

WebUI for NDNS

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Problem Statement

NDNS is a DNS-Like Name Service for NDN. NDNS provide a lookup server for general purpose, while it is assumed to be serving LINK objects and certificates at the beginning.

Currently, NDNS configuration is done by NDNS command-line tools and configuration files. To be more specific, command-line tools are used to manipulate the NDNS database, like listing zones, creating zones and adding records, and the configuration file is used to configure which zones are serving.

However, configuring NDNS is not as easy as like how we configure the DNS domain today. So, for this project, we need to build a web application for NDNS so that everyone could configure NDNS via browser, in several clicks.

Approach

NDNS comes with a bunch of command line tools that manipulate the NDNS database.

Some examples of command-line tools:

- `ndns-add-rr`, (usage: `ndns-add-rr [options] zone label type [content ...]`), add a record to database.
- `ndns-create-zone`, (usage: `ndns-create-zone [-b db] zone [-a cacheTtl]`), create a zone into database.
- `ndns-list-all-zones`, (usage: `ndns-list-all-zones`), listing all zones and their existing records in the database.

You can find more tools at ``build/bin`` after compilation.

The configuration file, defaultly located at ``usr/local/etc/ndns/ndns.conf``, lists all zones that are being hosted on the NDNS server.

An example of configuration file:

```
zones
{
  dbFile @DEFAULT_DATABASE_PATH@/ndns.db
  validatorConfigFile @DEFAULT_CONFIG_PATH@/validator.conf

  zone
  {
    name /ndn/abc ; name of the zone
                  ; KeyChain must have a identity with this
name appended by <NDNS> at tail.
    cert /KEY/dsk-123/ID-CERT/%FD00 ; certificate to sign data
                                      ; omit cert to select the default certificate
of above identity
  }
}
```

By this configuration, there will be a one zone, ``/ndn/abc``, hosting on that NDNS server.

The web application for configuring NDNS

3 Contribution to NDN

To make NDNS more user-friendly, a NDNS webUI, similar to how you manipulate domains on GoDaddy or NameCheap, will help to make NDNS be used more.

4 planned tasks to accomplish(expected outcome)

At the end, you should build a NDNS web application that has functions including:

- create/delete a zone.
- list zone information.
- add/remove hosting zones(by changing configuration files and restart ndns-deamon).

5 knowledge requirements

- web application development