

CIA Practicum Assignments

Domain Name System (2)

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Abstract

Last time we compiled and installed a BIND server, and created zone files for our domain. Today we will set up the reverse zone for your practicum domain. We will also set up slave servers for your zones, and execute a zone transfer. Lastly we will look at DNS security.

1 Reverse zone files

DNS is also used to look up hostnames by IP address.

1. Why is that useful?

Now read RFC 2317 about classless in-addr.arpa delegation.

2. Does this mechanism also work for separate IP addresses?

Now set up your own reverse zone for your domain.

3. If Niels had been here and he had not yet implemented the reverse zone delegation, what information would you need to give him so that he can implement it?

2 Delegating your own zone

Work together with one of your fellow students (that you have not worked with before!). Each of you will create a subdomain to your own domain and delegate the authority for that domain to the other. The other will set up a zone file for that domain and add two or more hosts. Test this setup extensively.

4. How did you set up the subdomains and their delegation?
5. What configuration options did you add or change?

2.1 Setting up a slave server

Now that you have delegated a subdomain, you will set up your own server as slave for that domain. The primary and slave servers must always contain the exact same zone data.

6. How did you set up the slave nameserver?
What configuration options did you add or change?
7. What happens if the primary nameserver for the subdomain fails?
8. Considering that the slave nameserver is also the delegating nameserver, explain why this is essentially a bad setup?

3 Zone transfers

The primary and slave servers must always contain the exact same zone data. If the data on your primary server is updated, the slave must also be updated. This is done via zone transfers. Set up your primary and slave nameservers to allow zone transfers.

Use the BIND tools (for instance DIG) to initiate a zone transfer from your primary nameserver to your slave.

9. Describe the process of initiating the zone transfer.
10. What information did the slave server receive?
11. What changes did you have to make to your configuration?

4 Extra Assignments

12. make BIND run in a chroot environment.
13. what do all those parameters in the SOA record do, and what use could fiddling with them have?
14. check that the SOA parameters work as advertised by experimenting with the cache
15. only allow your nameserver to respond to recursive queries from 145.100.96.0/20
16. use ACL's of views to limit who can request what from your nameserver