

Lab09

1.

1-1,1-2

```
E94116059@raspberrypi:~ $ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=112 time=11.6 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=112 time=12.3 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=112 time=24.3 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=112 time=11.1 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=112 time=13.0 ms
^C
--- 8.8.8.8 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4006ms
rtt min/avg/max/mdev = 11.133/14.458/24.279/4.949 ms
E94116059@raspberrypi:~ $ ping google.com
PING google.com (142.251.42.238) 56(84) bytes of data.
64 bytes from tsa01s11-in-f14.1e100.net (142.251.42.238): icmp_seq=1 ttl=112 time=11.9 ms
64 bytes from tsa01s11-in-f14.1e100.net (142.251.42.238): icmp_seq=2 ttl=112 time=11.1 ms
64 bytes from tsa01s11-in-f14.1e100.net (142.251.42.238): icmp_seq=3 ttl=112 time=12.4 ms
64 bytes from tsa01s11-in-f14.1e100.net (142.251.42.238): icmp_seq=4 ttl=112 time=13.1 ms
64 bytes from tsa01s11-in-f14.1e100.net (142.251.42.238): icmp_seq=5 ttl=112 time=13.2 ms
64 bytes from tsa01s11-in-f14.1e100.net (142.251.42.238): icmp_seq=6 ttl=112 time=11.0 ms
^C
--- google.com ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5007ms
rtt min/avg/max/mdev = 11.010/12.110/13.209/0.868 ms
```

1-3

```
E94116059@raspberrypi:~ $ traceroute google.com
traceroute to google.com (142.251.42.238), 30 hops max, 60 byte packets
 1  LAPTOP-1G78SDPQ.mshome.net (192.168.137.1)  3.402 ms * *
 2  * * *
 3  140.116.111.253 (140.116.111.253)  6.751 ms  6.769 ms  6.816 ms
 4  140.116.243.33 (140.116.243.33)  5.800 ms  6.012 ms  5.972 ms
 5  140.116.243.193 (140.116.243.193)  6.495 ms  6.718 ms  6.576 ms
 6  140.116.243.177 (140.116.243.177)  9.711 ms  11.221 ms  10.185 ms
 7  192.192.61.146 (192.192.61.146)  10.446 ms  10.329 ms  10.379 ms
 8  192.192.61.24 (192.192.61.24)  10.427 ms  192.192.61.32 (192.192.61.32)  10.476 ms  192.192.61.24 (192.192.61.24)  10.527 ms
 9  192.192.61.184 (192.192.61.184)  10.565 ms  192.192.61.188 (192.192.61.188)  11.554 ms  15.866 ms
10  192.192.61.203 (192.192.61.203)  13.144 ms  13.192 ms  10.408 ms
11  72.14.202.60 (72.14.202.60)  10.238 ms  9.943 ms  10.565 ms
12  * * *
13  108.170.244.129 (108.170.244.129)  12.178 ms  142.251.226.170 (142.251.226.170)  11.735 ms  11.159 ms
14  108.170.244.131 (108.170.244.131)  13.193 ms  tsa01s11-in-f14.1e100.net (142.251.42.238)  12.853 ms  12.426 ms
E94116059@raspberrypi:~ $
```

2.

2-1

RaspAP

Status

Hotspot active

Memory Used: 7%

CPU Temp: 43.8°C

Dashboard

Hotspot

DHCP Server

Ad Blocking

Networking

WiFi client

OpenVPN

WireGuard

Authentication

Change Theme

Hotspot

hostapd up

Basic

Security

Advanced

Logging

Basic settings

Interface

wlan0

SSID

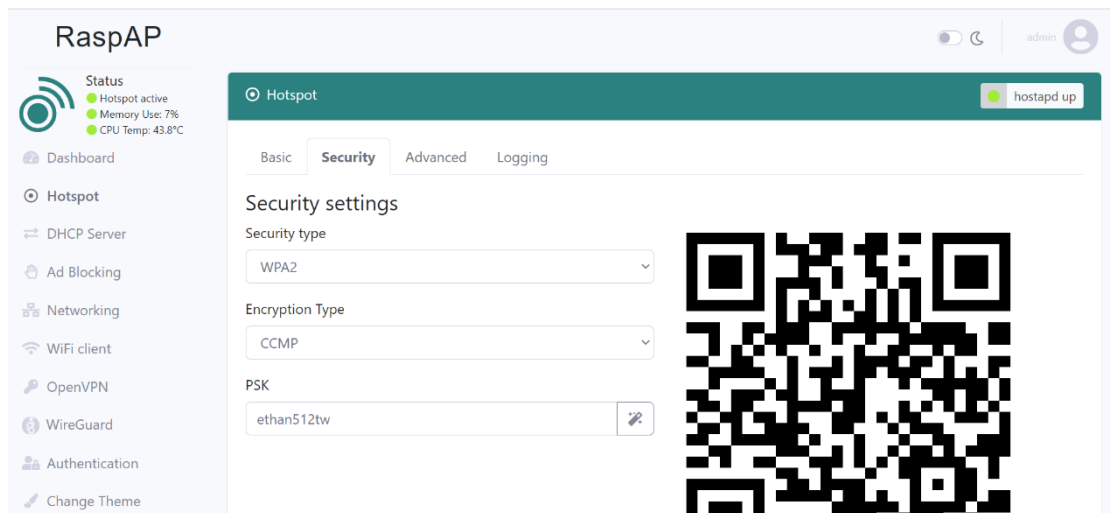
ethan__1

Wireless Mode

802.11g - 2.4 GHz

Channel

1



2-2,2-5

命令提示字元

Microsoft Windows [版本 10.0.19045.2251]
(c) Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\User>ping 8.8.8.8

Ping 8.8.8.8 (使用 32 位元組的資料):
回覆自 8.8.8.8: 位元組=32 時間=8ms TTL=112
回覆自 8.8.8.8: 位元組=32 時間=8ms TTL=112
回覆自 8.8.8.8: 位元組=32 時間=40ms TTL=112
回覆自 8.8.8.8: 位元組=32 時間=11ms TTL=112

8.8.8.8 的 Ping 統計資料:
封包: 已傳送 = 4, 已收到 = 4, 已遺失 = 0 (0% 遺失),
大約的來回時間 (毫秒):
最小值 = 8ms, 最大值 = 40ms, 平均 = 16ms

C:\Users\User>tracert google.com

在上限 30 個躍點上
追蹤 google.com [172.217.160.110] 的路由:

1	4 ms	1 ms	6 ms	10.3.141.1
2	2 ms	2 ms	16 ms	140.116.111.253
3	2 ms	2 ms	2 ms	140.116.243.33
4	37 ms	2 ms	2 ms	140.116.243.193
5	4 ms	4 ms	3 ms	140.116.243.177
6	4 ms	4 ms	4 ms	192.192.61.146
7	19 ms	7 ms	6 ms	192.192.61.32
8	9 ms	9 ms	8 ms	192.192.61.188
9	11 ms	8 ms	7 ms	192.192.61.203
10	9 ms	8 ms	8 ms	72.14.202.60
11	12 ms	10 ms	10 ms	72.14.233.233
12	11 ms	9 ms	10 ms	216.239.48.135
13	9 ms	8 ms	8 ms	tsa03s06-in-f14.1e100.net [172.217.160.110]

追蹤完成。

C:\Users\User>

2-3

The screenshot shows the RaspAP web interface with the DHCP Server settings page. A terminal window is open, displaying the results of a ping command to 10.3.141.198. The terminal output shows the following statistics:

```
Microsoft Windows [版本 10.0.19045.2251]
(c) Microsoft Corporation. 著作權所有，並保留一切權利。
C:\Users\User>ping 10.3.141.198

Ping 10.3.141.198 (使用 32 位元組的資料):
回傳自 10.3.141.198: 位元組=32 時間=203ms TTL=64
回傳自 10.3.141.198: 位元組=32 時間=98ms TTL=64
回傳自 10.3.141.198: 位元組=32 時間=201ms TTL=64
回傳自 10.3.141.198: 位元組=32 時間=199ms TTL=64

統計資料:
封包: 已傳送 = 4, 已收到 = 4, 已遺失 = 0 (0% 遺失),
大約的來回時間 (毫秒):
最小值 = 98ms, 最大值 = 203ms, 平均 = 175ms
```

The DHCP Server settings page shows the following table of active leases:

Expire time	MAC Address	IP Address	Host name	Client ID
1669600490	ca:9f:ae:32:7c:67	10.3.141.198	ryuyokkiiPhone	01:ca:9f:ae:32:7c:67
1669600484	6c:6a:77:56:1fad	10.3.141.139	LAPTOP-1G78SDPQ	01:6c:6a:77:56:1fad

2-4

The screenshot shows the RaspAP web interface with the Static Leases configuration page. The page displays the following configuration options:

- Static leases:** Clients with a particular hardware MAC address can always be allocated the same IP address. This option adds `dhcp-host` entries to the dnsmasq configuration.
- Restrict access:** ☐ Limit network access to static clients. Enable this option if you want RaspAP to **ignore any clients** which are not specified in the static leases list. This option adds `dhcp-ignore` to the dnsmasq configuration.

The page also includes a table for static leases with the following columns: MAC address, IP address, and Optional comment.