PRAKTIKUM

JARINGAN KOMPUTER

MODUL 11 DHCP

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S1 INFORMATIKA

FAKULTAS DIREKTORAT KAMPUS SURABAYA

TELKOM UNIVERSITY SURABAYA

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Kata Pengantar

Dengan penuh rasa syukur, laporan praktikum ini dapat dibuat untuk memenuhi tugas laporan mata kuliah jaringan komputer. Laporan praktikum ini mencakup tugas modul 11, yang merupakan proses langkah - langkah menggunakan wireshark Laporan praktikum ini berisi dokumentasi hasil percobaan dari langkah - langkah praktikum modul 11 untuk dapat dianalisis.

Kelompok kami menyadari bahwa laporan ini masih memiliki keterbatasan. Oleh karena itu, kami terbuka terhadap kritik dan saran yang membangun untuk perbaikan di masa mendatang. Akhir kata, kami mengucapkan terima kasih kepada semua pihak yang telah mendukung dalam penyusunan laporan praktikum ini.

Modul 11 DHCP

1.1 Ignatius Robert Cornelio Sondakh / 1203230071

A. Proses IPconfig CMD

- **ipconfig**

```
C:\Users\chris>ipconfig

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::4:664b:71ef:6237%13
   IPv4 Address. . . . . . . . . . . : 10.218.7.181
   Subnet Mask . . . . . . . . . . . : 255.255.240.0
   Default Gateway . . . . . . . . . : 10.218.0.253
```

- **ipconfig /release**

```
C:\Users\chris>ipconfig /release

Windows IP Configuration

No operation can be performed on Ethernet while it has its media disconnected.
No operation can be performed on Local Area Connection* 1 while it has its media disconnected.
```

```
Ethernet adapter Ethernet:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::4:664b:71ef:6237%13
   Default Gateway . . . . . . . . . :
```

- **ipconfig /renew**

```
C:\Users\chris>ipconfig /renew

Windows IP Configuration

No operation can be performed on Ethernet while it has its media disconnected.
No operation can be performed on Local Area Connection* 1 while it has its media disconnected.
No operation can be performed on Local Area Connection* 2 while it has its media disconnected.

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::4:664b:71ef:6237%13
   IPv4 Address. . . . . . . . . . . : 10.218.7.181
   Subnet Mask . . . . . . . . . . . : 255.255.240.0
   Default Gateway . . . . . . . . . : 10.218.0.253
```

B. Proses Filter bootp

- **Filter bootp**

No.	Time	Source	Destination	Protoc ▲	Length	Info
115	24.043307	10.218.7.181	10.218.0.253	DHCP	342	DHCP Release - Transaction ID 0x1c963836
156	29.887350	0.0.0.0	255.255.255.255	DHCP	344	DHCP Discover - Transaction ID 0x74345bf4
166	30.994411	10.218.0.253	10.218.7.181	DHCP	370	DHCP Offer - Transaction ID 0x74345bf4
167	30.996158	0.0.0.0	255.255.255.255	DHCP	370	DHCP Request - Transaction ID 0x74345bf4
168	31.007133	10.218.0.253	10.218.7.181	DHCP	370	DHCP ACK - Transaction ID 0x74345bf4

- **Detail DHCP dari ACK**

```
▼ Dynamic Host Configuration Protocol (ACK)
      Message type: Boot Reply (2)
      Hardware type: Ethernet (0x01)
      Hardware address length: 6
      Hops: 0
      Transaction ID: 0x74345bf4
      Seconds elapsed: 0
   ▶ Bootp flags: 0x0000 (Unicast)
      Client IP address: 0.0.0.0
      Your (client) IP address: 10.218.7.181
      Next server IP address: 0.0.0.0
      Relay agent IP address: 0.0.0.0
      Client MAC address: CloudNetwork_7c:38:63 (0c:96:e6:7c:38:63)
      Client hardware address padding: 00000000000000000000
      Server host name not given
      Boot file name not given
      Magic cookie: DHCP
   ▼ Option: (53) DHCP Message Type (ACK)
         Length: 1
         DHCP: ACK (5)
   ▼ Option: (1) Subnet Mask (255.255.240.0)
         Length: 4
         Subnet Mask: 255.255.240.0
   ▼ Option: (3) Router
         Length: 4
         Router: 10.218.0.253
   ▼ Option: (6) Domain Name Server
         Length: 8
         Domain Name Server: 1.1.1.1
         Domain Name Server: 1.0.0.1
```

```
▼ Option: (6) Domain Name Server
    Length: 8
    Domain Name Server: 1.1.1.1
    Domain Name Server: 1.0.0.1
▼ Option: (51) IP Address Lease Time
    Length: 4
    IP Address Lease Time: 1 day (86400)
▼ Option: (54) DHCP Server Identifier (10.218.0.253)
    Length: 4
    DHCP Server Identifier: 10.218.0.253
▼ Option: (58) Renewal Time Value
    Length: 4
    Renewal Time Value: 12 hours (43200)
▼ Option: (59) Rebinding Time Value
    Length: 4
    Rebinding Time Value: 21 hours (75600)
▼ Option: (255) End
    Option End: 255
    Padding: 000000000000000000000000000000000000000000000000000000000000000000000000000000
```

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B. Proses IPconfig CMD

- **ipconfig /release**

```
C:\Users\Asus>ipconfig /release

Windows IP Configuration

No operation can be performed on Local Area Connection* 1 while it has its media disconnected.

Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::ceab:a8e1:568:db6e%9
   IPv4 Address. . . . . . . . . . . : 192.168.56.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   IPv6 Address. . . . . . . . . . . : 2404:c0:3077:6582:3ecc:4fb8:498e:6544
   Temporary IPv6 Address. . . . . . : 2404:c0:3077:6582:e816:a679:18d3:1f51
   Link-local IPv6 Address . . . . . : fe80::bbda:58bb:c3cf:61ab%12
   Default Gateway . . . . . . . . . : fe80::607e:77ff:feca:9644%12
```
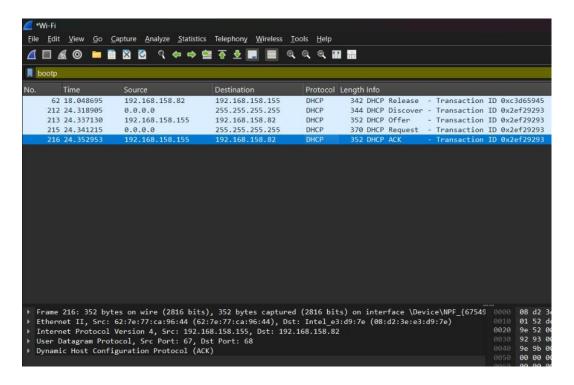
- **ipconfig /renew**

```
C:\Users\Asus>ipconfig /renew

Windows IP Configuration

No operation can be performed on Local Area Connection* 1 while it has its media disconnected.
No operation can be performed on Local Area Connection* 2 while it has its media disconnected.

Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::ceab:a8e1:568:db6e%9
   IPv4 Address. . . . . . . . . . . : 192.168.56.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   IPv6 Address. . . . . . . . . . . : 2404:c0:3077:6582:3ecc:4fb8:498e:6544
   Temporary IPv6 Address. . . . . . : 2404:c0:3077:6582:e816:a679:18d3:1f51
   Link-local IPv6 Address . . . . . : fe80::bbda:58bb:c3cf:61ab%12
   IPv4 Address. . . . . . . . . . . : 192.168.158.82
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : fe80::607e:77ff:feca:9644%12
                                       192.168.158.155
```

B. Proses bootp
- **Filter bootp**

- **Detail DHCP dari ACK**


```
Wireshark · Packet 216 · Wi-Fi

  ▼ Option: (53) DHCP Message Type (ACK)
       Length: 1
       DHCP: ACK (5)
  ▼ Option: (54) DHCP Server Identifier (192.168.158.155)
       Length: 4
       DHCP Server Identifier: 192.168.158.155
  ▼ Option: (51) IP Address Lease Time
       Length: 4
       IP Address Lease Time: 59 minutes, 59 seconds (3599)
  ▼ Option: (58) Renewal Time Value
       Length: 4
       Renewal Time Value: 29 minutes, 59 seconds (1799)
  ▼ Option: (59) Rebinding Time Value
       Length: 4
       Rebinding Time Value: 52 minutes, 29 seconds (3149)
  ▼ Option: (1) Subnet Mask (255.255.255.0)
       Length: 4
       Subnet Mask: 255.255.255.0
  ▼ Option: (28) Broadcast Address (192.168.158.255)
       Length: 4
       Broadcast Address: 192.168.158.255

0000   08 d2 3e e3 d9 7e 62 7e  77 ca 96 44 08 00 45 00   ··>··~b~ w··D··E·
0010   01 52 de 24 40 00 40 11  9d 37 c0 a8 9e 9b c0 a8   ·R·$@·@·  ·7······
0020   9e 52 00 43 00 44 01 3e  82 ab 02 01 06 00 2e f2   ·R·C·D·>  ······.·
0030   92 93 00 00 00 00 00 00  00 00 c0 a8 9e 52 c0 a8   ········  ·····R··
0040   9e 9b 00 00 00 00 08 d2  3e e3 d9 7e 00 00 00 00   ········  >··~····
0050   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
0060   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
0070   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
0080   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
0090   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
00a0   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
00b0   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
00c0   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
00d0   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
00e0   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
00f0   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
0100   00 00 00 00 00 00 00 00  00 00 00 00 00 00 00 00   ········  ········
0110   00 00 00 00 00 00 63 82  53 63 35 01 05 36 04 c0   ······c·  Sc5··6··
0120   a8 9e 9b 33 04 00 00 0e  0f 3a 04 00 00 07 07 3b   ···3····  ·:·····;
0130   04 00 00 0c 4d 01 04 ff  ff ff 00 1c 04 c0 a8 9e   ····M···  ········
0140   ff 03 04 c0 a8 9e 9b 06  04 c0 a8 9e 9b 2b 0f 41   ········  ·····+·A
0150   4e 44 52 4f 49 44 5f 4d  45 54 45 52 45 44 ff 00   NDROID_M  ETERED··
```

1.3 <u>Dani Adinugroho</u> / 1203230119
   C. Proses IPconfig CMD
   - **Ipconfig**

```
Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix   . : Realtek
    Link-local IPv6 Address . . . . . : fe80::3212:cbf6:e831:fc13%3
    IPv4 Address. . . . . . . . . . . : 192.168.0.4
    Subnet Mask . . . . . . . . . . . : 255.255.255.0
    Default Gateway . . . . . . . . . : 192.168.0.1
```

   - **Ipconfig /release**

```
C:\Users\nurul>ipconfig /release

Windows IP Configuration

No operation can be performed on Local Area Connection* 1 while it has its media disconnected.
No operation can be performed on Local Area Connection* 2 while it has its media disconnected.
No operation can be performed on Bluetooth Network Connection while it has its media disconnected.
```

```
Ethernet adapter Ethernet 2:

    Connection-specific DNS Suffix   . :
    Link-local IPv6 Address . . . . . : fe80::81d9:abfa:41ec:f7d0%13
    Default Gateway . . . . . . . . . :

Wireless LAN adapter Local Area Connection* 1:

    Media State . . . . . . . . . . . : Media disconnected
    Connection-specific DNS Suffix   . :

Wireless LAN adapter Local Area Connection* 2:

    Media State . . . . . . . . . . . : Media disconnected
    Connection-specific DNS Suffix   . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix   . :
    Link-local IPv6 Address . . . . . : fe80::3212:cbf6:e831:fc13%3
    Default Gateway . . . . . . . . . :

Ethernet adapter Bluetooth Network Connection:

    Media State . . . . . . . . . . . : Media disconnected
    Connection-specific DNS Suffix   . :
```

- **ipconfig /renew**

```
C:\Users\nurul>ipconfig /renew

Windows IP Configuration

No operation can be performed on Local Area Connection* 1 while it has its media disconnected.
No operation can be performed on Local Area Connection* 2 while it has its media disconnected.
No operation can be performed on Bluetooth Network Connection while it has its media disconnected.

Ethernet adapter Ethernet 2:

   Connection-specific DNS Suffix  . : Realtek
   Link-local IPv6 Address . . . . . : fe80::81d9:abfa:41ec:f7d0%13
   IPv4 Address. . . . . . . . . . . : 192.168.0.2
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.0.1

Wireless LAN adapter Local Area Connection* 1:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 2:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . : Realtek
   Link-local IPv6 Address . . . . . : fe80::3212:cbf6:e831:fc13%3
   IPv4 Address. . . . . . . . . . . : 192.168.0.4
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.0.1

Ethernet adapter Bluetooth Network Connection:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :
```

B. Proses bootp
- **Filter bootp**

No.	Time	Source	Destination	Protocol	Length	Info
139	14.998794	192.168.0.4	192.168.0.1	DHCP	342	DHCP Release - Transaction ID 0x2ea2bb95
193	22.577639	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x221e24a
194	22.577639	192.168.0.1	255.255.255.255	DHCP	590	DHCP Offer - Transaction ID 0x221e24a
195	22.588291	0.0.0.0	255.255.255.255	DHCP	346	DHCP Request - Transaction ID 0x221e24a
196	22.588291	192.168.0.1	255.255.255.255	DHCP	590	DHCP ACK - Transaction ID 0x221e24a
236	23.139936	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x37ebfacd
237	23.146498	192.168.0.1	255.255.255.255	DHCP	590	DHCP Offer - Transaction ID 0x37ebfacd
238	23.148548	0.0.0.0	255.255.255.255	DHCP	346	DHCP Request - Transaction ID 0x37ebfacd
239	23.160344	192.168.0.1	255.255.255.255	DHCP	590	DHCP ACK - Transaction ID 0x37ebfacd

- **Detail DHCP dari ACK**

```
▼ Dynamic Host Configuration Protocol (ACK)
      Message type: Boot Reply (2)
      Hardware type: Ethernet (0x01)
      Hardware address length: 6
      Hops: 0
      Transaction ID: 0x0221e24a
      Seconds elapsed: 0
  ▶ Bootp flags: 0x8000, Broadcast flag (Broadcast)
      Client IP address: 0.0.0.0
      Your (client) IP address: 192.168.0.2
      Next server IP address: 0.0.0.0
      Relay agent IP address: 0.0.0.0
      Client MAC address: MicroStarINT_ab:a7:f3 (04:7c:16:ab:a7:f3)
      Client hardware address padding: 00000000000000000000
      Server host name not given
      Boot file name not given
      Magic cookie: DHCP
  ▼ Option: (53) DHCP Message Type (ACK)
        Length: 1
        DHCP: ACK (5)
  ▼ Option: (54) DHCP Server Identifier (192.168.0.1)
        Length: 4
        DHCP Server Identifier: 192.168.0.1
  ▼ Option: (0) Padding
        Padding: 00000000
  ▼ Option: (51) IP Address Lease Time
        Length: 4
        IP Address Lease Time: 8 hours (28800)
  ▼ Option: (1) Subnet Mask (255.255.255.0)
        Length: 4
        Subnet Mask: 255.255.255.0
  ▼ Option: (3) Router
        Length: 4
        Router: 192.168.0.1
```

```
  ▼ Option: (1) Subnet Mask (255.255.255.0)
        Length: 4
        Subnet Mask: 255.255.255.0
  ▼ Option: (3) Router
        Length: 4
        Router: 192.168.0.1
  ▼ Option: (6) Domain Name Server
        Length: 4
        Domain Name Server: 192.168.0.1
  ▼ Option: (15) Domain Name
        Length: 7
        Domain Name: Realtek
  ▼ Option: (60) Vendor class identifier
        Length: 31
        Vendor class identifier: \x124\x01\aRealtek\x02\x03CPE\x03\bE8ROUTER\x04\x031.0
  ▼ Option: (125) V-I Vendor-specific Information
        Length: 50
      ▶ Enterprise: Broadband Forum (3561)
  ▼ Option: (255) End
        Option End: 255
        Padding […]: 00000000000000000000000000000000000000000000000000000000000000000000000000000000
```