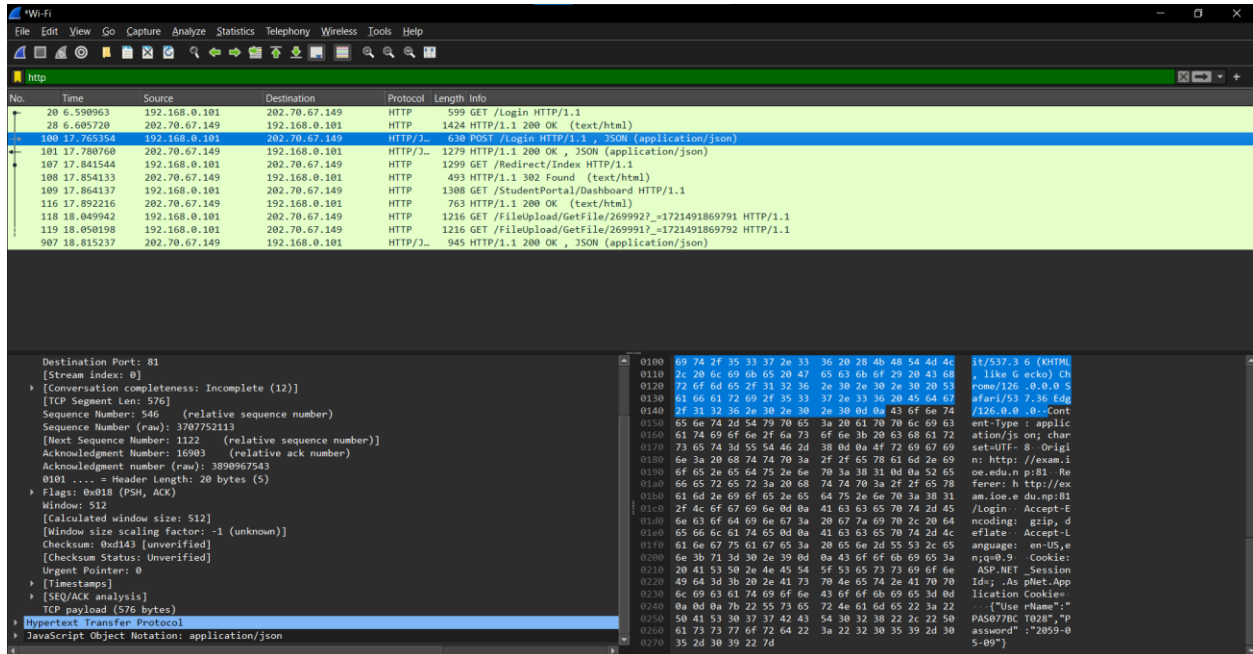


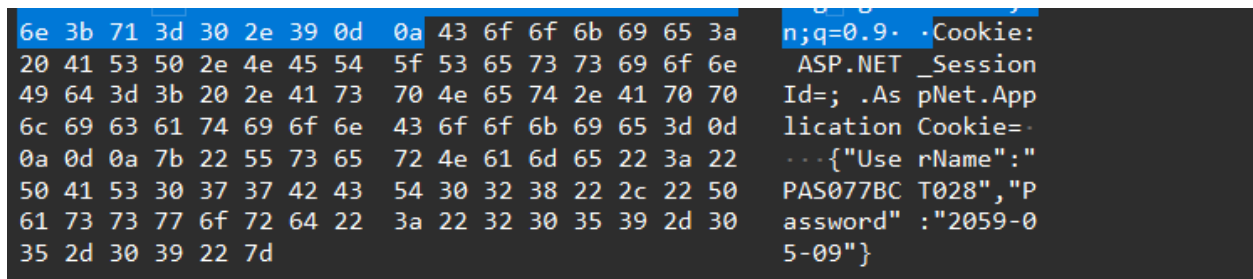
To analyze packet during login, the login action was done in website <http://exam.ioe.edu.np>

Since this is http, there is no encryption so it lacks SSL/TLS encryption.



Here by applying http filter we can see that multiple HTTP Get and POST requests have been made. There is response from server indicating successful authentication.

We can clearly see that none of the data have been encrypted using any encryption protocols like SSL/TLS so the email and the password that was used for authentication in this website can be clearly seen and peeked. So the HTTP is not safe. This can be illustrated in picture below:



Analysing request: The first packet captured in the first figure is a request i.e. GET /login/ HTTP1.1

It suggests that HTTP protocol of version 1.1 is used where GET method is used to request information and endpoint is /login which is an authentication server that signs in the user.

In above scenario the client is requesting for login page.

After response from the server the client enters its credentials which is sent through a request POST /login/ HTTP1.1 JSON...where credentials are sent in JSON format.

Analysing response: the second packet HTTP/1.1 200 OK is HTTP response.

It implies that server has acknowledged the request.

We can follow the HTTP stream to further analyze HTTP communication between client and server.



The screenshot shows the Wireshark interface with the 'Follow HTTP Stream (tcp.stream eq 4) - Wi-Fi' tab selected. The request is a POST to /Login with a Content-Type of application/json. The response is an HTTP/1.1 200 OK with a JSON body containing username and password.

```
POST /Login HTTP/1.1
Host: exam.ioe.edu.np:81
Connection: keep-alive
Content-Length: 51
Accept: */*
X-Requested-With: XMLHttpRequest
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/126.0.0.0 Safari/537.36 Edg/126.0.0.0
Content-Type: application/json; charset=UTF-8
Origin: http://exam.ioe.edu.np:81
Referer: http://exam.ioe.edu.np:81/Login
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9
Cookie: ASP.NET_SessionId=; .AspNet.ApplicationCookie=

{"UserName":"PAS077BCT028","Password":"2059-05-09"}HTTP/1.1 200 OK
```