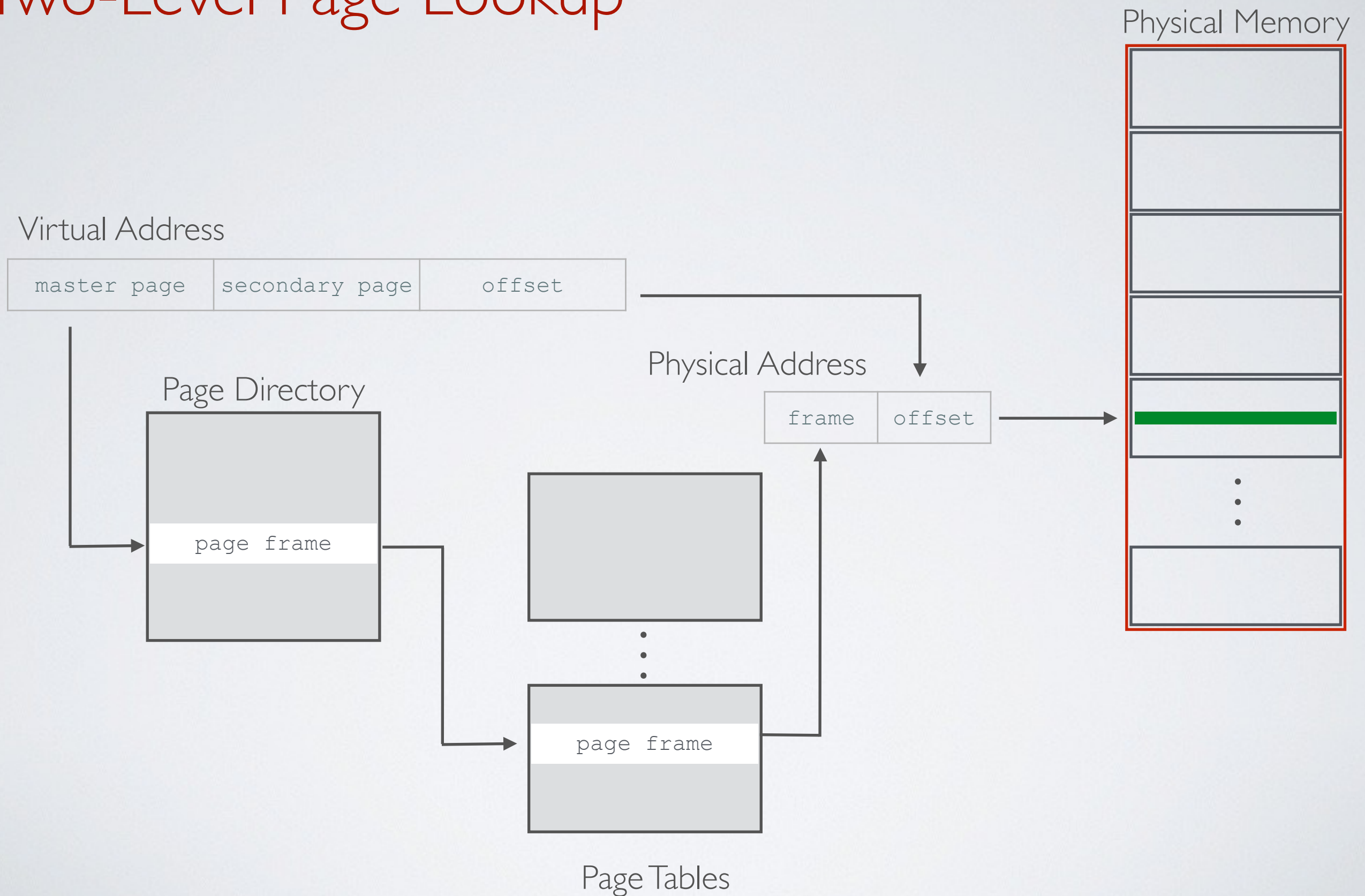


# Two-Level Page Lookup



# 32 bits address space, 4K pages, 4 bytes/PTE

- How many bits in offset? 4K  
so the virtual address requires **12 bits for the offset**
  - We want the Page Directory to fit in one page  
 $4K / 4 \text{ bytes} = 1K$  possible entries  
so the virtual address requires **10 bits for the Page Directory index**
  - We also want each Page Table to fit in one page  
so the virtual address requires **10 bits for the Page Table index**
- ➔  $10 + 10 + 12 = 32$  bits address  
This is why 4K page size is recommended