WHAT IS A JAVASCRIPT ENGINE?
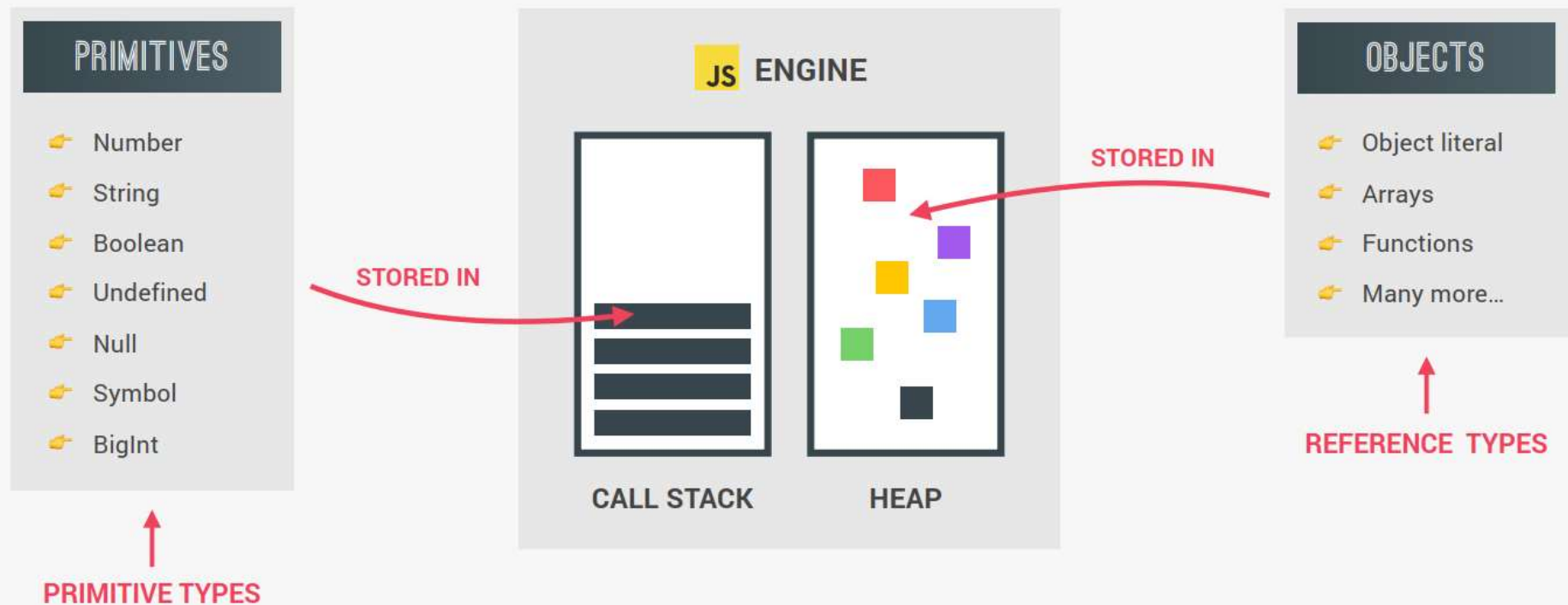
JS ENGINE

PROGRAM THAT **EXECUTES** JAVASCRIPT CODE.

👉 **Example: V8 Engine**

JS ENGINE

Execution context

Object in memory

CALL STACK

HEAP

How is it compiled?

Where our code is executed

Where objects are stored
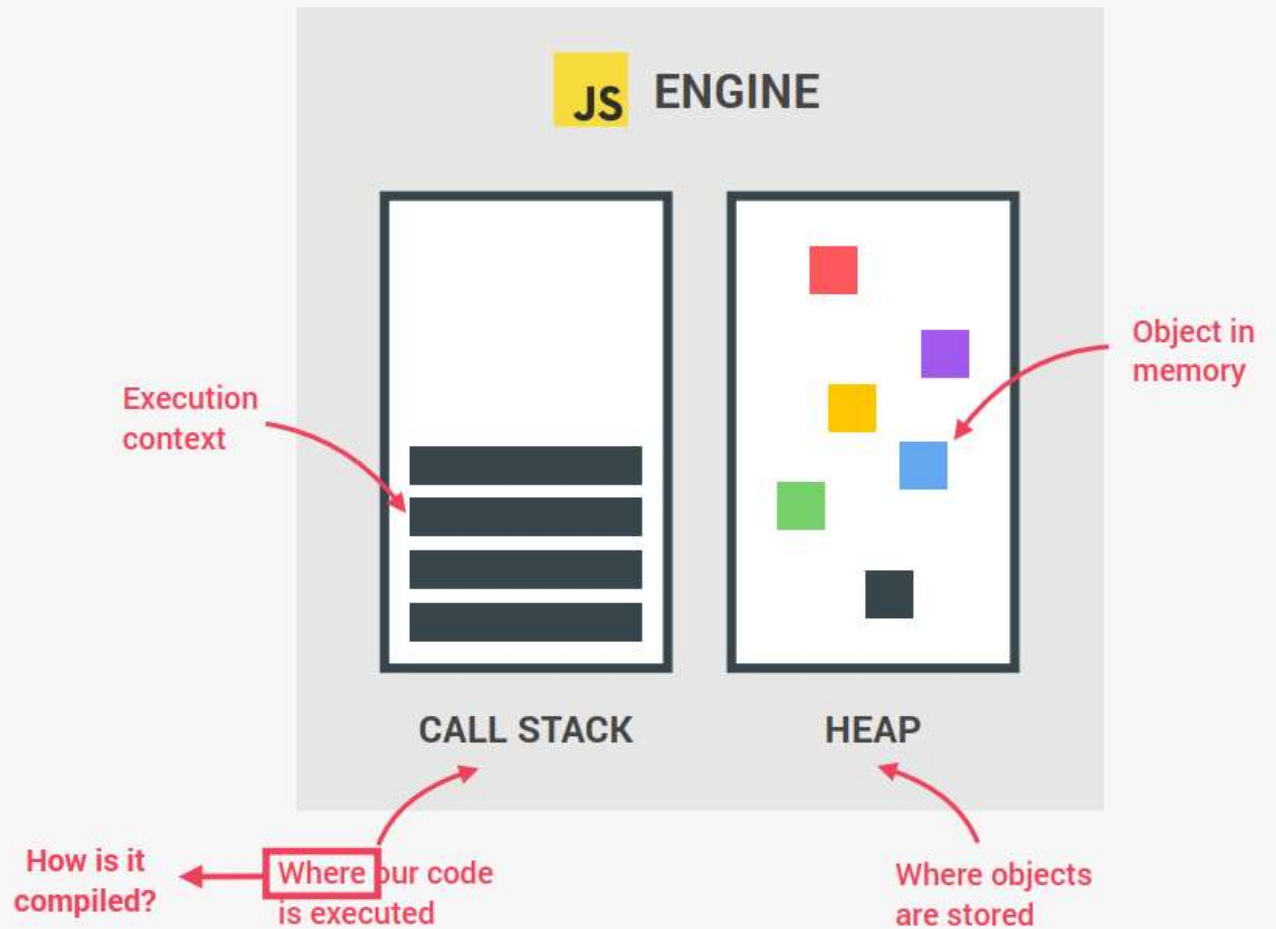
PRIMITIVES, OBJECTS AND THE JAVASCRIPT ENGINE

PRIMITIVES

👉 Number
👉 String
👉 Boolean
👉 Undefined
👉 Null
👉 Symbol
👉 BigInt

PRIMITIVE TYPES

JS ENGINE

CALL STACK

HEAP

STORED IN

STORED IN

OBJECTS

👉 Object literal
👉 Arrays
👉 Functions
👉 Many more...

REFERENCE TYPES

PRIMITIVE VS. REFERENCE VALUES

👉 **Primitive** values example:

```
let age = 30;
let oldAge = age;
age = 31;
console.log(age); // 31
console.log(oldAge); // 30
```

👉 **Reference** values example:

```
const me = {
  name: 'Jonas'
  age: 30
};
const friend = me;
friend.age = 27;

console.log('Friend:', friend);
// { name: 'Jonas', age: 27 }

console.log('Me:', me);
// { name: 'Jonas', age: 27 }
```

No problem, because we're NOT changing the *value* at address 0003!

Identifier	Address	Value
age	0001	30 31
oldAge	0002	31
me	0003	D30F
friend		

Address	Value
D30F	{ name: 'Jonas'; age: 30; }

Reference to memory address in Heap

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CALL STACK

HEAP