

# Introduction to HTML Boilerplate Code : By Gagan Baghel

## Introduction to HTML Structure & Boilerplate

When you create a new HTML file, it's important to include the **basic structure (boilerplate)** that tells the browser what kind of document it's reading and how to render it properly.

## HTML Boilerplate Structure Explained

Here's the standard HTML5 boilerplate:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Demo Boilerplate</title>
  </head>
  <body>
    <header></header>
    <main></main>
    <footer></footer>
  </body>
</html>
```

## Tag-by-Tag Explanation

Tag / Element	Explanation
<code>&lt;!DOCTYPE html&gt;</code>	Declares the document type and version of HTML (HTML5). Helps the browser render the page correctly.
<code>&lt;html&gt;</code>	The <b>root element</b> — wraps all HTML content. Everything inside belongs to your web page.
<code>&lt;head&gt;</code>	Contains <b>metadata</b> (information <i>about</i> the page, not visible to users) such as the title, links, and settings.
<code>&lt;meta charset="UTF-8"&gt;</code>	Defines the <b>character encoding</b> (UTF-8 supports all major languages and symbols).
<code>&lt;meta name="viewport" content="width=device-width, initial-scale=1.0"&gt;</code>	Ensures your website looks good on all devices by controlling how the page scales and resizes.
<code>&lt;title&gt;Demo Boilerplate&lt;/title&gt;</code>	Sets the page title shown on the browser tab.
<code>&lt;/head&gt;</code>	Closes the head section.
<code>&lt;body&gt;</code>	Contains <b>visible content</b> — what users actually see on the webpage.
<code>&lt;header&gt;&lt;/header&gt;</code>	Usually holds navigation bars, logos, or the main title of the website.
<code>&lt;main&gt;&lt;/main&gt;</code>	Contains the main or central content of the webpage. Only one <code>&lt;main&gt;</code> tag should exist per page.
<code>&lt;footer&gt;&lt;/footer&gt;</code>	Displays information at the bottom, such as contact info, copyright, or links.
<code>&lt;/body&gt;</code>	Closes the body section.
<code>&lt;/html&gt;</code>	Marks the end of the HTML document.

## ⚡ Shortcut for Generating HTML Boilerplate

In **VS Code**, you can quickly create the full structure by:

- Typing `!` or `html:5` → Press **Enter** or **Tab**.

This instantly generates the entire HTML5 boilerplate.

## 🖥️ How to Run Your HTML Code

1. **Right-click** your `index.html` file → select **"Open with Live Server."**

2. Or use the shortcut:

Alt + L + O

(Requires the Live Server extension.)

3. Your website will open in the default browser, and changes will auto-refresh when you save.



## Meta Tags — What They Do

**Meta tags** provide **information about your web page** to the browser and search engines.

They don't appear on the page but help control how your content is displayed and interpreted.

Think of it like a photo's metadata — it includes details like location, date, and camera model —

similarly, HTML meta tags describe your webpage's *behind-the-scenes* data.

Meta Tag	Purpose
<code>&lt;meta charset="UTF-8"&gt;</code>	Ensures your page supports special characters (like emojis or foreign text).
<code>&lt;meta name="viewport" content="width=device-width, initial-scale=1.0"&gt;</code>	Makes the layout responsive for all screen sizes (mobile, tablet, desktop).
<code>&lt;meta name="description" content="A short summary of your webpage."&gt;</code>	(Optional) Provides a description for search engines (appears under your page title in Google results).
<code>&lt;meta name="keywords" content="HTML, CSS, JavaScript"&gt;</code>	(Optional) Lists keywords about your site's content (less used today but good to know).
<code>&lt;meta name="author" content="Your Name"&gt;</code>	(Optional) Specifies the author or owner of the page.



### Quick Tip

Always include:

```
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

These two are **essential** for every HTML document to ensure proper text display and responsiveness.

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## Summary :

1. `<!DOCTYPE html>` : Declares the HTML version.
2. `<html>` : Root element.
3. `<head>` : Contains all links, title, and meta tags.
4. `<meta charset="UTF-8">` : Specifies the character encoding.
5. `<title>Demo Boilerplate</title>` : Website name shown in the tab.
6. `</head>`
7. `<body>` : Contains the visible content of the website.
8. `<header></header>` : Contains the heading of the website.
9. `<main></main>` : Contains the main content.
10. `<footer></footer>` : Contains the footer of the website.
11. `</body>`
12. `</html>`

## Shortcut for Generating HTML Boilerplate Code

1. Type "html:5" or "!" to generate the boilerplate code.

## How to Run HTML Code

1. Right-click and select "Open with Live Server."

2. Or use the shortcut: `Alt + L + O.`

## Meta Tags

Meta tags provide data about the data. For example, when you take a photo with your phone, meta data (such as size, location, aspect ratio) is stored.

Meta tags in HTML serve a similar purpose by providing additional information about the content.

1. `<meta charset="UTF-8">` : Ensures the browser properly displays content by defining the character encoding.
2. `<meta name="viewport" content="width=device-width, initial-scale=1.0">` : Adjusts layout for different devices.