



# **Web Services Installation Manual**

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# Using this Manual

This manual covers the installation of the Q-Pulse Web Services feature. This is an add-on component for Q-Pulse that allows you to take advantage of the Q-Pulse apps for Android and IOS, giving you the option to view Documents, perform audits or report Occurrences on the move.

As well as allowing you to connect your Q-Pulse app, the Web Services feature gives developers the option to build their own customer API to communicate with Q-Pulse. For more information on this, please contact the support team.

Please note that when installed, the Web Services feature will be installed as “QPulse5WebServices”. The reason this has not changed to match the version of Q-Pulse is because a change to the naming convention of these folders would break any existing APIs that were built on older versions of Q-Pulse.

# Installation Requirements

Before performing the installation, please ensure the system meets the following minimum specifications:

## Server Software Requirements

- Operating System: Windows 2008 Server or higher
- Microsoft .NET 4.5 framework (minimum) or Microsoft .NET 4.6 framework (recommended)
- MDAC 2.6 or later (if not present, MDAC 2.8 will be installed automatically)
- Microsoft IIS Version 7 or greater (this must be manually activated as a Windows feature)
- ASP.NET 4.0 (this must be installed manually on Windows Server 2008 and Windows Server ASP.NET Server Role AND its required services must be installed)
- HTTP Activation must be enabled within the WCF settings in Windows Roles and Features
- A Q-Pulse application server compatible with Q-Pulse Web

## Additional Windows Server 2012 Requirements

- In addition to the above, Windows Server 2012 also requires the following roles and features:
- IIS Management Tools
- HTTP Activation must be enabled under the WCF services in the .NET Framework 4.5 Features

## Client Software Requirements

- Windows 7 or newer
- Microsoft Internet explorer 9 or newer

## Hardware Requirements

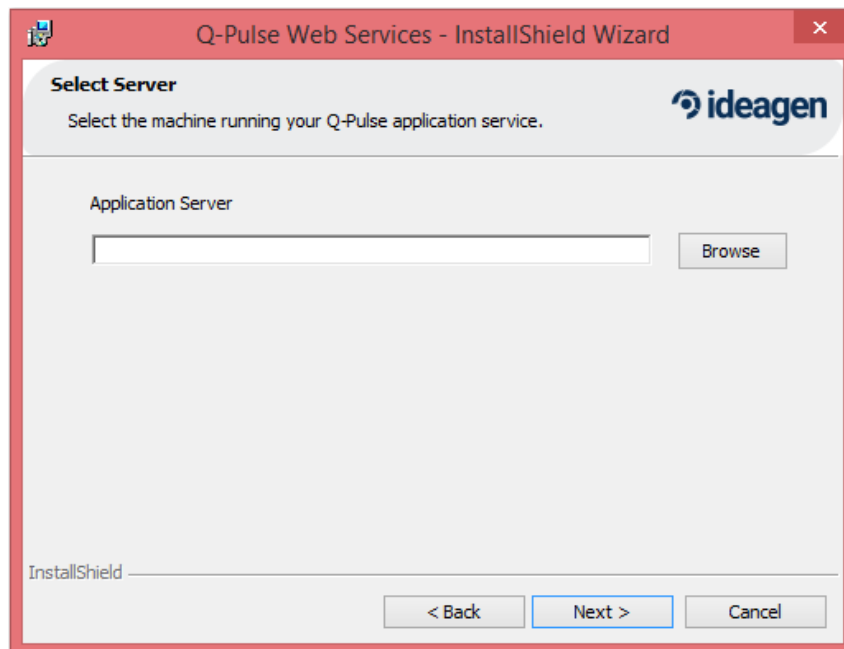
Although no specification is given, the exact hardware chosen should reflect the typical user load the server is expected to encounter and the bandwidth required to service requests. We recommend:

- Server capable of running Windows 2008 Server or higher
- Disk space: Q-Pulse Web Services = 85.4MB; .NET = 850MB

# Installation Procedure

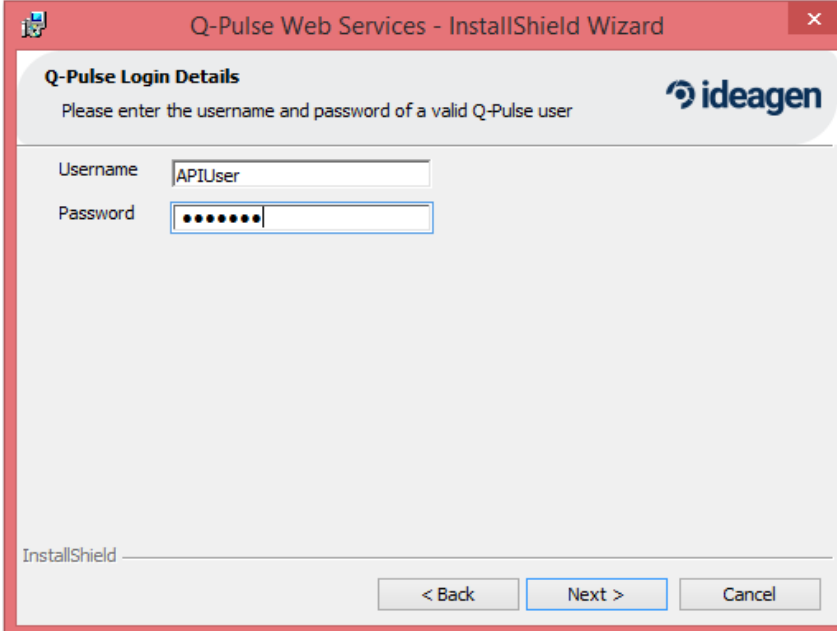
## Installing the Q-Pulse Web Services feature.

1. Browse to the Web Services folder found in the installation media and run **setup.exe**
2. When prompted, specify the Q-Pulse Application server. If the Q-Pulse Application server is running on the local machine then specify 'localhost'; otherwise enter the server IP address of the server running the Q-Pulse Application server service.



- On the next page you will be asked to enter the username and password of a valid Q-Pulse User. For this section we recommend that you create an API User account with system wide permissions. This is needed for the Web Service feature to log into your Q-Pulse databases.

If you have more than one Q-Pulse database, you will have to make sure that the API User password is replicated across each database.



- On the next page you can specify the folder in which Web Services will install to. By default this would be: **C:\inetpub\wwwroot\QPulse5WebServices**
- On the next page click '**Install**' to run the Web Services installer and then click finish when completed
- When the installer has completed successfully, browse to the folder where you installed Web Services. Locate the '**Web.config**' file and open it in Notepad.
- Within the Web.config file, locate the 'Occurrence Behavior' binding configuration.

```
<service behaviorConfiguration="QPulseWebServices.Services.OccurrenceBehavior" name="QPulseWebServices.Services.Occurrence
  <endpoint address="" binding="basicHttpBinding" bindingConfiguration="SOAPBinding" contract="QPulseWebServices.Contracts
  <endpoint address="mex" binding="mexHttpBinding" contract="IMetadataExchange" />
  <endpoint address="web" behaviorConfiguration="webBehavior" binding="webHttpBinding" bindingConfiguration="RESTBinding"
  <endpoint address="json" behaviorConfiguration="occurrenceJsonWebBehavior" binding="webHttpBinding" bindingConfiguration
</service>
```

- Update the first endpoint address to include 'SOAP' within the first set of quotation marks and then remove 'json' from the last.

```
<service behaviorConfiguration="QPulseWebServices.Services.OccurrenceBehavior" name="QPulseWebServices.Services.Occurrence"
  <endpoint address="soap" binding="basicHttpBinding" bindingConfiguration="SOAPBinding" contract="QPulseWebServices.Contracts.IOccurrence" />
  <endpoint address="mex" binding="mexHttpBinding" contract="IMetadataExchange" />
  <endpoint address="web" behaviorConfiguration="webBehavior" binding="webHttpBinding" bindingConfiguration="RESTBinding" />
  <endpoint address="" behaviorConfiguration="occurrenceJsonWebBehavior" binding="webHttpBinding" bindingConfiguration="JSONBinding" />
</service>
```

- Save the Web.config file and close.

## Testing Web Services

Before trying to connect your Q-Pulse app or your custom API, it is important to test the feature to make sure it is working correctly.

Below you'll find a list of Test addresses and their expected response.

Test Address	Correct Response
http://<serverIP>/QPulse5WebServices	Core Service: You have created a service
http://<serverIP>/QPulse5WebServices/services/core.svc	An XML list of databases available
http://<serverIP>/QPulse5WebServices/services/core.svc/ json/availableconnections	A list of databases available
http://<serverIP>/QPulse5WebServices/services/core.svc?wsdl	An XML document

## Uninstalling the Software

To remove Q-Pulse Web Services from your system, navigate to 'Add or Remove Programs' and remove the 'Q-Pulse Web Services' entry. Alternatively re-running the installation program provides a 'Remove' option allowing the software to be uninstalled.

NB This will not remove third party software that may have been installed as part of the installation process e.g. Microsoft .NET Framework.

# Configuring Web Services for SSL

Depending on the nature of your organization and the information being transmitted, you may want your Web Services to use SSL. This is normally done when sensitive or confidential data is being transmitted.

NB For set up on how to configure SSL on your IIS Web Server, please visit the official Microsoft IIS page.

<https://support.microsoft.com/en-gb/help/324069/how-to-set-up-an-https-service-in-iis>

## Configuration Steps

1. Open the Web Services **Web.config** file and edit each 'serviceMetadata' tag to use http instead of https

```
<behavior name="QPulseWebServices.Services.CoreBehavior">
  <serviceMetadata httpsGetEnabled="true" />
  <serviceDebug includeExceptionDetailInFaults="true" />
  <dataContractSerializer maxItemsInObjectGraph="2147483647" />
</behavior>
```

2. Under the Service tag, update each 'mex' binding to use https instead of http

```
<service behaviorConfiguration="QPulseWebServices.Services.CoreBehavior"
  <endpoint address="" binding="basicHttpBinding" bindingConfiguration=""
  <endpoint address="mex" binding="mexHttpsBinding" contract="IMetadataE
  <endpoint address="web" behaviorConfiguration="webBehavior" binding="w
  <endpoint address="json" behaviorConfiguration="jsonWebBehavior" bindi
</service>
```

3. Copy the 'SOAPBinding' and create a new 'XPOBinding' under it. Add the Transport tag to each binding except the new 'XPOBinding' that you just created.

```
<basicHttpBinding>
  <binding name="SOAPBinding" receiveTimeout="00:10:00" sendTimeout="00:10:00" maxBuffer
    <readerQuotas maxDepth="2147483647" maxStringLength="2147483647" maxArrayLeng
    <security mode="Transport"></security>
  </binding>
  <binding name="XPOBinding" receiveTimeout="00:10:00" sendTimeout="00:10:00" maxBufferS
    <readerQuotas maxDepth="2147483647" maxStringLength="2147483647" maxArrayLeng
  </binding>
</basicHttpBinding>
<webHttpBinding>
  <binding name="RESTBinding" receiveTimeout="00:10:00" sendTimeout="00:10:00" maxBuffer
    <readerQuotas maxDepth="2147483647" maxStringLength="2147483647" maxArrayLeng
    <security mode="Transport"></security>
  </binding>
  <binding name="JSONBinding" receiveTimeout="00:10:00" sendTimeout="00:10:00" maxBu
    <readerQuotas maxDepth="2147483647" maxStringLength="2147483647" maxArrayLen
    <security mode="Transport"></security>
  </binding>
```

4. Update the 'XPODataService' to use the newly created XPO binding. This is done by changing the 'BindingConfiguration' section. To do this, press CTRL + F and search for 'XPODataService'. On this line look for 'bindingConfiguration="SOAPBinding"' and replace it with XPO as shown below.

**bindingConfiguration="XPOBinding"**

5. If your Q-Pulse server and clients are configured for SSL, you will have to update each reference of localhost to contain the Fully Qualified Domain Name.

# Testing Web Services SSL

Before trying to connect your Q-Pulse app or your custom API, it is important to test the feature to make sure it is working correctly.

Below you'll find a list of Test addresses and their expected response.

Test Address	Correct Response
https://<FQDN>/QPulse5WebServices	Core Service: You have created a service
https://<FQDN>/QPulse5WebServices/services/core.svc	An XML list of databases available
http://<FQDN>/QPulse5WebServices/services/core.svc/ json/availableconnections	A list of databases available
http://<FQDN>/QPulse5WebServices/services/core.svc?wsdl	An XML document

## Troubleshooting

### No Page Loaded

Occurs if the browser cannot connect. Possible causes:

- IIS service not started
- Q-Pulse Web Services no started
- Q-Pulse application service not started
- Firewall is blocking access
- Server machine not online
- Q-Pulse application service is using a non-standard port

### API User Could not Authenticate

Occurs when the API User username and password in the config is incorrect for the database.

### Reporting features not working

Occurs when 'SOAP' was not added to the Occurrence Binding as instructed previously in the manual.

# Support and Further Assistance

If you have a valid Q-Pulse maintenance contract, help is just a click or a call away.

## When Is the Support Helpdesk Available?

The Ideagen Support Helpdesk provide 24 hour Support, 365 days a year.

## How Can I Contact the Support Team?

- Telephone (UK Customers): 01629 699 400
- Telephone (International Customers): +44 1629 699 400
- E-Mail: [Support.QPulse@ideagen.com](mailto:Support.QPulse@ideagen.com)
- Customer Portal: <http://customer.ideagen.com>