

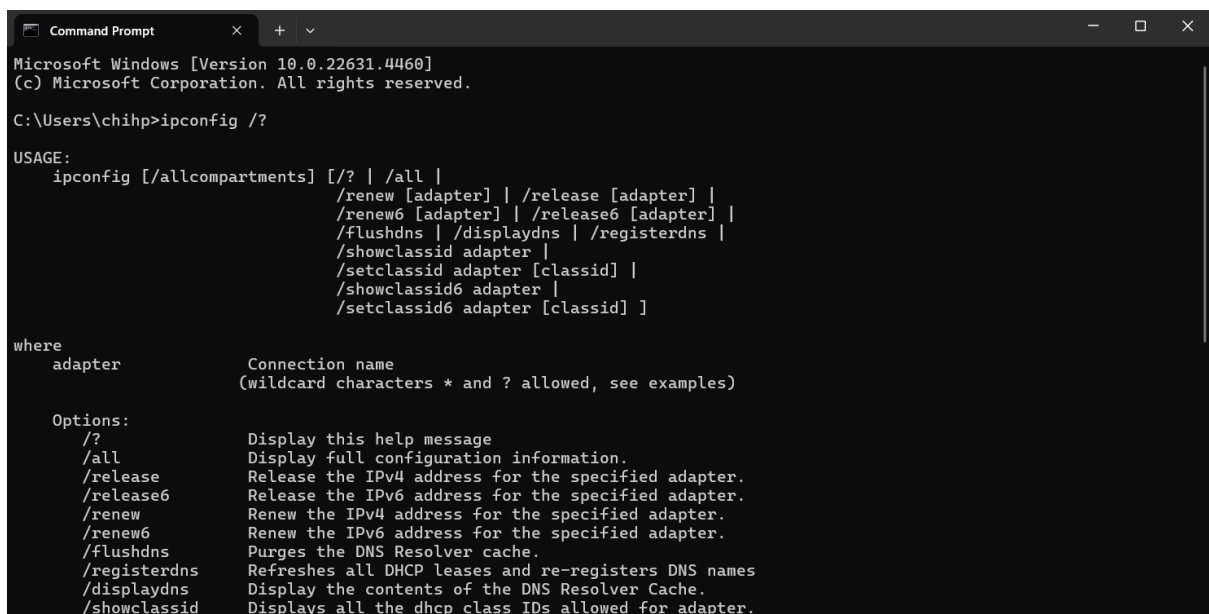
USING IPCONFIG TO VIEW AND MODIFY NETWORK INFORMATION ON WINDOWS

TOOL: WINDOWS

Task 1:

We will begin by viewing the help information screen by executing the following command:

ipconfig /?



```
Microsoft Windows [Version 10.0.22631.4460]
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C:\Users\chihp>ipconfig /?

USAGE:
    ipconfig [/allcompartments] [/? | /all |
        /renew [adapter] | /release [adapter] |
        /renew6 [adapter] | /release6 [adapter] |
        /flushdns | /displaydns | /registerdns |
        /showclassid adapter |
        /setclassid adapter [classid] |
        /showclassid6 adapter |
        /setclassid6 adapter [classid] ]

where
    adapter      Connection name
                  (wildcard characters * and ? allowed, see examples)

Options:
    /?           Display this help message
    /all         Display full configuration information.
    /release     Release the IPv4 address for the specified adapter.
    /release6    Release the IPv6 address for the specified adapter.
    /renew       Renew the IPv4 address for the specified adapter.
    /renew6      Renew the IPv6 address for the specified adapter.
    /flushdns    Purges the DNS Resolver cache.
    /registerdns  Refreshes all DHCP leases and re-registers DNS names
    /displaydns  Display the contents of the DNS Resolver Cache.
    /showclassid Displays all the dhcp class IDs allowed for adapter.
```

Open a command prompt to begin, and type “ipconfig” to view your networking information.

```
C:\Users\User>ipconfig
```

Windows IP Configuration

Unknown adapter Local Area Connection 2:

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

Unknown adapter wintunshark0:

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

Ethernet adapter Ethernet:

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

Ethernet adapter VirtualBox Host-Only Network:

```
Connection-specific DNS Suffix  . :
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  . :
```

Ethernet adapter VMware Network Adapter VMnet1:

```
Connection-specific DNS Suffix  . :
Autoconfiguration IPv4 Address. . : 169.254.146.21
Subnet Mask . . . . . : 255.255.0.0
Default Gateway . . . . . :
```

Ethernet adapter VMware Network Adapter VMnet8:

As you will see, there will be a lot of information shown, including your local IP addresses.

Task 2:

To display the full TCP/IP configuration information for all network adapters, we can use the following command:

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

Windows IP Configuration

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

Ethernet adapter Ethernet 3:

Connection-specific DNS Suffix	:		
Description	:	VirtualBox Host-Only Ethernet Adapter	i
Physical Address.	:	0A-00-27-00-00-12	
DHCP Enabled.	:	No	
Autoconfiguration Enabled	:	Yes	
Link-local IPv6 Address	:	fe80::88c2:2fac:7f84:8cfc%18(Preferred)	
IPv4 Address.	:	192.168.56.1(Preferred)	
Subnet Mask	:	255.255.255.0	i
Default Gateway	:		
DHCPv6 IAID	:	587857959	
DHCPv6 Client DUID.	:	00-01-00-	49
DNS Servers	:	fec0:0:0:ffff::1%1 fec0:0:0:ffff::2%1 fec0:0:0:ffff::3%1	
NetBIOS over Tcpip.	:	Enabled	

ipconfig /all

Task 3:

Assume that our machine has an IP address with DHCP. To release our current IPv4 or IPv6 address, we can use the following commands:

ipconfig /release

ipconfig /release6

```
C:\Users\User>ipconfig /release6

Windows IP Configuration

The operation failed as no adapter is in the state permissible for
this operation.

Unknown adapter Local Area Connection 2:

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

Unknown adapter wintunshark0:

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

Ethernet adapter Ethernet:

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

Ethernet adapter VirtualBox Host-Only Network:

    Connection-specific DNS Suffix  . :
    IPv4 Address. . . . . : 192.168.56.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . :
```

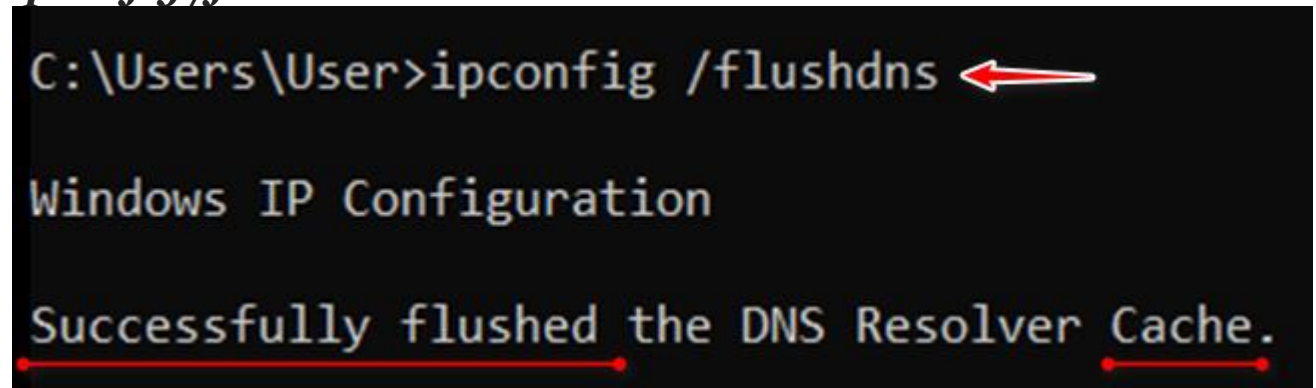
Renew our IP addresses via DHCP:

ipconfig /renew

Task 4:

If we want to purge the DNS resolver cache, we can do that using the following command:

ipconfig /flushdns

A screenshot of a Windows command prompt window with a black background and white text. The prompt shows the command 'C:\Users\User>ipconfig /flushdns' with a red arrow pointing to the command. Below the command, the text 'Windows IP Configuration' is displayed. At the bottom, the message 'Successfully flushed the DNS Resolver Cache.' is shown, with red lines underlining the words 'Successfully' and 'Cache.'.

```
C:\Users\User>ipconfig /flushdns  
  
Windows IP Configuration  
  
Successfully flushed the DNS Resolver Cache.
```

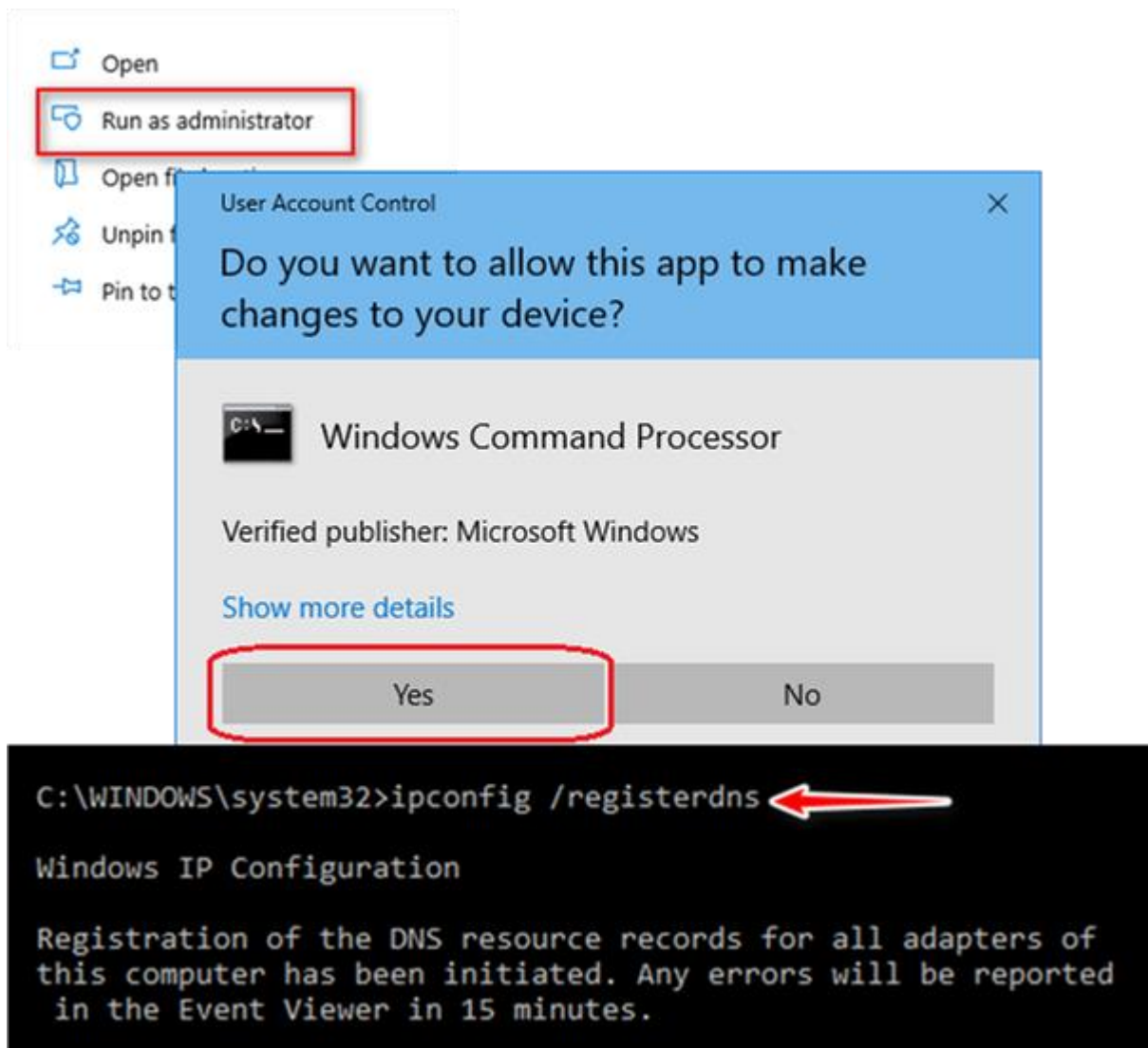
This will essentially get rid of the local cache of DNS information.

Task 5:

We can also refresh all DHCP leases and re-register DNS names using the following command:

ipconfig /registerdns

You will need to run command prompt as administrator to execute this command.



Task 6:

We can display the content of the DNS Resolver Cache using the following command:

ipconfig /displaydns

a.nel.cloudflare.com

Record Name : a.nel.cloudflare.com
Record Type : 1
Time To Live : 13109
Data Length : 4
Section : Answer
A (Host) Record : 35.190.80.1

discord.com

Record Name : discord.com
Record Type : 1
Time To Live : 260
Data Length : 4
Section : Answer
A (Host) Record : 162.159.137.232