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Date	2018/11/21	SR#	1-3605430781
Category	<input checked="" type="checkbox"/> FAQ <input type="checkbox"/> SOP	Related OS	N/A
Abstract	The system requirement while WISE-4000 connects WebAccess through MQTT?		
Keyword	WebAccess, MQTT, WebSocket		
Related Product	WISE-4000, WebAccess		

■ **Problem Description:**

This document shows the reason that why does the WISE-4000 series cannot connect with WebAccess through MQTT in WIN7 environment. This is NOT a limitation of WISE product but of the Windows Operating System.

System requirement: Windows 8 or later version

If a user wants to use MQTT protocol to connect with WISE module, please check the OS version first.

■ **Answer:**

The following figure is the topology of WISE-4000 series connects with MQTT broker. It shows that the **WISE series is using WebSocket format packets** (figure 1). WebSocket is a different protocol from HTTP. Both protocols are located at layer 7 in the OSI model and depend on TCP at layer 4 (figure 2). WebSocket requires web applications on the server to support it. Which means **both server and client should support WebSocket protocol**.

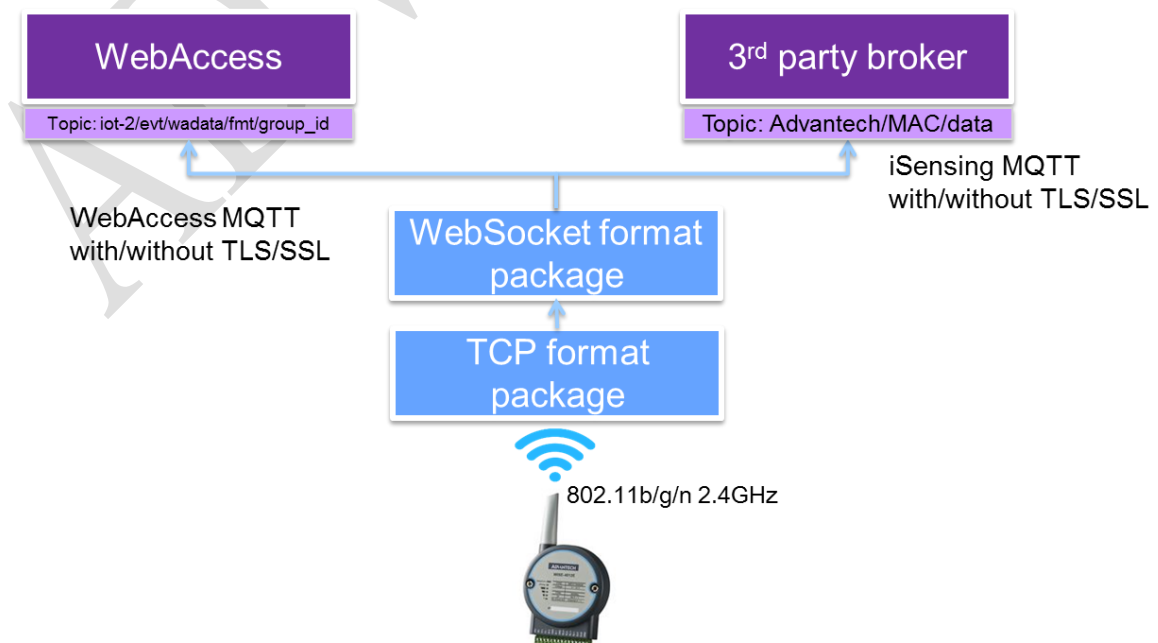


Figure 1. WISE series is using WebSocket format packets

MQTT Over Websockets Illustration

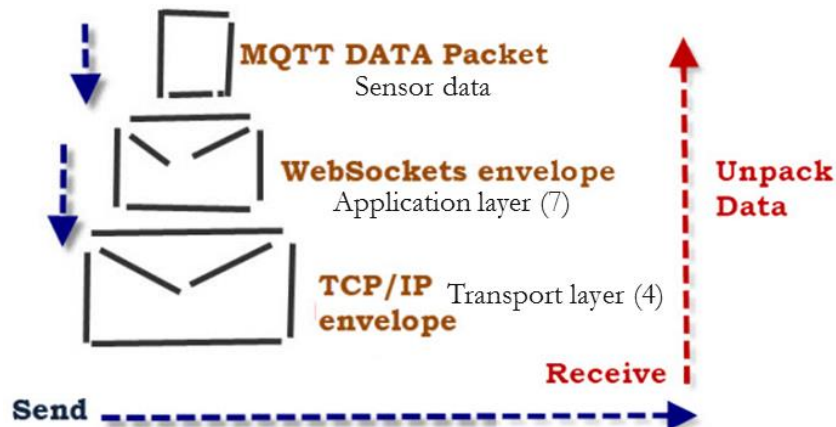


Figure 2. WebSocket is located at layer 7 in the OSI model and depend on TCP at layer 4.

- URI → protocol
 - ws → WebSocket
 - wss → WebSocket over TLS
 - HTTP → HTTP
 - HTTPS → HTTP over TLS

As mentioned in previous paragraph, WISE is using Websocket packet for MQTT protocol. So, the receiver (server) should support Websocket as well. Since WebAccess is using IIS (Internet Information Server) provided by Windows OS to receive MQTT data, which means a user need to choose the Windows version that support Websocket.



According to the service of Windows official website (the following link), the WebSocket Protocol was introduced in IIS 8.0 but not earlier IIS version.

<https://docs.microsoft.com/en-us/iis/get-started/whats-new-in-iis-8/iis-80-websocket-protocol-support>

Compatibility

Version	Notes
IIS 8.0	The WebSocket Protocol was introduced in IIS 8.0.
IIS 7.5	The WebSocket Protocol was not supported in IIS 7.5.
IIS 7.0	The WebSocket Protocol was not supported in IIS 7.0.

According to the table with versions of Internet Information Server (IIS) and Windows version, the following website shows the corresponding table.

<https://support.microsoft.com/en-us/help/224609/how-to-obtain-versions-of-internet-information-server-iis>

If a user is using WebAccess installed in Windows 7, then **due to the IIS version does not support Websocket protocol**, the WISE-4000 series **cannot** be used to connect with the WebAccess through MQTT protocol.

More Information

Version	Obtained from	Operating System
1.0	Included with Windows NT 3.51 SP 3 (or as a self-contained download).	Windows NT Server 3.51
2.0	Included with Windows NT Server 4.0.	Windows NT Server 4.0
3.0	Included with Windows NT Server 4.0 Service Pack 3 (Internet Information Server 2.0 is automatically upgraded to Internet Information Server 3.0 during the install of SP3).	Windows NT Server 4.0
4.0	Self-contained download from www.microsoft.com or the Windows NT Option Pack compact disc.	Windows NT Server 4.0 SP3 and Microsoft Internet Explorer 4.01
5.0	Built-in component of Windows 2000.	Windows 2000
5.1	Built-in component of Windows XP Professional.	Windows XP Professional
6.0	Built-in component of Windows Server 2003.	Windows Server 2003
7.0	Built-in component of Windows Vista and Windows Server 2008.	Windows Vista and Windows Server 2008
7.5	Built-in component of Windows 7 and Windows Server 2008 R2.	Windows 7 and Windows Server 2008 R2
8.0	Built-in component of Windows 8 and Windows Server 2012.	Windows 8 and Windows Server 2012

Last Updated: Oct 21, 2017