**Section 5 Video 1: Setting Up DNS with FreeIPA**

**1. Introduction to DNS Setup**

* **Objective:** Configure DNS for FreeIPA to enable domain resolution and ensure proper functionality of FreeIPA services.

**2. Prerequisites**

* Ensure FreeIPA is installed and configured.
* Verify that the DNS server is installed on the FreeIPA server.

**3. Install DNS Server**

* **Step 1:** Run the command to install DNS.

ipa-dns-install

* **Explanation:** This command initializes the DNS service within FreeIPA and sets up necessary DNS zones.

**4. Configure DNS Zones**

* **Step 1:** Create a forward DNS zone.

ipa dnszone-add example.com

* **Step 2:** Create a reverse DNS zone.

ipa dnszone-add 1.168.192.in-addr.arpa

* **Explanation:** Forward zones resolve domain names to IP addresses, while reverse zones do the opposite.

**5. Add DNS Records**

* **Step 1:** Add an A record for a host.

ipa dnsrecord-add example.com host --a-ip-address=192.168.1.10

* **Explanation:** This command adds an A record that maps the domain name host.example.com to the IP address 192.168.1.10.

**6. Verify DNS Configuration**

* **Step 1:** Use dig to verify DNS records.

dig @localhost example.com A

* **Explanation:** The dig command queries the DNS server to ensure records are resolving correctly.

**7. Implement DNSSEC**

* **Step 1:** Enable DNSSEC.

ipa dnssec-enable --zone example.com

* **Explanation:** DNSSEC adds security to DNS transactions, preventing attacks such as spoofing.

**8. Troubleshooting DNS**

* **Step 1:** Check DNS service logs.

tail -f /var/log/messages

* **Explanation:** Reviewing logs can help diagnose issues with DNS resolution.