

# Process Management



- Topics
  - The Process Life Cycle
- Learning Objectives:
  - Identify the three difference states in which a process may be.
  - Explain how processes transition between states.

# Process States

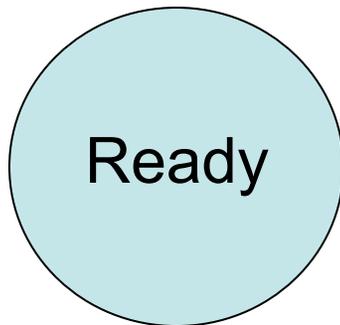


- Ready – The process is available to be run, but is not actually running on an execution unit.
- Running – The process is currently executing.
- Blocked – The process cannot run, because it is waiting for something.
- Zombie – The process has exited, but its parent has not noticed; we keep the process around in a zombie state so that its parent can successfully wait for it.

# The Process Life Cycle



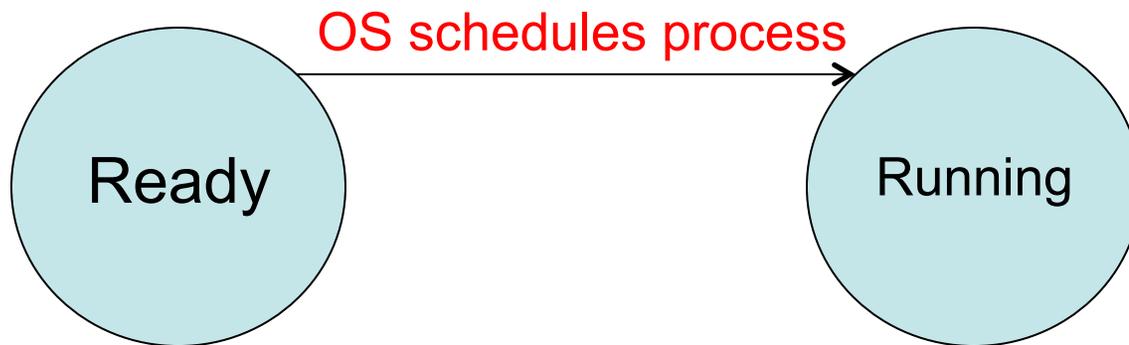
Once a new process has been created and is ready to be run, it enters a “ready” state.





# The Process Life Cycle

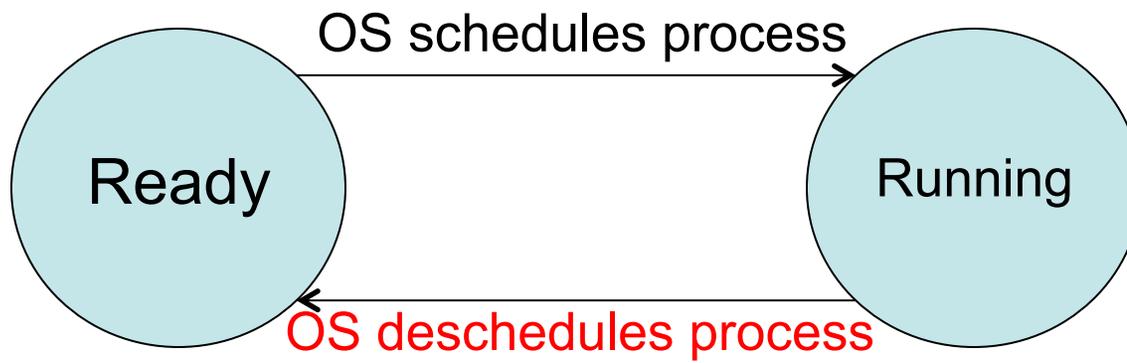
When the operating decides to run it, the process enters the “Running” state.





# The Process Life Cycle

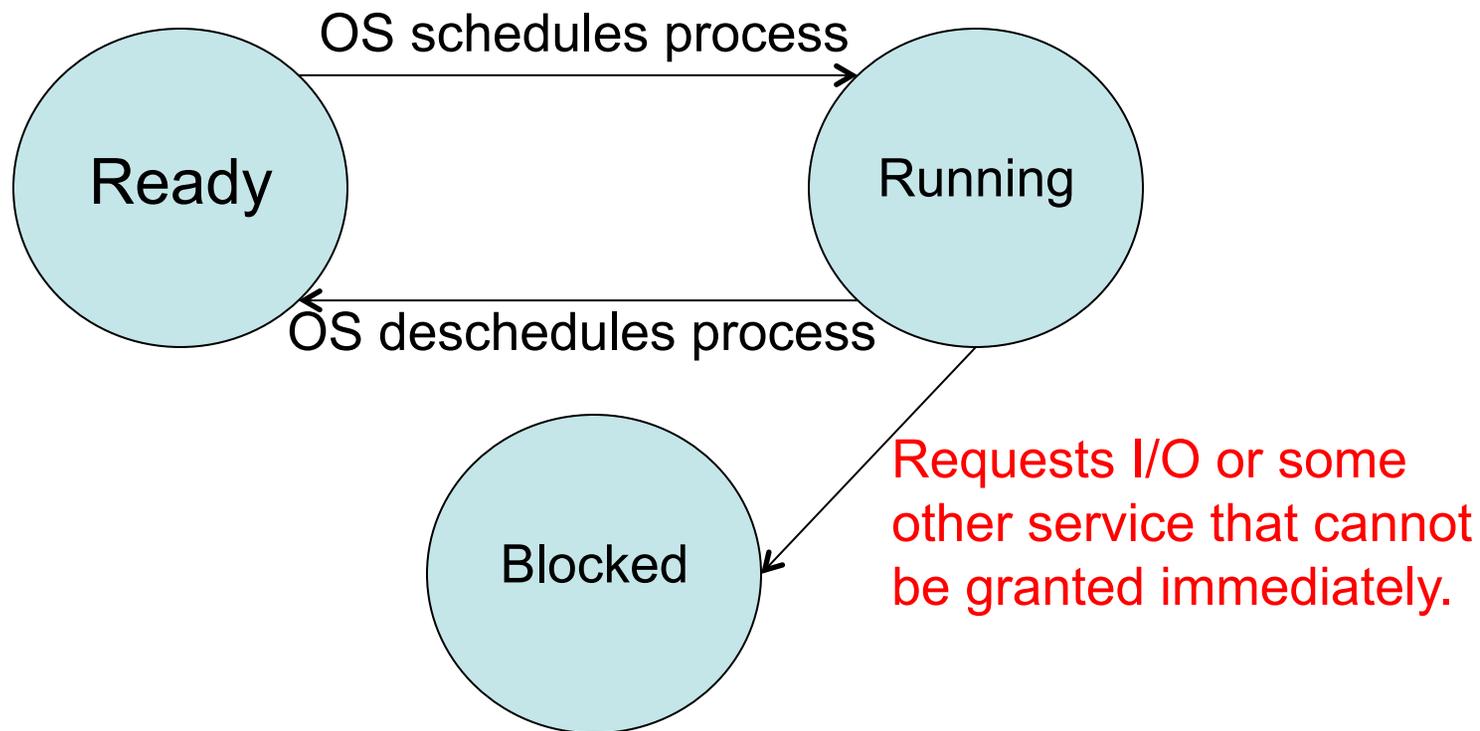
When the operating decides to run a different process, this process goes back into the Ready state





# The Process Life Cycle

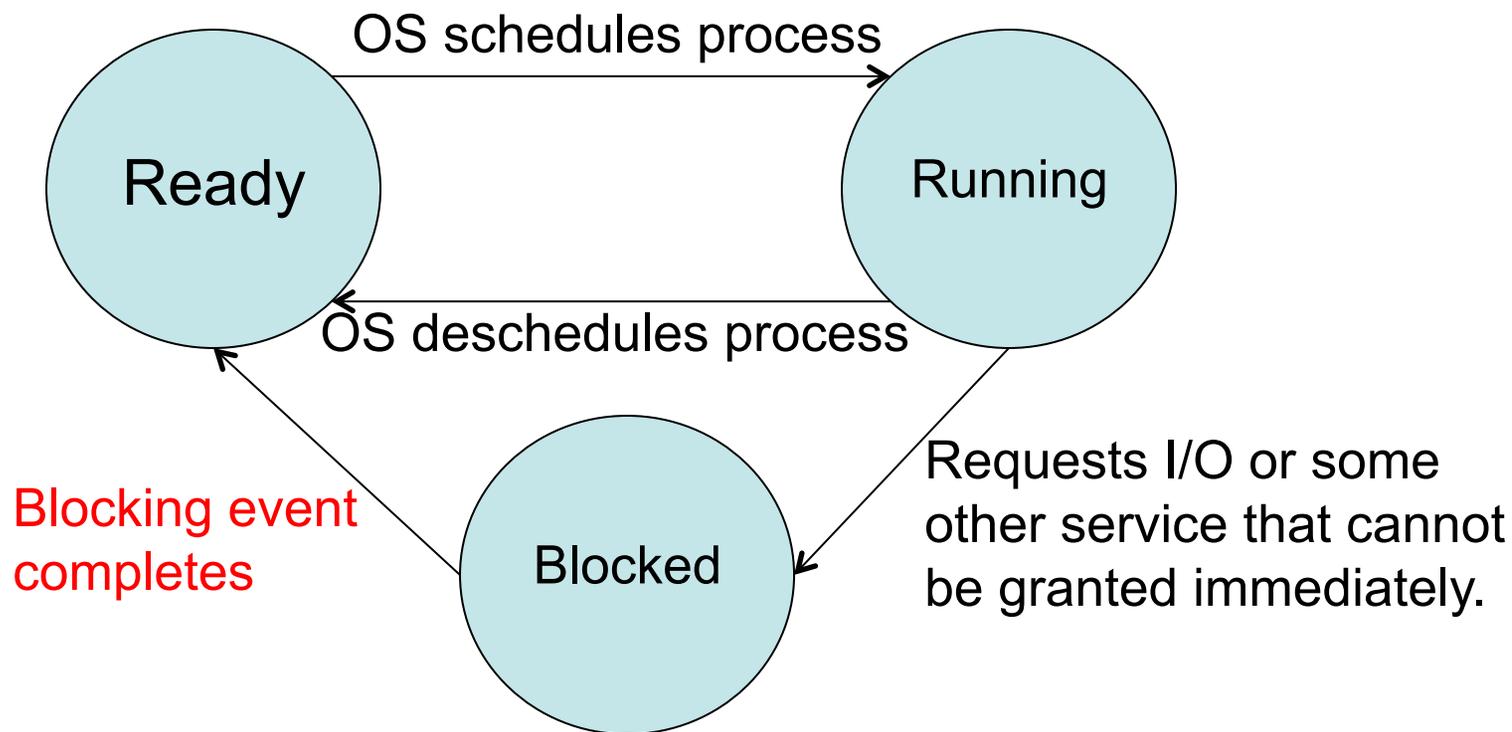
When a running process makes a request that cannot be serviced immediately, it enters a “Blocked” state.





# The Process Life Cycle

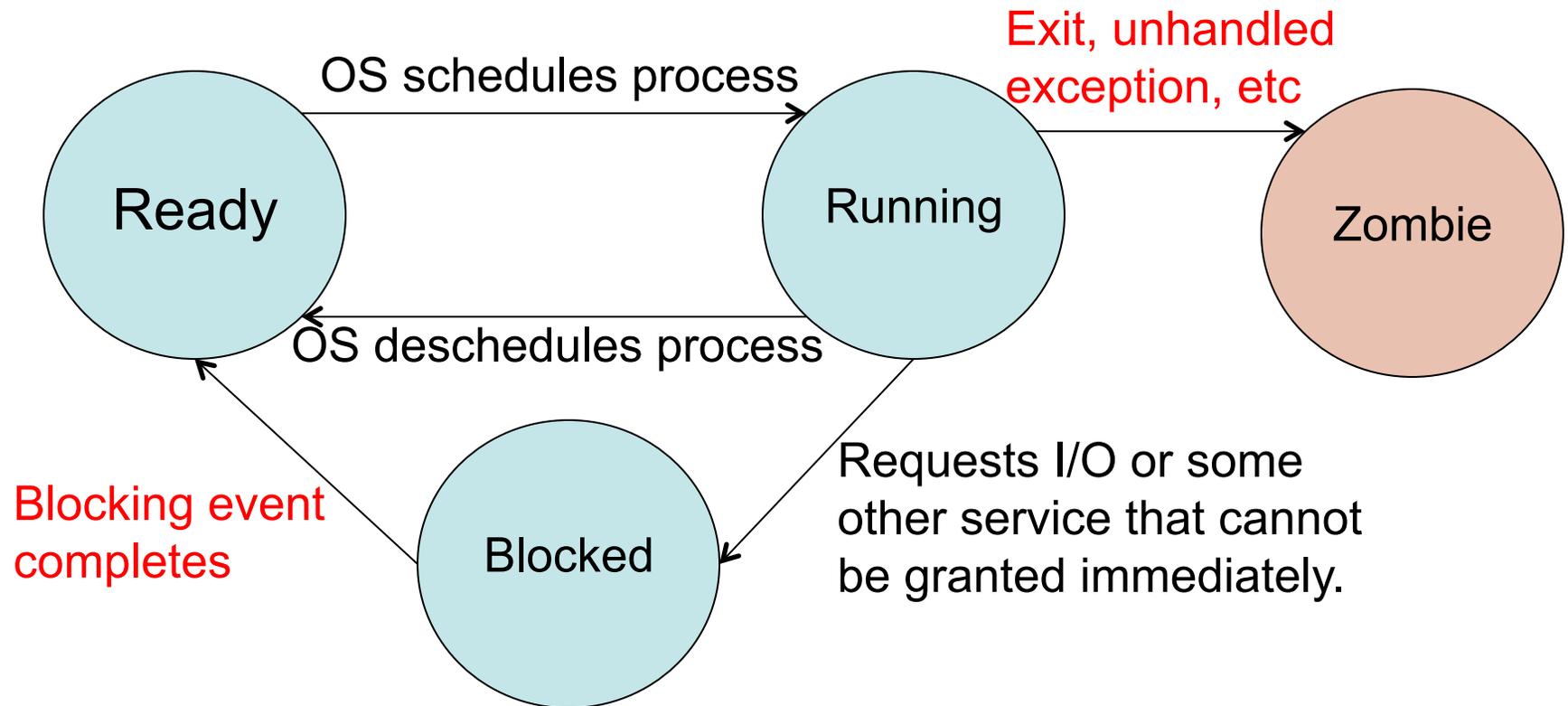
When the event blocking a process happens, the process goes back into the Ready state.





# The Process Death Cycle

When a process exits, it enters a Zombie state until its parent collects its exit statue.





# The Process Death Cycle

Once the parent collects its status, then the zombie can be destroyed.

