DNS Exercise - Delegation
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In this exercise, you will create a new domain,
something.menog. You will create a master nameservice on your own
machine, and someone else will provide slave service. Then you will ask the
administrator for the domain above you (dns) to delegate your
domain to you.

Firstly, note that each machine in the classroom should be given a working
DNS name: hostXXX.menog. Check that it is configured correctly by
using the 'hostname' command - e.g. on host101 you should see

>   # hostname
>   host101.menog

If **not**, then configure your server with its name: e.g. for host101

>   # hostname host101.menog
>   # vi /etc/rc.conf
>   ...
>   hostname="host101.menog"
>   # vi /etc/hosts
>   ...
>   10.10.1.101   host101.menog

Exercise
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*   Choose a new domain, write it here: `_____.menog`
    (Do **not** choose any of the PC names, e.g. `host101`, as your subdomain)

    This **could** for example be the name of your country code or country name, but
    REMEMBER that someone might pick the same name! First come, first serve.

*   Find someone who will agree to be slave for your domain. Please find
    someone across the room (Remember RFC2182: secondaries must
    be on remote networks – here though we work on a flat net). You can
    have more than one slave if you wish.

*   Create your zone file in `/etc/namedb/master/xxxxxx.menog`
    (where xxxxxx is your chosen domain)

> $TTL 10m
>   @   IN   SOA   hostXXX.menog. yourname.example.com. (
>   2010041101   ; Serial
>   10m   ; Refresh
>   10m   ; Retry
>   4w   ; Expire
>   10m)   ; Negative
>
>   IN   NS   hostXXX.menog.   ; master
>   IN   NS   hostYYY.menog.   ; slave
>
>   www   IN   A   10.10.1.XXX   ; your own IP

    Replace `yourname.example.com.` with your home E-mail address, changing
    "@" to "." and adding a "." to the end.

    We have chosen purposely low values for TTL, refresh, and retry to make
    it easier to fix problems in the classroom. For a production domain you
    would use higher values, e.g. `$TTL 1d`

*   Edit `/etc/namedb/named.conf` to configure your machine as master for
    your domain, and add something like this at the end:

    zone "xxxxxx.menog" { type master; file "master/xxxxxx.menog"; };

    Pay attention to the ';' and '}' !

*   Check that your config file and zone file are valid, and then reload the
    nameserver daemon:

        # named-checkconf
        # named-checkzone xxxxxx.menog /etc/namedb/master/xxxxxx.menog

    If there are any errors, correct them

*   If this is not already done, enable named in your server's configuration,
    by editing the file /etc/rc.conf and adding, if this is not already done.

        REMEMBER TO REMOVE THE SECTION: *listen { 127.0.0.1; };*

        named_enable="YES"

    Start named with

        # /etc/rc.d/named start

    Check the result with

        # tail /var/log/messages

    If there are any errors, correct them. Some configuration errors can
    cause the daemon to die completely, in which case you may have to
    start it again:

        # /etc/rc.d/named restart

*   Assist your **slaves** to configure themselves as slave for your domain, and
    configure yourself as a slave if asked to do so by another table.

    The instructions for how to do this are on the slides, but here's a hint:

    zone "xxxxxx.menog" {
       type slave; masters { 10.10.1.XXX; }; file "slave/xxxxxx.menog";
    };

    If you have changed your `named.conf` so that you are a slave for someone
    else, make sure there are no errors in `/var/log/messages` after you
    do `rndc reload`.

*   Check that you and your slaves are giving authoritative answers for
    your domain:

        # dig +norec @10.10.1.XXX xxxxxx.menog. soa
        # dig +norec @10.10.1.YYY xxxxxx.menog. soa

    Check that you get an AA (authoritative answer) from both, and that
    the serial numbers match.

*   Now you are ready to request delegation – indicate to the instructor,
    on a piece of paper:

```
        Domain name:            _____.menog

        Master nameserver:      host____.menog

        Slave nameserver:       host____.menog
```

*   You will not get delegation until the instructor has checked:

    - Your nameservers are all authoritative for your domain
    - They all have the same SOA serial number
    - The NS records within the zone match the list of servers you are
      requesting delegation for
    - The slave(s) are not on the same side of the room as you :)

*   Once you have delegation, try to resolve www.xxxxxx.menog:

    - On your own machine
    - On someone else's machine (who is not slave for you)

*   Add a new resource record to your zone file. Remember to update the
    serial number. Check that your slaves have updated. Try resolving this
    new name.