

EDA095

Internet Addresses

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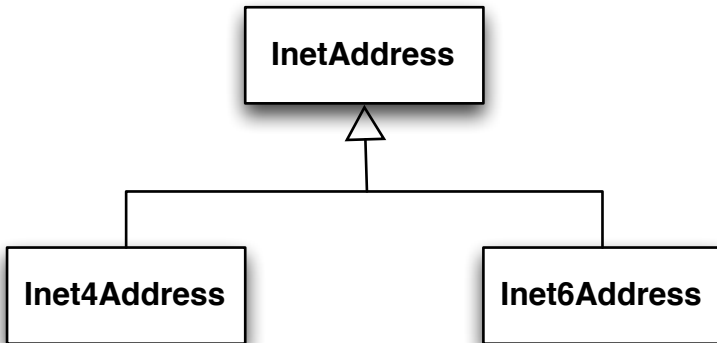
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Covers: Chapter 4, *Java Network Programming*, 4th ed., Eliotte Rusty Harold



The InetAddress Class Structure

The `InetAddress` class is an abstraction of `Inet4Address` and `Inet6Address`



The `InetAddress` class uses the factory pattern.

- `InetAddress address = InetAddress.getByName("")`
- `InetAddress[] address = InetAddress.getAllByName("")`
- `InetAddress address = InetAddress.getLocalHost()`

Programs: `OReillyByName.java`, `MyAddress.java`

See also: `nslookup`



Getter methods extract values from an `InetAddress` object

- `public String getHostName();`
- `public String getCanonicalHostName();`
- `public byte[] getAddress();`
- `public String.getHostAddress();`

Program: `ReverseTest.java`



Address Types

Boolean functions that determine the type of an IP address

- `isAnyLocalAddress();`
- `isLoopbackAddress();`
- `isLinkLocalAddress(); //IPv6`
- `isSiteLocalAddress(); //IPv6 and IPv4: 10/8, 172.16/12 and 192.168/16.`
- `isMulticastAddress();`
- `isMCGlobal();`
- `isMCNodeLocal();`
- `isMCLinkLocal();`
- `isMCSiteLocal();`
- `isMCOrgLocal();`

Program: `IPCharacteristics.java`



Useful Methods

Some useful methods:

- `isReachable()`;
- `equals()`;
- `hashCode()`;
- `toString()`;

Program: `IBiblioAliases.java`



NetworkInterface

This class represent the hardware connection devices: Ethernet and Wifi.

Factory pattern:

- `NetworkInterface.getBy_name("en0");`
- `NetworkInterface.getBy_inet_address(InetAddress);`

Program: `InterfaceLister.java`

See also: `ifconfig -a`



Spam

Application: Spam detection

SpamHaus.org maintains a register of known spammers.

Accessible through DNS:

```
java SpamCheck 78.30.194.176
```

```
176.194.30.78.sbl.spamhaus.org
```

```
78.30.194.176 is a known spammer.
```

Program: SpamCheck.java

