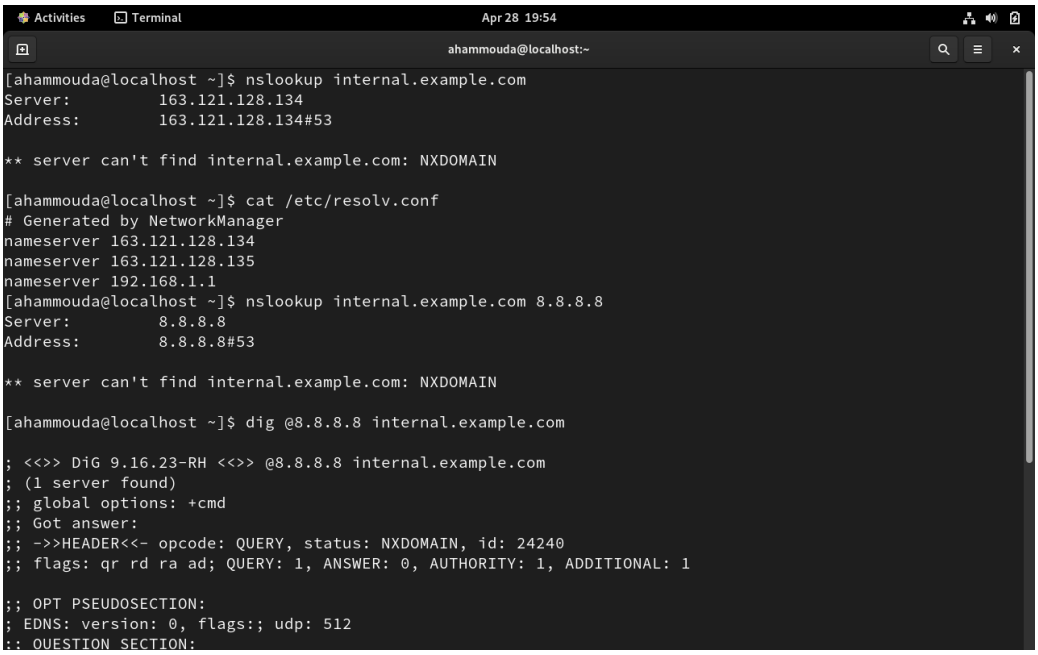
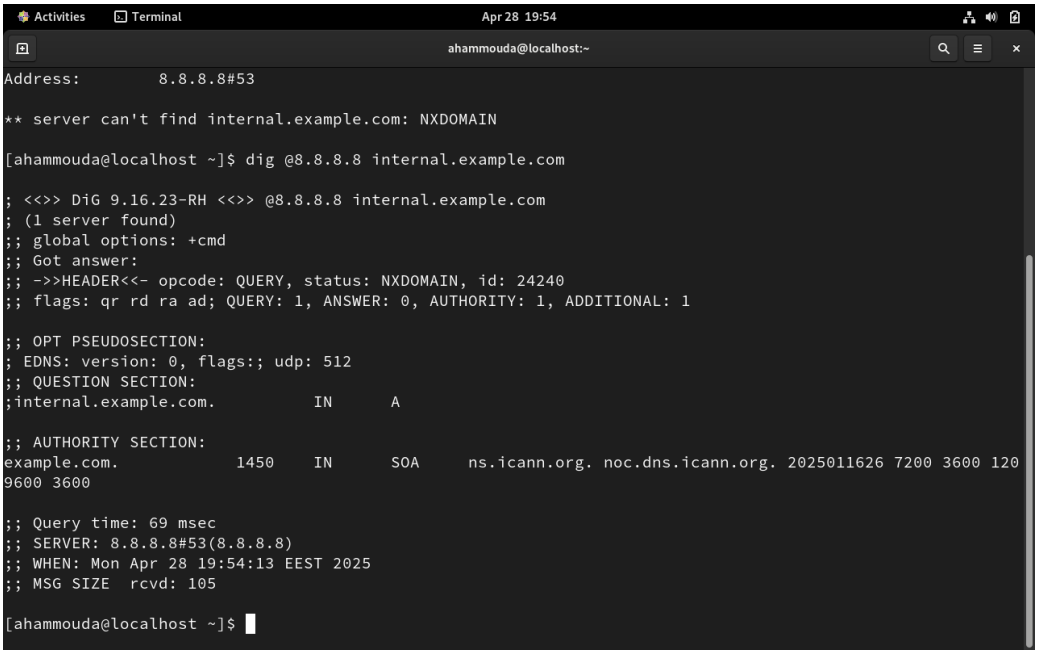
Scenario

Task 1&2:

For this scenario, the first thing I did was, well, let's search for this URL through tools like `nslookup` or `dig`.

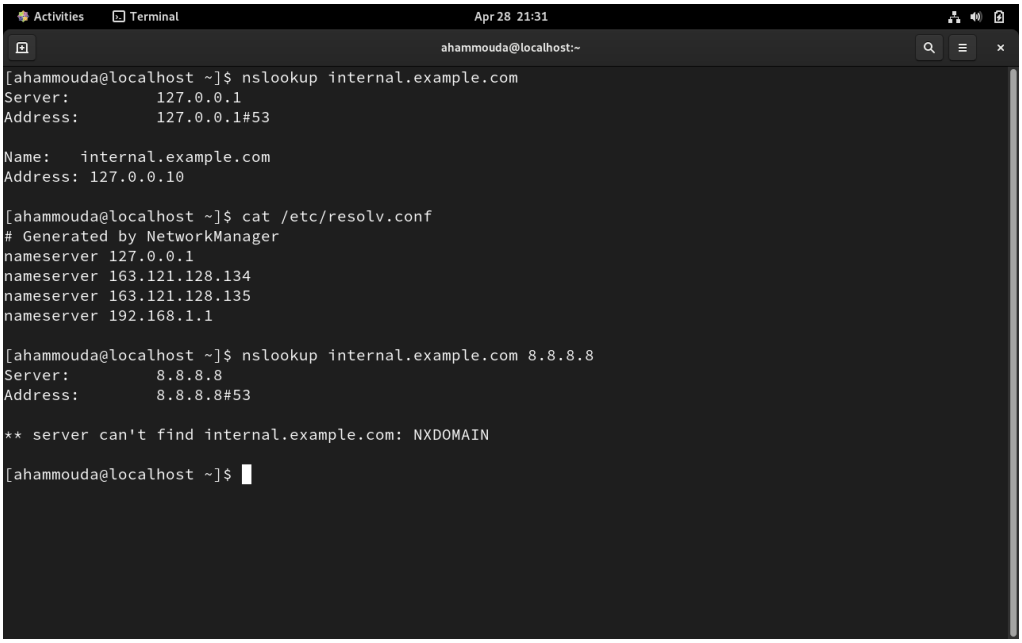




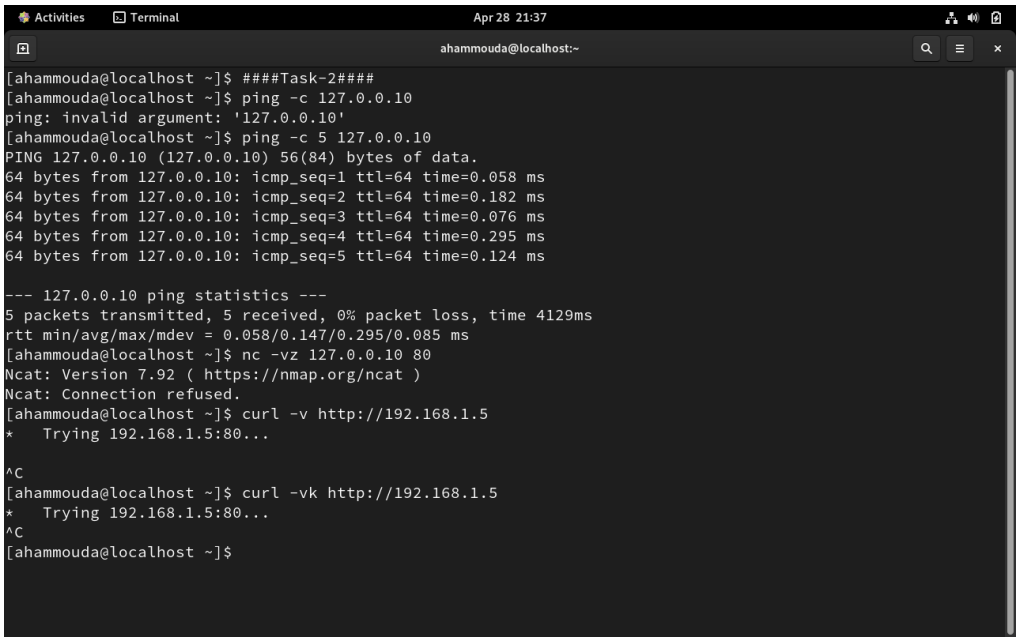
There is no domain or URL with that name! Well, that is expected. As I work on my CentOS machine, I decided to add the URL and domain to `/etc/hosts`, and also, to make it appear in

commands like `nslookup` which search through DNS, I turned my machine into a small DNS server using `dnsmasq`. I added the local IP (127.0.0.10) to `internal.example.com` and added the localhost IP to `/etc/resolv.conf`.

Now I can see internal.example.com, although no one else can, as it is on my local machine. That is just for test purposes.



Now let's try to reach `internal.example.com`, using `ping` (it will return a response as expected as the IP is local).
If I try to see if I can reach it through ports like 80 (HTTP) or 443 (HTTPS), I couldn't, which is again normal as there is no service (web server) listening on these ports.



3. Trace the Issue – List All Possible Causes

The first thing that comes to mind is DNS-related issues, like incorrect records, misconfiguration of the DNS server, or `/etc/hosts` overrides.
The second thing is network-related issues, like the network might not be reachable either due to a wrong address or connection issues (like physical ones), or there is no service listening on the ports.
Also, it might be application-level misconfiguration.

Let's try to see how to approach each expected issue:

DNS-related Issues

- I would check the two files `/etc/hosts` and `/etc/resolv.conf` to ensure they point to the correct DNS server.
- If not, I would add the correct DNS server IP and make sure that DNS server has the correct record (depends on the server).

Network Reachability Issues

- I would check if the host is reachable through `ping`.
- If not, I would check for two main suspects first:
    - Physical issues through `ip addr show`.
    - If ports are the problem, I would check with `nc -zv internal.example.com 80`.
- If there is no response, I would suspect two possible causes:

    - A problem with the service not listening on the port: here I would check the service status `sudo systemctl status httpd` and enable it through `sudo systemctl enable httpd`.
    - I would also check for firewall blocking (depends on the type).
- I might also use `sudo netstat -tulnp | grep 80` to see listening ports and services.
- If there are specific app logs, I would examine them.

There is much more, but being the scenario fictional and the environment not set up correctly, there might be some inaccuracies, which we can discuss more face-to-face in the interview.

Show how to persist DNS server settings using systemd-resolved or NetworkManager

That would be from `/etc/systemd/resolved.conf`, and the exact changes required can be searched.

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