

Crear dos máquinas CentOS<sub>7,x</sub>, con conexión entre las mismas a través de red local interna:

```
centos1 --- centos2
vsftp    --- lftp
```

En **centos1** hay que instalar un servicio ftp (vsftp), que permita la conexión tanto a usuarios anónimos como autenticados. Los anónimos verán el contenido del directorio /srv/ftp al iniciar sesión, y tendrán permiso de escritura únicamente en /srv/ftp/upload. Los usuarios autenticados tendrán acceso completo a sus directorios personales.

La configuración debe ser compatible con SELinux, y se debe comprobar el acceso desde el equipo **centos2** usando el cliente lftp.

Configurar todo correctamente y copia el fichero /etc/hosts de centos2 al directorio raíz (upload) de centos1.

---

### => **Configuración Inicial:**

#### **centos-1**

=> Vagrantfile

```
Vagrant.configure("2") do |config|
  config.vm.box = "centos/7"
  config.vm.hostname = "centos-1"
end
```

```
[root@centos-1 vagrant]# yum search vsftp
```

```
Complementos cargados:fastestmirror
```

```
Loading mirror speeds from cached hostfile
```

```
* base: mirror.tedra.es
```

```
* extras: mirror.tedra.es
```

```
* updates: mirror.tedra.es
```

```
===== N/S
matched: vsftp
=====
```

```
vsftpd-sysvinit.x86_64 : SysV initscript for vsftpd daemon
```

```
vsftpd.x86_64 : Very Secure Ftp Daemon
```

Nombre y resumen que coinciden con y sólo , use "buscar todo" para todo.

```
[root@centos-1 vagrant]# yum install vsftpd.x86_64 -y
```

```
[root@centos-1 vagrant]# systemctl status vsftpd.service
```

```
● vsftpd.service - Vsftpd ftp daemon
   Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
```

```
[root@centos-1 vagrant]# systemctl enable vsftpd.service
```

```
Created symlink from /etc/systemd/system/multi-user.target.wants/vsftpd.service to
/usr/lib/systemd/system/vsftpd.service.
```

```
[root@centos-1 vagrant]# systemctl start vsftpd.service
```

```
[root@centos-1 vagrant]# systemctl status vsftpd.service
```

```
● vsftpd.service - Vsftpd ftp daemon
   Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; enabled; vendor preset: disabled)
   Active: active (running) since lun 2017-10-02 16:16:12 UTC; 4s ago
   Process: 2803 ExecStart=/usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf (code=exited,
status=0/SUCCESS)
   Main PID: 2804 (vsftpd)
   CGroup: /system.slice/vsftpd.service
           └─2804 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf
```

```
oct 02 16:16:12 centos-1 systemd[1]: Starting Vsftpd ftp daemon...
```

```
oct 02 16:16:12 centos-1 systemd[1]: Started Vsftpd ftp daemon.
```

## centos-2

=> Vagrantfile

```
Vagrant.configure("2") do |config|
  config.vm.box = "centos/7"
  config.vm.hostname = "centos-2"
end
```

```
[root@centos-2 vagrant]# yum search lftp
```

```
Complementos cargados:fastestmirror
```

```
Loading mirror speeds from cached hostfile
```

```
* base: ftp.rediris.es
```

```
* extras: ftp.rediris.es
```

```
* updates: ftp.rediris.es
```

```
===== N/S matched: lftp
=====
```

```
lftp-scripts.noarch : Scripts for lftp
```

```
lftp.i686 : A sophisticated file transfer program
```

```
lftp.x86_64 : A sophisticated file transfer program
```

Nombre y resumen que coinciden con y sólo , use "buscar todo" para todo.

```
[root@centos-2 vagrant]# yum install lftp.x86_64 -y
```

=> **Modificamos Configuración para red interna:**

### centos-1

=> Vagrantfile

```
Vagrant.configure("2") do |config|
  config.vm.box = "centos/7"
  config.vm.hostname = "centos-1"
  config.vm.network "private_network", ip: "192.168.50.50", virtualbox____intnet: "intnet"
end
```

**[labs@lenovo-01 centos-1]\$ vagrant ssh**

Last login: Mon Oct 2 16:10:06 2017 from 10.0.2.2

**[vagrant@centos-1 ~]\$ ip a**

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
    link/ether 52:54:00:7a:69:5a brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic eth0
        valid_lft 86352sec preferred_lft 86352sec
    inet6 fe80::5054:ff:fe7a:695a/64 scope link
        valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
    link/ether 08:00:27:ce:8a:fa brd ff:ff:ff:ff:ff:ff
    inet 192.168.50.50/24 brd 192.168.50.255 scope global eth1
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fece:8afa/64 scope link
        valid_lft forever preferred_lft forever
```

**[vagrant@centos-1 ~]\$ ping 192.168.50.50**

```
PING 192.168.50.50 (192.168.50.50) 56(84) bytes of data.
64 bytes from 192.168.50.50: icmp_seq=1 ttl=64 time=0.048 ms
64 bytes from 192.168.50.50: icmp_seq=2 ttl=64 time=0.061 ms
^C
--- 192.168.50.50 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 999ms
rtt min/avg/max/mdev = 0.048/0.054/0.061/0.009 ms
```

### centos-2

=> Vagrantfile

```
Vagrant.configure("2") do |config|
  config.vm.box = "centos/7"
  config.vm.hostname = "centos-2"
  config.vm.network "private_network", ip: "192.168.50.60", virtualbox____intnet: "intnet"
end
```

**[labs@lenovo-01 centos-2]\$ vagrant ssh**

Last login: Mon Oct 2 16:04:48 2017 from 10.0.2.2

[vagrant@centos-2 ~]\$ ip a

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN qlen 1
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
```

```
       valid_lft forever preferred_lft forever
```

```
   inet6 ::1/128 scope host
```

```
       valid_lft forever preferred_lft forever
```

```
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
```

```
   link/ether 52:54:00:7a:69:5a brd ff:ff:ff:ff:ff:ff
```

```
   inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic eth0
```

```
       valid_lft 86380sec preferred_lft 86380sec
```

```
   inet6 fe80::5054:ff:fe7a:695a/64 scope link
```

```
       valid_lft forever preferred_lft forever
```

```
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
```

```
   link/ether 08:00:27:50:9a:b7 brd ff:ff:ff:ff:ff:ff
```

```
   inet 192.168.50.60/24 brd 192.168.50.255 scope global eth1
```

```
       valid_lft forever preferred_lft forever
```

```
   inet6 fe80::a00:27ff:fe50:9ab7/64 scope link
```

```
       valid_lft forever preferred_lft forever
```

**=> Comprobamos Interconectividad para red interna:**

**centos-2 a centos-1**

**[vagrant@centos-2 ~]\$ ping 192.168.50.60**

PING 192.168.50.60 (192.168.50.60) 56(84) bytes of data.

64 bytes from 192.168.50.60: icmp\_seq=1 ttl=64 time=0.065 ms

64 bytes from 192.168.50.60: icmp\_seq=2 ttl=64 time=0.057 ms

^C

--- 192.168.50.60 ping statistics ---

2 packets transmitted, 2 received, 0% packet loss, time 999ms

rtt min/avg/max/mdev = 0.057/0.061/0.065/0.004 ms

**[vagrant@centos-2 ~]\$ ping 192.168.50.50**

PING 192.168.50.50 (192.168.50.50) 56(84) bytes of data.

64 bytes from 192.168.50.50: icmp\_seq=1 ttl=64 time=1.60 ms

64 bytes from 192.168.50.50: icmp\_seq=2 ttl=64 time=0.884 ms

```
^C
--- 192.168.50.50 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms
rtt min/avg/max/mdev = 0.884/1.246/1.609/0.364 ms
```

### **centos-1 a centos-2**

```
[vagrant@centos-1 ~]$ ping 192.168.50.50
PING 192.168.50.50 (192.168.50.50) 56(84) bytes of data.
64 bytes from 192.168.50.50: icmp_seq=1 ttl=64 time=0.042 ms
64 bytes from 192.168.50.50: icmp_seq=2 ttl=64 time=0.059 ms
```

```
^C
--- 192.168.50.50 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 999ms
rtt min/avg/max/mdev = 0.042/0.050/0.059/0.011 ms
[vagrant@centos-1 ~]$ ping 192.168.50.60
PING 192.168.50.60 (192.168.50.60) 56(84) bytes of data.
64 bytes from 192.168.50.60: icmp_seq=1 ttl=64 time=0.693 ms
64 bytes from 192.168.50.60: icmp_seq=2 ttl=64 time=0.816 ms
```

```
^C
--- 192.168.50.60 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms
rtt min/avg/max/mdev = 0.693/0.754/0.816/0.067 ms
```

=> **Configuramos Acceso Anónimo de centos1 bajo SELinux:**

```
[root@centos-1 vagrant]# getenforce
```

Enforcing

=> Instalamos en centos1:

↘ ↘ +++ **Añadimos Granularidad a los mensajes de vectorización → AVC +++**

```
[root@centos-1 vagrant]# yum install setroubleshoot -y
```

```
[root@centos-1 ftp]# systemctl restart vsftpd.service
```

```
[root@centos-1 ftp]# systemctl status vsftpd.service
```

```
● vsftpd.service - Vsftpd ftp daemon
   Loaded: loaded (/usr/lib/systemd/system/vsftpd.service; enabled; vendor preset: disabled)
   Active: active (running) since mar 2017-10-03 16:45:57 UTC; 10s ago
     Process: 14276 ExecStart=/usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf (code=exited,
status=0/SUCCESS)
   Main PID: 14277 (vsftpd)
     CGroup: /system.slice/vsftpd.service
            └─14277 /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf
```

```
oct 03 16:45:57 centos-1 systemd[1]: Starting Vsftpd ftp daemon...
oct 03 16:45:57 centos-1 systemd[1]: Started Vsftpd ftp daemon.
```

=> Comprobamos → [root@centos-1 vagrant]# vi /etc/vsftpd/vsftpd.conf  
Habilitamos:

```
anon_upload_enable=YES
anon_mkdir_write_enable=YES
```

```
anon_root=/srv/ftp
```

```
[root@centos-1 vagrant]# systemctl restart vsftpd.service
[root@centos-1 vagrant]# systemctl status vsftpd.service
```

```
[root@centos-1 vagrant]# getent passwd ftp
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
[root@centos-1 vagrant]# ll /var/ftp/
total 0
drwxr-xr-x. 2 root root 6 ago 3 06:10 pub
```

```
[root@centos-1 ftp]# mkdir -p /srv/ftp/upload
[root@centos-1 ftp]# cd /srv/ftp/
[root@centos-1 ftp]# chown ftp:ftp upload/
[root@centos-1 ftp]# chmod 700 upload/
```

=> Probamos en MODO Permisivo:

```
[root@centos-1 ftp]# getenforce
Permissive
```

```
[root@centos-2 vagrant]# getenforce
Permissive
```

```
[root@centos-1 ftp]# lftp 192.168.50.50
lftp 192.168.50.50:~> ls
drwx----- 2 14 50 6 Oct 04 08:08 upload
lftp 192.168.50.50:/> cd upload/
lftp 192.168.50.50:/upload> put /etc/hosts
186 bytes transferred
[root@centos-1 ftp]# ls upload/
hosts
```

```
[root@centos-1 ftp]# rm upload/hosts
rm: ¿borrar el fichero regular «upload/hosts»? (s/n) s
```

```
[root@centos-2 vagrant]# lftp 192.168.50.50
lftp 192.168.50.50:~> ls
drwx-----  2 14   50           6 Oct 04 08:13 upload
lftp 192.168.50.50:/> cd upload/
lftp 192.168.50.50:/upload> put /etc/hosts
186 bytes transferred
```

=> Probamos en MODO Enforcing:

```
[root@centos-1 ftp]# setenforce 1
[root@centos-1 ftp]# getenforce
Enforcing
```

```
[root@centos-2 vagrant]# setenforce 1
[root@centos-2 vagrant]# getenforce
Enforcing
```

```
[root@centos-2 vagrant]# lftp 192.168.50.50
lftp 192.168.50.50:~> ls
drwx-----  2 14   50           6 Oct 04 08:15 upload
lftp 192.168.50.50:/> cd upload/
lftp 192.168.50.50:/upload> put /etc/hosts
put: Access failed: 553 Could not create file. (hosts)
```

=> **Analizamos y corregimos:**

```
[root@centos-1 ftp]# aureport -a
```

AVC Report

```
=====
# date time comm subj syscall class permission obj event
=====
1. 04/10/17 07:57:40 ? system_u:system_r:init_t:s0 0 (null) (null) (null) unset 928
2. 04/10/17 07:57:40 ? system_u:system_r:init_t:s0 0 (null) (null) (null) unset 929
3. 04/10/17 07:57:40 ? system_u:system_r:init_t:s0 0 (null) (null) (null) unset 930
4. 04/10/17 08:11:23 ? system_u:system_r:init_t:s0 0 (null) (null) (null) unset 502
5. 04/10/17 08:12:02 vsftpd system_u:system_r:ftpd_t:s0-s0:c0.c1023 2 dir write
unconfined_u:object_r:public_content_t:s0 denied 505
6. 04/10/17 08:12:02 vsftpd system_u:system_r:ftpd_t:s0-s0:c0.c1023 2 dir add_name
unconfined_u:object_r:public_content_t:s0 denied 505
7. 04/10/17 08:12:02 vsftpd system_u:system_r:ftpd_t:s0-s0:c0.c1023 2 file create
```

```
system_u:object_r:public_content_t:s0 denied 505
8. 04/10/17 08:12:02 vsftpd system_u:system_r:ftpd_t:s0-s0:c0.c1023 2 file append
system_u:object_r:public_content_t:s0 denied 505
9. 04/10/17 08:14:05 vsftpd system_u:system_r:ftpd_t:s0-s0:c0.c1023 2 file create
system_u:object_r:public_content_t:s0 denied 506
10. 04/10/17 08:14:05 vsftpd system_u:system_r:ftpd_t:s0-s0:c0.c1023 2 file append
system_u:object_r:public_content_t:s0 denied 506
11. 04/10/17 08:16:32 ? system_u:system_r:init_t:s0 0 (null) (null) (null) unset 515
12. 04/10/17 08:17:01 vsftpd system_u:system_r:ftpd_t:s0-s0:c0.c1023 2 dir write
unconfined_u:object_r:public_content_t:s0 denied 516
```

**[root@centos-1 ftp]# cat /var/log/messages**

```
Oct 4 08:17:05 centos-1 python: SELinux is preventing vsftpd from write access on the directory
upload.#012#012***** Plugin allow_anon_write (53.1 confidence) suggests
*****#012#012If you want to allow vsftpd to be able to write to shared public
content#012Then you need to change the label on upload to public_content_rw_t, and potentially
turn on the allow_httpd_sys_script_anon_write boolean.#012Do#012# semanage fcontext -a -t
public_content_rw_t upload#012# restorecon -R -v upload#012# setsebool -P
allow_ftpd_anon_write 1#012#012***** Plugin catchall_boolean (42.6 confidence) suggests
*****#012#012If you want to allow ftpd to full access#012Then you must tell
SELinux about this by enabling the 'ftpd_full_access' boolean.#012You can read 'None' man page
for more details.#012Do#012setsebool -P ftpd_full_access 1#012#012***** Plugin catchall (5.76
confidence) suggests *****#012#012If you believe that vsftpd should
be allowed write access on the upload directory by default.#012Then you should report this as a
bug.#012You can generate a local policy module to allow this access.#012Do#012allow this access
for now by executing:#012# ausearch -c 'vsftpd' --raw | audit2allow -M my-vsftpd#012# semodule
-i my-vsftpd.pp#012
```

**[root@centos-1 ftp]# grep AVC /var/log/audit/audit.log**

```
type=USER_AVC msg=audit(1507103860.130:928): pid=1 uid=0 auid=4294967295
ses=4294967295 subj=system_u:system_r:init_t:s0 msg='avc: received policyload notice
(seqno=2) exe="/usr/lib/systemd/systemd" sauid=0 hostname=? addr=? terminal=?'
type=USER_AVC msg=audit(1507103860.130:929): pid=1 uid=0 auid=4294967295
ses=4294967295 subj=system_u:system_r:init_t:s0 msg='avc: received policyload notice
(seqno=3) exe="/usr/lib/systemd/systemd" sauid=0 hostname=? addr=? terminal=?'
type=USER_AVC msg=audit(1507103860.130:930): pid=1 uid=0 auid=4294967295
ses=4294967295 subj=system_u:system_r:init_t:s0 msg='avc: received policyload notice
(seqno=4) exe="/usr/lib/systemd/systemd" sauid=0 hostname=? addr=? terminal=?'
type=USER_AVC msg=audit(1507104683.592:502): pid=1 uid=0 auid=4294967295
ses=4294967295 subj=system_u:system_r:init_t:s0 msg='avc: received setenforce notice
(enforcing=0) exe="/usr/lib/systemd/systemd" sauid=0 hostname=? addr=? terminal=?'
type=AVC msg=audit(1507104722.927:505): avc: denied { write } for pid=2218 comm="vsftpd"
name="upload" dev="dm-0" ino=101349700 scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023
tcontext=unconfined_u:object_r:public_content_t:s0 tclass=dir
```



```
type=AVC msg=audit(1507104722.927:505): avc: denied { add_name } for pid=2218
comm="vsftpd" name="hosts" scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023
tcontext=unconfined_u:object_r:public_content_t:s0 tclass=dir
type=AVC msg=audit(1507104722.927:505): avc: denied { create } for pid=2218 comm="vsftpd"
name="hosts" scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023
tcontext=system_u:object_r:public_content_t:s0 tclass=file
type=AVC msg=audit(1507104722.927:505): avc: denied { append } for pid=2218
comm="vsftpd" path="/upload/hosts" dev="dm-0" ino=101349708
scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023 tcontext=system_u:object_r:public_content_t:s0
tclass=file
type=AVC msg=audit(1507104845.006:506): avc: denied { create } for pid=2259 comm="vsftpd"
name="hosts" scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023
tcontext=system_u:object_r:public_content_t:s0 tclass=file
type=AVC msg=audit(1507104845.006:506): avc: denied { append } for pid=2259
comm="vsftpd" path="/upload/hosts" dev="dm-0" ino=101349708
scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023 tcontext=system_u:object_r:public_content_t:s0
tclass=file
type=USER_AVC msg=audit(1507104992.288:515): pid=1 uid=0 auid=4294967295
ses=4294967295 subj=system_u:system_r:init_t:s0 msg='avc: received setenforce notice
(enforcing=1) exe="/usr/lib/systemd/systemd" sauid=0 hostname=? addr=? terminal=?'
type=AVC msg=audit(1507105021.290:516): avc: denied { write } for pid=2302 comm="vsftpd"
name="upload" dev="dm-0" ino=101349700 scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023
tcontext=unconfined_u:object_r:public_content_t:s0 tclass=dir
```

```
[root@centos-1 ftp]# getsebool -a |grep ftpd
```

```
ftpd_anon_write --> off
ftpd_connect_all_unreserved --> off
ftpd_connect_db --> off
ftpd_full_access --> off
ftpd_use_cifs --> off
ftpd_use_fusefs --> off
ftpd_use_nfs --> off
ftpd_use_passive_mode --> off
```

=> Activamos boolean:

```
[root@centos-1 ftp]# setsebool -P ftpd_anon_write on
```

```
[root@centos-1 ftp]# getsebool -a |grep ftpd
```

```
ftpd_anon_write --> on
```

```
[root@centos-1 ftp]# sealert -l ae4ded1d-e64f-4e49-b8e5-acfb3d1ddf4f
```

SELinux is preventing vsftpd from write access on the directory upload.

```
***** Plugin allow_anon_write (53.1 confidence) suggests *****
```

If quiere permitir que vsftpd pueda escribir sobre los contenidos públicos compartidos  
Then necesita modificar la etiqueta de upload a public\_content\_rw\_t, y tal vez necesite activar el

booleano allow\_httpd\_sys\_script\_anon\_write.

Do

```
# semanage fcontext -a -t public_content_rw_t upload
```

```
# restorecon -R -v upload
```

```
# setsebool -P allow_ftp_anon_write 1
```

\*\*\*\*\* Plugin catchall\_boolean (42.6 confidence) suggests \*\*\*\*\*

If quiere allow ftpd to full access

Then debe informar a SELinux de esto activando el booleano 'ftpd\_full\_access'.

Puede leer la página de manual 'None' para más detalles.

Do

```
setsebool -P ftpd_full_access 1
```

\*\*\*\*\* Plugin catchall (5.76 confidence) suggests \*\*\*\*\*

If cree que de manera predeterminada, vsftpd debería permitir acceso write sobre upload directory.

Then debería reportar esto como un error.

Puede generar un módulo de política local para permitir este acceso.

Do

allow this access for now by executing:

```
# ausearch -c 'vsftpd' --raw | audit2allow -M my-vsftpd
```

```
# semodule -i my-vsftpd.pp
```

#### Additional Information:

Source Context	system_u:system_r:ftpd_t:s0-s0:c0.c1023
Target Context	unconfined_u:object_r:public_content_t:s0
Target Objects	upload [ dir ]
Source	vsftpd
Source Path	vsftpd
Port	<Unknown>
Host	centos-1
Source RPM Packages	
Target RPM Packages	
Policy RPM	selinux-policy-3.13.1-166.el7_4.4.noarch
Selinux Enabled	True
Policy Type	targeted
Enforcing Mode	Enforcing
Host Name	centos-1
Platform	Linux centos-1 3.10.0-693.2.2.el7.x86_64 #1 SMP Tue Sep 12 22:26:13 UTC 2017 x86_64 x86_64
Alert Count	3
First Seen	2017-10-04 08:12:02 UTC
Last Seen	2017-10-04 08:36:46 UTC
Local ID	ae4ded1d-e64f-4e49-b8e5-acfb3d1ddf4f

### Raw Audit Messages

```
type=AVC msg=audit(1507106206.501:521): avc: denied { write } for pid=2533 comm="vsftpd"
name="upload" dev="dm-0" ino=101349700 scontext=system_u:system_r:ftpd_t:s0-s0:c0.c1023
tcontext=unconfined_u:object_r:public_content_t:s0 tclass=dir
```

Hash: vsftpd,ftpd\_t,public\_content\_t,dir,write

=> Añadimos contexto:

```
[root@centos-1 ftp]# semanage fcontext -a -t public_content_rw_t "/srv/ftp/upload(/.*)?"
[root@centos-1 ftp]# restorecon -Rv /srv/ftp/upload/
restorecon reset /srv/ftp/upload context
unconfined_u:object_r:public_content_t:s0 → unconfined_u:object_r:public_content_rw_t:s0
```

```
[root@centos-2 vagrant]# lftp 192.168.50.50
lftp 192.168.50.50:~> ls
drwx-----  2 14   50          6 Oct 04 08:15 upload
lftp 192.168.50.50:/> cd upload/
lftp 192.168.50.50:/upload> put /etc/hosts
186 bytes transferred
```

```
[root@centos-1 ftp]# ls upload/
hosts
```

=> **Configuramos Acceso Usuarios en su /home en centos1 bajo SELinux:**

```
[root@centos-1 ftp]# useradd -g ftp -d /home/carlos carlos
[root@centos-1 ftp]# passwd carlos
```

==> Activamos boolean:

```
[root@centos-1 ftp]# setsebool ftpd_full_access on
```

```
[root@centos-2 vagrant]# lftp 192.168.50.50
lftp 192.168.50.50:~> user carlos
Clave:
lftp carlos@192.168.50.50:~> ls
lftp carlos@192.168.50.50:~> pwd
ftp://carlos@192.168.50.50/%2Fhome/carlos
lftp carlos@192.168.50.50:~> cd /home/carlos/
lftp carlos@192.168.50.50:~> ls
lftp carlos@192.168.50.50:~> put /etc/hosts
186 bytes transferred
```

lftp carlos@192.168.50.50:~>

```
[root@centos-1 ftp]# ls /home/carlos/  
hosts
```

=> Generamos 'boxes' de las configuraciones realizadas, para una utilización posterior:

```
[labs@centos-pavilion centos1]$ vagrant package --output LAB-01-centos1.box  
[labs@centos-pavilion centos1]$ vagrant box add centos1/LAB-01 LAB-01-centos1.box
```

```
[labs@centos-pavilion centos2]$ vagrant package --output LAB-01-centos2.box  
[labs@centos-pavilion centos2]$ vagrant box add centos2/LAB-01 LAB-01-centos2.box
```

```
[labs@centos-pavilion centos2]$ vagrant box list
```

```
centos/7      (virtualbox, 1707.01)  
centos1/LAB-01 (virtualbox, 0)  
centos2/LAB-01 (virtualbox, 0)  
debian/jessie64 (virtualbox, 8.9.0)  
jekyll/trusty32 (virtualbox, 0)  
ubuntu/trusty32 (virtualbox, 20170818.0.0)  
ubuntu/trusty64 (virtualbox, 20170818.0.0)  
ubuntu/xenial64 (virtualbox, 20170918.0.0)
```

==> **LEGAL:**

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