Identify When to Write Asynchronous Code

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Identifying Asynchronous Code

How to think through asynchronous code

Callbacks, Promises, Async/Await

Where you'll encounter asynchronous code

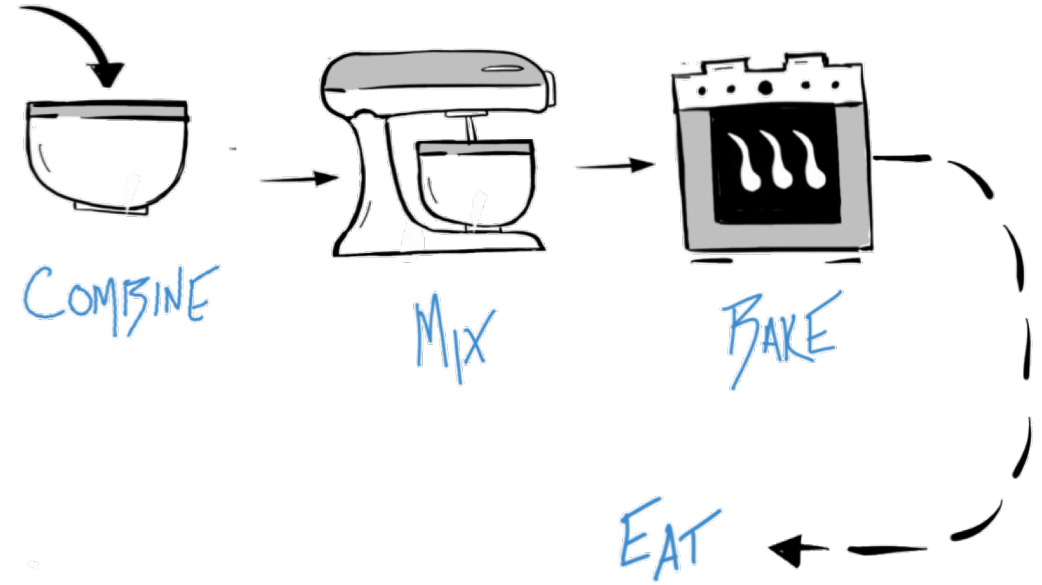
Built-in functions and 3rd party libraries

Thinking Through Asynchronous Code

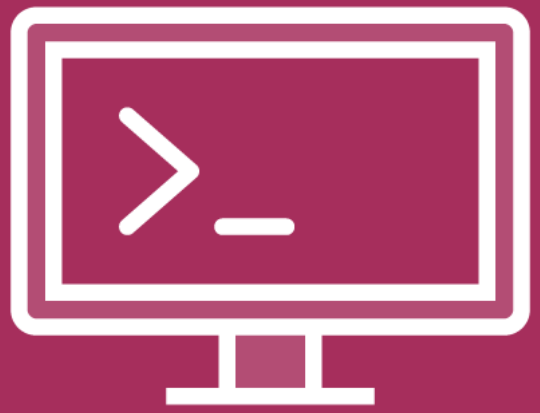
Baking Cookies

We want to be notified when the baking completes

1. Combine ingredients
2. Mix
3. Bake
4. When do we eat?



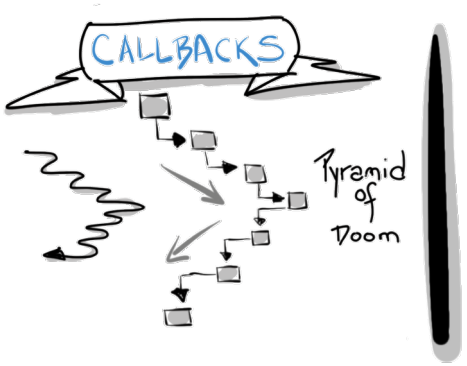
Demo

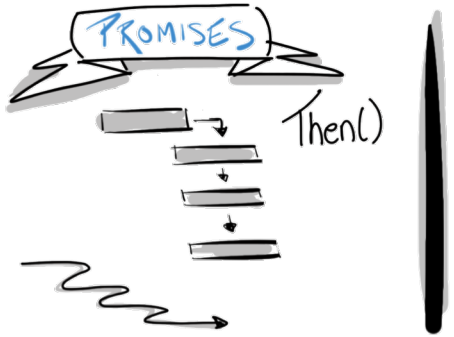


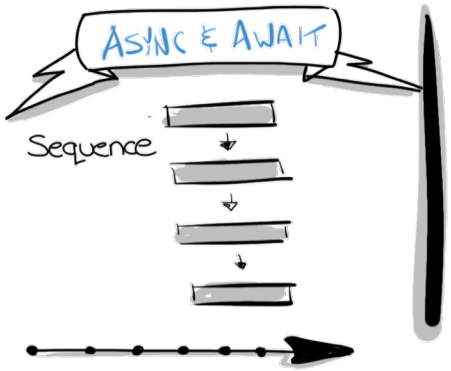
Synchronous and Asynchronous Code

Callbacks, Promises and Async/Await

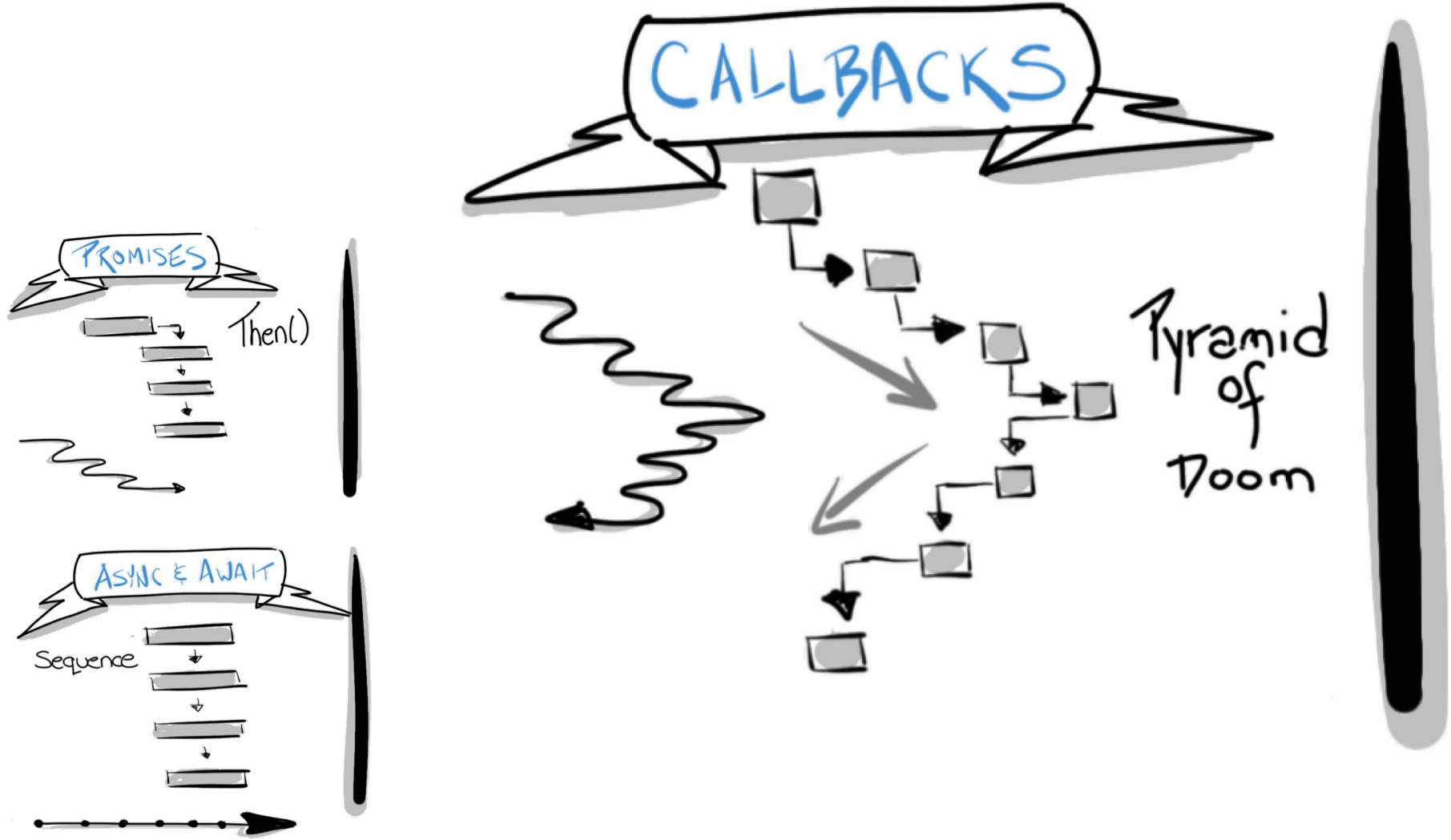
Asynchronous TypeScript



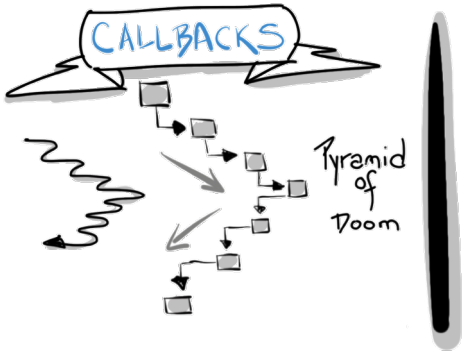


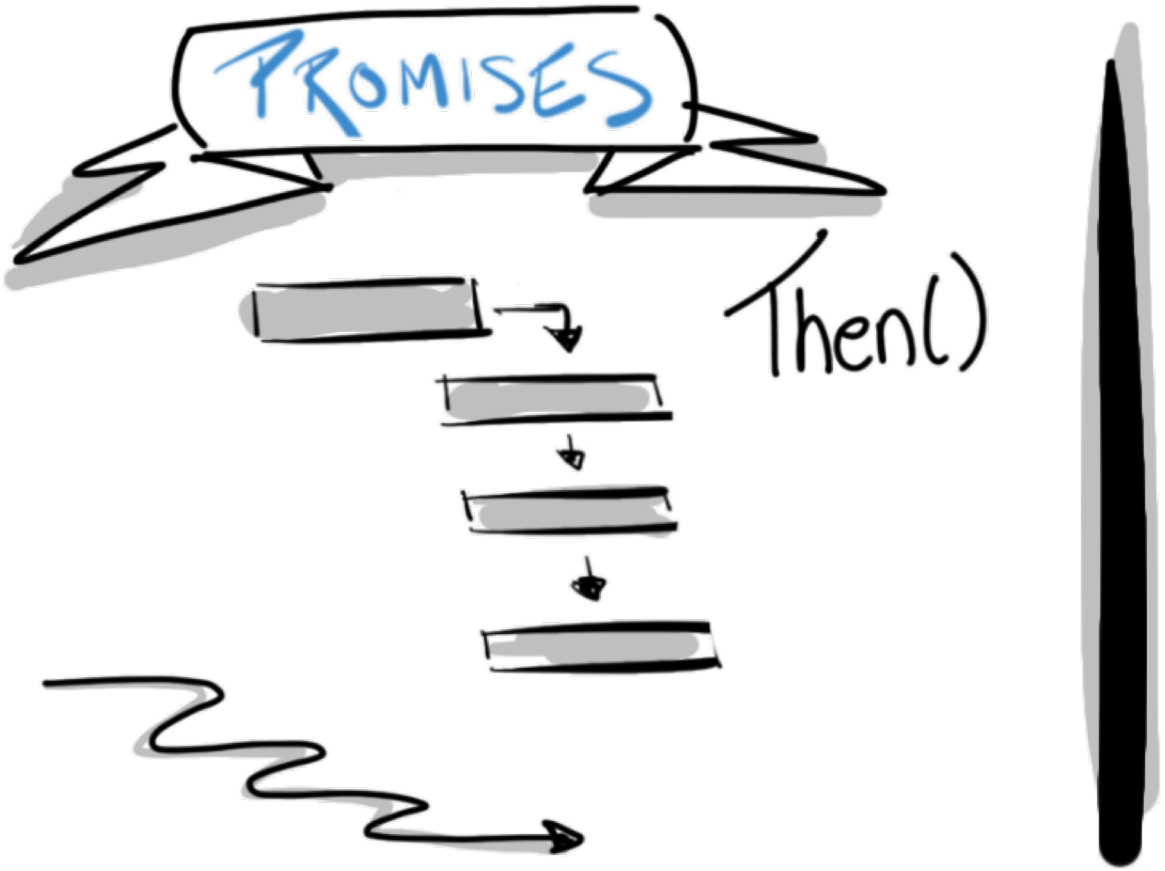


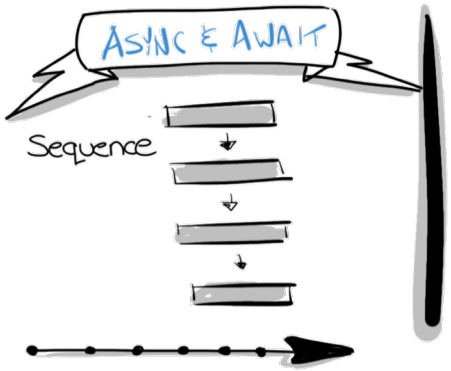
Asynchronous TypeScript



Asynchronous TypeScript







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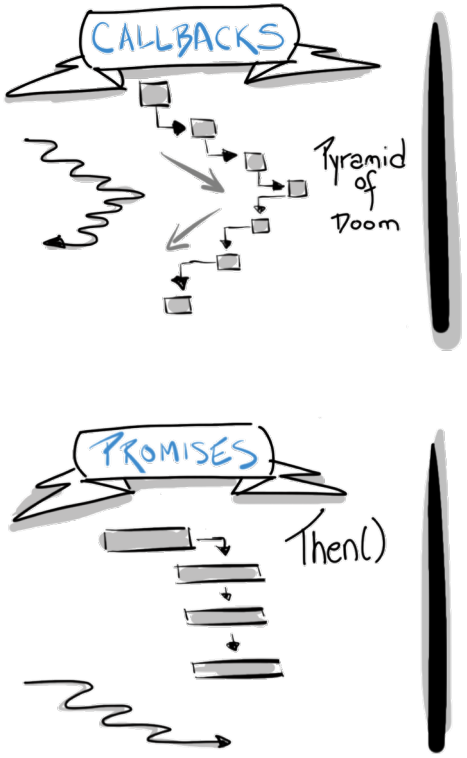
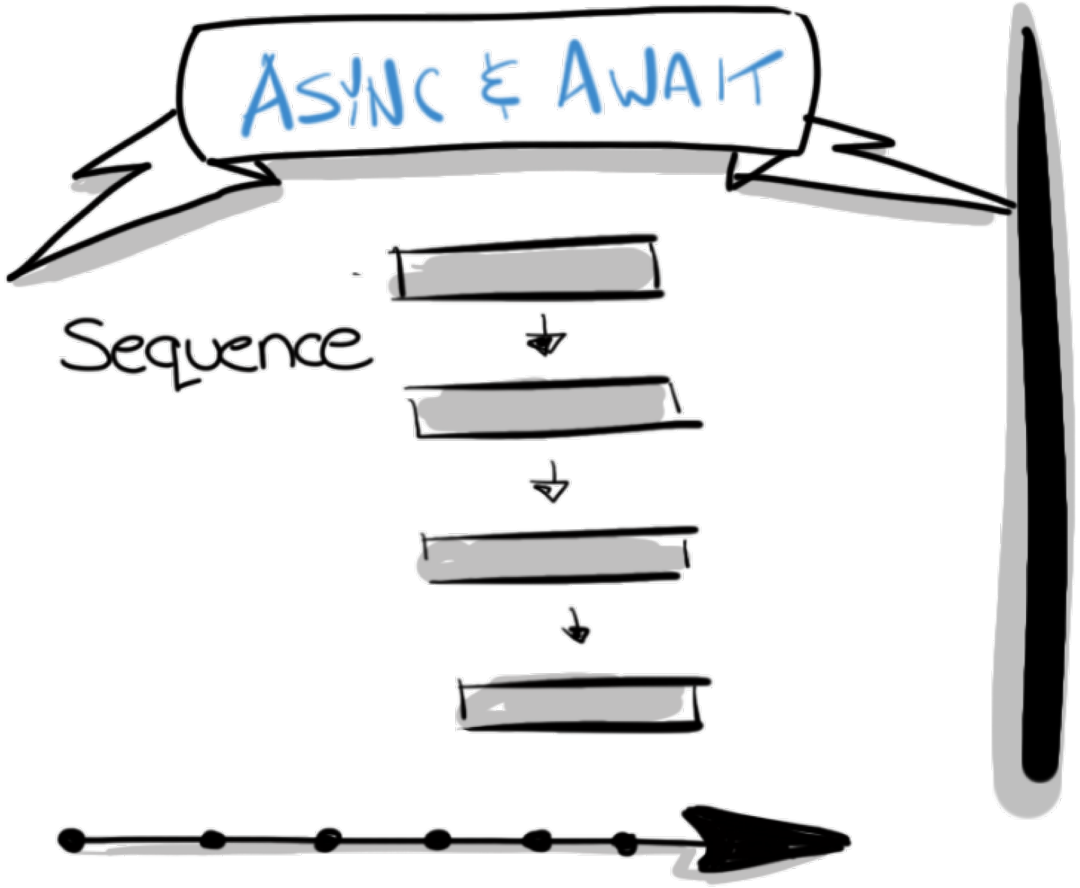
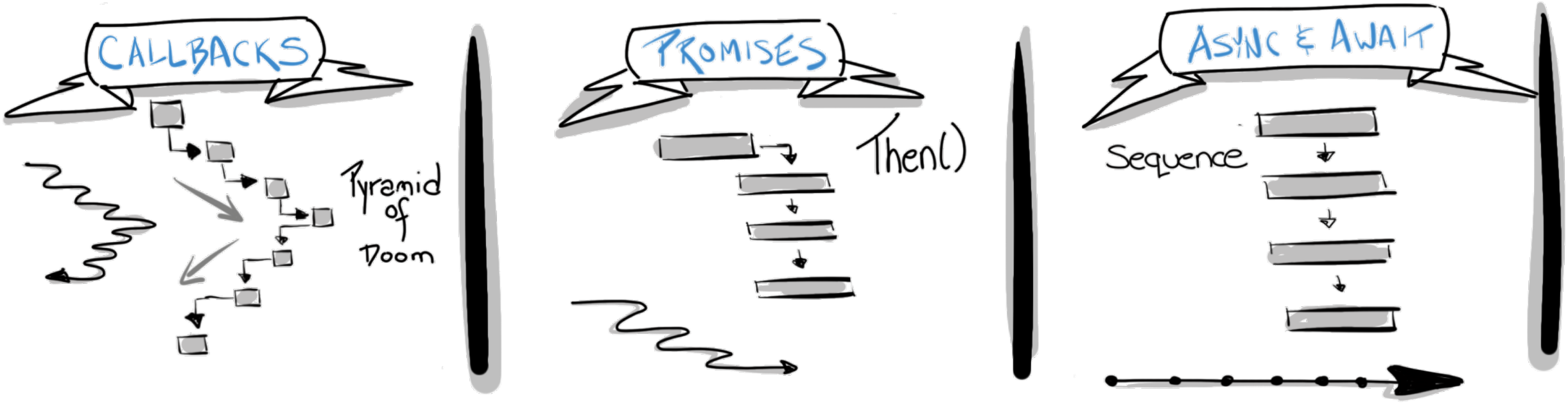




Asynchronous TypeScript



Callbacks

```
const getHeroTreeCallback = function(email: string, callback: any) {
  getHeroCallback(email, hero => {
    getOrdersCallback(hero.id, orders => {
      hero.orders = orders;
      getAccountRepCallback(hero.id, accountRep => {
        hero.accountRep = accountRep;
        callback(hero);
      });
    });
  });
};
```

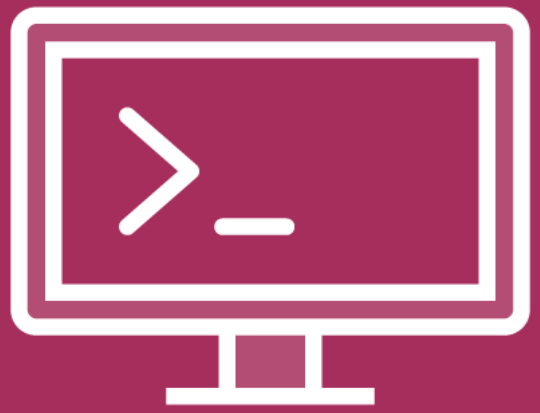
Promises

```
const getHeroTreePromise = function(searchEmail: string) {
  let hero: Hero;
  return getHeroPromise(searchEmail)
    .then((hero: Hero) => Promise.all([
      getOrders(hero), getAccountRep(hero)
    ]))
    .then((result: [Order[], AccountRepresentative]) => {
      const [orders, accountRep] = result;
      hero.orders = orders;
      hero.accountRep = accountRep;
      return hero;
    });
};
```

Async/Await

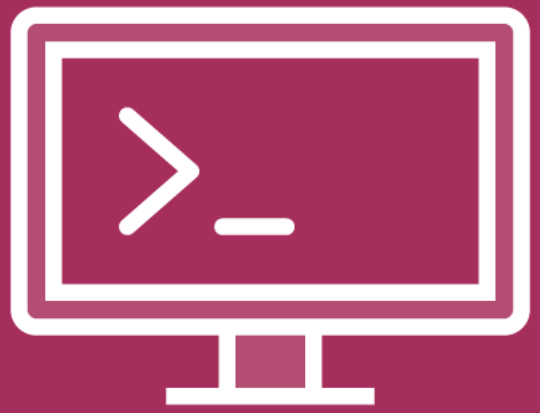
```
const getHeroTreeAsync = async function(email: string) {
  const hero = await getHeroAsync(email);
  const [orders, accountRep] = await Promise.all([
    getOrdersAsync(hero),
    getAccountRepAsync(hero),
  ]);
  hero.orders = orders;
  hero.accountRep = accountRep;
  return hero;
};
```

Demo



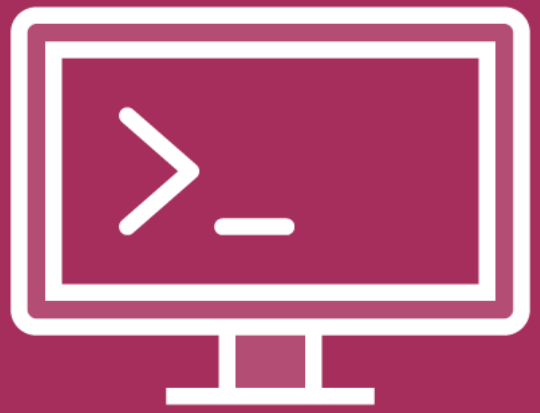
Intervals and Timers

Demo



Modal Windows

Demo



HTTP Requests with Axios

Summary

You can identify async code

Callbacks

Promises

Async/Await

Encounter async code