

## Bài thực hành 09

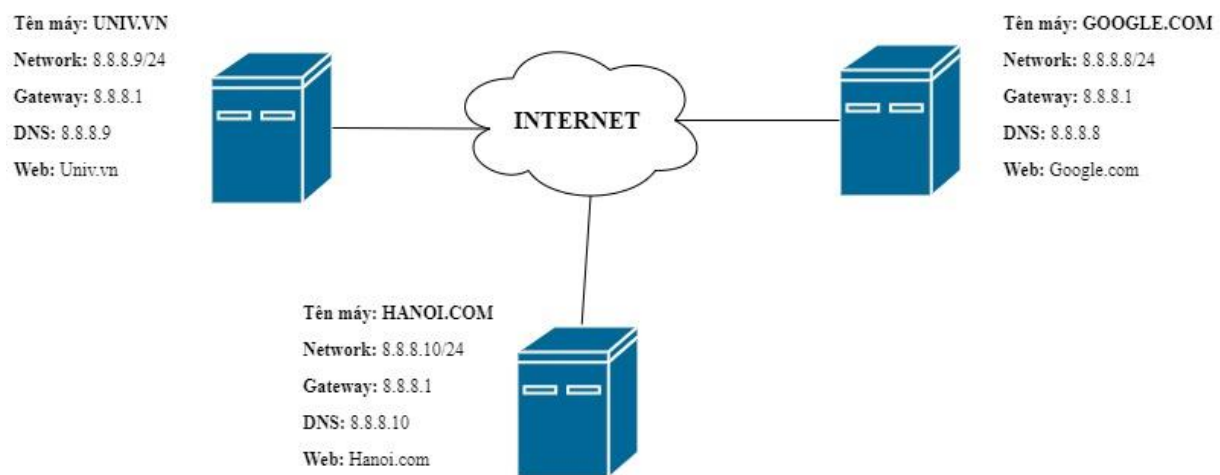
### Cấu hình DNS – Web – Mail

Yêu cầu: Sinh viên thực hành trên hệ điều hành Ubuntu hoặc CentOS đã cài đặt trước. Sau mỗi bài lab, thực hiện Snapshot để lưu lại quá trình làm.

#### I. Cấu hình DNS – Web - Mail

Chuẩn bị: 3 máy, đặt tên lần lượt là UNIV.VN, HANOI.COM, GOOGLE.COM

Địa chỉ IP mạng cấu hình theo sơ đồ sau



- Cài đặt các phần mềm httpd, postfix, dovecot, telnet, squirrelmail (Không bắt buộc, có thể sử dụng telnet hoặc squirrelmail để cấu hình dịch vụ mail) **trên tất cả các máy.**
- Cấu hình địa chỉ IP tĩnh cho máy UNIV.VN

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Cancel Wired Apply

Details Identity **IPv4** IPv6 Security

**IPv4 Method**

☐ Automatic (DHCP) ☐ Link-Local Only

☒ Manual ☐ Disable

**Addresses**

Address	Netmask	Gateway	
8.8.8.9	255.255.255.0	8.8.8.1	✕
			✕

**DNS** Automatic **ON**

8.8.8.9

Separate IP addresses with commas

- Tại máy UNIV.VN sửa thông tin cấu hình trên các file *named.conf*, *univ.vn.dns*, *8.8.8.8.dns*, *index.html*, *main.cf*, *dovecot.cf*, *httpd.conf*.

File */etc/named.conf*

```
options {
    listen-on port 53 { any; };
    listen-on-v6 port 53 { ::1; };
    directory      "/var/named";
    dump-file      "/var/named/data/cache_dump.db";
    statistics-file "/var/named/data/named_stats.txt";
    memstatistics-file "/var/named/data/named_mem_stats.txt";
    recursing-file  "/var/named/data/named.recursing";
    secroots-file   "/var/named/data/named.secroots";
    allow-query     { any; };
    forwarders      {8.8.8.8;};
}
```

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```
zone "univ.vn" IN {
type master;
file "univ.vn.dns";
};

zone "8.8.8.in-addr.arpa" IN {
type master;
file "8.8.8.dns";
};

logging {
    channel default_debug {
        file "data/named.run";
        severity dynamic;
    };
};

zone "." IN {
type hint;
file "named.ca";
};

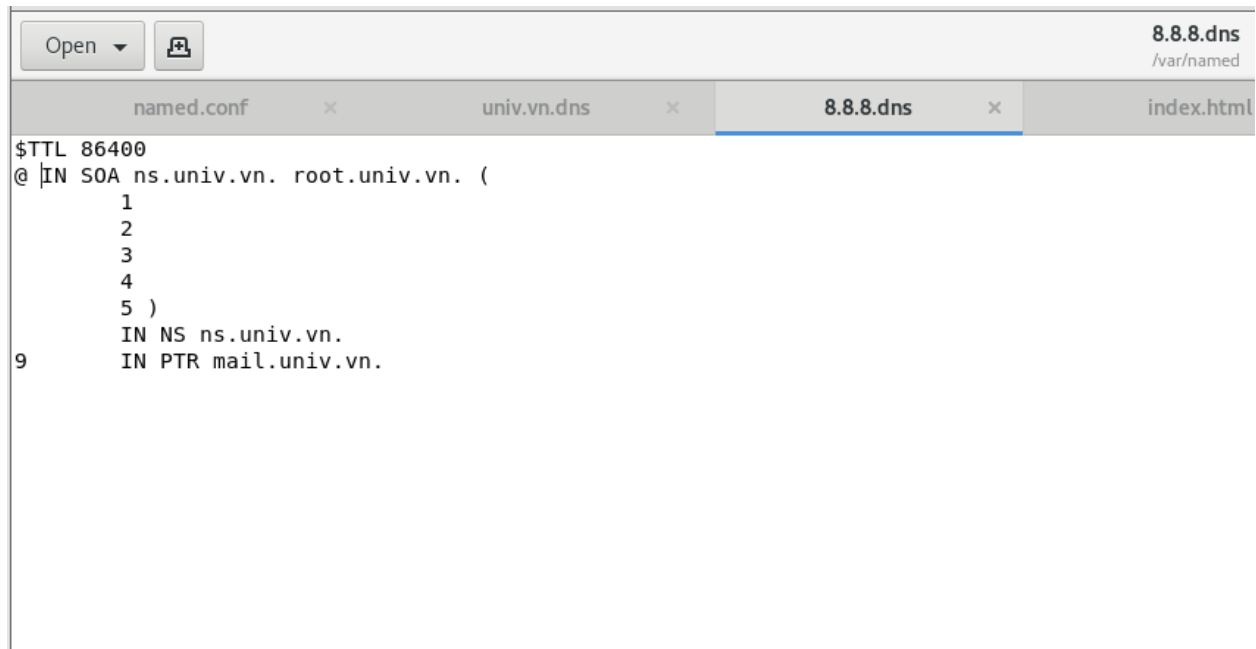
//include "/etc/named.rfc1912.zones";
//include "/etc/named.root.key";
```

File */var/named/univ.vn.dns*

named.conf	univ.vn.dns
\$TTL 86400	
@ IN SOA ns.univ.vn. root.univ.vn. (	
1	
2	
3	
4	
5 )	
IN NS ns.univ.vn.	
IN MX 10 mail.univ.vn.	
ns	IN A 8.8.8.9
www	IN A 8.8.8.9
mail	IN A 8.8.8.9

File */var/named/8.8.8.dns*

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File */var/www/index.html*

```
<html>
<body>
<h1 align=center style=color:red> Welcome to univ.vn </h1>
</body>
</html>
```

File */etc/postfix/main.cf*

```
# INTERNET HOST AND DOMAIN NAMES
#
# The myhostname parameter specifies the internet hostname of this
# mail system. The default is to use the fully-qualified domain name
# from gethostname(). $myhostname is used as a default value for many
# other configuration parameters.
#
myhostname = mail.univ.vn
#myhostname = virtual.domain.tld

# The mydomain parameter specifies the local internet domain name.
# The default is to use $myhostname minus the first component.
# $mydomain is used as a default value for many other configuration
# parameters.
#
mydomain = univ.vn
```

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```
# SENDING MAIL
#
# The myorigin parameter specifies the domain that locally-posted
# mail appears to come from. The default is to append $myhostname,
# which is fine for small sites. If you run a domain with multiple
# machines, you should (1) change this to $mydomain and (2) set up
# a domain-wide alias database that aliases each user to
# user@that.users.mailhost.
#
# For the sake of consistency between sender and recipient addresses,
# myorigin also specifies the default domain name that is appended
# to recipient addresses that have no @domain part.
#
#myorigin = $myhostname
myorigin = $mydomain
```

```
# specify an explicit list of network/netmask patterns, where the
# mask specifies the number of bits in the network part of a host
# address.
#
# You can also specify the absolute pathname of a pattern file instead
# of listing the patterns here. Specify type:table for table-based lookups
# (the value on the table right-hand side is not used).
#
mynetworks = 8.8.8.0/24, 127.0.0.0/8
#mynetworks = $config_directory/mynetworks
#mynetworks = hash:/etc/postfix/network_table

# The relay_domains parameter restricts what destinations this system will
# relay mail to. See the smtpd_recipient_restrictions description in
# postconf(5) for detailed information.
#
```

File *dovecot.conf*

## Hệ điều hành Linux – Lab09

```
## Dovecot configuration file

# If you're in a hurry, see http://wiki2.dovecot.org/QuickConfiguration

# "doveconf -n" command gives a clean output of the changed settings. Use it
# instead of copy&pasting files when posting to the Dovecot mailing list.

# '#' character and everything after it is treated as comments. Extra spaces
# and tabs are ignored. If you want to use either of these explicitly, put the
# value inside quotes, eg.: key = "# char and trailing whitespace "

# Most (but not all) settings can be overridden by different protocols and/or
# source/destination IPs by placing the settings inside sections, for example:
# protocol imap { }, local 127.0.0.1 { }, remote 10.0.0.0/8 { }

# Default values are shown for each setting, it's not required to uncomment
# those. These are exceptions to this though: No sections (e.g. namespace {})
# or plugin settings are added by default, they're listed only as examples.
# Paths are also just examples with the real defaults being based on configure
# options. The paths listed here are for configure --prefix=/usr
# --sysconfdir=/etc --localstatedir=/var

# Protocols we want to be serving.
protocols = imap pop3 lmtp

# A comma separated list of IPs or hosts where to listen in for connections.
# "*" listens in all IPv4 interfaces, "::" listens in all IPv6 interfaces.
# If you want to specify non-default ports or anything more complex,
# edit conf.d/master.conf.
#listen = *, ::

# Base directory where to store runtime data.
#base_dir = /var/run/dovecot/

# Name of this instance. In multi-instance setup doveadm and other commands
# can use -i <instance_name> to select which instance is used (an alternative
# to -c <config_path>). The instance name is also added to Dovecot processes
# in ps output.
#instance_name = dovecot
```

File *httpd.conf*

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```
# EnableMMAP and EnableSendfile: On systems that support it,
# memory-mapping or the sendfile syscall may be used to deliver
# files. This usually improves server performance, but must
# be turned off when serving from networked-mounted
# filesystems or if support for these functions is otherwise
# broken on your system.
# Defaults if commented: EnableMMAP On, EnableSendfile Off
#
#EnableMMAP off
EnableSendfile on

# Supplemental configuration
#
# Load config files in the "/etc/httpd/conf.d" directory, if any.
IncludeOptional conf.d/*.conf

Alias /webmail /usr/share/squirrelmail

<Directory /usr/share/squirrelmail>

Options Indexes FollowSymLinks

RewriteEngine On

AllowOverride All

DirectoryIndex index.php

Order allow,deny

Allow from all

</Directory>
```

*Alias /webmail /usr/share/squirrelmail*

*<Directory /usr/share/squirrelmail>*

*Options Indexes FollowSymLinks*

*RewriteEngine On*

*AllowOverride All*

*DirectoryIndex index.php*

*Order allow,deny*

*Allow from all*

*</Directory>*

Tắt tường lửa và khởi động các dịch vụ

*systemctl start named*

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*systemctl status named*

*systemctl start httpd*

*systemctl enable httpd*

*systemctl start postfix*

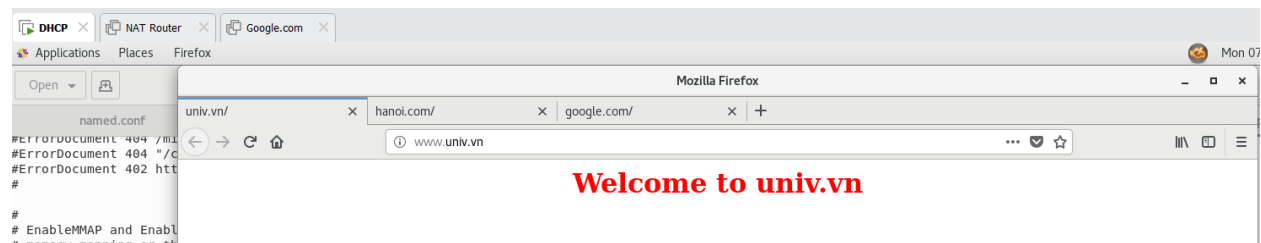
*systemctl enable postfix*

*systemctl start dovecot*

*systemctl enable dovecot*

*service firewalld stop*

Tạo 1 tài khoản trên máy UNIV.VN, sau đó kiểm tra dịch vụ Web và Mail



```
[root@nguyenminh config]# telnet mail.univ.vn 25
Trying 8.8.8.9...
Connected to mail.univ.vn.
Escape character is '^]'.
220 mail.univ.vn ESMTP Postfix
welcome univ.vn
502 5.5.2 Error: command not recognized
helo univ.vn
250 mail.univ.vn
mail from:root
250 2.1.0 Ok
rcpt to:nlminh
250 2.1.5 Ok
Hello univ
502 5.5.2 Error: command not recognized
data
354 End data with <CR><LF>.<CR><LF>
Hello Univ

rcpt to:univ
.
250 2.0.0 Ok: queued as 0AF9031B0DF0
421 4.4.2 mail.univ.vn Error: timeout exceeded
```



## Hệ điều hành Linux – Lab09

```
[root@nguyenminh ~]# telnet mail.univ.vn 110
Trying 8.8.8.9...
Connected to mail.univ.vn.
Escape character is '^]'.
+OK Dovecot ready.
user nlminh
+OK
pass 123
+OK Logged in.
list
+OK 1 messages:
1 390
.
retr 1
+OK 390 octets
Return-Path: <root@univ.vn>
X-Original-To: nlminh
Delivered-To: nlminh@univ.vn
Received: from univ.vn (mail.univ.vn [8.8.8.9])
        by mail.univ.vn (Postfix) with SMTP id 0AF9031B0DF0
        for <nlminh>; Mon, 22 Apr 2024 00:32:30 +0700 (+07)
Message-Id: <20240421173300.0AF9031B0DF0@mail.univ.vn>
Date: Mon, 22 Apr 2024 00:32:30 +0700 (+07)
From: root@univ.vn

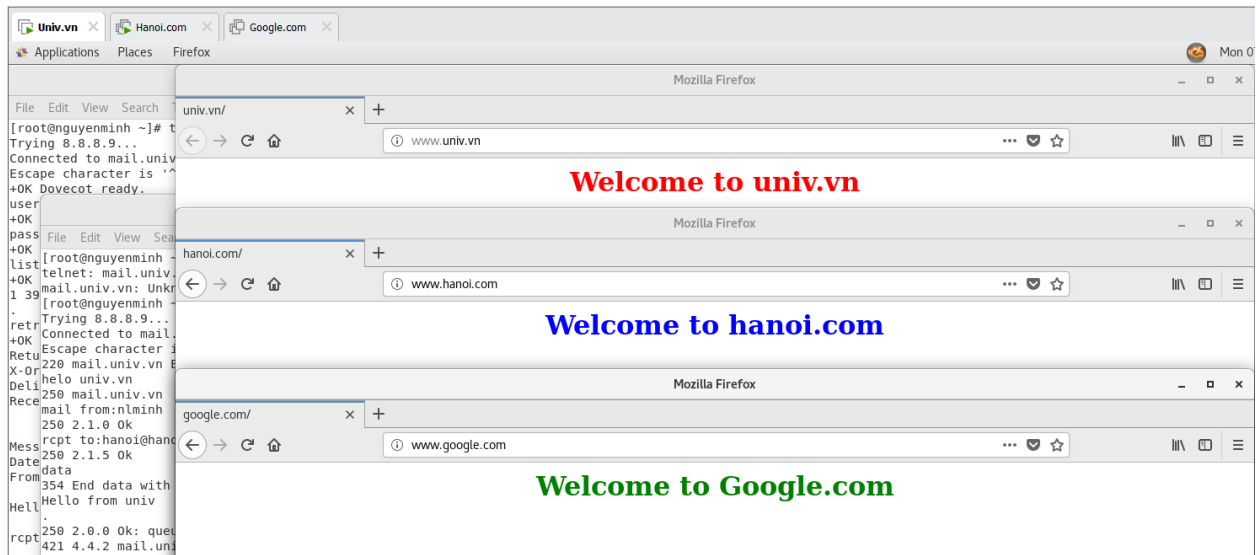
Hello Univ

rcpt to:univ
.
```

## II. Bài tập

- Thực hiện tương tự các bước cấu hình địa chỉ IP, cấu hình trên các tệp tin *named.conf*, *<domain>.dns*, *<IP>.dns*, *index.html*, *main.cf*, *dovecot.cf*, *httpd.conf* đối với các máy GOOGLE.COM, HANOI.COM
- Kiểm tra dịch vụ Web và gửi mail giữa các máy với nhau.

## Hệ điều hành Linux – Lab09



Từ Hanoi.com gửi mail cho Univ.vn

```
[root@nguyenminh ~]# telnet mail.hanoi.com 25
Trying 8.8.8.10...
Connected to mail.hanoi.com.
Escape character is '^]'.
220 mail.hanoi.com ESMTTP Postfix
helo hanoi.com
250 mail.hanoi.com
mail from:hanoi
250 2.1.0 Ok
rcpt to:nlminh@univ.vn
250 2.1.5 Ok
data
354 End data with <CR><LF>.<CR><LF>
Hello from hanoi.com
.
250 2.0.0 Ok: queued as F29743317883
```

Kiểm tra hòm thư trên Univ.vn

## Hệ điều hành Linux – Lab09

```
[root@nguyenminh ~]# telnet mail.univ.vn 110
Trying 8.8.8.9...
Connected to mail.univ.vn.
Escape character is '^]'.
+OK Dovecot ready.
user nlminh
+OK
pass 123
+OK Logged in.
list
+OK 2 messages:
1 390
2 584
.
retr 2
+OK 584 octets
Return-Path: <hanoi@hanoi.com>
X-Original-To: nlminh@univ.vn
Delivered-To: nlminh@univ.vn
Received: from mail.hanoi.com (unknown [8.8.8.10])
    by mail.univ.vn (Postfix) with ESMTP id C4DD131B0DD0
    for <nlminh@univ.vn>; Mon, 22 Apr 2024 01:05:20 +0700 (+07)
Received: from hanoi.com (mail.hanoi.com [8.8.8.10])
    by mail.hanoi.com (Postfix) with SMTP id F29743317883
    for <nlminh@univ.vn>; Mon, 22 Apr 2024 01:04:40 +0700 (+07)
Message-Id: <20240421180458.F29743317883@mail.hanoi.com>
Date: Mon, 22 Apr 2024 01:04:40 +0700 (+07)
From: hanoi@hanoi.com

Hello from hanoi.com
```

***Lưu ý: Sau khi hoàn thành tất cả bài Lab, thực hiện snapshot các máy, đặt tên là Lab9.***