

Homework Questions on Application Layer 1

Q1. In what way instant messaging is a hybrid of client-server and P2P architecture?

A1.

Instant Messaging involves the initiator to contact a centralized server to locate the address (IP address.) of the receiver: client server model. After this, the instant messaging can be peer to peer – message between the two communicating parties are sent directly between them.

Q2. Multiple Choice Questions – Choose one from the possible choices: (correct answers are highlighted)

A) Suppose a client sends an HTTP request message with the *If-modified-since:* header. Suppose the object in the server has not changed since the last time that client retrieved the object. Then the server will send a response message with the status code:

- (i) 304 Not Modified
- (ii) 404 Not Found
- (iii) 200 OK
- (iv) 403 Permission Denied

B) HTTP request and response messages are not human readable

- (i) True
- (ii) False

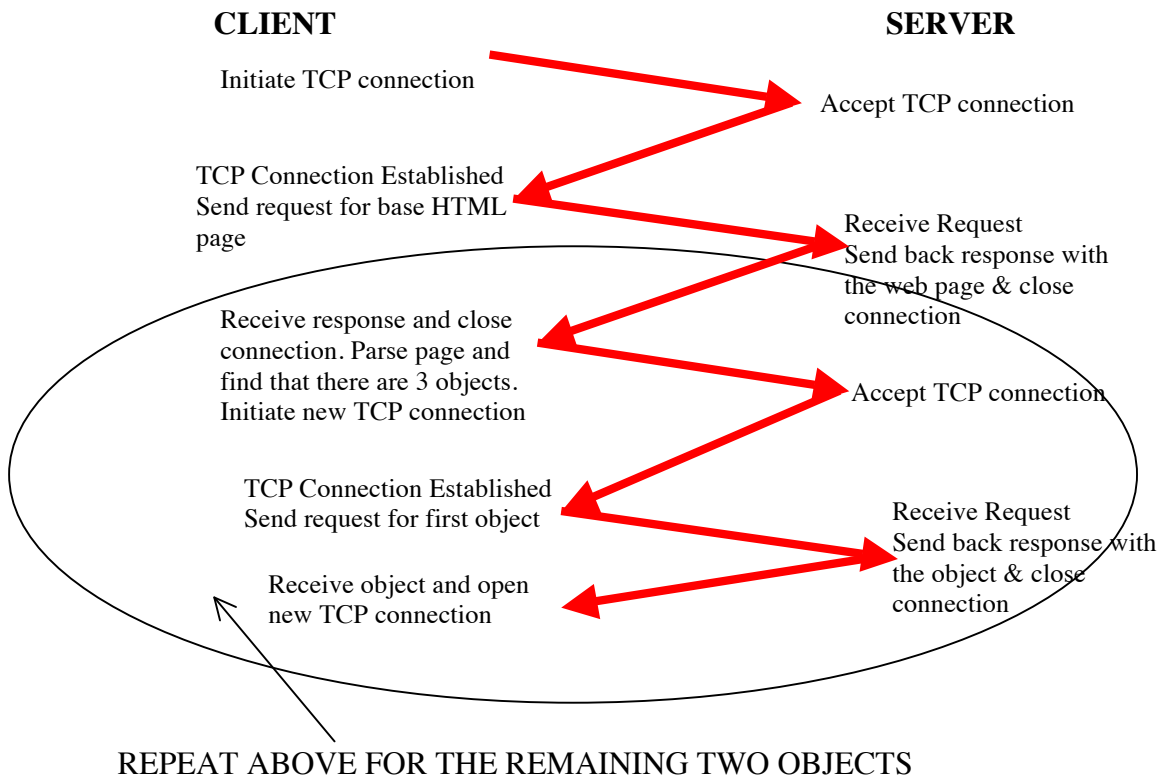
C) All SMTP e-mail messages must be in 8-bit ASCII

- (i) True
 - (ii) False (correct answer is 7-bit ASCII)
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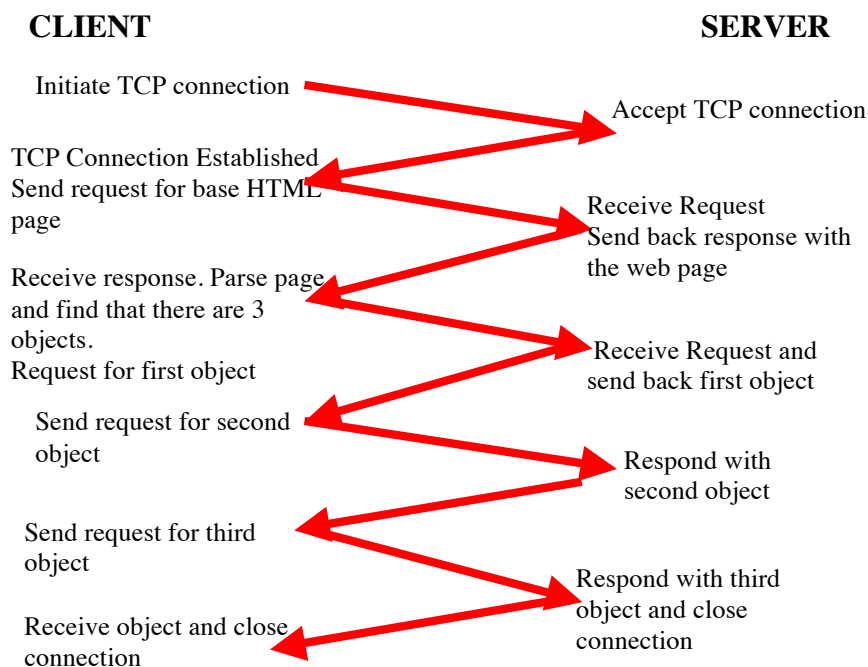
Q3. Suppose you needed to use HTTP to download a web page with three embedded images. Draw diagrams, similar to those from the lecture slides, depicting the main interactions between the client and server when using non-persistent HTTP, persistent HTTP without pipelining, and persistent HTTP with pipelining.

A3.

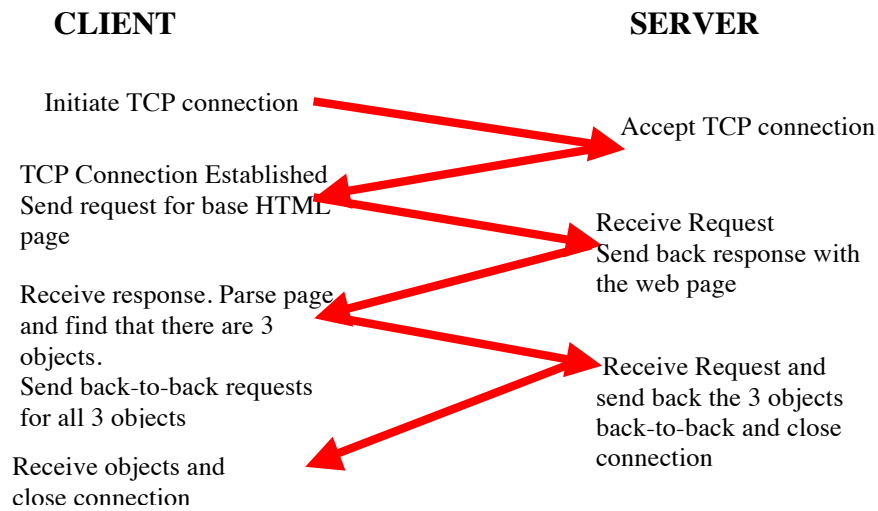
(a) Non-persistent HTTP



(b) Persistent HTTP without pipelining



(c) Persistent HTTP with pipelining



End of Homework Solutions
