

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

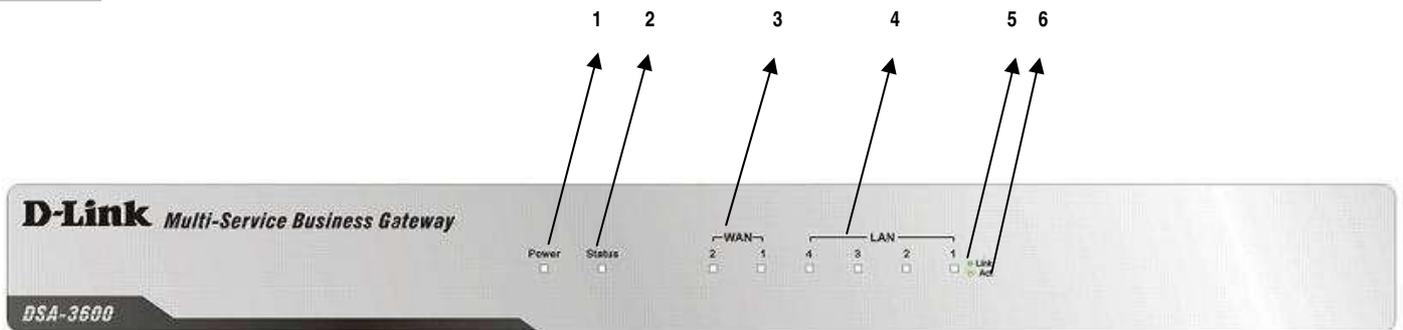
- DSA-3600 x 1
- Quick Installation Guide x 1
- CD-ROM x 1
- Console Cable x 1
- Straight-through Ethernet Cable x 1
- Power Cord x 1
- Power Adapter x 1

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.

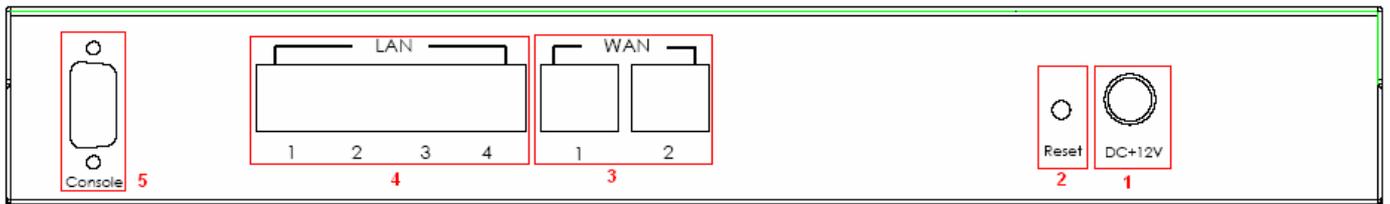
4. LAN1~LAN4 LEDs

- 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.

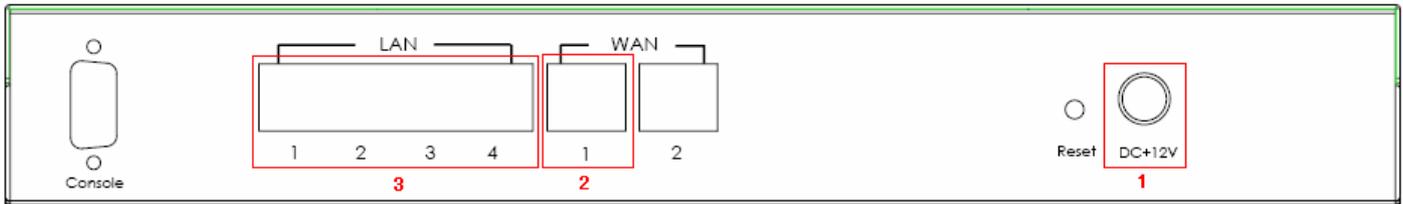
4. LAN1~LAN4

- 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.

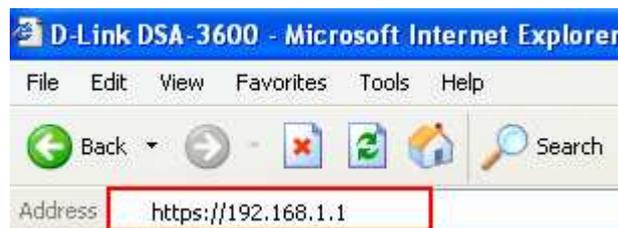
Warning: Using a non-certified power adapter may damage this product.

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, then select the **Enter** button to log in.



The image shows the Administrator Login Page for the DSA-3600. The page has a blue header with the title "Connect to DSA-3600" and a key icon. Below the header, it says "Welcome To Administrator Login Page! Please Enter Your Username and Password To Sign In." There are two input fields: "Username:" with the text "admin" and "Password:" with six dots. Below the fields are two buttons: "Enter" and "Clear".

After successfully logging into the DSA-3600, the System Overview page of the web management interface will appear. Make the necessary changes to the settings accordingly. To logout, simply click the **Logout** icon on the upper right corner of the interface to return to the Administrator Login Page.



The image shows the System Overview page of the DSA-3600 web management interface. The page has a blue header with the D-Link logo and the text "Building Networks for People". The user is logged in as "admin - 10.29.2.160". The page title is "System Overview". The interface is divided into several sections:

- System:** System Time: 2007/03/31 16:15:03 +0800; Up Time: 4 min; FW Version: 1.00.00
- Access Points:** Total Managed: 0; Down: 0; Associated Clients: 0
- Network Interfaces:** WAN1: 10.29.1.93 (Up); WAN2: N/A (Down); Default: 192.168.1.1 (Enabled); SZ1: 192.168.2.1 (Disabled); SZ2: 192.168.3.1 (Disabled); SZ3: 192.168.4.1 (Disabled); SZ4: 192.168.5.1 (Disabled)
- Users:** Total Online: 0; Guests: 0
- VPN Sessions:** Local VPN: 0; Remote VPN: 0

At the bottom right, there is a "Refresh every" dropdown menu set to 60 seconds.

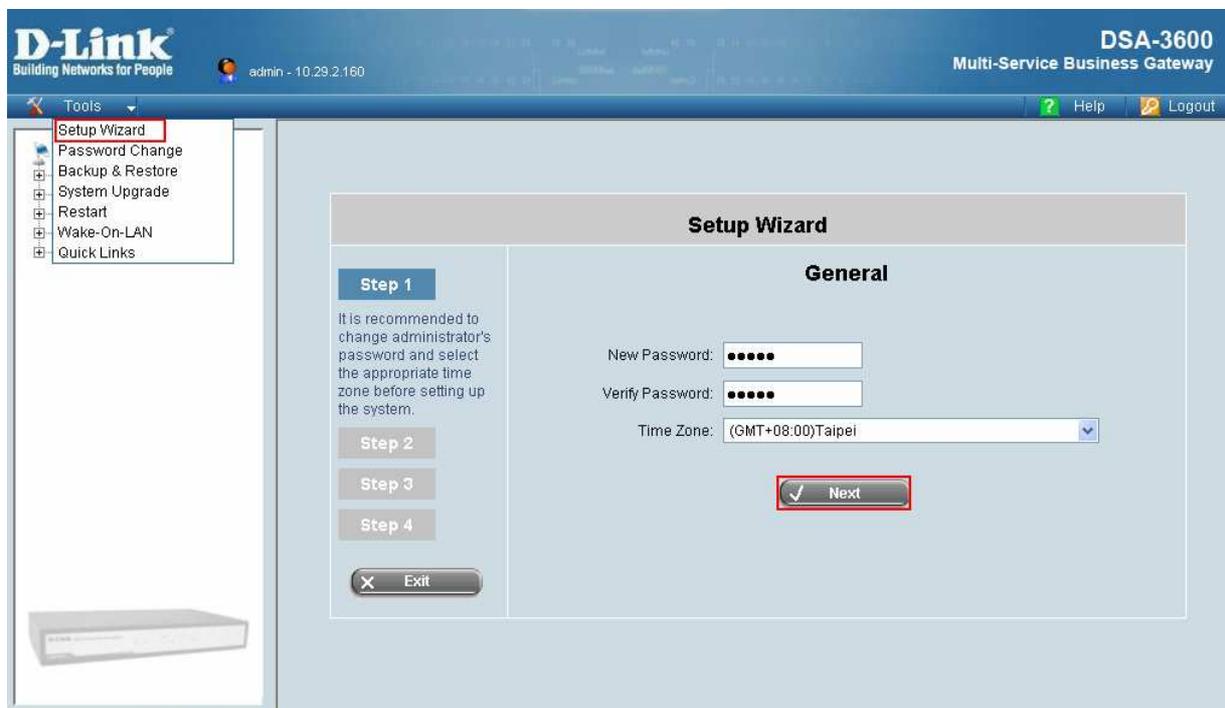
2. Common Settings

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.

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

The screenshot shows the 'Setup Wizard' interface. On the left, there are four steps: Step 1 (selected), Step 2, Step 3, and Step 4. Below the steps is an 'Exit' button. The main area is titled 'General' and contains the following fields: 'New Password' (masked with dots), 'Verify Password' (masked with dots), and 'Time Zone' (a dropdown menu showing '(GMT+08:00)Taipei'). A 'Next' button with a checkmark is highlighted with a red box.

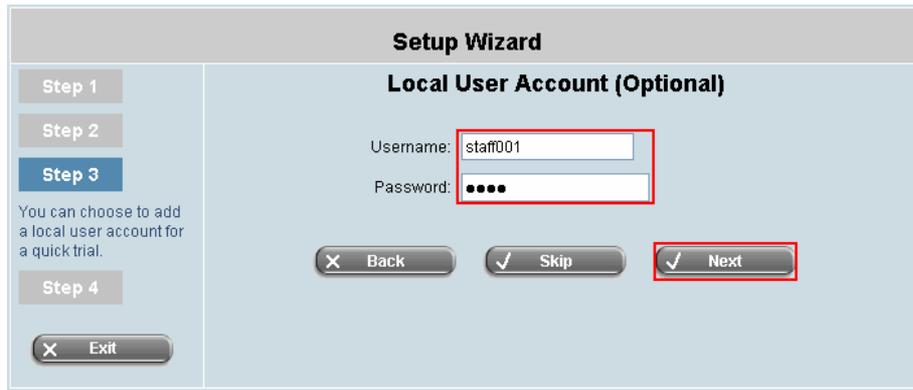
Step 2: WAN1 Interface

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' interface for the 'WAN1 Interface' step. On the left, there are four steps: Step 1, Step 2 (selected), Step 3, and Step 4. Below the steps is an 'Exit' button. The main area is titled 'WAN1 Interface' and contains three radio button options: 'Static (Use the following IP settings)', 'Dynamic (IP settings assigned automatically.)', and 'PPPoE' (which is selected). Below these options are 'Username' and 'Password' input fields, both with red asterisks indicating required fields. At the bottom, there are 'Back' and 'Next' buttons, with the 'Next' button highlighted by a red box.

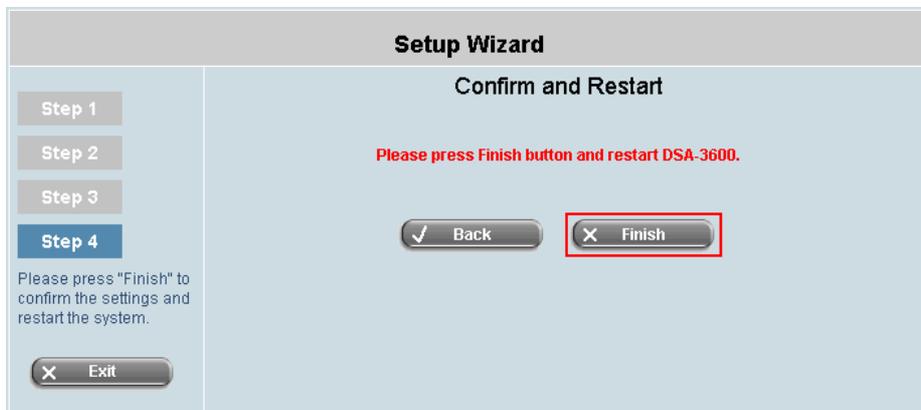
- **Step 3: Local User Account (Optional)**

In this step, new local accounts can be added into the local user database. Enter the Username (e.g. staff001) and Password (e.g. JTim) 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.



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.

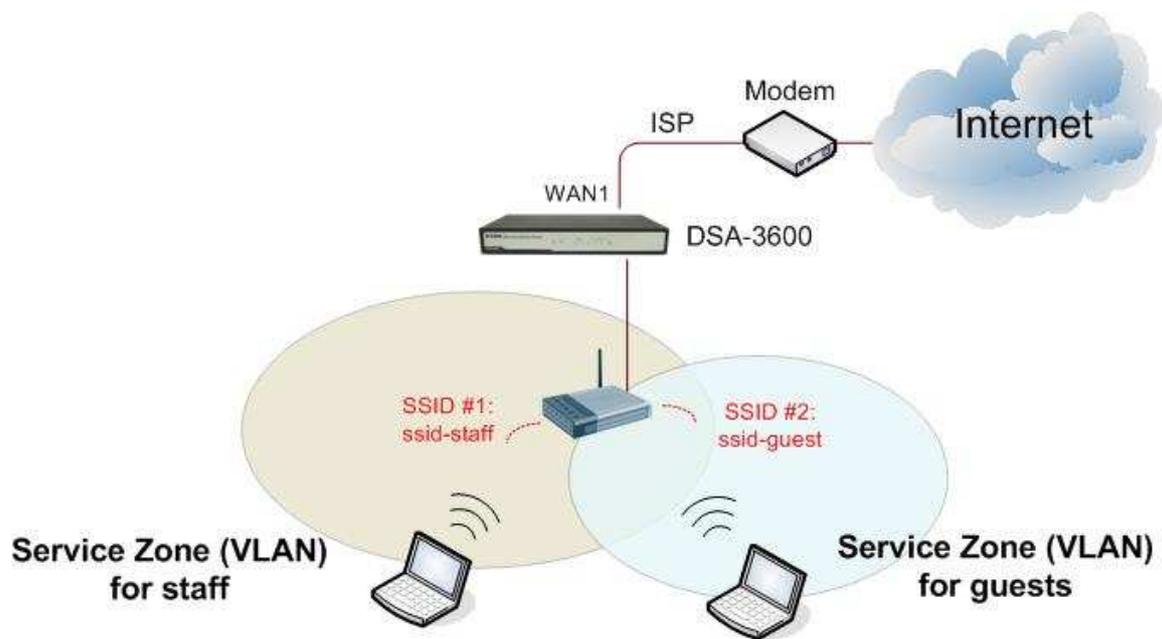


Figure-1 : An example using Tag-Based service zones

2.2 SMB 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 such as a DWL-2100, with multiple SSIDs turned on, can service multiple service zones.

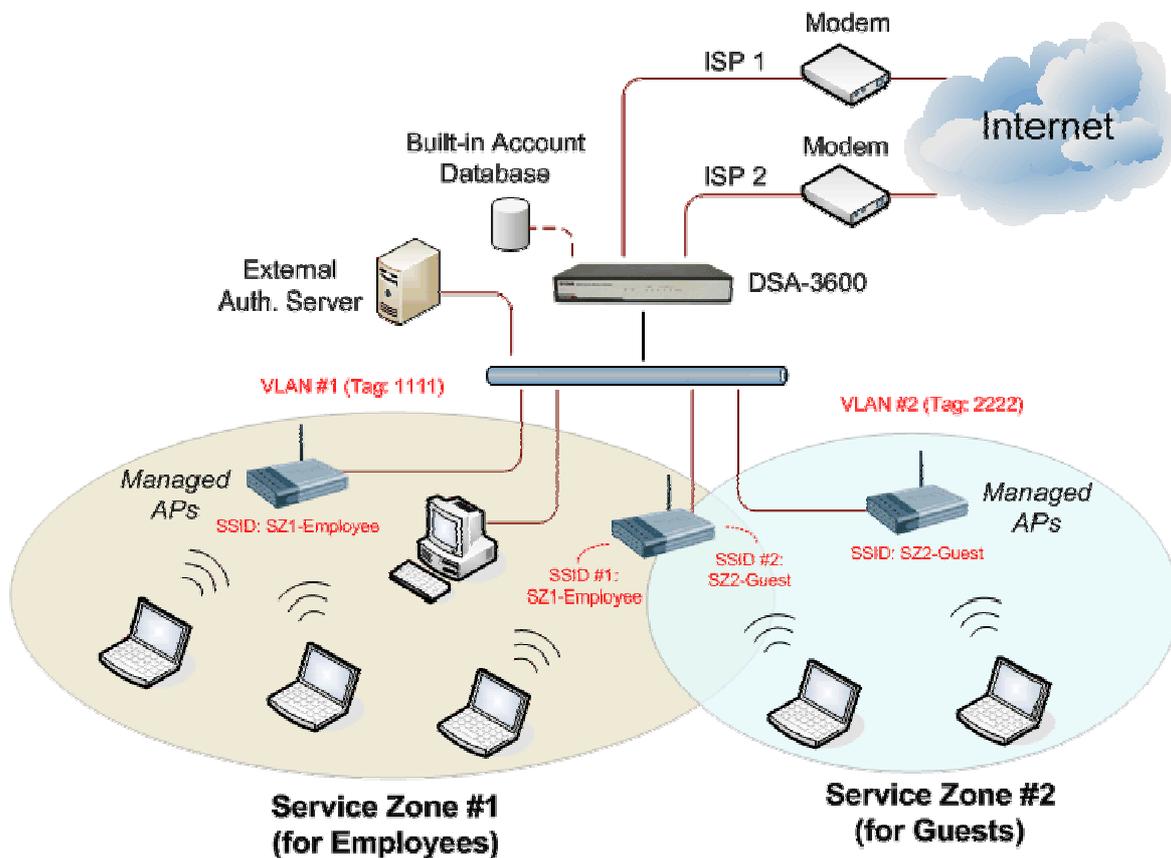
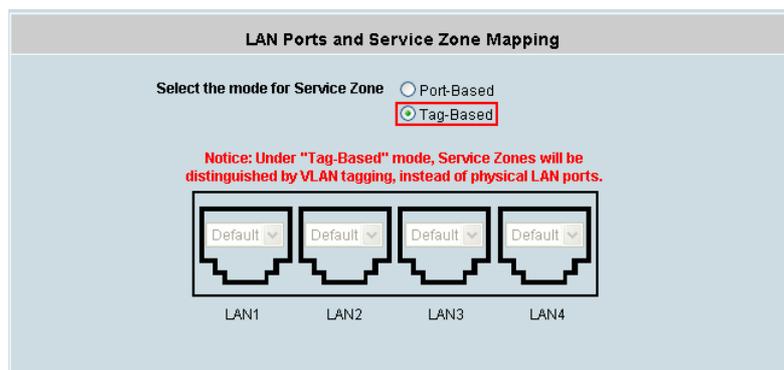


Figure-2 : An example deployment using DSA-3600

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.



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



Service Zone Name	VLAN Tag	SSID	Encryption	Applied Policy	Authentication	Status	Details
Default	--	dlink	Open System	None	Disabled	Enabled	Configure
SZ1	1	dlink-SZ1	Open System	None	Server 1	Disabled	Configure
SZ2	2	dlink-SZ2	Open System	None	Server 1	Disabled	Configure
SZ3	3	dlink-SZ3	Open System	None	Server 1	Disabled	Configure
SZ4	4	dlink-SZ4	Open System	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** in the area of DHCP Server. (Empty **Preferred DNS Server** will result in problems when using the Internet.)

DHCP Server

Disable DHCP Server
 Enable DHCP Server

Start IP Address :

End IP Address :

Preferred DNS Server :

Alternate DNS Server :

Domain Name :

WINS Server :

Lease Time :

[Reserved IP Address List](#)

Enable DHCP Relay

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

Wireless Settings

SSID :

Security :

Authentication : Enable 802.1X Authentication

Encryption :

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 : Enabled Disabled

Auth Option	Auth Database	Postfix	Default	Enabled
Server 1	LOCAL	local	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>
Server 2	RADIUS	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"/>
Guest Users	ONDEMAND	guest	<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 Preferred DNS server, and set its SSID for guests such as 'ssid-guest'.

Service Zone Status Enabled Disabled

Service Zone Name SZ1

Network Interface

VLAN Tag: 1 (Range: 1 ~ 4094)

Operation Mode: NAT Router

IP Address: 192.168.2.254

Subnet Mask: 255.255.255.0

DHCP Server

Disable DHCP Server
 Enable DHCP Server

Start IP Address: 192.168.2.1

End IP Address: 192.168.2.100

Preferred DNS Server: []

Alternate DNS Server: []

Domain Name: dlink.com

WINS Server: []

Lease Time: 1 Day

Wireless Settings

SSID ssid-guest

Security

Authentication Open System

Enable 802.1X Authentication

Encryption None

Remember to enable Authentication requirement for this service zone and enable the **Guest 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	RADIUS	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"/>
Guest Users	ONDEMAND	guest	<input checked="" type="radio"/>	<input checked="" 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 of page 10.

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

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.

Service Zone Settings							
Service Zone Name	VLAN Tag	SSID	Encryption	Applied Policy	Authentication	Status	Details
Default	--	dlink	Open System	None	Disabled	Enabled	Configure
SZ1	1	dlink-SZ1	Open System	None	Server 1	Disabled	Configure
SZ2	2	dlink-SZ2	Open System	None	Server 1	Disabled	Configure
SZ3	3	dlink-SZ3	Open System	None	Server 1	Disabled	Configure
SZ4	4	dlink-SZ4	Open System	None	Server 1	Disabled	Configure

Basic Settings	
Service Zone Status	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Service Zone Name	<input type="text" value="SZ1"/>

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

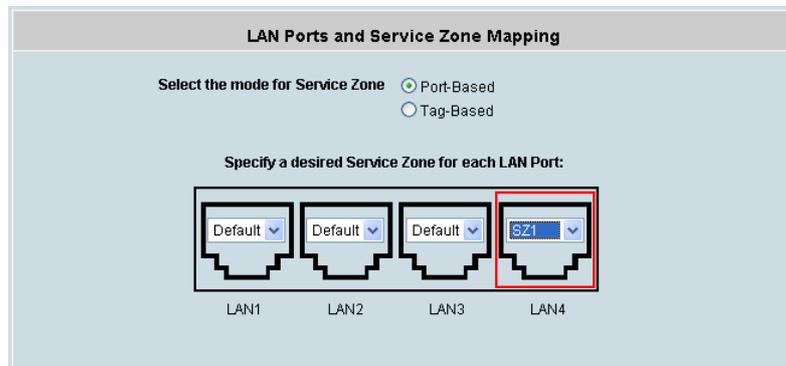
LAN Ports and Service Zone Mapping

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

Specify a desired Service Zone for each LAN Port:

Default	Default	Default	Default
LAN1	LAN2	LAN3	LAN4

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.

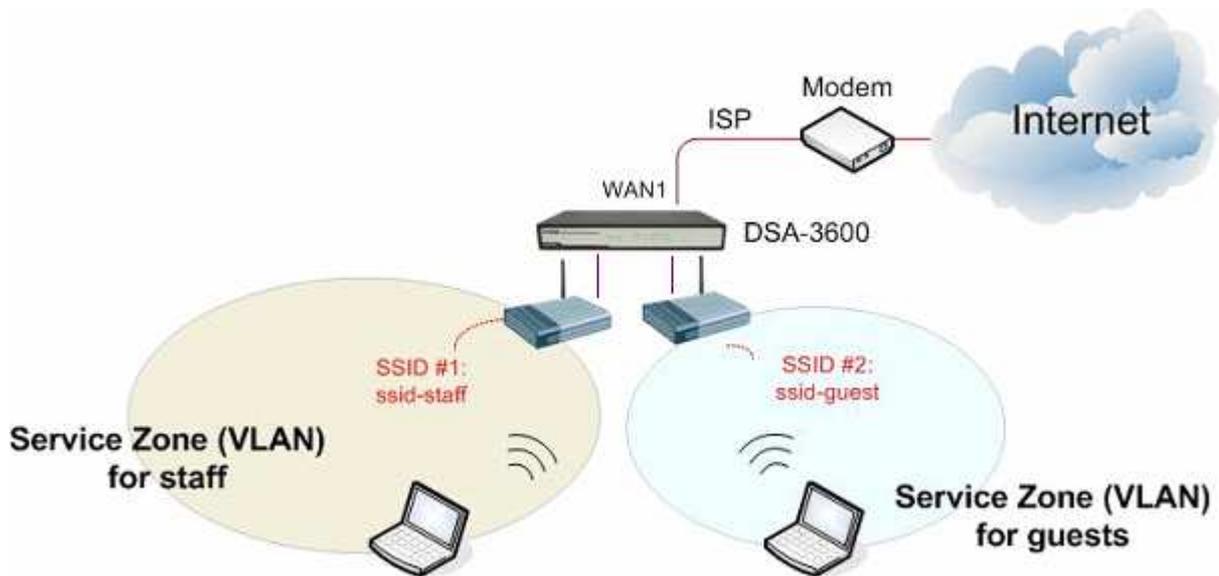


Figure-3 : An example using Port-Based service zones

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

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