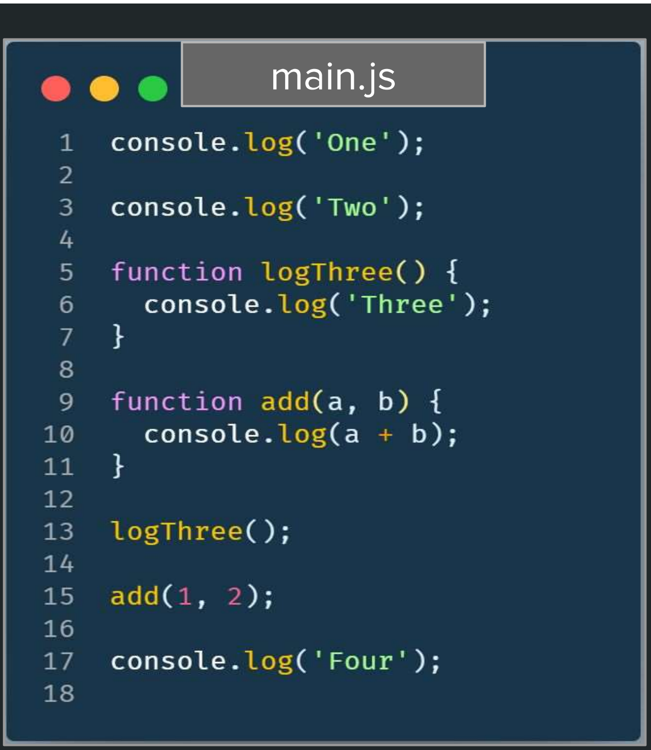
Concurrency In Javascript

Presented by Mubashir Ali

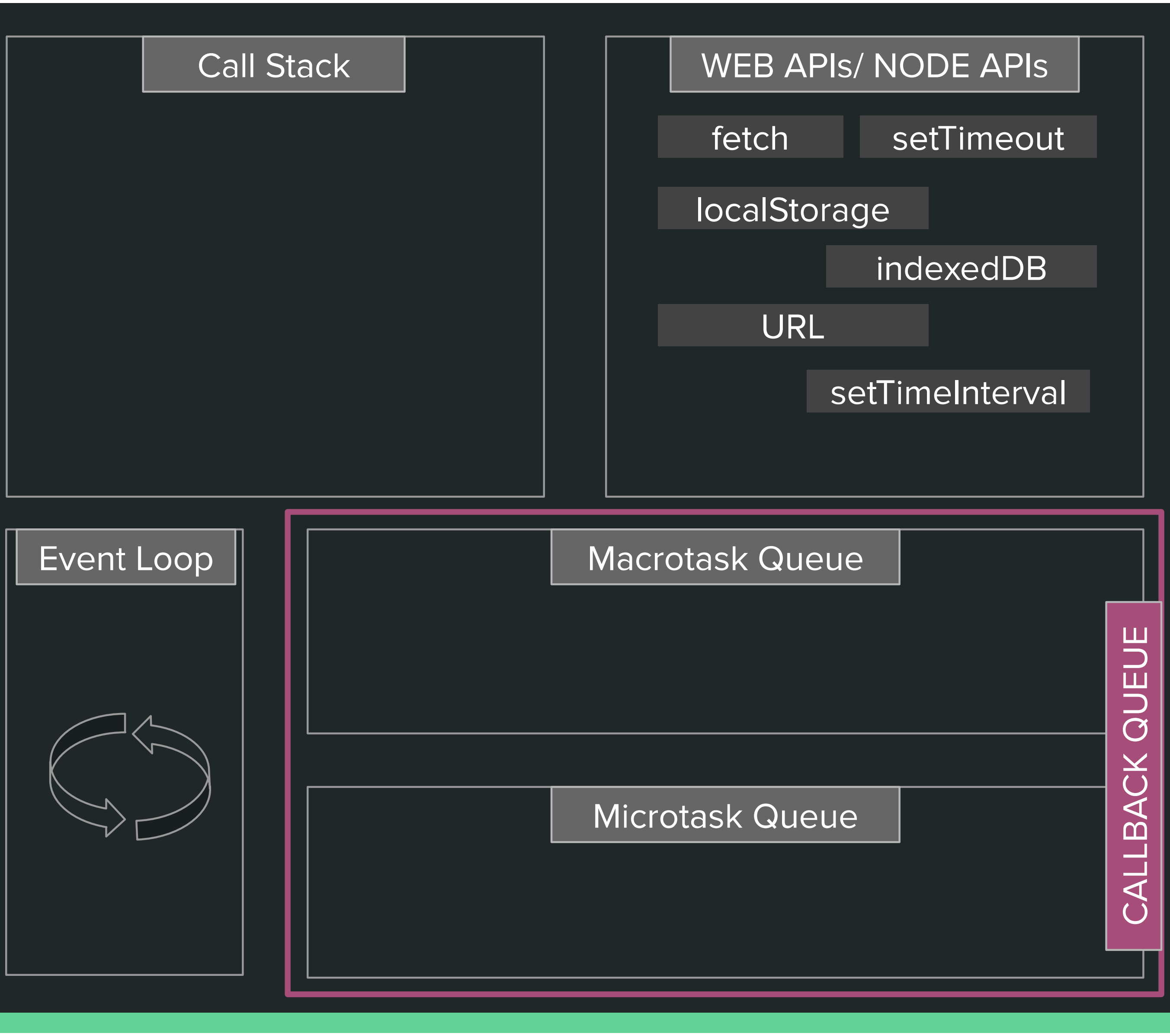
Synchronous Javascript

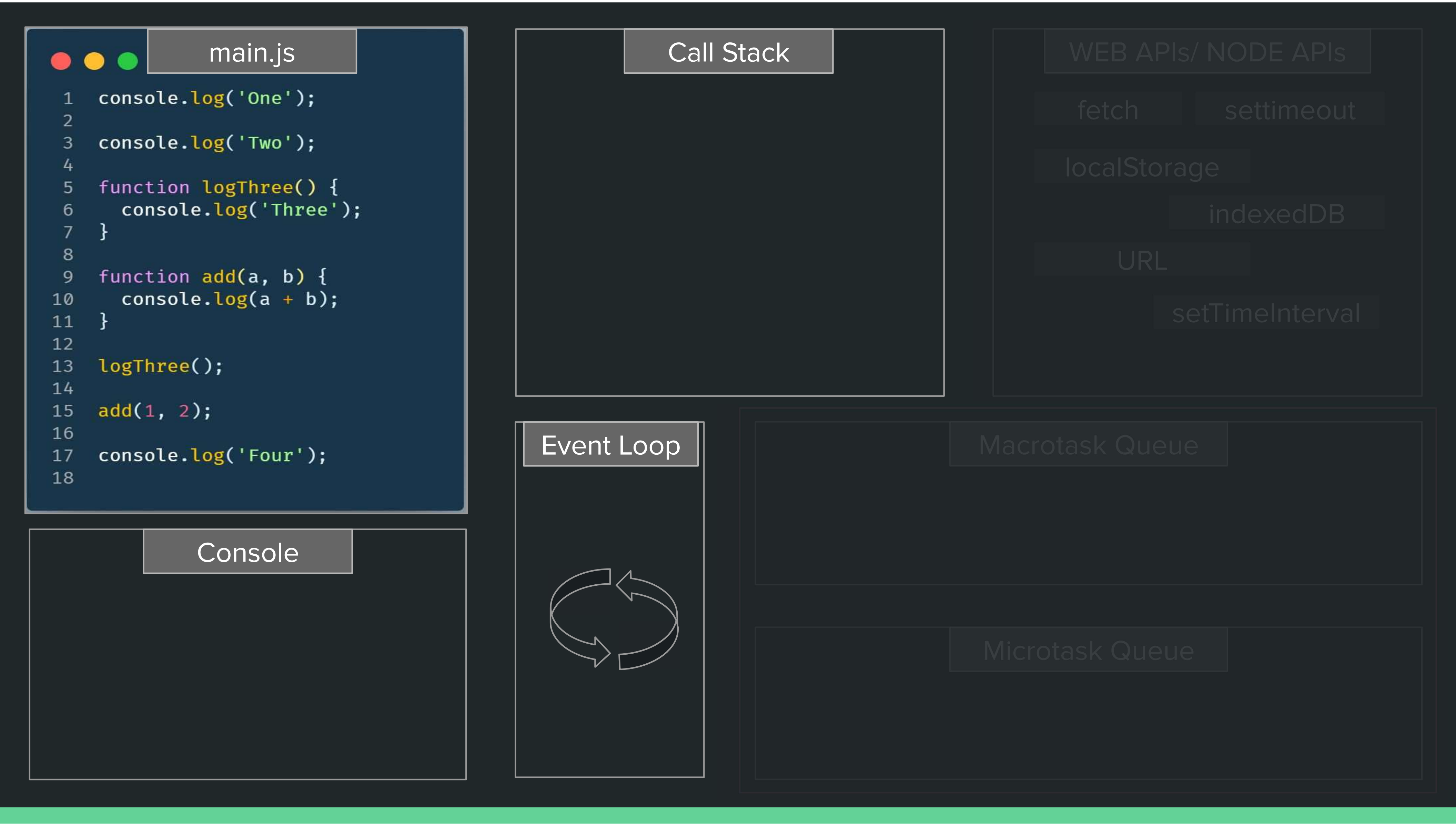


main.js

```
console.log('One');

console.log('Two');

function logThree() {
  console.log('Three');
}

function add(a, b) {
  console.log(a + b);
}

logThree();

add(1, 2);

console.log('Four');

```

Console





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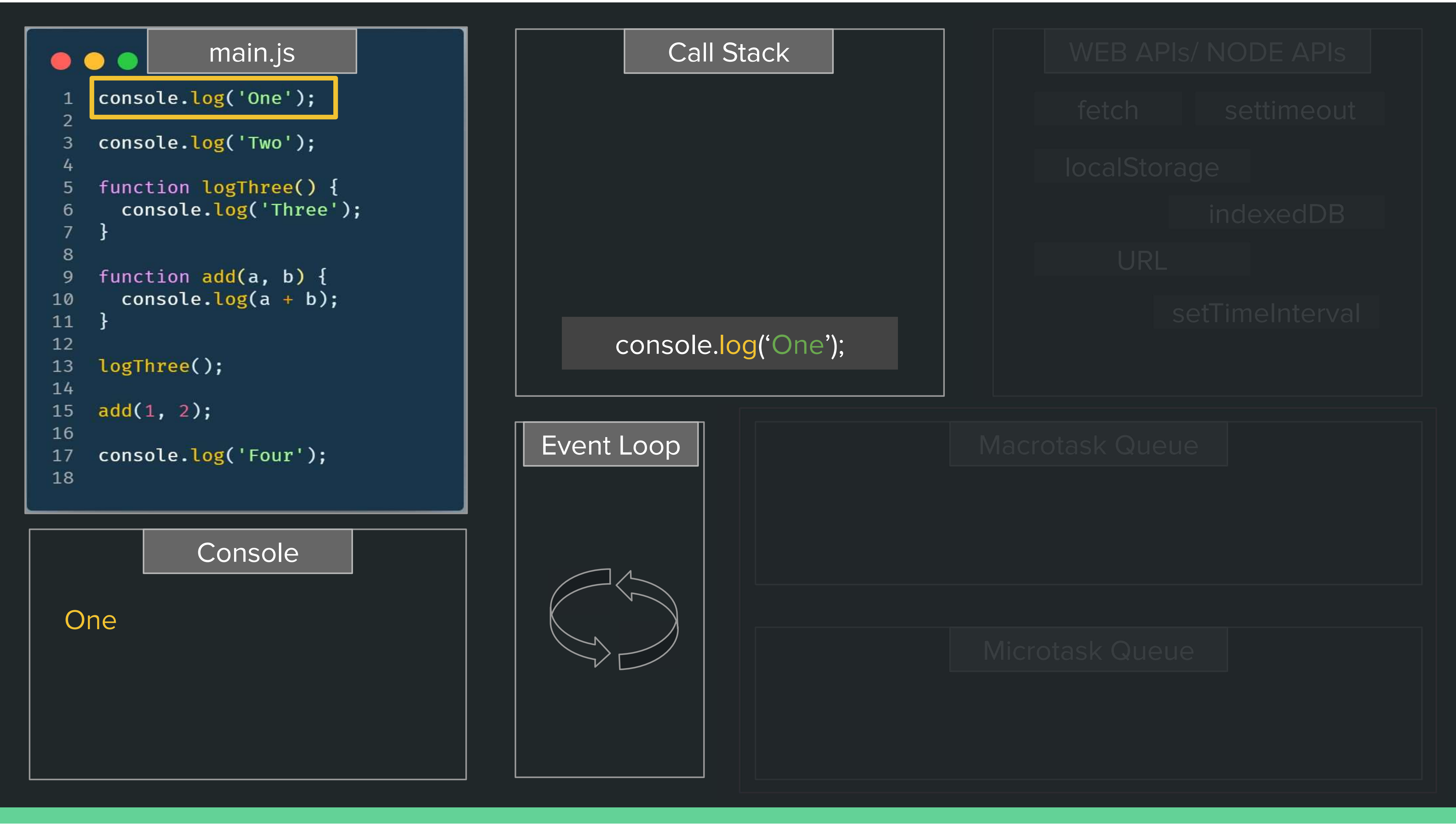

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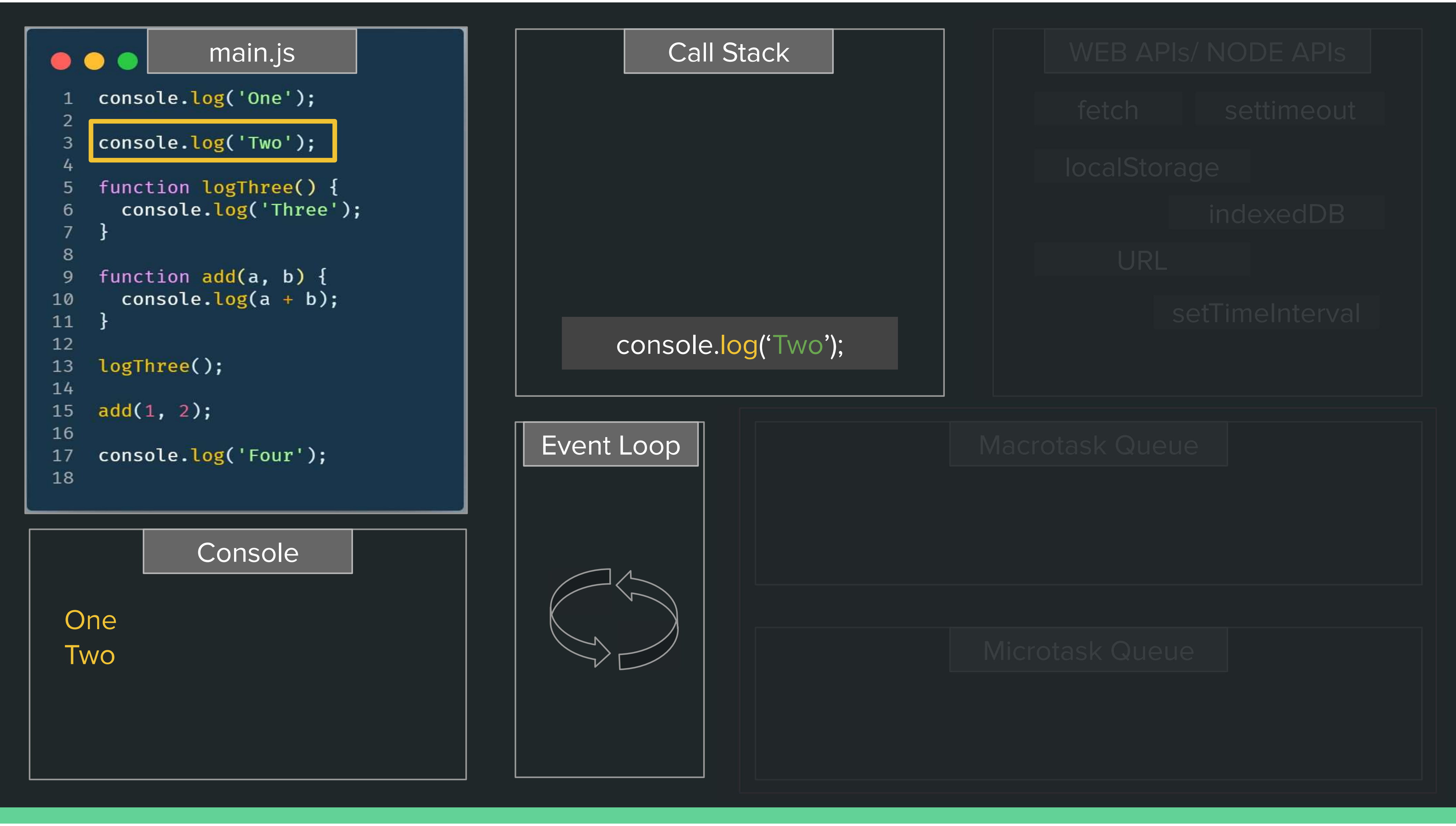
```

```
console.log('One');
```

```
One
```



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```

Call Stack

```
console.log('Two');
```

WEB APIs/ NODE APIs

fetch

settimeout

localStorage

indexedDB

URL

setTimeInterval

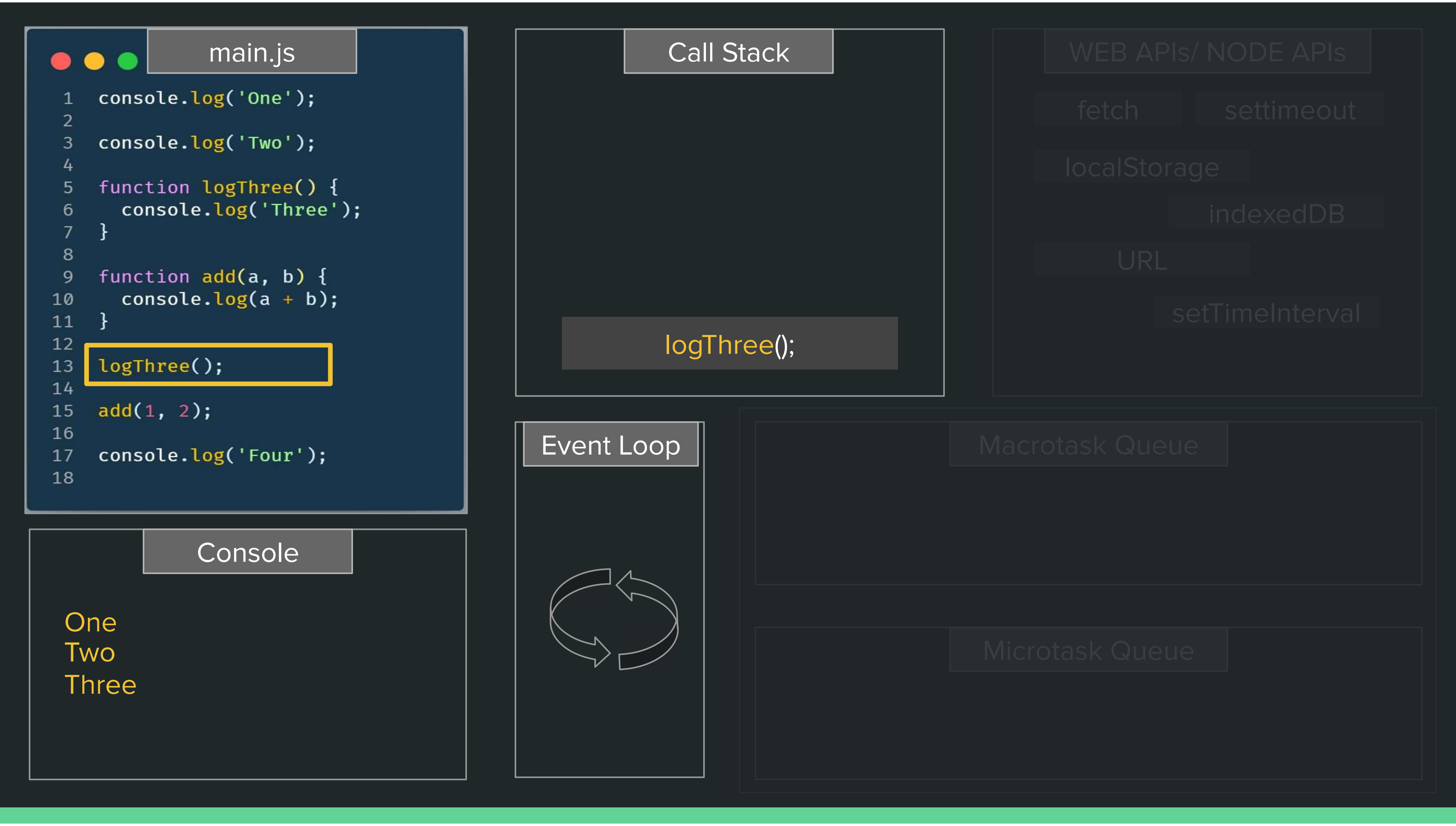
Console

```
One
Two
```

Event Loop

Macrotask Queue

Microtask Queue



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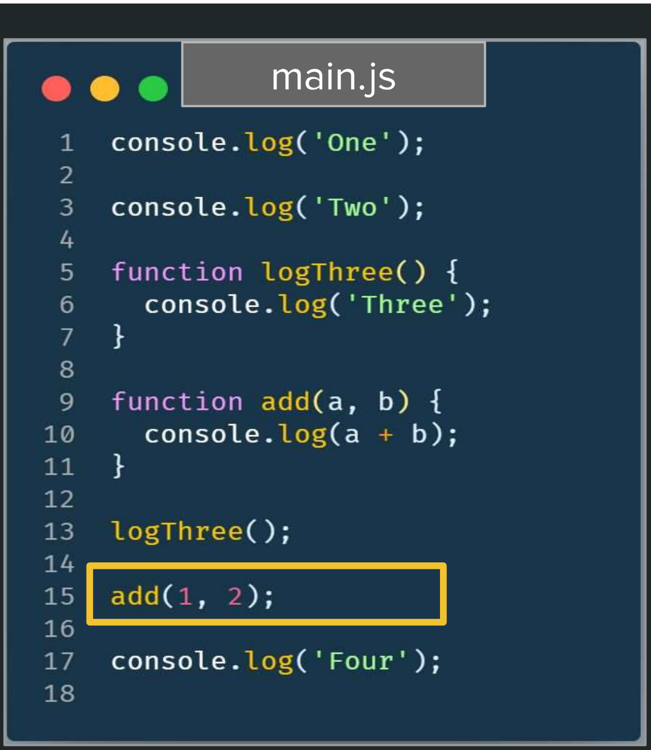

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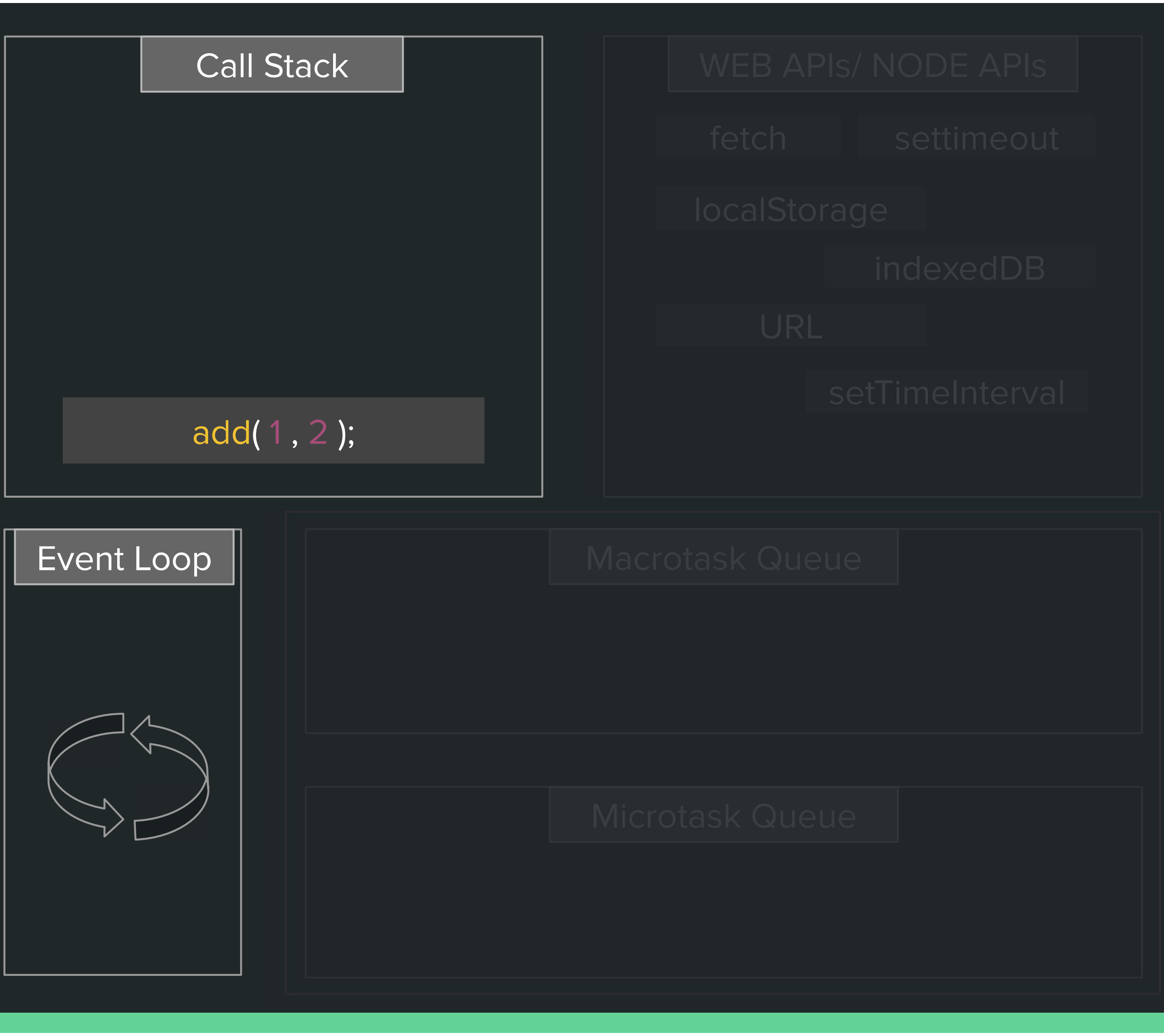
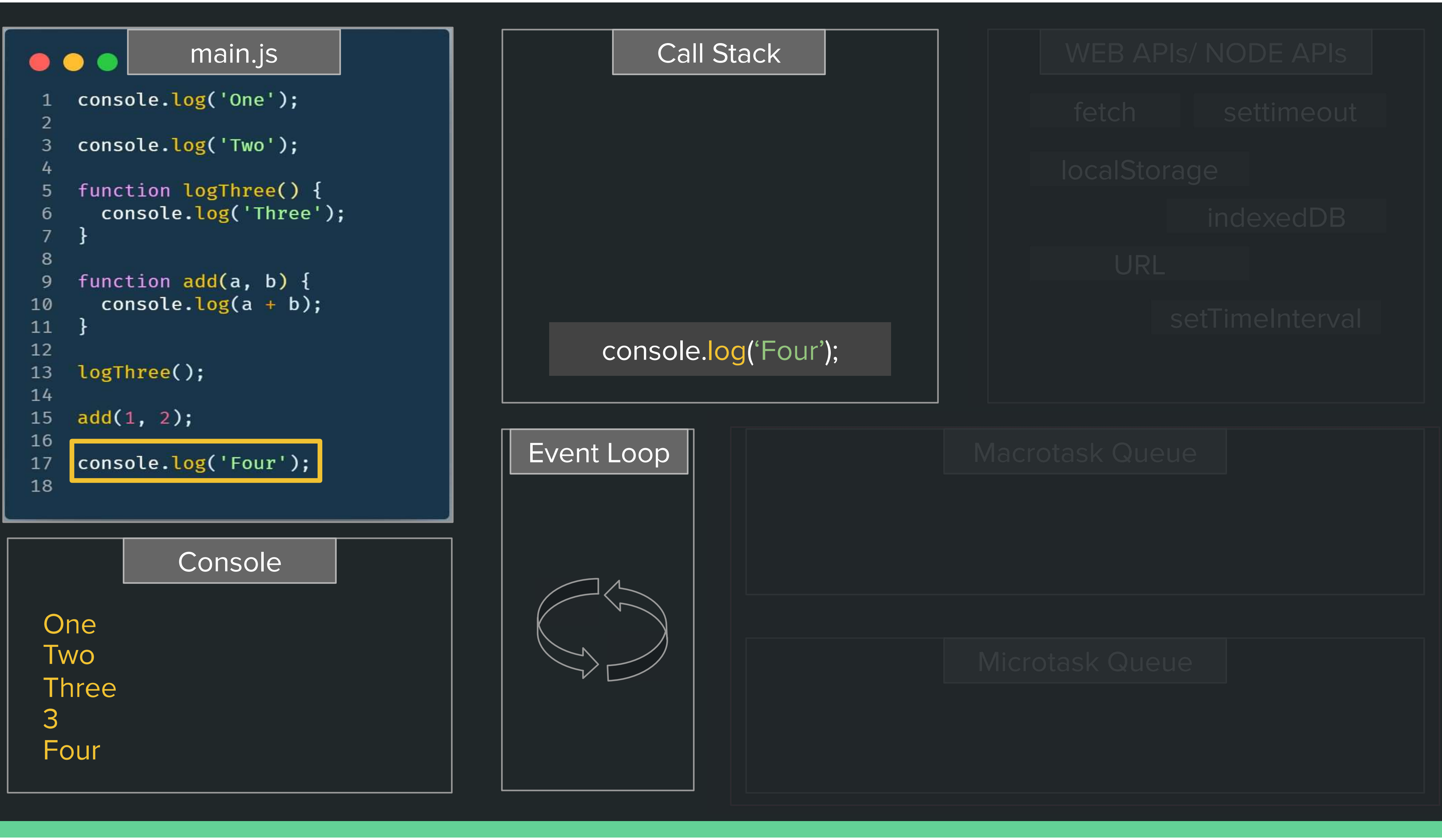


Console

```
One
Two
Three
3
```



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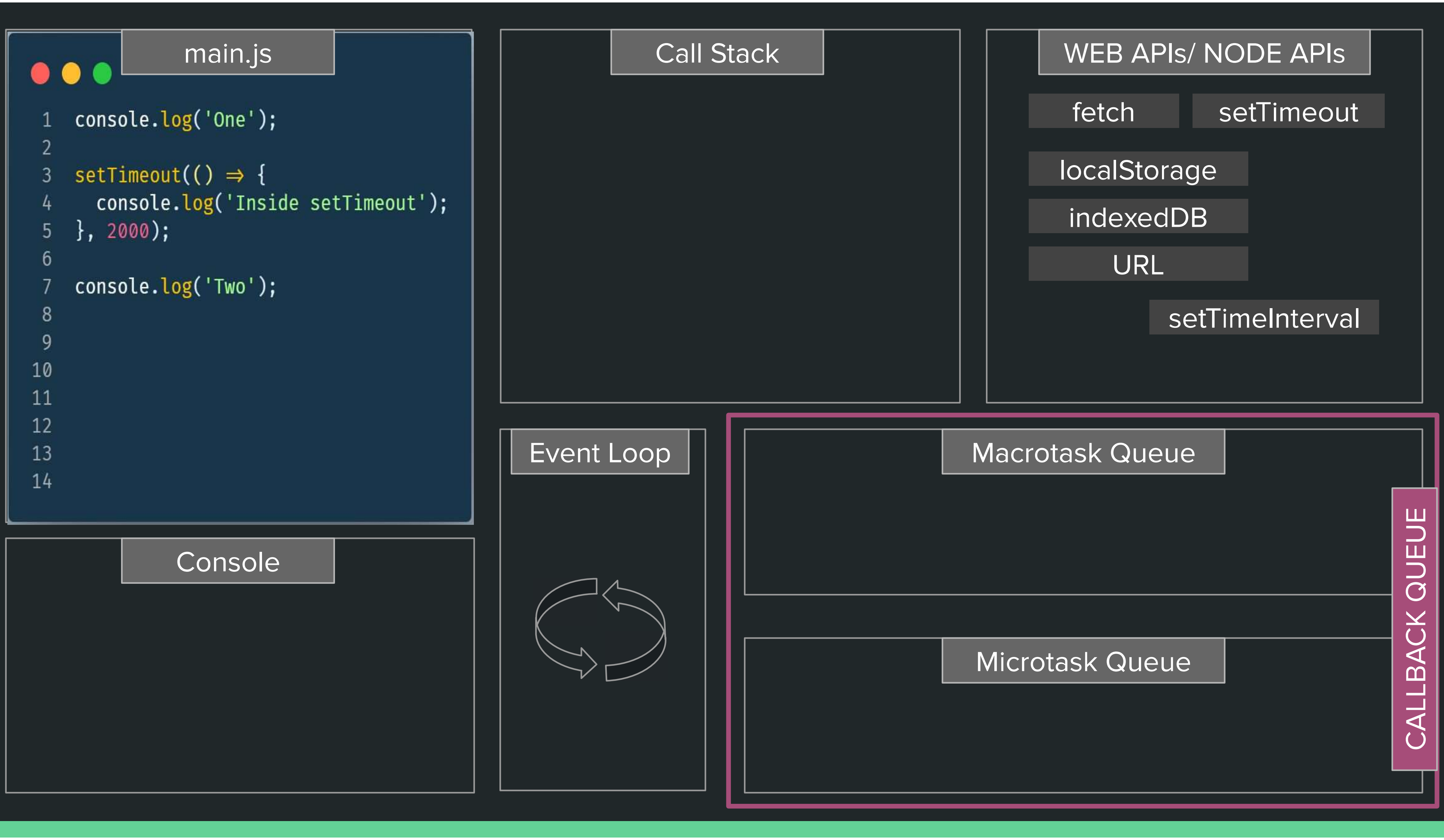
Console

```
One
Two
Three
3
Four
```

Asynchronous Javascript

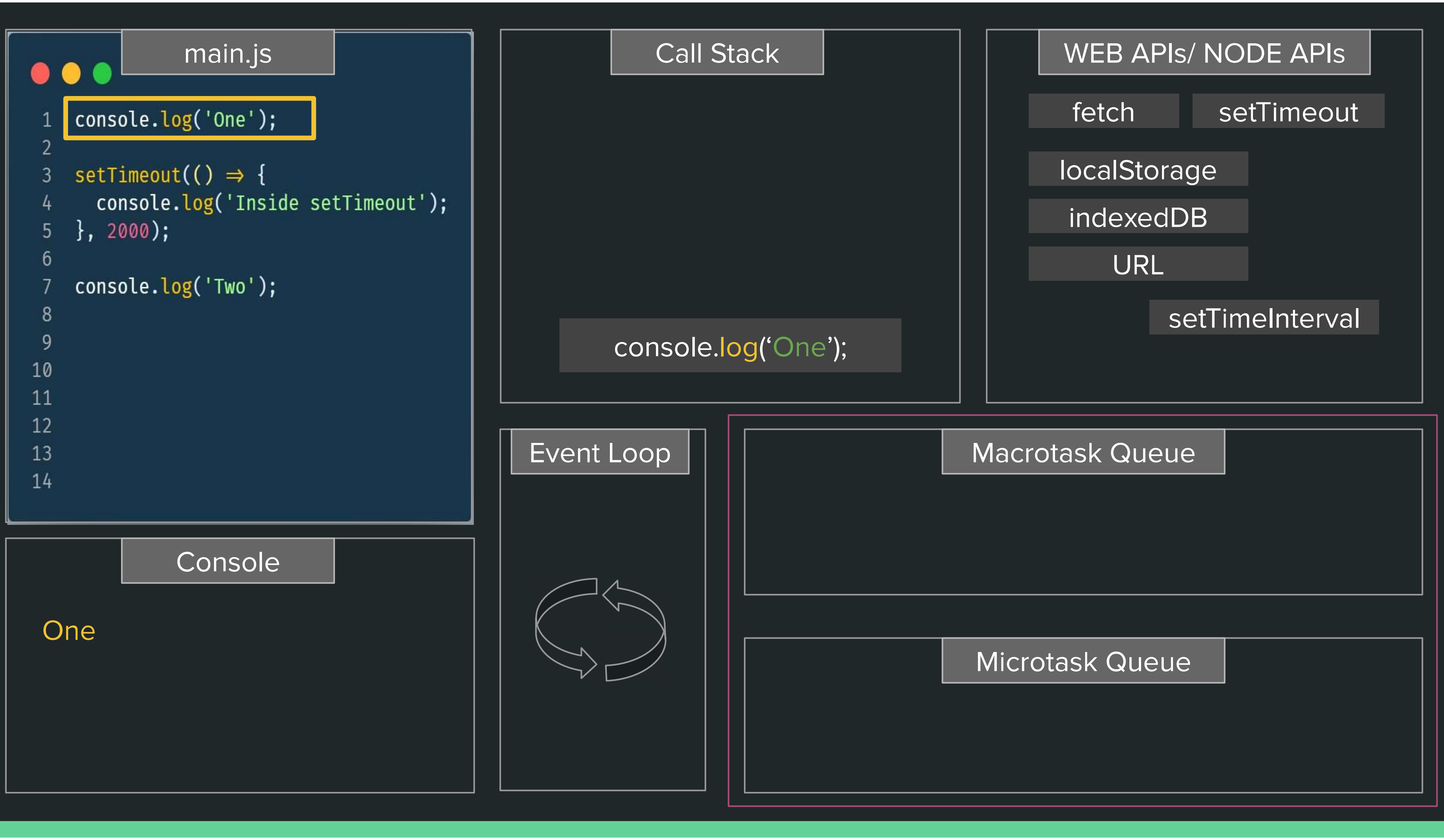


main.js

```
console.log('One');

setTimeout(() => {
  console.log('Inside setTimeout');
}, 2000);

console.log('Two');
```



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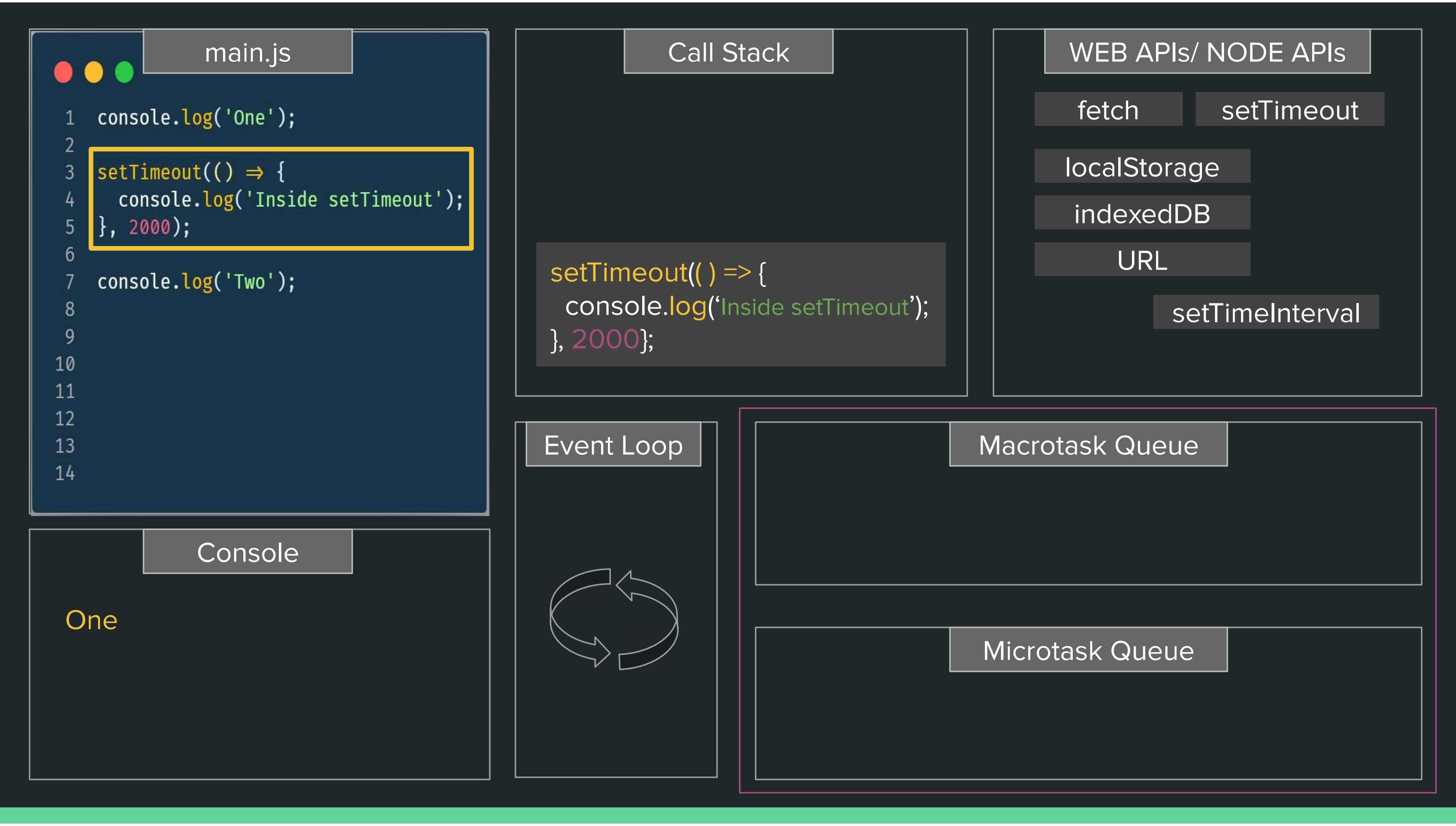
setTimeout(() => {
  console.log('Inside setTimeout');
}, 2000);

console.log('Two');
```

```
One
```



main.js

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console.log('One');

setTimeout(() ⇒ {
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}, 2000);

console.log('Two');
```

Call Stack

```
setTimeout(( ) => {
  console.log('Inside setTimeout');
}, 2000};
```

WEB APIs/ NODE APIs

fetch

setTimeout

localStorage

indexedDB

URL

setTimeInterval

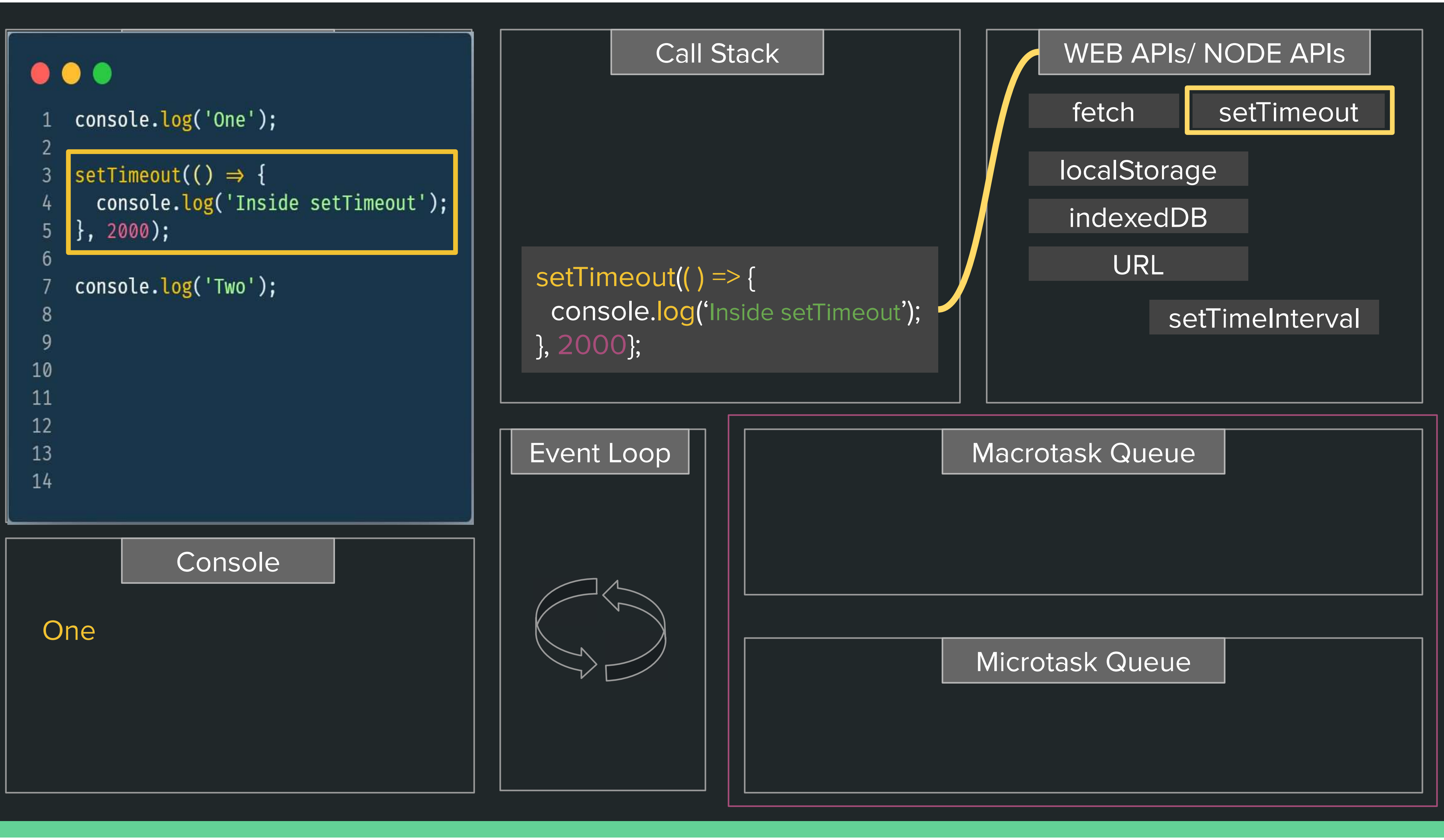
Console

```
One
```

Event Loop

Macrotask Queue

Microtask Queue



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- localStorage
- indexedDB
- URL
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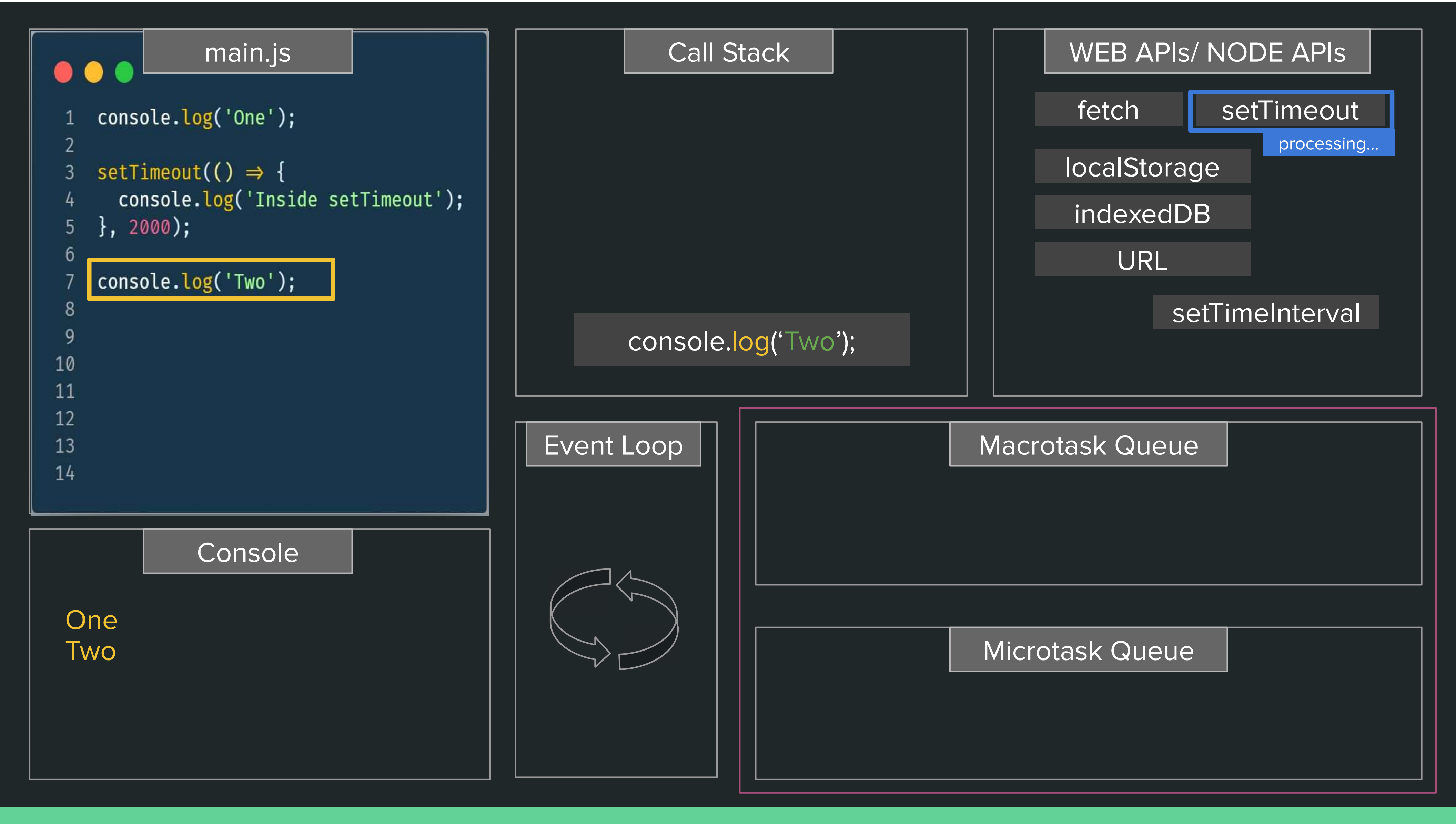
Console

```
One
```



main.js

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setTimeout(() => {
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}, 2000);

console.log('Two');
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Call Stack

console.log(‘Two’);

WEB APIs/ NODE APIs

fetch

setTimeout

processing...

localStorage

indexedDB

URL

setTimeInterval

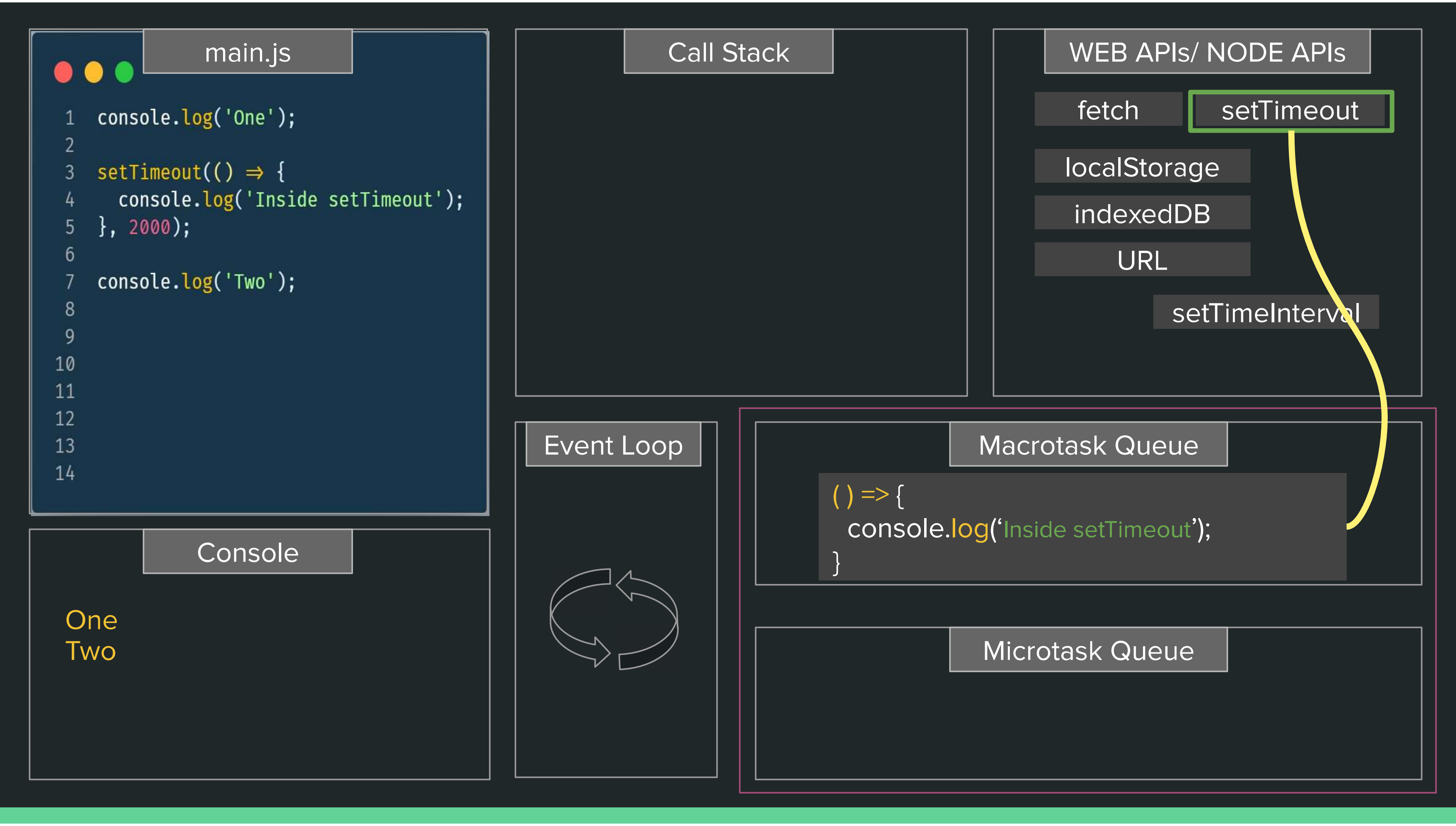
Event Loop

Macrotask Queue

Microtask Queue

Console

One
Two



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Call Stack

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fetch

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localStorage

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URL

setTimeInterval

Console

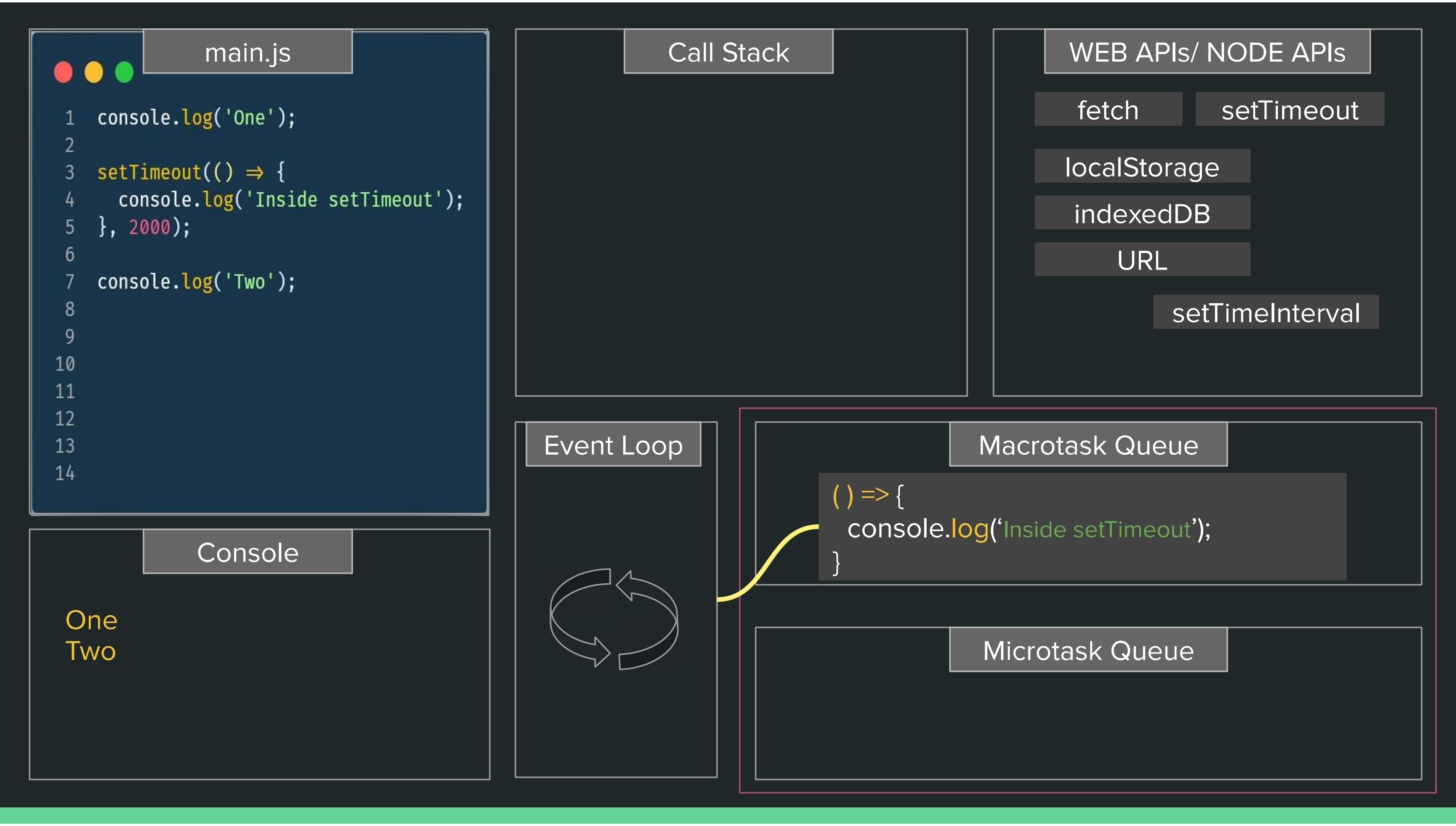
```
One
Two
```

Event Loop

Macrotask Queue

```
( ) => {
  console.log(‘Inside setTimeout’);
}
```

Microtask Queue



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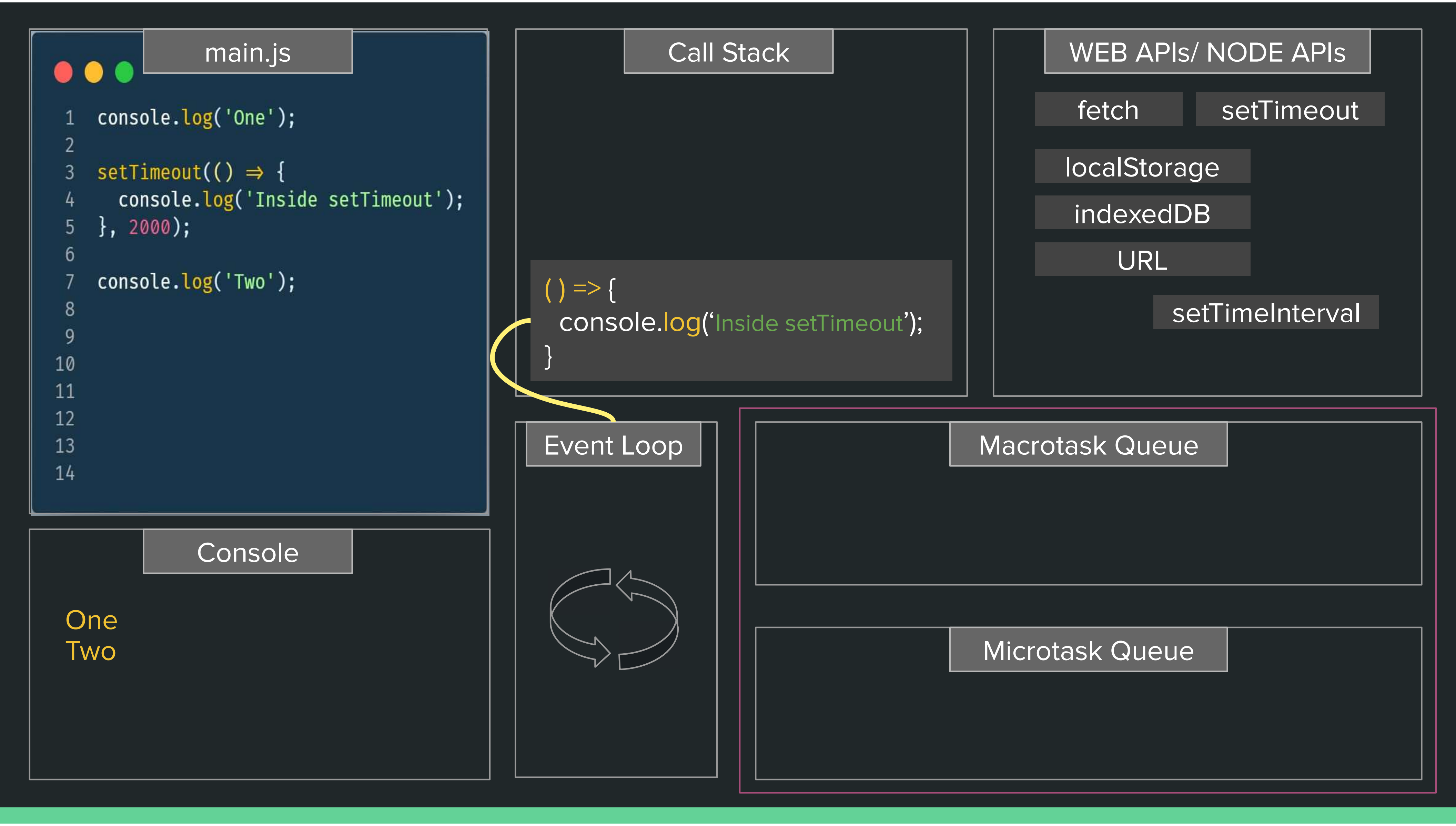
Microtask Queue



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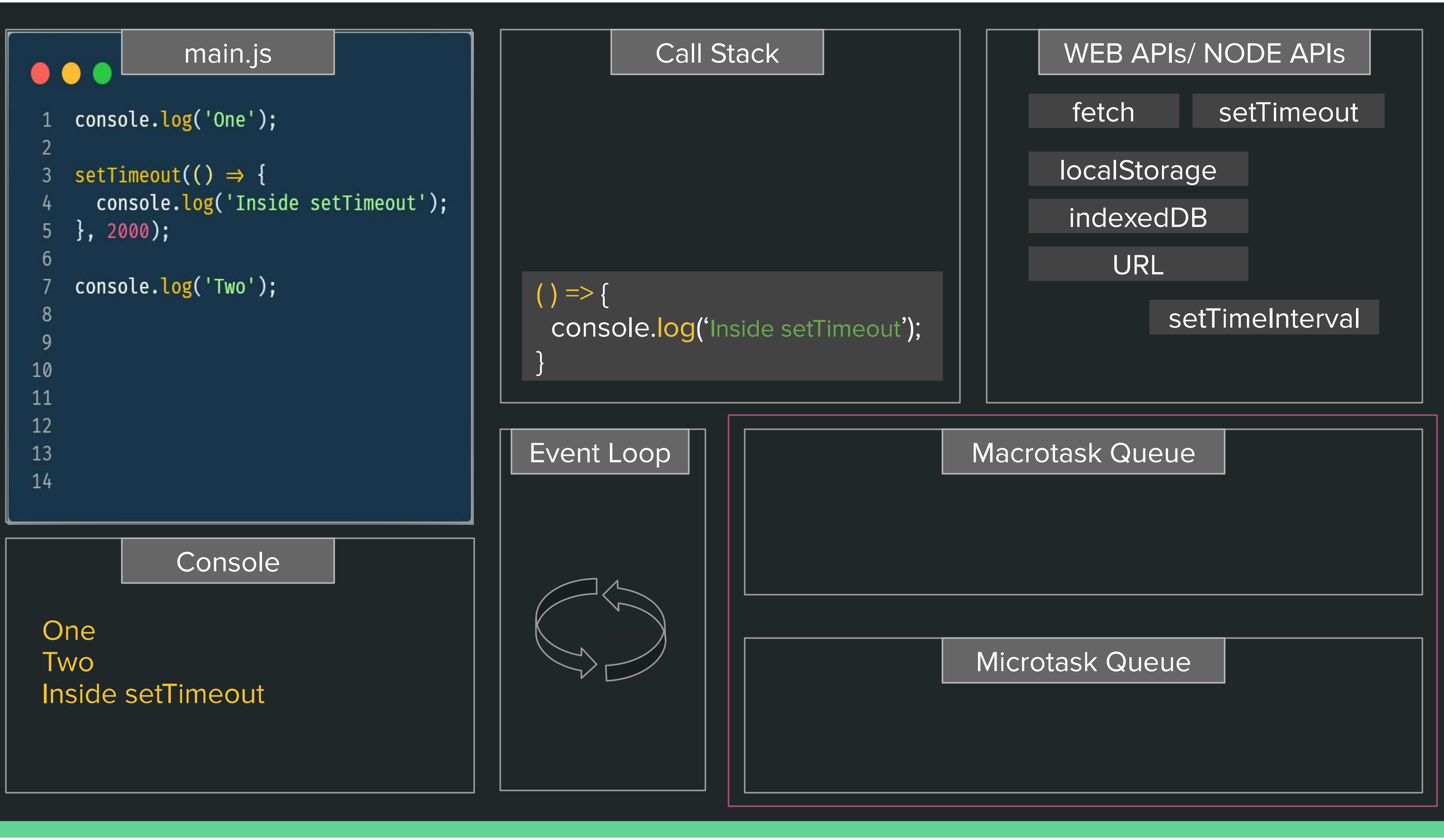

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One
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Inside setTimeout
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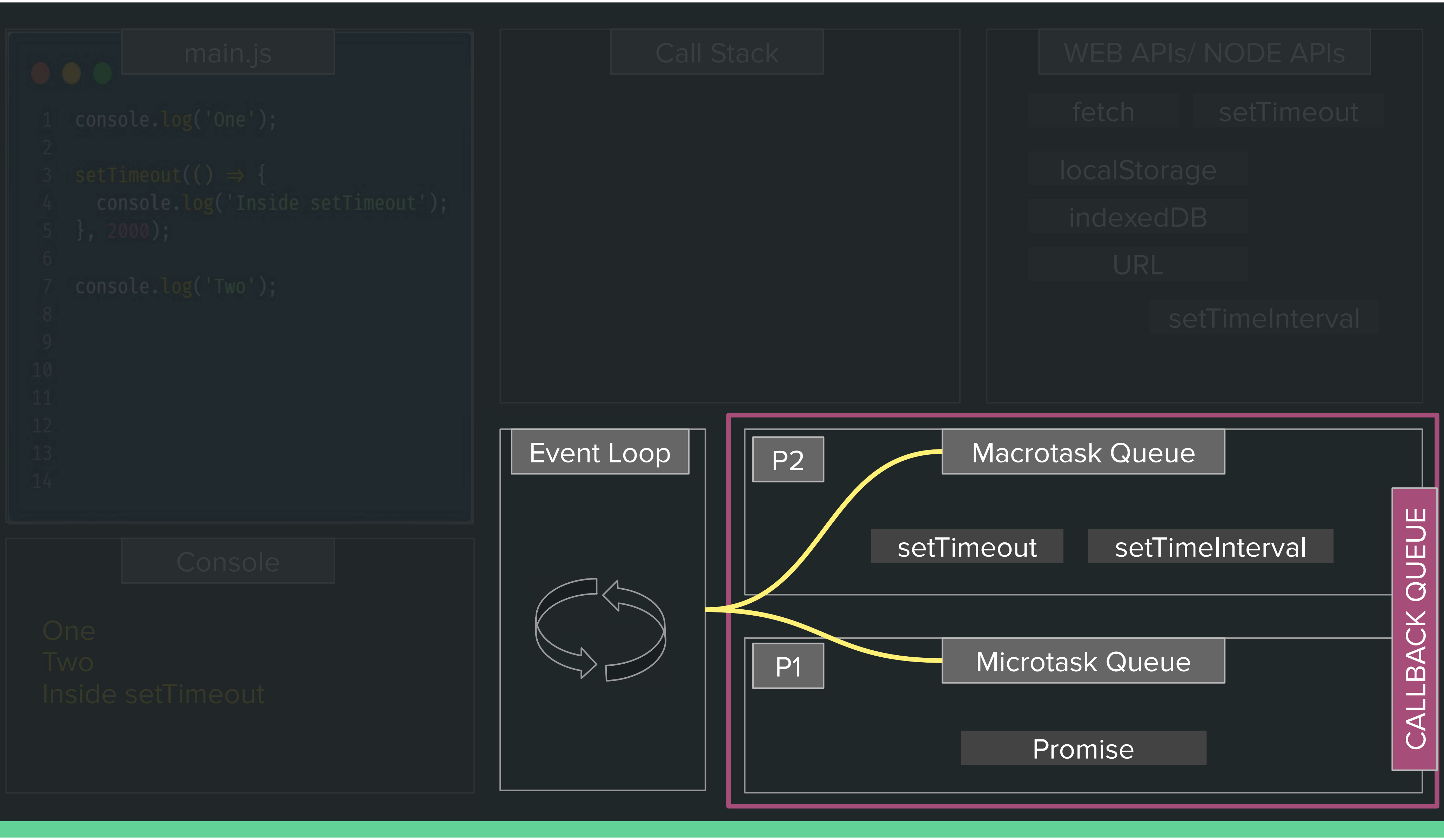

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Thank You!