

Lab Report

ECPE 170 – Computer Systems and Networks – Spring 2017

Name: STEVE GUERRERO

Lab Topic: NETWORK SOCKET PROGRAMMING (LAB #: 08)

(1) What is first line of the python script that starts with #! doing? Where in ECPE 170 have you seen this before?

This ensures a specific program or interpreter, python in this case, will execute this code.

(2) Document the HTTP request and the server response when you manually download the HTML file at <http://ecs-network.serv.pacific.edu/ecpe-170/lab/> via Netcat.

(By "document", you should provide the full client request and a partial server response (top 40-50 lines is sufficient for me to tell if you downloaded the right file). The script utility can make this capture easy for you - see below.)

Note: I also logged the responses in files that are pushed to BitBucket. Instructions were unclear so I included the same responses in the lab report as well.

```
netcat -C ecs-network.serv.pacific.edu 80
GET /ecpe-170/lab/ HTTP/1.1
Host: ecs-network.serv.pacific.edu
Connection: close
```

```
HTTP/1.1 200 OK
Date: Sun, 26 Mar 2017 16:21:52 GMT
Server: Zope/(2.13.24, python 2.6.5, linux2) ZServer/1.1
Content-Length: 24230
X-Cache-Operation: plone.app.caching.weakCaching
Content-Language: en
Expires: Thu, 29 Mar 2007 16:21:52 GMT
ETag: "||30324|en|0|Sunburst Theme|0|1444436487.33"
X-UA-Compatible: IE=edge,chrome=1
Cache-Control: max-age=0, must-revalidate, private
X-Cache-Rule: plone.content.itemView
X-Frame-Options: SAMEORIGIN
Content-Type: text/html; charset=utf-8
Vary: Accept-Encoding
Connection: close
```

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml" lang="en">
```

```
<head>
```

```
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
```

```
<base href="http://ecs-network.serv.pacific.edu/ecpe-170/lab/labs" /><!--[if lt IE 7]></base><![endif]-->
```

```
<link rel="stylesheet" type="text/css" media="screen" href="http://ecs-network.serv.pacific.edu/portal_css/Sunburst%20Theme/reset-cachekey-98ff9e8df1b4fd171b62e48ffc65224f.css" />
```

```
<link rel="stylesheet" type="text/css" href="http://ecs-network.serv.pacific.edu/portal_css/Sunburst%20Theme/base-cachekey-803ad09633d08acda5752564121f4b50.css" />
```

```
<link rel="stylesheet" type="text/css" media="all" href="http://ecs-network.serv.pacific.edu/portal_css/Sunburst%20Theme/ploneCustom-cachekey-8c9f97440082c6d2229c29664804ef20.css" />
```

```
<script type="text/javascript" src="http://ecs-network.serv.pacific.edu/portal_javascripts/Sunburst%20Theme/resourceplone.app.jquery-cachekey-a341ea3d731b88c9fd863112717f2bd2.js"></script>
```

```
<script type="text/javascript" src="http://ecs-network.serv.pacific.edu/portal_javascripts/Sunburst%20Theme/kss-bbb-cachekey-24af0b5057943fbc4aea189df4d79398.js"></script>
```

```
<title>Labs &mdash; ECS Networking</title>
```

```
<link rel="canonical" href="http://ecs-network.serv.pacific.edu/ecpe-170/lab" />
```

```
<link rel="shortcut icon" type="image/x-icon" href="http://ecs-network.serv.pacific.edu/favicon.ico" />
```

```
<link rel="apple-touch-icon" href="http://ecs-network.serv.pacific.edu/touch_icon.png" />
```

```
<link rel="search" href="http://ecs-network.serv.pacific.edu/@@search" title="Search this site" />
```

```
<meta name="viewport" content="width=device-width, initial-scale=0.6666, maximum-scale=1.0, minimum-scale=0.6666" />
```

```
<meta name="generator" content="Plone - http://plone.org" />
```

```
</head>
```

```
<body class="template-document_view portaltype-document site-networking section-ecpe-170 subsection-lab subsection-lab-labs icons-on userrole-anonymous" dir="ltr">
```

```
<div id="visual-portal-wrapper">
```

```
<div id="portal-top" class="row">
```

```
<div class="cell width-full position-0">
```

```
<div id="portal-header">
```

```
<p class="hiddenStructure">
```

```
<a accesskey="2" href="http://ecs-network.serv.pacific.edu/ecpe-170/lab/#content">Skip to content.</a> |
```

```
<a accesskey="6" href="http://ecs-network.serv.pacific.edu/ecpe-170/lab/#portal-globalnav">Skip to navigation</a>
```

```
</p>
```

```
<div id="portal-personaltools-wrapper">
```

(3) Document the HTTP request and the server response when you manually download the HTML file at <http://www.yahoo.com/> via Netcat

```
netcat -C www.yahoo.com 80
```

```
GET www.yahoo.com HTTP/1.1
```

```
Host: www.yahoo.com
```

```
Connection: close
```

```
HTTP/1.1 301 Redirect
```

```
Date: Fri, 31 Mar 2017 05:13:36 GMT
```

```
Via: https/1.1 ir10.fp.gq1.yahoo.com (ApacheTrafficServer)
```

```
Server: ATS
```

```
Location: https://www.yahoo.com/
```

```
Content-Type: text/html
```

```
Content-Language: en
```

```
Cache-Control: no-store, no-cache
```

```
Connection: keep-alive
```

```
Content-Length: 304
```

```
<HTML>
```

```
<HEAD>
```

```
<TITLE>Document Has Moved</TITLE>
```

```
</HEAD>
```

```
<BODY BGCOLOR="white" FGCOLOR="black">
```

```
<H1>Document Has Moved</H1>
```

```
<HR>
```


Description: The document you requested has moved to a new location. The new location is "https://www.yahoo.com/".

<HR>

</BODY>

(4) Document the HTTP request and the server response when you manually download the PNG image file at http://www.google.com/images/logos/google_logo_41.png via Netcat

Note: Is there a good reason why it doesn't make sense to include the server response (at least, the data portion) in your lab report? On a related note, if your Terminal window hangs during this step, at least you'll know why!

It is wise not to include the data portion because it won't make any sense if the data your downloading is from a non-text file type such as an image you're trying to download. It will appear as gibberish as shown below.

netcat -C www.google.com 80

GET /images/logos/google_logo_41.png HTTP/1.1

Host: www.google.com

Connection: close

HTTP/1.1 200 OK

Accept-Ranges: bytes

Content-Type: image/png

Date: Fri, 31 Mar 2017 05:15:22 GMT

Expires: Fri, 31 Mar 2017 05:15:22 GMT

Cache-Control: private, max-age=31536000

Last-Modified: Thu, 30 Mar 2017 18:00:00 GMT

X-Content-Type-Options: nosniff

Server: sffe

Content-Length: 2408

X-XSS-Protection: 1; mode=block

Connection: close

❖PNG

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