

Lab 2: Output

Configuring the IP of computer in windows client

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 20 . 11

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 1 . 254

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: 192 . 168 . 1 . 254

Alternate DNS server: . . .

☐ Validate settings upon exit

Advanced...

OK Cancel

Lab 3: Output

Create basic network and share files and folders.

web-tech Properties

General Sharing Security Previous Versions Customize

Network File and Folder Sharing

web-tech Shared

Network Path:
\\DESKTOP-OSV38G6\web-tech

Share...

Advanced Sharing

Set custom permissions, create multiple shares, and set other advanced sharing options.

Advanced Sharing...

Password Protection

People must have a user account and password for this computer to access shared folders.

To change this setting, use the [Network and Sharing Center](#).

Close Cancel Apply

> Network > DESKTOP-OSV38G6

web-tech

← Network access

Choose people to share with

Type a name and then click Add, or click the arrow to find someone.

Add

Name	Permission Level
Everyone	Read ▼
Kuber	Owner

[I'm having trouble sharing](#)

Share

Cancel

Lab 4: Output

Conneting a simple peer to peer network.

```
C:\Users\user>ping 192.168.1.254

Pinging 192.168.1.254 with 32 bytes of data:
Reply from 192.168.1.254: bytes=32 time=7ms TTL=64
Reply from 192.168.1.254: bytes=32 time=7ms TTL=64
Reply from 192.168.1.254: bytes=32 time=4ms TTL=64
Reply from 192.168.1.254: bytes=32 time=4ms TTL=64

Ping statistics for 192.168.1.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 7ms, Average = 5ms
```

Lab 5: Outputs

Demonstration of some commands in Linux

ipconfig

```
onworks@onworks-Standard-PC-l440FX-PIIX-1996:~$ ip link
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP mode DEFAULT group default
    qlen 1000
    link/ether 52:54:00:12:34:56 brd ff:ff:ff:ff:ff:ff
```

ls

```
onworks@onworks-Standard-PC-l440FX-PIIX-1996:/$ ls
bin  cdrom  etc  initrd.img  lib  media  opt  root  sbin  srv  tmp  var  vmlinuz.old
boot  dev  home  initrd.img.old  lost+found  mnt  proc  run  snap  sys  usr  vmlinuz
```

ifconfig

```
onworks@onworks-Standard-PC-l440FX-PIIX-1996:/etc$ ifconfig
ens3:  Link encap:Ethernet  HWaddr 52:54:00:12:34:56
        inet addr:10.0.2.15  Bcast:10.0.2.255  Mask:255.255.255.0
        inet6 addr: fe80::ae8:44ad:baf7:10fd/64  Scope:Link
        inet6 addr: fec0::794a:6ae2:1411:54a5/64  Scope:Site
        inet6 addr: fec0::e319:1b8b:5ce5:c3e1/64  Scope:Site
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:195000  errors:192  dropped:0  overruns:0  frame:192
        TX packets:33663  errors:0  dropped:0  overruns:0  carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:289134293 (289.1 MB)  TX bytes:2076549 (2.0 MB)

lo:  Link encap:Local Loopback
        inet addr:127.0.0.1  Mask:255.0.0.0
        inet6 addr: ::1/128  Scope:Host
        UP LOOPBACK RUNNING  MTU:65536  Metric:1
        RX packets:336  errors:0  dropped:0  overruns:0  frame:0
        TX packets:336  errors:0  dropped:0  overruns:0  carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:29828 (29.8 KB)  TX bytes:29828 (29.8 KB)
```

route -v

```
onworks@onworks-Standard-PC-l440FX-PIIX-1996:~$ route -v
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
default 10.0.2.2 0.0.0.0 UG 100 0 0 ens3
10.0.2.0 * 255.255.255.0 U 100 0 0 ens3
link-local * 255.255.0.0 U 1000 0 0 ens3
```

hostname

```
onworks@onworks-Standard-PC-l440FX-PIIX-1996:~$ hostname
onworks-Standard-PC-l440FX-PIIX-1996
```

hostnamectl

```
onworks@onworks-Standard-PC-l440FX-PIIX-1996:~$ hostnamectl
Static hostname: onworks-Standard-PC-l440FX-PIIX-1996
Icon name: computer-vm
Chassis: vm
Machine ID: 8c8594cc7367425397827773779827e5
Boot ID: f966d709dd2b486d8d4a5498bbc9d359
Virtualization: qemu
Operating System: Ubuntu 16.04.6 LTS
Kernel: Linux 4.15.0-50-generic
Architecture: x86
```

Lab 6: Outputs

Demonstration of some commands in Windows

ipconfig

```
C:\Users\user>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

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

Unknown adapter Local Area Connection 2:

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

Unknown adapter Local Area Connection 3:

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

Ethernet adapter VirtualBox Host-Only Network:

    Connection-specific DNS Suffix  . :
    Link-local IPv6 Address . . . . . : fe80::ff5a:7508:9454:2d4b%15
    IPv4 Address. . . . . : 192.168.56.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . :

Unknown adapter Local Area Connection:

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

Wireless LAN adapter Local Area Connection* 1:

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

Wireless LAN adapter Local Area Connection* 2:

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

Wireless LAN adapter Local Area Connection* 11:

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

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . :
    IPv6 Address. . . . . : 2403:3800:321f:ce1f:32dc:2073:fe72:1b32
    Temporary IPv6 Address. . . . . : 2403:3800:321f:ce1f:bd87:e4f7:f3c7:75a1
```

ping

```
C:\Users\user>ping 192.168.1.254

Pinging 192.168.1.254 with 32 bytes of data:
Reply from 192.168.1.254: bytes=32 time=7ms TTL=64
Reply from 192.168.1.254: bytes=32 time=7ms TTL=64
Reply from 192.168.1.254: bytes=32 time=4ms TTL=64
Reply from 192.168.1.254: bytes=32 time=4ms TTL=64

Ping statistics for 192.168.1.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 7ms, Average = 5ms
```

tracert

```
C:\Users\user>tracert 8.8.8.8

Tracing route to dns.google [8.8.8.8]
over a maximum of 30 hops:

  1    3 ms    22 ms    1 ms    dsldevice.lan [192.168.1.254]
  2    2 ms    3 ms    2 ms    100.89.208.1
  3    3 ms    4 ms    4 ms    lt-1-0-0.4004.mbaluwatar1.subisu.net.np [116.66.193.1]
  4    7 ms    5 ms    10 ms    116.66.193.93
  5    7 ms    7 ms    6 ms    61.95.165.141
  6   45 ms   38 ms   43 ms    116.119.68.99
  7   39 ms   39 ms   45 ms    72.14.205.196
  8   53 ms   45 ms   50 ms    216.239.43.133
  9   45 ms   45 ms   47 ms    142.250.233.145
 10   37 ms   46 ms   36 ms    dns.google [8.8.8.8]

Trace complete.

C:\Users\user>
```

netstat -ano

```
C:\Users\user>netstat

Active Connections

Proto Local Address           Foreign Address         State
TCP    127.0.0.1:49668          kubernetes:49669       ESTABLISHED
TCP    127.0.0.1:49669          kubernetes:49668       ESTABLISHED
TCP    127.0.0.1:52751          kubernetes:52752       ESTABLISHED
TCP    127.0.0.1:52752          kubernetes:52751       ESTABLISHED
TCP    127.0.0.1:52753          kubernetes:52754       ESTABLISHED
TCP    127.0.0.1:52754          kubernetes:52753       ESTABLISHED
TCP    127.0.0.1:52757          kubernetes:52758       ESTABLISHED
TCP    127.0.0.1:52758          kubernetes:52757       ESTABLISHED
TCP    127.0.0.1:52759          kubernetes:52760       ESTABLISHED
TCP    127.0.0.1:52760          kubernetes:52759       ESTABLISHED
TCP    127.0.0.1:55234          kubernetes:55235       ESTABLISHED
TCP    127.0.0.1:55235          kubernetes:55234       ESTABLISHED
TCP    127.0.0.1:55264          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:60335          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:61210          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:61211          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:61212          kubernetes:wsd         TIME_WAIT
TCP    127.0.0.1:62312          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62337          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62338          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62339          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62340          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62341          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62342          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62343          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62344          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62345          kubernetes:49350       TIME_WAIT
TCP    127.0.0.1:62346          kubernetes:49350       TIME_WAIT
TCP    192.168.1.69:52454       20.239.125.92:https    CLOSE_WAIT
TCP    192.168.1.69:52741       23.54.82.211:https     CLOSE_WAIT
TCP    192.168.1.69:52743       23.54.82.211:https     CLOSE_WAIT
TCP    192.168.1.69:52765       20.141.12.34:https     CLOSE_WAIT
TCP    [::1]:61213             DESKTOP-OSV38G6:wsd    TIME_WAIT
TCP    [2403:3800:321f:ce1f:bd87:e4f7:f3c7:75a1]:52387 [2603:1030:210:5::138]:https ESTABLISHED
```

nslookup

```
C:\Users\user>nslookup 8.8.8.8
Server: UnKnown
Address: fe80::1

Name:      dns.google
Address:   8.8.8.8
```

#arp -a

```
C:\Users\user>arp -a

Interface: 192.168.56.1 --- 0xf
   Internet Address      Physical Address         Type
   192.168.56.255        ff-ff-ff-ff-ff-ff       static
   224.0.0.22            01-00-5e-00-00-16       static
   224.0.0.251           01-00-5e-00-00-fb       static
   224.0.0.252           01-00-5e-00-00-fc       static
   239.255.255.250       01-00-5e-7f-ff-fa       static
```

route

```
C:\Users\user>route print
=====
Interface List
 5...f0 76 1c 79 17 c6 .....Realtek PCIe GbE Family Controller
10.....Windscribe Windtun420
 6...00 ff 22 f6 c7 b1 .....TAP-Windows Adapter V9
15...0a 00 27 00 00 0f .....VirtualBox Host-Only Ethernet Adapter
23...00 ff e8 a1 16 ff .....Windscribe VPN
 3...12 53 49 2c c5 f7 .....Microsoft Wi-Fi Direct Virtual Adapter
24...22 53 49 2c c5 f7 .....Microsoft Wi-Fi Direct Virtual Adapter #2
 4...52 53 49 2c c5 f7 .....Microsoft Hosted Network Virtual Adapter
13...d0 53 49 2c c5 f7 .....Qualcomm Atheros AR956x Wireless Network Adapter
12...d0 53 49 2d 22 ef .....Bluetooth Device (Personal Area Network)
 1.....Software Loopback Interface 1
=====

IPv4 Route Table
=====
Active Routes:
   Network Destination        Netmask          Gateway             Interface          Metric
   127.0.0.0                255.0.0.0        On-link             127.0.0.1          331
   127.0.0.1                255.255.255.255  On-link             127.0.0.1          331
   127.255.255.255          255.255.255.255  On-link             127.0.0.1          331
   192.168.56.0              255.255.255.0    On-link             192.168.56.1       281
   192.168.56.1              255.255.255.255  On-link             192.168.56.1       281
   192.168.56.255           255.255.255.255  On-link             192.168.56.1       281
   224.0.0.0                  240.0.0.0        On-link             127.0.0.1          331
   224.0.0.0                  240.0.0.0        On-link             192.168.56.1       281
   255.255.255.255           255.255.255.255  On-link             127.0.0.1          331
   255.255.255.255           255.255.255.255  On-link             192.168.56.1       281
=====
Persistent Routes:
    None

IPv6 Route Table
=====
Active Routes:
   If Metric Network Destination      Gateway
   1      331 ::1/128                  On-link
  15      281 fe80::/64                  On-link
  15      281 fe80::ff5a:7508:9454:2d4b/128
                                         On-link
   1      331 ff00::/8                    On-link
  15      281 ff00::/8                    On-link
=====
Persistent Routes:
    None
```

net view

```
C:\Users\user>net view
System error 6118 has occurred.

The list of servers for this workgroup is not currently available
```

getmac -v

```
C:\Users\user>getmac /v

Connection Name Network Adapter Physical Address Transport Name
=====
Wi-Fi           Qualcomm Athero D0-53-49-2C-C5-F7 Media disconnected
Ethernet        Realtek PCIe Gb F0-76-1C-79-17-C6 Media disconnected
Bluetooth Netwo Bluetooth Devic D0-53-49-2D-22-EF Media disconnected
Local Area Conn Windscribe VPN  00-FF-E8-A1-16-FF Media disconnected
Local Area Conn Windscribe Wind N/A Media disconnected
VirtualBox Host VirtualBox Host 0A-00-27-00-00-0F \Device\Tcpip_{961EA504-3836-4ACF-8E2B-BECF28138FE8}
Local Area Conn TAP-Windows Ada 00-FF-22-F6-C7-B1 Media disconnected
```

pathping

```
Tracing route to dns.google [8.8.8.8]
over a maximum of 30 hops:
 0  DESKTOP-OSV38G6 [192.168.1.69]
 1  dsldevice.lan [192.168.1.254]
 2  100.89.208.1
 3  1t-1-0-0.4004.mbaluwatar1.subisu.net.np [116.66.193.157]
 4  116.66.193.93
 5  61.95.165.141
 6  116.119.68.99
 7  72.14.205.196
 8  216.239.43.133
 9  142.250.233.145
10  dns.google [8.8.8.8]

Computing statistics for 250 seconds...
```


system info

```
C:\Users\user>systeminfo
```

```
Host Name:                DESKTOP-OSV38G6
OS Name:                   Microsoft Windows 10 Pro
OS Version:                10.0.19045 N/A Build 19045
OS Manufacturer:          Microsoft Corporation
OS Configuration:         Standalone Workstation
OS Build Type:              Multiprocessor Free
Registered Owner:          user
Registered Organization:
Product ID:                 00330-80000-00000-AA258
Original Install Date:      10/29/2021, 7:24:41 AM
System Boot Time:           3/14/2024, 1:02:18 AM
System Manufacturer:        Acer
System Model:               Aspire E5-571
System Type:                x64-based PC
Processor(s):                1 Processor(s) Installed.
                             [01]: Intel64 Family 6 Model 69 Stepping 1 GenuineIntel ~1700 Mhz
BIOS Version:               Insyde Corp. V1.26, 12/18/2014
Windows Directory:          C:\Windows
System Directory:           C:\Windows\system32
Boot Device:                 \Device\HarddiskVolume1
System Locale:               en-us;English (United States)
Input Locale:                en-us;English (United States)
Time Zone:                   (UTC+05:45) Kathmandu
Total Physical Memory:       8,119 MB
Available Physical Memory:   3,061 MB
Virtual Memory: Max Size:    12,087 MB
Virtual Memory: Available:   5,562 MB
Virtual Memory: In Use:       6,525 MB
Page File Location(s):       C:\pagefile.sys
Domain:                       WORKGROUP
Logon Server:                 \\DESKTOP-OSV38G6
Hotfix(s):                   31 Hotfix(s) Installed.
                             [01]: KB5034466
                             [02]: KB5028853
                             [03]: KB5000736
                             [04]: KB5011048
                             [05]: KB5012170
                             [06]: KB5015684
                             [07]: KB5035845
                             [08]: KB5006753
                             [09]: KB5007273
                             [10]: KB5011352
```

```
                             [11]: KB5011651
                             [12]: KB5014032
                             [13]: KB5014035
                             [14]: KB5014671
                             [15]: KB5015895
                             [16]: KB5016705
                             [17]: KB5018506
                             [18]: KB5020372
                             [19]: KB5022924
                             [20]: KB5023794
                             [21]: KB5025315
                             [22]: KB5026879
                             [23]: KB5028318
                             [24]: KB5028380
                             [25]: KB5029709
                             [26]: KB5031539
                             [27]: KB5032392
                             [28]: KB5032907
                             [29]: KB5034224
                             [30]: KB5036447
                             [31]: KB5005699
Network Card(s):            7 NIC(s) Installed.
                             [01]: Qualcomm Atheros AR956x Wireless Network Adapter
                                 Connection Name: Wi-Fi
                                 Status:          Media disconnected
                             [02]: Realtek PCIe GbE Family Controller
                                 Connection Name: Ethernet
                                 Status:          Media disconnected
                             [03]: Bluetooth Device (Personal Area Network)
                                 Connection Name: Bluetooth Network Connection
                                 Status:          Media disconnected
                             [04]: Windscribe VPN
                                 Connection Name: Local Area Connection
                                 Status:          Media disconnected
                             [05]: Windscribe Windtun420
                                 Connection Name: Local Area Connection 2
                                 Status:          Media disconnected
                             [06]: VirtualBox Host-Only Ethernet Adapter
                                 Connection Name: VirtualBox Host-Only Network
                                 DHCP Enabled:     No
                                 IP address(es)
                                 [01]: 192.168.56.1
                                 [02]: fe80::ff5a:7508:9454:2d4b
                             [07]: TAP-Windows Adapter V9
                                 Connection Name: Local Area Connection 3
                                 Status:          Media disconnected
Hyper-V Requirements:        A hypervisor has been detected. Features required for Hyper-V will not be displayed.
```