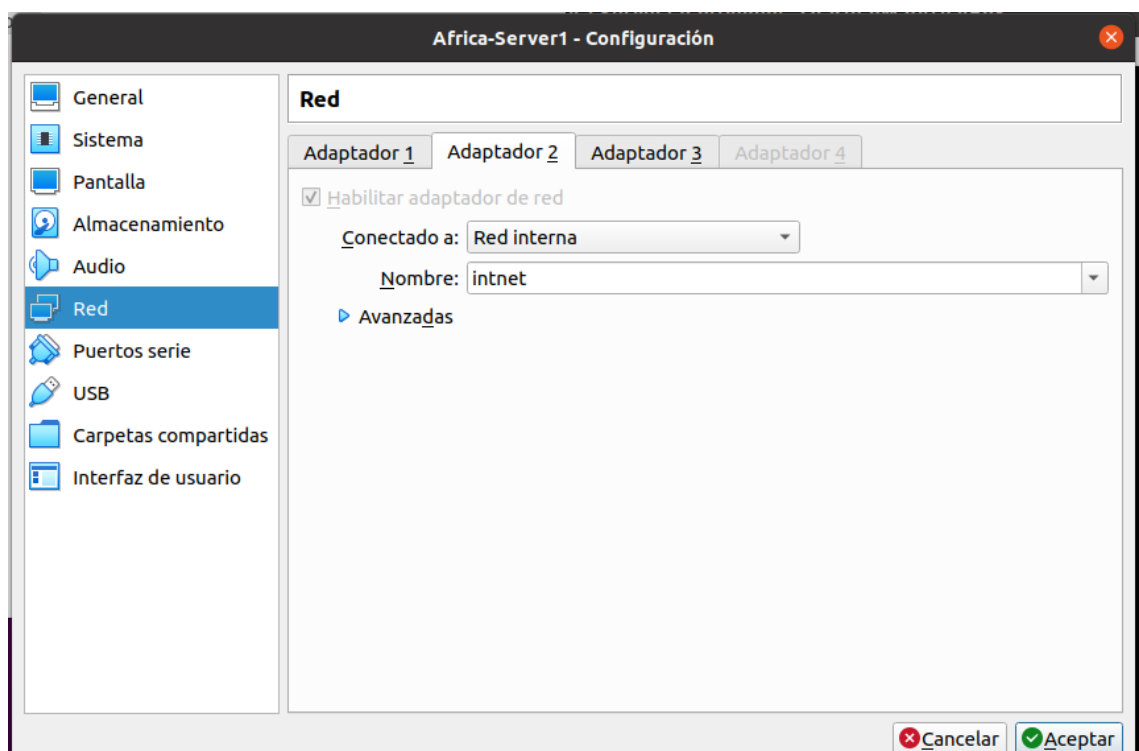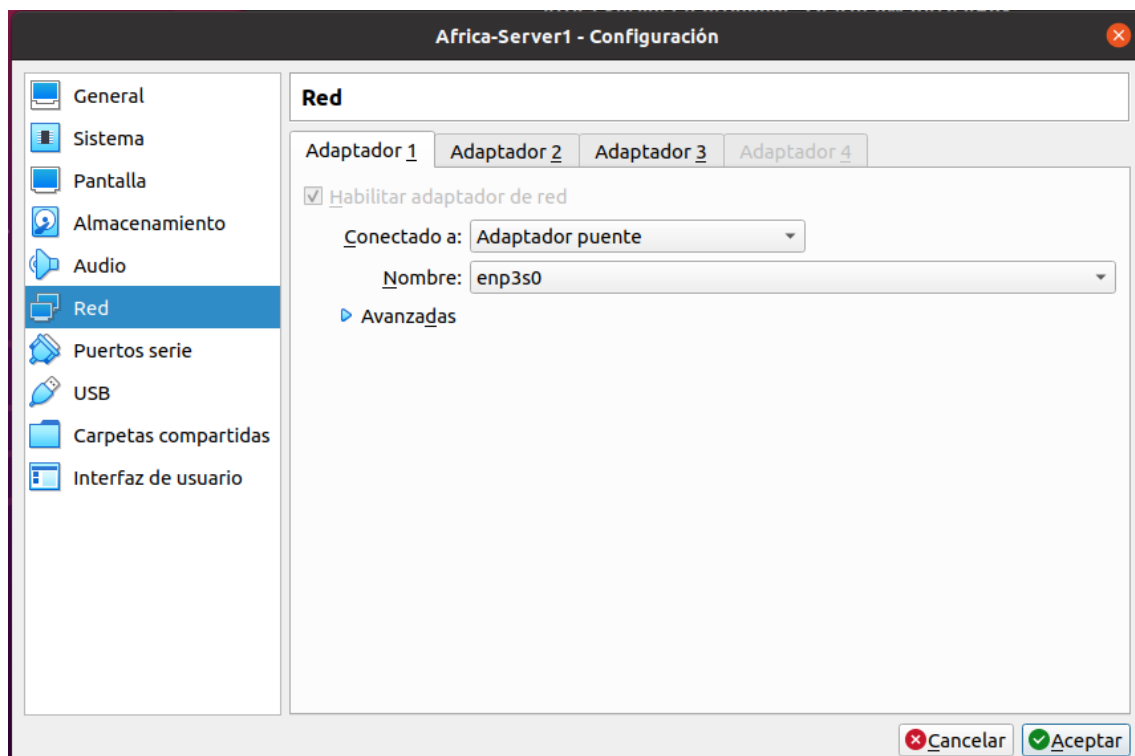## INSTALACIÓN SERVIDOR WEB

Máquina servidor:

Fichero netplan (Servidor):

```
  GNU nano 4.8                    /etc/netplan/00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      dhcp4: yes
    enp0s8:
      dhcp4: no
      addresses: [192.168.1.200/24]
      nameservers:
          addresses: [192.168.1.200]
          search: [africalinux.org]
    enp0s9:
      dhcp4: no
      addresses: [192.168.2.200/24]
  version: 2




                                   [ Read 16 lines ]
^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U Undo
^X Exit        ^R Read File   ^\ Replace     ^U Paste Text  ^T To Spell    ^_ Go To Line  M-E Redo
```

Fichero zona directa (Servidor)

```
  GNU nano 4.8                    /etc/bind/db.africalinux.org
;
; BIND data file for local loopback interface
;
$ORIGIN africalinux.org.
$TTL    2D
@       IN      SOA     africa-server1  root (
                        2020121401      ; Serial
                        604800          ; Refresh
                         86400          ; Retry
                        2419200         ; Expire
                         604800 )       ; Negative Cache TTL
;
africalinux.org.        IN      NS      africa-server1
africa-server1          IN      A       192.168.1.200
www                     IN      CNAME   africa-server1
web                     IN      CNAME   africa-server1









                                   [ Read 16 lines ]
^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U Undo
^X Exit        ^R Read File   ^\ Replace     ^U Paste Text  ^T To Spell    ^_ Go To Line  M-E Redo
```

Fichero zona inversa (Servidor):

```
  GNU nano 4.8                              /etc/bind/db.192.168.1
;
; BIND data file for local loopback interface
;
$ORIGIN 1.168.192.in-addr.arpa.
$TTL    604800
@       IN      SOA     africa-server1  root (
                              2020121401    ; Serial
                              604800        ; Refresh
                               86400        ; Retry
                             2419200        ; Expire
                              604800 )      ; Negative Cache TTL
;
@       IN      NS      africa-server1.africalinux.org.
200     IN      PTR     africa-server1.africalinux.org.
200     IN      PTR     www.africalinux.org.
200     IN      PTR     web.africalinux.org.




                                  [ Read 16 lines ]
^G Get Help   ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos    M-U Undo
^X Exit       ^R Read File  ^\ Replace    ^U Paste Text ^T To Spell   ^_ Go To Line M-E Redo
```

Comprobamos (dig dirección) (Servidor)

```
africaserver1@africa-server1:~$ dig -x 192.168.1.200

; <<>> DiG 9.16.1-Ubuntu <<>> -x 192.168.1.200
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 22988
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;200.1.168.192.in-addr.arpa.    IN      PTR

;; ANSWER SECTION:
200.1.168.192.in-addr.arpa. 604800 IN   PTR     web.africalinux.org.
200.1.168.192.in-addr.arpa. 604800 IN   PTR     africa-server1.africalinux.org.
200.1.168.192.in-addr.arpa. 604800 IN   PTR     www.africalinux.org.

;; Query time: 8 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Thu Jan 21 19:53:22 UTC 2021
;; MSG SIZE  rcvd: 135

africaserver1@africa-server1:~$
```

Comprobamos (dig www.) (Servidor)

```
africaserver1@africa-server1:~$ dig NS www.africalinux.org

; <<>> DiG 9.16.1-Ubuntu <<>> NS www.africalinux.org
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 63138
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.africalinux.org.           IN      NS

;; ANSWER SECTION:
www.africalinux.org.    7170    IN      CNAME   africa-server1.africalinux.org.

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Thu Jan 21 19:55:00 UTC 2021
;; MSG SIZE  rcvd: 77

africaserver1@africa-server1:~$
```

Comprobamos (dig web.) (Servidor)

```
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;www.africalinux.org.           IN      NS

;; ANSWER SECTION:
www.africalinux.org.    7170    IN      CNAME   africa-server1.africalinux.org.

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Thu Jan 21 19:55:00 UTC 2021
;; MSG SIZE  rcvd: 77

africaserver1@africa-server1:~$ dig NS web.africalinux.org

; <<>> DiG 9.16.1-Ubuntu <<>> NS web.africalinux.org
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 48767
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;web.africalinux.org.           IN      NS

;; ANSWER SECTION:
web.africalinux.org.    172800  IN      CNAME   africa-server1.africalinux.org.

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Thu Jan 21 19:55:31 UTC 2021
;; MSG SIZE  rcvd: 77

africaserver1@africa-server1:~$ _
```

Comprobamos (nslookup) (Servidor)

```
africaserver1@africa-server1:~$ nslookup 192.168.1.200
200.1.168.192.in-addr.arpa      name = www.africalinux.org.
200.1.168.192.in-addr.arpa      name = africa-server1.africalinux.org.
200.1.168.192.in-addr.arpa      name = web.africalinux.org.

Authoritative answers can be found from:

africaserver1@africa-server1:~$ nslookup africa-server1.africalinux.org
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:    africa-server1.africalinux.org
Address: 192.168.1.200

africaserver1@africa-server1:~$ nslookup www.africalinux.org
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
www.africalinux.org     canonical name = africa-server1.africalinux.org.
Name:    africa-server1.africalinux.org
Address: 192.168.1.200

africaserver1@africa-server1:~$ nslookup web.africalinux.org
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
web.africalinux.org     canonical name = africa-server1.africalinux.org.
Name:    africa-server1.africalinux.org
Address: 192.168.1.200

africaserver1@africa-server1:~$
```
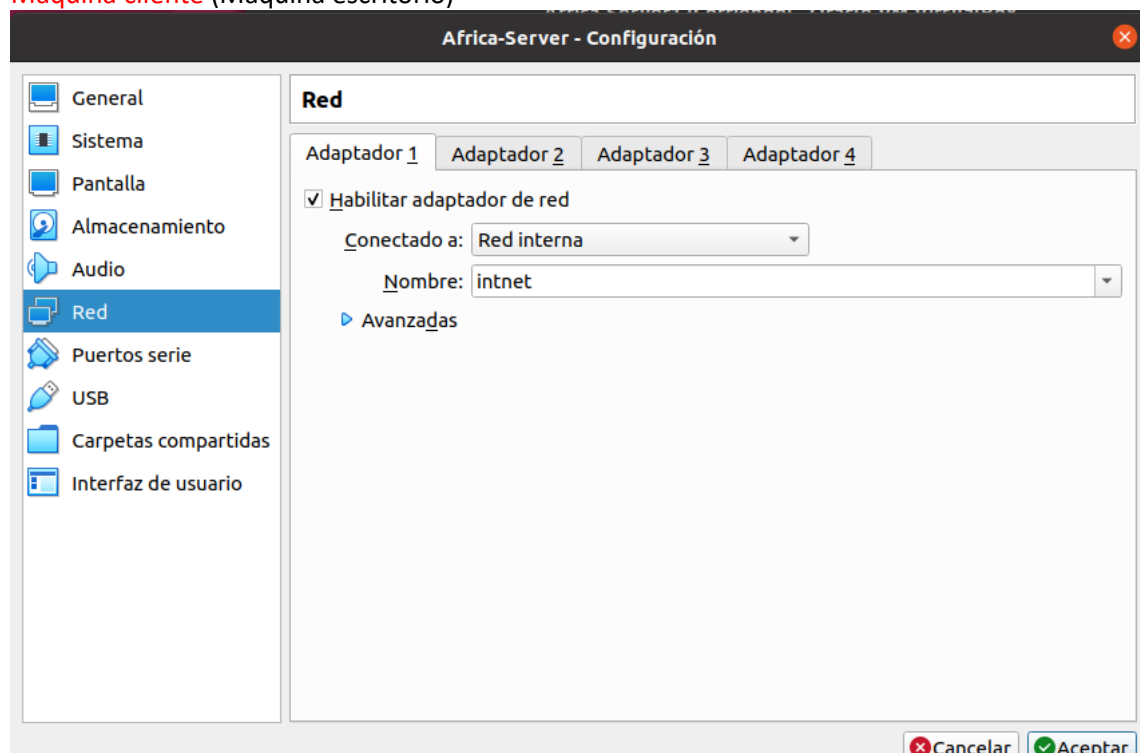
Máquina cliente (Máquina escritorio)

Africa-Server - Configuración

General
Sistema
Pantalla
Almacenamiento
Audio
Red
Puertos serie
USB
Carpetas compartidas
Interfaz de usuario

Red

Adaptador 1   Adaptador 2   Adaptador 3   Adaptador 4

☑ Habilitar adaptador de red

Conectado a: Red interna

Nombre: intnet

▷ Avanzadas

Cancelar   Aceptar

Comprobamos (dig) (Cliente)

Comprobamos (dig www.) (Cliente)

INSTALACIÓN APACHE en máquina servidor

Comprobar que el servidor esta iniciado y escuchando en el puerto 80/TCP (captura pantalla)
ps -ef | grep apache
 netstat –ltn

```
Enabling module auth_basic.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
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/ap
ache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/syste
md/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36-6) ...
Processing triggers for systemd (245.4-4ubuntu3.3) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.1)
africaserver1@africa-server1:~$ cat /var/www/html
cat: /var/www/html: Is a directory
africaserver1@africa-server1:~$ ps -ef | grep apache
root         6464       1  0 10:00 ?        00:00:00 /usr/sbin/apache2 -k start
www-data     6467    6464  0 10:00 ?        00:00:00 /usr/sbin/apache2 -k start
www-data     6468    6464  0 10:00 ?        00:00:00 /usr/sbin/apache2 -k start
africas+    13275    1321  0 10:10 tty1     00:00:00 grep --color=auto apache
africaserver1@africa-server1:~$
```

```
1ubuntu1 [196 kB]
Fetched 196 kB in 1s (237 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 69182 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20180626.aebd88e-1ubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
africaserver1@africa-server1:~$ netstat -ltn
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 192.168.2.200:53        0.0.0.0:*               LISTEN
tcp        0      0 192.168.1.200:53        0.0.0.0:*               LISTEN
tcp        0      0 192.168.0.200:53        0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:53            0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:19001         0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:45337         0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:953           0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:1338          0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:10248         0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:25000           0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:10251         0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:10252         0.0.0.0:*               LISTEN
tcp6       0      0 :::10259                :::*                    LISTEN
tcp6       0      0 fe80::a00:27ff:febf::53 :::*                    LISTEN
tcp6       0      0 fe80::a00:27ff:fe18::53 :::*                    LISTEN
tcp6       0      0 fe80::a00:27ff:fe7a::53 :::*                    LISTEN
tcp6       0      0 2a0c:5a80:1f0d:f700::53 :::*                    LISTEN
tcp6       0      0 ::1:53                  :::*                    LISTEN
tcp6       0      0 ::1:953                 :::*                    LISTEN
tcp6       0      0 :::16443                :::*                    LISTEN
tcp6       0      0 :::10250                :::*                    LISTEN
tcp6       0      0 :::10255                :::*                    LISTEN
tcp6       0      0 :::80                   :::*                    LISTEN
tcp6       0      0 :::10257                :::*                    LISTEN
africaserver1@africa-server1:~$
```

Comprobar que se ha creado el directorio /var/www/html y que su propietario es el usuario root

```
africaserver1@africa-server1:~$ ls -l /var
total 48
drwxr-xr-x  2 root root    4096 Jan 14 09:53 backups
drwxr-xr-x 14 root root    4096 Jan 14 09:59 cache
drwxrwxrwt  2 root root    4096 Jul 31 16:29 crash
drwxr-xr-x 41 root root    4096 Jan 14 09:59 lib
drwxrwsr-x  2 root staff   4096 Apr 15  2020 local
lrwxrwxrwx  1 root root       9 Jul 31 16:28 lock -> /run/lock
drwxrwxr-x 12 root syslog  4096 Jan 14 09:59 log
drwxrwsr-x  2 root mail    4096 Jul 31 16:28 mail
drwxr-xr-x  2 root root    4096 Jul 31 16:28 opt
lrwxrwxrwx  1 root root       4 Jul 31 16:28 run -> /run
drwxr-xr-x  7 root root    4096 Jan  9 10:02 snap
drwxr-xr-x  4 root root    4096 Jul 31 16:28 spool
drwxrwxrwt  6 root root    4096 Jan 14 10:00 tmp
drwxr-xr-x  3 root root    4096 Jan 14 09:59 www
africaserver1@africa-server1:~$ _
```

```
africaserver1@africa-server1:~$ ls -ltras /var/www/html
total 20
 4 drwxr-xr-x 3 root root  4096 Jan 14 09:59 ..
12 -rw-r--r-- 1 root root 10918 Jan 14 10:00 index.html
 4 drwxr-xr-x 2 root root  4096 Jan 14 10:00 .
africaserver1@africa-server1:~$ _
```

Comprobar versión

```
africaserver1@africa-server1:~$ apache2 -v
Server version: Apache/2.4.41 (Ubuntu)
Server built:   2020-08-12T19:46:17
africaserver1@africa-server1:~$ _
```

Consultar contenido directorio

```
africaserver1@africa-server1:~$ ls /var/www/html
index.html
africaserver1@africa-server1:~$ ls -ltras /var/www/html
total 20
 4 drwxr-xr-x 3 root root  4096 Jan 14 09:59 ..
12 -rw-r--r-- 1 root root 10918 Jan 14 10:00 index.html
 4 drwxr-xr-x 2 root root  4096 Jan 14 10:00 .
africaserver1@africa-server1:~$
```

Consultar contenido del fichero

```
GNU nano 4.8                          /var/www/html/index.html
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xht>
<html xmlns="http://www.w3.org/1999/xhtml">
  <!--
    Modified from the Debian original for Ubuntu
    Last updated: 2016-11-16
    See: https://launchpad.net/bugs/1288690
  -->
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <title>Apache2 Ubuntu Default Page: It works</title>
    <style type="text/css" media="screen">
  * {
    margin: 0px 0px 0px 0px;
    padding: 0px 0px 0px 0px;
  }

  body, html {
    padding: 3px 3px 3px 3px;

    background-color: #D8DBE2;

    font-family: Verdana, sans-serif;
    font-size: 11pt;
    text-align: center;
  }

  div.main_page {
    position: relative;
    display: table;

    width: 800px;
                                        [ Read 375 lines ]
^G Get Help     ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify      ^C Cur Pos      M-U Undo
^X Exit         ^R Read File    ^\ Replace      ^U Paste Text   ^T To Spell     ^_ Go To Line   M-E Redo
```
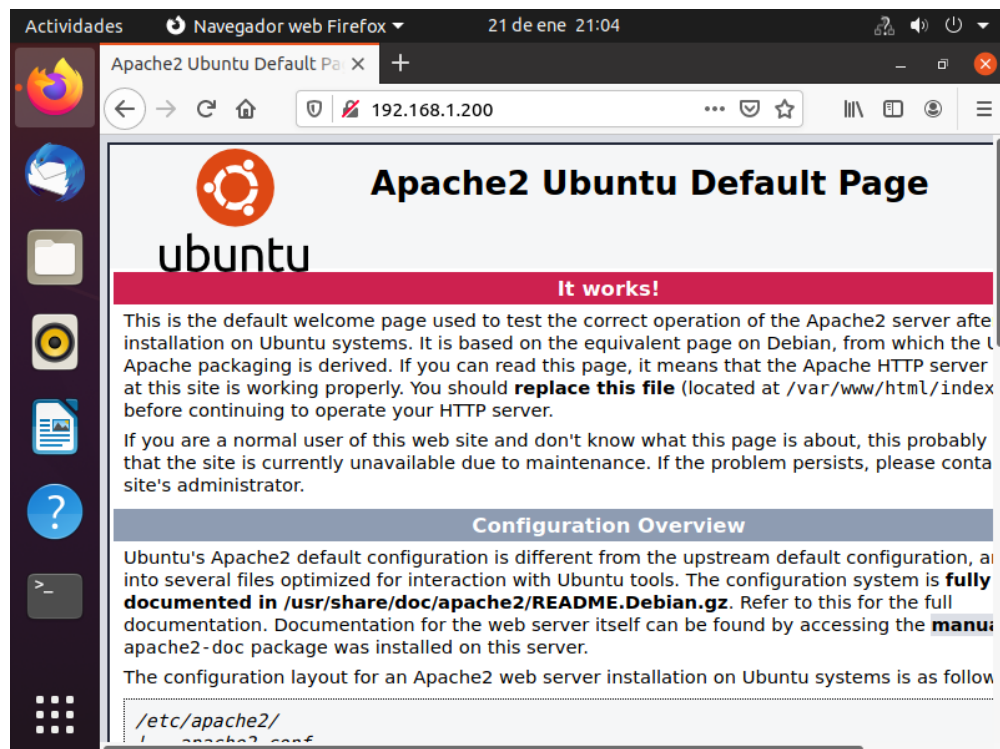
PRUEBAS DEL SERVIDOR WEB

Screenshot 1:

Actividades   Navegador web Firefox ▾   21 de ene 21:05

Apache2 Ubuntu Default Pa... ✕   +

africa-server1.africalinux.org

Apache2 Ubuntu Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server afte installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the U Apache packaging is derived. If you can read this page, it means that the Apache HTTP server at this site is working properly. You should **replace this file** (located at /var/www/html/index before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably that the site is currently unavailable due to maintenance. If the problem persists, please conta site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, a into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manua** apache2-doc package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follow

/etc/apache2/

Screenshot 2:

Actividades   Navegador web Firefox ▾   21 de ene 21:05

Apache2 Ubuntu Default Pa... ✕   +

www.africalinux.org

Apache2 Ubuntu Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server afte installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the U Apache packaging is derived. If you can read this page, it means that the Apache HTTP server at this site is working properly. You should **replace this file** (located at /var/www/html/index before continuing to operate your HTTP server.

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The configuration layout for an Apache2 web server installation on Ubuntu systems is as follow

/etc/apache2/

Apache2 Ubuntu Default Pa   ✕   +

web.africalinux.org

Apache2 Ubuntu Default Page

ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server at this site is working properly. You should **replace this file** (located at /var/www/html/index before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably that the site is currently unavailable due to maintenance. If the problem persists, please conta site's administrator.

Configuration Overview

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The configuration layout for an Apache2 web server installation on Ubuntu systems is as follow

```
/etc/apache2/
```