We can suppose there are two networks: A and B.

The network space of the network A -> 10.7.2.0/24 and the network space of the network B -> 192.168.45.0/24.

Both networks are connected to the same router.
Network interface A -> 10.7.2.1 and network interface B -> 192.168.45.1.

A person connects his laptop to the network A, with the IP address 10.7.2.79 and open a browser to see a website hosted in the IP address 192.168.45.100.
The website is hosted in a server on the network B, with the IP address 192.168.45.100.

When the person enter the IP address in the browser and hits enter, the browser automatically communicates with the local networking stack and wants to establish a TCP connection with the server 192.163.45.100 through port 80. The networking stack will check its own subnet and finds out that the IP address 192.168.45.100 is on another network.

Immediately the client sends the data through its gateway which have the IP address 10.7.2.1.

After that, the sending node creates an ARP broadcast using the MAC address FF:FF:FF:FF:FF:FF, indicating that it needs to find the device with the IP of the website the person tries to reach.

When the router receives the ARP message, it responds to the client with its own MAC address, and can begin creating the outbound packet to send jt to the web server.

After sending the data through the gateway, the client checks its ARP table to know the MAC address of its gateway.

Because this is a TCP connection it will need to use a TCP port to establish the connection with the server, which is determined by the network stack of the Operating System.

The TCP segment (Transport layer) is created with the flag SYN in the TCP header, with the sequence number, all encapsulated in the Network Layer IP Datagram, which calculates the checksum.

This is all encapsulated in the Ethernet frame at the data link layer, where another checksum is calculated and the TTL is set at 64 (Default),

Then is sent over the Physical Layer to the router over WiFi or Ethernet.

The Switch receives it and already knows where this MAC address is.

Then sends all the entire Ethernet Frame to the router.

The router checks the Ethernet Frame Checksum and inserts its own IP and MAC address in the Source fields of the headers, and encapsulates them in new datagram and Ethernet Frame.

Now it decrements the **TTL** field by one (now 63).

This packet is then sent to the receiving node, where the same process will happen again with a new TCP segment including a SYN/ACK flag.