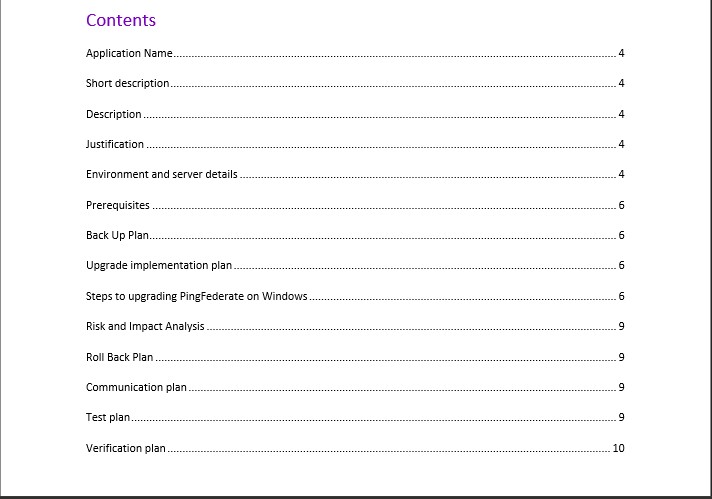
Ping Federate Upgrade Document

**Attach the Release Notes**

**PingFederate Upgrade plan with Defined Test case:**

**Technical Document**



# Application Name

**PingFederate Upgrade**

# Short description

Upgrading PingFederate from version a to b

# Description

The PingFederate Upgrade approach document describes how to upgrade Ping Federate from Version a to b

Implement the upgrade in Lower environments first to avail all the new functionalities/Features introduced in PingFederate newer version and issues resolved from previous version. Proceed to Production if upgrade is successful and working as intended in lower environments.

# Justification

The up gradation is being performed to make use of newly introduced Features, to eliminate/not to use deprecated features, and other known issues and limitations.

# Environment and server details

**Environment:** Sandbox **Server details:**

**Environment:** Stage

**Server details:**

**Environment:** Production **Server details:**

# Prerequisites

Ensure you have installed the relevant PingFederate version as follows:

# Back Up Plan

Take the backup of existing PingFederate Installation from Admin and Engine Nodes.

# Upgrade implementation plan

* Inform application owners about the planned deployment change window.
* Create a Change request and present in CAB Meeting. **(Only for QA and Prod).**
* Post a notification regarding to the Planned Upgrade in SSO Notifications Group.

# Steps to upgrade PingFederate on Windows

PingFederate is running in cluster mode so we will start upgrading from Admin Node First and then Engine Nodes

**PingFederate Admin Node:**

1. Disable the Monitoring Alerts.
2. Take the backup of current version.
3. Copy new PingFederate zip file to c:/installfiles
4. Unzip and copy pingfederate-new version to c: and rename the folder as pingfederate-new-version-admin.
5. Start upgrading from Admin
6. Stop the pingfed-current version admin service.
7. Open Windows PowerShell as Administrator
8. cd to c:\pingfederate-new-version-admin\pingfederate\upgrade\bin
9. .\upgrade.bat c:\pingfederate-current-version-admin
10. Upgrade completed with [N] errors and [N] warnings.
11. copy new pingfederate.lic for new-version to

c:\pingfederate-new-version-admin/pingfederate/server/default/conf

1. Sync c:\pingfederate-new-version-admin\pingfederate\etc\jetty-admin.xml
2. Edit c:\pingfederate-new-version-admin\pingfederate\sbin\wrapper\PingFederateService.conf
3. change

"Name of the service"

"Display Name of the service"

"Title to use when running as a console"

1. E:\pingfederate-new-version-admin\pingfederate\server\default\data\config- store\com.pingidentity.common.security.AccountLockingService.xml update PasswordLockoutPeriod to 31
2. Edit run. properties file under c:\pingfederate-new-version-admin\pingfederate\bin and replace pf.cluster.auth.pwd=PingFederate\*\*\*\*\*\*
3. open Windows PowerShell as Administrator, navigate to the following directory:

c:\pingfederate-new-version-admin\pingfederate\sbin\win-x86-64 .\install-service.bat

1. Go to log folder of old Pingfed version and copy the log folder and paste it in new Pingfed version after clearing all previous logs.
2. We need a log structure for new version.
3. Start the PingFederate admin services.
4. Monitor server.log
5. Validate the version of PingFederate by accessing admin console.
6. Enable the Monitoring alerts of Admin node Server.

**PingFederate Engine Node**

1. Remove the server from F5 Pool.

Go to F5 – Search – Server name – Disable for all Ports.

1. Disable the monitoring alert.
2. Stop the pingfed-current\_version engine service.
3. open Windows PowerShell as Administrator
4. cd to c:\pingfederate-new-engine\pingfederate\upgrade\bin
5. .\upgrade.bat c:\pingfederate-currentVersion-engine
6. Upgrade completed with [N] errors and [N] warnings.
7. Copy new pingfederate.lic for new version(which is received over email from ping support) to c:\pingfederate-New-version-engine/pingfederate/server/default/conf
8. Edit run. Properties under c:\pingfederate-new-version-engine\pingfederate\bin and replace cluster.auth.pwd=PingFederateXXXXXXX
9. Sync c:\pingfederate-new version-engine\pingfederate\bin\run.properties
10. Sync c:\pingfederate- new version-engine\pingfederate\bin\start.ini
11. Sync c:\pingfederate-new version-engine\pingfederate\etc\jetty-runtime.xml
12. Sync c:\pingfederate-new version-engine\pingfederate\etc\ jetty-admin.xml
13. c:\pingfederate-new version-engine\pingfederate\sbin\wrapper\PingFederateService.conf and

Scroll to the bottom of the file and change the service name, display name, and description to reflect that this will be for the PF new version as shown below wrapper.console.title=PingFederate-newvsersion-engine

[wrapper.ntservice.name=](http://wrapper.ntservice.name/)PingFederate-newversion-engine

wrapper.ntservice.displayname=PingFederate-newversion-engine

And add below lines below line under # Java Additional Parameters

wrapper.java.additional.15=-XX:NewSize=1024m

wrapper.java.additional.16=-XX:MaxNewSize=1024m

wrapper.java.additional.17=-Dorg.apache.xml.security.ignoreLineBreaks=true wrapper.java.additional.18=-XX:+UseG1GC

wrapper.java.additional.19=-XX:+PrintGCDetails

wrapper.java.additional.20=-XX:+PrintGCTimeStamps

wrapper.java.additional.21=-Xloggc:../../log/jvm-g1-verbose.log

wrapper.java.additional.22=-XX:NumberOfGCLogFiles=20

wrapper.java.additional.23=-XX:GCLogFileSize=20000K

wrapper.java.additional.24=-XX:+UseGCLogFileRotation

wrapper.java.additional.25=-XX:+PrintGCDateStamps

wrapper.java.additional.26=-XX:+HeapDumpOnOutOfMemoryError

wrapper.java.additional.27=-XX:HeapDumpPath=../../log/

wrapper.java.additional.28=-XX:+UseStringDeduplication

Compare PingFederateService.conf with old Pingfed engine and update.

1. Use beyond compare to sync files from older to New-Version.
   1. Template under c:\pingfederate-olderVersion-engine\pingfederate\server\default\conf
   2. c:\pingfederate-olderVersion-engine\pingfederate\server\default\data\config-store\custom-name-formats.xml
   3. c:\pingfederate-olderVersion-engine\pingfederate\server\default\conf\template\kerberos.only.error.template.html
   4. c:\pingfederate-olderVersion-engine\pingfederate\server\default\conf\template\assets\images\\*
   5. c:\pingfederate-olderVersion-engine\pingfederate\server\default\conf\template\assets\css\access.abc.1.css
2. open Windows PowerShell as Administrator, navigate to the following directory:

c:\pingfederate-NewVersion-engine\pingfederate\sbin\win-x86-64

.\install-service.bat

1. Go to log folder of old Pingfed engine version and copy the log folder and paste it in new Pingfed engine after clearing all previous logs.

We need a log structure for new engine version.

1. Start the PingFederate-NewVersion-engine service.
2. Monitor server.log
3. Execute test case (Refer Test Plan section)
4. Once testing is successful, Delete the existing symbolic link pointing to olderversion and create new symbolic link using “mklink /J e:\pingfederate-engine c:\pingfederate-newversion-engine” or mklink /J c:\pingfederate-admin c:\pingfederate-newVersion-admin (as needed) in cmd prompt
5. Add the server back to F5 Pool.

Go to F5 – Search – Server name – Enable for all Ports.

1. Enable the Monitoring alert

At last when all servers are upgraded and verified with SSO functionality, then replicate the configuration from the admin node.

# Risk and Impact Analysis

No End users will be impacted with the change.

No Impact on User authentication and SSO, MFA.

# Roll Back Plan

**PingFederate Admin console:**

Stop the PingFederate Admin console.

Restore the backup files of PingFederate olderVersion in deploy folder of PingFederate admin console.

Start the PingFederate Admin console.

Check if the services up and running. Monitor server log

**PingFederate Engine Nodes:**

Stop the PingFederate Engine node.

Restore the backup files of PingFederate OlderVersion in deploy folder of PingFederate engine node.

Start the PingFederate Engine Node.

Check if the services up and running.

Monitor server log

# Communication plan

The SSO team will communicate with Application Owners through email about the Change.

# Test plan

Changes done in stage environment are operational No issues or impact observed during runtime.

PingFederate Admins will check Ping side operations and MFA Functionality by testing few applications (In all browsers and from Intranet and Internet).

**Test the server by host file mechanism**

Go to below path and make the entry in the host file.

Office Machine (Laptop/Desktop)

C:\Windows\System32\drivers\etc (**IP address of PingFederate engine node DNS address of SSO Federation service (For e.g. federation.abc.com)**[)](http://federation-qa.gsk.com/)

# Verification plan

The changes are applied successfully when all the above applications are working as intended.