

Software Security

Assignment – 5

Apache Virtual Hosting

COHDSE182F-026

• Setting up the Running Environment

```
Activities Terminal Thu 20:18
cohdse172f026@COHDSE172F-026-virtual-machine: ~

total 96
drwxr-xr-x  8 root root 4096 Nov 22 19:51 ./
drwxr-xr-x 126 root root 12288 Nov 22 19:51 ../
-rw-r--r--  1 root root 7224 Oct  3 10:41 apache2.conf
drwxr-xr-x  2 root root 4096 Nov 22 19:51 conf-available/
drwxr-xr-x  2 root root 4096 Nov 22 19:51 conf-enabled/
-rw-r--r--  1 root root 1782 Jun 27 13:05 envvars
-rw-r--r--  1 root root 31063 Jun 27 13:05 magic
drwxr-xr-x  2 root root 12288 Nov 22 19:51 mods-available/
drwxr-xr-x  2 root root 4096 Nov 22 19:51 mods-enabled/
-rw-r--r--  1 root root 320 Jun 27 13:05 ports.conf
drwxr-xr-x  2 root root 4096 Nov 22 19:51 sites-available/
drwxr-xr-x  2 root root 4096 Nov 22 19:51 sites-enabled/
cohdse172f026@COHDSE172F-026-virtual-machine:/etc/apache2$ cd sites-available
cohdse172f026@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available$ sudo cp 000-default.conf n1bm.lk.conf
cohdse172f026@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available$ cd
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo adduser --home /home/n1bm --disabled-password --shell /bin/bash n1bm
Adding user 'n1bm' ...
Adding new group 'n1bm' (1001) ...
Adding new user 'n1bm' (1001) with group 'n1bm' ...
Creating home directory '/home/n1bm' ...
Copying files from '/etc/skel' ...
Changing the user information for n1bm
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] y
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo vim /etc/passwd
cohdse172f026@COHDSE172F-026-virtual-machine:~$
```

```
Activities Terminal Thu 20:03
cohdse172f026@COHDSE172F-026-virtual-machine: ~

total 96
drwxr-xr-x  8 root root 4096 Nov 22 19:51 ./
drwxr-xr-x 126 root root 12288 Nov 22 19:51 ../
-rw-r--r--  1 root root 7224 Oct  3 10:41 apache2.conf
drwxr-xr-x  2 root root 4096 Nov 22 19:51 conf-available/
drwxr-xr-x  2 root root 4096 Nov 22 19:51 conf-enabled/
-rw-r--r--  1 root root 1782 Jun 27 13:05 envvars
-rw-r--r--  1 root root 31063 Jun 27 13:05 magic
drwxr-xr-x  2 root root 12288 Nov 22 19:51 mods-available/
drwxr-xr-x  2 root root 4096 Nov 22 19:51 mods-enabled/
-rw-r--r--  1 root root 320 Jun 27 13:05 ports.conf
drwxr-xr-x  2 root root 4096 Nov 22 19:51 sites-available/
drwxr-xr-x  2 root root 4096 Nov 22 19:51 sites-enabled/
cohdse172f026@COHDSE172F-026-virtual-machine:/etc/apache2$ ll
cohdse172f026@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available$ sudo cp 000-default.conf n1bm.lk.conf
cohdse172f026@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available$ cd
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo adduser --home /home/n1bm --disabled-password --shell /bin/bash n1bm
Adding user 'n1bm' ...
Adding new group 'n1bm' (1001) ...
Adding new user 'n1bm' (1001) with group 'n1bm' ...
Creating home directory '/home/n1bm' ...
Copying files from '/etc/skel' ...
Changing the user information for n1bm
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] y
cohdse172f026@COHDSE172F-026-virtual-machine:~$
```

```
Activities Terminal Thu 20:07
cohdse172f026@COHDSE172F-026-virtual-machine: ~

File Edit View Search Terminal Help

root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailling List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,:/run/systemd/netif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,:/run/systemd/resolve:/usr/sbin/nologin
syslog:x:102:106:/home/syslog:/usr/sbin/nologin
messagebus:x:103:107:/nonexistent:/usr/sbin/nologin
_apt:x:104:65534:/nonexistent:/usr/sbin/nologin
uuid:x:105:111:/run/uuid:/usr/sbin/nologin
avahi-autoipd:x:106:112:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:107:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:108:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:109:114:RealtimeKit,,:/proc:/usr/sbin/nologin
cups-pk-helper:x:110:116:user for cups-pk-helper service,,:/home/cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher,,:/var/run/speech-dispatcher:/bin/false
whoopsie:x:112:117:/nonexistent:/bin/false
"/etc/passwd" 43L, 2527C

1,1 Top
```

```
Activities Terminal Thu 20:36
nibm@COHDSE172F-026-virtual-machine: ~/web

File Edit View Search Terminal Help

Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] y
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo vim /etc/passwd
cohdse172f026@COHDSE172F-026-virtual-machine:~$ ls -l /home
total 24
drwxr-xr-x 15 cohdse172f026 cohdse172f026 4096 Nov 22 20:18 cohdse172f026
drwx----- 2 root root 16384 Nov 21 00:33 lost+found
drwxr-xr-x 2 nibm nibm 4096 Nov 22 20:02 nibm
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo su
[sudo] password for cohdse172f026:
root@COHDSE172F-026-virtual-machine:/home/cohdse172f026# su - nibm
nibm@COHDSE172F-026-virtual-machine:~$ whoami
nibm
nibm@COHDSE172F-026-virtual-machine:~$ pwd
/home/nibm
nibm@COHDSE172F-026-virtual-machine:~$ mkdir web
nibm@COHDSE172F-026-virtual-machine:~$ ll
total 36
drwxr-xr-x 3 nibm nibm 4096 Nov 22 20:34 ./
drwxr-xr-x 5 root root 4096 Nov 22 20:02 ../
-rw-r--r-- 1 nibm nibm 220 Nov 22 20:02 .bash_logout
-rw-r--r-- 1 nibm nibm 3771 Nov 22 20:02 .bashrc
-rw-r--r-- 1 nibm nibm 8980 Nov 22 20:02 examples.desktop
-rw-r--r-- 1 nibm nibm 807 Nov 22 20:02 .profile
drwxrwxr-x 2 nibm nibm 4096 Nov 22 20:34 web/
nibm@COHDSE172F-026-virtual-machine:~$ cd web
nibm@COHDSE172F-026-virtual-machine:~/web$ vim index.html
```

• Installing and Configuring Apache Server

```
Activities Terminal Thu 19:50
cohdse172f026@COHDSE172F-026-virtual-machine: ~
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo apt-get install apache2 php mysql-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libaio1 libapache2-mod-php7.2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap
  libevent-core-2.1-6 libhtml-template-perl liblua5.2-0 mysql-client-5.7 mysql-client-core-5.7 mysql-common mysql-server-5.7
  mysql-server-core-5.7 php-common php7.2 php7.2-cli php7.2-common php7.2-json php7.2-opcache php7.2-readline
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom php-pear libipc-sharedcache-perl mailx tinyca
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libaio1 libapache2-mod-php7.2 libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap
  libevent-core-2.1-6 libhtml-template-perl liblua5.2-0 mysql-client-5.7 mysql-client-core-5.7 mysql-common mysql-server mysql-server-5.7
  mysql-server-core-5.7 php php-common php7.2 php7.2-cli php7.2-common php7.2-json php7.2-opcache php7.2-readline
0 upgraded, 27 newly installed, 0 to remove and 309 not upgraded.
Need to get 26.0 MB of archives.
After this operation, 184 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:4 http://us.archive.ubuntu.com/ubuntu bionic/main amd64 libaprutil1-ldap amd64 1.6.1-2 [8,764 B]
Get:6 http://us.archive.ubuntu.com/ubuntu bionic-updates/main amd64 apache2-bin amd64 2.4.29-1ubuntu4.4 [1,071 kB]
Get:7 http://us.archive.ubuntu.com/ubuntu bionic-updates/main amd64 apache2-utils amd64 2.4.29-1ubuntu4.4 [83.5 kB]
Get:8 http://us.archive.ubuntu.com/ubuntu bionic-updates/main amd64 apache2-data all 2.4.29-1ubuntu4.4 [160 kB]
Get:9 http://us.archive.ubuntu.com/ubuntu bionic-updates/main amd64 apache2 amd64 2.4.29-1ubuntu4.4 [95.1 kB]
Get:10 http://us.archive.ubuntu.com/ubuntu bionic/main amd64 mysql-common all 5.8+1.0.4 [7,308 B]
Get:11 http://us.archive.ubuntu.com/ubuntu bionic/main amd64 libaio1 amd64 0.3.110-5 [6,448 B]
Get:12 http://us.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-client-core-5.7 amd64 5.7.24-0ubuntu0.18.04.1 [6,988 kB]
Get:1 http://222.165.175.38:80/data/013e9109d4024bdd/us.archive.ubuntu.com/ubuntu bionic/main amd64 libapr1 amd64 1.6.3-2 [90.9 kB]
Get:3 http://222.165.175.38:80/data/013e1b09f808d373/us.archive.ubuntu.com/ubuntu bionic/main amd64 libaprutil1-dbd-sqlite3 amd64 1.6.1-2 [10.6 kB]
Get:2 http://222.165.175.166:80/data/013ee509c304f43b/us.archive.ubuntu.com/ubuntu bionic/main amd64 libaprutil1 amd64 1.6.1-2 [84.4 kB]
Get:5 http://222.165.175.166:80/data/013ec109770bc8c6/us.archive.ubuntu.com/ubuntu bionic/main amd64 liblua5.2-0 amd64 5.2.4-1.1build1 [108 kB]
Get:13 http://us.archive.ubuntu.com/ubuntu bionic-updates/main amd64 mysql-client-5.7 amd64 5.7.24-0ubuntu0.18.04.1 [2,312 kB]
```

```
Activities Terminal Thu 19:52
cohdse172f026@COHDSE172F-026-virtual-machine: ~
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Setting up php7.2-cli (7.2.10-0ubuntu0.18.04.1) ...
update-alternatives: using /usr/bin/php7.2 to provide /usr/bin/php (php) in auto mode
update-alternatives: using /usr/bin/phar7.2 to provide /usr/bin/phar (phar) in auto mode
update-alternatives: using /usr/bin/phar.phar7.2 to provide /usr/bin/phar.phar (phar.phar) in auto mode
Creating config file /etc/php/7.2/cli/php.ini with new version
Setting up mysql-server-5.7 (5.7.24-0ubuntu0.18.04.1) ...
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Renaming removed key buffer and myisam-recover options (if present)
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service → /lib/systemd/system/mysql.service.
Setting up libapache2-mod-php7.2 (7.2.10-0ubuntu0.18.04.1) ...
Creating config file /etc/php/7.2/apache2/php.ini with new version
Module mpm_event disabled.
Enabling module mpm_prefork.
apache2_switch_mpm Switch to prefork
apache2_invoke: Enable module php7.2
Setting up mysql-server (5.7.24-0ubuntu0.18.04.1) ...
Setting up php7.2 (7.2.10-0ubuntu0.18.04.1) ...
Setting up php (1:7.2+60ubuntu1) ...
Processing triggers for libc-bin (2.27-3ubuntu1) ...
Processing triggers for ureadahead (0.100.0-20) ...
Processing triggers for systemd (237-3ubuntu10.3) ...
Processing triggers for ufw (0.35-5) ...
cohdse172f026@COHDSE172F-026-virtual-machine:~$
```

```
Activities Terminal Thu 19:57
cohdse172f026@COHDSE172F-026-virtual-machine: /etc/apache2/sites-available

File Edit View Search Terminal Help
drwxr-xr-x 2 root root 16384 Nov 21 00:33 lost+found
drwxr-xr-x 3 root root 4096 Nov 21 01:32 media
drwxr-xr-x 2 root root 4096 Jul 24 23:03 mnt
drwxr-xr-x 2 root root 4096 Jul 24 23:03 opt
dr-xr-xr-x 288 root root 0 Nov 22 19:09 proc
drwxr-xr-x 3 root root 4096 Jul 24 23:12 root
drwxr-xr-x 31 root root 860 Nov 22 19:51 run
drwxr-xr-x 2 root root 12288 Nov 22 19:01/sbin
drwxr-xr-x 10 root root 4096 Nov 22 00:53 snap
drwxr-xr-x 2 root root 4096 Jul 24 23:03 srv
dr-xr-xr-x 13 root root 0 Nov 22 19:09 sys
drwxrwxrwt 17 root root 4096 Nov 22 19:53 tmp
drwxr-xr-x 10 root root 4096 Jul 24 23:03 usr
drwxr-xr-x 15 root root 4096 Nov 22 19:49 var
lrwxrwxrwx 1 root root 30 Nov 21 01:01 vmlinuz -> boot/vmlinuz-4.15.0-29-generic
cohdse172f026@COHDSE172F-026-virtual-machine:~$ cd /etc/apache2
cohdse172f026@COHDSE172F-026-virtual-machine:~$ cd /etc/apache2$ ll
total 96
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ./
drwxr-xr-x 126 root root 12288 Nov 22 19:51 ../
-rw-r--r-- 1 root root 7224 Oct 3 10:41 apache2.conf
drwxr-xr-x 2 root root 4096 Nov 22 19:51 conf-available/
drwxr-xr-x 2 root root 4096 Nov 22 19:51 conf-enabled/
-rw-r--r-- 1 root root 1782 Jun 27 13:05 envvars
-rw-r--r-- 1 root root 31063 Jun 27 13:05 magic
drwxr-xr-x 2 root root 12288 Nov 22 19:51 mods-available/
drwxr-xr-x 2 root root 4096 Nov 22 19:51 mods-enabled/
-rw-r--r-- 1 root root 320 Jun 27 13:05 ports.conf
drwxr-xr-x 2 root root 4096 Nov 22 19:51 sites-available/
drwxr-xr-x 2 root root 4096 Nov 22 19:51 sites-enabled/
cohdse172f026@COHDSE172F-026-virtual-machine:~$ cd /etc/apache2$ cd sites-available
cohdse172f026@COHDSE172F-026-virtual-machine:~$ cd /etc/apache2/sites-available$ ll
```

```
Activities Terminal Thu 20:36
nibm@COHDSE172F-026-virtual-machine: ~/web

File Edit View Search Terminal Help
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] y
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo vim /etc/passwd
cohdse172f026@COHDSE172F-026-virtual-machine:~$ ls -l /home
total 24
drwxr-xr-x 15 cohdse172f026 cohdse172f026 4096 Nov 22 20:18 cohdse172f026
drwxr-xr-x 2 root root 16384 Nov 21 00:33 lost+found
drwxr-xr-x 2 nibm nibm 4096 Nov 22 20:02 nibm
cohdse172f026@COHDSE172F-026-virtual-machine:~$ sudo su
[sudo] password for cohdse172f026:
root@COHDSE172F-026-virtual-machine:/home/cohdse172f026# su - nibm
nibm@COHDSE172F-026-virtual-machine:~$ whoami
nibm
nibm@COHDSE172F-026-virtual-machine:~$ pwd
/home/nibm
nibm@COHDSE172F-026-virtual-machine:~$ mkdir web
nibm@COHDSE172F-026-virtual-machine:~$ ll
total 36
drwxr-xr-x 3 nibm nibm 4096 Nov 22 20:34 ./
drwxr-xr-x 5 root root 4096 Nov 22 20:02 ../
-rw-r--r-- 1 nibm nibm 220 Nov 22 20:02 .bash_logout
-rw-r--r-- 1 nibm nibm 3771 Nov 22 20:02 .bashrc
-rw-r--r-- 1 nibm nibm 8980 Nov 22 20:02 examples.desktop
-rw-r--r-- 1 nibm nibm 807 Nov 22 20:02 .profile
drwxrwxr-x 2 nibm nibm 4096 Nov 22 20:34 web/
nibm@COHDSE172F-026-virtual-machine:~$ cd web
nibm@COHDSE172F-026-virtual-machine:~/web$ vim index.html
```

```
Activities Terminal Thu 20:43
nibm@COHDSE172F-026-virtual-machine: ~/web

<html>
  <head>
    <title> Welcome </title>
  </head>
  <body>
    <h1> <center> Welcome to NIBM Web Page! </center> </h1>
  </body>
</html>
```

```
Activities Terminal Thu 20:44
root@COHDSE172F-026-virtual-machine: /home/cohdse172f026

[sudo] password for cohdse172f026:
root@COHDSE172F-026-virtual-machine:/home/cohdse172f026# su - nibm
nibm@COHDSE172F-026-virtual-machine:~$ whoami
nibm
nibm@COHDSE172F-026-virtual-machine:~$ pwd
/home/nibm
nibm@COHDSE172F-026-virtual-machine:~$ mkdir web
nibm@COHDSE172F-026-virtual-machine:~$ ll
total 36
drwxr-xr-x 3 nibm nibm 4096 Nov 22 20:34 ./
drwxr-xr-x 5 root root 4096 Nov 22 20:02 ../
-rw-r--r-- 1 nibm nibm 220 Nov 22 20:02 .bash_logout
-rw-r--r-- 1 nibm nibm 3771 Nov 22 20:02 .bashrc
-rw-r--r-- 1 nibm nibm 8980 Nov 22 20:02 examples.desktop
-rw-r--r-- 1 nibm nibm 807 Nov 22 20:02 .profile
drwxrwxr-x 2 nibm nibm 4096 Nov 22 20:34 web/
nibm@COHDSE172F-026-virtual-machine:~$ cd web
nibm@COHDSE172F-026-virtual-machine:~/web$ vim index.html
nibm@COHDSE172F-026-virtual-machine:~/web$ cat index.html
<html>
  <head>
    <title> Welcome </title>
  </head>
  <body>
    <h1> <center> Welcome to NIBM Web Page! </center> </h1>
  </body>
</html>
nibm@COHDSE172F-026-virtual-machine:~/web$ cd
nibm@COHDSE172F-026-virtual-machine:~$ exit
logout
root@COHDSE172F-026-virtual-machine:/home/cohdse172f026#
```

```
Activities Terminal Thu 20:47
root@COHDSE172F-026-virtual-machine: /etc/apache2/sites-available

File Edit View Search Terminal Help

total 36
drwxr-xr-x 3 nibm nibm 4096 Nov 22 20:34 ./
drwxr-xr-x 5 root root 4096 Nov 22 20:02 ../
-rw-r--r-- 1 nibm nibm 220 Nov 22 20:02 .bash_logout
-rw-r--r-- 1 nibm nibm 3771 Nov 22 20:02 .bashrc
-rw-r--r-- 1 nibm nibm 8980 Nov 22 20:02 examples.desktop
-rw-r--r-- 1 nibm nibm 807 Nov 22 20:02 .profile
drwxrwxr-x 2 nibm nibm 4096 Nov 22 20:34 web/
nibm@COHDSE172F-026-virtual-machine:~$ cd web
nibm@COHDSE172F-026-virtual-machine:~/web$ vim index.html
nibm@COHDSE172F-026-virtual-machine:~/web$ cat index.html
<html>
<head>
<title> Welcome </title>
</head>
<body>
<h1> <center> Welcome to NIBM Web Page! </center> </h1>
</body>
</html>
nibm@COHDSE172F-026-virtual-machine:~/web$ cd
nibm@COHDSE172F-026-virtual-machine:~$ exit
logout
root@COHDSE172F-026-virtual-machine:/home/cohdse172f026# cd /etc/apache2/sites-available
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# ll
total 24
drwxr-xr-x 2 root root 4096 Nov 22 19:58 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
-rw-r--r-- 1 root root 1332 Jun 27 13:05 000-default.conf
-rw-r--r-- 1 root root 6338 Jun 27 13:05 default-ssl.conf
-rw-r--r-- 1 root root 1332 Nov 22 19:58 nibm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# vim nibm.lk.conf
```

```
Activities Terminal Thu 22:05
root@COHDSE172F-026-virtual-machine: /etc/apache2/sites-available

File Edit View Search Terminal Help

# The ServerName directive sets the request scheme, hostname and port that
# the server uses to identify itself. This is used when creating
# redirection URLs. In the context of virtual hosts, the ServerName
# specifies what hostname must appear in the request's Host: header to
# match this virtual host. For the default virtual host (this file) this
# value is not decisive as it is used as a last resort host regardless.
# However, you must set it for any further virtual host explicitly.
#ServerName www.example.com

ServerName nibm.lk
ServerAdmin webmaster@localhost
DocumentRoot /home/nibm/web

# Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
# error, crit, alert, emerg.
# It is also possible to configure the loglevel for particular
# modules, e.g.
#LogLevel info ssl:warn

<Directory /home/nibm/web>
Options Indexes FollowSymLinks
AllowOverride none
Require all granted
</Directory>

ErrorLog ${APACHE_LOG_DIR}/nibm/error.log
CustomLog ${APACHE_LOG_DIR}/nibm/access.log combined

# For most configuration files from conf-available/, which are
# enabled or disabled at a global level, it is possible to
# include a line for only one particular virtual host. For example the
-- INSERT --
11,20-27 14%
```

• Hosting the web page

```
Activities Terminal Thu 21:28
root@COHDSE172F-026-virtual-machine: /etc/apache2

File Edit View Search Terminal Help

root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# ll
total 24
drwxr-xr-x 2 root root 4096 Nov 22 19:58 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
-rw-r--r-- 1 root root 1332 Jun 27 13:05 000-default.conf
-rw-r--r-- 1 root root 6338 Jun 27 13:05 default-ssl.conf
-rw-r--r-- 1 root root 1332 Nov 22 19:58 nlbm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# vim nlbm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# cd /var/log/apache2
root@COHDSE172F-026-virtual-machine:/var/log/apache2# ll
total 12
drwxr-x--- 2 root adm 4096 Nov 22 19:51 ./
drwxrwxr-x 13 root syslog 4096 Nov 22 19:51 ../
-rw-r----- 1 root adm 0 Nov 22 19:51 access.log
-rw-r----- 1 root adm 997 Nov 22 19:51 error.log
-rw-r----- 1 root adm 0 Nov 22 19:51 other_vhosts_access.log
root@COHDSE172F-026-virtual-machine:/var/log/apache2# cd /etc/apache2/
root@COHDSE172F-026-virtual-machine:/etc/apache2# ll sites-*
sites-enabled:
total 24
drwxr-xr-x 2 root root 4096 Nov 22 21:22 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
-rw-r--r-- 1 root root 1332 Jun 27 13:05 000-default.conf
-rw-r--r-- 1 root root 6338 Jun 27 13:05 default-ssl.conf
-rw-r--r-- 1 root root 1474 Nov 22 21:22 nlbm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2#
```

```
Activities Terminal Thu 22:14
root@COHDSE172F-026-virtual-machine: /etc/apache2

File Edit View Search Terminal Help

-rw-r--r-- 1 root root 6338 Jun 27 13:05 default-ssl.conf
-rw-r--r-- 1 root root 1474 Nov 22 21:22 nlbm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2# cd sites-enabled
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-enabled# ll
total 8
drwxr-xr-x 2 root root 4096 Nov 22 21:30 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
lrwxrwxrwx 1 root root 35 Nov 22 19:51 000-default.conf -> ../sites-available/000-default.conf
lrwxrwxrwx 1 root root 31 Nov 22 21:30 nlbm.lk.conf -> ../sites-available/nlbm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-enabled# cd
root@COHDSE172F-026-virtual-machine:/# systemctl status apache2.service
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Drop-In: /lib/systemd/system/apache2.service.d
            └─apache2-systemd.conf
   Active: failed (Result: exit-code) since Thu 2018-11-22 21:44:56 EST; 11min ago
     Process: 12847 ExecStop=/usr/sbin/apachectl stop (code=exited, status=1/FAILURE)
     Process: 13454 ExecStart=/usr/sbin/apachectl start (code=exited, status=1/FAILURE)
    Main PID: 12096 (code=exited, status=0/SUCCESS)

Nov 22 21:44:54 COHDSE172F-026-virtual-machine systemd[1]: Starting The Apache HTTP Server...
Nov 22 21:44:56 COHDSE172F-026-virtual-machine apachectl[13454]: AH00526: Syntax error on line 23 of /etc/apache2/sites-enabled/nlbm.lk.conf:
Nov 22 21:44:56 COHDSE172F-026-virtual-machine apachectl[13454]: Illegal override option home
Nov 22 21:44:56 COHDSE172F-026-virtual-machine systemd[1]: apache2.service: Control process exited, code=exited status=1
Nov 22 21:44:56 COHDSE172F-026-virtual-machine apachectl[13454]: Action 'start' failed.
Nov 22 21:44:56 COHDSE172F-026-virtual-machine apachectl[13454]: The Apache error log may have more information.
Nov 22 21:44:56 COHDSE172F-026-virtual-machine systemd[1]: apache2.service: Failed with result 'exit-code'.
Nov 22 21:44:56 COHDSE172F-026-virtual-machine systemd[1]: Failed to start The Apache HTTP Server.
root@COHDSE172F-026-virtual-machine:/# cd /etc/apache2/sites-available
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# ll
total 24
drwxr-xr-x 2 root root 4096 Nov 22 21:22 ./
```



```
Activities  Terminal  Thu 22:15
root@COHDSE172F-026-virtual-machine: /etc/apache2

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root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# vim nibm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2/sites-available# cd /var/log/apache2
root@COHDSE172F-026-virtual-machine:/var/log/apache2# ll
total 12
drwxr-x--- 2 root adm 4096 Nov 22 19:51 ./
drwxrwxr-x 13 root syslog 4096 Nov 22 19:51 ../
-rw-r----- 1 root adm 0 Nov 22 19:51 access.log
-rw-r----- 1 root adm 1728 Nov 22 21:33 error.log
-rw-r----- 1 root adm 0 Nov 22 19:51 other_vhosts_access.log
root@COHDSE172F-026-virtual-machine:/var/log/apache2# mkdir nibm
root@COHDSE172F-026-virtual-machine:/var/log/apache2# ll
total 16
drwxr-x--- 3 root adm 4096 Nov 22 22:10 ./
drwxrwxr-x 13 root syslog 4096 Nov 22 19:51 ../
-rw-r----- 1 root adm 0 Nov 22 19:51 access.log
-rw-r----- 1 root adm 1728 Nov 22 21:33 error.log
drwxr-xr-x 2 root root 4096 Nov 22 22:10 nibm/
-rw-r----- 1 root adm 0 Nov 22 19:51 other_vhosts_access.log
root@COHDSE172F-026-virtual-machine:/var/log/apache2# chgrp nibm nibm
root@COHDSE172F-026-virtual-machine:/var/log/apache2# ll
total 16
drwxr-x--- 3 root adm 4096 Nov 22 22:10 ./
drwxrwxr-x 13 root syslog 4096 Nov 22 19:51 ../
-rw-r----- 1 root adm 0 Nov 22 19:51 access.log
-rw-r----- 1 root adm 1728 Nov 22 21:33 error.log
drwxr-xr-x 2 root nibm 4096 Nov 22 22:10 nibm/
-rw-r----- 1 root adm 0 Nov 22 19:51 other_vhosts_access.log
root@COHDSE172F-026-virtual-machine:/var/log/apache2# cd /etc/apache2/
root@COHDSE172F-026-virtual-machine:/etc/apache2# ll sites-*
sites-available:
total 24
drwxr-xr-x 2 root root 4096 Nov 22 22:05 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
```

```
Activities  Terminal  Thu 22:19
root@COHDSE172F-026-virtual-machine: /etc/apache2

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-rw-r--r-- 1 root root 6338 Jun 27 13:05 default-ssl.conf
-rw-r--r-- 1 root root 1484 Nov 22 22:05 nibm.lk.conf

sites-enabled:
total 8
drwxr-xr-x 2 root root 4096 Nov 22 21:30 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
lrwxrwxrwx 1 root root 35 Nov 22 19:51 000-default.conf -> ../sites-available/000-default.conf
lrwxrwxrwx 1 root root 31 Nov 22 21:30 nibm.lk.conf -> ../sites-available/nibm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2# a2ensite nibm.lk
Site nibm.lk already enabled
root@COHDSE172F-026-virtual-machine:/etc/apache2# /etc/init.d/apache2
Usage: apache2 {start|stop|graceful-stop|restart|reload|force-reload}
root@COHDSE172F-026-virtual-machine:/etc/apache2# /etc/init.d/apache2 restart
[ OK ] Restarting apache2 (via systemctl): apache2.service.
root@COHDSE172F-026-virtual-machine:/etc/apache2# ll sites-*
sites-available:
total 24
drwxr-xr-x 2 root root 4096 Nov 22 22:05 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
-rw-r--r-- 1 root root 1332 Jun 27 13:05 000-default.conf
-rw-r--r-- 1 root root 6338 Jun 27 13:05 default-ssl.conf
-rw-r--r-- 1 root root 1484 Nov 22 22:05 nibm.lk.conf

sites-enabled:
total 8
drwxr-xr-x 2 root root 4096 Nov 22 21:30 ./
drwxr-xr-x 8 root root 4096 Nov 22 19:51 ../
lrwxrwxrwx 1 root root 35 Nov 22 19:51 000-default.conf -> ../sites-available/000-default.conf
lrwxrwxrwx 1 root root 31 Nov 22 21:30 nibm.lk.conf -> ../sites-available/nibm.lk.conf
root@COHDSE172F-026-virtual-machine:/etc/apache2# vim /etc/hosts
root@COHDSE172F-026-virtual-machine:/etc/apache2#
```

Activities Terminal Fri 11:48 root@COHDE172F-026-virtual-machine: /etc/apache2

```
File Edit View Search Terminal Help
127.0.0.1 localhost nibm.lk
127.0.1.1 COHDE172F-026-virtual-machine

# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

"/etc/hosts" 9L, 253C 1,27-33 All

