# Green University of Bangladesh
# Department of Computer Science and Engineering (CSE)
### Faculty of Sciences and Engineering
### Semester: (Fall, Year:2025), B.Sc. in CSE (Day)

### Lab Report NO# 03
### Course Title: Web Programming Lab
### Course Code: CSE 302     Section:232_D5

**Lab Experiment Name: Loading JSON Data Dynamically Using AJAX and Displaying It in a Table**

### Student Details

| | Name | ID |
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| **Lab Date** | **: 26-11-2025** |
| **Submission Date** | **: 03-12-2025** |
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### Lab Report Status

Marks: …………………………………                Signature:.....................

Comments:...............................................        Date:...............................

**1. TITLE OF THE LAB REPORT EXPERIMENT**

Implement a complex table using HTML and CSS

**2. OBJECTIVES**

The main objectives of this experiment are:

- To learn how to load data from an external JSON file using AJAX (fetch API).
- To understand how JSON data is read and shown on a webpage.
- To practice creating table rows using JavaScript DOM methods.
- To apply CSS to make the webpage look better.
- To learn the basics of interactive web application development.

**3. PROCEDURE**

The steps followed in the experiment:

- Created a new HTML file with basic structure.
- Added a button that will load the JSON data when clicked.
- Designed a table with <thead> and <tbody> to show the JSON data.
- Used the AJAX to load JSON data from the URL:
  https://raw.githubusercontent.com/hitch17/sample-data/master/presidents.json
- Used JavaScript forEach() to add table rows for each president.
- Styled the button, table, and page using CSS.
- Opened the HTML file in the browser and checked if the data loads correctly.

**4. IMPLEMENTATION**

Code Used in the Experiment

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<title>Load JSON Data with AJAX</title>
<style>
body {
font-family: Arial, sans-serif;
margin: 40px;
background: #f4f4f4;
}
h2 {
text-align: center;
```

```
}
#loadBtn {
display: block;
margin: 20px auto;
padding: 12px 25px;
font-size: 16px;
cursor: pointer;
background: #f44268;
color: white;
border: none;
border-radius: 5px;
}
table {
width: 80%;
margin: 20px auto;
border-collapse: collapse;
background: white;
}
th,
td {
padding: 12px;
border-bottom: 1px solid #ddd;
text-align: left;
}

tr:hover {
background: #f1f1f1;
}
</style>
</head>
<body>
<h2>Demo Psident Data load with AJAX</h2>
<button id="loadBtn">Load Data</button>
<table id="dataTable">
<thead>
<tr>
<th>Name</th>
<th>Party</th>
<th>Took Office</th>
<th>Left Office</th>
</tr>
</thead>
<tbody></tbody>
</table>
<script>
const url =
"https://raw.githubusercontent.com/hitch17/sample-data/master/presidents.json";
document.getElementById("loadBtn").addEventListener("click", loadData);

function loadData() {
var xhttp = new XMLHttpRequest();
xhttp.open("GET", url, false);
xhttp.send();

var data = JSON.parse(xhttp.responseText);
```

```javascript
let tableBody = document.querySelector("#dataTable tbody");
tableBody.innerHTML = "";

data.forEach((president) => {
let row = `
<tr>
<td>${president.president}</td>
<td>${president.party}</td>
<td>${president.took_office}</td>
<td>${
president.left_office ? president.left_office : "Still in Office"
}</td>
</tr>`;

tableBody.innerHTML += row;
});
}
</script>
</body>
</html>
```

## 5. TEST RESULT
## Output of Table

### Demo Psident Data load with AJAX

**Load Data**

| Name | Party | Took Office | Left Office |
|---|---|---|---|
| George Washington | No Party | 1789-04-30 | 1797-03-04 |
| John Adams | Federalist | 1797-03-04 | 1801-03-04 |
| Thomas Jefferson | Democratic-Republican | 1801-03-04 | 1809-03-04 |
| James Madison | Democratic-Republican | 1809-03-04 | 1817-03-04 |
| James Monroe | Democratic-Republican | 1817-03-04 | 1825-03-04 |
| John Quincy Adams | Democratic-Republican | 1825-03-04 | 1829-03-04 |
| Andrew Jackson | Democratic | 1829-03-04 | 1837-03-04 |
| Martin Van Buren | Democratic | 1837-03-04 | 1841-03-04 |
| William Henry Harrison | Whig | 1841-03-04 | 1841-04-04 |
| John Tyler | Whig | 1841-04-04 | 1845-03-04 |
| James K. Polk | Democratic | 1845-03-04 | 1849-03-04 |
| Zachary Taylor | Whig | 1849-03-04 | 1850-07-09 |
| Millard Fillmore | Whig | 1850-07-09 | 1853-03-04 |
| Franklin Pierce | Democratic | 1853-03-04 | 1857-03-04 |
| James Buchanan | Democratic | 1857-03-04 | 1861-03-04 |
| Abraham Lincoln | Republican | 1861-03-04 | 1865-04-15 |
| Andrew Johnson | Democratic | 1865-04-15 | 1869-03-04 |
| Ulysses S. Grant | Republican | 1869-03-04 | 1877-03-04 |
| Rutherford B. Hayes | Republican | 1877-03-04 | 1881-03-04 |
| James A. Garfield | Republican | 1881-03-04 | 1881-09-19 |
| Chester A. Arthur | Republican | 1881-09-19 | 1885-03-04 |
| Grover Cleveland | Democratic | 1885-03-04 | 1889-03-04 |
| Benjamin Harrison | Republican | 1889-03-04 | 1893-03-04 |
| Grover Cleveland | Democratic | 1893-03-04 | 1897-03-04 |
| William McKinley | Republican | 1897-03-04 | 1901-09-14 |
| Theodore Roosevelt | Republican | 1901-09-14 | 1909-03-04 |
| William Howard Taft | Republican | 1909-03-04 | 1913-03-04 |
| Woodrow Wilson | Democratic | 1913-03-04 | 1921-03-04 |
| Warren G. Harding | Republican | 1921-03-04 | 1923-08-02 |
| Calvin Coolidge | Republican | 1923-08-02 | 1929-03-04 |

## 6. ANALYSIS AND DISCUSSION

In this experiment, I learned how AJAX helps load data without refreshing the webpage. Using the fetch API made it easy to get JSON data from a link and show it inside a table by creating rows with JavaScript. I also saw how CSS improves the webpage design and makes information easier to read. Overall, this experiment improved my understanding of JSON, asynchronous JavaScript, and dynamic webpage content.

## 7. SUMMARY:

In this lab, I learned how to load JSON data using AJAX and show it in a table on a webpage. I used the fetch API to get the data, JavaScript to add it to the table, and CSS to style the page. This helped me understand how dynamic web pages work and how data can be loaded without refreshing the page.