

Hands On Project

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```
Command Prompt
Ping statistics for 204.44.192.49:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 51ms, Maximum = 73ms, Average = 62ms

C:\Users\alexander ross>ipconfig /flushdns

Windows IP Configuration

Successfully flushed the DNS Resolver Cache.

C:\Users\alexander ross>ipconfig /displaydns

Windows IP Configuration

    49.192.44.204.in-addr.arpa
    -----
    Record Name . . . . . : 49.192.44.204.in-addr.arpa.
    Record Type . . . . . : 12
    Time To Live . . . . . : 603956
    Data Length . . . . . : 8
    Section . . . . . : Answer
    PTR Record . . . . . : books

    books
    -----
    No records of type AAAA

    books
    -----
    Record Name . . . . . : books
    Record Type . . . . . : 1
    Time To Live . . . . . : 603956
    Data Length . . . . . : 4
    Section . . . . . : Answer
    A (Host) Record . . . . : 204.44.192.49

C:\Users\alexander ross>
```

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```
Command Prompt - nslookup
174.129.59.103
34.196.137.103
35.170.240.26
3.229.74.90
Aliases: www.cengage.com
cmp-commerce-prod-ext-com.cloud.cengage.com
```

```
C:\Users\alexander ross>nslookup
Default Server: klo-emp-dc-1.emp.oc
Address: 10.1.16.166
```

```
> www.yahoo.com
Server: klo-emp-dc-1.emp.oc
Address: 10.1.16.166
```

```
Non-authoritative answer:
Name: new-fp-shed.wg1.b.yahoo.com
Addresses: 2001:4998:124:1507::f001
2001:4998:124:1507::f000
74.6.143.25
74.6.143.26
Aliases: www.yahoo.com
```

```
> www.yahoo.com
Server: klo-emp-dc-1.emp.oc
Address: 10.1.16.166
```

```
Non-authoritative answer:
Name: new-fp-shed.wg1.b.yahoo.com
Addresses: 2001:4998:124:1507::f000
2001:4998:124:1507::f001
74.6.143.26
74.6.143.25
Aliases: www.yahoo.com
```

```
> 192.60.123.100
Server: klo-emp-dc-1.emp.oc
Address: 10.1.16.166
Name: 192-060-123-100.res.spectrum.com
Address: 192.60.123.100
```

```
>
```

5-4

```
Command Prompt
Connection-specific DNS Suffix . : okanagan.bc.ca
Description . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
Physical Address. . . . . : 08-00-27-E2-C7-47
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::194d:18f7:3ddf:e246%11(Preferred)
IPv4 Address. . . . . : 10.1.167.157(Preferred)
Subnet Mask . . . . . : 255.255.240.0
Lease Obtained. . . . . : Monday, November 21, 2022 3:02:52 PM
Lease Expires . . . . . : Monday, November 21, 2022 4:23:42 PM
Default Gateway . . . . . : 10.1.160.1
DHCP Server . . . . . : 10.1.160.1
DHCPv6 IAID . . . . . : 101187623
DHCPv6 Client DUID. . . . . : 00-01-00-01-2A-CD-3B-B8-08-00-27-E2-C7-47
DNS Servers . . . . . : 10.1.16.166
                        10.1.16.211
NetBIOS over Tcpip. . . . . : Enabled

C:\Users\alexander ross>ipconfig /release

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix . :
    Link-local IPv6 Address . . . . . : fe80::194d:18f7:3ddf:e246%11
    Default Gateway . . . . . :

C:\Users\alexander ross>ipconfig /renew

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix . : okanagan.bc.ca
    Link-local IPv6 Address . . . . . : fe80::194d:18f7:3ddf:e246%11
    IPv4 Address. . . . . : 10.1.167.157
    Subnet Mask . . . . . : 255.255.240.0
    Default Gateway . . . . . : 10.1.160.1

C:\Users\alexander ross>
```

Packet tracer lab 5-1

3:

Port Status: 4th layer

Bandwidth: 4th layer

Duplex: 2nd layer

MAC Address: 2nd layer

DHCP: 5th layer

IP Address: 3rd layer

5:

Gateway: 3rd Layer

DNS Server: 5th layer

6:

DNS

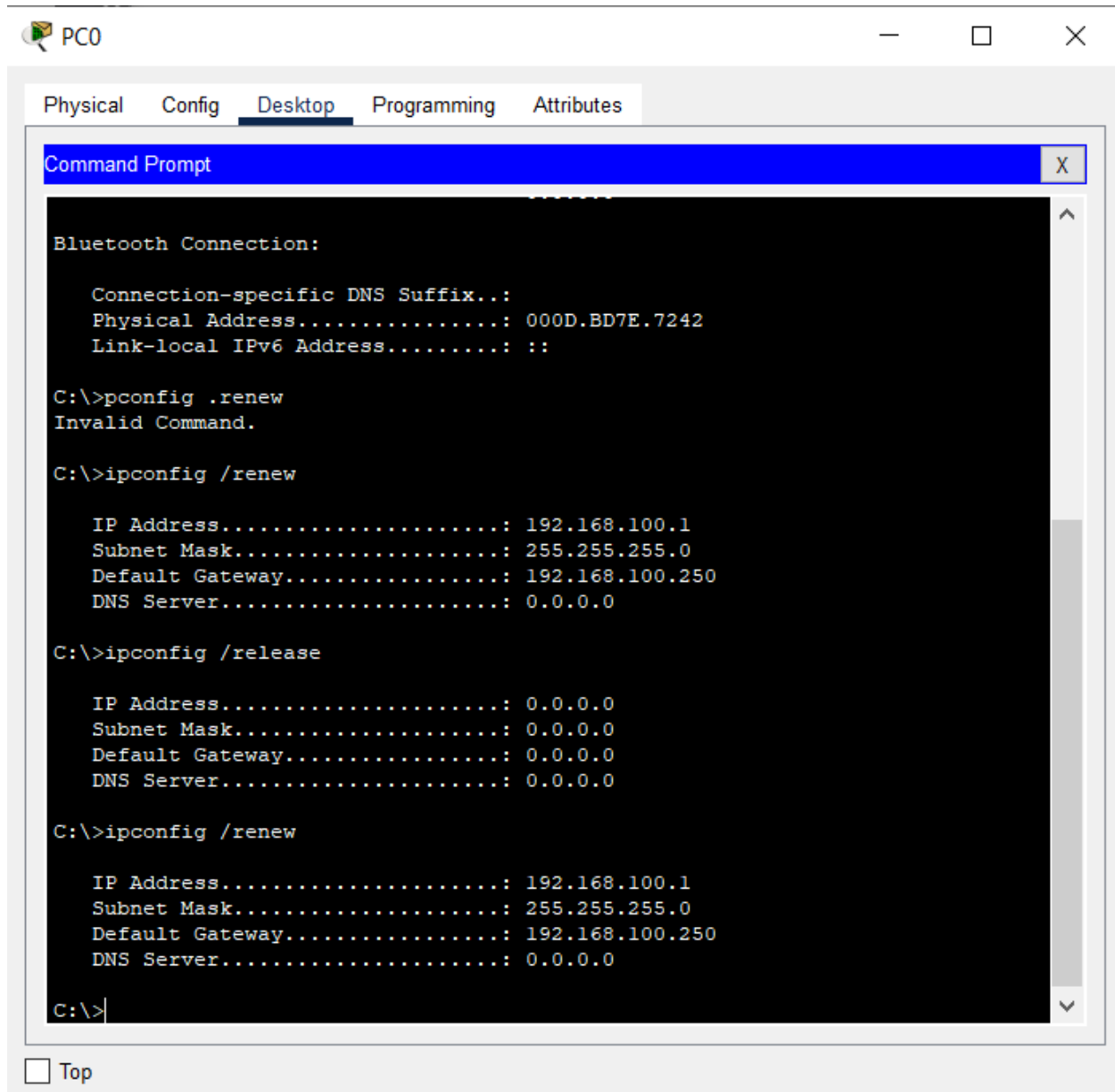
7:

3rd layer

Ping request timed out

8:
Time out again

Packet tracer lab 5-3



Challenge lab 5-1
Http capture filter

TCP protocol

Source port 49682

Dest port 80

Sequence #

(Relative: 0

Raw: 3815045695)

Flags:SYN: Set

Calculated window size: 64240

Calculated window size is the buffer space we have for extra data for receiving packets.

Maximum segment size: 1460 bytes

Calculated window Size: 65535

The maximum payload size an endpoint is willing to receive.

Max segment size: 1460

When data is sent through a TCP connection it keeps track of the connection and guarantees no packet is lost.

5-2

We used a ipconfig /release to release our address, then a ipconfig /renew to renew a new address

Port 67 || Port 68

Request

ACK

Discover

Release

Port 67 Source

Port 68 Dest

Case Project 5-1

The Conclusion is that you cannot get a ip address assigned to you, more than likely the DHCP is incorrect, but could be many factors. But in the end, the lady cannot receive a IP address.

Case Project 5-2

Assign a DHCP range for a small amount of computers and assign a static IP to any printers, servers or permanent nodes.