

Welcome

# Async best-practices

webinar



Solution Architect  
Enthusiastic Software Engineer  
Microsoft MVP for systems integration

@danielmarbach  
[particular.net/blog](http://particular.net/blog)  
[planetgeek.ch](http://planetgeek.ch)

# Goals

target

CPU-bound vs IO-bound

Threads and Tasks

Async best-practices



Terminology

Code

WrapUp



Terminology

Code

WrapUp

async  
event-driven



# Task

uniform



# Task

## IO-bound





# Task

CPU-bound



concurrent  
concurrent  
concurrent concurrent  
**concurrent**  
interleaved



parallel  
parallel  
simultaneous



# Continuation function





Terminology

Code

WrapUp

# async/await

## simplicity

```
function1(function(err, res) {  
  function2(function(err, res) {  
    function3(function(err, res) {  
      function4(function(err, res) {  
        function5(function(err, res) {  
          // do something useful  
        })  
      })  
    })  
  })  
})
```

```
cleanLaundry.ContinueWith(t => {  
    dryLaundry;  
})
```

await cleanLaundry;  
dryLaundry;



await Demo



Terminology

Code

WrapUp

Forget thread!

think Task

# NSB v6

[particular.net/blog/async-await-its-time](http://particular.net/blog/async-await-its-time)

Will be **Async** all the way

Applies the shown best-practices like **ConfigureAwait(false)** consequently, checked with **Roslyn analyzer**

# 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


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

Next

Particular  
Software

PlatformServicesResourcesCommunityCompany

DOWNLOAD NOW



## Live Webinar Series

### Async/Await

with Daniel Marbach

SIGN UP

**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/02-25-2016-AsyncWebinar](https://github.com/danielmarbach/02-25-2016-AsyncWebinar)



await

Q & A

Thanks