

JavaScript Objects - Complete Guide

What is an Object?

An object is a collection of key-value pairs:

```
const person = { name: "Sharan", age: 25, isStudent: true };
```

Creating Objects

1. Object Literal: `const obj = { key: "value" };`
2. `new Object()`: `const obj = new Object(); obj.name = "GS Stores";`
3. `Object.create()`: `const newObj = Object.create(base);`
4. Constructor Function:

```
function Person(name, age) { this.name = name; this.age = age; }
```
5. Class Syntax:

```
class Car { constructor(name) { this.name = name; } }
```

Accessing Properties

Dot Notation: `obj.name`

Bracket Notation: `obj["name"]`

Modifying Objects

Add/Update: `obj.city = "Bangalore";`

Delete: `delete obj.age;`

Looping Through Objects

for...in

Object.keys(obj).forEach()

Object.entries(obj).forEach()

Built-in Methods

Object.keys(obj)

Object.values(obj)

Object.entries(obj)

Object.assign(target, source)

Object.freeze(obj)

Object.seal(obj)

obj.hasOwnProperty('key')

Object.create(proto)

Checking Properties

"in" operator: "name" in obj

hasOwnProperty: obj.hasOwnProperty("name")

Destructuring and Spread

const { name, age } = obj;

const copy = { ...obj };

const { name, ...rest } = obj;

Object Comparison

By reference, not value: `{x:1} !== {x:1}`

Methods Inside Objects

```
const user = { name: "Sharan", greet() { console.log(this.name); } };
```

JSON

`JSON.stringify(obj)`

`JSON.parse(jsonStr)`

freeze vs seal

freeze: cannot modify, add, delete

seal: can modify, cannot add/delete

Deep Clone

`JSON.parse(JSON.stringify(obj))`

`structuredClone(obj)` - modern JS

Summary

```
const keys = Object.keys(obj);
```

```
const values = Object.values(obj);
```

```
const entries = Object.entries(obj);
```