

Array Methods

In React.js you hardly ever use for loops. It is often possible to use them, but it makes the code almost unreadable. That is why knowing array methods is one of the most important things you need to know before you can start with React.js.

Map

- Creates a new array
 - Elements are the result of the callback function on each element of the array
 - Most used function in React.js, so make sure you know this one by heart
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With a for loop

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍍"];
let newFruits: string[] = [];
for (let fruit of fruits) {
  newFruits.push(fruit + fruit);
}
```

With the map function

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍍"];
let newArray: string[] = fruits.map(fruit => `${fruit}${fruit}`);
```

Filter

- Creates a new array
 - Callback function is used to filter out elements
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With a for loop

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍎"];
let newFruits: string[] = [];
for (let fruit of fruits) {
  if (fruit !== "🍇") {
    newFruits.push(fruit);
  }
}
```

With the filter function

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍎"];
let newFruits: string[] = fruits.filter(fruit => fruit !== "🍇");
```

Reduce

- Creates a single value
 - Callback function is used to reduce the array to a single value
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With a for loop

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍎"];
let newFruits: string = "";
for (let fruit of fruits) {
  newFruits += fruit;
}
```

With the reduce function

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍎"];
let newFruits: string = fruits.reduce((acc, fruit) => acc + fruit);
```

Find

- Returns the first element that matches the callback function

- Returns undefined if no element is found

With a for loop

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍎"];
let newFruits: string | undefined;
for (let fruit of fruits) {
  if (fruit === "🍇") {
    newFruits = fruit;
    break;
  }
}
```

With the find function

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍎"];
let newFruits: string | undefined = fruits.find(fruit => fruit === "🍇");
```

FindIndex

- Returns the index of the first element that matches the callback function
- Returns -1 if no element is found

FindIndex

```
let fruits: string[] = ["🍏", "🍇", "🍓", "🍌", "🍎"];
let newFruits: number = fruits.findIndex(fruit => fruit === "🍇"); // 1
```
