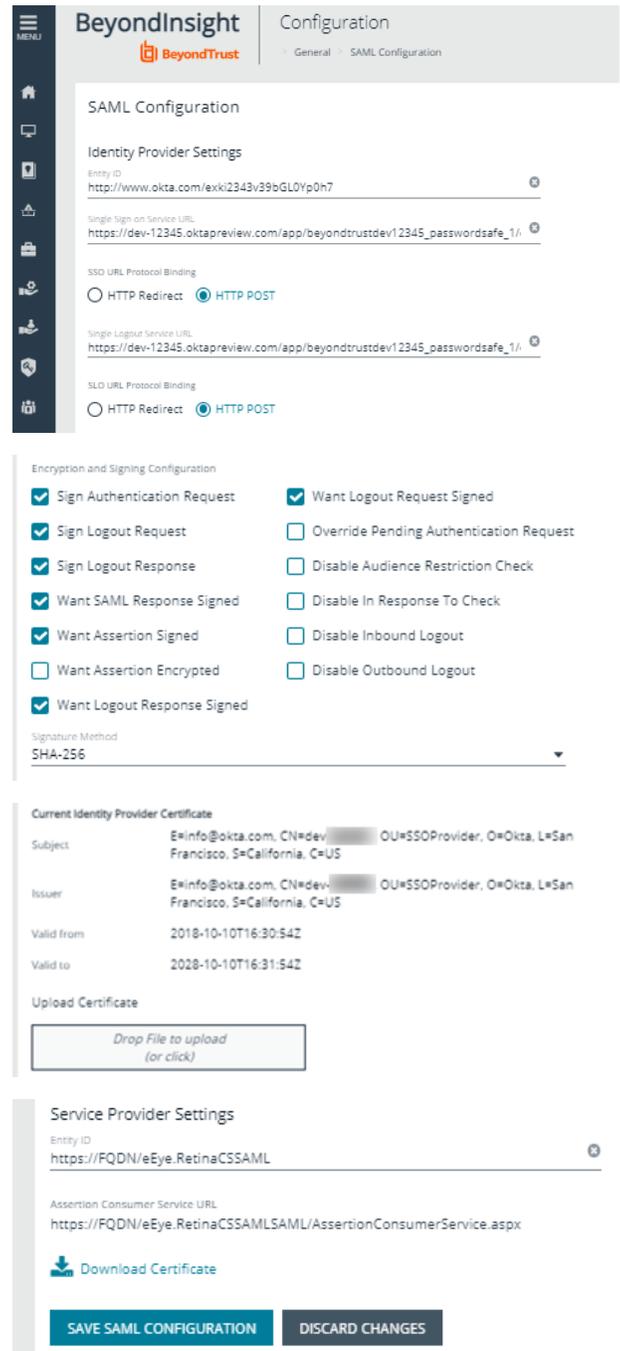
23. Go to the Dashboard or **Menu** and click **Configuration**, then, under **Multi-Factor Authentication**, click **SAML Configuration**.

24. For **Entity ID**, enter the Okta value **Identity Provider Issuer**.
25. For **Single Sign-on Service URL**, enter the Okta value **Identity Provider Single Sign-On URL**.
26. If available, set **Single Logout Service URL** to Okta value **Identity Provider Single Logout URL**.
27. Click **HTTP POST** Protocol Binding for SSO and SLO.

28. Under **Encryption and Signing Configuration**, check applicable boxes. A typical configuration is shown; however, depending on your Okta settings, some configuration selections may be different.

29. Upload Okta X.509 certificate.

30. Enter the service provider **Entity ID**.
31. Click **SAVE SAML CONFIGURATION**.
32. Once the SAML configuration is saved, a public SP certificate is available to download. It can be uploaded to the IdP if required.

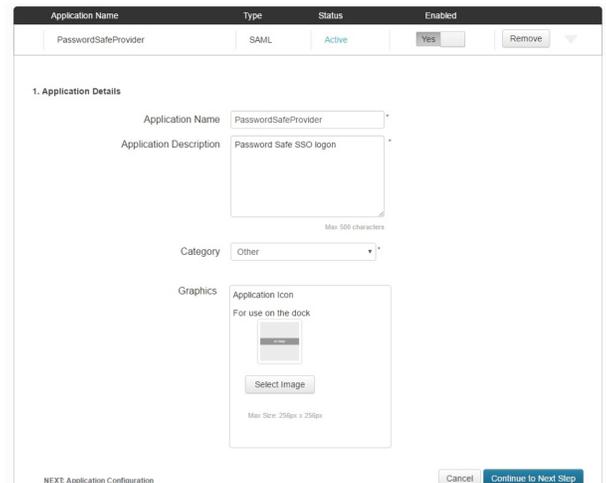
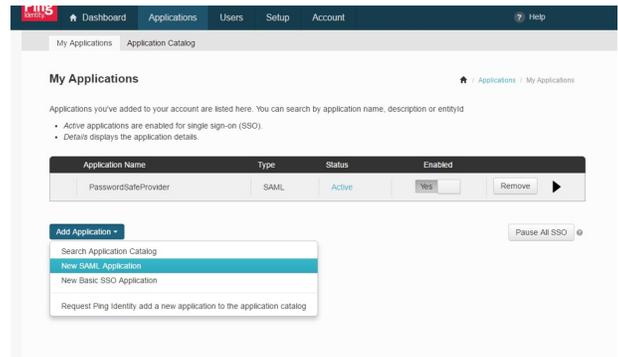


The screenshot displays the BeyondTrust Configuration interface. The top navigation bar includes 'BeyondInsight' and 'Configuration' with sub-menus for 'General' and 'SAML Configuration'. The main content area is divided into several sections:

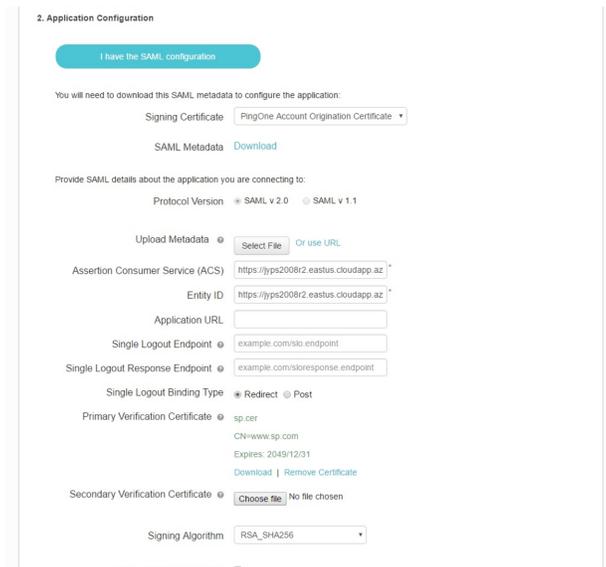
- SAML Configuration:** Contains 'Identity Provider Settings' with fields for 'Entity ID' (http://www.okta.com/ekki2343v39bGL0Yp0h7), 'Single Sign-on Service URL' (https://dev-12345.oktapreview.com/app/beyondtrustdev12345\_passwordsafe\_1/), and 'Single Logout Service URL' (https://dev-12345.oktapreview.com/app/beyondtrustdev12345\_passwordsafe\_1/). It also shows 'SSO URL Protocol Binding' and 'SLO URL Protocol Binding', both set to 'HTTP POST'.
- Encryption and Signing Configuration:** A list of checkboxes for various signing and encryption options. Checked options include: Sign Authentication Request, Sign Logout Request, Sign Logout Response, Want SAML Response Signed, Want Assertion Signed, Want Logout Response Signed, and Want Logout Request Signed. Unchecked options include: Override Pending Authentication Request, Disable Audience Restriction Check, Disable In Response To Check, Disable Inbound Logout, and Disable Outbound Logout.
- Current Identity Provider Certificate:** Displays certificate details such as Subject (E=info@okta.com, CN=dev-..., OU=SSOProvider, O=Okta, L=San Francisco, S=California, C=US), Issuer (E=info@okta.com, CN=dev-..., OU=SSOProvider, O=Okta, L=San Francisco, S=California, C=US), Valid from (2018-10-10T16:30:54Z), and Valid to (2028-10-10T16:31:54Z). It includes an 'Upload Certificate' section with a 'Drop File to upload (or click)' button.
- Service Provider Settings:** Contains 'Entity ID' (https://FQDN/eEye.RetinaCSSAML) and 'Assertion Consumer Service URL' (https://FQDN/eEye.RetinaCSSAMLSAML/AssertionConsumerService.aspx). A 'Download Certificate' button is present. At the bottom, there are 'SAVE SAML CONFIGURATION' and 'DISCARD CHANGES' buttons.

# Configure Ping Identity with Password Safe

1. Log in to the Ping Identity admin portal.
2. Click the **Add Application** button, and then select **New SAML Application** from the menu.
3. Fill in **Application Name** and **Description**.
4. Set **Category** to **Other**, and then click **Continue to Next Step**.



5. Set the following:
  - Set **Assertion Consumer Service (ACS)** to **https://<ServerURL>/eEye.RetinaCSSAML/saml/AssertionConsumerService.aspx**
  - Set **Entity ID** to **https://<ServerURL>/eEye.RetinaCSSAML**.
  - Set **Single Logout Binding Type** to **Redirect**.
  - Upload **Primary Verification Certificate** (use **SP Public Certificate.cer** from **\\WebSiteSAML\Certificates**). The certificate is automatically generated when the BI SAML configuration is saved.
  - Click **Continue to Next Step**.



6. Add the following attributes, and then click **Save & Publish**:
- **Group**: Check the **As Literal** box. This must match the group created in BeyondInsight.
  - **Name** (required).
  - **Email** (optional).
  - **Surname** (optional).
  - **GivenName** (optional).

3. SSO Attribute Mapping

Map the necessary application provider (AP) attributes to attributes used by your identity provider (IdP).

Application Attribute	Identity Bridge Attribute or Literal Value	As Literal	Advanced	Required
1 Group	PingID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Name	Email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Email	Email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Surname	Last Name	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 GivenName	First Name	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Next: Review Setup

Buttons: Add new attribute, Cancel, Back, Save & Publish



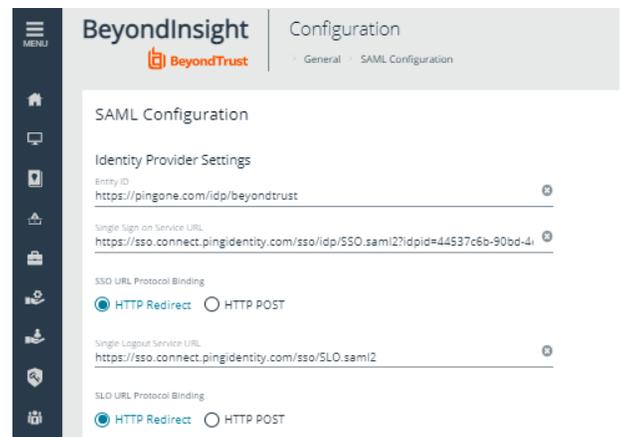
**Note:** The following is **applicable only to BI version 6.3.1**. It is not required for 6.4.4 or later releases. In 6.4.4 and later releases, the user is automatically logged in to Password Safe, and can then navigate to BeyondInsight, if they have the proper permissions.

To create an application that goes to Password Safe when IdP-initiated login is used, add a new attribute called **Website**. When the value of **Website** is set to **Password Safe**, the user is logged in to Password Safe. If the attribute is not present or is set to anything other than **Password Safe**, the user will be directed to BeyondInsight.

7. Download the **Signing Certificate**.
8. Download **SAML Metadata**.
9. Click **Finish**.

### Configure SAML in Password Safe

10. Go to the Dashboard or **Menu** and click **Configuration**, then, under **Multi-Factor Authentication**, click **SAML Configuration**.
11. For **Entity ID**, enter the Okta value **Identity Provider Issuer**.
12. For **Single Sign-on Service URL**, enter the Okta value **Identity Provider Single Sign-On URL**.
13. If available, set **Single Logout Service URL** to Okta value **Identity Provider Single Logout URL**.
14. Click **HTTP POST** Protocol Binding for SSO and SLO.



The screenshot shows the 'SAML Configuration' page in the BeyondInsight interface. It includes a sidebar menu on the left and a main configuration area. The configuration area is titled 'SAML Configuration' and contains the following settings:

- Identity Provider Settings**
  - Entity ID: <https://pingone.com/idp/beyondtrust>
  - Single Sign-on Service URL: <https://sso.connect.pingidentity.com/sso/idp/SSO.saml2?dpid=44537c6b-90bd-41>
- SSO URL Protocol Binding**
  - HTTP Redirect
  - HTTP POST
- Single Logout Service URL**
  - Single Logout Service URL: <https://sso.connect.pingidentity.com/sso/SLO.saml2>
- SLO URL Protocol Binding**
  - HTTP Redirect
  - HTTP POST

15. Under **Encryption and Signing Configuration**, check applicable boxes. A typical configuration is shown, however, depending on your Ping settings, some configuration selections may be different.
  
16. Upload Ping X.509 certificate.
17. Enter the service provider **Entity ID**.
18. Click **SAVE SAML CONFIGURATION**.
19. Once the SAML configuration is saved, a public SP certificate is available to download. It can be uploaded to the IdP if required.

**Encryption and Signing Configuration**

<input type="checkbox"/> Sign Authentication Request	<input type="checkbox"/> Want Logout Request Signed
<input type="checkbox"/> Sign Logout Request	<input type="checkbox"/> Override Pending Authentication Request
<input type="checkbox"/> Sign Logout Response	<input type="checkbox"/> Disable Audience Restriction Check
<input type="checkbox"/> Want SAML Response Signed	<input type="checkbox"/> Disable In Response To Check
<input checked="" type="checkbox"/> Want Assertion Signed	<input type="checkbox"/> Disable Inbound Logout
<input type="checkbox"/> Want Assertion Encrypted	<input type="checkbox"/> Disable Outbound Logout
<input type="checkbox"/> Want Logout Response Signed	

Signature Method  
SHA-256

---

**Current Identity Provider Certificate**

Subject	E=info@okta.com, CN=dev-██████████, OU=SSOProvider, O=Okta, L=San Francisco, S=California, C=US
Issuer	E=info@okta.com, CN=dev-██████████, OU=SSOProvider, O=Okta, L=San Francisco, S=California, C=US
Valid from	2018-10-10T16:30:54Z
Valid to	2028-10-10T16:31:54Z

Upload Certificate

Drop File to upload  
(or click)

# Troubleshoot Authentication Issues

## Active Directory User Cannot Authenticate with BeyondInsight or Password Safe

If an Active Directory user is a member of more than 120 Active Directory groups, the user may encounter the following error when attempting to log in to the BeyondInsight management console, Analytics & Reporting, or Password Safe, although correct credentials were supplied:

- Authentication fails with *The username or password is incorrect. Please try again.*
- An error is logged in the **frontend.txt** file associated with that login attempt, that includes *A local error occurred.*

The user cannot authenticate because the Kerberos token that is generated during authentication attempts has a fixed maximum size. To correct this issue, you can increase the maximum size in the registry.

1. Start the registry editor on the BeyondInsight server.
2. Locate and click the following registry subkey:  
**HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Control\Lsa\Kerberos\Parameters**



**Note:** If the **Parameters** key does not exist, create it now.

3. From the **Edit** menu, select **New**, and then select **DWORD Value**, or **DWORD (32-bit) Value**.
4. Type **MaxPacketSize**, and then press **Enter**.
5. Double-click **MaxPacketSize**, type **1** in the **Value** box, select **Decimal**, and then click **OK**.
6. From the **Edit** menu, select **New**, and then click **DWORD Value**, or **DWORD (32-bit) Value**.
7. Type **MaxTokenSize**, and then press **Enter**.
8. Double-click **MaxTokenSize**, type **65535** in the **Value** box, select **Decimal**, and then click **OK**.
9. Close the registry editor, and then restart the BeyondInsight server.



For more information, please see [Problems with Kerberos authentication when a user belongs to many groups](https://support.microsoft.com/en-us/kb/327825) at <https://support.microsoft.com/en-us/kb/327825>.

## Authentication Errors when using SAML 2.0 Web Applications



**Note:** Both *Runtime Error* and *Internal Server Error* are for on-premises Password Safe deployments only. If an error shown below occurs using Password Safe Cloud, please contact BeyondTrust Technical Support.

## Runtime Error

If you receive a Runtime Error, add the following to the **web.config** file:

**Set mode to Off < customErrors mode="Off" />**

This provides an actual error.

```

Server Error in '/eEye.RetinaCSSAML' Application.

Runtime Error
Description: An application error occurred on the server. The current custom error settings for this application prevent the details of the application error from being viewed remotely (for security reasons). It could, however, be viewed by browsers running on the local server machine.
Default: To enable the details of this specific error message to be viewed on remote machines, please create a 'customErrors' tag within a 'web.config' configuration file located in the root directory of the current web application. This configuration tag should then have its 'mode' attribute set to 'Off'.

<!-- web.config configuration file -->

<configuration>
  <system.web>
    <customErrors mode="Off"/>
  </system.web>
</configuration>

Notes: The current error page you are seeing can be replaced by a custom error page by modifying the 'defaultRedirect' attribute of the application's <customErrors> configuration tag to point to a custom error page URL.

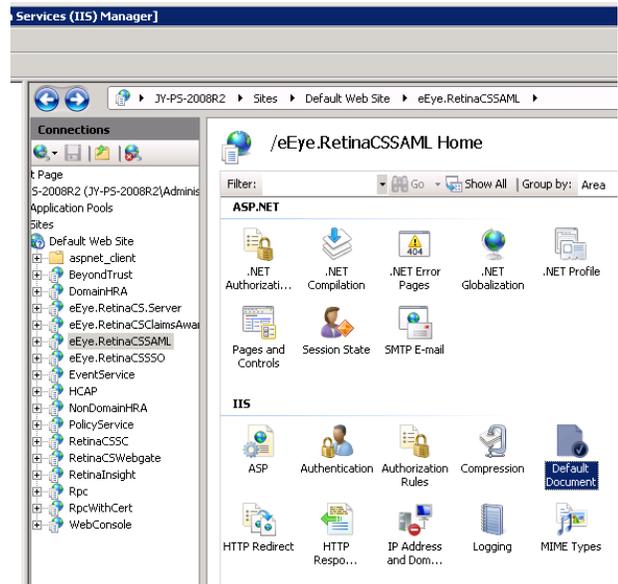
<!-- web.config configuration file -->

23 -->
24 <system.web>
25 <!--
26     Set compilation debug="true" to insert debugging
27     symbols into the compiled page. Because this
28     affects performance, set this value to true only
29     during development.
30 -->
31 <compilation debug="true" targetFramework="4.5" />
32 <authentication mode="Forms">
33   <forms name="ServiceProvider" loginUrl="login.aspx" />
34 </authentication>
35 <authorization>
36   <deny users="?" />
37 </authorization>
38 <customErrors mode="Off" />
  
```

## Internal Server Error (500)

An *Internal Server Error (500)* message usually indicates that the **web.config** file is not formatted correctly.

1. Open IIS on the appliance.
2. Browse to the SAML website, and then double-click **Default Document**.



3. If there is a formatting error in the **web.config** file, an error displays, indicating the line number for the error.

