

Welcome

# TPL & Message Pumps

webinar



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# Recap

reminder

Use `Task.Run`, `Factory.StartNew` for CPU-bound work

Use `Task` directly for IO-bound work

Use `async Task` instead of `async void`

# Recap

reminder

Libraries and frameworks should use  
`ConfigureAwait(false)`

*Async all the way*, don't mix blocking  
and asynchronous code

# Goals

target

Combine `async/await` with the TPL

`Throttling` your concurrent operations

`Graceful` shutdowns



The Pump

Code

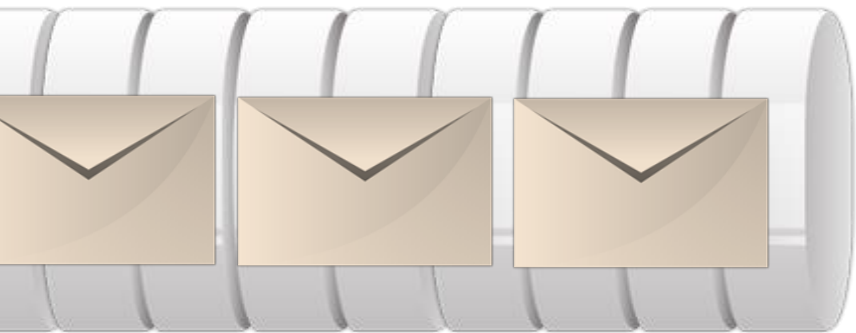
WrapUp



The Pump

Code

WrapUp



Queue



Message Pump



Your code





The Pump

Code

WrapUp

await Demo

# Semaphore gated



await Demo



The Pump

Code

WrapUp

# Recap

## reminder

Prefer `Task.Run` over `Factory.StartNew`

Use `CancellationToken` to cancel operations inside tasks

Use `SemaphoreSlim` to throttle instead of a custom `TaskScheduler`

# Recap


reminder

Don't use `LongRunning` or `AttachToParent` for Tasks with async operations

`Non-blocking all the way`, to maximize throughput


particular.net/**async-await-webinar-series**

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## Live Webinar Series

### Async/Await

with Daniel Marbach

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**February 25 - Async/Await best practices**  
See how to avoid common pitfalls in asynchronous code bases.

**March 3 - Task Parallel Library and Message Pumps**  
Learn how to combine Async/Await and Task Parallel Library to create a message pump for a service bus.

**March 10 - Async/Await NServiceBus v6 API Update**  
See how the v6 API update helps to avoid common Async/Await pitfalls and makes your code ready for asynchronous APIs in the cloud.

\* all webinar sessions start at 12:00 EST / 17:00 GMT



# Slides, Links...

[github.com/danielmarbach/03-03-2016-AsyncWebinar](https://github.com/danielmarbach/03-03-2016-AsyncWebinar)

await Q & A

# Thanks