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| PROTOCOL | EXPLANTION |
| ARP Address  Resolution  Protocol | A Protocol for connecting a dynamic [IP address](https://whatis.techtarget.com/definition/IP-address-Internet-Protocol-Address) to a permanent physical machine address in a LAN . The physical machine address called “MAC”. |
| ICMP Internet  Control  Message  Protocol | A supporting protocol and is used by networks devices like routers for sending error messages and operational information indicating success or failure when communicating with another [IP address](https://en.wikipedia.org/wiki/IP_address" \o "IP address). |
| LLMNR Link Local  Multicast  Name  Resolution | An DNS based protocol that works only on Microsoft OS that translates domain names of close computer( on the same LAN) with out the need of DNS server. |
| SMB Server Message Block | A [communication protocol](https://en.wikipedia.org/wiki/Communication_protocol) for providing [shared access](https://en.wikipedia.org/wiki/Shared_access) to [files](https://en.wikipedia.org/wiki/Computer_file) and [printers](https://en.wikipedia.org/wiki/Print_server) between [nodes](https://en.wikipedia.org/wiki/Node_(networking)) on a network |
| TLS | A protocol to provide privacy and data between two or more communicating computer applications which encrypt the data transferd |

2)The RTT 8.808- 9.183=0.375sec

3) the DNS of the lab server is { ip=128.119.245.12, port =80 }   
the DNS of our computer is { ip=192.168.1.10, port =62177 }  
the domain name contains the port and the IP .

4) to print

5) http 1.1 .  
6)English US  
7) ip ?

8)200

12) conditional GET return 304 status code if nothing changed since the previous GET request.