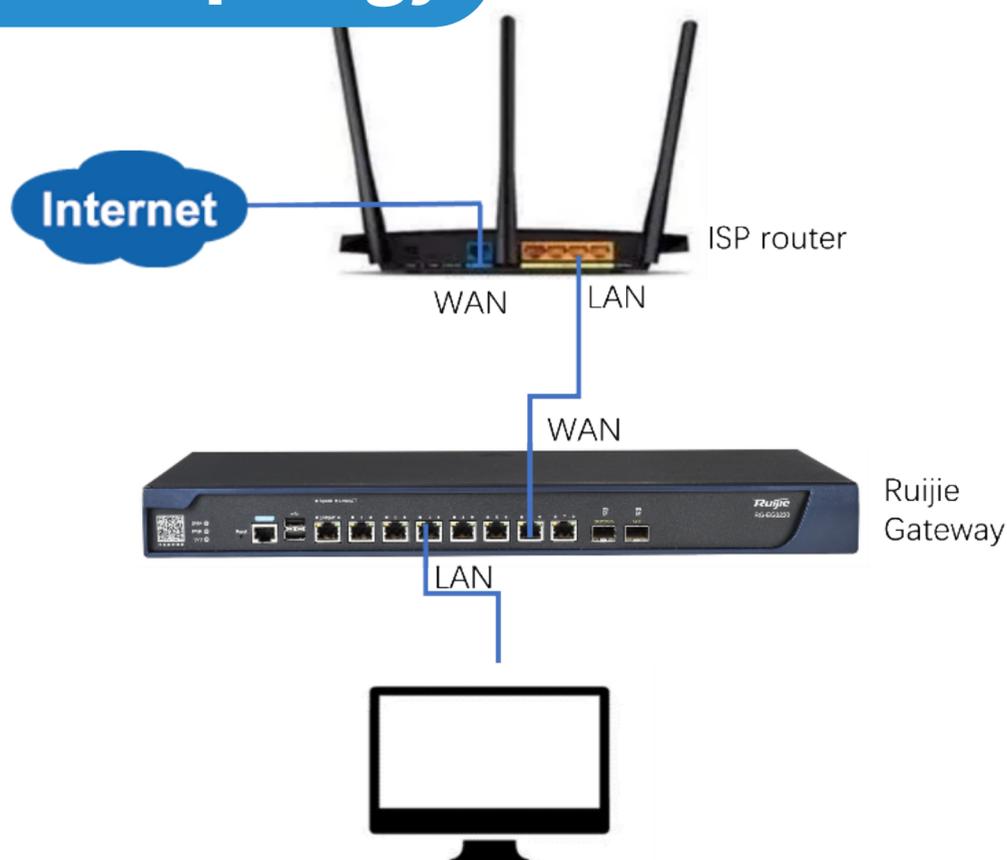


# How to Fix Slow Network Connection

## I. Applicable Scenarios

Many users may feel the speed of their newly configured devices not satisfied. As a result, the project cannot be smoothly accepted. This document describes network optimization to achieve ideal speed for customers.

## II. Network Topology



## III. Troubleshooting

- 1 Check whether the device is used in a Gigabit Internet.
- 2 Check whether the issue is caused by an external network cable.
- 3 Adjust the flow control policy.
- 4 Disable uplink attack defense and remove the limit on the number of sessions.

**Official Website** >>> <https://www.ruijienetworks.com>

**Community** >>> <https://community.ruijienetworks.com>

**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



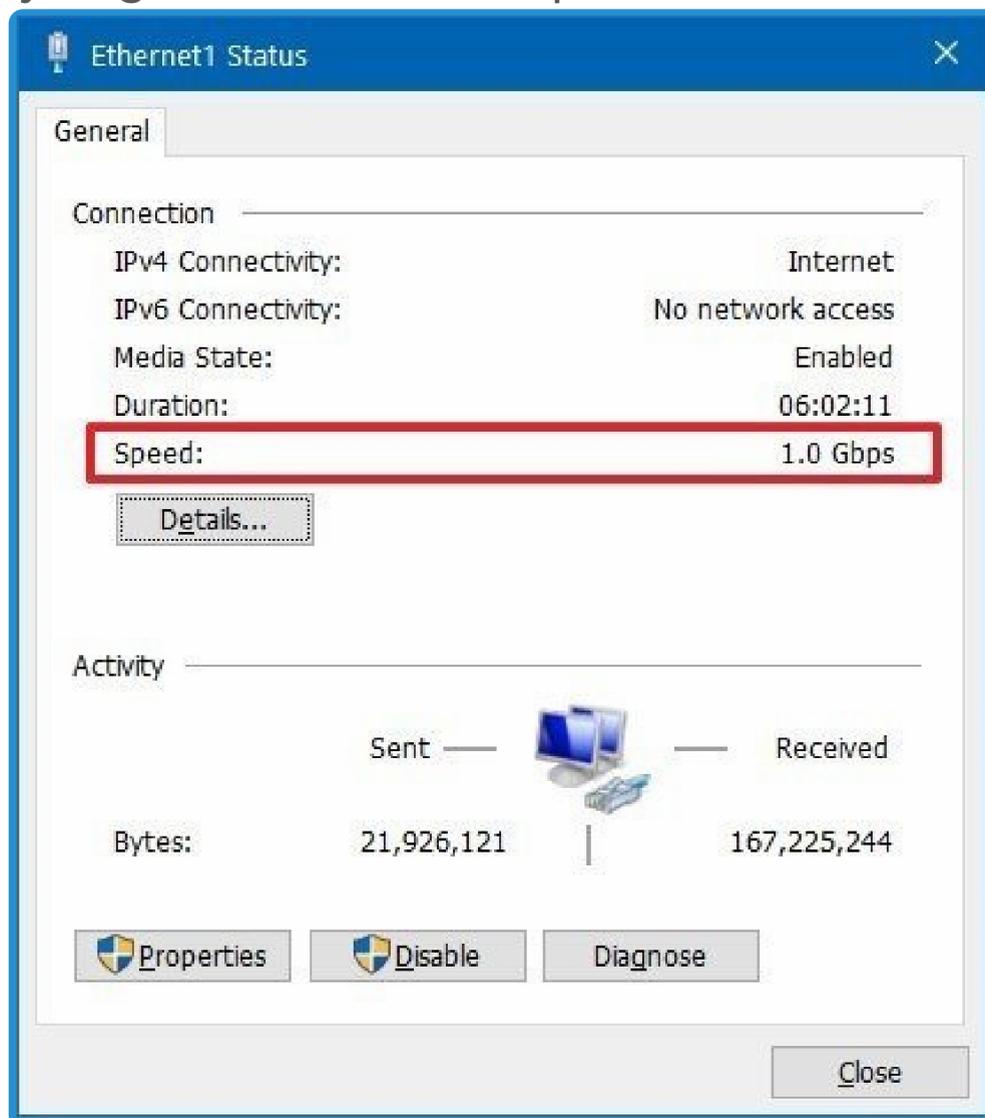
Community



Facebook

## IV. Configuration

- 1 Check whether the device is used in a Gigabit Internet.
  - (1) Check the specifications of network cables :  
CAT5: maximum rate of 100 Mbps, mainly for 100BASE-T and 10BASE-T networks.  
CAT5e and CAT6 : mainly used for Gigabit Ethernet (1000 Mbps)
  - (2) Check whether the network port between the router and optical modem, and that between the optical modem and computer can normally negotiate at 1000 Mbps.



- 2 Check whether the issue is caused by an external network cable.
  - (1) In the same time period, use the same terminal and same measurement method to measure the speed when the terminal is directly connected to the optical modem and when the terminal is directly connected to the gateway. Then, compare whether the test results have a great difference.
  - (2) Change a terminal and a measurement method, and measure again.
  - (3) If the results still differ greatly, contact the Internet Service Provider (ISP).

### Notice

**Recommended speed measurement websites:**  
<https://www.speedtest.net>; **ISP's speed test websites**

**Official Website** >>> <https://www.ruijienetworks.com>

**Community** >>> <https://community.ruijienetworks.com>

**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



Community



Facebook

## IV. Configuration

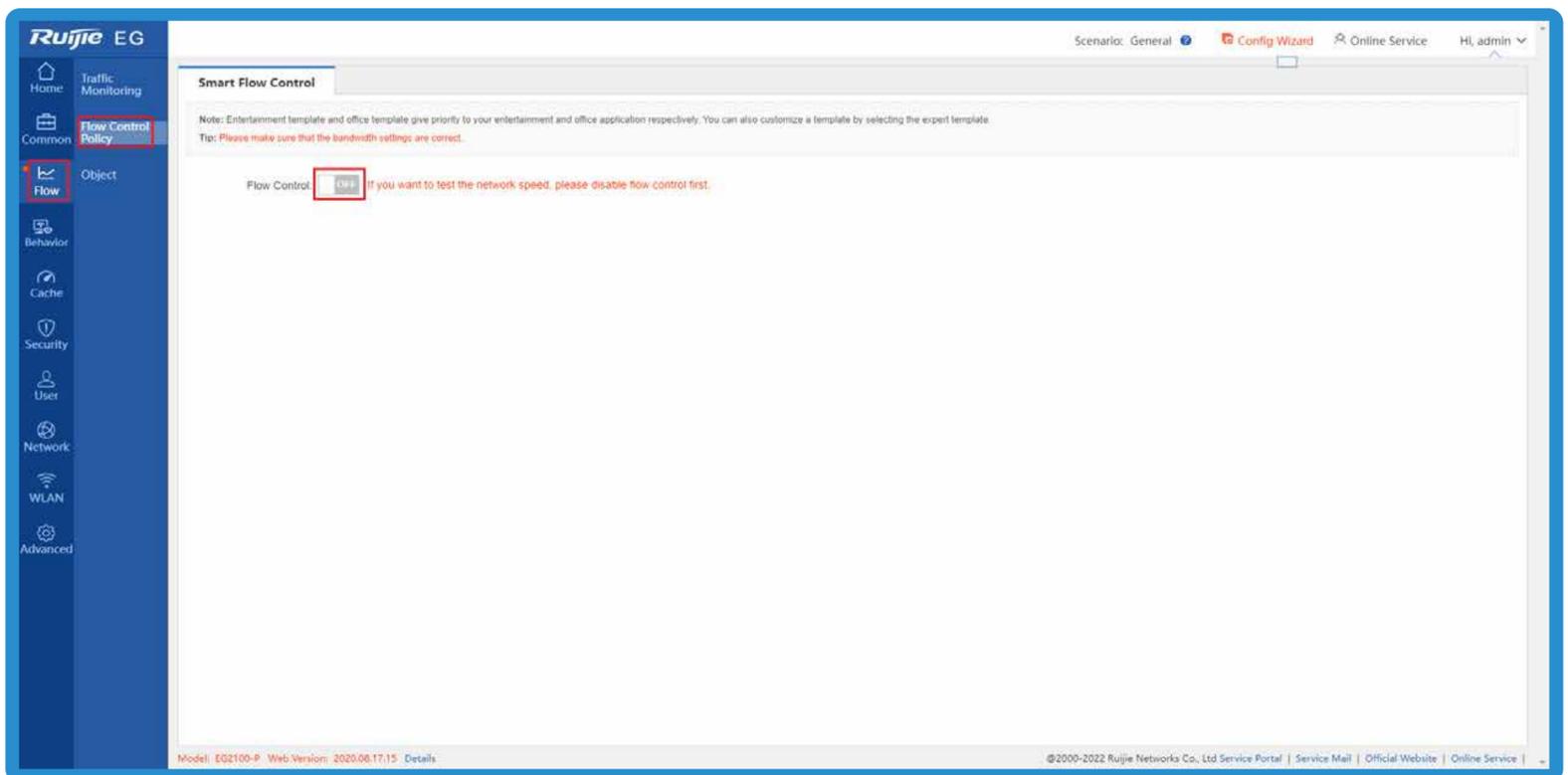
### 3 Adjust the flow control policy.

If flow control is enabled, improve the terminal speed in the following methods:

- » **Method 1:** Disable flow control.
- » **Method 2:** Configure the terminal as Audit-Exempt User while keeping flow control enabled.
- » **Method 3:** Configure a no-rate-limit policy for the terminal while keeping flow control enabled.

#### (1) Disable Flow Control.

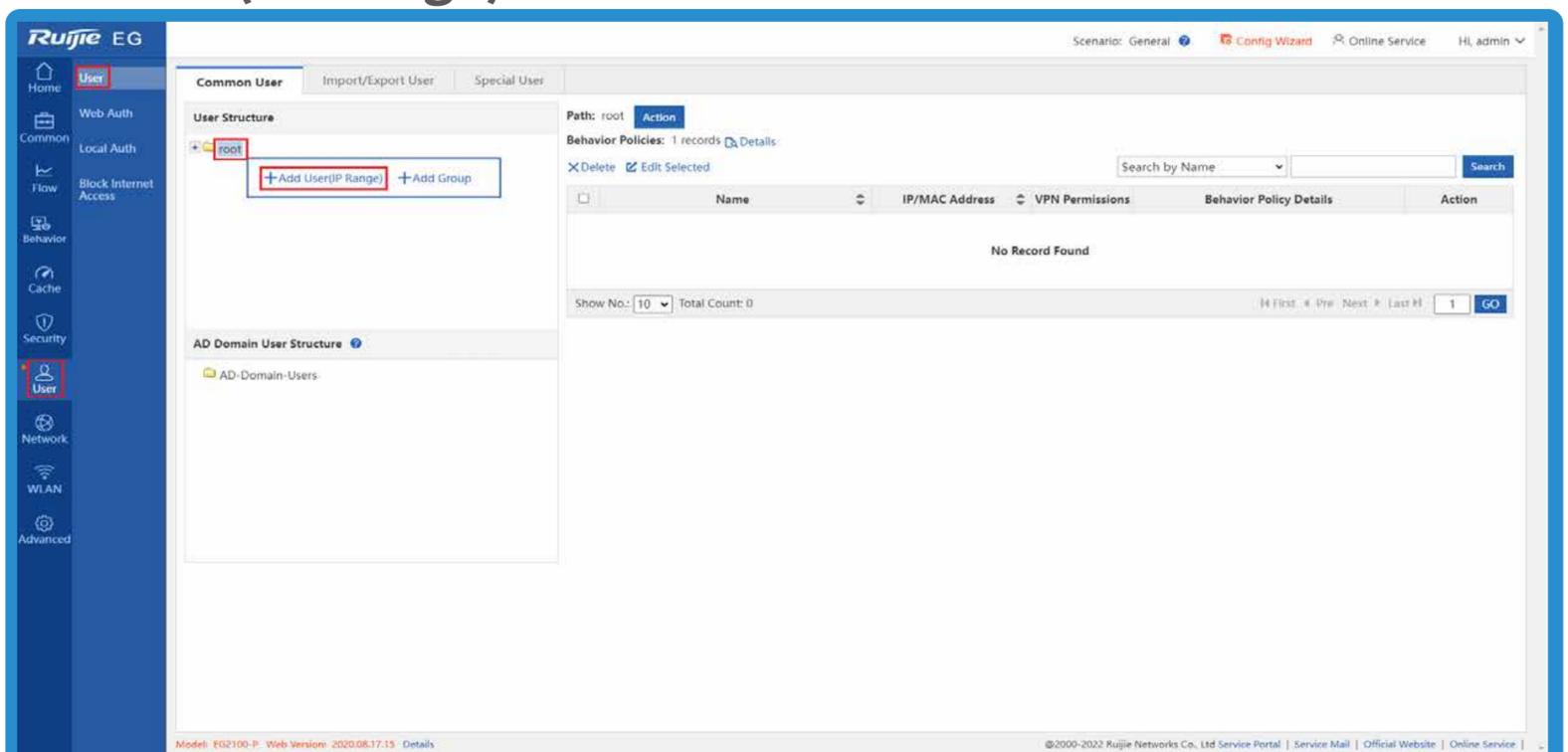
Choose **Flow > Flow Control Policy > Smart Flow Control**, and switch **Flow Control** to **OFF**.



#### (2) Configure the terminal as Audit-Exempt User.

##### A. Create the corresponding user.

Choose **User > User > Common User > root**, and click **Add User(IP Range)**.



**Official Website** »» <https://www.ruijienetworks.com>

**Community** »» <https://community.ruijienetworks.com>

**Facebook** »» <https://www.facebook.com/ruijietac>



Official Website



Community



Facebook

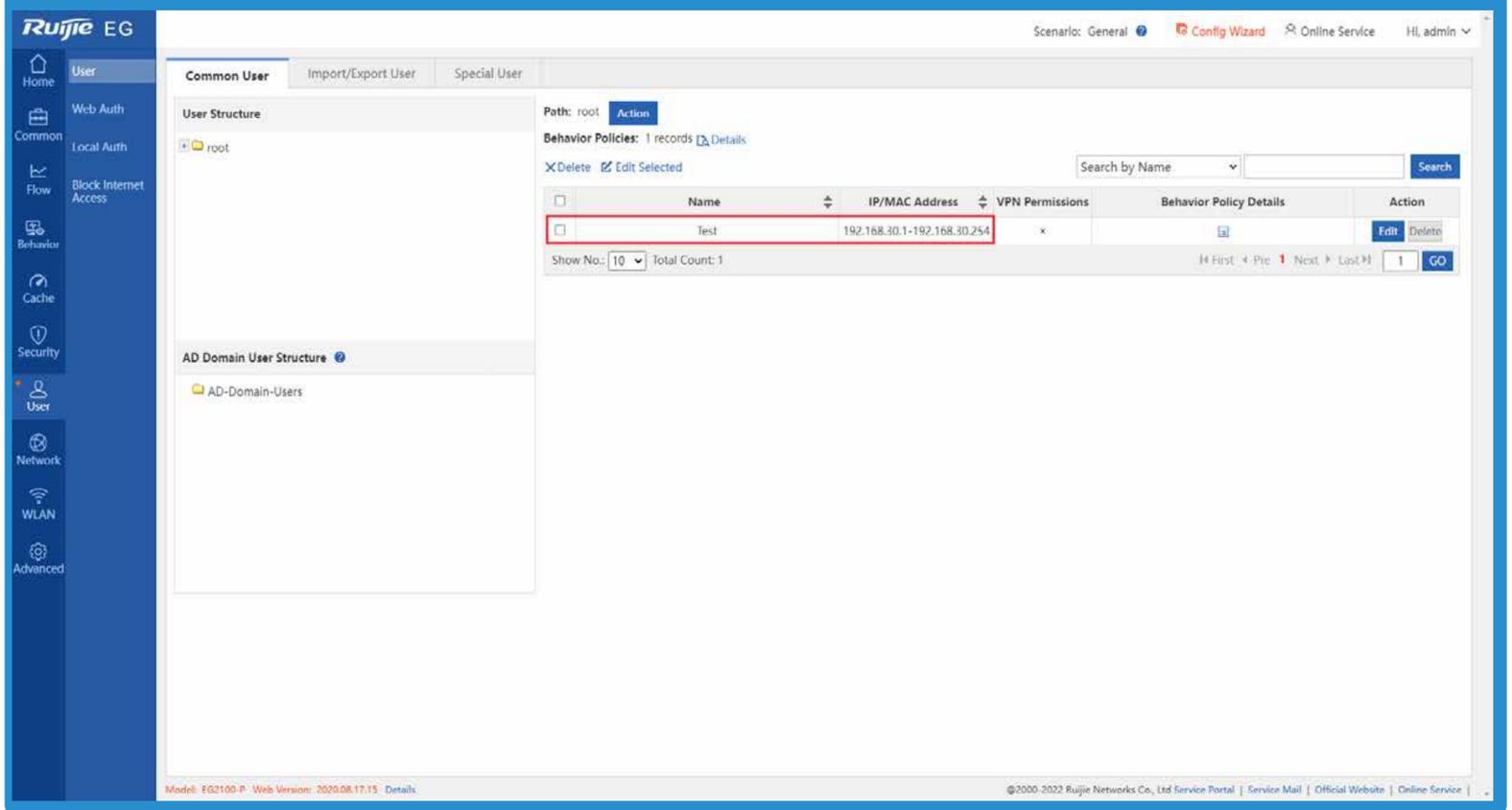
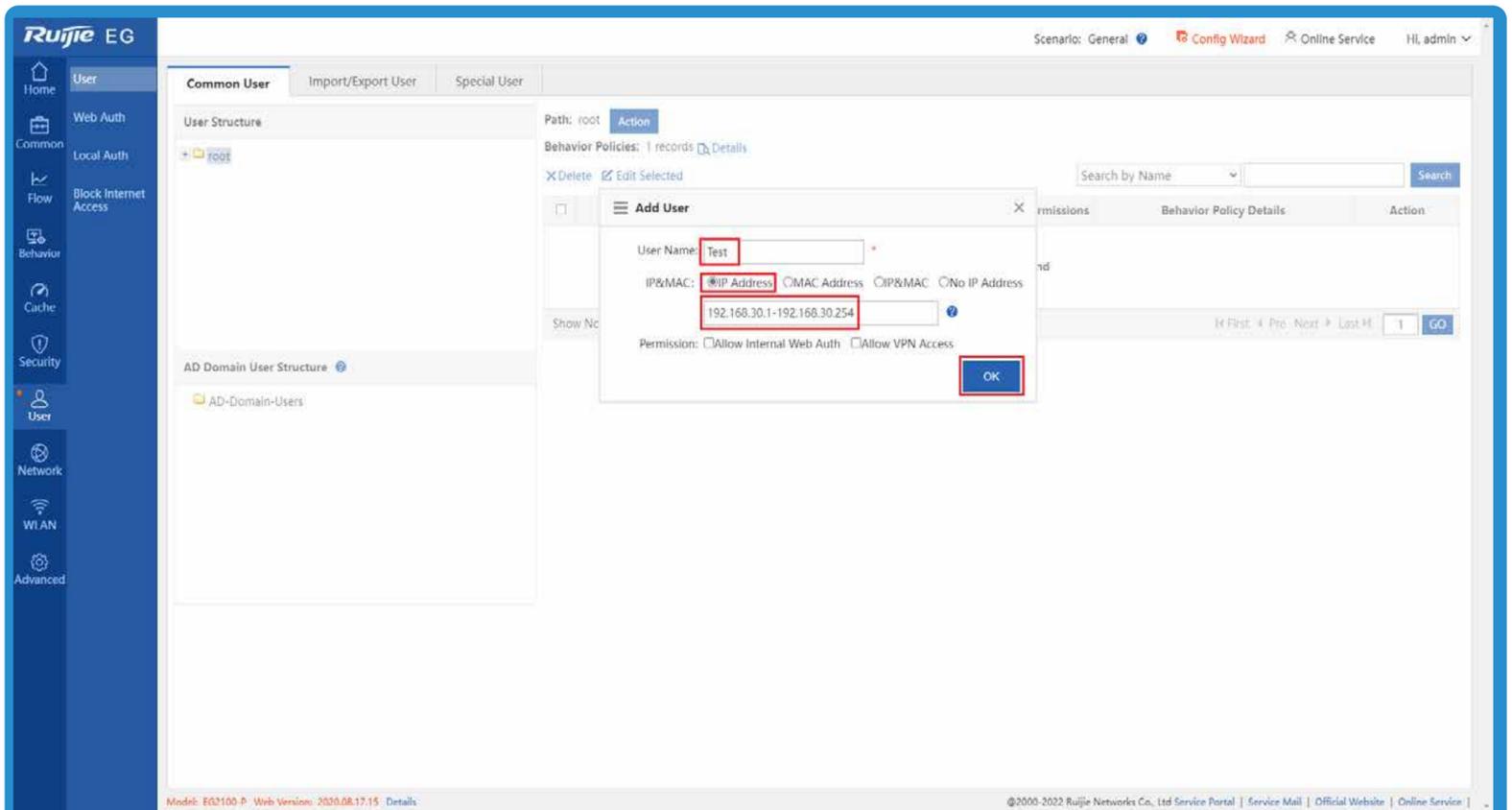
## IV. Configuration

Configuration description:

**User Name:** Enter the value as required, such as **Test**.

**IP&MAC:** Select **IP Address**, and enter the wireless network segment for visitors "192.168.30.1–192.168.30.254" (enter the network segment for test on the router intranet here).

Keep the default configuration of other parameters, and click **OK**.



### B. Add Audit-Exempt User.

Choose **Behavior > Behavior Policy > Audit-Exempt User > Add Audit-Exempt User**.

**Official Website** >>> <https://www.ruijienetworks.com>

**Community** >>> <https://community.ruijienetworks.com>

**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website

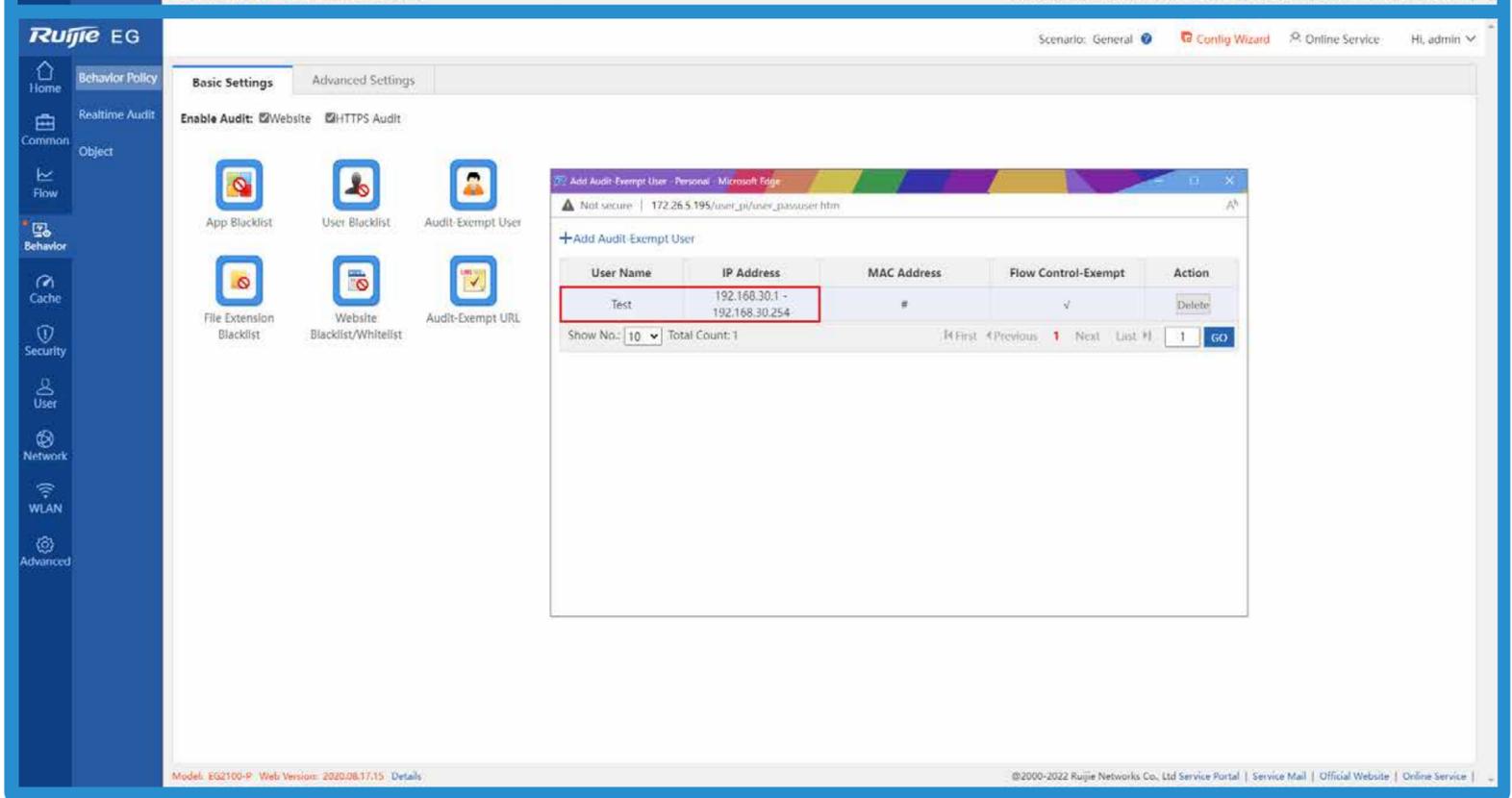
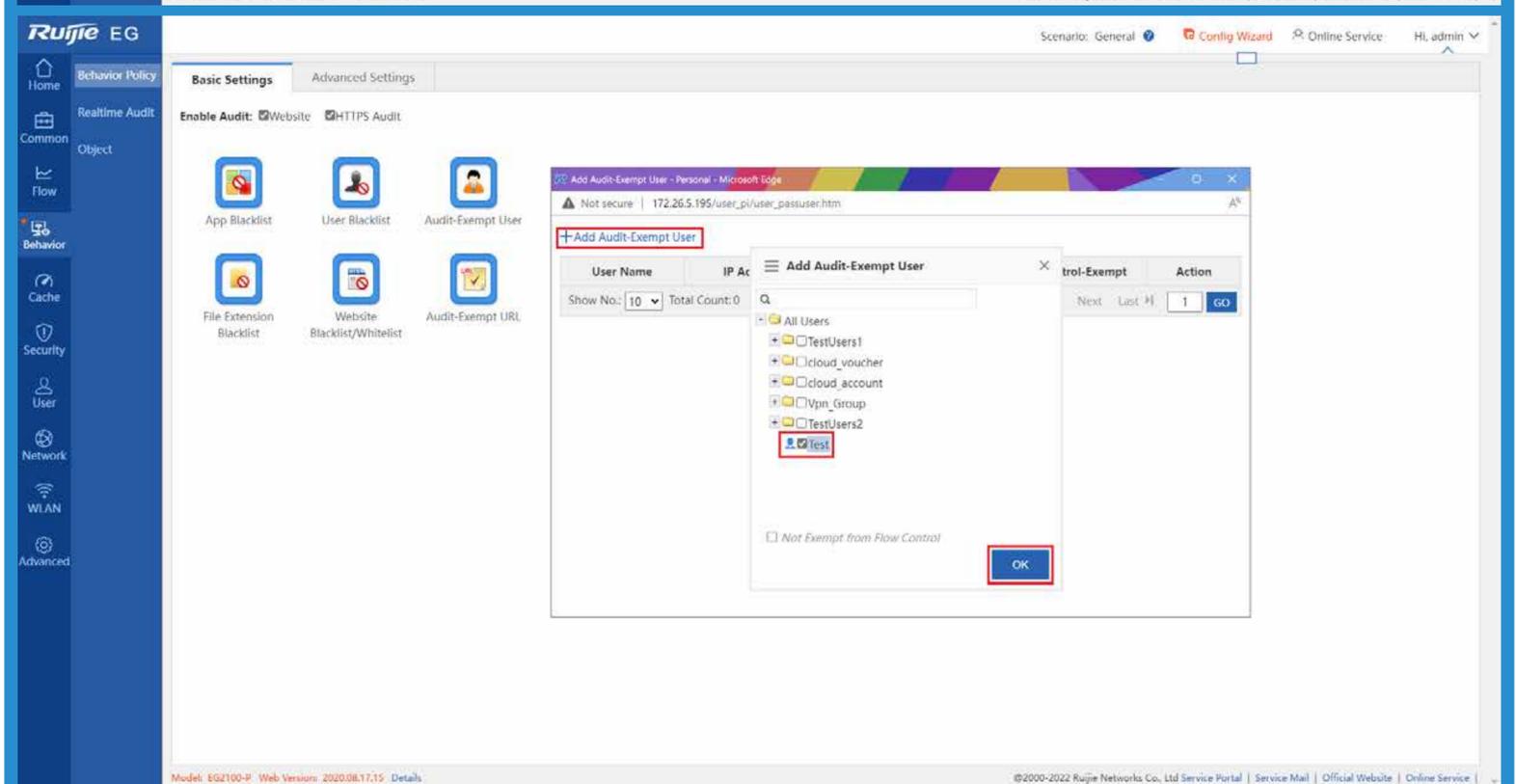
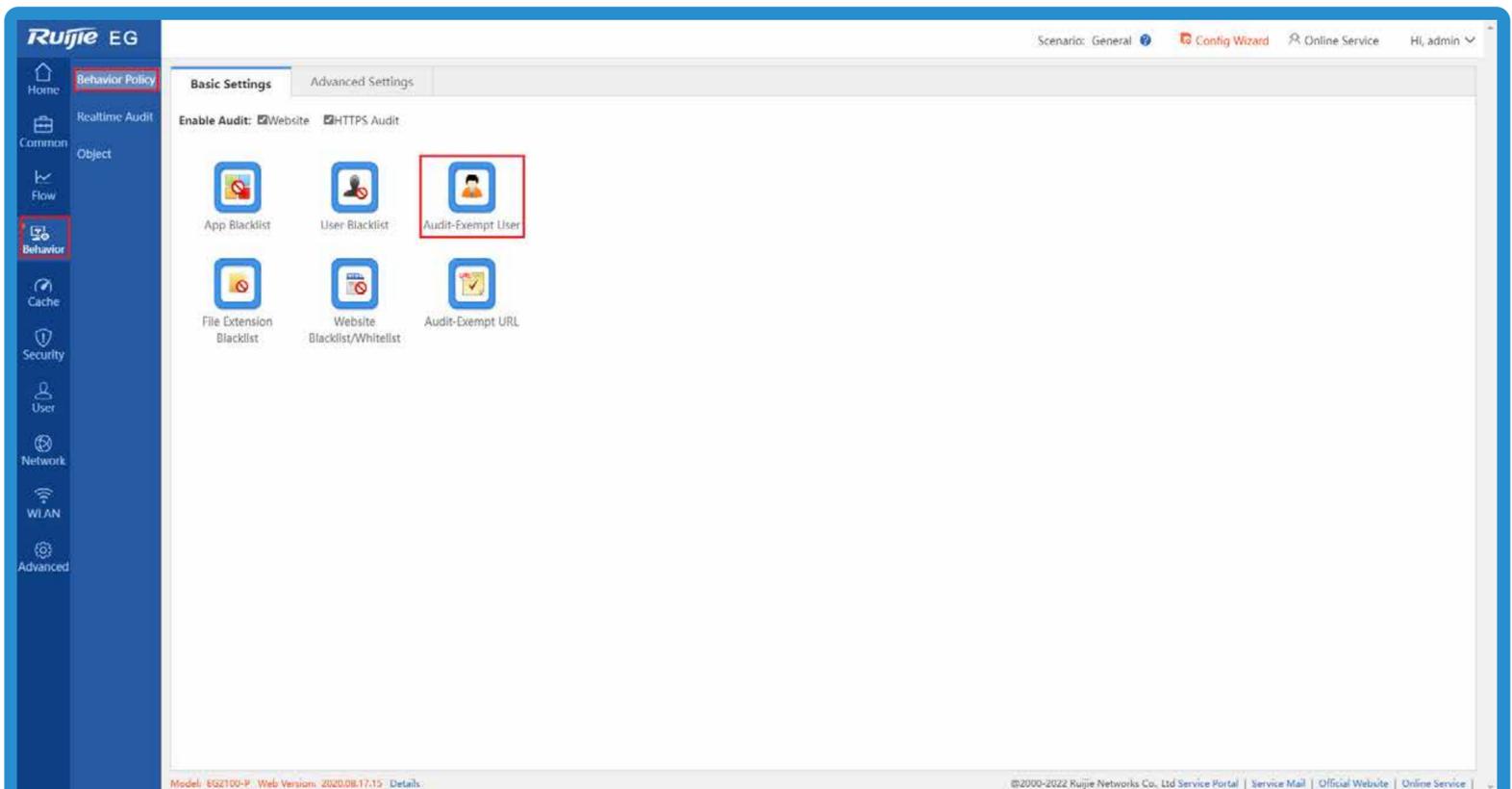


Community



Facebook

# IV. Configuration



**Official Website** >>> <https://www.ruijienetworks.com>  
**Community** >>> <https://community.ruijienetworks.com>  
**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



Community



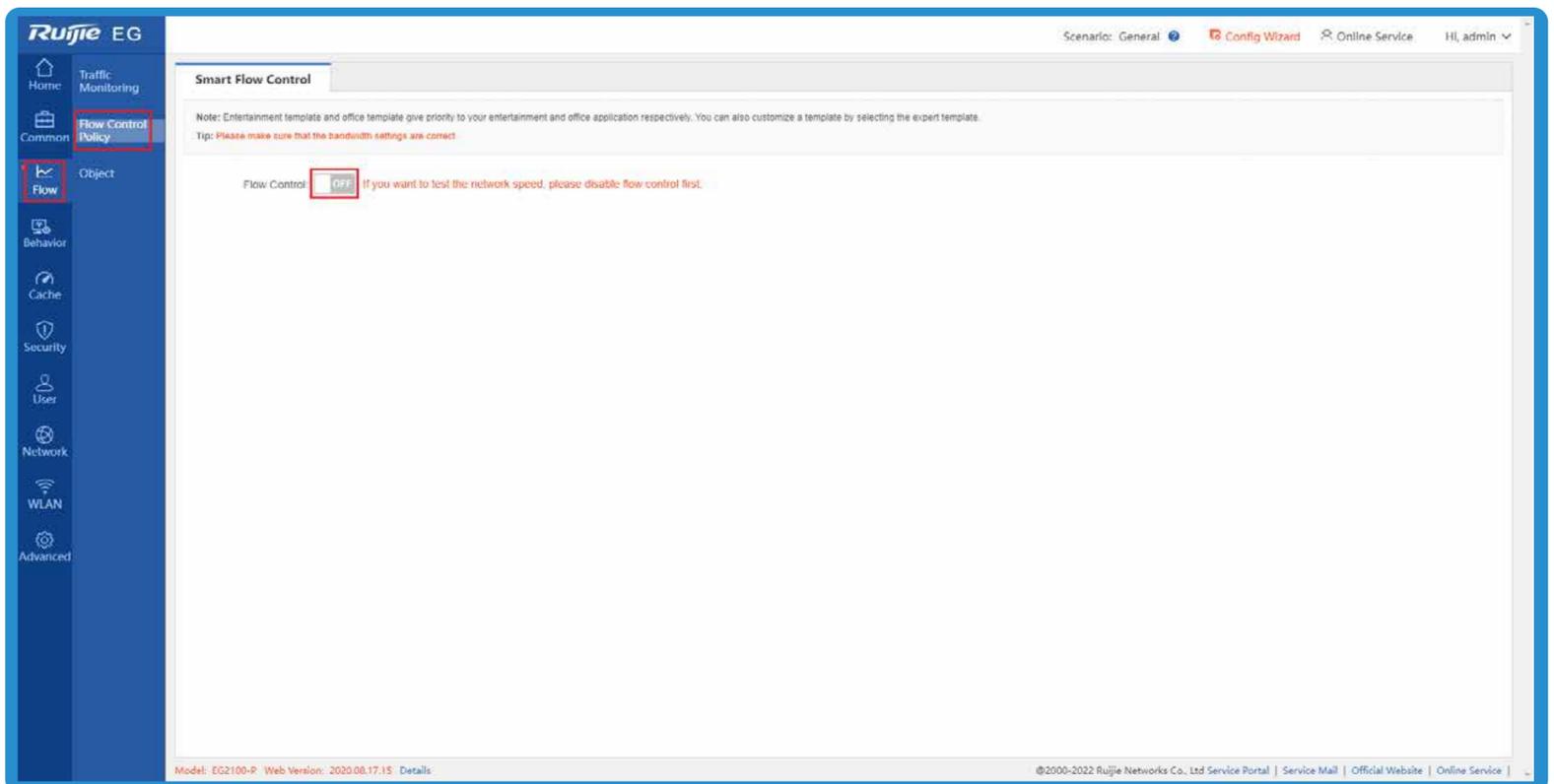
Facebook

## IV. Configuration

(3) Configure a no-rate-limit policy for the terminal.

A. Enable flow control.

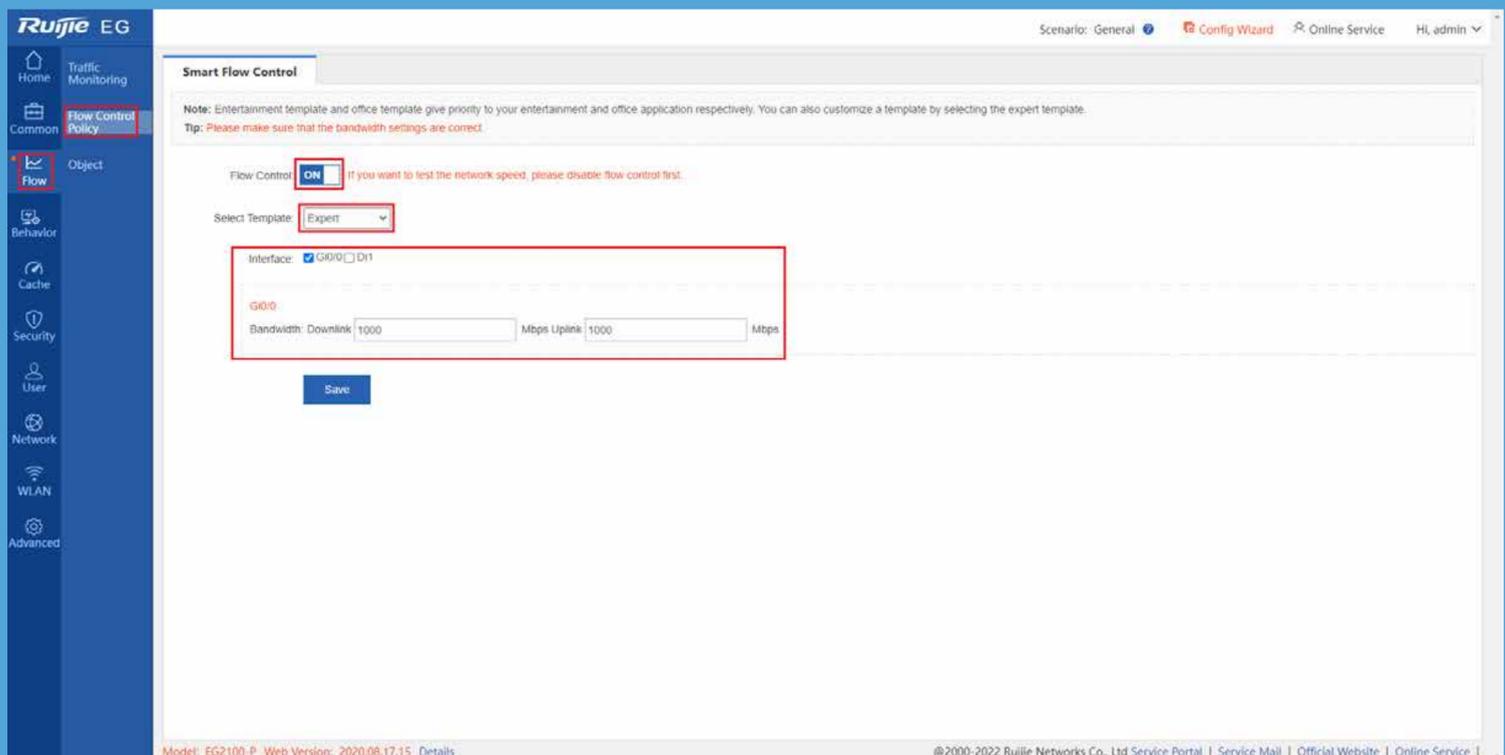
Choose **Flow > Flow Control Policy > Smart Flow Control**, and switch **Flow Control** to **On**.



B. Select **Expert** for **Select Template**, select the interface, and enter the bandwidth. Then, click **Save**.

### Notice

Enter the actual bandwidth values of the external network. If both the uplink and downlink bandwidth is 1000Mbps, enter 1000 in both Downlink and Uplink.



Click Save and then OK.

**Official Website** >>> <https://www.ruijienetworks.com>

**Community** >>> <https://community.ruijienetworks.com>

**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



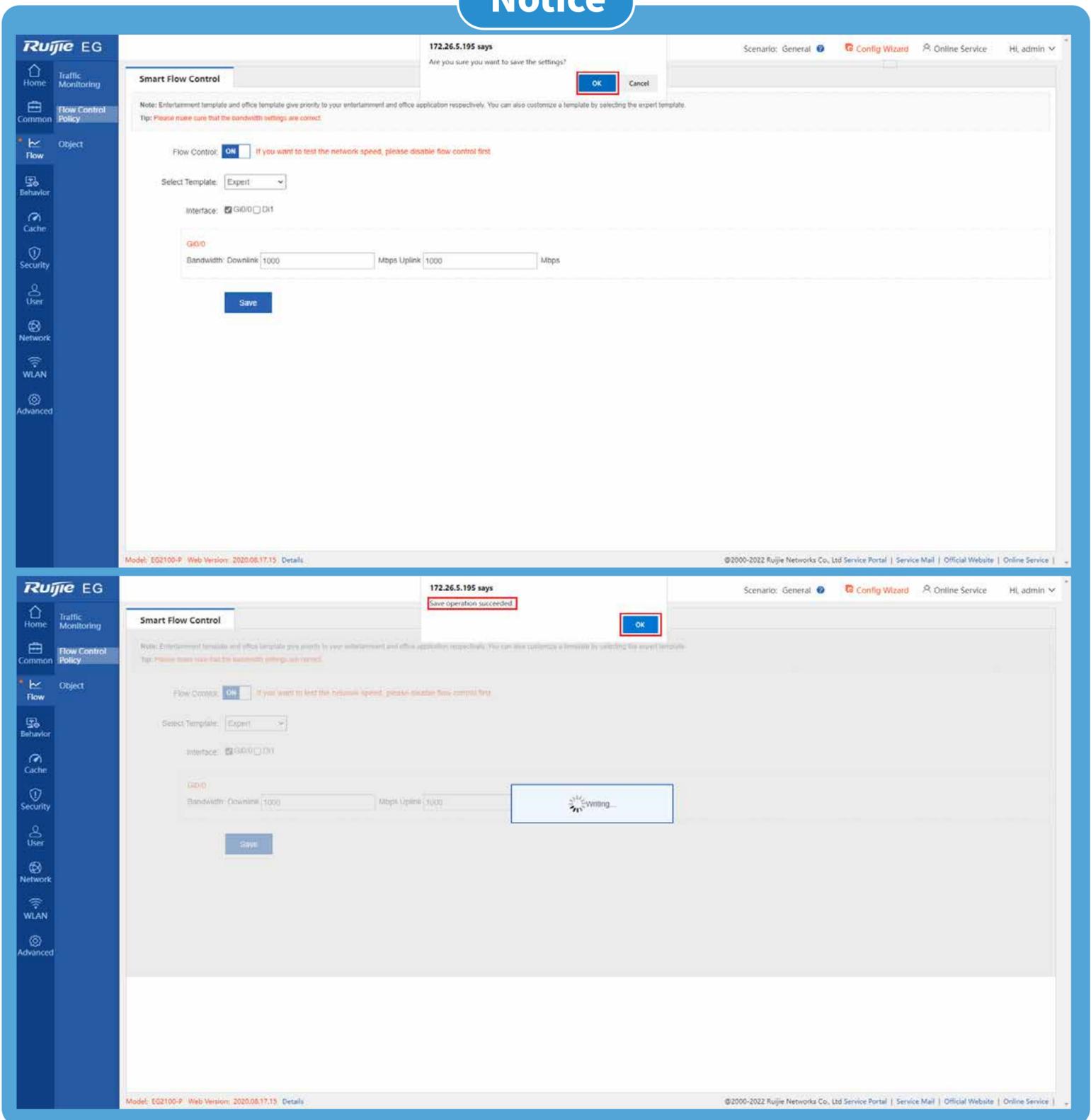
Community



Facebook

# IV. Configuration

## Notice



### C. Change the policy.

To configure a no-rate-limit policy, choose **Flow > Flow Control Policy > Change Policy**, and click **Add Policy**.

» Configuration description:

**Policy Name:** Customize a name, such as "No\_Rate\_Limit".

**Bandwidth:** Select **No Rate Limit**.

**User:** Select **Local User**, and select a user, such as **Test**.

**Selected App:** Keep the default selection **All**.

**Active Time:** In the **Advanced** tab, select **Any Time** or specify a time range.

**Official Website** »» <https://www.ruijienetworks.com>

**Community** »» <https://community.ruijienetworks.com>

**Facebook** »» <https://www.facebook.com/ruijietac>



Official Website



Community



Facebook

# IV. Configuration

The screenshot shows the 'Smart Flow Control' configuration page in the Ruijie EG web interface. A modal window titled 'Add Policy' is open. In this window, the 'Interface' dropdown is set to 'Gi0/0' and the 'Policy Name' text field contains 'No\_Rate\_Limit'. A note below the text field reads: 'Note: You can enter the policy purpose here'. The background shows a table of existing policies and a 'Change Policy' tab.

This screenshot shows the 'Add Policy' dialog box with the 'Select Channel' radio button selected. The 'No Rate Limit' option is highlighted with a red box. The background shows the same policy configuration interface as the previous screenshot.

This screenshot shows the 'Add Policy' dialog box with the 'Local User' radio button selected. A user selection list is displayed, showing various user groups like 'All Users', 'TestUsers1', 'cloud\_voucher', 'cloud\_account', 'Vpn\_Group', 'TestUsers2', and 'Test'. The 'Test' user is highlighted with a red box. The background shows the policy configuration interface.

**Official Website** >>> <https://www.ruijienetworks.com>  
**Community** >>> <https://community.ruijienetworks.com>  
**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



Community



Facebook

# IV. Configuration

Smart Flow Control **Change Policy**

Note: The sum of min channel bandwidth cannot be greater than the min bandwidth of the parent channel.

+ Add Policy X Delete Selected Copy Policy

Policy Name	Local User
Match_Out_Server_of_NON_VPN	All Users
Match_VIP_Group_of_NON_VPN	VIPUser
Match_ALL_NON_VPN	All Users

Show No.: 10 Total Count: 3

**Add Policy**

External User

1 Policy Name

2 Bandwidth

3 Local User

**4 External User**

5 Selected App

6 Advanced

Back Next

Priority	Enable	Status	Action
1	<input checked="" type="checkbox"/>	Active	Edit Delete
2	<input checked="" type="checkbox"/>	Active	Edit Delete
3	<input checked="" type="checkbox"/>	Active	Edit Delete

Model: EG2100-P Web Version: 2020.08.17.15 Details

Smart Flow Control **Change Policy**

Note: The sum of min channel bandwidth cannot be greater than the min bandwidth of the parent channel.

+ Add Policy X Delete Selected Copy Policy

Policy Name	Local User
Match_Out_Server_of_NON_VPN	All Users
Match_VIP_Group_of_NON_VPN	VIPUser
Match_ALL_NON_VPN	All Users

Show No.: 10 Total Count: 3

**Add Policy**

Q

Add  Available App Group

Selected App

All

Back Next

Priority	Enable	Status	Action
1	<input checked="" type="checkbox"/>	Active	Edit Delete
2	<input checked="" type="checkbox"/>	Active	Edit Delete
3	<input checked="" type="checkbox"/>	Active	Edit Delete

Model: EG2100-P Web Version: 2020.08.17.15 Details

Smart Flow Control **Change Policy**

Note: The sum of min channel bandwidth cannot be greater than the min bandwidth of the parent channel.

+ Add Policy X Delete Selected Copy Policy

Policy Name	Local User
Match_Out_Server_of_NON_VPN	All Users
Match_VIP_Group_of_NON_VPN	VIPUser
Match_ALL_NON_VPN	All Users

Show No.: 10 Total Count: 3

**Add Policy**

Active Time: Any Time Time Management

External IP Group: All External IPs Select IP Group

VPN Flow Control:  Match VPN Traffic (If you select this option, this policy is applied to only VPN users)

Back Finish

Priority	Enable	Status	Action
1	<input checked="" type="checkbox"/>	Active	Edit Delete
2	<input checked="" type="checkbox"/>	Active	Edit Delete
3	<input checked="" type="checkbox"/>	Active	Edit Delete

Model: EG2100-P Web Version: 2020.08.17.15 Details

**Official Website** >>> <https://www.ruijienetworks.com>  
**Community** >>> <https://community.ruijienetworks.com>  
**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



Community



Facebook

# IV. Configuration

The top screenshot shows the 'Add Policy' dialog box in the Ruijie EG configuration interface. A message at the top indicates that the policy 'No\_Rate\_Limit' has been successfully configured on interface 'Gi0/0'. The dialog includes fields for 'Active Time' (set to 'Any Time'), 'External IP Group' (set to 'All External IPs Select IP Group'), and 'VPN Flow Control' (with an option to 'Match VPN Traffic'). A table on the right lists policy details like 'Policy Name', 'Priority', 'Enable', 'Status', and 'Action'.

The bottom screenshot shows the 'Change Policy' table in the Ruijie EG configuration interface. The table lists several policies, with the 'No\_Rate\_Limit' policy highlighted in red. The table columns include 'Policy Name', 'Local User', 'External User', 'App Group', 'VPN', 'Advanced', 'Time', 'Channel', 'Priority', 'Enable', 'Status', and 'Action'.

Policy Name	Local User	External User	App Group	VPN	Advanced	Time	Channel	Priority	Enable	Status	Action
No_Rate_Limit	Test	All Users	All	Cancel	External IP Object: All External IPs	Any Time	No Rate Limit	1	☑	Active	Edit Delete
Match_Out_Server_of_NON_VPN	All Users	All Users	All	Cancel	External IP Object: Out_Server	Any Time	Key_Channel	1	☑	Active	Edit Delete
Match_VIP_Group_of_NON_VPN	VIPUser	All Users	All	Cancel	External IP Object: All External IPs	Any Time	Key_Channel	1	☑	Active	Edit Delete
Match_ALL_NON_VPN	All Users	All Users	All	Cancel	External IP Object: All External IPs	Any Time	default	1	☑	Active	Edit Delete

## 4 Disable uplink attack defense and cancel the limit on the number of sessions.

These limits can affect the maximum speed that can be measured. Before speed measurement, disable relevant limits or set no limitation separately for the test computer.

### (1) Disable Uplink Attack Defense.

Choose **Security > Max Sessions > Uplink Attack Defense > Global Config**, change the value to 0, and save the configuration.

Configuration description: When the rate of an uplink speed test packet exceeds the limit, the packet will be discarded, which affects the speed measurement.

**Official Website** >>> <https://www.ruijienetworks.com>

**Community** >>> <https://community.ruijienetworks.com>

**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website

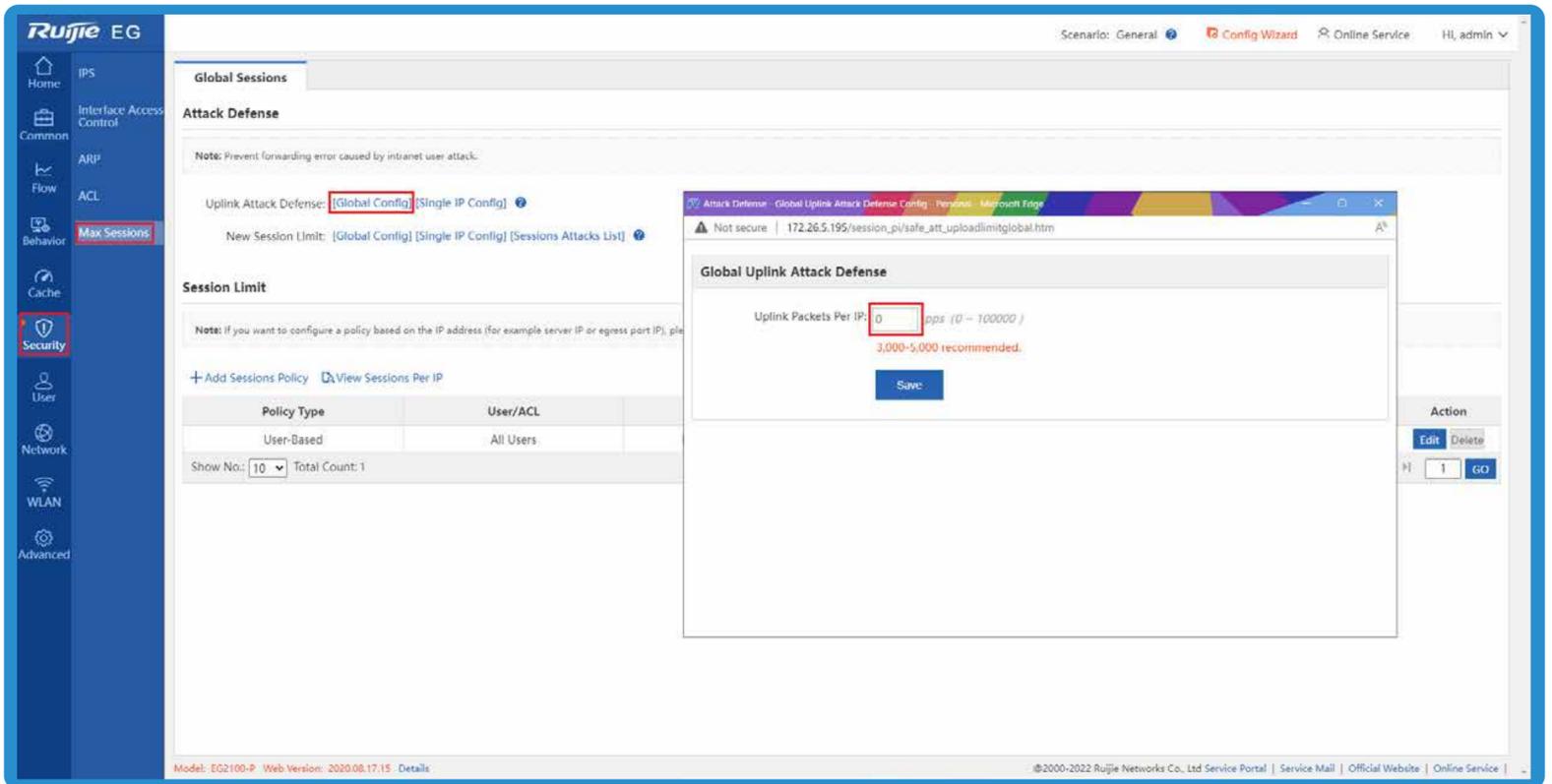


Community



Facebook

# IV. Configuration

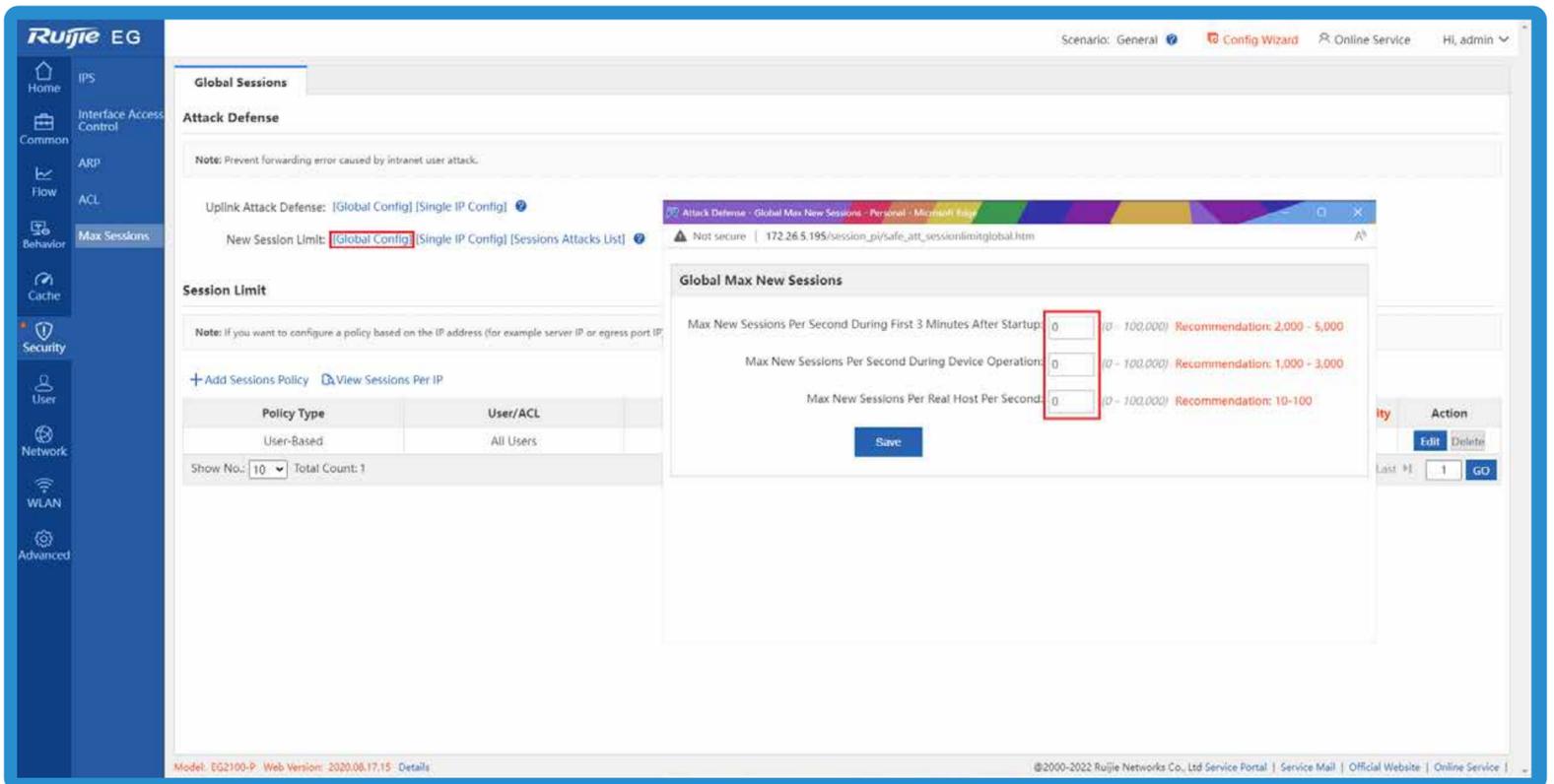


## Notice

**Uplink Attack Defense is disabled by default. Value 0 indicates disabled, while non-0 indicates enabled. The recommended configuration is 3000–5000.**

(2) Cancel the limit on the number of new sessions.

Choose **Security > Max Sessions > New Session Limit > Global Config**, change the value to **0**, and save the configuration. Configuration description: The rate limit on the number of new sessions created in a second can effectively protect against attacks that rapidly consume the number of sessions. When the rate of new session creation for the speed test exceeds the limit, new sessions cannot be created, which affects the speed measurement.



**Official Website** >>> <https://www.ruijienetworks.com>

**Community** >>> <https://community.ruijienetworks.com>

**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



Community



Facebook

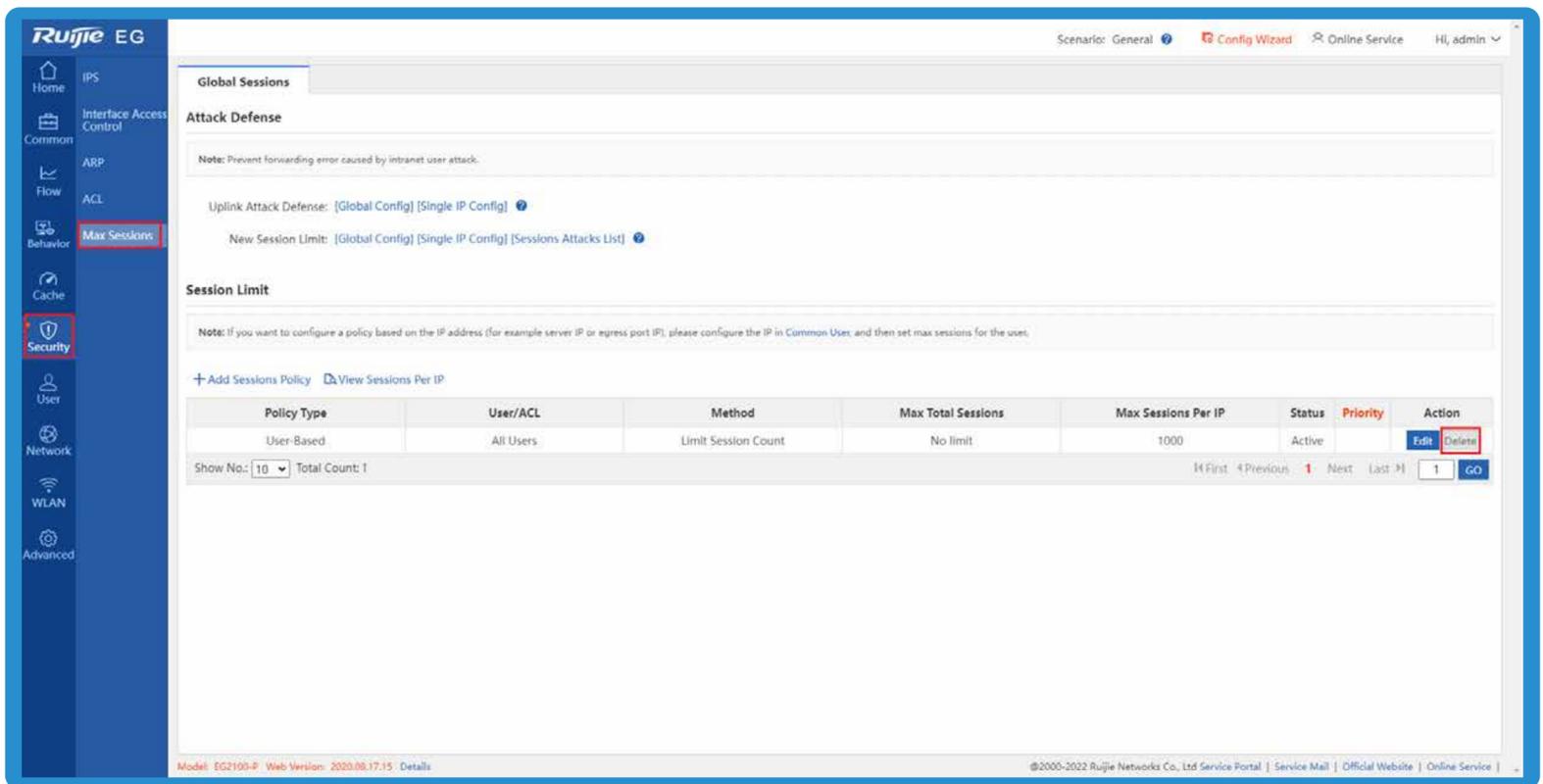
## IV. Configuration

(3) Cancel the limit on the number of user sessions.

Choose **Security > Max Sessions > Session Limit**, and delete the default limit.

Configuration description: The maximum number of sessions protects against attacks that consume sessions. When the number of sessions consumed for the speed test exceeds the limit, new sessions cannot be created, which affects the speed measurement.

The default limit on the maximum number of sessions per IP address is 2000 (the limit is 1000 for certain versions), and speed measurement software generally does not create sessions more than this value.



## V. Test Result Comparison

Before the configuration change:



After the configuration change:



**Official Website** >>> <https://www.ruijienetworks.com>  
**Community** >>> <https://community.ruijienetworks.com>  
**Facebook** >>> <https://www.facebook.com/ruijietac>



Official Website



Community



Facebook