

```
E94111091@raspberrypi:~/introduction_to_computers_labs/lab09 $ 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=8.94 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=112 time=8.24 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=112 time=8.07 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=112 time=8.37 ms
^C
--- 8.8.8.8 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 8.073/8.406/8.939/0.325 ms
```

```
E94111091@raspberrypi:~/introduction_to_computers_labs/lab09 $ dig google.com

; <<>> DiG 9.16.33-Raspbian <<>> google.com
;; global options: +cmd
;; Got answer:
;; ->HEADER<- opcode: QUERY, status: NOERROR, id: 20337
;; flags: qr rd ad; QUERY: 1, ANSWER: 9, AUTHORITY: 0, ADDITIONAL: 0
;; WARNING: recursion requested but not available

;; QUESTION SECTION:
;google.com.                IN      A

;; ANSWER SECTION:
google.com.                 0       IN      A       142.251.42.238
ns1.google.com.             0       IN      A       216.239.32.10
ns1.google.com.             0       IN      AAAA    2001:4860:4802:32::a
ns2.google.com.             0       IN      A       216.239.34.10
ns2.google.com.             0       IN      AAAA    2001:4860:4802:34::a
ns3.google.com.             0       IN      A       216.239.36.10
ns3.google.com.             0       IN      AAAA    2001:4860:4802:36::a
ns4.google.com.             0       IN      A       216.239.38.10
ns4.google.com.             0       IN      AAAA    2001:4860:4802:38::a

;; Query time: 0 msec
;; SERVER: 192.168.137.1#53(192.168.137.1)
;; WHEN: Tue Nov 29 08:49:59 GMT 2022
;; MSG SIZE rcvd: 286
```

```
E94111091@raspberrypi:~/introduction_to_computers_labs/lab09 $ traceroute google.com
traceroute to google.com (216.239.32.10), 30 hops max, 60 byte packets
 1 MSI.mshome.net (192.168.137.1) 2.242 ms * *
 2 * * *
 3 140.116.118.253 (140.116.118.253) 4.602 ms 4.641 ms 4.668 ms
 4 140.116.243.33 (140.116.243.33) 2.256 ms 2.837 ms 2.891 ms
 5 140.116.243.193 (140.116.243.193) 3.478 ms 3.182 ms 3.108 ms
 6 140.116.243.177 (140.116.243.177) 4.086 ms 3.097 ms 3.657 ms
 7 192.192.61.146 (192.192.61.146) 4.320 ms 4.544 ms 4.400 ms
 8 192.192.61.32 (192.192.61.32) 6.831 ms 6.899 ms 192.192.61.24 (192.192.61.24) 7.368 ms
 9 192.192.61.184 (192.192.61.184) 8.445 ms 8.511 ms 8.582 ms
10 192.192.61.203 (192.192.61.203) 8.220 ms 8.187 ms 8.112 ms
11 72.14.202.60 (72.14.202.60) 8.521 ms 7.935 ms 7.686 ms
12 * * *
13 108.170.244.65 (108.170.244.65) 9.300 ms 209.85.243.196 (209.85.243.196) 8.289 ms 108.170.225.176 (108.170.225.176) 8.568 ms
14 108.170.244.77 (108.170.244.77) 9.092 ms 108.170.244.131 (108.170.244.131) 8.641 ms 8.533 ms
15 142.250.225.160 (142.250.225.160) 9.036 ms 142.250.224.241 (142.250.224.241) 9.381 ms 9.266 ms
16 142.250.224.238 (142.250.224.238) 12.227 ms 12.843 ms 12.766 ms
17 142.251.66.100 (142.251.66.100) 57.687 ms 57.180 ms *
18 108.170.225.101 (108.170.225.101) 59.997 ms 74.125.253.62 (74.125.253.62) 56.114 ms 74.125.37.250 (74.125.37.250) 60.504 ms
19 108.170.233.49 (108.170.233.49) 61.469 ms 108.170.233.25 (108.170.233.25) 61.034 ms 66.249.94.185 (66.249.94.185) 62.029 ms
20 * * *
21 * * *
22 * * *
23 * * *
24 * * *
25 * * *
26 * * *
27 * * *
28 * * *
29 ns1.google.com (216.239.32.10) 59.658 ms 60.222 ms 51.824 ms
```

SSID

hhhhhhhhao

Wireless Mode

802.11g - 2.4 GHz

Channel

1

Save settings

Stop hotspot

Restart hotspot

```
Microsoft Windows [版本 10.0.22000.1219]
(c) Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\tom73>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=8ms TTL=112
回覆自 8.8.8.8: 位元組=32 時間=19ms 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 = 19ms, 平均 = 10ms

C:\Users\tom73>
```



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.

54:8d:5a:9b:cb:84	10.3.141.71	MSI	

```
E94111091@raspberrypi:~/introduction_to_computers_labs/lab09 $ traceroute google.com
traceroute to google.com (142.251.42.238), 30 hops max, 60 byte packets
 1 140.116.118.253 (140.116.118.253) 2.839 ms 2.863 ms 2.946 ms
 2 140.116.243.33 (140.116.243.33) 0.540 ms 0.893 ms 0.899 ms
 3 140.116.243.193 (140.116.243.193) 1.607 ms 1.556 ms 1.452 ms
 4 140.116.243.177 (140.116.243.177) 2.182 ms 3.522 ms 3.458 ms
 5 192.192.61.146 (192.192.61.146) 3.026 ms 2.958 ms 2.791 ms
 6 192.192.61.24 (192.192.61.24) 15.646 ms 192.192.61.32 (192.192.61.32) 5.547 ms 192.192.61.24 (1
92.192.61.24) 6.629 ms
 7 192.192.61.184 (192.192.61.184) 6.959 ms 7.079 ms 192.192.61.188 (192.192.61.188) 7.311 ms
 8 192.192.61.203 (192.192.61.203) 6.810 ms 6.686 ms 7.385 ms
 9 72.14.202.60 (72.14.202.60) 7.177 ms 7.126 ms 7.189 ms
10 * * *
11 108.170.225.176 (108.170.225.176) 7.563 ms tsa01s11-in-f14.1e100.net (142.251.42.238) 7.094 ms
142.251.77.86 (142.251.77.86) 7.421 ms
```