# Python2.5 学习笔记

阿左 [1]         Nobody [2]

September 29, 2012

[1]感谢读者
[2]感谢国家

# Contents

# List of Figures

# List of Tables

**Abstract**

Java TCP/IP

**摘要**

Java TCP/IP

# Part I

# TCP/IP 基本概念

# Chapter 1

# TCP/IP 基础

TCP/IP 基础知识

# Part II

# Java API

# Chapter 2

# 基本套接字

## 2.1 套接字地址

### 2.1.1 例子

```java
package ch02;

import java.net.Inet4Address;
import java.net.Inet6Address;
import java.net.InetAddress;
import java.net.NetworkInterface;
import java.net.SocketException;
import java.net.UnknownHostException;
import java.util.Enumeration;

public class InetAddressExample {

  public static void main(String[] args) {
    /*
```

```
15       * get the newwork interface and associate address for this host
16       */
17     try {
18       Enumeration<NetworkInterface> interfaceList =
19           NetworkInterface.getNetworkInterfaces();
20       if (null == interfaceList) {
21         System.out.println("--No interface found--");
22       } else {
23         while (interfaceList.hasMoreElements()) {
24           NetworkInterface iface = interfaceList.nextElement();
25           System.out.println("Interface " + iface.getName() + ":");
26           Enumeration<InetAddress> addrList =
27               iface.getInetAddresses();
28           if (!addrList.hasMoreElements()) {
29             System.out
30                 .println("\t(No addresses forthis interface)");
31           }
32           while (addrList.hasMoreElements()) {
33             InetAddress address = addrList.nextElement();
34             /*
35              * check address type
36              */
37             String addressType = "(?)";
38             if (address instanceof Inet4Address) {
39               addressType = "(v4)";
40             }
41             if (address instanceof Inet6Address) {
42               addressType = "(v6)";
43             }
44             System.out.println("\tAddress " + addressType //
45                 + ": " + address.getHostAddress());
46           }
47         }
48       }
```

```java
49      } catch (SocketException e) {
50        System.out.println("Error getting network interface: "
51            + e.getMessage());
52      }
53
54      /*
55       * get name(s)/address(es) of hosts given on command line
56       */
57      for (String host : args) {
58        System.out.println(host + ": ");
59        try {
60          InetAddress[] addressList = InetAddress.getAllByName(host);
61          for (InetAddress address : addressList) {
62            System.out.println("\t" + address.getHostName() + "/"
63                + address.getHostAddress());
64          }
65        } catch (UnknownHostException e) {
66          System.out.println("\tUnable to find address for : " + host);
67        }
68      }
69
70    }
71
72 }
```

运行与输出结果：

```
1 % java InetAddressExample \
2   www.baidu.com www.jadehahaha.com \
3   129.35.69.7
4
5 Interface eth0:
6   Address (v6): fe80:0:0:0:225:b3ff:fe69:1659%2
7   Address (v4): 172.16.7.1
```

```
 8  Interface lo:
 9    Address (v6): 0:0:0:0:0:0:0:1%1
10    Address (v4): 127.0.0.1
11  www.baidu.com:
12    www.baidu.com/220.181.111.147
13  www.jadehahaha.com:
14    Unable to find address for : www.jadehahaha.com
15  129.35.69.7:
16    129.35.69.7/129.35.69.7
```

### 2.1.2  InetAddress 类 API 简介

InetAddress 类中创建与访问实例方法：

```
1  static InetAddress [] getAllByName(String host);
2  static InetAddress getByName(String host);
3  static InetAddress getLocalHost();
4  /**
5   * return byte array as ip address
6   * size if 4 byte in ipv4
7   * or size is 16 in ipv6
8   */
9  byte[] getAddress();
```

InetAddress 类中字符串显示方法：

```
1  /**
2   * return value format like:
3   *    hostname.example.com/192.0.2.127
4   *    or
5   *    never.example.net/2000::620:1a30:95b2
6   */
7  String toString();
```

```
 8  String getHostAddress();
 9  /**
10   * return host name
11   */
12  String getHostName();
13  /**
14   * return host name ()
15   */
16  String getCanonicalHostName();
```

InetAddress 类中检查属性的方法：

```
 1  boolean isAnyLocalAddress();
 2  boolean isLinkLocalAddress();
 3  boolean isLoopBackAddress();
 4  // 是否为多播地址
 5  boolean isMulticastAddress();
 6  // 测试多播地址范围: global
 7  boolean isMCGlobal();
 8  // 测试多播地址范围: link local
 9  boolean isMCLinkLocal();
10  // 测试多播地址范围: node local
11  boolean isMCNodeLocal();
12  // 测试多播地址范围: org local
13  boolean isMCOrgLocal();
14  // 测试多播地址范围: site local
15  boolean isMCSiteLocal();
16  boolean isReachable(int timeout);
17  boolean isReachable(NetworkInterface netif, int ttl, int timeout)
```

## 2.2　TCP 套接字

# Part III

# 其他扩展