

IT Support Portfolio – Project 1: Network Connectivity Troubleshooting

Muhammad Akmal Iman bin Rosli

Entry-level IT Support Specialist

 mhd.akmaliman@gmail.com |  +60134064894

 [LinkedIn](#)

Project 1: Diagnosing & Fixing a DNS Issue on Windows

Tools Used: Windows 10, Command Prompt, Notepad

Skills Demonstrated: Network troubleshooting, command-line diagnostics, DNS configuration

Objective:

Simulate and resolve a common user issue where websites can't be accessed due to a DNS misconfiguration.

Problem Scenario:

A user reports they can't open websites like [www.google.com](#), but can ping the IP address [8.8.8.8](#).

Troubleshooting Steps:

1. **Confirm Internet access via IP**

- [ping 8.8.8.8](#) → Successful
- Conclusion: Internet access is available.

2. **Test DNS resolution**

- [ping www.google.com](#) → Failed

- `nslookup www.google.com` → Error message (DNS not resolving)

3. Check current DNS settings

- `ipconfig /all` → DNS set to local or invalid IP

4. Fix the issue

- Changed DNS settings to use Google DNS (8.8.8.8)
- Flushed DNS cache: `ipconfig /flushdns`

5. Re-test

- `ping www.google.com` → Success
- Browser now loads websites correctly

Screenshots :

Ping results before fix:

- Ping to 8.8.8.8 → Successful

```
C:\Users\WindowsPc>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=16ms TTL=255
Reply from 8.8.8.8: bytes=32 time=15ms TTL=255
Reply from 8.8.8.8: bytes=32 time=16ms TTL=255
Reply from 8.8.8.8: bytes=32 time=15ms TTL=255

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 15ms, Maximum = 16ms, Average = 15ms

C:\Users\WindowsPc>
```

- Ping to `www.google.com` → Failed

```
Microsoft Windows [Version 10.0.19045.2965]
(c) Microsoft Corporation. All rights reserved.

C:\Users\WindowsPc>ping www.google.com

Pinging www.google.com [199.16.158.12] with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 199.16.158.12:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Users\WindowsPc>
```

- `nslookup` → Timed out / No DNS response

```
C:\Users\WindowsPc>nslookup www.google.com
Server:      3g-szds-recurse-ns3
Address:     123.123.123.123

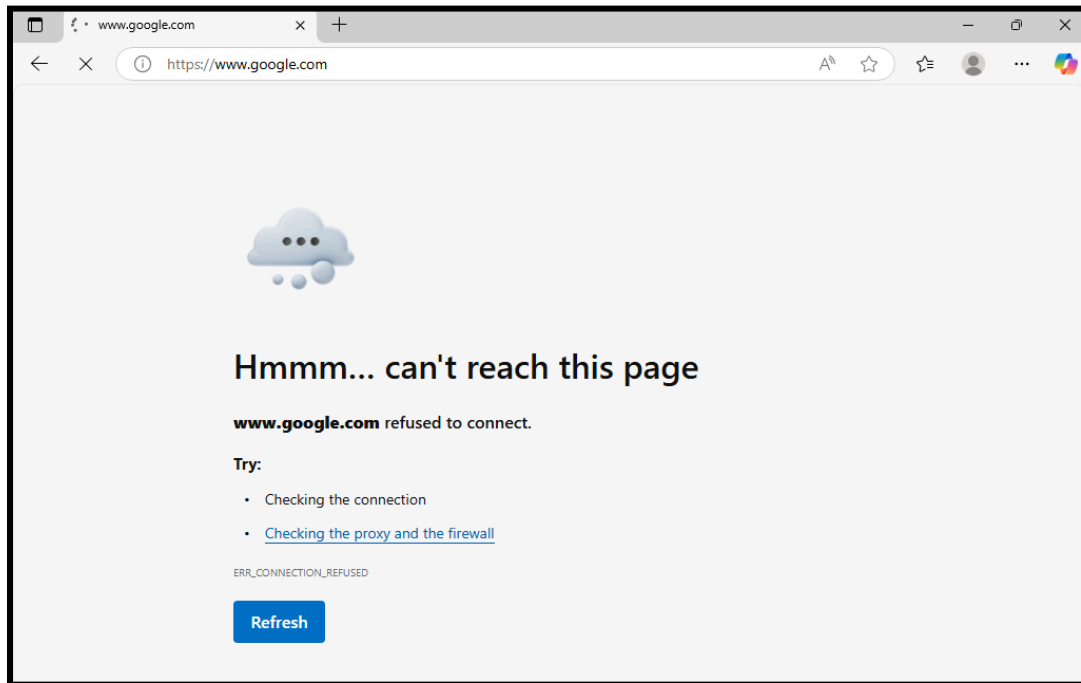
Non-authoritative answer:
Name:        www.google.com
Addresses:   2001::1
             31.13.73.9

C:\Users\WindowsPc>
```

- DNS set to local address (invalid)

```
DHCP Server . . . . . : 10.0.2.2
DHCPv6 IAID . . . . . : 101187623
DHCPv6 Client DUID. . . . . : 00-01-00-01-2F-EA-34-F2-08-00-27-7D-BB-44
DNS Servers . . . . . : 123.123.123.123
                       0.0.0.0
```

- Browser shows “This site can’t be reached” error



Ping results after

- DNS set to Google DNS (8.8.8.8)

```
DHCP Server . . . . . : 10.0.2.2
DHCPv6 IAID . . . . . : 101187623
DHCPv6 Client DUID. . . . . : 00-01-00-01-2F-EA-34-F2-08-00-27-7D-BB-44
DNS Servers . . . . . : 8.8.8.8
                        8.8.4.4
NetBIOS over Tcpip. . . . . : Enabled
```

- `ipconfig /flushdns` executed

```
CA: Command Prompt
Microsoft Windows [Version 10.0.19045.2965]
(c) Microsoft Corporation. All rights reserved.

C:\Users\WindowsPc>ipconfig/flushdns

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

C:\Users\WindowsPc>
```

- Ping to `www.google.com` → Successful

```
C:\Users\WindowsPc>ping www.google.com

Pinging www.google.com [172.217.174.164] with 32 bytes of data:
Reply from 172.217.174.164: bytes=32 time=13ms TTL=255
Reply from 172.217.174.164: bytes=32 time=14ms TTL=255
Reply from 172.217.174.164: bytes=32 time=12ms TTL=255
Reply from 172.217.174.164: bytes=32 time=16ms TTL=255

Ping statistics for 172.217.174.164:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 12ms, Maximum = 16ms, Average = 13ms
```

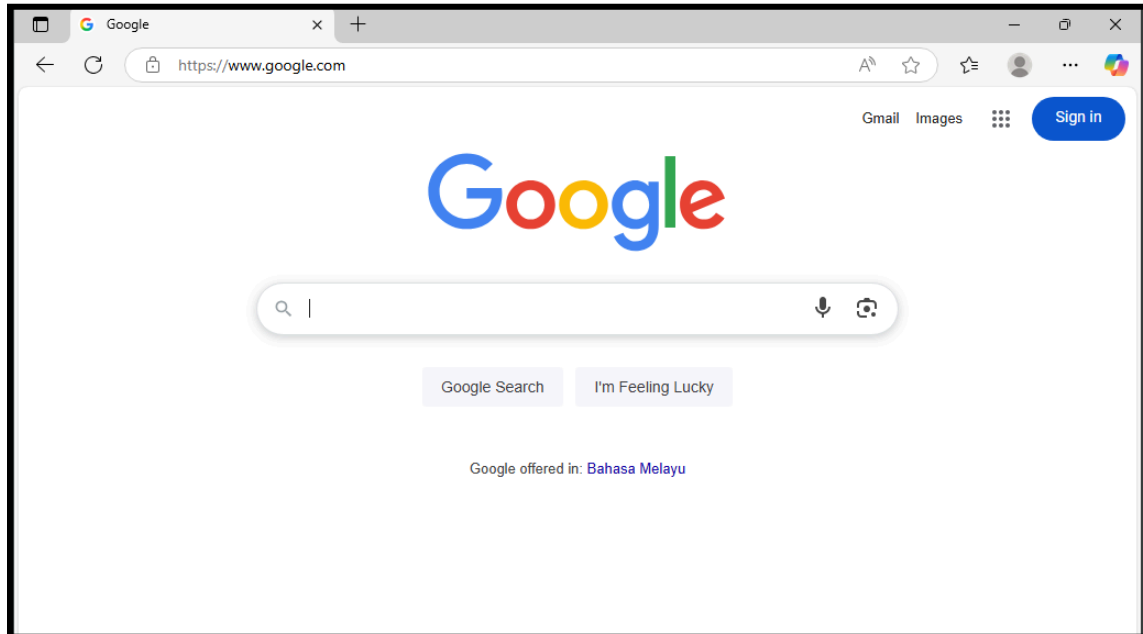
- DNS settings screenshots
- DNS set to local address(invalid)

```
DHCP Server . . . . . : 10.0.2.2
DHCPv6 IAID . . . . . : 101187623
DHCPv6 Client DUID. . . . . : 00-01-00-01-2F-EA-34-F2-08-00-27-7D-BB-44
DNS Servers . . . . . : 123.123.123.123
                        0.0.0.0
```

- DNS set to Google DNS (8.8.8.8)

```
DHCP Server . . . . . : 10.0.2.2
DHCPv6 IAID . . . . . : 101187623
DHCPv6 Client DUID. . . . . : 00-01-00-01-2F-EA-34-F2-08-00-27-7D-BB-44
DNS Servers . . . . . : 8.8.8.8
                        8.8.4.4
NetBIOS over Tcpip. . . . . : Enabled
```

- Successful browser access



✓ Result:

- Successfully configured a static IP address on a Windows 10 VM
- Verified network configuration using `ipconfig`
- Demonstrated network connectivity with `ping 8.8.8.8`
- Simulated and resolved a DNS failure scenario
- Screenshots serve as evidence of each step completed

💡 What I Learned:

- Diagnosing DNS-related issues using `ping`, `nslookup`, and `ipconfig`
- Importance of understanding layers of connectivity (IP vs DNS)
- How to guide a user through step-by-step resolution remotely or in person