

# AXIOS

Course Code: CSC 4182    Course Title: Advanced Programming In Web Technologies



## Dept. of Computer Science Faculty of Science and Technology

<b>Lecture No:</b>	<b>1</b>	<b>Week No:</b>	<b>12</b>	<b>Semester:</b>	
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# Lecture Outline



- ✓ What is AXIOS
- ✓ Installation
- ✓ Axios Example
- ✓ Creating Environment Variable
- ✓ Extract AXIOS Response

# What is AXIOS



**Axios** is a promise-based **HTTP Client** for **node.js** and the browser. It is **isomorphic** (it can run in the browser and nodejs). On the server-side it uses the native node.js http module, while on the client (browser) it uses XMLHttpRequests.

## Features

- Make XMLHttpRequests from the browser
- Make http requests from node.js
- Supports the Promise API
- Automatic request body serialization to:
  - JSON (application/json)
  - Multipart / FormData (multipart/form-data)
  - URL encoded form (application/x-www-form-urlencoded)
- Posting HTML forms as JSON
- Progress capturing for browsers and node.js with extra info (speed rate, remaining time)
- Setting bandwidth limits for node.js

# Installation



Use following command inside the frontend project

```
npm install axios
```

Then include Axios in the file where you want to use it

```
import axios from 'axios';
```

# Axios Example



Axios Get Example with parameter in route

```
async function getUser() {  
  try {  
    const response = await axios.get('/user?ID=12345');  
    console.log(response);  
  } catch (error) {  
    console.error(error);  
  }  
}
```

Axios Get Example with parameter as JSON object

```
async function getUser() {  
  try {  
    const response = await axios.get('/user', { ID: 12345 });  
    console.log(response);  
  } catch (error) {  
    console.error(error);  
  }  
}
```

# Axios Example



Performing a POST request with JSON object

```
async function createUser() {  
  try {  
    const userData = {  
      firstName: 'Fred',  
      lastName: 'Flintstone'  
    };  
  
    const response = await axios.post('/user', userData);  
    console.log(response);  
  } catch (error) {  
    console.error(error);  
  }  
}
```

# Axios Example



Post an HTML form as JSON

```
async function createUser() {  
  try {  
    const userData = {  
      firstName: 'Fred',  
      lastName: 'Flintstone'  
    };  
  
    const response = await axios.post('/user', userData);  
    console.log(response);  
  } catch (error) {  
    console.error(error);  
  }  
}
```

# Axios Example



## Post an HTML form

```
async function postData() {
  try {
    const formData = new FormData();
    formData.append('firstName', 'Fred');
    formData.append('lastName', 'Flintstone');
    formData.append('orders', [1, 2, 3]);
    formData.append('photo', document.querySelector('#fileInput').files[0]);

    const response = await axios.post('https://httpbin.org/post', formData, {
      headers: {
        'Content-Type': 'multipart/form-data'
      }
    });

    const data = response.data;
    console.log(data);
  } catch (error) {
    console.error(error);
  }
}
```



# Axios Example



## PUT Request

```
async function updateData() {
  try {
    const data = {
      firstName: 'John',
      lastName: 'Doe',
      age: 30
    };

    const response = await axios.put('https://httpbin.org/users/123', data, {
      headers: {
        'Content-Type': 'application/json'
      }
    });

    const updatedData = response.data;
    console.log(updatedData);
  } catch (error) {
    console.error(error);
  }
}
```

# Axios Example



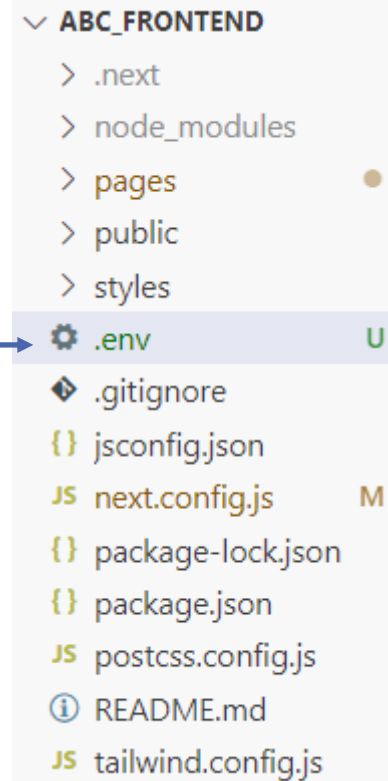
## DELETE Request

```
async function deleteData() {  
  try {  
    const response = await  
    axios.delete('https://httpbin.org/users/123');  
  
    console.log('Data deleted successfully');  
  } catch (error) {  
    console.error(error);  
  }  
}
```

# Creating Environment Variable



Create a file name in your project folder and name it **.env**



# Creating Environment Variable



add environment variables in this file in the format KEY=VALUE  
Must use the prefix **NEXT\_PUBLIC\_** before creating a key

```
3np_frontend > ⚙ .env  
1  NEXT_PUBLIC_API_ENDPOINT=http://localhost:3000
```

# Creating Environment Variable



Use **process.env** to get the environment variable

```
async function getData() {  
  try {  
    const response = await axios.get(process.env.API_ENDPOINT);  
  
    console.log(response);  
  } catch (error) {  
    console.error(error);  
  }  
}
```

# Extract AXIOs Response



The **Array.isArray()** static method determines whether the passed value is an Array.

true if value is an Array; otherwise, false.

```
Array.isArray(value)
```

# Extract AXIOs Response



```
import { useState, useEffect } from 'react';
import axios from 'axios';

export default function MyComponent () {
  const [jsonData, setJsonData] = useState(null);

  useEffect(() => {
    fetchData();
  }, []);

  async function fetchData() {
    try {
      const response = await axios.get(process.env.API_BASE_URL + '/data');
      const jsonData = response.data;
      setJsonData(jsonData);
    } catch (error) {
      console.error(error);
    }
  }
}
```

# Extract AXIOs Response



```
return (  
  <>  
  {jsonData !== null && (  
    <div>  
      {Array.isArray(jsonData) ? (  
        <div>  
          <p>Response is an array:</p>  
          <ul>  
            {jsonData.map((item, index) => (  
              <li key={index}>{item}</li>  
            ))}  
          </ul>  
        </div>  
      ) : (  
        <div>  
          <p>Response is an object:</p>  
          <p>{jsonData}</p>  
        </div>  
      )}  
    </div>  
  )}  
  </>  
);  
}
```





# References

1. W3Schools Online Web Tutorials, URL: <http://www.w3schools.com>
2. Next.js, URL: <https://nextjs.org/>
3. Mozilla Developer Networks, URL: <https://developer.mozilla.org/>
4. AXIOS Documentation, URL: [https://axios-http.com/docs/post\\_example](https://axios-http.com/docs/post_example)



Thank You!