

Unix Bind Server Documentation

H Z

1 Overview

- The BIND server is configured as a dynamic DNS server on FreeBSD.
- There are four zones configured: proj, companyA, companyB, reverse zone
- There are command line tool for adding, removing and editing records in each zone
- There are web tools for adding, removing and editing records in each zone
- User accounts have been configured with permissions to different zones.
- There are tools for making user accounts
- There is a tool for loading multiple records through csv

1.1 Zones

1. Proj
2. companyA
3. companyB
4. 230.186.136.in-addr.arpa

1.2 Accounts

Username	Password	Zone Access
admin	adminpass	proj, companyA, companyB, 230.186.136.in-addr.arpa
john	johnpass	companyA, 230.186.136.in-addr.arpa
james	jamespass	companyB, 230,186.136.in-addr.arpa

Table 1: Account Details

1.3 Important Files

The Bind Configuration files are as follows: All configuration files exist in /usr/local/etc/namedb/

named.conf This as configurations for the forwarder If the server is not authoritative for a zone, it also has includes to a variety of other files

named-zones.conf This contains the four zones configured for dynamic updates: proj, companyA. companyB, 230.186.136.in-addr.arpa

dynamic/ This contains the zone databases with the records and journal files

zone-keys.conf This contains the key configuration, a single key is used for all zones

keys/ This is a directory with key files for each zone, this is used by the tools for using nsupdate, also allows for the potential to use multiple keys, if desired.

named-tools/ Here are the tools that are used to add, remove and edit records. Further description in the tools section.

The Apache Configuration files are as follows and located in /usr/local/:

etc/apache24/httpd.conf This is the configuration for apache. It is configured to host a single website for hosting the web interface.

www/apache24/data Contains the webpages used for the web interface

The Account Configuration files are as follows: All Configurations exist in /usr/local/etc/accounts/

accounts.db This contains account information separated by colons. First is username, second is password, third are the zones they have permission to read and write to.

./ This contains the tools used to create accounts further descriptions in the tools section.

2 Tools

2.1 Bind Command Line Tools

2.1.1 Edit Zone

zedit [zone] Zedit is the tool for creating, removing and editing zone records. It requires one command line argument for the zone that you desire to edit. It will ask for your username and password, if you do not have permission to the zone it will exit.

You can then select to add a record (a), delete a record (d) or edit a record (e)

The program will prompt for details about adding, removing or editing the record

Note: when deleting it will ask you to specify the address in the event that there are two records with the same name and different address (such as if DNS Round Robin is configured). You can enter address or enter 'u' if unknown at which the command will dynamically look for the address.

2.1.2 List Zone

zlist This command will list all zones hosted by the DNS server

2.1.3 List Zone Records

zrlist [zone] This will list all records for a specified zone

2.1.4 Load Zone

zload [zone] [csv] This tool provides automation for loading multiple zones at once. It requires a zone that you wish to add to. And a CSV of record details in the form "name,ttl,type,address". This program will then request authentication and add all the records to the zone, there is a sample csv file in /usr/local/etc/namedb/named-tools/

2.2 Bind Web Tools

Welcome to the Bind Server

User

Password

Figure 1: index.html : The login page This is then authenticated by login.php and redirected to account.php

My Account

User: admin

Zones: [Here](#)

[Logout](#)

Figure 2: account.php: This displays the account information, and a link to the zones and the ability to logout

To Account			
Zone proj- Add Record			
Name	Type	Address	Operations
csv.proj	A	136.186.230.34	Edit Delete
datafarm.proj	A	124.232.2.4	Edit Delete
localhost.proj	A	127.0.0.1	Edit Delete
myhost.proj	A	127.0.0.1	Edit Delete
nsp.proj	A	136.186.230.89	Edit Delete
zedi.proj	A	23.23.23.23	Edit Delete
cool.proj	CNAME	nsp.proj.	Edit Delete
tsv.proj	CNAME	csv.proj.	Edit Delete

Figure 3: zones/zoneview.php: displays a list of zones that the user has permission to. Can Add Record, Edit or Delete

The screenshot displays a web form titled 'edit.html' with three distinct panels for managing records:

- Top Panel (Edit):** Features a form with 'Operation' set to 'edit' and 'Zone' set to 'proj'. It includes 'Old Record Details' with 'Domain Name' as 'csv', 'Type' as 'A', and 'Address' as '136.186.230.34'.
- Bottom Left Panel (Add):** Features a form with 'Operation' set to 'add' and 'Zone' set to 'proj'. It includes 'New Record Details' with 'Domain Name', 'Type' (dropdown), and 'Address' fields.
- Bottom Right Panel (Delete):** Features a form with 'Operation' set to 'delete' and 'Zone' set to 'proj'. It includes 'Old Record Details' with 'Domain Name' as 'localhost', 'Type' (dropdown), and 'Address' as '127.0.0.1'.

Each panel contains a 'submit' button and a 'Return' link.

Figure 4: edit.html: This page is a form which allows for adding, removing and editing records

2.3 Account Tools

2.3.1 Make Account

macc [username] [password] [zones...] This is responsible for creating accounts, the created account will form a new line in the /usr/local/etc/accounts/accounts.db file.

This will take in a username and password for the account. The username will be encrypted with md5.

This is followed by a list of zones that the user is granted permission to read and write to.

2.3.2 List Accounts

alist This command will list the account username and password pairs that exist in the accounts.db file.

2.3.3 Get Account Permission

gap [username] This will return a list of zone names of which the username specified has rights to edit.