

Assignment 23-09-2024

ACL Overview:

- ACLs allow you to grant or restrict access to files or directories for specific users or groups beyond the traditional file permission system (user-group-other). It provides more granular control over who can access a file.

setfacl - Set file access control list

- It is use to give multiple user access on one file.

- [root@localhost ~]# mount -a acl,remount /
- [root@localhost ~]# setfacl -m u:nikita:rwX p_file.txt
- [root@localhost ~]# setfacl -m u:neha:r p_file.txt

To check ACL:

- [root@localhost ~]# getfacl p_file.txt

To give same ACL to different file:

- [root@localhost ~]# getfacl p_file.txt | setfacl --set-file=- p_file1.txt

```
CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
-rw-rwcr--+ 1 root root  8 Sep 23 15:37 p_file1.txt
-rw-rwcr--+ 1 root root  8 Sep 23 15:09 p_file.txt
drwxr-xr-x. 2 root root  6 Sep 23 16:39 Pictures
drwxr-xr-x. 2 root root  6 Sep 23 16:39 Public
-rw-r--r--. 1 root root 129 Dec 29 2013 .tcshrc
drwxr-xr-x. 2 root root  6 Sep 23 16:39 Templates
drwxr-xr-x. 2 root root  6 Sep 23 16:39 Videos
[root@localhost ~]# touch mj1.txt
[root@localhost ~]# mount -a acl,remount /
[root@localhost ~]# setfacl -m u:mayank:rwx mj1.txt
[root@localhost ~]# setfacl -m u:deepak:r mj1.txt
[root@localhost ~]# getfacl mj1.txt
# file: mj1.txt
# owner: root
# group: root
user::rw-
user:mayank:rwx
user:deepak:r--
group::r--
mask::rwx
other::r--

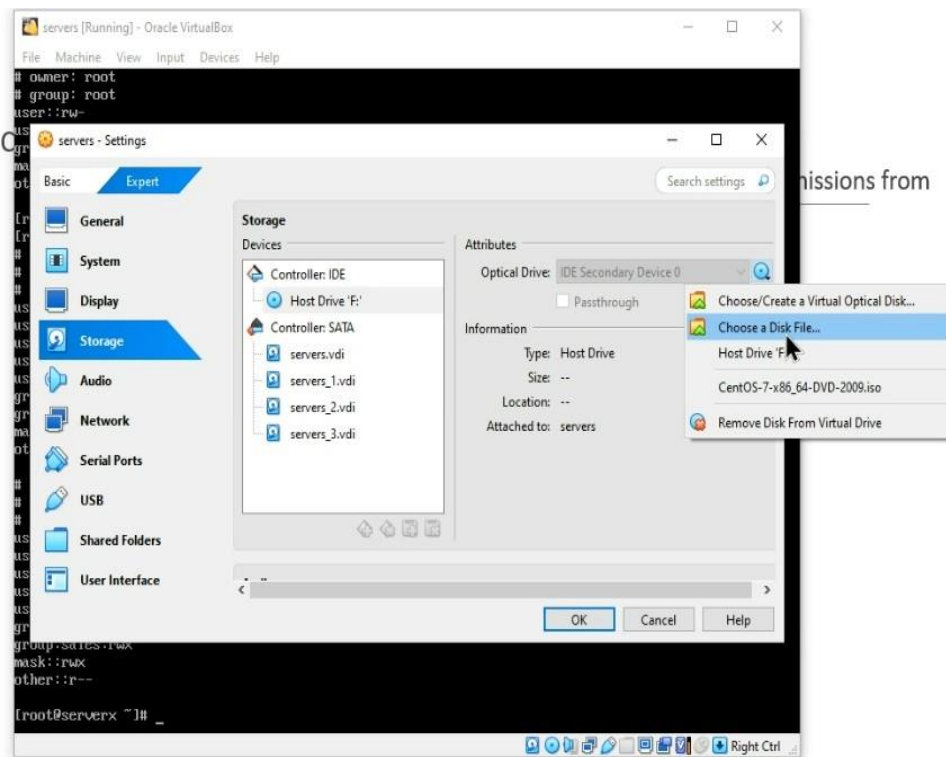
[root@localhost ~]# touch mj2.txt
[root@localhost ~]# getfacl mj1.txt | setfacl --set-file=- mj2.txt
[root@localhost ~]# getfacl mj2.txt
# file: mj2.txt
# owner: root
# group: root
user::rw-
user:mayank:rwx
user:deepak:r--
group::r--
mask::rwx
other::r--

[root@localhost ~]#
```

- Mount .iso file, install Apache web server and allow that service using firewall.

Insert .iso file:

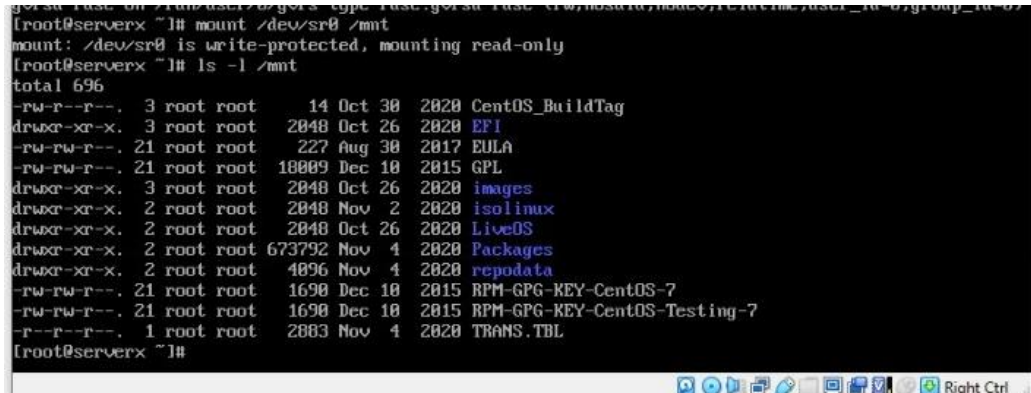
- Select 'Machine' menu of server.
- Select Storage.
- Inside Controller iDE select Dropdown near Optical drive
- Select 'Choose a disk file'.
- Select centos .iso file.
- Ok & Apply



✚ In CLI of CentOS: [To open: ctl + alt + f2 & close: ctl + alt + f1]

- To Mount:

- [root@localhost ~]# mount /dev/sr0 /mnt
- [root@localhost ~]# ls -l /mnt



```
[root@serverx ~]# mount /dev/sr0 /mnt
mount: /dev/sr0 is write-protected, mounting read-only
[root@serverx ~]# ls -l /mnt
total 696
-rw-r--r--. 3 root root    14 Oct 30  2020 CentOS_BuildTag
drwxr-xr-x. 3 root root   2048 Oct 26  2020 EFI
-rw-rw-r--. 21 root root    227 Aug 30  2017 EULA
-rw-rw-r--. 21 root root  18809 Dec 18  2015 GPL
drwxr-xr-x. 3 root root   2048 Oct 26  2020 images
drwxr-xr-x. 2 root root   2048 Nov  2  2020 isolinux
drwxr-xr-x. 2 root root   2048 Oct 26  2020 LiveOS
drwxr-xr-x. 2 root root 673792 Nov  4  2020 Packages
drwxr-xr-x. 2 root root   4096 Nov  4  2020 repodata
-rw-rw-r--. 21 root root   1698 Dec 18  2015 RPM-GPG-KEY-CentOS-7
-rw-rw-r--. 21 root root   1698 Dec 18  2015 RPM-GPG-KEY-CentOS-Testing-7
-r--r--r--. 1 root root    2883 Nov  4  2020 TRANS.TBL
[root@serverx ~]#
```

✚ Open Terminal in CentOS:

- Application => System Tool => Terminal

- [root@localhost ~]# cd /etc/yum.repos.d
- [root@localhost yum.repos.d]# ls -l

- To remove all .repo files:

- [root@localhost yum.repos.d]# rm -f *.repo

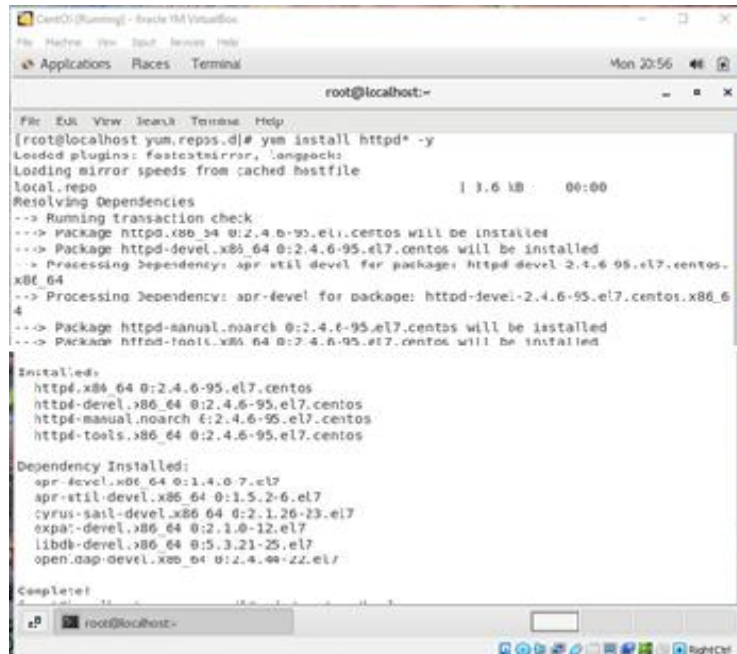
- Create new repo file:
 - [root@localhost yum.repos.d]# vi local.repo
 - In VI editor, Press 'i' to insert and write the below content:
 - [local.repo]
 - name=centosrepo
 - baseurl=file:///mnt
 - enable=1
 - gpgcheck=1
 - gpgkey=file:///mnt/RPM-GPG-KEY-CentOS-7
 - To exit: ESC + :wq
 - [root@localhost yum.repos.d]# yum repolist all
 - OUTPUT: "enabled:4070"

```

CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Mon 20:52
root@localhost:~
File Edit View Search Terminal Help
drwxr-xr-x. 8 root root 2048 Nov  4 2020 /mnt
[root@localhost yum.repos.d]# ls -l /mnt
total 696
-rw-r--r--. 3 root root    14 Oct 30 2020 CentOS_BuildTag
drwxr-xr-x. 3 root root 2048 Oct 26 2020 EFI
-rw-rw-r--. 21 root root   227 Aug 30 2017 EULA
-rw-rw-r--. 21 root root 18009 Dec 10 2015 GPL
drwxr-xr-x. 3 root root 2048 Oct 26 2020 images
drwxr-xr-x. 2 root root 2048 Nov  2 2020 isolinux
drwxr-xr-x. 2 root root 2048 Oct 26 2020 LiveOS
drwxr-xr-x. 2 root root 673792 Nov  4 2020 Packages
drwxr-xr-x. 2 root root 4096 Nov  4 2020 repodata
-rw-rw-r--. 21 root root 1690 Dec 10 2015 RPM-GPG-KEY-CentOS-7
-rw-rw-r--. 21 root root 1690 Dec 10 2015 RPM-GPG-KEY-CentOS-Testing-7
-r--r--r--. 1 root root 2883 Nov  4 2020 TRANS.TBL
[root@localhost yum.repos.d]# vi local.repo
[root@localhost yum.repos.d]# yum repolist all
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
local.repo | 3.6 kB 00:00:00
(1/2): local.repo/group_gz | 153 kB 00:00:00
(2/2): local.repo/primary_db | 3.3 MB 00:00:00
repo id      repo name      status
local.repo   centosrepos    enabled: 4,070
repolist: 4,070
[root@localhost yum.repos.d]# yum install httpd* -y

```

- To install Apache web server:
 - [root@localhost yum.repos.d]# yum install httpd* -y
 - OUTPUT: “Complete!”



```
CentOS (Running) - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
Mon 20:56

root@localhost:~#
File Edit View Search Terminal Help
[root@localhost yum.repos.d]# yum install httpd* -y
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
local.repo 13.6 kB 00:00
Resolving Dependencies
--> Running transaction check
--> Package httpd.x86_64 0:2.4.6-95.el7.centos will be installed
--> Package httpd-devel.x86_64 0:2.4.6-95.el7.centos will be installed
--> Processing Dependency: apr-util-devel for package: httpd-devel-2.4.6-95.el7.centos.x86_64
--> Processing Dependency: apr-devel for package: httpd-devel-2.4.6-95.el7.centos.x86_64
--> Package httpd-manual.noarch 0:2.4.6-95.el7.centos will be installed
--> Package httpd-tools.x86_64 0:2.4.6-95.el7.centos will be installed

Installed:
  httpd.x86_64 0:2.4.6-95.el7.centos
  httpd-devel.x86_64 0:2.4.6-95.el7.centos
  httpd-manual.noarch 0:2.4.6-95.el7.centos
  httpd-tools.x86_64 0:2.4.6-95.el7.centos

Dependency Installed:
  apr-devel.x86_64 0:1.4.0-7.el7
  apr-util-devel.x86_64 0:1.5.2-6.el7
  cyrus-sasl-devel.x86_64 0:2.1.26-23.el7
  expat-devel.x86_64 0:2.1.0-12.el7
  libdb-devel.x86_64 0:5.3.21-25.el7
  openldap-devel.x86_64 0:2.4.40-22.el7

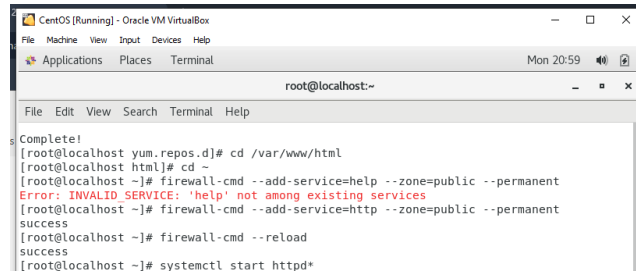
Complete!

root@localhost:~#
```

- To confirm it:
 - [root@localhost yum.repos.d]# cd /var/www/html
 - [root@localhost yum.repos.d]# cd ~
 - [root@localhost ~]#

Allow service by using Firewall:

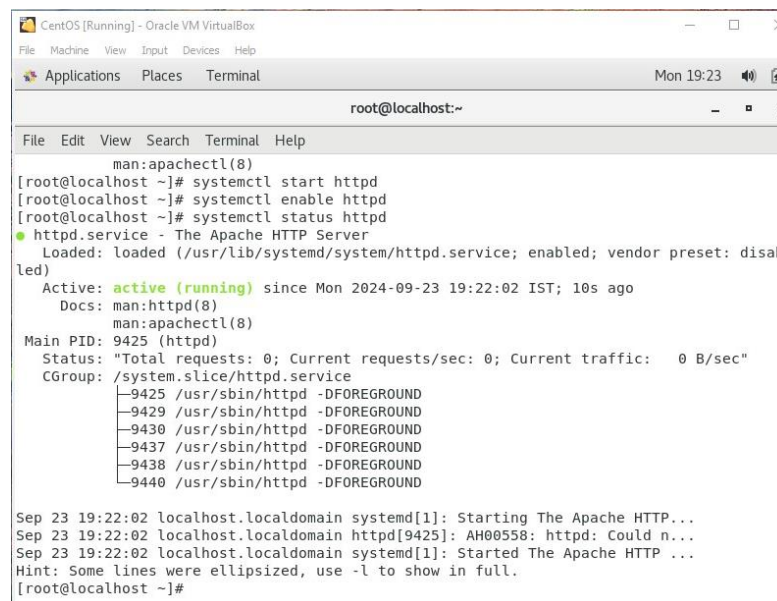
- [root@localhost ~]# firewall-cmd -add-service=httpd --zone=public --permanent
- OUTPUT: "Success"
- [root@localhost ~]# firewall-cmd --reload
- OUTPUT: "Success"



```
CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
root@localhost:~
File Edit View Search Terminal Help
Complete!
[root@localhost yum.repos.d]# cd /var/www/html
[root@localhost html]# cd ~
[root@localhost ~]# firewall-cmd --add-service=httpd --zone=public --permanent
Error: INVALID SERVICE: 'httpd' not among existing services
[root@localhost ~]# firewall-cmd --add-service=http --zone=public --permanent
success
[root@localhost ~]# firewall-cmd --reload
success
[root@localhost ~]# systemctl start httpd*
```

- [root@localhost ~]# systemctl start httpd
- [root@localhost ~]# systemctl enable httpd
- [root@localhost ~]# systemctl status httpd

Try running last 3 command until you get output like:activate (running)



```
CentOS [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
root@localhost:~
File Edit View Search Terminal Help
man:apachectl(8)
[root@localhost ~]# systemctl start httpd
[root@localhost ~]# systemctl enable httpd
[root@localhost ~]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2024-09-23 19:22:02 IST; 10s ago
     Docs: man:htpd(8)
           man:apachectl(8)
  Main PID: 9425 (httpd)
    Status: "Total requests: 0; Current requests/sec: 0; Current traffic:  0 B/sec"
   CGroup: /system.slice/httpd.service
           └─9425 /usr/sbin/httpd -DFOREGROUND
             9429 /usr/sbin/httpd -DFOREGROUND
             9430 /usr/sbin/httpd -DFOREGROUND
             9437 /usr/sbin/httpd -DFOREGROUND
             9438 /usr/sbin/httpd -DFOREGROUND
             9440 /usr/sbin/httpd -DFOREGROUND

Sep 23 19:22:02 localhost.localdomain systemd[1]: Starting The Apache HTTP...
Sep 23 19:22:02 localhost.localdomain httpd[9425]: AH00558: httpd: Could n...
Sep 23 19:22:02 localhost.localdomain systemd[1]: Started The Apache HTTP ...
Hint: Some lines were ellipsized, use -l to show in full.
[root@localhost ~]#
```