

HTTP Vs HTTP-S

What is difference?

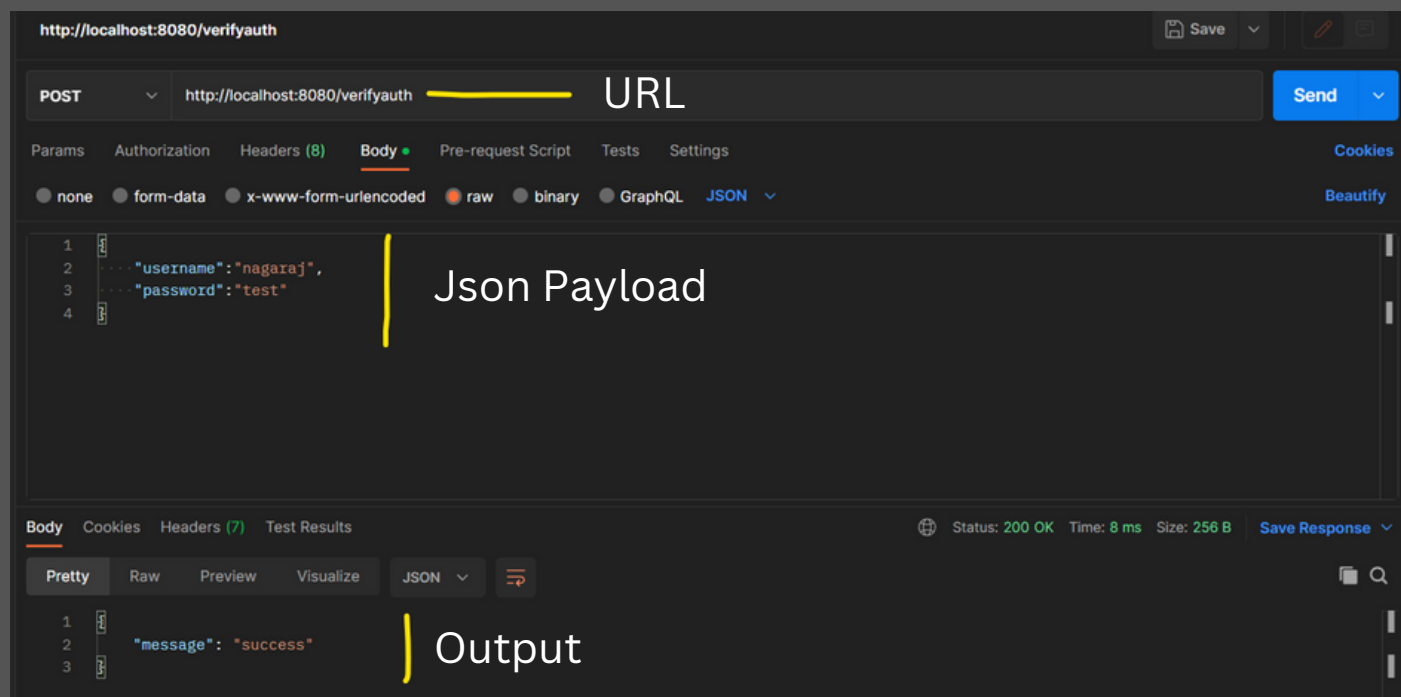
- In one word , it make the connection secure by encrypting the traffic.
- Let's demonstrate with this live example.

Consider you are accessing website from some network and logging in by entering your username and password.

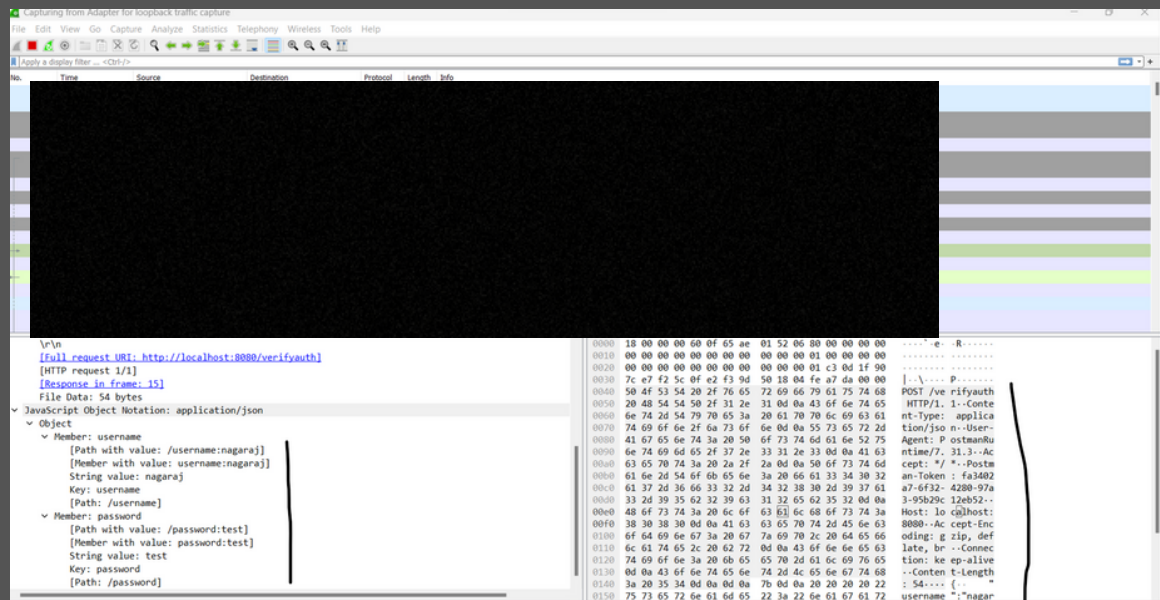
1. Created one http server with /verifyauth route s post method. Now server is running on my computer.

```
JS index.js > ...
1  const express = require('express')
2  var parser = require('body-parser')
3
4  var app = express();
5  app.use(parser.urlencoded({ extended: true }));
6
7  app.use(parser.json())
8  app.post('/verifyauth', (req, res) => {
9    console.log(req.body.username)
10   res.json({ 'message': 'success' })
11
12 })
13
14 app.listen(8080, () => {
15   console.log("server Runnings")
16 })
```

2. Will try to access that post method from postman. It successfully returned some message.



3. Took another laptop which was connected to same network. Installed Wireshark (Networking Tool).I monitored the traffic. See the result 😱



Imagine the same when you are connected in public wifi, and you are entering some sensitive information in HTTP website. It will be exposed.

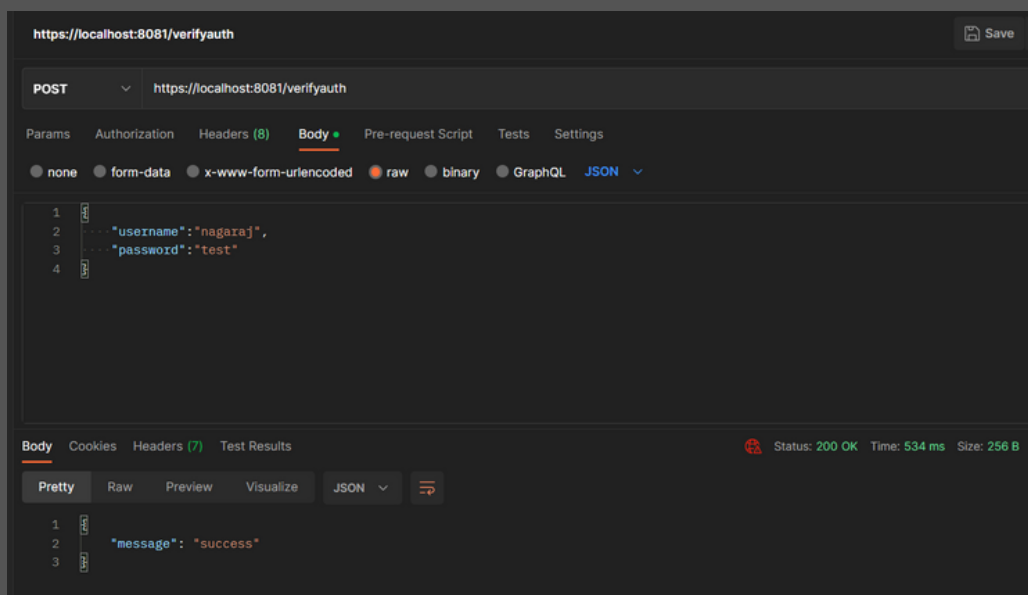
OOPS!

What HTTP-S does is it will encrypt the data flow between server and end user. So intermediate party can see only encrypted data.

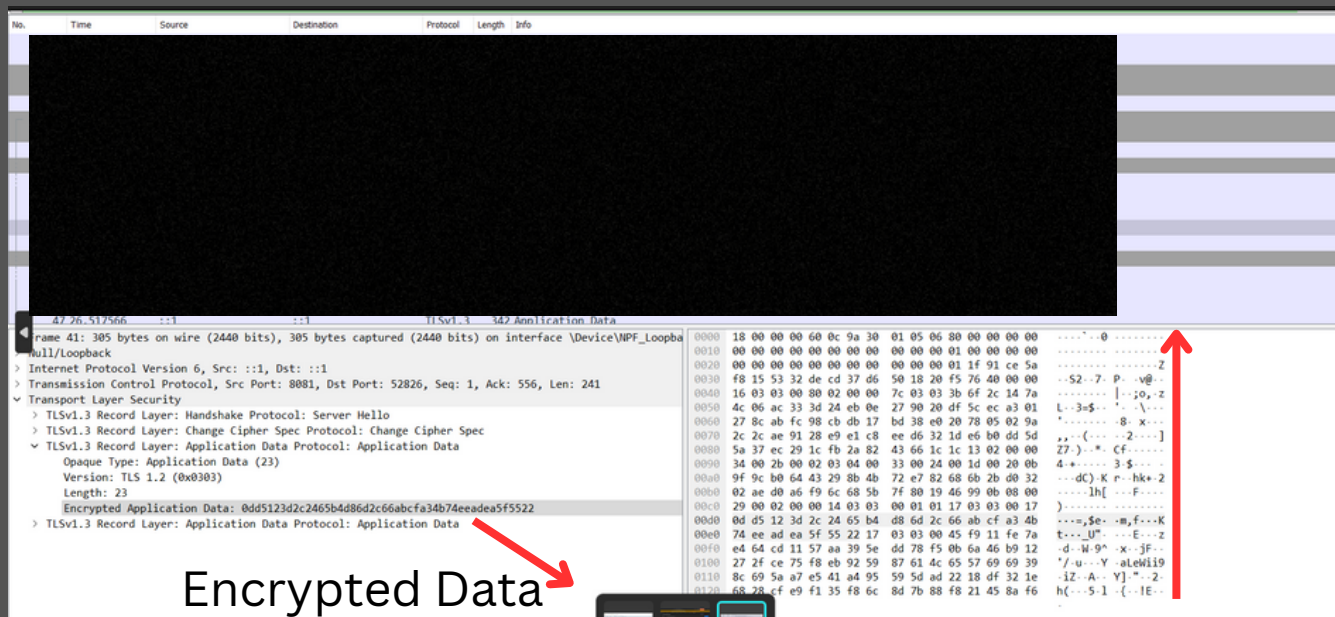
1. Create a same previous project in HTTPS, by using OpenSSL as self signed certificate.

```
JS index1.js > ...
1  const https = require('https')
2  const express = require('express')
3  const fs = require('fs')
4  var parser = require('body-parser')
5  var app = express();
6  app.use(parser.urlencoded({ extended: true }))
7  const options = {
8    key: fs.readFileSync("key.pem"),
9    cert: fs.readFileSync("cert.pem"),
10  };
11  app.use(parser.json())
12  app.post('/verifyauth', (req, res) => {
13    console.log(req.body.username)
14    res.json({ 'message': 'success' })
15  })
16  https.createServer(options, app)
17  .listen(8081, function (req, res) {
18    console.log("Server started at port 8081");
19  });
```

2. Same tested in Postman



3. Monitoring on wire shark



Note: HTTPS only makes the connection secure. It does not verify the ownership of server.

This means using HTTPS cannot you give 100 percent safe browsing. 🤪