



ES6 & Beyond

ES6, or ECMAScript 2015, is a major update to JavaScript. It modernizes syntax for clearer, more maintainable coding.

Features of ES6:

- Arrow functions
- Template literals
- Destructuring assignments
- Classes
- Spread/rest operators
- Promises
- Default parameters
- Modules
- Async/await







Arrow Functions

Arrow functions provide a concise way to write functions in JavaScript.

```
1  // ES5
2  var multiply = function(x, y) {
3    return x * y;
4  };
6  // ES6
7  const multiply = (x, y) ⇒ x * y;
```





Template Literals

Template literals allow embedding expressions in strings using backticks.

```
1 // ES5
2 var greeting = "Hello, " + name + "!";
3
4 // ES6
5 const greeting = `Hello, ${name}!`;
6
```





Spread/Rest Operators

Spread operator (...) allows expanding elements in arrays, while rest operator (...) gathers elements into arrays.

```
1  // Spread operator
2  const numbers = [1, 2, 3];
3  const newNumbers = [...numbers, 4, 5];
4  // [1, 2, 3, 4, 5]
5  // Rest operator
7  const sum = (...args) ⇒
8  args.reduce((acc, val) ⇒ acc + val, 0);
9  sum(1, 2, 3); // 6
```





JS Promises

Promises provide a cleaner alternative to callbacks for handling asynchronous operations.

```
1 // Promise example
2 function fetchData() {
3   return new Promise((resolve, reject) ⇒ {
4     setTimeout(() ⇒ resolve("Data fetched"), 1000);
5   });
6 }
7
8 fetchData().then(data ⇒ console.log(data));
9 // "Data fetched"
```

