Dr. L's Treatment for the CLP Pain Points #3: Apache and Samba Lab

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Version 1

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Note: The users root and geeko on the virtual machines have the password linux.

Note: It is recommended that you try to solve the tasks on your own based on the description first, and only refer to the step-by-step description if you need hints how to proceed.

1.1 Virtual Hosts

In this exercise, you configure virtual hosts for the accounting.digitalairlines.com and the hr.digitalairlines.com Web sites on server1.

Objectives:

Task I: Prepare the DocumentRoots for the Virtual Hosts
Task II: Prepare the Apache2 Configuration Files for the Virtual Hosts

Special Instructions and Notes:

- As part of the exercise, you need to create name server (or `/etc/hosts`) entries for these domains using the IP address of eth0.

Values needed for the exercise:
accounting.digitalairlines.com: 192.168.111.10
hr.digitalairlines.com: 192.168.111.10

Task I: Prepare the DocumentRoots for the Virtual Hosts

In this task, create a document root for the accounting.digitalairlines.com virtual host in `/srv/www/acounting/` and a document root for the hr.digitalairlines.com virtual host in `/srv/www/hr/`. Create a simple HTML `index.html` page that is displayed when someone connects to the accounting.digitalairlines.com or hr.digitalairlines.com web sites.

Do the following:

1. On server1, open a terminal window and **su –** to root.

2. Create the `/srv/www/hr` and `/srv/www/accounting` directories:

   cd /srv/www ; mkdir ht accounting

3. Using an editor, create a file with the following content and save it as `/srv/www/hr/index.html`:

   ```
   <html>
     <head><title>Human Resources</title></head>
     <body>
        <p>Human Resources</p>
     </body>
   </html>
   ```

4. Using an editor, create a file with the following content and save it as `/srv/www/accounting/index.html`:

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```
<html>
   <head><title>Accounting</title></head>
   <body>
      <p>Accounting</p>
   </body>
</html>
```

Task II: Prepare the Apache2 Configuration Files for the Virtual Hosts

In this task, create a virtual hosts configuration for the accounting.digitalairlines.com and hr.digitalairlines.com websites, using the following information:

	accounting.digitalairlines.com	hr.digitalairlines.com
Configuration file	/etc/apache2/vhosts.d/ accounting.conf	/ etc/apache2/vhosts.d/hr.c onf
DocumentRoot	/srv/www/acounting	/srv/www/hr
ServerName	accounting.digitalairlines.com	hr.digitalairlines.com
ServerAdmin	webmaster@accounting. digitalairlines.com	hr@accounting. digitalairlines.com
Logs	/ var/log/apache2/accountin g/ accounting-error_log / var/log/apache2/accountin g/ accounting-access_log	/var/log/apache2/hr/hr-error_log /var/log/apache2/hr/hr-access_log
CGI-Bin directories	/srv/www/accounting/cgi-bin	/srv/www/hr/cgi-bin

Make sure the Apache server is started automatically when the system boots.

Do the following:

1. Open a terminal window and **su -** to root.

2. Copy the `/etc/apache2/vhosts.d/template` file to

    `/etc/apache2/vhosts.d/hr.conf`

3. Edit the file so it includes the following configuration:(comment lines are omitted here):

    `<VirtualHost *:80>`

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```
                ServerAdmin webmaster@hr.digitalairlines.com
                ServerName hr.digitalairlines.com

                DocumentRoot /srv/www/hr

                ErrorLog /var/log/apache2/hr/hr-error_log
                CustomLog /var/log/apache2/hr/hr-access_log
         combined

                HostnameLookups Off
                UseCanonicalName Off
                ServerSignature On

                ScriptAlias /cgi-bin/ "/srv/www/hr/cgi-bin/"

                <Directory "/srv/www/hr/cgi-bin">
                    AllowOverride None
                    Options +ExecCGI -Includes
                    Order allow,deny
                    Allow from all
                </Directory>

                <IfModule mod_userdir.c>
                    UserDir public_html
                    Include /etc/apache2/mod_userdir.conf
                </IfModule>

                <Directory "/srv/www/hr">
                    Options Indexes FollowSymLinks
                    Order allow,deny
                    Allow from all
                </Directory>
         </VirtualHost>
```

4. Copy the file you just created to the
   /etc/apache2/vhosts.d/acounting.conf and replace "hr" by

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"`accounting`" in the new file.

5. Open the `/etc/apache2/listen.conf` file and remove the comment character (#) in front of the line
   `#NameVirtualHost *:80`
   Save the file and leave the editor.

6. Edit the `/var/lib/named/master/digitalairlines.zone` file and add the following lines to it:
   `hr         IN A 192.168.111.10`
   `accounting  IN A 192.168.111.10`
   (You can also edit `/etc/hosts` on server1 and server2 instead, adding entries on separate lines for the above host names.)

7. Restart the name server by entering **rcnamed restart**.

8. Start the Apache Web Server by entering **rcapache2 start**

9. Check the status of Apache by entering **rcapache2 status**
   Chances are that it is not running.

10. To find out why Apache did not start properly, open the
    `/var/log/apache2/error_log` file and have a look at the last entries in that file.
    Most likely there are entries indicating that Apache could not open a log file for writing. The reason is the directories defined for the log files in your virtual hosts configuration are missing.

11. Create the `/var/log/apache2/hr` and
    `/var/log/apache2/accounting` directories and start Apache.

12. Check the status of Apache, it should be running now.

13. Using a browser, access the http://hr.digitalairlines.com and http://accounting.digitalairlines.com web sites. You should see the text from the HTML files you created as part of Task I.

14. Make sure the Apache server starts automatically when the system boots, using the following command:
    chkconfig apache2 on

You have created virtual hosts for the hr.digitalairlines.com and accounting.digitalairlines.com web sites.

(End of Exercise)

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1.2 Authentication

In this exercise, you configure user authentication for the accounting.digitalairlines.com virtual host you set up in the previous lab.

Objectives:

Task I: Configure Authentication in the Configuration File
Task II: Configure Authentication using a .htaccess File

Special Instructions and Notes:

- None

Task I: Configure Authentication in the Configuration File

In this task, you add authentication to the accounting.digitalairlines.com Website by adding the necessary parameters for Basic authentication to the `/etc/apache2/vhosts.d/accounting.conf` file. Create a password database for use by apache that allows the geeko user to access the Web pages using the password "suse". Users that have an account in the database may access the Web pages (provided they know the password).

Do the following:

5. Open a terminal window and **su –** to root.

6. Open the `/etc/apache2/vhosts.d/accounting.conf` file in an editor.

   Within the

   ```
   <Directory "/srv/www/accounting">

           Options Indexes FollowSymLinks

           Order allow,deny

           Allow from all

   </Directory>
   ```

   block, add the following lines:

   ```
   AuthType Basic

   AuthName "Accounting Intranet"

   AuthUserFile /etc/apache2/htpasswd

   Require valid-user
   ```

7. Save the file and close the editor.

8. Add the geeko user to the password file, by entering

```
htpasswd2 -c /etc/apache2/htpasswd geeko
```

Use the password "suse".

9. Restart the Apache web server by entering **rcapache2 restart**.

10. In a browser, open the http://accounting.digitalairlines.com web site.

A dialog should prompt you to enter user name and password.

11. Enter `geeko` and `suse`; you should see the Accounting HTML page you created earlier.

12. Close the browser.

Task II: Configure Authentication using a .htaccess File

Change the configuration in `/etc/apache2/vhosts.d/accounting.conf` from Task I to allow the use of `.htaccess` files and create such a file in the `/srv/www/accounting/` directory.

Do the following:

1. Open a terminal window and **su -** to root.

2. Open the `/etc/apache2/vhosts.d/accounting.conf` file in an editor.

    Replace the following lines:

    `AuthType Basic`

    `AuthName "Accounting Intranet"`

    `AuthUserFile /etc/apache2/htpasswd`

    `Require valid-user`

    with

    `AllowOverride AuthConfig`

3. Restart the Apache web server by entering **rcapache2 restart**.

4. In a browser, open the http://hr.digitalairlines.com web site.

    You should not be prompted to enter user name and password.

5. In an editor, create a `/srv/www/accounting/.htaccess` file with the following content:

    `AuthType Basic`

    `AuthName "Accounting Intranet"`

    `AuthUserFile /etc/apache2/htpasswd`

    `Require valid-user`

6. In the browser, reload the http://accounting.digitalairlines.com web site.

    You should be prompted again to enter user name and password.

7. Enter `geeko` and `suse`; you should see the Accounting HTML page you created earlier.

You have allowed access to the accounting.digitalairlines.com domain based on user name and password.

(End of Exercise)

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1.3 Samba Server

In this exercise, you configure a simple Samba server on server1.

Objectives:

Task I: Configure Authentication in the Configuration File

Special Instructions and Notes:

- None

Task I: Configure Authentication in the Configuration File

Configure the Samba server based on the following information:

13. The Samba server should only be accessible from hosts in the 192.168.111.0/24 network

14. In the home directories, all files have to be created with read and write access for the owner and the group, and no access for anyone else

15. A share named data with path `/data` needs to be created

16. The geeko user needs to be added to the Samba user database (password linux)

Do the following:

1. Open a terminal window and **su -** to root.

2. Open the `/etc/samba/smb.conf` file in an editor.

   Edit the file to include the following lines

   In the [Global] section:

   ```
   workgroup = ATTLIVE12
   ```

   ```
   allow hosts = 192.168.111.0/24
   ```

   In the [homes] section:

   ```
   create mask = 0770
   ```

3. Create a [data] section by adding the following lines to the end of the file:

   ```
   [data]
           comment = Data directory
           path = /data
           read only = No
           inherit acls = Yes
   ```

```
                        veto files = /aquota.user/groups/shares/
                        browseable = Yes
```

4.   Save the file and close the editor.

5.   Create the /data directory using the **mkdir** command.

6.   Add the geeko user to the Samba password database, by entering

     smbpasswd -a geeko

     Use the password "linux".

7.   Start the Samba server by entering **rcnmb start ; rcsmb start**.

     Using **smbclient -U geeko -L server1**, test access to the Samba service

     on server1.

You have configured a basic Samba server.

(End of Exercise)

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1.4 Samba Client

In this exercise, you configure server2 as a Samba client that automatically mounts files from server1.

Objectives:

Task I: Configure /etc/samba/smbfstab

Special Instructions and Notes:

- None

Task I: Configure /etc/samba/smbfstab

In this task, you configure the `/etc/samba/smbfstab` file to automatically mount the data share from server1 to the `/data` directory on server2.

Do the following:

17. On server2, open a terminal window and **su -** to root.

18. Open the `/etc/samba/smbfstab` file in an editor.

    Add the following line to the file (in one line):

    `//server1/data  /data  cifs`

    `username=geeko,password=linux`

19. Save the file and close the editor.

20. Create the `/data` directory.

21. In the terminal windows, enter **rcsmbfs start**

22. Enter **mount** to see if the directory has been mounted correctly

---

You have configured the `/etc/samba/smbfstab` file to automatically mount a share.

(End of Exercise)

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