

# AJAX BASICS



# AJAX



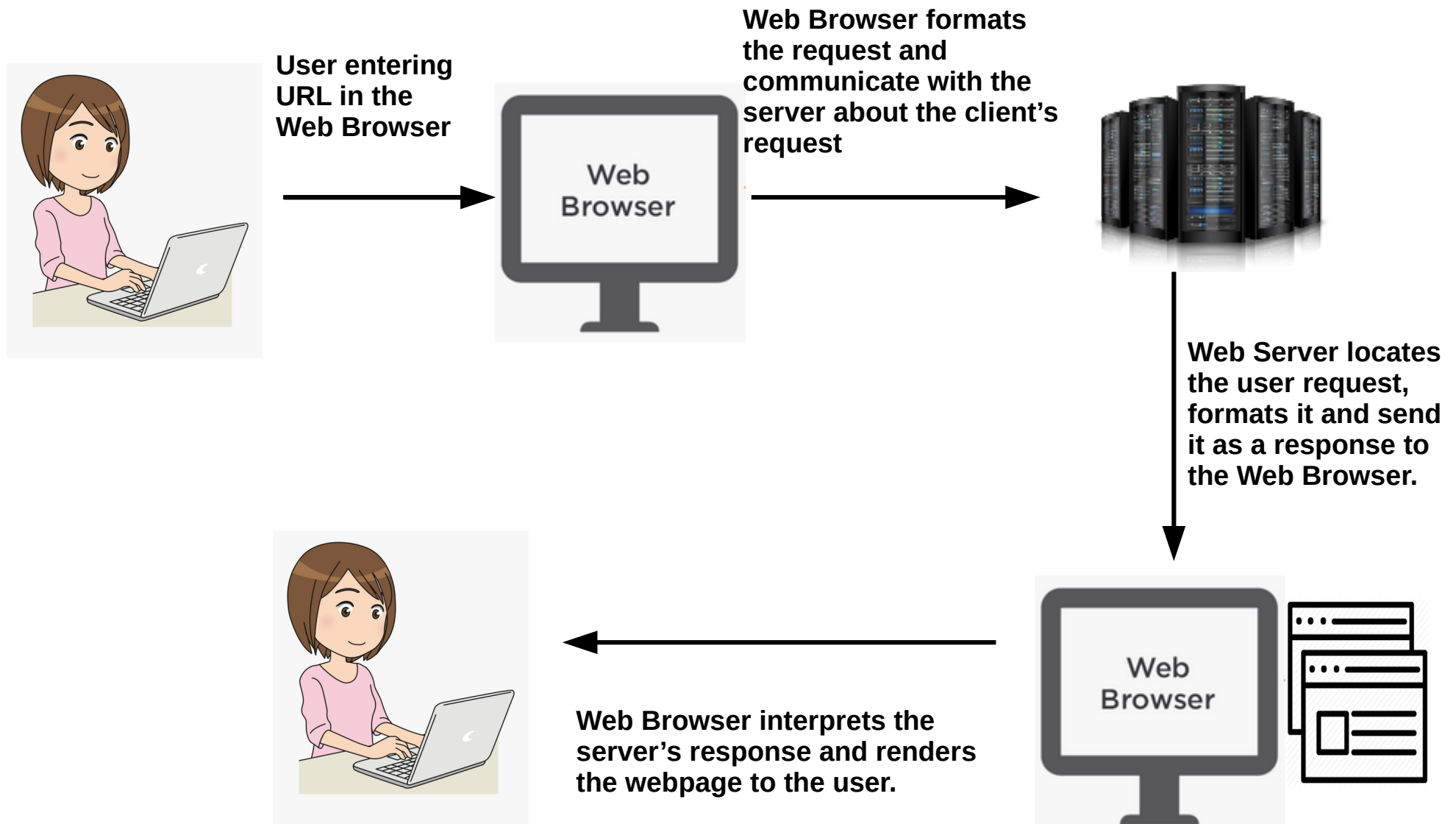
**Asynchronous JavaScript and XML (AJAX) provides a way for JavaScript to send data to and receive data from a server.**



Behind the scenes ?!



# Behind the scenes ?!



# HTTP REQUEST- PACKET



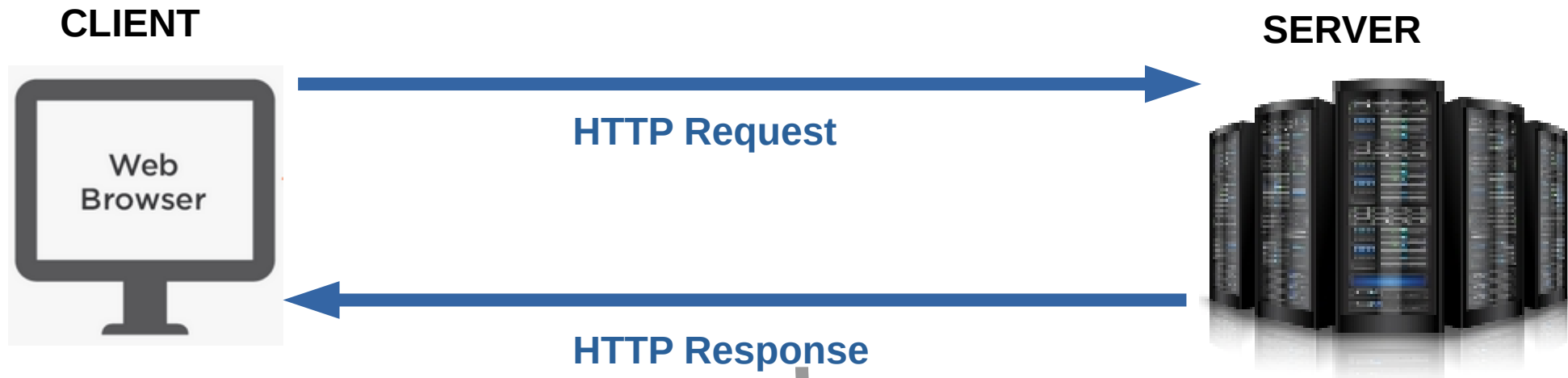
REQUEST LINE

REQUEST HEADERS

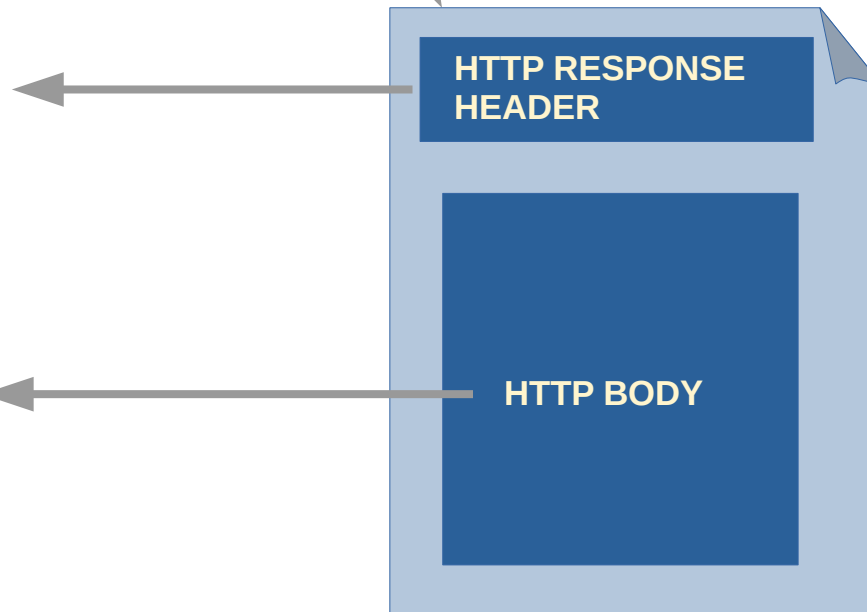
REQUEST BODY

```
Terminal - beu@beu-Latitude-D830: ~  
File Edit View Terminal Tabs Help  
beu@beu-Latitude-D830:~$ python3 request.py  
REQUEST  
GET https://cutn.ac.in/ HTTP/1.1  
Host: www.cutn.ac.in:80  
User-Agent: Python 3  
Connection: close
```

# HTTP RESPONSE



An HTML browser uses the header information to process the HTML page



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# HTTP RESPONSE



```
Terminal - beu@beu-Latitude-D830: ~
File Edit View Terminal Tabs Help
beu@beu-Latitude-D830:~$ python3 request.py
REQUEST
GET https://cutn.ac.in/ HTTP/1.1
Host: www.cutn.ac.in:80
User-Agent: Python 3
Connection: close

RESPONSE
HTTP/1.1 301 Moved Permanently
Date: Sat, 30 May 2020 22:44:55 GMT
Server: Apache/2.4.10 (Debian)
Location: https://www.cutn.ac.in/
Content-Length: 311
Connection: close
Content-Type: text/html; charset=iso-8859-1

<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html><head>
<title>301 Moved Permanently</title>
</head><body>
<h1>Moved Permanently</h1>
<p>The document has moved <a href="https://www.cutn.ac.in/">here</a>.</p>
<hr>
<address>Apache/2.4.10 (Debian) Server at www.cutn.ac.in Port 80</address>
</body></html>

beu@beu-Latitude-D830:~$
```

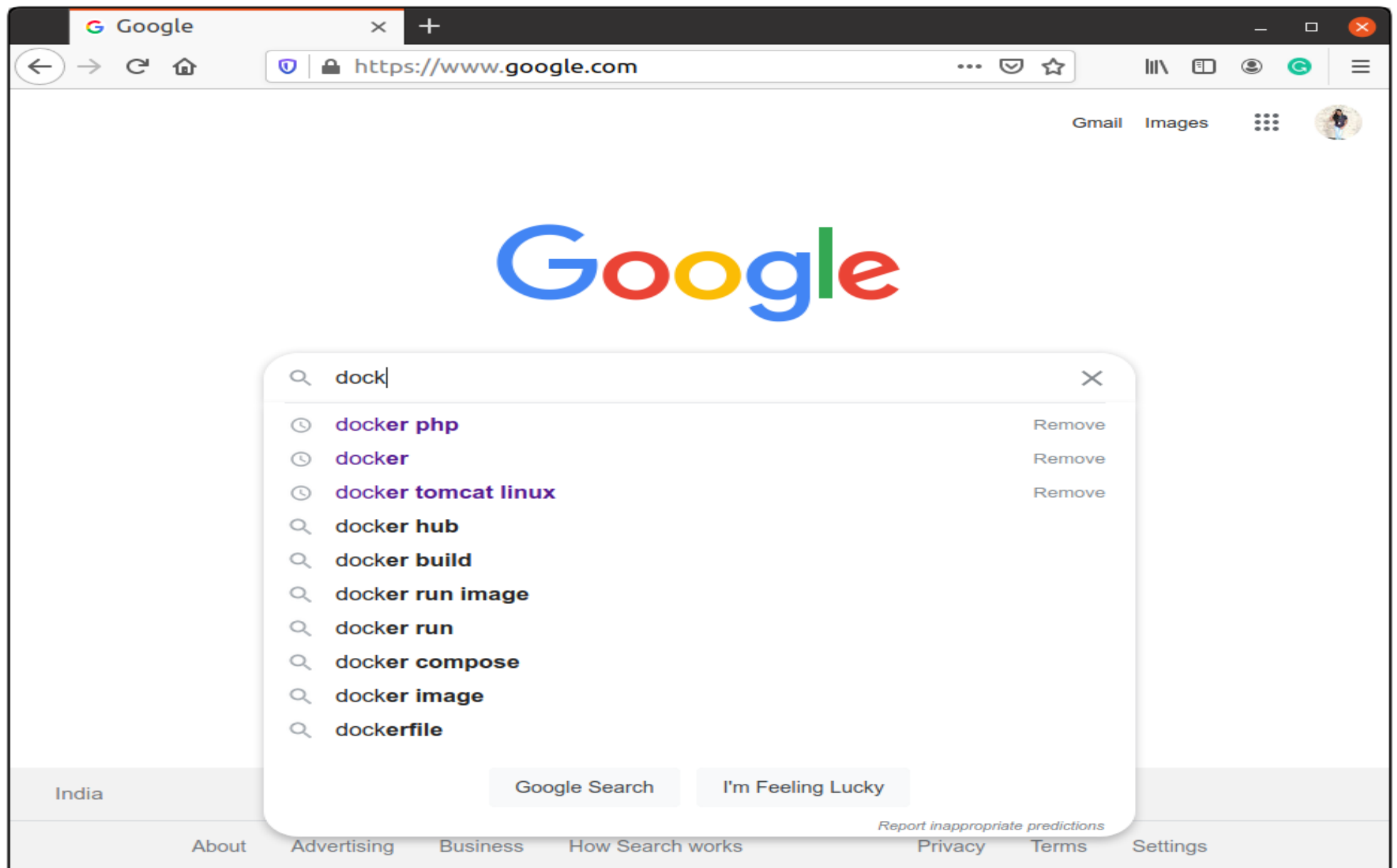
# EXAMPLE OF AJAX



**GOOGLE SEARCH ENGINE**



# GOOGLE SEARCH ENGINE

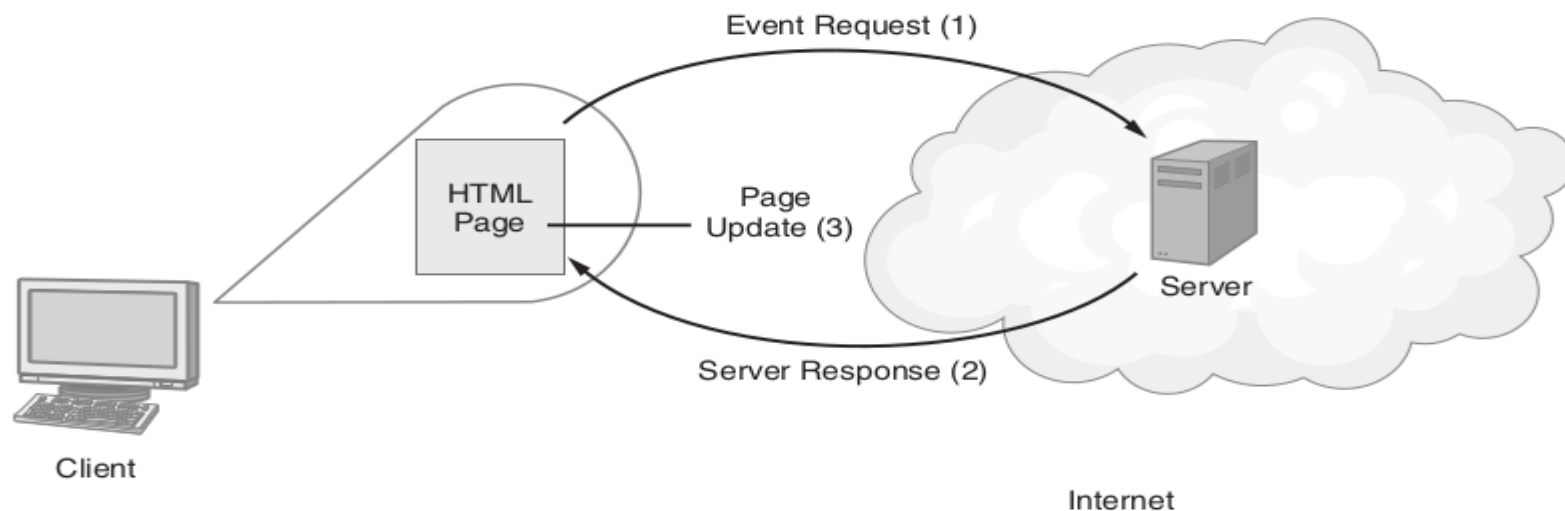


# AJAX processes

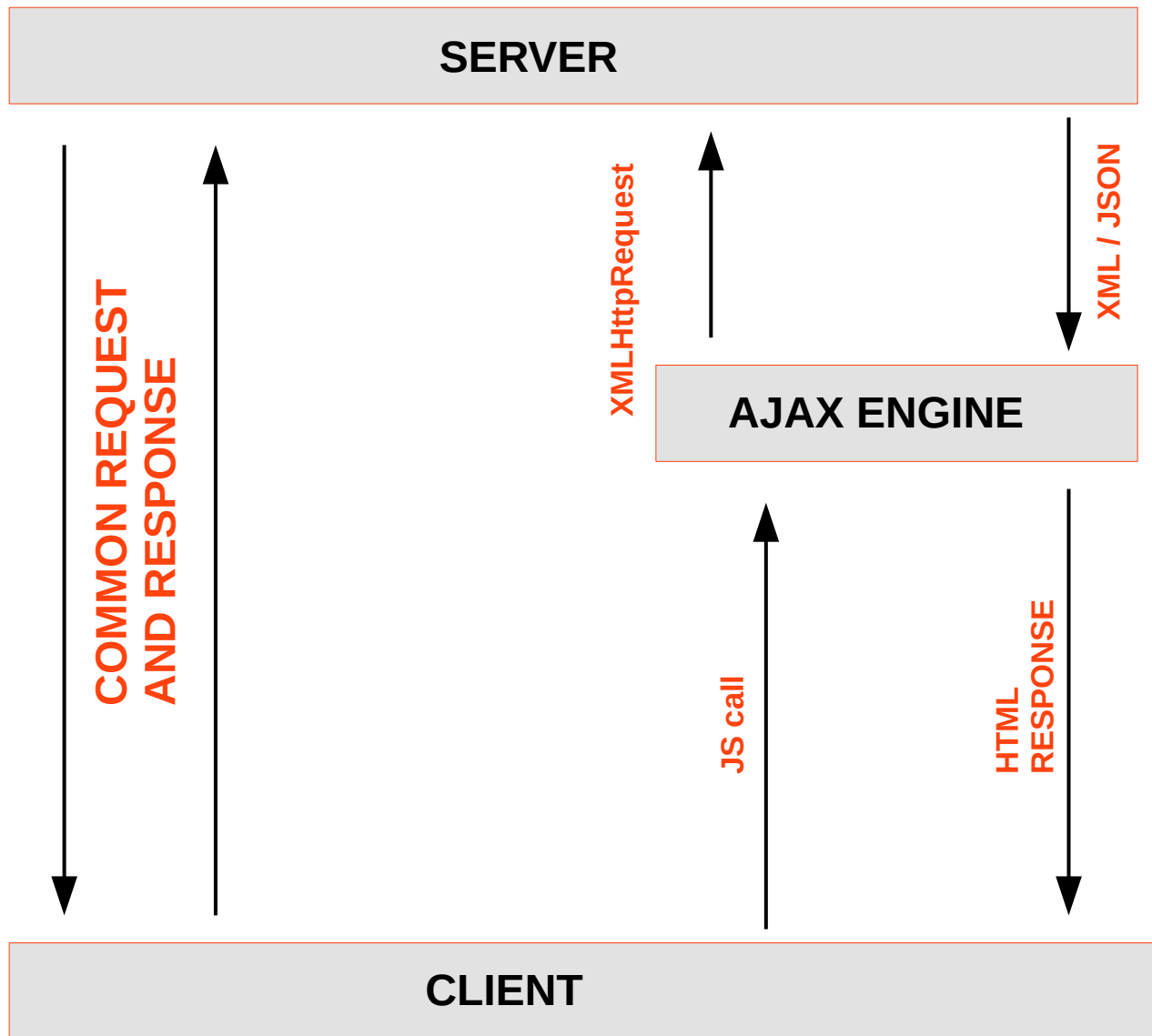


## The Three-step AJAX Process

- First, something happens on the page to trigger the need for an AJAX operation, such as a keyboard input or a mouse-click operation in other words, an event.
- The page, in turn, uses JavaScript to send a message to a remote server.
- The server, in turn, processes the request and sends back a response to the page.



# How AJAX works ?



# AJAX



**It is extremely important technology in web development.**

**It is not a language**

**It is not a framework**

**And it is not even a library**

**It is just a simple set of web technologies to send and receive data from client to the server asynchronously.**

**It is all done behind the page without having to explicitly reload the web page.**



# AJAX



**In order to improve webpage processing capabilities and functionality, we use JavaScript to send data and request content to or from a remote server.**

**Asynchronous JavaScript and XML, or AJAX, is a technique that we use to perform JavaScript-based interactions with a server.**

Asynchronous means **“not occurring at the same time”**

Example: An exchange of letters through postal mail, for instance, is an example of asynchronous communication, unlike, say, a conversation in person or over the phone.

