

JavaScript Class Session: Nested Objects & Looping Through Objects

Level: Beginner / Intermediate

Duration: 45 minutes

Goal: Understand how nested objects work and how to loop through them using `for...in`, `Object.keys()`, and `Object.entries()`.

? Part 1: What Are Nested Objects?

A nested object is an object that contains another object as a value of one of its keys.

Example:

```
const student = {  
  name: "Dielli",  
  age: 18,  
  grades: {  
    math: 9,  
    english: 8,  
    science: 10  
  }  
};
```

You can access nested values using dot notation:

```
console.log(student.grades.math); // 9
```

? Part 2: Looping Through Objects

`for...in` Loop

```
for (let subject in student.grades) {  
  console.log(subject);      // math, english, science  
  console.log(student.grades[subject]); // 9, 8, 10  
}
```

`Object.keys()`

```
Object.keys(student.grades).forEach(subject => {
```

```
    console.log(subject + ": " + student.grades[subject]);
  });
Object.entries()
for (let [subject, grade] of Object.entries(student.grades)) {
  console.log(`${subject}: ${grade}`);
}
```

??? Example with Nested Object Array

```
const students = [
  {
    name: "Sara",
    grades: { math: 9, english: 7, science: 8 }
  },
  {
    name: "Rinor",
    grades: { math: 10, english: 9, science: 9 }
  }
];
```

```
students.forEach(student => {
  console.log("Student:", student.name);
  for (let subject in student.grades) {
    console.log(` ${subject}: ${student.grades[subject]}`);
  }
});
```

?? Task for Students

Task: Create an object person with name, age, and a nested object address that includes street, city, and country.

Loop through the address using a method of your choice and log each key and value.

Expected output:

street: Rruga B

city: Prishtina

country: Kosovo