



# Basics of MAC Addressing

CSE320 – Data Communications

Department of Computer Science and Engineering  
School of Data & Science

# MAC Address

- ☐ Stands for Media Access Control
- ☐ Every node in the LAN is identified with MAC address
- ☐ Physical address, hardware address
- ☐ Globally unique
- ☐ Can not be altered
- ☐ Provided by manufacturer
- ☐ Represented in hexadecimal format, 48 bits long
- ☐ Example, 00:1B:44:11:3A:B7
- ☐ Separators can be: hyphen(-), colon(:) or period(.)

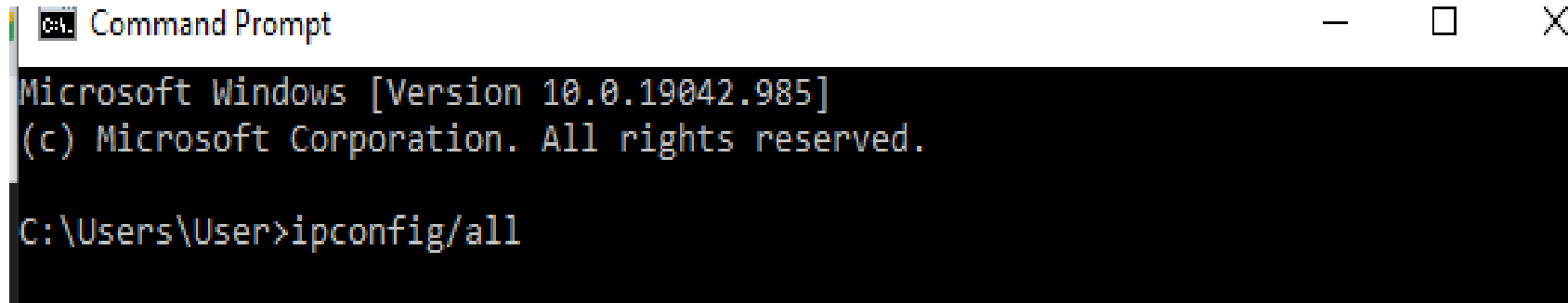
- ☐ IP Address            Location of a person
- ☐ MAC Address            Name of the person

# Why do we need both IP and MAC address?

- ❑ MAC address - works on layer 2 network, identify devices within the same broadcast network
- ❑ IP address - used on layer 3, identify the devices on different networks

# How to find the MAC address of a device

1. Open command prompt, type ipconfig/all command and press enter



```
Command Prompt
Microsoft Windows [Version 10.0.19042.985]
(c) Microsoft Corporation. All rights reserved.

C:\Users\User>ipconfig/all
```

Select Command Prompt

Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Local Area Connection\* 2:

Media State . . . . . : Media disconnected

Connection-specific DNS Suffix . :

Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #2

Physical Address. . . . . : 68-14-01-83-F9-29

DHCP Enabled. . . . . : Yes

Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Local Area Connection\* 3:

Media State . . . . . : Media disconnected

Connection-specific DNS Suffix . :

Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #3

Physical Address. . . . . : 6A-14-01-83-F9-29

DHCP Enabled. . . . . : Yes

Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wi-Fi 3:

Connection-specific DNS Suffix . : domain.name

Description . . . . . : Realtek RTL8723BE 802.11 bgn Wi-Fi Adapter

Physical Address. . . . . : 68-14-01-83-F9-29

DHCP Enabled. . . . . : Yes

Autoconfiguration Enabled . . . . . : Yes

Link-local IPv6 Address . . . . . : fe80::fc4d:f11a:9cca:ec71%11(Preferred)

IPv4 Address. . . . . : 192.168.0.5(Preferred)

Subnet Mask . . . . . : 255.255.255.0