

Printer Profile Manager Enterprise

Version 3.3



ZEBRA

Installation Guide

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About This Document

This section provides you with contact information, document structure and organization, and additional reference documents.

Who Should Use This Document

This Installation Guide is intended for use by any person who needs to perform routine maintenance, upgrade, or troubleshoot problems with the printer.

How This Document Is Organized

The Installation Guide is set up as follows:

Section	Description
Installation, Upgrade, and Uninstall on page 6	This chapter includes the procedure to install Printer Profile Manager Enterprise (PPME), upgrade, and uninstall it.
License on page 43	This chapter provides general and specific information about the license.
LDAP User Directory Configuration on page 45	This section provides you with contact information, document structure and organization, and additional reference documents.
Troubleshooting on page 47	This section provides assistance with installation and other known issues.

Installation, Upgrade, and Uninstall

This chapter includes the procedure to install Printer Profile Manager Enterprise (PPME), upgrade, and uninstall it.

System Requirements

Supported Operating Systems

Windows:

- Windows Server® 2016, 64-bit processor
- Windows Server® 2019, 64-bit processor
- Windows Server® 2022, 64-bit processor
- Windows® 10, 64-bit processor
- Windows® 11, 64-bit processor

Browsers

- Chrome Browser version 97

Minimum System Requirements

CPU cores: 4

Memory (RAM): 16GB

Minimum: 50GB available drive space

Using the printer analytics or battery management functions will require up to 1TB of disk space. Please refer to the Printer Profile Manager Enterprise User Guide for more information on these features.

Recommended System Requirements

CPU cores: 8

Memory (RAM): 16GB

Printer Requirements

Printers must run Link-OS 2.5 or later in order to connect to PPME.

Printers must run Link-OS 6.0 or later in order to use the Certificate Management feature.

Printers must run Link-OS 6.6 or later in order to use the SGD escape syntax in a Certificate Management Item subject alternative name field.

Network Access Requirements

Internet Access



IMPORTANT: Internet access is required to complete the installation and for the continued use of PPME.

For the PPME licensing system to work, the server must have continued internet access and be able to reach my.nalpeiron.com using port 443.

NOTE: Previous versions of PPME used port 80. Port 443 is used in version 3.2 and later.

For certificate signing, the server must have outgoing port 443 open to the internet, and must be able to reach acs.zebra.com.

Internal Network Outgoing Ports

Zebra printers support a discovery process that utilizes UDP on port 4201.

Initial printer configuration may use TCP ports 9100, 9200, or 6101.

If using LDAP, additional ports may need to be opened.

Server Access (Incoming Ports)

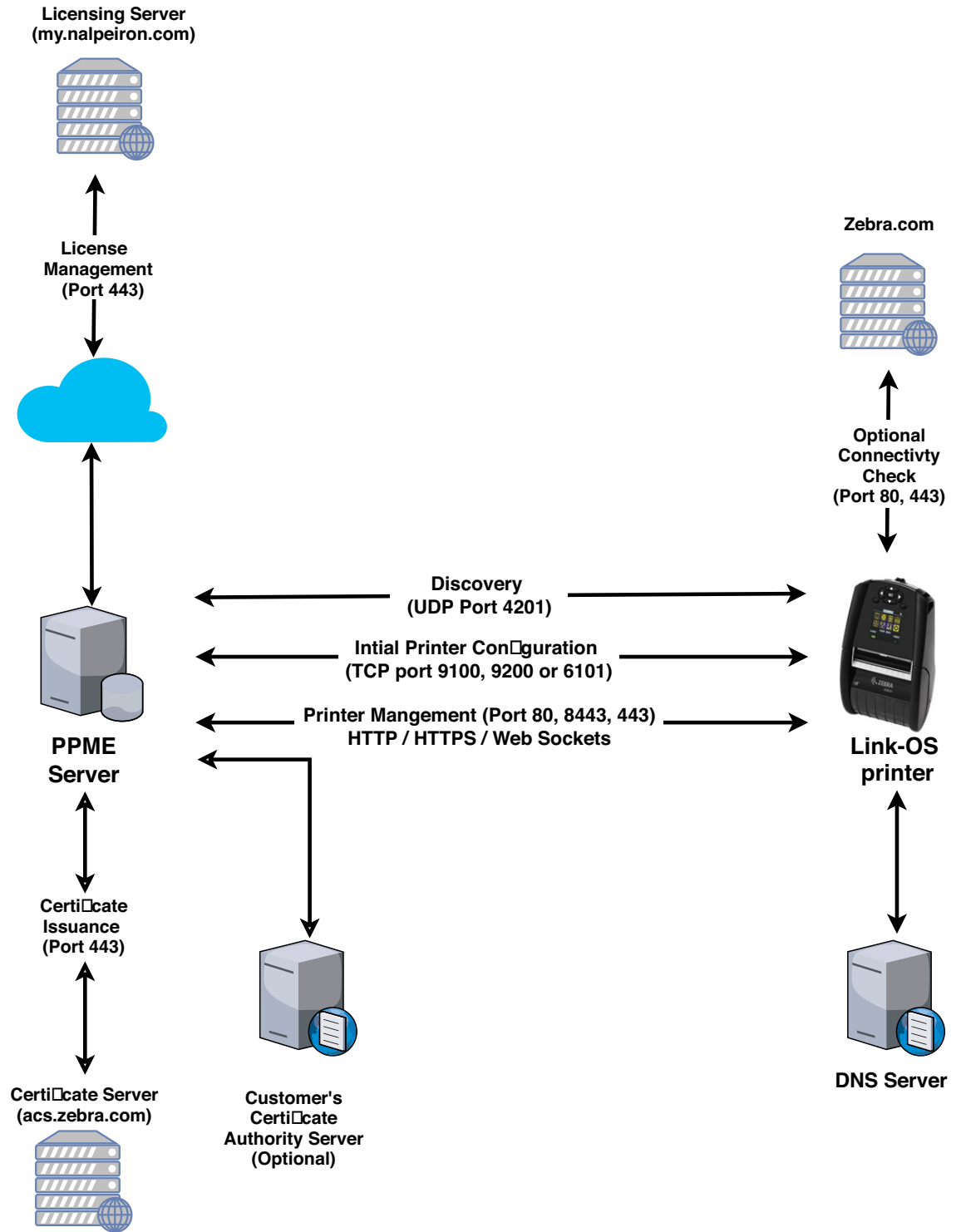
The server firewall should be configured to only allow the following incoming ports:

- Port 8443: printer connections
- Port 443: client connections



Best Practice: Zebra recommends that PPME is installed on a physical or virtual server that complies with Microsoft [Windows security baselines](#). Local access to the server should only be by an administrator for software updates, maintenance, and backup. It should not be used as a workstation.

Figure 1 Data Flow Diagram



Before You Begin

Please ensure that your system clock and time zone are set properly [before](#) beginning the installation.



CAUTION: If your server clock is not set to the current time, you will experience issues with installation, provisioning events, operations log, and licensing.

If you have a version of PPME currently installed, continue with [Backup PPME on page 12](#), and then proceed to [Upgrading PPME on page 39](#).

If you do not have a version of PPME installed, proceed to [Installation on page 14](#).

Information Checklist for Installation

The following is a list of information that the user setting up the administrator (admin) account must have before he begins the installation. If you have made changes to these assumptions (location, user, or directory), substitute your changes in the steps, as needed.

1. Installation location: The default location is **C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise**
2. Local user: **Administrator**
3. Local PPME directory: The default location is **%USERPROFILE%\PPME**
4. Administrator account information:
 - a. Full Name
 - b. Username
 - c. Email Address
 - d. Password
5. Server
 - a. Fully Qualified Domain Name (FQDN)
 - b. Do you wish to Use Detected FQDN? (Checkbox)
6. PPME License code or Use in Evaluation Mode (Checkbox for Use in Eval. Mode)
7. Network IP Addressing:
 - a. DHCP or Static/Permanent IP addressing (Radio buttons)
 - b. DNS Server List

The DNS Server List is a space-delimited list of DNS Server IP addresses. Ensure that each IP address is a valid IPv4 address and that the addresses are separated by a space. The total list of addresses should not be longer than 255 characters.
 - c. DNS Domain Name

The DNS Domain Name needs to be a valid DNS name (e.g., no white space in the name and no longer than 255 characters).
8. Outgoing Email Server (SMTP Server)
 - a. SMTP Server Host Name
 - b. Port

- c. From Address
 - Spaces or other whitespaces in the email address is a common cause for failure when requesting a certificate.
 - d. Enable SSL and Require Authentication (Checkboxes)
 - e. (Optional) Do you wish to Send Test Email or skip to refrain from sending the test email.
- 9. Certificate Creation details:
 - a. Company name
 - b. Department
 - c. Address
 - d. City
 - e. State
 - f. Country
 - g. Postal Code
 - h. Email address
 - i. Phone number
 - j. Server Name (Fully Qualified Domain Name)
- 10. Type of Server's SSL Certificate
 - a. SHA-1: Zebra-Signed Certificate
 - b. SHA-2: Self-Signed Certificate
- 11. For SHA-1 certificate, you will need the Port number.
- 12. For SHA-2 certificate, you will need the Password and Port number.

Backup PPME

Key Assumptions

If you have made changes to these assumptions (location, user, or directory), substitute your changes in the steps, as needed.

- Assume the location of installation is "**C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise**"
- Assume the local user is '**Administrator**'
- Assume the local PPME directory is located at:
 "**%USERPROFILE%\PPME**"



IMPORTANT: If you are using the same server, printers will not connect after an uninstall or re-install. If you save the certificate, then you are able to re-use it. If you have not saved it, you will not be able to re-use it.

Stop Services

This section directs you to “stop an “xyz” service”. You may stop a Microsoft service using several methods:

- Services Window
- net Command
- Sc Command
- Task Manager
- PowerShell

To stop services using the Task Manager, perform the following steps:

1. Open the Task Manager (**CTRL+SHIFT+ ESC**).
 - Click on the **Services** tab at the top of the Task Manager window.
2. To stop the '**Printer Profile Manager Enterprise**' service (ppme-service):
 - a. Select the name of the service.
 - b. Right-click on the service.
 - c. Select **STOP** to stop the specific service.
3. To stop the '**Printer Profile Manager Enterprise Database 14.2-1**' service (Printer Profile Manager Enterprise Database 14.2-1):
 - a. Select the name of the service.
 - b. Right-click on the service.
 - c. Select **STOP** to stop the specific service.

4. To stop the 'Printer Profile Manager Enterprise Elasticsearch 6.8.23' service (elasticsearch-service-x64).
 - a. Select the name of the service.
 - b. Right-click on the service.
 - c. Select **STOP** to stop the specific service.
5. Close the Task Manager window.

To backup your installation, perform the following steps:

1. Backup the '%USERPROFILE%\ .PPME' directory.



NOTE: If the default directory was not used during the installation, the directory to backup will be what you selected rather than %USERPROFILE%\ .PPME .

2. Backup the 'C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise' directory.
3. Start the 'Printer Profile Manager Enterprise Elasticsearch 6.8.23' service using Task Manager.
4. Start the 'Printer Profile Manager Enterprise Database 14.2-1' service using Task Manager.
5. Start the 'Printer Profile Manager Enterprise' service using Task Manager.

Installation

The PPME Installation consists of two parts: the File Deployment and the Application Setup Wizard. Both parts must be completed to use and access the PPME application.



IMPORTANT: Internet access is required to complete the installation of PPME.

File Deployment

This section shows the screens you will see during the file deployment portion of the installation.

1. Log into the server (where you wish to install PPME) as Administrator.
2. To launch the Printer Profile Manager Enterprise (PPME) installer, double-click on **PPME.3.xx.xx.exe**.
(where xx.xx indicates the version number of the software)

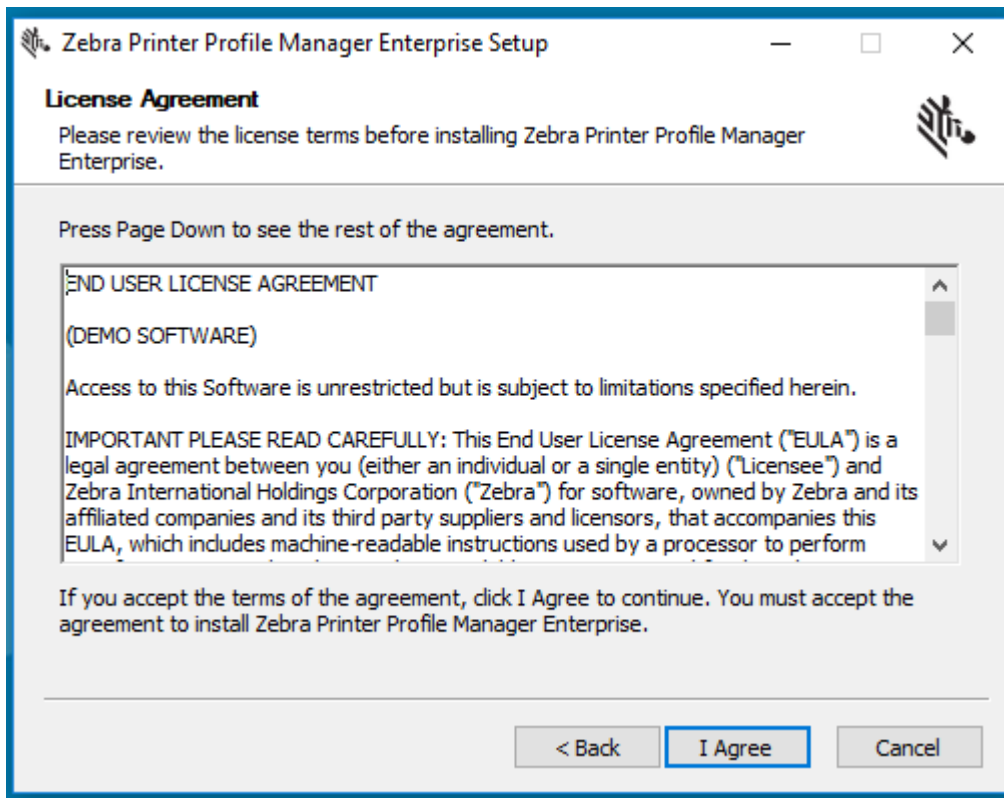
Figure 2 Welcome Dialog



3. Click **Next** to continue.

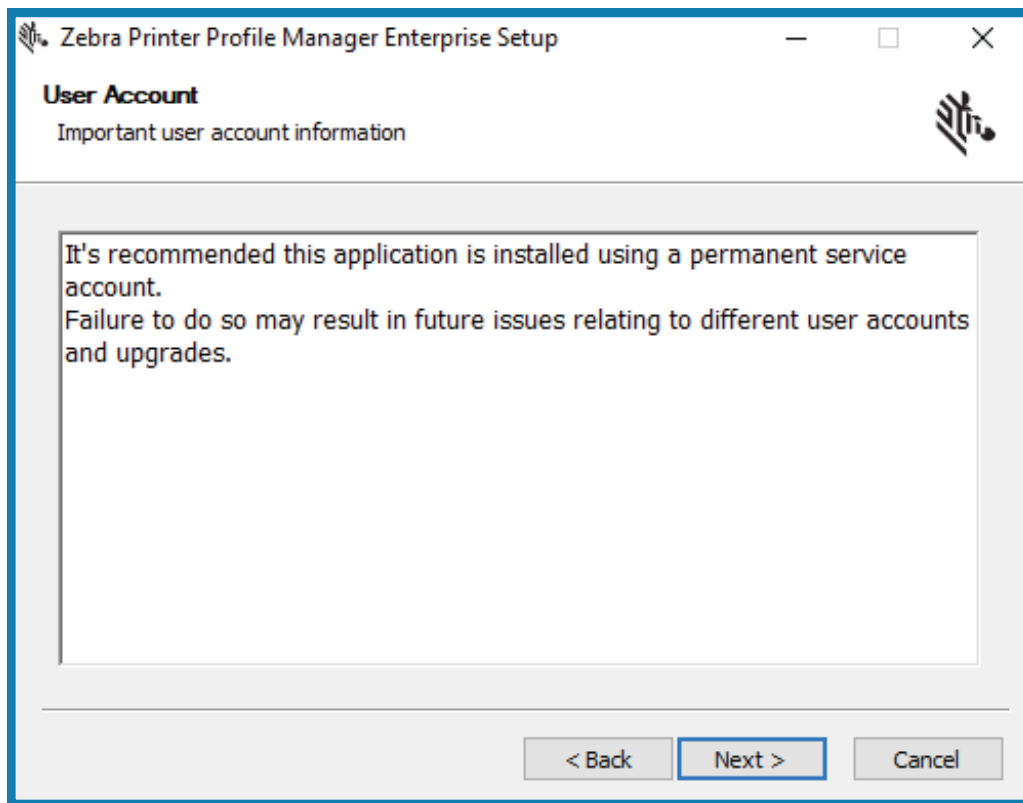
The License Agreement dialog appears.

Figure 3 License Agreement Dialog



4. Click **I Agree** to accept the terms of the license agreement.

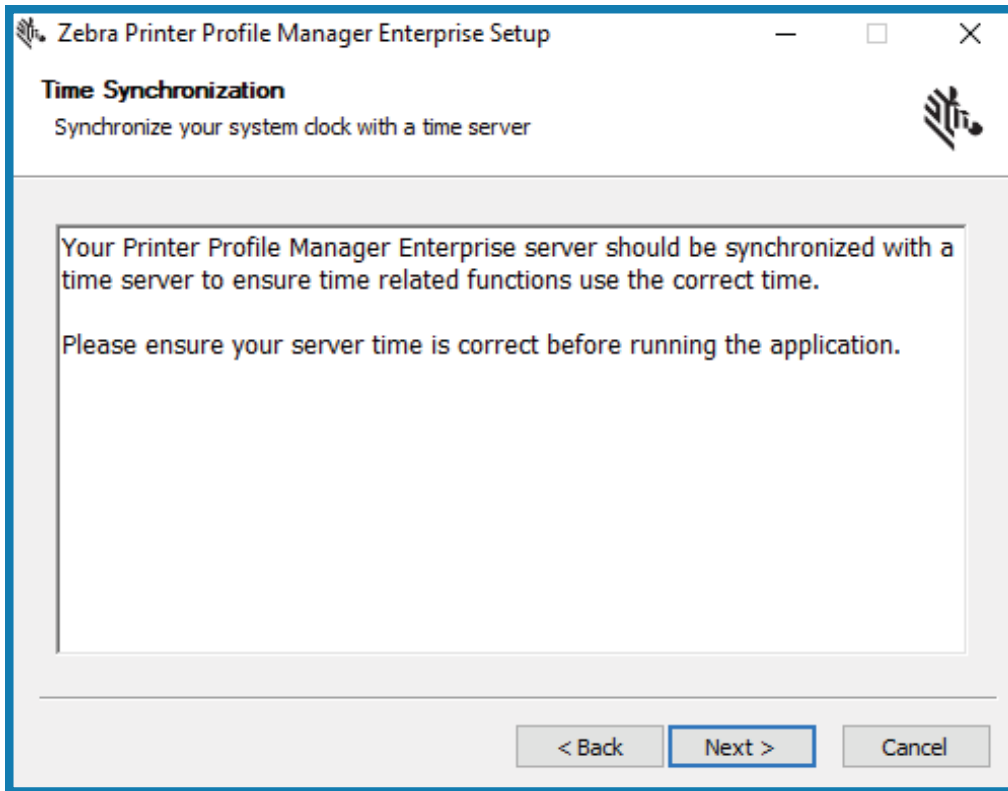
Figure 4 User Account Information



5. Click **Next** to continue.

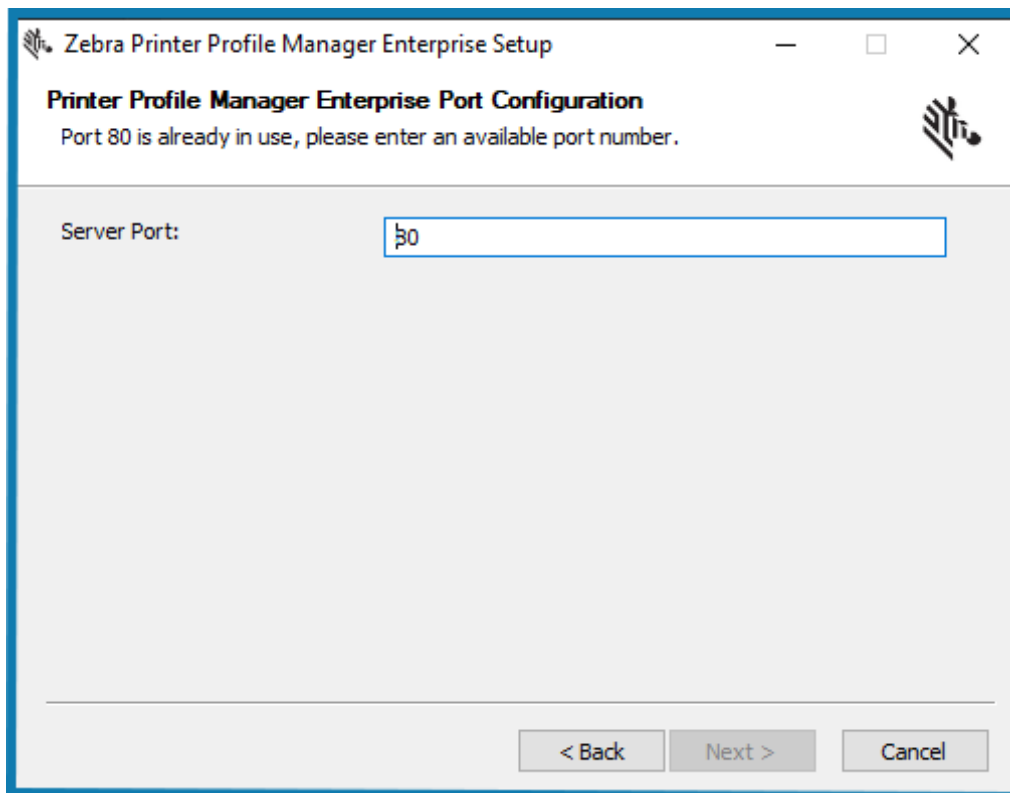
6. Ensure that your server's system clock is synchronized with a time server.

Figure 5 Time Synchronization Dialog



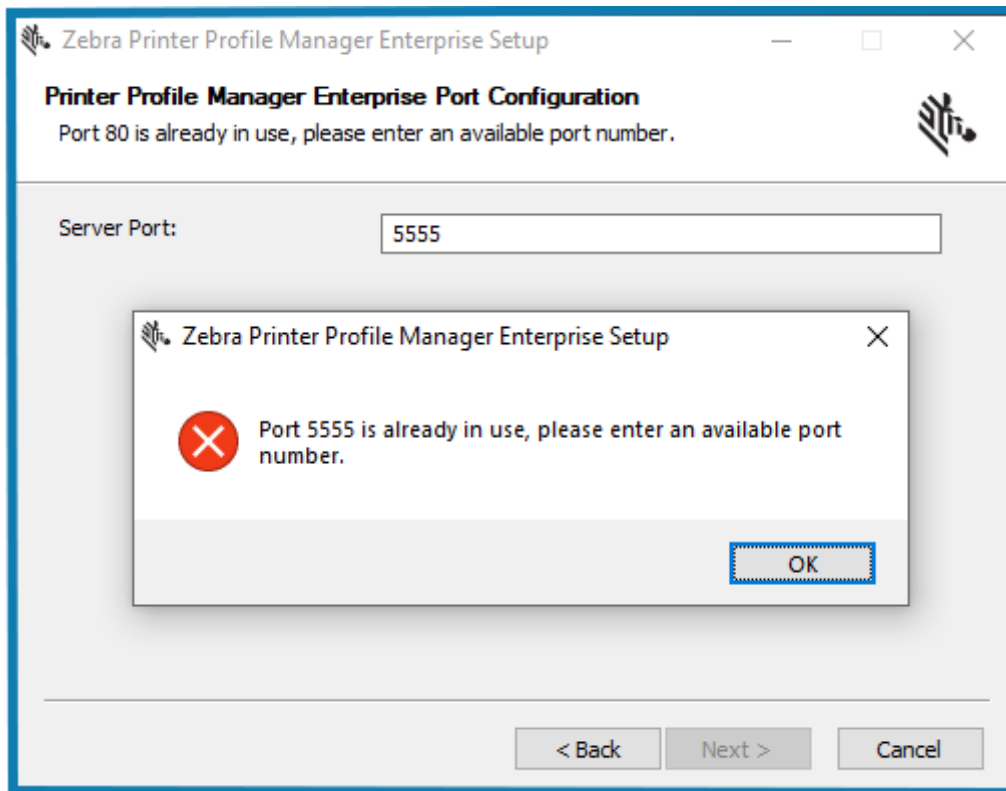
7. Click **Next** to continue.

Figure 6 Port Configuration Dialog



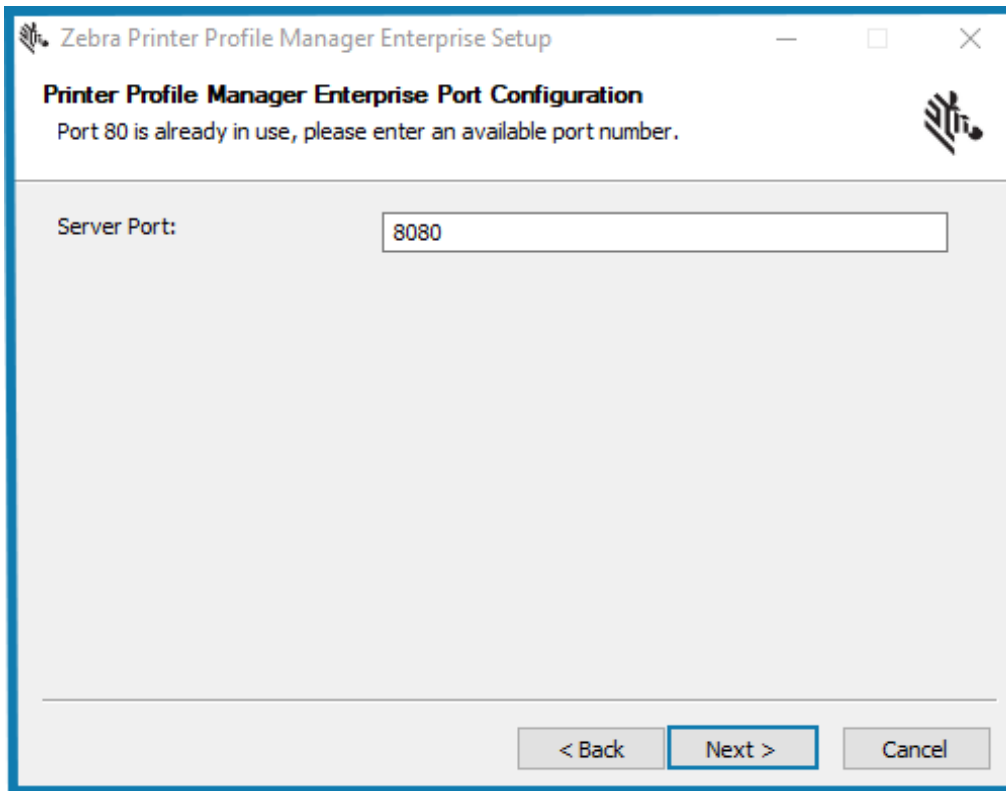
8. The availability of port 80 will be detected. The port configuration dialog will only display if port 80 is in use on your server.

Figure 7 Port Configuration Error Dialog



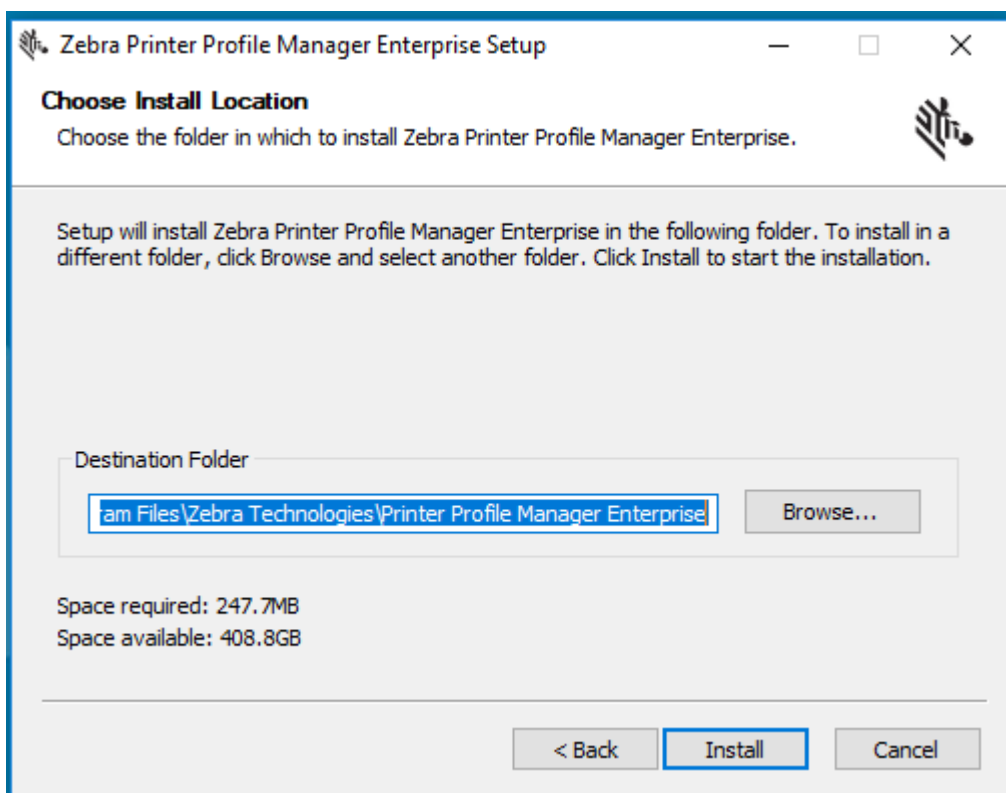
9. Enter an available port number in the Server Port field. The port number entered will be checked and must be available in order to continue. If not, an error dialog will appear.

Figure 8 Available Port Number Dialog



10. Once an available port number is entered (e.g. 8080), click **Next** to continue. The Installation Location Dialog appears ([Figure 9 on page 21](#)).

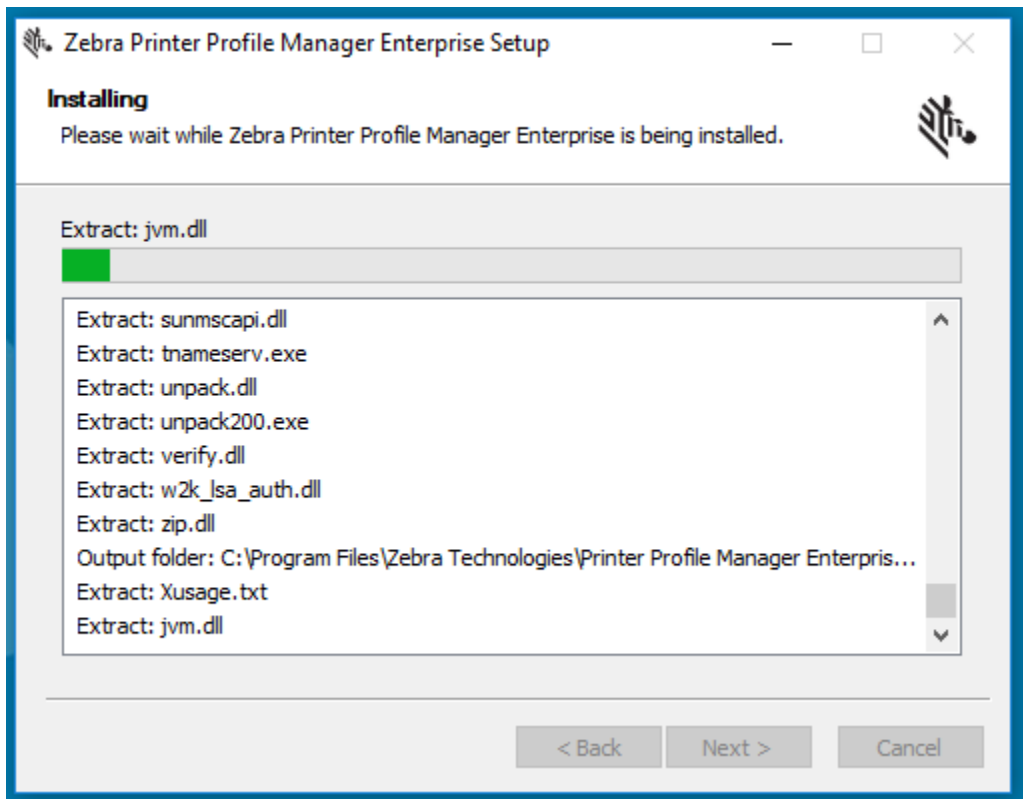
Figure 9 Printer Profile Manager Enterprise Installation Location Dialog



11. Click **Install** to begin the installation.

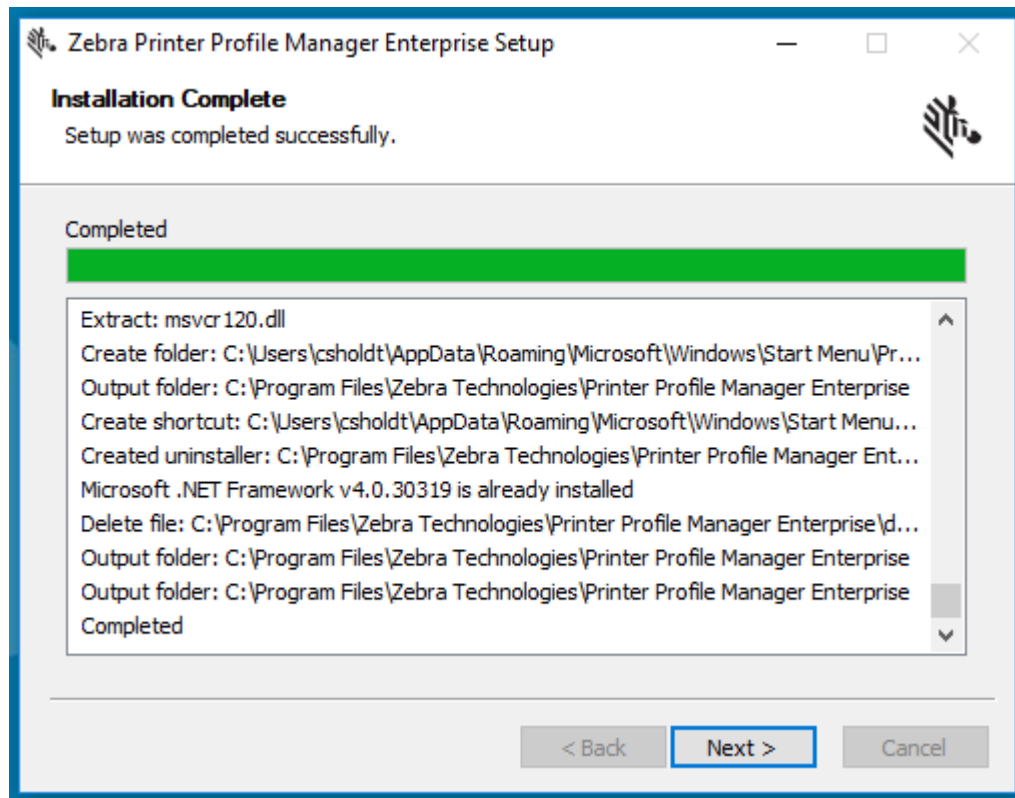
The Installing dialog appears ([Figure 10 on page 22](#)).

Figure 10 Installing Dialog



The Installation Complete dialog appears.

Figure 11 Installation Complete Dialog



12. Click **Next** to continue.

The Starting Required Services dialog appears.

Figure 12 Starting Required Services Dialog

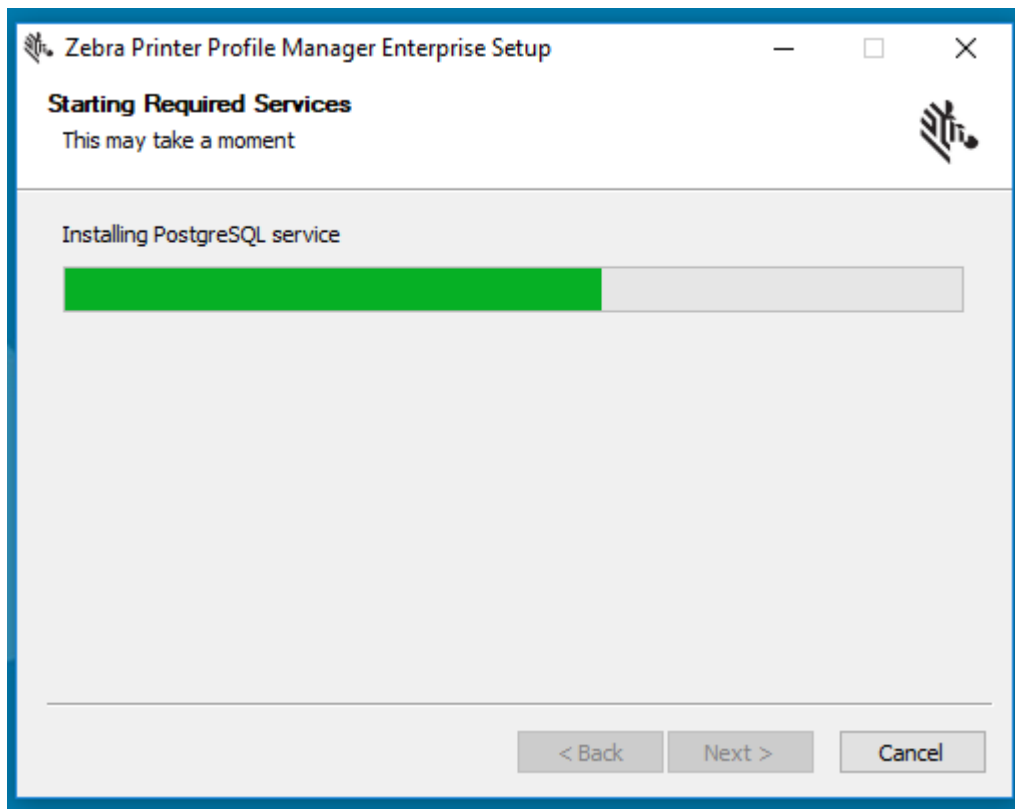
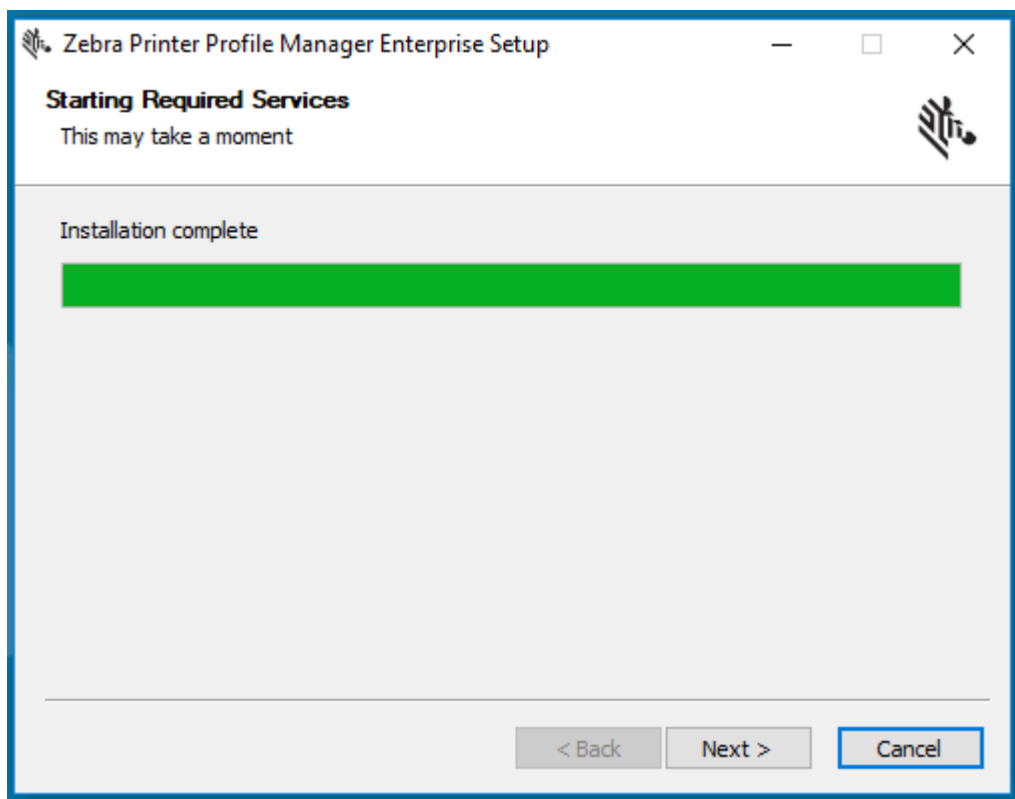
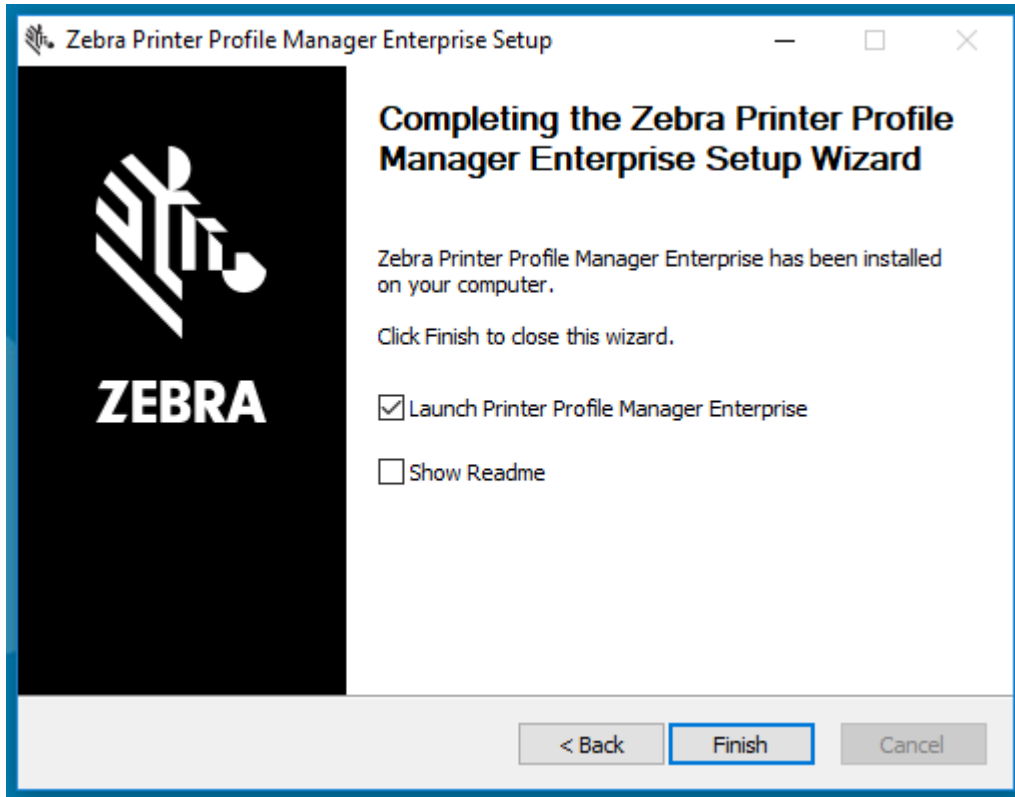


Figure 13 Starting Required Services Installation Complete Dialog



Once the Required Services are complete, the Setup Wizard Complete dialog appears.

Figure 14 Setup Wizard Complete Dialog



13. Click **Finish** to close the Setup Wizard.

Ensure that the checkbox is checked.

A browser window will appear.



NOTE: If the browser window doesn't connect immediately, be patient, refresh your screen as PPME services may still be starting.

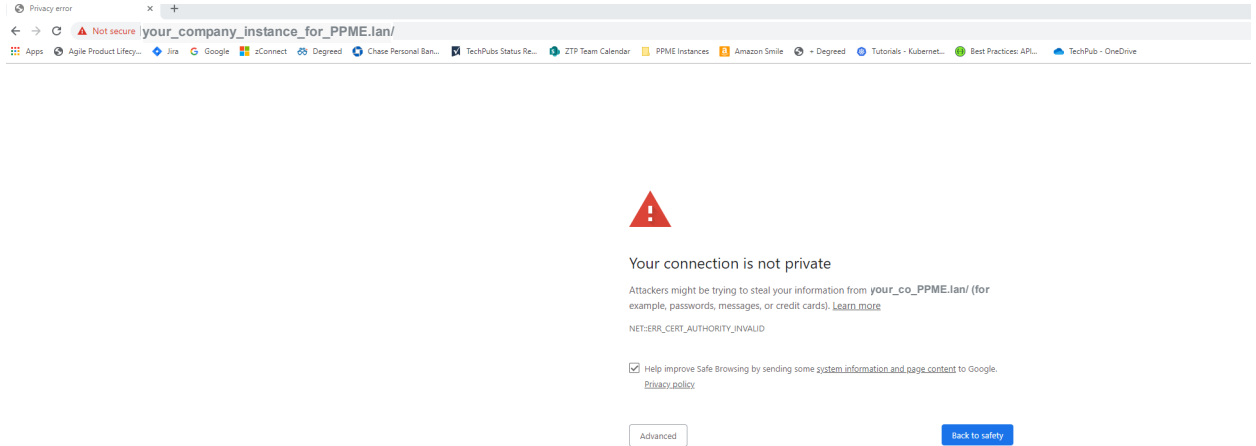
Chrome Browser

If this is the first time you are logging into PPME and you use Chrome as your browser, you may see the Privacy Error warning. The notification appears because PPME generates a self-signed certificate to secure your initial connection.

Click on **Advanced** to continue to the Setup Wizard where you will be guided to set up PPME.

Warning: Do not click on **Back to Safety** or close the browser window without saving the PPME URL.

Figure 15 Privacy Error Warning



Application Setup Wizard

Introduction to the Setup Wizard

Figure 16 is a complete screenshot of the PPME Application Setup Wizard. To improve readability, all other screens for the Application Setup Wizard are cropped and the size has been increased.

Figure 16 Full Screenshot of PPME Application Setup Wizard

The screenshot displays the 'Setup Wizard' window for 'Server Name'. At the top left is a progress bar (1). The title bar includes a gear icon and 'Setup Wizard Server Name' (2). The Zebra logo is in the top right (3). The main content area asks 'Is this the fully qualified domain name for this server?' (4) with an information icon. Below this is a text field for 'Fully Qualified Domain Name (FQDN)' (5) and a checkbox for 'Use Detected FQDN'. A 'Continue' button is on the right (6). At the bottom are 'Back' (8) and 'Help' (7) buttons.

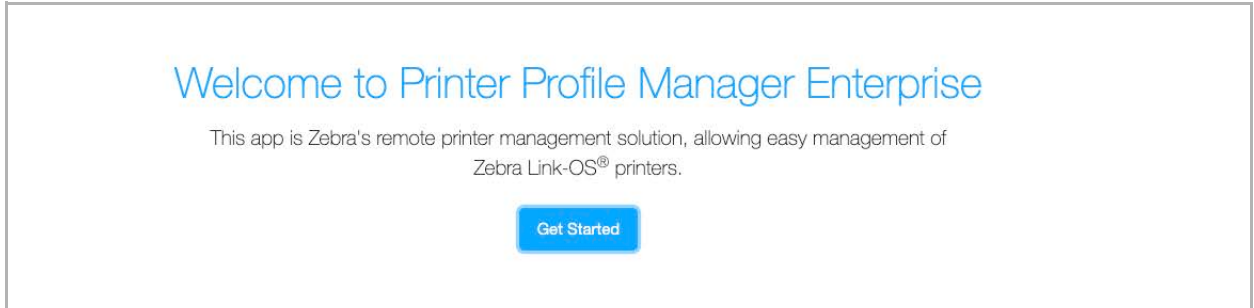
1	Progress bar
2	Purpose (or main focus) of this screen
3	Zebra logo
4	Information button provides additional information. (Click on the icon to open it.)

5	Fields to fill in
6	Continue button advances to the next screen
7	Help button
8	Back button returns to the previous screen

Setup Wizard

The Welcome dialog appears.

Figure 17 Welcome Dialog



1. See [Figure 17](#). Click **Get Started** to continue.

The Administrator Account dialog appears.

NOTE: If you cannot access either the Nalpeiron Licensing Server or the Zebra Certificate Signing Server, [Figure 18](#) displays. You **must** be able to connect to both of these servers to continue.

Figure 18 Issue Connecting to Nalpeiron Licensing Server or Zebra Certificate Signing Server

The application is having a problem connecting to the following servers. ⓘ

It may need to use a proxy server or there might be an issue with a firewall setting or another security device. If you are not sure, please consult with your network administrators.

	Nalpeiron Licensing Server https://my.nalpeiron.com	<button>Test Again</button>
	Zebra Certificate Signing Server https://acs.zebra.com/CertificateSigningServer/sign	<button>Test Again</button>

Use a Proxy Server
☐ Off

Proxy Host Port

Username Password

Test Proxy Settings Continue

2. See [Figure 19](#). Fill in the fields to create your Admin account.



NOTE: The Admin username is the role with a complete set of permissions and functionality.

- Enter the **Full Name**, **Username**, **Email Address**, and **Password** fields.

3. Click **View EULA**, and then click **Accept EULA and Continue**.

Figure 19 Administrator Account Dialog

The first step is to create your administrative account. ⓘ

This initial Administrator account is needed to complete the preliminary setup process, including inviting other users.

We recommend using a strong password and keeping these credentials in a safe place.

Here are the password requirements. The password must:

- Be between 8 characters and 64 characters long
- Use at least one uppercase and one lowercase letter
- Contain at least one number
- Have at least one of these special characters: - ~ ! @ # \$ % ^ & * () _ + ' - = { } | [] \ ; ' : " , . / < > ?

Full Name
Required

Username
Required

Email Address
Required

Password
Required

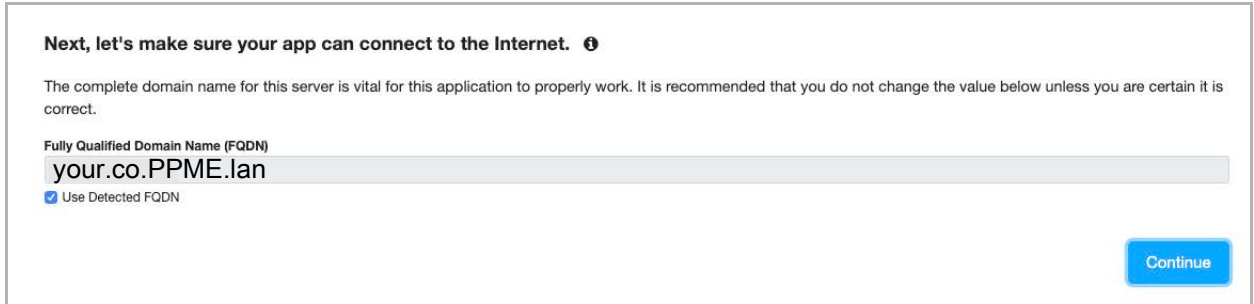
Verify

[View EULA](#) [Accept EULA and Continue](#)

The Server Accessibility dialog appears.

4. See [Figure 20](#). Enter the **Fully Qualified Domain Name (FQDN)** or click the checkbox to **Use Detected FQDN**.
5. Click **Continue**.

Figure 20 Server Accessibility Dialog



Next, let's make sure your app can connect to the Internet. ⓘ

The complete domain name for this server is vital for this application to properly work. It is recommended that you do not change the value below unless you are certain it is correct.

Fully Qualified Domain Name (FQDN)

your.co.PPME.lan

☒ Use Detected FQDN

Continue

The Server License dialog appears.

1. See [Figure 21](#). Enter your license code register it or **Use in Evaluation Mode**.
2. Click **Continue**.

Figure 21 Server License Dialog



The next step is to activate your software license key or choose to use the software in evaluation mode. ⓘ

You have 30 days to evaluate this software - or enter your license code below to register it.

License Code

☒ Use in Evaluation Mode

Continue

The Network Addressing dialog appears.

3. See [Figure 22](#). Click the radio button for **DHCP** or **Static/Permanent** IP addressing.
4. Enter the **DNS Server List** and **DNS Domain**.



NOTE: The DNS Server List is a space-delimited list of DNS Server IP addresses. Ensure that each IP address is a valid IPv4 address and that the addresses are separated by a space. The total list of addresses should not be longer than 255 characters.



NOTE: The DNS Domain Name needs to be a valid DNS name (e.g., no white space in the name and no longer than 255 characters).

5. Click **Continue**.

Figure 22 Network Addressing Dialog

The next step is to look at how your printers get their Internet Protocol (IP) address. ⓘ

Please specify how IP addressing for your printers is handled within your network. This will help ensure the app and printers can communicate with each other.

Note: If your printers use both DHCP and Static, choose Static / Permanent.

IP Addressing

☒ DHCP ☐ Static / Permanent

DNS Server List

DNS Domain

Continue

The Outgoing Email Server dialog appears.

6. See [Figure 23](#). Enter the SMTP server **Host Name**, **Port**, and **From Address**.



NOTE: Spaces or other whitespaces in the email address is a common cause for failure when requesting a certificate.

12. If you select the checkboxes to **Enable SSL** and **Require Authentication**, enter the username and password.
13. (Optional) Click **Send Test Email**.
Or, click **Skip** to refrain from sending the test email.
14. Click **Continue**.

Figure 23 Outgoing Email Server Dialog

The next step is to configure the app to talk to your email server. ⓘ

This capability will be used to invite new users to the app, update the administrator and important events – and to help recover/reset passwords when necessary. These settings are not required and can be added at a later time.

Host Name Port

From Address ☐ Enable SSL ☐ Require Authentication

Username Password

15. If you chose **Skip** on the previous screen, you must confirm the choice.
The Warning dialog appears.

16. See [Figure 24](#). Click **Confirm** to skip the SMTP server setup or click **Cancel** to return to the previous screen.

Figure 24 Warning Dialog

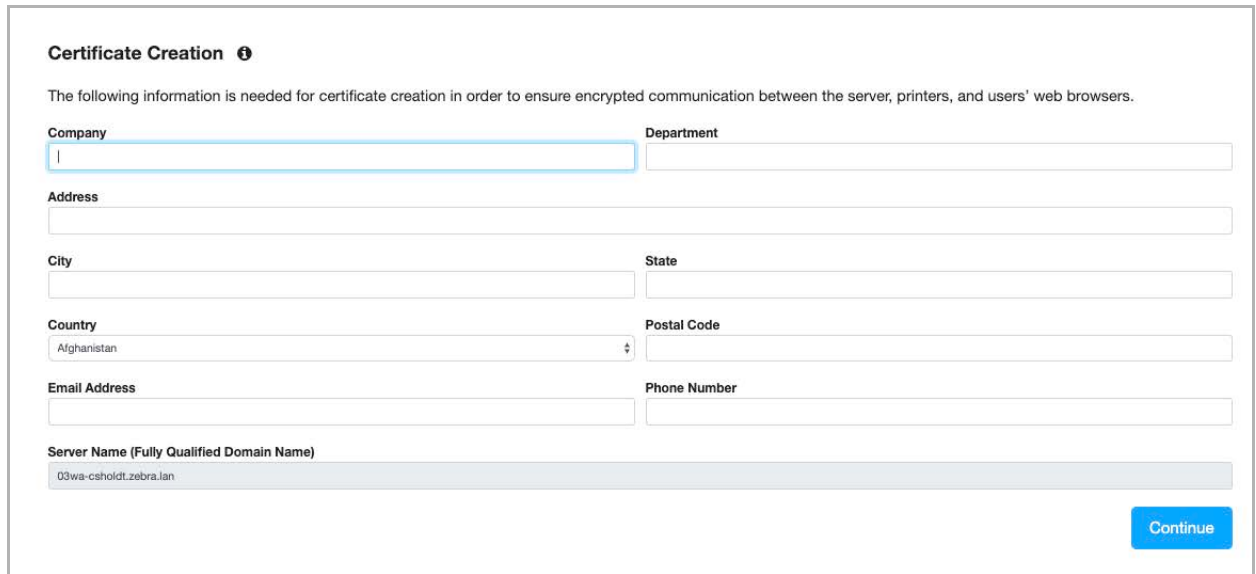
The screenshot shows the 'Setup Wizard Outgoing Email Setup' screen. A 'Warning' dialog box is displayed in the center, asking 'Are you sure you wish you skip SMTP server setup?'. The dialog text states: 'Without valid SMTP server details, Printer Profile Manager Enterprise will not be able to send emails, including user password recovery emails.' There are 'Cancel' and 'Confirm' buttons at the bottom of the dialog. The background screen has a header with 'Setup Wizard' and 'Outgoing Email Setup' text, and a ZEB logo. Below the header, there is a section titled 'The next step is to configure the app to talk to your email server.' followed by explanatory text: 'This capability will be used to invite new users to the app, update the administrator and important events – and to help recover/reset passwords when necessary. These settings are not required and can be added at a later time.' Below this text are input fields for 'Host Name', 'Port', 'From Address', 'Username', and 'Password'. There are also checkboxes for 'Enable SSL' and 'Require Authentication'. At the bottom right, there are buttons for 'Send Test Email', 'Skip', and 'Continue'.

The Certificate Creation dialog appears.

17. See [Figure 25](#). Enter the requested company information, for example, your company name, etc.

18. Click **Continue**.

Figure 25 Certificate Creation Dialog



Certificate Creation ⓘ

The following information is needed for certificate creation in order to ensure encrypted communication between the server, printers, and users' web browsers.

Company: Department:

Address:

City: State:

Country: Postal Code:

Email Address: Phone Number:

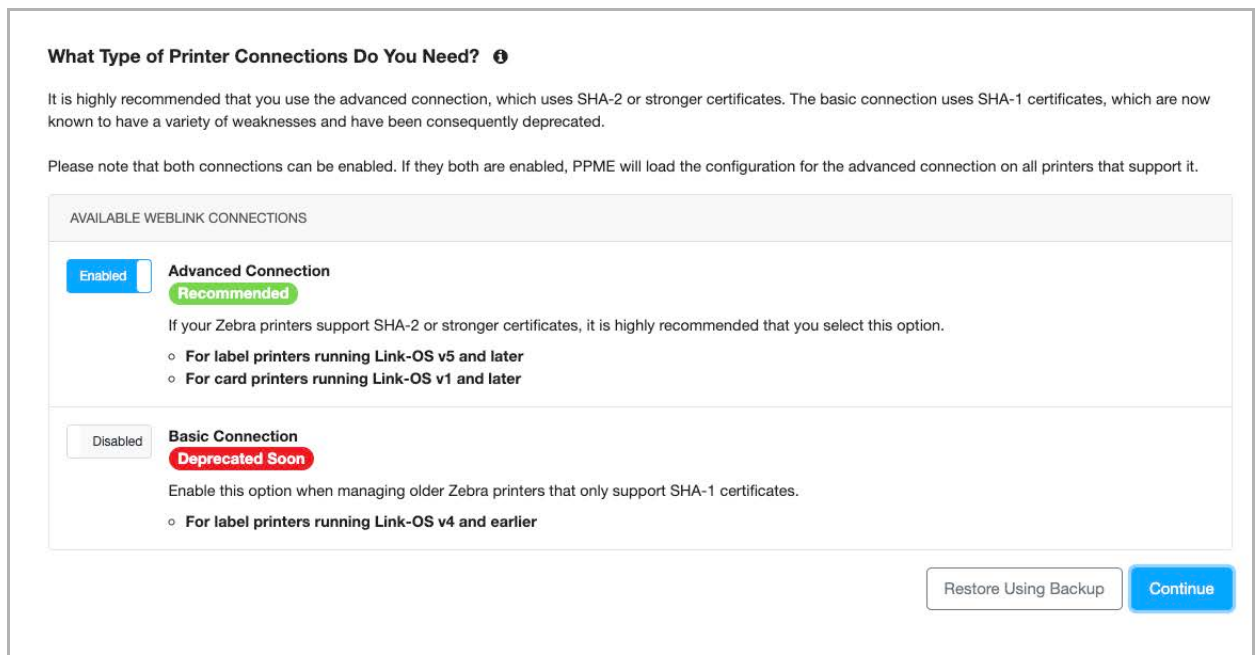
Server Name (Fully Qualified Domain Name):

Continue

The Printer Connections dialog appears.

19. See [Figure 26](#). Select the type of printer connection.

Figure 26 Printer Connections Dialog



What Type of Printer Connections Do You Need? ⓘ

It is highly recommended that you use the advanced connection, which uses SHA-2 or stronger certificates. The basic connection uses SHA-1 certificates, which are now known to have a variety of weaknesses and have been consequently deprecated.

Please note that both connections can be enabled. If they both are enabled, PPME will load the configuration for the advanced connection on all printers that support it.

AVAILABLE WEBLINK CONNECTIONS

Enabled **Advanced Connection** **Recommended**

If your Zebra printers support SHA-2 or stronger certificates, it is highly recommended that you select this option.

- For label printers running Link-OS v5 and later
- For card printers running Link-OS v1 and later

Disabled **Basic Connection** **Deprecated Soon**

Enable this option when managing older Zebra printers that only support SHA-1 certificates.

- For label printers running Link-OS v4 and earlier

Restore Using Backup **Continue**

20. Which type of connection did you choose?

If you chose...	Then do the following...
Advanced Connection/SHA-2 or stronger certificates	Go to Advanced Connection/SHA-2 Certificate on page 35.
Basic Connection/SHA-1 certificates	Go to Basic Connection/SHA-1 Certificate on page 36.
Both	- Go to Advanced Connection/SHA-2 Certificate on page 35. - At the end of this procedure in step 6 on page 36, you will also be directed to complete the Basic Connection/SHA-1 Certificate on page 36. Note: If you enable both certificates, you must ensure that they are both set to different ports.

Advanced Connection/SHA-2 Certificate

If you selected a SHA-2 Certificate, the Advanced Connection dialog appears.

- See [Figure 28](#). Click **Generate** to create a SHA-2 Certificate or click **Back** to return to the previous screen.

Figure 27 Advanced Connection Dialog

Port and Certificates for the Advanced Connection ⓘ

In order to enable the Advanced Connection to your printers, we need to either locally generate or import a SHA-2 or stronger certificate.

You can also create a Certificate Signing Request (CSR) for creating certificates using your own Certificate Authority.

Port ☒ Use Default

AVAILABLE OPTIONS



Locally Generate the SHA-2 Certificates

This is the fastest and easiest method of obtaining the necessary certificates.

Generate



Import Your Own SHA-2 (or Stronger) Certificate

Coming Soon

If you have created certificates using your own Certificate Authority, select this option.

Import



Or Create a Certificate Signing Request (CSR)

Coming Soon

Select this option to create a CSR for creating certificate with your own CA. You will need to import them after doing so.

Create CSR

The Passwords for Locally Generated Certificates dialog appears.

- See [Figure 28](#). Enter the **Server Certificate Password** and **Printer Certificate Password** number.
- Click **Continue**.

Figure 28 Locally Generated Certificates Dialog

The Finalizing the Advanced Connection dialog appears.

4. See [Figure 29](#). (Optional) Click **Download** to save a copy of the printer settings in case you need to manually connect your printer to PPME.
5. Click **Continue**.

Figure 29 Advanced Connection Dialog

The Backup Your Connection Settings and Certificates dialog appears.

6. If you selected the Advanced Connections (only), go to [Setup Complete on page 37](#).
If you selected Both connections (Advanced and Basic Connections), go to [Basic Connection/SHA-1 Certificate on page 36](#).

Basic Connection/SHA-1 Certificate

Note: If you have enabled the Advanced Connection (SHA-2 certificate), you must ensure that the Basic/SHA-1 certificate uses a different port.

If you selected a Basic Connection/SHA-1 Certificate, the Port and Certificates for the Basic Connection dialog appears.

1. See [Figure 30](#). Click **Generate** to create a SHA-1 Certificate or click **Back** to return to the previous screen.
2. Enter the **Port** number.

Figure 30 Port and Certificates for the Basic Connection Dialog

Port and Certificates for the Basic Connection ⓘ

You can locally generate your SHA-1 certificate to enable the Basic Connection.

Port ☒ Use Default

AVAILABLE OPTIONS

 **Locally Generate a SHA-1 Certificate**
This is the fastest and easiest method of obtaining the necessary certificate.

[Generate](#)

The Finalizing the Basic Connection dialog appears.

3. See [Figure 31](#). (Optional) Click **Download** to save a copy of the printer settings in case you need to manually connect your printer to PPME.
4. Click **Continue**.

Figure 31 Certificate Creation Dialog

Finalizing the Basic Connection ⓘ

This server is creating the necessary SHA-1 certificate for connecting your printers using the Basic Connection. When it is successfully created, you can export it in order to back them up.

Additionally, the settings file for manually connecting printers to this connection is being created. This is optional and usually only used when automatic printer discovery does not work on your network. It should only be used with printers that do not support SHA-2 certificates.

CERTIFICATE GENERATION

 **SHA-1 Certificate**
Successfully generated

 **Settings File for Manually Connecting Printers (Optional)**
Successfully generated [Download](#)

[Continue](#)

The Backup Your Connection Settings and Certificates dialog appears.

5. Go to [Setup Complete on page 37](#).

Setup Complete

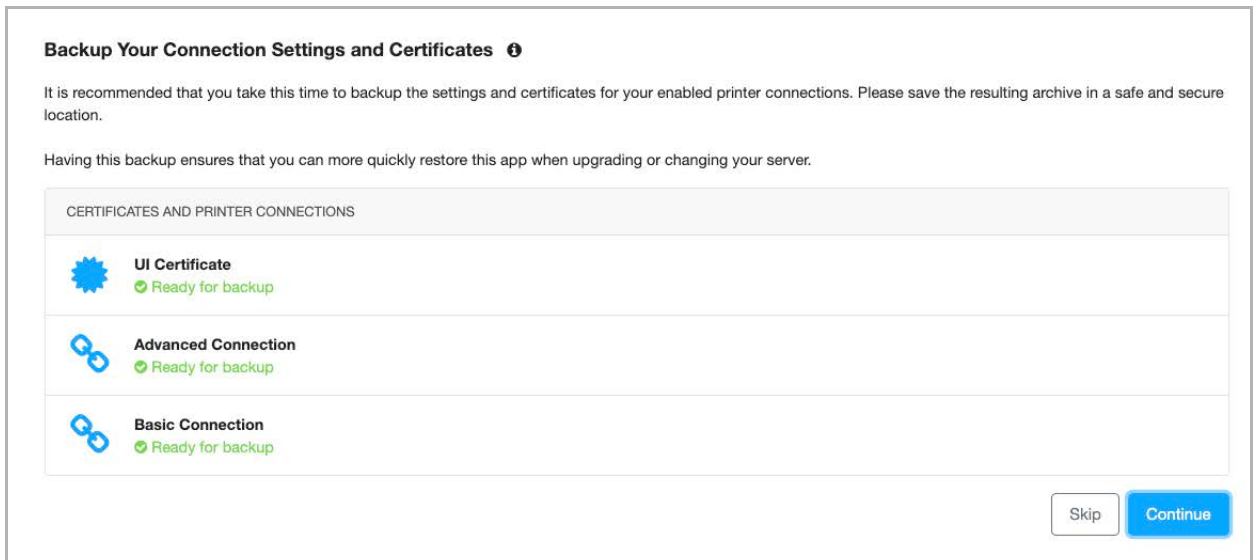
1. See [Figure 32](#). Click **Continue** to create the backup archive and save the certificates and configurations for the Weblink connections (Advanced and Basic connections).

The backup archive does not contain any other settings, tags, profiles, or resources.



IMPORTANT: Please save this file and the password in a safe and secure location in case you ever need to re-install your PPME instance.

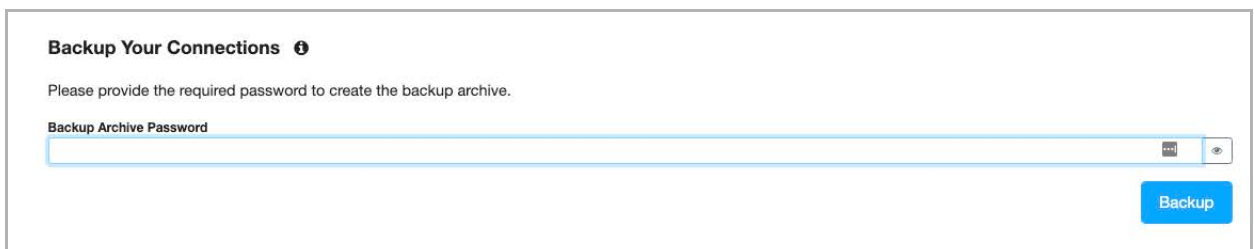
Figure 32 Backup Your Connection Settings and Certificates Dialog



The Backup Your Connections dialog appears.

2. See [Figure 34](#). Enter the **Backup Archive Password**.
3. Click **Backup**.

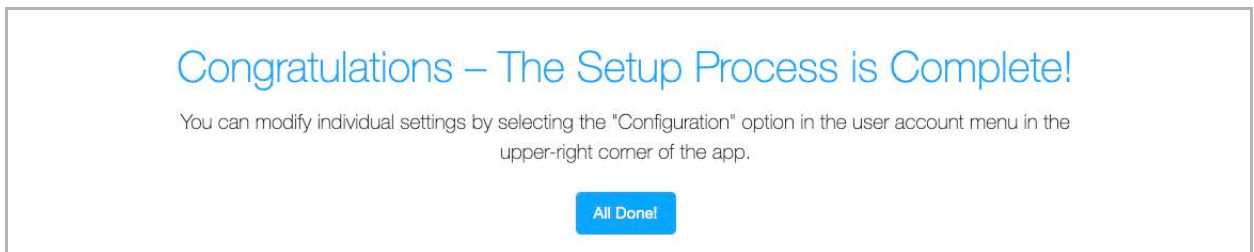
Figure 33 Backup Your Connections Dialog



The Setup Complete dialog appears.

4. See [Figure 34](#). Click **All Done!** to complete the PPME application setup and close the Setup Wizard.

Figure 34 Setup Complete Dialog



If you experience any connection issues or receive an error message, see [Installation Issues on page 47](#).

Upgrading PPME

Before continuing with the upgrade, it is recommended that you backup your current installation. See [Backup PPME on page 12](#) for more information.

Any printer management events, or users logged into the software at the time of this upgrade will experience a disruption in service while the upgrade is in progress.

This update is only to be used on older, successful, installations. If an installation is newer or was incomplete, the product should first be completely uninstalled. See [Uninstall PPME on page 42](#) for more information.

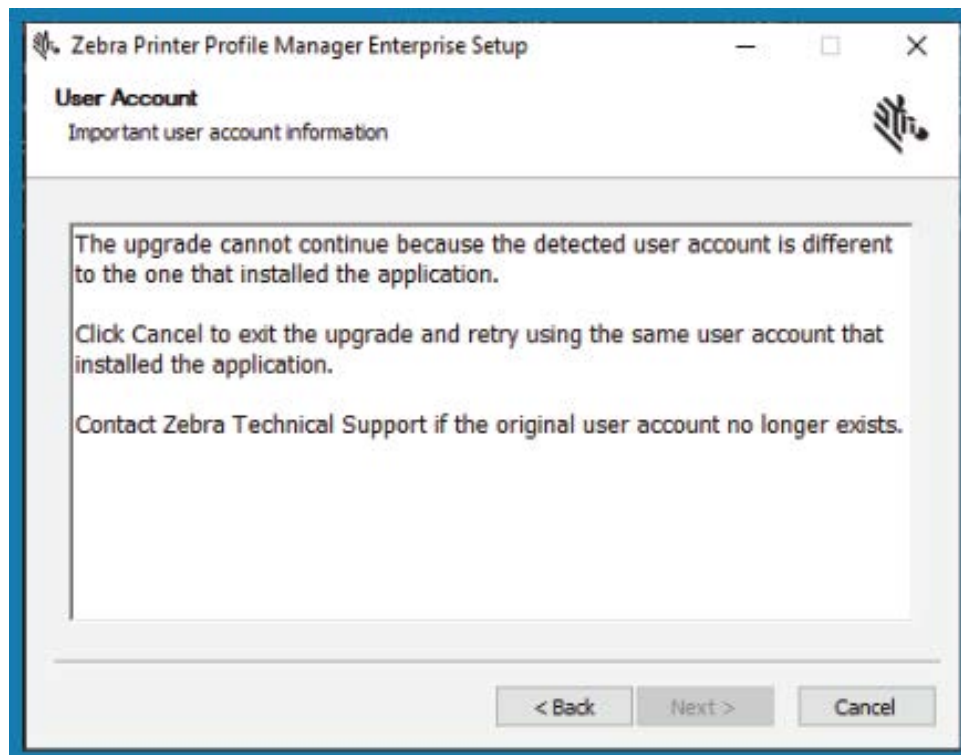


NOTE: Downgrading to an earlier version of PPME is not recommended since new features, data, and recent fixes will be lost in the downgrade process.

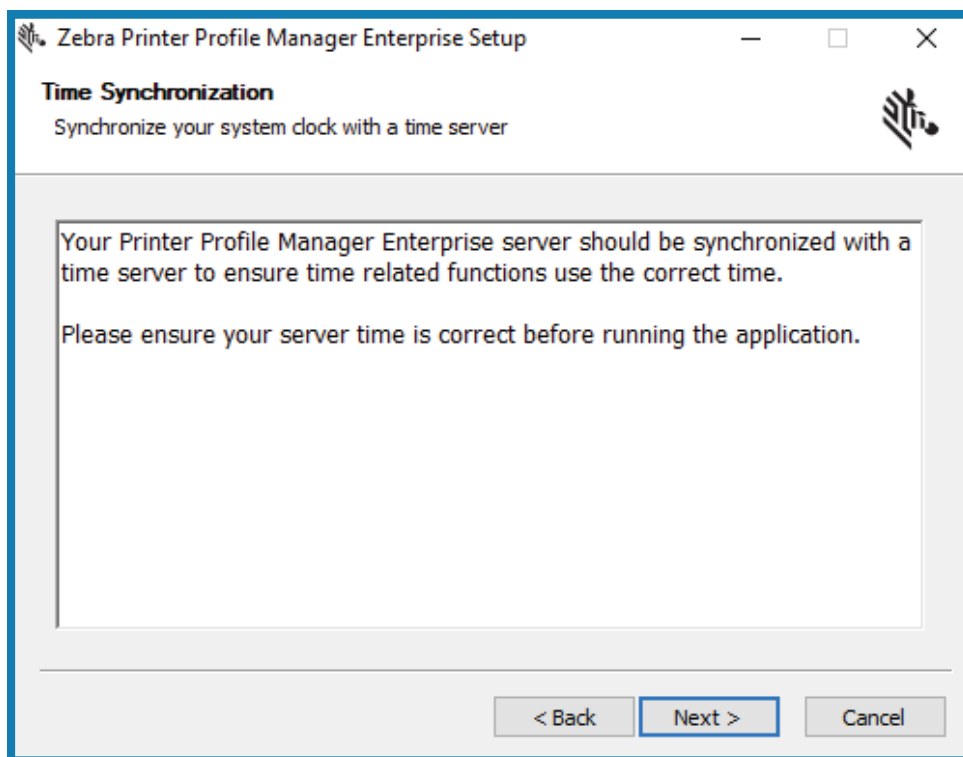
To upgrade your installation, perform the following steps:

1. Log in to the server using the same User Account that was used to install PPME.
2. To launch the Printer Profile Manager Enterprise (PPME) installer, double-click on PPME.3.xx.xx.exe. (where xx.xx indicates the version number of the software)
3. You will start with the same first two screens as the installation. These screens include:
 - Welcome
 - End User License Agreement

You will see a User Account dialog if you are logged in as different user compared to the one used to install PPME. It will not be possible to continue with the upgrade.

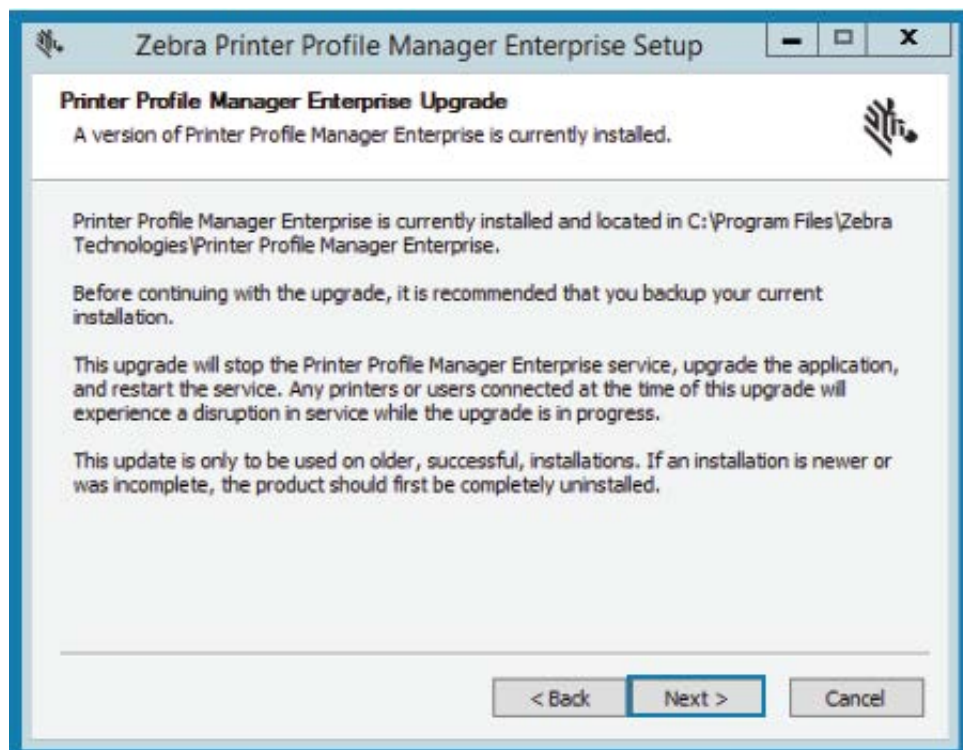


4. If this dialog is displayed, click Cancel. Otherwise, the Time Synchronization dialog displays.



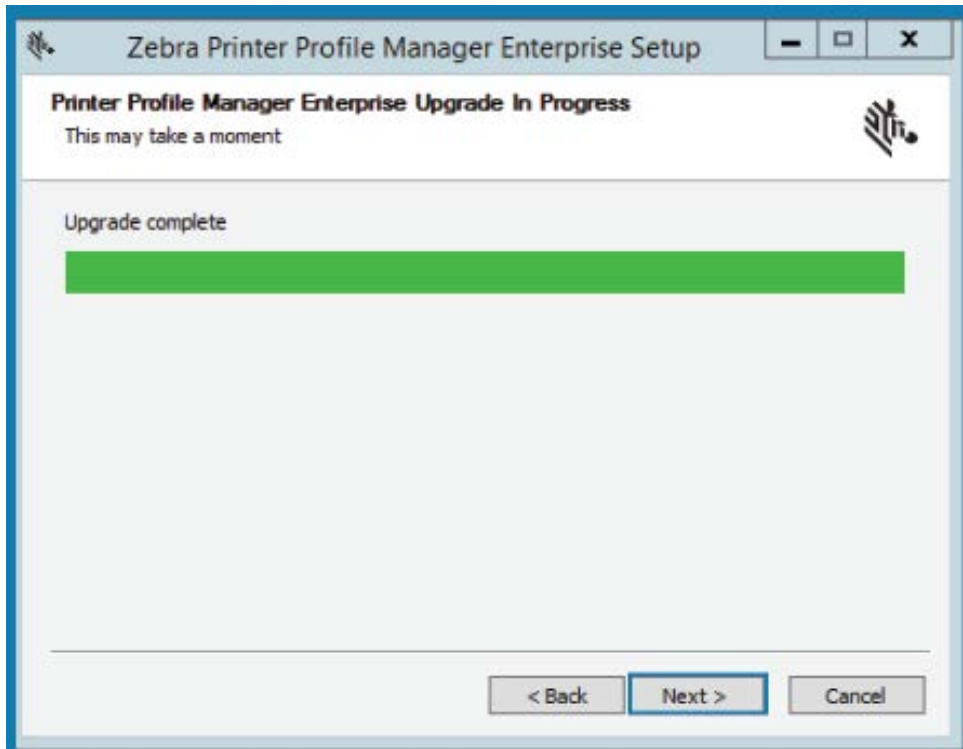
5. Click **Next**.

The Printer Profile Manager Enterprise Upgrade dialog displays.



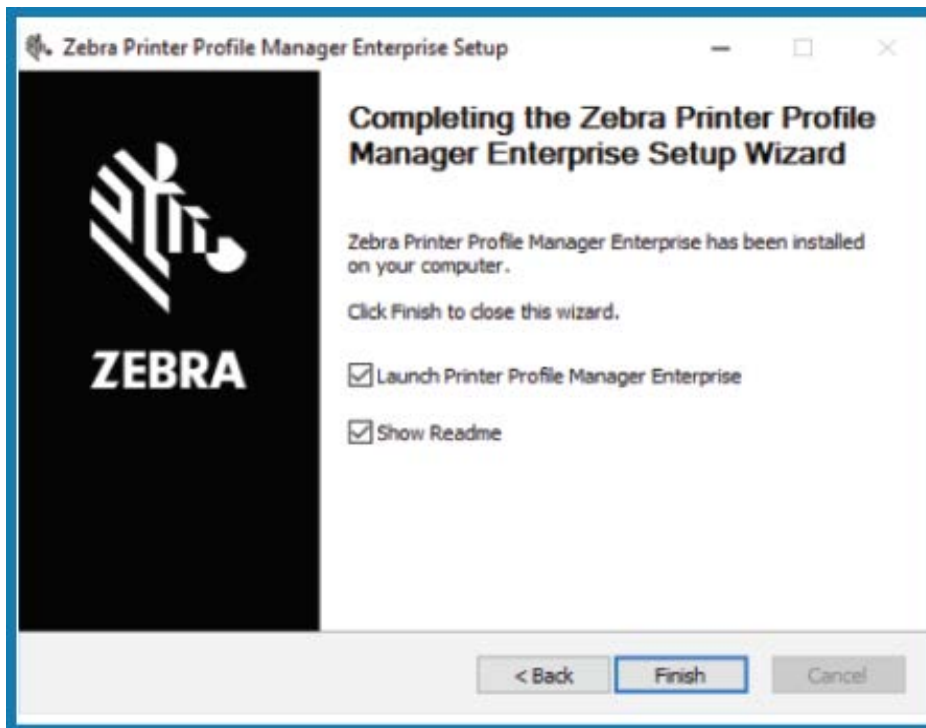
6. Click Next.

The Printer Profile Manager Enterprise Upgrade In Progress dialog shows the Upgrade complete.



7. Click **Next**.

The Completing...Setup Wizard dialog appears.



8. Click **Finish** to close the wizard.

Uninstall PPME

Release License

1. Navigate to the main licensing page from the **User** menu



2. Choose **Release** (beside **License Code**) and confirm.

The license code will be returned to the server and allow it to be used on another server without going over the activation limit.



CAUTION: This will log the user out of the application and make it unusable until a valid license is entered.

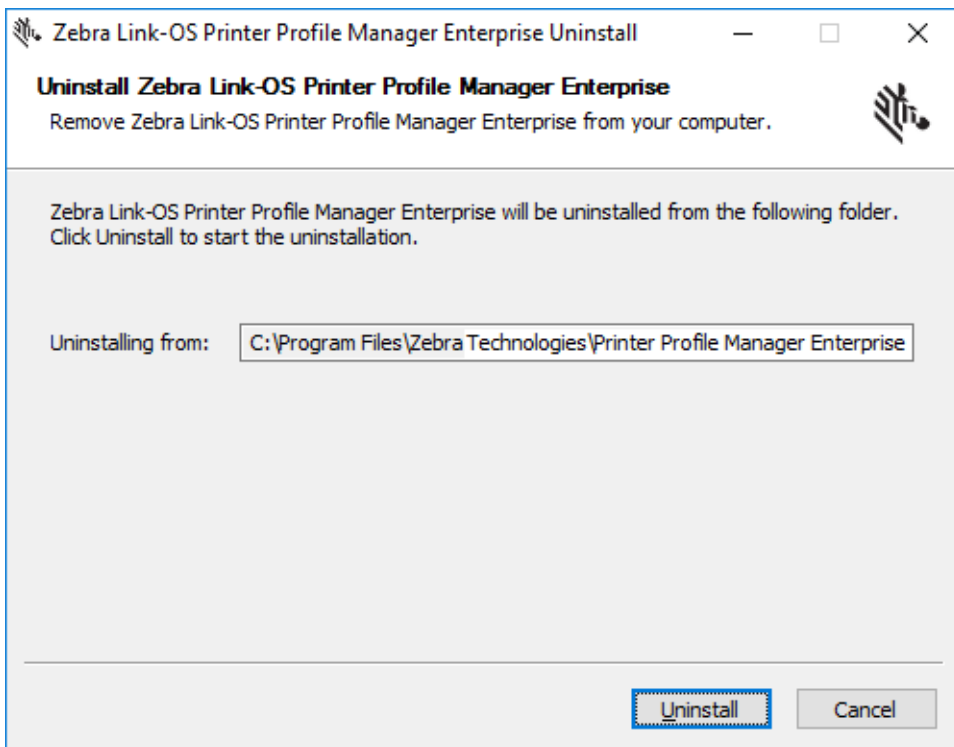
Uninstall PPME

1. Log in as Administrator.
2. Navigate to the drive and folder where you installed PPME.

For example:

C:\Program Files\Zebra Technologies\Link-OS Printer Profile Manager Enterprise...

3. Double-click uninstaller.exe to run the uninstaller program.



Reboot the Server

- If PPME is uninstalled, rebooting the server is required before re-installing.

License

This chapter provides general and specific information about the license.

View License Status

This page allows the administrator to view the license status and all relevant license information.

1. Click **User** menu .
2. Select **License** from the User dropdown menu.

Setup a License

For the PPME licensing system to work, the server must have continued internet access and be able to reach my.nalpeiron.com using port 443.

NOTE: If the server is unable to access the above web site, the server will revert to an unlicensed status and may indicate “License Expired”.

To Enter a New License Code:

If an administrator wants to enter a new license code before it expires for whatever reason, this can be done from the main license page.

1. Click **User** menu .
2. Select **License** from the User dropdown menu.
3. Locate the License Code field with the lock icon.
4. Click the lock icon to allow editing, and enter the new code.
5. Click the icon once again to save and activate the new license code.

Effects of License Limits

License Check Interval - If the licensing server is not contacted by PPME within the license check interval, the license will be considered expired. (This means that PPME must always be online.)

Printer Count - When the maximum printer count is reached, further connection attempts from printers will be denied. All PPME admins will receive an e-mail notification.

Move an Installation of PPME

If an administrator is moving an installation of PPME to a new server, you may want to reuse the same license code.

1. Navigate to the main licensing page from the **User** menu .
2. Choose **Release** (beside **License Code**) and confirm.

The license code will be returned to the server and allow it to be used on another server without going over the activation limit.



CAUTION: This will log the user out of the application and make it unusable until a valid license is entered.

LDAP User Directory Configuration

This section describes how to configure the fields in the PPME LDAP User Directory section for user authentication with Active Directory. This can be configured from the PPME configuration page after logging into the console with admin privileges.

Name (Required): This is used only for display purposes within PPME.

Hostname (Required): The address which Active Directory is available at, should not include port or protocol prefix.

Port (Required): The port Active Directory is available on, usually this is 389 for non-secure traffic and 636 for secure traffic.

Use SSL: Check this if the Active Directory system requires secure traffic.

Username (Required): This should be the full path to a management/admin user within Active Directory that can be used for the initial connection, allowing PPME to validate/authenticate users.

Password: The password for the management user.

CA Certificate: If using SSL, you will most likely need to add the certificate which your Active Directory system is hosting unless the certificate is signed by a trusted certificate authority. This will allow PPME to trust the Active Directory server, otherwise, the connection will be refused.

Base DN (Required): This is the base distinguished name for which all queries will be run against. Generally this will be your internal domain for example zebra.lan would be an internal domain and the Base DN might be dc=zebra,dc=lan.

The URL used to connect to the Active Directory server would be ldap://HOSTNAME:PORT/BASE_DN

Additional User DN: This is an optional field which can be used to limit where PPME will query users, for example users may be stored in a path such as CN=PPME_Users,DC=zebra,DC=com in which case you would want to set this field to CN=PPME_Users, as the Base DN will be automatically added. It can however, be left blank and PPME will attempt to search the Active Directory tree for users.

Use of this field requires PPME version 2.1.6638 or later.

Additional Group DN: This is an optional field which can be used to enforce users be part of an Active Directory group via theirmemberOf attribute. For example, you may have a Group within Active Directory at path CN=PPME_Admins,OU=Groups,DC=zebra,DC=lan in which case you would want to set this field to CN=PPME_Admins,OU=Groups. If you have multiple groups and you want them to be created with specific PPME roles when the users log in, you will have to create multiple LDAP User Directory entries inside of PPME where each one defines a separate Additional Group DN and Default User Role.

User Name Attribute (Required): This is the field name inside of your Active Directory system which maps the username. This is NOT a username, it is a field. Generally, this will be samAccountName if using Active Directory or if using OpenLDAP, it will probably be uid.

User Full Name Attribute (Required): This is the field name inside of your Active Directory system which maps the user's full name.

User Email Attribute (Required): This is the field name inside of your Active Directory system which maps the user email addresses. While this field is required, it is only used to store the email address within PPME and no validation of whether it is a valid email address occurs. Therefore, if you are using an Active Directory system which does not map an email address to users, you can set this to something else, such as the User Name Attribute (samAccountName), and PPME will store the username as the email address.

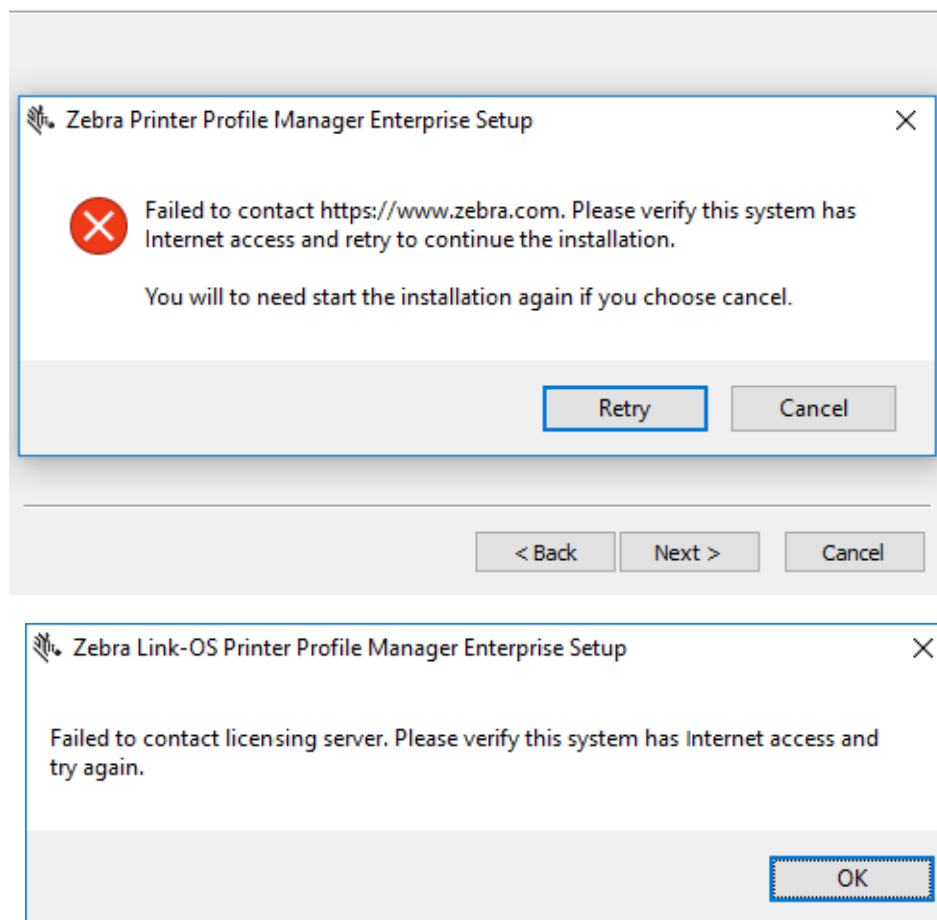
Default user Role: This is used to predefine which role Active Directory users will be given when they first login to PPME.

Troubleshooting

This section provides assistance with installation and other known issues.

Installation Issues

- If you receive either of the error messages below, check your internet connection.



Other reasons you may not be able to connect include:

- Connection to a network that has no internet access
- Firewall is blocking outgoing ports 80/443
- Firewall is blocking [zebra.com](https://www.zebra.com)

- Firewall is blocking nalpeiron.com
- DNS issues

Other Issues

Enabling License Logging

The ability to control the log size applies to version 3.2 and later.

Logging for the license system can be enabled in situations where the licensing may not be functioning correctly.

The log files created at `C:\Windows\System32\config\systemprofile\AppData\Local\Nalpeiron` should then be provided to Zebra for interpretation.

To enable logging:

1. Stop the PPME service.
2. Edit the PPME properties file at `%USERPROFILE%\.ppme\ppme.properties` and add the following two entries:
`linkos.licensing.logLevel=4`
`linkos.nalpeiron.maxLogSize=<maxlogsize>`
where `<maxlogsize>` is the maximum file size in bytes. Default, if not specified: 20971520 (20MB)
3. Restart the PPME service.
4. Logging should be disabled for normal usage.

To disable logging:

1. Stop the PPME service.
2. Edit the PPME properties file and set the property below to 0:
`linkos.licensing.logLevel=0`
3. Restart the PPME service.

NOTES: When a log file reaches the defined size, a new log file is created up to a maximum of 5 log files.

When there are 5 full log files, the oldest one is deleted and a new one is created.

Increasing Log Capture Content

The logging levels for PPME are controlled by the ppmelogback.xml file stored in the user's .PPME folder (e.g., %USERPROFILE%\PPME\). To change the levels, one must edit the file and save it. PPME will automatically check every 2 minutes for any updates and apply them without the need to reboot the server/service.

To Change the Level to Debug for Non-Printer Data

1. Edit the ppmelogback.xml file in a text editor that understands Windows and Linux line endings. (Notepad or a browser are not recommended.)
2. Find the PPME_LOGS appender. The xml line looks like this:

```
<appender name="PPME_LOGS" class="ch.qos.logback.core.rolling.RollingFileAppender">
```
3. Change the filter level to DEBUG:

```
<filter class="ch.qos.logback.classic.filter.ThresholdFilter">
    <level>DEBUG</level>
</filter>
```
4. Find the root level filter that contains the PPME_LOGS appender and change it to DEBUG.

```
<root level="DEBUG">
    <!--<appender-ref ref="CONSOLE"/>-->
    <appender-ref ref="PPME_LOGS"/>
</root>
```
5. Save the file and wait approximately 2 minutes.
6. The .PPME/logs/ppme.log file should start to increase in size at a much faster rate (depending upon how many printers being used).
7. If the file is opened, the 'DEBUG' level should be seen as a prefix to some messages.

To Change the Level to Debug for Printer Data

1. Edit the ppmelogback.xml file in a text editor that understands Windows and Linux line endings. (Notepad or a browser are not recommended.)
2. Find the PPME_LOGS appender. The xml line looks like this:

```
<appender name="PRINTER_DATA_LOGS"
class="ch.qos.logback.core.rolling.RollingFileAppender">
```
3. Change the filter level to DEBUG:

```
<filter class="ch.qos.logback.classic.filter.ThresholdFilter">
    <level>DEBUG</level>
</filter>
```
4. Find the root level filter that contains the PPME_LOGS appender and change it to DEBUG.

```
<root level="DEBUG">
    <!--<appender-ref ref="CONSOLE"/>-->
    <appender-ref ref="PPME_LOGS"/>
</root>
```
5. Save the file and wait approximately 2 minutes.

6. The .PPME/logs/ppme_printer_data.log file should start to increase in size.
7. If the file is opened, the 'DEBUG' level should be seen as a prefix to some messages.

NOTE: In both scenarios above, only leave the new DEBUG level in place for the duration that is needed in order to collect the logs. Once the collection period is over, make sure to put the levels back to WARN, so that the log is not filled up with DEBUG data during normal operation.

Uploading large files triggers an exception in the System Log

No solution required. This exception is just a warning from the database code stating that the operation is taking too long and may be a memory/data leak.

The application fails to start and the log file reads "SOAP: invalid license number"

This is typically due to an incorrectly set server clock. If the server clock is not the correct time, update the clock, and then reinstall the application. If this does not solve the problem, you may have an invalid license key.

LDAP encounters a communication or connection error when attempting to 'Save and Test' the settings

This can be due to several issues:

- One of the server settings being incorrect.
- The PPME server cannot resolve the Hostname.
- The port is blocked between PPME and the LDAP server.
- If the SSL box is checked, the LDAP server may be issuing a self-signed certificate. In order for PPME to connect, it must trust the server's Certificate Authority (CA). If the certificate is self-signed, then PPME needs to be updated to trust that CA. In order to do that, the following steps must be taken:

Configuring PPME to trust the LDAP CA

1. Stop the PPME service.
2. Open a Windows Command Window.
3. Go to the jre directory with in the PPME install directory (e.g., `C:\Program Files\Zebra Technologies\Printer Profile Manager Enterprise\java\jdk-17.0.2+8-jre`).
4. Note the location of the LDAP CA PEM file. In this example, assume it is `%USERPROFILE%\Desktop\ldap_ca.pem`
5. Run the following command using any value for the -alias parameter, e.g. 'ldapca'.


```
> bin\keytool -importcert -keystore lib\security\cacerts -file
%USERPROFILE%\Desktop\ldap_ca.pem -alias ldapca
```
6. Start the PPME service.
7. Try the 'Save and Test' again and this time it should connect.

NOTE: Typically when this issue happens, the following will be seen in the ppme.log file:

PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target

The application fails to start and the log file reads, "Nalpeiron: Invalid or corrupt library"

1. Shut down the application.
2. Locate the Nalpeiron folder, typically located at %USERPROFILE%\AppData\Roaming\Nalpeiron and delete the entire folder.
3. Restart the application.

The printer will not connect to PPME and/or the printer is stuck in the 'Adding' state

NOTE: The Zebra Programming Guide contains much of what you see below and goes into more detail on the operation and functionality of Weblink.

The printer uses HTTPS in order to connect to the PPME server. Therefore, it does hostname verification when connecting to ensure that the certificate that is presented by the server matches the hostname/DNS name the printer is attempting to connect to. In order to make a successful connection to PPME, several things have to be true:

- The PPME server must be reachable from the printer's subnet (e.g., you can ping the PPME server from the printer's subnet).
- The port that printers use to connect to PPME (e.g., 8443) must be reachable from the printer's subnet (e.g., any firewalls or firewall rules that prevent access to the server port should be modified to allow access).
- The Fully Qualified Domain Name (FQDN) of the server (e.g., acme.internal.lan) must be in the DNS server that the printer is configured to use, so that it can be properly resolved.
- The certificate associated with the port that the printer connects to must be signed by Zebra. Only the default certificate generated by the installer or any issued by Zebra after the installation are acceptable.

Printers do not always connect right away, or pages are extremely slow to load or don't load completely. In some cases, a user cannot always login, or there is a large delay when logging in.

It is possible that the database (DB) connections are overwhelming the database. Take the following steps to ensure the PPME DB connection pool size is correct:

1. Open the ppme.log (and maybe a few of the previous days' logs) and look for a message similar to the following:
`ERROR org.hibernate.engine.jdbc.spi.SqlExceptionHelper - FATAL: sorry, too many clients already`
2. If the above message is found, proceed with the rest of these steps. Otherwise, the DB pool size is not the issue.
3. Open the Windows Services window and find 'Printer Profile Manager Enterprise Database'.
4. Double-click the service to open it.
5. Locate the value passed into the service using the -N parameter (e.g., it is likely -N 75).
6. Close the service dialog.

7. Go to the .PPME directory (e.g., %USERPROFILE%\PPME\) and open the ppme.properties file.
8. Edit (or insert if it isn't present) the linkos.database.poolsize value to be about 5 fewer than the value seen in step 5.
9. Restart the PPME service and see if the issue(s) still occur.

