Dynamic MAC Address Management on the Sx500 and SG500X Series Stackable Switches

Objective

A Medium Access Control (MAC) address is a unique data link layer address assigned to a network device. A switch which is the data link layer device maintains a MAC address table to forward frames to a destination port. The MAC address table entry on the switch is built either statically or dynamically.

The dynamic MAC address table is built with the MAC source address of the frames received. The switch floods a frame when the destination MAC address is not presented in the dynamic MAC address table. When the destination system responds, the switch adds its relevant MAC source address and port ID to the address table. The switch then forwards subsequent frames to that port without flooding all the ports.

This article explains how to configure aging time and the dynamic MAC address on the Sx500 Series Stackable Switches.

Applicable Devices

- Sx500 Series
- SG500X Series

Software Version

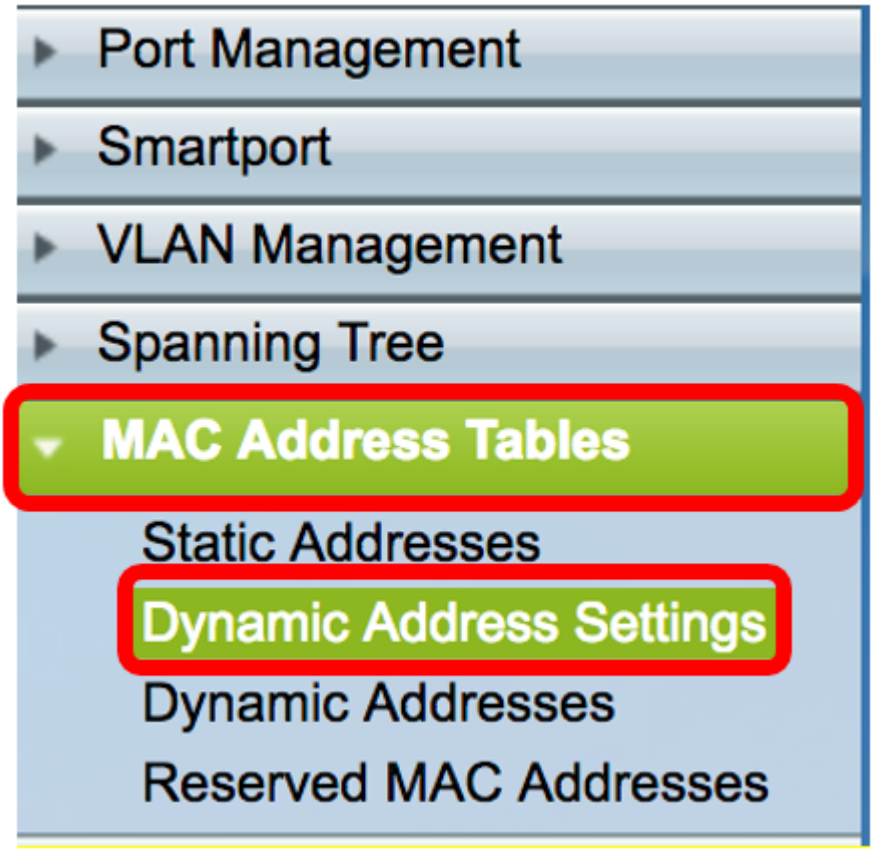
- 1.4.8.06

Manage Dynamic MAC Addresses Aging Time

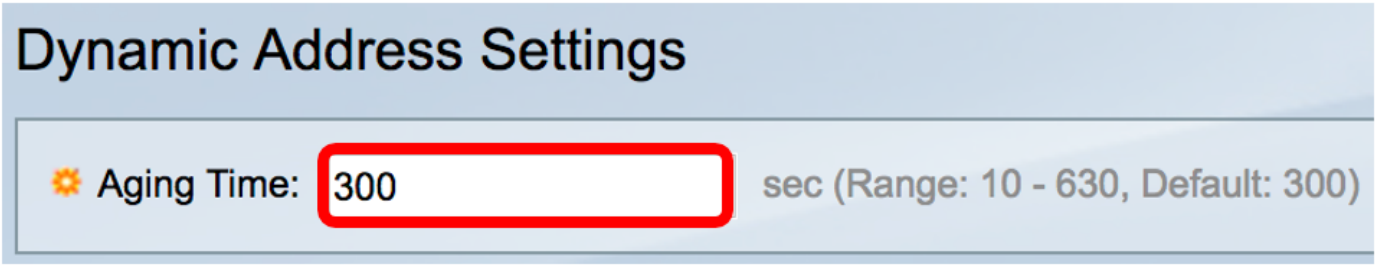
The dynamic MAC address management comprises of configuration of dynamic MAC address aging time and the dynamic MAC address query as shown in the following sections.

Note: Images may slightly vary depending on the exact model of the device you are using. The images below are taken from the SG500X-48MP switch.

Step 1. Log in to the switch web-based utility and choose **MAC Address Tables > Dynamic Address Settings**.



Step 2. In the Dynamic Address Settings page, enter the time period after which the inactive MAC address is removed from the dynamic MAC address table in the *Aging Time* field. The range is from 10 to 630 seconds.



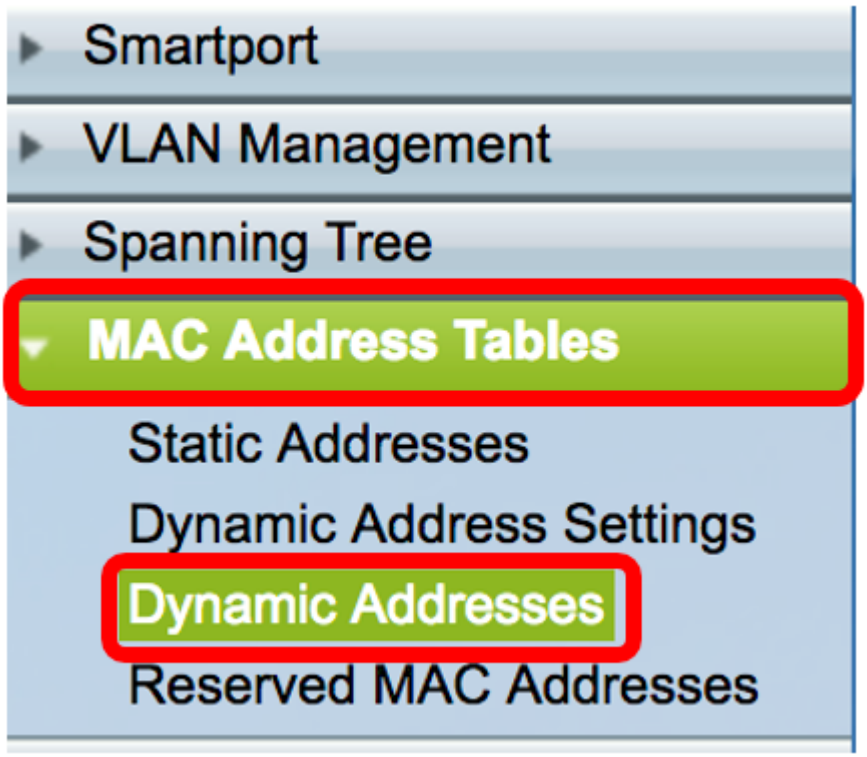
Note: In this example, 300 is entered. This is the default value.

Step 3. Click 

to save the settings.

Configure Dynamic MAC address Query

Step 1. In the Navigation Panel, choose **MAC Address Tables > Dynamic Addresses**.



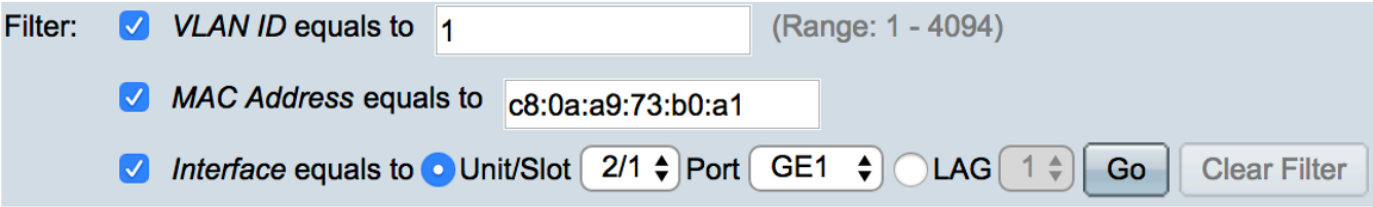
The dynamic MAC address query is performed by any of the following methods depending on the information known.

- Filter - Filters the Dynamic Address Table based on the values provided under the Filter area.
- Dynamic Address Table Sort Key - Filters the Dynamic Address Table based on the key that is chosen from the drop-down list of Dynamic Address Table Sort Key.

Dynamic MAC Address Query by Filter Method

Step 2. In the Filter area, check the desired query conditions.

- *VLAN ID* equals to - Enter the VLAN ID of the VLAN for which the query is performed.
- *MAC Address* equals to - Enter the MAC Address of the interface on the switch for which the query is performed.
- *Interface* equals to - Click one of the following interface type radio buttons for which the query is performed.
- Unit/Slot and Port - The unit ID of unit (active, members, standby) in the stack and number of expansion slots available in it. This switch supports up to 4 units. Choose the desired port from the Port drop-down list by using which the query is performed. If you are unfamiliar with the terms used, check out Cisco Business: Glossary of New Terms.
- LAG - Several ports of the switch are combined to form a single group called a link aggregation group (LAG). This switch supports up to 8 LAGs. Choose the desired LAG from the LAG drop-down list.



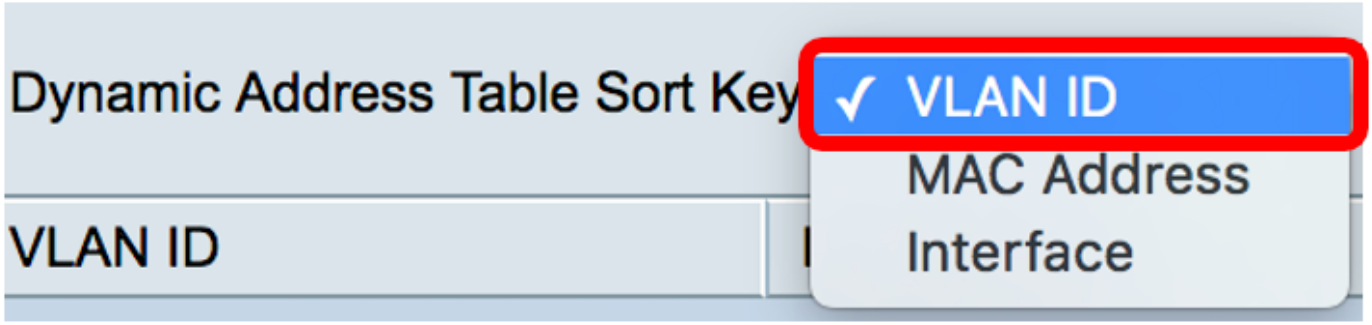
Note: In this example, all conditions are checked and different values are chosen and entered in the respective fields.

Step 3. Click the **Go** button to filter the Dynamic Address Table based on the checked conditions in the Filter area.

Step 4. (Optional) Click the **Clear Filter** button to uncheck any of the conditions and clear the fields in the Filter area.

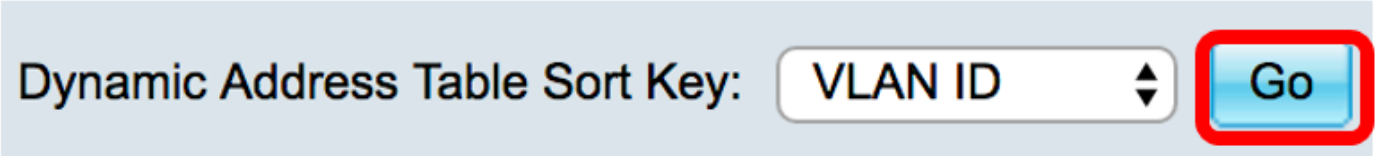
Dynamic MAC Address Query by Sort Key Method

Step 1. Choose the desired key from the Dynamic Address Table Sort Key drop-down list for which the Dynamic Address Table is filtered. The drop-down list contains the VLAN ID, MAC Address, and Interface.



Note: In this example, VLAN ID is chosen.

Step 2. Click the **Go** button to sort the Dynamic Address Table.



Step 3. (Optional) Click the 

buttonto clear the MAC addresses from the Dynamic Address Table.

Step 4. To permanently save the configuration, click the blinking 

button at the upper portion of the web-based utility.