



What happens when we type a URL?

By

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The background features several large, overlapping geometric shapes, primarily diamonds and triangles, in teal, yellow, and green colors. These shapes are arranged in a way that creates a dynamic, abstract pattern across the slide.

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We rely on the internet for just about everything: checking email, calling an Uber, and ordering food and clothes. Yet in all these interactions it can be hard to see how the internet is used and navigated behind the screens.

This presentation will allow you to understand what goes on when you enter a URL into a browser.

First Understand URL and DNS

URL (Uniform Resource Locator)

URL is the address of the website which you can find in the address bar of your web browser. It is a reference to a resource on the internet, be it images, hypertext pages, audio/video files, etc.

DNS (Domain Name System)

DNS is short for Domain Name System. Like a phonebook, DNS maintains and maps the name of the website, i.e., URL, and particular IP address it links to. Every URL on the internet has a unique IP address which is of the computer which hosts the server of the website requested.

Steps

Step 1

You type URL into the address bar of your browser.

Step 3

If the requested URL is not in the cache, ISP's DNS server initiates a DNS query to find the IP address of the server that hosts URL.

Step 2

The browser checks the cache for a DNS record to find the corresponding IP address of URL

Step 4

The browser initiates a TCP connection with the server.

Steps

Step 5

The browser sends an HTTP request to the webserver.

Step 7

The server sends out an HTTP response.

Step 6

The server handles the request and sends back a response.

Step 8

The browser displays the HTML content (for HTML responses, which is the most common).

The background of the slide is split. The left half features a black and white image of fiber optic cables with bright white light points at their ends, creating a sense of depth and connectivity. The right half is white and contains the main text and decorative elements. In the top right corner, there are three overlapping geometric shapes: a yellow triangle, a green triangle, and a teal parallelogram.

Thank you

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