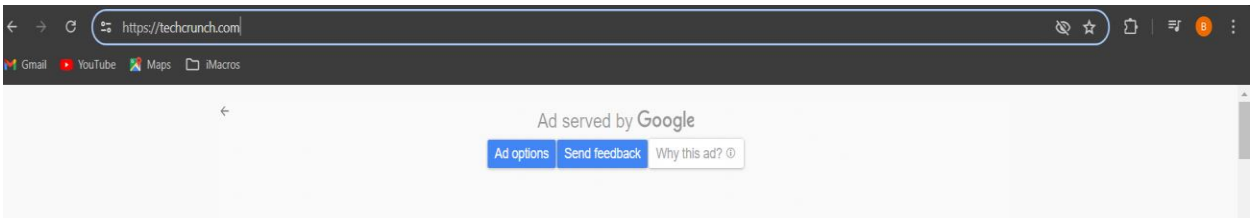
DNS, or Domain Name System, is a fundamental part of the internet infrastructure. Its primary function is to translate human-readable domain names (like www.example.com) into IP addresses (like 192.0.2.1) that computers use to identify each other on the network. This process is often referred to as "resolving" a domain name.

DNS Demonstration on Wireshark:

Step 1: A user enters a domain name in their browser.

Example:



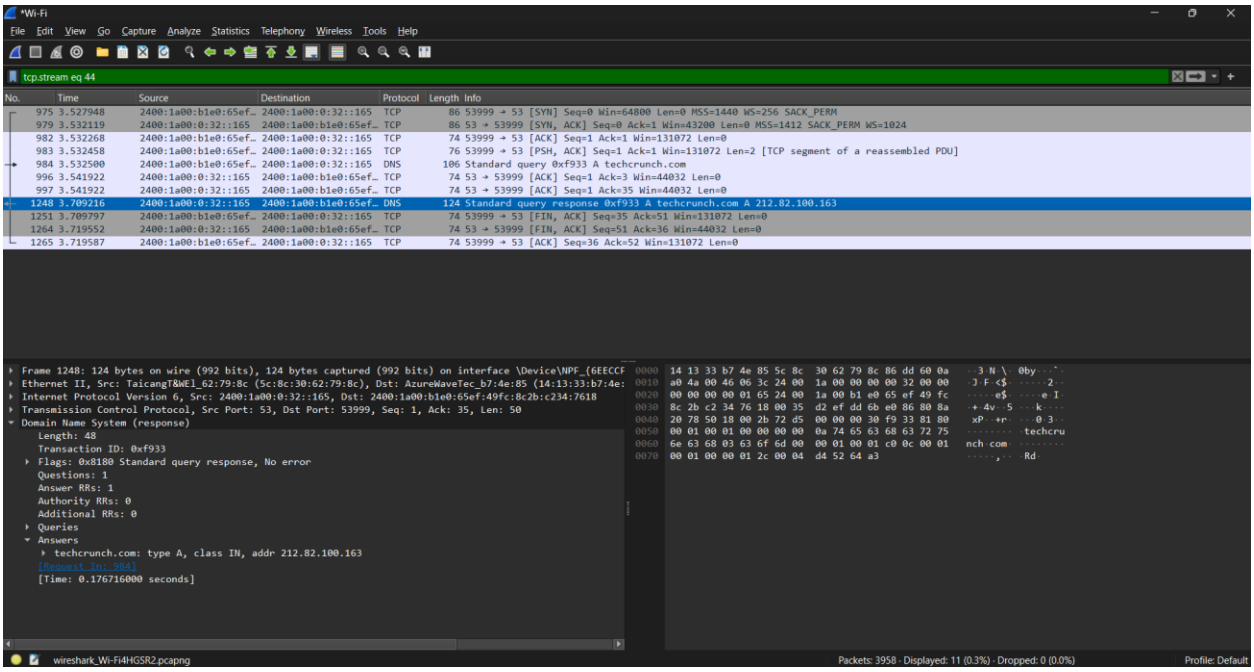
Step 2: The browser sends a request to the DNS resolver.

Step 3: The DNS resolver queries the root name server to find the TLD name server.

Step 4: The resolver then queries the TLD name server to find the authoritative name server for the domain.

Step 5: The resolver queries the authoritative name server to get the IP address of the domain.

Step 6: The resolver returns the IP address to the user's browser, which then uses it to request the website.



Here the resolver has returned the IP address of (212.82.100.163) to the domain name (techchrunch.com)