

Configuration Guide



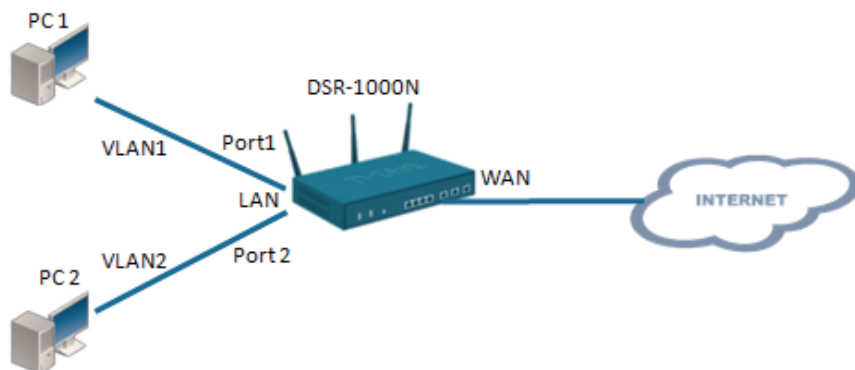
How to Configure Multiple VLANs With Different Subnets in the DSR Series

Overview

This document describes how to configure multiple VLANs with different subnets on the D-Link DSR Series. Moreover, the DHCP server will be enabled to assign dynamic IP addresses in each VLAN subnet. The screenshots in this document are taken with firmware version 3.11. If you are using an earlier version of the firmware, the screenshots may not be identical to what you see in your browser.

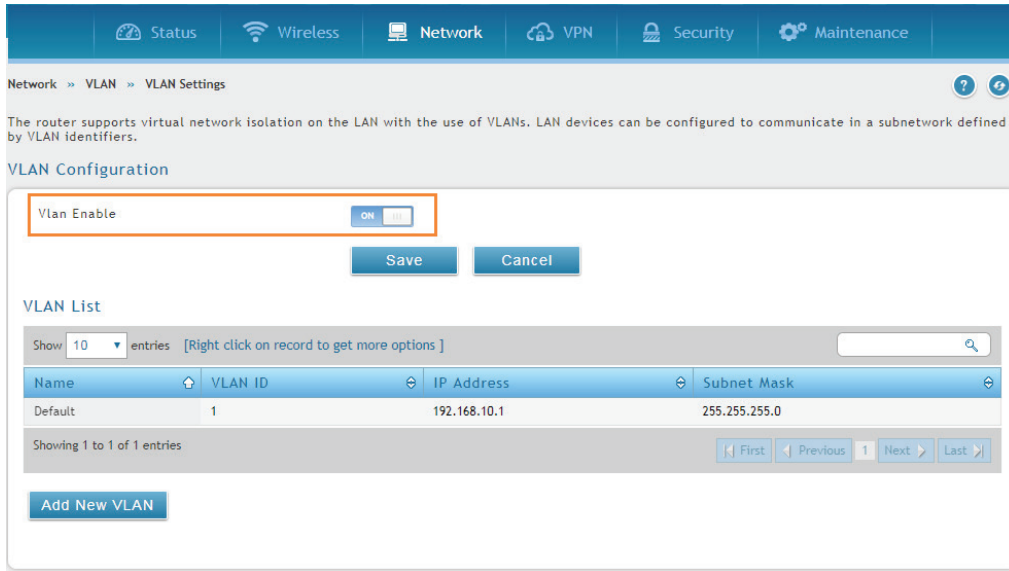
Situation note

Generally, VLANs are an ideal solution for implementing multiple subnets within an organization. Each department/group is separated into a different subnet, which offers better security and reduces packet congestion in the network.



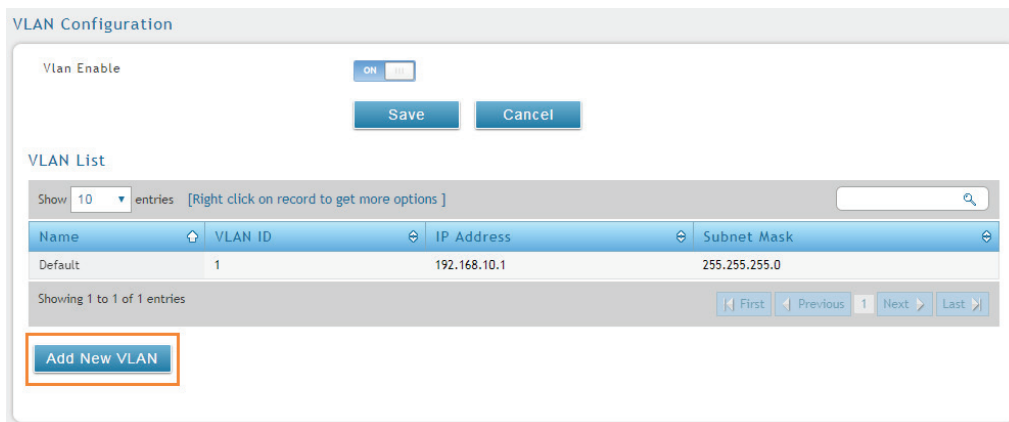
Configuration Instructions

1. On the **Network -> VLAN -> VLAN Settings** page, make sure **VLAN Enable** is set to **ON**. By default, this will be set to **ON**. If VLAN is disabled, please toggle it on and click **Save**.



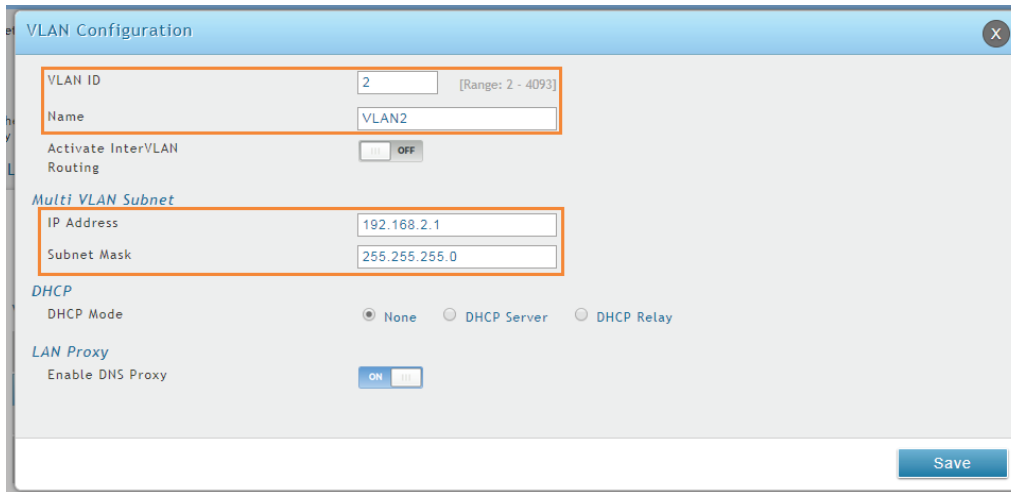
The screenshot shows the 'VLAN Settings' page in a web interface. The navigation bar at the top includes 'Status', 'Wireless', 'Network', 'VPN', 'Security', and 'Maintenance'. The breadcrumb trail is 'Network >> VLAN >> VLAN Settings'. Below the breadcrumb, there is a help icon and a refresh icon. A descriptive text states: 'The router supports virtual network isolation on the LAN with the use of VLANs. LAN devices can be configured to communicate in a subnetwork defined by VLAN identifiers.' The 'VLAN Configuration' section features a 'Vlan Enable' toggle switch, which is currently set to 'ON'. Below the toggle are 'Save' and 'Cancel' buttons. The 'VLAN List' section shows a table with one entry: 'Default' with 'VLAN ID' 1, 'IP Address' 192.168.10.1, and 'Subnet Mask' 255.255.255.0. The table has columns for 'Name', 'VLAN ID', 'IP Address', and 'Subnet Mask'. Below the table are navigation buttons: 'First', 'Previous', '1', 'Next', and 'Last'. At the bottom of the 'VLAN List' section is an 'Add New VLAN' button.

2. In the **VLAN List** section on the same page, click the **Add New VLAN** button to create a new VLAN.



This screenshot is identical to the one above, showing the 'VLAN Settings' page. The 'Vlan Enable' toggle is still 'ON'. The 'Add New VLAN' button at the bottom of the 'VLAN List' section is highlighted with an orange rectangular box.

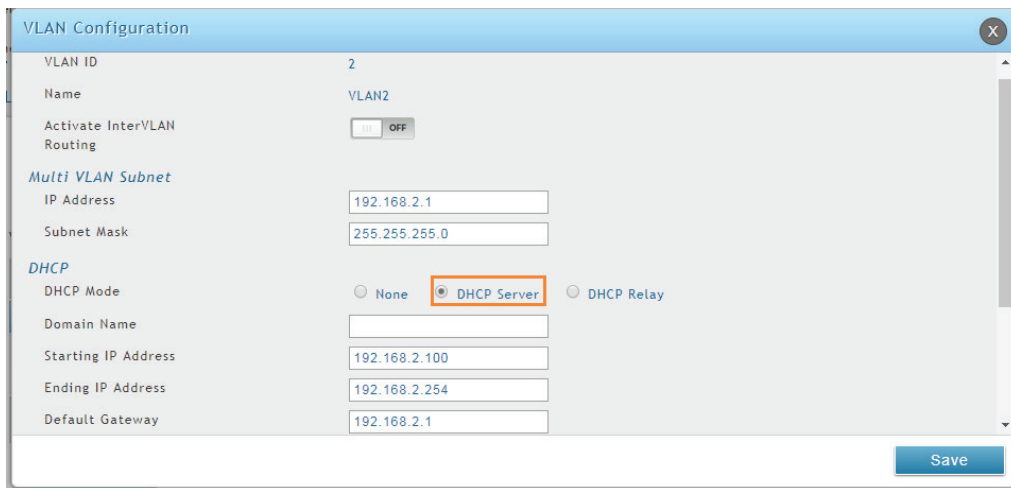
3. Complete the **VLAN ID**, **Name**, **IP Address**, and **Subnet Mask** fields for the new VLAN. In the example below, we have create a VLAN named VLAN2 with VLAN ID 2, the IP address 192.168.2.1 and subnet mask 255.255.255.0.



The screenshot shows the 'VLAN Configuration' dialog box. The 'VLAN ID' field is set to 2, and the 'Name' field is set to VLAN2. The 'Activate Inter-VLAN Routing' toggle is turned off. Under the 'Multi VLAN Subnet' section, the 'IP Address' is 192.168.2.1 and the 'Subnet Mask' is 255.255.255.0. The 'DHCP Mode' is set to 'None'. The 'Enable DNS Proxy' toggle is turned on. A 'Save' button is located at the bottom right.

| | | |
|-----------------------------|--|-------------------|
| VLAN ID | 2 | [Range: 2 - 4093] |
| Name | VLAN2 | |
| Activate Inter-VLAN Routing | <input type="checkbox"/> OFF | |
| Multi VLAN Subnet | | |
| IP Address | 192.168.2.1 | |
| Subnet Mask | 255.255.255.0 | |
| DHCP | | |
| DHCP Mode | <input checked="" type="radio"/> None <input type="radio"/> DHCP Server <input type="radio"/> DHCP Relay | |
| LAN Proxy | | |
| Enable DNS Proxy | <input checked="" type="checkbox"/> ON | |

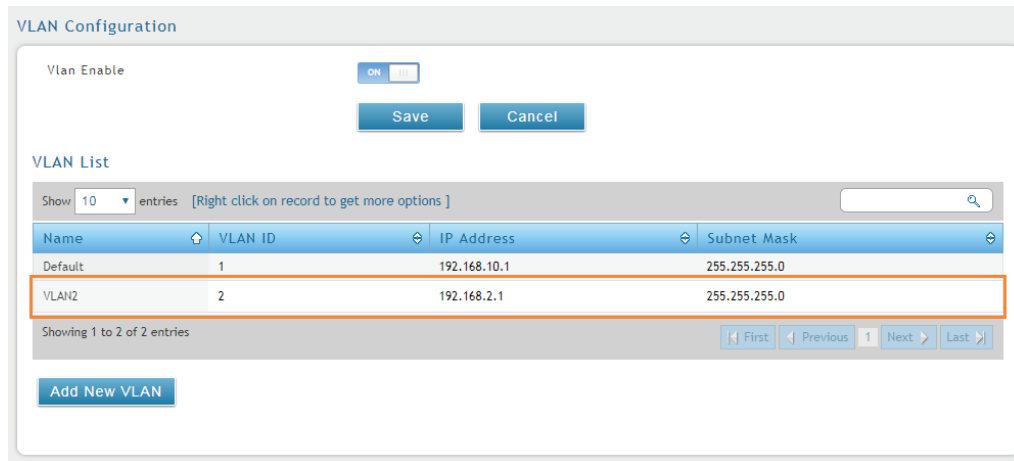
4. You can also change the DHCP setting on this page. In this case, we have enabled DHCP server and have assigned a different network subnet for VLAN 2. When you are finished configuring the VLAN, click **Save**.



The screenshot shows the 'VLAN Configuration' dialog box with the DHCP settings updated. The 'DHCP Mode' is now set to 'DHCP Server'. The 'Starting IP Address' is 192.168.2.100, the 'Ending IP Address' is 192.168.2.254, and the 'Default Gateway' is 192.168.2.1. The 'Domain Name' field is empty. A 'Save' button is located at the bottom right.

| | | |
|-----------------------------|--|--|
| VLAN ID | 2 | |
| Name | VLAN2 | |
| Activate Inter-VLAN Routing | <input type="checkbox"/> OFF | |
| Multi VLAN Subnet | | |
| IP Address | 192.168.2.1 | |
| Subnet Mask | 255.255.255.0 | |
| DHCP | | |
| DHCP Mode | <input type="radio"/> None <input checked="" type="radio"/> DHCP Server <input type="radio"/> DHCP Relay | |
| Domain Name | | |
| Starting IP Address | 192.168.2.100 | |
| Ending IP Address | 192.168.2.254 | |
| Default Gateway | 192.168.2.1 | |

5. The newly created VLAN will now show in the VLAN List.

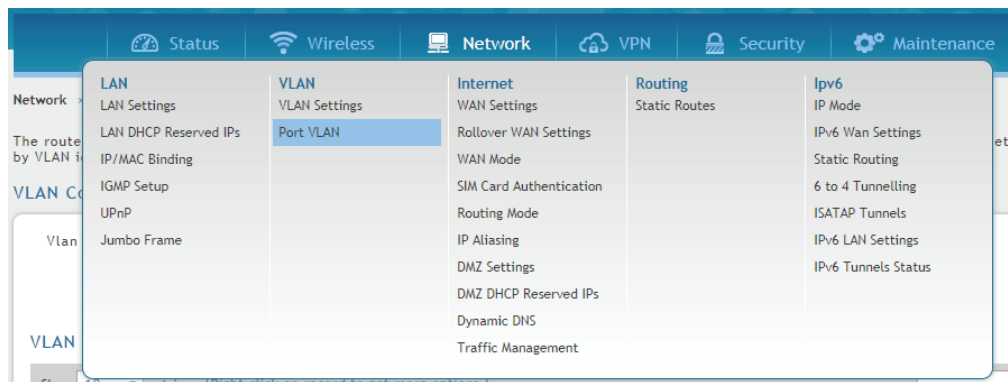


The screenshot shows the 'VLAN Configuration' interface. At the top, there is a 'Vlan Enable' toggle set to 'ON', with 'Save' and 'Cancel' buttons below it. The 'VLAN List' section displays a table with the following data:

| Name | VLAN ID | IP Address | Subnet Mask |
|---------|---------|--------------|---------------|
| Default | 1 | 192.168.10.1 | 255.255.255.0 |
| VLAN2 | 2 | 192.168.2.1 | 255.255.255.0 |

Below the table, it indicates 'Showing 1 to 2 of 2 entries' and includes navigation buttons for 'First', 'Previous', '1', 'Next', and 'Last'. An 'Add New VLAN' button is located at the bottom left of the configuration area.

6. Go to the [Network -> VLAN -> Port VLAN](#) page to associate the VLAN to a port.



The screenshot shows the 'Network' configuration menu. The 'VLAN' sub-menu is expanded, and 'Port VLAN' is highlighted. The menu structure is as follows:

- Network
 - LAN
 - LAN Settings
 - LAN DHCP Reserved IPs
 - IP/MAC Binding
 - IGMP Setup
 - UPnP
 - Jumbo Frame
 - VLAN
 - VLAN Settings
 - Port VLAN
 - Internet
 - WAN Settings
 - Rollover WAN Settings
 - WAN Mode
 - SIM Card Authentication
 - Routing Mode
 - IP Aliasing
 - DMZ Settings
 - DMZ DHCP Reserved IPs
 - Dynamic DNS
 - Traffic Management
 - Routing
 - Static Routes
 - Ipv6
 - IP Mode
 - IPv6 Wan Settings
 - Static Routing
 - 6 to 4 Tunnelling
 - ISATAP Tunnels
 - IPv6 LAN Settings
 - IPv6 Tunnels Status

7. Select the port you want to associate the VLAN with and right click, then click **Edit** as shown in the image below to open the port VLAN configuration window.

Network » VLAN » Port VLAN

This page allows user to configure the port VLANs. A user can choose ports and can add them into a VLAN. In order to tag all traffic through a specific LAN port with a VLAN ID, you can associate a VLAN to a physical port. The VLAN Port table displays the port identifier, the mode setting for that port and VLAN membership information. Go to the Available VLAN page to configure a VLAN membership that can then be associated with a port

Port VLANs List

| Port Name | Mode | PVID | VLAN Membership |
|--------------|--------|------|-----------------|
| OptionalPort | Access | 1 | 1 |
| Port1 | Access | 1 | 1 |
| Port2 | Access | 1 | 1 |
| Port3 | Access | 1 | 1 |
| Port4 | Access | 1 | 1 |
| Port5 | Access | 1 | 1 |
| Port6 | Access | 1 | 1 |
| Port7 | Access | 1 | 1 |

Showing 1 to 8 of 8 entries

8. On this page, configure the VLAN mode and PVID. In this case, set the **VLAN mode** to Access and set the **PVID** to **2**, and then click **Save**. For more information on VLAN modes, please refer to the DSR Series user manual.

Port VLAN Configuration

Port Name: Port2

Mode: Access

PVID: 2 [Default: 1, Range: 1 - 4093]

Save

Network » VLAN » Port VLAN

VLAN ID does not configured

This page allows user to configure the port VLANs. A user can choose ports and can add them into a VLAN. In order to tag all traffic through a specific LAN port with a VLAN ID, you can associate a VLAN to a physical port. The VLAN Port table displays the port identifier, the mode setting for that port and VLAN membership information. Go to the Available VLAN page to configure a VLAN membership that can then be associated with a port

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| Port Name | Mode | PVID | VLAN Membership |
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| OptionalPort | Access | 1 | 1 |
| Port1 | Access | 1 | 1 |
| Port2 | Access | 1 | 1 |
| Port3 | Access | 1 | 1 |
| Port4 | Access | 1 | 1 |
| Port5 | Access | 1 | 1 |
| Port6 | Access | 1 | 1 |
| Port7 | Access | 1 | 1 |

Showing 1 to 8 of 8 entries

Note: If you have specified an incorrect/unavailable PVID number, the following error will appear:

9. The VLAN information in the Port VLANs List will update to show the changes:

Network » VLAN » Port VLAN

Operation Succeeded

This page allows user to configure the port VLANs. A user can choose ports and can add them into a VLAN. In order to tag all traffic through a specific LAN port with a VLAN ID, you can associate a VLAN to a physical port. The VLAN Port table displays the port identifier, the mode setting for that port and VLAN membership information. Go to the Available VLAN page to configure a VLAN membership that can then be associated with a port

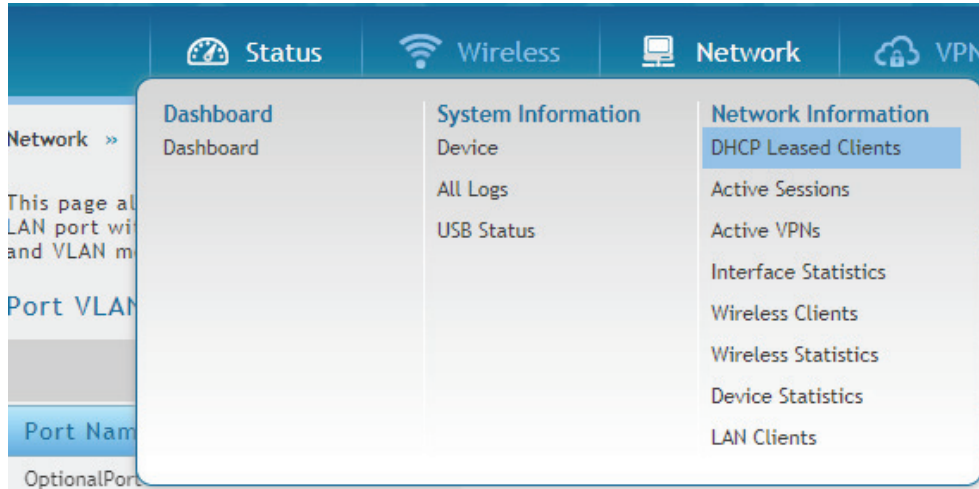
Port VLANs List

| Port Name | Mode | PVID | VLAN Membership |
|--------------|--------|------|-----------------|
| OptionalPort | Access | 1 | 1 |
| Port1 | Access | 1 | 1 |
| Port2 | Access | 2 | 2 |
| Port3 | Access | 1 | 1 |
| Port4 | Access | 1 | 1 |
| Port5 | Access | 1 | 1 |
| Port6 | Access | 1 | 1 |
| Port7 | Access | 1 | 1 |

Showing 1 to 8 of 8 entries

The VLANs have been configured on the DSR router. PC1 and PC2 in the example topology will be assigned different IP/subnet masks because they are connect to different VLANs. The following instructions will verify that the VLANs and subnets have been properly setup.

10. On the [Status -> Network Information](#) page, click on **DHCP Leased Clients**.



11. In the **LAN Leased Clients List**, both PC1 and PC2 from the example topology should be assigned a different IP/subnet by the DHCP server.

Status >> Network Information >> DHCP Leased Clients >> LAN Leased Clients

LAN Leased Clients | IPv6 Leased Clients | DMZ Leased Clients

This table displays the list of DHCP clients connected to the LAN DHCP Server and to whom DHCP Server has given leases. If the LAN is serving DHCP addresses, this table will show the list of DHCP clients for the router's LAN DHCP server.

LAN Leased Clients List

Show 10 entries [No right click options]

| Host Name | IP Address | MAC Address |
|-------------|----------------|-------------------|
| 08386NBWIN7 | 192.168.10.100 | 3c:97:0e:16:72:55 |
| user-PC | 192.168.10.101 | 00:22:68:1b:df:4d |
| user-PC | 192.168.2.2 | 00:22:68:1b:df:4d |

Showing 1 to 3 of 3 entries

First Previous 1 Next Last

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