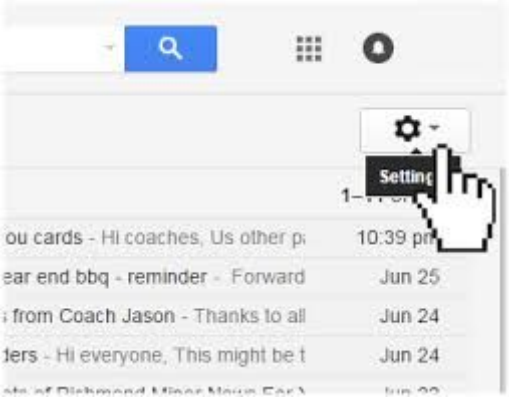
DEPARTMENT OF INFORMATION TECHNOLOGY
COMPUTER COMMUNICATION AND NETWORKING LAB
LAB1: 31/7/2019

NOTE:

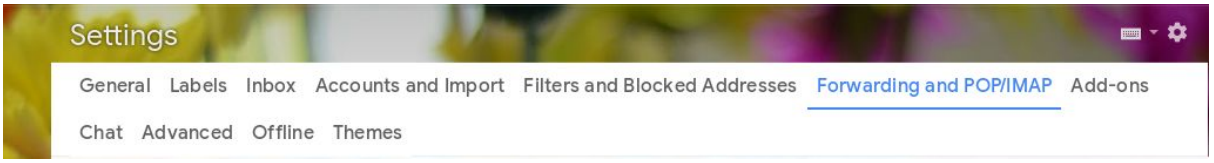
1. Learn application layer protocols : SMTP, POP, IMAP, MIME, HTTP, SSH, FTP
2. Discuss and compare the outputs/observations with your neighbours
3. Record your observations in your observation book

Part A: Email System

TASK 1: Open your mailbox. Click on settings icon and select Settings from the drop down menu (this is with reference to gmail).



Choose Forwarding and POP/IMAP option and observe the settings.



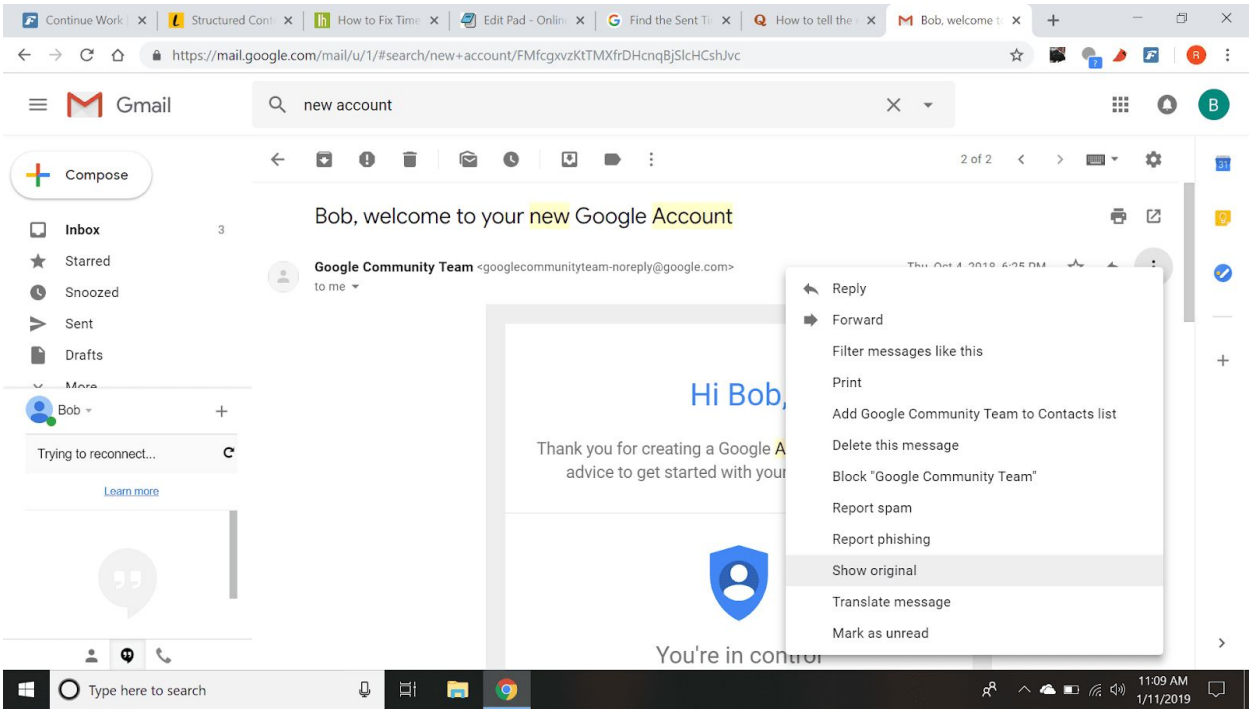
NOTE DOWN:

1. What is the mail access protocol enabled in your mail system?
2. Check your neighbours observation too.

TASK 2: Observe the working of MIME Protocol

Step 1: Compose mail with plain text (For Example: Say Hello This is CCN LAB) and send to your neighbour's email id. (You will receive mail from your neighbour). Now open the mail and select Show Original under the option MORE

Check the MIME content of sent mail in sent items and check the MIME content of the mail that your neighbour received from you.



NOTE DOWN:

1. MIME VERSION, MIME HEADERS with values.
2. Observe the mail (MIME content) that you sent to you neighbour. Discuss and make a note of your observation.

STEP 2: Compose mail with text attachment : a pdf

Repeat step 1

NOTE DOWN:

1. What new headers did you observe?

STEP 3: Compose mail with image as attachment

Repeat step 1

NOTE DOWN:

1. What new headers did you observe?

General Observation:

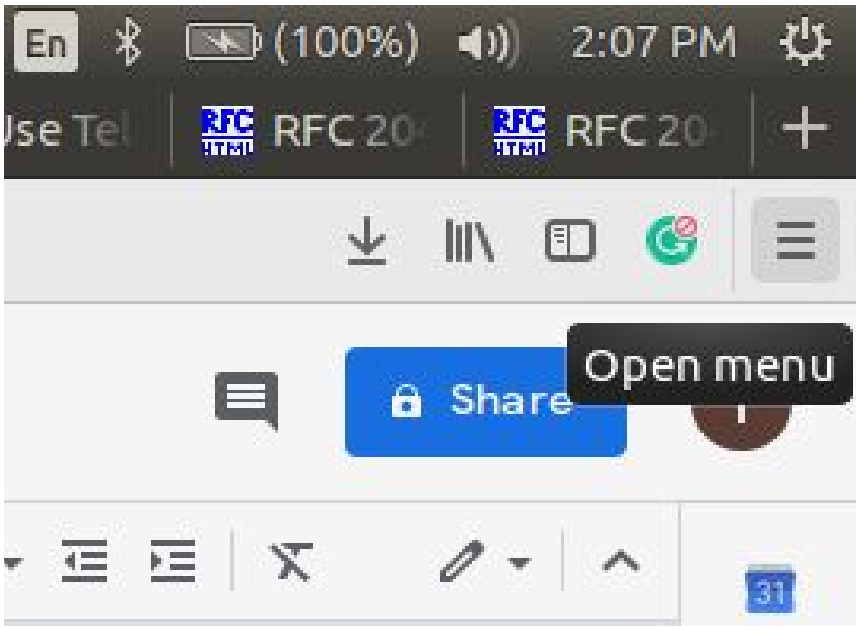
1. Generalize in your own words about the working of MIME protocol?
2. What is the use of boundaries in MIME content?
3. You may experiment with other types of attachments or embedding image in the body. Try using emojis and so on.

TASK 3: Learn the working of HTTP Protocol

Step 1: Open the browser.

Copy and Paste the URL : https://tools.ietf.org/html/rfc2045

Now open browser menu (This is with respect to Mozilla Firefox)



Select Web Developer Tool. (In chrome go to more tools) and Select Network to check network activity. Reload the page so that the network activity will be captured in this console.

Select Network and Headers. Click on Raw Headers.

Note Down:

1.Request Header contents:

Follow this format:

Request Message:

Request Line : METHOD URL VERSION

HEADERS (Note the values of following headers) : Host, User-Agent, Accept, Accept-Language, Accept-Encoding, Connection

2. Response Header Contents:

Response Message:

Status Line : Version StatusCode Phrase

HEADERS: Date, Server, Content-Location, Expires, Content-Encoding and Content-Type

3. Observe the content in Response Window. Check Response Payload.

4. Note down the number of requests. Observe all the requests and note down what content was transferred from server for each request.

5. Note the time taken (Finish) for complete transfer.

Number of requests and Timings are present as the bottom of the Network console.

6. Now try with other websites. Just observe the headers, number of requests, contents transferred, time (Finish)