

1 AAA Commands

Command	Function
aaa accounting commands	Configure a command accounting method list.
aaa accounting exec	Configure an EXEC accounting method list.
aaa accounting network	Configure a network accounting method list.
aaa accounting start-fail	Configure the user online/offline status after an accounting start failure.
aaa accounting update	Enable accounting update.
aaa accounting update periodic	Configure an accounting update interval.
aaa authentication dot1x	Configure an IEEE 802.1X authentication method list.
aaa authentication ftp	Configure a method list for File Transfer Protocol (FTP) authentication.
aaa authentication enable default	Configure the default method list for Enable authentication.
aaa authentication general	Configure a general authentication method list.
aaa authentication login	Configure a login authentication method list.
aaa authentication web-auth	Configure a 2nd-generation Web authentication method list.

<u>aaa authorization config-commands</u>	Enable command authorization in configuration modes (including global configuration mode and their submodes).
<u>aaa authorization console</u>	Enable command authorization for users who log in through the console.
<u>aaa authorization exec</u>	Configure an EXEC authorization method list.
<u>aaa authorization network</u>	Configure a network authorization method list.
<u>aaa command-author cache</u>	Enable the function of caching command authorization results.
<u>aaa domain</u>	Create a domain and enter the domain configuration mode.
<u>aaa domain enable</u>	Enable the domain-based AAA services.
<u>aaa heartbeat enable</u>	Enable AAA heartbeat service.
<u>aaa local authentication attempts</u>	Configure the maximum number of consecutive failed login attempts.
<u>aaa local authentication lockout-time</u>	Configure the account lockout duration after the number of consecutive failed login attempts of a user reaches the configured value.
<u>aaa local user allow public account</u>	Enable the function of allowing multiple clients to share a Web-authenticated local account.
<u>aaa log enable</u>	Enable AAA authentication logging.
<u>aaa log rate-limit</u>	Configure the rate of AAA user authentication success logging.
<u>aaa new-model</u>	Enable AAA security services.

<u>aaa user-role default</u>	Configure the default role for AAA authorized users.
<u>access-limit</u>	Configure a limit on the number of users supported in a domain.
<u>accounting network</u>	Configure a network accounting method list for an AAA domain.
<u>accounting commands</u>	Configure a command accounting method list for an AAA domain.
<u>accounting exec</u>	Configure an EXEC accounting method list for an AAA domain.
<u>authentication dot1x</u>	Configure an IEEE 802.1X authentication method list for an AAA domain.
<u>authentication login</u>	Configure a login authentication method list for an AAA domain.
<u>authentication enable</u>	Configure an Enable authentication method list for an AAA domain.
<u>authorization network</u>	Configure a network authorization method list for an AAA domain.
<u>authorization commands</u>	Configure a command authorization method list for an AAA domain.
<u>authorization exec</u>	Configure an EXEC authorization method list for an AAA domain.
<u>clear aaa local user lockout</u>	Clear the list of locked users.
<u>show aaa accounting update</u>	Display accounting update information.

show aaa domain	Display information about a configured domain.
show aaa lockout	Display lockout parameter configuration in the current login authentication.
show aaa group	Display all AAA server groups.
show aaa method-list	Display all AAA method lists.
show aaa user	Display information about an AAA user.
state	Configure the status of a domain.
username-format	Configure whether usernames carry domain name information during interaction between the device and the server.

Note

- Before configuring authentication, authorization and accounting (AAA) commands, run the [aaa new-model](#) command to enable AAA security services.
 - If there are multiple methods in the authentication, authorization, or accounting method list, the methods are applied based on their sequence in the method list. The device switches to the next method only when a method fails to respond.
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1.1 aaa accounting commands

Function

Run the **aaa accounting commands** command to configure a command accounting method list.

Run the **no** form of this command to remove this configuration.

No command accounting method list is configured by default.

Syntax

```
aaa accounting commands level { default | list-name } start-stop method&<1-4>
```

```
no aaa accounting commands level { default | list-name }
```

Parameter Description

level: Level of commands, for which accounting needs to be performed. Information will be recorded when a command of the configured level is executed. The value range is from 0 to 15.

default: Defines the default command accounting method list.

list-name: Name of a command accounting method list. The value is a string of 1 to 63 characters.

method&<1-4>: Command accounting method. &<1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for accounting. Only Terminal Access Controller Access-Control System Plus (TACACS+) server groups are supported. You can enter this type parameter 0–4 times in this command.

- **group tacacs+**: Uses all TACACS+ servers for accounting. You can enter this type parameter only once in this command.
- **none**: Indicates no accounting. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

A configured command accounting method must be applied to a line that needs command accounting so that the method takes effect.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

If the role-based access control (RBAC) function is enabled, this command is unavailable.

Command accounting can be enabled for a user only after the user passes login authentication. If a user is not authenticated or is exempt from authentication during login, command accounting is not performed. After command accounting is enabled, the device records information about the commands of a specified level run by a user each time and sends it to the security server for accounting and user activity management.

Examples

The following example configures the default command accounting method, in which all TACACS+ servers are used to perform accounting on commands of level 15 run by users who log in to the network access server (NAS).

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa accounting commands 15 default start-stop group tacacs+
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed.
```

When the configured group type does not support the accounting type, the following notification will be displayed:

```
The accounting does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **accounting commands** (basic configuration/line)

1.2 aaa accounting exec

Function

Run the **aaa accounting exec** command to configure an EXEC accounting method list.

Run the **no** form of this command to remove this configuration.

No EXEC accounting method list is configured by default.

Syntax

```
aaa accounting exec { default | list-name } start-stop method&<1-4>
```

```
no aaa accounting exec { default | list-name }
```

Parameter Description

default: Defines the default EXEC accounting method list.

list-name: Name of an EXEC accounting method list. The value is a string of 1 to 63 characters.

method&<1-4>: EXEC accounting method. &<1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for accounting. Only the Remote Authentication Dial-In User Service (RADIUS) and TACACS+ server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for accounting. You can enter this type parameter only once in this command.
- **group tacacs+**: Uses all TACACS+ servers for accounting. You can enter this type parameter only once in this command.
- **none**: Indicates no accounting. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After accounting is enabled, the NAS sends an accounting start message to the security server when a user logs in to the NAS CLI, and sends an accounting stop message to the security server when the user logs out. If the NAS does not send an accounting start message when a user logs in, it will not send an accounting stop message when the user logs out.

A configured EXEC accounting method must be applied to a line that needs EXEC accounting. Otherwise, the method does not take effect.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

EXEC accounting can be enabled for a user only after the user passes login authentication. If a user is not authenticated during login or the **none** authentication method is adopted, EXEC accounting will not be performed.

Examples

The following example configures the default EXEC accounting method list, in which all RADIUS server groups are used to perform accounting on access activities of users who log in to the NAS, and send accounting packets at user login and logout.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa accounting exec default start-stop group radius
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the accounting type, the following notification will be displayed:

```
The accounting does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **accounting exec** (basic configuration/line)

1.3 aaa accounting network

Function

Run the **aaa accounting network** command to configure a network accounting method list.

Run the **no** form of this command to remove this configuration.

No network accounting method list is configured by default.

Syntax

aaa accounting network { **default** | *list-name* } **start-stop** *method*&<1-4>

no aaa accounting network { **default** | *list-name* }

Parameter Description

default: Defines the default network accounting method list.

list-name: Name of a network accounting method list. The value is a string of 1 to 63 characters.

method&<1-4>: Network accounting method. &<1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for accounting. Only the RADIUS and TACACS+ server groups are supported. You can enter this parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for accounting. You can enter this type parameter only once in this command.
- **group tacacs+**: Uses all TACACS+ servers for accounting. You can enter this type parameter only once in this command.
- **none**: Indicates no accounting. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

Accounting packets are sent when a user starts and ends the access. The accounting start packet indicates that a user is allowed to access the network regardless of whether accounting is successfully enabled.

Examples

The following example configures the default network accounting method list, in which all RADIUS servers are used to perform accounting on network service requests of users, and send accounting packets when the user access activity starts and ends.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa accounting network default start-stop group radius
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the accounting type, the following notification will be displayed:

```
The accounting does not support this type of group
```

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Common Errors

N/A

Related Commands

- **dot1x accounting** (IEEE 802.1X)

1.4 aaa accounting start-fail

Function

Run the **aaa accounting start-fail** command to configure the user online/offline status after an accounting start failure.

Run the **no** form of this command to restore the default configuration.

The user online/offline status after an accounting start failure is not configured by default.

Syntax

```
aaa accounting start-fail { offline | online }
```

```
no aaa accounting start-fail
```

Parameter Description

offline: Sets the accounting start failure policy to offline.

online: Sets the accounting start failure policy to online.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command is used to configure a policy for user accounting start failures and specify the user online/offline status after the user accounting start fails.

Examples

The following example sets the user status after an accounting start failure to offline.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa accounting start-fail offline
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.5 aaa accounting update

Function

Run the **aaa accounting update** command to enable accounting update.

Run the **no** form of this command to disable this feature.

Accounting update is disabled by default.

Syntax**aaa accounting update****no aaa accounting update****Parameter Description**

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command can help improve the accounting accuracy. You are advised to configure it.

Examples

The following example enables accounting update.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa new-model
Hostname(config)# aaa accounting update
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.6 aaa accounting update periodic

Function

Run the **aaa accounting update periodic** command to configure an accounting update interval.

Run the **no** form of this command to restore the default configuration.

The default accounting update interval is **5** minutes.

Syntax

aaa accounting update periodic *interval*

no aaa accounting update periodic

Parameter Description

interval: Accounting update interval, in minutes. The value range is from 1 to 525600.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

It is recommended that the accounting update interval not be configured unless otherwise specified.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the accounting update interval to 1 minute.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa new-model
Hostname(config)# aaa accounting update
Hostname(config)# aaa accounting update periodic 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa accounting update](#)

1.7 aaa authentication dot1x

Function

Run the **aaa authentication dot1x** command to configure an IEEE 802.1X authentication method list.

Run the **no** form of this command to remove this configuration.

No IEEE 802.1X authentication method list is configured by default.

Syntax

```
aaa authentication dot1x { default | list-name } method&<1-4>
```

```
no aaa authentication dot1x { default | list-name }
```

Parameter Description

default: Defines the default IEEE 802.1X authentication method list.

list-name: Name of an IEEE 802.1X authentication method list. The value is a string of 1 to 63 characters.

method&<1-4>: IEEE 802.1X authentication method. &<1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for authentication. Only RADIUS server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for authentication. You can enter this type parameter only once in this command.
- **local**: Uses the local user database for authentication. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.
- **none**: Indicates no authentication. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the IEEE 802.1X authentication service is enabled on the device, IEEE 802.1X authentication must be performed when a user accesses the device network. You can configure this command to provide a method list for IEEE 802.1X authentication. An IEEE 802.1X authentication method needs to be applied so that the method takes effect.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures an IEEE 802.1X authentication method list named **rds_d1x**, in which a RADIUS server is used for authentication first, and the local user database is used for authentication if no response is received from the RADIUS server within a period of time.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authentication dot1x rds_d1x group radius local
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authentication type, the following notification will be displayed:

```
The authentication does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **dot1x authentication** (IEEE 802.1X)

1.8 aaa authentication ftp

Function

Run the **aaa authentication ftp** command to configure a method list for File Transfer Protocol (FTP) authentication.

Run the **no** form of this command to remove this configuration.

No FTP authentication method list is configured by default.

Syntax

```
aaa authentication ftp { default | list-name } method&<1-4>
```

```
no aaa authentication ftp { default | list-name }
```

Parameter Description

default: Defines the default FTP authentication method list.

list-name: Name of an FTP authentication method list. The value is a string of 1 to 63 characters.

method&<1-4>: FTP authentication method. &<1-4> indicates that 1–4 methods can be configured in a list.

The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for authentication. Only the RADIUS and TACACS+ server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for authentication. You can enter this type parameter only once in this command.
- **group tacacs+**: Uses all TACACS+ servers for authentication. You can enter this type parameter only once in this command.
- **local**: Uses the local user database for authentication. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.

- **none**: Indicates no authentication. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the AAA FTP security service is enabled on the device, FTP authentication must be performed through AAA when an FTP user accesses the device.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures an FTP authentication method list named **rds_ftp**, in which a RADIUS server is used for authentication first, and the local user database is used for authentication if no response is received from the RADIUS server within a period of time.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authentication ftp rds_ftp group radius local
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authentication type, the following notification will be displayed:

```
The authentication does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **ftp-server authentication** (network management and monitoring/FTP server)

1.9 aaa authentication enable default

Function

Run the **aaa authentication enable default** command to configure the default method list for Enable authentication.

Run the **no** form of this command to remove this configuration.

No default method list for Enable authentication is configured by default.

Syntax

aaa authentication enable default *method*&<1-4>

no aaa authentication enable default

Parameter Description

method&<1-4>: Configured Enable authentication method. &<1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

- **enable**: Uses the Enable server for authentication. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.
- **group** *group-name*: Uses a server group for authentication. Only the RADIUS and TACACS+ server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for authentication. You can enter this type parameter only once in this command.
- **group tacacs+**: Uses all TACACS+ servers for authentication. You can enter this type parameter only once in this command.

- **local**: Uses the local user database for authentication. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.
- **none**: Indicates no authentication. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the AAA Enable authentication service is enabled on the device, users must perform Enable authentication through AAA.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures the default method list for Enable authentication, in which a RADIUS server is used for authentication first, and the local user database is used for authentication if no response is received from the RADIUS server within a period of time.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authentication enable default group radius local
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authentication type, the following notification will be displayed:

```
The authentication does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.10 aaa authentication general

Function

Run the **aaa authentication general** command to configure a general authentication method list.

Run the **no** form of this command to remove this configuration.

No general authentication method list is configured by default.

Syntax

```
aaa authentication general { default | list-name } method&<1-4>
```

```
no aaa authentication general { default | list-name }
```

Parameter Description

default: Defines the default general authentication method list.

list-name: Name of a general authentication method list. The value is a string of 1 to 63 characters.

method&<1-4>: General authentication method. &<1-4> indicates that 1–4 methods can be configured in a list.

The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for authentication. Only RADIUS server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for authentication. You can enter this type parameter only once in this command.

- **local**: Uses the local user database for authentication. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.
- **none**: Indicates no authentication. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If both IEEE 802.1X authentication and Web authentication are used on the device and the configured authentication methods are the same, you can configure a general authentication method for them together. If both an IEEE 802.1X authentication method (or Web authentication method) and a general authentication method are configured, the IEEE 802.1X authentication method (or Web authentication method) is preferred.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures a general authentication method list, in which a RADIUS server is used for authentication first, and the local user database is used for authentication if no response is received from the RADIUS server within a period of time.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authentication general default group radius local
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authentication type, the following notification will be displayed:

The authentication does not support this type of group

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.11 aaa authentication login

Function

Run the **aaa authentication login** command to configure a login authentication method list.

Run the **no** form of this command to remove this configuration.

No login authentication method list is configured by default.

Syntax

```
aaa authentication login { default | list-name } method&<1-4>
```

```
no aaa authentication login { default | list-name }
```

Parameter Description

default: Defines the default login authentication method list.

list-name: Name of a login authentication method list. The value is a string of 1 to 63 characters.

method&<1-4>: Login authentication method. &<1-4> indicates that 1–4 methods can be configured in a list.

The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for authentication. Only the RADIUS and TACACS+ server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for authentication. You can enter this type parameter only once in

this command.

- **group tacacs+**: Uses all TACACS+ servers for authentication. You can enter this type parameter only once in this command.
- **local**: Uses the local user database for authentication. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.
- **none**: Indicates no authentication. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the AAA login authentication security service is enabled on the device, users must perform login authentication through AAA upon login.

A configured login authentication method must be applied to a line that needs login authentication. Otherwise, the method does not take effect.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures a login authentication method list named **list-1**, in which a RADIUS server is used for authentication first, and the local user database is used for authentication if no response is received from the RADIUS server within a period of time.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authentication login list-1 group radius local
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authentication type, the following notification will be displayed:

```
The authentication does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **login authentication** (basic configuration/basic management)

1.12 aaa authentication web-auth

Function

Run the **aaa authentication web-auth** command to configure a 2nd-generation Web authentication method list.

Run the **no** form of this command to remove this configuration.

No 2nd-generation Web authentication method list is configured by default.

Syntax

```
aaa authentication web-auth { default | list-name } method&<1-4>
```

```
no aaa authentication web-auth { default | list-name }
```

Parameter Description

default: Defines the default 2nd-generation Web authentication method list.

list-name: Name of a 2nd-generation Web authentication method list. A maximum of four methods can be configured in a method list. The value is a string of 1 to 63 characters.

method<1-4>: 2nd-generation Web authentication method. <1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

group *group-name*: Uses a server group for authentication. Only RADIUS server groups are supported. You can enter this type parameter 0–4 times in this command.

group radius: Uses all RADIUS servers for authentication. You can enter this type parameter only once in this command.

local: Uses the local user database for authentication. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.

none: Indicates no authentication. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the 2nd-generation Web authentication service is enabled on the device, 2nd-generation Web authentication must be performed when a user accesses the device.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures a 2nd-generation Web authentication method list named **rds_web**, in which a RADIUS server is used for authentication first, and user packets are allowed to pass through and users pass authentication if no response is received from the RADIUS server within a period of time.

```
Hostname> enable
Hostname# configure terminal
```

```
Hostname(config)# aaa authentication web-auth rds_web group radius none
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authentication type, the following notification will be displayed:

```
The authentication does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **Authentication** (Web authentication)

1.13 aaa authorization config-commands

Function

Run the **aaa authorization config-commands** command to enable command authorization in configuration modes (including global configuration mode and their submodes).

Run the **no** form of this command to disable this feature.

Command authorization in configuration modes is disabled by default.

Syntax

aaa authorization config-commands

no aaa authorization config-commands

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If you need to grant authorization to commands only in non-configuration modes (such as privileged EXEC mode), use the **no** form of this command to disable command authorization in configuration modes, that is, commands in configuration modes and their submodes can be executed without authorization.

Examples

The following example enables command authorization in configuration modes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authorization config-commands
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.14 aaa authorization console

Function

Run the **aaa authorization console** command to enable command authorization for users who log in through the console.

Run the **no** form of this command to disable this feature.

Command authorization is disabled for users who log in through the console by default.

Syntax

aaa authorization console

no aaa authorization console

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The device differentiates users who log in through the console from those who log in through other terminals. This command is used to enable command authorization for users who log in through the console.

If command authorization is disabled for users who log in through the console, the command authorization method list that has been applied to the console line is invalidated.

Examples

The following example enables command authorization for users who log in through the console.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# aaa authorization console
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [Ошибка: источник перекрёстной ссылки не найден](#)

1.15 aaa authorization exec

Function

Run the **aaa authorization exec** command to configure an EXEC authorization method list.

Run the **no** form of this command to remove this configuration.

No EXEC authorization method list is configured by default.

Syntax

```
aaa authorization exec { default | list-name } method&<1-4>
```

```
no aaa authorization exec { default | list-name }
```

Parameter Description

default: Defines the default EXEC authorization method list.

list-name: Name of an EXEC authorization method list. A maximum of four methods can be configured in a method list. The value is a string of 1 to 63 characters.

method&<1-4>: EXEC authorization method. &<1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for authorization. Only the RADIUS and TACACS+ server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for authorization. You can enter this type parameter only once in this command.
- **group tacacs+**: Uses all TACACS+ servers for authorization. You can enter this type parameter only once in this command.
- **local**: Uses the local user database for authorization. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.
- **none**: Indicates no authorization. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The device allows granting CLI permissions (levels 0 to 15) to users who log in to the CLI. EXEC authorization is performed only on users who pass login authentication. If a user fails in EXEC authorization, the user cannot open the CLI.

A configured EXEC authorization method must be applied to a line that needs EXEC authorization. Otherwise, the method does not take effect.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures the default EXEC authorization method list, in which RADIUS servers are used for EXEC authorization.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authorization exec default group radius
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authorization type, the following notification will be displayed:

```
The authorization does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **authorization commands** (basic configuration/line)

1.16 aaa authorization network

Function

Run the **aaa authorization network** command to configure a network authorization method list.

Run the **no** form of this command to remove this configuration.

No network authorization method list is configured by default.

Syntax

```
aaa authorization network { default | list-name } method<1-4>
```

```
no aaa authorization network { default | list-name }
```

Parameter Description

default: Defines the default network authorization method list.

list-name: Name of a network authorization method list. A maximum of four methods can be configured in a method list. The value is a string of 1 to 63 characters.

method<1-4>: Network authorization method. <1-4> indicates that 1–4 methods can be configured in a list. The optional types of *method* are as follows:

- **group** *group-name*: Uses a server group for authorization. Only the RADIUS and TACACS+ server groups are supported. You can enter this type parameter 0–4 times in this command.
- **group radius**: Uses all RADIUS servers for authorization. You can enter this type parameter only once in this command.
- **group tacacs+**: Uses all TACACS+ servers for authorization. You can enter this type parameter only once in this command.
- **local**: Uses the local user database for authorization. You can enter this type parameter only once in this command. After entering this parameter, you can also enter other type parameters.
- **none**: Indicates no authorization. You can enter this type parameter only once in this command. After entering this parameter, you cannot enter other types.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The device supports authorization on all network-related services. After authorization is configured, all authenticated users or interfaces are authorized automatically.

A RADIUS or TACACS+ server completes authorization of authenticated users by returning a series of attributes. Therefore, network authorization is based on authentication. Only authenticated users can gain network authorization.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example configures the default network authorization method list, in which RADIUS servers are used to provide authorization for network service requirements.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa authorization network default group radius
```

Notifications

When the specified group is not defined on the device, the following notification will be displayed:

```
%Group XXX is not existed
```

When the configured group type does not support the authorization type, the following notification will be displayed:

```
The authorization does not support this type of group
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.17 aaa command-author cache

Function

Run the **aaa command-author cache** command to enable the function of caching command authorization results.

Run the **no** form of this command to disable this feature.

The function of caching command authorization results is disabled by default.

Syntax

```
aaa command-author cache  
no aaa command-author cache
```

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The device can locally cache command authorization results returned by an AAA server. Subsequent authorization of commands with the level same as the cached authorized commands are performed based on the locally cached results.

Cached command authorization results are valid only to the current session and commands of the current level.

Examples

The following example enables the function of caching command authorization results.

```
Hostname> enable  
Hostname# configure terminal  
Hostname(config)# aaa command-author cache
```

Notifications

N/A

Common Errors

N/A

Platform Description

Switching platform

Related Commands

N/A

1.18 aaa domain

Function

Run the **aaa domain** command to create a domain and enter the domain configuration mode.

Run the **no** form of this command to remove this configuration.

No domain is configured by default.

Syntax

```
aaa domain { default | domain-name }
```

```
no aaa domain { default | domain-name }
```

Parameter Description

default: Enters the configuration mode of the default domain.

domain-name: Name of a domain. After this parameter is configured, the system enters the configuration mode of the domain.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

Before running this command, run the [aaa domain enable](#) command to enable the domain-based AAA services first.

After the domain-based AAA services are enabled, if information of a user does not carry domain information, the user belongs to the default domain **default**.

domain-name indicates the domain name. If information of a user carries the domain name, the method list associated with this domain is used. The system supports a maximum of 32 domains.

Examples

The following example enters the configuration mode of a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)

1.19 aaa domain enable

Function

Run the **aaa domain enable** command to enable the domain-based AAA services.

Run the **no** form of this command to disable this feature.

The domain-based AAA services are disabled by default.

Syntax

aaa domain enable

no aaa domain enable

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables the domain-named AAA services.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.20 aaa heartbeat enable

Function

Run the **aaa heartbeat enable** command to enable AAA heartbeat service.

Run the **no** command to disable this feature.

Run the **default** command to restore the default configuration.

AAA heartbeat service is enabled by default.

Syntax

```
aaa heartbeat enable
no aaa heartbeat enable
default aaa heartbeat enable
```

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

Enable this feature to solve the problem that the AAA function is unavailable due to abnormal internal disconnection under special circumstances.

The heartbeat message sending interval is 60 seconds, which has little impact on performance. It is recommended to keep it enabled.

Examples

The following example disable the AAA heartbeat service.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no aaa heartbeat enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.21 aaa local authentication attempts

Function

Run the **aaa local authentication attempts** command to configure the maximum number of consecutive failed login attempts.

Run the **no** command to restore the default configuration.

The default maximum number of consecutive failed login attempts is **3**.

Syntax

aaa local authentication attempts *max-attempts*

no aaa local authentication attempts**Parameter Description**

max-attempts: Maximum number of consecutive failed login attempts. The value range is from 1 to 2147483647.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the maximum number of consecutive failed login attempts to **6**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa local authentication attempts 6
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show aaa lockout](#)

1.22 aaa local authentication lockout-time

Function

Run the **aaa local authentication lockout-time** command to configure the account lockout duration after the number of consecutive failed login attempts of a user reaches the configured value.

Run the **no** form of this command to restore the default configuration.

An account is locked for 15 minutes after the number of consecutive failed login attempts using the account reaches the configured value by default.

Syntax

aaa local authentication lockout-time *lockout-time*

no aaa local authentication lockout-time

Parameter Description

lockout-time: Account lockout duration, in minutes. The value range is from 1 to 43200.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the account lockout duration after the number of consecutive failed login attempts reaches the configured value to **5** minutes.

```
Hostname> enable
Hostname# configure terminal
```

```
Hostname(config)# aaa local authentication lockout-time 5
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa local authentication attempts](#)

1.23 aaa local user allow public account

Function

Run the **aaa local user allow public account** command to enable the function of allowing multiple clients to share a Web-authenticated local account.

Run the **no** form of this command to restore the default configuration.

The function of allowing multiple clients to share a Web-authenticated local account is disabled by default.

Syntax

aaa local user allow public account

no aaa local user allow public account

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables the function of allowing multiple clients to share a Web-authenticated local account.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa local user allow public account
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.24 aaa log enable

Function

Run the **aaa log enable** command to enable AAA authentication logging.

Run the **no** form of this command to disable this feature.

AAA authentication logging is enabled by default.

Syntax

aaa log enable
no aaa log enable

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When a large number of users go online, considerable AAA user authentication success logs will be printed, which may cause frequent screen refreshing or degrade the device performance. You can configure this command to disable the logging function.

Examples

The following example disables AAA user authentication success logging.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no aaa log enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.25 aaa log rate-limit

Function

Run the **aaa log rate-limit** command to configure the rate of AAA user authentication success logging.

Run the **no** form of this command to restore the default configuration.

The default rate of AAA user authentication success logging is **5** logs/second.

Syntax

aaa log rate-limit *rate-limit*

no aaa log rate-limit

Parameter Description

rate-limit: Number of logs printed per second. The value range is from 0 to 65535 and the value **0** indicates that the logging rate is unlimited.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When a large number of users go online, considerable AAA user authentication success logs will be printed, which may cause frequent screen refreshing or degrade the device performance. You can configure this command to adjust the rate of user authentication success logging.

Examples

The following example sets the rate of AAA user authentication success logging to **10** logs/second.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa log rate-limit 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa log enable](#)

1.26 aaa new-model

Function

Run the **aaa new-model** command to enable AAA security services.

Run the **no** form of this command to disable this feature.

The AAA security services are disabled by default.

Syntax

aaa new-model

no aaa new-model

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command is used to enable AAA security services. If AAA security services are disabled, AAA commands are unavailable.

Examples

The following example enables AAA security services.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa new-model
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.27 aaa user-role default

Function

Run the **aaa user-role default** command to configure the default role for AAA authorized users.

Run the **no** form of this command to restore the default configuration.

The default role of AAA authorized users is **network-operator**.

Syntax

```
aaa user-role default { priv-level | role-name | network-admin | network-operator }
```

```
no aaa user-role default
```

Parameter Description

priv-level: Privilege level of a user. The value is **priv-*n***, and *n* is a variable in the range of 0 to 15.

role-name: Custom user role.

network-admin: Uses the role **network-admin**, which has the administrator permissions.

network-operator: Uses the role **network-operator**, which has the operator permissions.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The RBAC function needs to be enabled first (run the **role enable** command in global configuration mode). For details about RBAC, see "Configuring RBAC" in the *Basic Configuration Command Reference*.

Examples

The following example sets the default role of AAA authorized users to **network-admin**.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# aaa user-role default network-admin
```

Notifications

N/A

Common Errors

N/A

Platform Description

Switching platform

Related Commands

- **role enable** (basic configuration/RBAC)

1.28 access-limit

Function

Run the **access-limit** command to configure a limit on the number of users supported in a domain.

Run the **no** form of this command to remove this configuration.

No limit on the number of users supported in a domain is configured by default.

Syntax

access-limit *access-limit-number*

no access-limit

Parameter Description

access-limit-number: Limit on the number of users supported in a domain. Only the number of IEEE 802.1X users is limited. The value range is from 1 to 1024.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the upper limit on the number of users supported in a domain named **domain.com** to **20**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# access-limit 20
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)

1.29 accounting network

Function

Run the **accounting network** command to configure a network accounting method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default network accounting method list of an AAA domain is the default method list.

Syntax

accounting network { **default** | *list-name* }

no accounting network

Parameter Description

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the network accounting method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
```

```
Hostname(config-aaa-domain)# accounting network default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa accounting network](#)

1.30 accounting commands

Function

Run the **accounting commands** command to configure a command accounting method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default command accounting method list of an AAA domain is the default method list.

Syntax

```
accounting commands level { default | list-name }
```

```
no accounting commands level
```

Parameter Description

level: Level of commands that need authorization. The value range is from 0 to 15.

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the command accounting method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# accounting commands default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa accounting commands](#)

1.31 accounting exec

Function

Run the **accounting exec** command to configure an EXEC accounting method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default EXEC accounting method list of an AAA domain is the default method list.

Syntax

```
accounting exec { default | list-name }
```

```
no accounting exec
```

Parameter Description

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the EXEC accounting method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# accounting exec default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa accounting exec](#)

1.32 authentication dot1x

Function

Run the **authentication dot1x** command to configure an IEEE 802.1X authentication method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default IEEE 802.1X authentication method list of an AAA domain is the default method list.

Syntax

authentication dot1x { **default** | *list-name* }

no authentication dot1x

Parameter Description

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the IEEE 802.1X authentication method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# authentication dot1x default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa authentication dot1x](#)

1.33 authentication login

Function

Run the **authentication login** command to configure a login authentication method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default login authentication method list of an AAA domain is the default method list.

Syntax

```
authentication login { default | list-name }
```

```
no authentication login
```

Parameter Description

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the login authentication method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# authentication login default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa authentication login](#)

1.34 authentication enable

Function

Run the **authentication enable** command to configure an Enable authentication method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default Enable authentication method list of an AAA domain is the default method list.

Syntax

authentication enable default

no authentication enable

Parameter Description

default: Uses the default method list. Only the default method list is supported currently.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the Enable authentication method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
```

```
Hostname(config-aaa-domain)# authentication enable default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa authentication enable default](#)

1.35 authorization network

Function

Run the **authorization network** command to configure a network authorization method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default network authorization method list of an AAA domain is the default method list.

Syntax

```
authorization network { default | list-name }
```

```
no authorization network
```

Parameter Description

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

This command is used to specify a network authorization method list for an AAA domain. The domain-based AAA services need to be enabled for the execution of this command.

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the network authorization method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# authorization network default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa authorization network](#)

1.36 authorization commands

Function

Run the **authorization commands** command to configure a command authorization method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default command authorization method list of an AAA domain is the default method list.

Syntax

```
authorization commands level { default | list-name }
```

```
no authorization commands level
```

Parameter Description

level: Level of commands that need authorization. Only authorized commands can be executed. The value range is from 0 to 15.

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the command authorization method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# authorization commands default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)

1.37 authorization exec

Function

Run the **authorization exec** command to configure an EXEC authorization method list for an AAA domain.

Run the **no** form of this command to remove this configuration.

The default EXEC authorization method list of an AAA domain is the default method list.

Syntax

authorization exec { **default** | *list-name* }

no authorization exec

Parameter Description

default: Uses the default method list.

list-name: Name of a method list.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

If you configure this command repeatedly, the later configuration will overwrite earlier configuration.

Examples

The following example sets the EXEC authorization method list to the default method list for a domain named **domain.com**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
```

```
Hostname(config-aaa-domain)# authorization exec default
```

Notifications

If the name of a specified method list exceeds the length limit, the following notification will be displayed:

```
Method list name is too long
```

If the specified method list is not configured, the following notification will be displayed:

```
%WARNING: method list named XXX for this type is not existed
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [aaa domain enable](#)
- [aaa authorization exec](#)

1.38 clear aaa local user lockout

Function

Run the **clear aaa local user lockout** command to clear the list of locked users.

Syntax

```
clear aaa local user lockout { all | user-name user-name-id }
```

Parameter Description

all: Indicates all locked users.

user-name *user-name-id*: Specifies the ID of a locked user.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

You can clear a specified locked user or all locked users in the list.

Examples

The following example clears all locked users.

```
Hostname> enable
Hostname# clear aaa local user lockout all
```

Notifications

When you attempt to clear a specified user and the user exists, the following notification will be displayed:

```
User XXX unlocked
```

Platform Description

N/A

Related Commands

N/A

1.39 show aaa accounting update

Function

Run the **show aaa accounting update** command to display accounting update information.

Syntax

```
show aaa accounting update
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

Accounting update information includes whether accounting update is enabled and the accounting update interval.

Examples

The following example displays accounting update information.

```
Hostname> enable
Hostname# show aaa accounting update

Accounting Update:           Disabled
Accounting Update Interval: 5 Minutes
```

Table 1-1 Output Fields of the show aaa accounting update Command

Field	Description
Accounting Update	Whether the accounting update function is enabled
Accounting Update Interval	Accounting update interval

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.40 show aaa domain

Function

Run the **show aaa domain** command to display information about a configured domain.

Syntax

```
show aaa domain [ default | domain-name ]
```

Parameter Description

default: Displays information about the default domain.

domain-name: Specified domain name. After this parameter is configured, information about the specified domain will be displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

If no domain name is specified, information about all domains will be displayed.

The parameter *domain-name* can be configured only after the domain-based AAA services are enabled. You can enable the domain-based AAA services by running the [aaa domain enable](#) command.

Examples

The following example displays information about the domain named **domain.com**.

```

Hostname> enable
Hostname# show aaa domain domain.com

=====Domain domain.com=====
State: Active
Username format: Without-domain
Access limit: No limit
802.1X Access statistic: 0

Selected method list:
authentication dot1x default

```

Table 1-1 Output Fields of the show aaa domain Command

Field	Description
State	Status of the domain authentication function
Username format	Whether the username contains the domain name
Access limit	Whether the access is limited
802.1X Access statistic	Number of IEEE 802.1X-authenticated hosts that access the network
Selected method list	Domain authentication method list

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.41 show aaa lockout**Function**

Run the **show aaa lockout** command to display lockout parameter configuration in the current login authentication.

Syntax

```
show aaa lockout
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays lockout parameter configuration in the current login authentication.

```
Hostname> enable
Hostname# show aaa lockout
Lock tries:      3
Lock timeout:   15 minutes
```

Table 1-1 Output Fields of the show aaa lockout Command

Field	Description
Lock tries	Maximum number of login attempts
Lock timeout	Lockout duration after the number of consecutive failed login attempts of a user exceeds the configured value

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.42 show aaa group

Function

Run the **show aaa group** command to display all AAA server groups.

Syntax

```
show aaa group
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays all AAA server groups.

```
Hostname> enable
Hostname# show aaa group
Type          Reference  Name
-----
radius        1          radius
tacacs+       1          tacacs+
radius        1          dot1x_group
radius        1          login_group
radius        1          enable_group
```

Table 1-1 Output Fields of the show aaa group Command

Field	Description
Type	Type of a server group
Reference	Number of times that the server group is referenced
Name	Name of the server group

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.43 show aaa method-list

Function

Run the **show aaa method-list** command to display all AAA method lists.

Syntax

```
show aaa method-list
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays all AAA method lists.

```
Hostname> enable
Hostname# show aaa method-list
Authentication method-list
```

```

aaa authentication login default group radius
aaa authentication ppp default group radius
aaa authentication dot1x default group radius
aaa authentication dot1x san-f local group angel group rain none
aaa authentication enable default group radius
Accounting method-list
aaa accounting network default start-stop group radius
Authorization method-list
aaa authorizing network default group radius

```

Table 1-1 Output Fields of the show aaa method-list Command

Field	Description
Authentication method-list	Authentication method list
Accounting method-list	Accounting method list
Authorization method-list	Authorization method list

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.44 show aaa user**Function**

Run the **show aaa user** command to display information about an AAA user.

Syntax

```
show aaa user { all | by-id session-id | by-name user-name | lockout }
```

Parameter Description

all: Displays information about all AAA users.

by-id session-id: Displays information about an AAA user with a specified session ID. The value range is from 1 to 2147483647.

by-name user-name: Displays information about an AAA user with a specified username.

lockout: Displays the list of locked AAA users.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays information about all AAA users.

```

Hostname> enable
Hostname# show aaa user all
-----
      Id ----- Name
2345687901      wwxy

```

Table 1-1Output Fields of the show aaa user all Command

Field	Description
Id	Unique session ID of a user

Field	Description
Name	Name of an authenticated user

The following example displays the list of locked AAA users.

```

Hostname> enable
Hostname# show aaa user lockout

Name                               Tries      Lock      Timeout (min)
-----

```

Table 1-2 Output Fields of the show aaa user lockout Command

Field	Description
Name	Name of a locked user
Tries	Number of authentication attempts
Lock	Lockout status
Timeout(min)	Remaining time before unlocking

The following example displays information about an AAA user with the session ID 2345687901.

```

Hostname> enable
Hostname# show aaa user by-id 2345687901

-----
      Id ----- Name
2345687901      wwxy

```

Table 1-3Output Fields of the show aaa user by-id Command

Field	Description
Id	Unique session ID of a user
Name	Name of the authenticated user searched out by session ID

The following example displays information about an AAA user with the username **wwxy**.

```

Hostname> enable
Hostname# show aaa user by-name wwxy
-----
      Id ----- Name
2345687901      wwxy

```

Table 1-4Output Fields of the show aaa user by-name Command

Field	Description
Id	Session ID searched out by username
Name	Name of an authenticated user

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.45 state

Function

Run the **state** command to configure the status of a domain.

Run the **no** form of this command to restore the default configuration.

A configured domain is active by default.

Syntax

state { **active** | **block** }

no state

Parameter Description

active: Sets a domain to be active.

block: Sets a domain to be inactive.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets a domain named **domain.com** to be inactive.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# state block
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.46 username-format

Function

Run the **username-format** command to configure whether usernames carry domain name information during interaction between the device and the server.

Run the **no** form of this command to restore the default configuration.

Usernames carry domain name information during interaction between the NAS and the server by default.

Syntax

```
username-format { with-domain | without-domain }
```

```
no username-format
```

Parameter Description

with-domain: Indicates that usernames carry domain name information.

without-domain: Indicates that usernames do not carry domain name information.

Command Modes

Domain configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures usernames not to carry domain name information during interaction between a domain named **domain.com** and the server.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# aaa domain domain.com
Hostname(config-aaa-domain)# username-domain without-domain
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A