Understanding How to Integrate with External Services Using Async

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Coming Up

Asynchronously Calling an External Service

Waiting for Multiple Tasks to Complete

Cancelling Tasks

Gracefully Handling Exceptions

Demo

Asynchronously Integrating with an External Service

Demo

Handling Multiple Service Calls One by One

Demo

Passing Multiple Objects to an AsyncResultFilter with ValueTuple

Demo

Mapping Multiple Objects into One

Demo

Handling Multiple Service Calls in Parallel

Why Cancellation Matters

Frees up threads (I/O bound work)

- Improves scalability

Frees up CPU resources (computational bound work)

Demo

Cancelling Tasks

Demo

Handling Exceptions

Summary

Execute multiple tasks in order by awaiting them

- Task results are returned in order

Use Task.WhenAll() or Task.WhenAny() when executing multiple tasks in parallel

- Task results are returned when the task is done

Summary

Cancel tasks to free up threads

- CancellationTokenSource
- CancellationToken

Handle a cancellation exception by catching it as an OperationCancelledException

- Exposes CancellationToken