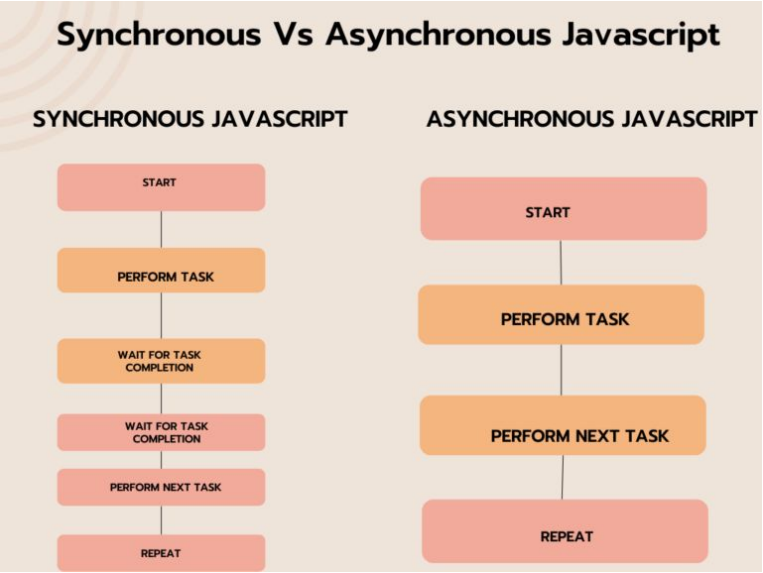
ASYNCHRONOUS PROGRAMMING

Synchronous vs Asynchronous



What is callback ?

Callback

- Callback function is a function that is passed as an argument to another function
- It's commonly used in JavaScript to handle asynchronous operations like fetching data from a server, waiting for a user's input, or handling events.

```
function doStep1(init) {
  return init + 1;
}

function doStep2(init) {
  return init + 2;
}

function doStep3(init) {
  return init + 3;
}

function doOperation() {
  let result = 0;
  result = doStep1(result);
  result = doStep2(result);
  result = doStep3(result);
  console.log(`result: ${result}`);
}

doOperation();
```

What is a Promise ?

Promise

- A Promise is an object that represents the eventual completion or failure of an asynchronous operation.
- A promise has three states: pending, fulfilled, rejected.
- Different promise handler are: .then(), catch(), finally().

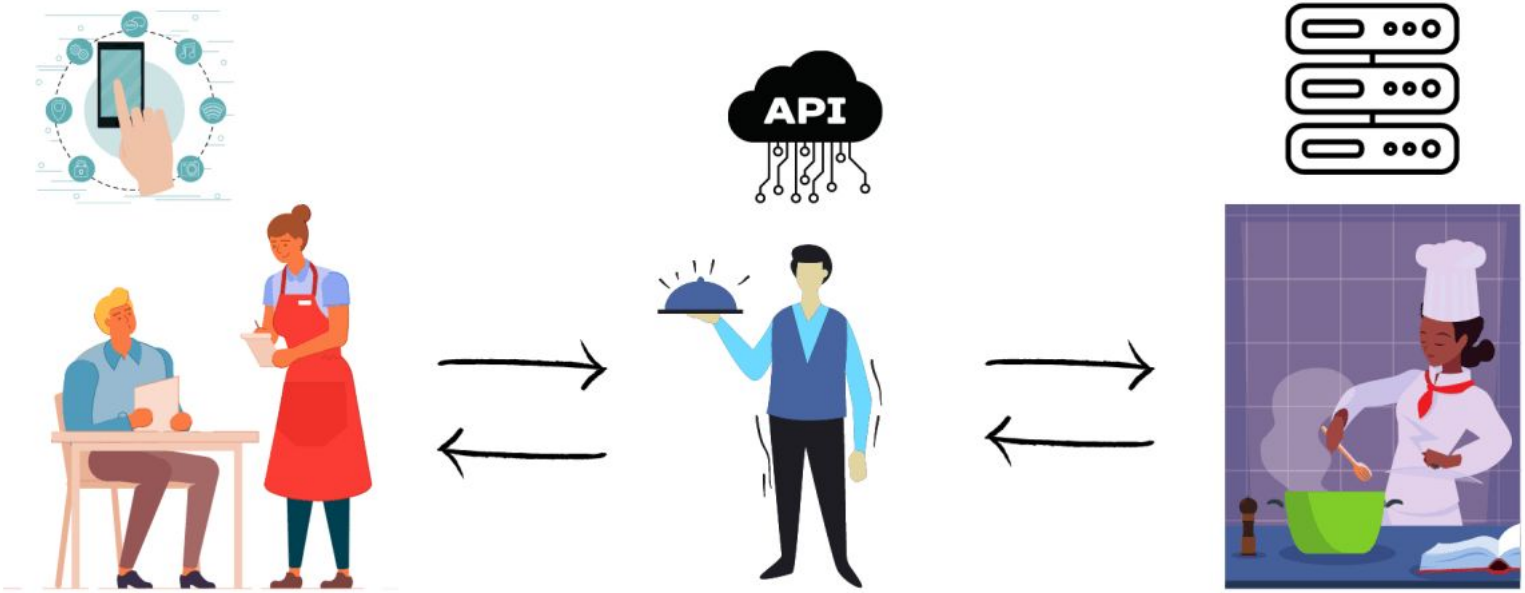
What is the use of fetch command ?

Fetch

- The fetch API in Node.js provides a modern and promise-based way to make HTTP requests from your server-side code.

WHAT IS AN API ?

What is API ?

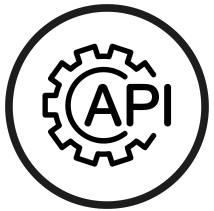


Application/Customer

Waiter/API

Kitchen/Server

API



- An API (Application Programming Interface) acts as an intermediary that allows different software components to communicate and exchange data with each other.
- API’s help in using other services like login functionality which was developed by other users to incorporate it into their own application.

REST API

REST API

- REST API is the most popular and commonly used API.
- A REST API is based on the HTTP protocol.
- These APIs are often exposed over a simple URL like https://example.com/api/users
- The REST APIs generally communicate with JSON data.

HOW REST API WORKS

1. Request
2. Routing
3. Processing
4. Response

REST API METHODS

1. GET
2. POST
3. PUT
4. DELETE

Thank you.