**CTF Challenge: How Does Website Work?**

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**1. User Requests a Website:**

* You enter a domain name (e.g., google.com) into your web browser. This is a user-friendly way to access websites.

**2. DNS Lookup:**

* Your computer contacts a local DNS resolver (often provided by your internet service provider).
* The DNS resolver acts like a phonebook, translating the domain name into its corresponding IP address (e.g., 142.250.184.196). This numerical address is how computers locate and communicate with each other.

**3. HTTP Request:**

* Once the IP address is obtained, your web browser initiates an HTTP request to the web server at that address.
* The HTTP request specifies the desired action (usually a GET method to retrieve information) and the specific resource (like the homepage "/" or a specific web page "/about").

**4. Server Response:**

* The web server receives the HTTP request and processes it.
* The server retrieves the requested content (HTML code, images, etc.) and prepares an HTTP response.

**5. Content Delivery:**

* The HTTP response is sent back to your web browser.
* The response includes the requested content and additional information like status codes (e.g., 200 OK indicating success).

**6. Rendering the Webpage:**

* Your web browser interprets the HTML code from the response and fetches any additional resources like images or stylesheets.
* The browser renders the webpage according to the instructions in the code, displaying the website you see on your screen.

# **Capture the Flag (CTF) Challenges**

**Flag 1. You enter a user-friendly domain name (e.g., google.com) into your web browser. What translates this name into a numerical IP address?**

Answer: DNS

**Flag 2. The HTTP request to the web server typically uses what method to retrieve information from a webpage?**

Answer: GET

**Flag 3. After processing the request, the web server sends an HTTP response containing the requested content and additional information. What might this additional information include?**

Answer: Code/Status

**Flag 4. Once received by your browser, the HTML code from the response is interpreted and used to display the webpage.True/False?**

Answer: True

**Flag 5. Modern websites may use scripting languages like JavaScript to create a more dynamic user experience. This processing occur on the client's machine or the web server?**

Answer: Client/Server (both)