

Node Modules: Callbacks and Error Handling

Jogesh K. Muppala



THE DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING
計算機科學及工程學系

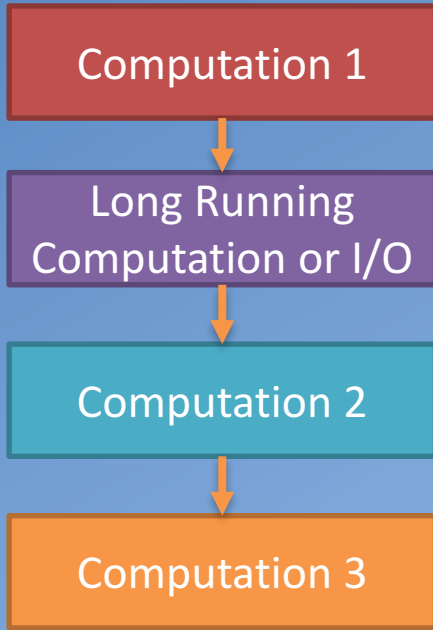


香港科技大學
THE HONG KONG UNIVERSITY OF
SCIENCE AND TECHNOLOGY

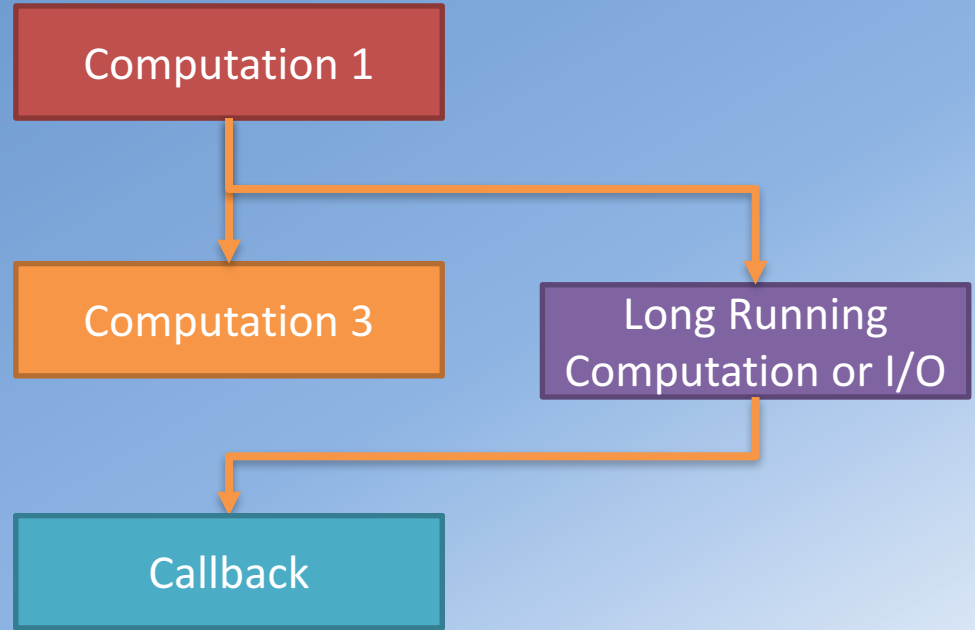
Two Salient Features of JavaScript

- First-class functions: A function can be treated the same way as any other variable
- Closures:
 - A function defined inside another function has access to all the variables declared in the outer function (outer scope)
 - The inner function will continue to have access to the variables from the outer scope even after the outer function has returned

Asynchronous Programming

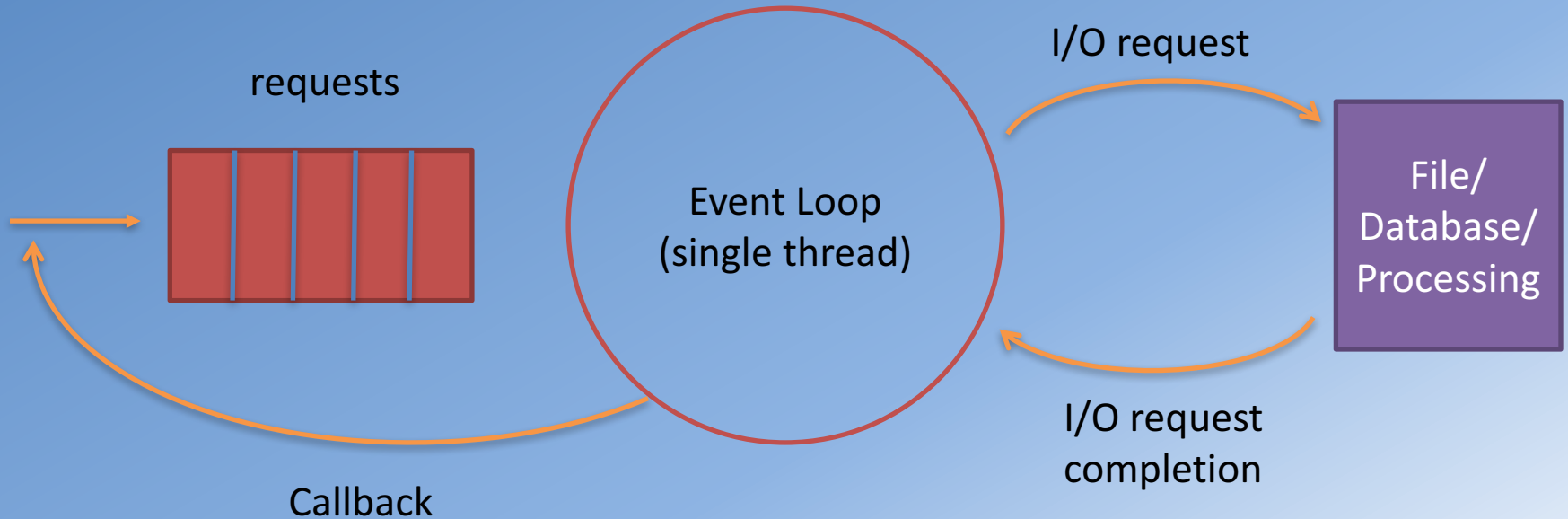


Synchronous Programming

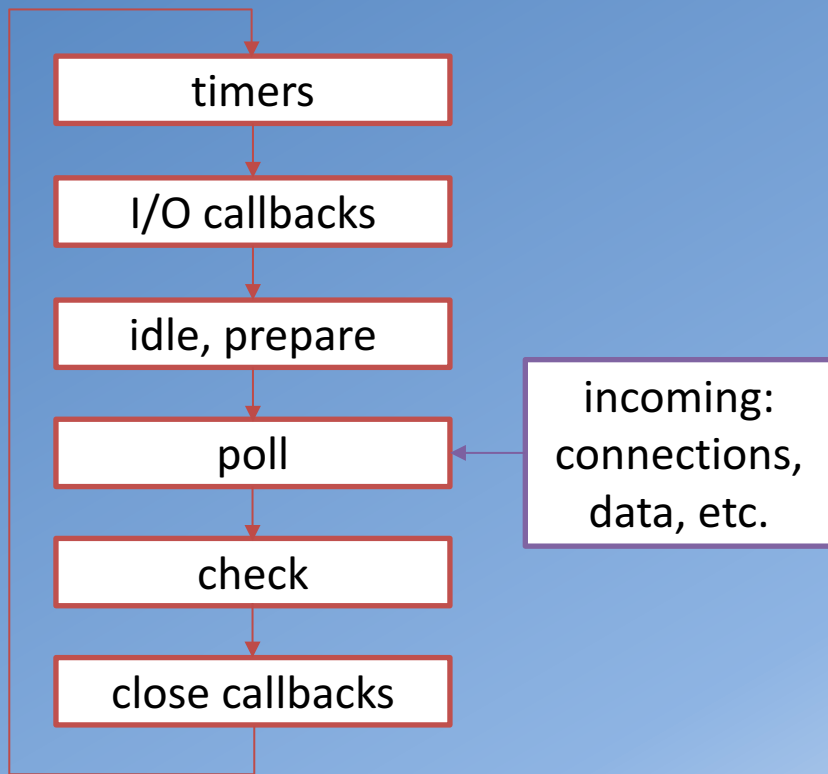


Asynchronous Programming

Node, Async I/O and Callbacks



Event Loop



- **timers:** this phase executes callbacks scheduled by `setTimeout()` and `setInterval()`.
- **I/O callbacks:** executes almost all callbacks with the exception of close callbacks, the ones scheduled by timers, and `setImmediate()`.
- **idle, prepare:** only used internally.
- **poll:** retrieve new I/O events; node will block here when appropriate.
- **check:** `setImmediate()` callbacks are invoked here.
- **close callbacks:** e.g. `socket.on('close', ...)`.