Configure 802.1x Authentication on Cisco Business 220 Series Switches

Objective

The objective of this article is to show you how to configure 802.1x Authentication on the Cisco Business 220 series smart switches.

Applicable Devices | Firmware Version

- CBS220 series (DataSheet) | 2.0.0.17

Introduction

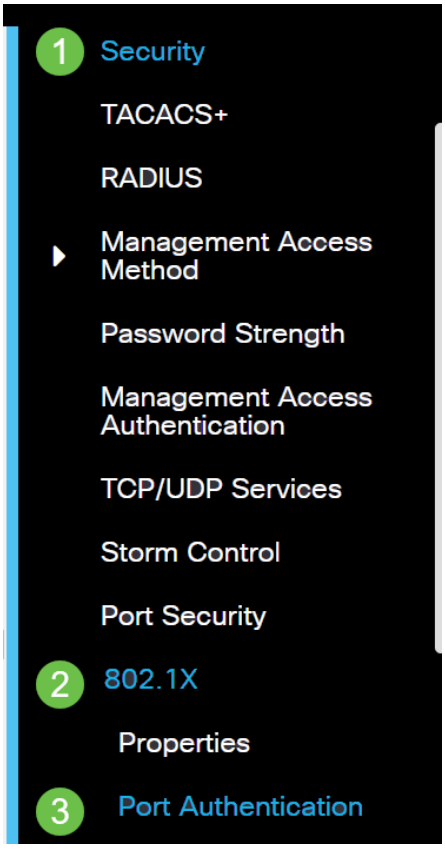
Port Authentication enables the configuration of parameters for each port. Since some of the configuration changes are only possible while the port is in a Force Authorized state, such as host authentication, it's recommended that you change the port control to Force Authorized before making changes. When the configuration is complete, return the port control to its previous state.

A port with 802.1x defined on it can't become a member of a LAG. 802.1x and Port Security can't be enabled on the same port at the same time. If you enable port security on an interface, the Administrative Port Control can't be changed to Auto mode.

Configure Port Authentication

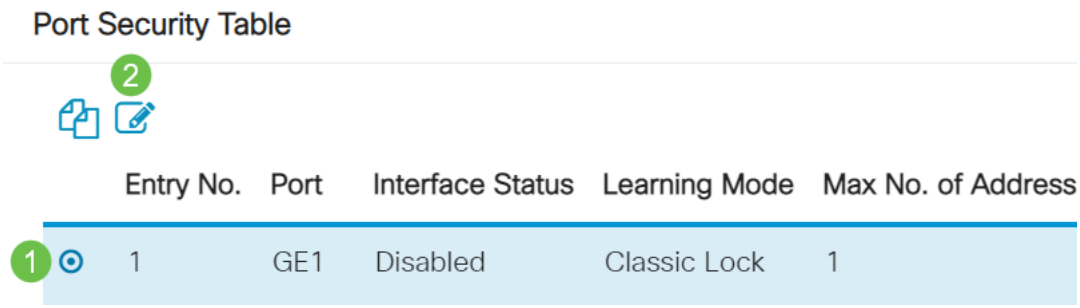
Step 1

Log in to the switch Web User Interface (UI) and choose **Security > 802.1x > Port Authentication**.



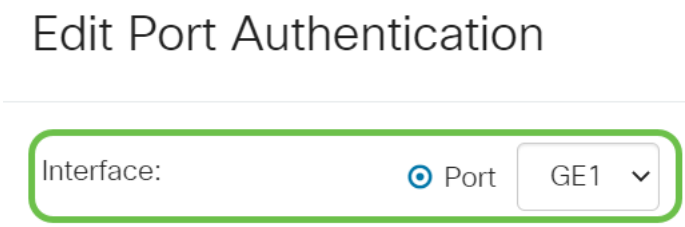
Step 2

Click on the radio button for the port that you want to configure then click the **edit icon**.



Step 3

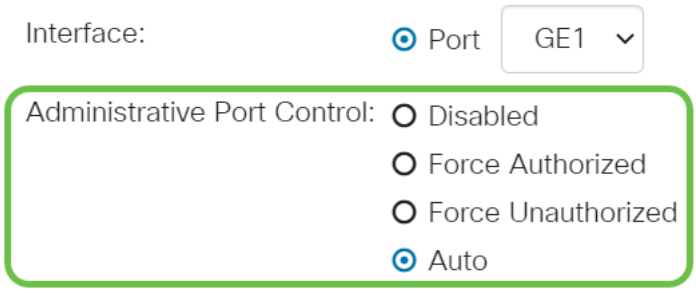
The *Edit Port Authentication* window will then pop up. From the Interface drop-down list, make sure the specified port is the one you chose in Step 2. Otherwise, click the drop-down arrow and choose the right port.



Step 4

Choose a radio button for the Administrative Port Control. This will determine the port authorization state. The options are:

- **Disabled** — Disables 802.1x. This is the default state.
- **Force Unauthorized** — Denies the interface access by moving the interface into the unauthorized state. The switch does not provide authentication services to the client through the interface.
- **Auto** — Enables port-based authentication and authorization on the switch. The interface moves between an authorized or unauthorized state based on the authentication exchange between the switch and the client.
- **Force Authorized** — Authorizes the interface without authentication.

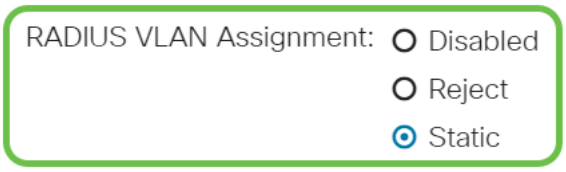


Step 5 (Optional)

Choose a radio button for the RADIUS VLAN Assignment. This will enable Dynamic VLAN assignment on the specified port. The options are:

- **Disabled** — Ignores the VLAN authorization result and keeps the original VLAN of the host. This is the default action.
- **Reject** — If the specified port receives a VLAN authorized information, it will use the information. However, if there is no VLAN authorized information, it will reject the host and make it unauthorized.
- **Static** — If the specified port receives VLAN authorized information, it will use the information. However, if there is no VLAN authorized information, it will keep the original VLAN of the host.

If there is VLAN authorized information from RADIUS, but the VLAN is not administratively created on Device Under Test (DUT), the VLAN will be created automatically.



Quick Tip: For the Dynamic VLAN Assignment feature to work, the switch requires the following VLAN attributes to be sent by the RADIUS server:

- [64] Tunnel-Type = VLAN (type 13)
- [65] Tunnel-Medium-Type = 802 (type 6)
- [81] Tunnel-Private-Group-Id = VLAN ID

Step 6 (Optional)

Check the **Enable** check box for the Guest VLAN to use a guest VLAN for unauthorized ports.



Step 7

Check the **Enable** check box for Periodic Reauthentication. This will enable port re-authentication attempts after the specified Reauthentication Period.



Step 8

Enter a value in the *Reauthentication Period* field. This is the time in seconds to reauthenticate the port.



Step 9 (Optional)

Check the **Reauthenticate Now** check box to enable immediate port re-authentication.

The Authenticator State field displays the current state of authentication.



If the port is not in Force Authorized or Force Unauthorized state, it is in Auto Mode and the authenticator displays the state of the authentication in progress. After the port is authenticated, the state is shown as Authenticated.

Step 10

In the *Max Hosts* field, enter the maximum number of authenticated hosts allowed on the specific port. This value only takes effect on multi-session mode.



Step 11

In the *Quiet Period* field, enter the number of seconds that the switch remains in the quiet state following a failed authentication exchange. When the switch is in a quiet state, it means the switch is not listening for new authentication requests from the client.



Step 12

In the *Resending EAP* field, enter the number of seconds that the switch waits for a response to an Extensible Authentication Protocol (EAP) request or identity frame from the supplicant (client) before resending the request.



Step 13

In the *Max EAP Requests* field, enter the maximum number of EAP requests that can be sent. If a response is not received after the defined period (supplicant timeout), the authentication process is restarted.



Step 14

In the *Supplicant Timeout* field, enter the number of seconds that lapses before EAP requests are resent to the supplicant.



Step 15

In the *Server Timeout* field, enter the number of seconds that lapses before the switch resends a request to the authentication server.



Step 16

Click **Apply**.



You should now have successfully configured 802.1x Authentication on your switch.

For more configurations, refer to the Cisco Business 220 Series Switches Administration Guide.

If you would like to view other articles, check out the Cisco Business 220 Series Switch Support Page