



Isolation ~ lying

Virtual Memory

address

memory accesses

Permissions, Users

path

chroot "/"

all system calls

→ containers

key instructions

→ virtual machines

all instruction

→ emulator

- / Shared memory
- Port, sockets
- / exec, stdout, stdin
- \ file

Every process has owning user + group

Many System call check ownership

Directory

r - list its content files

w - change what it contains
- create - remove
- delete

x - use contents

Files have Permission + Owners

user

group

other

read write execute

File

read: get bytes inside
OPEN("file", "r")

write: change bytes

execute: ./file

...../dir/.....

only work w/

x perm in dir

Can I do it?

am I root?

no

does my
have user/group
permission

yes

and

yes

I can do it

no

can't