Filename: cisco-ccna200301-5-4-1-intro_to_aaa_security
ShowName: Cisco CCNA (200-301)
Topic: 5.0 Security Fundamentals
EpisodeName: Intro to AAA security
Description: In this episode, you'll be introduced to the Cisco's new model security--aaa (called "triple A" security). You will be able to differentiate authentication, Authorization and Accounting. You will see how to get a router configured to use a RADIUS Server and verify that it is working.

Intro to AAA security

- 5.8 Differentiate authentication, authorization, and accounting concepts

    - **Authentication**—User must prove that they really are who they say they are, utilizing a username and password, challenge/response, token cards, etc:

      "I am Ronnie, and my password Cisco123 proves it."

    - **Authorization**—After authenticating the user, authorization services decide which resources the user is allowed to access and which operations the user is allowed to perform:

      "User Ronnie can access NYEDGE1 with Telnet."

    - **Accounting**—Accounting records what the user actually did, what he accessed, and how long he accessed it, for accounting, billing, and auditing purposes. Accounting keeps track of how network resources are used. Auditing can be used to track network access and to detect network intrusions:

      "User Ronnie accessed host NYEDGE1 with Telnet 15 times."

- Before lab steps Windows Server NPS configured

    - Open Client and Servers, right click on NYEDGE1> properties, create a new key
    - Administrative tools, users and groups, right click on cisco-admin

        - reset password one you will know.

- Configure non AAA access for NYEDGE1 to understand drawbacks (optional)

-
```
NYEDGE1#
NYEDGE1#configure terminal
NYEDGE1(config)#enable secret cisco123
NYEDGE1(config)#line con 0
NYEDGE1(config-line)#password cisco1234
NYEDGE1(config-line)#login
NYEDGE1(config-line)#line vty 0 4
NYEDGE1(config-line)#password cisco12345
NYEDGE1(config-line)#login
NYEDGE1(config-line)#exit
NYEDGE1(config)#service password-encryption
NYEDGE1(config)#do show running-config
NYEDGE1(config)#exit
NYEDGE1#exit
```

    - log in using the password you set on `line con 0`
    - type `enable` in user mode, use password set on `enable secret`

- Configure for NYEDGE1 for AAA new-model security

    - Radius Server must be configured on PLABCSCO01

    - Configure a backup account in case AAA fails

    -
```
username admin privilege 15 secret CCNA
```

    - Enable AAA

    -
```
NYEDGE1(config)#aaa new-model
```

    - Configure radius servers

    -
```
NYEDGE1(config)#radius server RadSrv
NYEDGE1(config)#address ipv4 192.168.16.10 auth-port 1812 acct-port 1813
NYEDGE1(config)#key CCNAsecret
```

- Configure AAA authentication method list

-

NYEDGE1(config)# aaa authentication login default group radius local

```
*    Configure AAA authorization list

*    ```
aaa authorization exec default group radius local
```

- Enforce AAA authentication on console and teletype lines

```
NYEDGE1(config)# line console 0
NYEDGE1(config-line)# login authentication default
NYEDGE1(config)# line vty 0 4
NYEDGE1(config-line)# login authentication default
NYEDGE1(config-line)#end
NYEDGE1#debug aaa authentication
NYEDGE1#exit
```

- Login with cisco-admin and password you created...then log out

- Verify AAA is in use from PLABCSCO01(remote access)

- ```
  Putty.exe
  telnet 192.168.16.1
  ```