

Configuring the PUMP Server for TLS connectivity.

Version 1.0 (20201104)

Overview

The core functions of the PUMP server are to; 1) receive email, 2) manipulate received email based on the modules loaded and then 3) sending the email on for delivery.

Many organisations require secure transmission of email during steps 1 and 3. This typically requires the implementation of the Transport Layer Security (TLS) protocol that requires a SSL certificate.

The steps required to create a SSL certificate are beyond the scope of this document. Your SSL certificate provider will be able to provide you with detailed information on how to request and create the certificate. During the certificate creation process, request the certificate in PEM format.

Below are the steps required to take a signed SSL certificate and store it in a Java keyring file and configure the PUMP server to use the certificate.

The steps below assume that:

- You have access to the certificate's private key information. In our example, private key information is in a plain text file called **private.key** If you open the file with notepad it will look like:

```
-----BEGIN PRIVATE KEY-----  
MIIEvQIBADANBgkqhkiG9w0BAQEFAASCBAKcwggSjAgEAAoIBAQC0GiUK2tua+Ez4  
... lots of lines ...  
MIIEvQIBADANBgkqhkiG9w0BAQEFAASCBAKcwggSjAgEAAoIBAQC0GiUK2tua+Ez4  
-----END PRIVATE KEY-----
```

- A single PEM file containing a chain of certifying certificates along with the signed certificate. Certificates should be concatenated together with the root certificates first and the signed certificate last. The PEM file is a simple text file. In the steps below we refer to this file **certificates.pem**
- You will need to download and install OpenSSL. At the time of writing a compiled 64bit Windows version of OpenSSL can be found at:

<https://slproweb.com/products/Win32OpenSSL.html>

- The following steps assume OpenSSL is installed in C:\OpenSSL-Win64 and the commands are issued from the PUMPs modules\core directory, for example **c:\pump-server\modules\core**
- In the example that follows we are using the certificate alias name of **secure** – you should use the alias supplied during certificate creation

Configuration steps

1. Open a command prompt and change to the Pump core directory, ie.

Start, **CMD.EXE**

```
cd c:\pump-server\modules\core
```

2. Copy your private.key and certificates.pem file into the **c:\pump-server\modules\core**
3. Create a p12 file containing the private key and all the certificate information

```
C:\OpenSSL-Win64\bin\openssl pkcs12 -export -inkey private.key -in certificates.pem -name secure -out keystore.p12
```

Password secure the store. Make sure you remember this.

4. Convert the p12 store into jks file format for use by the PUMP server

```
%java_home%\bin\keytool.exe -importkeystore -srckeystore keystore.p12 -srcstoretype pkcs12 -destkeystore keystore.jks
```

Enter passwords as required.

5. Modify the PUMP core config.xml to activate TLS and configure it to use the keystore file created. You will need to modify the areas highlighted in yellow in the screen below:

```
<?xml version="1.0"?>
<properties>
  <core>
    <logging>debug</logging>
    <keystore>
      <file>C:/pump-server/modules/core/keystore.jks</file>
      <password>yourpassword</password>
      <alias>secure</alias>
    </keystore>
  </core>

  <listener>
    <port>25</port>
    <tls>yes</tls>
    <plain>yes</plain>
    <directory>C:/pump-server/data/input</directory>
    <status>on</status>
    <logging>debug</logging>
  </listener>

  <mailer>
    <channel>
      <name>outbound</name>
      <server>outbound.mail.server</server>
      <port>25</port>
      <directory>C:/pump-server/data/labels/output</directory>
      <posts-per-run>10</posts-per-run>
      <tls>yes</tls>
      <plain>yes</plain>
    </channel>
  </mailer>
</properties>
```

For initial testing, set the logging level for the listener and mailer in the PUMP core config.xml file to **debug**. Review and change as required. Save the file.

6. Double-check the steps above, then restart or start the PUMP service and test.

Send test email and review the PUMP.log file. Once you are happy, change logging back to info or warn and restart the PUMP service.