## Desarrollo Web FullStack

**Frontend** *Node, NPM y React* 

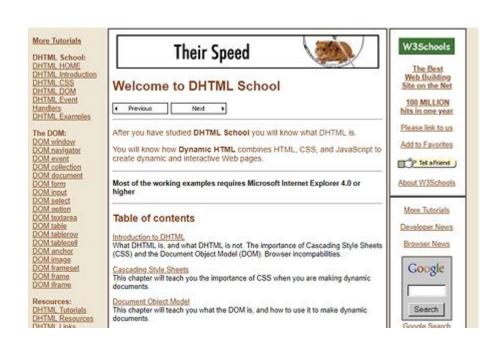
## Páginas Web

VS

## **Aplicaciones Web**

#### Página Web

- HTML
- CSS
- Plantillas
  - PHP
  - -



#### Aplicación Web

- HTML
- CSS
- JavaScript
- API (Backend)
  - Python
  - Node
  - Java
  - PHP
  - ...



#### Figma



# Presentación del taller

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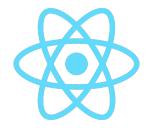
#### Taller

#### **I Frontend**

Node, NPM y React

#### Il Integración con Backend

Node, NPM, MongoDB y Fastify











## ¿Cómo funciona el navegador?



URL Servidor Navegador



URL

Servidor

Navegador

#### **URL**





URL

Servidor

Navegador

#### Servidor



#### Navegador



#### Frontend React.js

## JavaScript

#### **JavaScript**

Interpretado, orientado a objetos y débilmente tipado.





#### Node.js

Sobre Chrome V8 Engine.





#### Ejemplo

```
function welcome(name) {
  return `Hello ${name}!!`
}

const name = 'John'
const message = welcome(name)

console.log(message)
```

#### Variables

```
let variable = "Hello World"
variable = "Hello World 2" // Se puede reasignar

const constant = "Hello World"
constant = "Hello World 2" // Error

const obj = { name: "John" }
obj.name = "Jane" // Se puede modificar
```

#### Tipos de datos

```
const undef = undefined
const none = null
const bool = true
const num = 1
const str = "string" // o 'string' o `string`
const arr = [1, 2, 3]
const obj = { a: 1, b: 2, c: 3 }
const promise = new Promise()
const date = new Date()
```

#### Condicionales

```
• • •
for (let i = 0; i < 5; i++) {
while (cond) {
do {
} while (cond)
```

#### **Funciones**

```
function func(param1, param2) {
  return param1 + param2
}

const func2 = (param1, param2) ⇒ param1 + param2
```

#### Objetos

```
const obj = { a: 1, b: 2, c: 3 }
obj.a // 1
obj.d // undefined
const extendedObj = { ... obj, d: 4 }
```

#### Arrays

```
const array = [1, 2, 3, 4, 5]

const mapped =
    array.map((item) ⇒ item * 2) // [2, 4, 6, 8, 10]

const filtered =
    array.filter((item) ⇒ item % 2 == 0) // [2, 4]

const merge = [...array, 6] // [1, 2, 3, 4, 5, 6]
```

#### Funciones asíncronas

```
async function func(param1, param2) {
  return param1 + param2
}

const func2 =
  async (param1, param2) ⇒ param1 + param2
```

#### **Promesas**

```
const prom = async (param1) ⇒ {
  const result = await promise // Otra promesa

  return result
}

prom() // Promesa
  .then(result ⇒ {
   console.log(result) // Resultado
  })
```

#### Módulos

```
import { something } from './module'
export const something = "something"
const { something } = require('./module')
module.exports = {
  something: "something"
```

## React.js

#### JSX

```
<div>
    This is JSX
    <h1>Title</h1>
    Paragraph
    <button>Button</button>
</div>
```

#### Templates *Plantillas*

#### Props Parámetros

```
<button
   type="submit"
   onClick={() \Rightarrow console.log("Clicked!")}
>
   Click
</button>
```

#### Componentes

```
• • •
const Component = (props) ⇒ {
  return (
    <div>
      <h1>{props.title}</h1>
      {props.children}
    </div>
```

#### Componentes

#### Hooks

```
useState()
useEffect()
useMemo()
useCallback()
useReducer()
useContext()
```

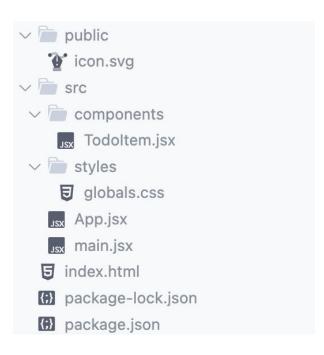
#### useState

```
• • •
const Component = () \Rightarrow {
  const [state, setState] = useState(0);
  return <div>
     {state}
     <button onClick={() \Rightarrow setState(state + 1)}>
       Increment
     </button>
  </div>
```

#### *useEffect*

```
• • •
const Component = () \Rightarrow {
  const [state, setState] = useState(0);
  useEffect(() ⇒ {
    setInterval(
      () ⇒ {
        setState(state ⇒ state + 1)
      },
      1000
  }, [])
  return <div>
    {state}
  </div>
```

#### Vite.js



## Backend Fastify, MongoDB

#### ¿Qué es un Backend?



#### ¿Qué es una HTTP API Rest?

GET	/todos
POST	/todos
GET	/todos/:id
PATCH	/todos/:id
DELETE	/todos/:id

```
{
   "null": null,
   "bool": true,
   "num": 1,
   "string": "Hola",
   "array": [1, 2, 3],
   "object": {
       "key": "value"
   }
}
```

JSON (Javascript Object Notation)

## MongoDB

#### MongoDB

Base de Datos *documental* organizada en *colecciones*.

- → No relacional
- → No SQL

```
mongo DB<sub>®</sub>
```

```
{
    _id: ObjectId("637b7074e0f727dd6538c147"),
    content: "Some content",
    createdAt: Date("2022-11-21T12:35:32.884Z")
}
```

**MongoDB Document** 

```
const { MongoClient, ObjectId } = require("mongodb")
const client = new MongoClient("<db uri>")
await client.connect()
const collection = client.db().collection("todos")
await collection.find({})
await collection.find({ price: { $qte: 5 } })
await collection.findOne({ _id: new ObjectId("637b7074e0f727dd6538c147") })
await collection.updateMany({}, {$set: { content: "some new content" }})
  { _id: new ObjectId("637b7074e0f727dd6538c147") },
  {$set: { content: "some new content" }}
await collection.deleteMany({})
await collection.updateOne({ _id: new ObjectId("637b7074e0f727dd6538c147") })
await collection.findOneAndUpdate({ ... }, {$set: { ... }})
await collection.findOneAndDelete({ ... })
```

## Fastify

#### Fastify



```
const fastify = require("fastify")
const app = fastify()
app.get("/", (req, rep) \Rightarrow {
  return {
    hello: "world"
})
app.listen({ port: 3000 })
```

#### Fastify Plugins

```
const fastify = require("fastify")
const app = fastify()
app.register(require("@fastify/cors"), {
  origin: "*"
})
app.register(require("@fastify/mongodb"), {
  url: "<db uri>",
})
app.register(require("./todos")) // custom module
app.listen({ port: 3000 })
```