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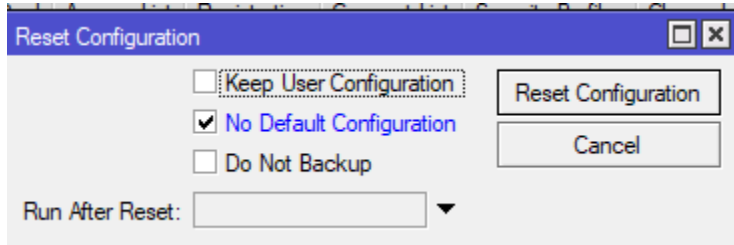
Nim : L200160015

Kelas : A

## MIKROTIK 2

Reset terlebih dahulu

System – restart configuration

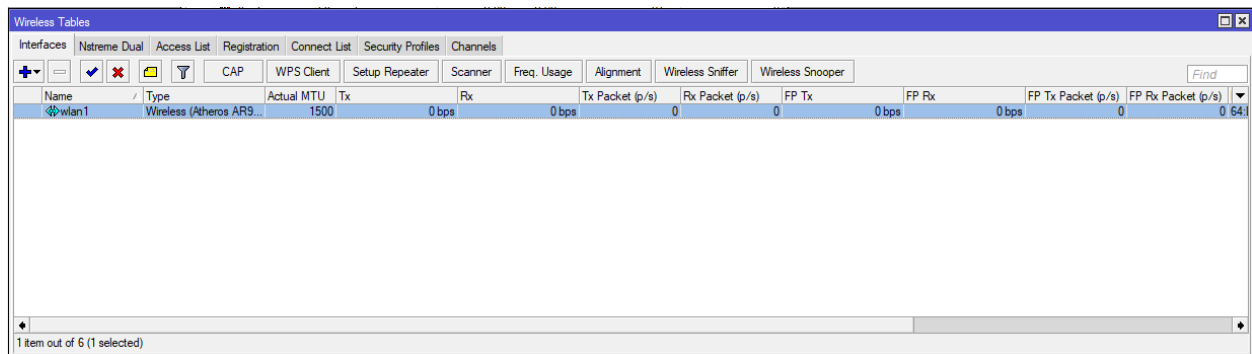


Interface list

Interface	Interface List	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN	VRRP	Bonding	LTE
Name	Type	Actual MTU	L2 MTU	Tx	Rx				
R ether1	Ethernet	1500	1598	95.9 kbps	7.1 k				
R ether2	Ethernet	1500	1598	0 bps	77.5 k				
ether3	Ethernet	1500	1598	0 bps	0				
ether4	Ethernet	1500	1598	0 bps	0				
ether5	Ethernet	1500	1598	0 bps	0				
wlan1	Wireless (Atheros AR9...	1500	1600	0 bps	0				

6 items (1 selected)

## Wireless table

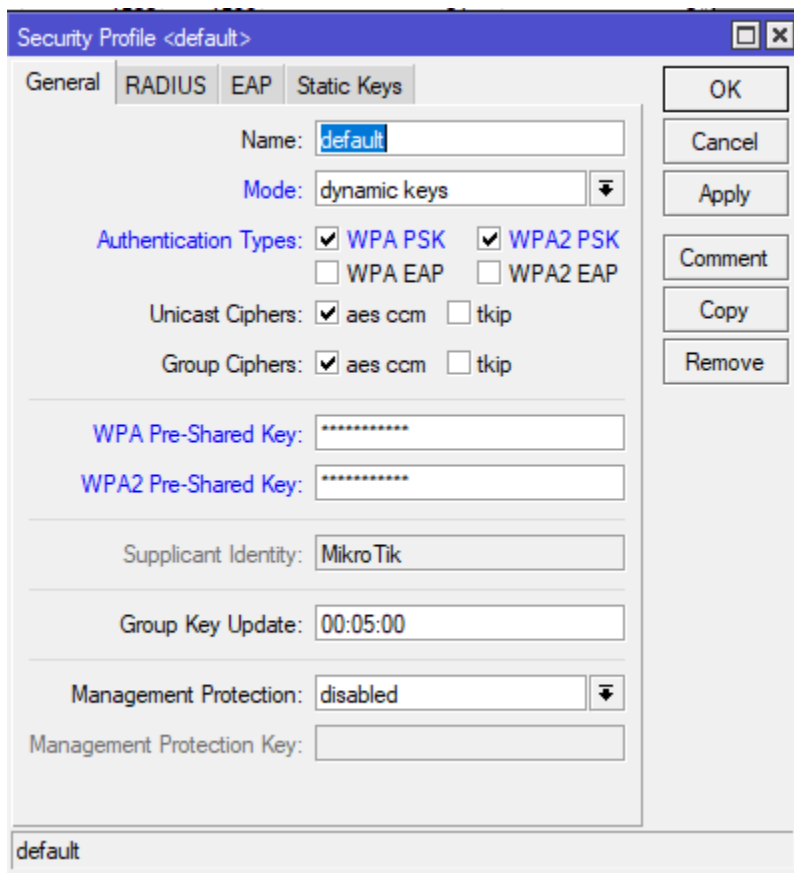


The screenshot shows the 'Wireless Tables' window with the 'Channels' tab selected. The table below lists the wireless interfaces and their statistics.

Name	Type	Actual MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx	FP Rx	FP Tx Packet (p/s)	FP Rx Packet (p/s)
wlan1	Wireless (Atheros AR9...	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0

1 item out of 6 (1 selected)

## Konfigurasi security profile



The screenshot shows the 'Security Profile <default>' configuration window. The 'General' tab is selected, and the configuration is as follows:

- Name: default
- Mode: dynamic keys
- Authentication Types: ☒ WPA PSK, ☒ WPA2 PSK, ☐ WPA EAP, ☐ WPA2 EAP
- Unicast Ciphers: ☒ aes ccm, ☐ tkip
- Group Ciphers: ☒ aes ccm, ☐ tkip
- WPA Pre-Shared Key: [Redacted]
- WPA2 Pre-Shared Key: [Redacted]
- Supplicant Identity: MikroTik
- Group Key Update: 00:05:00
- Management Protection: disabled
- Management Protection Key: [Empty]

Buttons on the right: OK, Cancel, Apply, Comment, Copy, Remove.

At the bottom, the profile name 'default' is listed.

## Interface wireless

Interface <wlan1>

General Wireless HT HT MCS WDS Nstreme NV2 ...

Mode: station

Band: 2GHz-B/G/N

Channel Width: 20MHz

Frequency: 2462 MHz

SSID: LAB FKI

Scan List: default

Wireless Protocol: any

Security Profile: default

☒ Default Authenticate

OK  
Cancel  
Apply  
Disable  
Comment  
Advanced Mode  
Torch  
WPS Accept  
WPS Client  
Setup Repeater  
Scan...  
Freq. Usage...  
Align...  
Sniff...  
Snooper...  
Reset Configuration

Klik scan- kemudian start- dan connect kan ke LABFKI

Scanner

Interface: wlan1

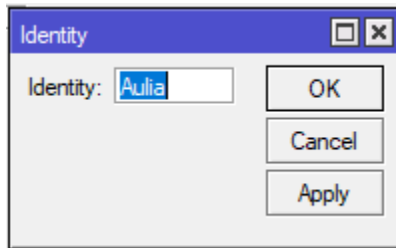
☐ Background Scan

Start  
Stop  
Close  
Connect  
New Window

	Address	SSID	Channel	Signa...	Noise...	Signa...	Radio Name	RouterO...
APRB	64:D1:54:E4:6E:47	L200150...	2412/2...	-36	-98	62	64D154E46E47	6.39.2
AP	04:18:D6:CF:10:EA	UMS Wifi	2412/2...	-66	-98	32		
PRB	64:D1:54:E4:9A:7B	L200150...	2412/2...	-32	-98	66	64D154E49A7B	6.39.2
AP	06:18:D6:CD:37:FD		2412/2...	-68	-98	30		
AP	04:18:D6:CD:37:FD	fki-staff	2412/2...	-81	-98	17		
	34:E9:11:13:E1:53	dasar mis...	2412/2...	-86	-98	12		
P	E8:50:8B:CD:99:AB	Modal Bo...	2412/2...	-66	-98	32		
ARB	64:D1:54:E4:C8:AD	Mikro Tik-...	2422/2...	-40	-95	55	64D154E4C8AD	6.39.2
RB	64:D1:54:E4:6E:B9	Mikro Tik-...	2427/2...	-17	-97	80	64D154E46EB9	6.39.2
AP	0C:A8:A7:28:73:EA	Aaaaa	2437/2...	-79	-98	19		
AP	04:18:D6:CB:E7:BA	UMS Wifi	2437/2...	-62	-98	36		
AP	04:18:D6:CD:37:AA	UMS Wifi	2437/2...	-75	-98	23		
AP	06:18:D6:CD:37:AA		2437/2...	-74	-98	24		
AP	20:AA:4B:44:84:CF	LAB FKI	2462/2...	-46	-100	54		
AP	04:18:D6:CD:37:A9	UMS Wifi	2462/2...	-79	-100	21		

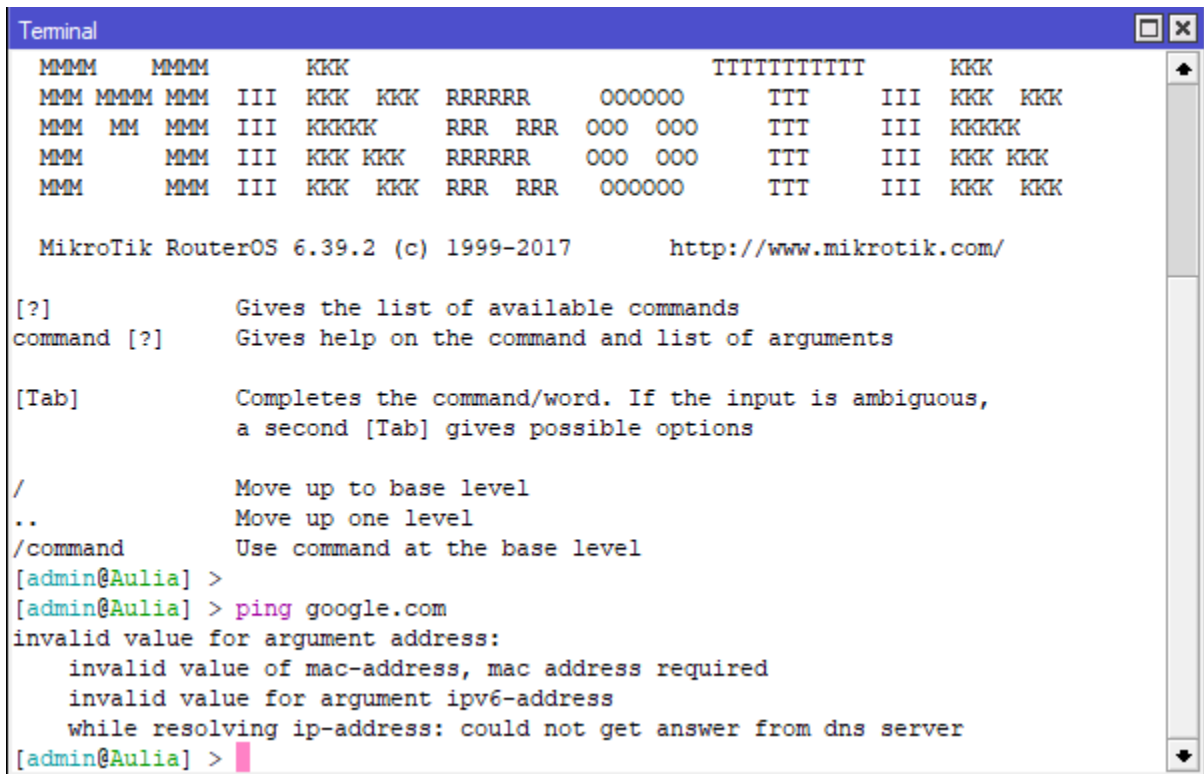
33 items (1 selected)

## 2. system -identity



Konfigurasi router ke internet

Test ping sebelum konfigurasi



```
Terminal
MMM   MMM   KKK                               TTTTTTTTTT   KKK
MMM MMMM MMM III KKK KKK RRRRRR   OOOOOO   TTT   III KKK KKK
MMM MM  MMM III KKKKK   RRR RRR   OOO OOO   TTT   III KKKKK
MMM   MMM III KKK KKK   RRRRRR   OOO OOO   TTT   III KKK KKK
MMM   MMM III KKK KKK   RRR RRR   OOOOOO   TTT   III KKK KKK

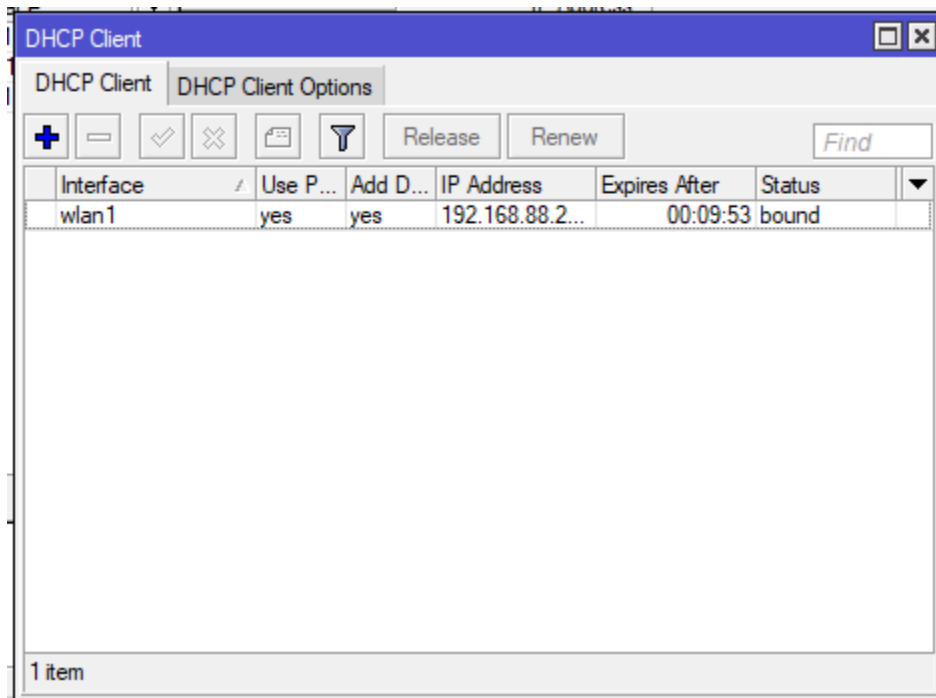
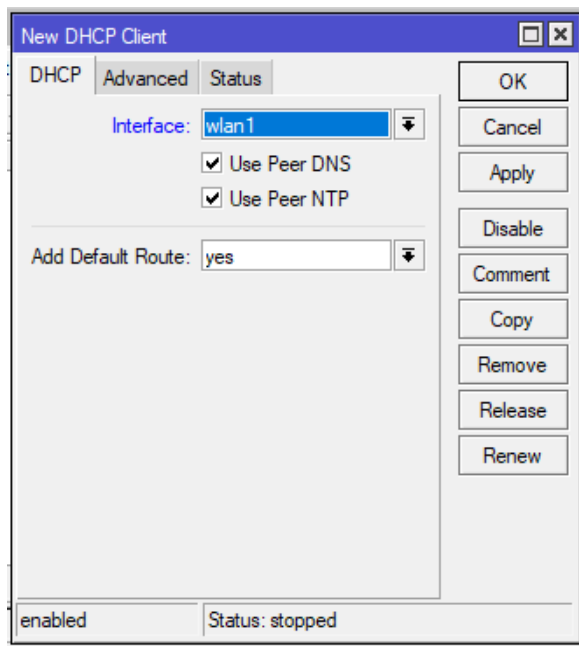
MikroTik RouterOS 6.39.2 (c) 1999-2017      http://www.mikrotik.com/

[?]          Gives the list of available commands
command [?]  Gives help on the command and list of arguments

[Tab]        Completes the command/word. If the input is ambiguous,
              a second [Tab] gives possible options

/            Move up to base level
..          Move up one level
/command     Use command at the base level
[admin@Aulia] >
[admin@Aulia] > ping google.com
invalid value for argument address:
    invalid value of mac-address, mac address required
    invalid value for argument ipv6-address
    while resolving ip-address: could not get answer from dns server
[admin@Aulia] >
```

Tambah dhcp client



Quick-set-cpe konfigurasi

CPE Quick Set

**- Info**

WLAN MAC Address: 64:D1:54:E4:71:A7

LAN MAC Address: 64:D1:54:E4:71:A2

**- Wireless**

Status: connected to ess

AP MAC: 20:AA:4B:44:84:CF

Network Name: LAB FKI

Tx/Rx Signal Strength: -46 dBm

Tx/Rx CCQ: 78 %

Signal To Noise: 55 dB

Wireless Protocol: 802.11

**- Configuration**

Mode: ☒ Router ☐ Bridge

**- Wireless Network**

Address Acquisition: ☐ Static ☒ Automatic ☐ PPPoE

IP Address: 192.168.88.242 Renew Release

Netmask: 255.255.255.0 (/24)

Gateway: 192.168.88.1

Upload: unlimited bits/s

Download: unlimited bits/s

**- Local Network**

IP Address: 192.168.20.18

Netmask: 255.255.255.0 (/24)

☒ DHCP Server

DHCP Server Range: 192.168.20.19-192.168.20.254

☒ NAT

☐ Bridge All LAN Ports

**- System**

Router Identity: Aulia

Check For Updates Reset Configuration

Password:

Confirm Password:

OK Cancel Apply

Disconnect

Rx Signal: -46 dB  
Tx Signal: 0 dB

Setelah selesai dikonfigurasi seperti diatas, cabut koneksi router ke PC , kemudian sambungkan kembali

Cek ip local

```
Ethernet adapter Ethernet:

Connection-specific DNS Suffix . : 
Link-local IPv6 Address . . . . . : fe80::ac57:ed80:51d0:17a5%21
IPv4 Address. . . . . : 192.168.20.254
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.20.18
```

## Ping ip local router

```
C:\Users\ASUS>ping 192.168.20.18

Pinging 192.168.20.18 with 32 bytes of data:
Reply from 192.168.20.18: bytes=32 time=1ms TTL=64
Reply from 192.168.20.18: bytes=32 time<1ms TTL=64
Reply from 192.168.20.18: bytes=32 time<1ms TTL=64
Reply from 192.168.20.18: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.20.18:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\ASUS>
```

Masuk kembali ke router dan tes ping google melalui router

```
[admin@Aulia] > ping google.com
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	74.125.68.100	56	46	25ms	
1	74.125.68.100	56	46	51ms	
2	74.125.68.100	56	46	24ms	
3	74.125.68.100	56	46	26ms	

## Address list

Address List			
<div><div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div><div>Find</div></div>			
	Address	Network	Interface
D	<div><div></div>192.168.1.143/24</div>	192.168.1.0	wlan1
	<div><div></div>192.168.20.18/24</div>	192.168.20.0	ether1

2 items

Ping ip router

```
C:\Users\ASUS>ping 192.168.1.143

Pinging 192.168.1.143 with 32 bytes of data:
Reply from 192.168.1.143: bytes=32 time<1ms TTL=64
Reply from 192.168.1.143: bytes=32 time<1ms TTL=64
Reply from 192.168.1.143: bytes=32 time<1ms TTL=64
Reply from 192.168.1.143: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.143:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\ASUS>
```

Konfigurasi Ether 4 router untuk komunikasi antar PC yang berada pada router yang berbeda.

The image shows a network configuration window titled "Address <172.16.21.1/24>". It contains the following fields and buttons:

- Address:** 172.16.21.1/24
- Network:** 172.16.21.0
- Interface:** ether4
- Buttons:** OK, Cancel, Apply, Disable, Comment, Copy, Remove
- Status:** enabled



Address List			
<div> <span>+</span> <span>-</span> <span>✓</span> <span>✗</span> <span>📄</span> <span>🔍</span> <input type="text" value="Find"/> </div>			
Address	Network	Interface	
172.16.21.1/24	172.16.21.0	ether4	
192.168.1.143/24	192.168.1.0	wlan1	
192.168.20.1/24	192.168.20.0	ether1	

3 items (1 selected)

## Setting ip client (A)

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically
   
☒ Use the following IP address:

IP address: 
  
 Subnet mask: 
  
 Default gateway:

☐ Obtain DNS server address automatically
   
☒ Use the following DNS server addresses:

Preferred DNS server: 
  
 Alternate DNS server:

☐ Validate settings upon exit
 Advanced...

## Cek ip routes

Route List						
<div> <div>Routes</div> <div>Nexthops</div> <div>Rules</div> <div>VRF</div> </div> <div> <div>+</div> <div>-</div> <div>✓</div> <div>✗</div> <div>📄</div> <div>🔍</div> <div>Find</div> <div>all</div> <div>⌵</div> </div>						
	Dst. Address	/	Gateway	Distance	Routing Mark	Pref. Source
S	▶ 0.0.0.0/0		8.8.8.8 unreachable	1		
DAS	▶ 0.0.0.0/0		192.168.1.1 reachable wlan1	1		
DC	▶ 172.16.21.0/24		ether4 unreachable	255		172.16.21.1
DAC	▶ 192.168.1.0/24		wlan1 reachable	0		192.168.1.143
DAC	▶ 192.168.20.0/...		ether1 reachable	0		192.168.20.18

Tambahkan ip route ether 4

The screenshot shows the 'Route List' window in MikroTik WinBox. The window has tabs for 'Routes', 'Nextops', 'Rules', and 'VRF'. Below the tabs is a toolbar with icons for adding, removing, enabling, disabling, refreshing, and filtering routes. A search bar with the text 'Find' and a dropdown menu with 'all' is also present. The main area displays a table of routes:

	Dst. Address	Gateway	Distance	Routing Mark	Pref. Source
S	0.0.0.0/0	8.8.8.8 unreachable	1		
DAS	0.0.0.0/0	192.168.1.1 reachable wlan1	1		
DAC	172.16.21.0/24	ether4 reachable	0		172.16.21.1
S	192.168.1.0/24	172.16.21.2 reachable ether4	1		
DAC	192.168.1.0/24	wlan1 reachable	0		192.168.1.143
DAC	192.168.20.0/...	ether1 reachable	0		192.168.20.1
AS	192.168.21.0	172.16.21.2 reachable ether4	1		

At the bottom of the window, it says '7 items (1 selected)'.

Ping gateway router wyne

```
[admin@Aulia] > ping 172.16.21.1
```

SEQ	HOST	SIZE	TTL	TIME	STATUS
0	172.16.21.1	56	64	0ms	
1	172.16.21.1	56	64	0ms	
2	172.16.21.1	56	64	0ms	
3	172.16.21.1	56	64	0ms	
4	172.16.21.1	56	64	0ms	
5	172.16.21.1	56	64	0ms	

Ping pc ke router

```
C:\Users\ASUS>ping 172.16.21.2
```

Pinging 172.16.21.2 with 32 bytes of data:  
Reply from 172.16.21.2: bytes=32 time=2ms TTL=63  
Reply from 172.16.21.2: bytes=32 time=2ms TTL=63  
Reply from 172.16.21.2: bytes=32 time=2ms TTL=63  
Reply from 172.16.21.2: bytes=32 time=2ms TTL=63

Ping statistics for 172.16.21.2:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 2ms, Maximum = 2ms, Average = 2ms

```
C:\Users\ASUS>
```