



DSA-3600

Quick Install Guide

Version 3.00

December, 2007

1.1 Preface

DSA-3600 is a Multi-Service Business Gateway, specially designed for small and medium business, and branch office operational environments. The major functional areas include user management, access control, AP management, security management, and VLAN. This Quick Installation Guide provides instructions and reference material for getting started with DSA-3600. The Guide will illustrate how to install the DSA-3600 and configure its basic setting.

1.2 Package Contents

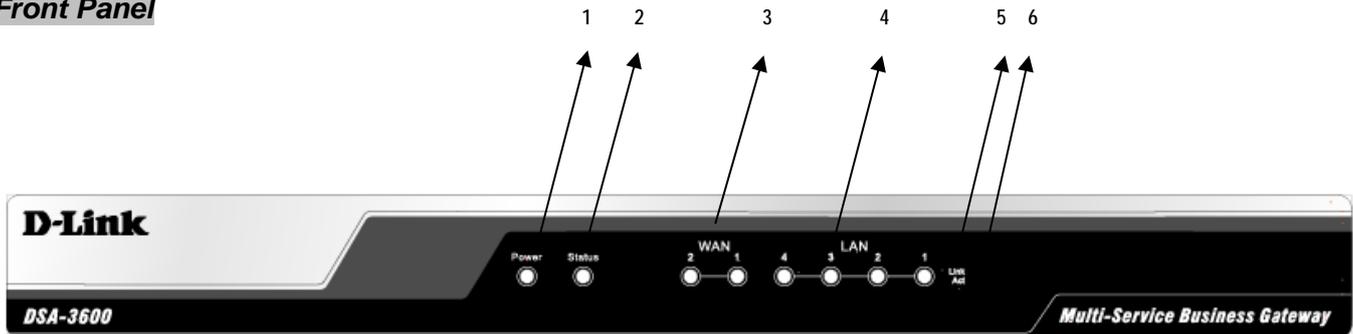
- DSA-3600 x 1
- Quick Install Guide x 1
- CD-ROM x 1
- Console Cable x 1
- Straight-through Ethernet Cable x 1
- Power Cord x 1
- Power Adapter x 1

Note: *It is recommended the original packing materials be kept 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.*

1.3 Hardware Introduction

The DSA-3600 is implemented on an embedded platform with mini-desktop form factor. On the front panel of the product, there are eight LEDs that are used to indicate the system power, system status, and the link status of the six Fast Ethernet ports. The interface ports are installed on the rear panel. Six Fast Ethernet (100Mbps) ports are provided by DSA-3600. Two are configured as WAN Ports, and the other four are configured as LAN Ports. Located on the rear panel are a serial console port, a reset button, and the power socket.

Front Panel



1. Power	3. WAN1~WAN2 LEDs	5. Sign: Link
2. Status	4. LAN1~LAN4 LEDs	6. Sign: Act

1. Power

- ON indicates the power is on, and OFF indicates the power is off.

2. Status

- While system power is on, status OFF indicates BIOS is running, BLINKING indicates the OS is running, and ON indicates system is ready.

3. WAN1~WAN2 LEDs

- OFF indicates no connection, ON indicates connection, and BLINKING indicates transmitting data.

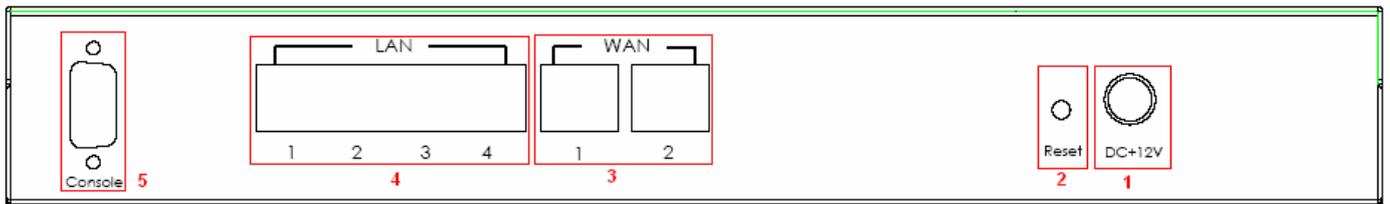
4. LAN1~LAN4 LEDs

- OFF indicates no connection, ON indicates connection, and BLINKING indicates transmitting data.

5. Link: Indicates status of WAN1~WAN2 and LAN1~LAN4 connection.

6. Act: Indicates status of WAN1~WAN2 and LAN1~LAN4 data transmission.

Rear Panel



1. Power Socket: The power adapter attaches here.

2. Reset Button

- Press and hold the Reset button for about 5 seconds and status of LED on front panel will start to blink before restarting the DSA-3600.
- Press and hold the Reset button for more than 10 seconds and status of LED on the front panel will start to speed up blinking before resetting the DSA-3600 to default configuration.

3. WAN1~WAN2

- The two WAN ports are for connection to external network not managed by the DSA-3600. These ports may be used to connect to the ATU-Router of an ADSL, or the port of a Cable Modem, or a Switch or Hub on the LAN of an organization.

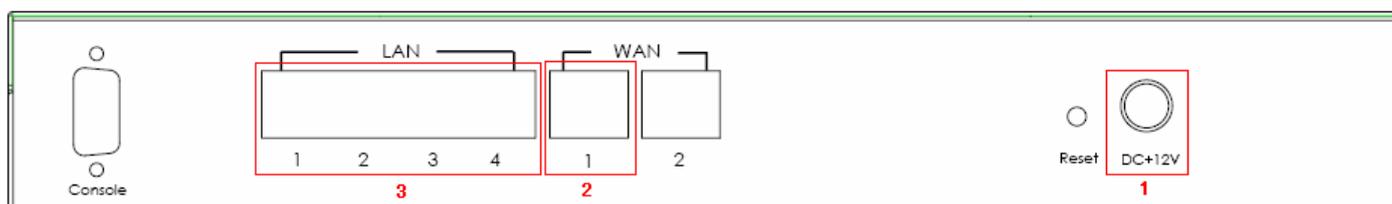
4. LAN1~LAN4

- The four LAN ports are for connection to networks managed by DSA-3600, such as to clients' networking devices or APs. There are two modes of service zone supported by DSA-3600: Port-Based and Tag-Based. By default, all LAN ports are in Tag-based service zone. Under Tag-Based mode, service zones are distinguished by VLAN tagging instead of physical LAN ports.

5. Console: The serial RS-232 DB9 cable attaches here.

1.4 Hardware Installation

Please follow the steps mentioned below to setup the hardware of DSA-3600.



1. Connect the power adapter to the power socket on the rear panel. The Power LED on the front panel should be ON to indicate a proper connection.

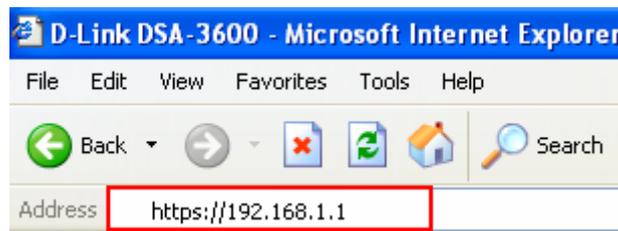
Warning: Using a non-certified power adapter may damage this product.

2. Connect an Ethernet cable to the WAN1 Port on the rear panel. Connect the other end of the Ethernet cable to a networking device such as an ADSL modem, a cable modem, a switch, or a hub. The LED of WAN1 port should light up to indicate a proper connection.
3. Connect an Ethernet cable to any LAN Port on the rear panel. Connect the other end of the cable to a networking device such as the administrator's PC. The LED of the LAN port should be ON to indicate a proper connection.

1.5 Web Management Interface

The DSA-3600 provides a web management interface for configuration. After completing the hardware installation, the administrator can configure the DSA-3600 via web browsers with JavaScript enabled, such as Internet Explorer version 6.0 or above.

First, set a PC as DHCP in the network TCP/IP setting to get an IP address from DHCP server automatically. Next, connect the PC to the DSA-3600 via any LAN port. An IP address will be assigned to the PC automatically via DSA-3600 built-in DHCP server. Launch a web browser to access the web management interface of DSA-3600 by entering “<https://192.168.1.1>” in the URL. (Note: **https** is used for secured connection.)



Once the DSA-3600 has been connected, the Administrator Login Page will appear. Enter “**admin**” for both the default username and password in the Username and Password fields, and then select the **Enter** button to log in.



Note: When the DSA-3600 is new or has just been reset back to the factory default settings (with firmware version 3.00.00 or later), the Setup Wizard (see next page) will automatically show up after reboot. You can choose to follow the Wizard instructions or ignore this step.

After successfully logging into the DSA-3600 at the first time, the **Setup Wizard** will appear automatically. After the second time logging in, the System Overview page of the web management interface will appear. To logout, simply click the **Logout** icon on the upper right corner of the interface to return to the Administrator Login Page.

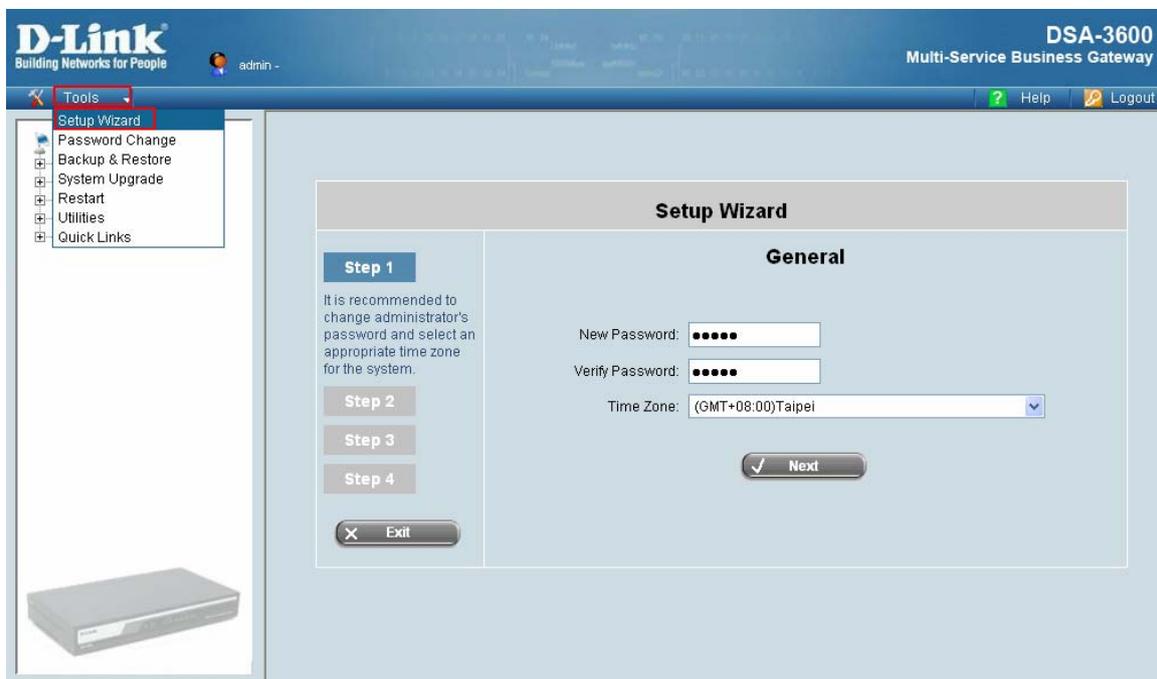
2. Quick Setup

This chapter will provide a step-by-step guide to administrators on how to configure DSA-3600 via **Setup Wizard**.

2.1 Quick Setup by Wizard

The administrator can configure the DSA-3600 via its web management interface as specified in *section 1.5* of this document. In order to connect to the Internet, TCP/IP related information such as IP address, subnet mask, and gateway address must first be obtained from the ISP.

The **Setup Wizard** page will appear after the first logging into the system. After the second time logging, select **Tools**→**Setup Wizard** in the left-top menu, and the Setup Wizard page will appear. Recommendation for each step is provided at the left of the Setup Wizard page.



■ Step 1: General

Enter the administrator's new password in the New Password field and retype it again in the Verify Password field. To secure the system, administration account password change is recommended. Select the proper time zone from the Time Zone drop-down menu to set the system time. Click **Next** to continue.

Note: The maximum length of the password is twenty-character and no space is allowed.

The screenshot shows the 'Setup Wizard' window with the 'General' tab selected. On the left, there are four steps: Step 1 (active), Step 2, Step 3, and Step 4. Below the steps is an 'Exit' button. The main area contains the following fields:

- New Password:** A text input field with five dots representing a masked password.
- Verify Password:** A text input field with five dots representing a masked password.
- Time Zone:** A dropdown menu showing '(GMT+08:00)Beijing,Chongqing,Hong Kong,Urumqi'.

At the bottom right of the main area is a 'Next' button with a checkmark icon.

Step 2: WAN1 Interface

There are three connection types provided by DSA-3600, **Static**, **Dynamic**, and **PPPoE**. Contact your ISP or the network administrator if you are not sure what the connection type for WAN1 is, then select the Internet connection type for WAN1 interface. The following is an example of a **PPPoE** connection type. To configure other connection types, please refer to the User Manual for more information. Enter the Username and Password provided by the ISP. Click **Next** to continue or click **Back** to change configurations in previous step.

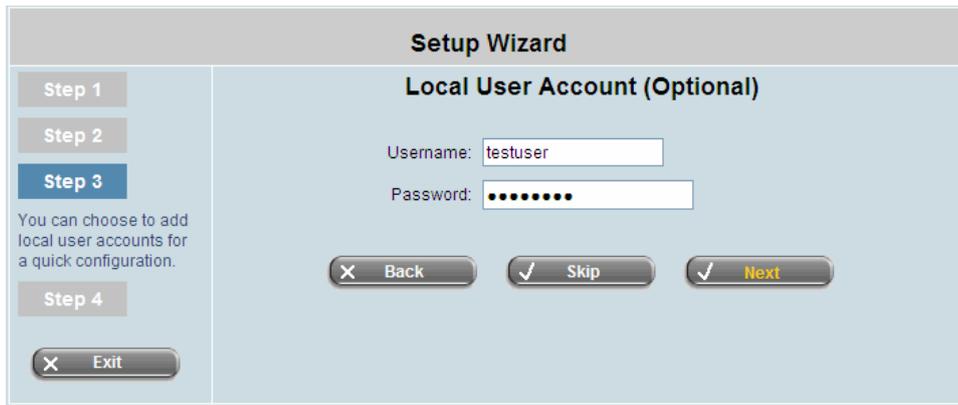
The screenshot shows the 'Setup Wizard' window with the 'WAN1 Interface' tab selected. On the left, there are four steps: Step 1, Step 2 (active), Step 3, and Step 4. Below the steps is an 'Exit' button. The main area contains the following options and fields:

- Static (Use the following IP settings):** An unselected radio button.
- Dynamic (IP settings assigned automatically):** An unselected radio button.
- PPPoE:** A selected radio button.
- Username:** A text input field containing 'pppouser1'.
- Password:** A text input field with five dots representing a masked password.

At the bottom of the main area are two buttons: 'Back' (with an 'X' icon) and 'Next' (with a checkmark icon).

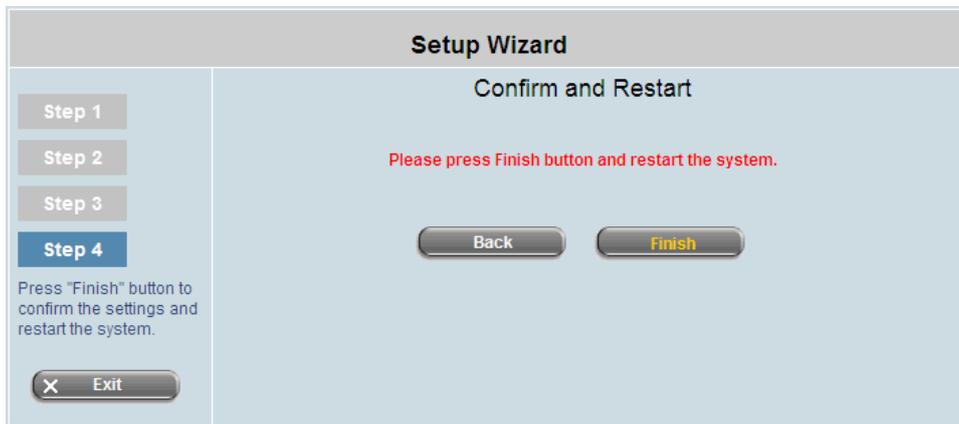
Step 3: Local User Account (Optional)

In this step, new local accounts can be added into the local user database. Enter the Username (e.g. testuser) and Password (e.g. testuser) of the desired new account to add a new local account into the system. Click **Skip** to exit step 3 or click **Next** to validate added local accounts and continue.



▪ **Step 4: Confirm and Restart**

Click **Finish** to save the current settings and restart the DSA-3600. A confirmation message will appear after clicking **Finish**. Click **OK** to continue. The **Setup Wizard** is now completed.



During the DSA-3600 restarting, a **“Confirm and Restart.”** page will appear on the screen. Please do not interrupt the DSA-3600 until the DSA-3600 Administrator Login Page reappears. This indicates that the restart process has been completed.



Connect to DSA-3600



Welcome To Administrator Login Page!
Please Enter Your Username and Password To Sign In.

Username:

Password:

Note: During every step of the wizard, if you wish to go back to modify the settings, please click the **Back** button to go back to the previous step. Click **Exit** to leave the Wizard.

The DSA-3600 uses virtual LAN (VLAN) along with a SSID to separate service zones. At this stage, the system is ready for use with minimum configuration. The factory default configuration uses tag-based VLAN. The 'Default' service zone (with SSID='dlink') is enabled and requires no user authentication at this initial stage.

Section 2.3 below show an example on how to configure two service zones that require user authentication, one zone for internal staff, while the other zone for guests. At the end of section 2.3, the Service Zones will have been configured to use tag-based VLAN in the deployment shown in Figure-2. Section 2.4 demonstrates how to map two service zones using port-based VLAN.

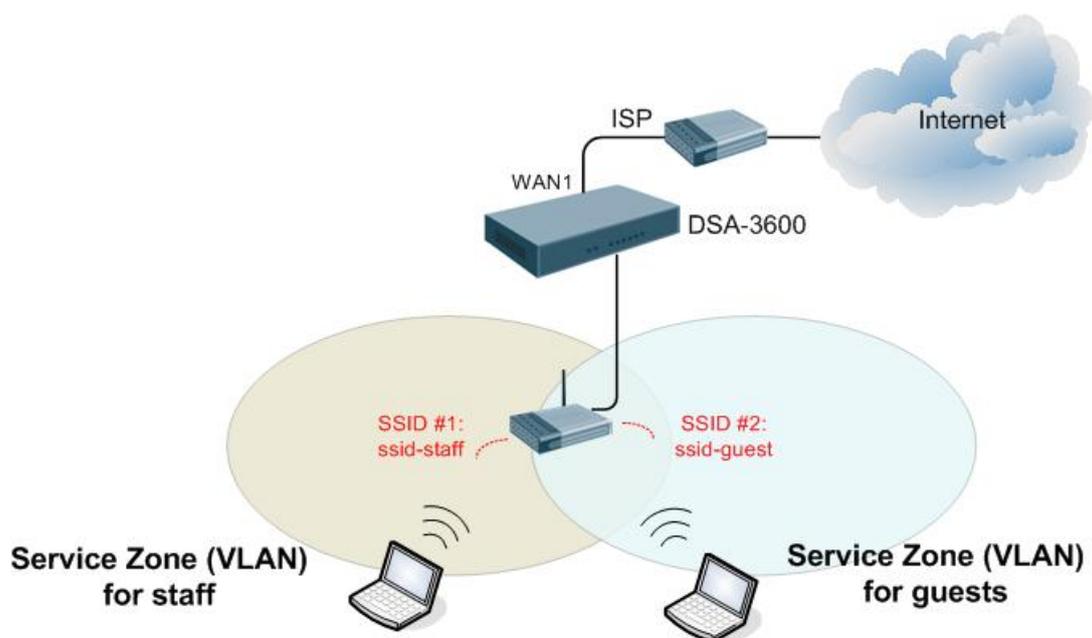


Figure-1: An example using Tag-Based service zones

2.2 Small and Mid-size Business Network Environment

Networking devices such as switches, hubs, and access points are usually forms a part of SMB environments. The Internet connection of a SMB is usually via ADSL or cable modem. *Figure-2* shows a typical network deployment example which includes switches, access points, and connections to the Internet via ADSL/cable modem. Note that external authentication server in the diagram is not required. *Figure-1* shows that DSA-3600 can authenticate the users of its built-in database, as well as authenticate the users of external authentication database.

The DSA-3600 supports either tag-based VLAN or port-based VLAN, but they are mutually exclusive. In the wireless environment, a service zone of DSA-3600 is mapped to a VLAN with an associated SSID. *Figure-2* shows a tag-based deployment scenario. When the DSA-3600 is set for tag-based VLAN, an Access Point, with multiple SSIDs turned on, can service multiple service zones.

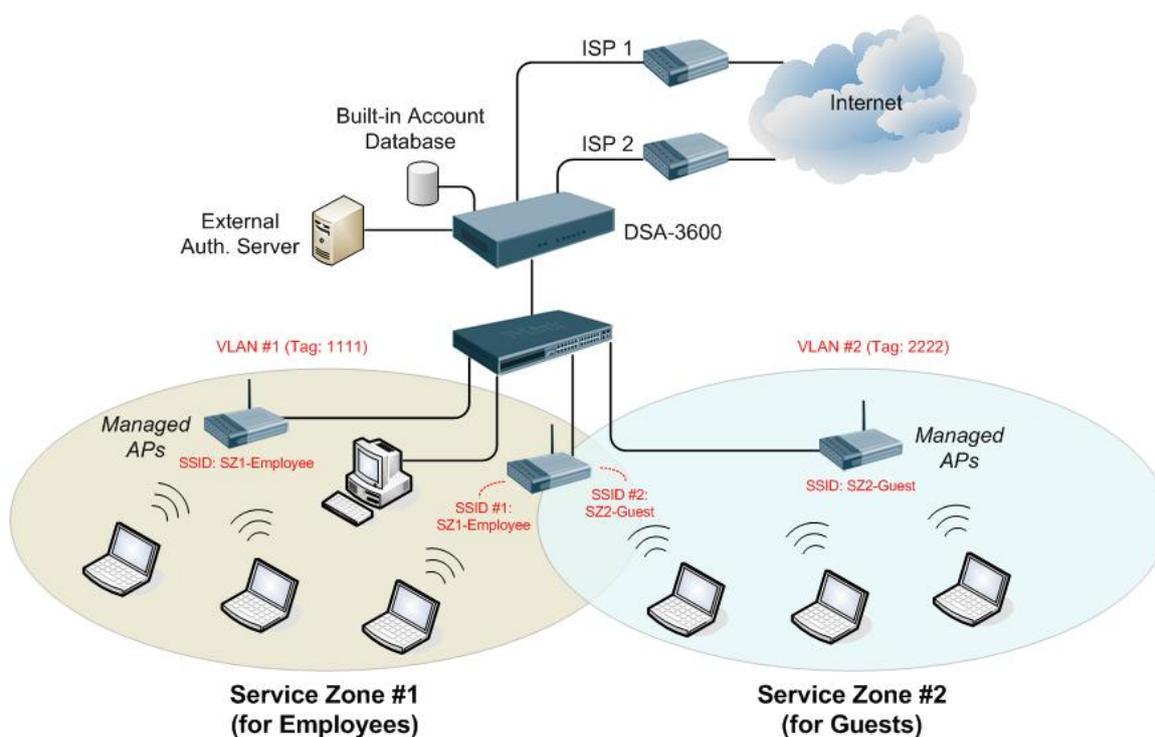


Figure-2: An example deployment using DSA-3600

2.3 Tag-based Service Zones Configuration Example – Enabling Two Service Zones

This section assumes that a factory default system has just been rebooted after running through the Wizard.

Log in to the web management interface and enter “**admin**” for both the default username and password in the Username and Password fields of the Administrator Login Page. After logging-in the web management interface, from the Menu Tree, click **System** and then click **LAN Port Mapping** to verify that **Tag-Based** service zone mode is selected.

LAN Ports and Service Zone Mapping

Select the mode for Service Zone Port-Based Tag-Based

Notice: Under "Tag-Based" mode, Service Zones will be distinguished by VLAN tagging, instead of physical LAN ports.

Default Default Default Default

LAN1 LAN2 LAN3 LAN4

Apply Clear

Click **System** and then click **Service Zones** to enter the Service Zone Settings page as shown below.

DSA-3600 Multi-Service Business Gateway

admin -

Tools Help Logout

Service Zone Settings

Service Zone Name	VLAN Tag	SSID	WLAN Encryption	Applied Policy	Default Authen Option	Status	Details
Default	N/A	dlink	None	None	On-demand User	Enabled	Configure
SZ1	1	dlink-SZ1	None	None	Server 1	Disabled	Configure
SZ2	2	dlink-SZ2	None	None	Server 1	Disabled	Configure
SZ3	3	dlink-SZ3	None	None	Server 1	Disabled	Configure
SZ4	4	dlink-SZ4	None	None	Server 1	Disabled	Configure

Click the **Configure** button of Default Service zone to enter its Basic Settings page. While in this Basic Settings page, enter an IP address for **Preferred DNS Server** (e.g. 168.95.1.1) in the area of DHCP Server. (Empty **Preferred DNS Server** will result in problems when using the Internet.)

Basic Settings	
Service Zone Status	Enabled
Service Zone Name	Default
Network Interface	Operation Mode <input checked="" type="radio"/> NAT <input type="radio"/> Router IP Address : 192.168.1.1 Subnet Mask : 255.255.255.0
DHCP Server	<input type="radio"/> Disable DHCP Server <input checked="" type="radio"/> Enable DHCP Server Start IP Address : 192.168.1.2 End IP Address : 192.168.1.100 Preferred DNS Server : 168.95.1.1 Alternate DNS Server : Domain Name : dlink.com WINS Server : Lease Time : 1 Day Reserved IP Address List <input type="radio"/> Enable DHCP Relay

Scroll down to the bottom of the page and at the Wireless Settings area enter the **SSID** (e.g. dlink-staff) for connecting to this service zone.

Wireless Settings	
SSID	dlink-staff
Security	Authentication <input type="radio"/> Open System <input type="radio"/> Enable 802.1X Authentication
	Encryption <input type="radio"/> None

Scroll up to the middle of the page where the **Authentication Settings** is, and check the **Enabled** box for the **Authentication Required for the Zone** option. The users will now need to be authenticated to connect to the service zone. Make sure only Server1 is checked **Enabled** for this service zone.

Authentication Settings					
Authentication Required For the Zone	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled				
Authentication Options	Auth Option	Auth Database	Postfix	Default	Enabled
	Server 1	LOCAL	local	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>
	Server 2	POP3	pop3	<input type="radio"/>	<input type="checkbox"/>
	Server 3	RADIUS	radius	<input type="radio"/>	<input type="checkbox"/>
	Server 4	LDAP	ldap	<input type="radio"/>	<input type="checkbox"/>
	On-demand User	ONDEMAND	ondemand	<input type="radio"/>	<input type="checkbox"/>
	SIP	SIP	N/A	<input type="radio"/>	<input type="checkbox"/>

Click the **Apply** button to activate the changes for the default service zone. (We can restart the system later since we will want to continue to configure a second service zone for the guest users.)

Following similar procedures as above, click on **Service Zones** menu item on the Menu Tree again, this time to configure another service zone such as SZ1. Enter its Basic Settings page. Enable the service zone, enter the IP address of the Network Interface and Preferred DNS server, and set its SSID for guests such as 'dlink-guest'.

Basic Settings	
Service Zone Status	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Service Zone Name	<input type="text" value="SZ1"/>
Network Interface	VLAN Tag: <input type="text" value="1"/> * (Range: 1 ~ 4094)
	Operation Mode: <input checked="" type="radio"/> NAT <input type="radio"/> Router
	IP Address: <input type="text" value="192.168.2.1"/> *
	Subnet Mask: <input type="text" value="255.255.255.0"/> *
DHCP Server	<input type="radio"/> Disable DHCP Server <input checked="" type="radio"/> Enable DHCP Server
	Start IP Address: <input type="text" value="192.168.2.2"/> *
	End IP Address: <input type="text" value="192.168.2.100"/> *
	<input type="text" value="Preferred DNS Server"/> *
	Alternate DNS Server: <input type="text"/>
	Domain Name: <input type="text" value="dlink.com"/> *
	WINS Server: <input type="text"/>
	Lease Time: <input type="text" value="1 Day"/> ▾
Reserved IP Address List	
<input type="radio"/> Enable DHCP Relay	

Note: The default management IP address is 192.168.1.0/24. Please change it accordingly at System → General → Management IP Address List to let the administrator to login to the DSA-3600 admin page after the default IP address of Network Interface is changed.

Wireless Settings		
SSID	dlink-guest *	
Security	Authentication	Open System <input type="checkbox"/> Enable 802.1X Authentication
	Encryption	None

Remember to enable Authentication requirement for this service zone and enable the **On-demand Users** authentication options only.

Authentication Settings					
Authentication Required For the Zone	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled				
Authentication Options	Auth Option	Auth Database	Postfix	Default	Enabled
	Server 1	LOCAL	local	<input type="radio"/>	<input type="checkbox"/>
	Server 2	POP3	pop3	<input type="radio"/>	<input type="checkbox"/>
	Server 3	RADIUS	radius	<input type="radio"/>	<input type="checkbox"/>
	Server 4	LDAP	ldap	<input type="radio"/>	<input type="checkbox"/>
	On-demand User	ONDEMAND	ondemand	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>
SIP	SIP	N/A	<input type="radio"/>	<input type="checkbox"/>	

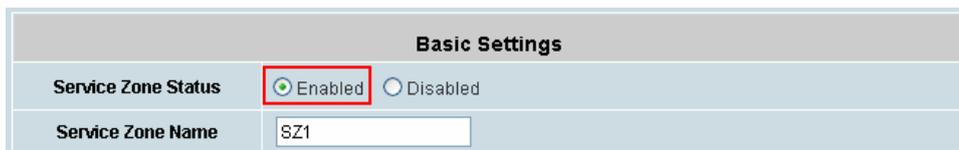
Click **Apply** to activate the changes for the second service zone.

Now is the time to restart the system. After the restart, the system will be configured according to *Figure-1*.

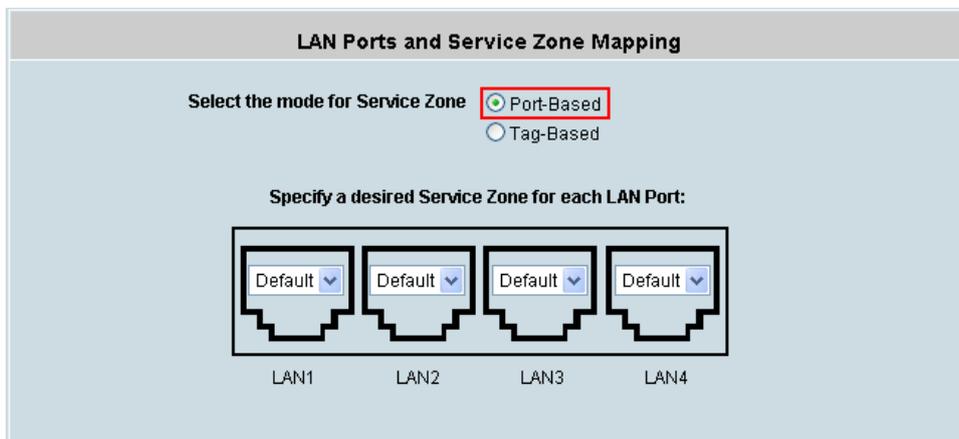
2.4 Port-based Service Zones Configuration Example

After running through the **Setup Wizard** using a factory default settings, the DSA-3600 is ready to use the default tag-based VLAN for separating networks. *Section 2.4* of this document will demonstrate how to map service zones to LAN ports if port-based VLAN is desired.

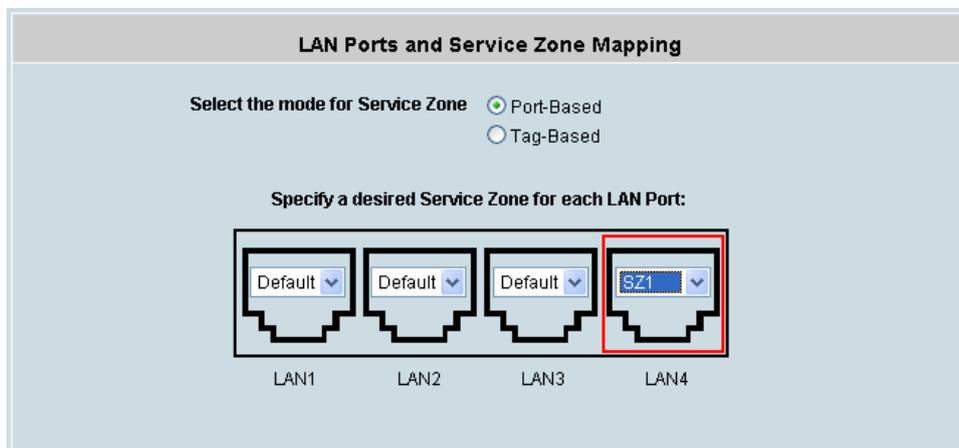
Log in to the web management interface and enter “**admin**” for both the default username and password in the Username and Password fields of the Administrator Login Page. After logging-in the web management interface, from the Menu Tree, click **System** then **Service Zones** to enter the Service Zone Settings page. At the desired service zone, click **Configure** to enter its Basic Settings page, then enable the service zone to be used for the port-based service zone deployment.



Click **System** from the Menu Tree, then click **LAN Port Mapping**. Select **Port-Based** mode for service zone.



Assume LAN1, LAN2, LAN3 are to use the Default service zone for internal staff while LAN4 is to be assigned to another service zone for external guests only. In the abovementioned page, click **LAN4**'s drop-down menu to select the desired second zone such as 'SZ1' for LAN4 (select only enabled service zones). Click **Apply** and reboot the system.



In tag-based mode, each LAN port can serve traffic from any service zone. This is because VLAN tags carried in message frame will not be modified. In port-based mode, each LAN port can only service the traffic of one service zone, and all messages through the LAN port will be re-tagged with the tag assigned to the port. Compare *Figure-1* of this document and *Figure-3* below to see the differences.

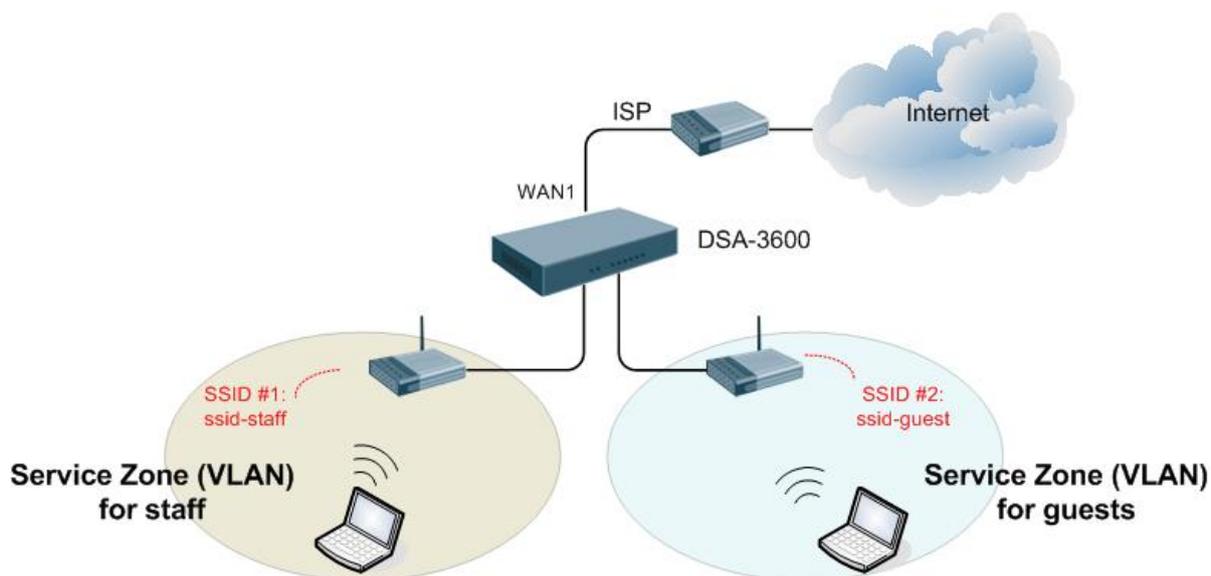


Figure-3: An example using Port-Based service zones

For single zone deployment, use the Default service zone with port-based mode.

For further information, please refer to the User's Manual.