

# Computer Science

## Class XII

As Per CBSE  
Syllabus  
2022-23

### Chapter- 5

## Web Services



# Web Services

## WWW:

WWW stands for World Wide Web, which is an information system of interconnected hypertext documents or web pages accessible through the internet. It was created in 1989 by Tim Berners-Lee, a British computer scientist, and has since revolutionized the way people access and share information.

## Hyper Text Markup Language (HTML):

HTML stands for Hyper Text Markup Language. It is a markup language used to create web pages and other online content that can be displayed on a web browser.

HTML consists of a series of tags or elements that are used to define the structure and content of a web page. These tags are enclosed in angle brackets, and often come in pairs: an opening tag and a closing tag. The opening tag specifies the type of element, while the closing tag indicates the end of the element.

# HTML:

In this code, the `<!DOCTYPE html>` tag specifies the document type. The `<html>` tag encloses the entire document, while the `<head>` and `<body>` tags indicate the different sections of the page.

Within the `<head>` section, the `<title>` tag specifies the title of the page, which appears in the browser's title bar.

Within the `<body>` section, the `<h1>` tag creates a level 1 heading, while the `<p>` tag creates a paragraph of text.

HTML also allows you to include images, links, and other multimedia content on your web page.

## HTML code creates a simple web page:

```
<!DOCTYPE html>
<html>
<head>
  <title>My Web Page</title>
</head>
<body>
  <h1>Welcome to my web page!</h1>
  <p>This is some sample text.</p>
</body>
</html>
```

# Components of Data communication

## Extensible Markup Language (XML):

XML stands for eXtensible Markup Language. It is a markup language that is used to store and transport data. Unlike HTML, which is used to create web pages, XML is used to structure data and represent it in a standardized format.

XML documents consist of a series of tags, much like HTML documents. However, unlike HTML, XML tags are not predefined - users can define their own tags to represent different data elements. This makes XML a very flexible language that can be used to represent a wide variety of data types.



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Here is an example of a simple XML document:

```
<?xml version="1.0" encoding="UTF-8"?>
<bookstore>
  <book category="fiction">
    <title>The Great Gatsby</title>
    <author>F. Scott Fitzgerald</author>
    <price>14.99</price>
  </book>
  <book category="non-fiction">
    <title>Thinking, Fast and Slow</title>
    <author>Daniel Kahneman</author>
    <price>19.99</price>
  </book>
</bookstore>
```

# Extensible Markup Language (XML):

In this example, the <bookstore> tag encloses the entire document. Within the <bookstore> tag, there are two <book> tags, each representing a different book. The <book> tag has an attribute called "category" that is used to indicate whether the book is fiction or non-fiction. Each book also has a title, author, and price represented by the <title>, <author>, and <price> tags, respectively.

XML is often used to exchange data between different software applications, as it provides a standardized way of representing data that can be understood by different programs. It is also used in web services and APIs to transmit data between different systems.

**XML (eXtensible Markup Language) has several benefits, including:**

1. Platform and language independent
2. Flexibility
3. Human-readable
4. Interoperability Separation of data and presentation

# Web Services

**Domain Names:** A domain name is a unique name that identifies a website. It consists of two parts, the domain name and the domain extension. For example, in the domain name "google.com," "google" is the domain name, and ".com" is the domain extension. Domain names are used to make it easier for people to remember website addresses.

**URL:** URL stands for Uniform Resource Locator, which is the address of a resource on the internet. It consists of several parts, including the protocol (such as http or https), the domain name, the path to the resource, and any additional parameters or queries. For example,

In the URL [https://www.cbse.gov.in/cbsenew/innovative\\_schools.html](https://www.cbse.gov.in/cbsenew/innovative_schools.html), the parts are:

- Protocol: https
- Domain: [www.cbse.gov.in](http://www.cbse.gov.in)
- Path: /cbsenew/innovative\_schools.html

# Web Services

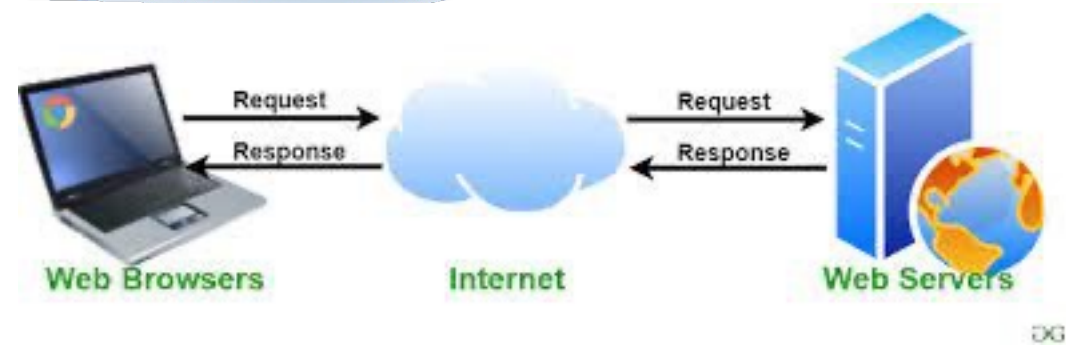
**Website:** A website is a collection of web pages that are interconnected through hyperlinks. It can be accessed through a web browser and typically contains information on a particular topic or serves a specific purpose, such as selling products or providing services. Websites can be static or dynamic, depending on how they are designed and built.



**Web Browser:** A web browser is a software application used to access and view websites on the internet. It interprets HTML and other web technologies, such as JavaScript and CSS, to display web pages to users. Popular web browsers include Google Chrome, Mozilla Firefox, Microsoft Edge, and Apple Safari.



# Web Services



**Web Servers:** A web server is a computer that stores and delivers web pages and other online content to users. When a user requests a web page, the web server retrieves the requested page and sends it back to the user's web browser. Web servers can run different software, such as Apache or Nginx, and can be configured to handle different types of web content.

## Web Hosting:

Web hosting refers to the process of storing and serving web content on a server. Web hosting companies provide space on their servers for individuals and organizations to store their websites and make them accessible to the internet. Web hosting services can vary in cost and features, depending on the needs of the website owner.