St. Francis Institute of Technology Borivali (West), Mumbai-400103

(Autonomous Institute)
Department of Information Technology

Academic Year: 2024-25

Class: TE-ITA/B   Semester: VI

Subject: Web Lab

Experiment –10: To Implement AJAX to Fetch and Display Data Dynamically on User Interaction.

Aim: Implement AJAX to Fetch and Display Data Dynamically on User Interaction.

1. **Objectives:** Aim of this experiment is that, the students will be able
    *   To explain readystate property with state and status
    *   Read and understand GET and POST method
    *   Environment setup
    *   To understand how we implement AJAX with other method
2. **Outcomes:** After study of this experiment, the students will be able
    *   To Implement AJAX with different method
    *   To implement GET and POST method.
    *   To handle Data Dynamically on User Interaction.

3. **Prerequisite:** Basic understanding of CSS, HTML, DOM, text editor and execution of programs, Basic understanding of database, MongoDB commands, data types

4. **Requirements:** Personal Computer, Windows operating system, AJAX, browser, Internet Connection, google doc.

5. **Pre-Experiment Exercise:**
    Brief Theory: Refer shared material
6. **Laboratory Exercise**
    A. **Procedure:**
        a. **Answer the following:**
            *   What are some of the advantages of AJAX?
            *   What is AJAX?
            *   Explain how to implement AJAX to fetch data
        b. **Attach screenshots:**
            *   AJAX code and output with your own comments.
            *   Attach all screenshots.

7. **Post-Experiments Exercise**
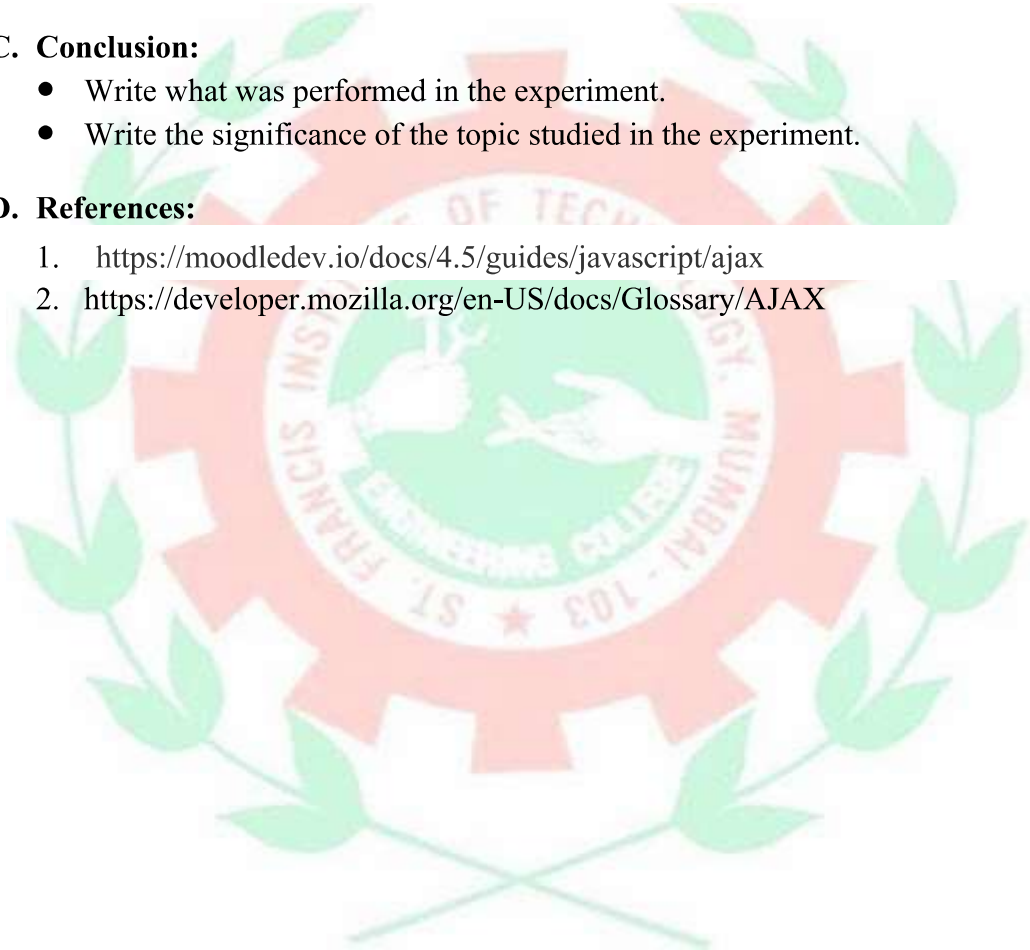   A. **Extended Theory:**
        Nil

B. Questions:
- What are some features of AJAX?
- Explain how to implement AJAX to display data dynamically on user interaction.

C. Conclusion:
- Write what was performed in the experiment.
- Write the significance of the topic studied in the experiment.

D. References:
1. https://moodledev.io/docs/4.5/guides/javascript/ajax
2. https://developer.mozilla.org/en-US/docs/Glossary/AJAX

Q1] What are some of the advantages of AJAX?
Answer:
- **Faster Response**: Only parts of the webpage are updated without reloading the whole page.
- **Improved User Experience**: Pages feel more dynamic and interactive.
- **Reduced Server Load**: Fewer data transfers as only necessary information is exchanged.
- **Asynchronous Communication**: Allows the browser to continue working while waiting for a server response.
- **Platform Independent**: Works with many programming languages and supports all major browsers.

Q2] What is AJAX?
Answer: AJAX stands for **Asynchronous JavaScript and XML**. It is a **technique** used to send and receive data from a server **asynchronously** without refreshing the entire page. Modern AJAX typically uses **JSON** instead of XML for data exchange. AJAX is widely used with **JavaScript** and tools like **jQuery**, **Fetch API**, or **Axios** to enhance web apps.

Q3] Explain how to implement AJAX to fetch data
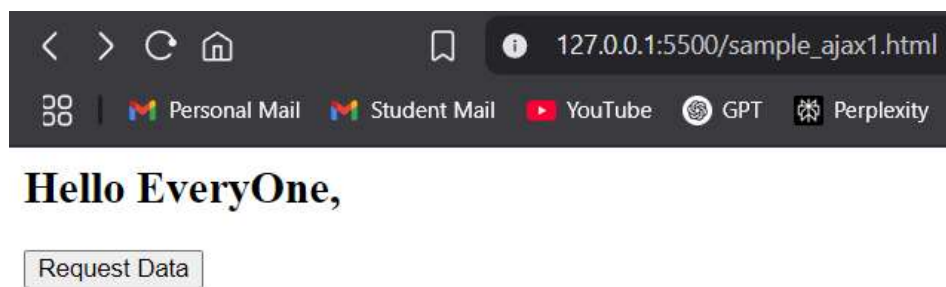**Answer:**
```
fetch('https://api.example.com/data')
  .then(response => response.json())
  .then(data => {
    console.log(data); // Do something with the fetched data
  })
  .catch(error => console.error('Error:', error));
```

Sample_ajax1.html:

CODE:

```html
<html>
    <head>
        <title>Sample Ajax</title>
        <script type="text/javascript">
        var request = new XMLHttpRequest();
        function requestData() {
            request.onload = function () {
                alert(this.responseText);
                document.getElementById("txtFileData").innerHTML =
this.responseText;
            }
            request.open('GET', 'test.txt', true);
            request.send();
        }
        </script>
    </head>
    <body>
    <div id="container">
        <h2 id="heading">Hello EveryOne,</h2>
                <div id="btnDiv">
            <button class="btn" onclick="requestData()">
                Request Data
            </button>
        </div>
        <br>
        <div id="txtFileData"></div>
    </div>
    </body>
</html>
```
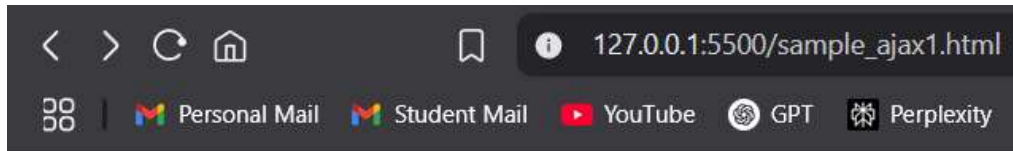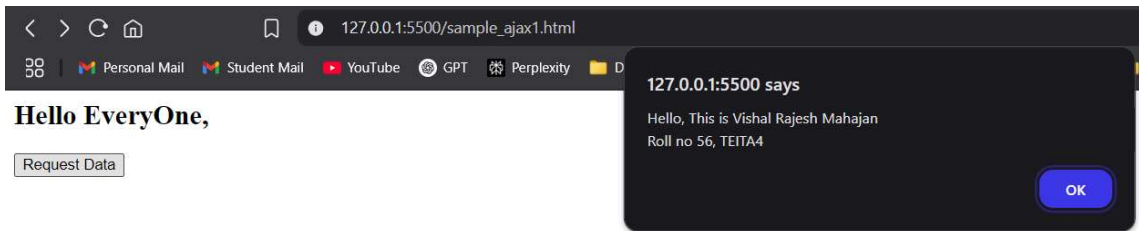
OUTPUT:

Sample_ajax2.html:

Code 2

```html
<html>
    <head>
        <title>Sample Ajax</title>

        <script type="text/javascript">
         function ajaxfunction()
         {
            var ajax= new XMLHttpRequest();
            ajax.onreadystatechange=function()
            {
                if (this.readyState==4 && this.status==200)
                {
                  alert(this.responseText);  //use for pop up msg we get responce of
request

                  //document.getElementById("test").innerHTML=this.responseText;
                }

            };
                ajax.open("GET","test.txt",true) //3 methods GET,POST,PUT

                ajax.send();
         }
        </script>
    </head>
    <body>
        <button type="button"  onclick="ajaxfunction()">Call Ajax</button>
```

```
        <div id="test"></div>

    </body>
</html>
```

OUTPUT:

employees.html:

CODE3

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Employee Data</title>

</head>
<body>
    <h2>Employee Details </h2>
    <button onclick="loadEmployee()" >Load Button</button>
    <div id="output" ></div>

    <script>
        function loadEmployee(){
            var request = new XMLHttpRequest();
            request.open("GET", "employee.txt",true);

            request.onload = function(){
```
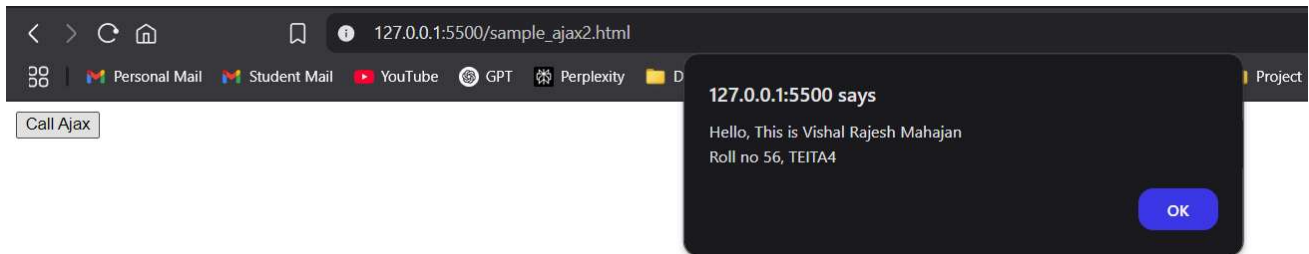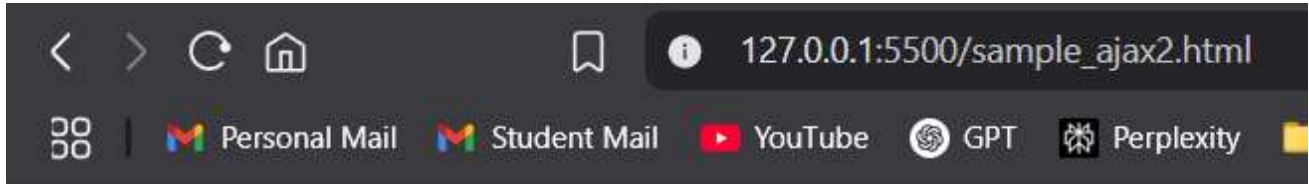
```
            if(this.status === 200){
                let lines = this.responseText.trim().split("\n");
                let output = "";

                lines.forEach(line =>{
                    output += line + "<br>";
                });
                document.getElementById("output").innerHTML = output;
            }
        }
        request.send()
    }
    </script>
</body>
</html>
```
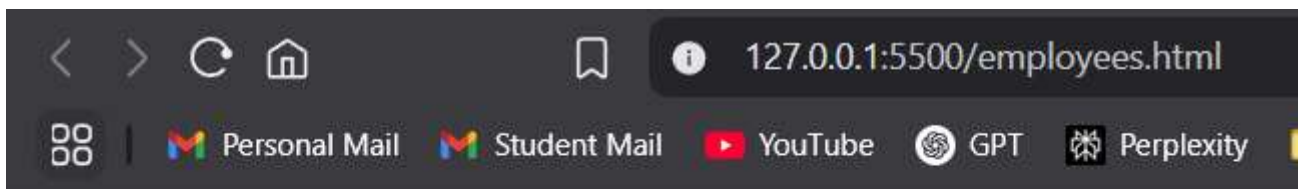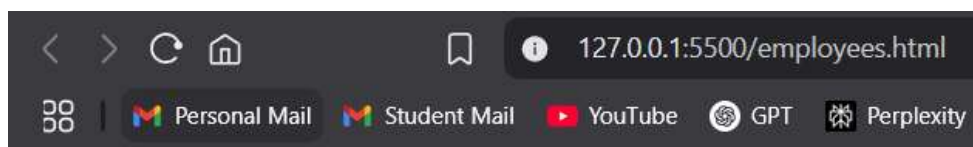
OUTPUT: