Finolex Academy of Management and Technology, Ratnagiri

Department of Information Technology

Subject:	**Networking Lab (ITL401)**		
Class:	**SE IT / Semester – IV (CBCGS) / Academic year: 2017-18**		
Name of Student:	**Kazi Jawwad A Rahim**		
Roll No:	**28**	**Date of performance (DOP) :**	
Experiment No:	**01**	**Date of checking (DOC) :**	
Title: To Understand and implement basic network administration commands.			
Marks:		**Teacher's Signature:**	

1. Aim: To Understand and implement basic network administration commands.

2. Prerequisites:

Knowledge of

1. Computer settings
2. Addressing of computer network

3. Hardware Requirements:

1. PC with minimum 2GB RAM

4. Software Requirements:

1. Ubuntu / Windows installed
2. Microsoft word/ Wordpad
3. Turbo C/ C++

5. Learning Objectives:

1. To get familiar with basic network administration commands and demonstrate their use in different network scenarios.
2. To understand the basic terms (IP address, physical address) of networking.

6. Course Objectives Applicable: LO 1,

7. Program Outcomes Applicable: PO2, PO4

8. Program Education Objectives Applicable: 1

1. **Output for hostname command**

```
C:\Users\Project>hostname
IT060
```

2. **Output for ipconfig command**

```
C:\Users\Project>ipconfig

Windows IP Configuration


Ethernet adapter Ethernet:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::f004:e812:4ee:6117%5
   IPv4 Address. . . . . . . . . . . : 172.16.5.60
   Subnet Mask . . . . . . . . . . . : 255.255.0.0
   Default Gateway . . . . . . . . . : 172.16.2.32

Tunnel adapter isatap.{CAD1B15A-F965-4171-951C-100CA0278A70}:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Tunnel adapter Local Area Connection* 3:

   Connection-specific DNS Suffix  . :
   IPv6 Address. . . . . . . . . . . : 2001:0:9d38:6abd:386b:39fe:98b3:9845
   Link-local IPv6 Address . . . . . : fe80::386b:39fe:98b3:9845%4
   Default Gateway . . . . . . . . . : ::
```

3. **Output for ipconfig/all command**

```
C:\Users\Project>ipconfig/all

Windows IP Configuration

   Host Name . . . . . . . . . . . . : IT060
   Primary Dns Suffix  . . . . . . . :
   Node Type . . . . . . . . . . . . : Hybrid
   IP Routing Enabled. . . . . . . . : No
   WINS Proxy Enabled. . . . . . . . : No

Ethernet adapter Ethernet:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Realtek PCIe GBE Family Controller
   Physical Address. . . . . . . . . : DC-FE-07-50-B8-14
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   Link-local IPv6 Address . . . . . : fe80::f004:e812:4ee:6117%5(Preferred)
   IPv4 Address. . . . . . . . . . . : 172.16.5.60(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.0.0
   Default Gateway . . . . . . . . . : 172.16.2.32
   DHCPv6 IAID . . . . . . . . . . . : 98369031
   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-1F-20-CF-DF-DC-FE-07-50-B8-14
   DNS Servers . . . . . . . . . . . : 208.67.222.222
                                       208.67.220.220
   NetBIOS over Tcpip. . . . . . . . : Enabled

Tunnel adapter isatap.{CAD1B15A-F965-4171-951C-100CA0278A70}:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Microsoft ISATAP Adapter
   Physical Address. . . . . . . . . : 00-00-00-00-00-00-00-E0
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes

Tunnel adapter Local Area Connection* 3:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Teredo Tunneling Pseudo-Interface
   Physical Address. . . . . . . . . : 00-00-00-00-00-00-00-E0
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   IPv6 Address. . . . . . . . . . . : 2001:0:9d38:6abd:386b:39fe:98b3:9845(Preferred)
   Link-local IPv6 Address . . . . . : fe80::386b:39fe:98b3:9845%4(Preferred)
   Default Gateway . . . . . . . . . : ::
   DHCPv6 IAID . . . . . . . . . . . : 134217728
   DHCPv6 Client DUID. . . . . . . . : 00-01-00-01-1F-20-CF-DF-DC-FE-07-50-B8-14
   NetBIOS over Tcpip. . . . . . . . : Disabled

C:\Users\Project>
```

4. **Output for nbtstat command**

```
C:\Users\Project>nbtstat -a 172.16.5.60

Ethernet:
Node IpAddress: [172.16.5.60] Scope Id: []

           NetBIOS Remote Machine Name Table

       Name               Type         Status
    ---------------------------------------------
    IT060          <00>  UNIQUE      Registered
    IT             <00>  GROUP       Registered
    IT060          <20>  UNIQUE      Registered

    MAC Address = DC-FE-07-50-B8-14
```

5. **Output for netstat command**

```
C:\Users\Project>netstat

Active Connections

  Proto  Local Address          Foreign Address        State
  TCP    172.16.5.58:49860      a184-25-109-18:http    ESTABLISHED
  TCP    172.16.5.58:50142      r-199-59-150-44:https  ESTABLISHED
  TCP    172.16.5.58:50191      dfw06s38-in-f3:https   TIME_WAIT
  TCP    172.16.5.58:50208      bom07s15-in-f10:https  ESTABLISHED
  TCP    172.16.5.58:50210      bom07s15-in-f14:http   TIME_WAIT
  TCP    172.16.5.58:50211      173.194.14.9:http      TIME_WAIT
  TCP    172.16.5.58:50212      111.221.29.254:https   TIME_WAIT
  TCP    172.16.5.58:50213      bom07s15-in-f14:http   ESTABLISHED
  TCP    172.16.5.58:50214      173.194.14.9:http      ESTABLISHED
  TCP    [fe80::4d08:dec6:3808:b579%5]:1521  IT058:49688            ESTABLISHED
  TCP    [fe80::4d08:dec6:3808:b579%5]:49688  IT058:1521             ESTABLISHED
```

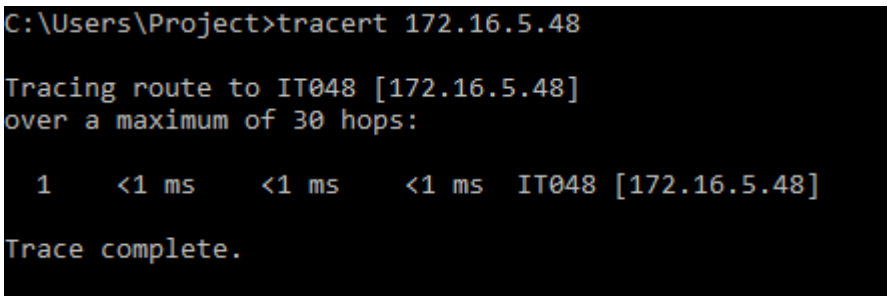
6. **Output for ping command**

```
C:\Users\Project>ping 172.16.5.42

Pinging 172.16.5.42 with 32 bytes of data:
Reply from 172.16.5.60: Destination host unreachable.
Reply from 172.16.5.60: Destination host unreachable.
Reply from 172.16.5.60: Destination host unreachable.
Reply from 172.16.5.60: Destination host unreachable.

Ping statistics for 172.16.5.42:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```

7. **Output for nslookup command**

```
C:\Users\Project>nslookup
DNS request timed out.
    timeout was 2 seconds.
Default Server:  UnKnown
Address:  208.67.222.222
```

8. **Output for tracert command**



13. Experiment/Assignment Evaluation

SR	Parameters	Weight	Excellent	Good	Average	Poor	Not as per requirement
		Scale Factor ->	5	4	3	2	0
1	Technical Understanding	25					
2	Performance / Execution	25					
3	Question Answers	20					
4	Punctuality	20					
5	Presentation	10					
	Total out of 100 --> #(to be converted as per term-work evaluation applicable to the subject)		**∑ (Weight * Scale Factor)/5 = _____**				

References:

[1] http://whirlpool.net.au/wiki/windows_nw_diag_cmds
[2] http://www.steves-internet-guide.com/windows-networking-commands/

Viva Questions

1. What is IP logical and physical address?
2. What is a function of ping command?
3. Which command is used to display active connections of TCP/IP?