Forescout®

Authentication Module: User Directory Plugin

Server and Guest Management Configuration Guide

Version 6.4
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About the Documentation
- Refer to the Resources page on the Forescout website for additional technical documentation: https://www.forescout.com/company/resources/
- Have feedback or questions? Write to us at documentation@forescout.com

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Preface

The User Directory Plugin is a component of the Forescout Authentication Module. See Authentication Module Information for details about the module.

The User Directory Plugin resolves endpoint user details and defines the authentication and directory servers used for endpoint authentication. A real-time display of network information at multiple levels, including user directory information, is available from the Console.

The plugin also enables a variety of other features for handling network guests and the sponsors who approve guest access to the network. These features are described in the Guest Management Portal How-to Guides for sponsors and Forescout operators, and in the Forescout Administration Guide.

The plugin is comprised of two components:

- Chapter 1: User Directory Management
- Chapter 2: Corporate and Guest Management

Authentication Module Information

The Forescout® Authentication Module provides secure network access across wired, wireless, and guest networks through its RADIUS and User Directory Plugins.

The Authentication Module is a Forescout Base Module. Base Modules are delivered with each Forescout release. This module is automatically installed when you upgrade the Forescout version or perform a clean Forescout installation.

The User Directory and RADIUS Plugins are installed and rolled back with the Authentication Module.

Refer to the Forescout Authentication Module Overview Guide for more module information, such as module requirements, upgrade and rollback instructions.

Additional Forescout Documentation

For information about other Forescout features and modules, refer to the following resources:

- Documentation Downloads
- Documentation Portal
- Forescout Help Tools

Documentation Downloads

Documentation downloads can be accessed from the Forescout Resources Page, or one of two Forescout portals, depending on which licensing mode your deployment is using.
• **Per-Appliance Licensing Mode** – [Product Updates Portal](#)
• **Flexx Licensing Mode** – [Customer Portal](#)

Software downloads are also available from these portals.

To identify your licensing mode:
• From the Console, select **Help > About Forescout**.

**Forescout Resources Page**
The Forescout Resources Page provides links to the full range of technical documentation.

To access the Forescout Resources Page:

**Product Updates Portal**
The Product Updates Portal provides links to Forescout version releases, Base and Content Modules, and eyeExtend products, as well as related documentation. The portal also provides a variety of additional documentation.

To access the Product Updates Portal:

**Customer Portal**
The Downloads page on the Forescout Customer Portal provides links to purchased Forescout version releases, Base and Content Modules, and eyeExtend products, as well as related documentation. Software and related documentation will only appear on the Downloads page if you have a license entitlement for the software.

To access documentation on the Forescout Customer Portal:
• Go to [https://Forescout.force.com/support/](https://Forescout.force.com/support/) and select **Downloads**.

**Documentation Portal**
The Forescout Documentation Portal is a searchable, web-based library containing information about Forescout tools, features, functionality, and integrations.

If your deployment is using Flexx Licensing Mode, you may not have received credentials to access this portal.

To access the Documentation Portal:
• Go to [https://updates.forescout.com/support/files/counteract/docs_portal/](https://updates.forescout.com/support/files/counteract/docs_portal/) and use your customer support credentials to log in.
Forescout Help Tools
Access information directly from the Console.

Console Help Buttons
Use context sensitive Help buttons to quickly access information about the tasks and topics you are working with.

Forescout Administration Guide
- Select Forescout Help from the Help menu.

Plugin Help Files
- After the plugin is installed, select Tools > Options > Modules, select the plugin and then select Help.

Online Documentation
- Select Online Documentation from the Help menu to access either the Forescout Resources Page (Flexx licensing) or the Documentation Portal (Per-Appliance licensing).
Chapter 1: User Directory Management

- Endpoint User Details
- Endpoint Authentication
- User Directory Inventory
- Related Documentation
- Supported Servers
- Requirements
- Verify That the Plugin Is Running
- Configuration
- Duplicate Servers
- Test the Configuration
- Working with Policies
- Display User Directory Information at the Console
- Additional Information
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**Endpoint User Details**

The User Directory Plugin is used to resolve an extensive range of endpoint details, for example, the LDAP display name, department name, and email addresses. This information is displayed in the Detections pane and in other Console windows.

![User Directory Plugin Interface](image-url)

See [Detect Endpoints with User Directory Attributes](#) for details.

**Endpoint Authentication**

Use the HTTP Login action to prompt endpoint users to authenticate.

You can define the action so that users at guest hosts and guests are prompted to register with the network before receiving valid credentials. Users are presented with a Login page at each attempt to access the network. A valid user name and password must be entered. Refer to the [Forescout Administration Guide](#) for more information. See [Additional Forescout Documentation](#) for information on how to access the guide.
User Directory Inventory

The Console Asset Inventory view presents a real-time display of network information, including user directory information, at multiple levels.

Refer to the Forescout Administration Guide for information about working in the Asset Inventory view. See Additional Forescout Documentation for information on how to access the guide.

Related Documentation

Refer to the Guest Management Portal How-to Guides for information about working with the portal. See Additional Forescout Documentation for information on how to access the guide.

Refer to the Forescout Administration Guide for information about working with:

- The HTTP Login action. This action is used to prompt guest registration.
- The Guest Registration feature. This feature is used to define guest parameters, such as password policies or automated sponsor and guest notifications.

Supported Servers

The following user directory and authentication servers are supported:

- Microsoft Active Directory
- Novell eDirectory
- Oracle Directory
Chapter 1: User Directory Management

- IBM Lotus Notes
- OpenLDAP Server
- RADIUS
- TACACS

You can work with more than one server type simultaneously. For example, if your organization uses Microsoft Active Directory for retrieving user details and a RADIUS server for verifying authentication, you can configure the plugin to work with both these server types.

Requirements

The plugin requires the following:

- Forescout version 8.1.
- Appliance or Enterprise Manager access to the User Directory servers.
- (Flexx licensing) A valid Forescout eyeControl (ForeScout CounterACT Control) license, to use enforcement actions provided by the plugin/component. If you do not have this license, these actions will be disabled in the Console. Refer to the Forescout Flexx Licensing How-to Guide for more information about managing Flexx licenses and how to request/purchase this license.

Verify That the Plugin Is Running

After configuring the plugin, verify that it is running.

To verify:

1. Select Tools > Options and then select Modules.
2. Navigate to the plugin and select Start if the plugin is not running.

Configuration

A basic User Directory server configuration was most likely carried out via the Console Initial Setup Wizard, which opens the first time you log in to the Console. The server configuration defined in the Wizard automatically appears in the User Directory pane of the Options window.
You can connect additional User Directory servers to Forescout components, and define user and domain credentials, replica servers, and other parameters. The configuration can also be tested.

Procedures for defining additional server configurations are described in this document. To edit an existing configuration, select the configuration and then select Edit.

**Access to Servers**

User scopes are managed by users defined as administrators in the CounterACT User Profile pane (Tools > Options > CounterACT User Profiles). If you do not have the required permissions to configure User Directory servers or to work with the IP addresses assigned to them, you receive an error message when attempting configuration. Contact your CounterACT Administrator if required.

**Configuring Servers to Work with Certificates**

To ensure secure communication, Forescout 8.1 can:

- Verify certificates presented by external services and applications
- Present system certificates to external services and applications for authentication

**To configure the plugin to use certificates:**

1. In the Console, select Options from the Tools menu.
2. In the Options pane, select **Certificates**, and ensure that system and trusted certificates are configured for this scope.
3. In the User Directory Communication settings, set the server port to 636 (or any port configured for secure communication), and select **Use TLS**.
4. Complete the server definitions.
5. After the server is defined, select the server, select **Edit > Advanced**, and configure the certificate settings.
Define Servers
This section describes how to define User Directory servers.

**To add or edit User Directory servers:**

1. In the Console, select Options from the Tools menu.
2. In the Options pane, select User Directory.

3. Select Add, or select an existing server configuration and select Edit. The Server wizard opens to the Name and Type pane.

Configure the Name and Type
The server type is configured in the Name and Type pane of the Add Server wizard.
Configure the following settings in this pane:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Enter the hostname of the server. <strong>Note:</strong> This value cannot be edited.</td>
</tr>
<tr>
<td>Type</td>
<td>Select a server type. The wizard displays the configuration parameters for the selected server type. <strong>Note:</strong> This value cannot be edited.</td>
</tr>
<tr>
<td>Use as directory</td>
<td>Select this option to use the server as a directory to retrieve user information. This option is not available for RADIUS and TACACS servers.</td>
</tr>
<tr>
<td>Use for authentication</td>
<td>Select this option to use the server for user authentication.</td>
</tr>
<tr>
<td>Use for CounterACT login</td>
<td>Select this option to use the server for user authentication when logging in to the Forescout Console or web portals.</td>
</tr>
<tr>
<td>Include parent groups</td>
<td>This option is available for Microsoft Active Directory server type only. Select this option to detect the group that the user is a member of, as well as parent groups. Policies with the <strong>User Directory &gt; Member Of</strong> property resolve this information.</td>
</tr>
<tr>
<td>Comment</td>
<td>Enter comments if required.</td>
</tr>
</tbody>
</table>

- **The plugin does not support enabling both of the following settings at the same time:**
  - Include parent groups setting
  - Targeted Group Resolution advanced setting
  
  *Attempting to apply such a configuration fails.*

4. Select **Next**.

**Configure Server Settings**

The parameters included in the Settings pane of the Add Server wizard vary, depending on the selected server type and the enabled plugin features.

**Communication Settings**

This section describes the server communication details required regardless of the server type used.
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Address/DNS Detection
Do one of the following:
- Enter the remote address of the server, such as an IP address, FQDN address string, or IPv6 address string. For server types other than Microsoft Active Directory, this is the only option.
- Select **DNS Detection** to instruct Forescout 8.1 to learn directory servers based on the domain name that you configure in the **Domain** field in the **Directory** section. In the User Directory table, the Address value is dynamically learned. This option applies to Microsoft Active Directory servers only. For details, see [DNS Detection for Microsoft Active Directory](#).
You can later change how often the plugin queries for domain controller addresses. See [DNS Detection Refresh Interval](#).

Port
Enter the server port:
- For RADIUS servers, the default port is 1645.
- For TACACS servers, the default port is 49.
- For all other servers, the default port is 636.

Use TLS
For some server types, you can instruct Forescout 8.1 to use TLS to encrypt communication with the User Directory server. By default, **Use TLS** is enabled.
Ensure that TLS communication is supported and enabled on servers used as directories to retrieve user information. By default, the User Directory Plugin enables communication with servers that support TLS 1.1 or TLS 1.2 only. To enable communication with servers that support TLS 1.0 only, see [TLS 1.0 Communication Configuration](#).

Accessed By
Select which CounterACT devices can communicate with the server. The **All** option is recommended as it enables faster resolution. If you select **All**, make sure that all CounterACT Appliances have access to the server being configured.
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**TLS 1.0 Communication Configuration**

By default, the User Directory Plugin can only communicate with servers using TLS if they use TLS 1.1 or TLS 1.2. You can enable TLS 1.0 communication, but this is not recommended because it is less secure.

TLS 1.0 communication needs to be configured on each CounterACT device.

**To enable TLS 1.0 communication on a CounterACT device:**

1. In the CLI, run the following command:
   
   ```
   fstool ad set_property config.tls.versions.list tlsv1_2,tlsv1_1,tlsv1
   ```

2. Run the following command:
   
   ```
   fstool ad get_property config.tls.versions.list
   ```
   
   The following is displayed:
   
   ```
   config.tls.versions.list = tlsv1_2,tlsv1_1,tlsv1
   ```

3. Run the following command:
   
   ```
   fstool ad restart
   ```

**To disable TLS 1.0 communication on a CounterACT device:**

4. In the CLI, run the following command:
   
   ```
   ad set_property config.tls.versions.list tlsv1_2,tlsv1_1
   ```

5. Run the following command:
   
   ```
   fstool ad get_property config.tls.versions.list
   ```
   
   The following is displayed:
   
   ```
   config.tls.versions.list = tlsv1_2,tlsv1_1
   ```

6. Run the following command:
   
   ```
   fstool ad restart
   ```

**Microsoft Active Directory Server Settings**

This section describes the server details required when working with Microsoft Active Directory Server. These settings are configured in the Settings pane of the Add Server wizard.
Configure the following additional server settings in the Directory and Additional Domain Aliases sections:

<table>
<thead>
<tr>
<th>Domain</th>
<th>The domain name (e.g., MyCompany.com).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When DNS Detection is selected in the Communication Settings, the plugin uses this domain name to automatically learn the addresses of directory servers.</td>
</tr>
<tr>
<td></td>
<td>Domain name restrictions:</td>
</tr>
<tr>
<td></td>
<td>• The domain name may contain up to 63 characters.</td>
</tr>
<tr>
<td></td>
<td>• The domain name may contain:</td>
</tr>
<tr>
<td></td>
<td>- alphanumeric characters</td>
</tr>
<tr>
<td></td>
<td>- any of the following special characters:</td>
</tr>
<tr>
<td></td>
<td>! @ # $ % ^ &amp; ( ) _ ' { } . ~</td>
</tr>
<tr>
<td></td>
<td>• The domain name may not contain:</td>
</tr>
</tbody>
</table>
Chapter 1: User Directory Management

- empty spaces
- a period (.) as the first character
- any of the following special characters:
  \ * + = | : ; , " ? < >

**Administrator**
The credentials to authenticate to the directory for querying other user details.

**Password**
The Administrator’s password.

**Additional Domain Aliases (optional)**
Alternative names for the domain being configured.

**None**: A user is looked up in this directory only if its domain name matches the directory domain defined in the **Domain** field.

**Any**: A user is looked up in this directory regardless of the user’s domain name.

**Specify**: Specify a comma-separated list of domain names. A user is looked up in this directory if its domain name matches one of the listed domain names or the configured directory domain name.

*Novell eDirectory, Oracle Directory, IBM Lotus Notes and OpenLDAP Server Settings*

This section describes the details required when working with the following servers:

- Novell eDirectory
- OpenLDAP Server
- IBM Lotus Notes
- Oracle Directory Server
You may need to perform advanced configurations when working with these servers. See Advanced Settings Configuration Tab.

For a description of the Communication settings, see Communication Settings.

Configure the following additional server settings in the Directory and Additional Domain Aliases sections:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base DN</td>
<td>The root of the LDAP directory tree where users should be looked up.</td>
</tr>
<tr>
<td>Administrator Bind DN</td>
<td>The Bind DN of a user allowed to look up other users in the directory.</td>
</tr>
<tr>
<td>Password</td>
<td>The Administrator’s password.</td>
</tr>
</tbody>
</table>
### Chapter 1: User Directory Management

#### Authentication Bind DN Pattern

The pattern used to construct a Bind DN string when authenticating a user to the server. The pattern must contain the string `{user}`, which is replaced by the username during each authentication request.

**Example:** CN={user},ou=user,o=MyCompany

#### Additional Domain Aliases (optional)

Alternative names for the domain in which to look up users.

- **None**: The user is looked up in this directory only if the endpoint’s domain name matches the domain name of this directory.
- **Any**: The user is looked up in this directory regardless of the endpoint’s domain name.
- **Specify**: Specify a comma-separated list of domain names. The user is looked up in this directory if the endpoint’s domain name matches the domain name of this directory or a name in the list.

### RADIUS Server Settings

This section describes the details required when working with RADIUS.

![Add Server - Step 2 of 4](image)

- **For a description of the Communication settings, see Communication Settings.**

Configure the following additional parameter in the **Server Credentials** section:

<table>
<thead>
<tr>
<th>Shared Secret / Verify Shared Secret</th>
<th>The shared key is used to authenticate the RADIUS transaction. Enter the shared key as defined on the RADIUS server for transactions coming from this CounterACT Appliance.</th>
</tr>
</thead>
</table>

---

**Forescout User Directory Plugin**

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Chapter 1: User Directory Management

TACACS Server Settings

This section describes the details required when working with TACACS.

For a description of the Communication settings, see Communication Settings.

Configure the following additional parameters in the Server Credentials section:

<p>| Shared Secret / Verify Shared Secret | The shared key is used to authenticate the TACACS transaction. Enter the shared key as defined on the TACACS server for transactions coming from this CounterACT Appliance. |</p>
<table>
<thead>
<tr>
<th>Authentication Method</th>
<th>The method that the Forescout platform uses for user authentication against the TACACS server. The list is in ascending order of security.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCII</td>
<td>User passwords are transmitted in plain text; compatible with older TACACS versions.</td>
</tr>
<tr>
<td>PAP (Password Authentication Protocol)</td>
<td>User passwords are encrypted symmetrically with the TACACS shared secret and transmitted.</td>
</tr>
<tr>
<td>CHAP (Challenge Handshake Authentication Protocol)</td>
<td>Challenge-response method; plain-text user passwords are needed by both the Forescout platform and the TACACS server, but they are not transmitted.</td>
</tr>
<tr>
<td>ARAP (AppleTalk Remote Access Protocol)</td>
<td>Apple implementation of CHAP.</td>
</tr>
</tbody>
</table>
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- **MS-CHAP** (Microsoft CHAP): More secure version of CHAP; plain text user passwords are not needed by the Forescout platform or the TACACS server.

**Configure Server Tests**

Define the parameters for testing the connection between a server and the User Directory Plugin. The Directory Server Test verifies that information can be resolved for the user name entered. The Authentication Server Test verifies user authentication using the credentials provided.

There is no Directory test for RADIUS and TACACS servers.

For Microsoft Active Directory servers, the fields in the Authentication section are populated with the Administrator information entered in the Settings pane.

Configure the following settings in this pane:

<table>
<thead>
<tr>
<th>Directory</th>
<th>User: A user name to query. This should be a valid user in the domain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authentication</td>
<td>User and Password: Valid login credentials for testing if authentication works.</td>
</tr>
</tbody>
</table>
Configure Replicas

Specify the organizational replica servers to be used as backup servers if the User Directory server defined in the Name and Type pane fails. This configuration is optional.

For details about how replica servers are used for Microsoft Active Directory, see DNS Detection for Microsoft Active Directory.

To add a replica server:

1. In the Replicas pane of the Server wizard, select Add.

2. In the Server Name field, enter the replica server name.

3. In the IP Address field, enter the remote address of the replica server, such as an IP address, an FQDN address string, or an IPv6 address string.

4. Indicate whether an Appliance or Enterprise Manager can access the replica server, or select both to allow both device types to access the server.

5. Select OK. The server is added to the Replicas pane.
6. Select **Finish**. The configuration appears in the User Directory pane.

**Advanced Settings Configuration Tab**

Advanced settings can be configured for a User Directory server only after the server is added to the User Directory Plugin. These settings cannot be defined in the Add Server wizard.

Advanced settings are not available for RADIUS and TACACS server types.

Use Advanced settings to:

- Copy non-default values from the server to the plugin.
- Reduce the number of unwarranted authentication failures in scenarios where there are several groups and domains.
- Optimize the way group information is retrieved.
- When TLS is used, define if Forescout 8.1 presents a client certificate and if it verifies the user directory server certificate.

**To define advanced settings for a server:**

1. Complete the User Directory Plugin configuration for the server.
2. Select the configuration from the User Directory pane.
3. Select **Edit**. The Edit Server dialog box opens.
4. Select the Advanced tab.
5. Define the following settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>User Filter</strong></td>
<td>This attribute is used to identify users. For multiple attributes, separate each string with a comma. If the field is empty, the following defaults are used:</td>
</tr>
<tr>
<td></td>
<td>- For Microsoft Active Directory – sAMAccountName</td>
</tr>
<tr>
<td></td>
<td>- For Novell eDirectory – cn or uid</td>
</tr>
<tr>
<td></td>
<td>- For Oracle Directory – uid</td>
</tr>
<tr>
<td></td>
<td>- For IBM Lotus Notes – cn or uid</td>
</tr>
<tr>
<td></td>
<td>- For OpenLDAP Server – cn or uid</td>
</tr>
<tr>
<td><strong>Query Size</strong></td>
<td>This setting applies to Microsoft Active Directory servers only. This setting defines the maximum number of queries sent to the server simultaneously. Decrease this value if you encounter Size Limit server errors. The default setting is 1000.</td>
</tr>
</tbody>
</table>
### Search and Bind

This setting does not apply to Microsoft Active Directory servers.

If your User Directory Plugin test results indicate that authentication failed, this setting may resolve the problem.

In environments with multiple groups and domains, a Bind DN pattern might not produce a unique DN for each user, and user authentication cannot proceed.

When this option is selected, the User Directory Plugin ignores the Bind DN pattern, and:

1. Binds to the directory with the user credentials entered in the Administrator Bind DN field in the Settings tab.
2. Searches the directory for a user with the same name as the authentication request’s username field.
3. Retrieves the user’s unique DN from the directory.
4. Binds with the DN and the authentication request’s Password field.

### Targeted Group Resolution

This setting applies to Microsoft Active Directory servers only.

When this option is selected, Forescout 8.1 optimizes the way it retrieves group information. Use this option to reduce traffic in large-scale network environments with complex group hierarchies. Instead of the default method of retrieving a full listing of groups at regular intervals, this setting instructs the plugin to store primary group IDs and then selectively query for further group information.

For newly added servers, this setting is enabled by default.

**Note:** For Microsoft Active Directory servers, you cannot enable both the **Targeted Group Resolution** option here and the **Include parent groups** setting in the Name and Type tab.

### DNS Detection Refresh Interval

This setting applies to Microsoft Active Directory servers for which **DNS Detection** was selected in the Settings tab. See [DNS Detection for Microsoft Active Directory](#)

This setting defines the frequency, in seconds, at which the plugin queries domain controller addresses.
## Certificate Settings for TLS

These settings define how certificates are used and verified between Forescout 8.1 and the server. These settings apply only when TLS is used to encrypt communication with the User Directory server. See Use TLS in the Settings tab.

For detailed information about defining and provisioning certificates, refer to the Forescout Administration Guide section that describes how to configure the certificate interface.

<table>
<thead>
<tr>
<th>Present CounterACT client certificate</th>
<th>When this option is selected, Forescout 8.1 presents a client certificate to the user directory server.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verify user directory server certificate</td>
<td>When this option is selected, Forescout 8.1 verifies the user directory server certificate.</td>
</tr>
<tr>
<td>Check user directory certificate revocation status using</td>
<td>When this option is selected, Forescout 8.1 checks that the user directory server certificate has not been revoked.</td>
</tr>
<tr>
<td>- CRL: Check if the certificate is in the Certificate Revocation List (CRL) of the issuing Certificate Authority.</td>
<td></td>
</tr>
<tr>
<td>- OCSP: Send an Online Certificate Status Protocol (OCSP) request for the certificate revocation status.</td>
<td></td>
</tr>
<tr>
<td>- Soft-fail OCSP Requests: If Forescout 8.1 does not receive a response from the OCSP Responder, the certificate is considered valid. By default, hard-fail is applied.</td>
<td></td>
</tr>
</tbody>
</table>

## Duplicate Servers

Typically, there are several User Directory servers in a network environment. You can repeat the Configuration procedures to manually define additional servers or you can duplicate an existing server profile and edit its properties as required. Using an existing server profile as the basis for a new server configuration eliminates the need to define each of the server settings from scratch.

**To duplicate a server:**

1. Select the existing server in the User Directory pane and select Duplicate.
2. The Edit Server wizard opens. Most fields are populated with the settings of the existing server.
3. Modify the server settings to create a new server definition.

⚠️ You must supply a unique address to differentiate this server.
4. Select **OK**. The new server definition appears in the User Directory pane.

**Test the Configuration**

To ensure that the plugin can connect to a server, it is recommended to run a test using the settings defined in **Configure Server Tests**.

**To test a server configuration:**

1. Select the server in the User Directory pane and select Test. A configuration test runs for each CounterACT device selected in the Accessed By field.
2. To see the results of a Directory test, select the row and select **User Details**.

![Configuration Test - Completed](image)

**Working with Policies**

Use policy tools to detect endpoints with specific User Directory attributes. For example, create a policy that detects endpoint users in a specific Active Directory department or with a specific distinguished name.

**Detect Endpoints with User Directory Attributes**

You can use a policy to detect the following User Directory attributes on endpoints:

- *Account is Disabled* (Active Directory only)
- Account is Expired (Active Directory only)
- Common Name
- Company (Active Directory only)
- Department (Active Directory only)
- Display Name (Active Directory only)
- Distinguished Name
- Email
- Employee Number (Oracle Directory only)
- Initials
- Last Name
- LDAP User Name
- Member Of
- Mobile Phone
- Password Last Set
- Phone
- Street Address
- Title (Active Directory only)
- User Given Name
Refer to the *Forescout Administration Guide* for details about working with policies. See [Additional Forescout Documentation](#) for information on how to access the guide.

**Display User Directory Information at the Console**

Information learned by the User Directory Plugin can be viewed in the Console:

- In the Detections pane
- In the User section of the Profile tab
Chapter 1: User Directory Management

To display/hide columns:

1. Right-click a table header in the Detections pane and select Add/Remove Columns.

2. Expand the Properties node and then expand the User Directory node.
3. To add columns to the table:
   a. In the **Available Columns** list, select one or more columns.
   b. Select **Add**. The selected columns are moved to the **Selected Columns** list.

4. To remove columns from the table:
   a. In the **Selected Columns** list, select the columns you do not want to display.
   b. Select **Remove**. The selected columns are moved to **Available Columns** list.

5. (Optional) Use the **Move Down** and **Move Up** options to reorder the columns. The first column in the **Selected Columns** list is displayed in the leftmost position in the table.

6. Select **OK**.
Additional Information

This section provides more detailed information about the plugin.

DNS Detection for Microsoft Active Directory

The Microsoft Active Directory server configuration includes a DNS Detection option in the Settings tab.

When DNS Detection Is Not Enabled

When the server is added, the User Directory Plugin constructs a list that includes:

- The server address configured in the Settings tab, Communication section
- All the server addresses configured in the Replicas tab

The address defined in the Settings tab is first in the list. There is no specific order among the replica servers.

For each CounterACT Appliance, the list is divided into two parts:

- The IP addresses of servers that are accessed by the evaluating Appliance (‘accessed by me’)
- The IP addresses of servers that are accessed by other Appliances (‘accessed by others’)

Forescout 8.1 connects to the server as follows:

1. Forescout 8.1 attempts to connect to the first reachable server in the ‘accessed by me’ list. If the list is empty, Forescout 8.1 delegates the connection to one of the ‘accessed by others’ servers.

2. If a server is unreachable (service not available), Forescout 8.1 attempts to connect to the next server in the same list.

3. If a server is reachable but a timeout (congested network or firewall configuration) exceeds the configured 10-second maximum timeout, Forescout 8.1 attempts to connect to the next server in the same list.
The timeout parameter is configurable per Appliance using the following command:

```
fstool ad set_property config.timeout.value <new timeout sec>
```

### When DNS Detection Is Enabled

When *DNS Detection* is enabled, the user does not provide primary server or replica server IPs. Forescout 8.1 automatically learns directory server addresses. This is recommended in network environments where several domain controllers function as replicas.

In DMZ environments, do not enable DNS Detection for CounterACT Appliances if the DNS server is not reachable from Appliances.

Forescout 8.1 identifies the primary directory server as follows:

1. Using DNS lookup, the User Directory Plugin constructs a list of all potential directory servers.
2. Of the potential directory servers, the quickest to respond is selected as the primary server.
3. This primary server is used for each LDAP query.

If the primary server is unreachable (service not available) when it is evaluated, the plugin follows the procedure to identify a new primary directory server. By default, the primary server is evaluated hourly. See [DNS Detection Refresh Interval](#).

If the primary server is reachable but a timeout (congested network or firewall configuration) exceeds the configured 10-second maximum timeout, the plugin follows the procedure to identify a new primary directory server.

The timeout parameter is configurable per Appliance using the following command:

```
fstool ad set_property config.timeout.value <new timeout sec>
```

### Compatibility Across Servers

Endpoint properties in the user directories are shared with Forescout 8.1. The following table shows which properties are mapped from each directory type to Forescout 8.1.

<table>
<thead>
<tr>
<th>Forescout Property Tag</th>
<th>MS Active Directory</th>
<th>Novell eDirectory</th>
<th>Oracle Directory</th>
<th>IBM Lotus Notes</th>
<th>OpenLDAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ad_cn</td>
<td>cn</td>
<td>cn</td>
<td>cn</td>
<td>cn</td>
<td>cn</td>
</tr>
<tr>
<td>ad_company</td>
<td>company</td>
<td>company</td>
<td>company</td>
<td>company</td>
<td>company</td>
</tr>
<tr>
<td>ad_department</td>
<td>department</td>
<td>department</td>
<td>department</td>
<td>department</td>
<td>department</td>
</tr>
<tr>
<td>ad_displayname</td>
<td>displayname</td>
<td>displayname</td>
<td>displayname</td>
<td>displayname</td>
<td>displayname</td>
</tr>
<tr>
<td>ad_employeenumber</td>
<td>employeenumber</td>
<td>employeenumber</td>
<td>employeenumber</td>
<td>employeenumber</td>
<td>employeenumber</td>
</tr>
<tr>
<td>ad_givenname</td>
<td>givenname</td>
<td>givenname</td>
<td>givenname</td>
<td>givenname</td>
<td>givenname</td>
</tr>
<tr>
<td>ad_initials</td>
<td>initials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forescout Property Tag</td>
<td>MS Active Directory</td>
<td>Novell eDirectory</td>
<td>Oracle Directory</td>
<td>IBM Lotus Notes</td>
<td>OpenLDAP</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>----------------</td>
<td>----------</td>
</tr>
<tr>
<td>ad_isdisabled</td>
<td>useraccountcontrol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ad_isexpired</td>
<td>accountexpir</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ad_lm_fld1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>lmPassword</td>
</tr>
<tr>
<td>ad_lm_fld2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sambaLmPassword</td>
</tr>
<tr>
<td>ad_mail</td>
<td>mail</td>
<td>mail</td>
<td>mail</td>
<td>mail</td>
<td>mail</td>
</tr>
<tr>
<td>ad_memberof</td>
<td>memberof</td>
<td>groupMembership</td>
<td>memberof</td>
<td>groupMembership</td>
<td>member</td>
</tr>
<tr>
<td>ad_mobile</td>
<td>mobile</td>
<td>mobile</td>
<td>mobile</td>
<td>mobile</td>
<td>mobile</td>
</tr>
<tr>
<td>ad_name</td>
<td>name</td>
<td>cn</td>
<td>name</td>
<td>cn</td>
<td>cn</td>
</tr>
<tr>
<td>ad_nt_fld1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ntPassword</td>
</tr>
<tr>
<td>ad_nt_fld2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sambaNtPassword</td>
</tr>
<tr>
<td>ad_pwd_fld</td>
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<td></td>
<td></td>
<td>userPassword</td>
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<td>pwdlastset</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>sn</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>officestreetaddress</td>
<td>street</td>
<td></td>
</tr>
<tr>
<td>ad_telephoneNumber</td>
<td>telephoneNumber</td>
<td>telephoneNumber</td>
<td>telephoneNumber</td>
<td>telephoneNumber</td>
<td>telephoneNumber</td>
</tr>
<tr>
<td>ad_title</td>
<td>title</td>
<td>title</td>
<td>title</td>
<td>title</td>
<td>title</td>
</tr>
<tr>
<td>object_sid</td>
<td>objectSid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>primary_group_id</td>
<td>primaryGroupId</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 2: Corporate and Guest Management

- Corporate and Guest Control
- Corporate/Guest Control Policy
- Report Generation
- Guest Management from Portal and Console
- HTTP Login Action Configuration
- Endpoint Redirection
- Guest Management Interface Customization
Corporate and Guest Control

Perform the following to configure Forescout corporate and guest management:

1. Ensure that your network meets the system requirements, and configure the User Directory Plugin. Verify that at least one Microsoft Active Directory server is configured as an authentication server. For more information, see Chapter 1: User Directory Management.

2. Set up a Corporate/Guest Control policy to handle unauthorized guest access of your network and instruct the Forescout platform to work with Guest Management sponsors. See Corporate/Guest Control Policy.

3. Optionally run a report to see real-time information about corporate and guest hosts. See Report Generation.

4. Configure guest registration and management options. See Guest Management from Portal and Console and HTTP Login Action Configuration.

Optionally personalize your corporate Guest Management Portal, web messages and labels. See Guest Management Interface Customization.

Corporate/Guest Control Policy

To control access to your corporate network, Forescout 8.1 provides tools that let you find and classify hosts in your network. Use the Corporate/Guest Control policy template to create a policy that:

- Organizes endpoints into Guest Hosts, Signed-In Guests and Guest Hosts groups.
- Enforces network restrictions on users at unauthorized endpoints.
- Allows users at unauthorized endpoints to request network access as guests. The list of corporate guests is stored in the Forescout Console.

By default, the Corporate/Guest Control policy template is designed to prompt users using non-corporate hosts to register (request access) as network guests by entering their contact details in a Guest Registration form.

You must set up at least one Corporate/Guest Control policy to trigger the detection of network guests. If you have more than one policy and want global definitions for all sponsors, verify that all the policies reflect your requirements.

You should have a solid understanding of how the Corporate/Guest Control policy works.

This section covers:

- Groups Populated by a Corporate/Guest Control Policy
- Using the Corporate/Guest Control Policy Template
- What to Do When Authentication Server Values Are Changed
Groups Populated by a Corporate/Guest Control Policy

Corporate Hosts
Corporate Hosts are endpoints that are currently signed in as a Domain User or have authenticated recently to an approved authentication server.

If at least one of the following criteria is met, the endpoint is added to the Corporate Hosts group. Hosts that do not meet any of these criteria are added to the Signed-in Guests group or the Guest Hosts group.

The Endpoint Recently Authenticated to an Approved Authentication Server
This criterion detects if the endpoint authenticated with an approved authentication server within the last four weeks.

Authentication servers can be defined during the initial setup, and in the Tools > Options > NAC > Authentication window.

For information about working with the Corporate/Guest Control policy after authentication server definitions change, see What to Do When Authentication Server Values Are Changed.

The Endpoint Is Currently Signed In as a Domain User
This criterion detects if the endpoint is signed in as a domain user.

Signed-In Guests
Hosts that were not categorized as Corporate Hosts are evaluated to see if they are Signed-in Guests.

This sub-rule detects if the endpoint meets one of the following criteria:
- the user is currently signed-in to your network as a Signed-in Guest
- the user successfully logged in as a Signed-in Guest via the HTTP Login action within the last 12 hours
- the user is approved based on their Guest Registration status

A Signed-in Guest is a user who was not authorized to enter the network as a corporate user but later received a valid user name and password. These credentials were successfully used in a Login page when the Signed-in Guest attempted to access the Internet.

Guest Hosts
Hosts that do not meet the criteria as Signed-in Guests are categorized as Guest Hosts.

Using the Corporate/Guest Control Policy Template
Deploy a policy created by the Corporate/Guest Control policy template to classify your network into Corporate Hosts, Signed-in Guests and Guest Hosts groups, and to deploy options for handling guests.

Before creating the policy:
Consider which endpoints you want to inspect, specifically segments in which guests may connect to the network. The template does not handle endpoints outside of the Internal Network.

Verify that your Primary Classification policy is applied to the network segment or IP address range on which you want to apply the Corporate/Guest Control policy.

The Corporate/Guest Control policy does not apply to printers and network devices, which are detected and classified by the Primary Classification policy.

To create the policy from the template:
1. Select Add from the Policy Manager.
2. Select Corporate/Guest Control.
3. Select Next. The Name page opens.
4. Edit the name if required and add a description.
5. Select Next. The Scope page opens.

Which Devices Are Inspected – Policy Scope
1. Use the IP Address Range dialog box to define which endpoints are inspected.
Chapter 2: Corporate and Guest Management

The following options are available:

- **All IPs**: Include all IP addresses in the Internal Network.
- **Segment**: Select a previously defined segment of the network. To specify multiple segments, select **OK** or **Cancel** to close this dialog box, and select **Segments** from the Scope pane.
- **Unknown IP addresses**: Apply the policy to endpoints whose IP addresses are not known. Endpoint detection is based on the endpoint MAC address.

2. Select **OK**. The added range appears in the Scope page.

3. To filter the specified ranges or add exceptions, select **(Advanced)**.

4. Select **Next**. The Guests page opens.
Handling Guest Hosts – Guests Page

Endpoints that do not meet the criteria as Corporate Hosts or Signed-in Guests are classified as Guest Hosts, and users at these endpoints are called guests. These may include, for example, visiting professionals, contractors or university students, or corporate members using personal devices that are not currently known to the Forescout Console.

Use the options here to define how you want to handle guests. These options are disabled by default. The template is set up this way so that you can first review endpoint classification, perform fine-tuning, and then enable sub-rule actions to easily activate a registration process that meets your corporate needs.

Select the Show a Login page link where guests can register for full network access as Signed-in Guests checkbox to require unauthorized users not yet registered as guests to request network access using the Guest Registration form in a web browser. If the checkbox is cleared, guest registration must be initiated by a sponsor in the Guest Management Portal or by a Forescout Console operator in the Guest Registration Pane.

Select Guests must be approved by the sponsor... to share the registration information submitted by the guest with designated corporate contacts, called sponsors, who can be designated by the guest. A sponsor must approve the guest before the guest is granted network access.

Sponsor email addresses must be included in the Guest Registration, Sponsors tab. For more information about sponsors, see Create Sponsors.

The following are examples of ways to handle unauthorized users:

- **Require guests to submit their contact information before being automatically approved**
  
  Allow users to enter identity information on a Guest Registration form in a web browser and then receive login credentials. To use this option, select Network access requests are automatically approved, and clear Allow guests to skip login and have limited access only. See HTTP Login for details.

- **Require guests to be approved by a sponsor**
  
  Users designated as sponsors can approve guests in the Guest Management Portal, and Forescout 8.1 sends network access credentials to these guests. To use this option, select Guests must be approved by the sponsor..., and clear Allow guests to skip login and have limited access only.

- **Allow network access to pre-approved guests only**
  
  - Sponsors can add pre-approved guests to the Guest Management Portal. Forescout 8.1 generates and sends login credentials to these guests.
  - Operators can define identity information and login credentials for pre-approved guests at the Console. It is the responsibility of your organization to forward the credentials to the guests.
No other guests are authorized to log in to your network. To use this option, clear **Show a Login page link where guests can register for full network access as Signed-in Guests**, and clear **Allow guests to skip login and have limited access only**. See [Adding Guests](#) for information about manually adding guests.

- **Always allow guests limited access only**

  There are no login requirements for limited access, and all unauthenticated users are able to enter the network with limited access only. Unauthorized guests cannot request full network access. To use this option, clear **Show a Login page link where guests can register for full network access as Signed-in Guests**, and select **Allow guests to skip login and have limited access only**.

- **Let users enter the network with limited access or request full access**

  Allow unauthorized users to either register to receive login credentials, or skip login and enter the network with limited network access. To use this option, select **Show a Login page link where guests can register for full network access as Signed-in Guests** and select **Allow guests to skip login and have limited access only**.

**Saving the Policy**

- Select **Next** and then select **Finish** to save the new policy.

**Fine-Tuning the Policy**

The Corporate/Guest Control policy template is designed so that the **Add to Group** actions are the only actions enabled. Endpoints are automatically classified into **Corporate Hosts**, **Signed-in Guests**, and **Guest Hosts** groups.

1. To review each group generated by the policy, select the group in the Filters pane in the Console, under the Groups node. The associated endpoints are displayed in the Console's Detections pane.

2. If the groups do not accurately reflect your corporate needs, return to the Policy Manager, select the Corporate/Guest Control policy you created, and modify the rules.

**Enabling the Guest Hosts Sub-Rule Actions**

By default, the HTTP Login, Assign to VLAN and Virtual Firewall policy actions are disabled in the Guest Hosts sub-rule. After ensuring that your endpoints are classified according to your corporate needs, you can enable the policy's sub-rule actions for guest registration or guest access restrictions.

**To enable the disabled policy actions:**

1. In the Policy Manager, right-click the **Guest Hosts** sub-rule for your Corporate/Guest Control policy.

2. Select **Quick Edit**.

3. Select **Actions** and enable the actions you want to apply to unauthorized guests:

   - **HTTP Login**
Chapter 2: Corporate and Guest Management

− Assign to VLAN
− Virtual Firewall

4. Select **OK** and then **Apply**.

**HTTP Login**

The HTTP Login action is used to activate the Guest Registration form and other web pages and emails used for the guest registration process. The action prompts unauthorized users to either sign in or complete a Guest Registration form with identity information. This provides you with registration information for each guest, such as contact details and the name of the individual who invited the guest to the network. All users attempting to access the corporate network are presented with a Login page where they can choose how to proceed. The Login page remains until login succeeds or is skipped, or if the endpoint is released via the Console or the Assets Portal.

![Login Page and Guest Registration Form](image)

**Login Page and Guest Registration Form**

You can configure the HTTP Login action to handle unauthorized users in the following ways:

**Automatically approve guest registrations**

For guests to be automatically approved after completing the Guest Registration form, select **Network access requests are automatically approved** in the Guests page of the policy wizard. You may want to do this if you anticipate many guests and do not have the resources to accept or reject each one, but do want to keep track of who registered. Guests fill out a Guest Registration form with identity information, including an email address field. Identity information is stored on a guest server (the Appliance) and can be viewed by a sponsor in the Guest Management Portal or by a Forescout operator in the Guest Registration Pane. See [Guest Management from Portal and Console](#). Guests log in using the value in their email address field as their user name, together with a password that they defined during registration.

**Require email approval by an authorized corporate sponsor**
For guests to be approved by authorized individuals, called sponsors, in your organization, select **Guests must be approved by the sponsor...** field. In addition to the sponsor named by each guest, you can define additional pre-defined sponsors for guests by typing the email addresses of these sponsors in the field. Email addresses must be comma-separated. There is no limit to the number of sponsors that you can list, and only one must grant approval. After approval, guests are sent a password that is automatically generated by Forescout 8.1. When guests log in to the network, their credentials are checked against the credentials that were approved. Identity information is stored on a guest server (the Appliance) and can be viewed by a sponsor in the Guest Management Portal or by a Forescout operator in the Guest Registration Pane. See [Guest Management from Portal and Console](#).

For more information about configuring the HTTP Login action, see [HTTP Login Action Configuration](#).

**Assign to VLAN**

The **Assign to VLAN** action restricts guest access by moving guest hosts to a predefined VLAN from which network access can be restricted. A Guest VLAN must be included in the IP address range defined for this policy. The VLAN must be defined on all switches on which guest hosts can be found.

**Virtual Firewall**

The **Virtual Firewall** action blocks guests from your network.

**What to Do When Authentication Server Values Are Changed**

If authentication server values are changed after creating a policy from the template, the policy values must be updated manually. Specifically, parameters defined in the policy are not linked to the new authentication settings. You can update policy credentials via a property **List** – an editable list of these credentials that was automatically generated with the policy.

**Report Generation**

After the Corporate/Guest Control policy runs, you can generate reports with real-time and trend information about corporate and guest hosts. You can generate and view the reports immediately, or generate schedules to ensure that corporate and guest hosts are automatically and consistently reported.

The Reports tool provides tools to customize reports and schedule automatic report generation. For more information about the Reports tool, see the [Forescout Console User Guide](#).

**To generate a report:**

1. Select **Reports** from the Console **Reports** menu. The Reports portal opens.
2. Select **Add**. The Add Report Template dialog box opens.
3. Select the Policy Trend or Policy Details report template, and select **Next**. A report configuration page opens.
4. Define the report specifications in each field.

5. Schedule report generation (optional).

6. Select **Save** (optional) to save the report settings and assign them a name. The report name appears in the **Reports** list for future use.

7. Select **Run** to generate and display the report.

In the following example, the Policy Compliance Details report was selected. This report gives you a pie chart breakdown of corporate/guest hosts, and provides details about each host depending on the information fields you selected to view.

---

**Guest Management from Portal and Console**

Many organizations want to provide limited network and Internet access to company visitors, such as contractors, visiting professionals, and other network guests. The HTTP Login action can detect, register and control network guests. For more information about the HTTP Login action, see **HTTP Login Action Configuration**. Requests for guest access to your corporate network can be generated when the HTTP Login action is:

- Applied manually to detected endpoints
- Applied during a Forescout Corporate/Guest Control policy evaluation of detected endpoints

**How Guests Are Added**

Guest information is stored in a guest list which can be populated in any of the following ways:

- By guests who request network access using the Guest Registration form in a web browser. See **Handling Guests**.
By sponsors who add pre-approved guests or import lists of pre-approved guests at the Guest Management Portal.

By Forescout operators who add pre-approved guests in the Guest Registration Pane.

How Guests Are Managed

Guests can be managed in any of the following ways:

- Forescout operators can use the Registered Guests tab in the Guest Registration Pane to view and manage all guests and to configure guest management features.
- Sponsors can use the Guest Management Portal to view and manage guests assigned to them.
- Admin Sponsors use the Guest Management Portal to view and manage all guests that have registered for network access, and to override the decisions of other sponsors.

<table>
<thead>
<tr>
<th>Guest Management Task</th>
<th>Sponsors Using Guest Management Portal</th>
<th>Operators Using Guest Registration Pane</th>
</tr>
</thead>
<tbody>
<tr>
<td>View guests.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Add pre-approved guests, and include the following information:</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>- Full name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Email (Required)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Phone number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Comment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 2: Corporate and Guest Management

### Guest Management Task

<table>
<thead>
<tr>
<th>Guest Management Task</th>
<th>Sponsors Using Guest Management Portal</th>
<th>Operators Using Guest Registration Pane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include the following additional guest information when adding or approving guests:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Date range of network access approval (Required)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Tags</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Message to be sent to the guest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Company name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Comment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Include the following additional guest information when adding or approving guests:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Password for network access.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Create tags to be assigned to guests.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Approve network access for guests who submitted a Guest Registration form.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Decline network access for guests who submitted a Guest Registration form.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Revoke guests who were approved for network access.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Remove guests from the Console and the Guest Management Portal guest lists.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Automatically purge guests a certain number of days after their accounts expired, were revoked, or were revoked. Purging removes them from the Console and the Guest Management Portal guest lists.</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

**Guest Management Portal**

The Guest Management Portal is a Web-based portal that enables corporate personnel to view and manage network guests who have requested access to the organization’s network. When access is approved, guests can browse the network and possibly use other network resources.

Individuals who manage network guests from this portal are referred to as sponsors.

Sponsors can use the Guest Management Portal for various tasks, including:

- Viewing all their sponsored guests.
- Importing lists of guests to be granted network access, and adding a single guest. These guests are automatically approved for network access.
- Approving and declining guests who registered for network access using the Guest Registration form.
- Revoking network access to guests who were approved.
- Assigning and updating network access approval periods.
- Assigning tags to guests. Tags can be used in Forescout platform policies.
Sponsors' corporate email addresses must be included in the Sponsors table, or they will not be able to access the Guest Management Portal. See Create Sponsors.

The Guest Management Portal in your organization may look different from the examples shown in this document.

For detailed information about working with the Guest Management Portal, refer to the following document.

- Guest Management Portal for Sponsors How-to Guide

See Additional Forescout Documentation for information on how to access these guides.

You can localize the strings in the Guest Management Portal. See Localize Web Pages and Messages.

You can customize the appearance of the Guest Management Portal with the look-and-feel and branding requirements of your organization. See Guest Management Interface Customization.

**Guest Registration Pane**

In the Guest Registration, Registered Guests tab, Forescout operators can perform the following guest management activities.

- Add approved guests, edit and remove them. See:
  - Adding Guests
  - Removing Guests
  - Purging Inactive Guests
  - Editing Guests
- Generate registration codes. See Retrieving Registration Codes.
Chapter 2: Corporate and Guest Management

- Define tags that sponsors can assign to guests at the portal. See Managing Guest Tags.
- Define a password policy that will be enforced when passwords are system-generated or self-selected by guests for login to the corporate network. See Define a Password Policy.
- Define how certain guest fields are validated. See Define a User Policy.
- Define the corporate sponsors who can use the Guest Management Portal for managing guests. See Create Sponsors.
- Define terms and conditions that reflect your corporate policies and regulations, and require their acceptance by guests accessing your network and by sponsors using the Guest Management Portal. See Define Terms and Conditions.
- Define the manner in which Forescout 8.1 notifies guests about their network access status, and sends their login credentials. Notifications can be sent via email and text messages. See Guest Notifications.
- Define which notifications are emailed to corporate sponsors about their guests' network access status. See Sponsor Notifications.

When you are finished configuring the Guest Registration pane, select Apply to save your changes in the ForeScout configuration.

The Forescout user who works with Guest Registration functionality must have the Plugin Management update permission.

Guest Registration Pane

To open the Guest Registration pane:

1. Select Options from the Tools menu and then select Guest Registration. The Guest Registration pane opens.
Adding Guests

If you know ahead of time that your organization is expecting guests and you have their identity information, you can pre-approve the guests and later verify that they are authenticated.

Individuals defined as Sponsors can add and import pre-approved guests directly to the Guest Management Portal. It is recommended to add guests using the Guest Management Portal. Refer to the Guest Management Portal for Sponsors How-to Guide. See Additional Forescout Documentation for information on how to access this guide.

To view and add guests at the Console:

2. Select the Registered Guests tab of the Guest Registration pane. The list of guests is displayed.

3. To add a guest, select Add. The Add Guest dialog box opens.

4. Complete the guest information, and provide a password for guest login. The Restrict To field is not used in this version.

5. Select OK.
6. After all guests have been added, select **Apply**. The added guests are automatically approved for network access.

7. It is the responsibility of your organization to forward the login credentials to guests added at the Console. Forescout 8.1 does not do this for you.

The Registered Guests tab also supports:

- Importing guest entries into the tab from a CSV file. To initiate this action, select **Import**.

- Exporting guest entries from the tab into a CSV file. To initiate this action, select **Export**.

### Removing Guests

Guests that you remove are automatically and immediately signed out of the network, and their accounts are purged from both the Forescout Console and the Guest Management Portal. Users who are removed while still browsing are notified by a web message of this management action.

> In the Guest Management Portal, sponsors can revoke their approved guests and decline guest requests. Refer to the Guest Management Portal for Sponsors How-to Guide. See Additional Forescout Documentation for information on how to access this guide.

**To remove a guest:**

1. In the Registered Guests tab of the Guest Registration pane, select a guest entry.

2. Select **Remove** and then select **Apply**.

### Purging Inactive Guests

Guests become inactive when their status is changed to Declined, Revoked or Expired. Guests can be automatically purged a certain number of days after they become inactive. Inactive guest accounts are purged from both the Forescout Console and the Guest Management Portal.

**To purge inactive guests:**

1. At the bottom of the Registered Guests tab of the Guest Registration pane, select **Purge after**.
Chapter 2: Corporate and Guest Management

2. Each guest is purged from the guest list a certain number of days after its status is set to Declined, Revoked or Expired. Enter a value for the number of days to wait before purging these guests.

3. Select Apply.

Editing Guests

You can edit guest registration values. If you update the password, you must notify the guest.

To edit a guest:

1. In the Registered Guests tab of the Guest Registration pane, select a guest entry.

2. Select Edit. The Edit Guest dialog box opens.

3. Update the guest information.

4. Select OK and then select Apply.

In the Guest Management Portal, sponsors can edit the approval period requested by guests. Refer to the Guest Management Portal for Sponsors How-to Guide. See Additional Forescout Documentation for information on how to access this guide.

Retrieving Registration Codes

Registration codes can be used when the HTTP Login action requires guests to register before the Guest Registration request is processed. If the guest does not provide the correct code, the request is not processed. Use this feature to ensure that only guests with whom you’ve shared the registration code can apply for network access.

Enable the registration code option from the Registration Page tab in the HTTP Login action.
To retrieve registration codes to send to guests:

1. In the Registered Guests tab of the Guest Registration pane, select Codes. The Registration Codes dialog box opens and displays the daily registration codes.

   ![Registration Codes]

   2. A unique code is shown for each day. Identify the registration code for the day you expect your guest to require network access.

   3. It is the responsibility of your organization to forward the code to the network guests. Forescout 8.1 does not do this for you.

Managing Guest Tags

The Forescout operator creates guest tags in the Guest Registration pane. Sponsors can assign these tags to guests:

- when approving or declining guests using the Network Access Request page opened by the emailed link
- when adding guests in the Guest Management Portal

*Guest tag assignment is not available to sponsors when approving pending guests in the Guest Management Portal.*
To use the *Tags* feature, **Guests must be approved by the sponsor**... must be selected in the Guests tab of the *HTTP Login* action.

You can create policies that evaluate guests for specific guest tag assignments. For example, create a policy that detects guests tagged as *VIP guests* and assigns them to a specific VLAN or allows them maximum network access.

To work with tags, perform the following:

- **Configure Tags**
- **Create Policies with Your Tags**

**Configure Tags**

Create tags that sponsors can assign to guests.

**To configure tags:**

1. In the Registered Guests tab of the Guest Registration pane, select **Tags**.

2. In the Guest Tags dialog box, you can select guest tag options:

   - **Sponsor may select multiple tags**: Enables the sponsor to assign multiple tags to each guest.
Sponsor is required to tag the guest: Requires the sponsor to assign at least one tag to each guest. If you do not select any option, sponsors can optionally assign each guest a single tag.


Add Guest Tag

4. Enter a name for the new tag.

5. If you select Selected by default at the sponsor's page, the tag appears by default in the Add Guest page in the Guest Management Portal. The sponsor can manually remove it from the Add Guest page.

6. Select OK.

7. After all the tags have been added, select OK to save the created guest tags in the configuration.

Create Policies with Your Tags

Control guests based on their guest tags. Do this by incorporating the evaluation of the Guest Tags property in your policies.

For example, create a policy that detects guests with an Authentication, Signed In Status property value of Signed In as a Guest and a Guest Tag property value of Building A and then assigns them to a specific VLAN or allows them minimum network access.

To incorporate guest tags:

1. Edit or create a policy.

2. Define the condition so it includes the Guest Registration > Guest Tags property. The list of available property values contains all the tags created in the Guest Registration pane.
Define a Password Policy

In the Guest Registration pane, use the **Password Policy** tab to configure requirements, such as minimum length or special character requirements, for passwords used by approved guests to log in to the network. These requirements are applied to:

- passwords that registering guests define for login
- system-generated network passwords for guest login

\* When defining the HTTP Login action, in the **Guests** tab, select the option **Provide a system-generated password to self-registering guests** to have Forescout 8.1 generate passwords for guest login. For information about using system-generated passwords and providing a Forgot my Password link, refer to the Forescout Administration Guide, Define Guest Login Session Options section. See Additional Forescout Documentation for information on how to access this guide.

**To configure guest password requirements:**

1. Select the Password Policy tab of the Guest Registration pane.
2. Define any of the following password requirements:
   - Minimum password length - the default, minimum length is 6 characters
   - Minimum number of uppercase characters to include
   - Minimum number of lowercase characters to include
   - Minimum number of digits to include
   - Minimum number of special characters to include
     Special characters are ! " # $ % ^ & ' ( ) * + , . / ; < = > ? @ [ \ ] ^ _ ` { | } ~

3. Select Apply to save your changes in the configuration.

**Define a User Policy**

In the Guest Registration pane, use the User Policy tab to define how certain guest fields are validated.

The *Email* field is always mandatory for guests, and guests are identified by its contents.
### Create Sponsors

In the Guest Registration pane, use the **Sponsors** tab to define the corporate employees who are authorized to log in to the Guest Management Portal. These users are called sponsors. Anyone defined as a sponsor can use the Guest Management Portal to approve, decline or revoke network access for their sponsored guests.

If the employee email address provided by a guest in the Guest Registration form is not defined in the **Sponsors** tab, the employee cannot use the Guest Management Portal. The employee can only approve or decline the guest if the Forescout user selected the **Enable sponsor approval without authentication via emailed link** option in the Guests tab of the HTTP Login action.

> All sponsor email addresses must be configured in Active Directory.

Add sponsors in any of the following ways:

- Globally, by selecting all user directory members
- Individually, by defining an email address
- By group, by defining an Active Directory group

#### To configure sponsors:

1. Select the Sponsors tab of the Guest Registration pane.

2. To add all corporate user directory domain members as sponsors, select the **All domain members are sponsors** option.

3. To add sponsors individually or by group:
   - c. Select **Add**. The **Add Sponsor** dialog box opens.
Define the following sponsor information:

<table>
<thead>
<tr>
<th>Email/Active Directory Group (required)</th>
<th>Define either of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Enter the Active Directory email address of the individual you want to define as a sponsor.</td>
</tr>
<tr>
<td></td>
<td>• Enter a corporate Active Directory group name to assign all its group members as sponsors.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type (required)</th>
<th>Select a sponsor type.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Sponsor - can access the portal to view and manage only guests that are assigned to them.</td>
</tr>
<tr>
<td></td>
<td>• Admin Sponsor - can access the portal to view and manage all guests that have registered for network access, and can override the statuses applied by other sponsors.</td>
</tr>
</tbody>
</table>

| Description (optional) | Enter a description for the Guest Management sponsor. |

Select OK.

4. After all sponsors have been added, select Apply to save your changes in the configuration.

**Define Terms and Conditions**

You can require users to agree to the use of your terms and conditions. In the Guest Registration pane, use the Terms and Conditions tab to enable the presentation of terms and conditions to either or both of the following user types:

- Registering guests
- Sponsors working in the Guest Management Portal to manage guests

Sponsor terms and conditions are accepted automatically when the sponsor makes any changes at the Guest Management Portal.
To configure terms and conditions:

1. Select the Terms and Conditions tab of the Guest Registration pane.

2. Define the following:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable guest terms &amp; conditions</td>
<td>Require terms and conditions to be confirmed by guests prior to their registering or logging in.</td>
</tr>
<tr>
<td>URL</td>
<td>Provide the absolute URI of a Web page for displaying guest terms and conditions. Select Test to ensure that the address is correct.</td>
</tr>
</tbody>
</table>
Text

Define the text of terms and conditions to present to guests.
Select **Edit** to add/modify/delete the terms and conditions, and select **OK**.

Enable sponsor terms & conditions

Require terms and conditions to be presented to sponsors prior to them approving guest network access requests.

URL

Provide the absolute URI of a Web page for displaying sponsor terms and conditions.
Select **Test** to ensure that the address is correct.

Text

Define the text of terms and conditions to present to sponsors.
Select **Edit** to add/modify/delete the terms and conditions, and select **OK**.

3. Select **Apply** to save your changes.

**Guest Notifications**

In the Guest Registration pane, use the **Guest Notifications** tab to configure which notifications Forescout 8.1 sends to guests regarding their network access. Notifications can be sent to guests via email, SMS (text messaging), or both.

Email and phone information are provided:

- By sponsors when adding a guest in the Guest Management Portal
- In .csv files that are imported to the Guest Management Portal
- By guests when they request network access
- By Forescout operators who register guests from the Forescout Console

To configure guest notifications:

1. Select the Guest Notifications tab of the Guest Registration pane.

2. Define the following:
Enable notifications to guests via:

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>Use email to deliver notifications to guests.</td>
</tr>
<tr>
<td>SMS</td>
<td>Use mobile text messaging (SMS) to deliver notifications to guests.</td>
</tr>
</tbody>
</table>

Notify guests when their guest account is set to:

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Pending</td>
<td>Notify guests that their network access request is pending.</td>
</tr>
<tr>
<td>Account Approval</td>
<td>Notify guests that their network access request has been approved.</td>
</tr>
<tr>
<td>Account Rejection</td>
<td>Notify guests that their network access request has been declined.</td>
</tr>
<tr>
<td>Account Revocation</td>
<td>Notify guests that their network access approval has been revoked. This state can only be triggered by a sponsor using the Guest Management Portal.</td>
</tr>
<tr>
<td>Account Expiration</td>
<td>Notify guests that their network access approval period has expired.</td>
</tr>
</tbody>
</table>

3. Select **Apply** to save your changes.

You can customize the notification texts. See [Localize Web Pages and Messages](#).

In the Guest Management Portal or the Network Access Request page opened by the emailed link, sponsors can add messages to guest notifications.
Sponsor Notifications

A corporate employee becomes a sponsor of a guest when one of the following conditions occurs:

- The registering guest specifies the person’s email address in the Contact Person Email field of the Guest Registration form.
- The person’s email address is provided in the Pre-defined sponsors for all guests field in the Guests tab of the HTTP Login action.

In the Guest Registration pane, use the Sponsor Notifications tab to configure which notifications Forescout 8.1 sends to sponsors regarding the following guest network access events:

- A guest registration request is pending for a guest for whom they are a sponsor.
- A guest registration request is approved for a guest for whom they are a sponsor.
- A guest registration request is rejected for a guest for whom they are a sponsor.
- A guest registration request is revoked for a guest for whom they are a sponsor. This event can only occur when a managing sponsor of the guest is working with the Guest Management Portal.
To configure sponsor notifications:

1. Select the Sponsor Notifications tab of the Guest Registration pane.

2. Define when to notify a guest's sponsors:

<table>
<thead>
<tr>
<th>Account State</th>
<th>Notification Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Pending</td>
<td>Notify the sponsors when a guest has requested network access.</td>
</tr>
<tr>
<td>Account Approval</td>
<td>Notify the sponsors when they approve a guest’s network access request.</td>
</tr>
<tr>
<td>Account Rejection</td>
<td>Notify the sponsors when they decline a guest’s network access request.</td>
</tr>
<tr>
<td>Account Revocation</td>
<td>Notify the sponsors when they revoke a guest’s network access. This state can only be triggered by a sponsor using the Guest Management Portal.</td>
</tr>
</tbody>
</table>

3. Select **Apply** to save your changes.

You can customize the notification texts. See [Localize Web Pages and Messages](#).
**Sample Sponsor Email Notification**

The following is a sample email sent to a sponsor regarding a pending guest request. The email contains the guest request details.

![Sample Sponsor Email Notification](image)

**Support for Guest Management without Email Disclosure**

By default, Forescout 8.1 identifies each guest by their unique email address. If your organization does not want to require guests to share their email addresses, you can instruct Forescout 8.1 to identify guests using other guest identification information.

**Allowing Guests to Self-Register without Email Disclosure**

By default, guests registering for network access are required to enter a valid email address into the guest identification field of the Guest Registration form. You can instruct Forescout 8.1 to allow guests to enter other identification information.

To accommodate this new feature, the HTTP Login action, **Registration Page** tab includes a new **Full Name** field that can be configured for Show/Hide/Mandatory:

- **To allow guests to self-register for network access without entering a valid email address:**
  1. Use the Corporate/Guest Control policy wizard to create a policy for the appropriate IP range.
2. In the policy wizard Guest tab, ensure that the **Enable guests to self-register** checkbox is selected.

3. In the Sub-Rules tab, double-click the **Guest Hosts** sub-rule to open it for editing.
4. In the Actions area, select the **HTTP Login** checkbox, and select **Edit**.
5. In the HTTP Login action, Registration Page tab, do the following:
   - Select **Disable email validation**.
     This allows any string to be entered into the guest identification field of the Guest Registration form, even if it is not a valid email address.
   - Set the **Full Name** dropdown menu to **Hide**.
     This ensures that only one guest identification field is displayed in the Guest Registration form.

To change the strings of the guest identification fields that the user must enter on the Guest Registration form from Email to a different string:

1. Select **Options** from the Console **Tools** menu, and navigate to **Advanced > Language Localization > Endpoint Messages**.

2. In the Captive Portal actions, change the **Displayed** values of the following strings so that they reflect the type of guest identification required.

<table>
<thead>
<tr>
<th>Displayed</th>
<th>Type</th>
<th>Beginning of Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>Label text</td>
<td>Captive Portal - Field label for: Email</td>
</tr>
<tr>
<td>Email Address; this will be your User Name when logging in to our network</td>
<td>Label text</td>
<td>Captive Portal - Field label for: Email (Guest Registration)</td>
</tr>
<tr>
<td>Enter your email address</td>
<td>Label text</td>
<td>Captive Portal - Field validation message for: 'Email' when is required</td>
</tr>
<tr>
<td>Enter your User Name (If you are a guest, enter your email address)</td>
<td>Label text</td>
<td>Captive Portal - Field validation message for: 'Username' when is required</td>
</tr>
</tbody>
</table>
Chapter 2: Corporate and Guest Management

Forescout User Directory Plugin

3. You can change the guest identification label displayed to operators in the **HTTP Login** action so that it reflects the type of guest identification required. In the **HTTP Login** actions, change the **Displayed** values of the following string:

<table>
<thead>
<tr>
<th>Displayed</th>
<th>Type</th>
<th>Beginning of Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>Label text</td>
<td>Guest Registration Email form field label</td>
</tr>
</tbody>
</table>

**Allowing Sponsors to Add Guests without Email Disclosure**

By default, sponsors are required to enter a valid email address into the guest identification field of the Guest Management Portal. You can instruct Forescout 8.1 to allow sponsors to add guests using other identification information.

**To allow sponsors to add guests without valid email addresses:**

1. Select **Options** from the Console **Tools** menu, and navigate to **Guest Registration**.
2. In the User Policy tab, select **Disable Email Validation**.

**To change the strings of the guest identification fields that the sponsor must enter in the Guest Management Portal from Email to a different string:**

1. Select **Options** from the Console **Tools** menu, and navigate to **Advanced > Language Localization > Endpoint Messages**.
2. In the **Guest Management Portal** actions, change the **Displayed** values of the following strings so that they reflect the type of guest identification required.

<table>
<thead>
<tr>
<th>Displayed</th>
<th>Type</th>
<th>Beginning of Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each guest must have a unique email. {0} appears in lines {1}.</td>
<td>Error text</td>
<td>Error message for when guest list contains 2 or more guests with same email addresses.</td>
</tr>
<tr>
<td>Email</td>
<td>Label text</td>
<td>The Email label that appears in the Add Guest form.</td>
</tr>
<tr>
<td>Email</td>
<td>Label text</td>
<td>The Email header that appears in the Guest Management Portal.</td>
</tr>
<tr>
<td>Email</td>
<td>Label text</td>
<td>Import Guests instructions text: step 2 Email column</td>
</tr>
<tr>
<td>Email address</td>
<td>Label text</td>
<td>Text that appears in New Guest page, Email field</td>
</tr>
<tr>
<td>Email address '{0}' has been added to the portal.</td>
<td>Label text</td>
<td>Approved success message</td>
</tr>
<tr>
<td>Enter an email address.</td>
<td>Error text</td>
<td>Empty email address is not allowed</td>
</tr>
</tbody>
</table>
### HTTP Login Action Configuration

The HTTP Login action allows the Forescout operator to control the access of corporate and guest users to a corporate network. It is a powerful feature that can prompt endpoint users to authenticate or self-register before accessing your network. For information about how the action redirects endpoints, see [Endpoint Redirection](#).

When the HTTP Login action is enabled, users attempting to access the network are redirected to a Login page where they must enter valid credentials. The user credentials are authenticated against the CounterACT Appliance.

<table>
<thead>
<tr>
<th>Displayed</th>
<th>Type</th>
<th>Beginning of Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter an email address.</td>
<td>Label text</td>
<td>Error displayed to user in New Guest page when the user did not enter...</td>
</tr>
<tr>
<td>The email address is too long. Enter up to 48 characters.</td>
<td>Label text</td>
<td>Guest form validation error when user entered an email with too much...</td>
</tr>
<tr>
<td>The guest at email address '{0}' has been updated.</td>
<td>Label text</td>
<td>Update success message</td>
</tr>
<tr>
<td>The portal already contains an Approved or Pending guest with email address...</td>
<td>Error text</td>
<td>Email address already exists. Can't override guest with status Approved...</td>
</tr>
</tbody>
</table>

---
Use the **HTTP Login** action options to:

- Define the servers against which the user authenticates.
- Enable and define a registration process by which unauthorized users can request network access via a web registration form. You may want to enable this if your organization allows visitors to access the network.
- Define login requirements so that users can skip authentication and registration, and enter the network with limited access.
Chapter 2: Corporate and Guest Management

The HTTP Login action can be used with other policy actions. For example, you can define a policy quarantining all unauthenticated users to an isolated VLAN. If the user logs in properly, the policy’s actions are cancelled. The user is removed from the isolated VLAN and can join the network and browse.

- **Web messages and emails used in this action can be changed and localized.** See [Localize Web Pages and Messages](#).
- **Login failures can be easily tracked.** See [Track Repeated Login Failures](#) for details.
- **You can customize the text that the HTTP Login action displays at the user's endpoint.** For details, see [Customize HTTP Login Action Text](#).
- **HTTP Login is disabled whenever HTTP Redirection is disabled.** For more information, refer to the Forescout Administration Guide. See [Additional Forescout Documentation](#) for information on how to access this guide.

Depending on the endpoint operating system, and how the endpoint is managed, this action is implemented by the HPS Inspection Engine, the Linux Plugin, or the OS X Plugin.

Configure the HTTP Login action to handle:

- **Guests:** See [Handling Guests](#)
- **Corporate users:** See [Handling Corporate Users](#)
Handling Guests

This section describes how to handle network guests. For example, you can create policies that deal with visiting professionals, contractors, etc.

You can configure the HTTP Login action so that users who do not have authentication credentials can register as network guests using a Guest Registration form that is displayed in the user's web browser. In the Login page, guests select Request access to open a Guest Registration form where they enter their contact details.

Sample Login Page and Guest Registration Form

The network access request is delivered to one or more corporate contacts ("sponsors") in your enterprise with the authority to approve network access. If approved, login credentials are automatically sent to the email address entered in the Guest Registration form.

To configure the HTTP Login action for guest registration and login, use the following tabs in the action configuration:

- **Guests Tab**: Defines how authentication and registration is performed.
- **Corporate Tab**: Defines which information guests must provide in the Guest Registration form.
- **Login Page Tab**: Defines the text that appears on the Login page.
- **Miscellaneous Tab**: Defines additional configuration options, such as encryption and compliance.

Handling Corporate Users

Use the Corporate options to enable corporate authentication.
To configure the action for corporate users, use the following tabs in the action configuration:

- **Corporate Tab**: Defines which servers are used for authentication.
- **Login Page Tab**: Defines the text that appears on the Login page.
- **Miscellaneous Tab**: Defines addition configuration options such as encryption and compliance.

**HTTP Login Action Tabs**

This section describes five of the HTTP Login action tabs.

**Login Page Tab**

The Login Page tab is used to define what is displayed on the Login page. This page appears for both guest and corporate users.

![Sample Login Page](image)

After the user successfully logs in, the endpoint’s **Authentication, Signed In Status** property is resolved by Forescout 8.1 as **Signed In as a Guest** if the user's status is network *guest*, or as **Signed In as a Domain User** if the user's status is *corporate* user.
The User Name entered here will be used when resolving the *Device Information > User Name* property. If necessary, you can instruct Forescout 8.1 to use the machine name instead of this name or to use this name when the machine name is not available. Refer to the *HPS Inspection Engine Configuration Guide* for more information. See *Additional Forescout Documentation* for information on how to access this guide.

![HTTP Login Action, Login Page Tab](image)

The following Login Page tab options are available:

**Login Instructions**

In the text box of the Login Page tab, define the Login page message that is presented to both guests and corporate users.

**Show Help Button**

Help instructions are available on the Login page to assist users.

If you do not want to give users access to a Help page, hide the *Help* button on the Login page by clearing the *Show Help button* checkbox.

**Guests Tab**

Use the Guests tab to define guest login session options, as well as a registration strategy.
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HTTP Login Action, Guests Tab

**Guest Login Session Options**

These options let you control the guest login experience.

- **Enable HTTP login for approved guests**
  Select this option to enable login for approved guests. Authentication is validated against a Forescout server database after the guest is approved.

- **Keep open a 'Login Session' window after guest login**
  Select this option to display a corporate Login Session window for guests. To browse as a registered guest, the user selects **Continue browsing in a new window** and then **OK**.
Chapter 2: Corporate and Guest Management

The user must keep the Login Session window open to maintain a network to Internet connection, provided this access was granted in the policy. During this time, Forescout 8.1 resolves the Authentication, Signed In Status property for the endpoint as Signed In as a Guest.

To leave the network, the user selects Log Out and then Leave.
If the **Keep open a 'Login Session' window after guest login** checkbox is not selected, the corporate Login Session window is not displayed. Instead, a User Notification window is displayed. To browse as a registered guest, the user selects **Continue** and then **OK**. Forescout 8.1 resolves the Authentication, Signed In Status property for the endpoint as Not Signed In.

**Sample User Notification Window**

*Allow each guest to be logged in concurrently on multiple endpoints*

You can control the number of devices a single guest can log in to concurrently. Select this option to allow multiple logins. If this option is not selected, a second login by the same user closes the first session on the original computer.

*Provide a system-generated password to self-registering guests*

Select this option to instruct Forescout 8.1 to generate a password for the guest to use in the Password field of the Login page. This option is relevant only when a guest registers for network access using a Guest Registration form. When this option is selected:

- Guests are not prompted to define their own passwords in the Guest Registration form.
- When the guest is approved, Forescout 8.1 generates a password for the guest to use in the Password field of the Login page.
- The system-generated password is provided in an email that is sent to the guest.

<System-generated passwords adhere to the password policy rules that are defined in the Guest Registration pane's Password Policy tab. See Define a Password Policy.>

**Enable guests to edit their profiles**
Select this option to instruct Forescout 8.1 to display the Edit Profile link in the Login page that is presented to guest users. Selecting this link displays the Edit Profile page, where guests can edit information that they initially provided when registering using the Guest Registration form.

**Enable guests to request replacement passwords**

Select this option to instruct Forescout 8.1 to display the Forgot Password link in the Login page that is presented to guest users. Selecting this link displays the Forgot Password page, where approved guests can request a new password for login.

**Guest Registration Options**

![Guest Registration Options](image)

**Define Guest Registration Strategy**

**Allow only pre-approved guests**

Clear the **Show a Login page link where guests can register for full network access as Signed-in Guests** checkbox if all guests must be pre-approved for network access. Information about pre-approved guests is saved on the CounterACT Appliance. When pre-approved guests log in to your network, their credentials are checked against this information. Pre-approved guests can be added by:

- a sponsor in the Guest Management Portal.
- a Forescout operator in the Guest Registration Pane. It is the responsibility of your organization to forward login credentials to these pre-approved guests. Forescout 8.1 does not do this.

**Enable guest registration**

To enable not-yet-approved guests to self-register, select the **Show a Login page link where guests can register for full network access as Signed-in Guests** checkbox. This prompts new guests to complete a Guest Registration form on which they provide information such as their identity details and the name of the individual who invited the guest to the network. A link to the Guest Registration form is provided on the corporate Login page.

**Landing page prompt**

Select **Set the Guest Registration page as the landing page for unregistered guests** if you want to prompt the guest to complete the Guest Registration form.
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**Guest account expiration**

To set a maximum time for which guests can request network access, select **Limit guest accounts to** and enter the time limit. By default, this field is unselected, making the maximum network access approval period **unlimited**. In the Guest Management Portal, sponsors can further limit the network access of their self-registering guests to less than this value. When the time period elapses, the guest account expires and the guest is required to register again.

**Automatic approval of registered guests**

For guests to be automatically approved after submitting a Guest Registration form, select **Network access requests are automatically approved**. You may want to do this if you anticipate many guests and do not have the resources to accept or reject each one, but do want to keep track of who is registered. Approved guests are displayed in the following ForeScout platform locations:

- In the Guest Management Portal where sponsors can view the registered guests that specified them as their corporate contact.
- In the Guest Registration Pane. Select Options from the Tools menu and then navigate to and select Guest Registration to display the Registered Guests tab and view the registered guest entries.

**Sponsor approval of guests**

If you require that guests be explicitly approved by an individual in your organization - a corporate **sponsor** - select the **Guests must be approved by the sponsor...** option. The sponsor specified by the guest on the Guest Registration form receives a notification email that includes a link to the corporate Guest Management Portal. After logging in to the portal, sponsors can approve or decline network access to their guests awaiting approval.

Before sponsor approval is completed, a notification page opens for the guest.

![Sample Guest Registration Request Pending Page](image-url)
Enable sponsor approval without authentication via emailed link

The guest registration request notification email that is sent to sponsors always includes a link to the corporate Guest Management Portal. Select this option to include an additional link in the notification email to a Network Access Request page containing the specific guest registration request.

Sample Guest Registration Request Email

- The first link opens the Login page of the Guest Management Portal, where a sponsor can log in and administer all their guest registration requests.
- If the Forescout user selected the Enable sponsor approval without authentication via emailed link option in the Guests tab of the HTTP Login action, then a second link is included. This link opens a Network Access Request page, where the sponsor can approve or decline the network access request of the specific guest.
This option is useful if:

- You do not want to require sponsors to log in to the Guest Management Portal to approve guest registration requests.
- Sponsors are temporarily unable to access the Guest Management Portal.
- Your organization does not employ an Active Directory server to verify the credentials of its personnel. (Logging in to the Guest Management Portal requires Active Directory verification of user domain credentials).

Use of this option maintains backward compatibility with HTTP Login action functionality of previous versions.

If Enable sponsor approval without authentication via emailed link is selected, it is recommended to select Sponsors must be in these domains to ensure that only corporate employees receive the emailed link.

Pre-defined sponsors for all guests

Select this option to provide a comma-separated list of emails of corporate sponsors. In addition to the primary sponsor named by each guest in the Contact Person and the Contact Person Email fields of the Guest Registration form, these sponsors will also receive guest registration notifications.

Sponsors must be in these domains

To make the approval process more scalable, your network guests can be approved by individuals in your organization, based on the domain address of the Contact Person Email that they entered in the Guest Registration form.
Select this option to provide a comma-separated list of corporate domains. The entries specified in this field limit the allowed domain(s) in the Contact Person Email field of the Guest Registration form submitted by a registering guest. For example, if the field contains the entries finance.my-company.com, marketing.my-company.com, sample.com, then only an email address that ends with one of these domains, such as jane@marketing.my-company.com, is valid for use in the Contact Person Email field.

**Require Verification Codes**

Verification codes are used when working with the *HTTP Login* action that requires guests to register before the Guest Registration request is processed. Use this feature to verify that the email address or phone number entered by the guest in the Guest Registration form is valid. Forescout 8.1 sends a one-time verification code to the guest email address or mobile phone number that they entered in their registration form, and then requires the guest to enter the code before logging in. Verification codes are automatically generated and validated by Forescout 8.1.
Sample Guest Verification Code Form

Verification codes are automatically generated and validated by Forescout 8.1.

To work with verification codes:


2. From the drop-down list, select whether the verification code will be sent via email only, via mobile phone only, or via both email and mobile phone. The email messages includes a customized message. The mobile text message includes only the verification code.

To send a verification code to a mobile device, you must define how Forescout 8.1 submits the message to the mobile carrier.

To define text messaging through a mobile carrier:

1. Select Options from the Tools menu and then select General > Mobile Text Message.
Mobile Text Message Pane

2. Select **Add**. The Carrier Type dialog box opens.

Mobile Text Message Carrier Type

Select **Mail Carrier** to send text message requests to a carrier in email format, or select **URL Carrier** to send text message requests to a carrier in a URL string.

3. Select **OK**. In the Add Carrier dialog box, enter a name that identifies this carrier in the **Name** field. In the other fields of the dialog box, enter string patterns that define the format used to submit message requests.
   - For message requests in email format, the fields correspond to the **Address**, **Subject**, and **Message** fields of an email message.
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Mobile Text Message Request, Email Format

- For message requests in URL format, a single URL field is used to submit the message request. In addition, an optional Proxy URL field lets you specify an alternative URL.

Mobile Text Message Request, URL Format

In these fields, use the following parameters as placeholders for values that are inserted into the request:

- _PHONE_NUMBER_ is the target phone number for the text message. For example, for guest registration this is the phone number submitted by the guest.
- _MESSAGE_ is message text inserted in the request. For example, for guest registration this is the registration code.

4. Select Test to send a sample message request using the defined format. Enter values for the _PHONE_NUMBER_ and _MESSAGE_ parameters, and select OK to submit the message request. Confirm receipt of the test message on the target mobile device.

5. In the Add Carrier dialog box, select OK. The carrier is added to the list in the Mobile Text Message pane.
**Viewing Registered Guests**

Approved and unapproved guests can be viewed in the Guest Management Portal and in the Guest Registration Pane.

**Working with Guest Tags**

Use *guest tags* to categorize guests into groups; for example, *Conference* guests and *Contractor* guests or *Building A* guests and *Building B* guests.

You can create policies that evaluate guests for their guest tag assignments. For example, create a policy that detects *Conference*-tagged guests and assigns them to a specific VLAN or allows them minimum network access.

See [Managing Guest Tags](#) for detailed information about working with guest tags.

**Corporate Tab**

Use the Corporate tab to define which servers will be used for domain authentication, as well as other authentication settings.

Before configuring corporate users, you must have already configured User Directory servers. Under most circumstances this configuration was performed when setting up the Console using the Initial Setup wizard.

To see which servers are defined, select **Options** from the **Tools** menu and then select **User Directory**. For more information about configuring User Directories refer to [Chapter 1: User Directory Management](#).

![HTTP Login, Corporate Tab](image)

To enable corporate user authentication against an authentication server, select **Enable HTTP login for corporate users**.

To allow authentication against any of the authentication servers that you defined in the User Directory Plugin, select **Use any authentication server**.

To authenticate users against specific servers, select **Use specific authentication server** and then select the browse button to choose servers.
HTTP Login, Defined Authentication Servers

To allow the endpoint user to select a server against which to authenticate, select **Prompt users to select an authentication server**. When this option is selected, the Login page displays a Domain field, from which the endpoint user can select a domain.

Sample Login Page with Domain
To display a corporate Login Session window for corporate users, select the **Keep open a 'Login Session' window after guest login** option. The user must keep this window open to maintain a network to Internet connection, provided this access was granted in the policy. During this time, Forescout 8.1 resolves the **Authentication, Signed In Status** property for the endpoint as **Signed In as a Domain User**.

Control the number of machines a single user can log in to concurrently. Select **Allow each guest to be logged in concurrently on multiple devices** to allow multiple logins. If this option is not selected, a second login by the same user closes the first session on the original computer.

To require corporate users to provide their domain name during authentication, select **Require the User Name to include the domain**.

**Registration Page Tab**

The information in the Registration Page tab is only used if **guest registration is enabled** in the Guests tab.

Use the Registration Page options to design the Guest Registration form.

---

HTTP Login, Sample Guest Registration Form
Define the title and message that appears in the Guest Registration form.

Define the form fields that you want guests to use.

Require guests to enter a registration code to begin the registration process. (optional)

**HTTP Login, Registration Page Tab**

**To design the Guest Registration form:**

1. In the **Header** field define a Guest Registration form title.

2. In the Registration Instructions text box, define the message that will appear in the page.

3. Select **Use registration code** to require guests to enter a registration code before beginning the registration process. This ensures that only guests with whom you've shared a registration code can apply for network access. These codes are automatically generated by Forescout 8.1, but they must be shared with endpoint users manually. See [Retrieving Registration Codes](#).
4. Select **Enable automatic login without a password** if you want to allow users to log in without a password. When this checkbox is selected, there is no authentication.

5. The *Email* field is always mandatory, and guests are identified by its contents.
   - Clear the **Disable email validation** checkbox to ensure that this field contains a valid email address.
   - In environments where users are identified by information other than their email address, select the **Disable email validation** checkbox so that no validation is done on the field. Any value will be accepted in the *Email* field.

   To ensure that only one guest identification field is displayed in the Guest Registration form, it is recommended to set the Full Name dropdown menu to **Hide** whenever the **Disable email validation** checkbox is selected.

6. For each field in the list, select one of the following:
   - **Hide**: The field is not displayed in the Guest Registration form.
   - **Show**: The field is displayed in the Guest Registration form and is optional.
   - **Mandatory**: The field is displayed in the Guest Registration form, and the user must enter a value.

7. If tags are defined in your environment, you can select tags to be added to the Guest Registration form.

The list of fields includes five custom fields that you can configure. For example, *Custom1* might be renamed *Building Name* to indicate the name of the building where the guest will be located.

**To assign custom names:**

1. Select **Options** from the **Tools** menu and then select **Advanced > Language Localization > Endpoint Messages**.
2. Type the word *Custom* in the search field.
3. Edit the fields as required, and then select **Apply**. For more information, see Localize Web Pages and Messages.

**Miscellaneous Tab**

Use the Miscellaneous tab to configure additional user login parameters.

![HTTP Login, Miscellaneous Tab](image)

**Use encrypted protocol (HTTPS)**

It is recommended to select the **Use Encrypted protocol (HTTPS)** checkbox to send the Login page via HTTPS. To send it via the non-encrypted HTTP protocol, clear the **Use Encrypted protocol (HTTPS)** checkbox. For more information about this transmission method, refer to the Transmitting Actions via HTTPS section in the Forescout Administration Guide. See Additional Forescout Documentation for information on how to access this guide.

**Direct user to a predestinated site after successful login**

To force the user to begin browsing at a specific website, such as your corporate home page, select **After a successful login continue to this URL** and enter the URL.

**Allow user to skip login and have internet access only**

If you think login credentials may not be available to users, and you want them to have browsing access, select **Allow the user to skip login**. When selected, the Login page includes a guest link option.

**Attempt to open a browser at the endpoint**

You can configure the action to automatically open a browser at the endpoint, instead of waiting for the user to browse. This ensures that the HTTP message gets to the network user faster. Select **Attempt to open the endpoint browser**. (This option is for managed machines only, and is not available for Windows 2000 and Windows 2003 Server machines.) Forescout 8.1 uses a script when this option is selected.

Refer to the **HPS Inspection Engine Configuration Guide** for details about how scripts work. See Additional Forescout Documentation for information on how to access this guide.
Customize HTTP Login Action Text

You can customize text that the HTTP Login action generates at the user endpoint. These texts appear in re-directed HTML pages that are generated at endpoints of users who attempt to access the corporate network.

See Localize Web Pages and Messages. You can identify HTTP Login action texts in the Endpoint Messages pane by any one of the following Action column entries:

- Guest verification code
- HTTP Login (with or without other values)
- HTTP Login mobile

Track Repeated Login Failures

You can define the number of failed attempts within a time range that trigger tracking. In addition, you can follow up with users who exceeded the limit by creating useful policy actions, for example, notifying the IT team or preventing user access to the production network.

To track repeated login failures:

1. Select Options from the Tools menu and then select NAC > HTTP Login Attempts.

2. Set the number of failed login attempts and the time within which failed login attempts must occur in order for a login failure attempt to be detected.

3. Select Apply.

Endpoint Redirection

When Forescout 8.1 detects web traffic from unauthorized endpoints, it can run an HTTP Login action to redirect (hijack) the traffic to a captive portal, such as a Login page.
**Hijack Methods**

Forescout 8.1 provides three guest endpoint redirection methods for guest management purposes. These methods can be deployed individually or in any combination.

- Centralized Web Authentication Method
- Packet Engine Method
- DNS Enforce Plugin Method

**Centralized Web Authentication Method**

Forescout 8.1 centralized web authentication combines the use of both MAC authentication (provided by the RADIUS Plugin) and Forescout policy actions to authenticate endpoints.

> As of RADIUS Plugin version 4.2, Forescout 8.1's hijack capability is not dependent on any other plugin or feature.

**Packet Engine Method**

The Forescout Packet Engine can be used to hijack the user's HTTP session.

> This method is not recommended for encrypted traffic.
DNS Enforce Plugin Method

The Forescout DNS Enforce Plugin can be used to redirect the user’s session to a captive portal.

This method is not recommended when background apps, such as Outlook Client, attempt to connect to their servers.

Guest Management Interface Customization

You can customize texts and also the look-and-feel of several Forescout features, including the Guest Management Portal.

Localize Web Pages and Messages

You can edit or localize text, such as error messages, email messages and labels, that appear in several Forescout features.

To edit or localize text:

1. Select **Options** from the Tools menu and then select **Advanced > Language Localization > Endpoint Messages**.

   The table lists text strings that Forescout 8.1 displays in various interactions with a detected endpoint.
Localization > Endpoint Messages Pane

2. In the search field of the Endpoint Messages pane, enter any portion of the text that you want to localize. For example, type Guest Management Portal in the search field to view all the Portal texts that can be edited. The currently displayed texts are in the Displayed column.

3. Select the row with the text you want to change, and select Edit. The Edit Locale Text dialog box opens and displays the text of the selected entry.

4. Enter the new text, and select OK.

   Select a table entry and then select Default to return to the default text.

5. When you are done editing the texts, select Apply.

The Forescout User Portal Builder

Use the Forescout User Portal Builder to customize the following Forescout user interfaces:

- HTTP Notification
- HTTP Login
Guest Management Portal

The legacy Customization Tool is still used for customizing the interfaces for HTTP Localhost Login, Start SecureConnector, Start Macintosh Updates, Start Windows Updates, Windows Self Remediation and Compliance Center. For more information about the legacy Customization Tool, refer to the Forescout Administration Guide. See Additional Forescout Documentation for information on how to access this guide.

When using the User Portal Builder, each skin is responsive to laptop/PC mode, tablet mode, and also mobile device mode. There is no unique customization for mobile devices.
Opening the User Portal Builder

To open the User Portal Builder, do one of the following:

- Select **Options** from the **Tools** menu, navigate to **NAC > HTTP Redirection**, and select **Open** User Portal Builder.
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In the Console, select the Ellipsis icon from the Toolbar menu, and select User Portal Builder.

Using the User Portal Builder to Customize Skins

The User Portal Builder includes an out-of-the-box default skin for each of the Forescout user interfaces.

Each Forescout user interface has its own type of skin. You can customize a skin in different ways:

- Basic Customization
- Advanced Customization

Basic Customization

The User Portal Builder provides a simple way to edit and preview:

- the color settings of the most commonly customized fonts
- the color settings of the most commonly customized background areas and buttons
- the logo

New skins can be added, and skins that were added can be edited.

To add a new skin:

1. In the User Portal Builder, select Add.

2. Select the user interface:
   - Add HTTP Login Skin to customize the HTTP Login window.
   - Add HTTP Notification Skin to customize the HTTP Notification window.
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- **Add Guest Management Skin** to customize the Guest Management Portal.

3. A copy of the default skin opens for you to edit.

4. Edit the skin colors and logo as needed, and assign a name to the new skin.

   - *Uploaded logo files must be in PNG format and cannot be larger than 1 MB.*
5. Name the skin, and select **Save** to save it to the User Portal Builder.

*Advanced Customization*

You may want to configure user interface features that are not included in the User Portal Builder basic customization. For example:

- Fonts and font sizes
- Field shapes and positions
- Background images

**To edit customized features:**

1. In the Add Skin page, select **Use a CSS file**.

2. Select **Download the default CSS template** to download the CSS file of a pre-defined skin template. (Optional)

3. Edit the downloaded skin or a skin that has been previously added.

4. When you are done editing the CSS file, select the **Upload CSS** button to upload it to the User Portal Builder.

*The User Portal Builder cannot be used to localize user interface text. To localize the text, see [Localize Web Pages and Messages](Localize Web Pages and Messages).*

**Deploying a Skin for a User Interface**

Exactly one skin is deployed throughout your network for each type of user interface. In the User Portal Builder, select the skin to be deployed in place of the one currently deployed, and then select **Deploy**.
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Forescout User Directory Plugin

- Default HTTP Notification Skin
- Default HTTP Login Skin
- Default Guest Management Portal Skin
- User Notification Q2 2018

Welcome to Network

User Notification

Please note: pending file change.

Last update: 10:29:16 AM

Jan 25, 2019