

Q2: Troubleshooting Internal Dashboard Connectivity Issue

Scenario

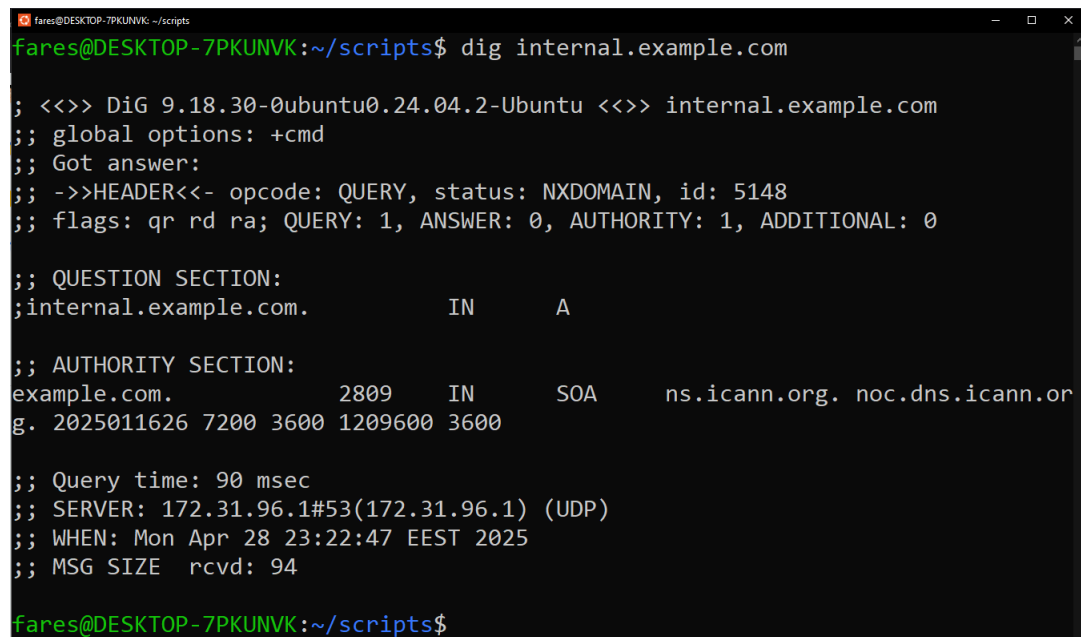
Our internal web dashboard (internal.example.com) became unreachable. Users receive "host not found" errors, despite the service itself appearing to be running.

Step 1: Verify DNS Resolution

1.1 Check DNS using /etc/resolv.conf nameserver

Command:

dig internal.example.com



```
fares@DESKTOP-7PKUNVK: ~/scripts$ dig internal.example.com

; <<>> DiG 9.18.30-0ubuntu0.24.04.2-Ubuntu <<>> internal.example.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 5148
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 0

;; QUESTION SECTION:
;internal.example.com.          IN      A

;; AUTHORITY SECTION:
example.com.                    2809    IN      SOA      ns.icann.org. noc.dns.icann.org. 2025011626 7200 3600 1209600 3600

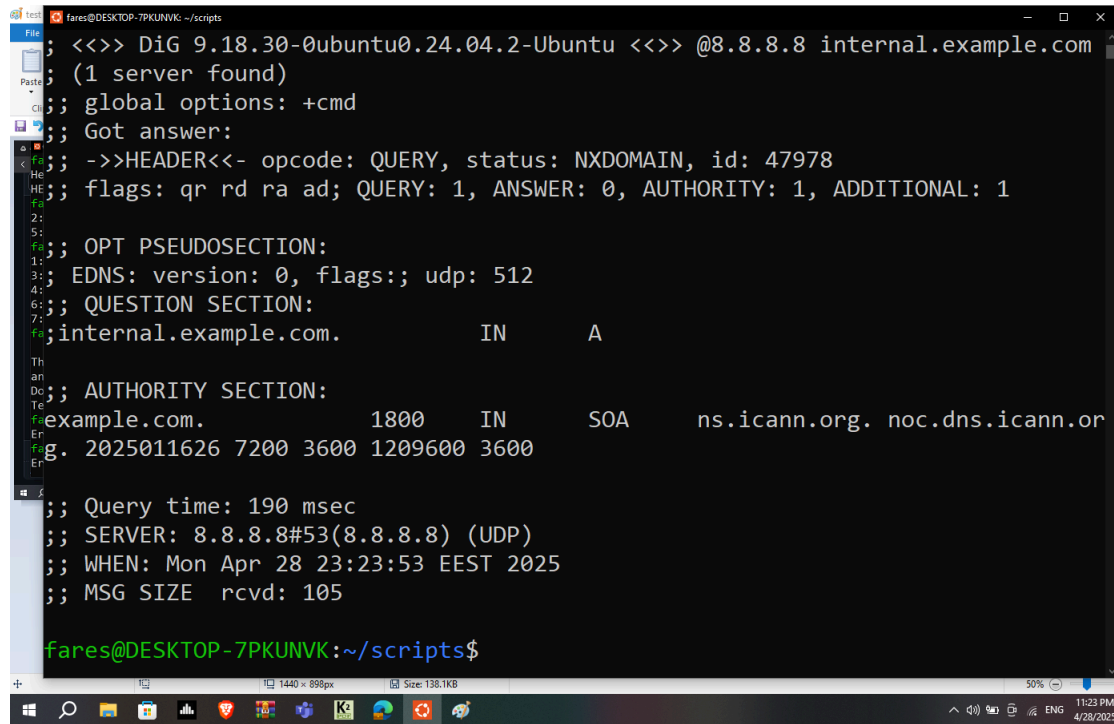
;; Query time: 90 msec
;; SERVER: 172.31.96.1#53(172.31.96.1) (UDP)
;; WHEN: Mon Apr 28 23:22:47 EEST 2025
;; MSG SIZE rcvd: 94

fares@DESKTOP-7PKUNVK:~/scripts$
```

1.2 Check DNS using public DNS 8.8.8.8

Command:

dig @8.8.8.8 internal.example.com



```
fares@DESKTOP-7PKUNVK: ~/scripts
; <<>> DiG 9.18.30-0ubuntu0.24.04.2-Ubuntu <<>> @8.8.8.8 internal.example.com
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 47978
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1
2:
5:
;; OPT PSEUDOSECTION:
3: EDNS: version: 0, flags:; udp: 512
4:
6:
7:
;; QUESTION SECTION:
internal.example.com.      IN      A
Th
an
De
Te
Er
Er
;; AUTHORITY SECTION:
example.com.      1800    IN      SOA      ns.icann.org. noc.dns.icann.or
g. 2025011626 7200 3600 1209600 3600
;; Query time: 190 msec
;; SERVER: 8.8.8.8#53(8.8.8.8) (UDP)
;; WHEN: Mon Apr 28 23:23:53 EEST 2025
;; MSG SIZE rcvd: 105

fares@DESKTOP-7PKUNVK:~/scripts$
```

Step 2: Diagnose Service Reachability

2.1 Ping the resolved IP

Command:

```
ping 10.0.0.50
```

Expected Output:

- No response (packet loss) => possible routing or firewall issue
- If ping succeeds => IP reachable, move on.

2.2 Test HTTP(S) connection

Command:

```
curl -I http://10.0.0.50
```

Expected Output (Issue):

```
curl: (7) Failed to connect to 10.0.0.50 port 80: Connection refused
```

Step 3: Proposed Fixes

3.1 Wrong /etc/resolv.conf

Confirm:

```
cat /etc/resolv.conf
```

Fix:

```
sudo nano /etc/resolv.conf
```

```
# Set correct internal DNS, e.g., 10.0.0.2
```

3.2 Internal DNS server down

Confirm:

```
ping <dns_server_ip>
```

```
telnet <dns_server_ip> 53
```

Fix:

```
sudo systemctl restart named
```

3.3 Web Server not running

Confirm:

```
sudo systemctl status nginx
```

Fix:

```
sudo systemctl restart nginx
```

3.4 Firewall blocks

Confirm:

```
sudo ufw status
```

```
sudo iptables -L -n
```

Fix:

```
sudo ufw allow 80/tcp
```

```
sudo ufw allow 443/tcp
```