

OUTPUT:

1. To identify the network configuration

```
PS C:\Users\hp\Desktop> ipconfig
```

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 1:

Media StateMedia disconnected

Connection-specific DNS Suffix . :

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix . : bbrouter

IPv6 Address. : 2406:8800:82:906d:f5e5:4de0:4d03:9d4d

Temporary IPv6 Address. : 2406:8800:82:906d:dcdf:d895:d6c3:754c

Link-local IPv6 Address.....: fe80::10cd:3cd5:791b:e0cf%19

IPv4 Address. : 192.168.1.35

Subnet Mask.....: 255.255.255.0

Default Gateway.....: fe80::1%19

192.168.1.1

Ethernet adapter Bluetooth Network Connection:

Media StateMedia disconnected

Connection-specific DNS Suffix . :

```
PS C:\Users\hp\Desktop> ipconfig /flushdns
```

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

```
PS C:\Users\hp\Desktop> 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 Bluetooth Network Connection while it has its media disconnected.

Wireless LAN adapter Local Area Connection* 1:

Media StateMedia disconnected

Connection-specific DNS Suffix . :

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix . : bbrouter

IPv6 Address. : 2406:8800:82:906d:f5e5:4de0:4d03:9d4d

Temporary IPv6 Address. : 2406:8800:82:906d:dcdf:d895:d6c3:754c

Link-local IPv6 Address..... : fe80::10cd:3cd5:791b:e0cf%19

IPv4 Address. : 192.168.1.35

Subnet Mask..... : 255.255.255.0

Default Gateway..... : fe80::1%19

192.168.1.1

Ethernet adapter Bluetooth Network Connection:

Media StateMedia disconnected

Connection-specific DNS Suffix . :

2. To test your network connectivity

```
PS C:\Users\hp\Desktop> ping -4 www.google.com
```

Pinging www.google.com [142.251.220.100] with 32 bytes of data:

Reply from 142.251.220.100: bytes=32 time=20ms TTL=114

Reply from 142.251.220.100: bytes=32 time=22ms TTL=114

Reply from 142.251.220.100: bytes=32 time=21ms TTL=114

Reply from 142.251.220.100: bytes=32 time=22ms TTL=114

Ping statistics for 142.251.220.100:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 20ms, Maximum = 22ms, Average = 21ms

C:\Users\hp>ping /a 192.168.1.35

Pinging Arun.bbrouter [192.168.1.35] with 32 bytes of data:

Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.35:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\hp>ping /n 3 192.168.1.35

Pinging 192.168.1.35 with 32 bytes of data:

Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

Reply from 192.168.1.35: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.35:

Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

```
C:\Users\hp>ping /l 16 192.168.1.35
```

Pinging 192.168.1.35 with 16 bytes of data:

Reply from 192.168.1.35: bytes=16 time<1ms TTL=128

Reply from 192.168.1.35: bytes=16 time<1ms TTL=128

Reply from 192.168.1.35: bytes=16 time<1ms TTL=128

Reply from 192.168.1.35: bytes=16 time<1ms TTL=128

Ping statistics for 192.168.1.35:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

```
C:\Users\hp>netstat
```

Active Connections

Proto	Local Address	Foreign Address	State
TCP	127.0.0.1:50655	Arun:50656	ESTABLISHED
TCP	127.0.0.1:50656	Arun:50655	ESTABLISHED
TCP	127.0.0.1:50657	Arun:50658	ESTABLISHED
TCP	127.0.0.1:50658	Arun:50657	ESTABLISHED
TCP	127.0.0.1:50659	Arun:50660	ESTABLISHED
TCP	127.0.0.1:50660	Arun:50659	ESTABLISHED
TCP	127.0.0.1:55488	Arun:55489	ESTABLISHED
TCP	127.0.0.1:55489	Arun:55488	ESTABLISHED
TCP	127.0.0.1:55493	Arun:55504	ESTABLISHED
TCP	127.0.0.1:55504	Arun:55493	ESTABLISHED
TCP	127.0.0.1:55756	Arun:55757	ESTABLISHED
TCP	127.0.0.1:55757	Arun:55756	ESTABLISHED
TCP	127.0.0.1:55762	Arun:55763	ESTABLISHED
TCP	127.0.0.1:55763	Arun:55762	ESTABLISHED

TCP	192.168.1.35:55403	relay-d7553589:https	ESTABLISHED
TCP	192.168.1.35:56018	a23-53-128-229:http	CLOSE_WAIT
TCP	192.168.1.35:56068	162.125.40.1:https	ESTABLISHED
TCP	192.168.1.35:56072	52.187.79.109:https	ESTABLISHED
TCP	192.168.1.35:56081	162.125.21.2:https	ESTABLISHED
TCP	192.168.1.35:56102	ec2-52-41-242-199:https	CLOSE_WAIT
TCP	192.168.1.35:56104	104.208.16.92:https	ESTABLISHED
TCP	192.168.1.35:56105	104.208.16.92:https	ESTABLISHED

3. To view active ports

C:\Users\hp>netstat -a

Active Connections

Proto	Local Address	Foreign Address	State
TCP	0.0.0.0:135	Arun:0	LISTENING
TCP	0.0.0.0:445	Arun:0	LISTENING
TCP	0.0.0.0:5040	Arun:0	LISTENING
TCP	0.0.0.0:6881	Arun:0	LISTENING
TCP	0.0.0.0:7070	Arun:0	LISTENING
TCP	0.0.0.0:8080	Arun:0	LISTENING
TCP	0.0.0.0:17500	Arun:0	LISTENING
TCP	0.0.0.0:19575	Arun:0	LISTENING
TCP	0.0.0.0:19576	Arun:0	LISTENING
TCP	0.0.0.0:19577	Arun:0	LISTENING
TCP	0.0.0.0:49664	Arun:0	LISTENING
TCP	0.0.0.0:49665	Arun:0	LISTENING
TCP	0.0.0.0:49668	Arun:0	LISTENING
TCP	0.0.0.0:49669	Arun:0	LISTENING
TCP	0.0.0.0:49674	Arun:0	LISTENING

TCP	0.0.0.0:49680	Arun:0	LISTENING
TCP	127.0.0.1:843	Arun:0	LISTENING
TCP	127.0.0.1:17600	Arun:0	LISTENING
TCP	127.0.0.1:50655	Arun:50656	ESTABLISHED
TCP	127.0.0.1:50656	Arun:50655	ESTABLISHED
TCP	127.0.0.1:50657	Arun:50658	ESTABLISHED
TCP	127.0.0.1:50658	Arun:50657	ESTABLISHED
TCP	127.0.0.1:50659	Arun:50660	ESTABLISHED
TCP	127.0.0.1:50660	Arun:50659	ESTABLISHED

C:\Users\hp>netstat -e

Interface Statistics	Received	Sent
Bytes	636472092	57589998
Unicast packets	334140	216330
Non-unicast packets	1416	6786
Discards	0	0
Errors	0	0
Unknown protocols	0	

C:\Users\hp>netstat -n

Active Connections

Proto	Local Address	Foreign Address	State
TCP	127.0.0.1:50655	127.0.0.1:50656	ESTABLISHED
TCP	127.0.0.1:50656	127.0.0.1:50655	ESTABLISHED
TCP	127.0.0.1:50657	127.0.0.1:50658	ESTABLISHED
TCP	127.0.0.1:50658	127.0.0.1:50657	ESTABLISHED
TCP	127.0.0.1:50659	127.0.0.1:50660	ESTABLISHED
TCP	127.0.0.1:50660	127.0.0.1:50659	ESTABLISHED
TCP	127.0.0.1:55488	127.0.0.1:55489	ESTABLISHED

TCP	127.0.0.1:55489	127.0.0.1:55488	ESTABLISHED
TCP	127.0.0.1:55493	127.0.0.1:55504	ESTABLISHED
TCP	127.0.0.1:55504	127.0.0.1:55493	ESTABLISHED
TCP	127.0.0.1:55756	127.0.0.1:55757	ESTABLISHED
TCP	127.0.0.1:55757	127.0.0.1:55756	ESTABLISHED
TCP	127.0.0.1:55762	127.0.0.1:55763	ESTABLISHED
TCP	127.0.0.1:55763	127.0.0.1:55762	ESTABLISHED
TCP	192.168.1.35:55403	148.113.16.225:443	ESTABLISHED
TCP	192.168.1.35:56018	23.53.128.229:80	CLOSE_WAIT
TCP	192.168.1.35:56068	162.125.40.1:443	ESTABLISHED
TCP	192.168.1.35:56072	52.187.79.109:443	ESTABLISHED
TCP	192.168.1.35:56081	162.125.21.2:443	ESTABLISHED
TCP	192.168.1.35:56138	13.89.178.27:443	TIME_WAIT
TCP	192.168.1.35:56139	20.42.73.30:443	TIME_WAIT
TCP	192.168.1.35:56146	23.53.128.229:80	TIME_WAIT
TCP	192.168.1.35:56159	52.168.117.170:443	ESTABLISHED
TCP	192.168.1.35:56160	52.168.117.170:443	ESTABLISHED

C:\Users\hp>netstat -r

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Interface List

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15...62 ff 9e 1d 4b 1a.....Microsoft Wi-Fi Direct Virtual Adapter
19...60 ff 9e 1d 4b 1a.....Realtek RTL8852BE WiFi 6 802.11ax PCIe Adapter
1..... Software Loopback Interface 1

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IPv4 Route Table

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Active Routes:

Network Destination	Netmask	Gateway	Interface	Metric
0.0.0.0	0.0.0.0	192.168.1.1	192.168.1.35	35
127.0.0.0	255.0.0.0	On-link	127.0.0.1	331
127.0.0.1	255.255.255.255	On-link	127.0.0.1	331
127.255.255.255	255.255.255.255	On-link	127.0.0.1	331
192.168.1.0	255.255.255.0	On-link	192.168.1.35	291
192.168.1.35	255.255.255.255	On-link	192.168.1.35	291
192.168.1.255	255.255.255.255	On-link	192.168.1.35	291
224.0.0.0	240.0.0.0	On-link	127.0.0.1	331
224.0.0.0	240.0.0.0	On-link	192.168.1.35	291
255.255.255.255	255.255.255.255	On-link	127.0.0.1	331
255.255.255.255	255.255.255.255	On-link	192.168.1.35	291

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Persistent Routes:

None

IPv6 Route Table

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Active Routes:

If	Metric	Network Destination	Gateway
19	291	::/0	fe80::1
1	331	::1/128	On-link
19	291	2406:8800:82:906d::/64	On-link
19	51	2406:8800:82:906d::/64	fe80::1
19	291	2406:8800:82:906d:dcd:f:d895:d6c3:754c/128	On-link

19	291	2406:8800:82:906d:f5e5:4de0:4d03:9d4d/128	On-link
19	291	fe80::/64	On-link
19	291	fe80::10cd:3cd5:791b:e0cf/128	On-link
1	331	ff00::/8	On-link
19	291	ff00::/8	On-link

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Persistent Routes:

None

4. To find hardware/MAC

address

C:\Users\hp>arp -a

Interface: 192.168.1.35 --- 0x13

Internet Address	Physical Address	Type
192.168.1.1	20-0c-86-56-49-20	dynamic
192.168.1.36	28-d0-43-3f-c4-28	dynamic
192.168.1.38	2c-7b-a0-76-58-90	dynamic
192.168.1.255	ff-ff-ff-ff-ff-ff	static
224.0.0.2	01-00-5e-00-00-02	static
224.0.0.22	01-00-5e-00-00-16	static
224.0.0.251	01-00-5e-00-00-fb	static
224.0.0.252	01-00-5e-00-00-fc	static
239.192.152.143	01-00-5e-40-98-8f	static
239.255.102.18	01-00-5e-7f-66-12	static
239.255.255.250	01-00-5e-7f-ff-fa	static
255.255.255.255	ff-ff-ff-ff-ff-ff	static

C:\Users\hp>cmd /c dir/a

Volume in drive C is Windows

Volume Serial Number is 7C67-6D4D

Directory of C:\Users\hp

12-05-2025	15:53	<DIR>	.
13-02-2025	14:07	<DIR>	..
11-02-2025	22:26		110 .bash_history
30-04-2025	01:24	<DIR>	.config
11-02-2025	22:25		55 .gitconfig
30-03-2025	00:44	<DIR>	.kube
30-03-2025	00:44	<DIR>	.minikube
10-02-2025	21:05		7 .node_repl_history
12-02-2025	12:12	<DIR>	.quokka
12-02-2025	12:12	<DIR>	.redhat
26-02-2025	15:05	<DIR>	.venv
12-02-2025	12:13	<DIR>	.vs-kubernetes
10-02-2025	20:07	<DIR>	.vscode
12-02-2025	12:12	<DIR>	.wallaby
01-02-2025	23:27	<DIR>	AppData
01-02-2025	23:27	<JUNCTION>	Application Data [C:\Users\hp\AppData\Roaming]
17-02-2025	11:43		2,468 ball.java
28-02-2025	05:13		4,495 bouncing.py
01-02-2025	23:27	<DIR>	Contacts
01-02-2025	23:27	<JUNCTION>	Cookies
[C:\Users\hp\AppData\Local\Microsoft\Windows\INetCookies]			
10-05-2025	18:50	<DIR>	Desktop
12-05-2025	15:53	<DIR>	Documents
11-05-2025	09:58	<DIR>	Downloads
01-05-2025	11:33	<DIR>	Dropbox
11-03-2025	10:48		12,870,368 edb_npgsql.exe
11-03-2025	10:45		12,214,272 edb_npgsql.exe-20250311104538

11-03-2025 11:40 75,564,505 edb_pem_server.exe
 15-03-2025 12:16 12,174,360 edb_pgagent_pg17.exe
 11-03-2025 11:35 12,172,440 edb_pgagent_pg17.exe-20250315121207
 01-02-2025 23:27 524,288 NTUSER.DAT{93b967f8-9d02-11ef-adb3-60ff9e1d4b1b}.TMContainer00000000000000000001.regtrans-ms
 01-02-2025 23:27 524,288 NTUSER.DAT{93b967f8-9d02-11ef-adb3-60ff9e1d4b1b}.TMContainer00000000000000000002.regtrans-ms
 01-02-2025 23:27 20 ntuser.ini
 13-05-2025 09:38 <DIR> OneDrive
 08-03-2025 11:57 54,411 package-lock.json
 08-03-2025 11:57 231 package.json
 15-03-2025 12:32 43,537,408 pemhttpd.exe
 15-03-2025 12:08 5,061,535 pemhttpd.exe-20250315123116
 11-03-2025 11:36 1,372,160 postgresql_17.exe-20250311113631
 11-03-2025 11:41 1,752,622 postgresql_17.exe-20250315123250
 01-02-2025 23:27 <JUNCTION> PrintHood
 [C:\Users\hp\AppData\Roaming\Microsoft\Windows\Printer Shortcuts]
 01-02-2025 23:27 <JUNCTION> Recent
 [C:\Users\hp\AppData\Roaming\Microsoft\Windows\Recent]
 01-02-2025 23:27 <DIR> Saved Games
 04-02-2025 01:16 <DIR> Searches
 01-02-2025 23:27 <JUNCTION> SendTo
 [C:\Users\hp\AppData\Roaming\Microsoft\Windows\SendTo]
 01-02-2025 23:27 <JUNCTION> Start Menu
 [C:\Users\hp\AppData\Roaming\Microsoft\Windows\Start Menu]
 01-02-2025 23:27 <JUNCTION> Templates
 [C:\Users\hp\AppData\Roaming\Microsoft\Windows\Templates]
 28-02-2025 05:42 <DIR> Videos
 17-02-2025 11:34 <DIR> __pycache__
 29 File(s) 974,081,379 bytes
 36 Dir(s) 203,771,977,728 bytes free