

APACHE (Web/HTTP) SERVER with Authentication

Class II

Web server configuration

```
root@localhost:/var/www/html
File Edit View Terminal Go Help
# Almost any Apache directive may go into a VirtualHost container.
# The first VirtualHost section is used for requests without a known
# server name.
#
#<VirtualHost *>
#   ServerAdmin webmaster@dummy-host.example.com
#   DocumentRoot /www/docs/dummy-host.example.com
#   ServerName dummy-host.example.com
#   ErrorLog logs/dummy-host.example.com-error_log
#   CustomLog logs/dummy-host.example.com-access_log
#</VirtualHost>

<VirtualHost 192.168.0.20>
  ServerAdmin root@station20.example.com
  DocumentRoot /var/www/html
  ServerName station20.example.com
  ErrorLog logs/station20.example.com-error_log
  CustomLog logs/station20.example.com-access_log

  <Directory /var/www/html>
    AllowOverride AuthConfig
  </Directory>
</VirtualHost>
-- INSERT --
```

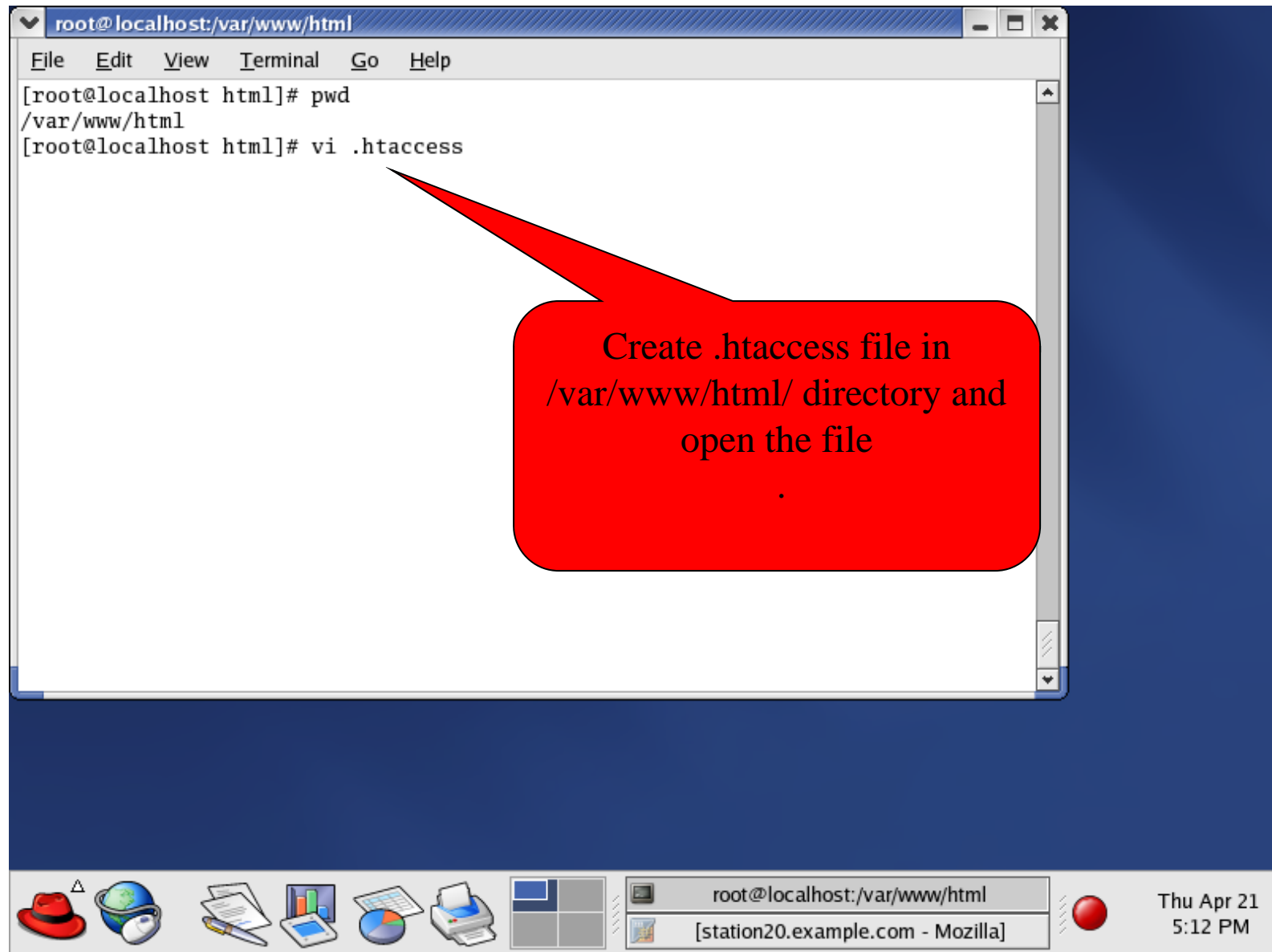
To allow only a particular user to access our web site we can add directory session inside virtualhost session.

Setting up /var/www/html/ access control directive .

Directives that can be overridden by the entries in an .htaccess file.

Thu Apr 21 5:06 PM

Web server configuration



Web server configuration

The screenshot shows a terminal window with the following configuration:

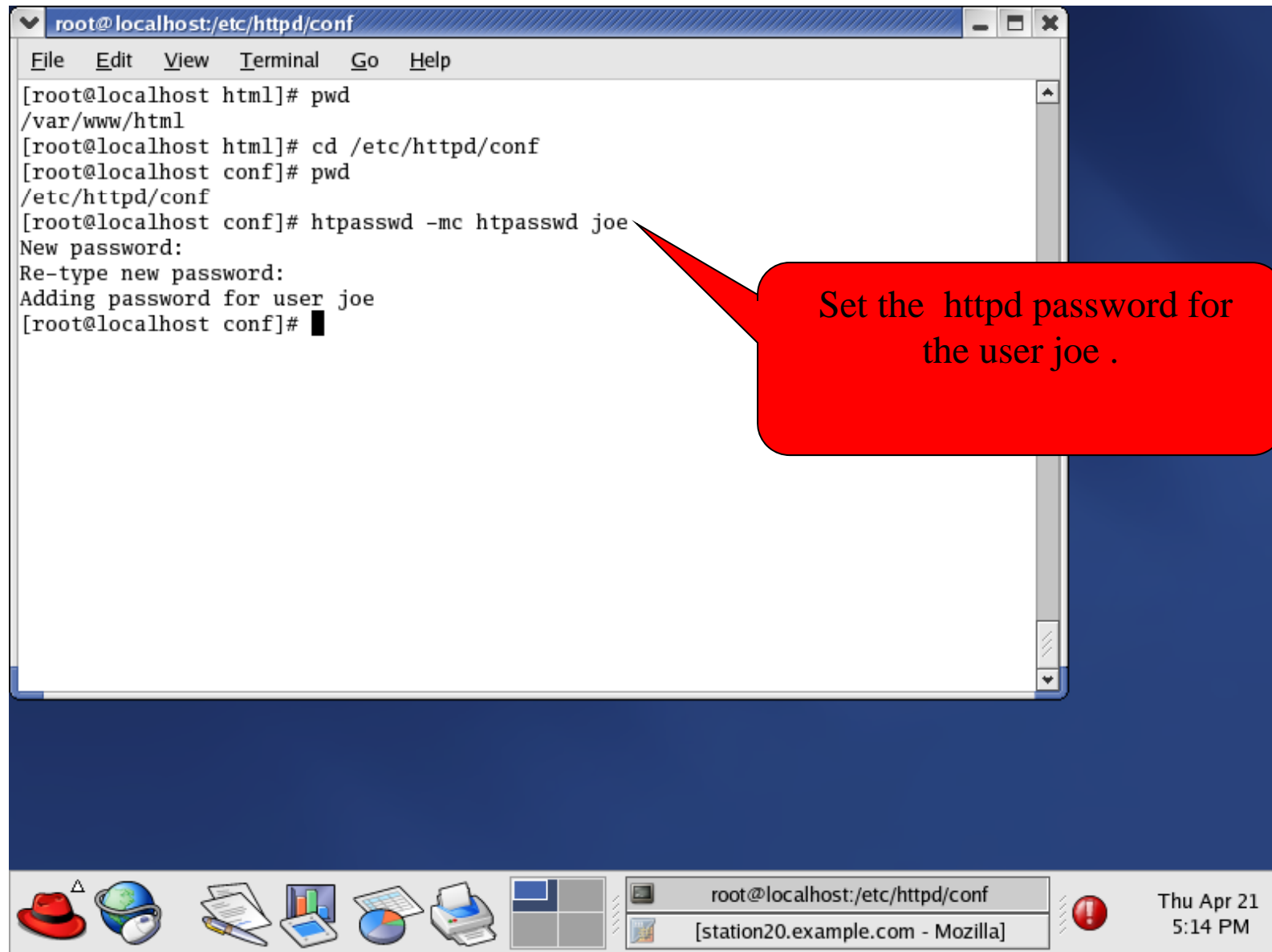
```
AuthName "station20"  
AuthType Basic  
AuthUserFile /etc/httpd/conf/httpasswd  
require valid-user
```

Four red callout boxes provide explanations:

- AuthName "station20"**: The authorization realm is given to the client so the user knows which username and password to send.
- AuthType Basic**: Type of user authentication for directory. only Basic and Digest are currently implemented.
- AuthUserFile /etc/httpd/conf/httpasswd**: List of users and passwords for user authentication.
- require valid-user**: Selects the authenticated users that can access a directory.

The terminal window title is `root@localhost:/var/www/html`. The taskbar at the bottom shows various icons, the current directory `root@localhost:/var/www/html`, the browser `[station20.example.com - Mozilla]`, and the date/time `Thu Apr 21 5:12 PM`.

Web server configuration



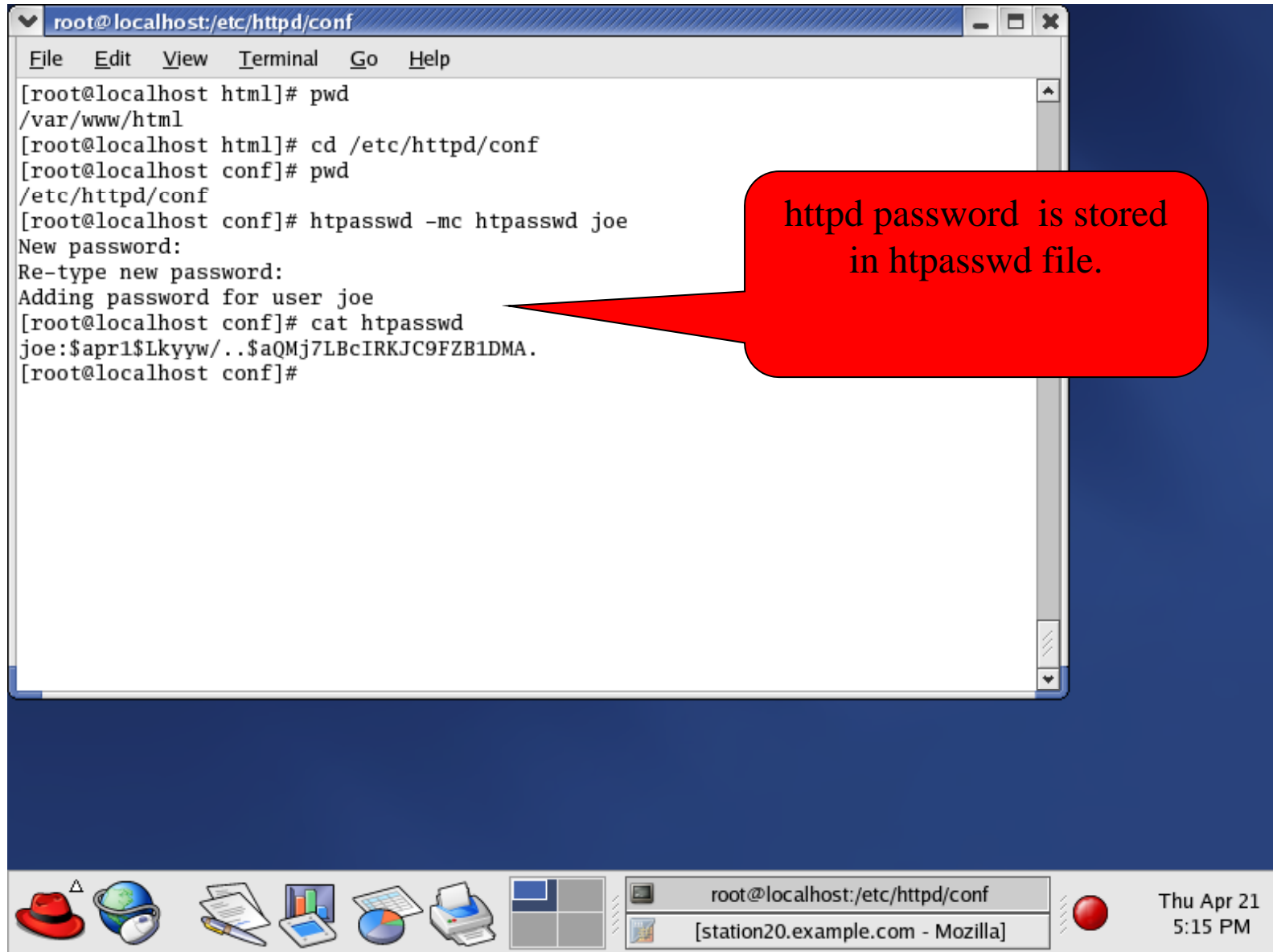
```
root@localhost:/etc/httpd/conf
File Edit View Terminal Go Help
[root@localhost html]# pwd
/var/www/html
[root@localhost html]# cd /etc/httpd/conf
[root@localhost conf]# pwd
/etc/httpd/conf
[root@localhost conf]# htpasswd -mc htpasswd joe
New password:
Re-type new password:
Adding password for user joe
[root@localhost conf]#
```

Set the httpd password for the user joe .

root@localhost:/etc/httpd/conf
[station20.example.com - Mozilla]

Thu Apr 21 5:14 PM

Web server configuration



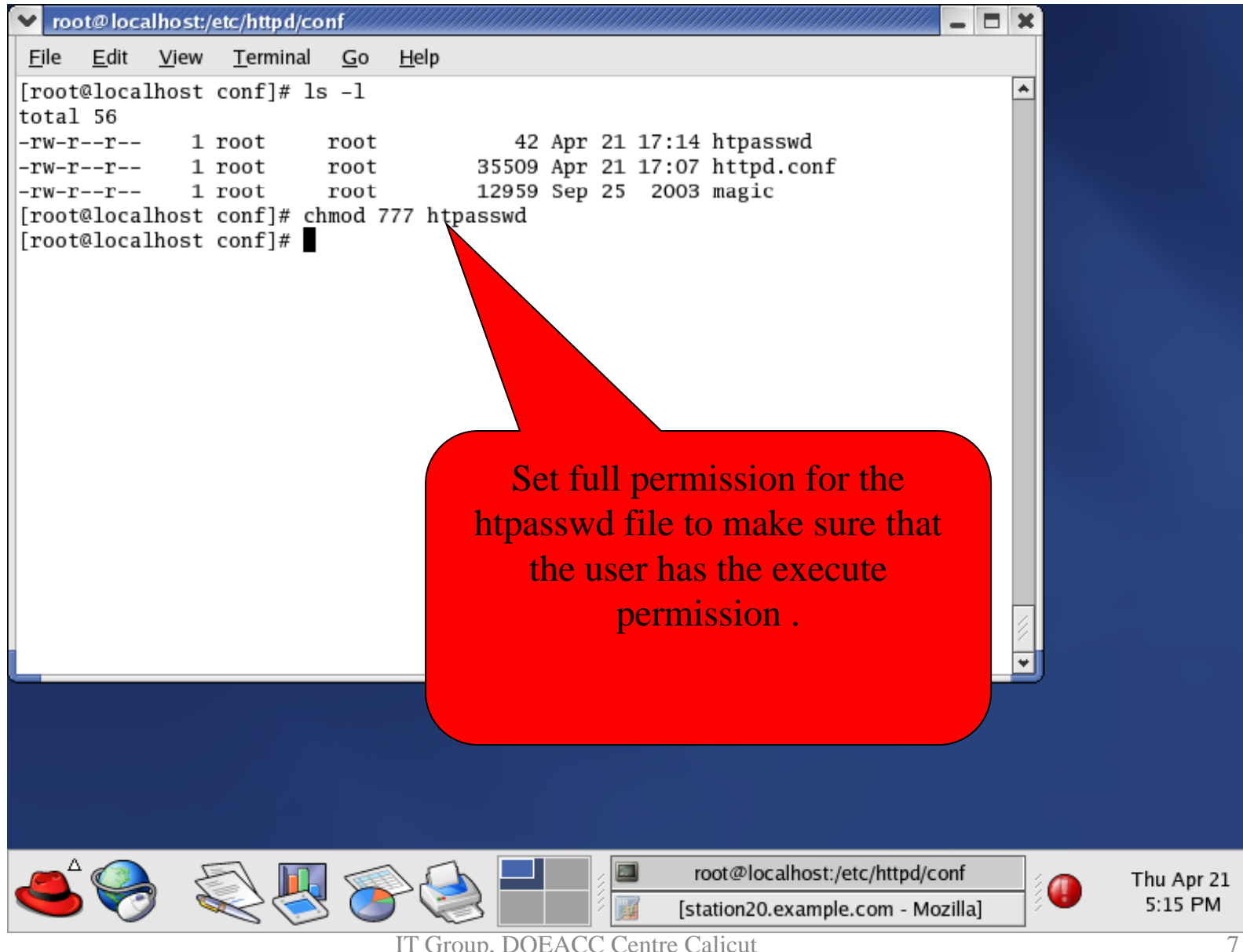
The image shows a terminal window titled 'root@localhost:/etc/httpd/conf'. The terminal output is as follows:

```
[root@localhost html]# pwd
/var/www/html
[root@localhost html]# cd /etc/httpd/conf
[root@localhost conf]# pwd
/etc/httpd/conf
[root@localhost conf]# htpasswd -mc htpasswd joe
New password:
Re-type new password:
Adding password for user joe
[root@localhost conf]# cat htpasswd
joe:$apr1$Lkyyw/..$aQMj7LBcIRKJC9FZB1DMA.
[root@localhost conf]#
```

A red callout box points to the terminal output with the text: "httpd password is stored in htpasswd file."

The terminal window is part of a desktop environment. The taskbar at the bottom contains several icons: a red hat, a globe, a document, a bar chart, a pie chart, a printer, and a window icon. The system tray on the right shows the current directory 'root@localhost:/etc/httpd/conf', the browser '[station20.example.com - Mozilla]', and the date and time 'Thu Apr 21 5:15 PM'.

Web server configuration



The screenshot shows a terminal window titled `root@localhost:/etc/httpd/conf`. The terminal output shows the command `ls -l` and its output:

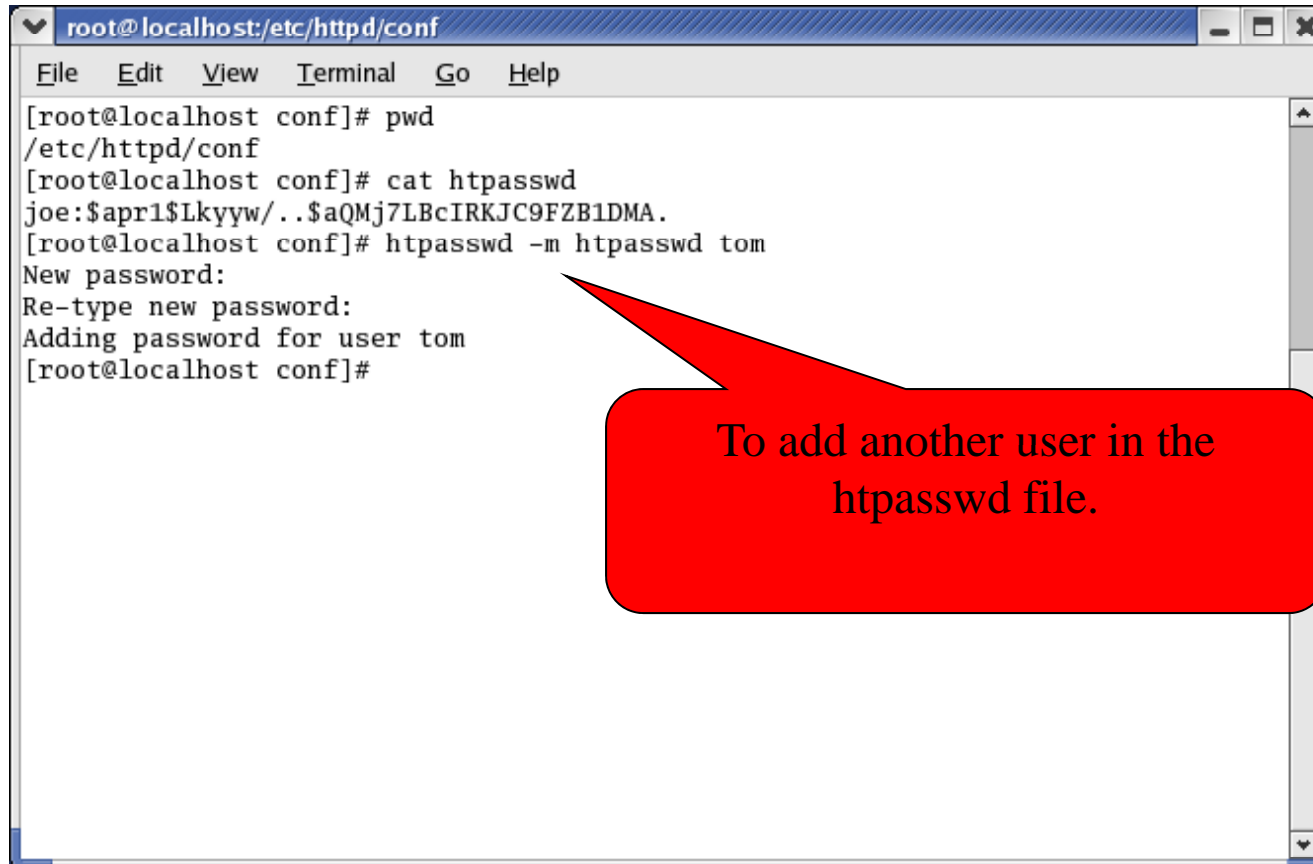
```
[root@localhost conf]# ls -l
total 56
-rw-r--r-- 1 root root 42 Apr 21 17:14 httpasswd
-rw-r--r-- 1 root root 35509 Apr 21 17:07 httpd.conf
-rw-r--r-- 1 root root 12959 Sep 25 2003 magic
```

Following this, the command `chmod 777 httpasswd` is entered. A red callout box points to the `httpasswd` file in the listing and contains the text:

Set full permission for the httpasswd file to make sure that the user has the execute permission .

The terminal window is part of a desktop environment. The taskbar at the bottom includes icons for a red hat, a globe, a notepad, a bar chart, a pie chart, a printer, and a window manager. The system tray shows the current directory `root@localhost:/etc/httpd/conf`, an open Mozilla browser window at `station20.example.com`, and the date/time `Thu Apr 21 5:15 PM`.

Web server configuration



A terminal window titled 'root@localhost:/etc/httpd/conf' with a menu bar (File, Edit, View, Terminal, Go, Help). The terminal shows the following commands and output:

```
[root@localhost conf]# pwd
/etc/httpd/conf
[root@localhost conf]# cat htpasswd
joe:$apr1$Lkyyw/..$aQMj7LBcIRKJC9FZB1DMA.
[root@localhost conf]# htpasswd -m htpasswd tom
New password:
Re-type new password:
Adding password for user tom
[root@localhost conf]#
```

To add another user in the htpasswd file.

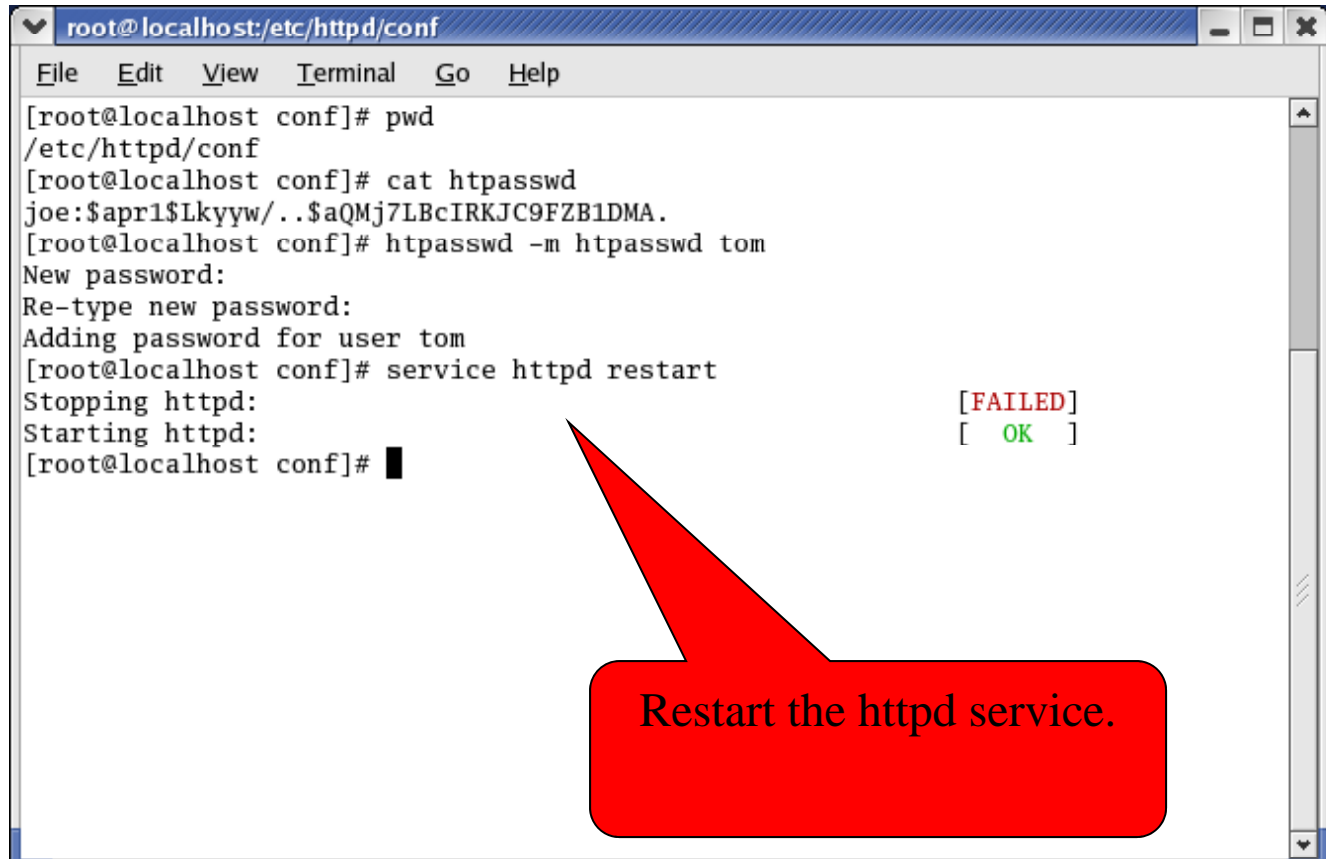


root@localhost:/etc/httpd/conf



Thu Apr 21
5:21 PM

Web server configuration



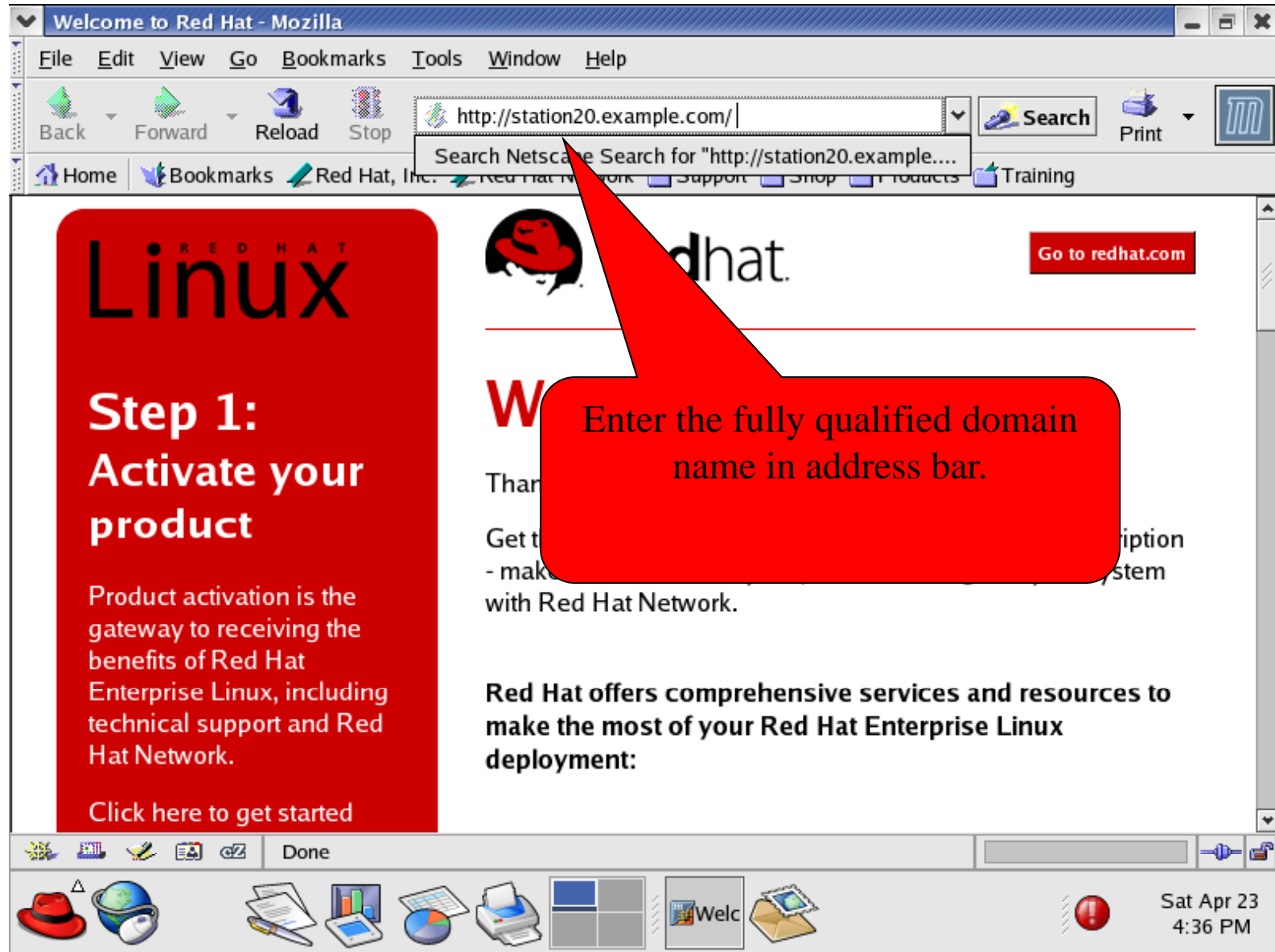
A terminal window titled 'root@localhost:/etc/httpd/conf' with a menu bar (File, Edit, View, Terminal, Go, Help). The terminal shows the following commands and output:

```
[root@localhost conf]# pwd
/etc/httpd/conf
[root@localhost conf]# cat htpasswd
joe:$apr1$Lkyyw/..$aQMj7LBcIRKJC9FZB1DMA.
[root@localhost conf]# htpasswd -m htpasswd tom
New password:
Re-type new password:
Adding password for user tom
[root@localhost conf]# service httpd restart
Stopping httpd:
Starting httpd:
```

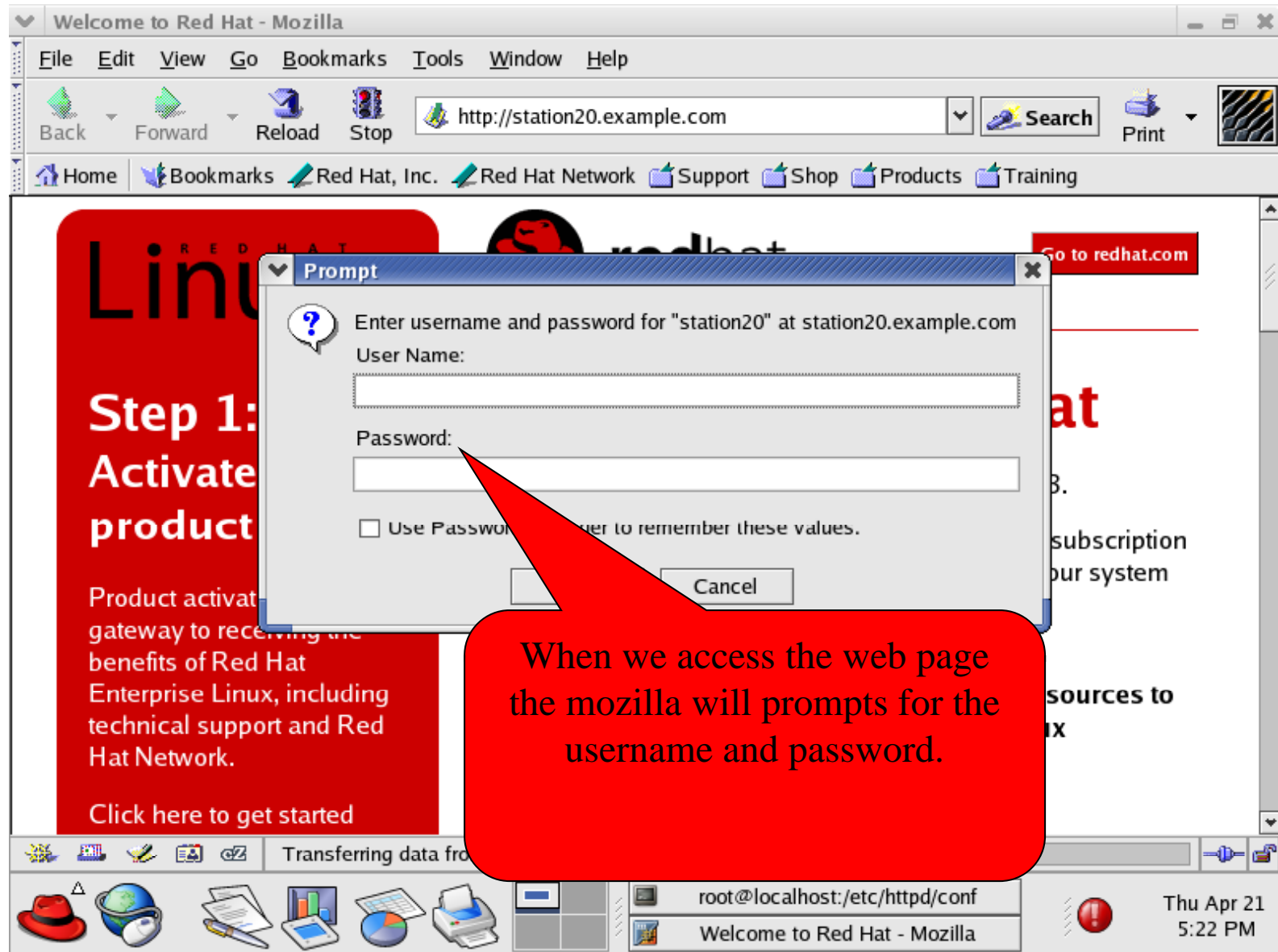
To the right of the terminal output, the status of the service restart is shown in two lines: **[FAILED]** and **[OK]**. A red callout bubble points to the **[FAILED]** status with the text "Restart the httpd service."

The terminal window is part of a desktop environment with a taskbar at the bottom. The taskbar contains icons for a red hat, a globe, a notepad, a bar chart, a pie chart, a printer, and a window manager. The system tray shows the current path 'root@localhost:/etc/httpd/conf', a red status indicator, and the date/time 'Thu Apr 21 5:22 PM'.

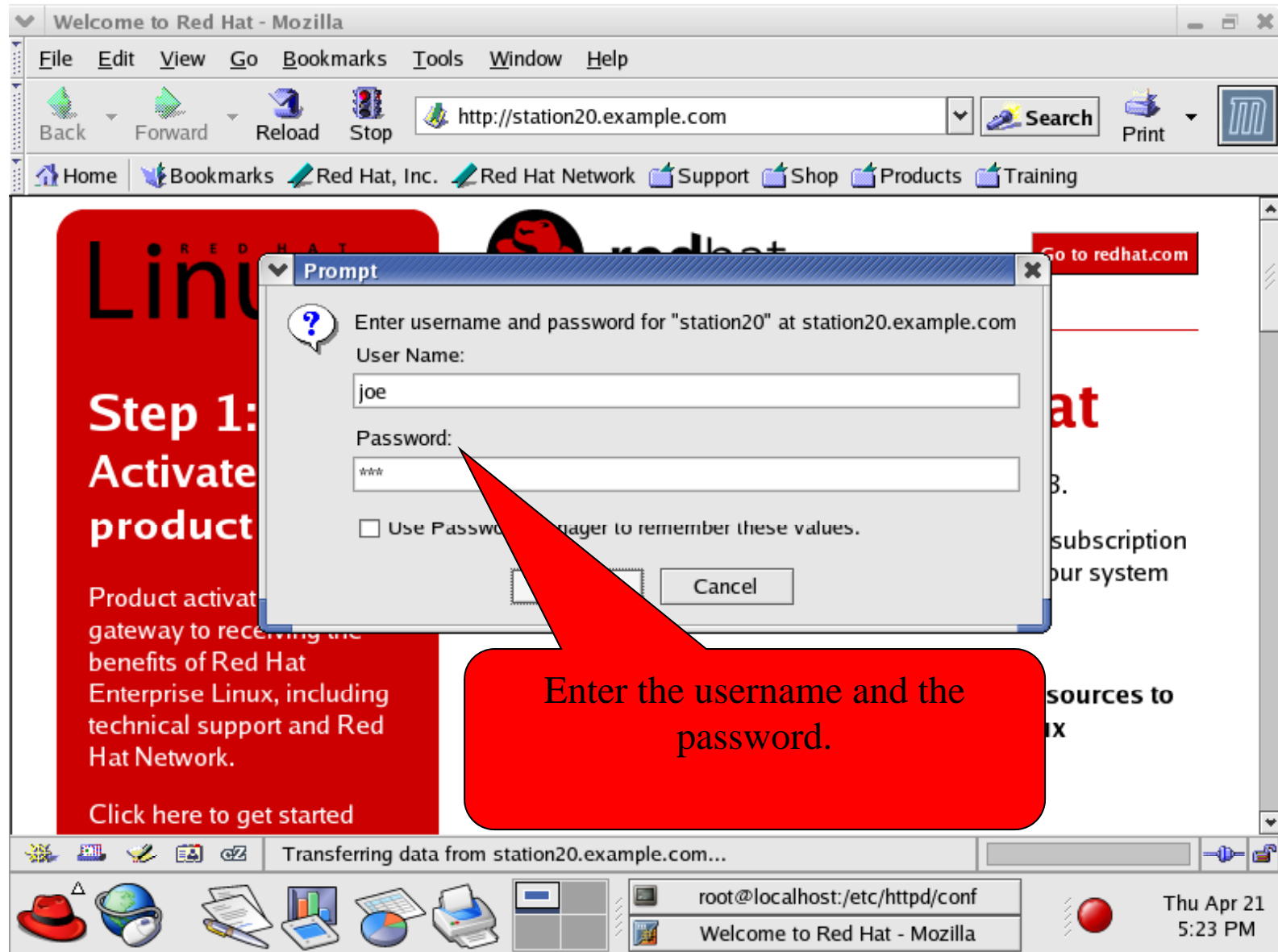
Web server configuration



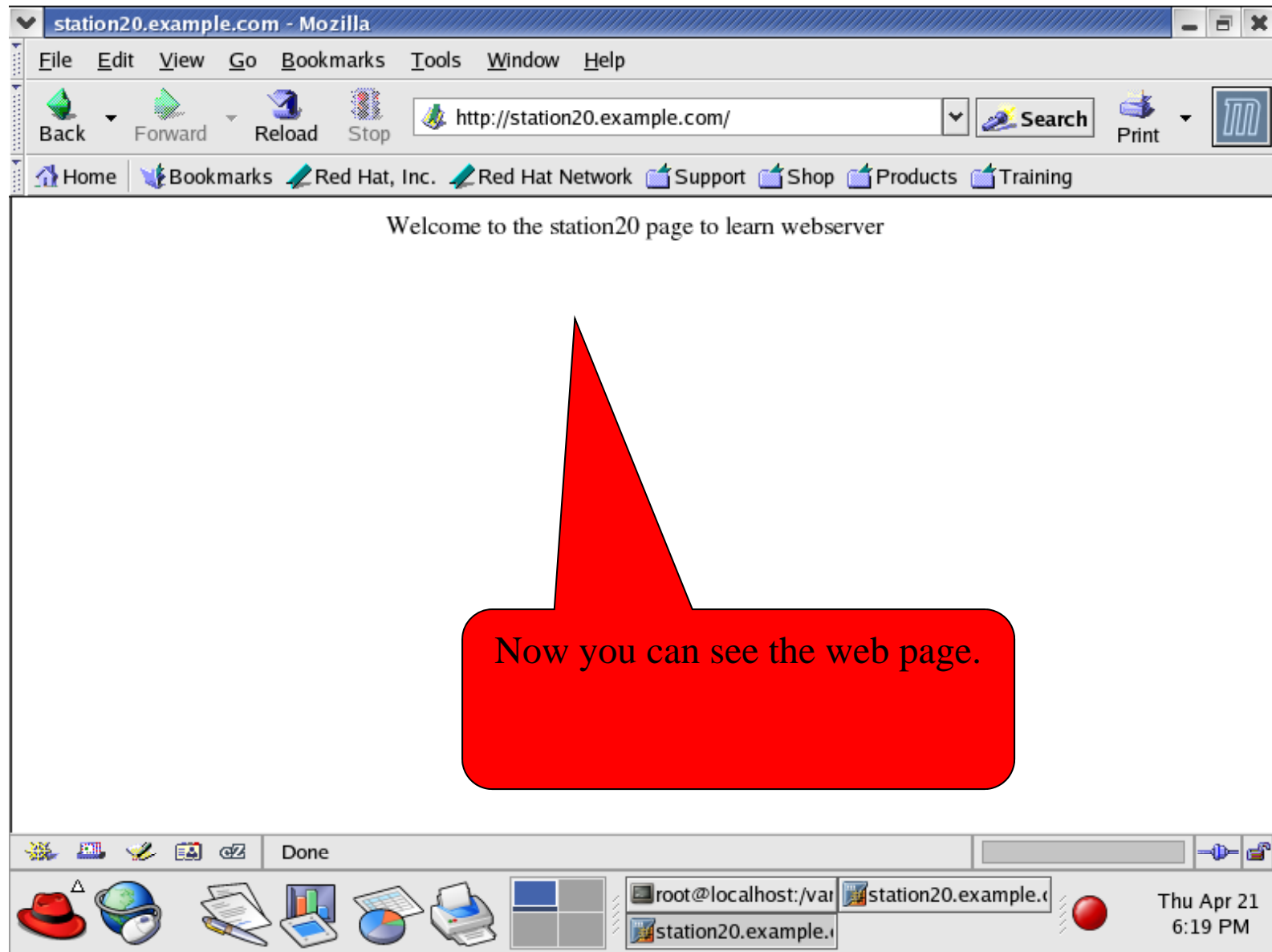
Web server configuration



Web server configuration



Web server configuration

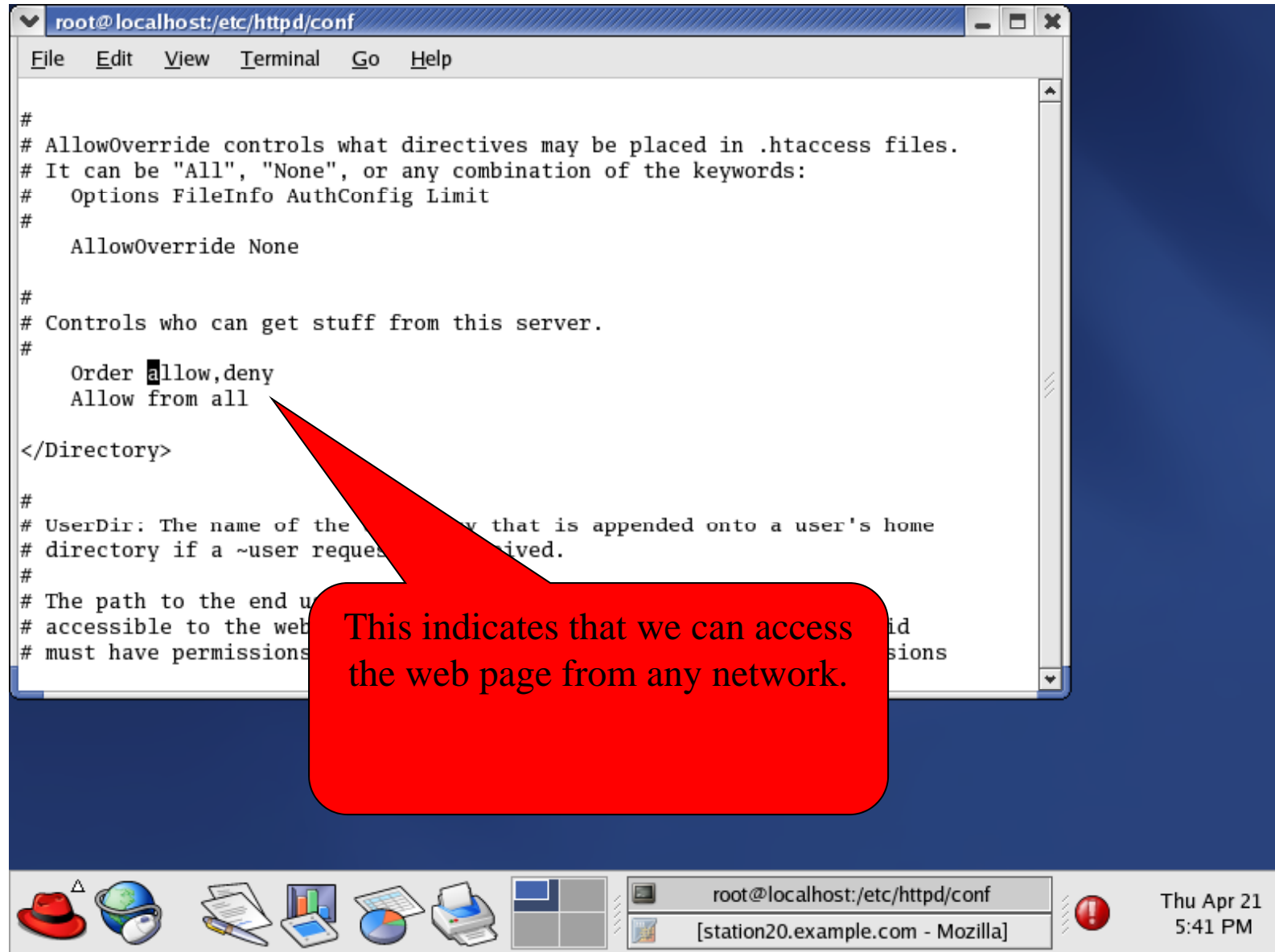


Access Control

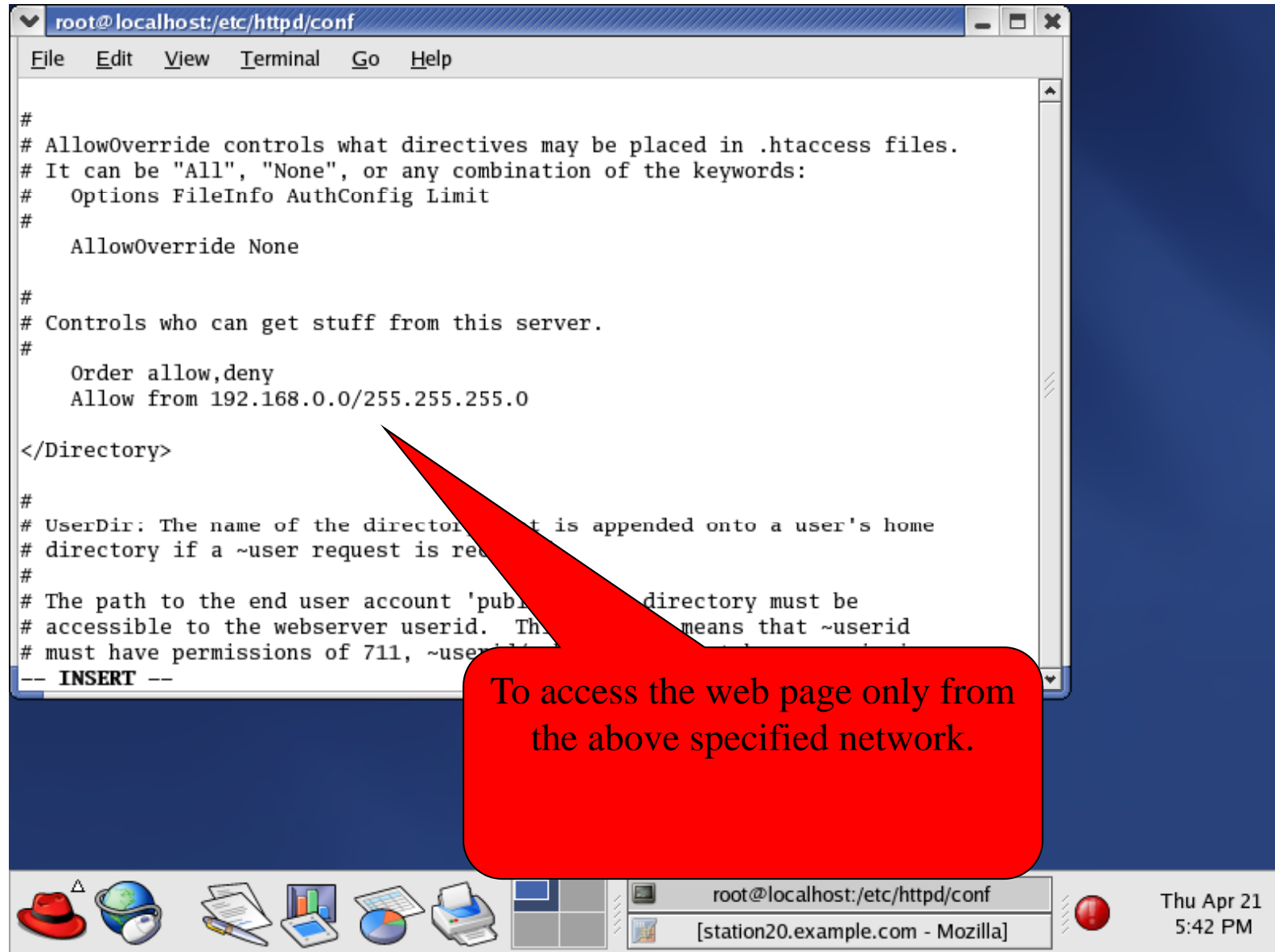
- The web access can be controlled by using access control directives such as allow and deny.

- | Directive | Description |
|------------------------------|---|
| deny from host
host | Determines hosts that can access a given directory: all, or partial or full domain name or ip address. |
| allow from host
host | Determines which hosts can access a given directory: all, or partial or full domain name or ip address. |

Web server configuration



Web server configuration



The screenshot shows a text editor window titled 'root@localhost:/etc/httpd/conf' displaying the configuration file 'httpd.conf'. The file contains several commented-out lines and one active line: 'Allow from 192.168.0.0/255.255.255.0'. A red callout box points to this line with the text: 'To access the web page only from the above specified network.' The desktop environment includes a taskbar with various icons (a red hat, a globe, a notepad, a bar chart, a pie chart, a printer, and a folder) and a system tray showing the date and time as 'Thu Apr 21 5:42 PM'.

```
root@localhost:/etc/httpd/conf
File Edit View Terminal Go Help

#
# AllowOverride controls what directives may be placed in .htaccess files.
# It can be "All", "None", or any combination of the keywords:
#   Options FileInfo AuthConfig Limit
#
#   AllowOverride None

#
# Controls who can get stuff from this server.
#
#   Order allow,deny
#   Allow from 192.168.0.0/255.255.255.0

</Directory>

#
# UserDir: The name of the directory is appended onto a user's home
# directory if a ~user request is received.
#
# The path to the end user account 'public_html' directory must be
# accessible to the webserver userid. This means that ~userid
# must have permissions of 711, ~userid must exist, and the
# path to the end user account must be accessible to the webserver
# userid.

-- INSERT --
```

To access the web page only from the above specified network.

root@localhost:/etc/httpd/conf
[station20.example.com - Mozilla]

Thu Apr 21 5:42 PM

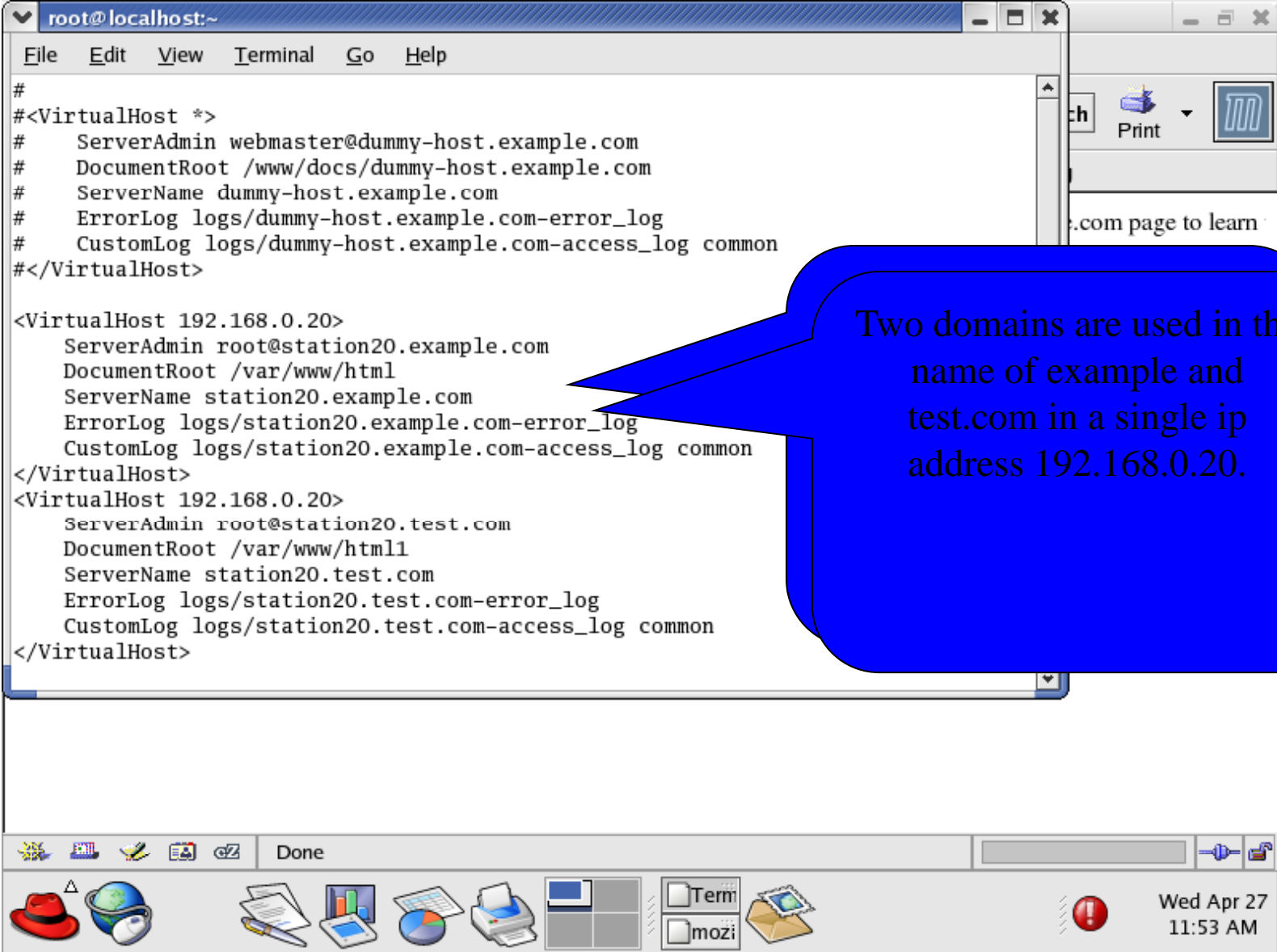
Virtual host

- Virtual hosts allow you to host multiple domains from a single machine.
- Apache supports two different type of virtual hosts.
- Name-based virtual hosts
- ip-based virtual hosts

Ip and Named-based Virtual Hosts

- IP-based virtual hosts
- Ip-based virtual hosts are used when a single machine has several different IP address.
- To run a virtual host on each IP address.
- Named-based virtual hosts
- It allow you to host many virtual hosts from a single IP address.

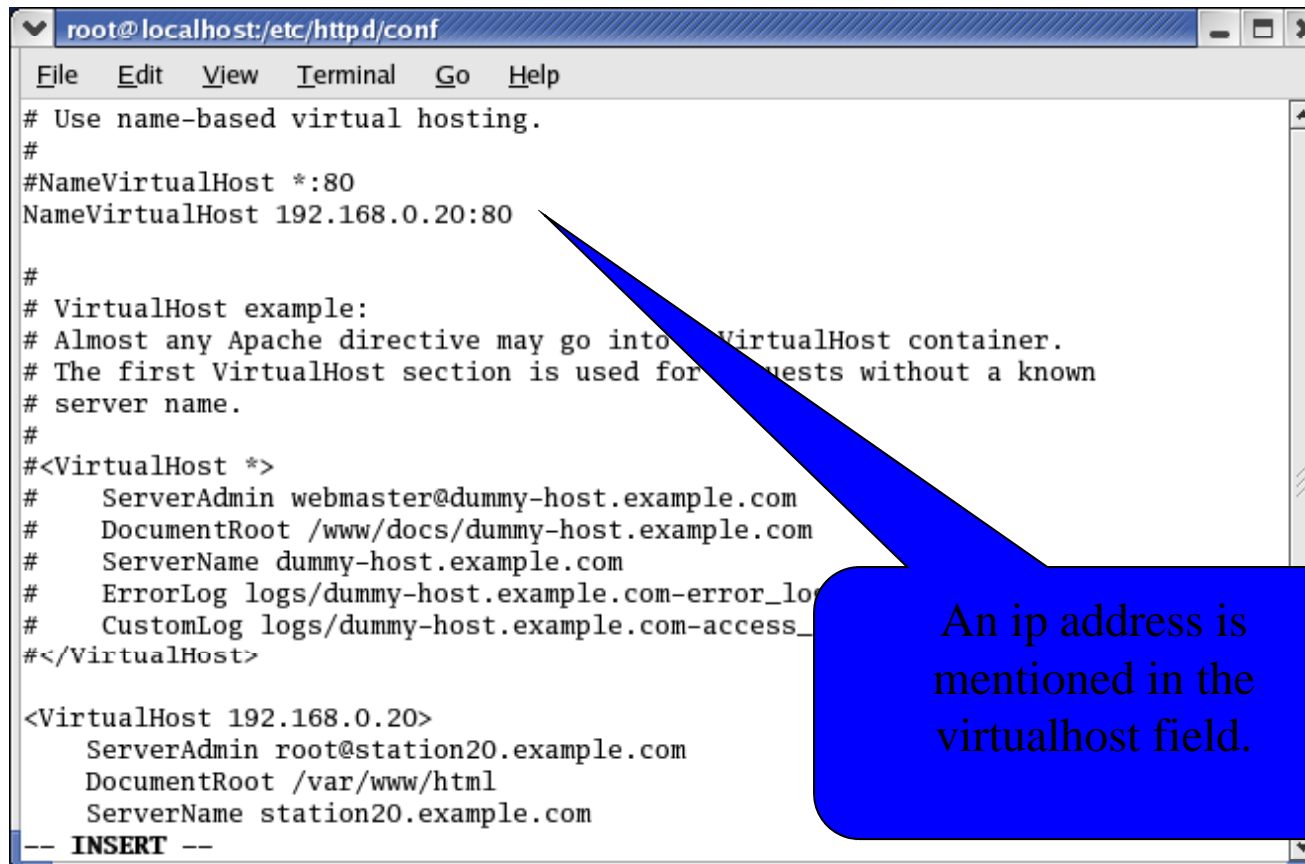
Name-based virtual hosts



```
root@localhost:~  
File Edit View Terminal Go Help  
#  
#<VirtualHost *>  
#   ServerAdmin webmaster@dummy-host.example.com  
#   DocumentRoot /www/docs/dummy-host.example.com  
#   ServerName dummy-host.example.com  
#   ErrorLog logs/dummy-host.example.com-error_log  
#   CustomLog logs/dummy-host.example.com-access_log common  
#</VirtualHost>  
  
<VirtualHost 192.168.0.20>  
    ServerAdmin root@station20.example.com  
    DocumentRoot /var/www/html  
    ServerName station20.example.com  
    ErrorLog logs/station20.example.com-error_log  
    CustomLog logs/station20.example.com-access_log common  
</VirtualHost>  
<VirtualHost 192.168.0.20>  
    ServerAdmin root@station20.test.com  
    DocumentRoot /var/www/html1  
    ServerName station20.test.com  
    ErrorLog logs/station20.test.com-error_log  
    CustomLog logs/station20.test.com-access_log common  
</VirtualHost>
```

Two domains are used in the name of example and test.com in a single ip address 192.168.0.20.

Name-based virtual hosts



```
root@localhost:/etc/httpd/conf
File Edit View Terminal Go Help
# Use name-based virtual hosting.
#
#NameVirtualHost *:80
NameVirtualHost 192.168.0.20:80

#
# VirtualHost example:
# Almost any Apache directive may go into a VirtualHost container.
# The first VirtualHost section is used for requests without a known
# server name.
#
#<VirtualHost *>
#   ServerAdmin webmaster@dummy-host.example.com
#   DocumentRoot /www/docs/dummy-host.example.com
#   ServerName dummy-host.example.com
#   ErrorLog logs/dummy-host.example.com-error_log
#   CustomLog logs/dummy-host.example.com-access_log
#</VirtualHost>

<VirtualHost 192.168.0.20>
    ServerAdmin root@station20.example.com
    DocumentRoot /var/www/html
    ServerName station20.example.com
-- INSERT --
```

An ip address is mentioned in the virtualhost field.

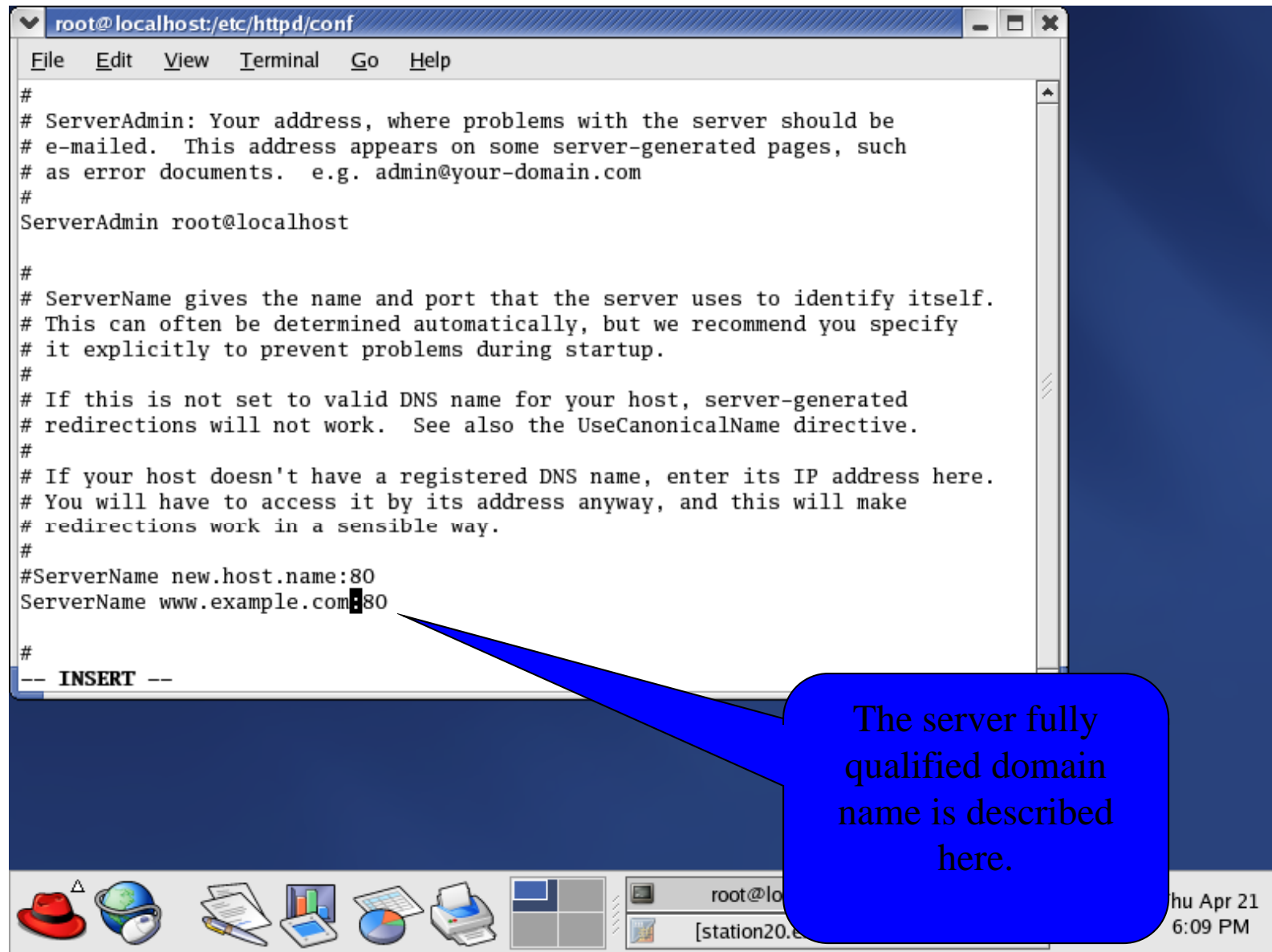


root@localhost:/etc/httpd/conf
[station20.example.com - Mozilla]



Thu Apr 21
6:08 PM

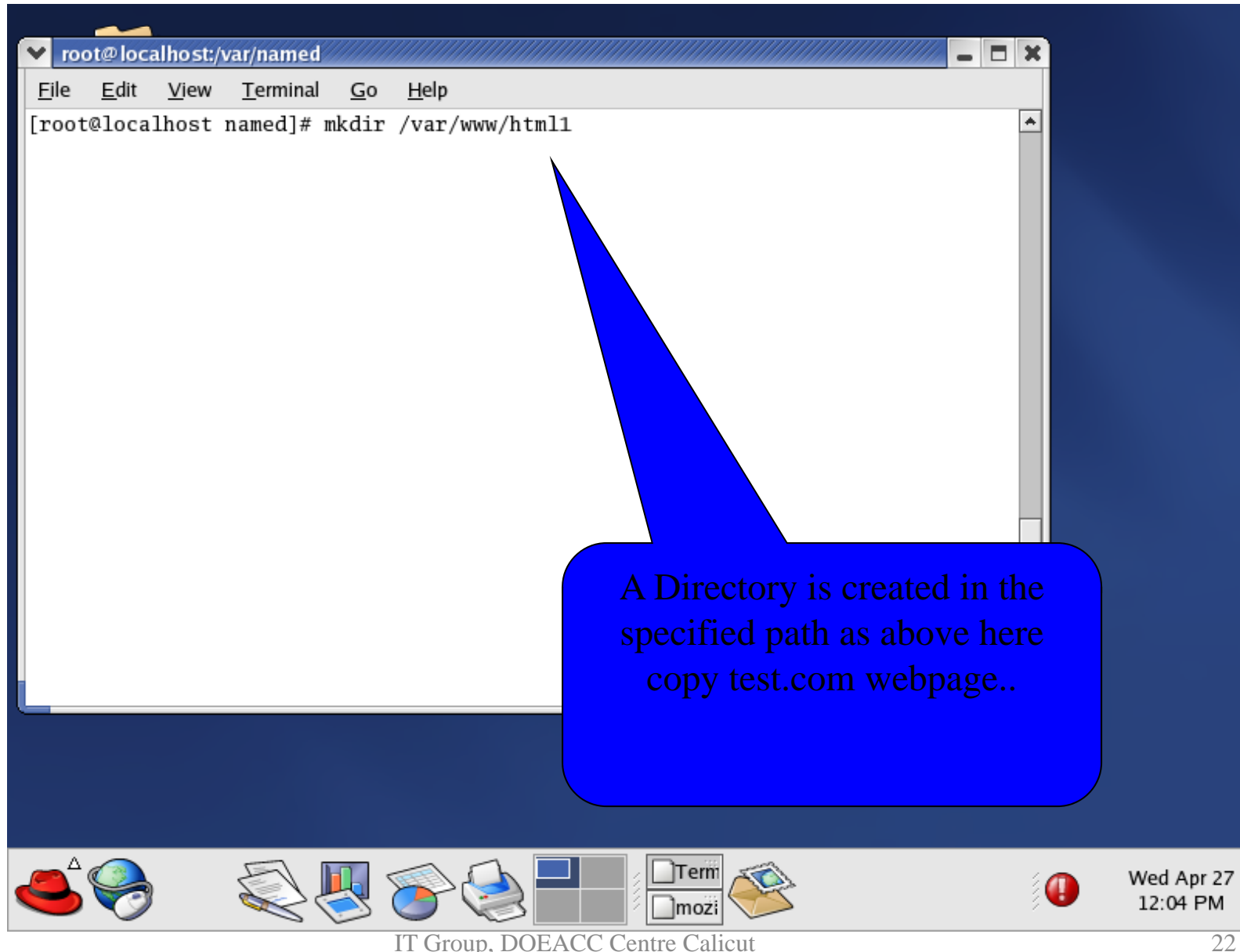
Name-based virtual hosts



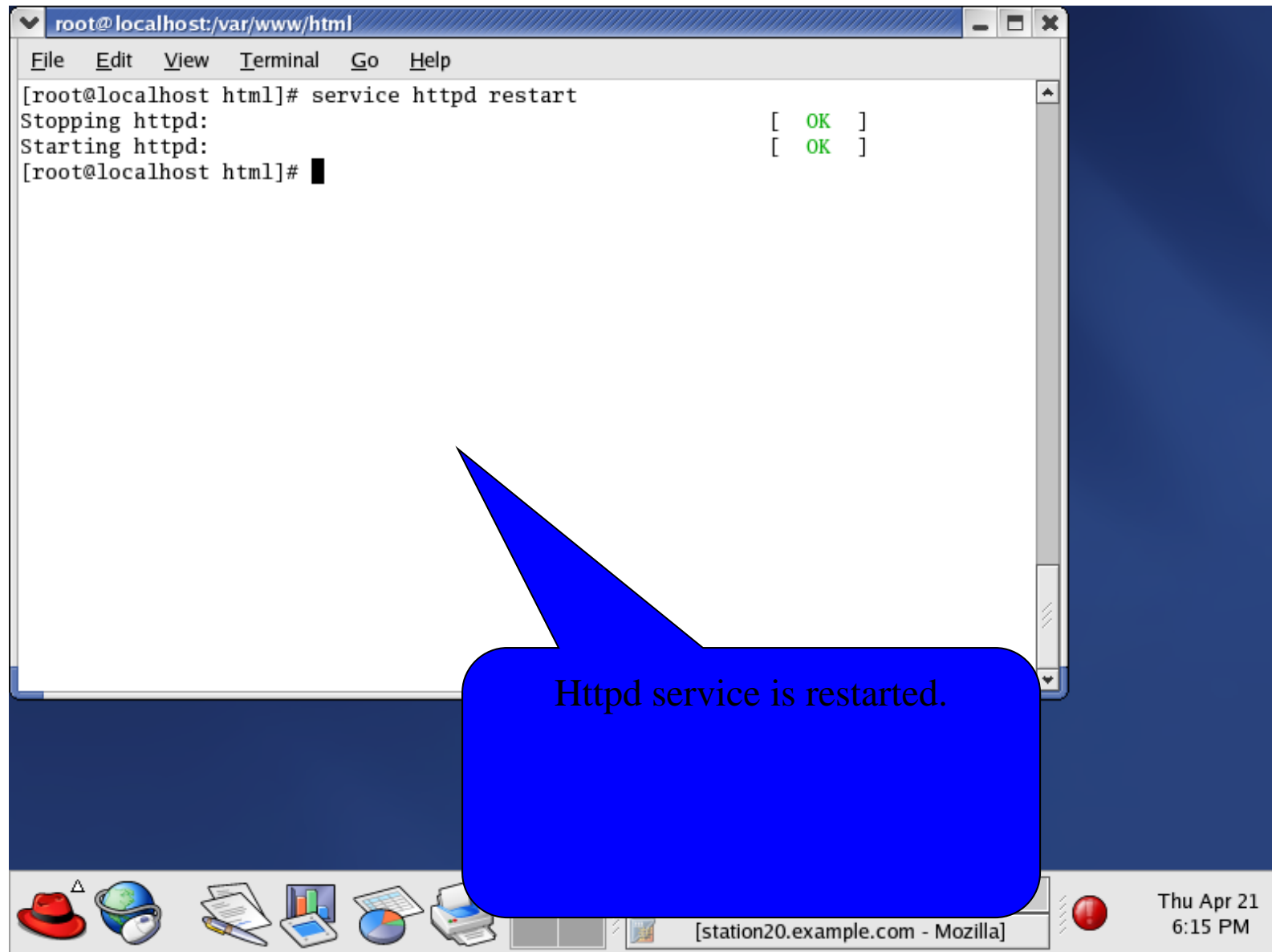
```
root@localhost:/etc/httpd/conf
File Edit View Terminal Go Help
#
# ServerAdmin: Your address, where problems with the server should be
# e-mailed. This address appears on some server-generated pages, such
# as error documents. e.g. admin@your-domain.com
#
ServerAdmin root@localhost
#
# ServerName gives the name and port that the server uses to identify itself.
# This can often be determined automatically, but we recommend you specify
# it explicitly to prevent problems during startup.
#
# If this is not set to valid DNS name for your host, server-generated
# redirections will not work. See also the UseCanonicalName directive.
#
# If your host doesn't have a registered DNS name, enter its IP address here.
# You will have to access it by its address anyway, and this will make
# redirections work in a sensible way.
#
#ServerName new.host.name:80
ServerName www.example.com:80
#
-- INSERT --
```

The server fully qualified domain name is described here.

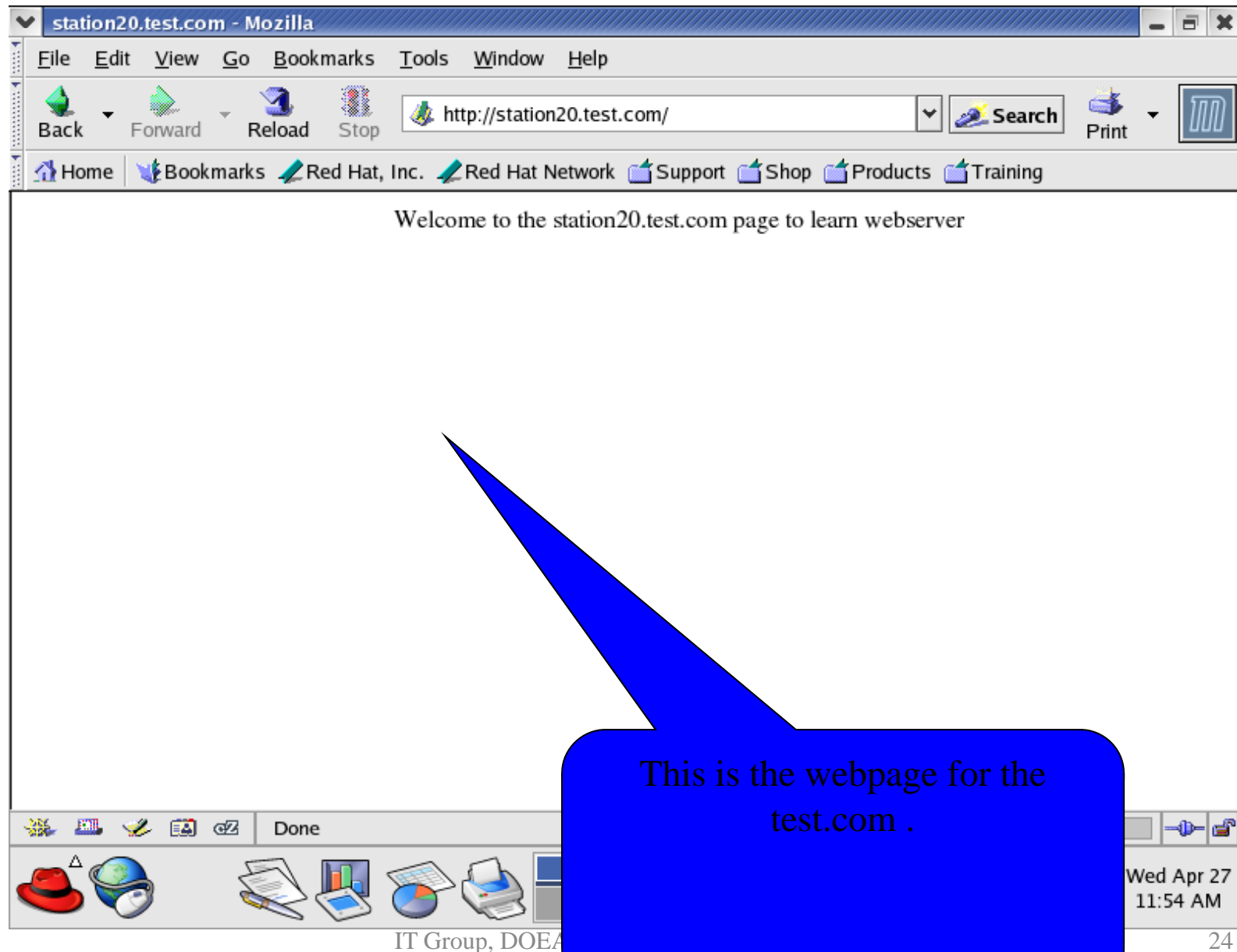
Name-based virtual hosts



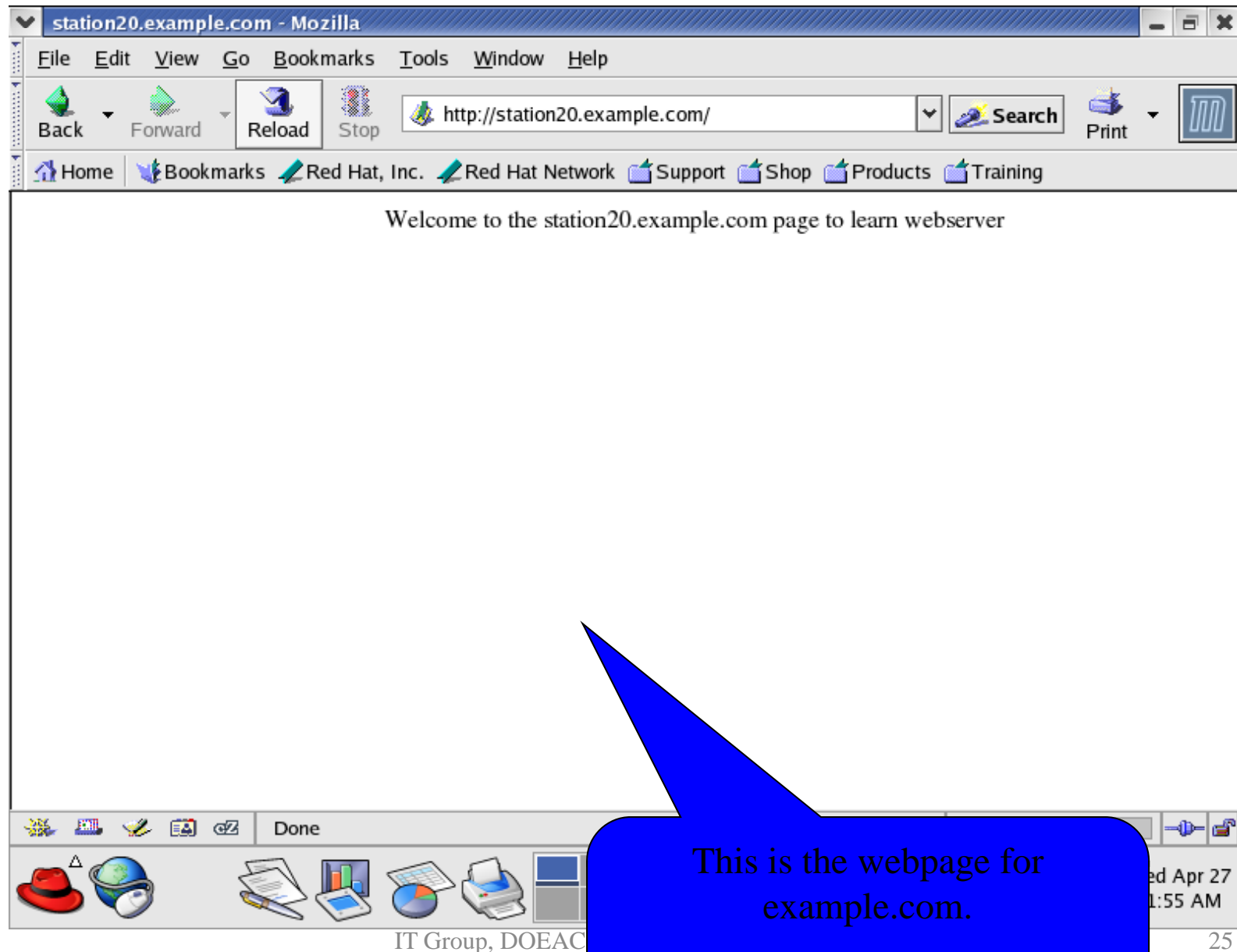
Name-based virtual hosts



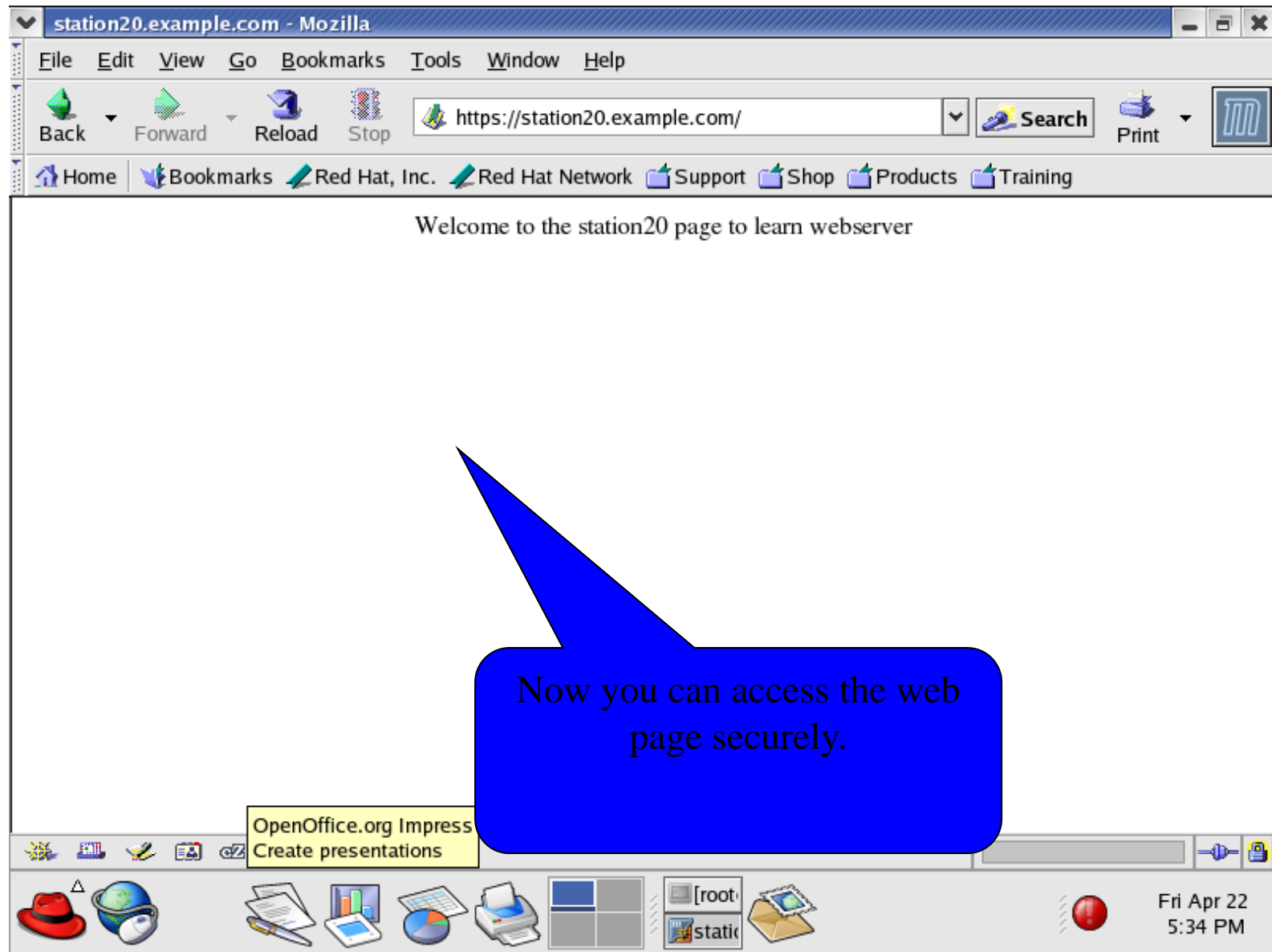
Name-based virtual hosts



Name-based virtual hosts



Apache Encrypted Web Server



The End