4ipnet®
for your IP network

Quick Installation Guide

OWL800 V1.20

Copyright & Disclaimer

Copyright

This document is protected by USA copyright laws and other laws and is the property of 4IPNET, INC. You may not copy, reproduce, distribute, publish, display, perform, or modify any part of this publication in any form or by any means without prior written permission from 4IPNET, INC. You may not alter or remove any copyright or other notice from copies of the content. All other brand and product names are claimed or registered marks of their respective companies or organizations.
All rights reserved.

Disclaimer

4IPNET, INC. does not assume any liability arising out the application or use of any products, or software described herein. Neither does it convey any license under its parent rights not the parent rights of others. 4IPNET further reserves the right to make changes in any products described herein without notice. The publication is subject to change without notice.

Trademarks

4IPNET (4ipnet) is a registered trademark of 4IPNET, INC. Other trademarks mentioned in this publication are used for identification purposes only and may be properties of their respective owners.

To download up-to-date version, please visit www.4ipnet.com.

Regulatory Information

The device contains two radio modules inside. Although the model of the radio modules themselves has obtained the FCC modular approval, independently the whole system (with the antennas and power supplier installed) has been tested and evaluated again by a certified laboratory for the verification of FCC, CE and NCC compliances.

This device requires professional installation. Installers please refer to the caution statements under each regulatory section to make sure the final installation meet the regulation within you territory. If you are in the North America, please read the caution statements in FCC section. If you are in the Europe countries, please read the caution statements under CE. And if you are in Taiwan, please read the Chinese statements under NCC. In addition, it is important for all to read the following Safety Information first.

Safety Information

All models of OWL800, OWL2000, and HSG800 have been evaluated to, and conforms to the product safety specifications of EN:60950:2001+A11:2004.

Caution:

- This product was qualified under test conditions that included the use of the power supplying equipment. To ensure regulatory and safety compliance, use only the provided power supplying equipment and install them properly.
- To prevent electrical shock, this device may require a grounding conductor in the line cord. Connect the unit to a grounding type ac wall outlet using the power supplying equipment supplied with the unit.
- To avoid the risk of electric shock and for a safety outdoor installation, you may need other items, such as surge arrestors.
- To avoid the risk of electric shock from lightening, do not install or use this product during an electrical storm.
- Operate and install this product as described in this manual. This device must be installed and used in strict accordance with the manufacturer's instructions.
- Do not open the device casing. Do not perform any servicing other than that contained in the installation and troubleshooting instructions. Refer all servicing to qualified service personnel.

FCC Regulatory Information (for US)

FCC Certification

OWL800, HSG800 and OWL2000 use the same circuitry and housing except the billing and bandwidth management. The devices operate in the 2.4 GHz and 5.725 - 5.85 bands. They are evaluated and certified according to FCC Rules Part 15 subpart C under one granted FCC-ID: VZ9090001.

FCC Compliance Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

For complying with the FCC radio frequency exposure requirements, the following antenna installation and device operating configurations must be satisfied:

- The device must be professionally installed on a fixed or permanent structure with a separation distance of at least 20cm from all persons.
- This device and its antennas must not be co-located or operating in conjunction with any other antenna or transmitter.
- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Class B Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and uses radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna or cable input device.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CE

CE Regulatory Information (for Europe)

Declaration of Conformity with Regard to the 1999/5/EC (R&TTE Directive) for

European Community, Switzerland, Norway, Iceland, and Liechtenstein

Models: OWL800, HSG800 and OWL2000

All three models have been tested and passed the requirements of the following standards, and hence fulfills the EMC and safety requirements of R&TTE Directive within the CE marking requirement.

• Radio: EN 300.328:2006

• Radio: EN 50392:2004

• EMC: EN 301.489-1:2005, EN 301.489-17:2002,

• EMC: EN 55022:2006 Class B, EN 55024:1998 + A1:2001 + A2:2003 including the followings:

EN 61000-3-2, EN 61000-3-3.

EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,

EN 61000-4-5, EN 61000-4-6, EN 61000-4-11

• Safety: EN 60950-1:2001 + A11:2004,

Caution:

- This declaration is only valid for configurations (combinations of software, firmware, and hardware) provided and supported by 4ipnet Inc. The use of software or firmware not provided and supported by 4ipnet Inc. may result in the equipment no longer being compliant with the regulatory requirements.
- European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835 GHz.
- This equipment is intended to be used in all EU and EFTA countries. Outdoor use may be restricted to certain frequencies and/or may require a license for operation. Contact your local regulatory authority for compliance.

NCC Regulatory Information (for Taiwan)

NCC 基本規定項目 :

根據 NCC 低功率電波輻射性電機管理辦法 規定:	
第十二條	**經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。**
第十四條	**低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時應立即停用，並改善至無干擾時方得繼續使用。** **前項合法通信，指依電信法規定作業之無線電通信。** **低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。**

NCC 其他注意項目 (NCC Caution) :

一、本產品(OWL800, HSG800, OWL2000)及外接天線僅限於專業安裝，並限於固定式、點對點之操作。本產品是設計爲專業用、防水、防風、防銹、堅固之工業級產品；其銷售對象限於有發射器專業安裝技術之工程單位或無線系統之專業整合商。

二、本產品(OWL800, HSG800, OWL2000)內建兩個無線模組(型號CM9)，其最高輸出功率爲19dBm。設定介面所提供的功率變更只能用於調降發射功率，也就是說，設定在最高時(Highest)，只會達19 dBm，設定的改變不會加大無線模組之發射功率。

三、本產品(OWL800, HSG800, OWL2000)雖然有介面可改設內建無線模組的發射頻道，以避免與其它鄰近無線設備衝突；但介面上所可選之頻道，是根據販售當地法令有所限制。例如，在台灣市場及在北美市場的產品，2.4G範圍只有11個頻道在介面上可選，使用者無法將發射頻道設爲其他在歐、日可選而在台灣所不允許之頻道。

四、本產品(OWL800, HSG800, OWL2000)附有隨機手冊，包含以上所有繁體中文警告訊息。專業使用者與安裝者有責遵循NCC規定。專業使用者與安裝者若有自行變動產品，違規使用當地法規不允許頻率、功率，必須承擔法律責任並負責賠償受害用戶之一切損失。

1. Introduction

1.1 Preface

The 802.11 a/b/g compliant **OWL800** is a rugged multi-mode dual-radio outdoor access point, specifically designed for building municipal or campus wide wireless networks in harsh outdoor environments. There are two System Modes that can be used for dual purposes. First, it can be deployed as a traditional multi-wireless Access Point (AP) or a Relay. Secondly, it can be used as an Outdoor Wireless Gateway with Built-in Hotspot Access Control and Billing features.

The metal sealed OWL800 is weatherproof. Coming with a mounting kit, it can be mounded on a pole.

This Quick Installation Guide provides instructions and reference material for getting started with OWL800.

1.2 Package Contents

- OWL800 x 1
- Quick Installation Guide x 1
- CD-ROM (with User's Manual and QIG) x 1
- RJ45-RS232 Console Cable x 1
- PSE x 1
- Power cord x 1
- Mounting Kit x 1
- Waterproof Connector Pack x 2

Note: *It is recommended to keep the original packing materials in case of product service requirements. Any returned product should be packed according to its original package content, together with its relevant packing materials used for protecting the equipment from damage during delivery.*

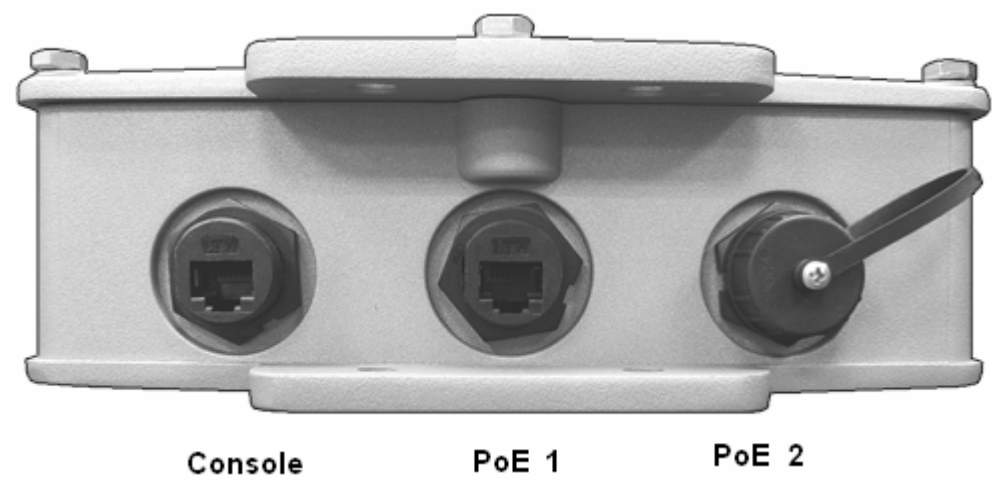
Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

2. Hardware

2.1 Hardware Introduction

Lower Panel



- **PoE 1 / PoE 2: For connecting to the PSE**
  - In AP/Relay mode, both PoE 1 and PoE 2 work as LAN ports.
  - In Gateway mode, PoE 1 works as a WAN port and PoE 2 works as a LAN port.

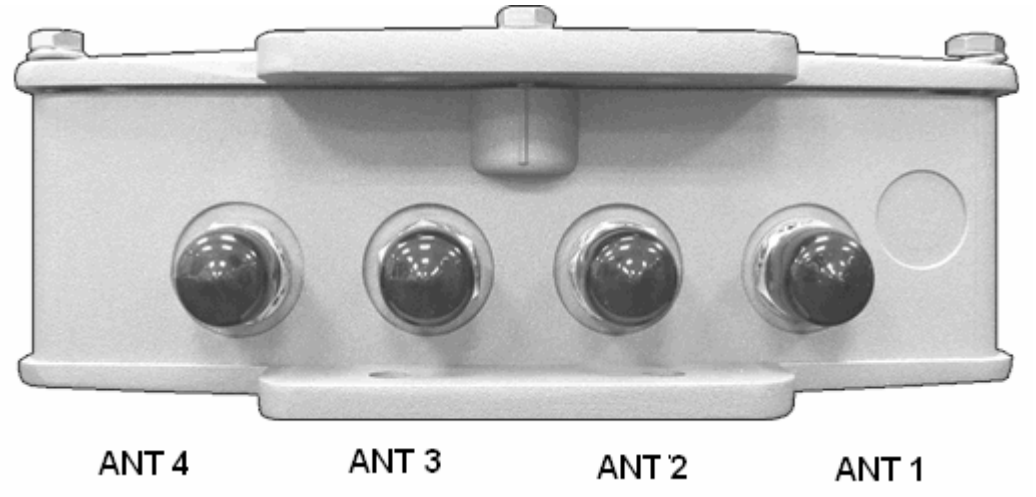
- **Console:**
  - Attach the RJ45-RS232 console cable here.

Note: *All connectors including Console, PoE 1, and PoE 2 shall be equipped with the waterproof cab which is assembled on PoE 2 shown on the upper picture when you receive the device. The upper picture shown without waterproof cabs on Console and PoE 2 is for recognizing the inside of the cab. It is recommended to keep the original packing materials in case of product service requirements. Any returned product should be packed according to its original package content, together with its relevant packing materials used for protecting the equipment from damage during delivery.*

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

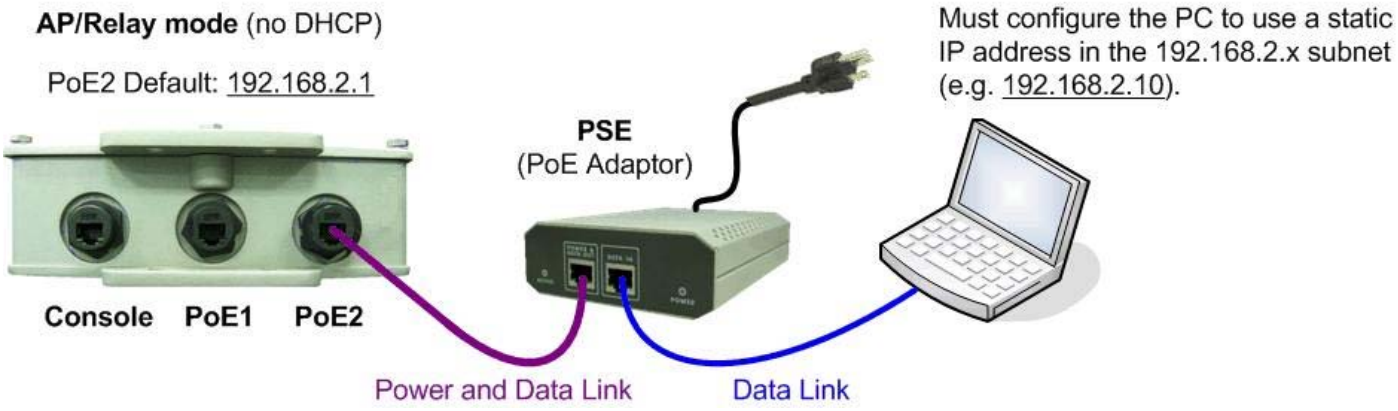
Upper Panel



This picture represents ANT 1 ~ ANT 4 connectors from right to left when OWL800 mylar is faced up.

2.2 Hardware Installation

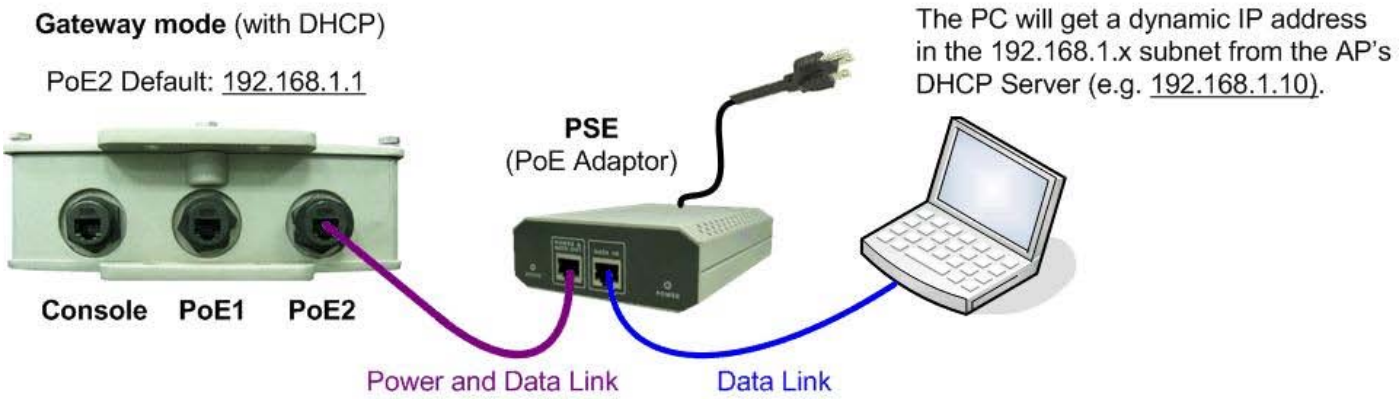
Please follow the steps mentioned below to install the hardware of OWL800 for configuration.



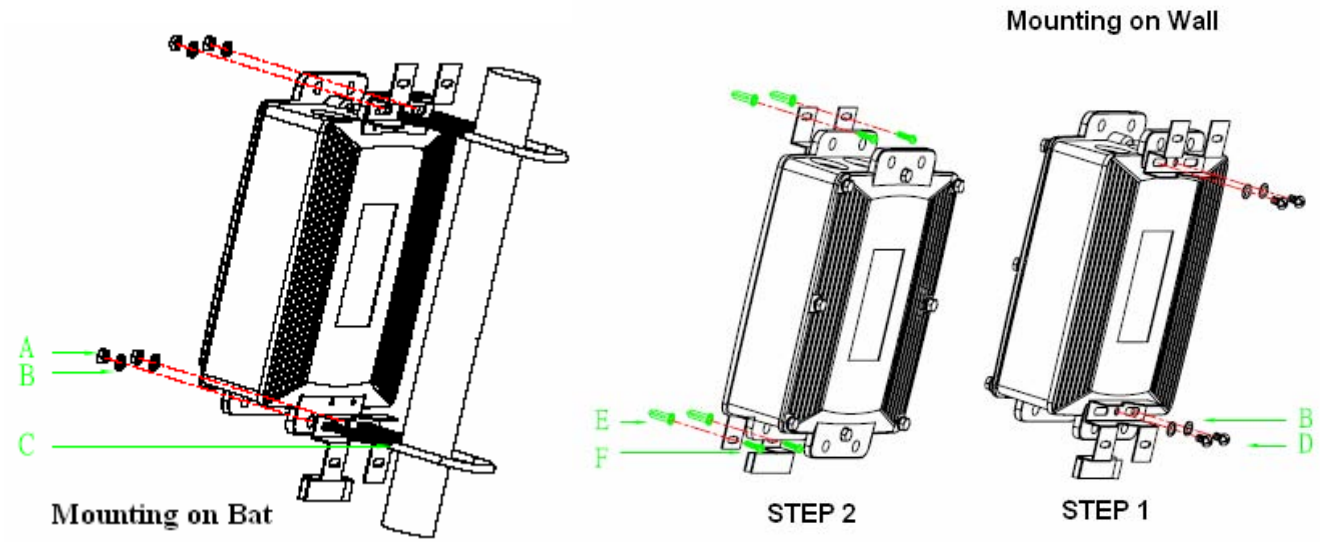
AP Mode

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



Gateway Mode



1. Connect desired N-type antennas to the corresponding N-type connectors on the upper panel.
2. Connect the PSE (POWER & DATA OUT) to the PoE 2 connector on the lower panel.
3. Connect one end of an Ethernet cable to the PSE (DATA IN) and the other end to a computer.
4. Connect the power cord to the PSE.
5. Power on the PSE in order to supply power to OWL800.

Now, the Hardware Installation has been completed and ready for configuration. Use U-Style screw kit for pole mounting, and use mounting screw kit for wall mounting.

Copyright © 4IPNET, INC. All rights reserved.

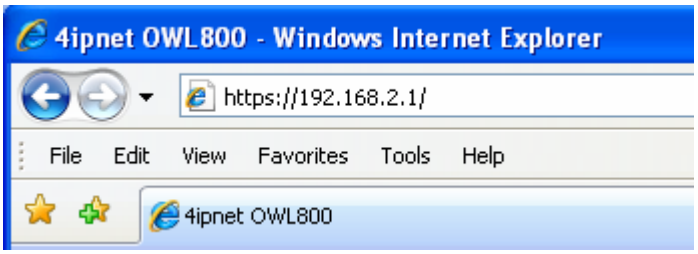
4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

3. Web Management Interface

OWL800 provides the web management interface (WMI) for configuration. OWL800 is a multi-mode system which can be configured as either an AP (**Set RF1 to AP while in AP/Relay Mode**), a relay (**Set RF1 to WDS while in AP/Relay Mode**), or a gateway with built-in hotspot authentication management and Billing features.
After completing hardware installation, the administrator can configure the OWL800 via web browsers.
The default IP address and Subnet Mask of different modes are different as follows:

Mode	AP/Relay	Gateway
IP Address	192.168.2.1	192.168.1.1
Subnet Mask	255.255.255.0	255.255.255.0
Default Gateway	192.168.2.254	192.168.1.254

<AP/Relay Mode>



By default, the system mode of OWL800 is in AP mode. If the IP address of the administrator's PC is not within the same subnet as OWL800's, assigning a static IP address within the same subnet as OWL800's to the administrator's PC is needed in order to get Administrator Login Page. The following IP address is listed as an example:

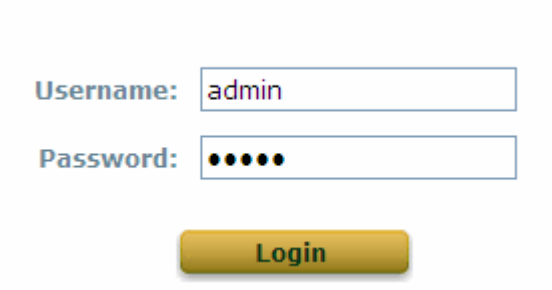
IP Address: 192.168.2.10
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.2.254

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

Once OWL800 has been connected, the Administrator Login Page will appear. Enter **"admin"** for both the default user name and password in the *Username* and *Password* fields, and then click the ***OK*** button to log in.

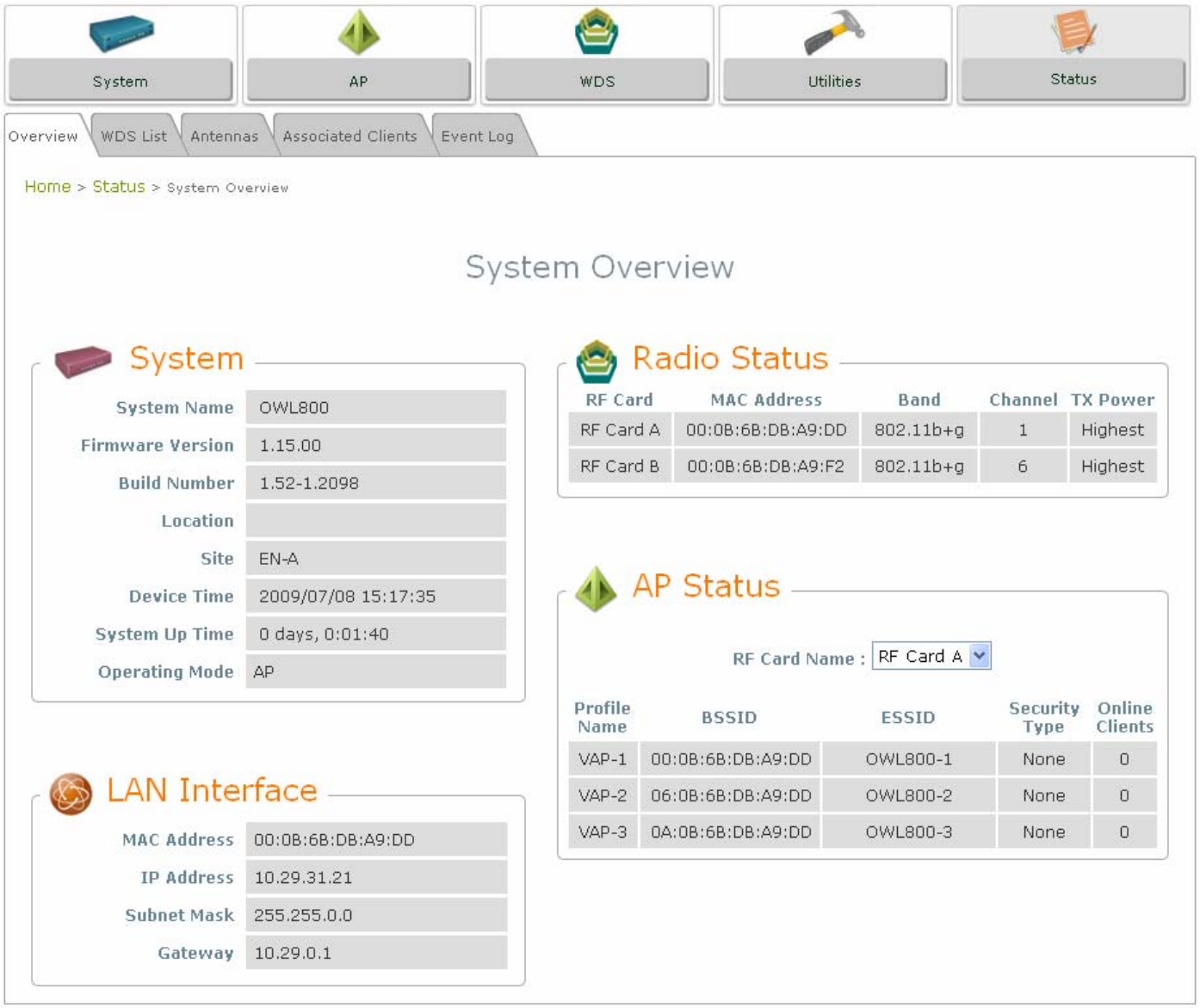
Username: admin
Password: admin



After successfully logging into OWL800, the **System Overview** page of the web management interface will appear.

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



AP Mode

To logout, simply click the ***Logout*** icon on the upper right corner of the web management interface to return to the Administrator Login Page.

<Gateway Mode>

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

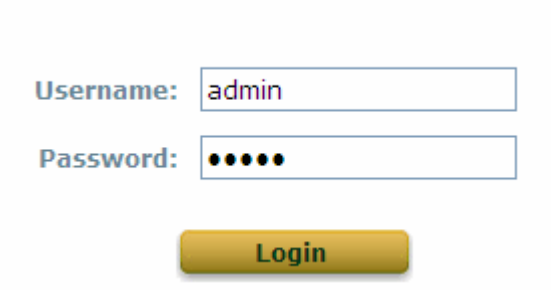
Note: *By default, the system is in AP/Relay mode. Therefore, the administrator must login to the system in AP/Relay mode at the first time and then be able to switch the system to the desired mode afterwards.*

If the IP address of the administrator's PC assigned via DHCP is not within the same subnet as OWL800's, assigning a static IP address to the administrator's computer within the same subnet as OWL800's is needed. The following IP address is listed as an example:

IP Address: 192.168.1.10
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.254

Once OWL800 has been connected, the Administrator Login Page will appear. Enter **"admin"** for both the default user name and password in the *User name* and *Password* fields, and then click the ***OK*** button to log in.

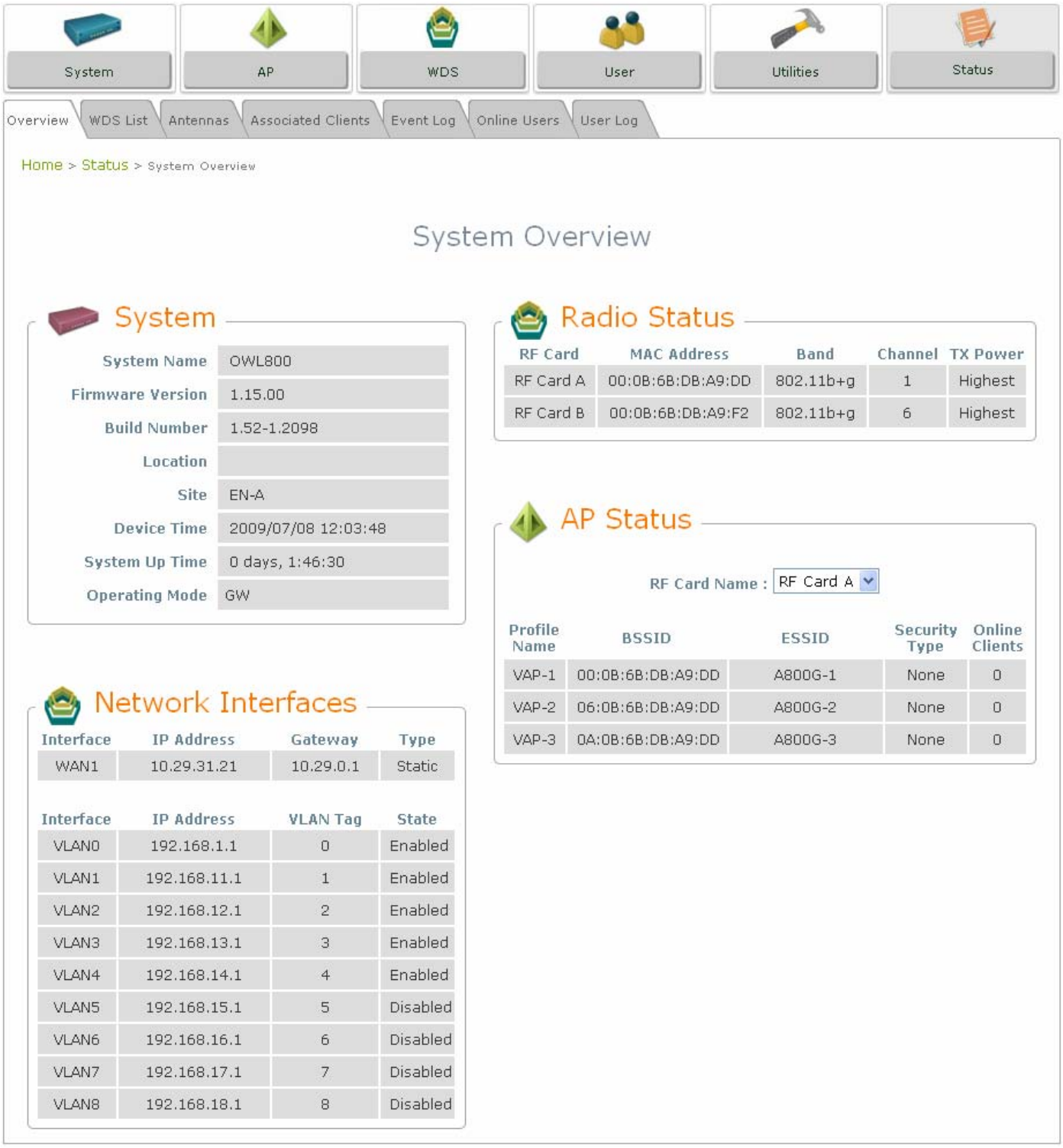
User name: admin
Password: admin



After successfully logging into OWL800, the **System Overview** page of the web management interface will appear.

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



Gateway Mode

To logout, simply click the ***Logout*** icon on the upper right corner of the web management interface to return to the Administrator Login Page.

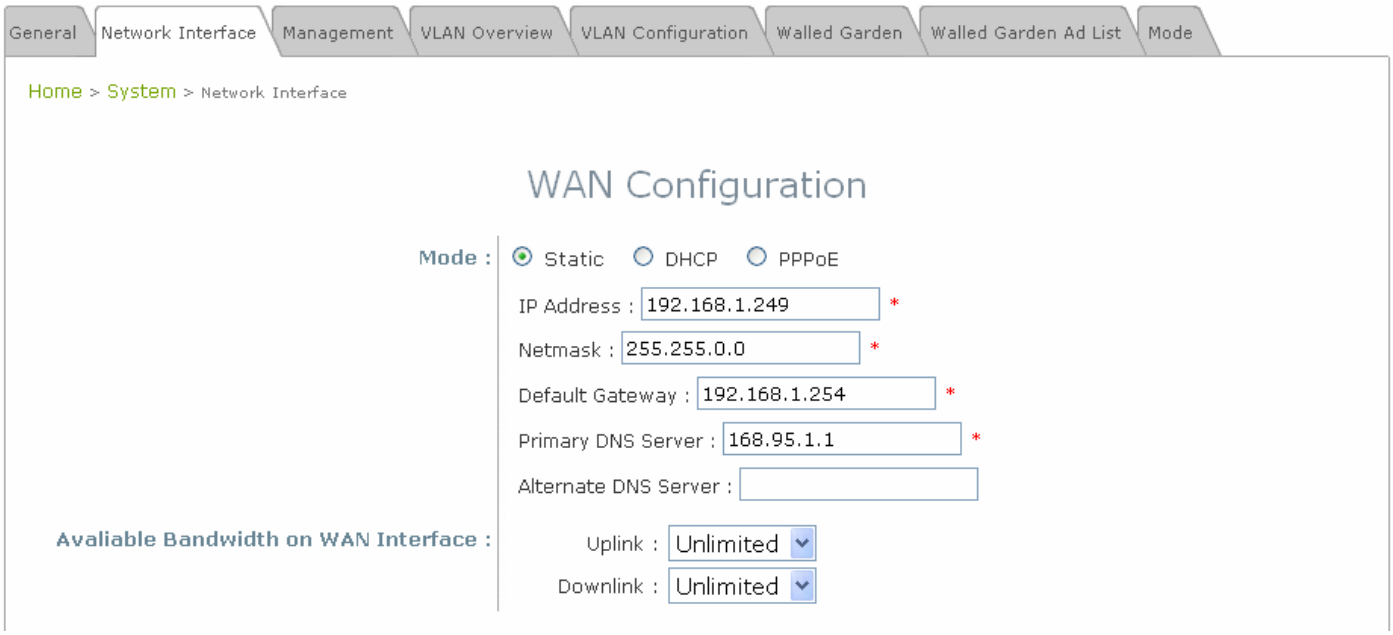
Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

>> Gateway Mode Main Setting Steps:

Step 1. Select the Connection Type for WAN Port

- There are three types of WAN ports to select from: **Static**, **DHCP** and **PPPoE**. Select a proper Internet connection type. Below depicts an example for **Static**.
- Click on **System** and then select **Network Interface**. Select the ***Static*** Mode. Click ***Save***.



Step 1 (Cont). Set Static IP Address Information

- Enter the ***IP Address, NetMask, Default Gateway*** and ***Primary DNS Server*** provided by your Internet Service Provider.
- For **DHCP** or **PPPoE**, follow the instructions showing on the screen.
- Click ***Save***.

Step 2. Configure VLAN

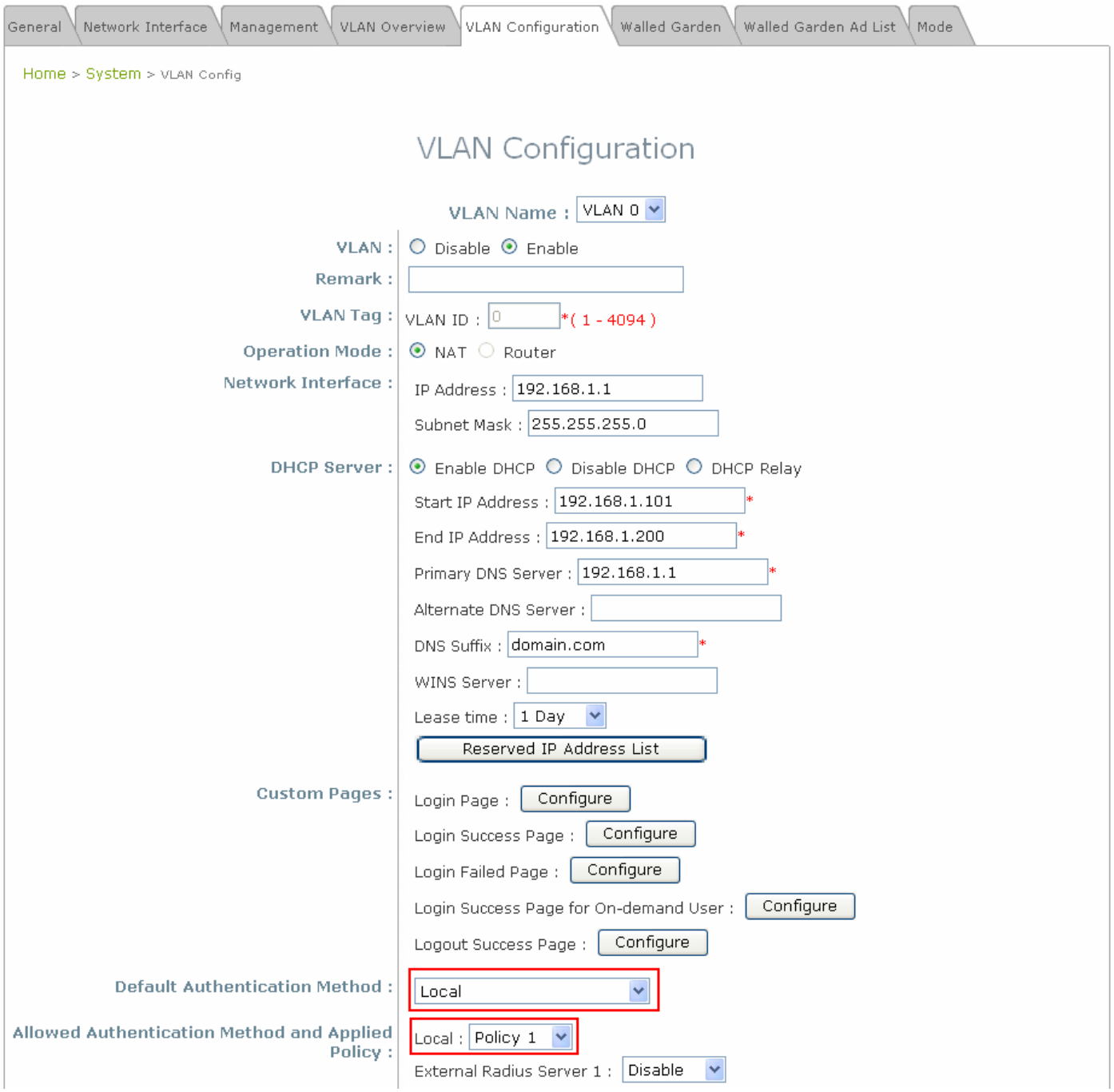
- A VLAN defined in OWL800 is a virtual network zone that clients are belonged to. Authentication is necessary within any VLAN. One authentication method must be selected from the Default Authentication Method options. Below depicts an example of VLAN 0 with **Local User** setting.

Note:	**Local User** is an authentication method that uses the built-in user account database of 4ipnet OWL800.

- Click on **System** and then select **VLAN Configuration**. Select the ***Local*** as the Default Authentication Method and a Policy number. Click ***Save*** to continue.

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



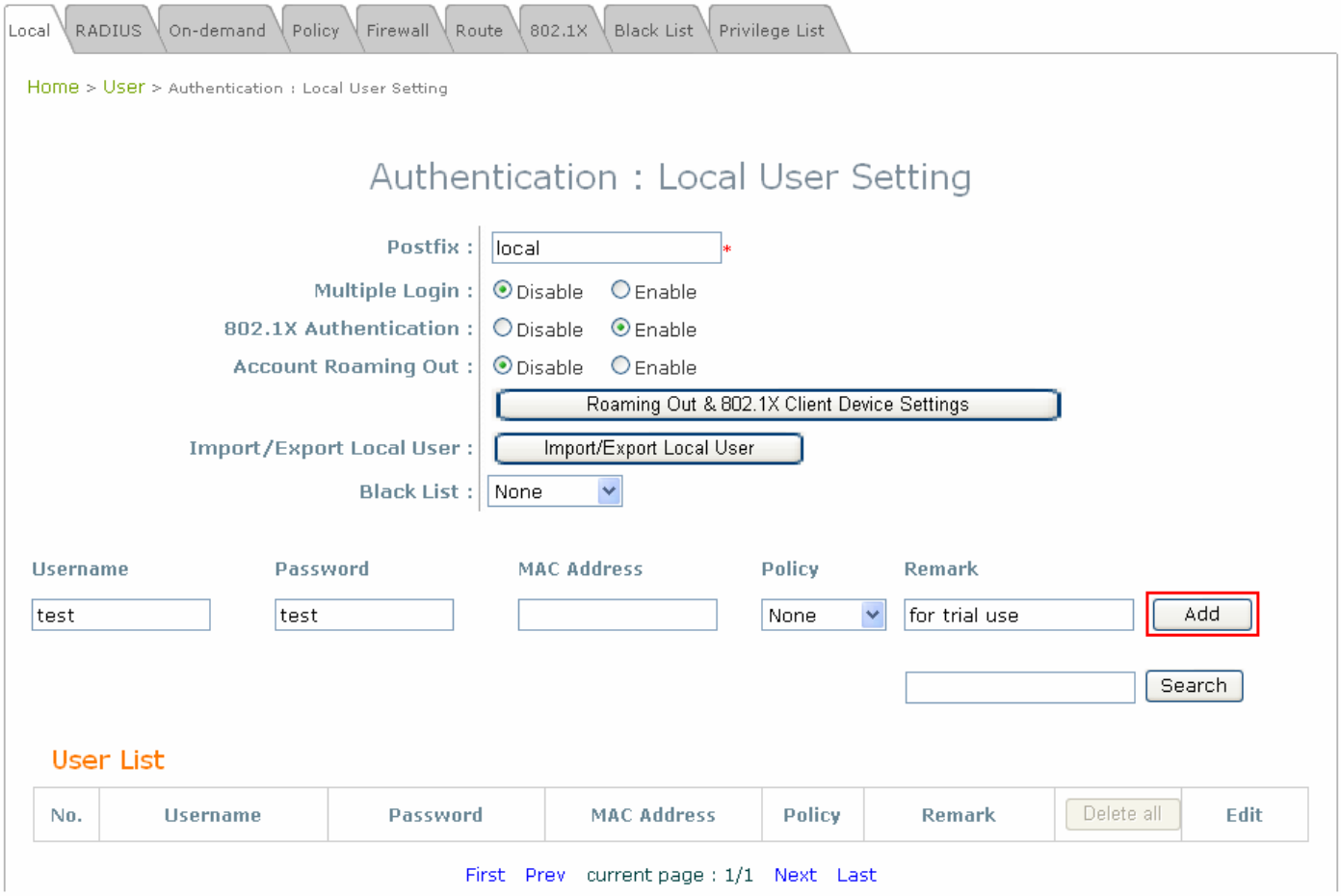
Step 2 (Cont). Add User

➢ A new user can be added to the Local User database. To add a user here, enter the ***Username***, ***Password***, ***MAC Address*** and ***Remark***. Then click ***Add*** button.

Note: The **Postfix** field (e.g. local) will be used as the postfix name (e.g. test@local).

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

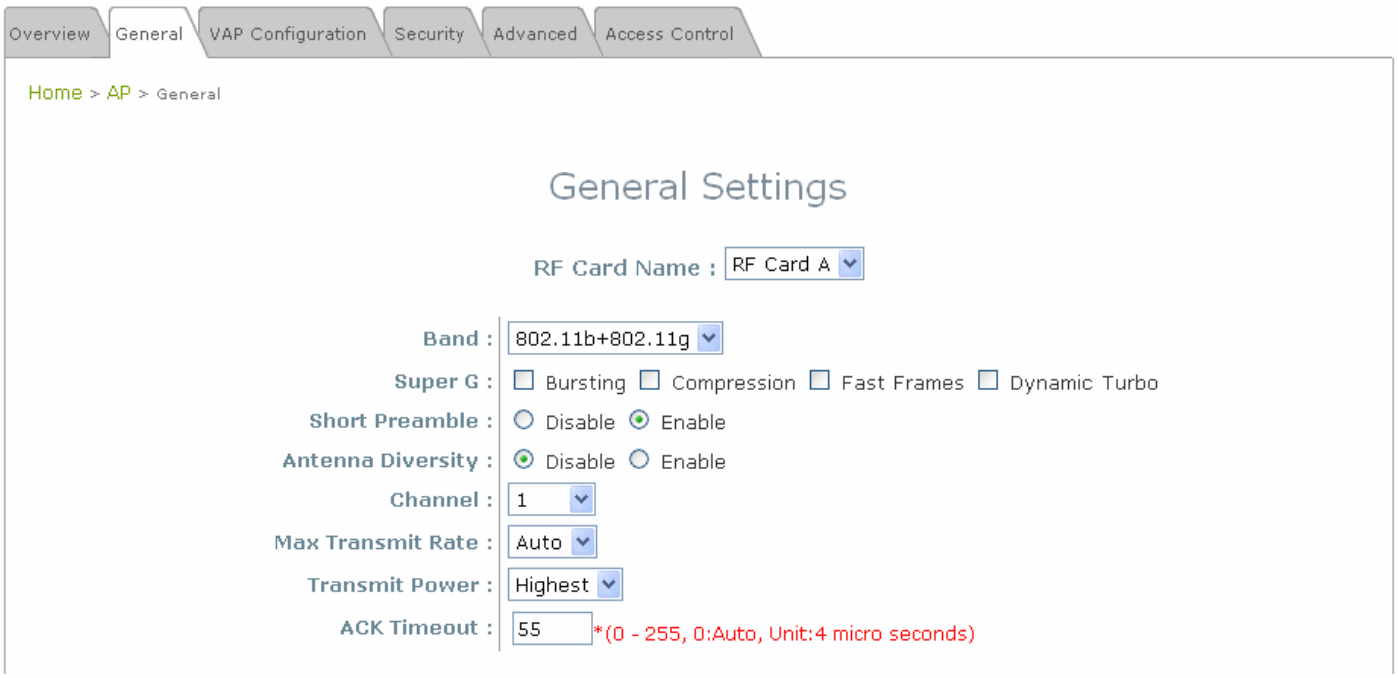


Step 3. Set Wireless – Access Point Connection

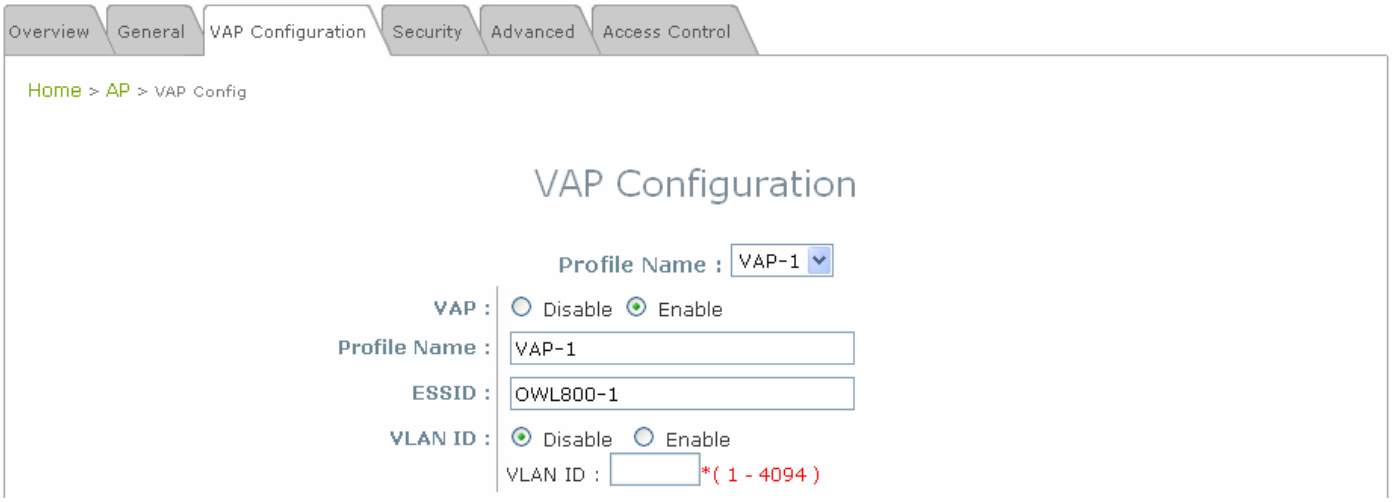
➢ Click on **AP** and then select **General**. Select the desired RF card and then ***Band*** (e.g. 802.11b+802.11g), ***Channel*** (e.g. 1), ***Max Transmit Rate*** (e.g. Auto), ***Transmit Power*** (e.g. Highest). Click ***Save*** to continue.

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



➤ Click on **AP** and then select **VAP Configuration**. select **VAP-1** from ***Profile Name***. Select the ***VAP*** (e.g. Enable), ***Profile Name*** (e.g. VAP-1), ***ESSID*** (e.g. OWL800-1), ***VLAN ID*** (e.g. Disable). Click ***Save*** to continue.



Step 4. User Login

For the administrator to verify the correctness of the basic configuration:

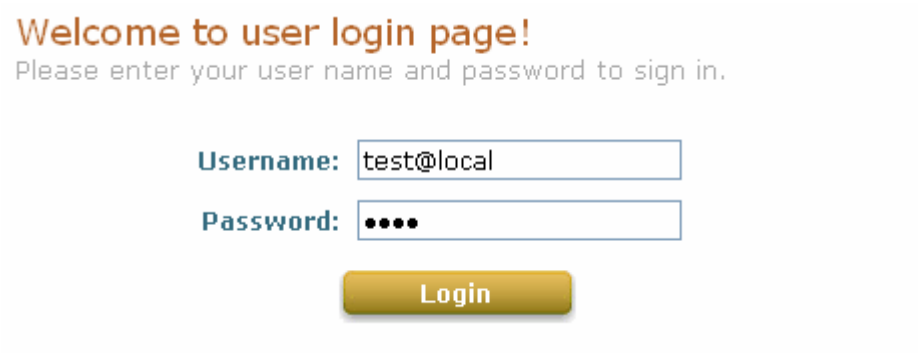
1. A client NB gets associated with OWL800 via wireless (default SSID of the enabled VAP1 is OWL800-1).
2. Open an Internet browser on a client device and the default **User Login Page** will be displayed.

Enter a username and password previously created in the Local User account database

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

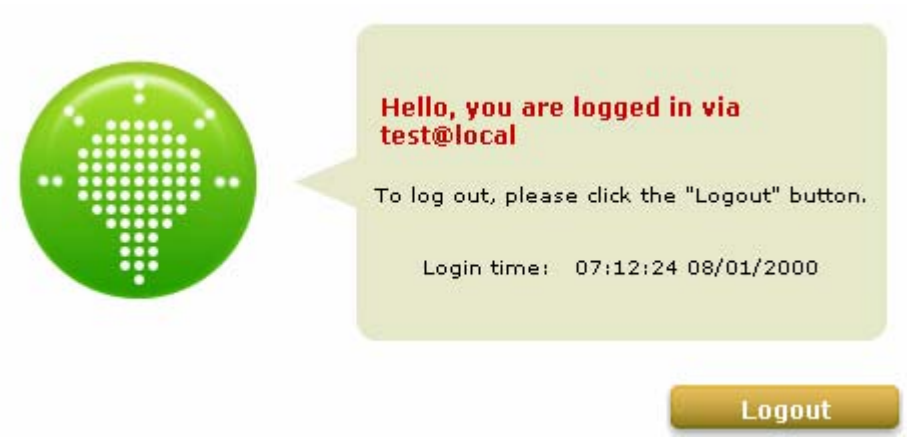
(e.g. **"test@local"** for *Username* and **"test"** for *Password*) or from an On-demand User account. Then, click the ***Login*** button.



Note:	To provide temporary users with free or paid wireless Internet access, the administrator can enable On-demand User authentication to create On-demand User accounts.

Note:	The ***Remaining*** button on the **User Login Page** is for on-demand users only, where they can check their Remaining Usage time.

3. **Congratulation!**
   The **Login Successful** page appearing means 4ipnet OWL800 has been installed and configured successfully. Now, you are connected to the network and Internet!



Copyright © 4IPNET, INC. All rights reserved.

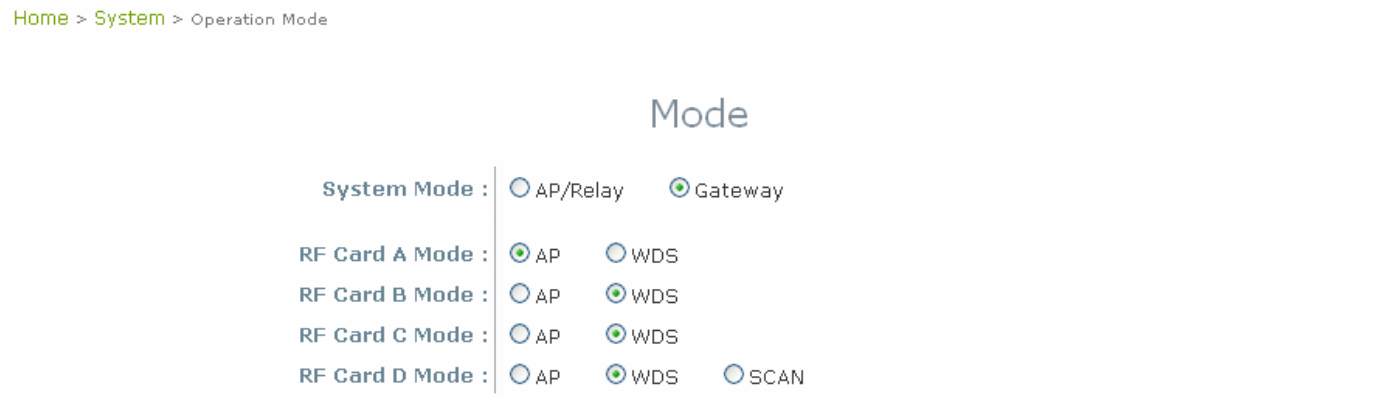
4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

4. Common Settings

System Mode Configuration:

1) Change System Mode by clicking on the **System** menu item.
2) Select **Mode** from submenu item.
3) Select desired ***System Mode***, and modes for each RF and then click on ***Apply*** to confirm the change.

AP Mode



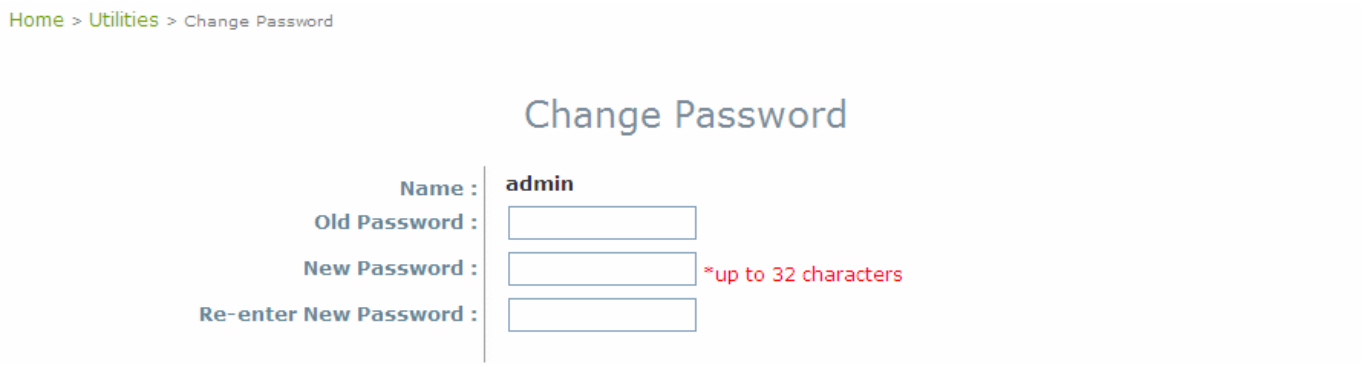
Gateway Mode

Change Password:

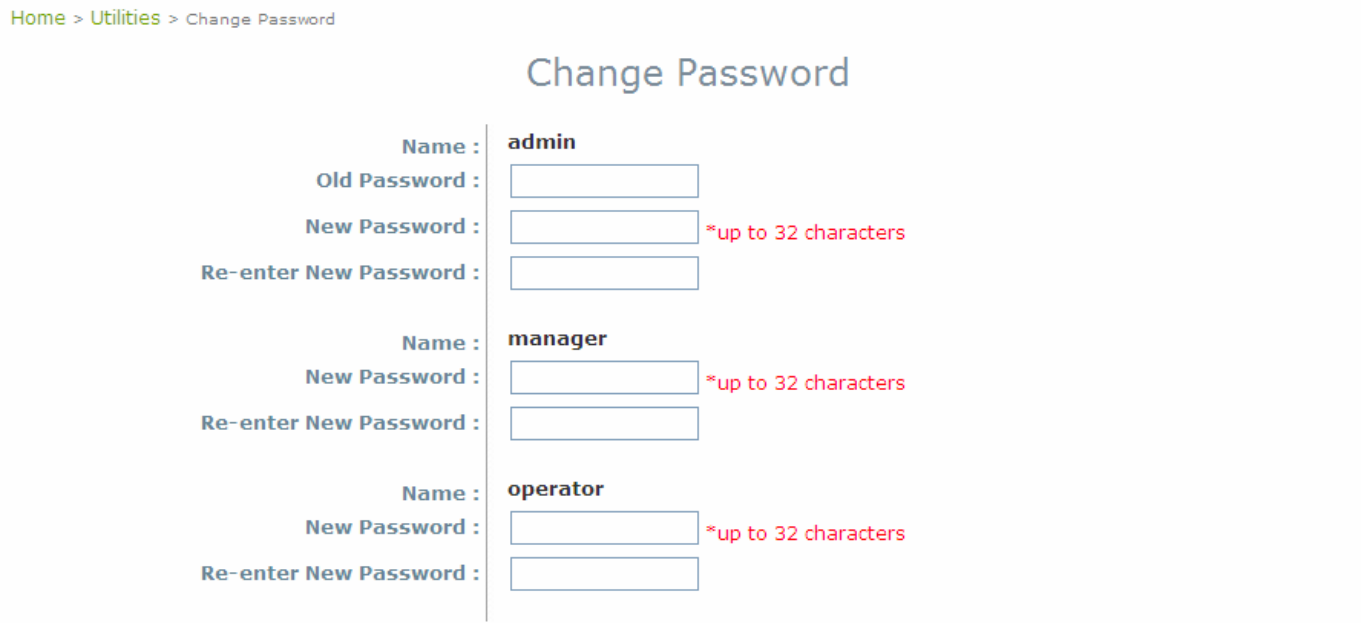
1) Change administrator's password by clicking on the **Utilities** menu item.
2) Select **Change Password** from submenu item.
3) Enter new password. Supply new password with up to 32 characters, and then click on ***Apply*** to confirm the change.

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



AP Mode



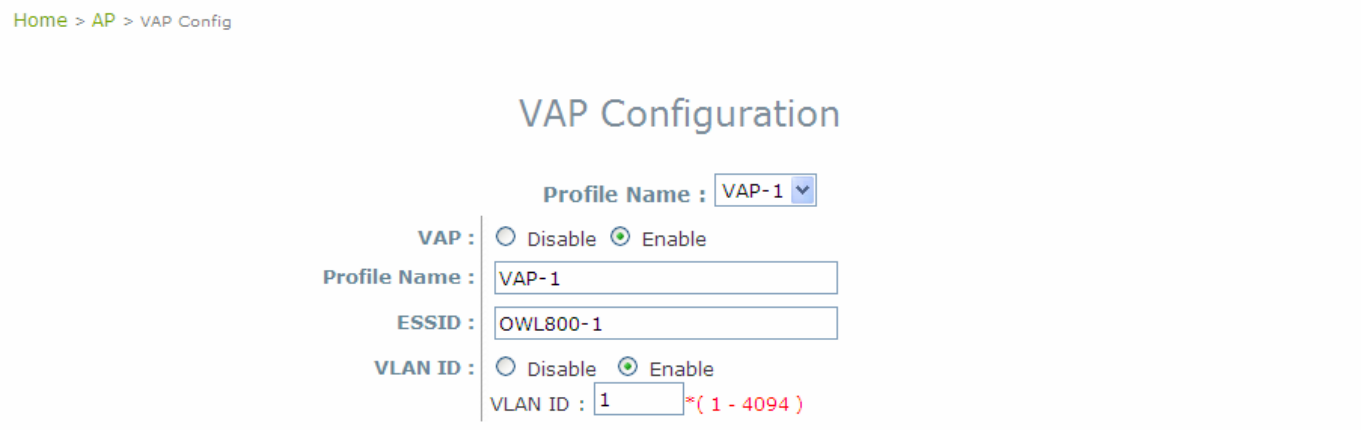
Gateway Mode

Note: Only ***Gateway Mode*** has three types of management accounts, **admin**, **manager**, and **operator**.

Configure VAP Profile Settings

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



Gateway & AP Mode

1) Select **AP** menu to configure.
2) Select **VAP Configuration** from submenu item.
3) Administrator can configure to enable or disable a specific VAP from the drop down list of “Profile Name”.
4) Set desired ESSID of the selected VAP.
5) Disable VLAN ID means untagged when this VAP is enabled. Set a VLAN ID if this VAP is tagged.

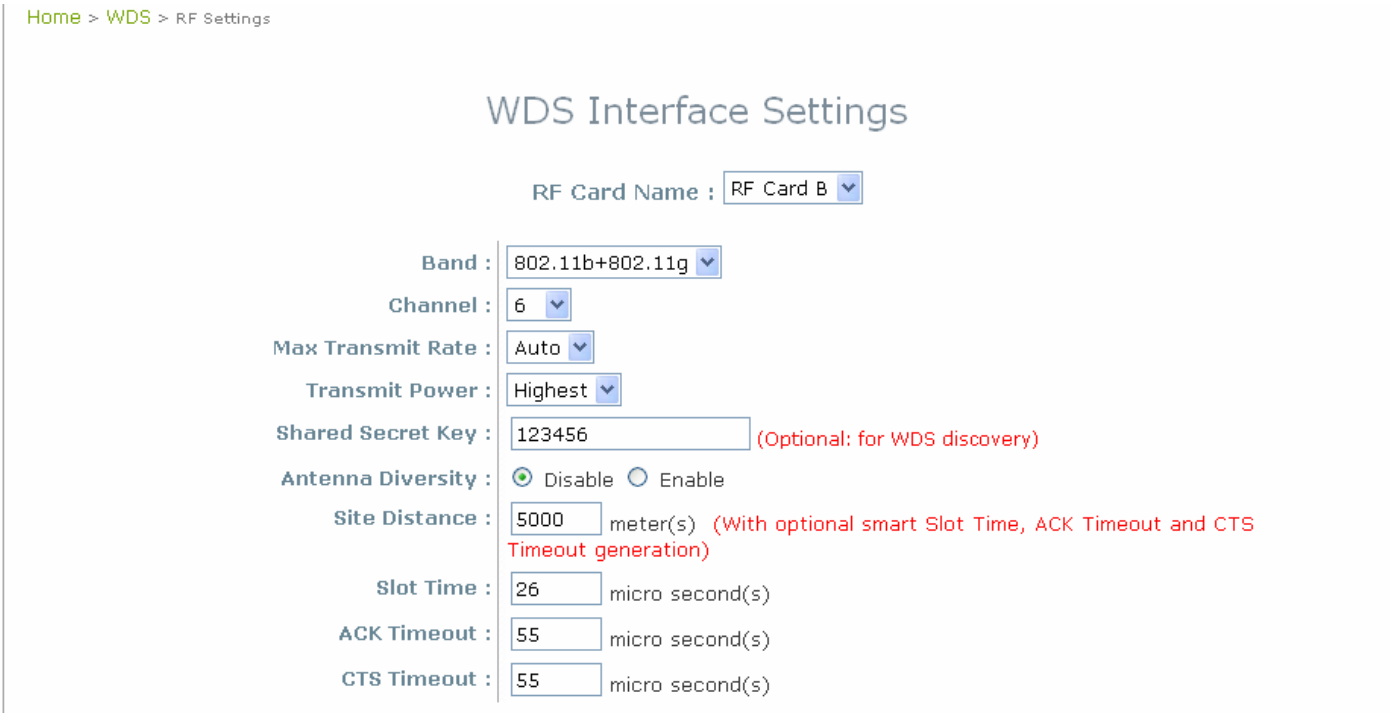
Note:	To configure the rest of the profiles, please follow the same steps as illustrated for VAP-1.

Configure General WDS Settings

1) Click on the **WDS** menu item. Select **General** submenu.
2) Determine the ***Band*** and ***Channel***.
   Select preferred ***Band*** and ***Channel*** for the wireless connection. For example, band is selected to *802.11b+802.11g* and channel to 6. See the above example.

Copyright © 4IPNET, INC. All rights reserved.

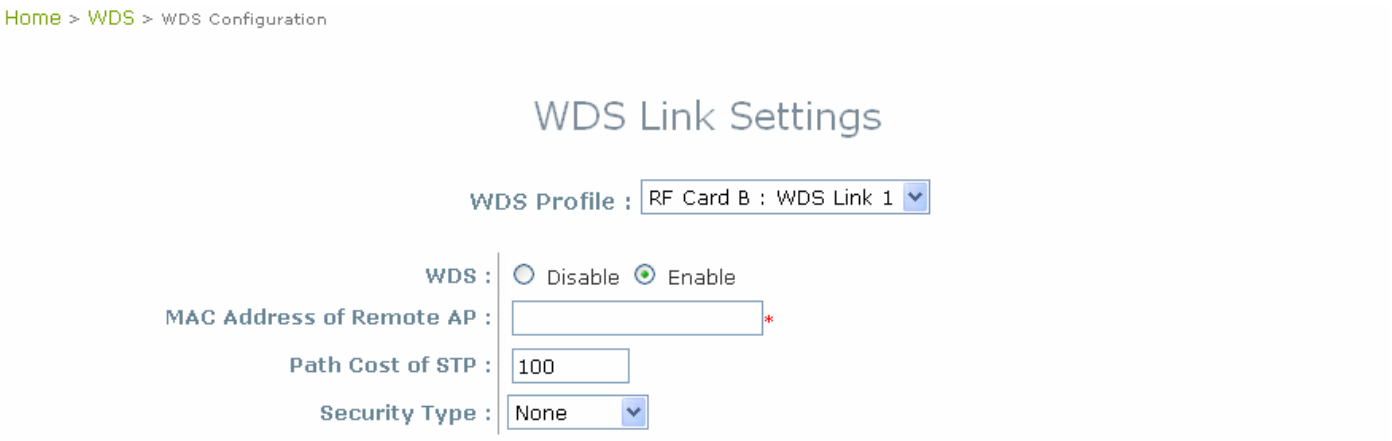
4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299



Gateway & AP Mode

Configure WDS Link Settings

1) Click on the **WDS** menu item.
2) Select **WDS Configuration** submenu item.
3) Choose the WDS Profile.
4) Enable WDS.
5) Supply peer's ***MAC address*** and ***security type***.



Gateway & AP Mode

Note: By default, WDS profiles are disabled. However, WDS profiles are able to be configured even when the respective

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

RF card is disabled which can be done in **General** submenu item of **WDS** menu.

Now, the system has been installed and configured successfully.

Note: It is strongly recommended to make a copy of configuration backup after your configuration is done. (User database shall be saved separately.)

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

5. FAQ Instruction Guide

<Introduction>

The **OWL800** is a rugged multi-mode dual-radio outdoor access point, specifically designed for building municipal or campus wide wireless networks in harsh outdoor environments. There are two System Modes that can be used for dual purposes. First, it can be deployed as a traditional multi-wireless Access Point (AP) or a Relay. Secondly, it can be used as an Outdoor Wireless Gateway with Built-in Hotspot Access Control and Billing features.

<FAQ>

FAQ.1. How to Reset Back to Factory Default?

OWL800 is able to be reset to Factory Default only by software through **Web Management Interface (WMI)**.

FAQ.2. How to Convert & Configure the Device to Gateway mode?

1. By default, OWL800 is in AP mode which clients can associate with it to get surf on the Internet. Login the **Web Management Interface (WMI)** via AP mode first by entering the default IP address in a browser, https://192.168.**2**.1.
2. Go to **System >> Mode**, and then click on the **Gateway** radio button. Click **SAVE**. The system will now ask you to reboot. Click **OK** to reboot.
3. Wait for the device to restart.
4. Now the device is in Gateway mode. Access the **Web Management Interface (WMI)** by entering the default IP address in Gateway mode in a browser, https://192.168.**1**.1.

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

FAQ.3. How to Convert & Configure the Device to AP/Relay mode?

1. By default, OWL800 is in AP mode. If it has been changed to Gateway mode, login the **Web Management Interface (WMI)** via Gateway mode first by entering the default IP address in a browser, https://192.168.**1**.1.
2. Go to **System >> Mode**, and then click on the **AP/Relay** radio button. Click **SAVE**. The system will now ask you to reboot. Click **OK** to reboot.
3. Wait for the device to restart.
4. Now the device is in AP/Relay mode. Access the **Web Management Interface (WMI)** by entering the default IP address in AP/Relay mode in a browser, https://192.168.**2**.1.

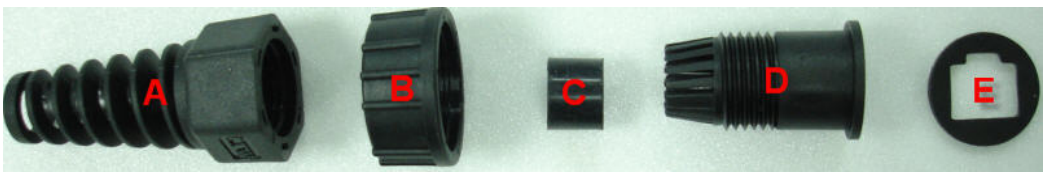
FAQ.4. How to install the waterproof connector for the Ethernet cable?

The Waterproof Connector Pack

A connector pack as shown in the figure below is included with the system.

Connector Parts Included

The connector pack contains five parts as shown in the figure below, Part-A to Part-E:



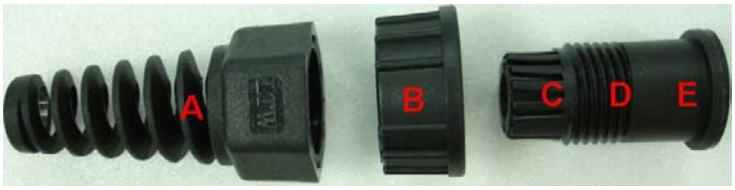
Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

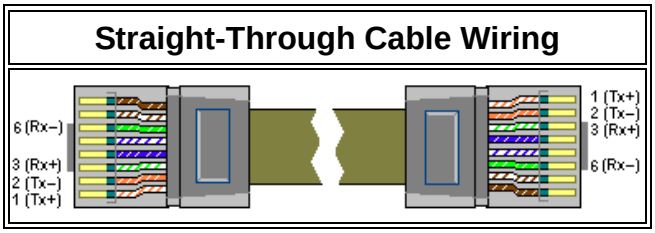
Installation Steps

Step 1: Take the white sticker off Part-E, and then attach it to Part-D

Step 2: Plug Part-C into Part-D. Then there will be three main parts, as shown below.



Step 3: Lay the cable through the main parts and install RJ-45 connector using straight-through method (both ends are in the same wiring order: 1 (Tx+), 2 (Tx-), 3 (Rx+), 6 (Rx-)).



- **Connector Completed:**

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299

Step 4: Plug RJ-45 Connector into the system and make sure the locking ring is locked well.

The installation is then completed.

P/N: V12020090625

Copyright © 4IPNET, INC. All rights reserved.

4Gon www.4Gon.co.uk info@4gon.co.uk Tel: +44 (0)1245 808295 Fax: +44 (0)1245 808299