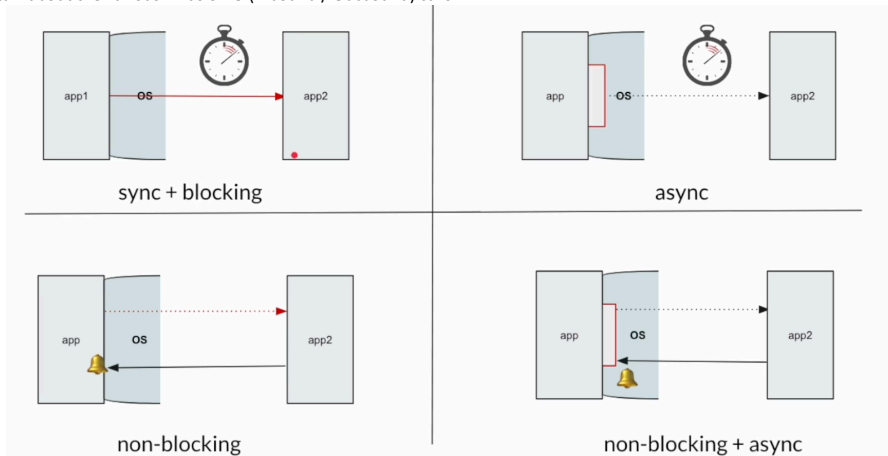


IO Models

Sunday 26 January 2025 12:12

Lets talk about the various kinds of IO (Inbound / Outbound) calls



- The first one is Synchronous blocking communication (which we all have been doing for many years)
- Synchronous blocking communication - Your app sends a request to another app. Till the response comes back, the thread will be sitting idle, it cannot do anything else, so this is synchronous blocking communication
- Asynchronous communication - Your app might use a thread pool. One thread might create another thread to delegate that task to do things asynchronously. But whichever thread is doing the task, that thread will be blocked anyway.
- Non-blocking - The application sends a request to another application or service or database. Once, the request is sent, the thread will not be blocked. It will be free to any other task. The OS will notify the thread saying that we got the response.
- Non-blocking asynchronous - In this case, one thread sends a request to another application. The response will take a while. When the response comes back, the OS will notify a different thread to handle the response (to make use of multiple CPUs).
- If we consider the complexity from 1 to 4. 1 being simple 4 being complex then
 - 1 - Sync + blocking
 - 2 - async
 - 3 - non-blocking
 - 4 - non-blocking + async

