

Installing the BIND DNS Server

LPIC-2: Linux Engineer (202-450)

Objectives:

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

1. Describe the BIND DNS server and its purpose.
2. Install and verify BIND on a Linux server.
3. Configure access controls, caching, and forwarders in BIND.

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

- BIND
 - Berkeley Internet Name Domain
 - Oldest, most standards compliant DNS server
 - Created in the 1980s
 - *named* packaged with other tools
- BIND9
 - Released over 20 years ago
 - Currently supported by ISC
 - Internet Systems Consortium
- Installing BIND
 - Not installed by default
 - *systemd-resolved* provides basic services
 - */etc/hosts* is also commonly used
 - Install steps
 - `sudo apt install bind9 bind9-utils`
- Utility Packages
 - *bind9-utils*
 - Tools for managing a DNS server
 - *dnssec-**
 - *rndc*
 - *named-checkconf*
 - *named-checkzone*
 - *bind9-dnsutils*
 - Tools for DNS clients to query a server
 - *dig*
 - *nslookup*
 - *nsupdate*
- BIND Default Configuration
 - Can act as a caching server
 - Will only respond to localhost
 - Configuration steps
 1. Define listening ports
 2. Configure access control list
 3. Configure miscellaneous options
- Listener ports
 - TCP/UDP Port 53 by default
 - Check for conflicts with other services
 - *dnsmasq*
 - *systemd-resolved*

- `sudoedit /etc/bind/named.conf.options`
 - `options {`
 - `listen-on port 53 { 127.0.0.1; 10.0.222.51; };`
 - `listen-on-v6 port 53 { ::1; };`
- Access Control List
 - Defines who can connect
 - Defines what actions they can take
 - `acl "trusted-hosts" {`
 - `localhost;`
 - `localnets;`
 - `10.0.222.51;`
 - `10.0.0.0/16;`
 - `options {`
 - `recursion yes;`
 - `allow-recursion { trusted-hosts; };`
 - `allow-query { trusted-hosts; };`
 - `allow-transfer { none; };`
- Miscellaneous Options
 - BIND supports many special configuration settings
 - DNS-SEC
 - Forwarders
 - Sends non-authoritative lookups upstream
 - Configuration
 - `forwarders {`
 - `8.8.8.8;`
 - `8.8.4.4;`
- Applying changes to BIND
 - Start *named* now, and at boot time
 - `sudo systemctl enable --now named.service`
- Allow BIND through firewall
 - BIND needs a minimum of UDP/53
 - `sudo ufw allow Bind9`
 - `sudo ufw allow 53 comment "Bind DNS Server"`