

# Configuration Guide



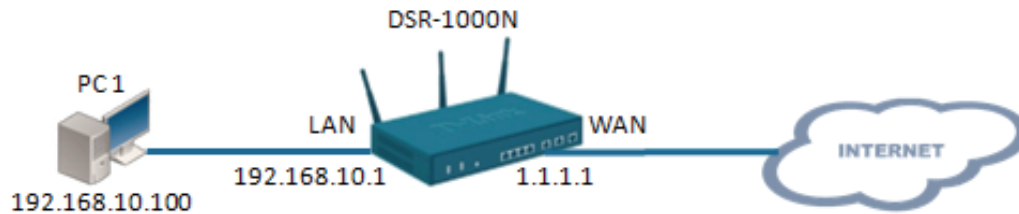
## How to Configure Bandwidth Management in the DSR Series

### Overview

This document provides instructions on how to configure the bandwidth management feature on the D-Link DSR-250N. This feature regulates traffic between the private LAN and external WAN. 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 on your browser.

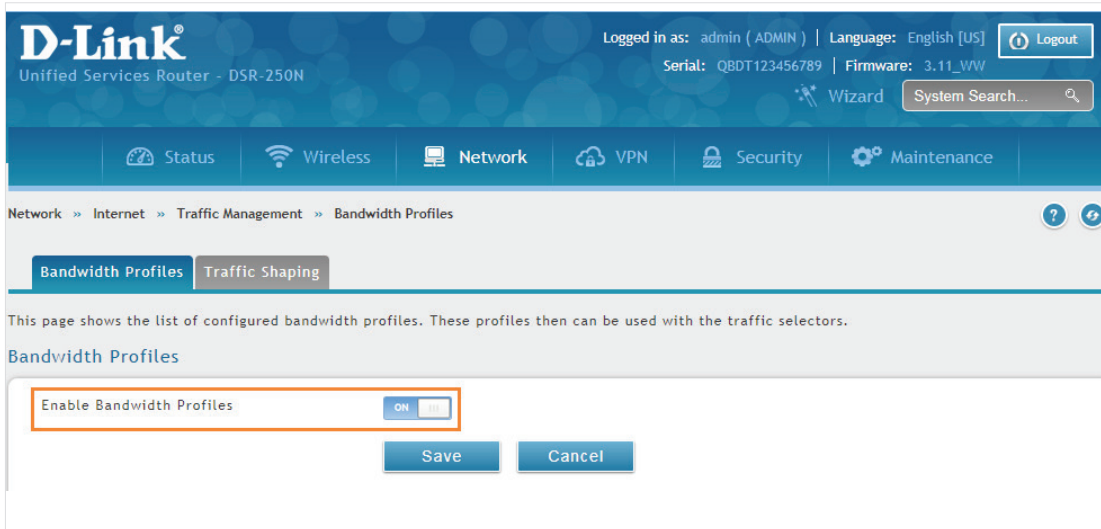
## Situation note

The bandwidth management feature can be used to guarantee enough bandwidth is available for mission critical applications and it can throttle traffic for lower priority and bandwidth consuming usage. With this feature, companies can efficiently utilize Internet bandwidth and increase business productivity.



## Configuration Instructions

1. On the **Network** -> **Traffic Management** -> **Bandwidth Profiles** page, set **Enable Bandwidth Profiles** to **ON** and click **Save**.



The screenshot displays the D-Link Unified Services Router (DSR-250N) web interface. The top navigation bar includes the D-Link logo, the model name, and user information (Logged in as: admin (ADMIN), Language: English [US], Serial: QBDT123456789, Firmware: 3.11\_VW). The main navigation menu contains Status, Wireless, Network, VPN, Security, and Maintenance. The breadcrumb trail shows the path: Network >> Internet >> Traffic Management >> Bandwidth Profiles. The page title is "Bandwidth Profiles" and "Traffic Shaping". A descriptive text states: "This page shows the list of configured bandwidth profiles. These profiles then can be used with the traffic selectors." The "Bandwidth Profiles" section contains a checkbox labeled "Enable Bandwidth Profiles" which is checked and highlighted with an orange border. Below the checkbox are "Save" and "Cancel" buttons.

2. In the **Bandwidth Profile List** section on the same page, click the **Add New Bandwidth Profile** button to create a new bandwidth profile.

The screenshot displays the 'Bandwidth Profiles' configuration page. At the top, there is a breadcrumb trail: Network » Internet » Traffic Management » Bandwidth Profiles. Below this, there are two tabs: 'Bandwidth Profiles' (active) and 'Traffic Shaping'. A message states: 'This page shows the list of configured bandwidth profiles. These profiles then can be used with the traffic selectors.' The main section is titled 'Bandwidth Profiles' and contains a toggle for 'Enable Bandwidth Profiles' set to 'ON', with 'Save' and 'Cancel' buttons. Below this is the 'Bandwidth Profiles List' section, which includes a search bar, a table header with columns 'Name' and 'Bandwidth Rate / Priority', and a message 'No data available in table'. At the bottom of the list section, there are navigation buttons: 'First', 'Previous', 'Next', and 'Last'. A red box highlights the 'Add New Bandwidth Profile' button located at the bottom left of the page.

3. Populate the **Name, Policy Type, WAN Interface, Profile Type, Priority** fields and click the **Save**. Refer to the descriptions below for more information on each field.

**Name:** This field is used to enter a name for the profile.

**Policy Type:** This field is to specify if the policy is an outbound (WAN interface) or an inbound (LAN interface).

**Profile Type:** This field is used to specify if the profile is a rate controlling profile or a priority controlling profile. Rate control will allow the user to define a minimum and maximum bandwidth size in Kbps. For a Priority profile, bandwidth size is tied to traffic priority. Traffic is allocated to either low, medium, or high priority with higher priority traffic receiving more bandwidth to ensure important data is transmitted reliably.

**Priority:** This field is used to specify the traffic priority level the bandwidth size will apply to. Choose from low, medium or high priority.

**Minimum Bandwidth Rate:** This field is used to define the minimum bandwidth size in Kbps for this profile.

**Maximum Bandwidth Rate:** This field is used to define the maximum bandwidth size in Kbps for this profile.

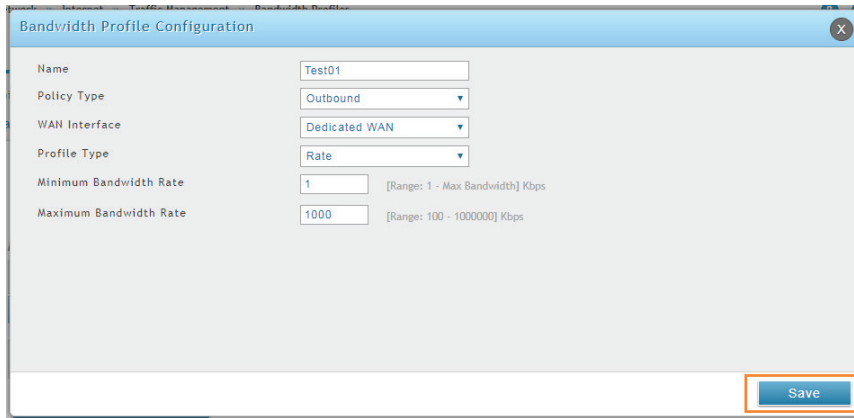
Bandwidth Profile Configuration	
Name	<input type="text"/>
Policy Type	Outbound ▼
WAN Interface	Dedicated WAN ▼
Profile Type	Priority ▼
Priority	Low ▼

Bandwidth Profile Configuration	
Name	<input type="text"/>
Policy Type	Outbound ▼
WAN Interface	Dedicated WAN ▼
Profile Type	Rate ▼
Minimum Bandwidth Rate	<input type="text"/> [Range: 1 - Max Bandwidth] Kbps
Maximum Bandwidth Rate	<input type="text"/> [Range: 100 - 1000000] Kbps

Below is an example bandwidth profile with the following settings:

The profile named "**Test01**", with the Policy Type set to **Outbound**, and the Profile Type set to **Controlling**, with the minimum and maximum bandwidth set to 1 Kbps 1000 Kbps respectively.

When you are finished configuring the profile settings, click **Save**.

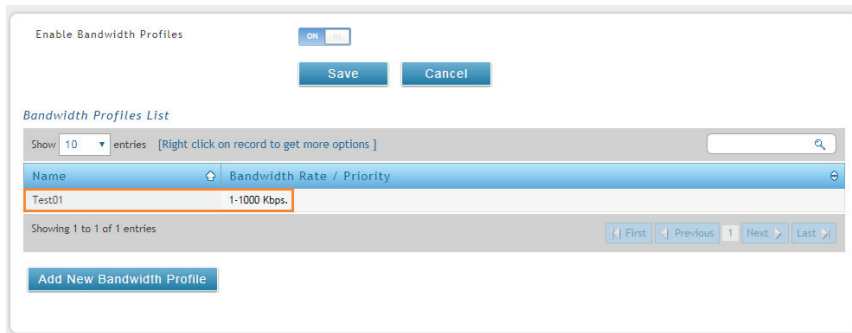


The screenshot shows a window titled "Bandwidth Profile Configuration" with the following settings:

Field	Value	Range / Note
Name	Test01	
Policy Type	Outbound	
WAN Interface	Dedicated WAN	
Profile Type	Rate	
Minimum Bandwidth Rate	1	[Range: 1 - Max Bandwidth] Kbps
Maximum Bandwidth Rate	1000	[Range: 100 - 1000000] Kbps

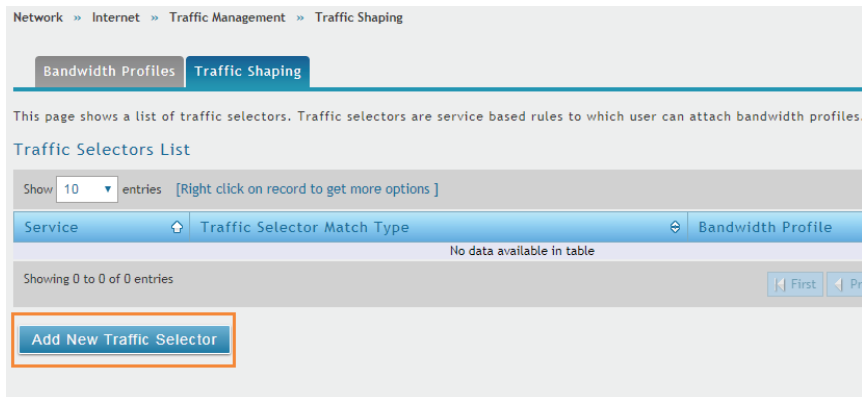
A "Save" button is located at the bottom right of the window, highlighted with an orange border.

4. The saved profile will now show in the Bandwidth Profiles List.



The screenshot shows the 'Bandwidth Profiles List' interface. At the top, there is a toggle for 'Enable Bandwidth Profiles' set to 'on', with 'Save' and 'Cancel' buttons below it. The main area is a table with columns 'Name' and 'Bandwidth Rate / Priority'. A single entry 'Test01' is listed with a bandwidth rate of '1-1000 Kbps'. Below the table, there are navigation buttons: 'First', 'Previous', '1', 'Next', and 'Last'. A button labeled 'Add New Bandwidth Profile' is located at the bottom left.

5. On the **Network -> Internet -> Traffic Management -> Traffic Shaping** page, click on the **Traffic Shaping** tab. Then, in the **Traffic Selectors List** section, click the **Add New Traffic Selector** button.



The screenshot shows the 'Traffic Shaping' page. The breadcrumb navigation is 'Network >> Internet >> Traffic Management >> Traffic Shaping'. There are two tabs: 'Bandwidth Profiles' and 'Traffic Shaping', with the latter selected. Below the tabs, a message states: 'This page shows a list of traffic selectors. Traffic selectors are service based rules to which user can attach bandwidth profiles.' The 'Traffic Selectors List' section features a table with columns 'Service', 'Traffic Selector Match Type', and 'Bandwidth Profile'. The table is currently empty, displaying 'No data available in table'. At the bottom left, the 'Add New Traffic Selector' button is highlighted with a red box.

6. Populate all the fields and click **Save**. Refer to the descriptions below for more information on each field.

**Available Profiles:** Select from a list of configured bandwidth profiles to apply the traffic selector criteria to.

**Service:** User can select from a list of pre-defined traffic selector rules.

**Traffic Selector Match Type:** The match type can be set to one of the following: **IP**, **MAC address**, **Port name**, **VLAN**, or **BSSID**.

**IP Address:** If the traffic selector match type is set to IP, enter the IP address in this field.

**MAC Address:** If the traffic selector match type is set to MAC address, enter the MAC address in this field.

**Port Name:** If the traffic selector match type is set to Port Name, enter the LAN port number/name.

**VLAN:** If the traffic selector match type is set to VLAN, select from the list of pre-defined or user-defined VLAN settings. Custom VLAN settings can be defined under Network -> VLAN -> VLAN settings.

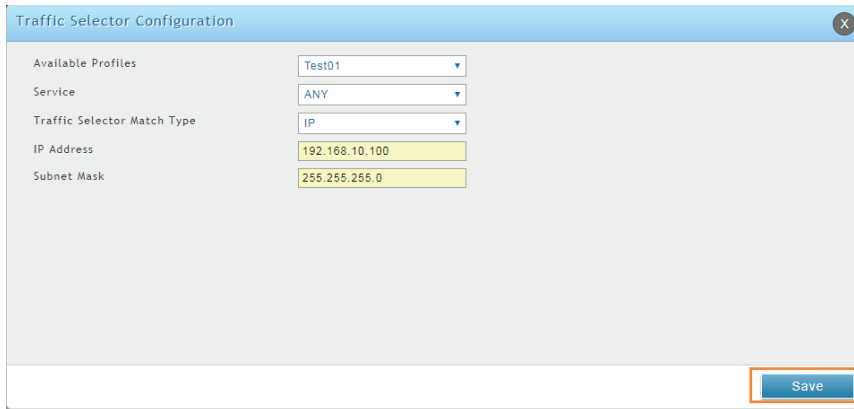
**BSSID:** If the traffic selector match type is set to BSSID, select from the list of pre-defined or user-defined Access Points, Custom Access Points can be defined under Wireless -> General -> Access Points.



Below is an example Traffic Selector Configuration with the following settings:

The traffic selector is applied to bandwidth profile **Test01**, with the Service type set to **ANY**, and the Selector Match Type set to IP, with the necessary IP address and Subnet mask information.

When you are finished configuring the Traffic Selector rule, click **Save**.

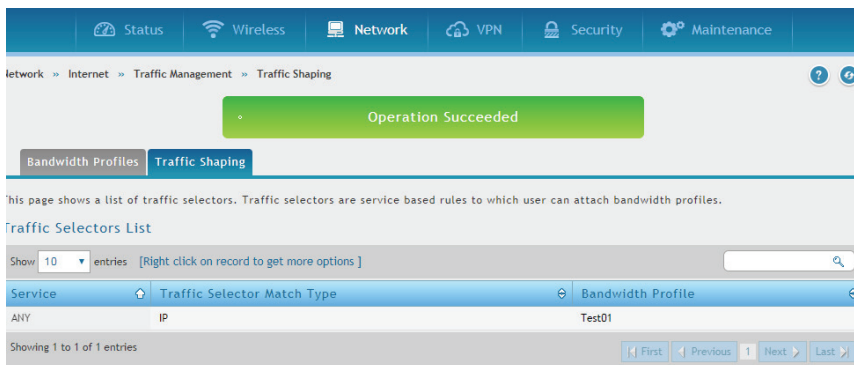


The screenshot shows a 'Traffic Selector Configuration' dialog box with the following fields:

- Available Profiles: Test01
- Service: ANY
- Traffic Selector Match Type: IP
- IP Address: 192.168.10.100
- Subnet Mask: 255.255.255.0

A 'Save' button is highlighted with a red box at the bottom right of the dialog.

7. The saved profile will now show in the Traffic Selectors List.



The screenshot shows the 'Traffic Shaping' configuration page. A green banner at the top indicates 'Operation Succeeded'. The page displays a list of traffic selectors with the following columns: Service, Traffic Selector Match Type, and Bandwidth Profile. The list contains one entry:

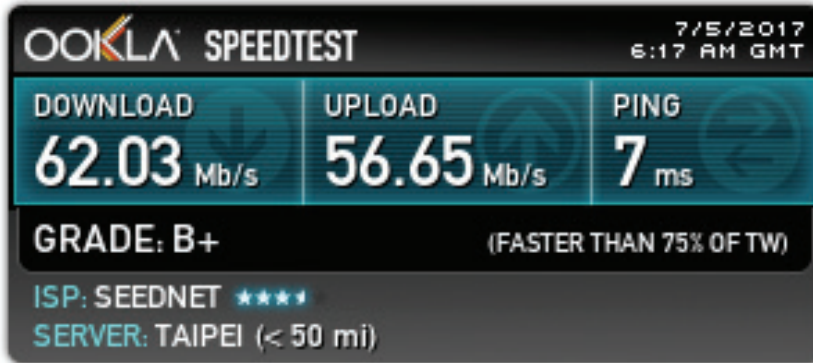
Service	Traffic Selector Match Type	Bandwidth Profile
ANY	IP	Test01

The page also shows a search bar, a 'Show 10 entries' dropdown, and navigation buttons (First, Previous, 1, Next, Last) at the bottom.

## Testing Bandwidth Profiles Procedure

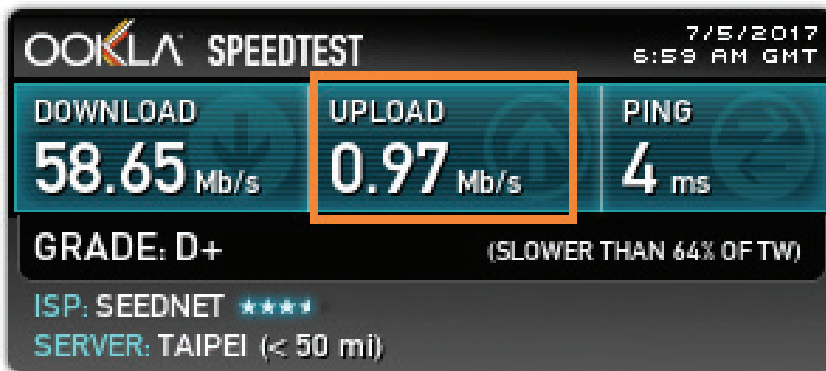
Open a web browser and go to **Speedtest.net** to verify that the maximum bandwidth limitation is working..

### Before setting a bandwidth limitation:



### After setting a bandwidth limitation

Example: Maximum bandwidth size set to 1000 kbps



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