Course Code : BCS-052
Course Title : Network Programming and Administration
Assignment Number : BCA(V)-052/Assign/14-15
Maximum Marks : 100
Weightage : 25%
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Question 2:
(a) Why would an application use UDP instead of TCP? Also, explain how can TCP handle urgent data?

ANS.

an application use UDP instead of TCP because UDP does not require as much resources as TCP but in the same time, it does not insure delivery of packets. The User Datagram Protocol (UDP) is a transport layer protocol for use with the IP network layer protocol. It provides a best-effort datagram service to an end system (IP host). UDP provides no guarantee for delivery and no protection from duplication, but the simplicity of UDP reduces overhead from the protocol and can be adequate for some applications.

A computer may send UDP packets without first establishing a connection to a recipient. The computer completes the appropriate fields in the UDP header (PCI) and forwards the data together with the header for transmission by the IP network layer.

Typically, use UDP in applications where speed is more critical than reliability. For example, it may be better to use UDP in an application sending data from a fast acquisition where it is acceptable to lose some data points. You can also use UDP to broadcast to any machine(s) listening to the server.

In general:

- TCP is for high-reliability data transmissions
- UDP is for low-overhead transmissions

how can TCP handle urgent data?

When an interactive hits the DEL or CTRL-C key to break-off a remote computation that has already begun, the sending application puts some control information in the data stream and gives it to TCP along with the URGENT flag. This even causes TCP to stop accumulating data and transmit everything it has for that connection immediately.
The receiving application is interrupted so it can stop whatever it was doing so that it can read the data stream to find the urgent data.