Threading

## Threads

* Process/threads
* Id, name
* Local/shared resources
* New Thread
* Start
* Join

## Dot NET

* System.Threading.Timer
* System.Timer.Timer
* System.Collection.Concurrent
* System.ComponentModel.BackgroundWorker

## Sync

* async
* await

## Tasks

* Task/Task<T>
* Start
* Join
* Result
* ContinueWith
* WhenAll
* WaitAll
* Pool
* Exception / aggregated exception

## Thread Synchronisation

* Single access to code
  + Lock/monitor
  + Dead Lock/Race condition
  + Mutex – lock across multiple processes/CPU
* Multiple access to code
  + Semaphore/SemaphoreSlim – allow for count of instance
  + Reader/writer – for io
* Signaling
  + AutoResetEvent
  + ManualResetEvent
  + CountdownEvent
  + Barrier