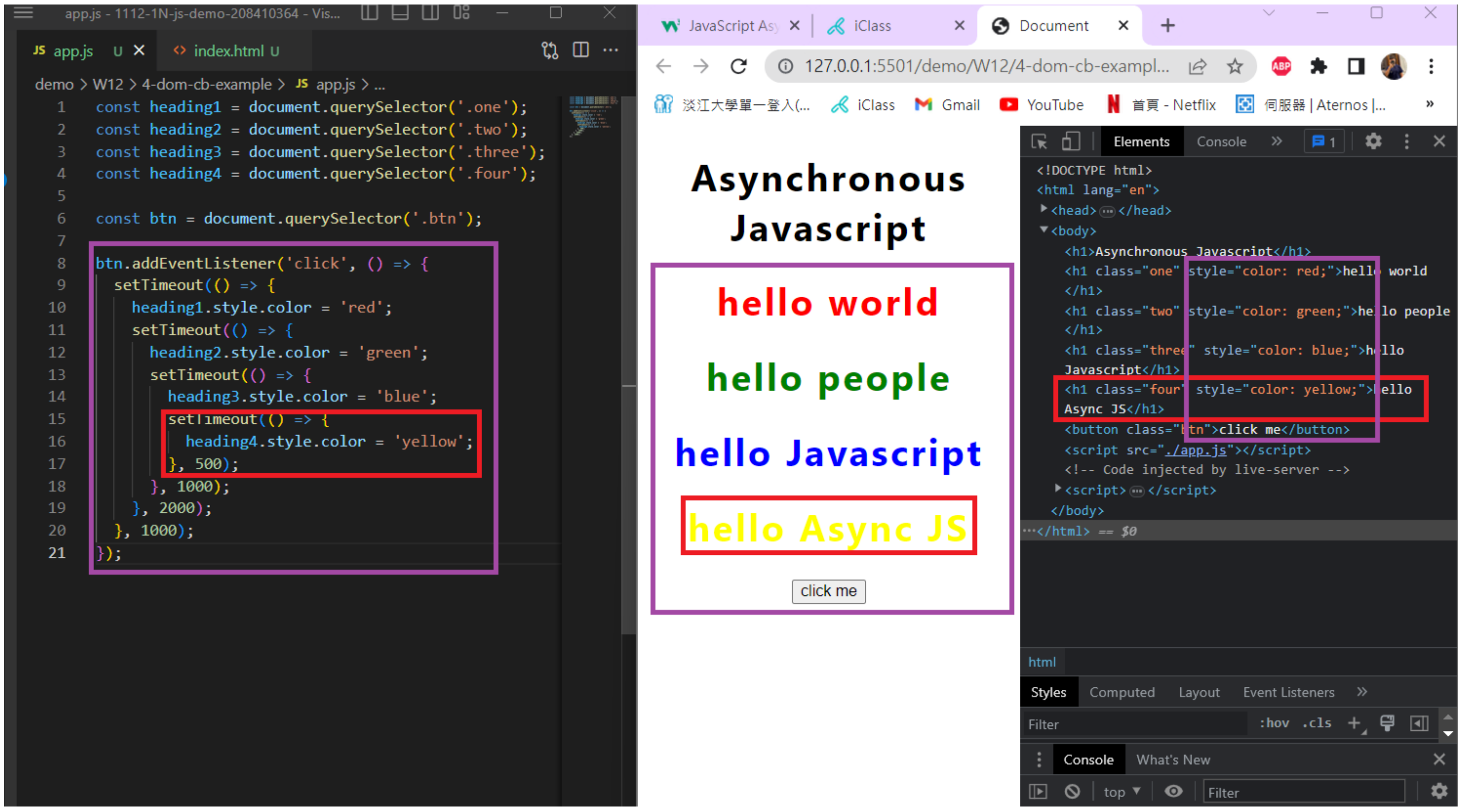
git log --pretty=format:"%h%x09%an%x09%ad%x09%s" --after="2023-5-03"

W12-P1: call back hell DOM demo



demo > W12 > 4-dom-cb-example > app.js > ...

```
const heading1 = document.querySelector('.one');
const heading2 = document.querySelector('.two');
const heading3 = document.querySelector('.three');
const heading4 = document.querySelector('.four');

const btn = document.querySelector('.btn');

btn.addEventListener('click', () => {
  setTimeout(() => {
    heading1.style.color = 'red';
    setTimeout(() => {
      heading2.style.color = 'green';
      setTimeout(() => {
        heading3.style.color = 'blue';
        setTimeout(() => {
          heading4.style.color = 'yellow';
        }, 500);
      }, 1000);
    }, 2000);
  }, 1000);
});
```

127.0.0.1:5501/demo/W12/4-dom-cb-exampl...

Asynchronous Javascript

hello world

hello people

hello Javascript

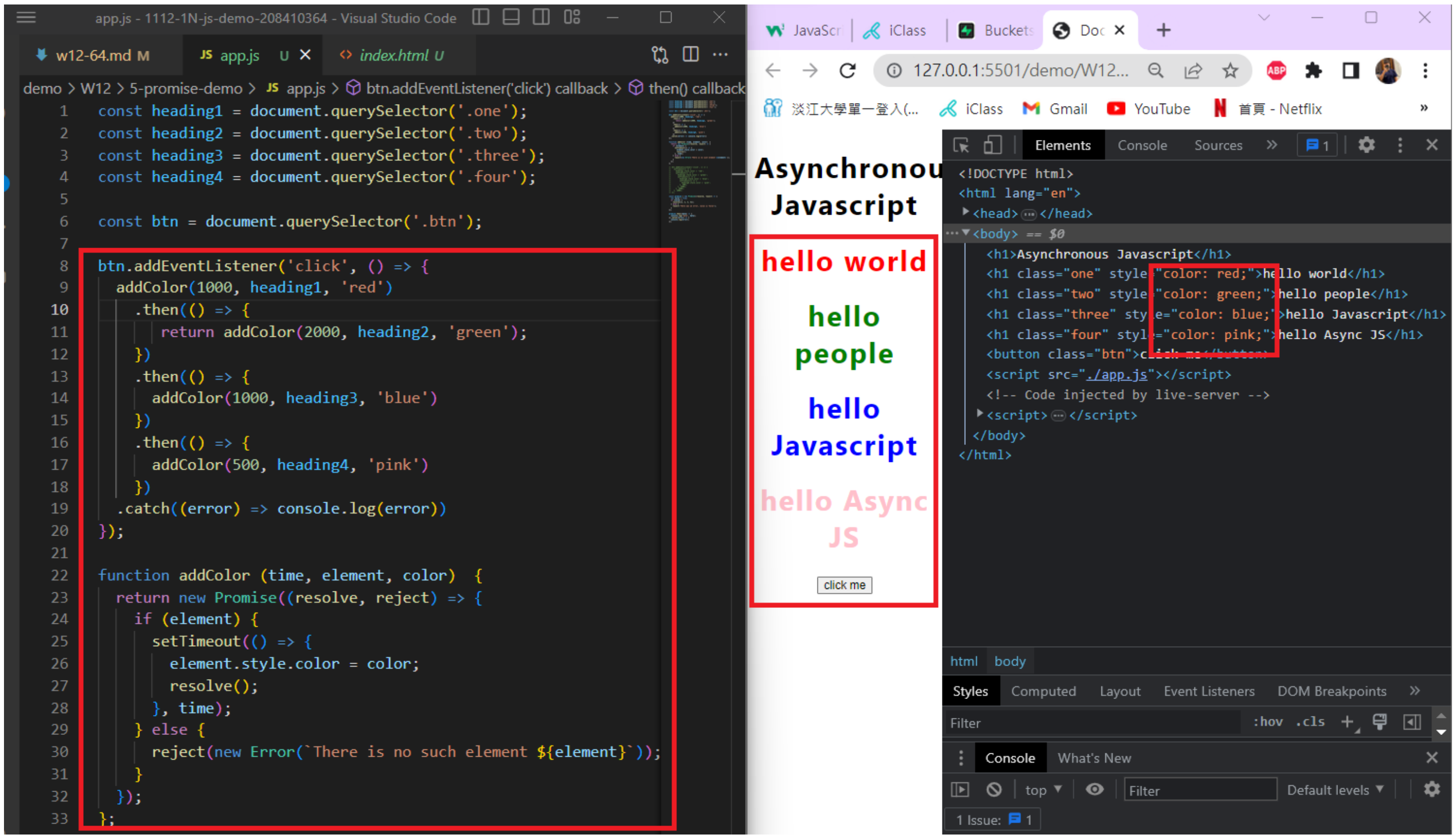
hello Async JS

click me

```
<!DOCTYPE html>
<html lang="en">
 <head> ··· </head>
 <body>
   <h1>Asynchronous Javascript</h1>
   <h1 class="one" style="color: red;">hello world
   </h1>
   <h1 class="two" style="color: green;">hello people
   </h1>
   <h1 class="three" style="color: blue;">hello
   Javascript</h1>
   <h1 class="four" style="color: yellow;">hello
   Async JS</h1>
   <button class="btn">click me</button>
   <script src="./app.js"></script>
   <!-- Code injected by live-server -->
  <script> ··· </script>
 </body>
</html> == $0
```

```
frankielan168    Thu May 4 19:27:56 2023 +0800    W12-P1: call back hell DOM demo
```

W12-P2: use promise to solve the cb hell problem



app.js - 1112-1N-js-demo-208410364 - Visual Studio Code

demo > W12 > 5-promise-demo > app.js > btn.addEventListener('click') callback > then() callback

```javascript
const heading1 = document.querySelector('.one');
const heading2 = document.querySelector('.two');
const heading3 = document.querySelector('.three');
const heading4 = document.querySelector('.four');

const btn = document.querySelector('.btn');

btn.addEventListener('click', () => {
  addColor(1000, heading1, 'red')
    .then(() => {
      return addColor(2000, heading2, 'green');
    })
    .then(() => {
      addColor(1000, heading3, 'blue')
    })
    .then(() => {
      addColor(500, heading4, 'pink')
    })
  .catch((error) => console.log(error))
});

function addColor (time, element, color)  {
  return new Promise((resolve, reject) => {
    if (element) {
      setTimeout(() => {
        element.style.color = color;
        resolve();
      }, time);
    } else {
      reject(new Error(`There is no such element ${element}`));
    }
  });
};
```

127.0.0.1:5501/demo/W12...

Asynchronous Javascript

hello world

hello people

hello Javascript

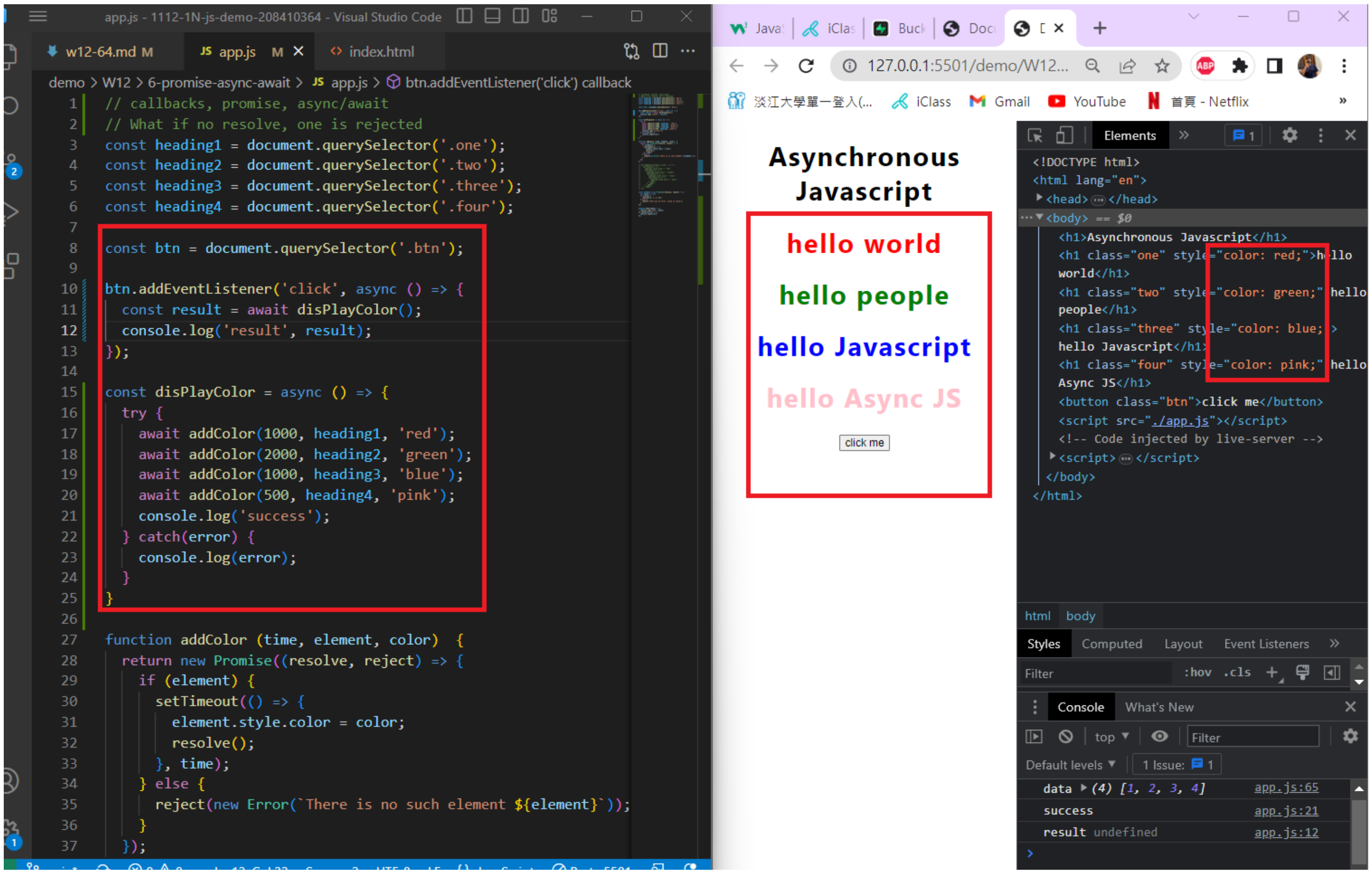
hello Async JS

click me

```html
<!DOCTYPE html>
<html lang="en">
 ▸<head>…</head>
 ▾<body> == $0
    <h1>Asynchronous Javascript</h1>
    <h1 class="one" style="color: red;">hello world</h1>
    <h1 class="two" style="color: green;">hello people</h1>
    <h1 class="three" style="color: blue;">hello Javascript</h1>
    <h1 class="four" style="color: pink;">hello Async JS</h1>
    <button class="btn">click me</button>
    <script src="./app.js"></script>
    <!-- Code injected by live-server -->
   ▸<script>…</script>
  </body>
</html>
```

frankielan168   Thu May 4 20:31:22 2023 +0800   W12-P2: use promise to solve the cb hell problem

W12-P3: use async/await to solve the cb hell problem



app.js - 1112-1N-js-demo-208410364 - Visual Studio Code

demo > W12 > 6-promise-async-await > JS app.js > btn.addEventListener('click') callback

```javascript
// callbacks, promise, async/await
// What if no resolve, one is rejected
const heading1 = document.querySelector('.one');
const heading2 = document.querySelector('.two');
const heading3 = document.querySelector('.three');
const heading4 = document.querySelector('.four');

const btn = document.querySelector('.btn');

btn.addEventListener('click', async () => {
  const result = await disPlayColor();
  console.log('result', result);
});

const disPlayColor = async () => {
  try {
    await addColor(1000, heading1, 'red');
    await addColor(2000, heading2, 'green');
    await addColor(1000, heading3, 'blue');
    await addColor(500, heading4, 'pink');
    console.log('success');
  } catch(error) {
    console.log(error);
  }
}

function addColor (time, element, color)  {
  return new Promise((resolve, reject) => {
    if (element) {
      setTimeout(() => {
        element.style.color = color;
        resolve();
      }, time);
    } else {
      reject(new Error(`There is no such element ${element}`));
    }
  });
```

127.0.0.1:5501/demo/W12...

Asynchronous Javascript

hello world

hello people

hello Javascript

hello Async JS

click me

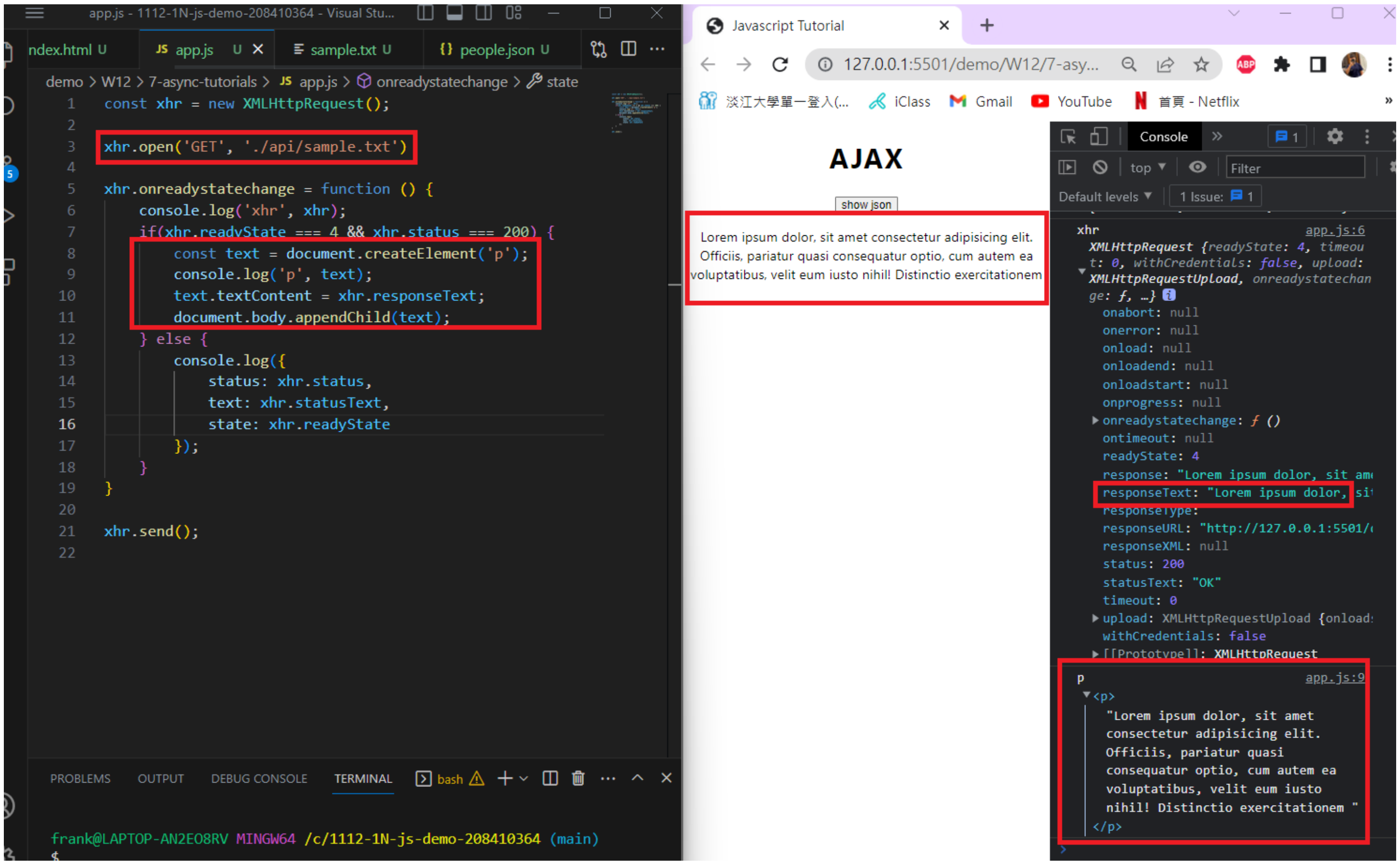
```html
<!DOCTYPE html>
<html lang="en">
 <head> ... </head>
 <body> == $0
   <h1>Asynchronous Javascript</h1>
   <h1 class="one" style="color: red;">hello world</h1>
   <h1 class="two" style="color: green;">hello people</h1>
   <h1 class="three" style="color: blue;">hello Javascript</h1>
   <h1 class="four" style="color: pink;">hello Async JS</h1>
   <button class="btn">click me</button>
   <script src="./app.js"></script>
   <!-- Code injected by live-server -->
   <script> ... </script>
 </body>
</html>
```

```
data ▸ (4) [1, 2, 3, 4]                app.js:65
success                                app.js:21
result undefined                       app.js:12
```

frankielan168   Thu May 4 20:47:13 2023 +0800   W12-P3: use async/await to solve the cb hell problem

W12-P4: xhr, get sample.txt

success reading



app.js - 1112-1N-js-demo-208410364 - Visual Stu...

ndex.html U | app.js U | sample.txt U | people.json U

demo > W12 > 7-async-tutorials > app.js > onreadystatechange > state

```javascript
const xhr = new XMLHttpRequest();

xhr.open('GET', './api/sample.txt')

xhr.onreadystatechange = function () {
    console.log('xhr', xhr);
    if(xhr.readyState === 4 && xhr.status === 200) {
        const text = document.createElement('p');
        console.log('p', text);
        text.textContent = xhr.responseText;
        document.body.appendChild(text);
    } else {
        console.log({
            status: xhr.status,
            text: xhr.statusText,
            state: xhr.readyState
        });
    }
}

xhr.send();
```

```
frank@LAPTOP-AN2EO8RV MINGW64 /c/1112-1N-js-demo-208410364 (main)
$
```

Javascript Tutorial — 127.0.0.1:5501/demo/W12/7-asy...

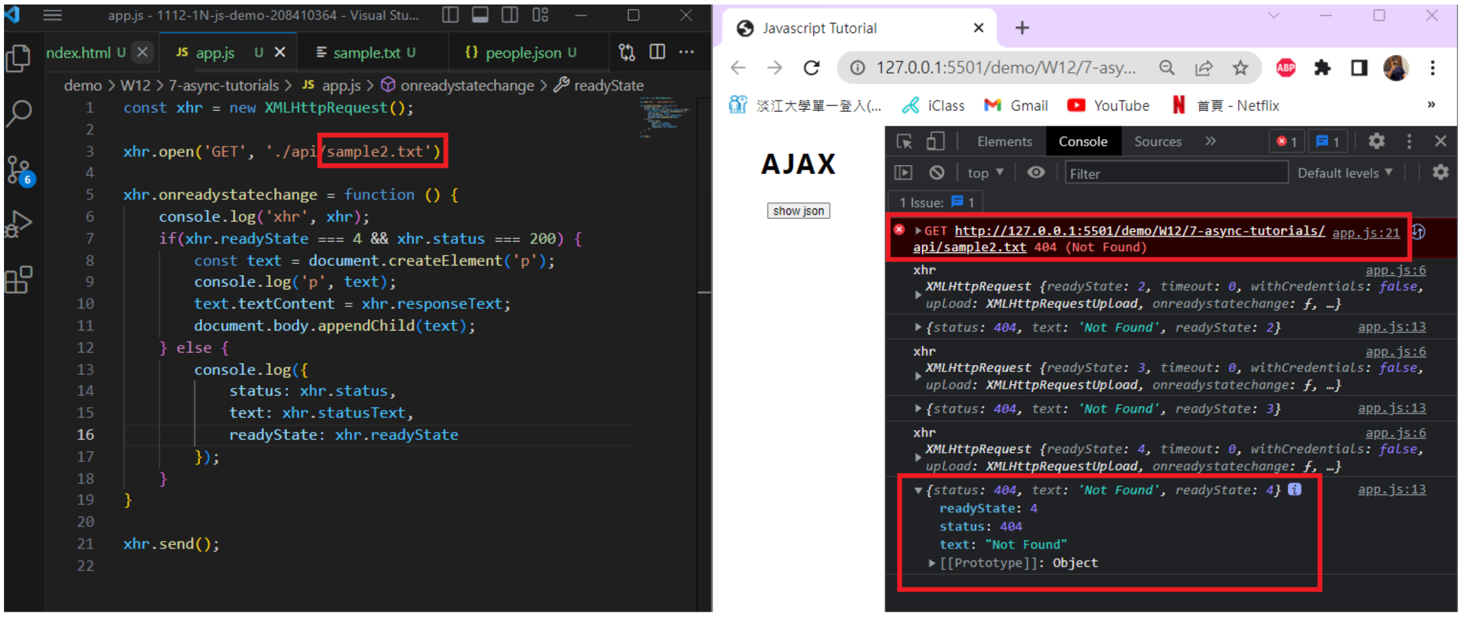
AJAX

show json

Lorem ipsum dolor, sit amet consectetur adipisicing elit. Officiis, pariatur quasi consequatur optio, cum autem ea voluptatibus, velit eum iusto nihil! Distinctio exercitationem

```
xhr                                                   app.js:6
XMLHttpRequest {readyState: 4, timeout: 0, withCredentials: false, upload: XMLHttpRequestUpload, onreadystatechange: f, …}
    onabort: null
    onerror: null
    onload: null
    onloadend: null
    onloadstart: null
    onprogress: null
  ▶ onreadystatechange: f ()
    ontimeout: null
    readyState: 4
    response: "Lorem ipsum dolor, sit am
    responseText: "Lorem ipsum dolor, si
    responseType:
    responseURL: "http://127.0.0.1:5501/
    responseXML: null
    status: 200
    statusText: "OK"
    timeout: 0
  ▶ upload: XMLHttpRequestUpload {onload:
    withCredentials: false
  ▶ [[Prototype]]: XMLHttpRequest
p                                                     app.js:9
▼<p>
   "Lorem ipsum dolor, sit amet
   consectetur adipisicing elit.
   Officiis, pariatur quasi
   consequatur optio, cum autem ea
   voluptatibus, velit eum iusto
   nihil! Distinctio exercitationem "
 </p>
```

fail reading



app.js - 1112-1N-js-demo-208410364 - Visual Stu...

ndex.html U | app.js U | sample.txt U | people.json U

demo > W12 > 7-async-tutorials > app.js > onreadystatechange > readyState

```javascript
const xhr = new XMLHttpRequest();

xhr.open('GET', './api/sample2.txt')

xhr.onreadystatechange = function () {
    console.log('xhr', xhr);
    if(xhr.readyState === 4 && xhr.status === 200) {
        const text = document.createElement('p');
        console.log('p', text);
        text.textContent = xhr.responseText;
        document.body.appendChild(text);
    } else {
        console.log({
            status: xhr.status,
            text: xhr.statusText,
            readyState: xhr.readyState
        });
    }
}

xhr.send();
```

Javascript Tutorial — 127.0.0.1:5501/demo/W12/7-asy...

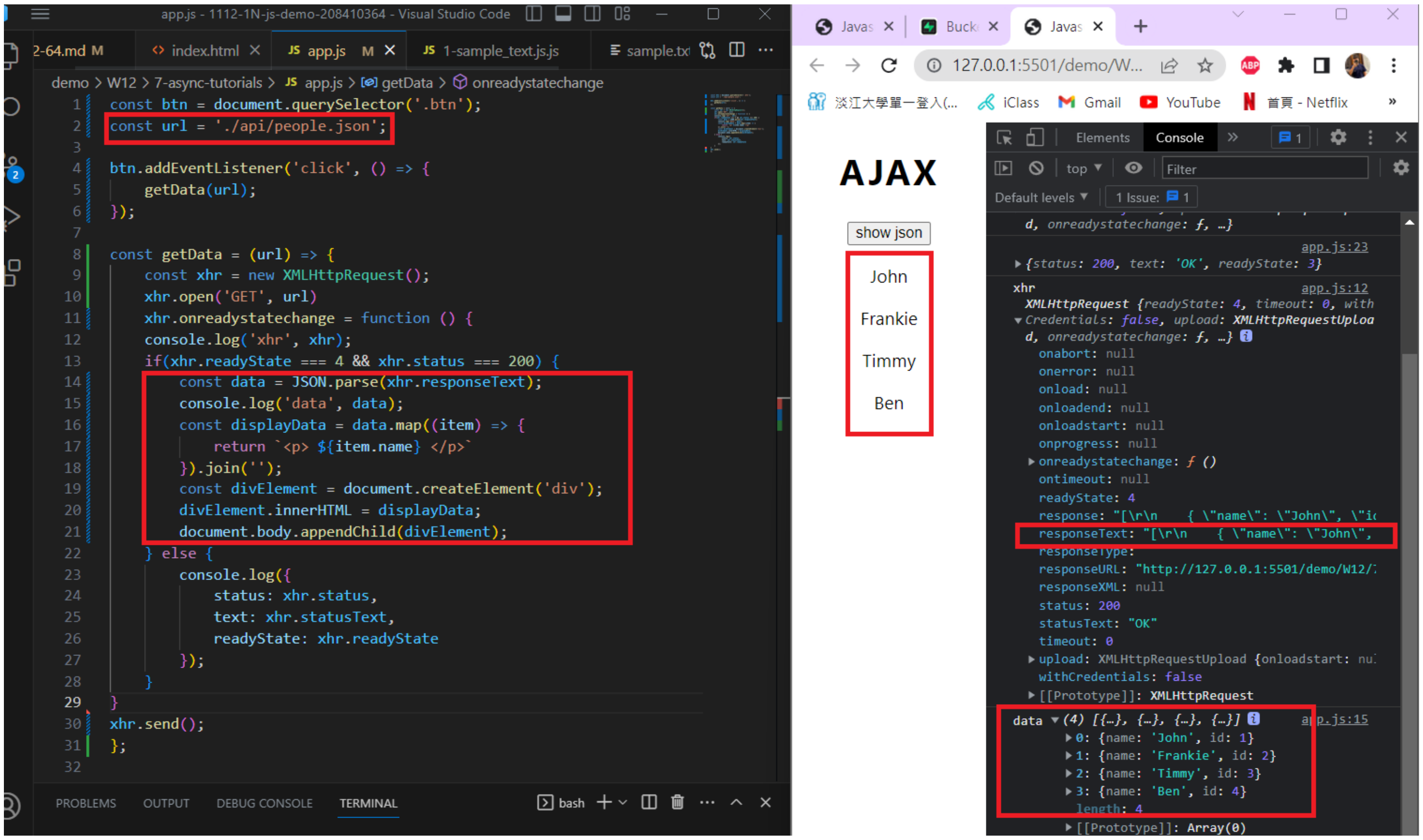
AJAX

show json

```
▶GET http://127.0.0.1:5501/demo/W12/7-async-tutorials/api/sample2.txt 404 (Not Found)   app.js:21
xhr                                                                       app.js:6
▶XMLHttpRequest {readyState: 2, timeout: 0, withCredentials: false, upload: XMLHttpRequestUpload, onreadystatechange: f, …}
▶{status: 404, text: 'Not Found', readyState: 2}                          app.js:13
xhr                                                                       app.js:6
▶XMLHttpRequest {readyState: 3, timeout: 0, withCredentials: false, upload: XMLHttpRequestUpload, onreadystatechange: f, …}
▶{status: 404, text: 'Not Found', readyState: 3}                          app.js:13
xhr                                                                       app.js:6
▶XMLHttpRequest {readyState: 4, timeout: 0, withCredentials: false, upload: XMLHttpRequestUpload, onreadystatechange: f, …}
▼{status: 404, text: 'Not Found', readyState: 4}                          app.js:13
    readyState: 4
    status: 404
    text: "Not Found"
  ▶ [[Prototype]]: Object
```

```
frankielan168   Fri May 5 14:04:55 2023 +0800   W12-P4: xhr, get sample.txt
```

W12-P5: xhr, get people.json, and show names in browser



```
const btn = document.querySelector('.btn');
const url = './api/people.json';

btn.addEventListener('click', () => {
    getData(url);
});

const getData = (url) => {
    const xhr = new XMLHttpRequest();
    xhr.open('GET', url)
    xhr.onreadystatechange = function () {
    console.log('xhr', xhr);
    if(xhr.readyState === 4 && xhr.status === 200) {
        const data = JSON.parse(xhr.responseText);
        console.log('data', data);
        const displayData = data.map((item) => {
            return `<p> ${item.name} </p>`
        }).join('');
        const divElement = document.createElement('div');
        divElement.innerHTML = displayData;
        document.body.appendChild(divElement);
    } else {
        console.log({
            status: xhr.status,
            text: xhr.statusText,
            readyState: xhr.readyState
        });
    }
}
xhr.send();
};
```

```
AJAX
show json
John
Frankie
Timmy
Ben
```

```
  d, onreadystatechange: ƒ, …}
                                                   app.js:23
▸{status: 200, text: 'OK', readyState: 3}
xhr                                                app.js:12
  XMLHttpRequest {readyState: 4, timeout: 0, with
▾Credentials: false, upload: XMLHttpRequestUploa
  d, onreadystatechange: ƒ, …}
    onabort: null
    onerror: null
    onload: null
    onloadend: null
    onloadstart: null
    onprogress: null
   ▸onreadystatechange: ƒ ()
    ontimeout: null
    readyState: 4
    response: "[\r\n    { \"name\": \"John\", \"i
    responseText: "[\r\n    { \"name\": \"John\",
    responseType: 
    responseURL: "http://127.0.0.1:5501/demo/W12/
    responseXML: null
    status: 200
    statusText: "OK"
    timeout: 0
   ▸upload: XMLHttpRequestUpload {onloadstart: nu
    withCredentials: false
   ▸[[Prototype]]: XMLHttpRequest
data ▾(4) [{…}, {…}, {…}, {…}]                     app.js:15
      ▸0: {name: 'John', id: 1}
      ▸1: {name: 'Frankie', id: 2}
      ▸2: {name: 'Timmy', id: 3}
      ▸3: {name: 'Ben', id: 4}
       length: 4
      ▸[[Prototype]]: Array(0)
```

```
frankielan168   Fri May 5 14:27:49 2023 +0800   W12-P5: xhr, get people.json, and show names in browser
```

W12-logs

```
2819018c     frankielan168   Fri May 5 14:27:49 2023 +0800   W12-P5: xhr, get people.json, and show names in 
2819018c     frankielan168   Fri May 5 14:27:49 2023 +0800   W12-P5: xhr, get people.json, and show names in 
e31ce182     frankielan168   Fri May 5 14:04:55 2023 +0800   W12-P4: xhr, get sample.txt
ba51c34c     frankielan168   Thu May 4 20:47:13 2023 +0800   W12-P3: use async/await to solve the cb hell prob
1f15ecb2     frankielan168   Thu May 4 20:31:22 2023 +0800   W12-P2: use promise to solve the cb hell problem
a543ba46     frankielan168   Thu May 4 19:27:56 2023 +0800   W12-P1: call back hell DOM demo
```