Practical Exercise Overview

- Build and install FreeRADIUS

- Configure and start FreeRADIUS with LDAP database backend

- Test authentication using FreeRADIUS

FreeRadius Installation & Configuration

- Install FreeRadius with the following commands as below.
- apt-get install freeradius freeradius-ldap –y
- vi /etc/freeradius/modules/ldap

```
server = "192.168.85.132"
identity = "cn=admin,dc=afnog,dc=org"
password = qwerty
basedn = "dc=afnog,dc=org"
filter = "(uid=%{%{Stripped-User-Name}:-%{User-Name}})"
```

FreeRadius Installation & Configuration Cont..

vi /etc/freeradius/sites-available/default and uncomment the lines as shown below

```
#
#  The ldap module will set Auth-Type to LDAP if it has not
#   already been set
ldap

# Uncomment it if you want to use ldap for authentication
#
# Note that this means "check plain-text password against
# the ldap database", which means that EAP won't work,
# as it does not supply a plain-text password.
Auth-Type LDAP {
        ldap
}
```

FreeRadius Installation & Configuration Cont..

vi /etc/freeradius/users

```
# On no match, the user is denied access.
DEFAULT LDAP-GROUP == "users"
```

The above is to set the DEFAULT LDAP-GROUP to the users group containing our "Test User1" Account

FreeRadius Installation & Configuration Cont..

- vi /etc/freeradius/sites-available/inner-tunnel


```
#
#   The ldap module will set Auth-Type to LDAP if it has not
#   already been set
ldap

# Uncomment it if you want to use ldap for authentication
#
# Note that this means "check plain-text password against
# the ldap database", which means that EAP won't work,
# as it does not supply a plain-text password.
Auth-Type LDAP {
        ldap
}
```

service freeradius restart   **// Restart the FreeRadius Service**

Testing FreeRadius authentication against LDAP

- radtest tuser1 test1 127.0.0.1 0 testing123

```
root@devx:~# radtest tuser1 test1 127.0.0.1 0 testing123
Sending Access-Request of id 48 to 127.0.0.1 port 1812
        User-Name = "tuser1"
        User-Password = "test1"
        NAS-IP-Address = 127.0.1.1
        NAS-Port = 0
        Message-Authenticator = 0x00000000000000000000000000000000
rad_recv: Access-Accept packet from host 127.0.0.1 port 1812, id=48, length=20
root@devx:~#
```

Where Username = tuser1
Password = test1
Radius Secret = testing123
Also Note that we have a successful authentication as shown in diagram above with radius packet in yellow colors

Securing FreeRadius

vi /etc/freeradius/clients.conf

```
#
#   The default secret below is only for testing, and should
#   not be used in any real environment.
#
secret          = afnog
```

The Above is to change the Radius Secret from testing123 to afnog

service freeradius restart   //N.B: Restart Radius anytime there are changes done to the config

Securing FreeRadius Continue

```
root@devx:~# radtest tuser1 test1 127.0.0.1 0 afnog
Sending Access-Request of id 185 to 127.0.0.1 port 1812
        User-Name = "tuser1"
        User-Password = "test1"
        NAS-IP-Address = 127.0.1.1
        NAS-Port = 0
        Message-Authenticator = 0x00000000000000000000000000000000
rad_recv: Access-Accept packet from host 127.0.0.1 port 1812, id=185, length=20
```

Run the test as done earlier for the test account and this time round changing the secret to afnog

You should get an Access-Accept packet which shows Radius password has been changed.