

# setTimeout with this

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1. Issues
2. Solution: use a wrapper function
3. Solution: use bind()

## 1. Issues

- Không thể bind this cho setTimeout.
- this trong callback function của setTimeout default là global object (window)

```
const student = {
  name: 'Long Do',
  sayHello() {
    console.log('NAME', this.name);
    console.log('THIS', this);
  },
}
student.sayHello(); // 'Long Do'
setTimeout(student.sayHello);
// this is window, not student
setTimeout.call(student, student.sayHello);
// Uncaught TypeError: Illegal invocation
```

## 2. Solution: use a wrapper function

```
const student = {
  name: 'Long Do',
  sayHello() {
    console.log('NAME', this.name);
    console.log('THIS', this);
  },
}
setTimeout(() => {
  student.sayHello(); // this is student --> 'Long Do'
});
```

## 3. Solution: use bind()

```
const student = {
  name: 'Long Do',
  sayHello() {
    console.log('NAME', this.name);
    console.log('THIS', this);
  },
}
```

```
}  
setTimeout(student.sayHello.bind(student)); // 'Long Do'
```

## Thêm ví dụ

```
const student = {  
  name: "Long Do",  
  normal() {  
    console.log("NAME", this.name);  
    console.log("THIS", this);  
  },  
  
  arrow: () => {  
    console.log("NAME", this.name);  
    console.log("THIS", this);  
  },  
  
  timeoutNormal() {  
    console.log("OUTER THIS", this);  
    setTimeout(function () {  
      console.log("NAME", this.name);  
      console.log("THIS", this);  
    });  
  },  
  
  timeoutArrow() {  
    console.log("OUTER THIS", this);  
    setTimeout(() => {  
      console.log("NAME", this.name);  
      console.log("THIS", this);  
    });  
  },  
};
```