User Manual WiOcean Bridge

How to set up your WiOcean Bridge:

Necessary hardware components:

You can purchase any of these components independently. The links will provide you with the requirements needed for each component to work properly.

1. Raspberry Pi 2 or Raspberry Pi 3 with enclosure

2. EnOcean Pi 902 MHz RF module

3. WiFi USB module (Skip this step in case You are using RPi 3)

4. PC with SD card reader

5. 8 GB SD card and Micro SD to SD card adapter

Instructions:

1. Put the Raspberry Pi board in the corresponding enclosure.

2. Connect the EnOcean Pi RF module to Raspberry Pi GPIO pins 1 to 26. The pin #1 is the one closest to device's SD card slot (please refer to this image).

3. Connect the WiFi USB module to one of available USB ports (skip this step in case You are using RPi 3).

4. Download latest WiOcean Bridge image on Your PC from here.

5. Extract the image using file archiver tool (e.g. 7Zip or WinRar).

6. Download and install Win32DiskImager software on Your PC.

7. Put micro SD card (size 8GB) in Your PC SD card slot (use SD card adapter if necessary).

8. Format the SD card.

9. Open Win32DiskImager software, select the previously extracted WiOcean Bridge image file and click write.

10. Once the image has been successfully written to the micro SD card, put the card in the WiOcean Bridge SD slot.

WiOceanBridge user manual:

1. Connect WiOcean Bridge via ethernet cable to a switch/router providing DHCP server enabled network with Internet access.

2. Power on the device.

3. Connect to WiOceanBridge SSID with Your PC/smart phone. Use the credentials provided in Table 1.

WiOcean Bridge Access Point Mode	
SSID	WiOceanBridge
WPA2 KEY	VLWi385Enocean

Table 1.

4. In Your web browser open following URL: http://192.168.100.1

5. Login to the WiOcean Bridge WebGUI with credentials provided in Table 2. By default, the registration page of the device will be displayed.

WiOcean Bridge WebGUI	
username	wioceanuser
password	password

Table 2.

6. We strongly advise you to change the default password under the menu "Accounts->Change Password".

7. Register the device by providing the requested information. In order to register the device, a user account on WiOcean Bridge cloud platform is required.

8. Upon device registration, the device will automatically reboot and following features will be enabled:

   1. Haystack API providing access to sensors automatically discovered by WiOceanBridge.

   2. AllJoyn WiOcean Bridge service providing AllJoyn interface for access to automatically discovered sensors.

9.	You can also use WebGUI to navigate to FHEM Home automation server by selecting the "Home automation" menu.

10.	Once the device is activated, access to device's the WebGUI or remote connection to the device via SSH could be achieved by:

a)	Connecting to local WiOceanBridge SSID as described in steps 3 and 4

b)	Connecting device via ethernet cable to a router/switch with enabled DHCP server on the network (Wireless Mesh Gateway mode)

11.	In case of b) once connected, the device will be assigned an IP address from your router. Use this address to connect to WebGUI (http://X.X.X.X) or to open an SSH connection with the device.

12.	The default login for SSH connection is provided in Table 3.

13.	FHEM home automation server can also be accessed via telnet locally from the device by executing following command: *telnet localhost 7072*

WiOcean Bridge default SSH/TTY login info	
username	Pi
password	wiocean155

Table 3.

14.	Haystack feature:

a)	Haystack server is available at port 8086 by default (You can change this setting in the /etc/haystack/haystack_server.properties config file)
b)	Authentication credentials are provided in Table 3.
c)	Visiting http://X.X.X.X:8086/about gives you basic information about haystack server.
d)	Names and description of all supported operations available on the server are provided on http://X.X.X.X:8086/ops.
e)	Read operations gives you information about whole haystack model, e.g. you can read list of all sensors and actuators with http://X.X.X.X:8086/read?filter=point.
f)	To handle real-time data you can subscribe watch on entity with HTTP post request on http://X.X.X.X:8086/watchSub with entity id and then fetch data by sending HTTP post request /watchPoll with watch id.
g)	To read a time-series data from historized point send HTTP post request with point node id and date-time range on http://X.X.X.X:8086/hisRead.
h)	For more information about haystack server operations and complete reference please visit this link.

BE AWARE: Any attempt to tamper with the software (including but not limited to SD card cloning) will be detected and reported to VizLore WiOcean Bridge cloud platform. Upon device registration device's micro SD card should not be used on any other device.