

# Responsibilities, services or components? of...

1) Client 2) Carrier/Internet 3) Server

<p><b>Client in Browser</b></p> <ul style="list-style-type: none"> <li>Responsibilities, characteristics, features, services, capabilities, and/or components?</li> </ul>	<p><b>Internet, TCP/IP, HttpRequest, HttpResponse, Https, SSL, ...</b></p> <ul style="list-style-type: none"> <li>Responsibilities, characteristics, features, services , capabilities, and/or components?</li> </ul>	<p><b>Server = Web server, Application container, Database server</b></p> <ul style="list-style-type: none"> <li>Responsibilities, characteristics, features, services , capabilities, and/or components?</li> </ul>
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## Client = Browser and front-end application, and storages

- Sends the requests based on link or send button clicks and JavaScript events (AJAX)
- Parses and renders DOM: HTML, CSS, JS
- Downloads and shows images and media
- Provides UI for navigation (links, etc.)
- Possibly SPA Routing between “Pages”
- Provides form controls and form submissions (usually HTTP POST)
- UI event handling, like mouse dragging etc.
- Runs JavaScript
- Runs AJAX request and receives responses
- Validation of input (client-side)
- Session management (client-side)
- Saves cookies
- Caching. And Local storage. Debugger.
- Can fetch content from many servers
- Maintains hidden info sent and later again received by the backend, usually encrypted, (like antiforgerytokens, auth\_key, api\_key) and so on.
- Support for the carrier security (client-side)

## Internet, TCP/IP, HttpRequest, HttpResponse, Https, SSL, ...

- Security: Encryption of data
- Security: We know that the ends are who they say they are
- Routing packages
- Reliability, package handling
- Cache proxies

**MOST LIKELY FEATURES  
STILL MISSING FROM ALL  
OF THESE LISTS!**

**AMAZED?**

## Server = Web server, Application container, Database server

- Routing, Dispatching
- Hiding the implementation
- Loose coupling of URL to implementing components,
- Restful URIs
- Runs code, maintains object structures
- Interprets and parses requests (incl. AJAX)
- Writes responses e.g. as HTML/JSON/XML
- Validation of input (server-side)
- Session management (server-side)
- Authentication of users **and** client apps **and** requests
- Authorization (user->items, role->actions)
- Conventions/Annotations/Configurations
- Templates helping (Spring Boot, MVC..)
- Database, Database connection, Database user authentication and authorization, (Database encryption)
- Support for the carrier security (server-side)
- Web Services, sockets, ...