PingFederate® 6.3

Upgrade Utility

User Guide

PingIdentity®

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PingFederate Upgrade Utility *User Guide*
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Ping Identity Corporation
1099 18th Street, Suite 2950
Denver, CO 80202
U.S.A.

Phone: 877.898.2905 (+1 303.468.2882 outside North America)
Fax: 303.468.2909
Web Site: www.pingidentity.com

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Introduction

This Upgrade Utility is a command-line tool that automatically migrates existing PingFederate 6.x configurations to the current version. The tool first installs the new distribution and then copies over files or property values from the previous installation.

As an option, you can run the utility with a *custom* switch that allows you to choose whether to override any new system defaults or to install newer versions of bundled adapters (see "Using Custom Mode" on page 6).

> **Note**: The Upgrade Utility does *not* affect the existing installation of PingFederate. After you complete the steps in this Guide and then test and deploy the new PingFederate in production, we recommend that you remove the previous installation.

The Upgrade Utility creates a detailed log showing what files and settings are affected during the upgrade.

Intended Audience

The PingFederate Upgrade Utility and this document are intended for system administrators with significant knowledge of the current PingFederate configuration and enterprise deployment.

Upgrade Preparation Checklist

Before running the Upgrade Utility:

1. If you have not already done so, download the current version of PingFederate and obtain a license key.

2. (Optional) If you have not recently updated the Java SE Development Kit (JDK) on your PingFederate host machine(s), you may want to do so: Update 20 (or higher) for JDK 6 is recommended.

   Be sure to change the path, if needed, for the system JAVA_HOME and PATH environment variables.

3. (Optional) Complete any unfinished connections ("drafts") in the existing PingFederate administrative console, *if* you want to include them in the migration.

   Because they may cause unpredictable errors in the administrative console, connection drafts cannot be moved from one instance of PingFederate to another.

4. If you are upgrading PingFederate in a clustered-server environment, install the Upgrade Utility on each PingFederate host.

> **Note**: Start the upgrade on the PingFederate server running the administrative console.

Upgrading PingFederate

The Upgrade Utility is located in the `/bin` directory of this distribution as either a batch file (for Windows installations) or shell script (for Linux/Unix installations).

To upgrade PingFederate:

1. In the `pf-upgrade-6.3.0/bin` directory from the operating-system command line, execute the following command:

   On Windows:
   ```
   upgrade <sourcePingfederateRootDir> <outputDir> <pingfederateZip> [-c]
   ```

   On Linux/Unix:
   ```
   ./upgrade.sh <sourcePingfederateRootDir> <outputDir> <pingfederateZip> [-c]
   ```

   where: `<sourcePingfederateRootDir>` is the full or relative path of the base directory where the existing PingFederate software (`pingfederate/*`) is installed;

   `<outputDir>` is the full or relative path of the directory that will contain the new PingFederate base directory (the path may *not* contain blank spaces);

   `<pingfederateZip>` is the full or relative path and file name for the current distribution.

   The `-c` option runs the utility in custom mode (see "Using Custom Mode" on page 6).

   Examples:
   ```
   upgrade c:\sso\pingfederate-6.0.0 c:\sso c:\sso\pingfederate-6.3.0.zip
   ./upgrade.sh /sso/pingfederate-6.0.0 /sso /sso/pingfederate-6.3.0.zip
   ```

   For version 6.3, this command would install the new software into:

   `c:\sso\pingfederate-6.3.0` (on Windows)

   `/sso/pingfederate-6.3.0` (on Linux/Unix)

   Note: This directory is referred to in this document as `<pf_install>`, with subdirectory separators standardized as forward slashes (`/`).

   After a moment, the command window displays messages indicating upgrade progress. The process is complete when this message appears:
   ```
   Upgrade completed with [N] errors
   ```

   If there are errors, scroll up the command window to see them and correct indicated problems. Errors during the upgrade should be rare but may include such input/output problems as missing or malformed configuration files in the source installation.

   The messages, including any errors, are also logged to the Upgrade Utility base directory in the file:
   ```
   upgrade.log
   ```

   Note: Rerun the Upgrade Utility as many times as needed to correct any problems.

   ---

2. Copy the current PingFederate license file, `pingfederate.lic`, into the directory:
   ```
   <pf_install>/pingfederate/server/default/conf
   ```

3. Verify configuration settings in the new administrative console and test the new installation to ensure it performs correctly.

4. If you are upgrading a server cluster, run the Upgrade Utility on each PingFederate engine installation in the cluster.

> **Note**: The Upgrade Utility *does not* migrate the administrative configuration to clustered servers: when you are ready for full deployment, use the administrative-console server to push the configuration data to the new cluster (see the *Server Clustering Guide* in the `<pf_install>/pingfederate/docs` directory).

5. If PingFederate is running as a service, stop the existing service and re-install it (for Windows) or reconfigure it (for Linux/Unix) to use the new PingFederate installation.

   For more information, see the "Installation" chapter of *Getting Started* in the `pingfederate/docs` directory.

Using Custom Mode

The custom-mode feature allows administrators to override several newer default security settings (new, depending on which PingFederate version is currently running). In addition, if either of the installed OpenToken and LDAP adapters is out of date, running the tool in custom mode allows you to replace the adapter with the newer version bundled with the current PingFederate server.

> **Note**: In general, using the new security defaults is highly recommended and should not cause significant issues for most PingFederate installations.
>
> Upgrading the bundled adapters is also recommended and will not normally require any follow-on configuration changes. For OpenToken, however, if your existing installation uses a version of the adapter prior to 2.3, upgrading requires minor configuration modifications in the PingFederate console as well as redeployment of the agent configuration file (see "OpenToken Adapter Configuration" in the PingFederate *Administrator's Manual*).

The newer default security settings include:

- Disabling weaker cipher suites for both the SUN and LUNA Java Cryptography Extension (JCE) in PingFederate version 6.2 and later. If you want to see which cipher suites are commented out, choose yes (`y`) when prompted on whether to use the new defaults. Then, after the upgrade is complete, refer to either of the following configuration files in the new installation's `<pf_install>pingfederate/server/default/data/config-store` directory:
    - `com.pingidentity.crypto.SunJCEManager.xml`
    - `com.pingidentity.crypto.LunaJCEManager.xml`
- Disabling SQLFilter in PingFederate version 6.2 and later to prevent potential SQL injection attacks.s

Known Limitations

- To avoid overwriting any PingFederate logging customization that may have occurred at your site, the Upgrade Utility determines whether `log4j.xml` has been modified in the existing installation. If so, new features in `log4j.xml` are *not* installed; the tool does not currently support automatic merging of customizations made to the existing logging configuration. (The XML file is located in the `<pf_install>pingfederate/server/default/conf` directory.) Instead, if the existing file has changed since it was originally installed, the Upgrade Utility copies it to the new installation intact and renames the new configuration file using the current PingFederate version number.

  The new configuration file contains several new logging capabilities added between version 6.0 and the current PingFederate version. (Please refer to the new product Release Notes and the PingFederate *Administrator's Manual* for detailed information.) If the Upgrade Utility renames the new `log4j.xml` file, you must merge the two files if you want to retain previous logging changes and also use the new features. Or manually replicate any logging customizations in the new file and use it to replace the old one.

- As of PingFederate 6.3, primary and secondary signature verification certificates for connections must be different (whenever an optional secondary certificate is designated). If the existing PingFederate deployment has the same verification certificate specified as both primary and secondary, the administrative console will display a validation error in the Credentials task flow, which requires manual correction. (The configuration error does not cause any runtime problems.)

- As of PingFederate 6.2, TLS renegotiation was disabled by default for all HTTPS listeners/connectors. This security update affects only existing partner connections using WS-Trust STS and those making use of inbound mutual SSL/TLS authentication for the SOAP or artifact SAML bindings. In such cases, administrators must manually reconfigure `run.properties` to enable the secondary HTTPS port (see ("Changing Configuration Parameters" in the PingFederate *Administrator's Manual*). In addition, affected connection partners must update their configurations to use the new endpoint.