802.1X Dynamic VLAN / Guest VLAN example

[Topology]

802.1X client---(P1) DUT_IP:10.90.90.90(P11) ---Linux Free Radius Server (IP:10.90.90.254, Key: dlink123)

Client: Windows 7, DUT: DGS-3130

[Target]

Before authenticating, PC is **guest VLAN (VLAN 2)** member.

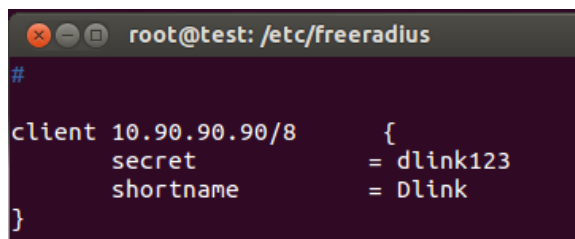After PC pass the authentication, will be assigned to **`VLAN 10(Dynamic VLAN).`**

If PC fail the authentication, **PC should still in guest VLAN.**

[Switch configuration]

```
configure terminal
aaa new-model
vlan 2,10
exit
dot1x system-auth-control
radius-server host 10.90.90.254 key dlink123
interface ethernet 1/0/1
authentication guest-vlan 2
dot1x pae authenticator
authentication host-mode multi-host
exit
aaa group server radius dot1x
server 10.90.90.254
exit
aaa authentication dot1x default group dot1x
```
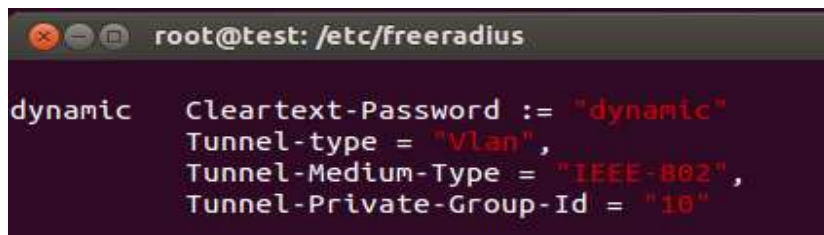
[Radius server setting]

###Client config###

###User config###

[802.1X client setting]

Start 802.1x Service on client
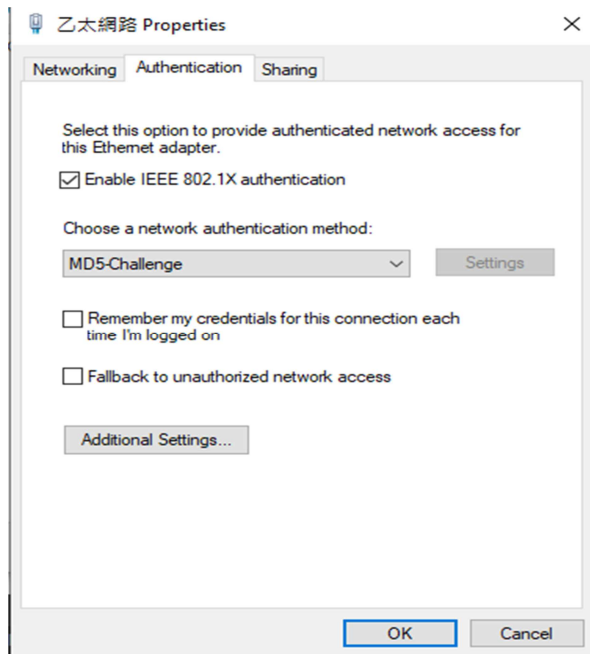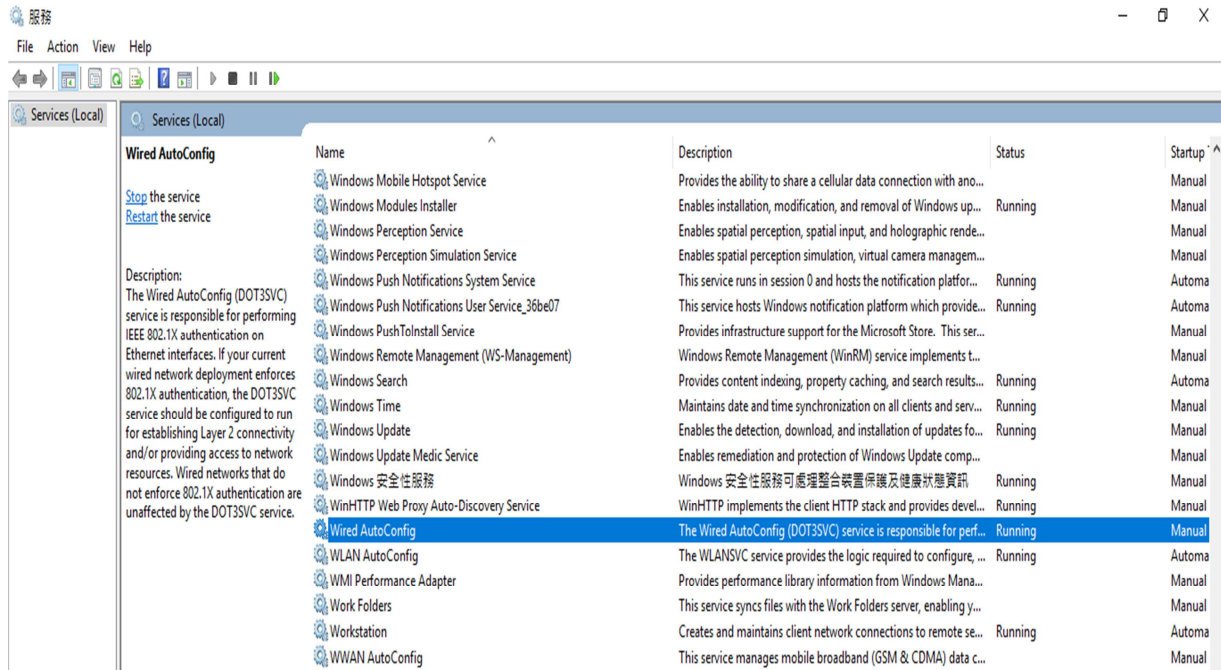
[Test Procedure]

1. Connect as topology.

2. Apply the configuration to DUT.

3. Setup client and user config on radius server.

4. Enable 802.1X service on client. When client connect to DUT, it will pop up the authenticated window, input the username/password: dynamic/dynamic

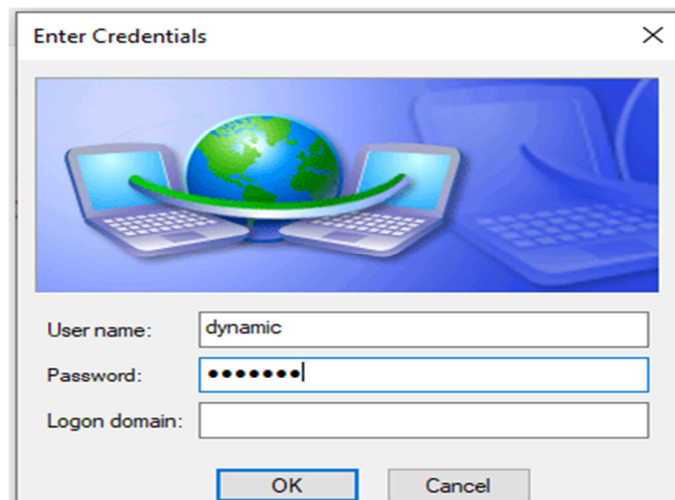
[Test Result]

1) Before pass authentication, PC is in **guest VLAN (VLAN 2)**.

```
Switch#show vlan

        VLAN 1
                Name : default
                Tagged Member Ports   :
                Untagged Member Ports : 1/0/1-1/0/30

        VLAN 2
                Name : VLAN0002
                Tagged Member Ports   :
                Untagged Member Ports : 1/0/1

        VLAN 10
                Name : VLAN0010
                Tagged Member Ports   :
                Untagged Member Ports :


        Total Entries : 3


Switch#show authentication  sessions

Interface: eth1/0/1
MAC Address: 3C-97-0E-B2-E5-A0
Authentication VLAN: 2
Authentication State: Authenticating
Method    State
  802.1X  : Authenticating
  802.1X Authenticator State: Connecting
  802.1X Backend State: Idle

Total Authenticating Hosts: 1
Total Authenticated Hosts: 0
Total Blocked Hosts: 0
```

2) After PC **pass** the authentication, PC will be assigned to **VLAN 10 (Dynamic VLAN)**.

```
Switch#show vlan
        VLAN 1
                Name : default
                Tagged Member Ports   :
                Untagged Member Ports : 1/0/1-1/0/30

        VLAN 2
                Name : VLAN0002
                Tagged Member Ports   :
                Untagged Member Ports :

        VLAN 10
                Name : VLAN0010
                Tagged Member Ports   :
                Untagged Member Ports : 1/0/1


        Total Entries : 3

Switch#show authentication  sessions

Interface: eth1/0/1
MAC Address: 3C-97-0E-B2-E5-A0
Authentication VLAN: 2
Authentication State: Success
Accounting Session ID: dynamic:100000000
Authentication Username: dynamic
Assigned VLAN: 10
Aging Time: 3600 sec
Method    State
  802.1X   : Success, Selected
  802.1X Authenticator State: Authenticated
  802.1X Backend State: Idle

Total Authenticating Hosts: 0
Total Authenticated Hosts: 1
Total Blocked Hosts: 0
```

3) If PC fail the authentication, **PC still in guest VLAN (VLAN 2).**

```
Switch#show vlan
        VLAN 1
                Name : default
                Tagged Member Ports   :
                Untagged Member Ports : 1/0/1-1/0/30

        VLAN 2
                Name : VLAN0002
                Tagged Member Ports   :
                Untagged Member Ports : 1/0/1

        VLAN 10
                Name : VLAN0010
                Tagged Member Ports   :
                Untagged Member Ports :


        Total Entries : 3

Switch#show authentication  sessions

Interface: eth1/0/1
MAC Address: 3C-97-0E-B2-E5-A0
Authentication VLAN: 2
Authentication State: Failed
Block Time: 55 sec
Method    State
  802.1X   : Failure
  802.1X Authenticator State: Held
  802.1X Backend State: Idle

Total Authenticating Hosts: 0
Total Authenticated Hosts: 0
Total Blocked Hosts: 1
```