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redhat LINUX

Lecture 3

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DAY 3

- Ownership
- Permissions
- Connection to other Hosts
- Copying Files between Hosts

Ownership

Every file and directory on your Unix/Linux system is assigned 3 types of owner, given below:

- Users
- Groups
- Others

Ownership

How to change the ownership of files or directories?

<u>To change the owner (USER):</u>

chown rana mycv.txt → To change the owner of the file mycv.txt to Rana

chown 1000 myteam → ?

chown mohamed file1 file2 → To change ownership of multiple files

Ownership

How to change the ownership of files or directories?

<u>To change the group:</u>

chown rana:AI mycv.txt → To change the owner of the file mycv.txt to Rana and the group to AI

chown :AI myteam → ?

chown -R selim:AI /home → To change the owner to Selim and the group to AI, recursively on all the content under /home

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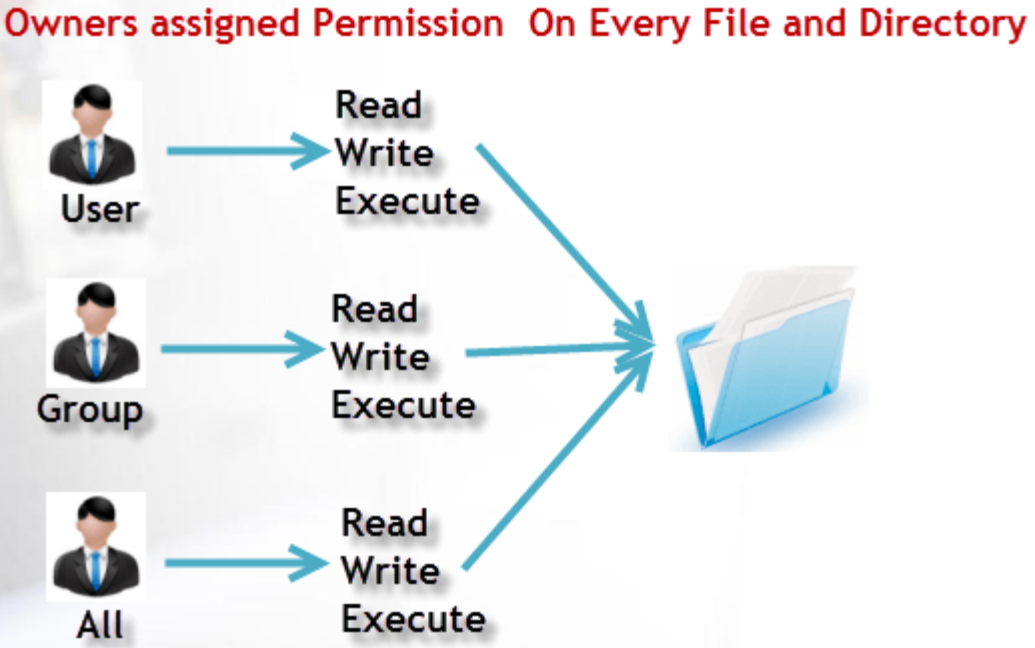
Permissions



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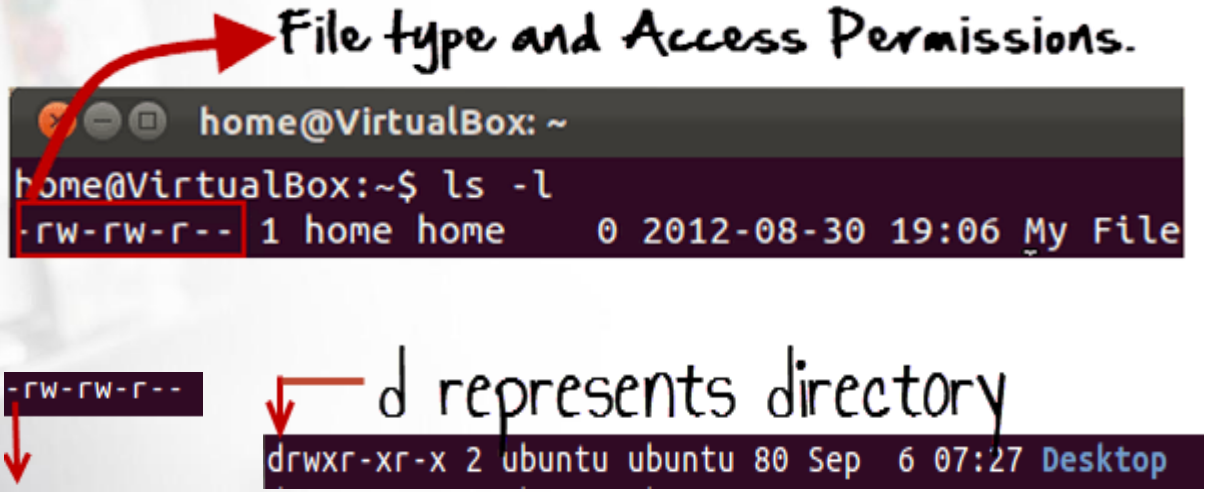
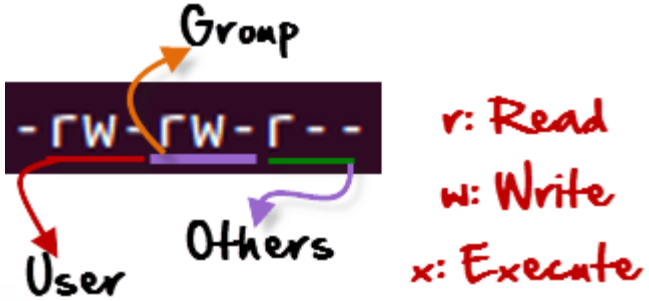
Permissions



Permissions

r = read permission
w = write permission
x = execute permission
- = no permission



- It's a file
- User has read and write permissions
- Group has read and write permissions
- Others have read permissions
- No one has execute permissions

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Permissions

How to change the permissions of a given file or directory?

- chmod permissions filename

<u>There are 2 ways to use the command chmod:</u>

- Absolute mode (Numeric)
- Symbolic mode

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Permissions

Number	Permission Type	Symbol
0	No Permission	---
1	**Execute**	**--x**
2	**Write**	**-w-**
3	Execute + Write	-wx
4	**Read**	**r--**
5	Read + Execute	r-x
6	Read +Write	rw-
7	Read + Write +Execute	rwx

Permissions

Checking Current File Permissions

```
ubuntu@ubuntu:~$ ls -l sample
-rw-rw-r-- 1 ubuntu ubuntu 15 Sep  6 08:00 sample
```

chmod 764 and checking permissions again

```
ubuntu@ubuntu:~$ chmod 764 sample
ubuntu@ubuntu:~$ ls -l sample
-rwxrw-r-- 1 ubuntu ubuntu 15 Sep  6 08:00 sample
```

764 absolute code says the following:

- Owner can read, write and execute
- Usergroup can read and write
- World can only read
- This is shown as '-rwxrw-r--

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Permissions

In the Absolute mode, you change permissions for all 3 owners. In the symbolic mode, you can modify permissions of a specific owner.

Operator	Description
+	Adds a permission to a file or directory
-	Removes the permission
=	Sets the permission and overrides the permissions set earlier.

User Denotations	
u	user/owner
g	group
o	other
a	all

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Permissions

- chmod g+w file1 → To add write permissions to the owning group.
- chmod o+w file1 → ?
- chmod u-w file1 → ?
- chmod go-rw file1 → To remove read and write permissions from group and others and leaving the user as is.
- chmod u+w,g+wx,o+r file1→ ?

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Permissions

- chmod u=rw,g=r,o=r file1 → Resets all old permissions to ?
- chmod a+x file1 **OR** chmod ugo+x file1 → To add execute permissions to all (user, group and others)
- chmod a=rw file1 **OR** chmod ugo=rw file1 → ?
- chmod u= file1 → Removes all permissions from owner
- chmod +rw file1 **OR** chmod u+rw file1

Permissions

- chmod =rw file1 **OR** chmod u=rw file1
- chmod -R g+rwx dir1 → To change files and directories recursively to ?
- chmod 754 file1 → rwx for user, r-x for group, r– for others
- chmod 400 file1 → r-- for user, --- for group, --- for others
- chmod -R 755 dir1 → ?
- chmod 421 file1 → ?
- Chmod 777 file1 → ?


BREAK

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Connection to Other Hosts

As we all know, that each device has a different IP on the network.

We can run commands on different hosts, by issuing the SSH command followed by what we need to do: ***ssh server ls /tmp/doc***

We can use IP or hostname when using SSH, and login as specific users on other hosts: ***ssh username@hostname_or_ip***

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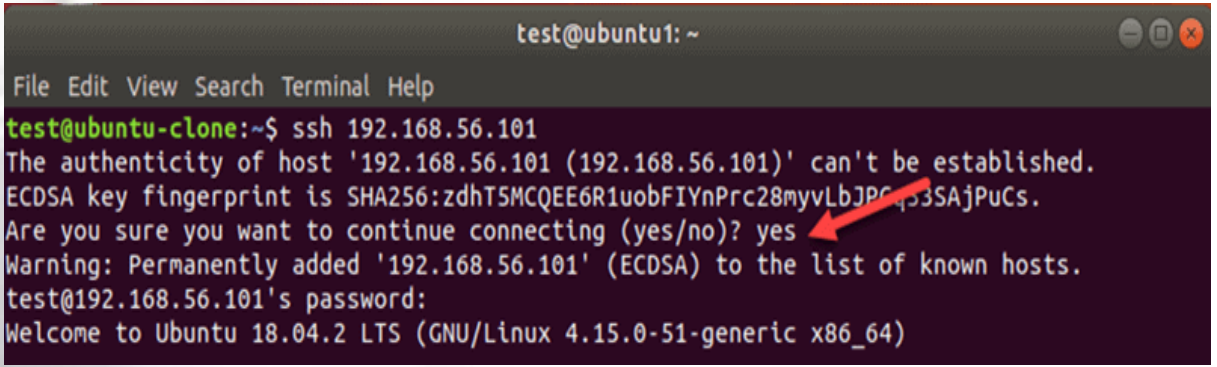
Connection to Other Hosts

ssh 192.168.56.101

ssh ITI_AI_Intake1



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Copying Files between Hosts

SCP (secure copy) is a command-line utility that allows you to securely copy files and directories between two locations.

With scp, you can copy a file or directory:

- From your local system to a remote system
- From a remote system to your local system
- Between two remote systems from your local system

scp user@SRC_HOST:file1 user@DEST_HOST:file2

Copying Files between Hosts

scp file.txt remote_username@10.10.0.2:/remote/directory

file.txt: The name of the file we want to copy

remote_username: The user on the remote server

10.10.0.2: The server IP address.

```
Output

remote_username@10.10.0.2's password:
file.txt                      100%    0     0.0KB/s   00:00
```

The /remote/directory: The path to the directory you want to copy the file to.

If you don't specify a remote directory, the file will be copied to the remote user's home directory.

You will be prompted to enter the user password, and the transfer process will start.

Copying Files between Hosts

To securely copy a whole directory, we add the option -r to the command:

scp -r /local/ITI remote_username@10.10.0.2:/remote/ITI

- The command transfers from a local directory to a remote directory

scp -r remote_username@10.10.0.2:/remote/ITI /local/ITI

- The command transfers from a remote directory to a local one


Thank You!