

Comp 445 Assignment 2 (Answers)

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Questions (2pt each):

1. What uniquely distinguishes clients on a server?

Answer: Each client is uniquely identified by a nickname that can be no longer than 9 characters. Servers must also have the real name of the client's host, the client's username on that host and the name of the server the client is running on.

2. What information must all servers have relating to users?

Answer: Unique Nickname, Username, Host Name, Server Name, Port Name and Real Name.

3. How many bits are used in the protocol to define a character?

Answer: 8 bits are used to define a character, called an octet.

4. What is the binary representation of the character that is used to separate commands and parameters?

Answer: Commands and parameters are separated by one or more ASCII space characters. The binary representation of a space character is: 00100000 (or hexadecimal 0x20 in ASCII)

5. What is/are the character(s) that mark(s) the termination of an IRC message?

Answer: IRC messages are terminated at the end by CR-LF (Carriage Return – Line Feed)

6. What's the maximum length of a message?

Answer: Messages cannot exceed 512 characters in length.

7. What is the only valid prefix that a client can put in a message?

Answer: The only valid prefix is the registered nickname associated with the client.

8. What does a server do when it receives a numeric reply from a client?

Answer: A numeric reply is not allowed to be sent to the server; the server will silently drop any messages containing a numeric reply originating from the client.

9. What is the content of the reply that a server generates when it receives a NICK message from a client that causes a nickname collision?

Answer: The content of the reply will be "ERR_NICKCOLLISION".

10. Name one security issue with the protocol? Refer to the relevant section in the RFC 1459 or its updates.

Answer: A PASS command is not required for a client or server, to establish a connection; however, it is strongly recommended. Therefore, if the client or server does not have a password, the connection may not be secure.

Questions (3pt each):

1. Find the destination port that the client connected to on freenode.net

Destination port: 6667

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▶ Transmission Control Protocol, Src Port: 49270, Dst Port: 6667, Seq: 13, Ack: 1, Len: 37
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2. Find the nickname that the session is using on the server.

Nickname: vv45

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▼ Internet Relay Chat
  ▼ Request: NICK vv45
    Command: NICK
      ▼ Command parameters
        Parameter: vv45
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3. Find the period of time that the user is connected to the server

Start Time (NICK command): Feb 1, 2021 18:48:02

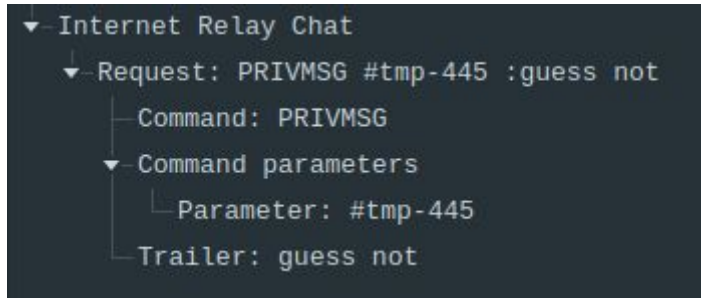
End Time (QUIT command): Feb 1, 2021 18:53:11

Duration: 5 minutes, 9 seconds

4. Find the last message that the user sent to the channel

Message: guess not

Sent to: #tmp-445



5. Find the connection password

No connection password was specified since the PASS command wasn't used.