FORCEPOINT

User ID Service

How to integrate Forcepoint User ID Service with other Forcepoint products

1.3

Revision A

Published 2019

Table of contents

CHAPTER 1

Introduction to the Forcepoint User ID Service

Contents

Introduction

The Forcepoint User ID Service collects information about users, groups, and IP addresses from Windows Active Directory (AD) servers and Microsoft Exchange Servers. When you integrate the Forcepoint User ID Service with another Forcepoint product, such as Forcepoint Next Generation Firewall (Forcepoint NGFW), you can use the user information from the Forcepoint User ID Service for access control and monitoring users.

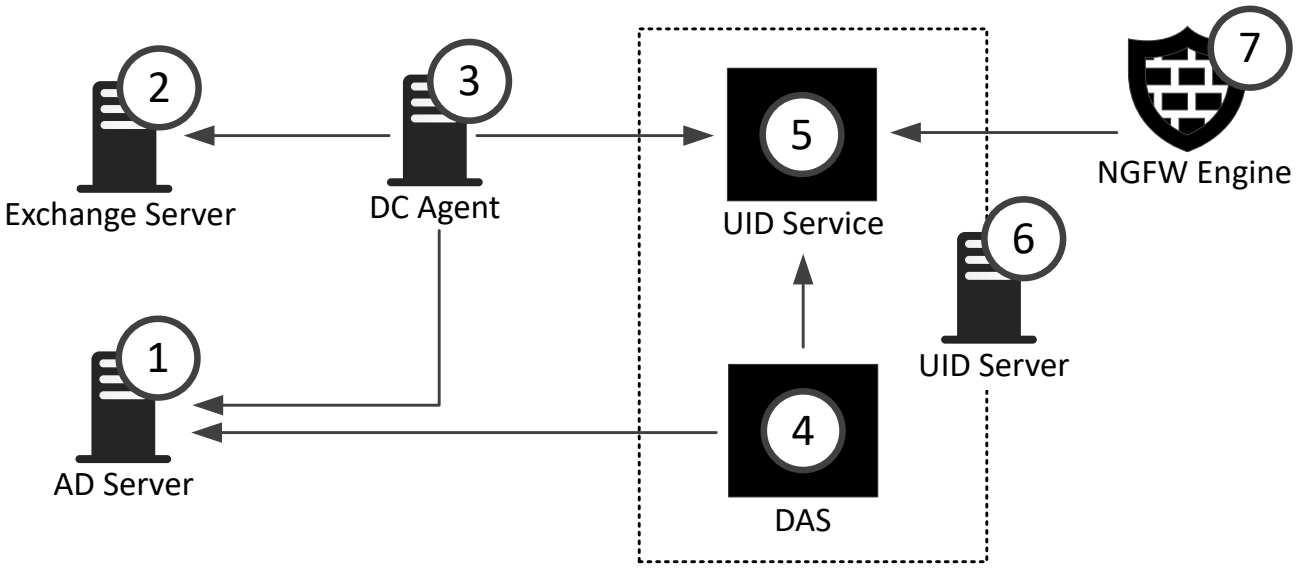
The Forcepoint User ID Service consists of the following components:

- The Directory Aggregation Service (DAS) monitors information about users and groups in Active Directory (AD) domains. DAS sends the information to the User Identification Service (the UID Service).
  - Domain Controllers in each AD domain keep track of information about users and groups. The information is automatically synchronized between all the Domain Controllers. DAS receives information about users and groups from a single Domain Controller.
  - DAS polls the user and group information from Active Directory servers automatically once a day. It compares the received information with the user and group information from the previous day, and sends information about any changes to the UID Service. You can also manually synchronize the information about users and groups between DAS and the Active Directory servers.
- The DC Agent monitors user authentication events in Microsoft AD Domain Controllers and on Microsoft Exchange Servers. The DC Agent provides information about users and their IP addresses in the AD domains to the UID Service. You can install one or more DC Agents in the same AD domain.
  - Each DC Agent can monitor up to 30 Domain Controllers and 30 000 users.
  - You can configure the DC Agent to receive information from AD Servers and Exchange Servers.
- The UID Service receives user, group, and IP address information from DAS and the DC Agent. The UID Service stores the information in a database that is updated at regular intervals.

Note: The UID Service and DAS are installed on the same server.

The Forcepoint product with which the Forcepoint User ID Service has been integrated acts as a client product of the UID Service. The client product polls information about domains, users, groups, and the users' IP addresses from the UID Service.

Figure 1: Components in Forcepoint User ID Service configuration



1. The AD server provides information about users and their IP addresses to the DC Agent and information about users and groups to DAS.
2. The Exchange Server provides information about users and their IP addresses to the DC Agent.
3. The DC Agent polls information about users and their IP addresses from the Exchange Server and the AD server. The DC Agent sends the information to the UID Service.
4. DAS polls user and group information from the AD server. DAS sends the information to the UID Service.
5. The UID Service maintains a database that contains up-to-date information about users, groups, and IP addresses.
6. The server on which the UID Service and DAS are installed.
7. The client product, in this example, Forcepoint NGFW, polls information about the users, groups, and IP addresses from the UID Service.

You can also use the Forcepoint User ID Service in a High-Availability (HA) configuration that consists of three instances of Forcepoint User ID Service installed on three separate servers. In an HA configuration, one of the servers on which the Forcepoint User ID Service is installed functions as the master node. The two other servers on which the Forcepoint User ID Service is installed are replica nodes that function as backups for the master node.

Requirements

See the Release Notes for information about hardware and system requirements for the Forcepoint User ID Service and the DC Agent for the Forcepoint User ID Service.

Important: Events with ID 4768 must be enabled on the AD server from which the DC Agent receives information. For more information, see Knowledge Base article 16421.

CHAPTER 2

Prepare for installation

Contents

Installation overview

You must complete the following high-level steps to integrate the Forcepoint User ID Service with other Forcepoint products (such as Forcepoint NGFW).

1) Obtain the installation files.

2) Prepare your environment for installing the UID Service and DAS.

3) Install the UID Service and DAS components.

4) Configure the UID Service and DAS using the Forcepoint User ID Service Configuration Wizard.

5) To use the Forcepoint User ID Service in a high-availability (HA) configuration, install the UID Service and DAS components on two more servers, then configure the UID Service and DAS using the Forcepoint User ID Service Configuration Wizard.

6) Install and configure the DC Agent.

7) In the product that receives information from the Forcepoint User ID Service, configure the settings for the Forcepoint User ID Service.
For information about configuring the Forcepoint User ID Service settings in Forcepoint NGFW, see the *Forcepoint Next Generation Firewall Product Guide*.

8) Configure the UID Service server and the Forcepoint product that receives information from the Forcepoint User ID Service to authenticate each other with a certificate.

Obtain installation files

Obtain the installation files for the Forcepoint User ID Service and the DC Agent for the Forcepoint User ID Service, then check the file integrity.

Download installation files

Download the installation files for the Forcepoint User ID Service and the DC Agent for the Forcepoint User ID Service.

- The Forcepoint User ID Service installation package is provided as a .tar.gz file that contains the combined installer for the UID Service and DAS.
- The installer for the DC Agent for the Forcepoint User ID Service is provided as an .exe file.

Steps

1) Go to https://support.forcepoint.com/Downloads.
2) Enter your license code or log on using an existing user account.
3) Under **Network Security**, select the version of the Forcepoint User ID Service software and the DC Agent for the Forcepoint User ID Service that you want to download, then download both installation packages.

Note: Make sure that you download installation packages for the same product version.

Check file integrity

Before installing the components from the downloaded files, check that the installation files have not become corrupt or been changed.

Using corrupt files might cause problems at any stage of the installation and use of the system. Check file integrity by generating a file checksum of the files. Compare the checksum of the downloaded files with the checksum for the software version in the Release Notes or on the download page at the Forcepoint website.

Note: In Windows environments, you can use Windows PowerShell to generate checksums. Several third-party programs are also available.

Steps

1) Look up the correct checksum at https://support.forcepoint.com.
2) Change to the directory that contains the files to be checked.
3) Generate a checksum of the file using the following command, where `filename` is the name of the installation file:

```
sha256sum filename
```

4) Compare the output to the checksum for the software version. They must match.

CAUTION: Do not use files that have invalid checksums. If downloading the files again does not help, contact Forcepoint support to resolve the issue.

CHAPTER 3

Installing the Forcepoint User ID Service

Contents

Prepare your environment

You must prepare your environment before you install the UID Service and DAS.

Before you begin

Carefully read the hardware requirements and system requirements for the UID Service and DAS in the Release Notes.

Note: The following installation steps are required in CentOS 7 environments that was installed with the Minimal Install option. Depending on how CentOS 7 or Red Hat Enterprise Linux 7 was installed, some of the steps might not apply.

Steps

1) Log on to the CentOS or Red Hat Enterprise Linux server as root.

   Note: Alternatively, you can use `sudo` when you enter the commands.

2) Install Unzip using the following command:

```
yum -y install unzip
```

3) Install LDAP Utilities using the following command:

```
yum -y install openldap-clients
```

4) Configure the CentOS 7 or Red Hat Enterprise Linux 7 host firewall to allow incoming connections from the DC Agent and from clients, such as NGFW Engines and Forcepoint User ID Service API users, to the Forcepoint User ID Service server.

   For more information, see Knowledge Base article 16537.

   Note: The host firewall blocks incoming connections from the DC Agent and the clients unless you allow the connections. Also make sure that all the firewalls between the components, including the host firewalls, allow the communications.

Related concepts

Default communication ports for Forcepoint User ID Service on page 73

Install the UID Service and DAS

Install the UID Service and DAS on a Linux server that has CentOS 7 or Red Hat Enterprise Linux 7 installed.

Before you begin

Download the Forcepoint User ID Service installation package from the Forcepoint download site, then save it in a location that you can access from the server on which you want to install the Forcepoint User ID Service.

Note: If you use a server installed from a minimal CentOS 7 image, make sure that the openldap-client package in installed on the server on which you want to install the UID Service and DAS.

CAUTION: Make sure that the server on which you want to install or upgrade the UID Service and DAS has connectivity to the Internet and to the operating system package repository. If there is no connectivity, the installation might fail or the UID Service and DAS might not work correctly. If you must install or upgrade the UID Service and DAS in an environment without Internet connectivity, see Knowledge Base article 16549.

Steps

1) Log on to the server as root.

   Note: Alternatively, you can use `sudo` when you enter the commands.

2) In the directory where you saved the Forcepoint User ID Service installer .tar.gz file, decompress the file using the following command:

```
tar -zxvf <name of .tar.gz file>
```

3) In the directory where the decompressed files were saved, start the installation using the following command:

```
./Setup.bin
```

4) Press **Enter** to start the UID installer.
The UID installer starts, then the Forcepoint Subscription Agreement is shown.

5) Press **Enter** to scroll through the Subscription Agreement, then enter `Y` to accept it.

6) Press **Enter** to install the Forcepoint User ID Service in the default installation directory.

CAUTION: You must install the Forcepoint User ID Service in the default installation directory. The default installation directory is /opt/Forcepoint.

7) Enter the IP address of the AD server from which DAS receives information about users and groups, then press **Enter**.

Note: You can add multiple AD servers to the DAS configuration through the UID installer. You can also add AD servers or modify the AD server information after the installation by using the Forcepoint User ID Service Configuration Wizard.

8) Enter the port that the AD server listens on, then press **Enter**.
The default port is 3268. If you press **Enter** without specifying the port, the DAS service uses port 3268 to contact the AD server.

9) Enter the credentials for the administrator account that DAS uses when it polls information about users and groups from the Active Directory.

a) Enter the user name, then press **Enter**.

b) Enter the password, then press **Enter**.

10) Enter the name of the AD container where the administrator account credentials are stored, then press **Enter**.
The default AD container is `users`. If you press **Enter** without specifying the name of the AD container, DAS uses the administrator account under the `users` container.

11) Enter the fully-qualified domain name (FQDN) of the AD domain, then press **Enter**.

12) Check the following information for the AD server: the IP address, the port it listens on, the user name and password for the administrator account, and the FQDN name of the AD domain.
The AD distinguished name of the administrator is also shown. For example:
cn=administrator,cn=users,dc=example,dc=company, dc=com

- If the AD server information is correct, enter `Y`, then press **Enter**.

- To change the AD server information, press **Enter**, then enter the AD server information again.

Note: By default, the AD container in which the administrator account credentials are stored is also used as the container for the users that are monitored. If the users are located in another AD container, use the Forcepoint User ID Service Configuration Wizard after the installation to define where the users to be monitored are located on the AD server.

13) If the installer cannot verify the AD server configuration information, you are prompted to select whether you want to enter the AD server information again or continue with the installation.
   - To enter the AD server information again, enter `Y`, then press **Enter**.
   - To continue with the installation and to finalize the AD server configuration through the Forcepoint User ID Service Configuration Wizard after the installation, enter `N`, then press **Enter**.

14) Select whether you want to add another AD server from which DAS receives information about users and groups.

Note: If the installer was unable to verify the information for the first AD server that you wanted to add to the configuration, you cannot add any other AD servers in the UID installer. You can add other AD servers through the Forcepoint User ID Service Configuration Wizard after the installation.

   - To add another AD server, enter `Y`, press **Enter**, then enter the AD server information as described in the previous steps.
   - If you do not want to add another AD server, enter `N`, then press **Enter**.

15) Press **Enter** to start the installation.

Result

The UID Service and DAS are installed.

The following services start to run as child services of the main UID Service (emperor.uwsgi.service):

- UID service (uid_uwsgi) runs on port 5000.
- LDIF service (ldif_uwsgi) runs on port 5001 internally (on the localhost).
- IFMAP service (ifmap_uwsgi) runs on port 5002.

Next steps

- A self-signed certificate is created during the installation to authenticate the communication between the UID Service and the client product. If you want to use this certificate, or you do not want to modify the settings for the UID Service or DAS, or you do not want to enable log forwarding to the Forcepoint NGFW Security Management Center (SMC), install the DC Agent.

Note: In production environments, we do not recommend that you use the self-signed certificate that was created during the installation to authenticate the communications between the UID Service and the client product. Use the Forcepoint User ID Service Configuration Wizard to add another certificate to the configuration.

- If you want to modify the UID Service and DAS settings, enable log forwarding to the Forcepoint NGFW Security Management Center (SMC), or use a new certificate to authenticate the communication between the

UID Service and the client product, start the Forcepoint User ID Service Configuration Wizard, then configure the UID Service and DAS as needed.

Related concepts

Configuring certificates and security settings for the Forcepoint User ID Service on page 19
Configuring settings for services in the Forcepoint User ID Service on page 24
Configuring settings for DAS on page 30

Related tasks

Enable log forwarding from the Forcepoint User ID Service to the SMC on page 28

CHAPTER 4

Configuring the Forcepoint User ID Service

Contents

Using the Forcepoint User ID Service Configuration Wizard

You can use the Forcepoint User ID Service Configuration Wizard (Configuration Wizard) to configure most of the basic settings for the UID Service and DAS.

Note: When you have installed the UID Service and DAS, it is not mandatory to immediately modify any of the settings by using the Configuration Wizard. However, if you do not want to use the self-signed certificate and private key that were created during the installation to authenticate the communication between the UID Service and the client product, we recommend that you use the Configuration Wizard to add an other certificate in the UID Service configuration.

You can do the following in the Configuration Wizard:

- Manage certificates — create a self-signed certificate, create a certificate request, or add a signed certificate in the UID Service configuration.
- Configure settings for services that run in the UID Service.
- Enable log forwarding between the Forcepoint User ID Service and the Forcepoint NGFW Security Management Center (SMC).
- Configure DAS — modify the AD server and AD container settings for DAS, change the AD container, add new AD servers and AD containers to the DAS configuration, and remove AD servers and AD containers from the AD server and AD container configuration.
- Restart the services in the Forcepoint User ID Service.

- Reset the settings in the Forcepoint User ID Service to default values.
- Synchronize information about users and groups between DAS and AD servers.
- Configure HA for the Forcepoint User ID Service.

  CAUTION: To use the Forcepoint User ID Service in an HA configuration, you must first install the Forcepoint User ID Service on three different servers and verify that the Forcepoint User ID Service works as expected on each server. Do not start configuring HA before you have completed these steps. See the section about the HA configuration for more information.

- Check status information for the UID Service, DAS, and the services that run in the Forcepoint User ID Service.
- Configure settings for the Forcepoint User ID Service API. For more information about the Forcepoint User ID Service and the API settings in the Configuration Wizard, see Knowledge Base article 16151.

Related concepts

Introduction to using the Forcepoint User ID Service in an HA configuration on page 59

Start the Configuration Wizard

The Configuration Wizard is a command-line tool that you can use to configure many basic settings for the UID Service and DAS.

To use some functions of the Configuration Wizard, root privileges are required. You can log on as root, or you can use sudo to start the Configuration Wizard.

Steps

1) Log on as root to the server on which the Forcepoint User ID Service is installed.

2) Change to the following directory:

```
/opt/Forcepoint/bin/UID_Server/
```

3) Enter the following command:

```
./uid-server-configuration.sh
```

Configuring certificates and security settings for the Forcepoint User ID Service

You can use the Configuration Wizard to configure certificates and security settings for the Forcepoint User ID Service.

If the client product that polls user and IP address information from the UID Service is the Forcepoint NGFW Engine, TLS encryption is used for the communication between the UID Service and the Forcepoint NGFW Engine.

CAUTION: If you configure HA for the Forcepoint User ID Service, all the nodes in the HA configuration must use certificates that have the same value, such as the DNS name, for the TLS server identity.

Note: TLS encryption is only used in communication between the UID Service and the client product.

Note: TLS encryption is automatically enabled for communication between the UID Service and the client product. You must manually enable TLS encryption for communication between DAS and Windows AD servers. If you do not enable TLS encryption for communication between DAS and AD, make sure that the communication is routed only over secured networks. Make sure that communication between the UID Server, DAS, and the DC Agent is routed over secured networks.

An RSA key (UserIDServer.key) and a self-signed certificate (UserIDServer.crt) are created during the UID Service installation. They are stored in the /opt/Forcepoint/bin/UID_Server/ directory. The use of the RSA key and the self-signed certificate that were created during the installation is automatically enabled in the UID Service configuration (uid_uwsgi.ini).

To use the automatically generated RSA key and self-signed certificate to encrypt the communication between the UID Service and the client product, you only need to configure the client product to trust the self-signed certificate that the UID Service server uses. For information about configuring certificate authentication in the Forcepoint NGFW, see the *Forcepoint Next Generation Firewall Product Guide*.

To use a custom certificate signed by a trusted Certificate Authority, you must add the certificate and the private key to the UID Service configuration.

Create a self-signed certificate for the UID Service

You can use the Configuration Wizard to create a self-signed certificate and a private key for the UID Service. The self-signed certificate and the private key that you create in the Configuration Wizard are automatically added to the UID Service configuration.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **1 - Configure Security and Certificates**, then press **Enter**.
3) Select **1 - Create a Self-Signed Certificate**, then press **Enter**.
   You are prompted to confirm that you want to create a new private key and a self-signed certificate.
4) Enter `Yes`, then press **Enter** to create a new private key and a self-signed certificate.
5) Define how long the self-signed certificate is valid.
   By default, the self-signed certificate is valid for 1825 days.
   - To set the self-signed certificate to be valid for 1825 days, press **Enter**.
   - To define the length of time for which the self-signed certificate is valid, enter the number of days, then press **Enter**.
6) Enter the common name to be used in the self-signed certificate.
   - To use the FQDN of the server on which the Forcepoint User ID Service is installed as the Common Name, press **Enter**.
   - To use another Common Name, enter the Common Name, the press **Enter**.

   A new private key “UserIDServer.key” and a self-signed certificate “UserIDServer.crt” are created and saved in /opt/Forcepoint/bin/UID_Server/. The self-signed certificate and the private key are automatically added to the UID Service configuration.

Next steps

Restart the services in the Configuration Wizard to apply the changes.

Related tasks
Restart services in Forcepoint User ID Service on page 45

Create a certificate request for the Forcepoint User ID Service

You can create a certificate request for the Forcepoint User ID Service in the Configuration Wizard.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **2 - Configure Security and Certificates**, then press **Enter**.
3) Select **2 - Create a Certificate Request**, then press **Enter**.
4) Enter a Common Name for the certificate request, then press **Enter**.
   A certificate request "UserIDServer.csr" is created and saved in /opt/Forcepoint/bin/UID_Server/.

Next steps

Sign the certificate request with a trusted Certificate Authority, then add the signed certificate and the private key for it in the UID Service configuration.

Note: A certificate request generated by the Configuration Wizard only includes the Common Name as the server identity. When you sign the certificate request with the CA, you might need to add more identity values to the generated certificate, such as the Subject Alternative Name fields. A good practice is to add the Subject Alternative Name of the type DNS with proper DNS name for the server.

Related tasks

Add a signed certificate to the UID Service configuration on page 22

Add a signed certificate to the UID Service configuration

You can use the Configuration Wizard to add a signed certificate and a private key for the certificate to the UID Service configuration.

Before you begin

Copy the signed certificate and the private key to the server on which the Forcepoint User ID Service is installed.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

The signed certificate and the private key must meet the following requirements:

- The signed certificate must be in PEM format.
- The private key must be an unencrypted RSA key.
- You can use a certificate that has been signed by an external CA and a private key from the CA.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **2 - Configure Security and Certificates**, then press **Enter**.
3) Select **3 - Install Certificate**, then press **Enter**.
4) Enter the full path to the signed certificate and the file name of the signed certificate, then press **Enter**.
5) Enter the full path to the private key and the file name of the private key, then press **Enter**.

Result

The signed certificate and the private key are added to the UID Service configuration.

Next steps

Restart the services in the Configuration Wizard to apply the changes.

Related tasks

Restart services in Forcepoint User ID Service on page 45

Manage password authentication for the UID Service database

You can use the Configuration Wizard to enable or disable password authentication for the UID Service database as needed.

Note: If you use the Forcepoint User ID Service in an HA configuration, we recommend that you enable password authentication for the UID Service database. The password must be the same on all the servers in the HA configuration.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

   b) Change to the following directory:

   ```
   /opt/Forcepoint/bin/UID_Server/
   ```

   c) Enter the following command:

   ```
   ./uid-server-configuration.sh
   ```

2) In the Configuration Wizard, select **2 - Configure Security and Certificates**, then press **Enter**.

3) Select if you want to use password authentication for the User ID Service database:

   - To enable password authentication, select **4 - Enable UID Service Database Password**, then press **Enter**.
   - To disable password authentication, select **5 - Disable UID Service Database Password**, then press **Enter**.

   You are prompted to confirm that you want to enable or disable password authentication.

4) Enter `Yes`, then press **Enter** to enable or disable password authentication.

5) If you selected that you want to enable password authentication, enter the new password, then press **Enter**.

6) Enter s, then press **Enter** to view the status of the node, or press **Enter** to continue.

Result

Password authentication for the UID Service database is enabled or disabled as selected.

Next steps

Restart the services in the Configuration Wizard to apply the changes.

Related tasks

Restart services in Forcepoint User ID Service on page 45

Configuring settings for services in the Forcepoint User ID Service

You can use the Configuration Wizard to configure settings for the services that run in the Forcepoint User ID Service.

Select log level for services in the UID Service

Several services run in the UID Service. You can configure how much log data is generated for the services by selecting the log level for the services in the Configuration Wizard.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

   b) Change to the following directory:

   ```
   /opt/Forcepoint/bin/UID_Server/
   ```

   c) Enter the following command:

   ```
   ./uid-server-configuration.sh
   ```

2) In the Configuration Wizard, select **2 - Configure Services**, then press **Enter**.

3) Select the service for which you want to configure the log level, then press **Enter**.
   - To select the log level for the service that stores information about users, groups, and the users' IP addresses, and sends the information to the client product, select **1 - UID Service (user_id)**.
   - To select the log level for the service that receives information about users and IP addresses from the DC Agent, select **2 - Service for Receiving Log Data (ifmap)**.
   - To select the log level for the service that stores information about users and groups from DAS, select **3 - Service for Storing User and Group Information (ldif)**.
   - To select the log level for the service that maintains the database of the UID Service, select **4 - Service for Maintaining the UID Service Database (monitor)**.

4) Select **1 - Select Log Level** or **3 - Select the Log Level**, then press **Enter**.

5) Select the log level to define how much log data is generated for the service, then press **Enter**.

Note: When you select a log level, both the logs of that severity level and higher severity logs are generated.

   - **1 - DEBUG** — All available information is logged. This log level is useful for troubleshooting purposes.
   - **2 - INFO** — Information that is generally useful is logged.
   - **3 - WARNING** — Only warnings are logged.
   - **4 - ERROR** — Only errors are logged. This log level is the default log level.
   - **5 - CRITICAL** — Only critical errors are logged. This log level produces the least amount of log data.

   Log data for the services is stored in /opt/Forcepoint/bin/UID_Server/ in the following files: uid_service.log, ifmap_service.log, ldif_service.log, and monitor_service.log.

Next steps

Restart the services in the Configuration Wizard to apply the changes.

Related tasks
Restart services in Forcepoint User ID Service on page 45

Define settings for maintaining the UID Service database

You can define in the Configuration Wizard how often expired IP address mappings are removed from the UID Service database. You can also define the length of time before the IP address mappings expire.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **2 - Configure Services**, then press **Enter**.
3) Select **4 - Service for Maintaining the UID Service Database (monitor)**, then press **Enter**.
4) To define how often expired IP address mappings are removed from the UID Service database, do the following:
   a) Select **1 - Configure When IP Address Mapping Information is Removed**, then press **Enter**.
   b) Enter the time in seconds, then press **Enter**.
   By default, expired IP address mappings are removed every 60 seconds.
5) To define the length of time before IP address mappings expire, do the following:
   a) Select **2 - Configure When IP Address Mapping Information Expires**, then press **Enter**.
   b) Enter the time in seconds, then press **Enter**.
   By default, IP address mappings expire after 21600 seconds (360 minutes).

Next steps

Restart the services in the Configuration Wizard to apply the changes.

Related tasks
Restart services in Forcepoint User ID Service on page 45

Configure support for nested groups

The Forcepoint User ID Service supports security groups and distribution groups in AD server domains but by default the use of nested security groups and distribution groups is not enabled. You can use the Configuration Wizard as needed to enable or disable support for nested groups.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **2 - Configure Services**, then press **Enter**.
3) Select if you want to enable or disable support for nested groups, then press **Enter**.
   - To enable support for nested groups, select **5 - Enable Support for Nested Groups**, then press **Enter**.
   - To disable support for nested groups, select **6 - Disable Support for Nested Groups**, then press **Enter**.

   Enabling or disabling nested groups requires the user database to be reset. You are prompted to confirm that you want to reset the user database.

   Note: Resetting the database is a resource-intensive operation and might take a while.
4) Enter `Yes`, then press **Enter** to confirm that you want to enable or disable support for nested groups.
5) Enter `s`, then press **Enter** to view the status of the node, or press **Enter** to continue.

Next steps

Restart the services in the Configuration Wizard to apply the changes.

Related tasks

Restart services in Forcepoint User ID Service on page 45

Enable log forwarding from the Forcepoint User ID Service to the SMC

You can use the Configuration Wizard to enable or disable log forwarding from the UID Service to the SMC.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

To forward log data from the Forcepoint User ID Service to the SMC, you must first enable log forwarding in the Configuration Wizard, then configure a Log Server in the SMC to receive log data from the server on which the UID Service is installed. If you use Forcepoint NGFW 6.4 or higher, use a Forcepoint User ID Service element to define the settings for communication between the Forcepoint NGFW Engine and the Forcepoint User ID Service. For detailed information about the configuration steps needed in the Forcepoint NGFW, see the *Forcepoint Next Generation Firewall Product Guide*.

Note: Log data is forwarded from the Forcepoint User ID Service only after the SMC has been configured to receive log data from the Forcepoint User ID Service.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **3 - Enable Log Forwarding to Forcepoint NGFW Security Management Center**, then press **Enter**.
   The current status of log forwarding is shown.
3) If log forwarding is currently disabled, enter `Yes`, then press **Enter** to enable log forwarding.
4) Enter the IP address or the host name of the Log Server to which you want forward logs in the Forcepoint NGFW Security Management Center.

   Note: If you enter a host name the UID server must be able to resolve the host name to the IP address of the Log Server using DNS.
5) Enter the syslog port of the Log Server to which you want to forward logs in the Forcepoint NGFW Security Management Center.

6) Restart the services in the Configuration Wizard to apply the changes.

7) In the Management Client of the SMC, create a Logging Profile element to define which log data from the Forcepoint User ID Service the SMC receives and how the log data is shown in the Management Client.

   a) Select **Configuration**, then browse to **Monitoring**.

   b) Browse to **Third-Party Devices** > **Logging Profiles**.

   c) Right-click **Logging Profiles**, then select **New Logging Profile**.

   d) Enter a name for the Logging Profile, then click **OK**.

   The Logging Profile opens for editing. By default, unmatched log events are saved in the "Syslog message field". You can use the default settings in the Logging Profile.

   e) Close the Logging Profile editor.

8) (Forcepoint NGFW version 6.3 only) In the Management Client, create a Host element that represents the server on which the Forcepoint User ID Service is installed.

   a) Select **Configuration**, then browse to **Network Elements**.

   b) Browse to **Hosts**.

   c) Right-click **Hosts**, then select **New Host**.

   d) On the **General** tab, enter a name for the Host element, then enter the IP address of the Forcepoint User ID Service server as the IP address.

   e) On the **Monitoring** tab, select the Log Server to which the log data is forwarded, select **Log Reception**, then click **Select** to select the Logging Profile that you created.

   f) If there is a NAT device between the Forcepoint User ID Service and the Log Server, add NAT definitions as needed on the **NAT** tab.

9) (Forcepoint NGFW version 6.4 or higher) In the Management Client, enable the Forcepoint NGFW Engine to receive information from the Forcepoint User ID Service.

   a) Create a Forcepoint User ID Service element that contains the settings for the communication between Forcepoint User ID Service and the Forcepoint NGFW Engine.

   b) In the Forcepoint User ID Service element properties, enable TLS protection for the communication from the Forcepoint NGFW Engine to the Forcepoint User ID Service server.

   c) In the Forcepoint User ID Service element properties, enable the Log Server to receive log data from the Forcepoint User ID Service, then select the Logging Profile that you created earlier as the Logging Profile that defines the log data that the Forcepoint NGFW Engine receives and how the log data is shown in the Logs view.

   d) Select the Forcepoint User ID Service element in the properties of the Forcepoint NGFW Engine.

10) If there is a Firewall between the Forcepoint User ID Service server and the Log Server, create an Access rule in the Firewall's policy to allow the communication between the Forcepoint User ID Service server and the Log Server.

Result

The SMC starts receiving log data from the Forcepoint User ID Service. The log data is shown in the "Syslog message" field in the Logs view of the Management Client. For more information, see the *Forcepoint Next Generation Firewall Product Guide*.

Configuring settings for DAS

You can use the Configuration Wizard to configure settings for DAS.

Enable TLS encryption for communication between DAS and Windows AD servers

To protect the information that is communicated between DAS and AD servers, enable TLS encryption.

Before you begin

Before enabling TLS encryption in the DAS configuration, enable LDAPS on each AD server.

Note: Enabling TLS encryption enables it for all AD servers.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
3) Select **s - Configure TLS**, then press **Enter**.
   The TLS configuration options are shown.

4) Select **s - Configured TLS**, then press **Enter**.
   You are prompted to confirm that you want to enable TLS encryption.

5) Enter `Yes`, then press **Enter** to enable TLS encryption.

6) To return to the DAS configuration screen, select **c - Cancel**, then press **Enter**.

7) If the AD servers do not already listen on port 3269, change the listening port to 3269 for each AD server.
   a) Select the number for the AD server for which you want to modify the information, then press **Enter**.
   b) Select **5 - Listening Port for AD Server**, then press **Enter**.
   c) Enter `3269` as the port number that the AD server listens on, then press **Enter**.
   d) Enter the password for the administrator account for connecting to the AD server, then press **Enter**.

Next steps

Enable server CA checking, then restart the DAS service in the Configuration Wizard to apply the changes.

Enable server CA checking

Server certificate authority (CA) checking ensures that server certificates are valid for the AD domains.

Before you begin

Copy the CA certificates used for CA checking from the Windows AD server LDAPS configuration to the server on which the Forcepoint User ID Service is installed. The CA certificates must be in PEM format.

Make sure that each AD server uses a fully qualified domain name (FQDN) as the address of the server, and enter the FQDN as the IP address of the AD server in the AD server settings for DAS. The FQDN defined in the CA certificate must match the FQDN in the AD server settings for DAS.

Note: Enabling CA checking enables it for all AD servers.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:

```
/opt/Forcepoint/bin/UID_Server/
```

c) Enter the following command:

```
./uid-server-configuration.sh
```

2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.

3) Select **s - Configure TLS**, then press **Enter**.
The TLS configuration options are shown.

4) (Optional) Change the location where server CA certificates are stored.
All server CA certificates are stored in the same file. Each new server CA certificate that you import is appended to the end of the file. The default path and file name are:

```
/etc/openldap/certs/fuid_das_cacert.pem
```

a) Select **d - Configure CA File**, then press **Enter**.

b) Enter the path and file name, then press **Enter**.

5) Import a CA certificate for each AD server.

a) Select **i - Import a CA certificate**, then press **Enter**.

b) Enter the path to the certificate.
The details of the certificate are shown and you are prompted to confirm whether you want to import this certificate.

c) Enter `Yes`.

6) Select **a - Configure Server CA Checking**, then press **Enter**.
You are prompted to confirm that you want to enable server CA checking.

7) Enter `Yes`.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Modify AD server settings for DAS on page 36

Change administrator account password

You can use the Configuration Wizard to change the password for the administrator account that DAS uses for polling user and group information from an Active Directory server.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
   A list of AD servers from which DAS receives user and group information is shown.
3) Select the number of the AD server for which you want to modify the information, then press **Enter**.
4) Select **1 - Administrator Password**, then press **Enter**.
5) Enter the new password, then press **Enter**.

   Note: DAS encrypts the password when you have saved the changes in the DAS configuration and the DAS service starts again.

   The password is changed.
6) Enter s to view the status of DAS and save the changes in the DAS configuration, or press **Enter** to save the changes in the DAS configuration without viewing the status of DAS.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Restart the DAS service on page 45

Change user name for administrator account

You can use the Configuration Wizard to change the user name for the administrator account that DAS uses for polling user and group information from an Active Directory server.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**. A list of AD servers from which DAS receives user and group information is shown.
3) Select the number for the AD server for which you want to modify the information, then press **Enter**.
4) **2 - User Name for the Administrator Account**, then press **Enter**.
5) Enter the current user name for the administrator account, then press **Enter**.
6) Select the user name type for the administrator account, then press **Enter**.
   - To use a common name as the user name, select **s - Single Common Name**, then press **Enter**.
   - To use a full distinguished name, select **f - Full Distinguished Name**, then press **Enter**.
7) If you selected **s - Single Common Name**, enter the required information, then press **Enter**.
   a) Enter the domain for the directory in which the administrator account is stored, then press **Enter**.
   b) Enter the common name for the directory in which the administrator account is stored, then press **Enter**.
8) If you selected **f - Full Distinguished Name**, enter the required information, then press **Enter**.
   a) Enter the full distinguished name for the directory in which the administrator account is stored, then press **Enter**.
   b) Enter the password for the administrator account, then **Enter**.

c) Enter `Yes`, then press **Enter** to confirm the changes.

9) Enter `s` to view the status of DAS and save the changes in the DAS configuration, or press **Enter** to save the changes in the DAS configuration without viewing the status of DAS.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Restart the DAS service on page 45

Change the AD container for user and group information

You can use the Configuration Wizard to change the AD container, the user directory from which DAS polls user and group information from an AD server.

Tip: In most parts of the Configuration Wizard, you can enter `c`, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

   b) Change to the following directory:

   ```
   /opt/Forcepoint/bin/UID_Server/
   ```

   c) Enter the following command:

   ```
   ./uid-server-configuration.sh
   ```

2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
   A list of AD servers from which DAS receives user and group information is shown.

3) Select the number for the AD server for which you want to modify the information, then press **Enter**.

4) Select **3 - User Directory**, then press **Enter**.

5) Select which type of name you want to enter for the user directory, then press **Enter**.
   - To use a common name for the directory, select **s - Single Common Name**, then press **Enter**.

- To use a full distinguished name, select **f - Full Distinguished Name**, then press **Enter**.

6) If you selected **s - Single Common Name**, enter the required information, then press **Enter**.
   a) Enter the domain for the user directory, then press **Enter**.
   b) Enter the common name for the user directory, then press **Enter**.
   c) Enter the password for the account for accessing the user directory, then press **Enter**.

7) If you selected **f - Full Distinguished Name**, enter the required information:
   a) Enter distinguished name for the user directory, then press **Enter**.
   b) Enter the password for the account for accessing the user directory, then press **Enter**.

8) Enter `Yes`, then press **Enter** to confirm the changes.

9) Enter `s` to view the status of DAS and save the changes in the DAS configuration, or press **Enter** to save the changes in the DAS configuration without viewing the status of DAS.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Restart the DAS service on page 45

Modify AD server settings for DAS

You can use the Configuration Wizard to modify the settings that DAS uses to receive information about groups from AD servers.

You can add new AD servers in the DAS configuration, modify the AD server information, and change the credentials for the accounts that DAS uses for polling user and group information from Active Directories.

Tip: In most parts of the Configuration Wizard, you can enter `c`, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:

```
/opt/Forcepoint/bin/UID_Server/
```

c) Enter the following command:

```
./uid-server-configuration.sh
```

2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
A list of AD servers from which DAS receives user and group information is shown.

3) Select the number for the AD server for which you want to modify the information, then press **Enter**.

4) Select the setting that you want to modify, enter the required information, then press **Enter**.
   - To change the AD server's IP address, select **4 - AD Server's IP Address**, then press **Enter**.
   - To change the port that the AD server listens on, select **5 - Listening Port for AD Server**, then press **Enter**.

5) If you selected **4 - AD Server's IP Address**, enter the required information, then press **Enter**.
   a) Enter the IP address, then press **Enter**.
   b) Enter the password for the administrator account for connecting to the AD server, then press **Enter**.
   The IP address of the AD server is changed.

6) If you selected **5 - Listening Port for AD Server**, enter the required information, then press **Enter**.
   a) Enter the new port number that the AD server listens on, then press **Enter**.
   b) Enter the password for the administrator account for connecting to the AD server, then press **Enter**.
   The listening port for the AD server is changed.

7) Enter s to view the status of DAS and save the changes in the DAS configuration, or press **Enter** to save the changes in the DAS configuration without viewing the status of DAS.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Restart the DAS service on page 45

Test the account for accessing the Active Directory

You can use the Configuration Wizard to test that DAS can connect to the AD server and the AD container using the specified AD account and administrator credentials.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**. A list of AD servers from which DAS receives user and group information is shown.
3) Select the number for the AD server for which you want to modify the information, then press **Enter**.
4) Select **t - Test Container AD account**, then press **Enter**.
5) If the password for the administrator account has been encrypted, enter the password for the administrator account, then press **Enter**.

Result

If the connection to the AD server works with the specified credentials, the Configuration Wizard confirms that the account has been verified.

Remove an AD server from the DAS configuration

You can use the Configuration Wizard to remove an AD server from the list of AD servers that DAS polls for user and group information.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
   A list of AD servers from which DAS receives user and group information is shown.
3) Select the number for the AD server for which you want to modify the information, then press **Enter**.
4) Select **d - Delete this AD Container**, then press **Enter**.
   You are prompted to confirm that you want to remove the AD server and AD container from the DAS configuration.
5) Enter `Yes`, then press **Enter**.

Result

The AD server and the AD container are removed from the DAS configuration.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Restart the DAS service on page 45

Add a new AD server to the DAS configuration

You can use the Configuration Wizard to add a new AD server to the list of AD servers from which DAS receives information about groups.

Tip: In most parts of the Configuration Wizard, you can enter `c`, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

   b) Change to the following directory:

   ```
   /opt/Forcepoint/bin/UID_Server/
   ```

   c) Enter the following command:

   ```
   ./uid-server-configuration.sh
   ```

2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
   A list of AD servers and AD containers from which DAS receives group information is shown.

3) Select **n - Add a New AD Server and AD container**, then press **Enter**.

4) Enter the IP address of the AD server from which DAS receives information about groups, then press **Enter**.

5) Specify the port that the AD server listens on.
   - The default port is 3268. To use the default port, press **Enter** without specifying the port.
   - If you have enabled TLS encryption for communication between DAS and Windows AD servers, or plan to enable TLS encryption, enter `3269`, then press **Enter**.

6) Enter the user name for the administrator account that DAS uses when it queries the Active Directory for group information, then press **Enter**.

7) Enter the password for the administrator account, then press **Enter**.

8) Enter the name of the AD container where the administrator account credentials are stored, then press **Enter**.

9) Enter the domain name of the AD domain, then press **Enter**.
   You are prompted to check the information for the AD server.

10) Check the following information for the AD server: the IP address, the port it listens on, the user name and password for the administrator account, and the domain name of the AD domain.
    The AD distinguished name of the administrator is also shown. For example:
    cn=administrator,cn=users,dc=example,dc=company, dc=com

    a) If the AD server information is correct, enter `Y`, then press **Enter**.

    b) If the AD server information is incorrect, enter `N`, press **Enter**, then enter the AD server information again.

11) Enter s to view the status of DAS and save the changes in the DAS configuration, or press **Enter** to save the changes in the DAS configuration without viewing the status of DAS.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks

Enable TLS encryption for communication between DAS and Windows AD servers on page 30
Restart the DAS service on page 45

Define logging settings for DAS

You can use the Configuration Wizard to define logging settings for DAS.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

   b) Change to the following directory:

   ```
   /opt/Forcepoint/bin/UID_Server/
   ```

   c) Enter the following command:

   ```
   ./uid-server-configuration.sh
   ```

2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
   A list of AD servers and AD containers from which DAS receives group information is shown.

3) Select **d - Configure Logging**, then press **Enter**.

4) Select the setting that you want to modify, enter the required information, then press **Enter**.
   - To select the log level for DAS, select **1 - Select Log Level**, then press **Enter**.
   - To define the maximum log file size for DAS, select **2 - Change Maximum Log file Size**, then press **Enter**.

5) If you selected **1 - Select Log Level**, select the log level to define how much log data is generated for DAS, then press **Enter**.

   Log data for DAS is stored in the WebsenseDAService.log file in /opt/Forcepoint/bin.

   Note: When you select a log level, both the logs of that severity level and higher severity logs are generated.

   - **1 - OFF** — Logs are not saved for DAS.
   - **2 - FATAL** — Only fatal errors are logged.
   - **3 - ERROR** — Only errors are logged. This log level is the default log level.
   - **4 - WARN** — Only warnings are logged.
   - **5 - INFO** — Information that is generally useful is logged.
   - **6 - DEBUG** — Information that is useful for support is logged.
   - **7 - ALL** — All available information is logged.

6) If you selected **2 - Change Maximum Log File Size**, enter in megabytes the maximum file size for storing logs before the log file is overwritten, then press **Enter**.

   By default, the maximum file size for storing logs for DAS is 10 MB.

   When the log file size reaches the specified maximum size, the log file is overwritten.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks

Restart the DAS service on page 45

Define whether DAS polls information about users without email addresses

By default, DAS only polls information about users that have an email address. You can use the Configuration Wizard to define that DAS also polls information about users who do not have an email address.

Note: When you enable DAS to poll information about users without an email address, DAS first polls information about all user groups from the AD servers. This might take a while.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

b) Change to the following directory:

```
/opt/Forcepoint/bin/UID_Server/
```

c) Enter the following command:

```
./uid-server-configuration.sh
```

2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
A list of AD servers and AD containers from which DAS receives group information is shown.

3) Select **e - Enable DAS to Poll Information About Users Without Email Addresses**, select whether you want to enable or disable the feature, then press **Enter**.
   - If DAS does not currently poll information about users without an email address and you want to enable this feature, enter `Yes`, then press **Enter**.
   - If DAS currently polls information about users without an email address and you want to disable this feature, enter `Yes`, then press **Enter**.

Result

DAS polls information about users without an email address as specified.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Restart the DAS service on page 45

Configure when DAS polls users and groups information from AD servers

DAS polls information about users and groups from Active Directory (AD) servers automatically once a day. You can use the Configuration Wizard to define when DAS polls the user and group information.

CAUTION: Polling the user and group information from AD servers is a resource intensive operation. It is best to schedule that DAS polls the user and group information outside normal office hours.

Tip: In most parts of the Configuration Wizard, you can enter `c`, then press **Enter** to return to the previous menu or to cancel an action.

DAS must poll the user and group information at least once a week.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**.
   A list of AD servers and AD containers from which DAS receives user and group information is shown.
3) Select **t - Configure When DAS Polls Group Data**, then press **Enter**.
   By default, DAS polls user and group information once a day between 21 hours and 6 hours (9 p.m. and 6 a.m).
   You are prompted to confirm that you want to change the time range.
4) Enter `Yes`, then press **Enter**.
5) Enter the start hour for the time range, then press **Enter**.

   Note: The value for the start hour and the end hour must be 1-24.
6) Enter the end hour for the time range, then press **Enter**.

Result

When DAS starts and each time after the information between DAS and the AD servers has been synchronized, DAS selects a random time within the specified time range for the next synchronization operation.

DAS polls the group and user information from the AD servers once a day at a random time between the specified start time and the end time.

Next steps

Restart the DAS service in the Configuration Wizard to apply the changes.

Related tasks
Restart the DAS service on page 45

Restart the DAS service

When you change the settings for DAS and modify the DAS configuration, you must restart the DAS service to apply the changes. You can use the Configuration Wizard to restart DAS.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:

```
/opt/Forcepoint/bin/UID_Server/
```

   c) Enter the following command:

```
./uid-server-configuration.sh
```

2) In the Configuration Wizard, select **4 - Configure Directory Aggregation Service (DAS)**, then press **Enter**. A list of AD servers and AD containers from which DAS receives group information is shown.

3) Select **r - Restart DAS**, then press **Enter** to restart the DAS service.

Result

The DAS service restarts. If you just modified some setting for DAS or modified the DAS configuration, the settings are applied when DAS has restarted.

Restart services in Forcepoint User ID Service

You can use the Configuration Wizard to restart the services that run in the Forcepoint User ID Service.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

The services that run in the UID Service (user_id, ifmap, and ldif) are restarted when you restart the services in the Configuration Wizard.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **5 - Restart Services**, then press **Enter**.
   The services that run in the UID Service (user_id, ifmap, and ldif) are restarted.
3) Enter s to view detailed information about the services, or press **Enter** to continue.

Reset the UID Service and DAS configurations to default values

You can use the Configuration Wizard to reset the configurations of the UID Service and DAS to default values.

CAUTION: Do not reset the configurations of the UID Service and DAS to default values unless you have been instructed to do so by Forcepoint support.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

When you reset the UID Service and DAS configurations to default values in the Configuration Wizard, the following happens:

- The UID Service database that stores information about users, IP addresses, and groups is emptied.
- The services that run in the UID Service (uid_service, ldif, ifmap, and monitor) are replaced with the default versions of the services. Any modifications that you have made in the settings of the services are lost.
- All the modifications that have been made in the DAS configuration are lost. All the information about AD servers and AD containers is removed. One placeholder AD container that has the IP address of the local host is added to the DAS configuration. You must configure DAS again.

Note: Certificates and private keys are not removed if you set the UID Service and DAS configurations to default values.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **6 - Reset Configuration to Default Values**, then press **Enter**.
   You are prompted to confirm that you want to set the configurations of the UID Service and DAS to default values.

   CAUTION: If you reset the configurations of the UID Service and DAS to default settings, you lose all the modifications that have been made in the configurations. The UID Service database that contains information about users, IP addresses, and groups is emptied. You must also configure DAS again.
3) Enter `Yes`, then press **Enter**.

Result

The UID Service and DAS are reset to default values. A placeholder AD container that has the IP address of the local host is added to the DAS configuration.

Next steps

Add the necessary AD servers and AD containers to the DAS configuration. Modify the placeholder AD container that has the IP address of the localhost, or remove the placeholder AD container and add the AD servers and AD containers that are used in your network environment.

Related tasks
Change the AD container for user and group information on page 35
Add a new AD server to the DAS configuration on page 39

Refresh the DAS database

DAS polls user and group information from Active Directory (AD) servers automatically once a day. You can use the Configuration Wizard to update group information in the DAS database.

Note: Updating the DAS database might be a resource intensive operation.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **7 - Refresh DAS data**, then press **Enter**.
   You are prompted to confirm that you want to refresh the set the configurations of the UID Service and DAS to default values.
3) Enter `Yes`, then press **Enter**.

Result

The user and group information is updated on DAS. If there are any changes in the user and group information, DAS sends information about the changes to the UID Service.

Check component and service status in the Forcepoint User ID Service

You can use the Configuration Wizard to check the status of components and services in the Forcepoint User ID Service.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

You can view the following status information in the Configuration Wizard:

- When you start the Configuration Wizard, the status of the user database, the UID Service, and the DAS service are shown above the main menu of the Configuration Wizard. The status is OK when there are no issues with the status of the user database, and the UID Service and the DAS service are functioning correctly.
- If you need more detailed information about the status of the Forcepoint User ID Service, use the status options in the Configuration Wizard to gain more information.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

   b) Change to the following directory:

   ```
   /opt/Forcepoint/bin/UID_Server/
   ```

   c) Enter the following command:

   ```
   ./uid-server-configuration.sh
   ```

2) In the Configuration Wizard, select **s - Show Detailed Status**, then press **Enter**.

   You are shown more detailed information, such as information about the services that run in the UID Service. If you have configured HA, you can also see the list of the nodes in the HA configuration and the status of the nodes.

3) (Optional) If you need even more detailed information, select **s - Show System Status**, then press **Enter**.

   The status of the individual services that run in the UID Service and the location of the services is shown.

CHAPTER 5

Installing and configuring the DC Agent

Contents

Overview to installing and configuring the DC Agent

DC Agent can monitor information about users and their IP addresses from multiple AD domains. If there are a large number of AD domains in your network environment, you might want to install two DC Agents for redundancy.

The installation of DC Agent consists of the following high-level steps.

1) Install the DC Agent software on a Windows server that is connected to the domain that you want to monitor.

2) Modify the DC Agent service properties.

3) Create a configuration file for the DC Agent, then add AD domains and domain controllers in the configuration.

4) (Optional) Configure the DC Agent to ignore specific users and IP addresses.

Note: To use the Forcepoint User ID Service in an HA configuration, you must later install and configure the DC Agent on another server. For more information, see the separate section about HA configuration for the Forcepoint User ID Service.

Install the DC Agent

Install the DC Agent on a Windows server that is a Domain member but not on an AD server or on an Exchange server. The DC Agent must be able to communicate with the AD domain from which it receives information about users and their IP addresses.

CAUTION: Make sure that communication between the UID Service and the DC Agent and communication between the DC Agent, the Domain Controllers, and the Exchange Servers is routed over secure networks.

Note: Do not install the DC Agent for the Forcepoint User ID Service and the DC Agent used with Forcepoint Web Security on the same server. The DC Agent installation fails if the DC Agent used with Forcepoint Web Security is already installed on the server.

Steps

1) Download the DC Agent installation package .exe file from the download site, then save it in a location that you can access from the Windows server on which you want to install it.

   Note: We do not recommend installing the DC Agent on an AD server or on an Exchange server unless you install the DC Agent for testing purposes.

2) Log on to the server with credentials that allow you to install software.

3) To start the installer, double-click the executable file.

4) To start the installation, press **Enter**.

5) Enter the information for the IFMAP server, the Linux server on which the Forcepoint User ID Service is installed.

   a) Enter an IP address for the server.

   b) Enter 5002 as the port that the server listens on, then press **Enter**.

6) When you are prompted to specify a path to a certificate that is used to authenticate the communication between the DC Agent and the IFMAP server, press **Enter**.

7) Check the information for the IFMAP Server.

   a) If the information is correct, enter `Y`, then press **Enter**.

   b) If there is any incorrect information, enter `N`, press **Enter**, then enter the IFMAP Server information again.

8) Select the installation folder for the DC Agent.

   Press **Enter** to install the DC Agent in the default folder. The default folder is C:\Program Files\Forcepoint.

9) Check the selected installation folder.
   a) If the information is correct, enter `Y`, then press **Enter**.
   b) If the information is incorrect, enter `N`, press **Enter**, then enter the installation folder again.
10) Check that enough memory is available on the server for the DC Agent, then press **Enter**.
    8 GB of RAM is recommended.
11) Check the pre-installation summary, then press **Enter** to start the installation.

Result

The DC Agent is installed in the specified folder.

Next steps

Modify the DC Agent service properties.

Modify the DC Agent service

You must modify the DC Agent service to use an account that has read permissions to the Domain Controller and Exchange Server event logs.

Steps

1) Use the Windows Services tool to stop the DC Agent service.
2) Modify the DC Agent service properties.
   a) Right-click the DC Agent service, then select **Properties**.
   b) On the **Log On** tab, select a suitable account for the DC Agent service to use.

      Note: The DC Agent service must use a domain account that is in the Event Log Readers group.
3) If the DC Agent service does not run using an account that has administrator permissions, add permissions for the DC Agent service to write log data in the installation folder.
   a) Go to the DC Agent installation folder.
      The default installation folder is C:\Program Files\Forcepoint\DC Agent.
   b) Right-click the folder, then select **Properties**.
   c) On the **Security** tab, select **Full control** as the permissions, then click **OK**.

Next steps

Create a configuration file for the DC Agent, then add information about the AD domains, the Domain Controllers, and the Exchange Servers to be monitored to the configuration.

Configure which AD domains, Domain Controllers, and Exchange Servers the DC Agent polls

You must configure manually which Exchange Servers the DC Agent polls. In some network environments, AD domains and Domain Controllers might be automatically discovered and added to the DC Agent configuration.

The AD domains, Domain Controllers, and Exchange servers that the DC Agent polls must be included in the DC Agent configuration file (dc_config.txt). By default, dc_config.txt is located in C:\Program Files\Forcepoint\DC Agent.

After you have installed the DC Agent, verify if dc_config.txt has been automatically created and check whether all the necessary AD domains and Domain Controllers are included in dc_config.txt. If the file has not been created, you must manually create it and add AD domains and Domain Controllers in it.

Note: If AD domains and Domain Controllers are automatically detected in your network environment and you do not want the DC Agent to poll certain AD domains and Domain Controllers, you must manually disable the polling for the AD domains and Domain Controllers in dc_config.txt.

Steps

1) Go to the bin folder under the DC Agent installation folder.
   By default, the default installation folder is C:\Program Files\Forcepoint\DC Agent.

2) If dc_config.txt has not yet been created, use a text editor, such as Notepad, to create a file called dc_config.txt.

3) In the dc_config.txt file, enter the information about the AD domains and the Domain Controllers, and the Exchange Servers that you want the DC Agent to poll:

   Note: The DC Agent host must be able to resolve the IP addresses of the AD servers from the DNS names used in the dc_config.txt file.

   a) Enter the name of each AD domain between square brackets [ ].

   b) Under the AD domain information, enter the name of each Domain Controller to be polled on a separate line using the following syntax: <name of Domain Controller>=on

      Note: Use NetBIOS names, not FQDN names for the domains.

c) Add the name of each Exchange Server on a separate line using the following syntax:
<name_of_exchange_server>=on exchange

Note: The Exchange Server and the Domain Controller must not run on the same machine.

The following example shows a configuration that contains the following:

- AD domain "WEST_DOMAIN" with two DOMAIN controllers "WEST1" and "WEST2", and one Exchange server "exchangeserver1"
- AD domain "EAST_DOMAIN" with two Domain Controllers "EAST1" and "EAST2", and Exchange server "exchangeserver2"

```
[WEST_DOMAIN]
WEST1=on
WEST2=on
xchangeserver1=on exchange
[EAST_DOMAIN]
EAST1=on
EAST2=on
exchangeserver2=on exchange
```

4) To disable polling for a Domain Controller or an Exchange Server, change the value of the Domain Controller or the Exchange Server from **on** to **off**.
For example:

```
EAST1=off
exchangeserver1=off exchange
```

5) To permanently remove an AD domain, a Domain Controller, or an Exchange Server, modify dc_config.txt.

Note: If AD domains and Domain Controllers are automatically detected in your network environment and you do not want the DC Agent to poll certain AD domains and Domain Controllers, disable polling for those AD domains and Domain Controllers before you remove information about them in dc_config.txt.

- To remove an AD domain from the configuration, remove both the name of the AD domain and the Domain Controllers and Exchange Servers listed for the AD domain in dc_config.txt.
- To only remove a Domain controller or an Exchange Server from the configuration, only remove the line for the Domain Controller or the Exchange Server in dc_config.txt.

6) Save the dc_config.txt file.

Next steps

- If you added an Exchange Server to the configuration, add the IP address of the Exchange Server to the list of IP addresses that the DC Agent ignores.
- Otherwise, use the Windows Services tool to start the DC Agent service.

Related tasks

Configure the DC Agent to ignore specified users or IP addresses on page 56
Disable autodetection of AD servers in the DC Agent configuration on page 57

Configure the DC Agent to ignore specified users or IP addresses

You can configure the DC Agent to ignore specified users or users from specific servers. You can also configure the DC Agent to ignore specific IP addresses.

Ignoring users or IP addresses can be useful, for example, if you do not want to monitor service accounts on client machines. You can also configure the DC Agent to ignore the IP addresses of multi-user servers, such as terminal servers or file servers.

Note: If the DC Agent polls information from Exchange Servers, configure the DC Agent to ignore the IP addresses of the Exchange Servers for all users.

Steps

1) Use the Windows Services tool to stop the DC Agent service.

2) Go to the bin directory under the DC Agent installation directory.
   The default DC Agent installation directory is C:\Program Files\Forcepoint\DC Agent.

3) Locate the text file called "ignore.txt", then open the file with a text editor such as Notepad.

4) Edit the file as needed.
   a) Add each user name that the DC Agent must ignore on a separate line.
      If you only specify the user name, DC Agent ignores the user name regardless of the machine on which it is used.

      CAUTION: The following entries are included by default in ignore.txt: "local service", "network service", and "anonymous logon". Do not edit or remove these entries.

      For example, to ignore the user name "admin" on any machine, enter the following:

      ```
      admin
      ```

   b) To ignore a user name on a specified machine, enter the user name, a comma, then the host name or the IP address of the machine.
      For example, to ignore user "admin" on workstation "WKSTA-NAME", enter the following:

      ```
      admin, WKSTA-NAME
      ```

   c) To ignore all user names on a specified machine, enter an asterisk (*), a comma, then the host name, the IP address, or the IP address range of the machine.
      For example:

      ```
      *, WKSTB-NAME
      *, 10.209.34.56
      *, 10.203.34.1-10.203.34.255
      ```

      The DC Agent ignores the logons for WKSTB-NAME, IP address 10.209.34.56, and IP address range 10.203.34.1-10.203.34.255.

d) If the DC Agent polls information from an Exchange server, enter an asterisk (*), a comma, then the host name or the IP address of the Exchange server.

For example:

```
*, 192.168.1.1
```

5) Save the changes.

6) Use the Windows Services tool to restart the DC Agent service.

Disable autodetection of AD servers in the DC Agent configuration

The AD servers from which the DC Agent polls information about users and IP addresses are defined in the DC Agent configuration file that is automatically generated when the DC Agent service starts. If necessary, you can disable the autodetection of AD servers when the DC Agent service starts.

Steps

1) Use the Windows Services tool to stop the DC Agent service.

2) Go to the config directory under the DC Agent installation directory.

The default DC Agent installation directory is C:\Program Files\Forcepoint\DC Agent\.

3) Locate the text file called "transid.ini", then open the file with a text editor such as Notepad.

4) Locate the DiscoveryInterval parameter, then change the value of the parameter to the following:

```
DiscoveryInterval=0
```

5) Make sure that only the AD servers from which the DC Agent should poll information about users and IP addresses are included in the dc_config.txt file.

a) Go to the bin folder under the DC Agent installation folder.

The default folder is C:\Program Files\Forcepoint\DC Agent

b) If there are references to any AD servers that you do not want the DC Agent to poll, remove the information about the AD servers.

6) Save the changes.

7) Use the Windows Services tool to restart the DC Agent service.

Enable logging for the DC Agent

You can enable logging for the DC Agent.

Steps

1) Open the Windows Services tool, locate the DC Agent service, then stop the DC Agent service.
2) Go to the DC Agent installation folder.
   The default installation folder is C:\Program Files\Forcepoint\DC Agent.
3) Open the diagnostics.cfg logging configuration file for editing in a text editor, such as Notepad.
4) In the Global configuration section, add # to the beginning of the log4j.threshold=ERROR line.
5) In the Global configuration section, remove # from the beginning of the log4j.threshold=ALL line.
   The lines should look like this:

```
#log4j.threshold=ERROR
log4j.threshold=ALL
```

6) Save the changes.
7) In the Windows Services tool, restart the DC Agent service.

Result

Log data for the DC Agent is stored in the DCAgent.log file.

CHAPTER 6

Using the Forcepoint User ID Service in an HA configuration

Contents

Introduction to using the Forcepoint User ID Service in an HA configuration

You can use the Forcepoint User ID Service in an HA configuration.

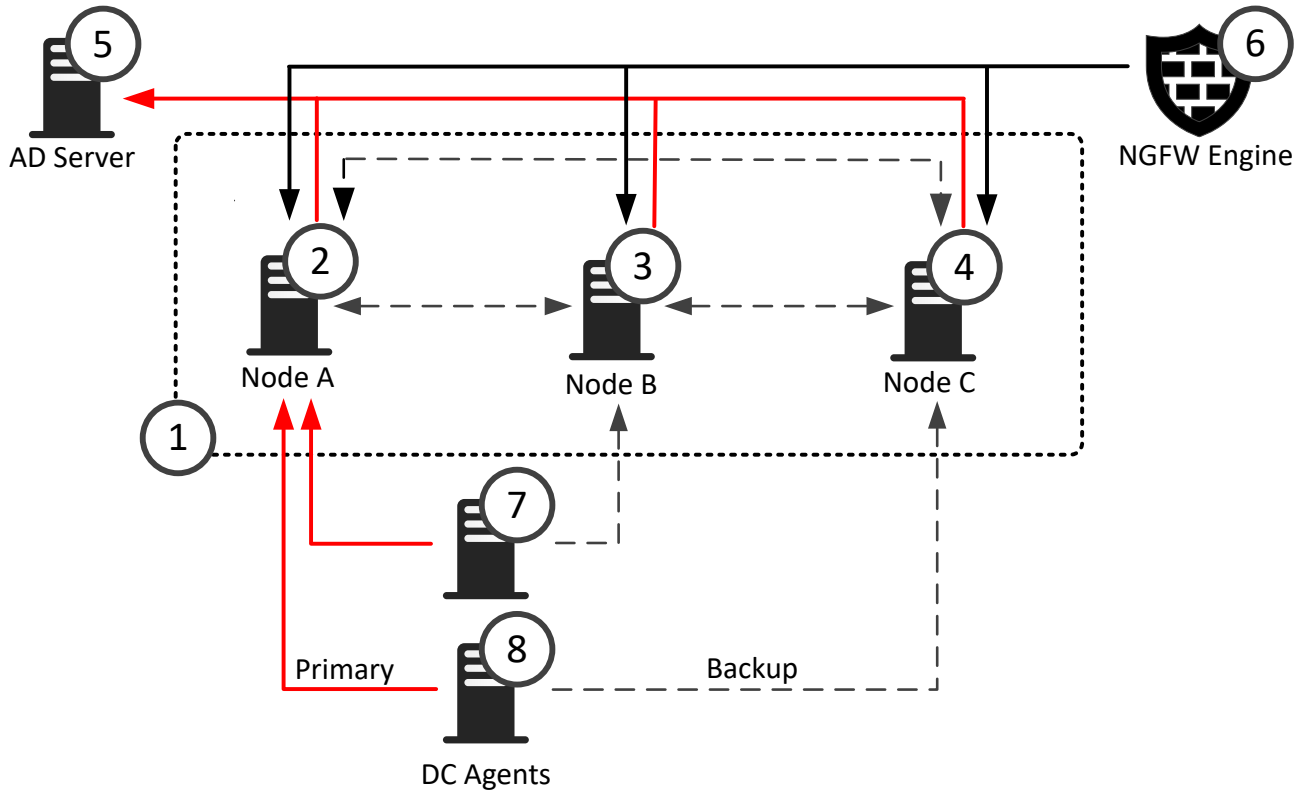
In an HA configuration, the Forcepoint User ID Service is installed on three separate servers. One of the servers functions as the master node and the two other servers are replica nodes that function as backups for the master node.

The DC Agent sends information about users and IP addresses to one of the UID servers that are part of the HA configuration. To configure HA for the DC Agent, you can do the following:

- Install the DC Agent on two separate servers.
- Define a backup UID server in the DC Agent configuration. If the primary UID server is unavailable, the DC Agent sends information to the backup UID server.

For optimal high availability, we recommend that you use two DC Agents and configure backup UID servers for them both.

Figure 2: Example HA configuration of the Forcepoint User ID Service integrated with Forcepoint NGFW



1 The Forcepoint User ID Service is installed on three servers in an HA configuration. The configuration of Forcepoint User ID Service on all three servers must be exactly the same. The database that stores information about users, groups, and IP addresses is replicated between all three nodes.

2-4 One of the nodes in the HA configuration is the master node, and the other two nodes are replica nodes. The status of the nodes and the connectivity between the nodes is constantly monitored. If the master node stops replying to requests for database updates from the replica nodes, one of the replica nodes takes the role of the master node.

5 The AD server from which all the nodes receive information about users and groups. All the nodes in the HA configuration periodically poll information about users and groups from the AD server.

6 The client product, in this example, Forcepoint NGFW, can poll information about users, groups, and IP addresses from all three nodes, but it only polls one node at a time.

7-8 Two instances of the DC Agent are installed on separate servers. Both DC Agents send information about users and IP addresses to a node in the HA configuration.

You can define one of the nodes as a backup UID server in the configuration of each DC Agent. If the primary server to which the DC Agent has been configured to send information becomes unavailable, the DC Agent starts sending the information to the backup server.

Overview to configuring HA for the Forcepoint User ID Service

You must complete the following steps to configure HA for the Forcepoint User ID Service.

CAUTION: Review the steps in the HA configuration overview carefully. Before enabling HA for the Forcepoint User ID Service, you must install and configure the Forcepoint User ID Service on three different servers, and install and configure two DC Agents on two different servers. The Forcepoint User ID Service must be fully functional and integrated with the client product before you enable HA.

1) Install and configure the Forcepoint User ID Service on three servers.

   CAUTION: The configuration on all three servers must be exactly the same.

   CAUTION: Use NTP or other suitable protocol to synchronize the time between the servers.

2) In the client product that receives information from the Forcepoint User ID Service, configure the settings for the Forcepoint User ID Service.
   If you integrate the Forcepoint User ID Service with the Forcepoint NGFW, create a single Forcepoint User ID Service element, and enter the IP addresses of all the three servers on which the Forcepoint User ID Service is installed as IP addresses in the Forcepoint User ID Service element. For more information, see the *Forcepoint Next Generation Firewall Product Guide*.

3) Verify that the client product receives information from all the three servers.

4) Enable HA on the Forcepoint User ID Service servers:
   - Configure one of the servers as the master node in the HA configuration.
   - Configure the two other servers as replica nodes in the HA configuration.

5) On each Forcepoint User ID Service server, update the list of nodes to add the master node and the replica nodes to the UID Service configuration.
   - Update the list of nodes in the UID Service configuration first on the master node, then update the list of nodes on the replica nodes.

     CAUTION: If the UID Service configuration of all three nodes does not contain information about all of the nodes, the nodes are not able to communicate with each other and HA mode does not work.

6) Install and configure the DC Agent on two servers:
   a) Install the DC Agent on each server, then configure both DC Agents to send information about users and IP addresses to one of the UID nodes in the HA configuration.

   b) In each DC Agent configuration, define a UID node as a backup server.

      CAUTION: The two DC Agents must use different nodes as backup servers.

Enable HA on the master node

One of the nodes in the HA configuration functions as the master node. Enable HA first on the server that currently functions as the master node.

Before you begin

Install and configure Forcepoint User ID Service on three servers, then verify that each server sends information about users, groups, and IP addresses as configured to the client product.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

CAUTION: Do not use the **Advanced** options for configuring HA in the Configuration Wizard unless you are instructed to do so by Forcepoint support.

The user information database is stored on the master node. The user database is automatically synchronized between the master node and the replica nodes.

Note: The role of the nodes in the HA configuration can change. Any of the nodes in the HA configuration can function as the master node or as a replica role. Use the options for viewing status information in the Configuration Wizard to check which node is currently the master node.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:
   ```
   /opt/Forcepoint/bin/UID_Server/
   ```
   c) Enter the following command:
   ```
   ./uid-server-configuration.sh
   ```
2) In the Configuration Wizard, select **h - Configure High Availability**, then press **Enter**.
3) Select **1 - Enable HA**, then press **Enter**.
4) Select **1 - Configure This Node as the Master Node**, then press **Enter**.

5) Select whether you want to define a password for the user database stored on the master node.
   - Enter the password, then press **Enter**.
   - If you do not want to set a password, press **Enter**.

   The server is enabled as the master node, and HA monitoring starts for the master node.

6) Enter s, then press **Enter** to view the status of the node, or press **Enter** to continue.

Next steps

Enable HA on the other two servers on which the Forcepoint User ID Service is installed, and configure them as replica nodes.

Enable HA on the replica nodes

In the HA configuration, two of the servers on which the Forcepoint User ID Service is installed are replica nodes. The replica nodes function as backups for the master node.

Before you begin

Enable HA on the master node.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

CAUTION: Do not use the **Advanced** options for configuring HA in the Configuration Wizard unless you are instructed to do so by Forcepoint support.

If the master node becomes unavailable, one of the replica nodes becomes the master node.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:
   a) Log on as root to the server on which the Forcepoint User ID Service is installed.
   b) Change to the following directory:

      ```
      /opt/Forcepoint/bin/UID_Server/
      ```

   c) Enter the following command:

      ```
      ./uid-server-configuration.sh
      ```

2) In the Configuration Wizard, select **h - Configure High Availability**, then press **Enter**.

3) Select **1 - Enable HA**, then press **Enter**.

4) Select **2 - Configure This Node as a Replica Node**, then press **Enter**.

5) Enter the IP address of the server that is currently used as the master node in the HA configuration, then press **Enter**.

6) Enter the password for the user database stored on the master node.
   - If you have defined a password for the user database, enter the password, then press **Enter**.
   - If you have not defined a password for the user database, press **Enter**.

   The server is enabled as a replica node, and HA monitoring starts for the replica node.

7) Enter s, then press **Enter** to view the status of the node, or press **Enter** to continue.

Next steps

- Enable HA on the other server that you want to use as the second replica node.
- When you have enabled HA on the three Forcepoint User ID Service servers, update and verify the list of the servers that are part of the HA configuration.

Update the list of HA nodes in the UID Service configuration

When you have enabled HA on the three Forcepoint User ID Service servers, then configured the servers as a master node and two replica nodes, update the list of the nodes in the UID Service configuration on all the servers.

Update the list of nodes in the UID Service configuration first on the master node, then separately on each replica node.

CAUTION: If the UID Service configuration of all three nodes does not contain information about all of the nodes, the nodes are not able to communicate with each other and HA mode does not work.

Tip: In most parts of the Configuration Wizard, you can enter c, then press **Enter** to return to the previous menu or to cancel an action.

Steps

1) If you are not yet logged on as root and the Configuration Wizard is not running, start the Configuration Wizard:

   a) Log on as root to the server on which the Forcepoint User ID Service is installed.

   b) Change to the following directory:

   ```
   /opt/Forcepoint/bin/UID_Server/
   ```

c) Enter the following command:

```
./uid-server-configuration.sh
```

2) In the Configuration Wizard, select **h - Configure High Availability**, then press **Enter**.

3) Select **3 - Update List of Nodes**, then press **Enter** to update the list of nodes in the UID Service configuration.

The Configuration Wizard shows information about the nodes and the IP addresses that are included in the HA configuration.

4) Verify that the list of IP addresses includes the localhost IP address of the node that you are currently logged on and the IP addresses of the other two nodes in the HA configuration.

- If the list of nodes and IP addresses is correct, enter `Yes`, then press **Enter** to update the list of nodes in the UID Service configuration.
- If the list of IP addresses and nodes is not correct, press **Enter** to cancel updating the list of nodes, then check the configuration for each node and verify that there is connectivity between the nodes. Make sure that a firewall does not block connections between the nodes.

Next steps

- Log on to both replica nodes in turn, then repeat the previous steps to update the list of nodes in the HA configuration on each server.
- When you have updated the list of HA nodes on all the servers, enable HA for the DC Agent.

Enable HA for the DC Agent

If HA has been configured for the Forcepoint User ID Service, you can define a backup UID server to which the DC Agent sends information about users and IP address mappings if the primary UID server becomes unavailable.

The primary UID server to which the DC Agent sends information can be either the master node or one of the replica nodes in the HA configuration of the Forcepoint User ID Service. If a replica node receives information from the DC Agent, it forwards the information to the current master node.

Note: In addition to defining a backup UID server to which the DC Agent can send information, you can also install one or more additional DC Agent instances for scalability and for HA availability of the DC Agent.

Steps

1) Open the Windows Services tool, locate the DC Agent service, then stop the DC Agent service.

2) Go to <installation folder>\config.

The default installation folder is C:\Program Files\Forcepoint\DC Agent.

3) Open the transid.ini configuration file for editing in a text editor, such as Notepad.

4) Add the following line to define the backup server for the Forcepoint User ID Service:

```
BackupIFMapServer=
```

5) Enter the IP address of the node that functions as the Forcepoint User ID Service backup server and the listening port of the UID Service as the values for the "BackupIFMapServer" line.

   The default listening port for the UID Service is 5002.

   For example, if the IP address of the node is 10.10.10.2 and the listening port is 5002, the "BackupIFMapServer" line looks like this:

```
BackupIFMapServer=http://10.10.10.2:5002
```

6) Save the changes.

7) In the Windows Services tool, restart the DC Agent service.

Result

If the primary UID server becomes unresponsive, the DC Agent starts sending user and IP address information to the backup server.

Next steps

To maximize HA for the DC Agent, install and configure the DC Agent on a second server, then define a backup UID server in the DC Agent configuration.

CAUTION: Make sure that you configure the two DC Agents to use different nodes as the UID backup servers.

CHAPTER 7

Maintenance

Contents

Upgrade the Forcepoint User ID Service and the DC Agent

We recommend that you upgrade all the components in the Forcepoint User ID Service (the UID Service, DAS, and the DC Agent for the Forcepoint User ID Service) when a new version of the Forcepoint User ID Service becomes available.

Obtain upgrade files

Obtain the upgrade files for the Forcepoint User ID Service and the DC Agent for the Forcepoint User ID Service, then check the file integrity.

Steps

1) Go to https://support.forcepoint.com/Downloads.

2) Enter your license code or log on using an existing user account.

3) Under **Network Security**, select the version of the Forcepoint User ID Service software and the DC Agent for the Forcepoint User ID Service that you want to download, then download both installation packages.

Note: Make sure that you download installation packages for the same product version.

4) Look up the correct checksum at https://support.forcepoint.com.

5) Change to the directory that contains the files to be checked.

6) Generate a checksum of the file using the following command, where `filename` is the name of the installation file:

```
sha256sum filename
```

7) Compare the output to the checksum for the software version. They must match.

CAUTION: Do not use files that have invalid checksums. If downloading the files again does not help, contact Forcepoint support to resolve the issue.

Upgrade the UID Service and DAS

We recommend that you upgrade the UID Service and DAS when a new version becomes available.

Before you begin

Download the upgrade file for the Forcepoint User ID Service. It contains the latest software for the UID Service and DAS components.

CAUTION: Make sure that the server on which you want to install or upgrade the UID Service and DAS has connectivity to the Internet and to the operating system package repository. If there is no connectivity, the installation might fail or the UID Service and DAS might not work correctly. If you must install or upgrade the UID Service and DAS in an environment without Internet connectivity, see Knowledge Base article 16549.

Note: If you use the Forcepoint User ID Service in an HA configuration, first upgrade the master node, then the two replica nodes.

Steps

1) Log on to the server as root.

2) In the directory where you saved the Forcepoint User ID Service installer .tar.gz file, decompress the file using the following command:

```
tar -zxvf <name of .tar.gz file>
```

3) In the directory where the decompressed files were saved, start the upgrade using the following command:

```
./Setup.bin
```

4) Press **Enter** to start the UID installer.
The UID installer starts, then the Forcepoint Subscription Agreement is shown.

5) Press **Enter** to scroll through the Subscription Agreement, then enter Y to accept it.
If the installer detects an earlier version of the DAS, you are prompted to either upgrade or to exit the installer.

6) Select **1**, then press **Enter** to upgrade the Forcepoint User ID Service.
The upgrade process might take a while. Wait until the installer confirms that the upgrade has been completed and that the Forcepoint User ID Service services have restarted.

Result

The UID Service and DAS are upgraded.

Next steps

- If you use the Forcepoint User ID Service in an HA configuration, also upgrade the Forcepoint User ID Service on the two replica nodes.
- Upgrade the DC Agent so that the product version of the DC Agent for the Forcepoint User ID Service matches the Forcepoint User ID Service version.

Upgrade the DC Agent

We recommend that you upgrade the DC Agent for the Forcepoint User ID Service after you have upgraded the Forcepoint User ID Service.

Before you begin

Download the upgrade file for the DC Agent for the Forcepoint User ID Service. Make sure that the DC Agent version matches the Forcepoint User ID Service version.

CAUTION: If you use the Forcepoint User ID Service in an HA configuration and have installed the DC Agent on two servers, make sure that you upgrade both DC Agents.

Steps

1) Log on to the server with credentials that allow you to install software.
2) To start the installer, double-click the executable file.
3) To start the installation, press **Enter**.
   If the installer detects an earlier DC Agent installation, you are prompted to confirm that you want to upgrade the DC Agent.
4) Select **1 Start the upgrade**, then press **Enter**.
   The upgrade starts.
5) Press **Enter** when the upgrade is complete.

Result

The DC Agent is upgraded.

Next steps

If you use the Forcepoint User ID Service in an HA configuration, also upgrade the other DC Agent.

Uninstall the Forcepoint User ID Service or the DC Agent

If necessary, you can uninstall the Forcepoint User ID Service components (UID Service, DAS, and the DC Agent).

Uninstall the UID Service and DAS

If necessary, you can uninstall the UID Service and DAS.

Steps

1) Log on to the server as root.

2) Change to the following directory:

```
/opt/Forcepoint/uninstall
```

3) Start the script for uninstalling the UID Service and DAS with the following command:

```
./uninstall_websense
```

4) Press **Enter** to confirm that you want to uninstall the UID Service and DAS.

5) If you are informed that some items could not be removed, remove them manually:
   a) Change to the following directory:

   ```
   /opt
   ```

   b) Enter the following command:

   ```
   rm -rf Forcepoint
   ```

Result

The UID Service and DAS have been uninstalled.

Next steps

If you use the Forcepoint User ID Service in an HA configuration and you want to remove all the Forcepoint User ID Service installations, uninstall the Forcepoint User ID Service on the two replica nodes.

Uninstall the DC Agent

If necessary, you can uninstall the DC Agent.

Steps

1) Log on to the server with credentials that allow you to uninstall software.
2) Open the Control Panel, then locate the DC Agent in the list of installed programs.
3) Right-click the DC Agent, then select **Uninstall/Change**.
   A command prompt opens and you are prompted to confirm that you want to uninstall the DC Agent.
4) Press **Enter** to start the uninstallation of the DC Agent.
5) Press **Enter** when the uninstallation is complete to close the command prompt.

Result

The DC Agent has been uninstalled. If some DC Agent files have not been removed, you can delete them manually.

Next steps

If you use the Forcepoint User ID Service in an HA configuration, also uninstall the other DC Agent.

Appendix A

Appendix

Contents

Default communication ports for Forcepoint User ID Service

By default, the following ports are used in the communication between the UID Service, DAS, and the DC Agent, between the Forcepoint User ID Service and the client products, such as Forcepoint NGFW, and between the components used in the HA configuration of the Forcepoint User ID Service.

Table 1: Default communication ports

Contacting host	Listening host	Ports
DC Agent	AD server, Exchange server	135/TCP, 137/UDP, 138/UDP, 139/TCP, 445/TCP, and 49153/TCP.
DAS	AD server	3268/TCP (no encryption) 3269/TCP (with TLS encryption)
Client product	UID Service	5000/TCP
DAS	UID Service	5001/TCP (localhost only)
DC Agent	UID Service	5002/TCP
Master node and replica nodes in HA configuration	Master node and replica nodes in HA configuration	6380/TCP; port for user database synchronization in HA configuration
Master node and replica nodes in HA configuration	Master node and replica nodes in HA configuration	26379/TCP; port for monitoring process in HA configuration

Control the UID Service

You can start or stop the UID Service or check the status of the UID Service as needed.

The name of the UID Service is emperor.uwsgi.service. uWSGI is the web server, which loads three services:

- UID service (uid_uwsgi) runs on port 5000.
- LDIF service (ldif_uwsgi) runs on port 5001 internally (on the localhost).
- IFMAP service (ifmap_uwsgi) runs on port 5002.

The UID API listens for requests on port 5000. UID service, LDIF service, and IFMAP service are enabled to restart after the server has been rebooted.

Check the status of the services
To check the status of the services, enter the following command:

```
systemctl status emperor.uwsgi.service
```

When the UID service (uid_uwsgi), LDIF service (ldif_uwsgi), and IFMAP serverice (ifmap_uwsgi) are running correctly, the services are shown as active and they are running on the ports listed above. Each service has four processes running inside uWSGI.

Start the services
To start the services, enter the following command:

```
systemctl start emperor.uwsgi.service
```

Stop the services
To stop the services, enter the following command:

```
systemctl stop emperor.uwsgi.service
```

Check if ports for services are listening
To check if the ports for the UID service, LDIF service, and IFMAP service are listening, enter the following command:

```
netstat -na | grep 500[012]
```

- If the services do not respond, check the following log files for the services in each service's home directory: uid_service.log, ifmap_service.log, and ldif_service.log. Also check the uWSGI log file in /var/log/uwsgi.log. If you need to contact Forcepoint support, send the log data in uid_service.log, ifmap_service.log, ldif_service.log, and /var/log/uwsgi.log to support.
- If the services work locally but they do not respond externally, a firewall might be blocking the connections. Disable the firewall to check if this fixes the issue, then adjust the firewall's rules to allow connections to ports 5000 and 5002. For more information, see the section about the Forcepoint User ID Service default communication ports.

Control DAS

You can view logs for DAS. You can also start, stop, and restart the DAS service or check the status of the DAS service as needed.

DAS logs
The DAS log file is called WebsenseDAService.log. Older log files have the same name with a number appended. ".1" is the most recent log file.

Check if DAS is running
DAS posts user attributes that have been retrieved from AD using LDAP on UID Server port 5001. To check if the DAS process is running, enter the following command:

```
ps auwwx | grep DAS
```

Start the DAS service
To start the DAS service, enter the following command:

```
/opt/Forcepoint/WebsenseAdmin start
```

Stop the DAS service
To stop the DAS service, enter the following command:

```
/opt/Forcepoint/WebsenseAdmin stop
```

Restart the DAS service
To restart the DAS service, enter the following command:

```
/opt/Forcepoint/WebsenseAdmin restart
```

Control the DC Agent

You can view logs for the DC Agent. You can also start, stop, and restart the DC Agent service as needed.

DC Agent logs and error codes
The DC Agent log data is stored in a file called DCAgent.log.

The error codes for the DC Agent are standard Windows error codes.

- 5 - ACCESS DENIED — The DC Agent service permissions are insufficient to perform the required actions.
- 259 - NO MORE ITEMS — Because SMBv1 has been disabled, certain Windows APIs might get this error. You might need to create the dc_config.txt file.

Check if the DC Agent process is running
To check if the DC Agent process is running, open the Windows Task Manager. The DC Agent communicates with the UID Service by posting user details on port 5002.

Start the DC Agent service
To start the DC Agent service, open the Windows Services tool, locate the DC Agent service, then start the service.

Stop the DC Agent service
To stop the DC Agent service, open the Windows Services tool, locate the DC Agent service, then stop the service.

Check component versions

If necessary, you can check the component version for the UID Service, DAS, and the DC Agent.

Check the UID Service version
To check the UID version, enter the following command:

```
rpm -qa | grep UID_Server
```

Check the DAS version
To check the DAS version, enter the following commands:

```
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/Forcepoint/bin
/opt/Forcepoint/bin/DAS -v
```

Check the DC Agent version
To check the DC Agent version, open the command prompt, go to the DC Agent installation folder, then enter the following command:

```
XidDcAgentS.exe -v
```

By default, the installation directory is C:\Program Files\Forcepoint\DC Agent.

Collect configuration and server log data for troubleshooting

If instructed by Forcepoint support, you can run a script that collects configuration and server log data for troubleshooting.

Steps

1) Log on as root to the server on which the Forcepoint User ID Service is installed.

2) Change to the following directory:

```
/opt/Forcepoint/bin/UID_Server/
```

3) Enter the following command:

```
./collect_logs.sh
```

Result

A file named uid_logs-<timestamp>.tar.gz is saved in the current directory.

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