Object Oriented Programming with Java

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Networking Terminologies

- **URL**
  - ➤ Uniform resource locator
  - ➤ To access resources on internet, we should use URL.
  - ➤ Example : html/json/document/pdf/audio and video file etc.
  - ➤ Format: protocol://domain_name:port/path_name
  - ➤ Example: http://www.sunbeaminfo.com:8080/WebApp/Index.html

- **Protocol**
  - ➤ Example : http, https, ftp, telnet, tcp, udp, ssh etc.
  - ➤ To send and receive information, client and server must follow some rules. It is called protocol.

Networking Terminologies

- **HostName/Domain Name**
  - ➢ A name which is used to identify machine uniquely on internet.
  - ➢ DNS maps hostname to ip-address.
  - ➢ Localhost ←→ DNS Server ←→ 127.0.0.1

- **Port**
  - ➢ Logical number assigned to every process is called port.
  - ➢ Reserved ports , 0 to 1023.

- **Pathname**
  - ➢ Example : /webApps/Index.html
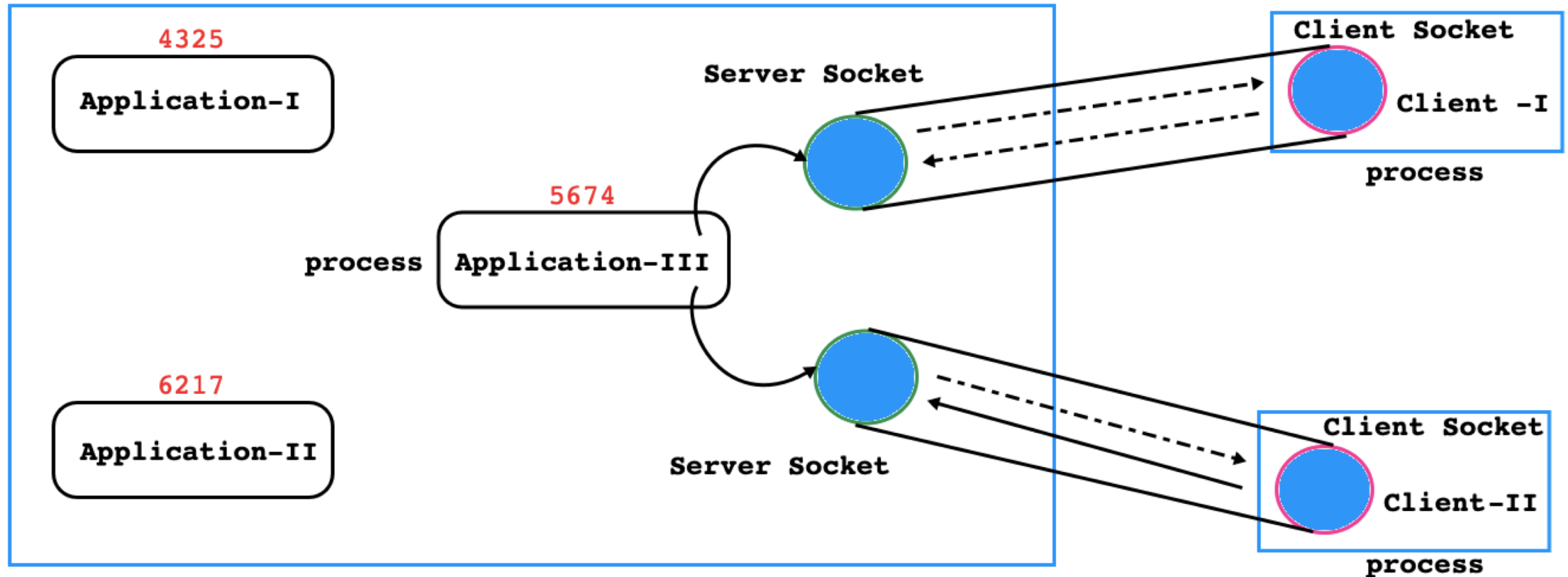   - o Name of web application
    - o Resource Information

Networking API

- To develop networking application, we should use types declared in java.net package.

  - java.net.InetAddress (implements java.io.Serializable)

    - java.net.Inet4Address

    - java.net.Inet6Address

  - java.net.ServerSocket (implements java.io.Closeable)

  - java.net.Socket (implements java.io.Closeable)

  - java.net.DatagramPacket

  - java.net.DatagramSocket (implements java.io.Closeable)

Socket Programming

Socket Programming

- If we want to do inter process communication then we should socket programming.

- Socket is non Java resource.

- Socket is a physical memory, allocated at client and server side, through which client and server can send and receive data.

- Socket Programming using TCP protocol:

  1. ServerSocket

  2. Socket

- Socket Programming using UDP protocol:

  1. DatagramSocket

  2. DatagramPacket

Thank You.

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