

How to assign user privilege from Free RADIUS?

In this scenario, we would like to configure the switch & RADIUS to give different privilege by using user ID/password.

a.) The D-Link vendor ID and Privilege setting:

- D-Link's Vendor ID = 171

Table Błąd! Nie zdefiniowano zakładek. The supported VSA

Category	Attribute Name	Vendor Type	Type	Value
General	User Level	1	integer	3 for user level, 4 for operator level and 5 for administrator level
General	Ingress Bandwidth Assignment	2	Integer	Kbits/s (0 means no limit)
General	Egress Bandwidth Assignment	3	Integer	Kbits/s (0 means no limit)
General	802.1p priority	4	Integer	0 – 7

Network topology:

PC(192.166.12.100)---DES3526(192.166.12.211)---GW(192.166.12.200)--
RADIUS(192.166.12.132)

a.) Configuration on switch:

```
config ipif System ipaddress 192.166.12.211/24  
create iproute default 192.166.12.200
```

```
enable authen_policy  
create authen server_host 192.166.12.132 protocol radius port 1812 key "123456" timeout 5  
retransmit 2  
config authen server_group radius delete server_host 192.166.12.132 protocol radius  
config authen server_group radius add server_host 192.166.12.132 protocol radius  
create authen_login method_list_name radius  
config authen_login method_list_name radius method radius  
config authen_enable default method local_enable  
config authen application telnet login method_list_name radius  
config authen application telnet enable default  
config authen parameter response_timeout 0  
config authen parameter attempt 3  
config authen enable_admin all state enable
```

b.) Free RADIUS configuration

```
# cat /usr/local/etc/raddb/dictionary
#
# This is the master dictionary file, which references the
# pre-defined dictionary files included with the server.
#
# Any new/changed attributes MUST be placed in this file, as
# the pre-defined dictionaries SHOULD NOT be edited.
#
# $Id: dictionary.in,v 1.4 2004/04/14 15:26:20 aland Exp $
#
#
# The filename given here should be an absolute path.
#
$INCLUDE /usr/local/share/freeradius/dictionary
$INCLUDE /usr/local/share/freeradius/dictionary.dlink
```

```
# cat /usr/local/share/freeradius/dictionary.dlink
#####
# D-link Dictionary file
#####

VENDOR D-LINK 171

#
# User group attribute
#

BEGIN-VENDOR D-LINK

ATTRIBUTE User-Level 1 integer
ATTRIBUTE Ingress-Bandwidth-Assignment 2 integer
ATTRIBUTE Egress-Bandwidth-Assignment 3 integer
ATTRIBUTE 802-1p 4 integer

END-VENDOR D-LINK
```

```
# cat /usr/local/etc/raddb/users
dlink-3 Cleartext-Password := "dlink-3"
User-Level = "3"

dlink-4 Cleartext-Password := "dlink-4"
User-Level = "4"

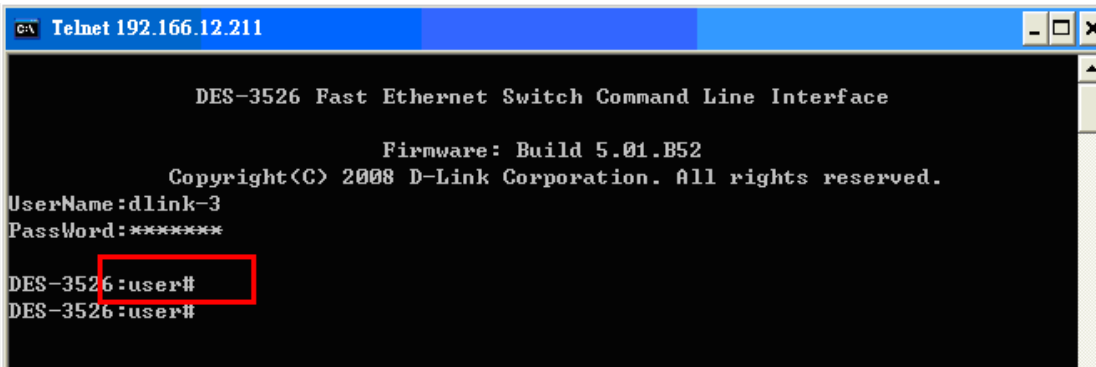
dlink-5 Cleartext-Password := "dlink-5"
User-Level = "5"
```

c.) Verification: How user get different privilege by user name & password

There are 3 accounts created in the Radius server

- 1.) User privilege (ID/password) dlink-3/dlink-3
- 2.) Operator privilege (ID/password) dlink-4/dlink-4
- 3.) Admin privilege (ID/Password) dlink-5/dlink-5

a.)when you telnet into to the switch's IP, enter user privilege ID/password. You will see the prompt is shown 'user' as below

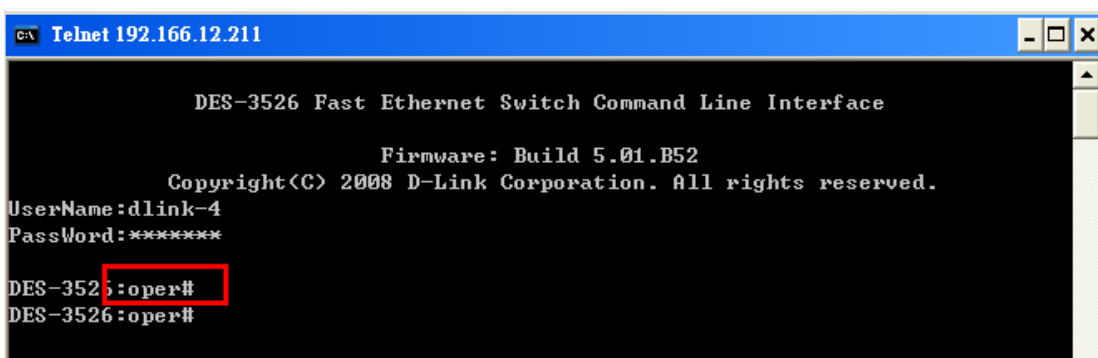


```
c:\ Telnet 192.166.12.211

DES-3526 Fast Ethernet Switch Command Line Interface

Firmware: Build 5.01.B52
Copyright(C) 2008 D-Link Corporation. All rights reserved.
UserName:dlink-3
PassWord:*****
DES-3526:user#
DES-3526:user#
```

b.)when you telnet into to the switch's IP, enter operator privilege ID/password. You will see the prompt is shown 'oper' as below



```
c:\ Telnet 192.166.12.211

DES-3526 Fast Ethernet Switch Command Line Interface

Firmware: Build 5.01.B52
Copyright(C) 2008 D-Link Corporation. All rights reserved.
UserName:dlink-4
PassWord:*****
DES-3526:oper#
DES-3526:oper#
```

c.)when you telnet into to the switch's IP, enter admin privilege ID/password. You will see the prompt is shown 'admin' as below

```
c:\ Telnet 192.166.12.211

DES-3526 Fast Ethernet Switch Command Line Interface

Firmware: Build 5.01.B52
Copyright(C) 2008 D-Link Corporation. All rights reserved.
UserName:dlink-5
Password:*****
DES-3526:admin#
DES-3526:admin#
DES-3526:admin#_
```