Introduction to World Wide Web

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Overview

Introduction to WWW

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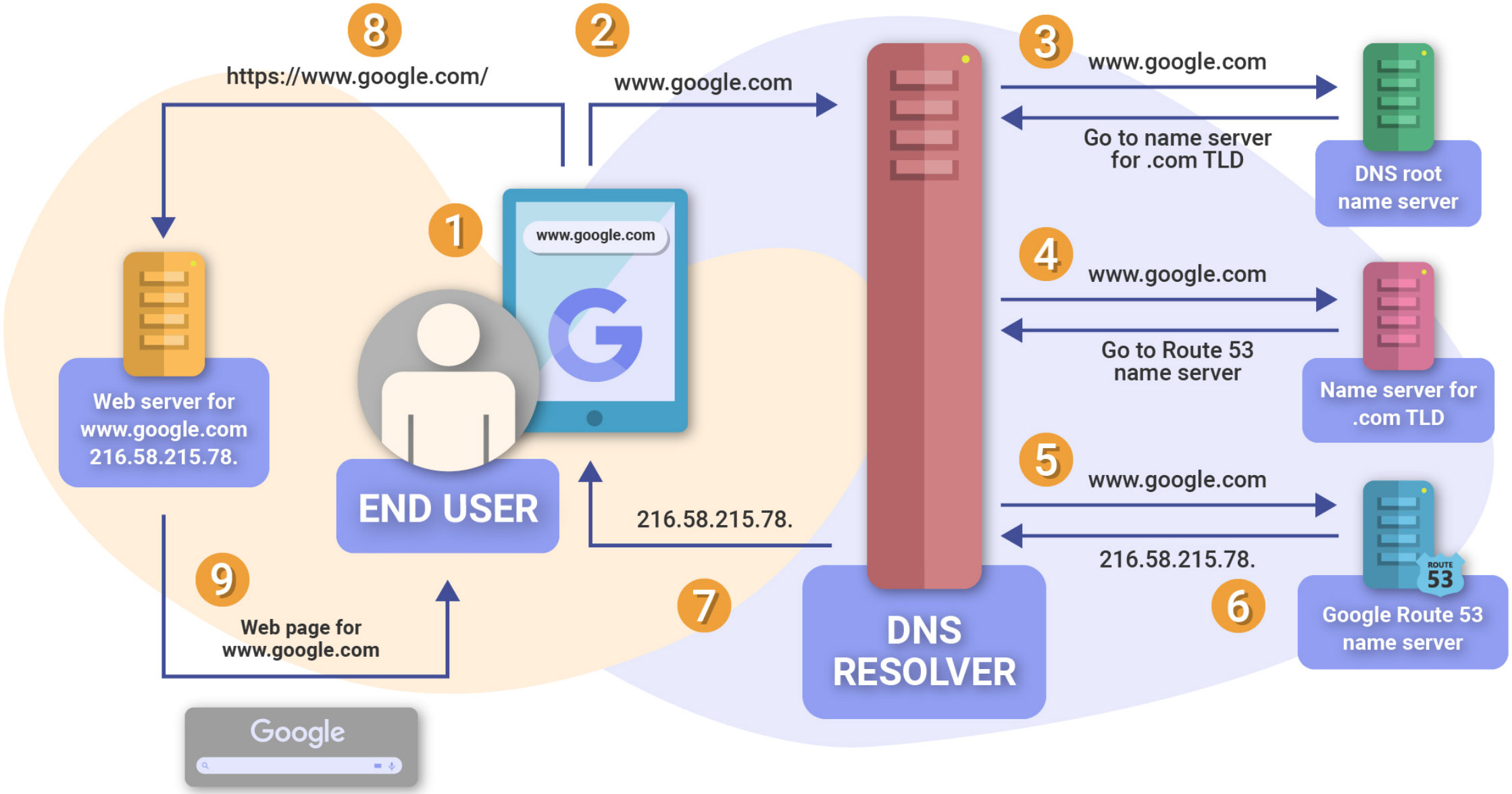
Introduction to WWW

- The World Wide Web - also known as the web, WWW or W3 - refers to all the public websites or pages that users can access on their local computers and other devices through the internet.
- One of the earliest and most significant contributions was the creation of ARPANET (Advanced Research Projects Agency Network) by the United States Department of Defense's ARPA (Advanced Research Projects Agency).
- These pages and documents are interconnected by means of hyperlinks that users click on for information.
- This information can be in different formats, including text, images, audio and video.
- The term World Wide Web isn't synonymous with the internet. Rather, the World Wide Web is part of the internet

Working of WWW


8
https://www.google.com/
2
www.google.com
3
www.google.com
Go to name server
for .com TLD
DNS root
name server
1
www.google.com
4
www.google.com
Go to Route 53
name server
Name server for
.com TLD
Web server for
www.google.com
216.58.215.78.
END USER
5
www.google.com
216.58.215.78.
ROUTE
53
Google Route 53
name server
216.58.215.78.
7
6
DNS
RESOLVER
9
Web page for
www.google.com
Google

Building Blocks of WWW

- **HTML (HyperText Markup Language):** The standard markup language used to create and structure content on the web. It provides the foundation of a webpage, defining elements like headings, paragraphs, links, images, and forms.

- **CSS (Cascading Style Sheets):** A style sheet language used to define the appearance and layout of HTML elements. It controls the visual presentation, including fonts, colors, spacing, and positioning.

- **JavaScript:** A scripting language that enables interactivity and dynamic content on webpages. JavaScript allows developers to manipulate HTML and CSS in response to user actions, create animations, validate forms, and more.

- **HTTP/HTTPS (Hypertext Transfer Protocol):** The protocol used to transfer data between a web server and a browser. HTTPS adds a layer of encryption (SSL/TLS) for secure communication.

- **Web Browsers:** Software applications (like Chrome, Firefox, Edge) that retrieve, interpret, and display web content. Browsers render HTML, CSS, and JavaScript to create the interactive web experience users see.

- **Web Servers:** Computers or systems that store, process, and deliver web pages to users. Examples include Apache, Nginx, and IIS (Internet Information Services).

- **URLs (Uniform Resource Locators):** Addresses used to identify and access resources on the web, such as webpages, images, and files.

- **DNS (Domain Name System):** A system that translates human-readable domain names (like www.example.com) into IP addresses that computers use to locate each other on the internet.

- **APIs (Application Programming Interfaces):** Interfaces that allow different software systems to communicate with each other over the web, facilitating the integration of external services and data.

- **Cookies and Web Storage:** Mechanisms used to store user data (e.g., preferences, login sessions) on the client-side (browser) to enable a personalized experience.

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