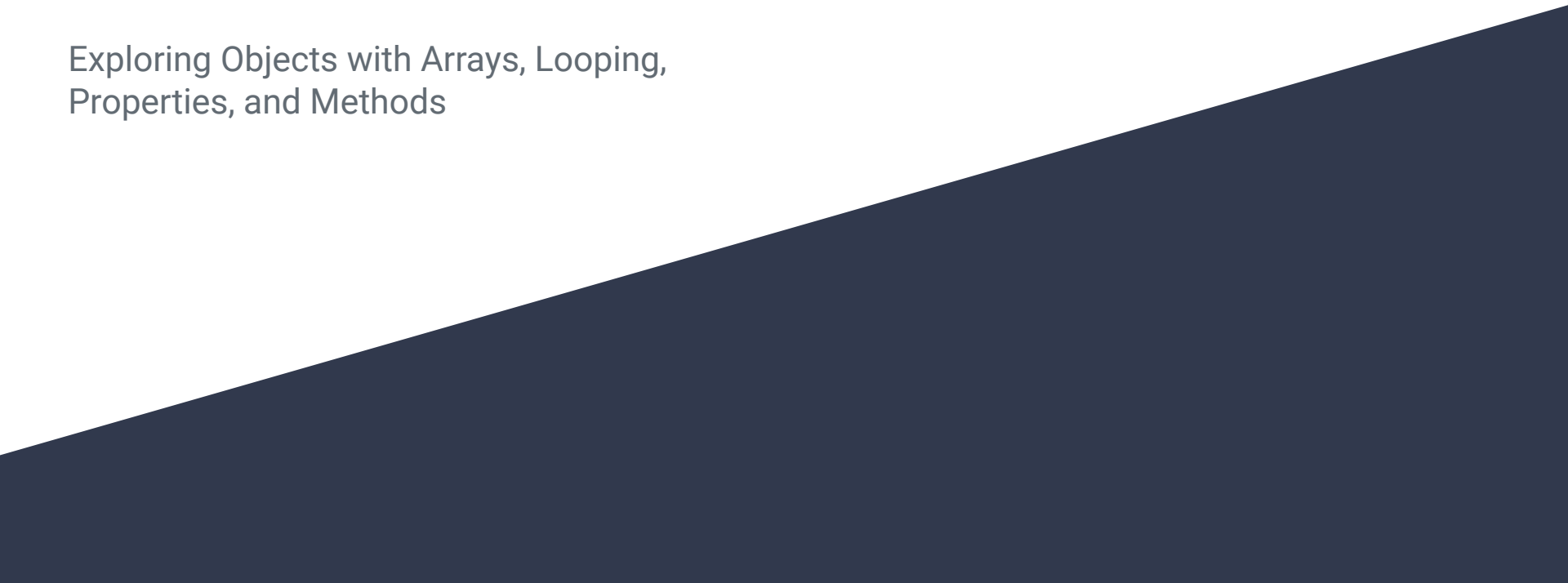


Objects in JavaScript

Exploring Objects with Arrays, Looping,
Properties, and Methods

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Introduction to Objects

Definition: Objects are collections of properties, where each property is a key-value pair.

Syntax :

```
let objectName = {  
  key1: value1,  
  key2: value2  
};
```

Objects with Arrays

Objects in Arrays: Arrays can contain objects as elements.

Syntax :

```
let arrayName = [  
  {key1: value1, key2: value2},  
  {key1: value1, key2: value2}  
];
```

Looping Through Arrays of Objects

Using **for** loop:

```
for (let i = 0; i < students.length; i++) {  
  console.log(students[i].name + " is " + students[i].age + " years old.");  
}  
  
// Output: John is 20 years old, Jane is 22 years old, Jim is 21 years old.
```

Using **forEach** loop:

```
students.forEach(function(student) {  
  console.log(student.name + " is " + student.age + " years old.");  
});  
  
// Output: John is 20 years old, Jane is 22 years old, Jim is 21 years old.
```

Accessing Objects with Loops and Conditions

Condition within Loop:

```
students.forEach(function(student) {  
  if (student.age > 21) {  
    console.log(student.name + " is older than 21.");  
  }  
});  
  
// Output: Jane is older than 21.
```

Making Quotes with Objects

Creating Quote Objects :

```
let quotes = [  
  {text: "The only limit to our realization of tomorrow is our doubts of today.", author: "Albert Einstein"},  
  {text: "The future belongs to those who believe in the beauty of their dreams.", author: "Franklin D. Roosevelt"},  
];
```

Displaying Quotes :

```
quotes.forEach(function(quote) {  
  console.log(`${quote.text}` - `${quote.author}`);  
});
```

Object Properties

Definition: Properties are key-value pairs associated with an object.

Syntax :

```
objectName.propertyName
```

Example :

```
let person = {name: "Alice", age: 25};  
console.log(person.name); // Output: Alice
```

Object Methods

Definition: Methods are functions that are properties of an object.

Syntax :

```
objectName.methodName();
```

Example :

```
let calculator = {  
  add: function(a, b) {  
    return a + b;  
  }  
};  
console.log(calculator.add(5, 10));
```


Combining Objects and Methods

```
let book = {  
  title: "JavaScript Essentials",  
  author: "John Doe",  
  pages: 350,  
  describe: function() {  
    return `${this.title} by ${this.author} has ${this.pages} pages.`;  
  }  
};  
  
console.log(book.describe());  
  
// Output: JavaScript Essentials by John Doe has 350 pages.
```

Summary

Key Points:

- Objects can store complex data with properties and methods.
- Arrays can hold multiple objects.
- Looping and conditions can access and manipulate objects within arrays.