# Copy on Write

◉ OSes spend a lot of time copying data
- System call arguments between user/kernel space
- Entire address spaces to implement fork()

➡ Use Copy on Write (CoW) to defer large copies as long as possible, hoping to avoid them altogether

- Create shared mappings of parent pages in child virtual address space (instead of copying pages)

- Shared pages are protected as read-only in parent and child
Any write operation generates a protection fault, trap to OS, copy page, change page mapping in client page table, restart write instruction

# Example - Fork step