Web Technology
(KCS-602)
Unit 3

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Datagrams

- Datagrams are collection of information sent from one device to another device via the established network.
- When the datagram is sent to the targeted device, there is no assurance that it will reach to the target device safely and completely.
- It may get damaged or lost in between. Likewise, the receiving device also never know if the datagram received is damaged or not.

Java DatagramSocket and DatagramPacket

- Java DatagramSocket and DatagramPacket classes are used for connection-less socket programming.
- **Java DatagramSocket** class represents a connection-less socket for sending and receiving datagram packets.
- A datagram is basically an information but there is no guarantee of its content, arrival or arrival time.

- **Java DatagramPacket** is a message that can be sent or received. If you send multiple packet, it may arrive in any order. Additionally, packet delivery is not guaranteed.

Constructors of DatagramSocket class

- DatagramSocket() throws SocketException: it creates a datagram socket and binds it with the available Port Number on the localhost machine.
- DatagramSocket(int port) throws SocketException: it creates a datagram socket and binds it with the given Port Number.
- DatagramSocket(int port, InetAddress address) throws SocketException: it creates a datagram socket and binds it with the specified port number and host address.

Java DatagramPacket Class Methods

Method	Description
1) InetAddress getAddress()	It returns the IP address of the machine to which the datagram is being sent or from which the datagram was received.
2) byte[] getData()	It returns the data buffer.
3) int getLength()	It returns the length of the data to be sent or the length of the data received.
4) int getPort()	It returns the port number on the remote host to which the datagram is being sent or from which the datagram was received.