

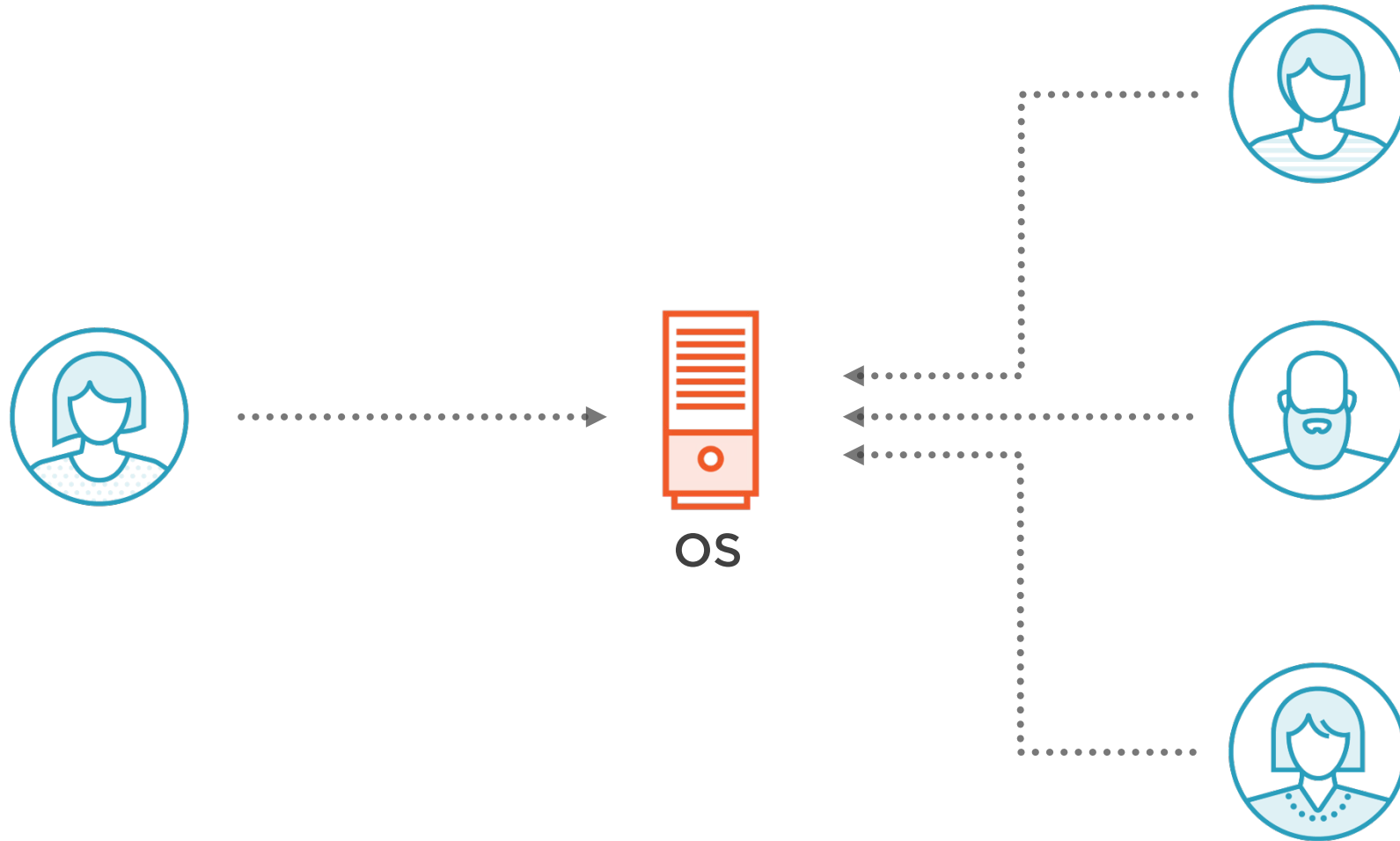
Moving Files



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File Permissions



File Permissions

Permissions

File

Directory

Read (r)	Open and read	List the contents
Write (w)	Edit (modify) contents	Add, remove and rename files within it
Execute (x)	Execute (executable file)	Enter inside (cd into it)



Changing Permissions

File Permissions (symbolic mode)

chmod

u user

g group

o other

a all

=

set permissions

+

add permission

-

remove permission

r w x

filename



Changing Permissions

File Permissions (absolute/numeric mode)

chmod

	4	2	1	
	r	w	x	
1	0	0	1	- - x
2	0	1	0	- w -
4	1	0	0	r - -
1+2=3	0	1	1	- w x

filename



Changing Permissions

File Permissions (absolute/numeric mode)

chmod

r	w	x	r	-	x	r	-	x
4	2	1	4		1	4		1
7					5			5
1 1 1					1 0 1			1 0 1

filename



Demo



Default permissions with umask



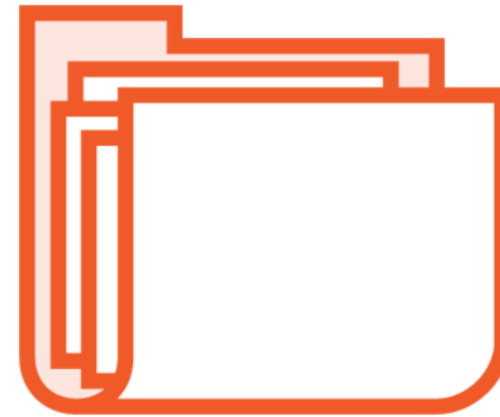
Default UNIX Permissions



File Permission

666

rw-rw-rw-



Directory Permission

777

rwxrwxrwx



Default File Permissions

Default
permissions

6

6

6

rw-rw-rw-

Umask

-

0

2

2

--- -w- -w-

6

4

4

rw- r-- r--



Default Directory Permissions

Default
permissions

7

7

7

rwxrwxrwx

Umask

-

0

2

2

--- -w- -w-

7

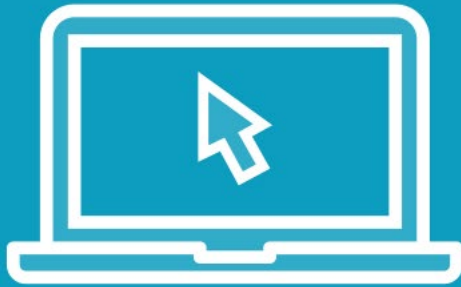
5

5

rwX r-X r-X



Demo



File owners and groups

Creating users and groups



sudo

Run commands as another user

- Usually as root

Faster and safer then using the root account directly



Demo



Glob qualifiers for file permissions



Glob Qualifiers for Group Permissions

A

Read permission

I

Write permission

E

Execute permission



Demo



Special file permissions

- SUID
- SGID
- Sticky bit



Special Permissions in Numerical Mode

SUID

4

s

SGID

2

s

Sticky bit

1

t



Special Permissions Representation

SUID

s

r w s

SGID

s

r w s

Sticky bit

t

r w t

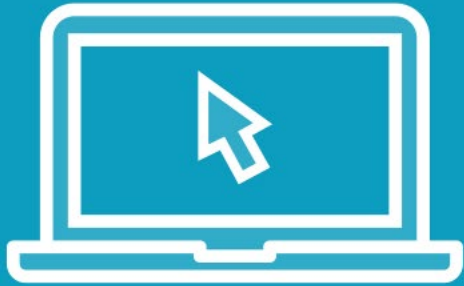


Special File Permissions

Permissions	File	Directory
SUID (s or S)	Run file as a file owner	
SGID (s or S)	Run file as a member of the file group	All of the files inside of it will belong to the directory group
Sticky bit (t or T)		Prevents files inside of it from being removed by anyone but the owner of that file



Demo



Copying files with `cp`



Demo



Backing up files with rsync



Demo



Moving and renaming files with mv



Summary



File permissions

- read, write, execute
- owner, group, other

Creating users and groups

Umask

Special permissions

- SUID, SGID, Sticky bit

Copying files with cp

Backing up files with rsync

Moving and renaming files with mv

