

# OPTIMATE INTEGRATOR FOR PI SYSTEM TO SPLUNK

## Installation Prerequisites

The following items are required before the Optimate Integrator for PI system to Splunk will function properly.

### OSISOFT PI SYSTEM

- A properly installed and configured OSIsoft PI system.
- PI System Access (PSA) licence.
- PI Web API with Basic Authentication enabled. The Integrator has been written and tested using PI Web API v1.9.0.266 and above.
- The PI Web API requires network connectivity to the Integrator. A port (default 443) is used for HTTPS connectivity between Splunk and the PI Web API. The port number is customizable via the Integrator configuration page within Splunk.
- Ensure that database crawling in the Search Service Administration page of the PI Web API.
- It is recommended the PI Web API configuration tool be executed to ensure proper functionality.

### SPLUNK

- A properly installed and configured Splunk Enterprise, version 6.6 or above.
- For a Linux installation of Splunk, a properly installed and configured Oracle Java SDK 1.7.x or above or OpenJDK 1.7.x or above. For a Windows installation of Splunk, a properly installed Oracle JRE 1.7.x or above.
- Any non-admin Splunk user requiring access to the Optimate Integrator needs to be a part of the PI\_Integrator role defined within Splunk. This role provides access to dashboards and the ERP.

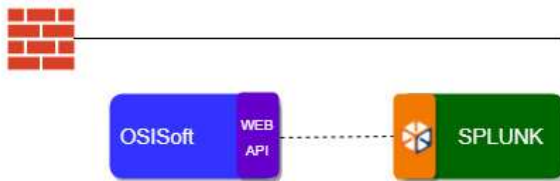
## DEPLOYMENT SCENARIOS

The following are the typical deployment scenarios for the Integrator.

### On Premises

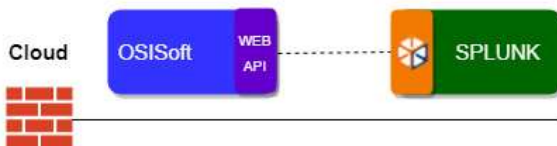
On Premises is the recommended option when deploying Optimate Integrator for PI system to Splunk as it allows the most secure approach and keeps data internal to the company.

#### On-Premises



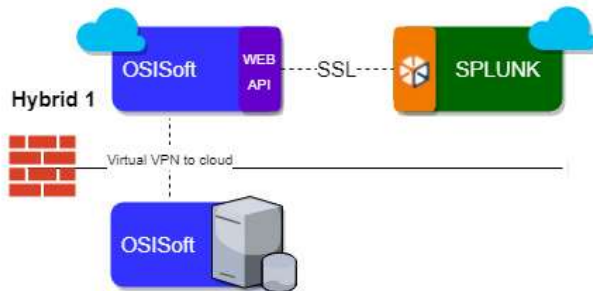
### Cloud

Cloud Deployment is suggested when OSISoft PI is deployed into the cloud. This can be via a Virtual VPN or integrated AWS, Azure Services. Running Splunk and the Integrator next to your PI environment will allow for faster read times and direct secure access the PI Web API.



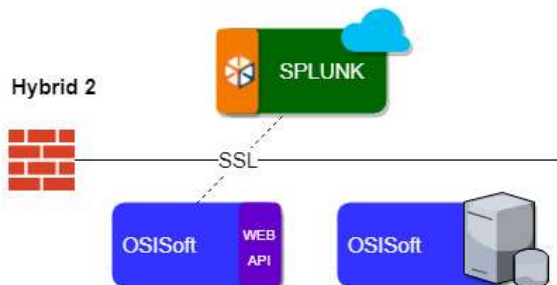
### Cloud Hybrid 1

The Integrator can be utilized anywhere making for flexible deployments. A hybrid solution is possible when the PI Web API is presented to a secure private WAN or via a site to site VPN into Azure, AWS or equivalent architecture.



### Cloud Hybrid 2

Optimate Integrator for PI system to Splunk can also connect to the PI Web API via SSL Connectivity straight to a cloud Splunk solution. This option is for rapid deployment that may suit smaller businesses that don't have large infrastructure at their disposal.



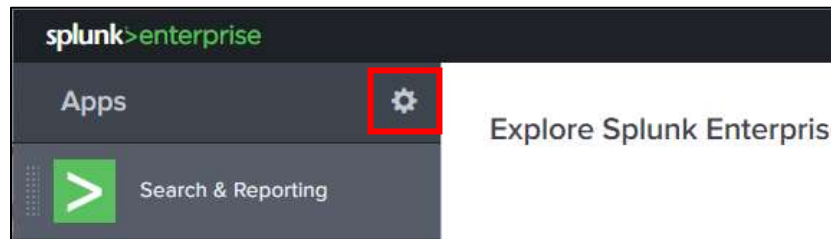
## Installation Guide

This document outlines the installation process, and can be broken down into three main sections:

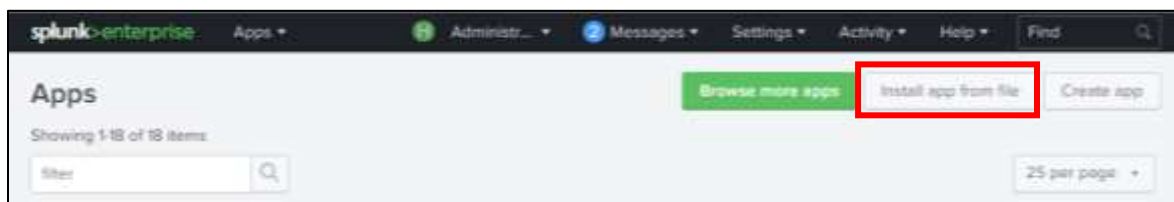
1. Installing the application
2. Configuring the application
3. Testing the application

### 1. Installing the Application

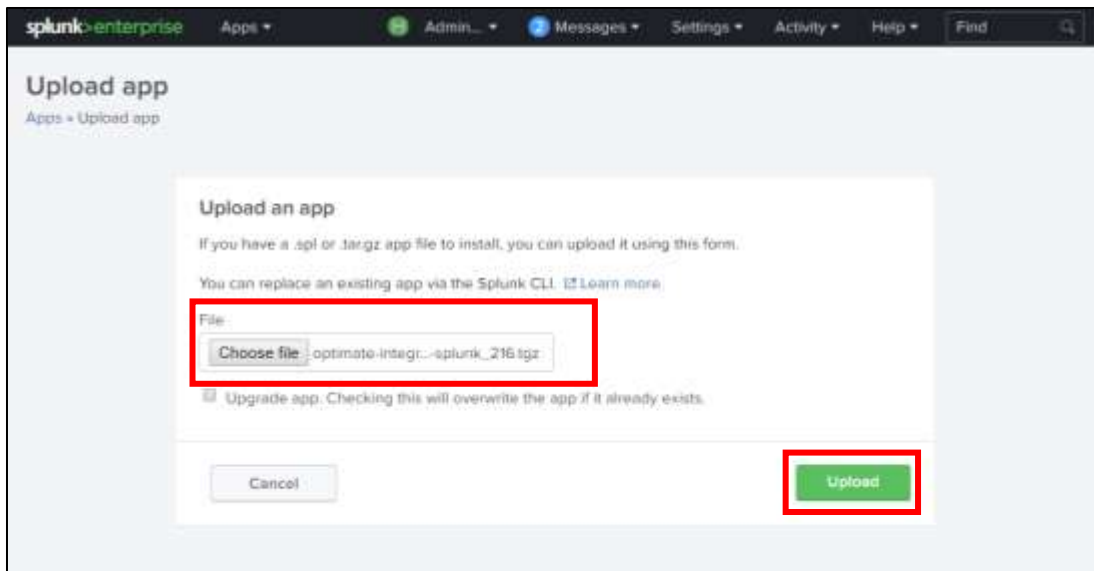
- Navigate to the Optimate Integrator for PI System to Splunk page on Splunkbase, and select 'Download'. This will download the application file `optimate-integrator-for-pi-system-to-splunk_vxxx.tgz`.
- Open the 'Splunk Enterprise' application and login as an admin user.
- Navigate to the Apps menu and select the 'Manage Apps' button:



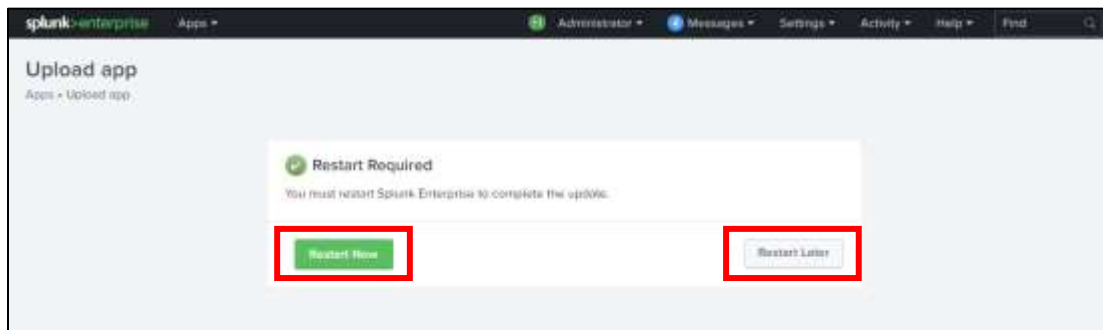
- From the 'Manage Apps' window, select 'Install app from file' in the top right corner:



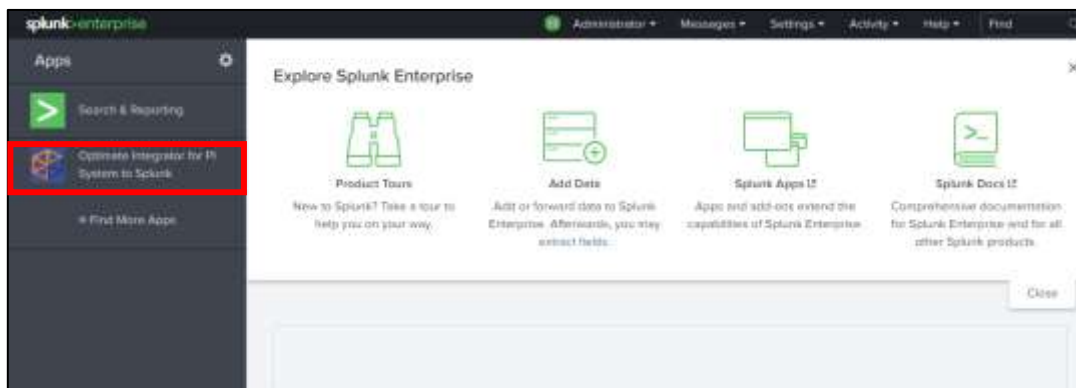
- Navigate to where the application was downloaded using the 'Choose file' function, and click 'Upload':



- After upload, a restart is required to complete the installation. Select the appropriate option:



- Once the service has restarted, navigate to the 'Apps' menu once again, and the Optimate Integrator for PI System to Splunk will be visible:



## 2. Configuring the Application

- By pressing the 'Optimate Integrator for PI System to Splunk' application, the browser navigates directly to the application 'Help' page. Select the 'Settings' tab in the top-left corner to start configuring the application:



- In the Licence Management section, enter either an Optimate provided licence key, or use the pre-loaded trial licence key. Click 'Save':

### Licence Management

**Licence Key**

- In the PI Web API Configuration section, enter the PI server address, port number and root API endpoint. Select whether to allow self-signed certificates. Click 'Save'. An example configuration is:

### PI Web API Configuration

**Server IP Address/ Hostname**

**Port**

**Root API Endpoint**

**Allow Self Signed Certificates**  
 Yes  
 No

- Enter the user PI credentials and click 'Save':

### PI Credentials

**Username**

**Password**

- If using an annual or perpetual licence, the Licence Details window will display the server count and available server names. The PI Servers window will show a list of available and whitelisted servers. For example:

### Licence Details

**Label:** This software is registered to 'Company X'  
**Type:** Annual  
**ExpiryDate:** Tue Jun 25 2019 11:35:57 GMT+1000 (Australian Eastern Standard Time)  
**ServerCount:** 3  
1: BNE-DPI1 | PI/AF | This is a test server  
2: BNE-DPI2 | PI/AF | This is another test server  
3: PI-DEVELOPMENT | PI/AF | This is another test server  
**UserId:** 47573af953b536e23fd0b366519eb463  
**Version:** 2.1.x  
**WindowPeriod:** 30

### PI Servers

#### Available Servers

- BNE-DPI1
- PI-DEVELOPMENT

#### Whitelist Servers

- BNE-DPI1
- PI-DEVELOPMENT

- If a trial licence is used, the Licence Details will reflect this:

### Licence Details

**Label:** Splunk Connector for the PI System Trial License

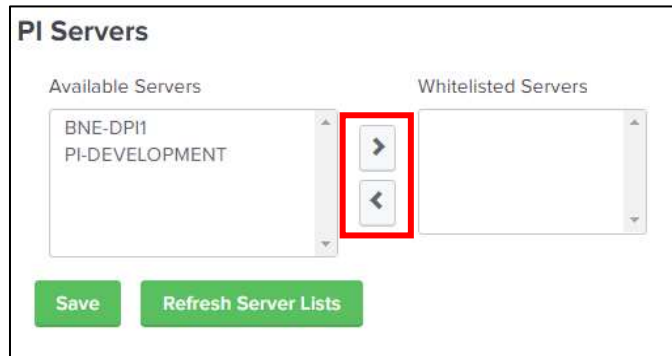
**Type:** Trial

**ExpiryDate:** This licence is valid for 30 days

**ServerCount:** 1

**WindowPeriod:** 30

- The PI Servers section will show a list of visible PI servers in the 'Available Servers' box. From this list, the trial version allows the user to move a single server across to the 'Whitelisted Servers' using the arrows. For example:



**PI Servers**

Available Servers

Whitelisted Servers

BNE-DPI1  
PI-DEVELOPMENT

Save Refresh Server Lists

- Once the desired server is in the Whitelisted Servers list, click 'Save'.



### 3. Testing the Application

After configuring the application, there is a very simple search that can be run to ensure connectivity to the PI servers. From the 'Search' tab in the Integrator application, type the following into the search bar (adding in the PI server name as necessary):

```
index=pi host=<pi server> hosttype=pi query=CDT158
```

**Note:** CDT158 is a default, pre-loaded tag within any PI Data Archive.

For more search examples and functionality, please see the [Command Reference Guide](#).