

Week 9 - Tutorial Task

Individually perform research and arrive at a list of answers to the following:

1. What and Who is a web developer?

ANS: A web developer is a professional with skills in designing, developing and maintaining web-based applications and services. They utilize a variety of programming languages such as Python, Ruby, PHP and technologies like HTML, CSS, and JavaScript to create, maintain, and update websites. They may also be involved in the design and user experience of a website and work on both the front-end and back-end aspects of web development.

2. What are Front end, Back end and Full Stack Development?

ANS: Front-end development, also known as client-side development, is the process of designing, implementing and maintaining the visual and interactive aspects of a website or web-based application. This includes the layout, design, organization, style and user interface of the website, as well as the user experience.

Back-end development, also known as server-side development, is the process of creating and managing the underlying functionality and logic of a website or web-based application. This includes the databases, servers, and APIs that are used to power the website or application. It is the process of creating and maintaining the behind-the-scenes aspects of a website or web-based application, that make it work properly.

Full Stack Development is the process of creating both front-end and back-end of the web-based application. A full stack developer is responsible for the entire web-development process: client-side, server-side and database, and also should have knowledge of front-end and back-end technologies, which is why they called full stack developer.

3. Differentiate between Static VS Dynamic sites.

Static Website	Dynamic Websites
Prebuilt content is same every time the page is loaded	Content is generated quickly and changes regularly
It uses the HTML code for developing a website	It uses the server side languages such as PHP, SERVLET,JSP,etc for developoing a website
It sends exactly the same response for every request	It may generate different HTML for rach of the request
Flexibility is the main advantage of static website	Content management system is the main advantage of dynamic website
The content is only changed when someone publishes and updates the file	The page contain "server-side "code it allows the server to generate the unique content when the page is loaded

4. Describe the role of HTML, CSS and JavaScript in Web Development.

ANS: HTML (Hypertext Markup Language) is the primary language used in creating web pages, it is used to structure the content of a webpage, including elements such as headings, paragraphs, lists, images and links. It provides the basic structure for a webpage but does not provide any styling or layout information.

CSS (Cascading Style Sheets) is used to enhance the visual appeal of a webpage by providing styling and layout information. It allows developers to separate the presentation of a webpage from its content, thus making it possible to change the design of a webpage without modifying the underlying HTML. It provides developers with the ability to control the layout, color, font and other visual elements of a webpage.

JavaScript is a programming language that is commonly used to add interactivity and other dynamic functionality to web pages. It allows developers to create things like form validation, interactive maps, and dynamic content updates. JavaScript can be used to create responsive effects on a website, such as pop-up windows, drop-down menus and more.

5. Explain the different file formats used in Web: XML and JSON

ANS: XML is a markup language that uses tags to identify elements and their attributes. It is commonly used to exchange data between different systems and is easily readable by both humans and computers. However, it can be quite verbose, which makes it less suitable for low-bandwidth connections. On the other hand, JSON is a lightweight data exchange format that is easy for both people and machines to work with. It is a common alternative to XML and is often used to transfer data between web applications and servers. It is based on a subset of JavaScript and is a popular choice for web data exchange due to its simplicity and reduced verbosity.

6. What is the use of databases in websites?

ANS: Databases are used in websites to store, retrieve, and manage large amounts of data. They play a critical role in the functionality and performance of a website by providing efficient and organized storage for the data that the website needs to function

7. What is a web server? List different web servers used today.

ANS: A web server is a software that listens for incoming network requests on a specific port, and responds to them with the requested content, such as a web page or an image. Web servers are the foundation of the World Wide Web

The different web servers are:

- Apache
- Nginx
- Microsoft IIS
- Lighttpd
- Caddy
- Litespeed

8. What is API and what is its use in modern web development?

ANS: API stands for Application Programming Interface. It is a set of protocols, routines, and tools for building software and applications. An API specifies how software components should interact, and allows for communication between different systems.

- Data Access:
- External Services Integration
- Microservices
- Automation:
- Cross-Platform Development:

Weekly Blog Question

- “Mobile first” is a popular methodology in the world of web design. What is it, and what are its main benefits and potential drawbacks?”