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Lab Manual

of

Network Management and Administration.

DEPARTMENT OF COMPUTER ENGINEERING

SEMESTER – 6

LJ Polytechnic, Ahmedabad

COMPUTER ENGINEERING - SEMESTER 6
NETWORK MANAGEMENT AND ADMINISTRATION [3360703]
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PRACTICAL 1

Practical Definition :

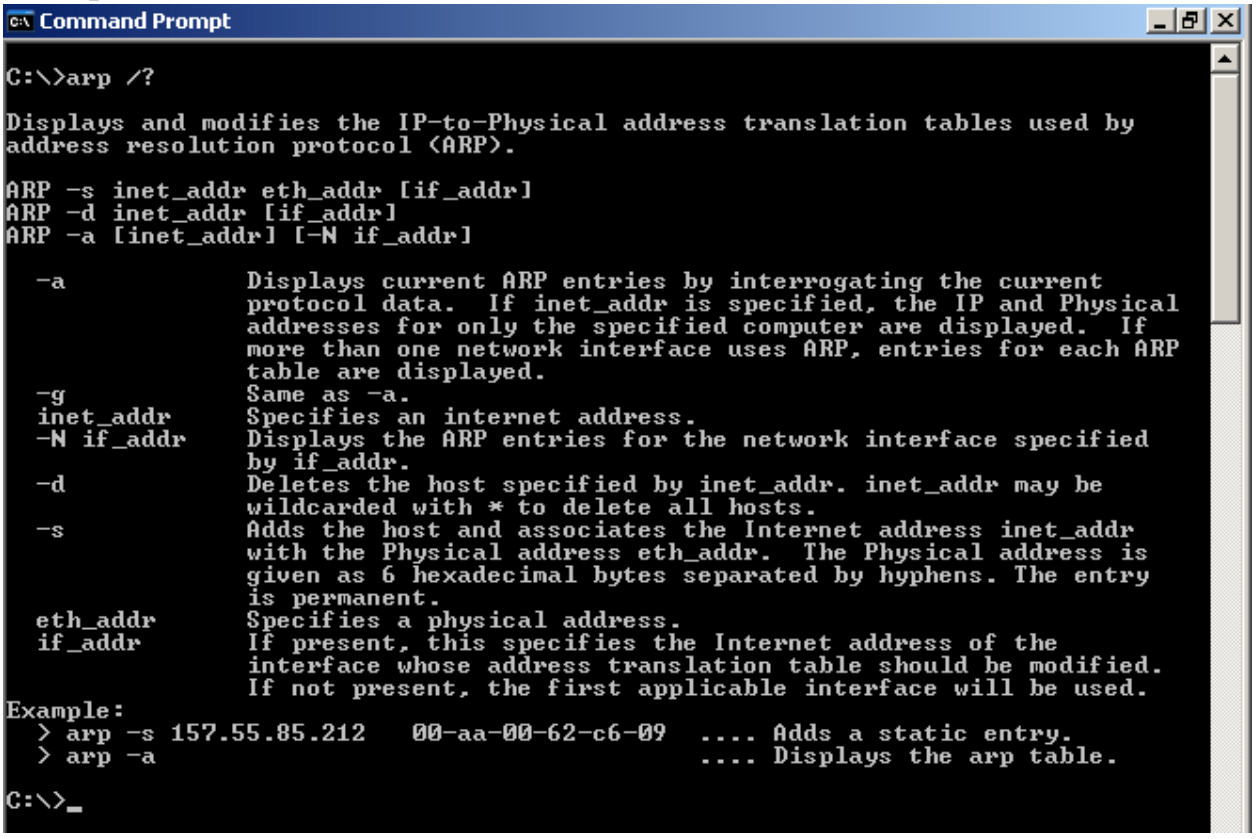
- Execution of Basic TCP/IP utilities and commands.

1) ARP:-

Short for **Address Resolution Protocol**, **ARP** is a used with the IP for mapping a 32-bit Internet Protocol address to a MAC Address.

Syntax:- ARP -s inet_addr eth_adr [if_addr]

Example:-



2) IPCONFIG:-

Ipconfig is a DOS utility can be used from MS-DOS and an MS-DOS shell to display the network settings currently assigned and given by a network.

Syntax:-

ipconfig [/? | /all | /release [adapter] | /renew [adapter] | /flushdns | /registerdns | /showclassid adapter |/setclassid adapter [classidtoset]]

Example:-

```
C:\Windows\system32>ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection 3:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::11e9:1816:4dc7:db89%19
   IPv4 Address. . . . . . . . . . . : 192.168.1.100
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.1.1

Ethernet adapter Bluetooth Network Connection:

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

Ethernet adapter Local Area Connection:

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

Tunnel adapter isatap.{F261D5B7-8990-44A5-91CA-224F6DE8A632}:

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

Tunnel adapter isatap.{8197F1CB-6317-415F-8523-162520BD5118}:

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

Tunnel adapter isatap.{C3C3B36C-EEFF-4D79-A0E0-43A12FEA39D2}:

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

Tunnel adapter Teredo Tunneling Pseudo-Interface:

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

3) NBTSTAT:-

The nbtstat MS-DOS utility that displays protocol statistics and current TCP/IP connections using NBT.

Syntax:-

NBTSTAT [[-a RemoteName] [-A IP address] [-c] [-n] [-r] [-R] [-RR] [-s] [-S] [interval]]

Example:

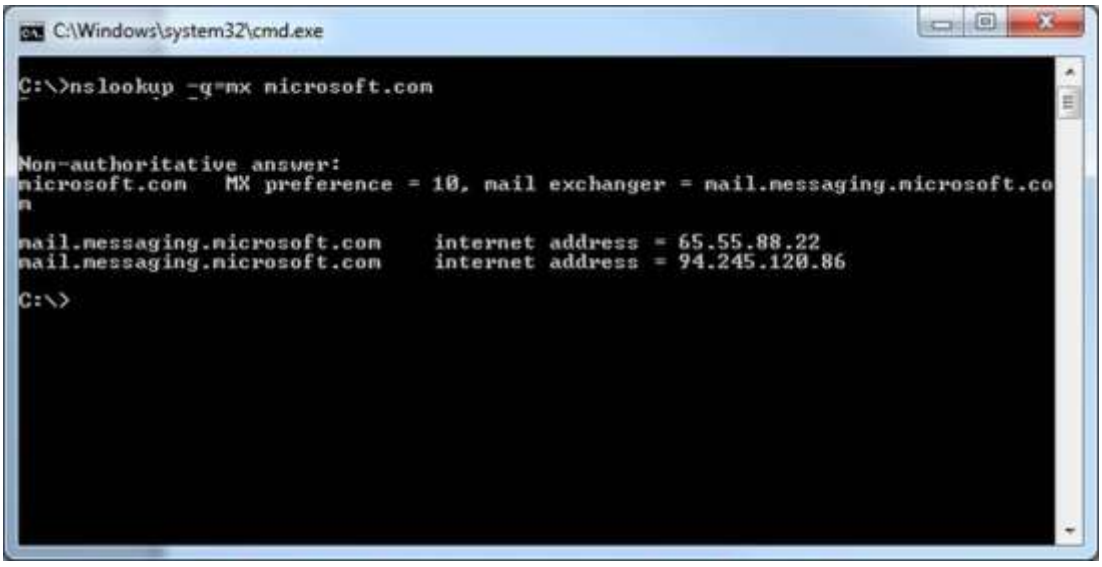
4) NSLOOKUP:-

MS-DOS utility that enables a user to look up an IP address of a domain or host on a network.

Syntax:-

nslookup [-opt ...] # interactive mode using default server
nslookup [-opt ...] - server # interactive mode using 'server'
nslookup [-opt ...] host # just look up 'host' using default server nslookup [-opt ...] host server # just look up 'host' using 'server'

Example:-



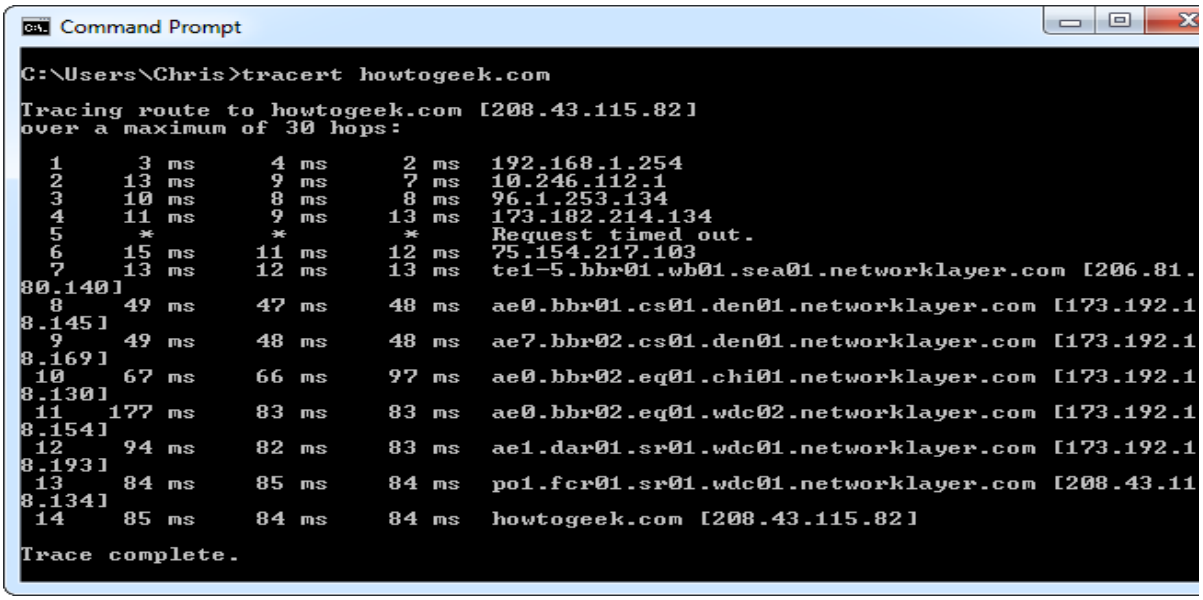
5) TRACERT:-

The tracert command is used to visually see a network packet being sent and received and the amount of hops required for that packet to get to its destination.

Syntax:-

tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout] [-R] [-S srcaddr] [-4] [-6] target_name

Example:-

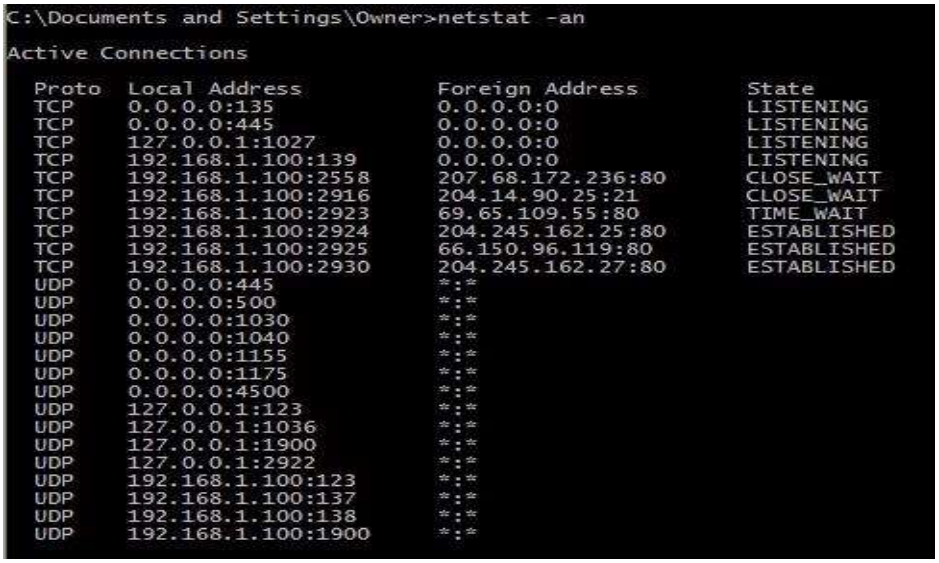


6) NETSTAT:-

The netstat command is used to display the TCP/IP network protocol statistics and information.

Syntax:- NETSTAT [-a] [-e] [-n] [-s] [-p proto] [-r] [interval]

Example:-



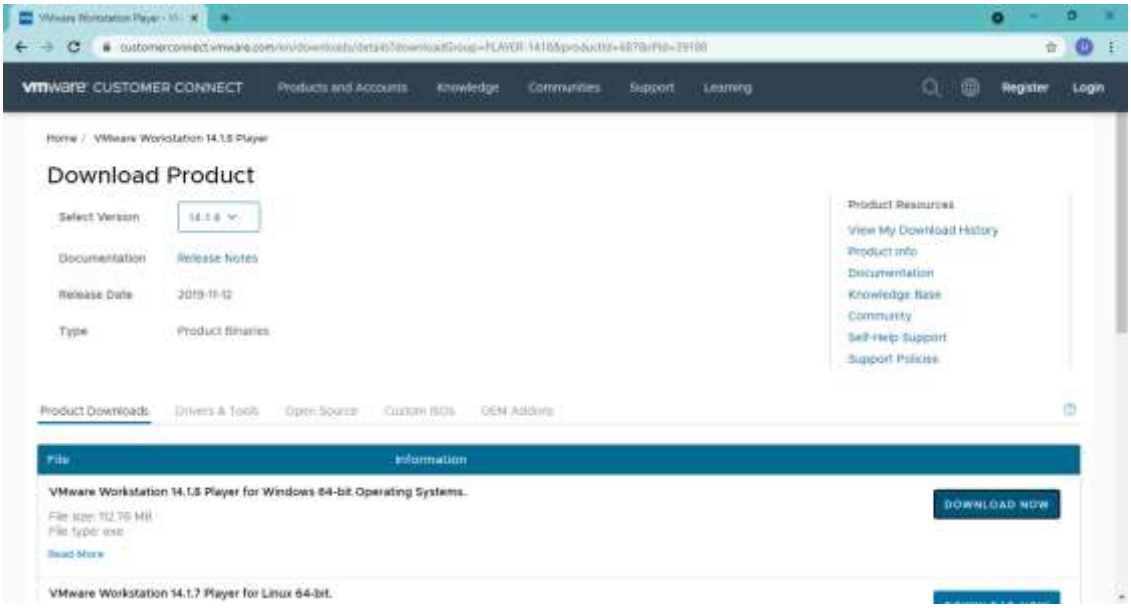
PRACTICAL 2

Practical Definition :

- Installing and Configuring Virtual Machine VMware.

➪ Download VMware player 14.1.8 from the below link: Press Ctrl + Click https://customerconnect.vmware.com/en/downloads/details?downloadGroup=PLAYER-1418&productId=687&rPId=39188

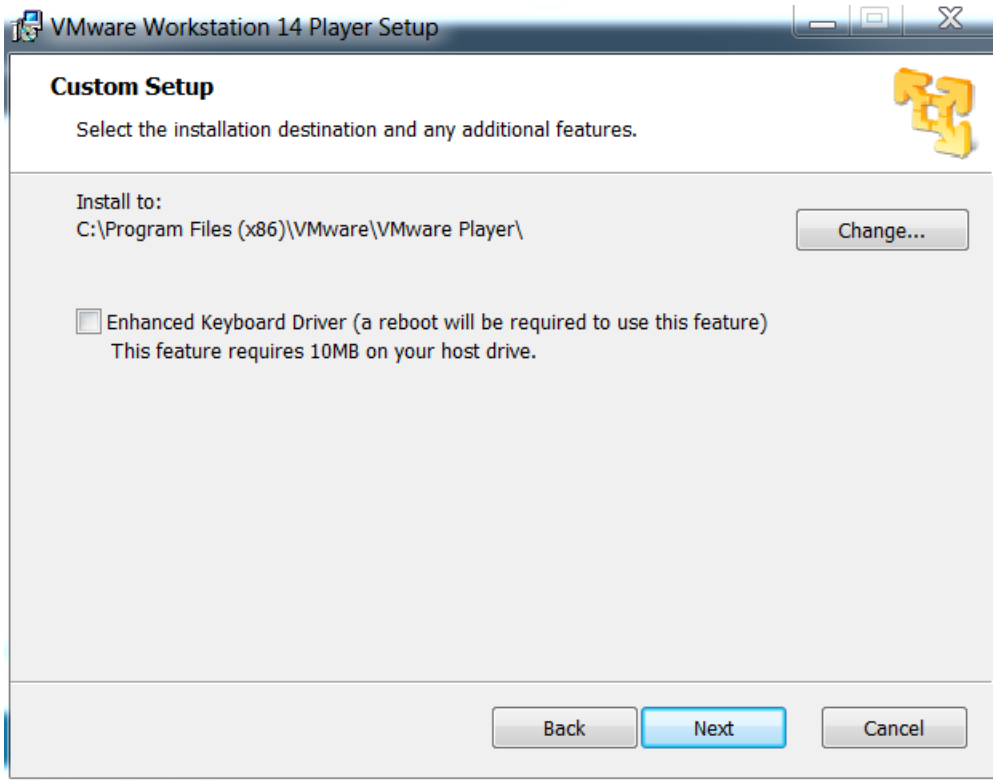
Step 1: Click on the “Download Now” button and run the exe file as administrator.



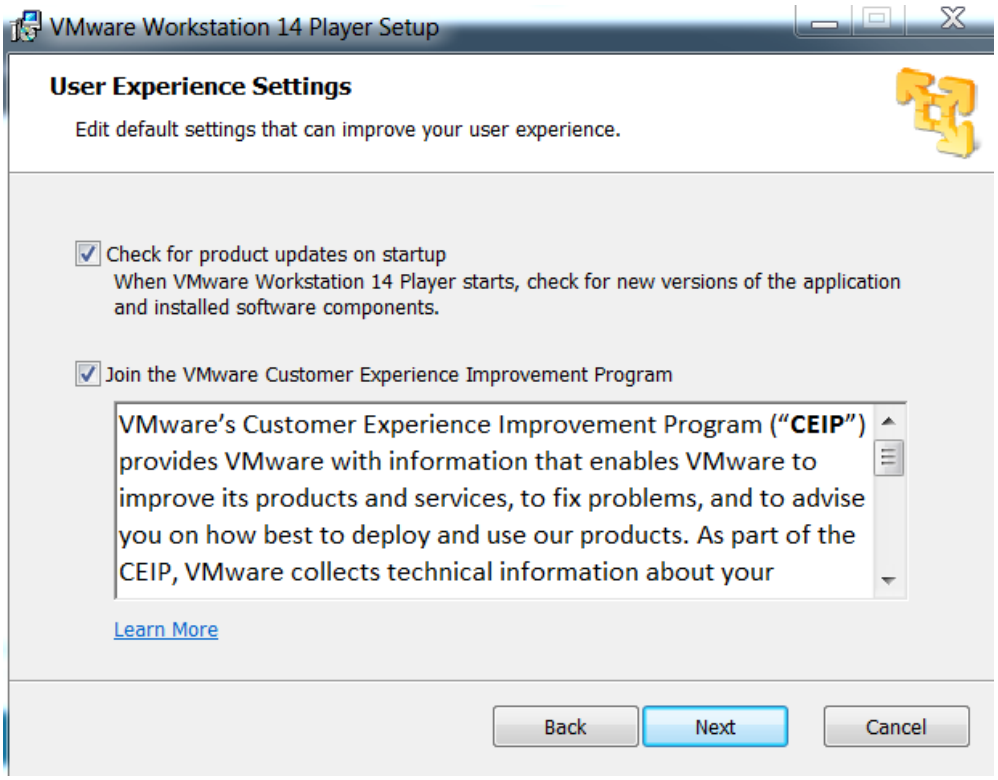
Step 2 : Click on “Next”

Step 3: Click “Next”

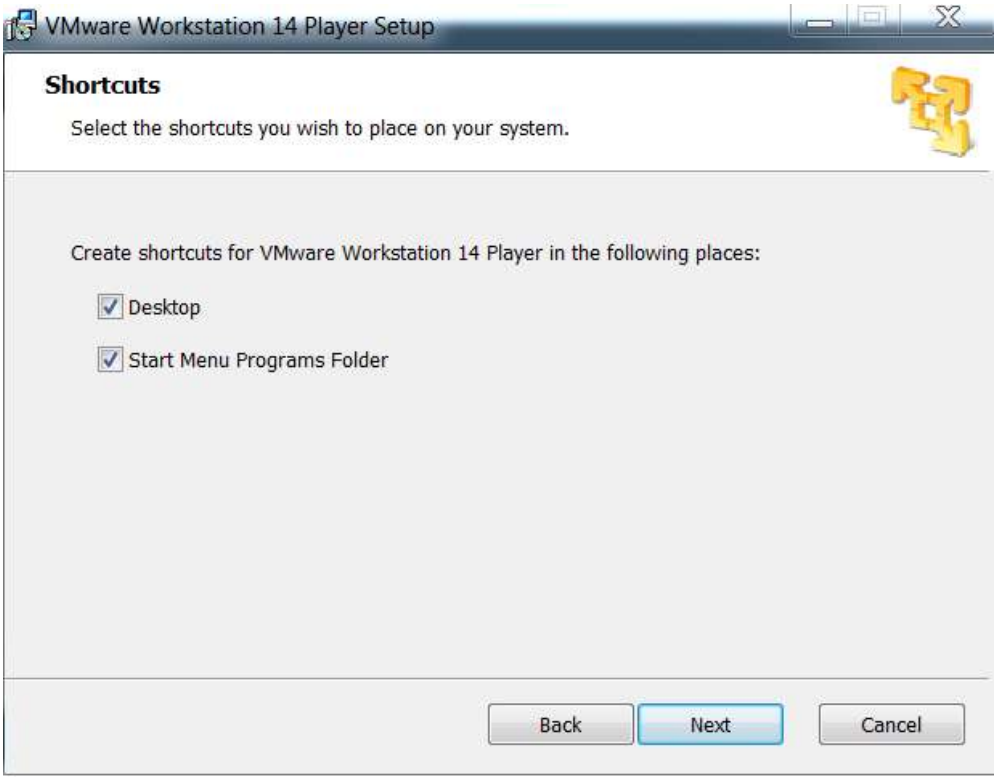
Note: Do not check Enhanced Keyboard Driver check box



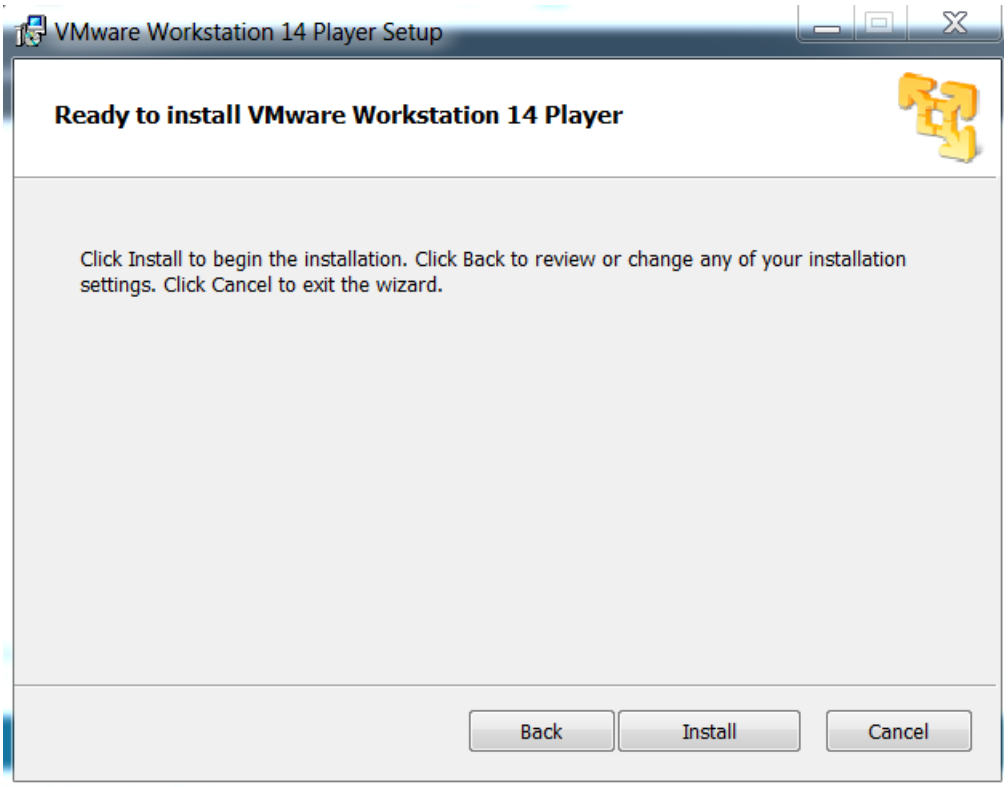
Step 4: Check the Product Updates and VMware Customer Experience and Click “Next”.



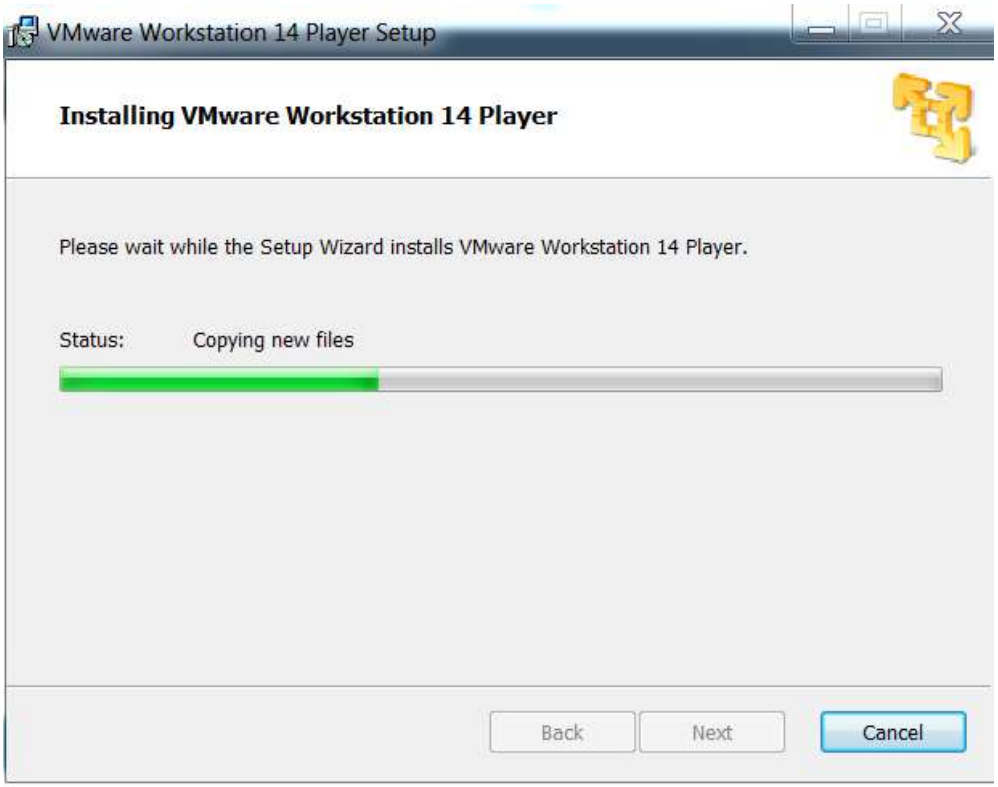
Step 5: Check Desktop and Start Menu Program Folder and Click “Next”.



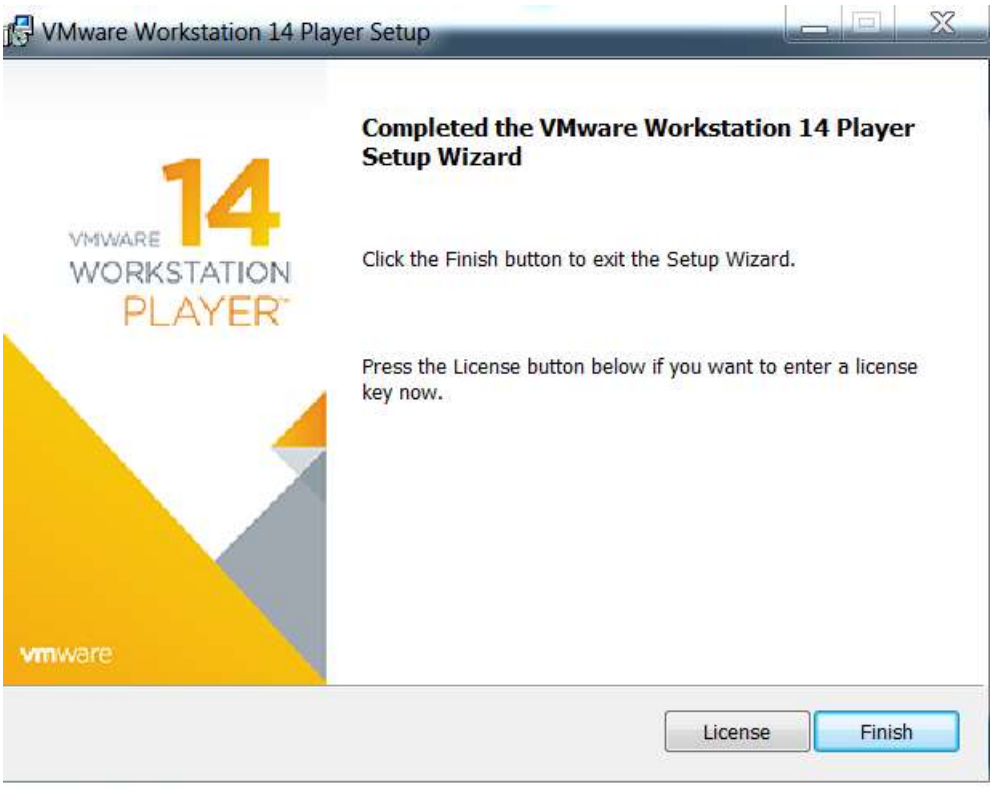
Step 6: Click “Install”.



Step 7: Installing window will be completed and do not press “Cancel” button



Step 8: Click “Finish”



Step 9: Open VMware Workstation and select VMware Workstation Player for free and click “Continue”

Step 10: VMware Workstation Home screen page will appear.

PRACTICAL 3

Practical Definition :

- Creating Windows Server Boot Disk.

⇨ Windows Server boot disk can be created using following 3 ways

1. Using Microsoft's official tool (Windows 7 USB DVD Download)

2. Using command prompt

3. Using third party software's

1. Using Microsoft's official tool (Windows 7 USB DVD Download)

⇨ Microsoft provided Windows 7 USB/DVD download tool also known by Windows USB/DVD download tool with window 7 release. This tool can be used to make bootable device in four steps for following windows OS either client or server.

1. Windows Server 2012 R2

2. Windows Server 2012

3. Windows Server 2008 R2

4. Windows 10

5. Windows 8.1

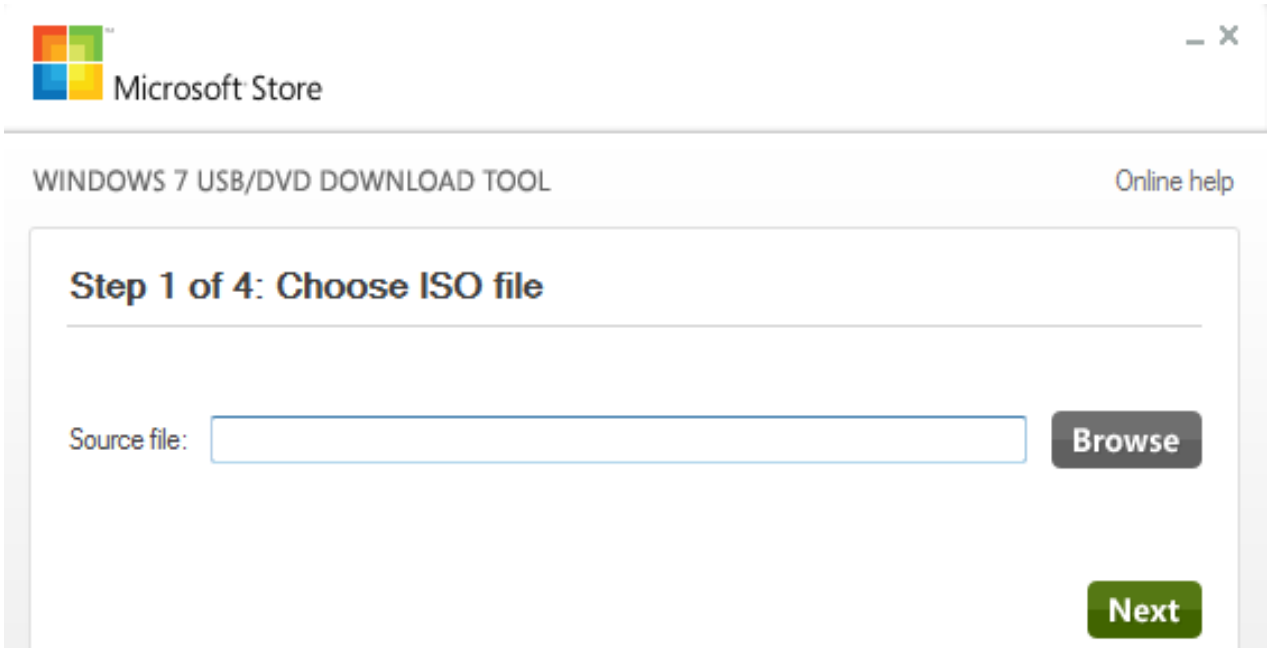
6. Windows 8

7. Windows 7

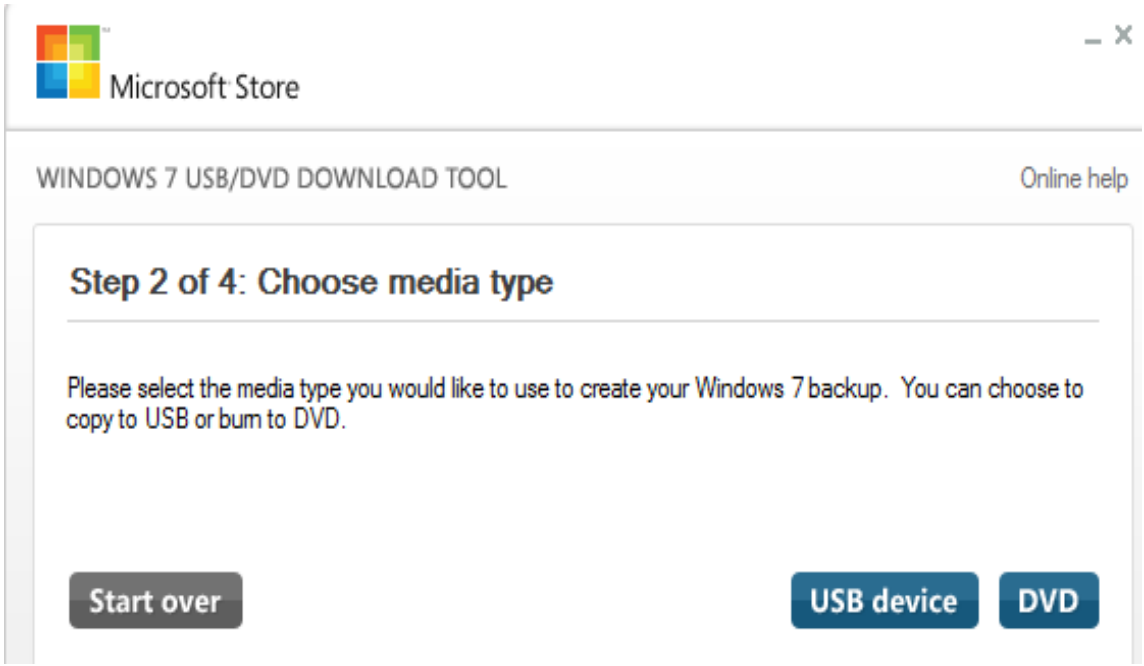
Steps to create bootable disk are

1. Download Windows 7 USB/DVD Download tool from link https://www.microsoft.com/en-us/download/windows-usb-dvd-download-tool

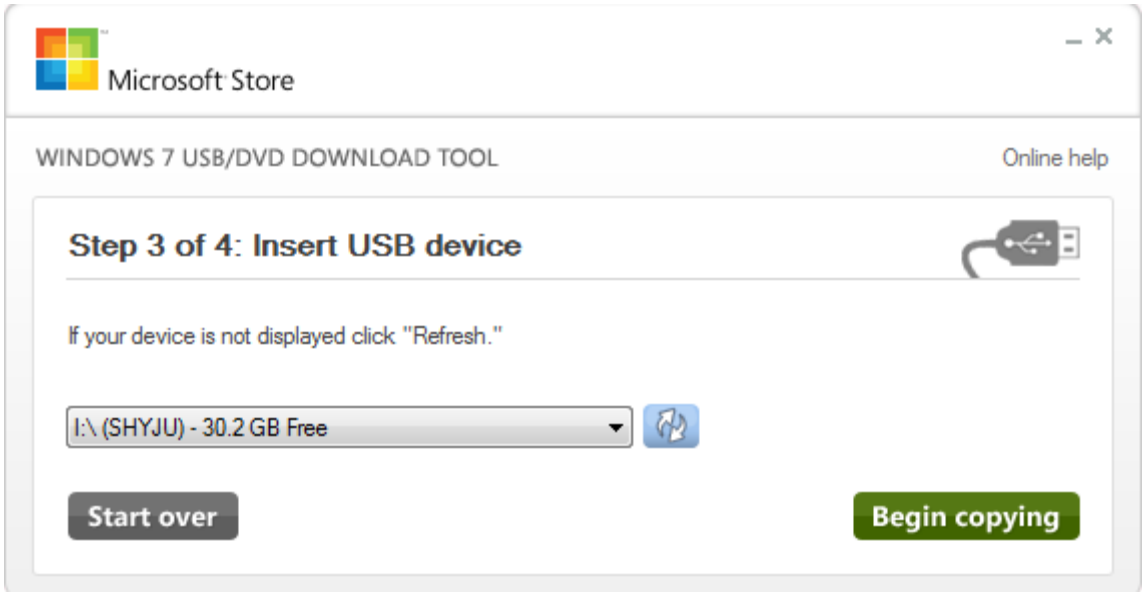
2. Choose ISO file: Run the tool and Click on the Browse button to select the ISO file. Click Next



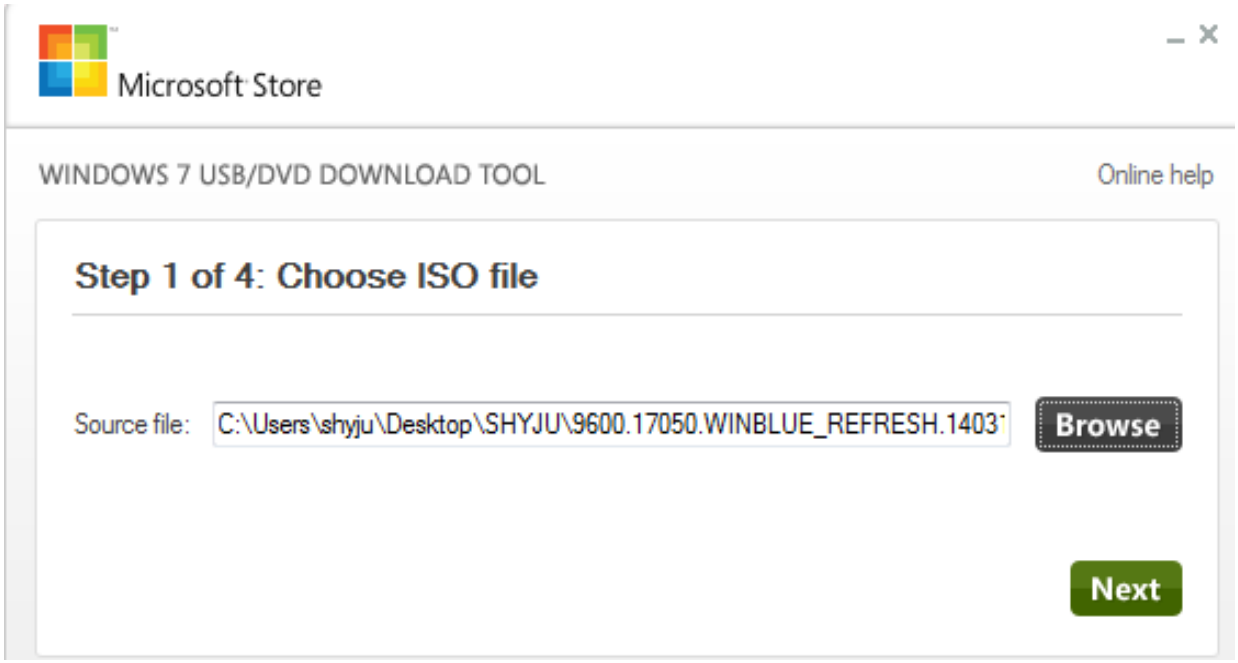
3. Choose Media Type: USB device or DVD. In Step two, we need to decide whether we need to copy the windows server 2012 R2 installation files to a DVD disc or a USB stick.



4. Select drive and Begin Copying: Select USB/DVD drive and click on Begin Copying.



5. Format and Create bootable Drive: After the last step it will ask to format the drive to make enough space. Click Yes to start formatting. After formatting it will start creating bootable DVD/USB device.

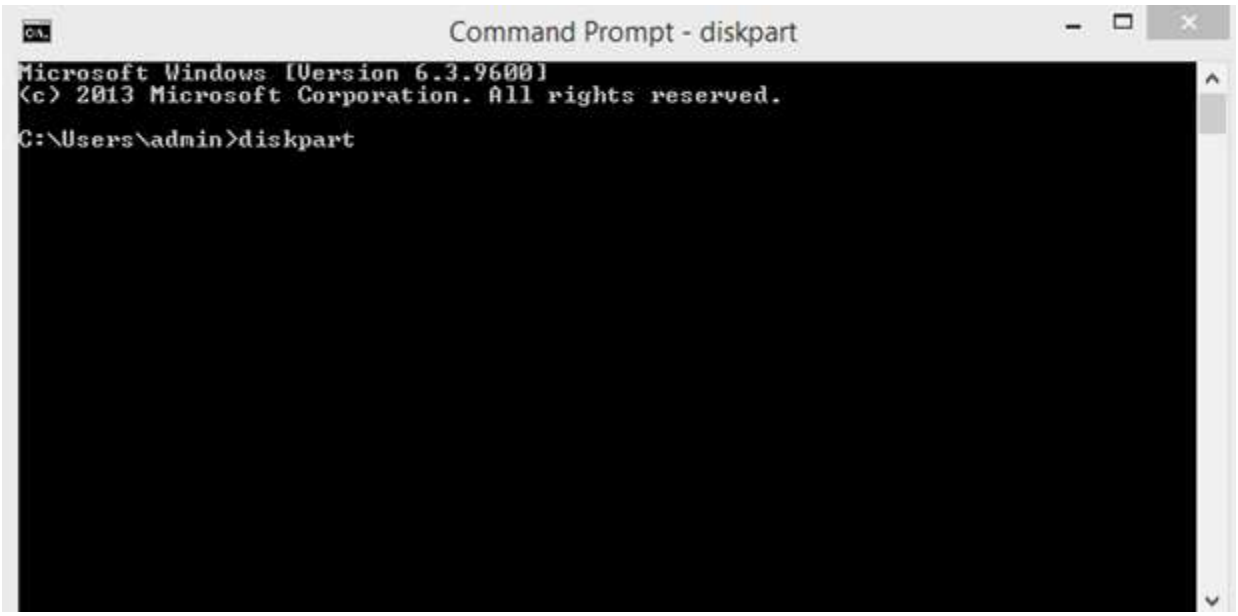


2. Using Command Prompt

Follow the Steps

1. Open command prompt (cmd) in administrator mode

2. Type diskpart [to open disk management utility using command prompt]



3. DISKPART> list disk [It will show the no of disks attached with your system. Here we have 2 drives: SSD and pen drive]

4. DISKPART> select disk X [your disk no X that is to make bootable]

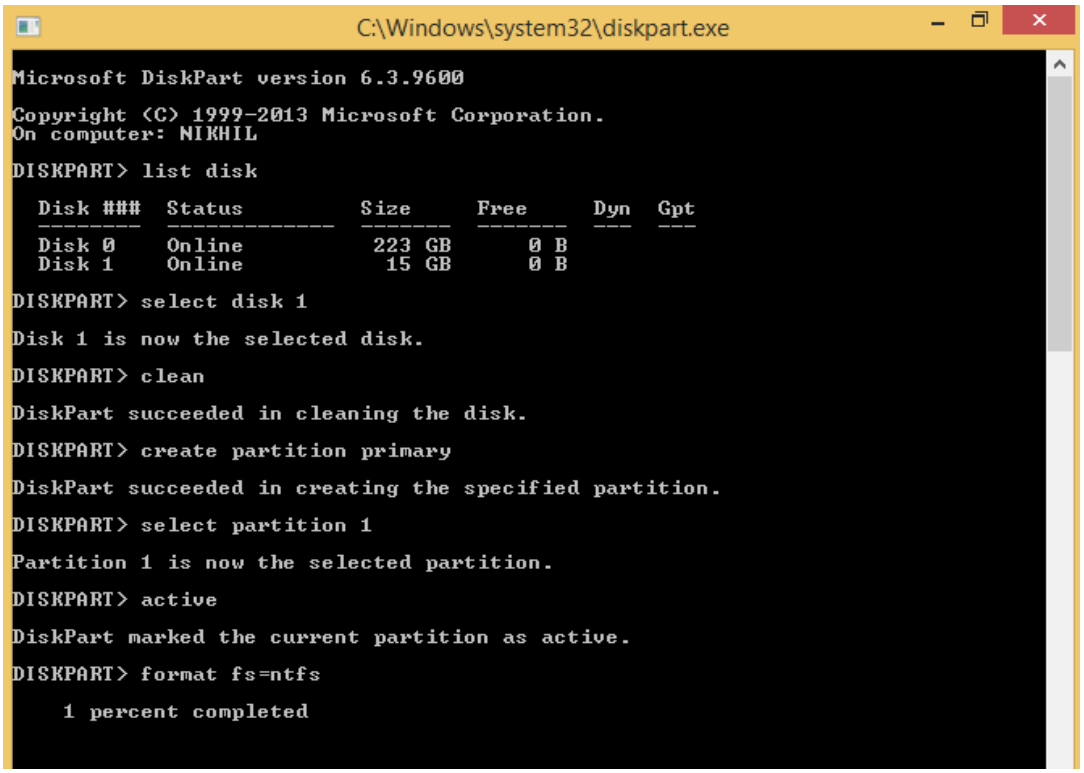
5. DISKPART> clean

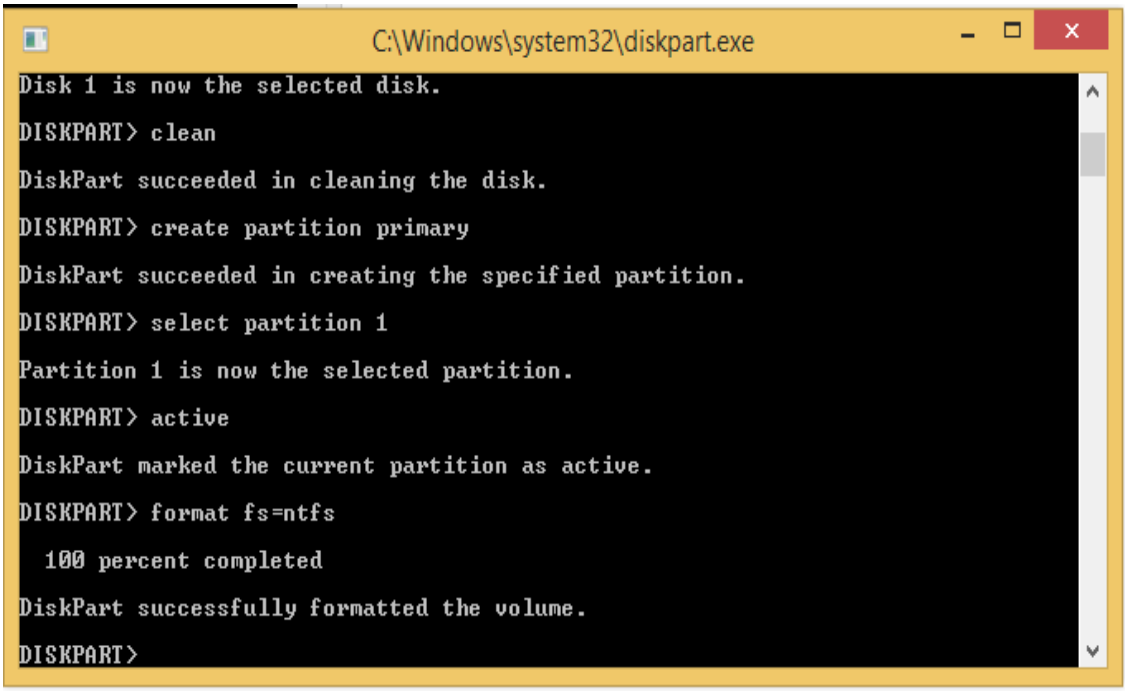
6. DISKPART> create partition primary [Create the bootable partition]

7. DISKPART> select partition 1 [Select the partition you just created]

8. DISKPART> active

9. DISKPART> format fs = ntfs [It Start formatting the selected disk]





10. DISKPART> assign

11. Go to the location where windows server 2012 R2 ISO file is stored in your system –> Right click on it –> select 7-zip –> Select your DVD/USB drive and extract the ISO File.

3. Using Third Party Software

➪ There are number of software's available to make a bootable drive like: Rufus, PowerISO, Nero, UltraISO etc.

Steps using Rufus software are

1. Download RUFUS from following link

https://rufus.akeo.ie/

2. Insert your DVD/USB Drive and run Rufus

3. Tick on Create a bootable USB Drive and Select ISO Image option.

4. Select the ISO file and Click on start.