ESCOLA SUPERIOR DE TECNOLOGIA E GESTÃO
CURSO TÉCNICO SUPERIOR REDES E SISTEMAS INFORMÁTICOS

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Trabalho Instalação e Configuração de Servidores de Rede

PROJETO INDIVIDUAL

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Projeto individual do curso da Escola Superior de Tecnologia e Gestão, como requisito para concluir a disciplina de Instalação e Configuração de Servidores de Rede.

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Conteúdo

Introdução

Com este projeto pretendo aplicar os conhecimentos obtidos no decorrer da Unidade Curricular de Instalação e Configuração de Servidores de Rede.

O trabalho consiste na implementação de 2 servidores com serviços de rede e de uma máquina cliente para exemplificaçãodo funcionamento dos serviços

Exercicio 1

Neste exercício não consegui fazer um script dhcp que funciona, encontrei um na internet e vou tentar explicar como ele funciona, mas também configurei o dhcp manualmente

Enunciado

Deverá ser instalado e configurado o serviço de DHCP no servidor definido para o efeito, onde a gama de atribuição de IPs deverá ser definida e justificada pelo aluno. A configuração deverá ser feita através de um Script que permita a configuração do DHCP de uma forma interativa, pedindo ao utilizador toda a informação necessária ao bom funcionamento do serviço.

Resolução

Instalar dhcp

```
[root@localhost ~]# yum -y install dhcp
```

Substituir os ficheiros de configuração

```
[root@localhost ~]# cp /usr/share/doc/dhcp-4.2.5/dhcpd.conf.example /etc/dhcp/dhcpd.conf
```

Configurar o ficheiro de configuração do dhcp

root@localhost:~

```
  GNU nano 2.3.1

#
# DHCP Server Configuration file.
#   see /usr/share/doc/dhcp*/dhcpd.conf.example
#   see dhcpd.conf(5) man page
#


default-lease-time 3600;
max-lease-time 7200;
authoritative;

subnet 192.168.12.0 netmask 255.255.255.0 {
        option routers                  192.168.12.1;
        option subnet-mask              255.255.255.0;
        range   192.168.12.10   192.168.12.100;
}
```

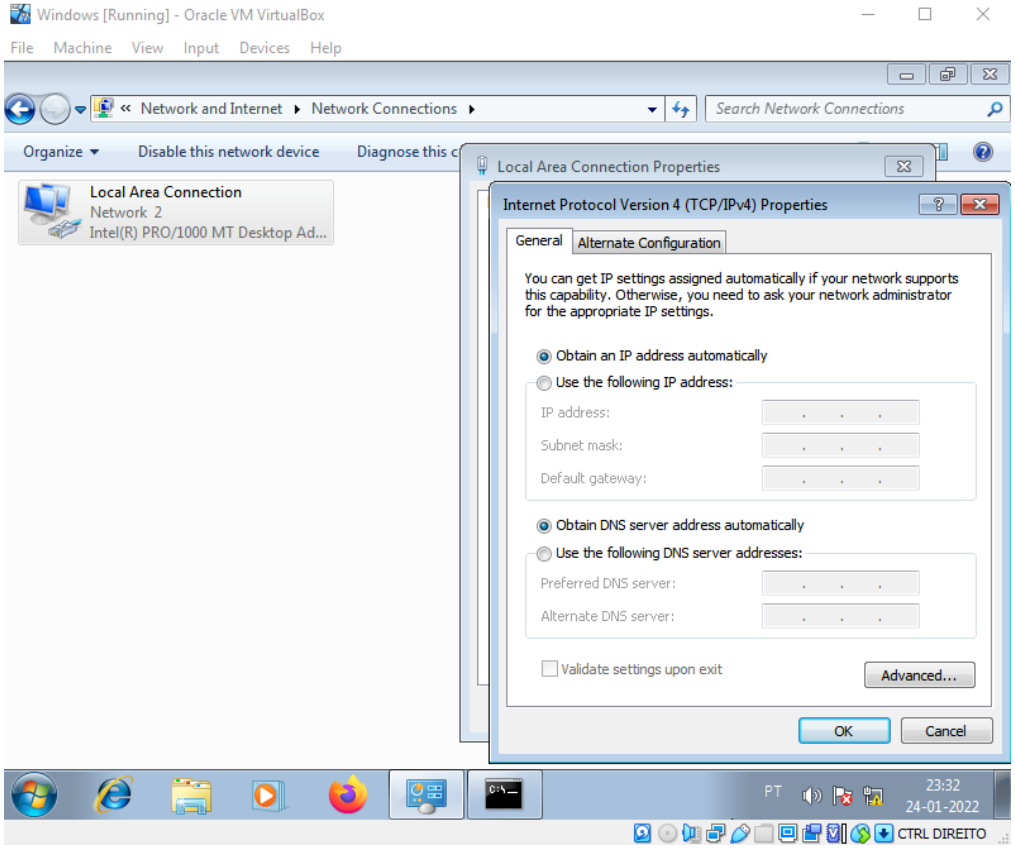
Começar e habilitar o dhcp

```
[root@localhost ~]# systemctl start dhcpd
[root@localhost ~]# systemctl enable dhcpd
Created symlink from /etc/systemd/system/multi-user.target.wants/dhcpd.service to /usr/lib/systemd/system/dhcpd.service.
[root@localhost ~]#
```

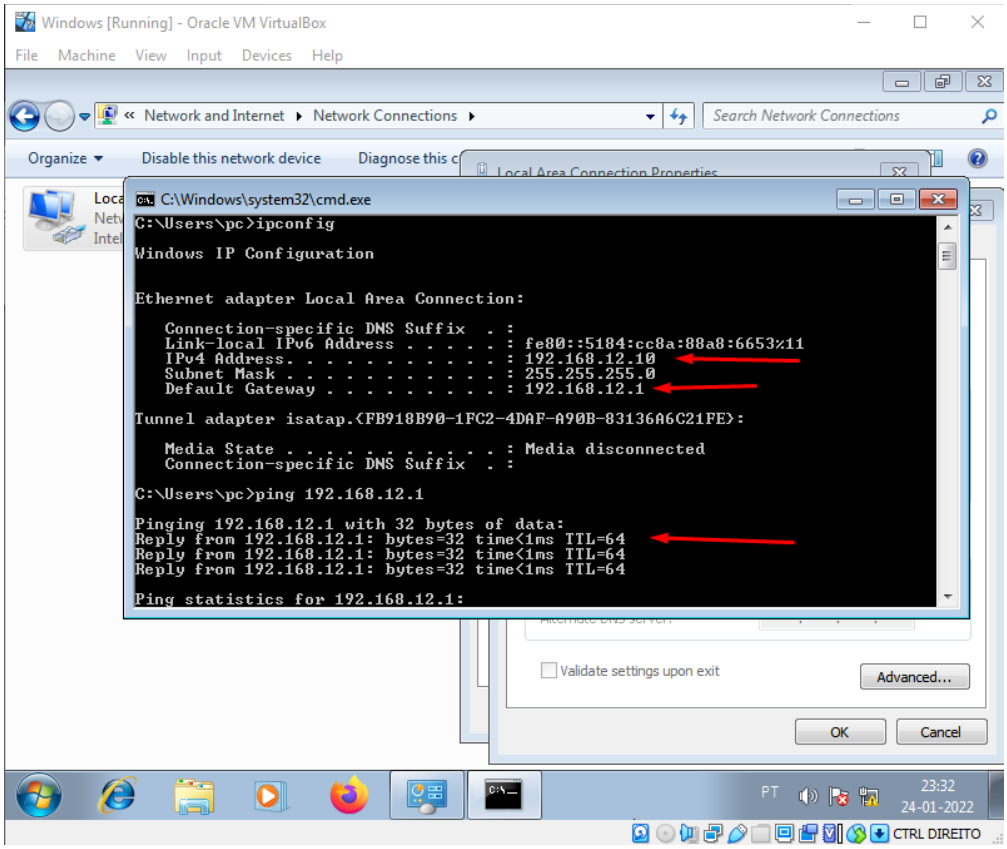
Permitir na firewall o dhcp

```
[root@localhost ~]# firewall-cmd --add-service=dhcp --permanent
success
[root@localhost ~]# firewall-cmd --reload
success
[root@localhost ~]#
```

No Windows aceder aos adaptadores de rede e colocar para receber ip automaticamente



E testar



Interpretação do código encontrado na internet

Esta parte do código pede ao utilizador para inserir o numero do processo que deseja realizar, após inserir o código e script vai “correr” o código associado ao numero

```
#!/bin/bash
#This script is used to automatically configure the DHCP server and DHCP relay
#Author: fallen leaves in the rain
#Blog:https://www.cnblogs.com/yuzly/
echo "****************************
1.deploy DHCP The server
2.Deployment gateway
3.deploy DHCP relay
****************************"
read -p "Please enter deployment options:" Num
case $Num in
```

Neste excerto do texto podemos observar que o código faz perguntas ao user por em que a resposta são uma variável que depois vão ser implementadas num ficheiro de configuração por fim faz network restart para aplicar as configurações

```
1)
  #DHCP server configuration
  #Turn off the firewall to avoid affecting the experiment
  service iptables stop &>/dev/null
  setenforce 0
  #1.Get user input DHCP Related network parameters of the server
  read -p "Please input DHCP Server IP address:" IP
  read -p "Please input DHCP Subnet mask for the server:" MASK
  read -p "Please input DHCP Gateway address of the server:" GW
  read -p "Please input DHCP Server preferences DNS address:" DNS1
  read -p "Please input DHCP Server's secondary DNS address:" DNS2
  #2.Set up DHCP Network card of server IP address
  ETH=$(ifconfig | grep "^eth" | awk '{print $1}')
  MAC=$(ifconfig | grep "^eth" | awk '{print $5}')
  echo "DEVICE=$ETH
    HWADDR=$MAC
    TYPE=Ethernet
    ONBOOT=yes
    BOOTPROTO=static
    IPADDR=$IP
    NETMASK=$MASK
    GATEWAY=$GW
    DNS1=$DNS1
    DNS2=$DNS2" >/etc/sysconfig/network-scripts/ifcfg-$ETH
  #service network restart
  #service NetworkManager stop
  #In order to prevent the service from restarting the next time it is started, the solution i
  service NetworkManager stop
  service network restart
  #3.Check if it is installed DHCP service,To configure DHCP service
  #Defined function
```

Aqui acontece o mesmo o script pergunta ao user e o user responde, as resposta do user será armazenada nos ficheiros de configuração

```
#Configure dhcp address pool 1
echo "******To configure DHCP Address pool 1**********"
read -p "Please input DHCP Scope segment:" DHNET
read -p "Please input DHCP Subnet mask for scope segment:" DHMASK
read -p  "Please enter address pool start IP address:" DHIP1
read -p "Please enter the end of address pool IP address:" DHIP2
read -p "Please input DNS:" DHDNS
read -p "Please enter the gateway address:" DHGW
read -p "Please enter broadcast address:" DHB
#Copy part of the required content in the dhcp configuration template to the dhcp configu
conf=/etc/dhcp/dhcpd.conf
grep -v "#" /usr/share/doc/dhcp-4.1.1/dhcpd.conf.sample | grep -v "^$" | sed -n '17,25p'
#Modify dhcp profile
sub=$(grep subnet $conf |awk '{print $2}')
submask=$(grep subnet $conf |awk '{print $4}')
range1=$(grep range $conf | awk '{print $2}')
range2=$(grep range $conf | awk '{print $3}' | awk -F";"  '{print $1}')
dns=$(grep domain-name-servers $conf |awk '{print $3}'|awk -F";" '{print $1}')
gw=$(grep routers $conf | awk '{print $3}' | awk -F";" '{print $1}')
broadcast=$(grep broadcast-address $conf | awk '{print $3}'|awk -F";" '{print $1}')
```

Aqui o script pergunta ao user se quer fazer uma exceção no dhcp se sim pede ao utilizador que escreva o mac e o ip da máquina depois dá start ao dhcp e assim as mudanças já estram aplicadas se o dhcp n estiver instalar o script irá instalar

```
  echo "*********************************************"
  read -p  "Whether to assign the specified host IP(y/n):" zhiding
  #Be careful=There's a space on each side. This is unix shell Requirements
  if [ $zhiding = "y" ]
  then
    read -p  "Please enter the MAC Address:" zMAC
    read -p  "Please enter the assigned IP(IP Must be in address pool):" zIP
    echo "host joe {
                  hardware ethernet $zMAC;
                  fixed-address $zIP;
                }" >>$conf
  fi
  #Start dhcp service
  service dhcpd start
  }
n=$(rpm -qa | grep dhcp |wc -l)
if [ $n -eq 2 ]
then
  #Calling function
  dhpool
else
  #Mount the CD and install the dhcp service
  echo "The current computer is not installed dhcp service,Start installation....."
  mount /dev/sr0 /mnt &>/dev/null
  rpm -ivh /mnt/Packages/dhcp-4.1.1-38.P1.el6.x86_64.rpm &>/dev/null
  echo "dhcp Service installation complete!"
  #Calling function
  dhpool
fi
```

Exercício 2

Enunciado

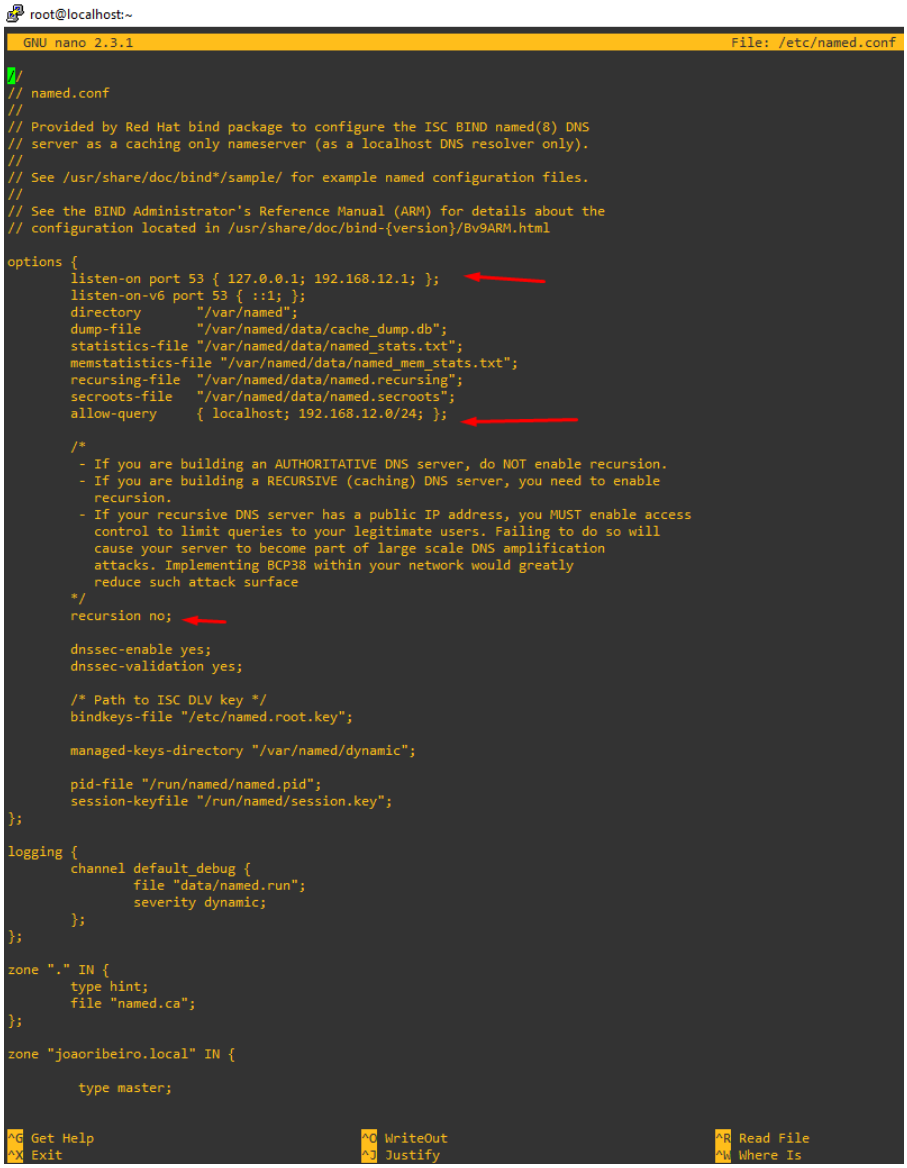
Deverá ser implementado um servidor de DNS com a criação das respetivas zonas Master em que o domínio principal deverá ser o nome+apelido do aluno (e.g. johndoe.local). Neste ponto serão consideradas as configurações de DNS refentes aos pontos seguintes (e.g. virtualhosts).

Resolução

Instalar o dns

```
[root@localhost ~]# yum -y install bind bind-utils
```

Configurar o ficheiro de configuração do dns adicionado o ip do server e criando as zonas



root@localhost:~

```
  GNU nano 2.3.1                                                File: /etc/named.conf

        recursion yes;

        dnssec-enable yes;
        dnssec-validation yes;

        /* Path to ISC DLV key */
        bindkeys-file "/etc/named.root.key";

        managed-keys-directory "/var/named/dynamic";

        pid-file "/run/named/named.pid";
        session-keyfile "/run/named/session.key";
};

logging {
        channel default_debug {
                file "data/named.run";
                severity dynamic;
        };
};

zone "." IN {
        type hint;
        file "named.ca";
};

zone "joaoribeiro.local" IN {

         type master;

         file "/var/named/joaoribeiro.local.db";

         allow-update { none; };
};

zone "12.168.192.in-addr.arpa" IN {

          type master;

          file "/var/named/192.168.12.db";

          allow-update { none; };
};

include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";
```

Configurar os ficheiros das zonas criadas no ficheiro acima

```
[root@localhost ~]# nano /var/named/joaoribeiro.local.db
```

```
  GNU nano 2.3.1                                          File: /var/named/joaoribeiro.local.db

@   IN  SOA     ns1.joaoribeiro.local. root.joaoribeiro.local. (
                                          1001    ;Serial
                                          3H      ;Refresh
                                          15M     ;Retry
                                          1W      ;Expire
                                          1D      ;Minimum TTL
                                          )

;Name Server Information
@       IN  NS      ns1.joaoribeiro.local.

;IP address of Name Server
ns1 IN  A       192.168.12.1

;Mail exchanger

;A - Record HostName To IP Address
joaoribeiro.local.      IN      A       192.168.12.15
www     IN  A       192.168.12.15
mail    IN  A       192.168.12.15

;CNAME record
ftp     IN CNAME        www.joaoribeiro.local.
```

```
[root@localhost ~]# nano /var/named/192.168.12.db
[root@localhost ~]#
```

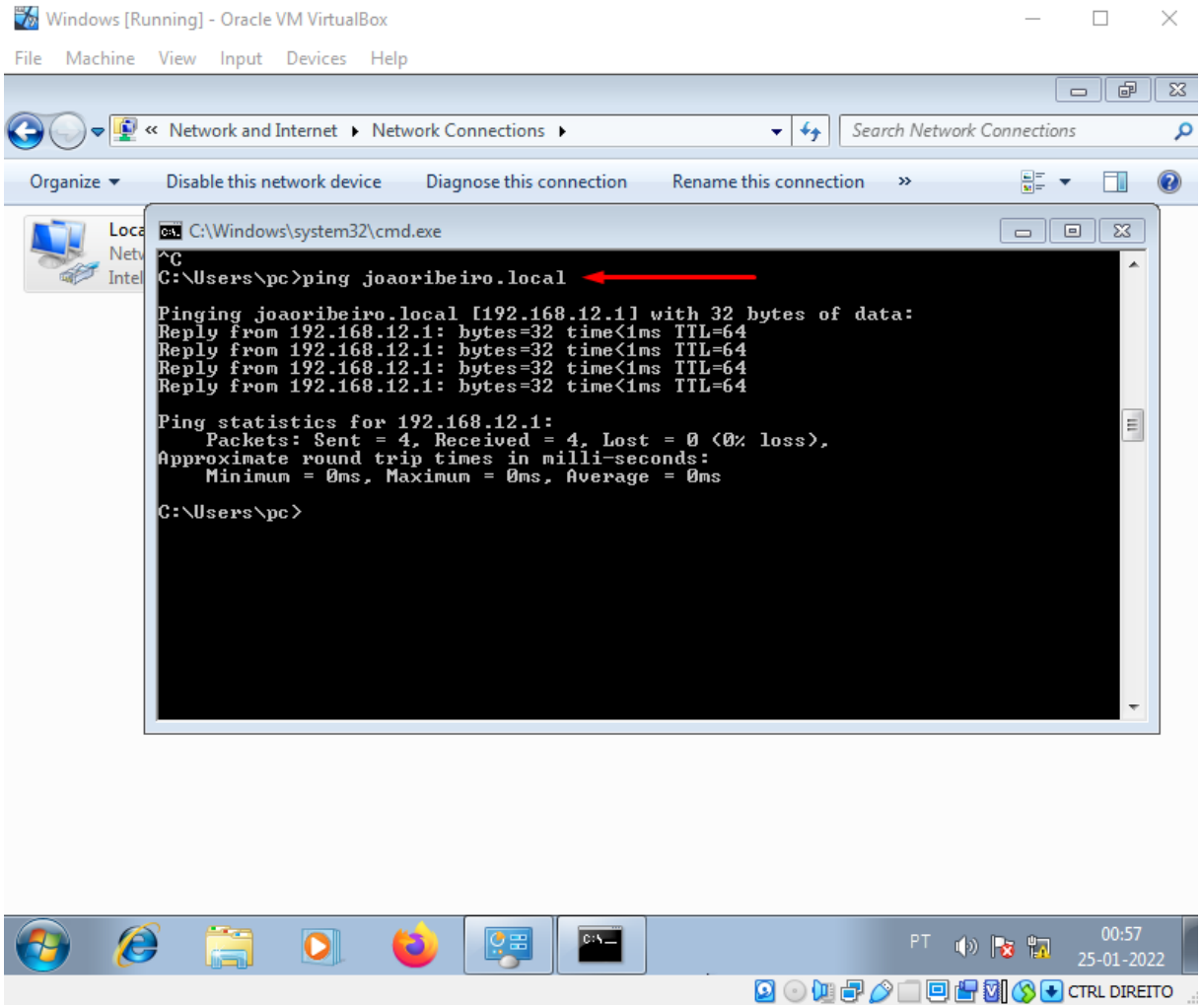
root@localhost:~

```
  GNU nano 2.3.1                                          File: /var/named/192.168.12.db

@   IN  SOA     ns1.joaoribeiro.local. root.joaoribeiro.local. (
                                          1001    ;Serial
                                          3H      ;Refresh
                                          15M     ;Retry
                                          1W      ;Expire
                                          1D      ;Minimum TTL
                                          )

;Name Server Information
@ IN  NS      ns1.joaoribeiro.local.

;Reverse lookup for Name Server
10        IN  PTR     ns1.joaoribeiro.local.

;PTR Record IP address to HostName
100      IN  PTR     www.joaoribeiro.local.
150      IN  PTR     mail.joaoribeiro.local.
```

Restart e enable do DNS e permitir na firewall

```
[root@localhost ~]# systemctl restart named
[root@localhost ~]# systemctl enable named
Created symlink from /etc/systemd/system/multi-user.target.wants/named.service to /usr/lib/systemd/system/named.service.
[root@localhost ~]# firewall-cmd --permanent --add-port=53/udp
success
[root@localhost ~]# firewall-cmd --reload
success
[root@localhost ~]#
```

Testar no Windows



Exercicio 3

Se não estiver a dar por favor faça systemctl restart smb.service e systemctl restart nmb.service

Enunciado
Deverá ser implementado o serviço de SMB que permita que cada utilizador definido na tabela 1 tenha uma share da sua Homedir no servidor, bem como uma share publica e comum a todos os utilizadores.

Resolução
Instalar o samba

```
[root@localhost ~]# yum install samba samba-client samba-common
```

Fazer backup do ficheiro de configurações

```
[root@localhost ~]# cp -pf /etc/samba/smb.conf /etc/samba/smb.conf.bak
```

Apagar o que está dentro da pasta de configuração do samba

```
[root@localhost ~]# cat /dev/null > /etc/samba/smb.conf
```

Criar a pasta “publico”

```
[root@localhost samba]# mkdir -p publico/
```

Dei permissões na pasta

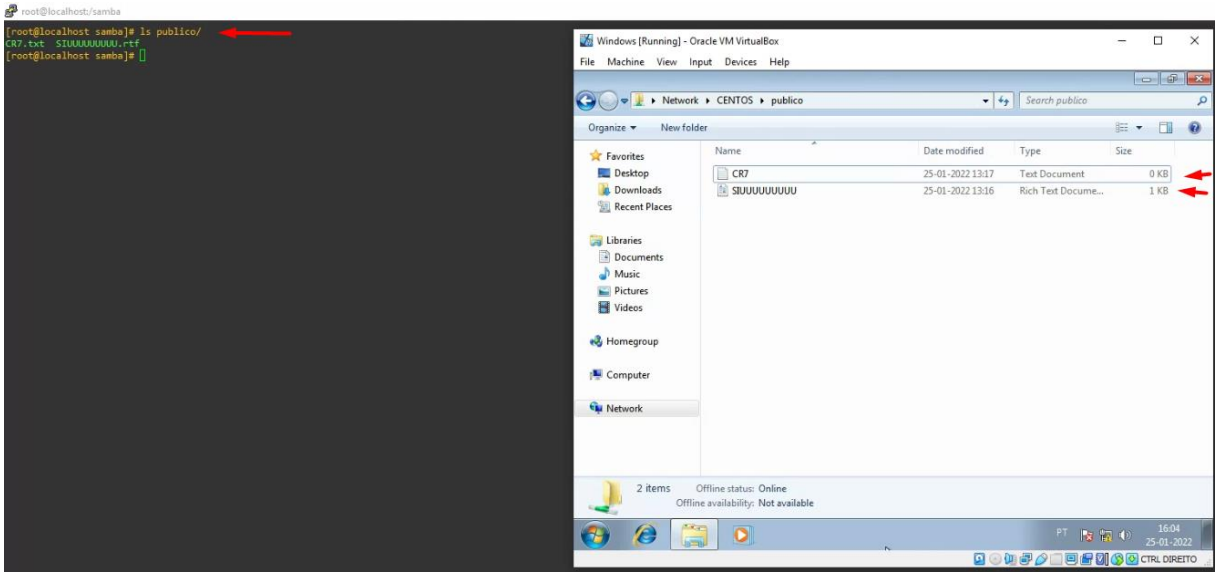
```
[root@localhost samba]# chmod -R 0777 publico/
```

```
[root@localhost samba]# chown -R nobody:nobody publico/
```

```
[root@localhost samba]# chcon -t samba_share_t publico/
```

```
  GNU nano 2.3.1                                File: /etc/samba/smb.conf

[global]
workgroup = WORKGROUP
server string = Samba Server %v
netbios name = centos
security = user
map to guest = bad user
dns proxy = no
#============================ Share Definitions ==============================
[publico]
path = /samba/publico
browsable =yes
writable = yes
guest ok = yes
read only = no
```

A pasta publica já está a funcionar



Adicionar um grupo ao samba e os utilizadores pedidos no enunciado

```
[root@localhost samba]# groupadd smbgrp
[root@localhost samba]# useradd eduardolocati -G smbgrp
[root@localhost samba]# smbpasswd -a eduardolocati
New SMB password:
Retype new SMB password:
Added user eduardolocati.
[root@localhost samba]# useradd marcosilva -G smbgrp
[root@localhost samba]# smbpasswd -a marcosilva
New SMB password:
Retype new SMB password:
Mismatch - password unchanged.
Unable to get new password.
[root@localhost samba]# smbpasswd -a marcosilva
New SMB password:
Retype new SMB password:
Added user marcosilva.
[root@localhost samba]# useradd noaleon -G smbgrp
[root@localhost samba]# smbpasswd -a noaleon
New SMB password:
Retype new SMB password:
Added user noaleon.
[root@localhost samba]# useradd alextravis -G smbgrp
[root@localhost samba]# smbpasswd -a alextravis
New SMB password:
Retype new SMB password:
Added user alextravis.
[root@localhost samba]#
```

Criei pastas privadas com o nome de cada user definido no enunciado

```
[root@localhost samba]# mkdir -p /samba/marcosilva
[root@localhost samba]# chown -R marcosilva:smbgrp marcosilva/
[root@localhost samba]# chmod -R 0777 marcosilva/
[root@localhost samba]# chcon -t samba_share_t marcosilva/
[root@localhost samba]# mkdir -p /samba/alextravis
[root@localhost samba]# chown -R alextravis:smbgrp alextravis/
[root@localhost samba]# chcon -t samba_share_t alextravis/
[root@localhost samba]# mkdir -p /samba/noaleon
[root@localhost samba]# chmod -R 0777 alextravis/
[root@localhost samba]# chmod -R 0777 noaleon/
[root@localhost samba]# chown -R noaleon:smbgrp noaleon/
[root@localhost samba]# chcon -t samba_share_t noaleon/
[root@localhost samba]# mkdir -p /samba/eduardolocati
[root@localhost samba]# chown -R eduardolocati:smbgrp eduardolocati/
[root@localhost samba]# chmod -R 0777 eduardolocati/
[root@localhost samba]# chcon -t samba_share_t eduardolocati/
[root@localhost samba]# systemctl restart smb.service
[root@localhost samba]# systemctl restart nmb.service
[root@localhost samba]# nano /etc/samba/smb.conf
[root@localhost samba]#
```

dar permissões às mesmas

```
[root@localhost samba]# systemctl restart nmb.service
[root@localhost samba]# systemctl restart smb.service
[root@localhost samba]# nano /etc/samba/smb.conf
[root@localhost samba]# mkdir -p /samba/marcosilva
[root@localhost samba]# chown -R marcosilva:smbgrp marcosilva/
[root@localhost samba]# chmod -R 0777 marcosilva/
[root@localhost samba]# chcon -t samba_share_t marcosilva/
[root@localhost samba]# mkdir -p /samba/alextravis
[root@localhost samba]# chown -R alextravis:smbgrp alextravis/
[root@localhost samba]# chcon -t samba_share_t alextravis/
[root@localhost samba]# mkdir -p /samba/noaleon
[root@localhost samba]# chmod -R 0777 alextravis/
[root@localhost samba]# chmod -R 0777 noaleon/
[root@localhost samba]# chown -R noaleon:smbgrp noaleon/
[root@localhost samba]# chcon -t samba_share_t noaleon/
[root@localhost samba]# mkdir -p /samba/eduardolocati
[root@localhost samba]# chown -R eduardolocati:smbgrp eduardolocati/
[root@localhost samba]# chmod -R 0777 eduardolocati/
[root@localhost samba]# chcon -t samba_share_t eduardolocati/
[root@localhost samba]# systemctl restart smb.service
[root@localhost samba]# systemctl restart nmb.service
[root@localhost samba]# nano /etc/samba/smb.conf
[root@localhost samba]#
```

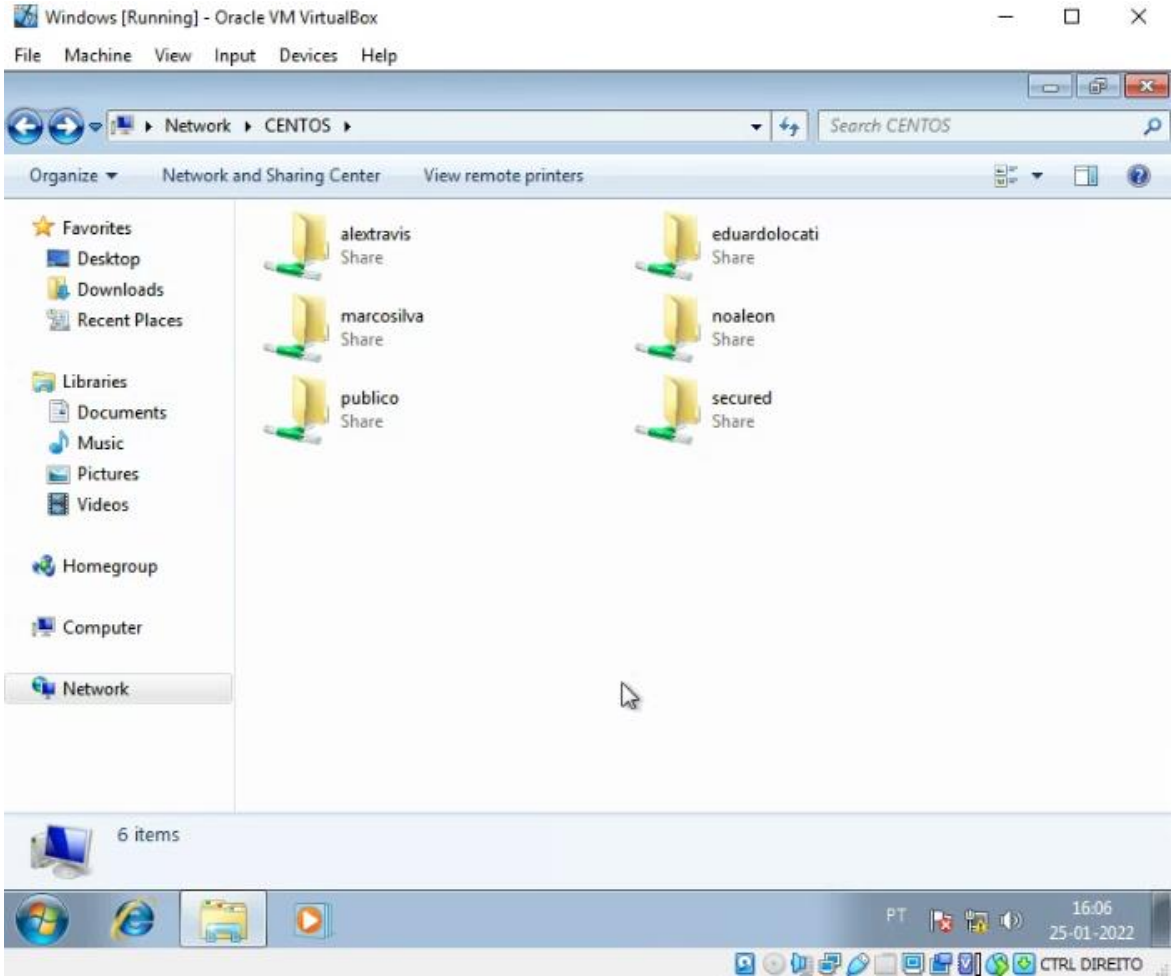
Depois fui ao ficheiro de configuração do samba e adicionei as pastas que foram criadas para os 4 utilizadores

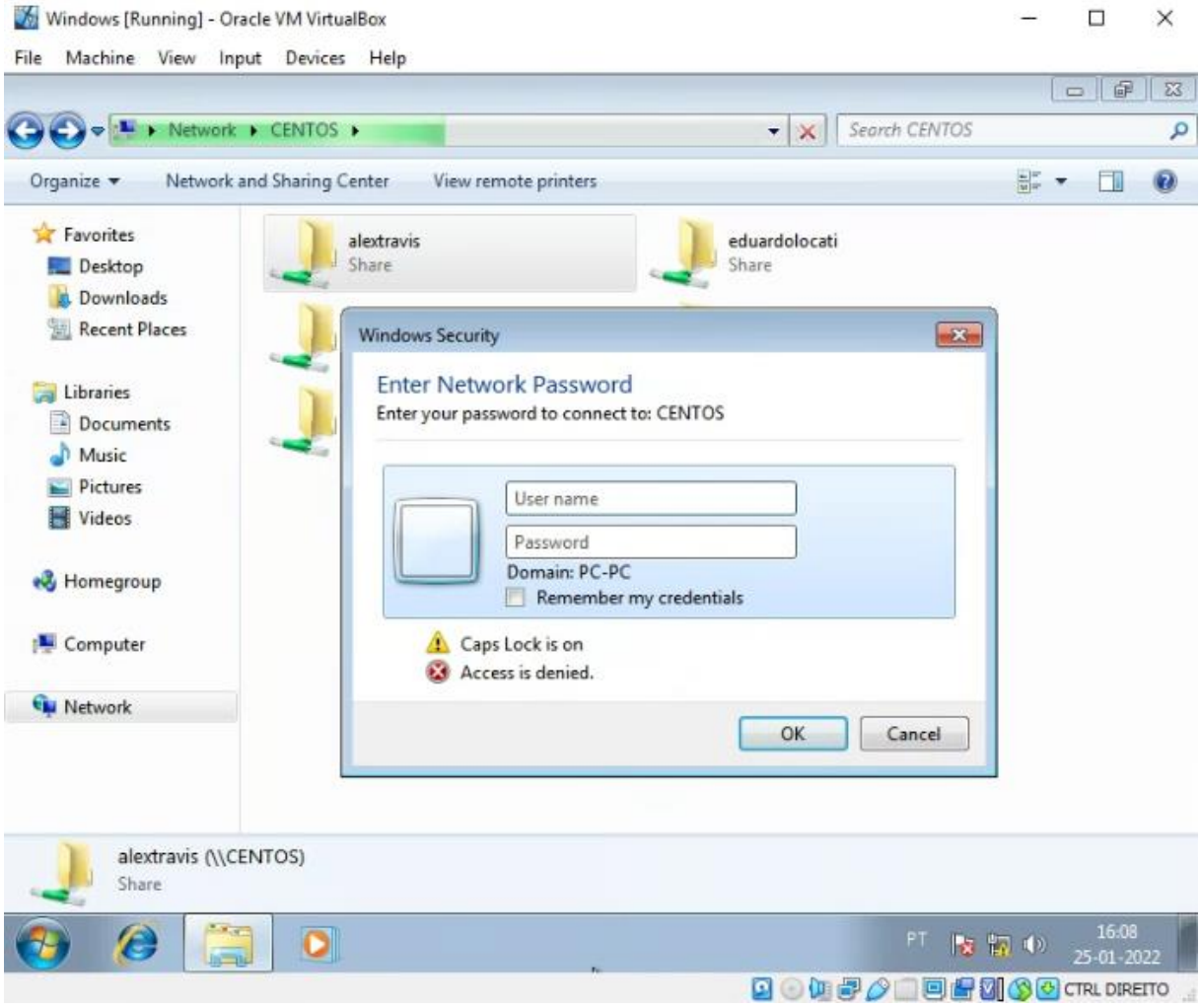
```
  GNU nano 2.3.1                                          File: /etc/samba/smb.conf

[global]
workgroup = WORKGROUP
server string = Samba Server %v
netbios name = centos
security = user
map to guest = bad user
dns proxy = no
#============================ Share Definitions ==============================
[publico]
path = /samba/publico
browsable =yes
writable = yes
guest ok = yes
read only = no

[eduardolocati]
path = /samba/eduardolocati
 valid users = @eduardolocati
 guest ok = no
 writable = yes
 browsable = yes

[marcosilva]
path = /samba/marcosilva
 valid users = @marcosilva
 guest ok = no
 writable = yes
 browsable = yes

[noaleon]
path = /samba/noaleon
 valid users = @noaleon
 guest ok = no
 writable = yes
 browsable = yes

[alextravis]
path = /samba/alextravis
 valid users = @alextravis
 guest ok = no
 writable = yes
 browsable = yes
```

Reiniciar os serviços

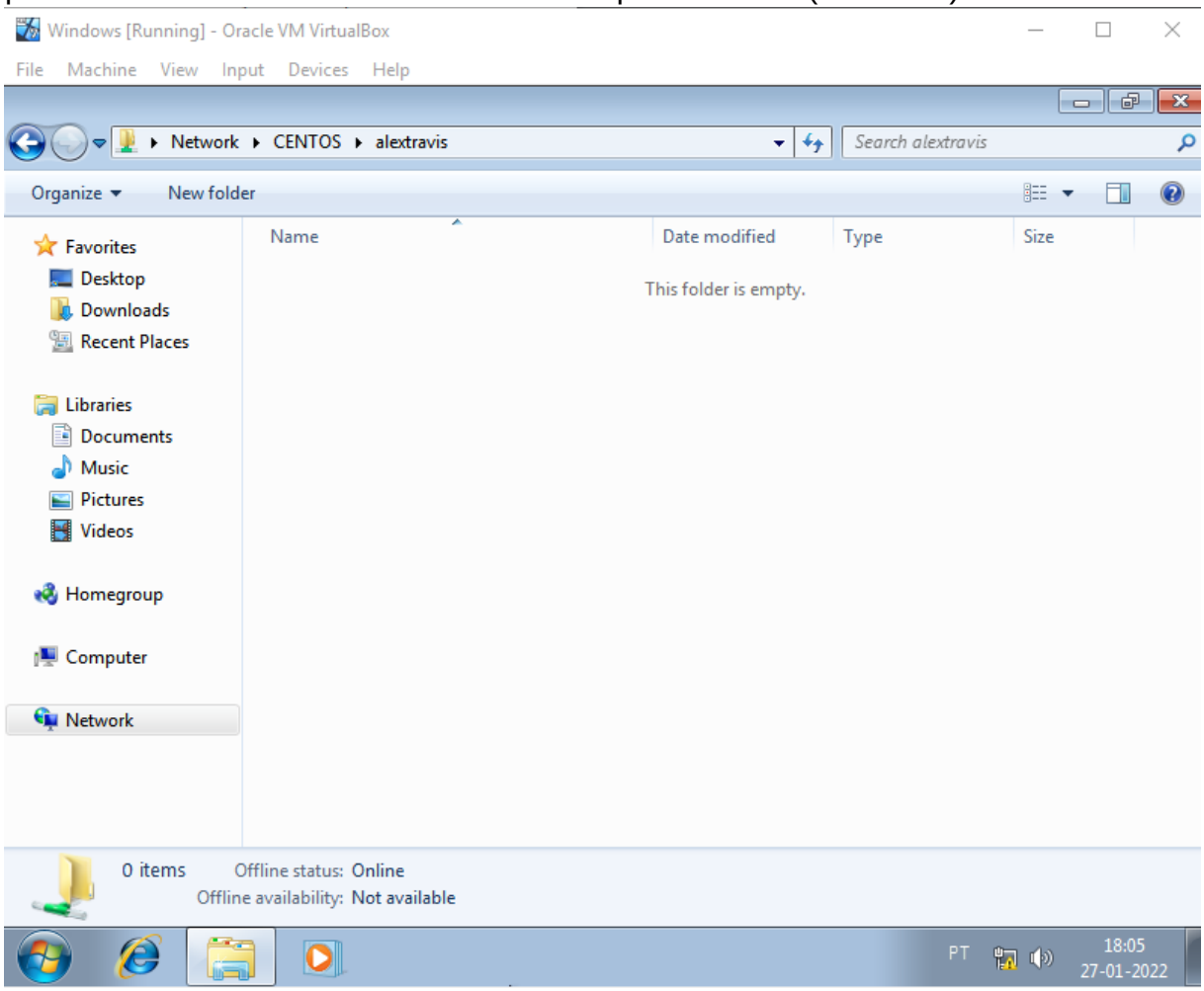
```
[root@localhost samba]# systemctl restart smb.service
[root@localhost samba]# systemctl restart nmb.service
```

Na máquina cliente cada utilizador já pode aceder á sua pasta




Windows [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Network ▸ CENTOS ▸
Search CENTOS
Organize
Network and Sharing Center
View remote printers
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Homegroup
Computer
Network
alextravis
Share
eduardolocati
Share
Windows Security
Enter Network Password
Enter your password to connect to: CENTOS
User name
Password
Domain: PC-PC
Remember my credentials
Caps Lock is on
Access is denied.
OK
Cancel
alextravis (\\CENTOS)
Share
PT
16:08
25-01-2022
CTRL DIREITO

Para entrar na pasta do alextravis é necessário colocar o username e a passe definidas na tabela, ou seja, user: alextravis pass: 123456 se tentarmos aceder a pasta do alex e colocar user: eduardolocati pass:123456 (ou outras) não vai dar.



Exercicio 4

Enunciado

Deverá ser criado um script que permita adicionar shares ao serviço de SMB de uma forma interativa e sem ter de refazer por completo o ficheiro de configuração do serviço.

Exercicio 5

Enunciado

Deverá ser implementado um servidor de HTTP com Apache que numa primeira fase deverá estar acessível para as máquinas cliente através do domínio definido no ponto 2. Neste ponto, serão consideradas todas as configurações que se considerem imprescindíveis ao bom funcionamento deste servidor.

Resolução

Instalar o APACHE

```
[root@localhost ~]# yum install httpd
```

Habilitar e começar o processo

```
[root@localhost ~]# systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service t
o /usr/lib/systemd/system/httpd.service.
[root@localhost ~]# systemctl start httpd
```

Permitir o firewall

```
[root@localhost ~]# sudo firewall-cmd --permanent --zone=public --add-service=http
[root@localhost ~]# sudo firewall-cmd --permanent --zone=public --add-service=https
[root@localhost ~]# sudo firewall-cmd --reload
```

Criar a pasta

```
[root@localhost ~]# mkdir -p /var/www/joaoribeiro.local/public_html
```

Depois aceder á pasta index.html

```
root@localhost:~
  GNU nano 2.3.1                                File: /var/www/joaoribeiro.local/public_html/index.html

<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Welcome to joaoribeiro.local</title>
  </head>
  <body>
    <h1>Success! joaoribeiro.local home page!</h1>
  </body>
</html>
```

Dár permissões à pasta

```
[root@localhost ~]# chown -R apache: /var/www/joaoribeiro.local
```

Depois configurei a pasta de configuração do site

root@localhost:~

```
  GNU nano 2.3.1                                  File: /etc/httpd/conf.d/joaoribeiro.local.conf

<VirtualHost *:80>
    ServerName joaoribeiro.local
    ServerAlias joaoribeiro.local
    ServerAdmin webmaster@example.com
    DocumentRoot /var/www/joaoribeiro.local/public_html

    <Directory /var/www/joaoribeiro.local/public_html>
        Options -Indexes +FollowSymLinks
        AllowOverride All
    </Directory>

    ErrorLog /var/log/httpd/joaoribeiro.local-error.log
    CustomLog /var/log/httpd/joaoribeiro.local-access.log combined
</VirtualHost>
```

Utilizei o comando apachectl configtest

```
[root@localhost ~]# apachectl configtest
AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using localhost.localdomain. Set the 'ServerName' directive globally to suppress this message
Syntax OK
[root@localhost ~]#
```

Dei restart ao serviço httpd

```
[root@localhost ~]# systemctl restart httpd
```

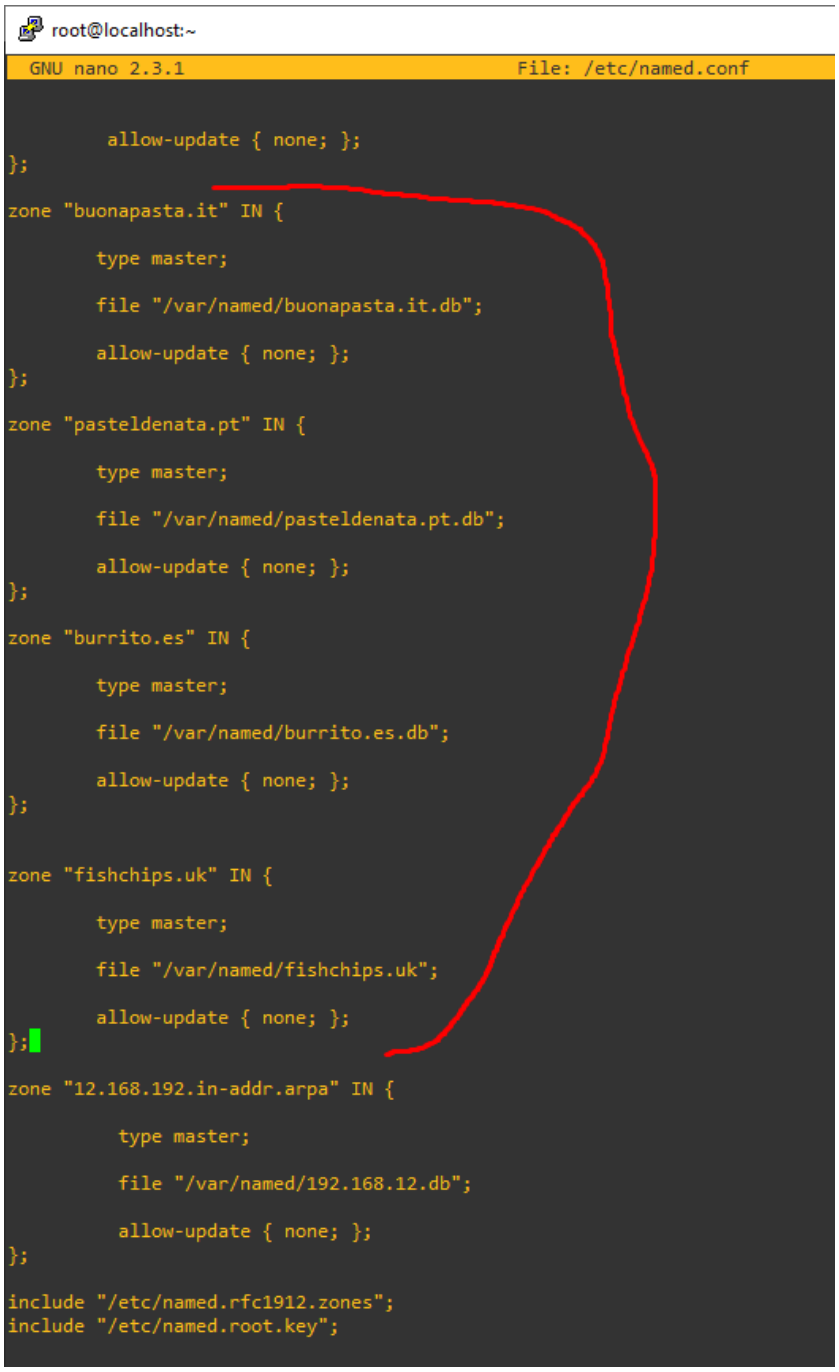
Exercicio 6

Enunciado

Deverão ser criados os vitualhosts necessários a disponibilização de todos os sites apresentados na tabela 1.

Resolução

Adicionar as zonas dos domínios



Configuras os ficheiros associados às zonas

root@localhost:~

```
  GNU nano 2.3.1                          File: /var/named/buonapasta.it.db

@   IN  SOA     ns1.buonapasta.it. root.buonapasta.it. (
                                              1001    ;Serial
                                              3H      ;Refresh
                                              15M     ;Retry
                                              1W      ;Expire
                                              1D      ;Minimum TTL
                                              )

;Name Server Information
@       IN  NS      ns1.buonapasta.it.

;IP address of Name Server
ns1 IN  A       192.168.12.1

;Mail exchanger

;A - Record HostName To IP Address
buonapasta.it.  IN      A 192.168.12.15
www     IN  A       192.168.12.15
mail    IN  A       192.168.12.15

;CNAME record
ftp     IN CNAME        www.buonapasta.it.
```

root@localhost:~

```
  GNU nano 2.3.1                          File: /var/named/pasteldenata.pt.db

@   IN  SOA     ns1.pasteldenata.pt. root.pasteldenata.pt. (
                                              1001    ;Serial
                                              3H      ;Refresh
                                              15M     ;Retry
                                              1W      ;Expire
                                              1D      ;Minimum TTL
                                              )

;Name Server Information
@       IN  NS      ns1.pasteldenata.pt.

;IP address of Name Server
ns1 IN  A       192.168.12.1

;Mail exchanger

;A - Record HostName To IP Address
pasteldenata.pt.        IN      A       192.168.12.15
www     IN  A       192.168.12.15
mail    IN  A       192.168.12.15

;CNAME record
ftp     IN CNAME        www.pasteldenata.pt.
```

root@localhost:~

```
  GNU nano 2.3.1                              File: /var/named/burrito.es.db

@   IN  SOA     ns1.burrito.es. root.burrito.es. (
                                              1001    ;Serial
                                              3H      ;Refresh
                                              15M     ;Retry
                                              1W      ;Expire
                                              1D      ;Minimum TTL
                                              )

;Name Server Information
@       IN  NS      ns1.burrito.es.

;IP address of Name Server
ns1 IN  A       192.168.12.15

;Mail exchanger

;A - Record HostName To IP Address
burrito.es.     IN      A       192.168.12.15
www     IN  A       192.168.12.15
mail    IN  A       192.168.12.15

;CNAME record
ftp     IN CNAME        www.burrito.es.
```

root@localhost:~

```
  GNU nano 2.3.1                              File: /var/named/fishchips.uk

@   IN  SOA     ns1.fishchips.uk. root.fishchips.uk. (
                                              1001    ;Serial
                                              3H      ;Refresh
                                              15M     ;Retry
                                              1W      ;Expire
                                              1D      ;Minimum TTL
                                              )

;Name Server Information
@       IN  NS      ns1.fishchips.uk.

;IP address of Name Server
ns1 IN  A       192.168.12.1

;Mail exchanger

;A - Record HostName To IP Address
fishchips.uk.   IN      A       192.168.12.15
www     IN  A       192.168.12.15
mail    IN  A       192.168.12.15

;CNAME record
ftp     IN CNAME        www.fishchips.uk.
```

Criar os Virtual hosts para a criação dos sites

Criar as pastas dos sites

```
[root@localhost ~]# nano /var/www/buonapasta.it/public_html/index.html
[root@localhost ~]# mkdir -p /var/www/buonapasta.it/public_html
[root@localhost ~]# nano /var/www/buonapasta.it/public_html/index.html
[root@localhost ~]# mkdir -p /var/www/pasteldenata.pt/public_html
[root@localhost ~]# nano /var/www/pasteldenata.pt/public_html/index.html
[root@localhost ~]# nano /var/www/pasteldenata.pt/public_html/index.html
[root@localhost ~]# mkdir -p /var/www/burrito.es/public_html
[root@localhost ~]# nano /var/www/burrito.es/public_html/index.html
[root@localhost ~]# mkdir -p /var/www/fishchips.uk/public_html
[root@localhost ~]# nano /var/www/fishchips.uk/public_html/index.html
[root@localhost ~]# nano /var/www/fishchips.uk/public_html/index.html
```

Dar permissões às pastas criadas

```
[root@localhost ~]# chown -R apache: /var/www/buonapasta.it
[root@localhost ~]# chown -R apache: /var/www/pasteldenata.pt
[root@localhost ~]# chown -R apache: /var/www/burrito.es
[root@localhost ~]# chown -R apache: /var/www/fishchips.uk
```

Configurar a ficheiro index.html dos sites

root@localhost:~

```
  GNU nano 2.3.1                                File: /var/www/buonapasta.it/public_html/index.html

<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Welcome to buonapasta.it</title>
  </head>
  <body>
    <h1>Success! buonapasta.it home page!</h1>
  </body>
</html>
```

root@localhost:~

```
  GNU nano 2.3.1                                File: /var/www/pasteldenata.pt/public_html/index.html

<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Welcome to pasteldenata.pt</title>
  </head>
  <body>
    <h1>Success! pasteldenata.pt home page!</h1>
  </body>
</html>
```

root@localhost:~

```
  GNU nano 2.3.1                                          File: /var/www/burrito.es/public_html/index.html

<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Welcome to burrito.es</title>
  </head>
  <body>
    <h1>Success! burrito.es home page!</h1>
  </body>
</html>
```

root@localhost:~

```
  GNU nano 2.3.1                                          File: /var/www/fishchips.uk/public_html/index.html

<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Welcome to fishchips.uk</title>
  </head>
  <body>
    <h1>Success! fishchips.uk home page!</h1>
  </body>
</html>
```

root@localhost:~

```
  GNU nano 2.3.1                                          File: /etc/httpd/conf.d/buonapasta.it.conf

<VirtualHost *:80>
    ServerName buonapasta.it
    ServerAlias www.buonapasta.it
    ServerAdmin webmaster@example.com
    DocumentRoot /var/www/buonapasta.it/public_html

    <Directory /var/www/buonapasta.it/public_html>
        Options -Indexes +FollowSymLinks
        AllowOverride All
    </Directory>

    ErrorLog /var/log/httpd/buonapasta.it-error.log
    CustomLog /var/log/httpd/buonapasta.it-access.log combined
</VirtualHost>
```

root@localhost:~

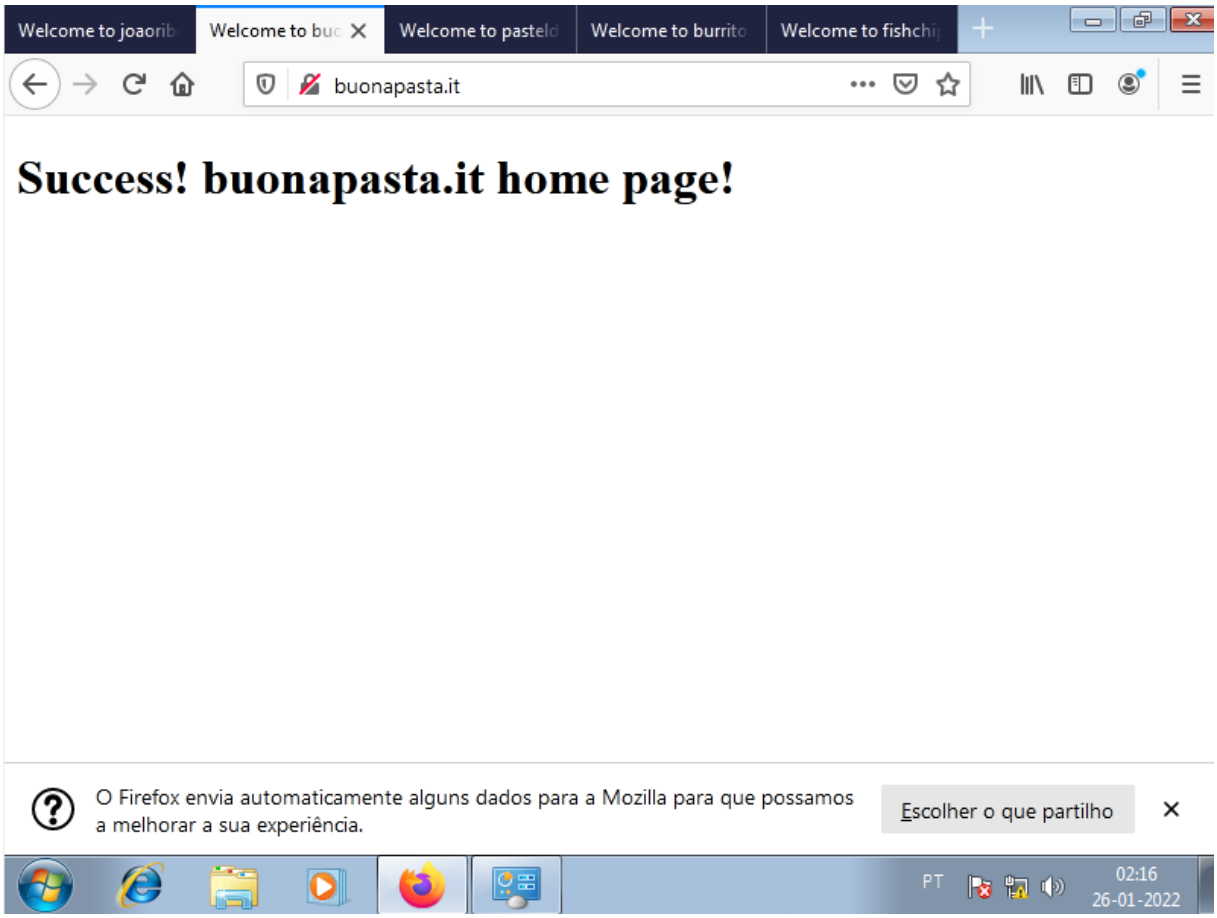
```
  GNU nano 2.3.1                                          File: /etc/httpd/conf.d/pasteldenata.pt.conf

<VirtualHost *:80>
    ServerName pasteldenata.pt
    ServerAlias www.pasteldenata.pt
    ServerAdmin webmaster@pasteldenata.pt
    DocumentRoot /var/www/pasteldenata.pt/public_html

    <Directory /var/www/pasteldenata.pt/public_html>
        Options -Indexes +FollowSymLinks
        AllowOverride All
    </Directory>

    ErrorLog /var/log/httpd/pasteldenata.pt-error.log
    CustomLog /var/log/httpd/pasteldenata.pt-access.log combined
</VirtualHost>
```

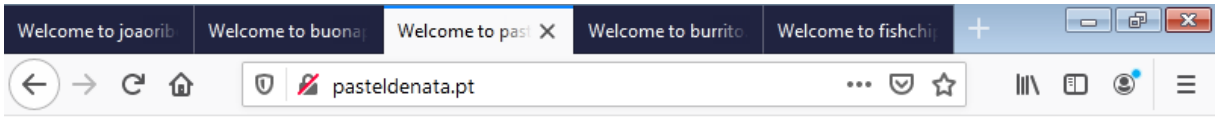
root@localhost:~

```
  GNU nano 2.3.1                                  File: /etc/httpd/conf.d/burrito.es.conf

<VirtualHost *:80>
    ServerName burrito.es
    ServerAlias www.burrito.es
    ServerAdmin webmaster@burrito.es
    DocumentRoot /var/www/burrito.es/public_html

    <Directory /var/www/burrito.es/public_html>
        Options -Indexes +FollowSymLinks
        AllowOverride All
    </Directory>

    ErrorLog /var/log/httpd/burrito.es-error.log
    CustomLog /var/log/httpd/burrito.es-access.log combined
</VirtualHost>
```

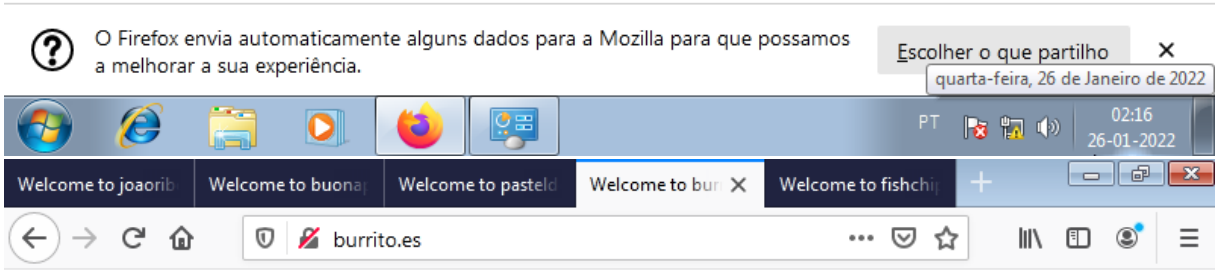
root@localhost:~

```
  GNU nano 2.3.1                                  File: /etc/httpd/conf.d/fishchips.uk.conf

<VirtualHost *:80>
    ServerName fishchips.uk
    ServerAlias www.fishchips.uk
    ServerAdmin webmaster@fishchips.uk
    DocumentRoot /var/www/fishchips.uk/public_html

    <Directory /var/www/fishchips.uk/public_html>
        Options -Indexes +FollowSymLinks
        AllowOverride All
    </Directory>

    ErrorLog /var/log/httpd/fishchips.uk-error.log
    CustomLog /var/log/httpd/fishchips.uk-access.log combined
</VirtualHost>
```

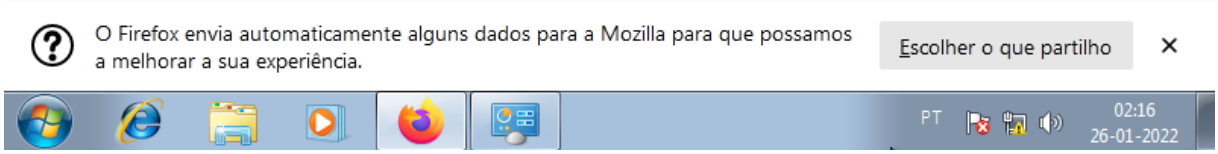


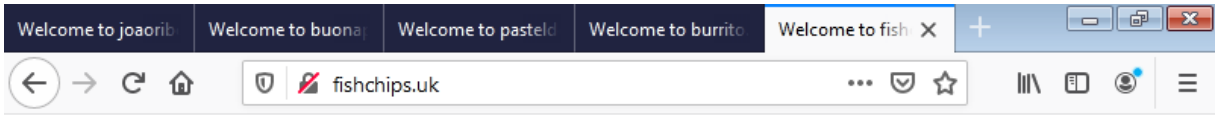


Success! pasteldenata.pt home page!

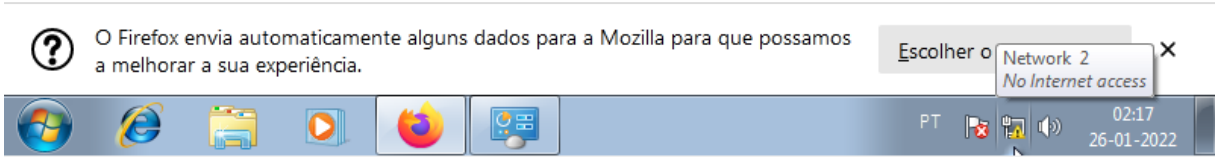


Success! burrito.es home page!





Success! fishchips.uk home page!



Exercicio 7

Enunciado
Deverá ser implementado o serviço de FTP por forma a que apenas os utilizadores administradores de cada site (tabela 1) tenham acesso aos seus ficheiros.

Resolução
Instalar vsftpd

```
[root@localhost ~]# yum install vsftpd
```

Instalar o ftp

```
[root@localhost ~]# yum install ftp
```

Habilitei o serviço e permiti as firewalles

```
Complete!
[root@localhost ~]# systemctl start vsftpd
[root@localhost ~]# systemctl enable vsftpd
Created symlink from /etc/systemd/system/multi-user.target.wants/vsftpd.service to /usr/lib/systemd/system/vsftpd.service.
[root@localhost ~]# firewall-cmd --zone=public --permanent --add-port=21/tcp
success
[root@localhost ~]# firewall-cmd --zone=public --permanent --add-service=ftp
success
[root@localhost ~]# firewall-cmd --reload
success
```

configurar o FTP para permitir/negar acesso FTP

root@localhost:~

```
  GNU nano 2.3.1                                                File: /etc/vsftpd.userlist

userlist_enable=YES                 # vsftpd will load a list of usernames, from the filename given by userlist_file
userlist_file=/etc/vsftpd.userlist  # stores usernames.
userlist_deny=NO
chroot_local_user=YES
allow_writeable_chroot=YES
```

Dasativar a possibilidade de aceder ao ftp anonimamente

root@localhost:~

```
  GNU nano 2.3.1                                                File: /etc/vsftpd/vsftpd.conf

# Example config file /etc/vsftpd/vsftpd.conf
#
# The default compiled in settings are fairly paranoid. This sample file
# loosens things up a bit, to make the ftp daemon more usable.
# Please see vsftpd.conf.5 for all compiled in defaults.
#
# READ THIS: This example file is NOT an exhaustive list of vsftpd options.
# Please read the vsftpd.conf.5 manual page to get a full idea of vsftpd's
# capabilities.
#
# Allow anonymous FTP? (Beware - allowed by default if you comment this out).
anonymous_enable=NO
#
# Uncomment this to allow local users to log in.
# When SELinux is enforcing check for SE bool ftp_home_dir
local_enable=YES
#
# Uncomment this to enable any form of FTP write command.
write_enable=YES
#
# Default umask for local users is 077. You may wish to change this to 022,
# if your users expect that (022 is used by most other ftpd's)
local_umask=022
#
# Uncomment this to allow the anonymous FTP user to upload files. This only
# has an effect if the above global write enable is activated. Also, you will
# obviously need to create a directory writable by the FTP user.
# When SELinux is enforcing check for SE bool allow_ftpd_anon_write, allow_ftpd_full_access
#anon_upload_enable=YES
#
# Uncomment this if you want the anonymous FTP user to be able to create
# new directories.
#anon_mkdir_write_enable=YES
#
# Activate directory messages - messages given to remote users when they
# go into a certain directory.
dirmessage_enable=YES
#
# Activate logging of uploads/downloads.
xferlog_enable=YES
#
# Make sure PORT transfer connections originate from port 20 (ftp-data).
connect_from_port_20=YES
#
# If you want, you can arrange for uploaded anonymous files to be owned by
# a different user. Note! Using "root" for uploaded files is not
# recommended!
#chown_uploads=YES
#chown_username=whoever
#
# You may override where the log file goes if you like. The default is shown
# below.
#xferlog_file=/var/log/xferlog
#
# If you want, you can have your log file in standard ftpd xferlog format.
# Note that the default log file location is /var/log/xferlog in this case.
xferlog_std_format=YES
#
# You may change the default value for timing out an idle session.
#idle_session_timeout=600
#
# You may change the default value for timing out a data connection.

^G Get Help                ^O WriteOut                ^R Read File
^X Exit                    ^J Justify                 ^W Where Is
```

Criar os Users e atribui as passes.

```
[root@localhost ~]# useradd -m -s /bin/bash eduardolocati
[root@localhost ~]# passwd eduardolocati
Changing password for user eduardolocati.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]#
```

```
[root@localhost ~]# useradd -m -s /bin/bash marcosilva
[root@localhost ~]# passwd marcosilva
Changing password for user marcosilva.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]# useradd -m -s /bin/bash noaleon
[root@localhost ~]# passwd noaleon
Changing password for user noaleon.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
```

```
[root@localhost ~]# useradd -m -s /bin/bash alextravis
[root@localhost ~]# passwd alextravis
Changing password for user alextravis.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
```

Adicionar os user à pasta userlist

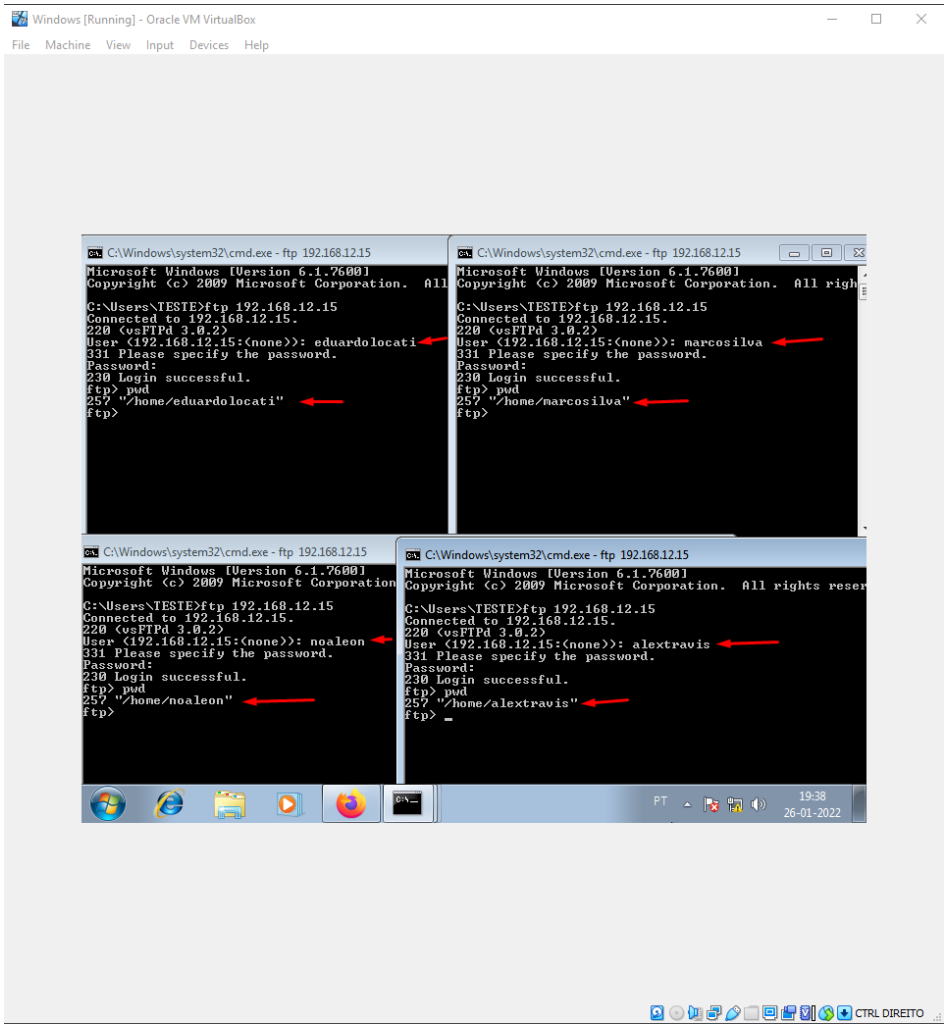
```
[root@localhost ~]# echo "eduardolocati" | tee -a /etc/vsftpd.userlist
eduardolocati
[root@localhost ~]# echo "marcosilva" | tee -a /etc/vsftpd.userlist
marcosilva
[root@localhost ~]# echo "noaleon" | tee -a /etc/vsftpd.userlist
noaleon
[root@localhost ~]# echo "alextravis" | tee -a /etc/vsftpd.userlist
alextravis
[root@localhost ~]# cat /etc/vsftpd.userlist
userlist_enable=YES                 # vsftpd will load a list of usernames, from the filename given by userlist_file
userlist_file=/etc/vsftpd.userlist    # stores usernames.
userlist_deny=NO
chroot_local_user=YES
allow_writeable_chroot=YES
eduardolocati
marcosilva
noaleon
alextravis
[root@localhost ~]#
```

Criar pasta para cada user e remover todas as permissões

```
[root@localhost ~]# mkdir /home/eduardolocati/ftp
[root@localhost ~]# mkdir /home/marcosilva/ftp
[root@localhost ~]# mkdir /home/noaleon/ftp
[root@localhost ~]# mkdir /home/alextravis/ftp
[root@localhost ~]# mkdir /home/eduardolocati/ftp
mkdir: cannot create directory ‘/home/eduardolocati/ftp’: File exists
[root@localhost ~]# chown nobody:nobody /home/eduardolocati/ftp
[root@localhost ~]# chown nobody:nobody /home/marcosilva/ftp
[root@localhost ~]# chown nobody:nobody /home/noaleon/ftp
[root@localhost ~]# chown nobody:nobody /home/alextravis/ftp
[root@localhost ~]# chmod a-w /home/eduardolocati/ftp
[root@localhost ~]# chmod a-w /home/marcosilva/ftp
[root@localhost ~]# chmod a-w /home/noaleon/ftp
[root@localhost ~]# chmod a-w /home/alextravis/ftp
```

Criei outra pasta dentro da pasta criada anteriormente e dei permissões

```
[root@localhost ~]# mkdir /home/eduardolocati/ftp/files
[root@localhost ~]# mkdir /home/marcosilva/ftp/files
[root@localhost ~]# mkdir /home/noaleon/ftp/files
[root@localhost ~]# mkdir /home/alextravis/ftp/files
[root@localhost ~]# chown eduardolocati:eduardolocati  /home/eduardolocati/ftp/files
[root@localhost ~]# chown marcosilva:marcosilva  /home/marcosilva/ftp/files
[root@localhost ~]# chown noaleon:noaleon  /home/noaleon/ftp/files
[root@localhost ~]# chown alextravis:alextravis  /home/alextravis/ftp/files
[root@localhost ~]# chmod 0700 /home/eduardolocati/ftp/files/
[root@localhost ~]# chmod 0700 /home/marcosilva/ftp/files/
[root@localhost ~]# chmod 0700 /home/noaleon/ftp/files/
[root@localhost ~]# chmod 0700 /home/alextravis/ftp/files/
```



Exercicio 8

Enunciado

Instale um serviço web à sua escolha (e.g. webmin, owncloud, nextcloud, etc…) e deixe-o acessível através de um domínio também à sua escolha.

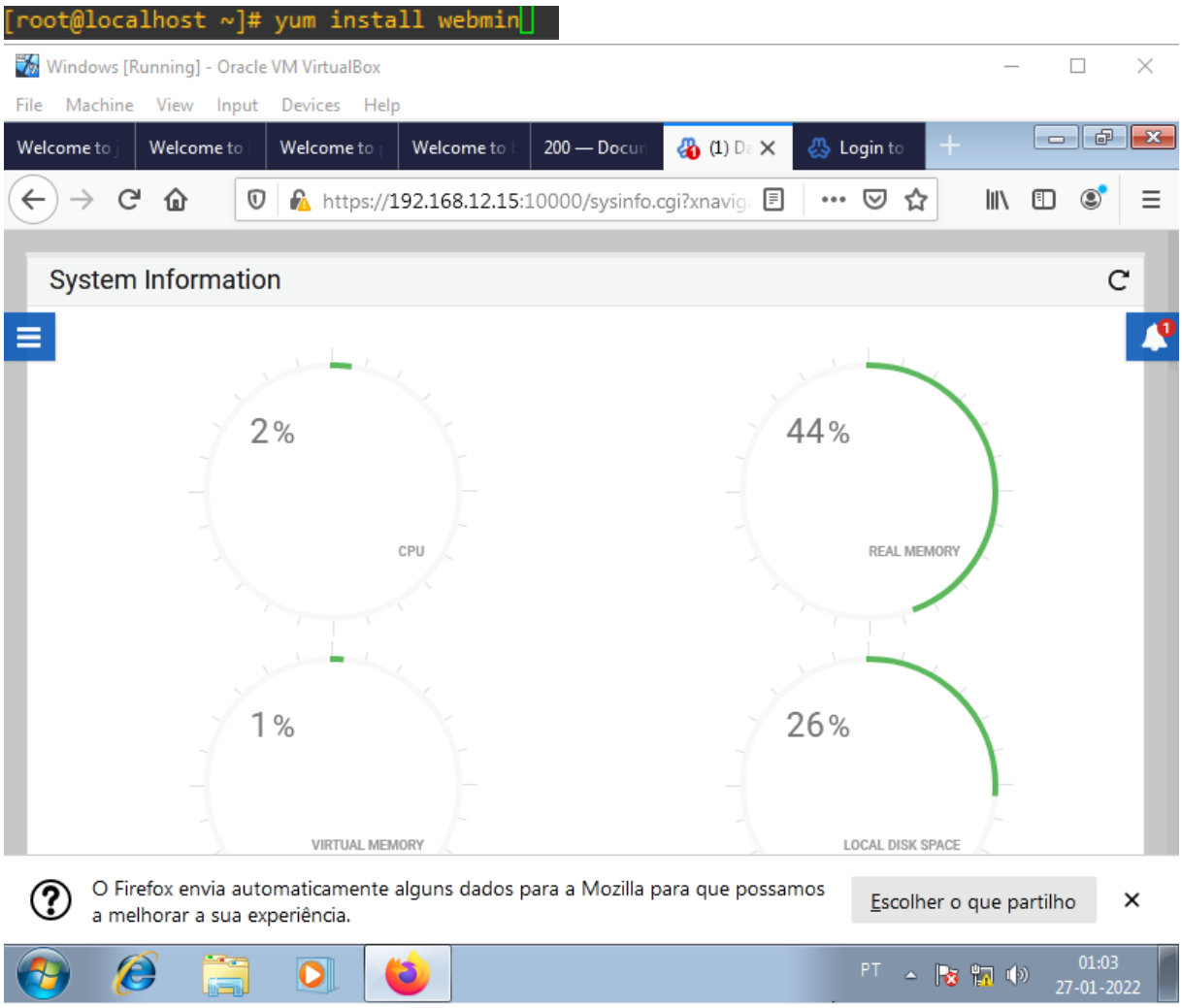
Resolução

Criar um ficheiro para a instalar o webmin

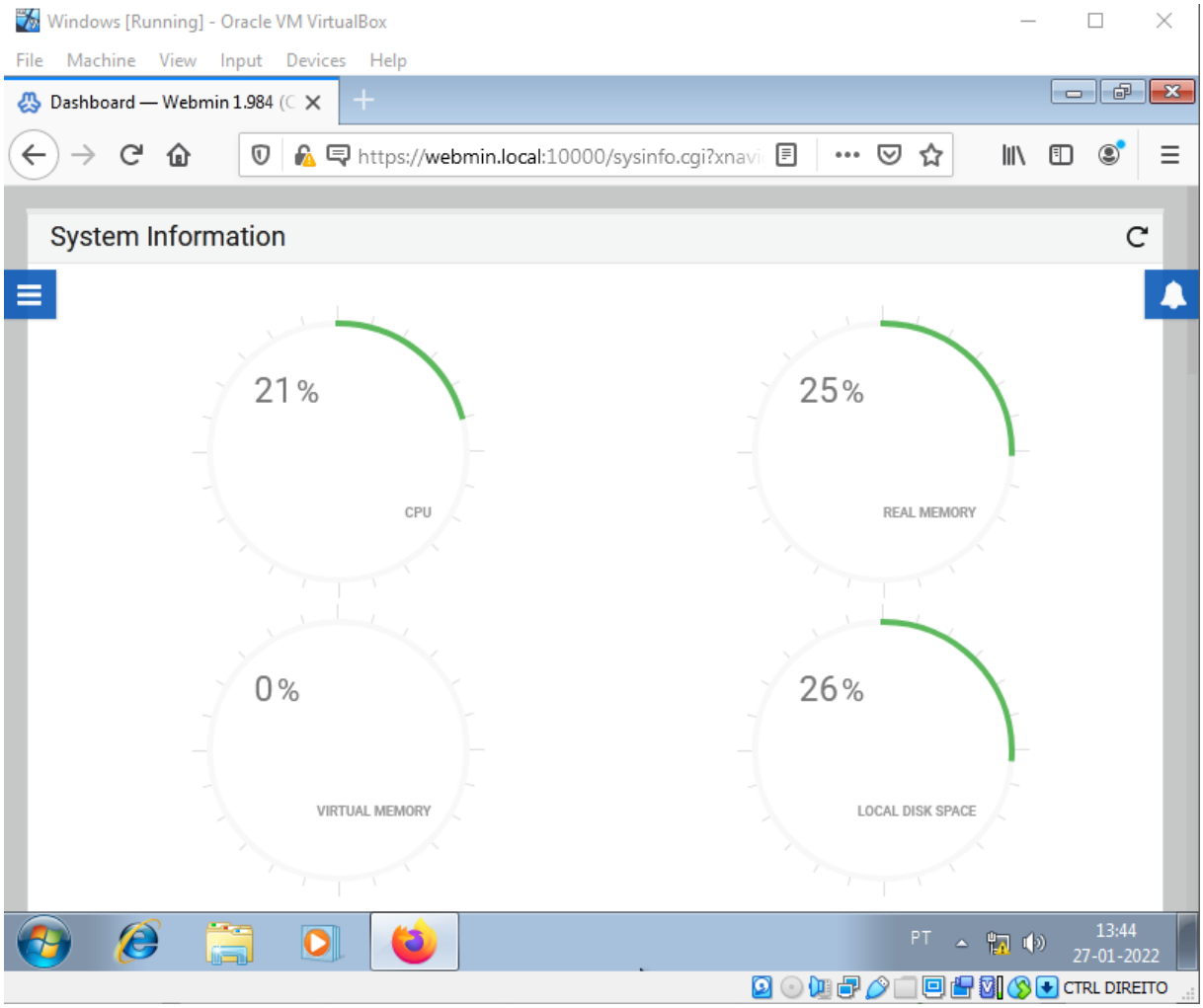
```
  GNU nano 2.3.1                File: /etc/yum.repos.d/webmin.repo

[Webmin]
name=Webmin Distribution Neutral
#baseurl=https://download.webmin.com/download/yum
mirrorlist=https://download.webmin.com/download/yum/mirrorlist
enabled=1
```

```
[root@localhost ~]# sudo rpm --import http://www.webmin.com/jcameron-key.asc
```

Instalar o webmin



Para aceder ao webmin através de um domínio basta por exemplo escrever https://webmin.local:10000 para isso é necessário criar zonas como eu fiz no exercicio anterior



Conclusão

Com este trabalho fui capaz de instalar alguns serviços que estão em Data Centers de empresas nomeadamente DNS, FTP, DHCP, APACHE e SAMBA, fui capaz também de instalar um software de monitoramento.

Após a conclusão do trabalho refleti sobre o que foi feito e cheguei na conclusão que este trabalho foi uma mais valia para mim pois enquadra-se 100% na área do curso e ensina-me e prepara-me bastante não só para futuros trabalhos como também para trabalhos da escola.

ISOS das máquinas:
https://mega.nz/file/SKgh2SjT#5pdAFymO8Q38TUNVj_8vF36BUF42wUs78APs_ZdhQHo

https://mega.nz/file/SboxxKqY#3ZwhNuqgoj-9bu3MLSoO99BgvOXSib8jYWRlGXM187U

https://mega.nz/file/eSwRGIZb#gZh6ixb52AzShsmJrh2B9DIAa9hH7_2268r-SRYqKCw