

SYNCHRONOUS

VS

ASYNCHRONOUS

SYNCHRONOUS VS ASYNCHRONOUS

Cypress commands are asynchronous, and Cypress is built upon NodeJS, hence why in earlier lectures we setup and used npm which is the Node package manager for the JavaScript programming language.

Note: that *asynchronous* does not mean the same thing as *concurrent* or *multi-threaded*. **JavaScript can have asynchronous code, but it is generally single-threaded.**

This is like a restaurant which has a single worker who does all of the cooking and serving of the food however if the single worker, works quickly enough and can switch between tasks efficiently, then the restaurant seemingly has multiple workers / tasks running at the same time even though the restaurant only has one worker.

WHAT IS SYNCHRONOUS?

- Code is executed one at a time in the order it appears.
- Single threaded synchronous execution (Executed in a sequenced manner).
- In JavaScript this means one thing is happening at a time.

WHAT IS ASYNCHRONOUS?

- Asynchronous more than one thing at a time.
- Some code is executing which starts of executing some other code and that code starts executing some more code.
- All this code is executing within the engine at the same time.
- Whatever step is available to be executed will be executed...!

CYPRESS EXAMPLE!

- In the below example, console.log will be executed first, because the ordering is not guaranteed and console.log is a non-Cypress command!

```
cy.visit("http://webdriveruniversity.com/Contact-Us/contactus.html")  
  
cy.get('[name="first_name"]').type('Joe');  
console.log('Hello world!')  
  
cy.get('[name="last_name"]').type('blogs')  
  
cy.get('[type="submit"]').click()
```