

# NODE.JS ASYNCHRONOUS PROGRAMMING

Stephen Schaub

# Topics

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- Async / Await Programming
- Promises

# Async/Await Programming

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- See [examples/nodejs/asyncawait/2\\_readfile\\_asyncawait](https://examples.nodejs.org/asyncawait/2_readfile_asyncawait)
- The **await** operator expects a promise object
- Functions using the await operator must be marked **async**
- Functions marked **async** implicitly return a promise object
- The await operator can be used only in a function, not generally in “top-level” code

# Promises

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- A promise is an object that represents a computation that has started and may complete in the future
- Promise objects have `.then( )` and `.catch( )` methods that register functions to be invoked on success and failure
- See [examples/nodejs/asyncawait/3\\_readfile\\_promise](https://examples/nodejs/asyncawait/3_readfile_promise)

# Creating Asynchronous Functions

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- Three approaches:
  - ▣ Receive a callback (no **async** keyword)
  - ▣ Return a Promise (no **async** keyword)
  - ▣ Mark **async**

# Further Reading

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- <https://www.sitepoint.com/overview-javascript-promises/>