Development Tools Assignment

Module 3 – Network Authentication Tools

1. Write a config file so that wpa\_supplicant can associate to FT Dot1x WLAN .

Answer:

ctrl\_interface=DIR=/var/run/wpa\_supplicant GROUP=netdev

update\_config=1

network={

ssid="Varun\_5G" [\\ name](\\\\name) of wifi

key\_mgmt=FT-EAP \\ key management type sets it to FTDot1x

pairwise=CCMP \\ enables pairwise cipher in ccmp.

group=CCMP \\ enables group cipher in ccmp.

proto=RSN \\ specifies RSN protocol

eap=PEAP \\ specifies PEAP protocol

identity="adhithya" \\ username

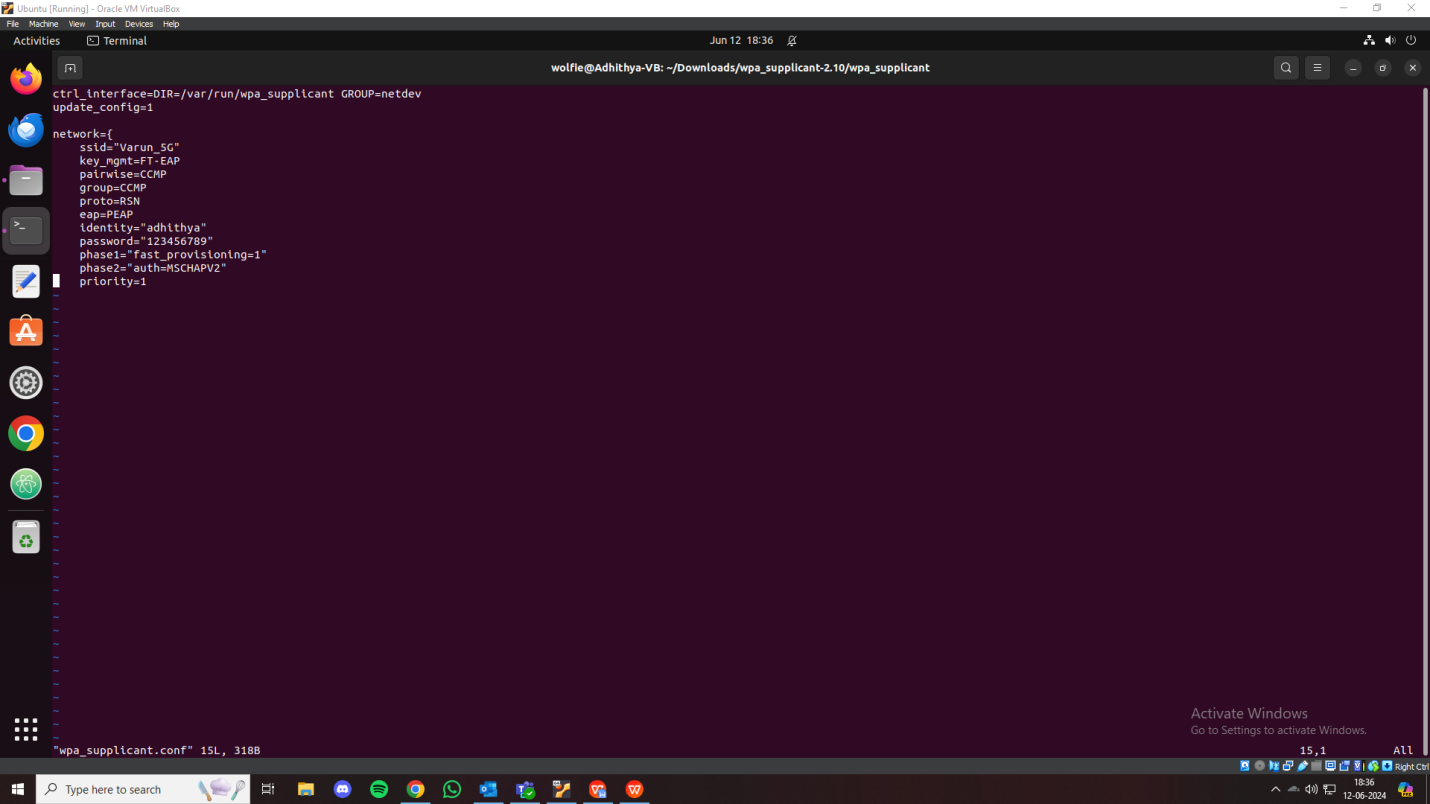
password="123456789" \\ password

phase1="fast\_provisioning=1" \\option enables in-line provisioning of EAP- FAST credentials

phase2="auth=MSCHAPV2" \\ configures inner authentication method

priority=1 \\ corresponds to priority of the network

}



1. Bring up a Freeradius, wpa\_supplicant in linux machine, use "eapol\_test" utility in wpa\_supplicant and try connecting successfully to the Freeradius. Also, please capture the radius packets that is exchanged between eapol\_test and Freeradius using "tcpdump" command.

Answer:

**WPA\_SUPPLICANT**

**eapol\_test.conf**

ctrl\_interface=/var/run/wpa\_supplicant

update\_config=1

network={

ssid="Varun"

key\_mgmt=WPA-EAP

eap=PEAP

identity="adhithya"

password="testing"

phase2="auth=MSCHAPV2"

}

**FREERADIUS**

**clients.conf**

client localhost {

ipaddr = 127.0.0.1

secret = testing

}

**users**

adhithya Cleartext-Password := "testing"

These are the changes in configuration files of wpa\_supplicant and freeradius.

**COMMANDS FOR INITIALIZING SERVICES**

**FREERADIUS**

Systemctl start freeradius

This wil start the freeradius server and it wil start listening on port 1812

**WPA\_SUPPLICANT**

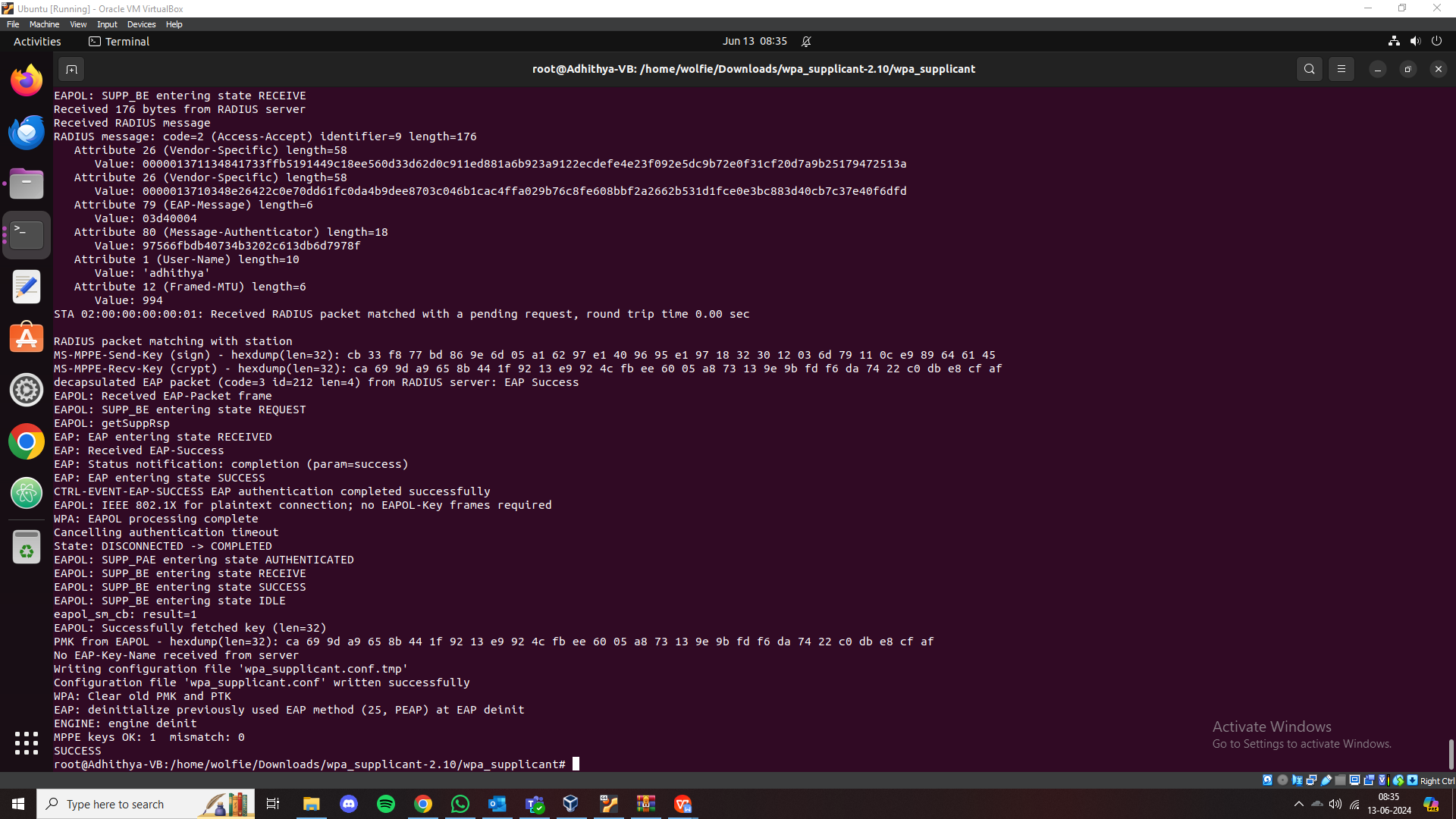
eapol\_test -c /etc/wpa\_supplicant/wpa\_supplicant.conf -a 127.0.0.1 -s testing

This will start the eapol test.

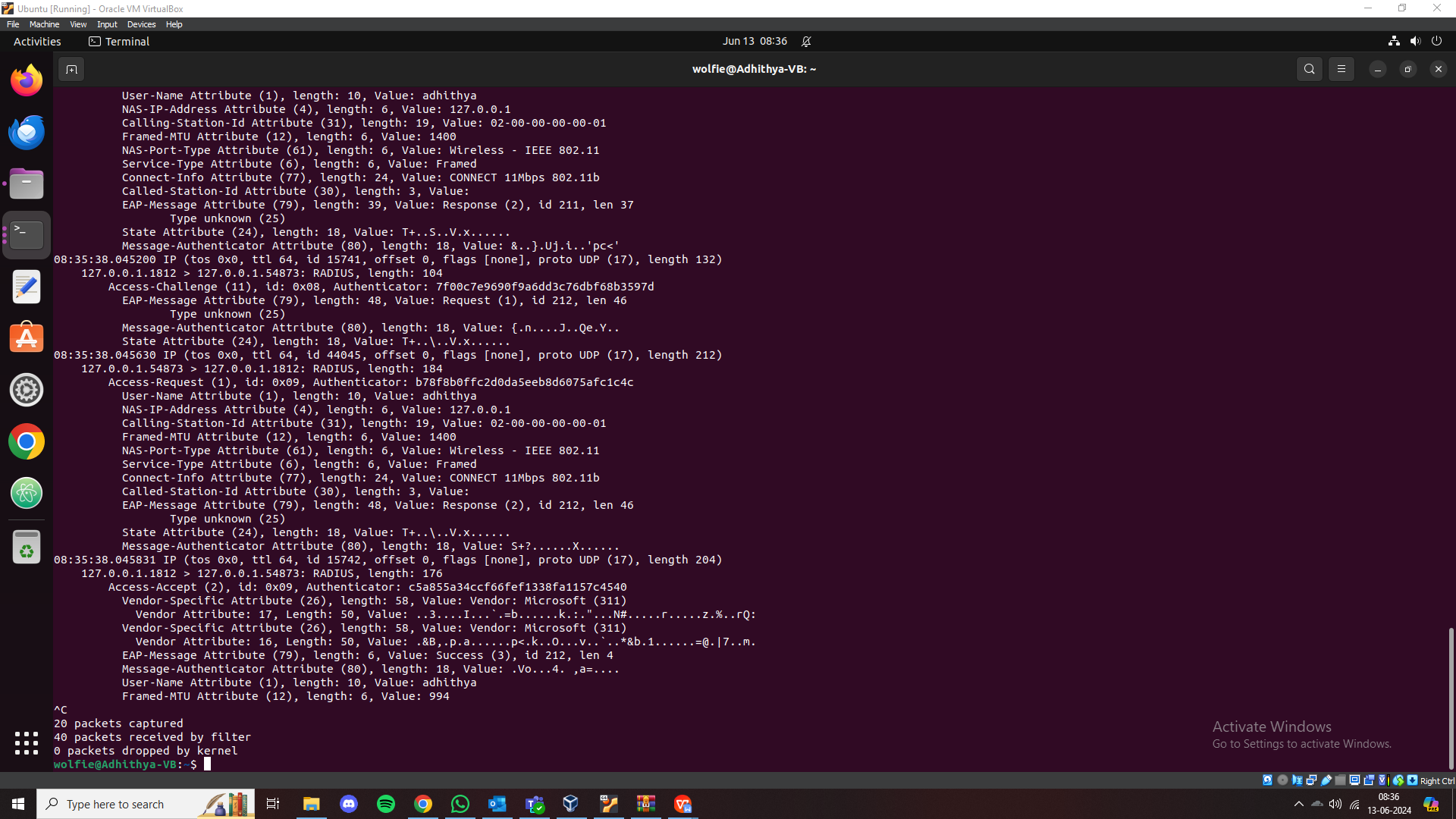
**TCPDUMP**

sudo tcpdump -i lo -nn -s 0 -v port 1812

This command captures all packets on loopback interface.



WPA\_SUPPLICANT TERMINAL OUTPUT



TCPDUMP output