V516 Homework 5

1. Command= tracert host-name

Question(s): How many routers are between you and bloomington.in.gov?

There are 6 routers between me and bloomington.in.gov (7 including the router of bloomington.in.gov).

Networks used from sender to receiver:
- uits.iu.edu
- indiana.gigapop.net
- static.bluemarble.net

C:\Users\KATIE>tracert bloomington.in.gov
Tracing route to bloomington.in.gov [192.188.224.5] over a maximum of 30 hops:
1    2 ms  2 ms  2 ms  ae-20.2238.cr5.blde.net.uits.iu.edu [140.188.224.249]
2    9 ms  5 ms  6 ms  ae-15.0.br2.blde.net.uits.iu.edu [134.58.3.74]
3    7 ms  4 ms  4 ms  irb.10.rtr.ill.indiana.gigapop.net [149.155.254.2]
4    3 ms  3 ms  3 ms  et-3-0-0.1.rtr.icte.indiana.gigapop.net [149.155.255.193]
5   12 ms  9 ms  14 ms  indy1.gigapop.snhwilledigital.net [65.244.120.191]
6    6 ms  6 ms  6 ms  209.77.244.66.static.bluemarble.net [55.244.77.2]
7    6 ms  17 ms  6 ms  www.bloomington.in.gov [192.188.224.5]

Trace complete.

How many hops to www.simplycsl.org?

There are 13 hops to www.simplycsl.org.

Networks used from sender to receiver:
- uits.iu.edu
- indiana.gigapop.net
- zip.zayo.com
2. Command= ipconfig /all

Question(s):

Computers name?

**BL-SPEA-WS124**

Computers Internet Protocol (IP) address?

**129.79.125.189**

Is DHCP enabled?

**Yes**

What is the address of the primary DNS?

**10.79.1.1**

What is the address of your “Gateway”?

**129.79.125.254**
3. Command= nslookup

Questions: What is the IP number for Oncourse.iu.edu?
129.79.211.42

What is the IP number for mypage.iu.edu?
129.79.78.36
What is the IP address for the Mercury server?

129.79.78.18

4. Command= ping

Questions: Ping Oncourse. What is the average response time?

6 milli-seconds

Ping statistics for 129.79.211.42:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss).
  Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 17ms, Average = 6ms

Ping Purdue (purdue.edu).

What is the response time?

9 milli-seconds

Ping yourself (e.g. ping your-computer-name or IP addr);

Response time? The response time is 0 milli-seconds.
5. Command= netstat –e

```
C:\Users\Katie>netstat -e
Interface Statistics

Received          Sent
Bytes             77427369     16225421
Unicast packets   83021        50696
Non-unicast packets 14525        7987
Discards          0            0
Errors            0            0
Unknown protocols 0
```

Question: How many broadcast (non-unicast) frames have you received?

We have received **14,525** non-unicast frames.

Command= netstat –s

```
IPv4 Statistics

Packets Received     = 1817026
Received Header Errors = 394
Received Address Errors = 0
Datagrams Forwarded  = 0
Unknown Protocols Received = 0
Received Packets Discarded = 49576
Received Packets Delivered = 1884547
Output Requests      = 638280
Routing Discards     = 0
Discarded Output Packets = 285
Output Packet No Route = 0
Reassembly Required  = 0
Reassembly Successful = 0
Reassembly Failures  = 0
Datagrams Successfully Fragmented = 0
Datagrams Failing Fragmentation = 0
Fragments Created    = 0
```

Question: Have any datagrams been forwarded?

**Zero datagrams have been forwarded.**

Command= netstat –n
Question: How many TCP connections exist.

34 TCP connections exist.

Open an FTP connection (use WINSCP or SecureFTP) to Mercury and redo netstat –n. Does the new connection show up?

Yes! (see below).
<table>
<thead>
<tr>
<th>Proto</th>
<th>Local Address</th>
<th>Foreign Address</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP</td>
<td>127.0.0.1:5354</td>
<td>127.0.0.1:49157</td>
<td>ESTABLISHED</td>
</tr>
<tr>
<td>TCP</td>
<td>127.0.0.1:5354</td>
<td>127.0.0.1:49158</td>
<td>ESTABLISHED</td>
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<td>127.0.0.1:49398</td>
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<td>127.0.0.1:49265</td>
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<tr>
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<td>127.0.0.1:60319</td>
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<tr>
<td>TCP</td>
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<td>127.0.0.1:60320</td>
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<tr>
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<td>127.0.0.1:60321</td>
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<tr>
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<tr>
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<td>215.137.29.128</td>
<td>CLOSE_WAIT</td>
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<tr>
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<td>CLOSE_WAIT</td>
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<td>TCP</td>
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<td>215.137.39.123</td>
<td>CLOSE_WAIT</td>
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<td>TCP</td>
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<td>TCP</td>
<td>140.182.250.95:61993</td>
<td>127.79.78.182</td>
<td>ESTABLISHED</td>
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