Name: _____

The Apache Web Server is an important part of Linux networking and is also a good way to become acquainted with CGI, HTTP and the application of encryption to both technologies. In this lab you will install the Apacheweb server two different ways.

The first installation will be installed using your current installation of Linux and will give the student experience installing and configuring Apache using a custom port and CGI.

Part 1a

Be sure you are logged in as a regular user and use the following steps as a guide.

1) Go to http://users.uniserve.com/~dharris and download the apache-tar file to your home directory
2) Extract the Apache directory structure using **tar zxvf apache-tar**
3) Use the pattern matching feature in vi to search the files apachestart, apachestop, and httpd.conf for all occurrences of **harrisd** and replace it with your home directory name.
4) You can now start your web server using **./apachestart** from the apache directory.
5) If the server does not start check **error_log** by using the **tail** command with **-f**.
6) The web server can be shutdown using **./apachestop** from the **apache** directory.
7) You can access your new server using http://127.0.0.1:8011 from your browser

Part 1b

The CGI script is written in Perl and performs the function of calculating total cost of an item when transmitted the cost and tax rate from a web browser. After testing that your web server works (above) use the following steps as a guide to setting up the CGI script:

1) Create a directory named cgi-bin under the apache directory.
2) Modify the **ScripAlias** parameter in the **srm.conf** file to point at your cgi-bin directory.
3) Download the **cgi-tar** file from **tahuti.dyn.dhs.org**.
4) Use tar to extract the files as you did above.
5) Copy the file called **mycgi.cgi** into your newly created **cgi-bin** directory.
6) Delete all existing web content from your **html** directory.
7) Copy the new **index.html** file into it the **html** directory.
8) Test your setup using your browser.
9) Demonstrate your setup to the instructor for marking.

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Using the sample code provided at the end of this lab create a Perl script that can parse the error_log file and find all restarts of the Web Server.

/4

Create a new Perl script based on the listing provided that parses the access_log file to find all connections made to your web server. Make this so it runs from a webpage.

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Part 2

Do a completely fresh installation of RH 6.0 but do not install the web server. Once the installation of Linux is complete download and install the Apache server using the following steps.

Steps to download and install the Apache Web Server:

1. Pick directory to download and compile to -- /usr/src
2. Start ftp client: ftp.apache.org

```
$ ftp ftp.apache.org
      user: anonymous
      pswd: email address e.g. windozebytz@evilempire.com
ftp> cd dist
ftp> bin
ftp> hash
```

3. Get the file

```
ftp> mget apache_1.3.9.tar.gz
ftp> quit
```

4.
```
$ gunzip apache_1.3.9.tar.gz
$ tar -xvf apache_1.3.9.tar
$ cd apache_1.3.9
```

5. $ ./configure
6. $ make
7. $ make install

Now start you new web server and set it up to use CGI with the programs provided and demonstrate it for your instructor.

/7

Make the appropriate changes to the httpd.conf and srm.conf files. Then using the information available from www.apache.org set up a .htaccess file and password file and allow only authenticated users to access your server.

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Listing of the Perl Script Source Code

```
#!/usr/bin/perl -w
# Retail Price Calculator
# Daniel W. Harris
# Fall 1999
use strict;
# Initialize CGI module
use CGI qw(:all);
my $query = new CGI();
my $baseprice = 0;
my $taxrate =0;
if( $query->param( "baseprice" ) ) {
        $baseprice = $query->param( "baseprice" );
}
else {
        $baseprice = 0;
}
if( $query->param( "taxrate" ) ) {
        $taxrate = $query->param( "taxrate" );
}
else  {
        $taxrate = 0;
}
print header;
print <<HTML_START;
<HTML>
<HEAD>
        <TITLE>Daniel W. Harris </TITLE>
</HEAD>
<BODY BGCOLOR="White">
<H1>The Retail Price Calculator</H1>

HTML_START
if( ($baseprice =~ m/[a-zA-Z]/) || ($taxrate =~ m/[a-zA-Z]/)){
print("<P><H2> You must Enter a number in both form blanks!</H2></P>");
}
else{
```

```
my $total= $baseprice+($baseprice*($taxrate/100));
        print( "<P>Your Total Order is  $total Dollars</P>");

        print( "<P>The Base Price is  $baseprice Dollars</P>\n" );
        print( "<P>The Tax Rate is   $taxrate Percent</P>\n");
}
print <<HTML_START;
</BODY>
</HTML>
HTML_START
```

Listing of the HTML Document Source Code

```
<HTML>
<HEAD>
    <TITLE>Daniel W. Harris Fall 1999</TITLE>
</HEAD>
<BODY>
    <H1>The Retail Price Calculator</H1>
<FORM METHOD="POST" ACTION="/cgi-bin/mycgi.cgi">
Enter the Base Price:$ <INPUT TYPE="TEXT" NAME="baseprice" VALUE="0.00"
SIZE="7"><BR>
Enter the Tax Rate as a Percentage: <INPUT TYPE="TEXT" NAME="taxrate"
VALUE="00.0" SIZE="4">%<BR>
<INPUT TYPE=SUBMIT VALUE="Press to Submit The Form">
</FORM>
</BODY>
</HTML>
```

Listing of makepass

```
#!/bin/bash
/usr/local/apache/bin/htpasswd /home/harrisd/apache/.pword $1
```

Sample .htaccess file

```
AuthName Dan
AuthType Basic
AuthUserFile /home/harrisd/apache/.pword
require valid-user
```

Perl Script to Parse Error Log

```
#!/usr/bin/perl -w
use strict;

my $data = `cat /home/harrisd/apache/logs/error_log | grep 'resuming'`;
print $data
```

Perl Script to Parse Access Log

```
#!/usr/bin/perl -w
# Daniel W. Harris
use strict;
# Initialize CGI module
use CGI qw(:all);
my $query = new CGI();
print header;
print <<HTML_START;
<HTML>
<HEAD>
        <TITLE>Online Administration</TITLE>
</HEAD>
<BODY BGCOLOR="White">
<H3>Access Information for Web Site</H3>
HTML_START
# Open file.
my $file = "/home/harrisd/apache/logs/access_log";
if( ! open( FILE, "$file" ) ) {
        print( "Could not open $file\n" );
        exit;
}
my @array;
my @tempor;
print <<HTML;
<TABLE BORDER=0 CELLPADDING=4 CELLSPACING=0>
<TR>
<TD BGCOLOR="BLACK"><FONT FACE="Arial" COLOR="White">IP
Address</FONT></TD>
<TD BGCOLOR="BLUE"><FONT FACE="ARIAL" COLOR="White">Date of
Access</FONT></TD>
<TD BGCOLOR="RED"><FONT FACE="ARIAL" COLOR="White">File
Accessed</FONT></TD>
</TR>
HTML
while( <FILE> ) {
        if( $_ =~ /GET/ ) {
                @array = split( / /, $_ );
                if (( $array[6] eq "/") || ($array[6] =~ /html/)){
                print "<TR>";
                print "<TD BGCOLOR=\"Silver\">", $array[0]," ","</TD>\n";
```

```
                @tempor = split(/\[/, $array[3]);
                print "<TD BGCOLOR=\"Yellow\">", $tempor[1]," ","</TD>\n";
                if( $array[6] eq "/" ){
                        print "<TD BGCOLOR=\"GREEN\">index.html</TD>\n";
}
                else{
                print "<TD BGCOLOR=\"99CCCC\">$array[6]</TD>\n";
}
print "</TR>";
        }
}
}
close( FILE );
print <<HTML_START;
</TABLE>
</BODY>
</HTML>
HTML_START
```

Web Page for Perl Script to Parse Access Log

```
<HTML>
<FORM METHOD="POST" ACTION="/cgi-bin/frmtd.pl"-->
To View a Listing of access made to this website click on the submit button
<INPUT TYPE=SUBMIT VALUE="Website Access Information"><BR>
</FORM>
</BODY>
</HTML>
```