



UNIVERSITY OF INFORMATION TECHNOLOGY
AND SCIENCES (UITS)

LAB REPORT - 1

IT-326 : CLIENT SERVER PROGRAMMING LAB

Basic Of Client Server Programming

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1 Abstrac

Client-server model is a distributed application structure that partitions tasks or workloads between the providers of a resource or service, called servers, and service requesters, called clients.

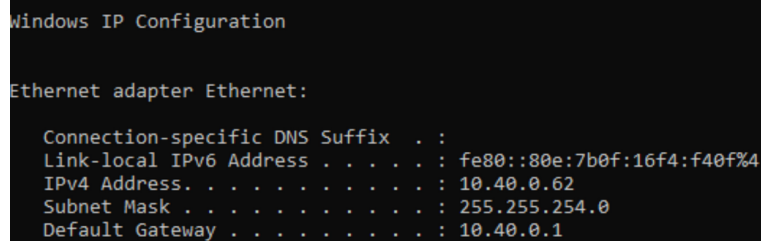
2 Objective

In this task I am going to learn about basic of client server. I am going to use some commands like ipconfig,ipconfig/all,ping,tracer.Also learn about incognito mode and goint to see website cookies and how it works,header response,request method etc.

3 Working Procedure

3.1 ipconfig

ipconfig (standing for "Internet Protocol configuration") is a console application program of some computer operating systems that displays all current TCP/IP network configuration values and refreshes Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) settings.

A screenshot of a Windows command prompt window showing the output of the 'ipconfig' command. The title bar reads 'Windows IP Configuration'. The output shows details for the 'Ethernet adapter Ethernet:' including the 'Connection-specific DNS Suffix' (empty), 'Link-local IPv6 Address' (fe80::80e:7b0f:16f4:f40f%4), 'IPv4 Address' (10.40.0.62), 'Subnet Mask' (255.255.254.0), and 'Default Gateway' (10.40.0.1).

```
Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::80e:7b0f:16f4:f40f%4
    IPv4 Address. . . . . : 10.40.0.62
    Subnet Mask . . . . . : 255.255.254.0
    Default Gateway . . . . . : 10.40.0.1
```

Figure 1: Output

3.2 ipconfig/all

ipconfig /all displays all configuration information for each adapter bound to TCP/IP.

```

Windows IP Configuration

Host Name . . . . . : DESKTOP-GUAVE68
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. . . . . : 3C-7C-3F-7D-69-A0
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::80e:7b0f:16f4:f40f%4(Preferred)
IPv4 Address. . . . . : 10.40.0.62(Preferred)
Subnet Mask . . . . . : 255.255.254.0
Default Gateway . . . . . : 10.40.0.1
DHCPv6 IAID . . . . . : 71072831
DHCPv6 Client DUID. . . . . : 00-01-00-01-27-47-3A-D9-3C-7C-3F-7D-69-A0
DNS Servers . . . . . : 8.8.8.8
NetBIOS over Tcpi. . . . . : Enabled

```

Figure 2: Output

3.3 Ping

Ping (latency is the technically more correct term) means the time it takes for a small data set to be transmitted from your device to a server on the Internet and back to your device again. The ping time is measured in milliseconds (ms).

```

Pinging youtube-ui.l.google.com [142.250.76.78] with 32 bytes of data:
Reply from 142.250.76.78: bytes=32 time=48ms TTL=115
Reply from 142.250.76.78: bytes=32 time=45ms TTL=115
Reply from 142.250.76.78: bytes=32 time=49ms TTL=115
Reply from 142.250.76.78: bytes=32 time=45ms TTL=115

Ping statistics for 142.250.76.78:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 45ms, Maximum = 49ms, Average = 46ms

```

Figure 3: Output

3.4 Tracert

The TRACERT diagnostic utility determines the route to a destination by sending Internet Control Message Protocol (ICMP) echo packets to the destination. In these packets, TRACERT uses varying IP Time-To-Live (TTL) values. TRACERT sends the first echo packet with a TTL of 1 and increments the TTL by 1 on each subsequent transmission, until the destination responds or until the maximum TTL is reached. The ICMP "Time Exceeded" messages that intermediate routers send back show the route.

```

Tracing route to youtube-ui.l.google.com [142.250.76.78]
over a maximum of 30 hops:

  1    1 ms    <1 ms    <1 ms    10.40.0.1
  2    2 ms    <1 ms    <1 ms    10.49.33.81
  3    1 ms    1 ms     *        100.64.1.101
  4    1 ms    <1 ms    <1 ms    118.253.nuclear.link3.net [203.76.118.253]
  5    1 ms    1 ms     1 ms     104.6.nuclear.link3.net [203.76.104.6]
  6    *      *        *        Request timed out.
  7    3 ms    2 ms     2 ms     157.119.185.31.summitig.net [157.119.185.31]
  8    3 ms    2 ms     2 ms     157.119.185.37.summitig.net [157.119.185.37]
  9    9 ms    8 ms     8 ms     182.79.88.17
 10   53 ms   48 ms    49 ms    116.119.73.144
 11   47 ms   46 ms    48 ms    72.14.205.196
 12   44 ms   43 ms    43 ms    142.251.227.211
 13   36 ms   36 ms    36 ms    142.250.228.245
 14   45 ms   47 ms    45 ms    maa05s14-in-f14.1e100.net [142.250.76.78]

Trace complete.

```

Figure 4: Output

3.5 Incognito Mode

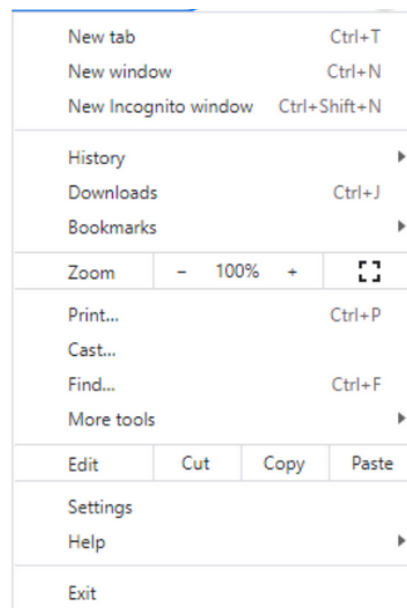


Figure 5: Output

3.6 Incongito Tab

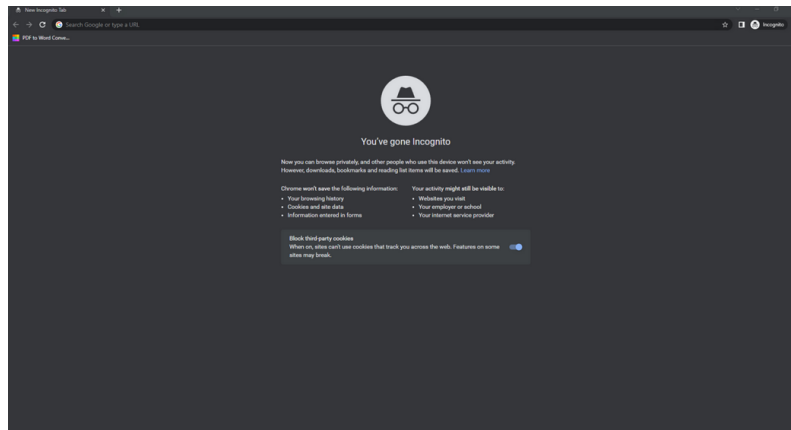


Figure 6: Output

3.7 Developer Tools

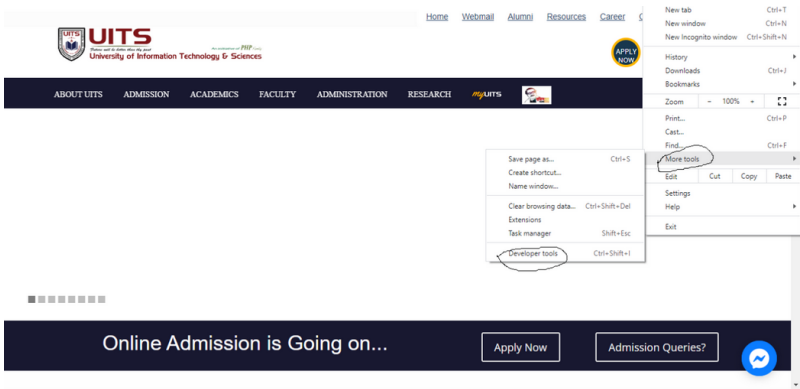


Figure 7: Output

3.8 Developer Tools

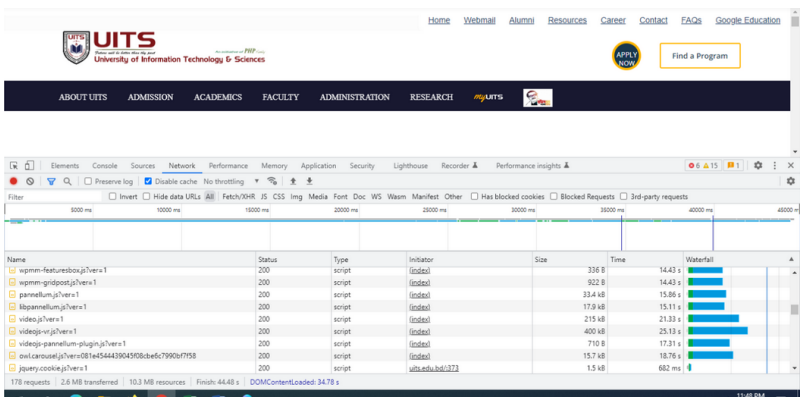


Figure 8: Output

3.9 Waterfall

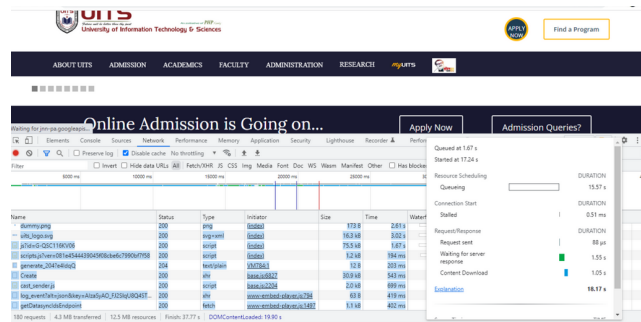


Figure 9: Output

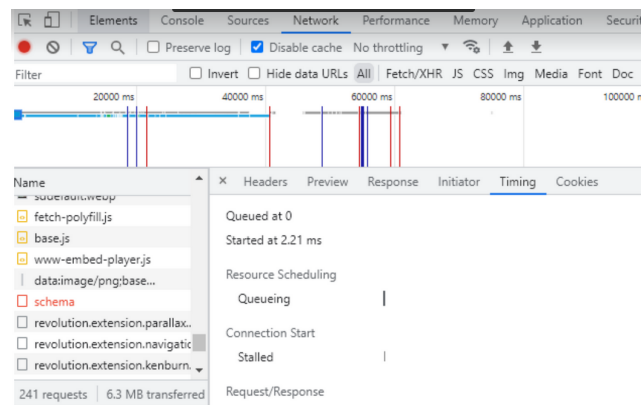


Figure 10: Output

4 Conclusion

To conclude, I can say that by doing this task now I have a solid knowledge about basics of client server programming. I gathered knowledge about many basic commands of client server and also learned about incognito tab, developer tools, network, headers, timing, cookie etc.

5 References

1. https://www.w3schools.com/sql/sql_intro.asp
2. https://www.javatpoint.com/sql/sql_intro.asp
3. <https://www.pcmag.com/encyclopedia/term/ipco>