

CS 4400 System Administration

Project 4: Configure an Internal Caching DNS Server

Project Information:

Activity Points	1
Due Date	Monday of Week 8

Projects 1-3B need to be completed before you begin this project. This is an optional project, but it contributes to your final grade. If you want an A, you should complete this project on time.

The machines *inside* your network also need to use DNS. The point of having an internal caching DNS server is to speed up and cache general purpose access to any Internet hostname. This way you won't have to hard code the UNI DNS server IP addresses into your configuration every time you create/modify an internal machine. Create a new internal caching DNS server.

For the purpose of this exercise, it will be acceptable to host the internal DNS caching on the firewall (pfsense). This DNS server should cache requests (save IP addresses to host names), and if it doesn't know the IP address, forward on the request to UNI's DNS servers.

If you have dhcp set up, the dhcp server should hand out this internal DNS address along with IP addresses.

Remember the pfsense has different interface gateway addresses for the LAN and DMZ. If a computer is in the LAN, it should be able to use the LAN interface IP address as the DNS address. If a computer is in the DMZ, it should be able to use the DMZ interface IP address as the DNS server. (The same internal DNS server can be configured to be contacted through both IP addresses.)

Please note, an internal DNS caching server is **not** an "authoritative" DNS server. It is not in charge of any particular domain. Its entire purpose is to speed up name resolutions within your company.

Please do the following:

1. Set up an internal caching server on pfsense (or Linux, with permission), taking documentation as you go for both the LAN and DMZ.
2. Modify your network diagram to show that pfsense is also acting as an internal caching DNS server for both the LAN and DMZ.
3. Create a demo video of it working (more information on the wiki)
4. Turn in the documentation and demo video links by the due date.

Resources:

- General DNS – Chapter 16, p. 498-512
- PfSense (internal dns server)
<https://docs.netgate.com/pfsense/en/latest/services/dns/resolver.html>