WEB AND CLOUD TECHNOLOGY I

HTML INTRODUCTION

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Contents

How Internet Work

How Website Work

HTML Basic

Basic Tags and Anatomy

Attribute and Entity

List

Table

Image, Audio, Video

Link, IFrame

How Internet Work

The Internet is a global network that connects millions of devices and computers around the world, allowing them to communicate with each other. When you access a website, send an email, or stream a video, you're using the Internet. But how does this massive system work?

The Internet is not a single entity or network. It's a **network of networks**—a huge system of interconnected **local, regional, and global networks** that communicate using standardized protocols.
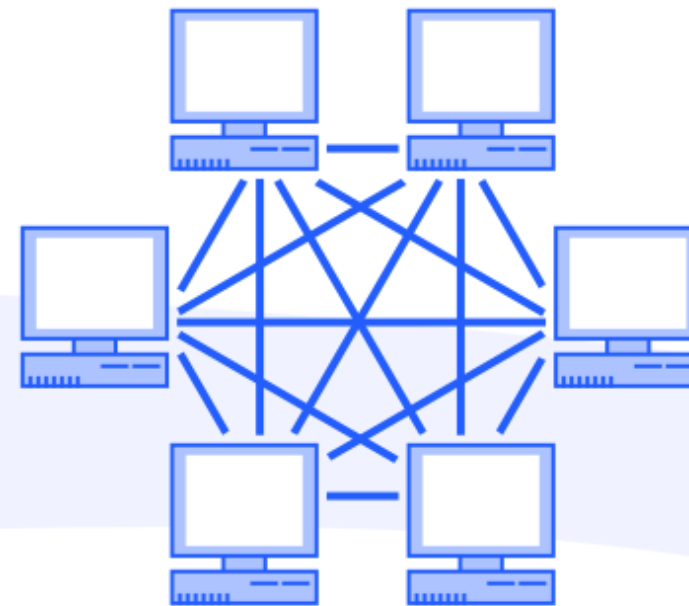
These networks include **internet service providers (ISPs)**, large data centers, and individual devices (like your phone, laptop, or desktop computer).
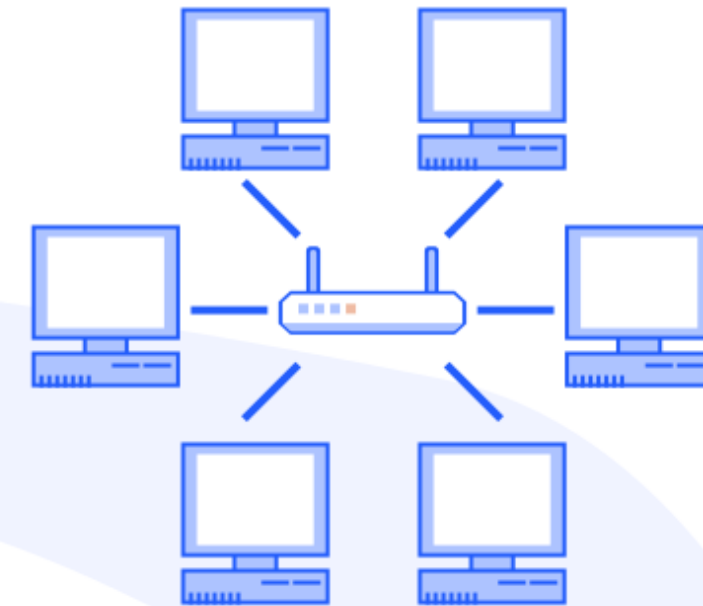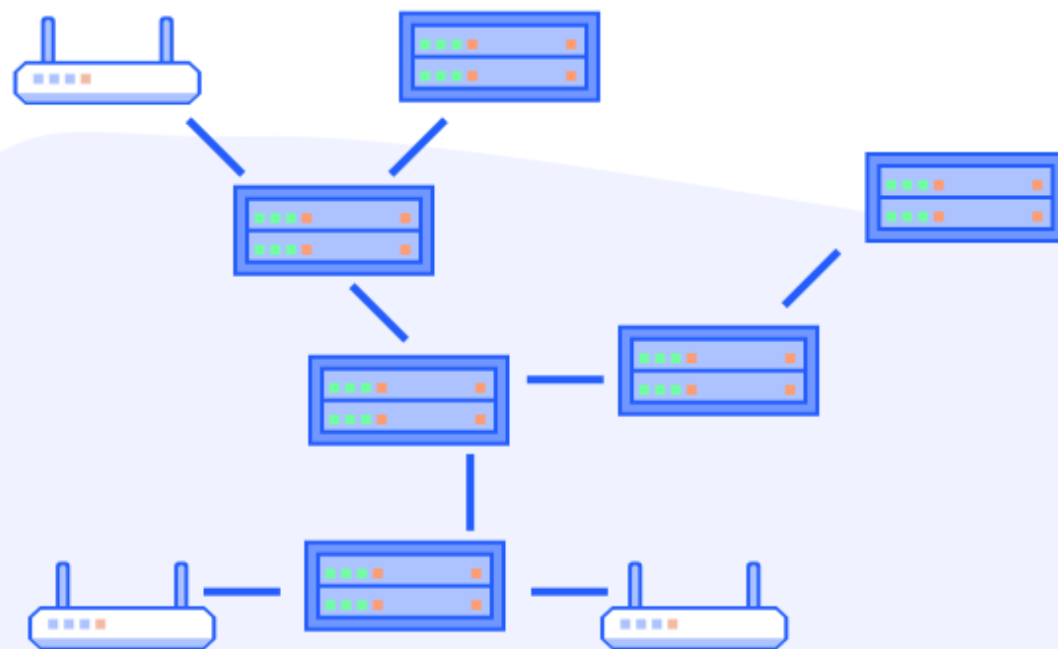
How Internet Work

A Network of Networks

Computers can be connected directly wirelessly or with a cable.
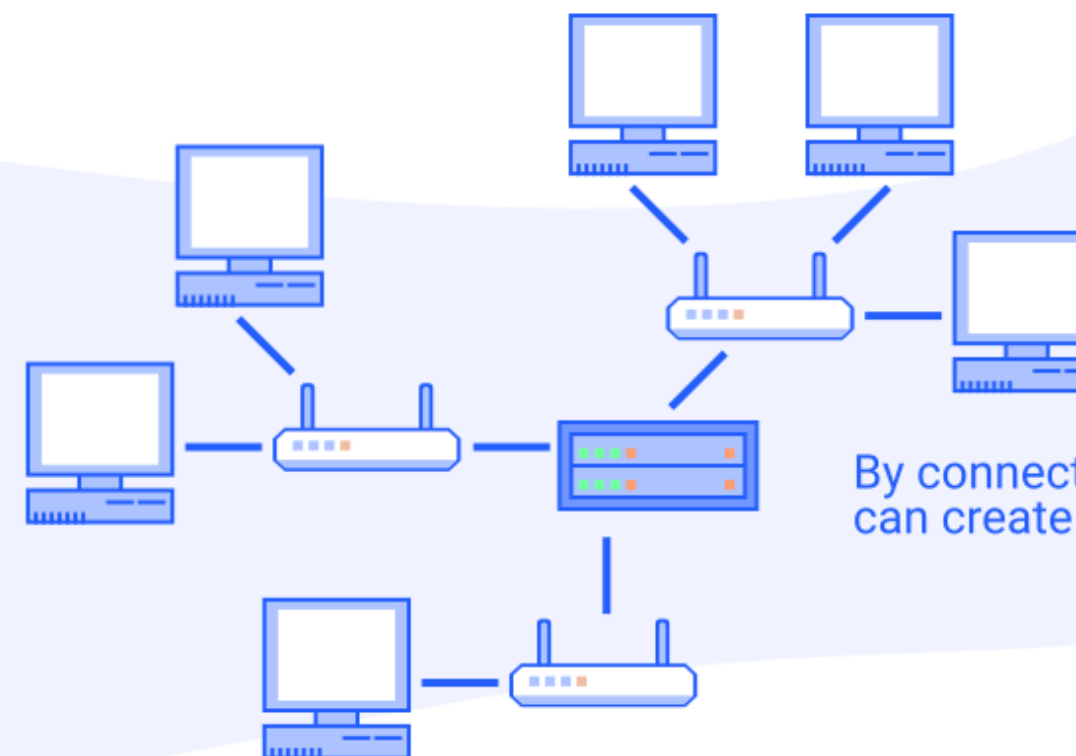
Connecting to every computer in a network becomes complicated very quickly.

Routers are specialized computers that serve as a hub, forwarding information between devices
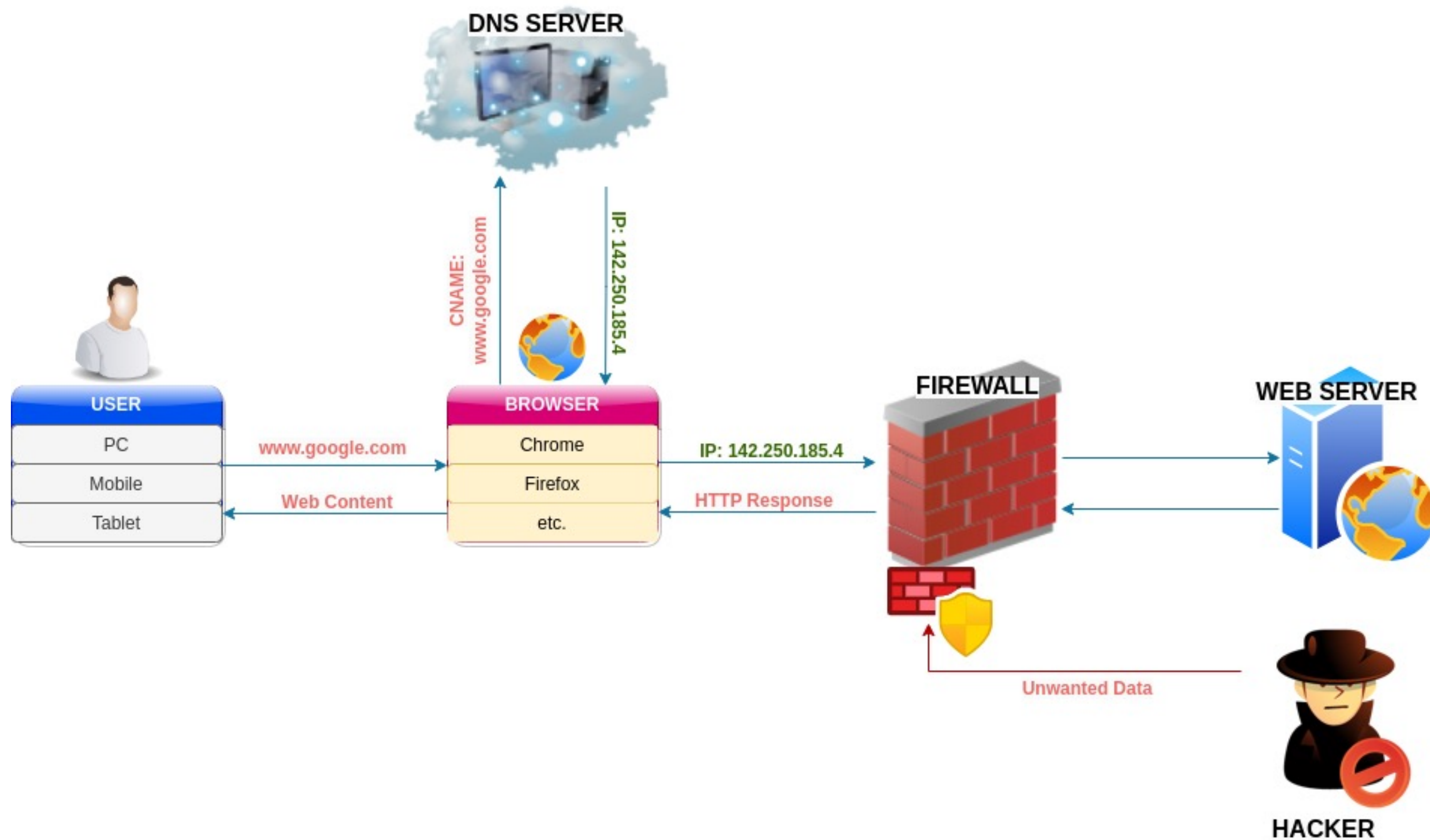
Small networks merged into larger ones, which eventually internetworked to form one worldwide network—the Internet

By connecting routers together, we can create a network of networks

HighSpeedInternet.com

How Web Request Work

DNS SERVER

CNAME: www.google.com

IP: 142.250.185.4

USER

| PC |
| Mobile |
| Tablet |

www.google.com

Web Content

BROWSER

| Chrome |
| Firefox |
| etc. |

IP: 142.250.185.4

HTTP Response

FIREWALL

WEB SERVER

Unwanted Data

HACKER

How Web Request Work
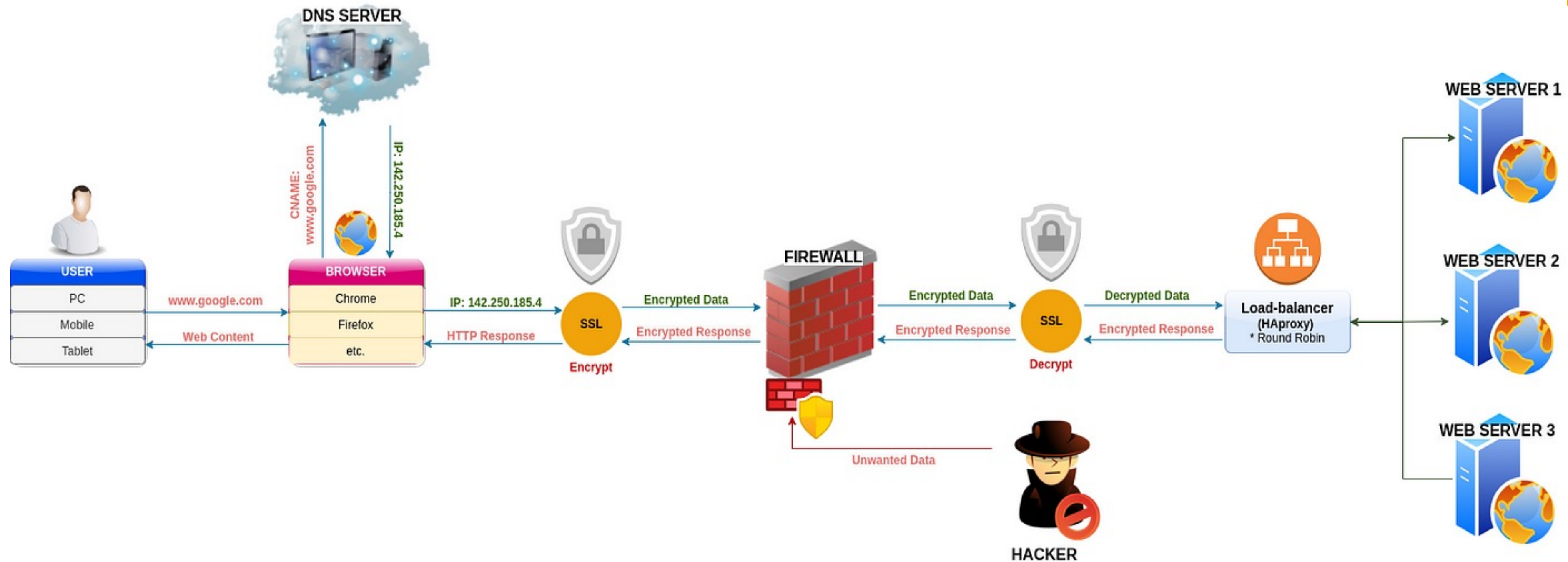
How Web Request Work

HTML Basic

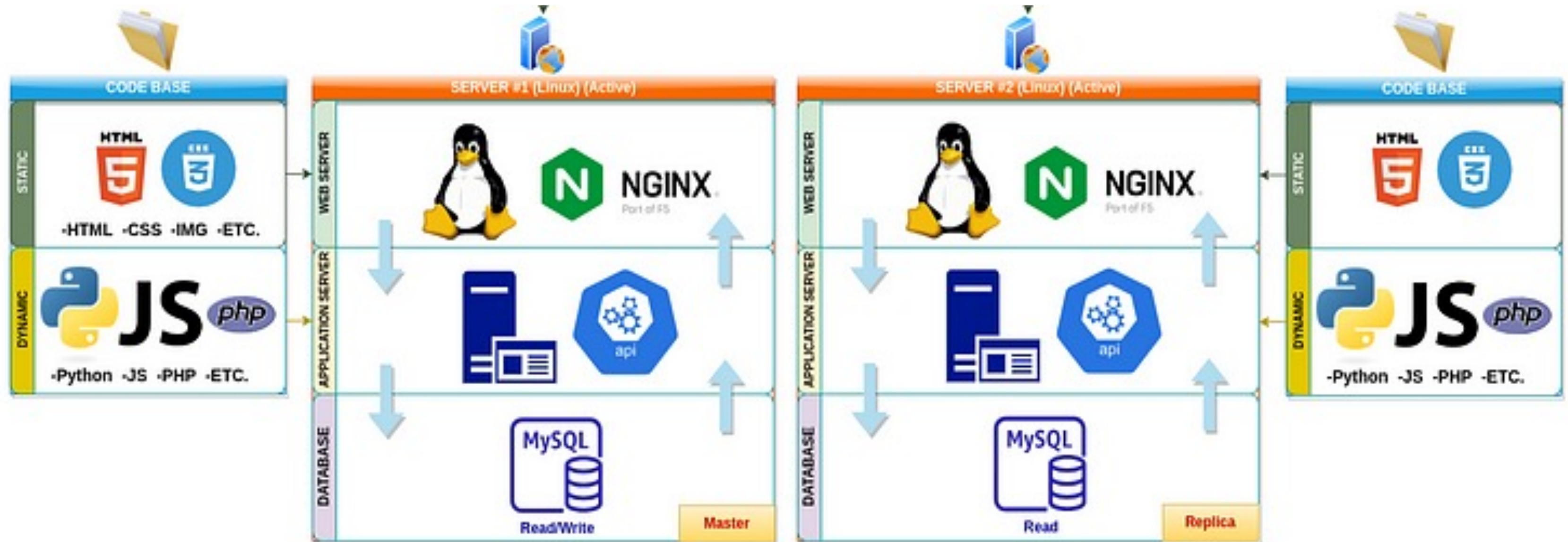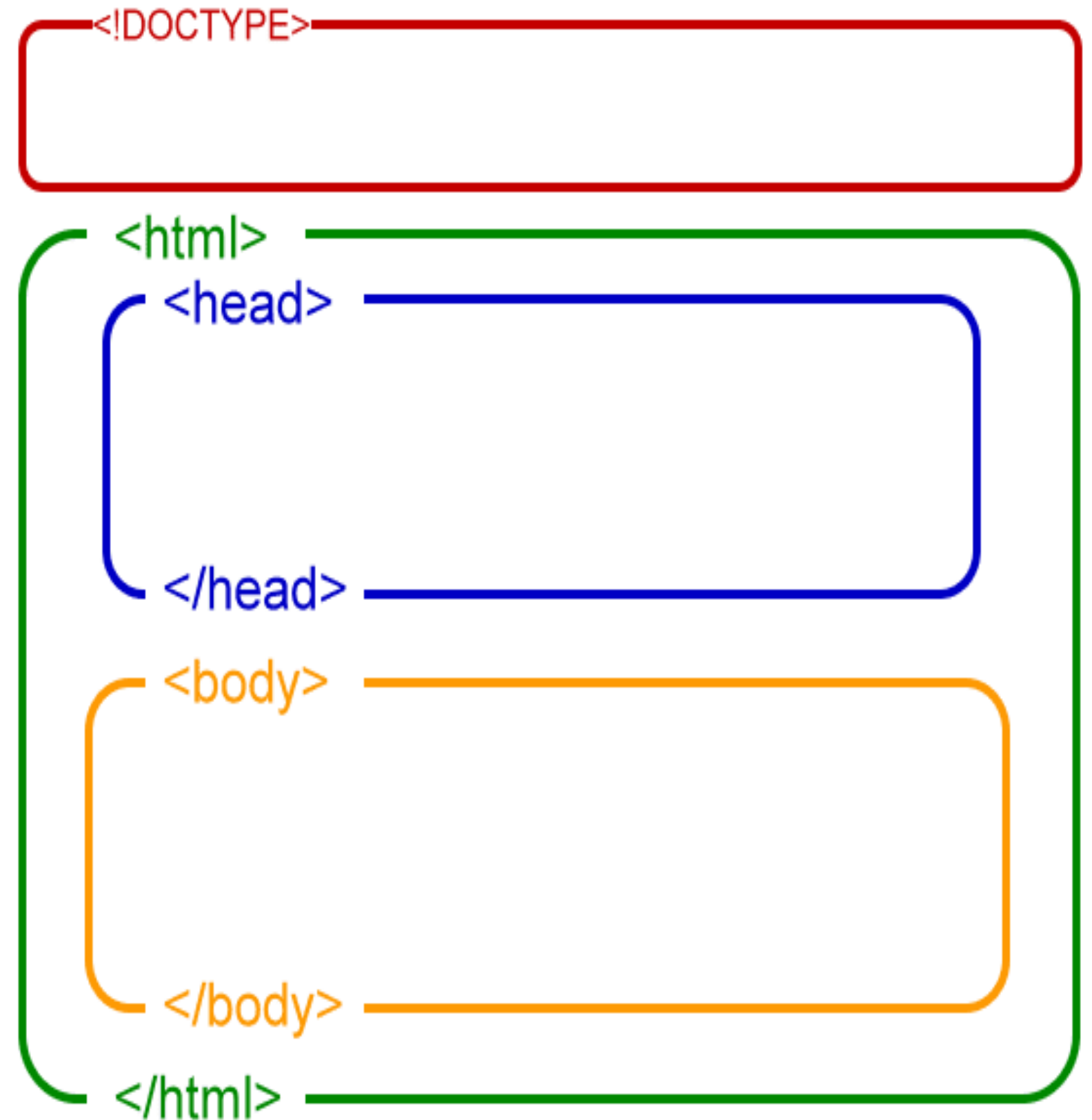HTML (HyperText Markup Language) is the standard language used to create and design web pages. It provides the basic structure of a webpage and defines the elements that are displayed on the browser, such as text, images, links, and other content. HTML is considered the backbone of all websites on the Internet.

```
<!DOCTYPE>
<html>
    <head>

    </head>
    <body>

    </body>
</html>
```

Anatomy of an HTML Document

```html
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta http-equiv="X-UA-Compatible" content="IE=edge">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>HTML5 Web and Cloud Technology</title>

</head>

<body>

    <h1>Hello world, Heading1!</h1>

</body>

</html>
```

HTML Tags

```html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <!-- Meta/Document Tags -->
5       <meta charset="UTF-8"> <!-- Specifies character encoding as UTF-8 -->
6       <title>HTML5 Tags Example</title>
7   </head>
8   <body>
9
10      <!-- 1. New Structural/Sectioning Tags in HTML5 -->
11      <header...>
21
22      <main...>
47
48      <!-- 1. Footer Section -->
49      <footer...>
52
53  </body>
54  </html>
55
```

HTML Tags

```html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <!-- Meta/Document Tags -->
5       <meta charset="UTF-8"> <!-- Specifies character encoding as UTF-8 -->
6       <title>HTML5 Tags Example</title>
7   </head>
8   <body>
9
10      <!-- 1. New Structural/Sectioning Tags in HTML5 -->
11      <header>
12          <!-- Navigation Section -->
13  >       <nav...>
20      </header>
21
22      <main>
23          <!-- Section 1: Article within Section -->
24  >       <section id="content"...>
45
46      </main>
47
48      <!-- 1. Footer Section -->
49      <footer>
50          <p>© 2024 HTML5 Page</p>
51      </footer>
52
53  </body>
54  </html>
55
```

Structural Tags in HTML5

- `<html>`: Defines the root of an HTML document.

- `<head>`: Contains metadata about the HTML document (e.g., `<title>`, `<meta>`, `<link>`).

- `<title>`: Sets the title of the webpage (shown in the browser tab).

- `<body>`: Contains the visible content of the HTML document.

- `<**header**>`: Defines a header for a document or section (e.g., nav, etc.).

- `<**nav**>`: Defines a navigation section for links (e.g., site menu).

- `<**article**>`: Represents independent, self-contained content (e.g., blog post, news article).

Structural Tags in HTML5

- `<section>`: Defines a section in a document (e.g., chapters,etc.).

- `<aside>`: Defines content aside from the content it is placed in (e.g., sidebar content).

- `<footer>`: Defines a footer for a document or section.

- `<main>`: Represents the main content of a document.

- `<figure>`: Contains media (e.g., images) with an optional `<figcaption>`.

- `<figcaption>`: Provides a caption for a `<figure>` element.

Media Tags

- `<audio>`: Embeds sound content (audio files).

- `<video>`: Embeds video content.

- `<source>`: Specifies multiple media resources for <audio> and <video>.

- `<track>`: Defines text tracks for <video> or <audio> (e.g., subtitles, captions).

Form-Related Tags

- `<form>`: Contains fields for user input.

- `<input>`: Accepts different types of input (e.g., text, email, date).

- `<textarea>`: Provides a multiline text input field.

- `<button>`: Defines a clickable button.

- `<select>`: A drop-down list.

- `<datalist>`: Offers a set of predefined options for an input field.

Loan Application Form

Full Name

Enter your full name

Date of Birth

dd/mm/yyyy

Gender

Select your gender

National ID/Passport Number

Enter your ID or Passport number

Email Address

Enter your email

Phone Number

Enter your phone number

Address

Enter your address

Employer Name

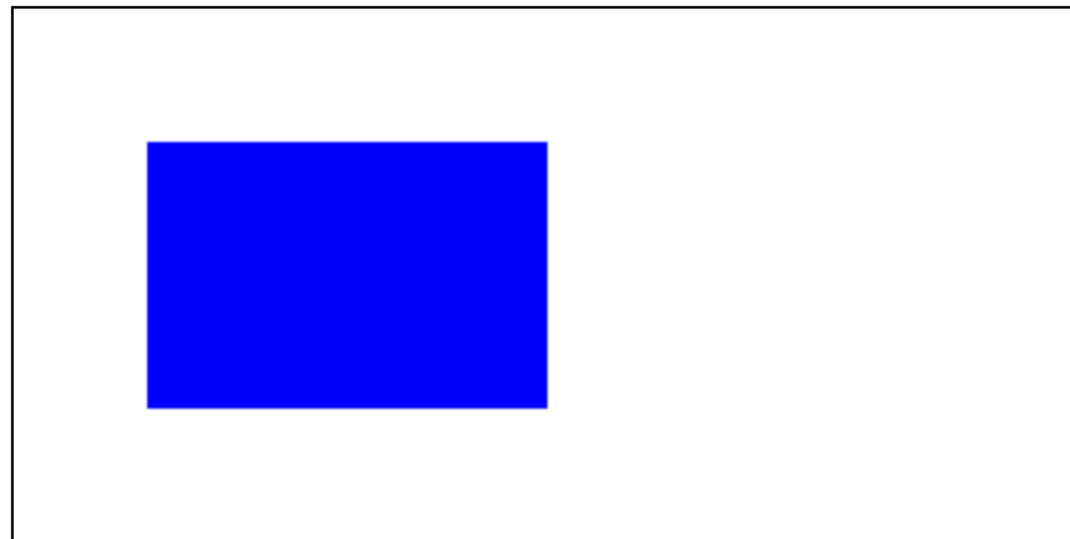Enter your employer's name

Job Title

Enter your job title

Apply for Loan

Interactive & Graphic Tags

- **`<canvas>`**: Provides a drawing surface for dynamic graphics via JavaScript.

- **`<details>` and `<summary>`**: Creates a collapsible section with a clickable summary.

- **`<dialog>`**: Represents a dialog box that can be shown or hidden.

- **`<mark>`**: Highlights important text.
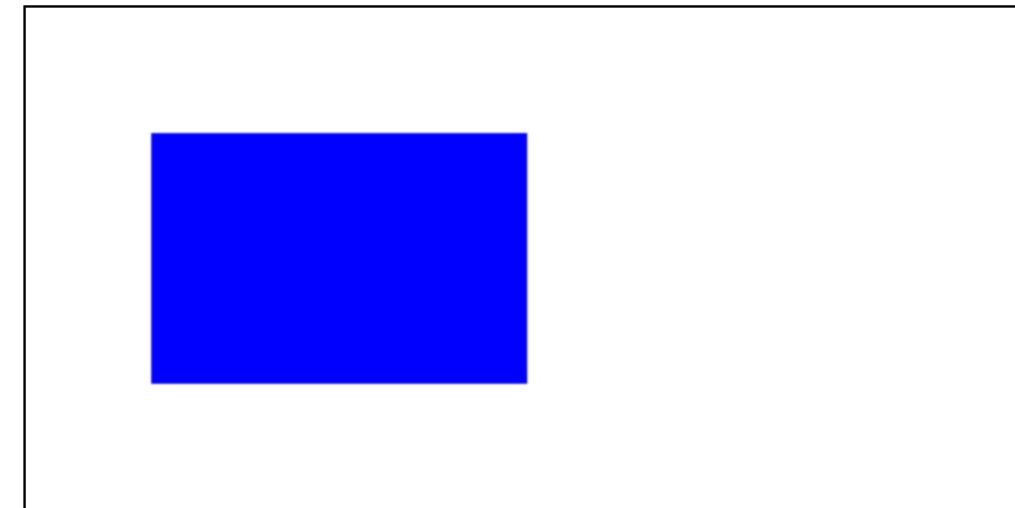
Graphics and Interactivity

▶ More about HTML5

HTML5 is <mark>important</mark> for modern web development.

Open Dialog

Graphics and Interactivity

▼ More about HTML5

HTML5 provides powerful APIs like Web Storage, Web Workers, and more.

HTML5 is <mark>important</mark> for modern web development.

Open Dialog

Meta/Document Tags

- **<**`meta charset="UTF-8"`**>**: Specifies the character encoding for the page.

- **<**`meta name="viewport"`**>:** Makes the page responsive for mobile devices.

Scripting & Embedding Tags

- **`<script>`: Embeds JavaScript to create dynamic content (e.g., drawing on <canvas>).**

- **`<noscript>`: Fallback content for users who don't have JavaScript enabled.**

Deprecated Tags in HTML5

- **`<font>` and `<center>`**: Deprecated; CSS should now be used for styling text and centering content.

Other Resource

- https://onepunchcoder.medium.com/how-the-internet-works-da793d7ce72e
- https://quickref.me/html

Next

HTML

Thanks

Do you have any questions?

| Contact

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