Configuring Behavior Control

CHAPTERS

This guide applies to:

TL-ER5120 v3, TL-ER6120 v2, TL-ER6020 v2, TL-R600VPN v4, TL-R480T+ v9, TL-R470T+ v6.

1 Behavior Control

1.1 Overview

With the Behavior Control feature, you can control the online behavior of local hosts. You can block specific hosts' access to specific websites using URLs or keywords, block HTTP posts and prevent certain types of files from being downloaded from the internet.

1.2 Supported Features

The Behavior Control module supports two features: Web Filtering and Web Security.

Web Filtering

Web Filtering is used to filter specific websites. The router provides two ways to filter websites: Web Group Filtering and URL Filtering.

- Web Group Filtering: You can configure multiple websites as a web group, and set a filtering rule for the group. More than one group can be created and several groups can share a same filtering rule.

- URL Filtering: You can directly set a filtering rule for specific entire URLs or keywords.

Web Security

Web Security is used to control the specific online behaviors of local users. You can configure this feature to block HTTP post, which means that the local users cannot log in, submit comments or perform any other operation which needs HTTP post. Also, you can prohibit local users from downloading specific types of files from the internet.

2 Behavior Control Configuration

In Behavior Control module, you can configure the following features:

- Web Filtering
- Web Security

2.1 Configuring Web Filtering

There are two methods to filter websites: Web Group Filtering and URL Filtering.

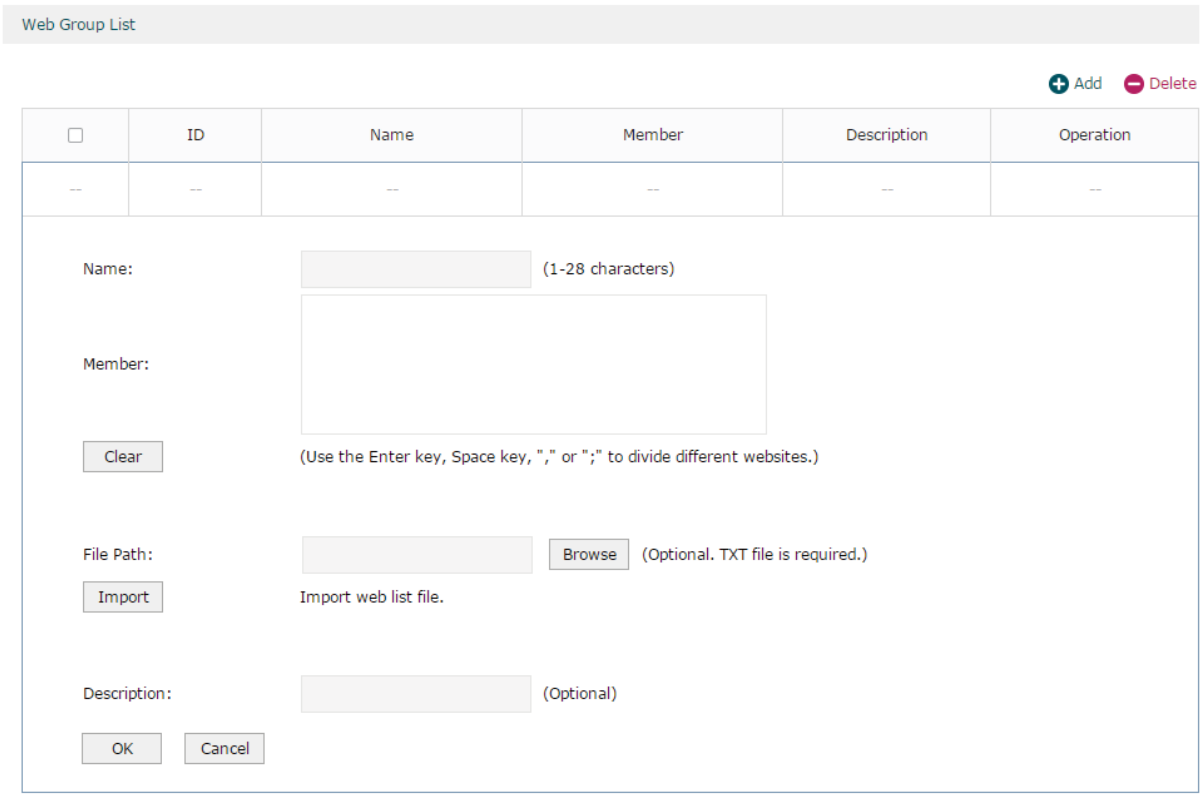
2.1.1 Configure Web Group Filtering

To configure Web Group Filtering, add one or more web groups first, and then add web group filtering entries using the created groups.

Add Web Groups

Choose the menu **Behavior Control> Web Filtering > Web Group** and click **Add** to load the following page.

Figure 2-1 Web Group Page



Configure the following parameters and click **OK**.

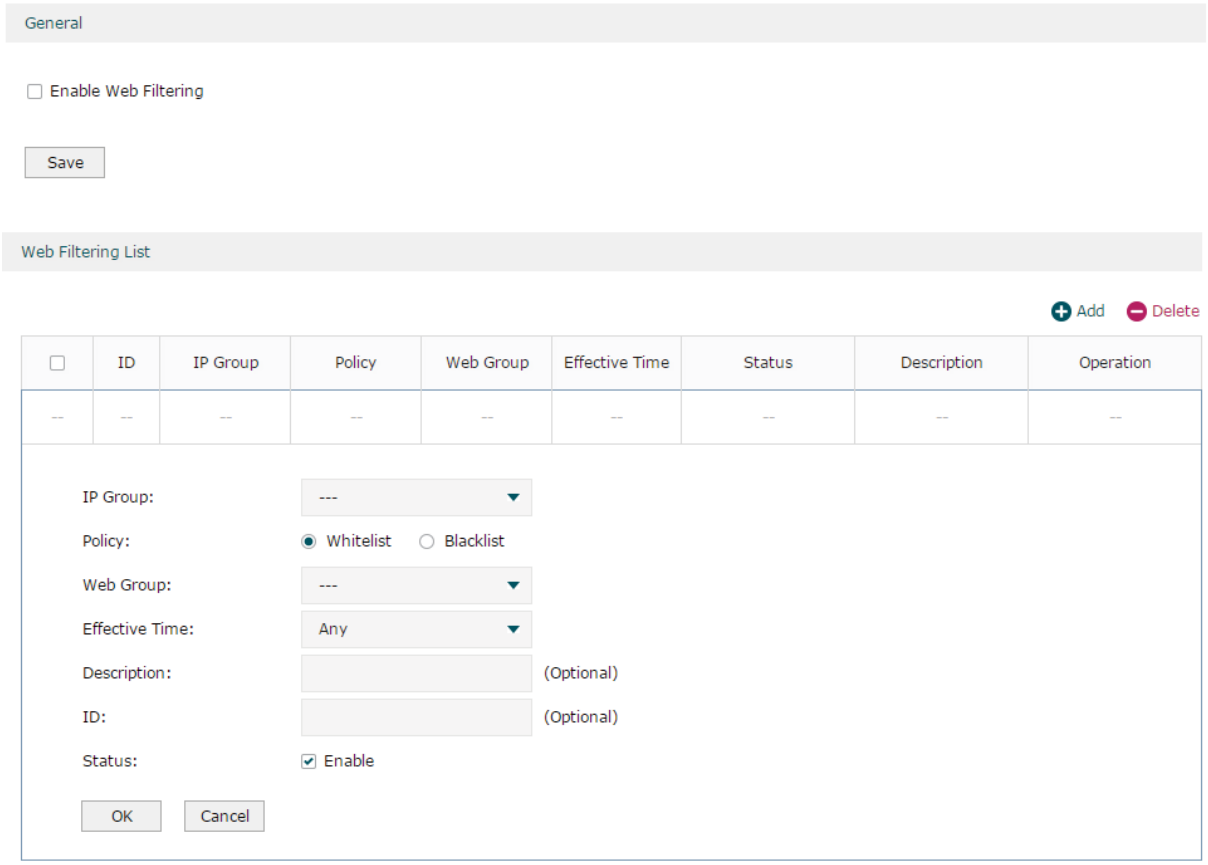
Name	Specify a name for the group. The name of each group cannot be repeated.
Member	Add one or more website members to the group. The format of the website members is “www.tp-link.com” or “*.tp-link.com”, in which “*” is a wildcard. Use Enter key, Space key, “,” or “;” to divide different websites.
File Path	Import member list in your TXT file from your host. The format is “www.tp-link.com” or “*.tp-link.com”, in which “*” is a wildcard. Use Enter key, Space key, “,” or “;” to divide different websites.
Description	Enter a brief description for the group.

Add Web Group Filtering Entries

Before configuring web group entries, go to the **Preferences** module to configure the IP Group and Effective Time according to your needs.

Choose the menu **Behavior Control > Web Filtering > Web Group Filtering** and click **Add** to load the following page.

Figure 2-2 Web Group Filtering Page



Follow the steps below to add Web group filtering entries:

1) In the **Web Filtering List** section, configure the required parameters and click **OK**.

IP Group	Select an IP group for the rule. The IP group referenced here can be created on the **Preferences > IP Group** page.
Policy	Choose to allow or deny the websites that are in the selected web group(s).
Web Group	Select one or more web groups. The web group referenced here can be created on the **Behavior Control > Web Filtering > Web Group** page.
Effective Time	Select the effective time. The effective time referenced here can be created on the **Preferences > Time Range** page.
Description	Enter a brief description for the group.
ID	Specify a rule ID. A smaller ID means a higher priority. This value is optional. A newly added rule with this field left blank will get the largest ID among all rules, which means that the newly added rule has the lowest priority.
Status	Check the box to enable the rule.

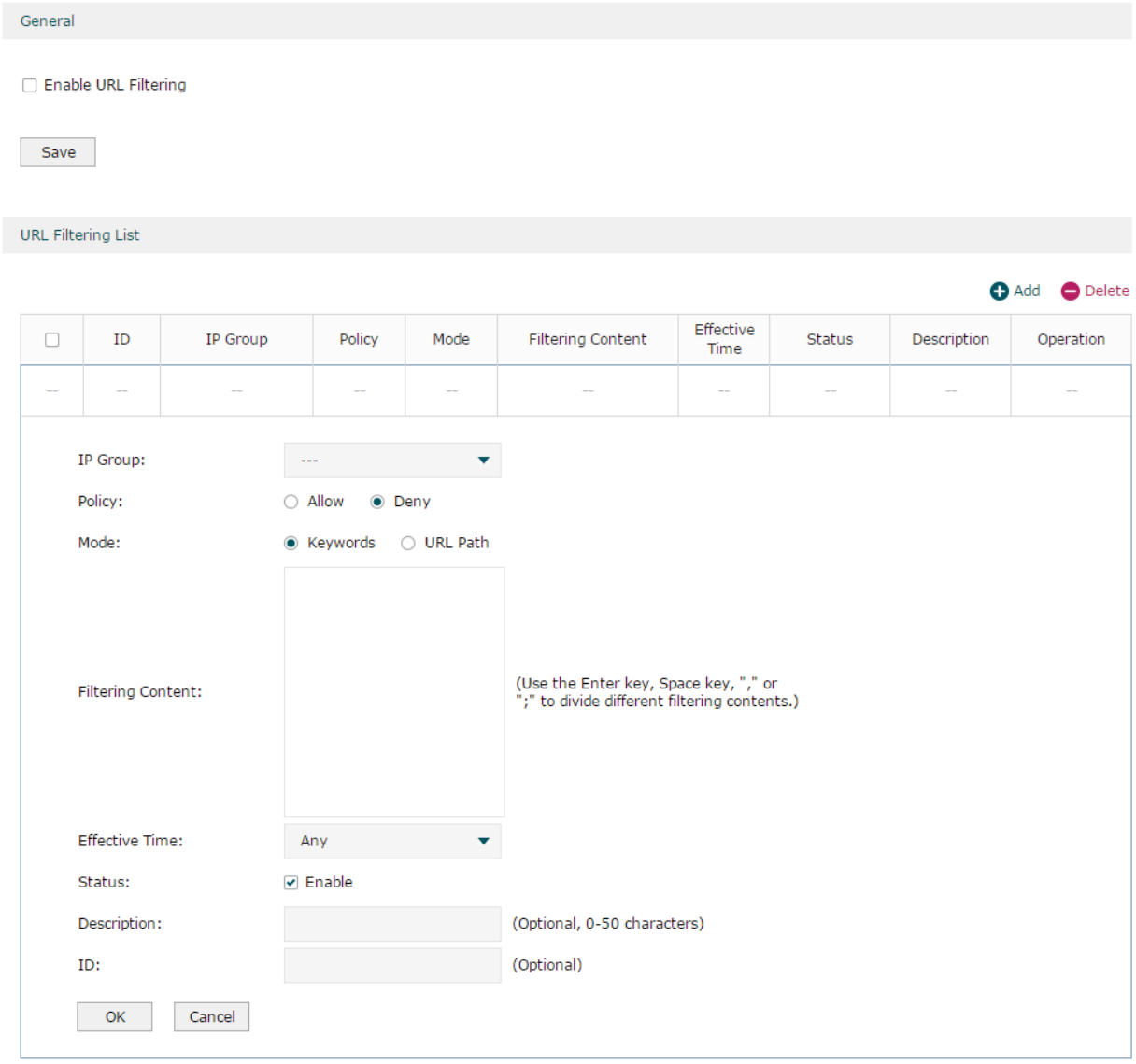
2) In the **General** section, enable Web Filtering. Click **Save**.

2.1.2 Configuring URL Filtering

Before configuring URL Filtering, go to the **Preferences** module to configure the IP Group and Effective Time according to your needs.

Choose the menu **Behavior Control > Web Filtering > URL Filtering** and click **Add** to load the following page.

Figure 2-3 URL Filtering Page



Follow the steps below to configure URL filtering:

1) In the URL Filtering List section, click **Add** and configure the required parameters. Click **OK.**

IP Group	Select an IP group for the rule. The IP group referenced here can be created on the **Preferences > IP Group** page.
Policy	Choose to allow or deny the websites that match the filtering content.
Mode	Select the filtering mode. **Keywords**: If a website address contains any of the keywords, the policy will be applied to this website. **URL Path**: If a website address is the same as any of the entire URLs, the policy will be applied to this website.

Filtering Content	Add filtering contents. Use the Enter key, Space key, "," or ";" to divide different filtering contents. "." means that this rule will be applied to any website. For example, if you want to allow website A and deny other websites, you can add an Allow rule with the filtering content "A" and add a Deny rule with the filtering content ".". Note that "." rule should have the largest ID number, which means that it has the lowest priority.
Effective Time	Select the effective time. The effective time referenced here can be created on the **Preferences > Time Range** page.
Status	Check the box to enable the rule.
Description	Enter a brief description for the group.
ID	Specify a rule ID. A smaller ID means a higher priority. This value is optional. The newly added rule without this value configured will get the largest ID among all rules, which means that the newly added rule has the lowest priority.

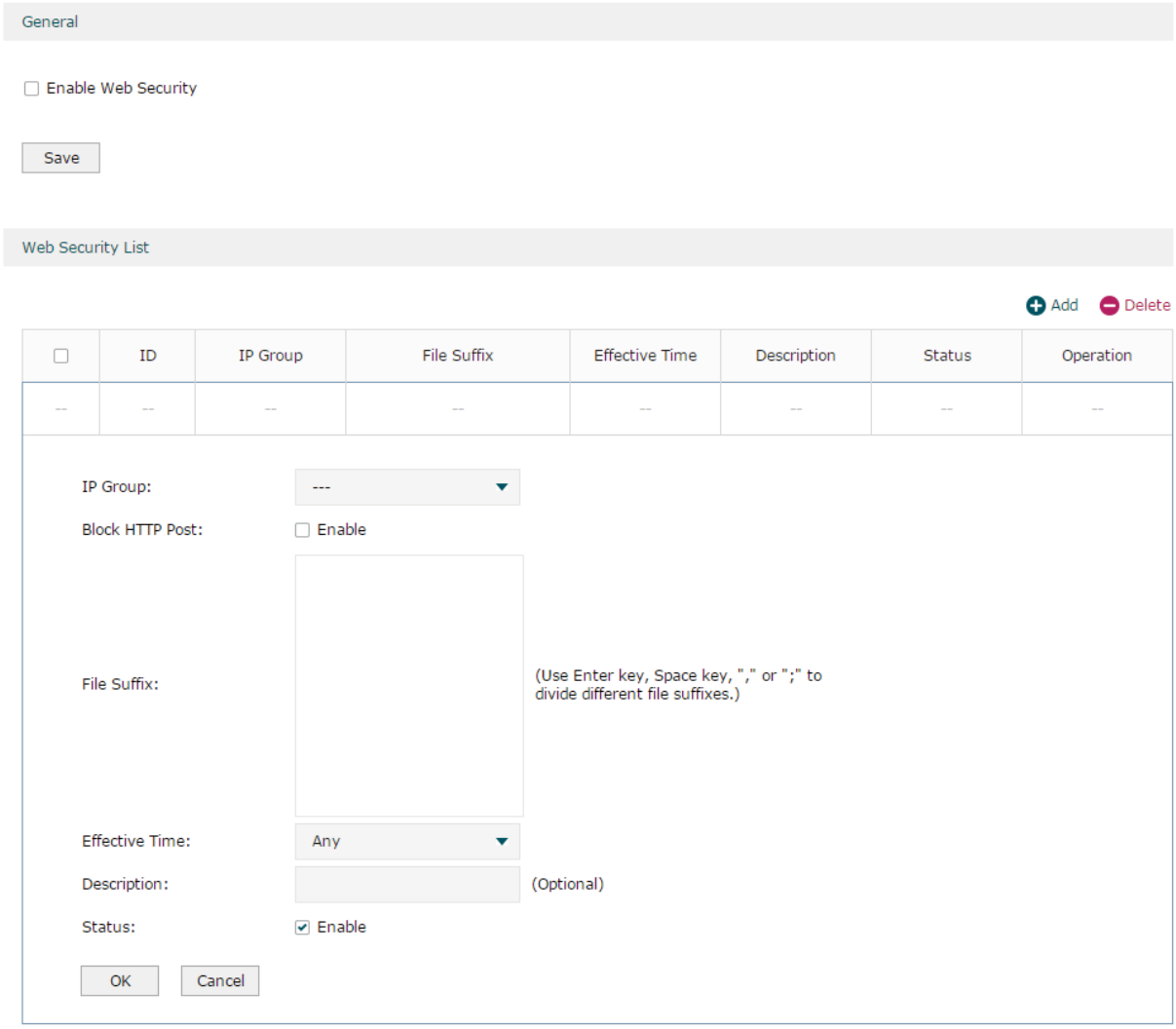
2) In the **General** section, enable URL filtering. Click **Save**.

2.2 Configuring Web Security

Before configuring Web Security, go to **Preferences** module to configure the IP Group and Effective Time according to your needs.

Choose the menu **Behavior Control > Web Security > Web Security** and click **Add** to load the following page.

Figure 2-4 Web Security Page



Follow the steps below to configure Web Security.

1) In the **Web Security List** section, configure the following parameters and click **OK** to add a Web Security rule.

IP Group	Select an IP group for the rule. The IP group referenced here can be created on the **Preferences > IP Group** page.
Block HTTP Post	With this option enabled, HTTP posts will be blocked. The hosts of the selected IP group cannot log in, submit comments or do any operation using HTTP post.
File Suffix	Enter file suffixes to specify the file types. Use Enter key, Space key, "," or ";" to divide different file suffixes. The hosts of the selected IP group cannot download these types of files from the internet.
Effective	Select the effective time. The effective time referenced here can be created on the **Preferences > Time Range** page.
Description	Enter a brief description for the group.
Status	Check the box to enable the rule.

2) In the **General** section, enable Web Security and click **Save**:

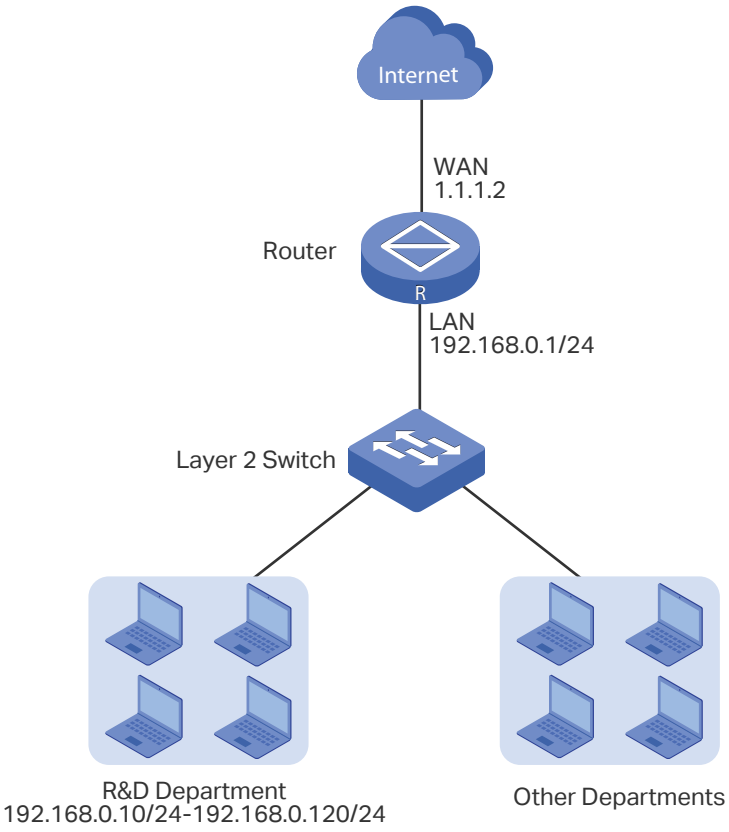
3 Configuration Examples

3.1 Example for Access Control

3.1.1 Network Requirements

In the diagram below, the R&D and some other departments are connected to a layer 2 switch and access the internet via the router. For data security purposes, it is required that the R&D department users can only visit the official website of the company, for example: http://www.tp-link.com. For other departments, there is no limitation of website access.

Figure 3-1 Network Topology



3.1.2 Configuration Scheme

We can configure Web Filtering to limit the website access of the specific hosts. Both Web Group Filtering and URL Filtering can achieve this. In this example, the configuration difference between Web Group Filtering and URL Filtering is as follows:

- In Web Group Filtering, you need to add the official website address to a web group before configuring the filtering rule.

- In URL Filtering, you can directly specify the official website address in the filtering rule.

Here we take Web Group Filtering as an example. The configuration overview is as follows:

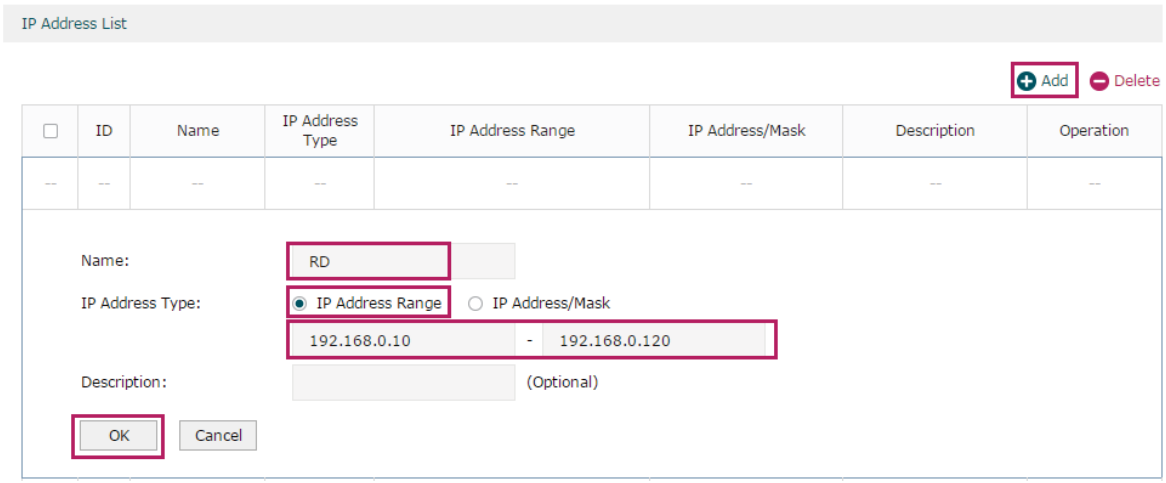
1) Add an IP group for the R&D department in the **Preferences** module.
2) Create a web group with the group member www.tp-link.com.
3) Add a Whitelist rule to allow the R&D department users to access www.tp-link.com.
4) Add a Blacklist rule to forbid the R&D department users from accessing all websites. Note that the priority of this rule should be lower than the Whitelist rule.

3.1.3 Configuration Procedure

Follow the steps below to complete the configuration:

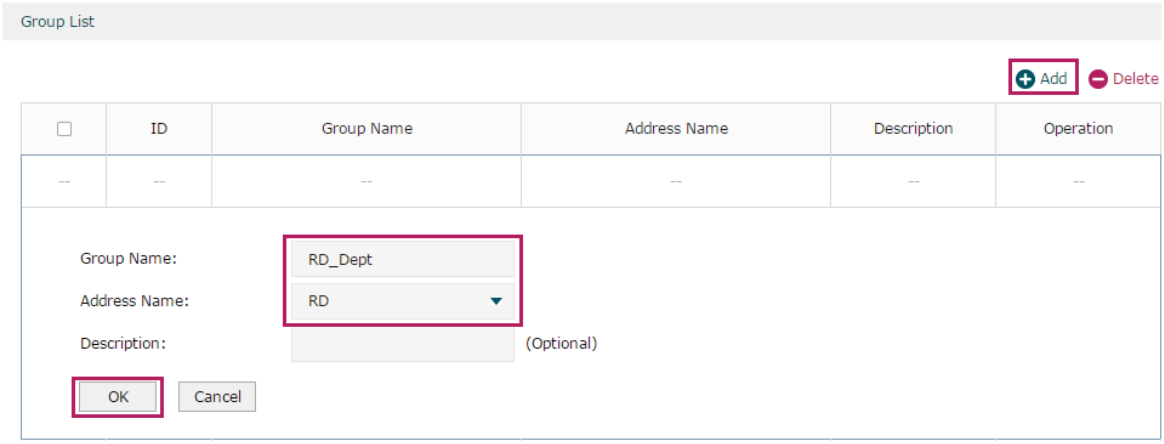
1) Choose the menu **Preferences > IP Group > IP Address** to load the configuration page, and click **Add**. Specify a name "RD", select **IP Address Range** and enter the IP address range of the R&D department. Click **OK**.

Figure 3-2 Configure IP Address Range



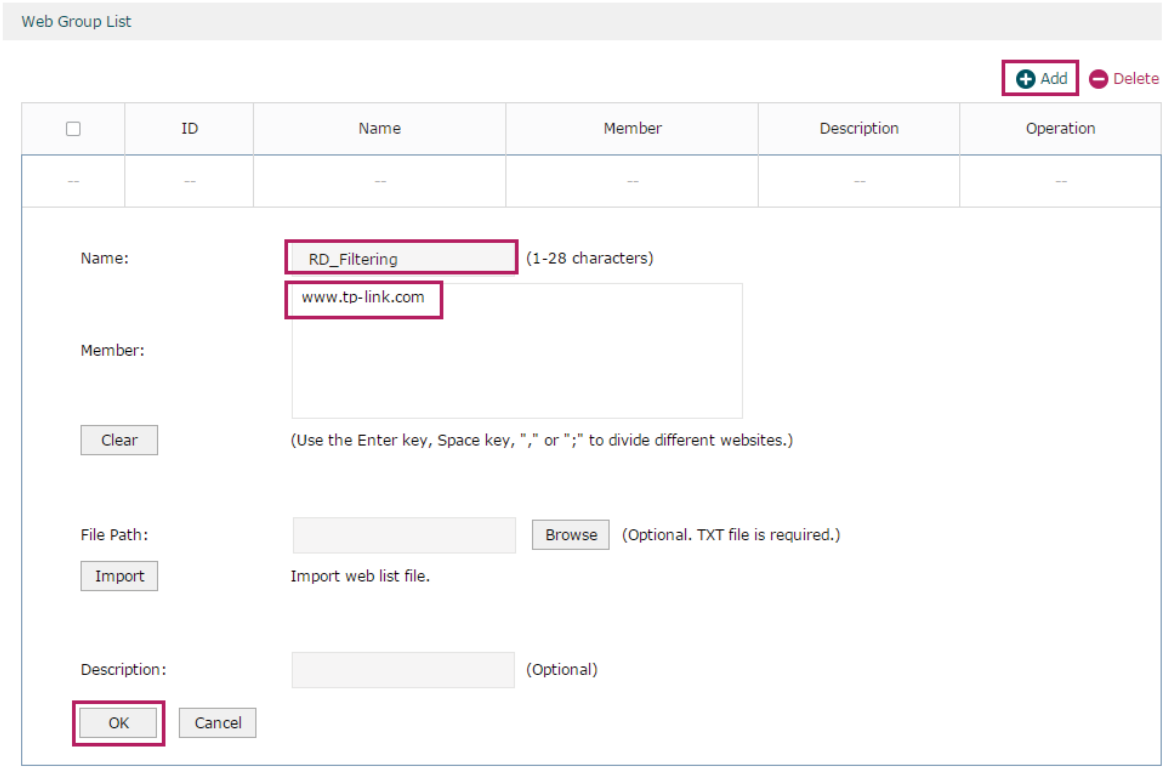
2) Choose the menu **Preferences > IP Group > IP Group** to load the configuration page, and click **Add**. Specify a group name "RD_Dept", select the preset address range "RD" and click **OK**.

Figure 3-3 Configure IP Group



3) Choose the menu **Behavior Control > Web Filtering > Web Group** to load the configuration page, and click **Add**. Specify a name "RD_Filtering" for this web group and add the member "www.tp-link.com". Click **OK**.

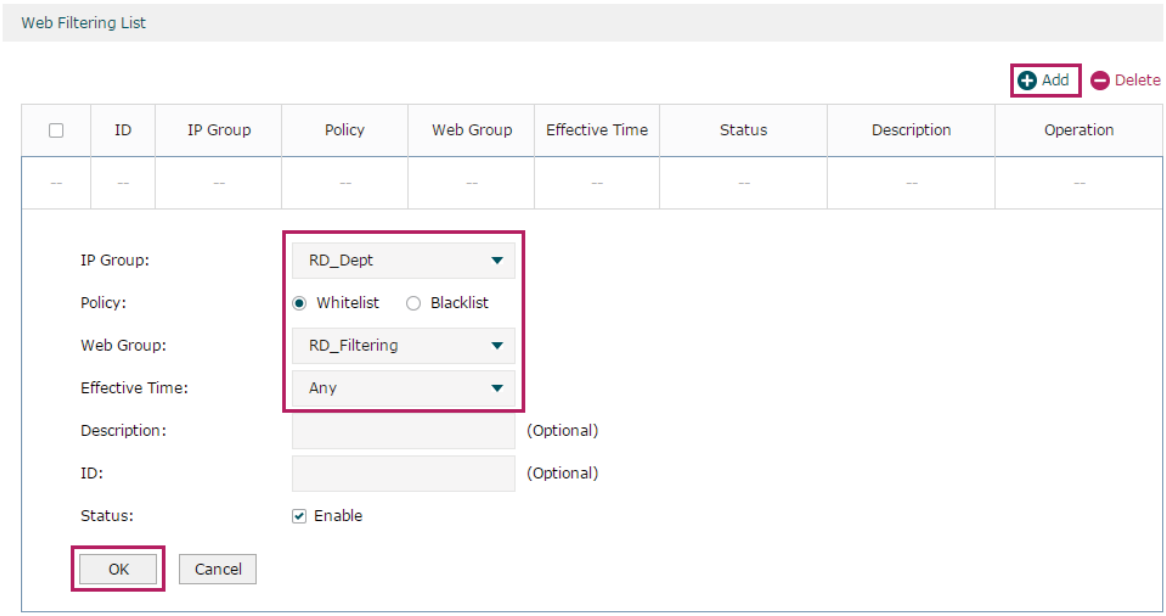
Figure 3-4 Configure Web Group



4) Choose the menu **Behavior Control > Web Filtering > Web Group Filtering** to load the configuration page, and click **Add**. Select "RD_Dept" as the **IP Group**, "Whitelist" as the **Policy**, "RD_Filtering" as the **Web Group**, and "Any" as the **Effective Time**. Click **OK**.

This rule means that the hosts in the R&D department are allowed to access the website www.tp-link.com at any time.

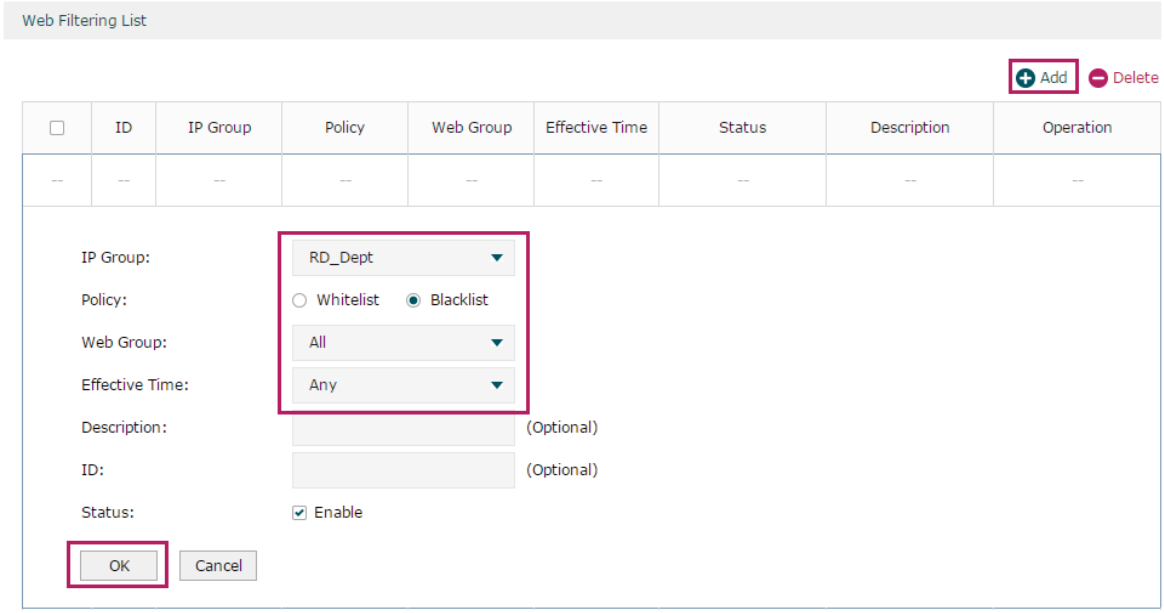
Figure 3-5 Configure Whitelist Rule



5) On the same page, click **Add**. Select "RD_Dept" as the **IP Group**, "Blacklist" as the **Policy**, "All" as the **Web Group**, and "Any" as the **Effective Time**. Click **OK**.

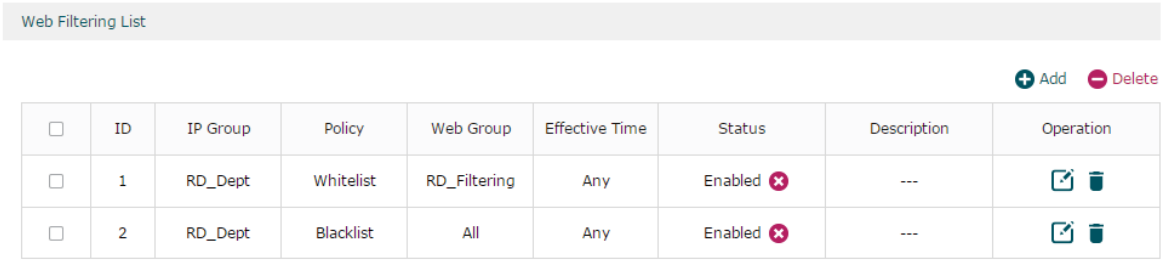
This rule means that the hosts in the R&D department are denied access to all websites at all times.

Figure 3-6 Configure Blacklist Rule



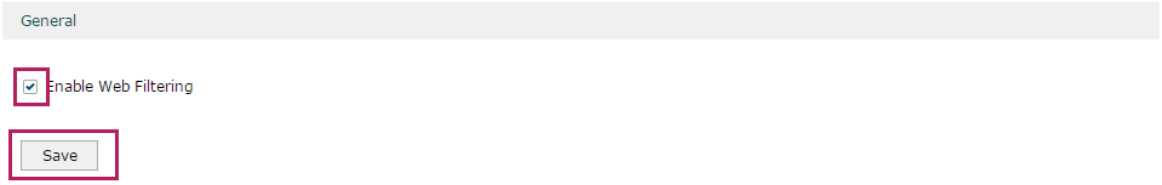
6) On the same page, verify your configurations. In the Web Filtering List, the rule with a smaller ID has a higher priority. Since the router matches the rules beginning with the highest priority, make sure the Whitelist rule has the smaller ID number. In this way, the router allows the hosts to access the Whitelist website and denies them to access others.

Figure 3-7 Verify Configuration Result



7) In the **General** section on the same page, enable Web Filtering globally and click **Save**.

Figure 3-8 Enable Web Filtering

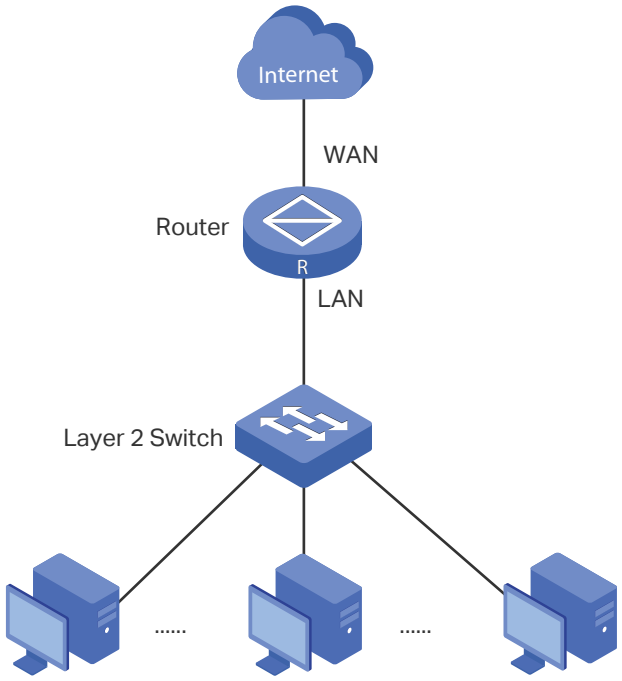


3.2 Example for Web Security

3.2.1 Network Requirements

In the diagram below, the company's hosts are connected to a layer 2 switch and access the internet via the router. For security reasons, it is required that the users in the LAN cannot log in, submit comments or download rar files on the internet.

Figure 3-1 Network Topology



3.2.2 Configuration Scheme

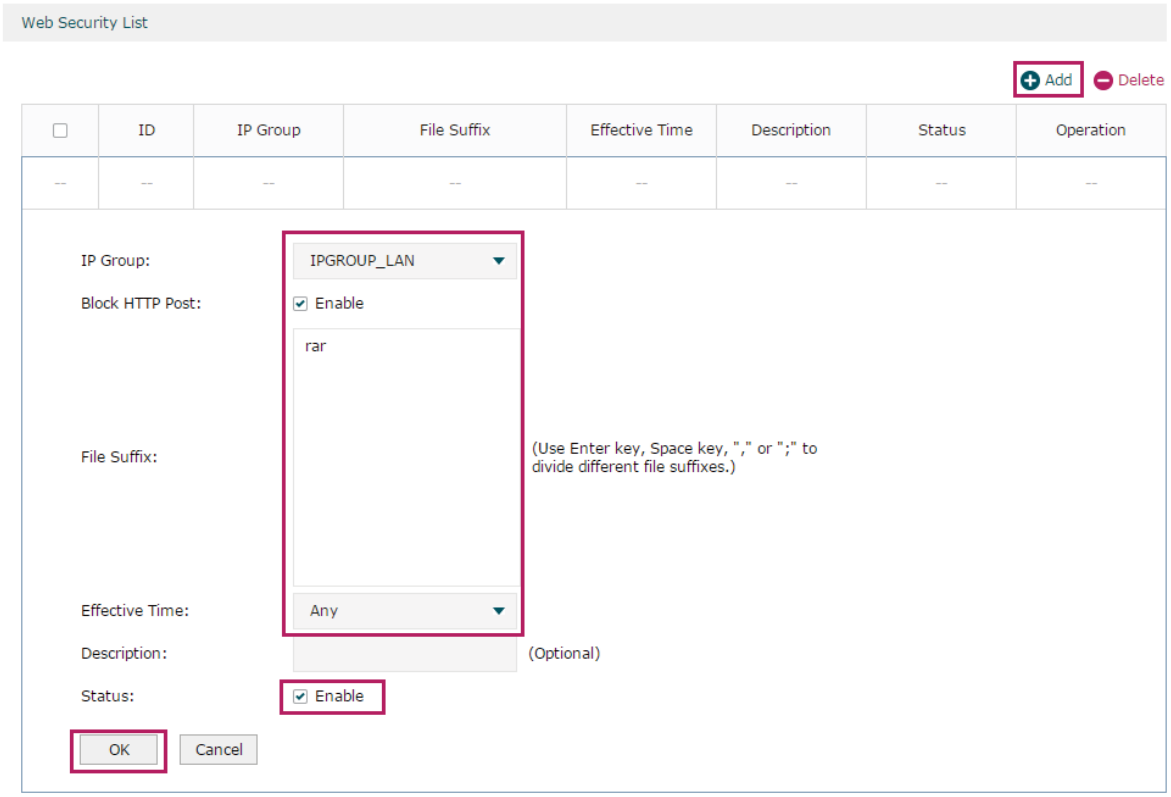
We can configure Web Security to meet these requirements. To block behaviors such as login and comment submitting, we can configure the router to block HTTP post; to block downloading of rar files, we can specify the suffix "rar" in the file suffix column.

3.2.3 Configuration Procedure

Follow the steps below to complete the configuration:

1) Choose the menu **Behavior Control > Web Security > Web Security** and click **Add** to load the following page. Select "IPGROUP_LAN" as the **IP Group**, enable **Block HTTP Post**, enter "rar" in the **File Suffix** filed, select "Any" as the **Effective Time**, and keep the **Status** as "Enable". Click **OK**.

Figure 3-2 Configure Web Security Entry



2) In the **General** section on the same page, enable **Web Security** and click **Save**.

Figure 3-3 Enable Web Security