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Installing MyDNS And The MyDNSConfig Control Panel On Fedora 8

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In this tutorial I will describe how to install and configure MyDNS and MyDNSConfig on Fedora 8. MyDNS is a DNS server that uses a MySQL database as backend instead of configuration files like, for example, Bind or djbdns. The advantage is that MyDNS simply reads the records from the database, and it does not have to be restarted/reloaded when DNS records change or zones are created/edited/deleted. A secondary nameserver can be easily set up by installing a second instance of MyDNS that accesses the same database or, to be more redundant, uses the MySQL master / slave replication features to replicate the data to the secondary nameserver.

MyDNSConfig is an easy to use web-based interface to MyDNS. MyDNSConfig can create all types of DNS records that are available in MyDNS and adds features like user management and access privileges.

I do not issue any guarantee that this will work for you!

1 Preliminary Note

In this tutorial I use the hostname `server1.example.com` with the IP address `192.168.0.100`. These settings might differ for you, so you have to replace them where appropriate.

2 Installing The Prerequisites

MyDNSConfig is a web-based interface to MyDNS written in PHP. This requires a webserver with PHP enabled and the MySQL database server. If you have already Apache, PHP and MySQL installed, you may skip this step. We also install phpMyAdmin here so that you have a web interface to the MySQL database in case you need it:

```
yum install httpd mysql-server php php-mysql php-mbstring phpMyAdmin
```

Start MySQL:

```
chkconfig --levels 235 mysqld on
```

```
/etc/init.d/mysqld start
```

Then set passwords for the MySQL root account:

```
mysqladmin -u root password yourrootsqlpassword
```

```
mysqladmin -h server1.example.com -u root password yourrootsqlpassword
```

Now we configure phpMyAdmin. We change the Apache configuration so that phpMyAdmin allows connections not just from localhost (by commenting out the `<Directory /usr/share/phpMyAdmin/>` stanza):

```
vi /etc/httpd/conf.d/phpMyAdmin.conf
```

```
# phpMyAdmin - Web based MySQL browser written in php
#
# Allows only localhost by default
#
# But allowing phpMyAdmin to anyone other than localhost should be considered
# dangerous unless properly secured by SSL

Alias /phpMyAdmin /usr/share/phpMyAdmin
#<Directory /usr/share/phpMyAdmin/>
```

```
#    order deny,allow
#    deny from all
#    allow from 127.0.0.1
#</Directory>


# This directory does not require access over HTTP - taken from the original
# phpMyAdmin upstream tarball
#
<Directory /usr/share/phpMyAdmin/libraries>
    Order Deny,Allow
    Deny from All
    Allow from None
</Directory>


# This configuration prevents mod_security at phpMyAdmin directories from
# filtering SQL etc.  This may break your mod_security implementation.
#
#<IfModule mod_security.c>
#    <LocationMatch "/phpMyAdmin/(.+)">
#        SecFilterInheritance Off
#    </LocationMatch>
#</IfModule>
```

Then we create the system startup links for Apache and start it:

```
chkconfig --levels 235 httpd on


/etc/init.d/httpd start
```

Now you can direct your browser to *http://server1.example.com/phpMyAdmin/* or *http://192.168.0.100/phpMyAdmin/* and log in with the user name *root* and your new root MySQL password.

3 Installing MyDNSConfig

Log in to MySQL and create the database:

```
mysql -u root -p
```

```
CREATE DATABASE mydns;

GRANT SELECT, INSERT, UPDATE, DELETE ON mydns.* TO 'mydns'@'localhost' IDENTIFIED BY 'mydnspassword';

GRANT SELECT, INSERT, UPDATE, DELETE ON mydns.* TO 'mydns'@'localhost.localdomain' IDENTIFIED BY 'mydnspassword';

FLUSH PRIVILEGES;

quit;
```

Replace the word `mydnspassword` in the above commands with a password of your choice.

Download MyDNSConfig:

```
cd /tmp

wget http://mesh.dl.sourceforge.net/sourceforge/mydnsconfig/MyDNSConfig-1.1.0.tar.gz

tar xvfz MyDNSConfig-1.1.0.tar.gz

cd MyDNSConfig-1.1.0
```

Install MyDNSConfig:

```
mkdir /usr/share/mydnsconfig

cp -rf interface/* /usr/share/mydnsconfig/

ln -s /usr/share/mydnsconfig/web/ /var/www/html/mydnsconfig
```

Install the MyDNSConfig MySQL Database:

```
mysql -u root -p mydns < install/mydnsconfig.sql
```

The command above asks for a password, please enter the password of the MySQL root user.

Edit the MyDNSConfig configuration; please make sure you fill in the correct database settings:

```
vi /usr/share/mydnsconfig/lib/config.inc.php
```

```
<?php
/*
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```

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EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

```
*/
ini_set('register_globals',0);
$conf["app_title"] = "MyDNSConfig";
$conf["app_version"] = "1.1.0";


$conf["rootpath"]          = "/usr/share/mydnsconfig";
$conf["fs_div"]            = "/"; // File system divider, \\ on windows and / on linux and unix
$conf["classpath"]          = $conf["rootpath"].$conf["fs_div"]."lib".$conf["fs_div"]."classes";
$conf["temppath"]          = $conf["rootpath"].$conf["fs_div"]."temp";


/*
    Database Settings
*/


$conf["db_type"]       = 'mysql';
$conf["db_host"]       = 'localhost';
$conf["db_database"]        = 'mydns';
$conf["db_user"]       = 'mydns';
$conf["db_password"]        = 'mydnspassword';


/*
    External programs
```

```
*/
$conf["programs"]["wput"]    = $conf["rootpath"]."/tools/wput/wput";


/*
    Themes
*/
$conf["theme"]          = 'grey';
$conf["html_content_encoding"]    = 'text/html; charset=iso-8859-1';
$conf["logo"]           = 'themes/default/images/mydnsconfig_logo.gif';
/*
    Default Language
*/
$conf["language"]            = 'en';


/*
    Auto Load Modules
*/
$conf["start_db"]            = true;
$conf["start_session"]    = true;
/*
    DNS Settings
*/
$conf["auto_create_ptr"] = 1; // Automatically create PTR records?
$conf["default_ns"] = 'ns1.example.com.'; // must be set if $conf['auto_create_ptr'] is 1. Don't forget the trailing dot!
$conf["default_mbox"] = 'admin.example.com.'; // Admin email address. Must be set if $conf['auto_create_ptr'] is 1. Replace "@" with ".". Don't forget the trailing dot!
$conf["default_ttl"] = 86400;
$conf["default_refresh"] = 28800;
$conf["default_retry"] = 7200;
$conf["default_expire"] = 604800;
$conf["default_minimum_ttl"] = 86400;
?>
```

Afterwards, remove the MyDNSConfig installer from the `/tmp` directory:

```
cd /tmp

rm -rf MyDNSConfig-1.1.0/

rm -f MyDNSConfig-1.1.0.tar.gz
```

4 Installing MyDNS

Next we download the `mydns-mysql` rpm package from **http://mydns.bboy.net/download/** and install it as follows:

```
wget http://mydns.bboy.net/download/mydns-mysql-1.1.0-1.i386.rpm

rpm -ivh mydns-mysql-1.1.0-1.i386.rpm
```

Open the MyDNS configuration file `/etc/mydns.conf`, fill in the correct database details, allow zone transfers by setting `allow-axfr` to `yes`, enable TCP (`allow-tcp = yes`), and specify a recursive resolver (i.e., a valid nameserver, e.g. from your ISP; e.g. `recursive = 213.191.92.86`) so that MyDNS can answer queries for domains that it isn't authoritative for:

```
vi /etc/mydns.conf
```

```
##
## /etc/mydns.conf
## Wed Jan 18 17:18:48 2006
## For more information, see mydns.conf(5).
##
```

```
                    # DATABASE INFORMATION


db-host = localhost          # SQL server hostname
db-user = mydns              # SQL server username
db-password = mydnspassword      # SQL server password
database = mydns             # MyDNS database name



                    # GENERAL OPTIONS


user = nobody               # Run with the permissions of this user
group = nobody              # Run with the permissions of this group
listen = *              # Listen on these addresses ('*' for all)
no-listen =               # Do not listen on these addresses



                    # CACHE OPTIONS


zone-cache-size = 1024        # Maximum number of elements stored in the zone cache
zone-cache-expire = 60        # Number of seconds after which cached zones expires
reply-cache-size = 1024       # Maximum number of elements stored in the reply cache
reply-cache-expire = 30       # Number of seconds after which cached replies expire



                    # ESOTERICA


log = LOG_DAEMON                # Facility to use for program output (LOG_*/stdout/stderr)
pidfile = /var/run/mydns.pid    # Path to PID file
timeout = 120               # Number of seconds after which queries time out
multicpu = 1              # Number of CPUs installed on your system
recursive = 213.191.92.86              # Location of recursive resolver
allow-axfr = yes           # Should AXFR be enabled?
allow-tcp = yes            # Should TCP be enabled?
```

```
allow-update = no            # Should DNS UPDATE be enabled?
ignore-minimum = no              # Ignore minimum TTL for zone?
soa-table = soa              # Name of table containing SOA records
rr-table = rr            # Name of table containing RR data
soa-where =              # Extra WHERE clause for SOA queries
rr-where =              # Extra WHERE clause for RR queries
```

Next, create the system startup links for MyDNS and start MyDNS:

```
chkconfig --levels 235 mydns on


/etc/init.d/mydns start
```

The basic installation of MyDNS and MyDNSConfig is now finished. To log in to the MyDNSConfig interface, open a web browser and enter enter the following URL:

```
http://<your_ip_address>/mydnsconfig/
```

Replace `<your_ip_address>` with the IP address of your server.

The default username and password of MyDNSConfig are:

Username: `admin`
Password: `admin`

Don't forget to change the password after login under `System > Users.`
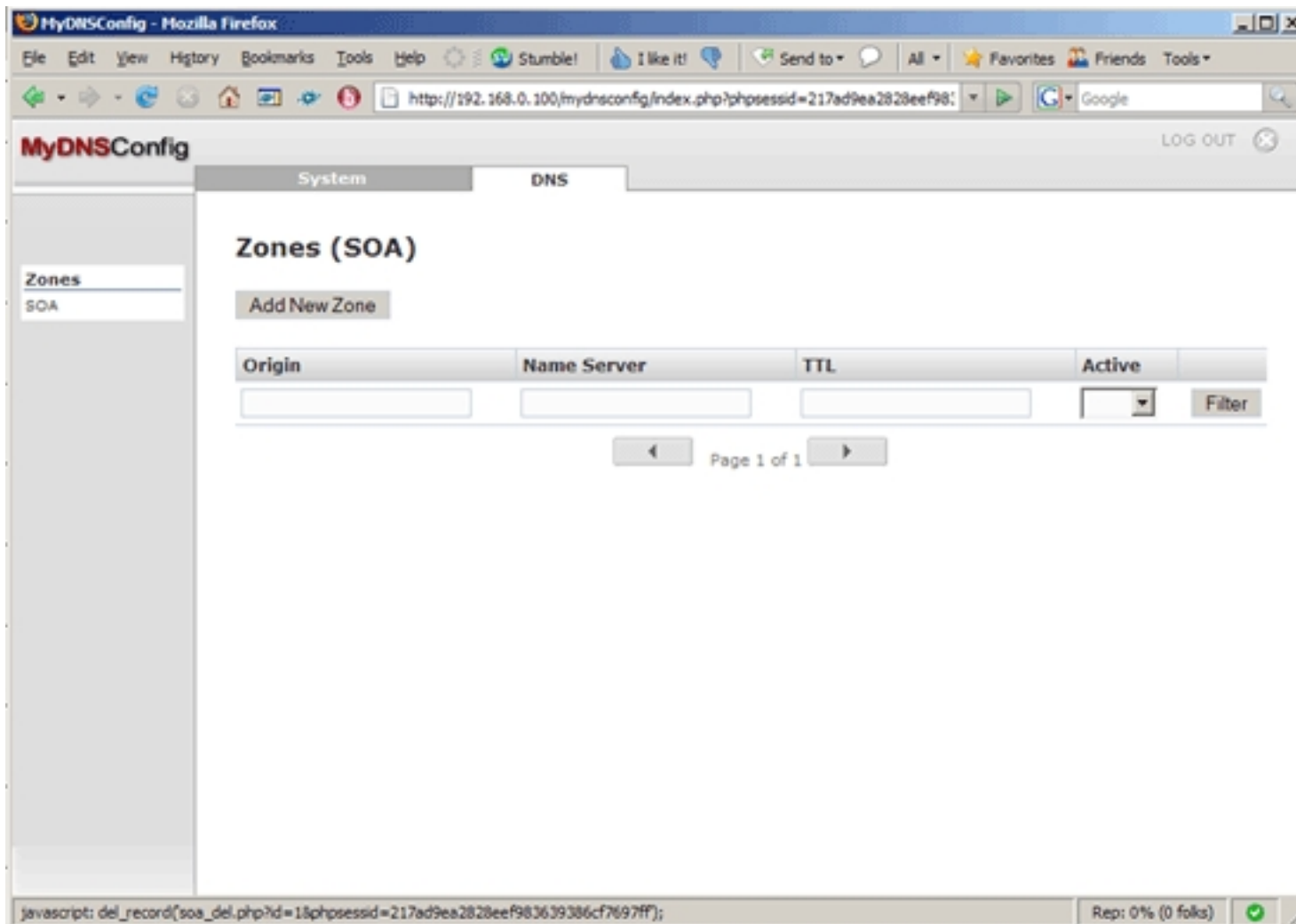
5 Using MyDNSConfig

In this chapter I will demonstrate how to use MyDNSConfig by creating an example zone `test.com` and an A record `www.test.com.`
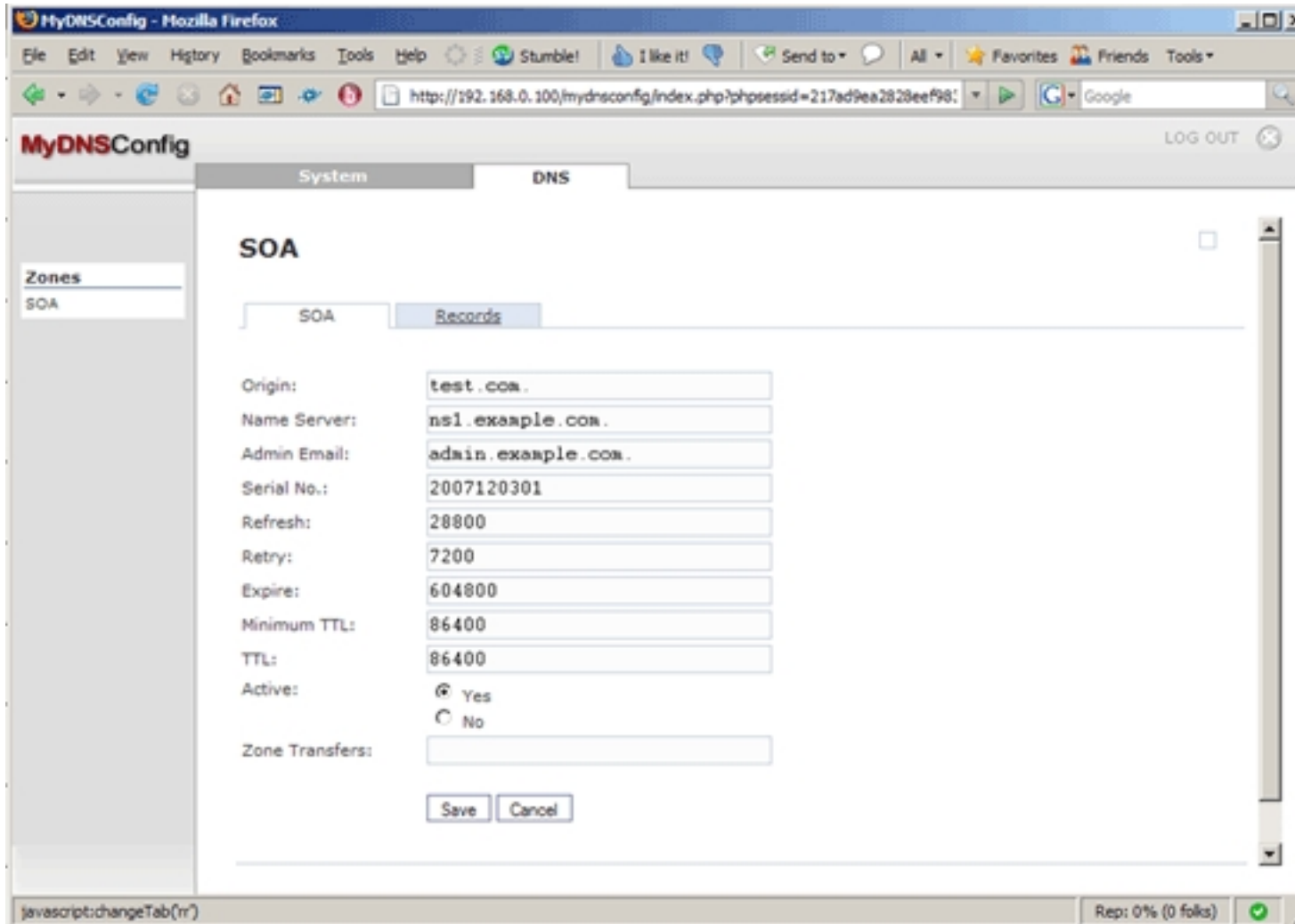
First log in:
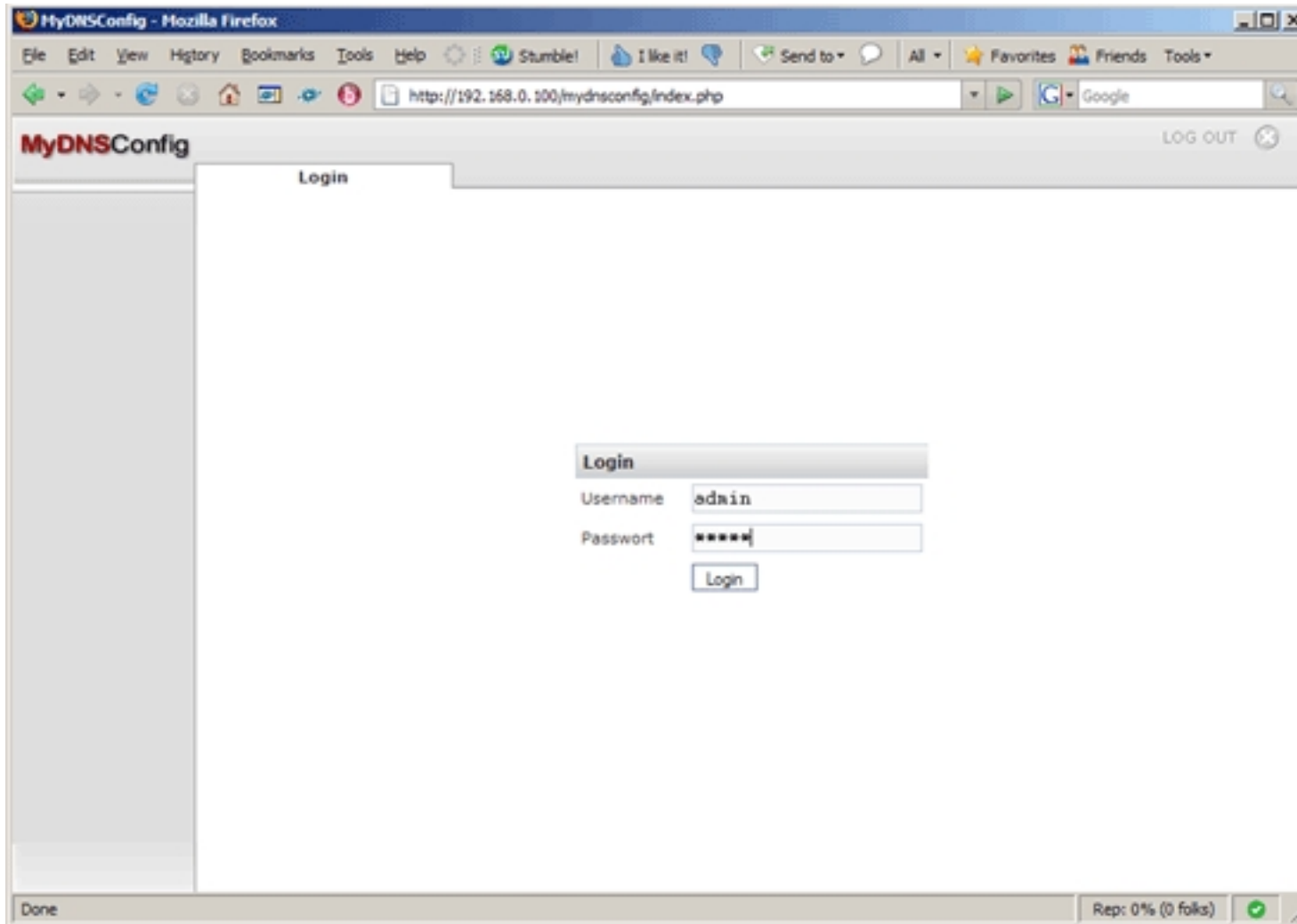
Click on the `Add New Zone` button:

The form on the *SOA* tab is preseeded with default values. Fill in `test.com.` (please note the final dot!) in the *Origin* field and make changes to the other fields, if necessary. The *Zone Transfers* field can be left empty which means that any server can connect to our MyDNS server to initiate a zone transfer; if you fill in an IP address, only that system can connect:
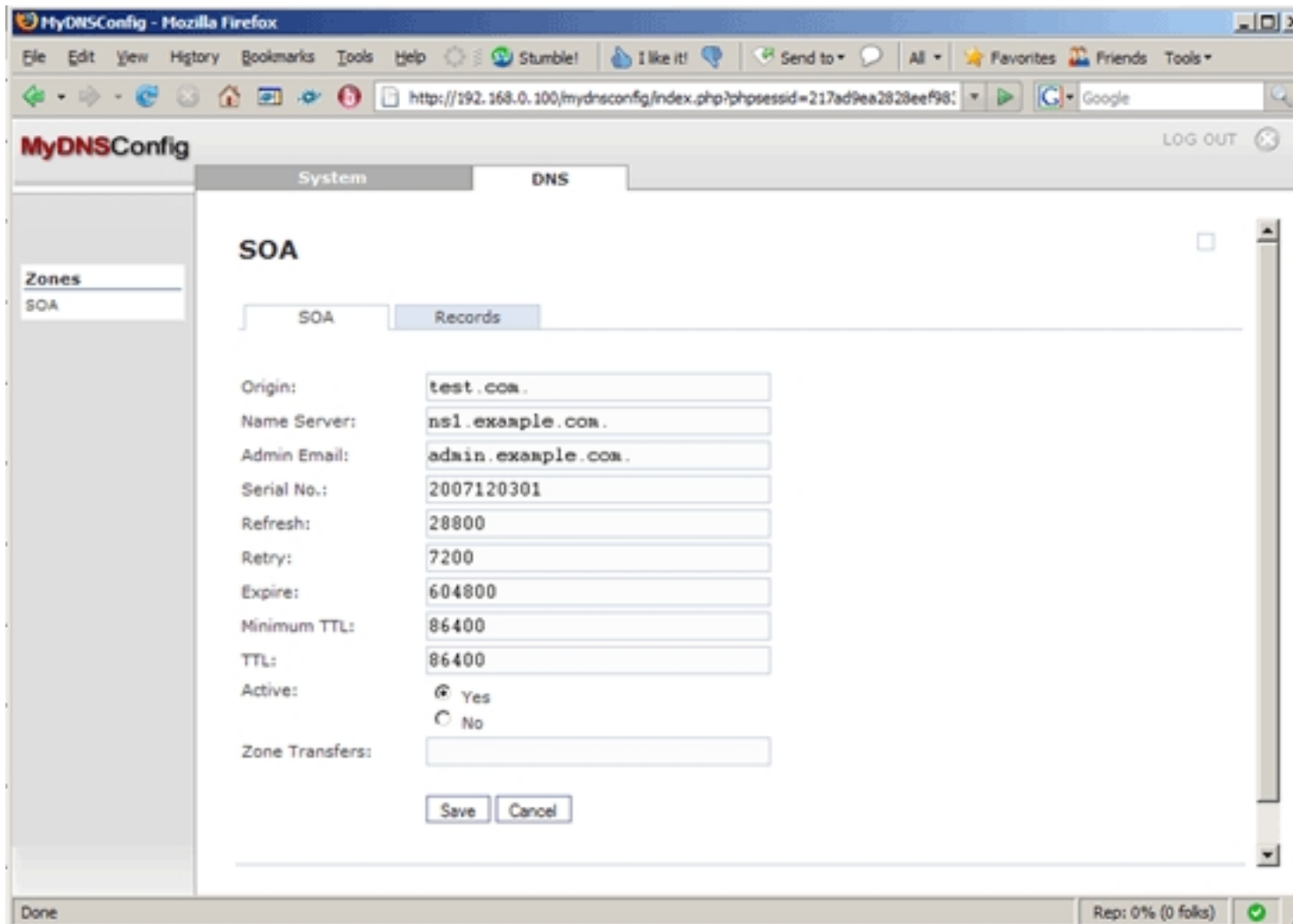
After you've clicked on `Save`, you will find your new zone listed on the `Zones (SOA)` page. Click on the `test.com.` link to go to the zone's properties:
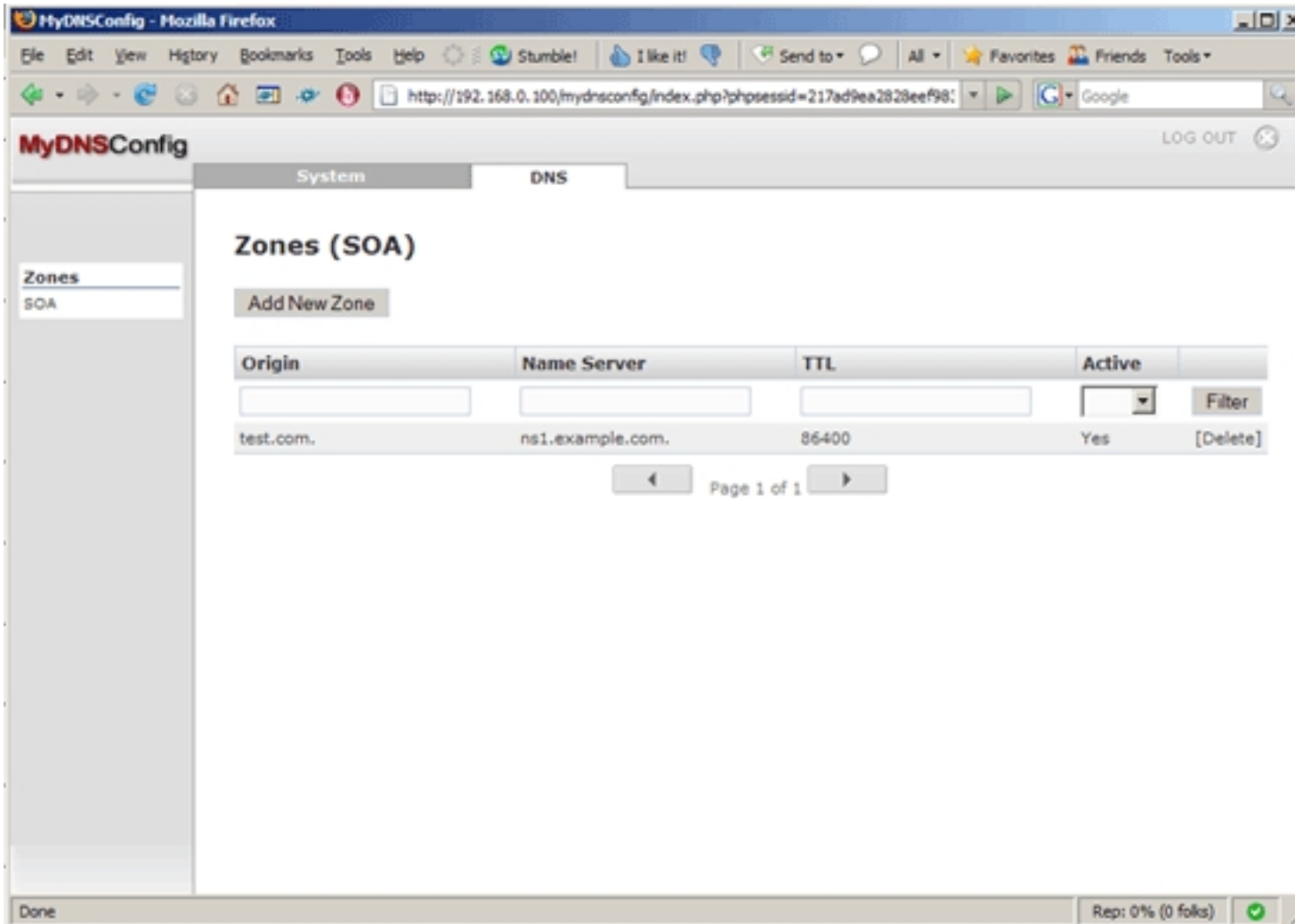
Next, click on the `Records` tab:

Then click on the `Add New Record` button to create a record (A/MX/CNAME/...):

To create the A record `www.test.com`, fill in `www` in the `Name` field, select `A` as the `Type`, type in `www.test.com`'s IP address in the `Data` field (e.g. `1.2.3.4`), and specify the `TTL` (in seconds). The `Preference/Priority` field can be left empty for A records; it's needed for MX records:
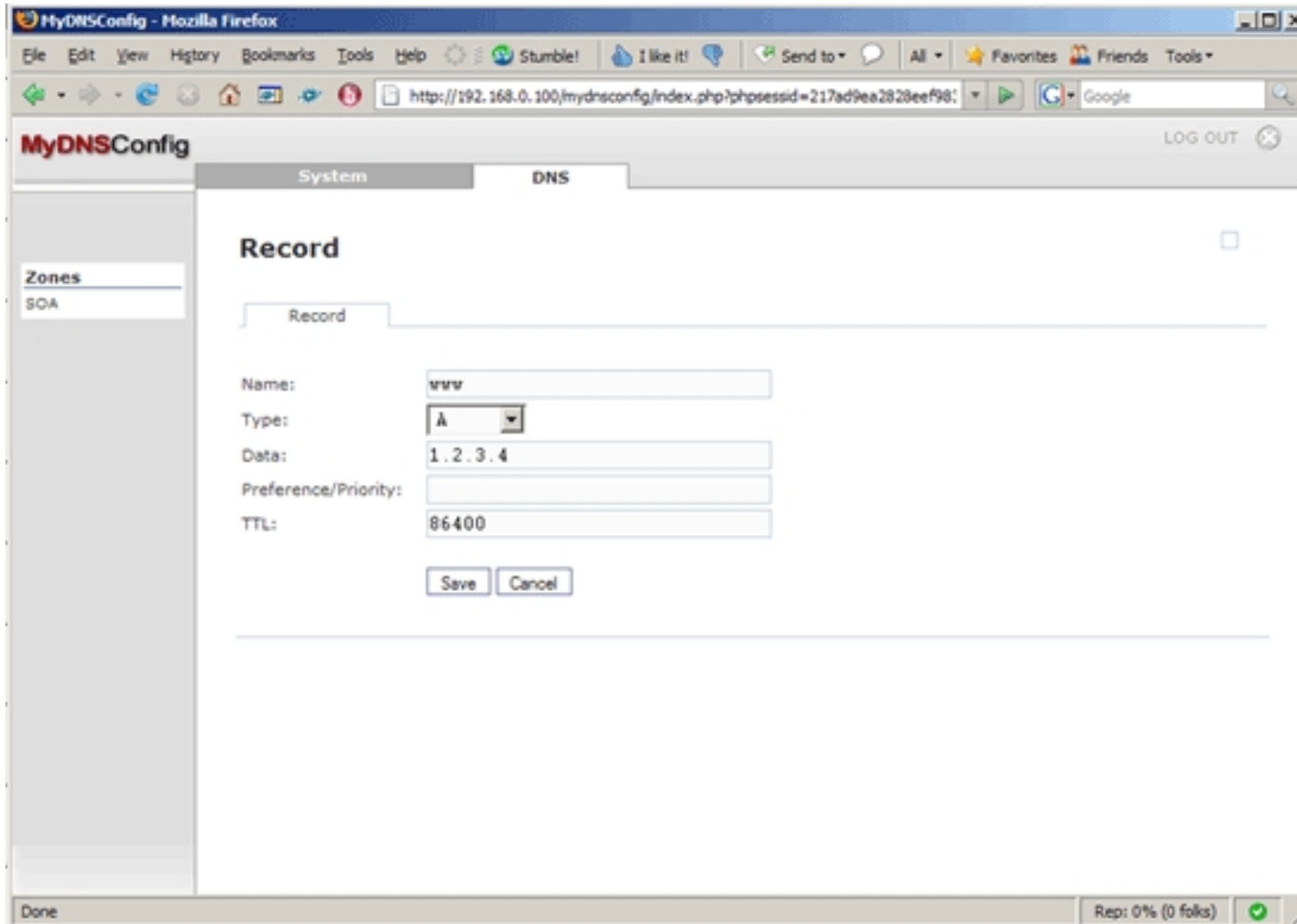
After you've clicked on `Save`, you will find `www.test.com` in the list of records for the zone `test.com`:

That's it already - no restarts are required. You can now test if MyDNS can resolve `www.test.com`:

```
dig @localhost www.test.com
```

If all goes well, the output should look something like this:

```
[root@server1 ~]# dig @localhost www.test.com

; <<>> DiG 9.5.0a6 <<>> @localhost www.test.com
; (1 server found)
;; global options:  printcmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 55393
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0

;; QUESTION SECTION:
;www.test.com.                   IN      A

;; ANSWER SECTION:
www.test.com.           86400   IN      A       1.2.3.4

;; Query time: 24 msec
;; SERVER: 127.0.0.1#53(127.0.0.1)
;; WHEN: Mon Dec  3 23:47:14 2007
;; MSG SIZE  rcvd: 46

[root@server1 ~]#
```

6 Links

- MyDNS: **http://mydns.bboy.net**
- MyDNSConfig: **http://www.mydnsconfig.org**
- Fedora: **http://fedoraproject.org**