INSTITUTO TECNOLÓGICO DE LAS AMÉRICAS

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Asignatura:

Sistemas Operativos III

Tema:

HOWTO Y VIDEO (SAMBA COMO DOMINIO)

Participante:

Santiago M. Duval Contreras

Matricula:

2015-3246

Facilitador:

José Doñe

Fecha:

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HOW-TO? | Samba como Controlador de Dominio en ClearOS.

En este documento veremos los pasos requerido para instalar Samba 4 como controlador de Active Directory en ClearOS en Oracle VirtualBox.

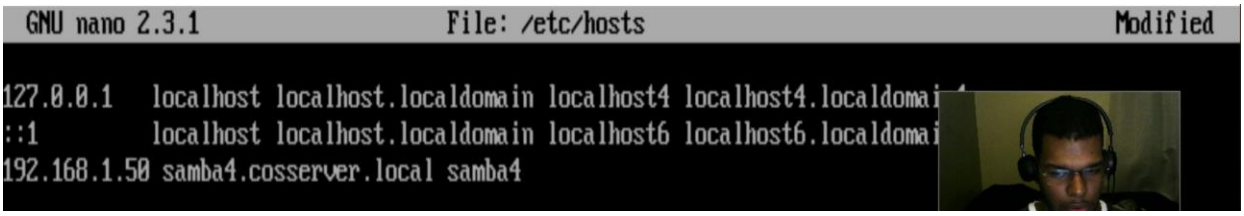
Link a demostración audiovisual: https://youtu.be/2aV2btff-ME

Requerimientos del OS:

Tener instalado el programa VirtualBox y tener el OS de ClearOS instalado con los requisitos de hardware virtuales que sean requeridos. Selinux tiene que estar desactivado. Todas las maquinas tienen que estar dentro de una misma red interna.

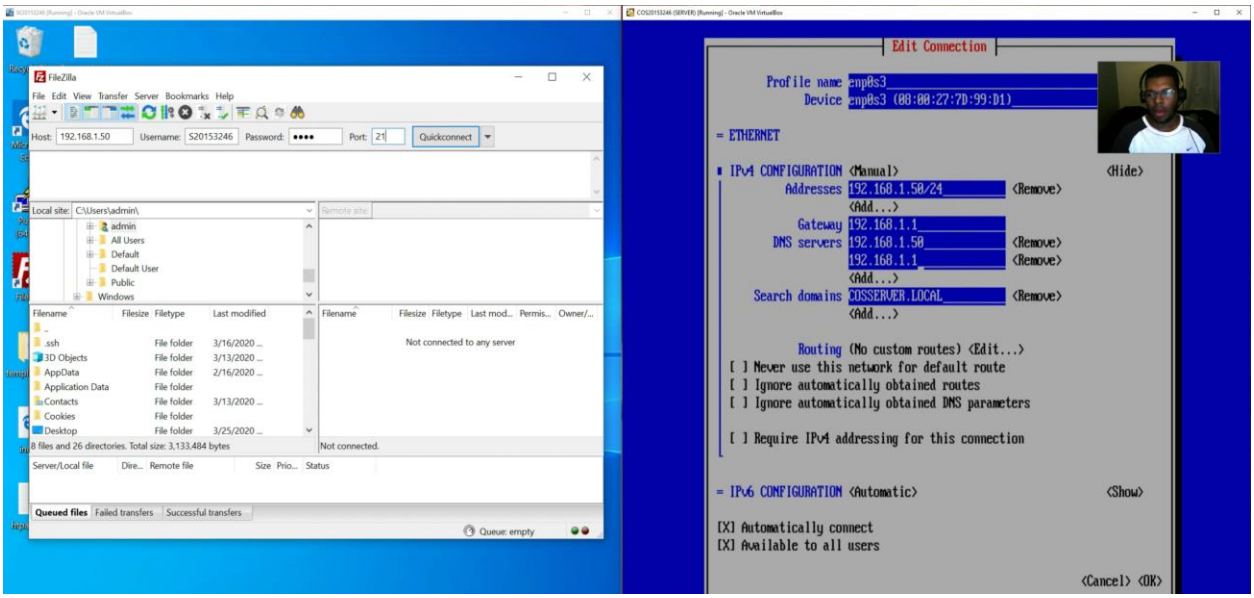
Paso 1 – Editar el archivo hosts.

Con nano /etc/hosts/ editaremos el archivo de host locales para añadir la ip del servidor junto con el nombre del dominio que utilizaremos y el subdominio de samba4.



Paso 2 – Editar el archivo resolv.conf.

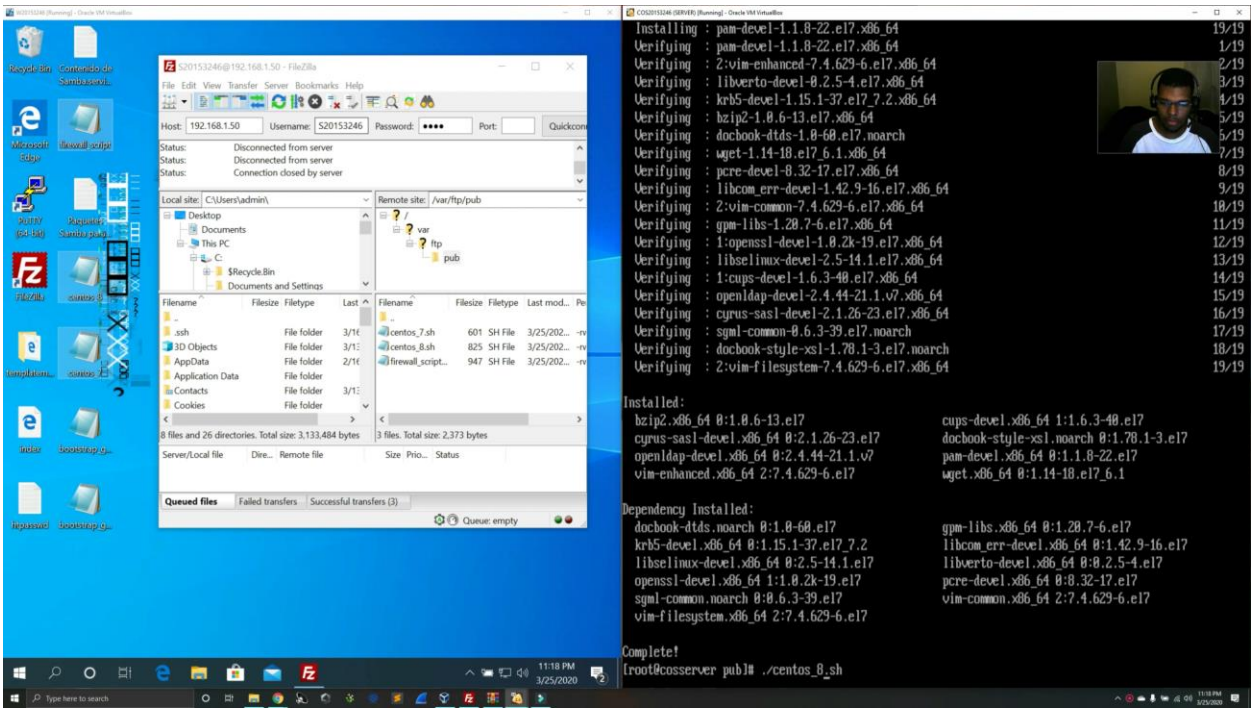
Utilizando el comando **nmtui** añadiremos la ip del servidor como DNS server y el nombre del dominio que habíamos colocado en el archivo hosts. Al terminar reiniciaremos la nic y si se prefiere procederemos a revisar con nano /etc/resolv.conf el archivo para ver si se han guardados estos cambios.



Paso 3 – Instalar los programas requeridos.

Crearemos un script que nos permita los siguientes programas:

#!/bin/bash
yum -y install epel-release
yum -y install perl gcc libacl-devel libblkid-devel gnutls-devel readline-devel python-devel gdb pkgconfig krb5-workstation
yum -y install zlib-devel setroubleshoot-server libaio-devel setroubleshoot-plugins
yum -y install policycoreutils-python libsemanage-python setools-libs-python setools-libs
yum -y install popt-devel libpcap-devel sqlite-devel libidn-devel libxml2-devel libacl-devel libsepol-devel libattr-devel keyutils-libs-devel
yum -y install cyrus-sasl-devel cups-devel bind-utils libxslt docbook-style-xsl openldap-devel pam-devel bzip2 vim wget
yum -y install docbook-style-xsl gcc gdb gnutls-devel gpgme-devel jansson-devel
yum -y install keyutils-libs-devel krb5-workstation libacl-devel libaio-devel
yum -y install libarchive-devel libattr-devel libblkid-devel libtasn1 libtasn1-tools
yum -y install libxml2-devel libxslt lmdb-devel openldap-devel pam-devel perl
yum -y install perl-ExtUtils-MakeMaker perl-Parse-Yapp popt-devel python3-cryptography
yum -y install python3-dns python3-gpg python36-devel readline-devel rpcgen systemd-devel
yum -y install tar zlib-devel
yum -y install libldb libtalloc libtdb libtevent gnutls-devel libacl-devel openldap-devel pam-devel readline-devel krb5-devel cups-devel



Paso 4 – Descargar Samba 4 Source.

```
[root@cosserver ~]# wget https://download.samba.org/pub/samba/stable/samba-4.10.4.tar.gz
--2020-03-25 23:24:40--  https://download.samba.org/pub/samba/stable/samba-4.10.4.tar.gz
Resolving download.samba.org (download.samba.org)... 144.76.82.148, 2a01:4f8:192:486::2:3
Connecting to download.samba.org (download.samba.org)|144.76.82.148|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 18289224 (17M) [application/gzip]
Saving to: 'samba-4.10.4.tar.gz'

100%[======================================================>] 18,289,224   381KB/s   in 38s

2020-03-25 23:25:21 (475 KB/s) - 'samba-4.10.4.tar.gz' saved [18289224/18289224]

[root@cosserver ~]# _
```

Paso 5 – Descomprimir el archivo tar.

Lo descomprimiéremos con el comando **tar -zxvf "nombre del archivo".**

Paso 6 – Compilar Samba 4.

Nos desplazaremos a la carpeta de samba 4 con el comando cd; Para compilar usamos el comando **./configure –enable-debug –enable-selftest –with-ads –with-systemd –with-winbind**

```
[root@cosserver samba-4.10.4]# ./configure --enable-debug --enable-selftest --with-ads --with-system
d --with-winbind
Setting top to                           : /root/samba-4.10.4
Setting out to                           : /root/samba-4.10.4/bin
Checking for 'gcc' (C compiler)          : /bin/gcc
Checking for program 'git'               : /bin/git
Checking for c flags '-MMD'              : yes
Checking for program 'gdb'               : /bin/gdb
Checking for header sys/utsname.h        : yes
Checking uname sysname type              : Linux
Checking uname machine type              : x86_64
Checking uname release type              : 3.10.0-1062.12.1.el7.x86_64
Checking uname version type              : #1 SMP Tue Feb 4 23:02:59 UTC 2020
```

```
Checking if compiler accepts -fstack-protector                                  : no

Checking if compiler accepts -fstack-clash-protection                           : ye
s
Checking compiler accepts ['-g']                                                : ye
s
'configure' finished successfully (1m17.395s)
[root@cosserver samba-4.10.4]# make_
```

Paso 7 – Make.

Utilizamos el comando make para preparar los archivos para la instalación.

```
[root@cosserver samba-4.10.4]# make
PYTHONHASHSEED=1 WAF_MAKE=1  ./buildtools/bin/waf build
```

```
symlink: samba/tests/subunitrun.py -> python/samba/tests/subunitrun.py
symlink: samba/tests/tdb_util.py -> python/samba/tests/tdb_util.py
symlink: samba/tests/upgrade.py -> python/samba/tests/upgrade.py
symlink: samba/tests/upgradeprovision.py -> python/samba/tests/upgradeprovision.py
symlink: samba/tests/upgradeprovisionneeddc.py -> python/samba/tests/upgradeprovisionneeddc.py
symlink: samba/tests/xattr.py -> python/samba/tests/xattr.py
symlink: samba/upgrade.py -> python/samba/upgrade.py
symlink: samba/upgradehelpers.py -> python/samba/upgradehelpers.py
symlink: samba/uptodateness.py -> python/samba/uptodateness.py
symlink: samba/web_server/__init__.py -> python/samba/web_server/__init__.py
symlink: samba/xattr.py -> python/samba/xattr.py
symlink: rpc/dcerpc.py -> python/samba/dcerpc/__init__.py
       Selected embedded Heimdal build
symlink: samba-tool -> ./samba-tool
symlink: samba_dnsupdate -> ./samba_dnsupdate
symlink: samba_spnupdate -> ./samba_spnupdate
symlink: samba_kcc -> ./samba_kcc
symlink: samba_upgradeprovision -> ./samba_upgradeprovision
symlink: samba_upgradedns -> ./samba_upgradedns
symlink: gen_output.py -> ./gen_output.py
symlink: samba-gpupdate -> ./samba-gpupdate
symlink: smbaddshare -> ./smbaddshare
symlink: smbchangeshare -> ./smbchangeshare
symlink: smbdeleteshare -> ./smbdeleteshare
Checking project rules ...
```

```
[4258/4264] Compiling source4/scripting/man/samba-gpupdate.8.xml
Note: Writing samba-gpupdate.8

[4259/4264] Compiling pidl/pidl
[4260/4264] Compiling pidl/lib/Parse/Pidl/NDR.pm
[4261/4264] Compiling pidl/lib/Parse/Pidl/Wireshark/Conformance.pm
[4262/4264] Compiling pidl/lib/Parse/Pidl/Dump.pm
[4263/4264] Compiling pidl/lib/Parse/Pidl/Util.pm
[4264/4264] Compiling pidl/lib/Parse/Pidl/Wireshark/NDR.pm
Waf: Leaving directory `/root/Desktop/samba-4.10.4/bin/default'
'build' finished successfully (10m13.348s)
[root@cosserver samba-4.10.4]#
```

Paso 7 – Make Install.

Utilizamos el comando make Install para instalar los archivos de samba 4.

```
You have new mail in /var/spool/mail/root
[root@cosserver samba-4.10.4]# systemctl restart network
[root@cosserver samba-4.10.4]# make install
PYTHONHASHSEED=1 WAF_MAKE=1  ./buildtools/bin/waf install
Waf: Entering directory `/root/Desktop/samba-4.10.4/bin/default'
* create /usr/local/samba/etc
* create /usr/local/samba/var
* create /usr/local/samba/var/lib
* create /usr/local/samba/private
* create /usr/local/samba/bind-dns
* create /usr/local/samba/var/locks
* create /usr/local/samba/var/cache
* create /usr/local/samba/var/lock
* create /usr/local/samba/var/run
       Selected embedded Heimdal build
Checking project rules ...

+ install /usr/local/samba/share/man/man1/gentest.1 (from bin/default/source4/torture/man/gentest.1)
+ install /usr/local/samba/share/man/man1/masktest.1 (from bin/default/source4/torture/man/masktest.
1)
+ install /usr/local/samba/share/man/man1/locktest.1 (from bin/default/source4/torture/man/locktest.
1)
+ install /usr/local/samba/share/man/man8/samba-gpupdate.8 (from bin/default/source4/scripting/man/s
amba-gpupdate.8)
+ install /usr/local/samba/share/man/man1/pidl.1 (from bin/default/pidl/pidl.1)
+ install /usr/local/samba/share/man/man3/Parse::Pidl::NDR.3pm (from bin/default/pidl/Parse::Pidl::N
DR.3pm)
+ install /usr/local/samba/share/man/man3/Parse::Pidl::Wireshark::Conformance.3pm (from bin/default/
pidl/Parse::Pidl::Wireshark::Conformance.3pm)
+ install /usr/local/samba/share/man/man3/Parse::Pidl::Dump.3pm (from bin/default/pidl/Parse::Pidl::
Dump.3pm)
+ install /usr/local/samba/share/man/man3/Parse::Pidl::Util.3pm (from bin/default/pidl/Parse::Pidl::
Util.3pm)
+ install /usr/local/samba/share/man/man3/Parse::Pidl::Wireshark::NDR.3pm (from bin/default/pidl/Par
se::Pidl::Wireshark::NDR.3pm)
Waf: Leaving directory `/root/Desktop/samba-4.10.4/bin/default'
'install' finished successfully (4m5.350s)
[root@cosserver samba-4.10.4]# _
```

Paso 8 – Editar el archivo krb5.conf

Utilizamos el comando nano /etc/krb5.conf y añadiremos covertiremos en comentario la siguiente línea:

```
#includedir /etc/krb5.conf.d/
```

Paso 9 – Compilar Samba 4 Active Directory.

Nos desplazamos con el comando cd al siguiente directorio: **nano /usr/local/samba/bin;** una vez dentro ejecutaremos el siguiente comando: **./samba-tool domain provision –realm="nombre del domino" –domain="nombre del grupo de trabajo" –adminpass 'password de administrator' –server-role=dc –dns-backend=SAMBA_INTERNAL**

```
[root@cosserver samba-4.10.4]# cd /usr/local/samba/bin
[root@cosserver bin]# ls
cifsdd       ldbedit    mvxattr       pdbedit   regtree       smbclient   smbstatus   tdbrestore
dbwrap_tool  ldbmodify  ndrdump       pidl      rpcclient     smbcontrol  smbtar      tdbtool
findsmb      ldbrename  net           profiles  samba-regedit smbcquotas  smbtorture  testparm
gentest      ldbsearch  nmblookup     regdiff   samba-tool    smbget      smbtree     wbinfo
ldbadd       locktest   ntlm_auth     regpatch  sharesec      smbpasswd   tdbbackup
ldbdel       masktest   oLschema2ldif regshell  smbcacls      smbspool    tdbdump
```

```
[root@cosserver bin]# ./samba-tool  domain provision --realm=COSSERVER.LOCAL --domain=ITLACOSSERVER
--adminpass '21Winpasswd' --server-role=dc --dns-backend=SAMBA_INTERNAL
INFO 2020-03-26 10:21:52,624 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #2079: Looking up IPv4 addresses
INFO 2020-03-26 10:21:52,625 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #2096: Looking up IPv6 addresses
WARNING 2020-03-26 10:21:52,626 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provi
sion/__init__.py #2103: No IPv6 address will be assigned
```

```
INFO 2020-03-26 10:22:03,422 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #491: Once the above files are installed, your Samba AD server will be ready to use
INFO 2020-03-26 10:22:03,423 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #495: Server Role:           active directory domain controller
INFO 2020-03-26 10:22:03,425 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #496: Hostname:              cosserver
INFO 2020-03-26 10:22:03,427 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #497: NetBIOS Domain:        ITLACOSSERVER
INFO 2020-03-26 10:22:03,428 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #498: DNS Domain:            cosserver.local
INFO 2020-03-26 10:22:03,430 pid:12475 /usr/local/samba/lib64/python3.6/site-packages/samba/provisio
n/__init__.py #499: DOMAIN SID:            S-1-5-21-813711099-796846840-701670921
[root@cosserver bin]# systemctl enable
```

Paso 10 – Crear el service file de Samba 4.

```
[root@cosserver bin]# cd /etc/systemd/system
[root@cosserver system]# ls
basic.target.wants                      default.target.wants     network-online.target.wants
bluetooth.target.wants                  display-manager.service  sockets.target.wants
dbus-org.bluez.service                  getty.target.wants       sysinit.target.wants
dbus-org.fedoraproject.FirewallD1.service getty@tty1.service.d   system-update.target.wants
dbus-org.freedesktop.nm-dispatcher.service graphical.target.wants
default.target                          multi-user.target.wants
```

```
[root@cosserver system]# cd multi-user.target.wants/
[root@cosserver multi-user.target.wants]# ls
acpid.service      firewall.service    NetworkManager.service  saslauthd.service  vsftpd.service
auditd.service     httpd.service       postfix.service         sshd.service       webconfig.service
clearsync.service  irqbalance.service  proftpd.service         suvad.service      xrdp.service
crond.service      mdmonitor.service   remote-fs.target        syswatch.service
firewalld.service  named.service       rsyslog.service         tuned.service
[root@cosserver multi-user.target.wants]# touch samba.service
[root@cosserver multi-user.target.wants]# ls
acpid.service      firewall.service    NetworkManager.service  samba.service      tuned.service
auditd.service     httpd.service       postfix.service         saslauthd.service  vsftpd.service
clearsync.service  irqbalance.service  proftpd.service         sshd.service       webconfig.service
crond.service      mdmonitor.service   remote-fs.target        suvad.service      xrdp.service
firewalld.service  named.service       rsyslog.service         syswatch.service
[root@cosserver multi-user.target.wants]# nano samba.service _
```

```
 GNU nano 2.3.1                File: samba.service

[Unit]
Description= SAMBA 4 Active Directory Service
After= syslog.target
After= network.target

[Service]
Type= forking
PIDFile= /usr/local/samba/var/run/samba.pid
ExecStart= /usr/local/samba/sbin/samba

[Install]
WantedBy= multi-user.target
```

Paso 11 – Iniciar el Servicio de samba 4.

Habiendo ya creado el archivo de servicio de samba, procedemos a utilizar el comando systemctl start samba y systemctl enable samba para iniciar el servicio de samba.

```
[root@cosserver multi-user.target.wants]# systemctl status named
● named.service - Berkeley Internet Name Domain (DNS)
   Loaded: loaded (/usr/lib/systemd/system/named.service; enabled; vendor preset: disabled)
   Active: active (running) since Thu 2020-03-26 11:12:31 AST; 11min ago
  Process: 1117 ExecStart=/usr/sbin/named -u named -c ${NAMEDCONF} $OPTIONS (code=exited, status=0/S
UCCESS)
```

Paso 12 – Añadir la computadora cliente al servidor de AD.

Añadimos la ip del servidor a la pc cliente como DNS y procedemos a agregar la pc a AD, utilizando el usuario Administrator y el password que habíamos colocado cuando compilamos samba AD.