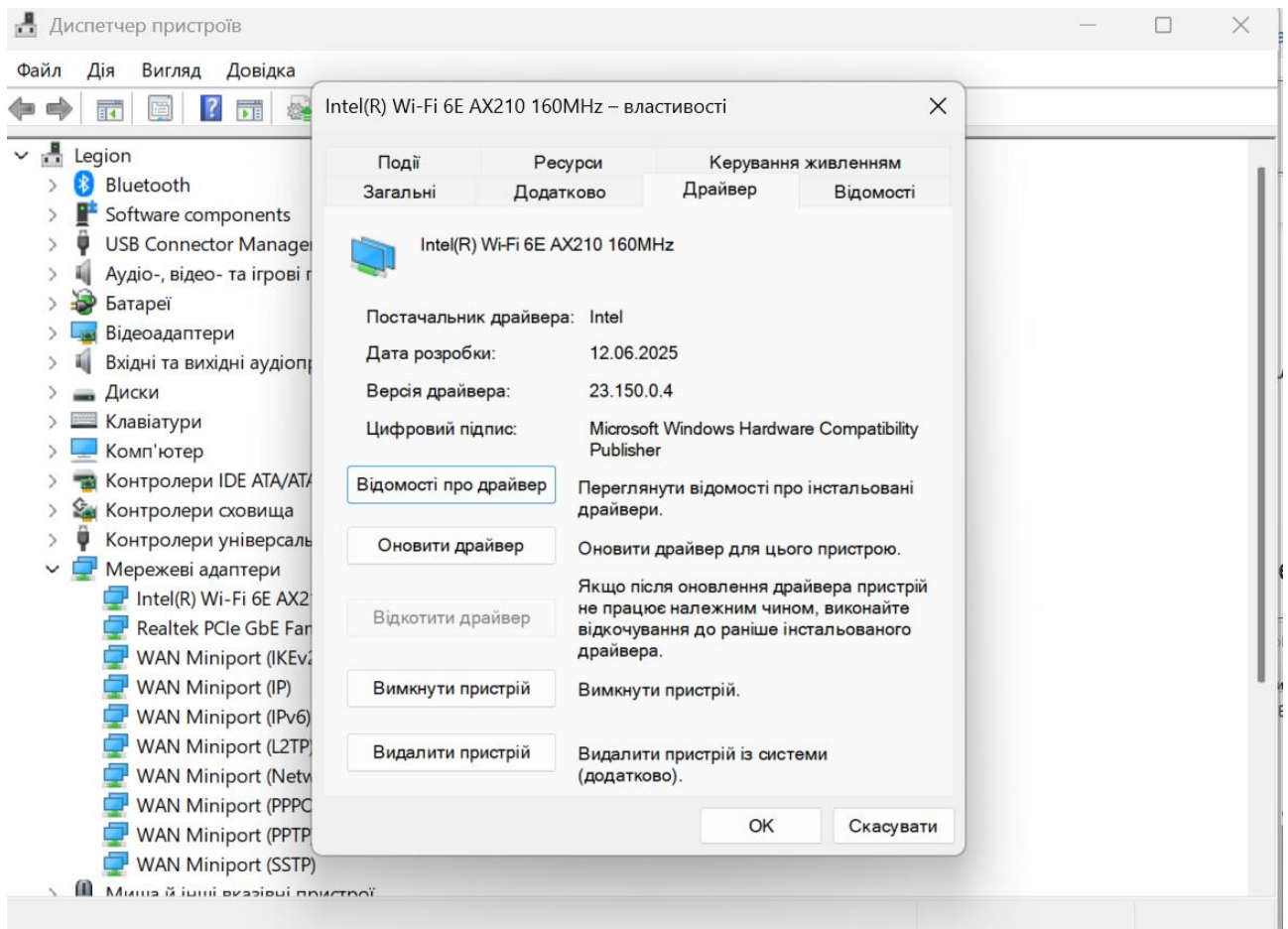


Лабораторна робота №10

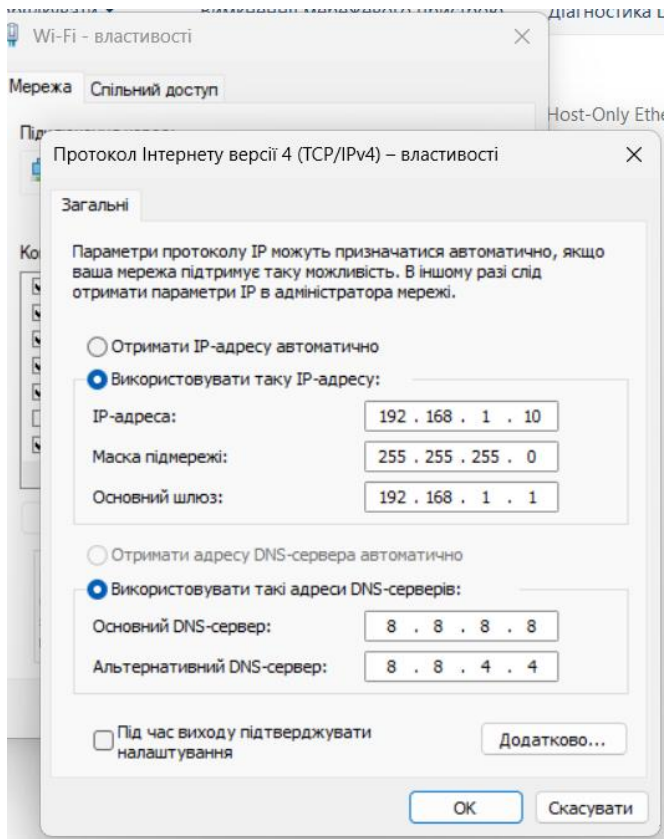
Тема: Команди CLI та BASH

Мета: Оволодіти навичками по налаштуванню протоколу TCP/IP, роботі з CLI та `bash`.

Місцезнаходження драйвера мережевого адаптера



Налаштування TCP/IPv4 протоколу



Виконання команди systeminfo

```
Processor(s): 1 Processor(s) Installed.
               [01]: Intel64 Family 6 Model 142 Stepping 12 GenuineIntel ~1609 MhzBIOS Version: HP S71 Ver. 01.2
Windows Directory: C:\WINDOWS
System Directory: C:\WINDOWS\system32
Boot Device: \Device\HarddiskVolume1
System Locale: uk;українська
Input Locale: uk;українська
Time Zone: (UTC+02:00) Вільнюс, Гельсінкі, Київ, Рига, Софія, Таллінн
Total Physical Memory: 32 166 MB
Available Physical Memory: 20 741 MB
Virtual Memory: Max Size: 34 214 MB
Virtual Memory: Available: 22 450 MB
Virtual Memory: In Use: 11 764 MB
Page File Location(s): C:\pagefile.sys
Domain: WORKGROUP
Logon Server: \\DESKTOP-RKCKCC1
Hotfix(s): 4 Hotfix(s) Installed.
            [01]: KB5066128
            [02]: KB5054156
            [03]: KB5068861
            [04]: KB5067035
Network Card(s): 3 NIC(s) Installed.
                  [01]: Intel(R) Wi-Fi 6 AX201 160MHz
                      Connection Name: Wi-Fi
                      DHCP Enabled: Yes
                      DHCP Server: 172.20.10.1
                      IP address(es)
                      [01]: 172.20.10.3
                      [02]: fe80:b9f9:70e1:8834:9017
                  [02]: Realtek PCIe GbE Family Controller
                      Connection Name: Ethernet
                      Status: Media disconnected
                  [03]: VirtualBox Host-Only Ethernet Adapter
                      Connection Name: Ethernet 3
                      DHCP Enabled: No
                      IP address(es)
                      [01]: 192.168.56.1
                      [02]: fe80:d65e:12d4:524e:9afc
Virtualization-based security: Status: Not enabled
                               App Control for Business policy: Enforced
                               App Control for Business user mode policy: Off
                               Security Features Enabled:
Hyper-V Requirements: VM Monitor Mode Extensions: Yes
                      Virtualization Enabled In Firmware: Yes
                      Second Level Address Translation: Yes
                      Data Execution Prevention Available: Yes
```

Виконання команди netstat

```
C:\Users\Home>netstat

Active Connections

Proto Local Address          Foreign Address        State
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:53835  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:53836  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:53882  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:53889  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:54010  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:54014  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:54022  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:54024  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:58886  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:62647  ESTABLISHED
TCP    127.0.0.1:6327         DESKTOP-RKCKCC1:62648  ESTABLISHED
TCP    127.0.0.1:53833        DESKTOP-RKCKCC1:54021  ESTABLISHED
TCP    127.0.0.1:53833        DESKTOP-RKCKCC1:54023  ESTABLISHED
TCP    127.0.0.1:53833        DESKTOP-RKCKCC1:54025  ESTABLISHED
TCP    127.0.0.1:53834        DESKTOP-RKCKCC1:54019  ESTABLISHED
TCP    127.0.0.1:53835        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:53836        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:53882        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:53889        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:54010        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:54014        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:54017        DESKTOP-RKCKCC1:54026  ESTABLISHED
TCP    127.0.0.1:54019        DESKTOP-RKCKCC1:53834  ESTABLISHED
TCP    127.0.0.1:54021        DESKTOP-RKCKCC1:53833  ESTABLISHED
TCP    127.0.0.1:54022        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:54023        DESKTOP-RKCKCC1:53833  ESTABLISHED
TCP    127.0.0.1:54024        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:54025        DESKTOP-RKCKCC1:53833  ESTABLISHED
TCP    127.0.0.1:54026        DESKTOP-RKCKCC1:54017  ESTABLISHED
TCP    127.0.0.1:54033        DESKTOP-RKCKCC1:54043  ESTABLISHED
TCP    127.0.0.1:54035        DESKTOP-RKCKCC1:54042  ESTABLISHED
TCP    127.0.0.1:54042        DESKTOP-RKCKCC1:54035  ESTABLISHED
TCP    127.0.0.1:54043        DESKTOP-RKCKCC1:54033  ESTABLISHED
TCP    127.0.0.1:58886        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:62647        DESKTOP-RKCKCC1:6327   ESTABLISHED
TCP    127.0.0.1:62648        DESKTOP-RKCKCC1:6327   ESTABLISHED
```

Виконання команди ping

```
C:\Users\Home>ping 192.168.15.254

Pinging 192.168.15.254 with 32 bytes of data:
Request timed out.
Request timed out.

Ping statistics for 192.168.15.254:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),
    Control-C
```

```
C:\Users\Home>
C:\Users\Home>ping

Usage: ping [-t] [-a] [-n count] [-l size] [-f] [-i TTL] [-v TOS]
           [-r count] [-s count] [[-j host-list] | [-k host-list]]
           [-w timeout] [-R] [-S srcaddr] [-c compartment] [-p]
           [-4] [-6] target_name

Options:
    -t             Ping the specified host until stopped.
                   To see statistics and continue - type Control-Break;
                   To stop - type Control-C.
    -a             Resolve addresses to hostnames.
    -n count       Number of echo requests to send.
    -l size        Send buffer size.
    -f             Set Don't Fragment flag in packet (IPv4-only).
    -i TTL         Time To Live.
    -v TOS         Type Of Service (IPv4-only. This setting has been deprecated
                   and has no effect on the type of service field in the IP
                   Header).
    -r count       Record route for count hops (IPv4-only).
    -s count       Timestamp for count hops (IPv4-only).
    -j host-list   Loose source route along host-list (IPv4-only).
    -k host-list   Strict source route along host-list (IPv4-only).
    -w timeout     Timeout in milliseconds to wait for each reply.
    -R            Use routing header to test reverse route also (IPv6-only).
                   Per RFC 5095 the use of this routing header has been
                   deprecated. Some systems may drop echo requests if
                   this header is used.
    -S srcaddr     Source address to use.
    -c compartment Routing compartment identifier.
    -p            Ping a Hyper-V Network Virtualization provider address.
    -4            Force using IPv4.
    -6            Force using IPv6.
```

```
C:\Users\Home>
```

Tracert з ключами

```
C:\Users\Home>tracert

Usage: tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout]
              [-R] [-S srcaddr] [-4] [-6] target_name

Options:
  -d                Do not resolve addresses to hostnames.
  -h maximum_hops  Maximum number of hops to search for target.
  -j host-list      Loose source route along host-list (IPv4-only).
  -w timeout        Wait timeout milliseconds for each reply.
  -R                Trace round-trip path (IPv6-only).
  -S srcaddr        Source address to use (IPv6-only).
  -4                Force using IPv4.
  -6                Force using IPv6.
```

```
C:\Users\Home>tracert -h 14
A target name or address must be specified.

Usage: tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout]
              [-R] [-S srcaddr] [-4] [-6] target_name

Options:
  -d                Do not resolve addresses to hostnames.
  -h maximum_hops  Maximum number of hops to search for target.
  -j host-list      Loose source route along host-list (IPv4-only).
  -w timeout        Wait timeout milliseconds for each reply.
  -R                Trace round-trip path (IPv6-only).
  -S srcaddr        Source address to use (IPv6-only).
  -4                Force using IPv4.
  -6                Force using IPv6.

C:\Users\Home>tracert -2 00:01
-2 is not a valid command option.

Usage: tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout]
              [-R] [-S srcaddr] [-4] [-6] target_name

Options:
  -d                Do not resolve addresses to hostnames.
  -h maximum_hops  Maximum number of hops to search for target.
  -j host-list      Loose source route along host-list (IPv4-only).
  -w timeout        Wait timeout milliseconds for each reply.
  -R                Trace round-trip path (IPv6-only).
  -S srcaddr        Source address to use (IPv6-only).
  -4                Force using IPv4.
  -6                Force using IPv6.

C:\Users\Home>
```

Частина 2

створення дерева папок в git bas

```
MINGW64:/c/Users/gfdsl

gfdsl@Legion MINGW64 ~
$ mkdir -p Vanzhula/VARJ/GR1
mkdir -p Vanzhula/VARI/GR2
mkdir -p Vanzhula/VARGj

gfdsl@Legion MINGW64 ~
$ echo "Group: KI-412, Date: $(date +%F)" > Vanzhula/VARJ/GR1/Roman.txt

gfdsl@Legion MINGW64 ~
$ echo "romanvanzhula1@gmail.com" > Vanzhula/VARI/GR2/Vanzhula.txt

gfdsl@Legion MINGW64 ~
$ cp Vanzhula/VARJ/GR1/Roman.txt Vanzhula/

gfdsl@Legion MINGW64 ~
$ cp Vanzhula/VARI/GR2/Vanzhula.txt Vanzhula/

gfdsl@Legion MINGW64 ~
$ tree Vanzhula
bash: tree: command not found

gfdsl@Legion MINGW64 ~
$ ls -R Vanzhula
Vanzhula:
Roman.txt  VARGj/  VARI/  VARJ/  Vanzhula.txt

Vanzhula/VARGj:

Vanzhula/VARI:
GR2/

Vanzhula/VARI/GR2:
Vanzhula.txt

Vanzhula/VARJ:
GR1/
```

Закладання скрипта на git hub

```
home@DESKTOP-RKCKCC1 MINGW64 ~/Desktop/лаби/БР/мережі (main)
$ git remote add origin https://github.com/botondukted342-png/Lab10_Bash_Script.
git

home@DESKTOP-RKCKCC1 MINGW64 ~/Desktop/лаби/БР/мережі (main)
$ git push -u origin main
remote: Repository not found.
fatal: repository 'https://github.com/botondukted342-png/Lab10_Bash_Script.git/' not found

home@DESKTOP-RKCKCC1 MINGW64 ~/Desktop/лаби/БР/мережі (main)
$ git push -u origin main
Enumerating objects: 25, done.
Counting objects: 100% (25/25), done.
Delta compression using up to 8 threads
Compressing objects: 100% (20/20), done.
Writing objects: 100% (25/25), 4.02 MiB | 1.77 MiB/s, done.
Total 25 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/botondukted342-png/Lab10_Bash_Script.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```

Посилання на репозиторій гіт хабу

<https://github.com/roma0sweet/LR10.git>

```
x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.163 Safari/537.36"
ci1: 127.0.0.1 [21/Apr/2020:08:06:57 +0300] "GET /media/widgetkit/fonts/fontawesome-webfont.ttf HTTP/1.
1" 404 1205 "http://ci1/media/widgetkit/wk-styles-180c3bef.css" "Mozilla/5.0 (Windows NT 10.0; win64; x
64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.163 Safari/537.36"
ci1: 127.0.0.1 [21/Apr/2020:08:06:57 +0300] "GET /favicon.ico HTTP/1.1" 404 1157 "http://ci1/?style=oce
an" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.
163 Safari/537.36"
ci2: 127.0.0.1 [21/Apr/2020:14:39:28 +0300] "GET /favicon.ico HTTP/1.1" 404 1155 "http://ci2/index.php/
uk/" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987
.163 Safari/537.36"
ci2: 127.0.0.1 [21/Apr/2020:14:57:25 +0300] "GET /favicon.ico HTTP/1.1" 404 1155 "http://ci2/index.php/
uk/" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987
.163 Safari/537.36"
default: 127.0.0.1 [21/Apr/2020:15:27:20 +0300] "GET /share.php?act=count&index=0&url=http%3A%2F%2Fksm.
khnu.km.ua%2Fwhat-does-it-mean-computer-engineering HTTP/1.1" 404 1230 "http://ksm.khnu.km.ua/what-does
-it-mean-computer-engineering" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, li
ke Gecko) Chrome/70.0.3538.102 Safari/537.36 Edge/18.18363"
default: 127.0.0.1 [21/Apr/2020:15:27:20 +0300] "GET /share.php?act=count&index=1&url=https%3A%2F%2Fksm
.khnu.km.ua%2Fwhat-does-it-mean-computer-engineering HTTP/1.1" 404 1230 "http://ksm.khnu.km.ua/what-doe
s-it-mean-computer-engineering" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, l
ike Gecko) Chrome/70.0.3538.102 Safari/537.36 Edge/18.18363"
ci3: 127.0.0.1 [22/Apr/2020:10:54:02 +0300] "GET /favicon.ico HTTP/1.1" 404 1129 "http://ci3/" "Mozilla
/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.163 Safari/5
37.36"
ci2: 127.0.0.1 [23/Apr/2020:11:23:29 +0300] "GET /installation/index.php HTTP/1.1" 404 1193 "http://ci2
/index.php/uk/?templateStyle=38" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML,
like Gecko) Chrome/80.0.3987.163 Safari/537.36"
ci2: 127.0.0.1 [23/Apr/2020:23:13:27 +0300] "GET /templates/rt_kraken/custom/fonts/kelson_sans/kelson_s
ans_bold/kelson_sans-bold-webfont.woff2 HTTP/1.1" 404 1257 "http://ci2/templates/rt_kraken/custom/css-c
ompiled/kraken_35.css?5ealf6e6" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, l
ike Gecko) Chrome/80.0.3987.163 Safari/537.36"
ci2: 127.0.0.1 [23/Apr/2020:23:13:27 +0300] "GET /templates/rt_kraken/custom/fonts/kelson_sans/kelson_s
ans_regular/kelson_sans-regular-webfont.woff2 HTTP/1.1" 404 1257 "http://ci2/templates/rt_kraken/custom
/css-compiled/kraken_35.css?5ealf6e6" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KH
TML, like Gecko) Chrome/80.0.3987.163 Safari/537.36"
e.osvita.te.u: 127.0.0.1 [24/Apr/2020:12:16:28 +0300] "GET /favicon.ico HTTP/1.1" 404 1159 "http://e.os
vita.te.u/" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80
.0.3987.163 Safari/537.36"
e.osvita.te.u.backup1: 127.0.0.1 [24/Apr/2020:12:16:46 +0300] "GET /favicon.ico HTTP/1.1" 404 1183 "htt
p://e.osvita.te.u.backup1/" "Mozilla/5.0 (Windows NT 10.0; win64; x64) AppleWebKit/537.36 (KHTML, like
Gecko) Chrome/80.0.3987.163 Safari/537.36"

home@DESKTOP-RKCKCC1 MINGW64 ~/Desktop/лаби/БР/мережі (main)
$ ^[[200~grep " 404 " лаба10.txt | wc -l
bash: $'\E[200~grep': command not found
0

home@DESKTOP-RKCKCC1 MINGW64 ~/Desktop/лаби/БР/мережі (main)
$ grep " 404 " лаба10.txt | wc -l
44
```

Git bash виявив 44 логи з помилкою 404