Introduction

Web:

Web is a collection of information. i.e in the form of text / web pages / websites that is accessible through internet.

Webpage:

It is a simple document written in html / saved with html extension.

Website:

Website is a collection of webpages.

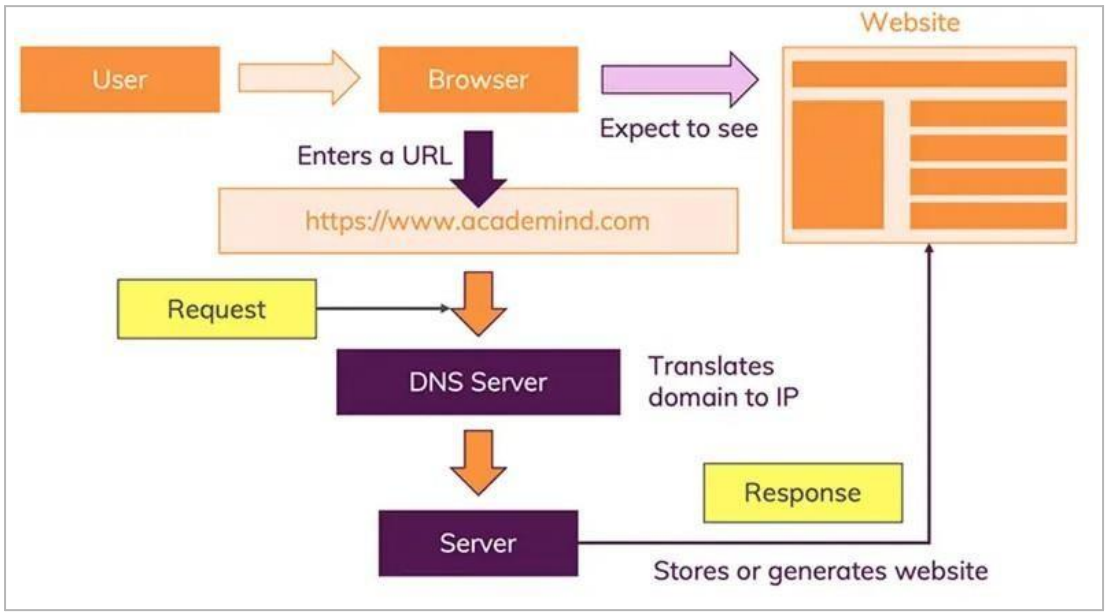
Network:

Two or more computers that are connected with one another for the purpose of communicating data electronically.

Internet:

Internet is a global network, we are connecting through www.

How web works:



Browser:

Browser is a client side application which is used to send requests and get back the responses from the server.

URL:

URL stands for uniform resource locator, a web address that specifies the location of a resource on the internet, such as a webpage, image, or file.

When we search for anything in the browser, It will generate an URL.

Ex: https://www.instagram.com

DNS:

DNS stands for Domain Name Service.

It is responsible for converting URLs into IP addresses.

Server:

It is the place where all the websites are hoisted.

Ip address of all data were stored here.

Http:

Http stands for HyperText Transfer Protocol.

It transfers the information as plain text.

Https:

Https stands for HyperText Transfer Protocol Secure.

It transfers the information in encrypted format.

Static Webpage:

These are the webpages which are common for everyone

Or

These are the webpages which will display the same information for all users.

Ex: wikipedia, javaTpoint, tutorialspoint

Dynamic Webpage:

These web pages display different information for users.

Ex: Instagram, youtube, linkedIn

Single Page Application:

These websites consist of only one web page.

All operations will be performed in only one page.

Most of the single page applications are dynamic web pages.

Multi Page Application:

These websites consist of many web

pages.

All web pages linked together.

Most of the multi page applications are static web pages.

<!-- ! Three-Tier Architecture -->

- **Three-Tier Architecture** is a software design pattern that divides an application into three distinct layers, each with its own responsibilities:

1. **Presentation Layer (Client Tier):** This is the topmost layer where the user interacts with the application. It typically includes the user interface (UI) and the client-side logic (HTML, CSS, JavaScript).

2. **Application Layer (Business Logic Tier):** This middle layer processes the business logic of the application. It handles the communication between the presentation layer and the data layer, performing operations, calculations, and decision-making.

3. **Data Layer (Data Tier):** The bottom layer is responsible for managing data storage and retrieval. It interacts with databases or other storage systems to store, query, and update data.

- **Advantages of Three-Tier Architecture:**

    - **Scalability:** Each layer can be scaled independently to handle increased load.
    - **Maintainability:** The separation of concerns makes the system easier to manage and update.
    - **Reusability:** Components of each layer can be reused in other applications.
    - **Security:** Each layer can implement its own security measures, adding layers of protection.