Email: Message Format

Let's study the exact format of an email message!

WE'LL COVER THE FOLLOWING ^

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 - Header Lines
 - Message Body
- Exercise: View Raw Emails

Introduction

Email messages have a format the same way that HTTP request and response messages do. Let's dive right into it.

Header Lines

Email messages start with header lines, much akin to HTTP. The header lines contain important metadata about the email.

- The header lines consist of keywords followed by a colon, followed by a value.
- Every header line is separated by a new line with a carriage return (\r).
- Every header must have the To: and From: header lines.
- The rest of the headers, including the subject: header line, are optional.

Message Body

The message body of the email follows the header lines after a blank line.

Here is an example of what an email message looks like:

```
from: user@gmail.com
to: anotherUser@gmail.com
subject: Network Fundamentals

Message Message Message
Body
```

Exercise: View Raw Emails

Open up your favorite email agent. Google search "view headers with *name of agent*." For example, I could Google "view headers with Gmail." Here are some instructions for common clients:

- 1. Gmail
- 2. Outlook
- 3. Yahoo!

Once you have the instructructions, study the headers. Can you figure out what each does? For your reference, here is a sample of email headers. Note that they are a bit simplified for your ease.

```
Delivered-To: user@gmail.com
Date: Thu, 16 May 2019 03:36:28 +0000 (UTC)
From: Fahim from Educative <fahim+newsletter@educative.io>
Mime-Version: 1.0
Reply-to: fahim@educative.io
Subject: Data analysis with R
To: user@gmail.com

Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain; charset=UTF-8
Mime-Version: 1.0

Hey User,

With the way technology is evolving, more and more data is being produce d a=
nd tracked every day. And because of that, the skills to work with that da t=
a, to make sense of it and turn into useful insight, are more in-demand th a=
```

```
If recent trends are anything to go by, in the future the ability to wor
k w=
ith large quantities of data won=E2=80=99t be the field of just data scien
t=
ists - it=E2=80=99s going to become a necessary skill across industries, k
nd of like using a word processor.
For years, R has been at the forefront of the data science revolution. It=
=E2=80=99s beloved by data scientists and statisticians for its robust sta
istical functionality, outstanding graphing ability, and extensibility thr
ugh packages. The recent data science craze has just breathed new life int
0=
 it.
Learn R from Scratch https://www.educative.io/collection/6151088528949248/
5=
357220915052544?utm source=3Dsendgrid&utm medium=3Demail&utm campaign=3Dle
rn-r-from-scratch&utm_content=3D is designed to get you up to speed writin
g=
code in R as quickly as possible. You'll start with the very basics and w
rk your way up to advanced concepts like exception handling. By the time y
u're done, you'll be able to write detailed, useful code in R yourself.
Get started with R, stay on top of the data science craze, and solve real-
orld problems with data.
Happy learning!
-- Fahim
CEO & co-founder, educative.io=20
1203 114th Ave SE,=20
Bellevue, WA 98004
```

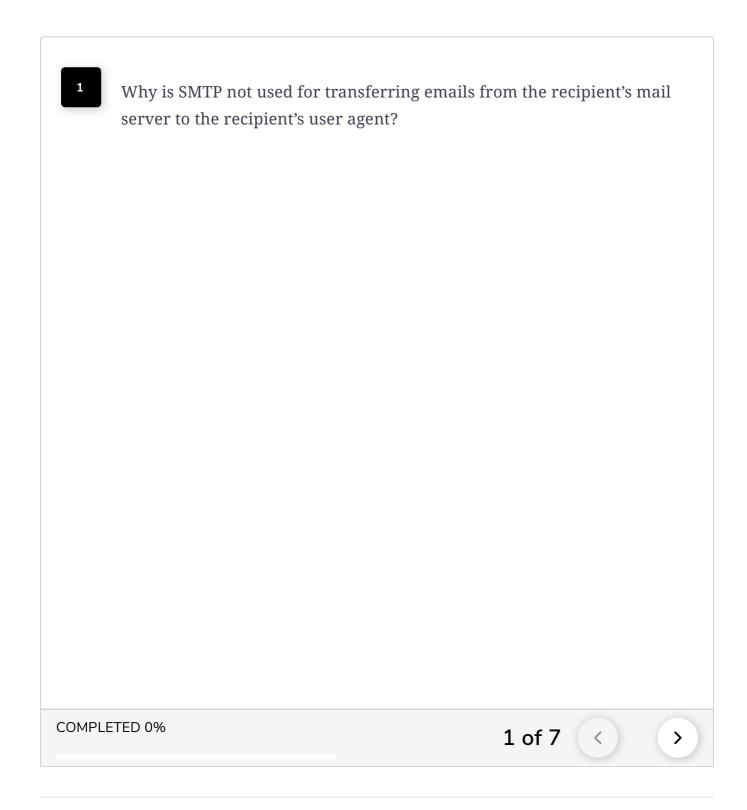


n ever before.

when it was sent, which is what we discussed initially. So, the DeliveredTo header is derived from the To: header in the originally sent email.

The SMTP or the POP server probably make this transformation. More likely the SMTP server.

If you wish to study each of these headers and the format in detail, have a look at RFC5322.



Now that we have a good idea of email, let's move on to the directory of the web: DNS.