

Internship Report

Organization: ProSensia

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Day: Week 5 - Day 5

Topic: ES6+ Concepts – Destructuring, Spread/Rest, Template Literals

Topics Covered

1. Destructuring

- Destructuring allows unpacking values from arrays or properties from objects into distinct variables.
- **Array Destructuring Example:**

js

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```
const [a, b] = [10, 20];
```

```
console.log(a); // 10
```

- **Object Destructuring Example:**

js

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```
const user = { name: "Hamza", age: 22 };
```

```
const { name, age } = user;
```

```
console.log(name); // "Hamza"
```

2. Spread Operator (...)

- Spread expands elements of an array or object.
- **Array Example:**

js

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```
const arr1 = [1, 2];
```

```
const arr2 = [...arr1, 3, 4]; // [1, 2, 3, 4]
```

- **Object Example:**

js

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```
const obj1 = { a: 1 };
```

```
const obj2 = { ...obj1, b: 2 }; // { a: 1, b: 2 }
```

3. Rest Operator (...)

- Rest collects remaining elements into an array or object.
- Used in function parameters or destructuring.

js

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```
function sum(...nums) {  
  return nums.reduce((a, b) => a + b);  
}
```

```
sum(1, 2, 3); // 6
```

4. Template Literals

- Allows multi-line strings and embedding expressions using backticks ``.
- **Example:**

js

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```
const name = "Hamza";
```

```
console.log(`Hello, my name is ${name}`);
```



General Observations

- Improved understanding of cleaner and shorter syntax.
- ES6+ makes code more readable and manageable.

- Especially useful in handling props, state, and API data in frontend frameworks like React.
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Common Questions

- What's the difference between spread and rest if both use ...?
 - **Answer:** Spread expands values, rest collects them.
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Issues Resolved

- Initially confused between object and array destructuring — now cleared.
 - Practiced nested destructuring with real data objects.
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Suggestions for Improvement

- Keep practicing these features with real-world data or dummy APIs.
- Try using destructuring and template literals in DOM projects.
- Explore how rest parameters work in arrow functions.