Part 10: Profiling

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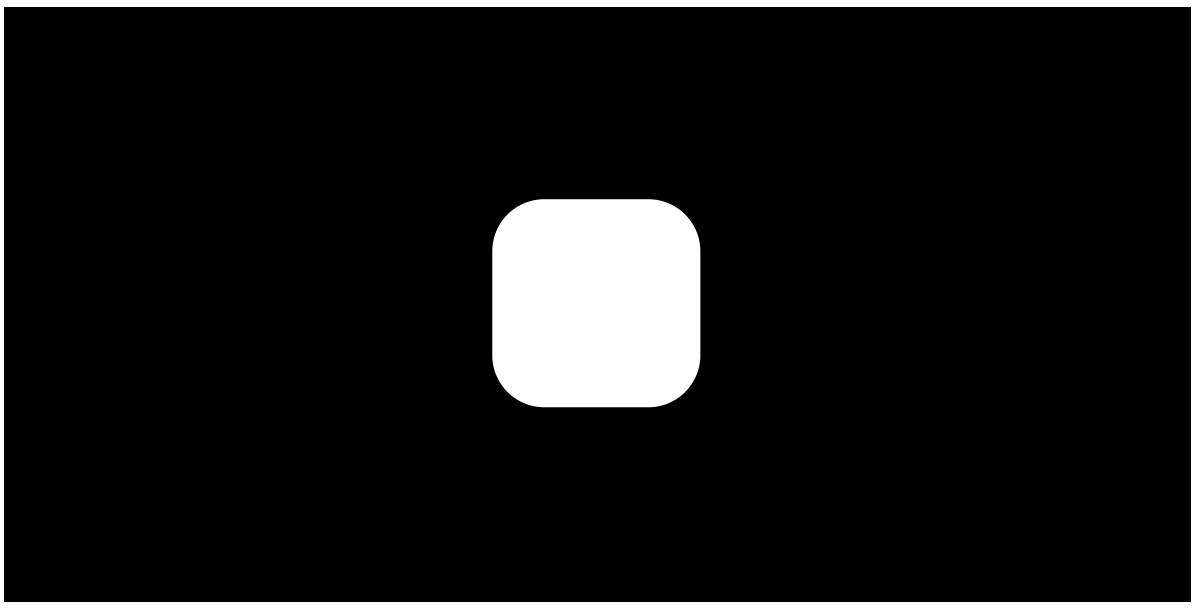
Video Tutorials: Async / Coroutines

Coroutines are special functions that can suspend execution, and then be called again to pick up where they left off. They are at the core of async programming.

Just Coroutines



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[MUSIC PLAYING]

In this video, we're going to look at some low-level experimental code that

creates and works with coroutines by themselves

outside of an async framework or event loop.

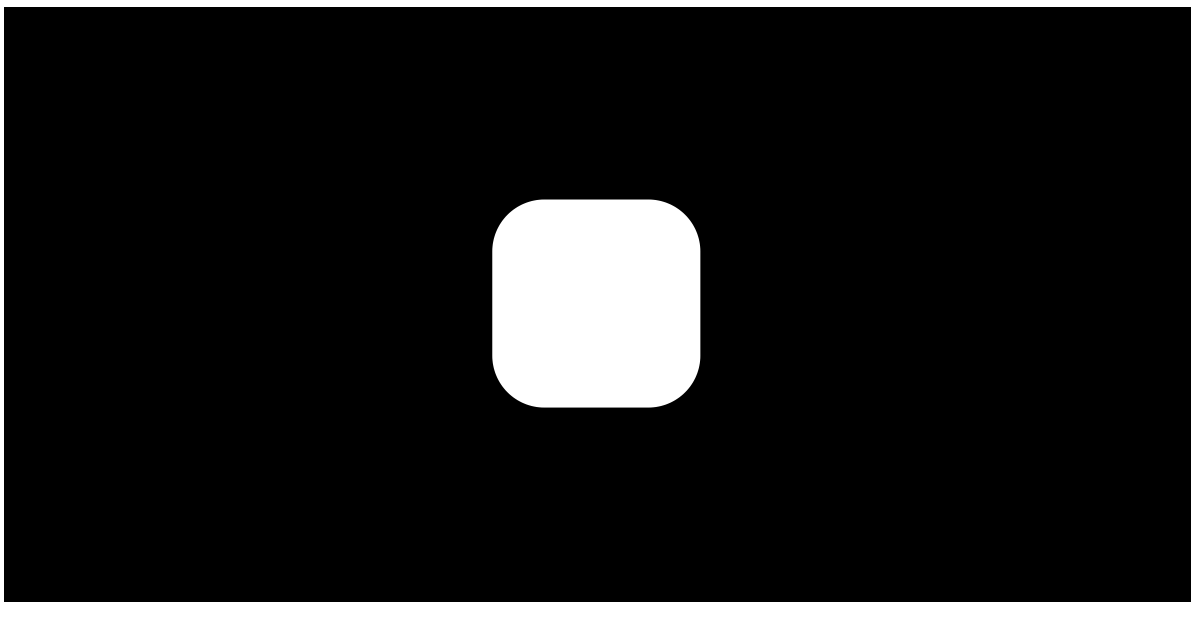
You probably never want to do this yourself,

but it should give us a better

Event Loops

Most asnyc programming has an event loop at its core. While you will most likely use an event loop provided by a library like asyncio, writing a simple one can really help you understand what async is all about.

Handwritten Loop



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OK, hopefully you've watched the earlier video, where

I started with playing around with coroutines by themselves,

and we started to look at how you can run the code in a coroutine

and got an idea of how maybe you would actually run a bunch of tasks.

So now we've got all the pieces, and

maybe we can actually make a task loop

Client-Side Async

When making a lot of requests to a web service or services, most of the time is spent waiting for a response. Asynchronous programming can be a very useful for this kind of problem.

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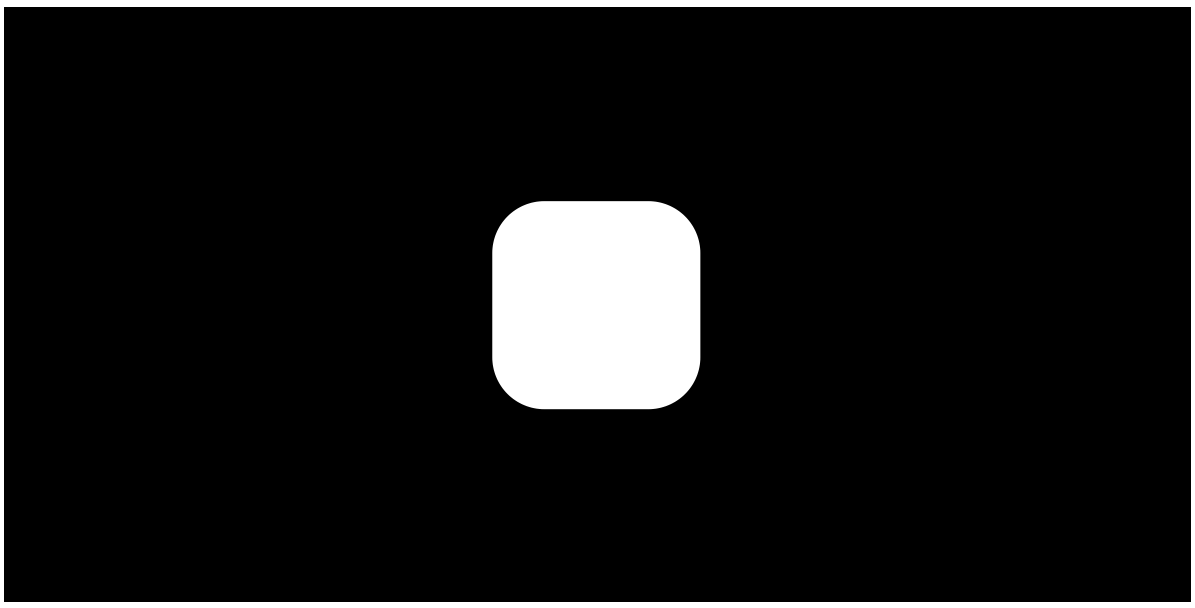

[MUSIC PLAYING]

I hope you've read the notes and watched the videos about coroutines and async.

But it is a lot of low-level stuff.

How do you actually make practical use of all this?

Well, async is good when you have a lot of tasks that are independent--

so you don't care what order they run

Optional Videos

David Beazley on Concurrecy and async:

David Beazley: Concurrency from the ground Up

He writes a full async client server from scratch before your eyes -- this guy can write code faster than most of us can read it -- be ready to hit the pause button!

David Beazley on asyncio:

David Beazley: asyncio: