Troubleshooting Name Resolution

LPIC-2: Linux Engineer (201-450)

Objectives:

At the end of this episode, I will be able to:

1. Describe the symptoms that would indicate a name resolution issue.
2. Examine configuration files for errors.
3. Utilize nslookup and dig to troubleshoot name servers.

> Additional resources used during the episode can be obtained using the download link on the overview episode.

- Errors caused by name lookup issues

    - Page not found errors
    - Failed updates
    - Failed SSH/VPN connections
    - Incorrect clock
    - Failed NFS mounts

- Configuration Files

    - RedHat based distros

        - `/etc/sysconfig/network`

    - Debian based distros

        - `/etc/network/interfaces`

    - Check name resolution servers/order

        - `/etc/resolv.conf`
        - `order hosts,bind,nis`

    - Check local name resolution

        - `/etc/hosts`

- Troubleshooting DNS

    - `nslookup`
    - Testing the default server

        - `nslookup www.google.com`
        - `dig www.google.com`

    - Testing an alternative server

        - `nslookup www.google.com 4.2.2.1`
        - `dig @4.2.2.1 www.google.com`

- Viewing a Full DNS Query

    - `dig www.google.com +trace`

- Other services of note

    - `systemd-resolved`
    - `dnsmasq`

- openvpn