# Week : 01

## Assignment

1. What is AJAX? Advantages of AJAX?

* Web applications apply Ajax technology to send and retrieve data from a server without interrupting the display of the existing page.
* We can understand it as a set of web development techniques that are used to create better and faster web applications via the use of XML, HTML, CSS, Javascript.

Advantages of Ajax -

#### **Reduce server traffic and increase speed**

* + - improves the performance and usability of web applications.
    - Ajax techniques allow applications to render without data, which reduces the server traffic inside requests. So web developers can lower the time consumption on both side’s responses significantly.

As a result, your web’s visitors will never have to see a white window and wait for pages to refresh with Ajax implementation.

#### **Enable asynchronous calls**

* framework can be used for lazy loading. (The concept of lazy loading assists in loading only the required section and delays the remaining, until it is needed by users)

#### **XMLHttpRequest**

* XMLHttpRequest is a request type widely used for sending a request to Ajax pages
* it transfers and manipulates the XML data to and from a web service using HTTP.
* Its purpose is to establish an independent connection between the webpage’s client-side and server.

#### **Reduce bandwidth usage**

* Improves web performance and load speed.
* Fetches particle contents instead of transmitting the entire page’s content.
* Meaning we can bring data from the database and store it into the database to perform background without reloading the page.

#### **Form Validation**

* enables precise and immediate form validation.

1. What is JSON? Why do we use JSON?

* JSON stands for **J**ava**S**cript **O**bject **N**otation
* Is a lightweight format for storing and transporting data.
* Is often used when data is sent from a server to a web page.
* Is "self-describing" and easy to understand.
* **JSON (in JavaScript) is a string!**

**JSON is mainly intended for data interchanging among the applications.**

1. What is No-SQL Database? Example?

* NoSQL is a type of database management system (DBMS) that is designed to handle and store large volumes of unstructured and semi-structured data.
* Unlike traditional relational databases that use tables with pre-defined schemas to store data, NoSQL databases use flexible data models that can adapt to changes in data structures and are capable of scaling horizontally to handle growing amounts of data.

1. What is HTTP Status codes? What is the meaning of 401, 403, 404, 500 Status Codes?

* [An HTTP status code is a **three-digit code that indicates whether a specific HTTP request has been successfully completed or not**](https://www.bing.com/ck/a?!&&p=ddb1ea5eba3bcd66JmltdHM9MTY5NjgwOTYwMCZpZ3VpZD0zYjA4Y2IzYy00ZmU3LTY2YWUtMWE2Yi1kODk5NGU1NTY3MmEmaW5zaWQ9NTc3Mg&ptn=3&hsh=3&fclid=3b08cb3c-4fe7-66ae-1a6b-d8994e55672a&psq=What+is+HTTP+Status+codes%3f+&u=a1aHR0cHM6Ly9tb3ouY29tL2xlYXJuL3Nlby9odHRwLXN0YXR1cy1jb2Rlcw&ntb=1)[1](https://www.bing.com/ck/a?!&&p=7eca40de3e71e11fJmltdHM9MTY5NjgwOTYwMCZpZ3VpZD0zYjA4Y2IzYy00ZmU3LTY2YWUtMWE2Yi1kODk5NGU1NTY3MmEmaW5zaWQ9NTc3Mw&ptn=3&hsh=3&fclid=3b08cb3c-4fe7-66ae-1a6b-d8994e55672a&psq=What+is+HTTP+Status+codes%3f+&u=a1aHR0cHM6Ly9tb3ouY29tL2xlYXJuL3Nlby9odHRwLXN0YXR1cy1jb2Rlcw&ntb=1)[2](https://www.bing.com/ck/a?!&&p=a41cb7e6b2695a0cJmltdHM9MTY5NjgwOTYwMCZpZ3VpZD0zYjA4Y2IzYy00ZmU3LTY2YWUtMWE2Yi1kODk5NGU1NTY3MmEmaW5zaWQ9NTc3NA&ptn=3&hsh=3&fclid=3b08cb3c-4fe7-66ae-1a6b-d8994e55672a&psq=What+is+HTTP+Status+codes%3f+&u=a1aHR0cHM6Ly9kZXZlbG9wZXIubW96aWxsYS5vcmcvZW4tVVMvZG9jcy9XZWIvSFRUUC9TdGF0dXM&ntb=1)[3](https://www.bing.com/ck/a?!&&p=35d6076d0ea04d86JmltdHM9MTY5NjgwOTYwMCZpZ3VpZD0zYjA4Y2IzYy00ZmU3LTY2YWUtMWE2Yi1kODk5NGU1NTY3MmEmaW5zaWQ9NTc3NQ&ptn=3&hsh=3&fclid=3b08cb3c-4fe7-66ae-1a6b-d8994e55672a&psq=What+is+HTTP+Status+codes%3f+&u=a1aHR0cHM6Ly93d3cuaW5kZWVkLmNvbS9jYXJlZXItYWR2aWNlL2NhcmVlci1kZXZlbG9wbWVudC9odHRwLXN0YXR1cy1jb2Rlcw&ntb=1)[4](https://www.bing.com/ck/a?!&&p=308d4ef6840b8805JmltdHM9MTY5NjgwOTYwMCZpZ3VpZD0zYjA4Y2IzYy00ZmU3LTY2YWUtMWE2Yi1kODk5NGU1NTY3MmEmaW5zaWQ9NTc3Ng&ptn=3&hsh=3&fclid=3b08cb3c-4fe7-66ae-1a6b-d8994e55672a&psq=What+is+HTTP+Status+codes%3f+&u=a1aHR0cHM6Ly9lbi53aWtpcGVkaWEub3JnL3dpa2kvTGlzdF9vZl9IVFRQX3N0YXR1c19jb2Rlcw&ntb=1).
* HTTP response status codes indicate whether a specific [HTTP](https://developer.mozilla.org/en-US/docs/Web/HTTP) request has been successfully completed.

Status Codes -

**401 Unauthorized** response status code indicates that the client request has not been completed because it lacks valid authentication credentials for the requested resource.

### **403 Forbidden**

This error is typically caused by faulty file permissions.

### **404 Not Found**

The server understood the request, but is refusing to fulfill it.

### **500 Internal Server Error**

The 500 Internal Server Error is a very general HTTP status code that means something has gone wrong on the web sites server, but the server could not be more specific on what the exact problem is.