

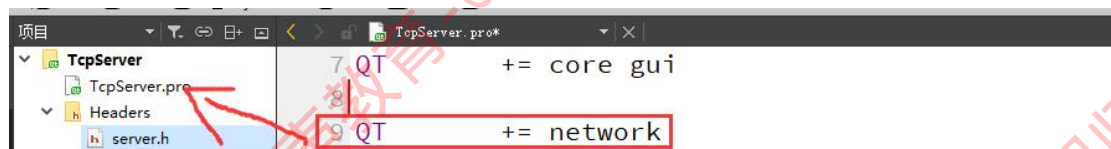
2033-Qt 网络编程体系--零声教育

一、Qt 网络编程基础

1、Qt 直接提供网络编程模块，基于 TCP/IP 客户端和服务端相关各种类。TCP 通信（QTcpSocket/QTcpServer）。UDP 通信（QUdpSocket）。还有部分实现 HTTP、FTP 等网络协议的高级类。如 QNetworkRequest/QNetworkAccessManager 等。

2、Qt 网络编程模块提供网络承载管理类，提供基于安全套接字层协议（SSL）的安全网络通信类。

3、我们开发过程中，UDP、TCP、HTTP 通信类等，必须在程序中引用 Qt 网络模块，项目配置文件的一条配置语句：QT += network。



4、QHostInfo 类：QHostInfo 类为主机名查找提供静态函数，主要用来查询主机信息、包括主机名、ip 地址、DNS 域名等信息。

QHostInfo Class

The `QHostInfo` class provides static functions for host name lookups. [More...](#)

Header: `#include <QHostInfo>`

qmake: `QT += network`

- [List of all members, including inherited members](#)

Note: All functions in this class are `reentrant`.

Public Types

enum **HostInfoError** { NoError, HostNotFound, UnknownError }

Public Functions

```
QHostInfo(int id = -1)
QHostInfo(const QHostInfo &other)
~QHostInfo()

QList<QHostAddress> addresses() const
QHostInfo::HostInfoError error() const
QString errorString() const
QString hostName() const
int lookupId() const

void setAddresses(const QList<QHostAddress> &addresses)
void setError(QHostInfo::HostInfoError error)
```

Static Public Members

```
void abortHostLookup(int id)
QHostInfo fromName(const QString &name)
QString localDomainName()
QString localHostName()
int lookupHost(const QString &name, QObject *receiver, const char *member)
int lookupHost(const QString &name, const QObject *receiver, PointerToMemberFunction function)
int lookupHost(const QString &name, Functor functor)
int lookupHost(const QString &name, const QObject *context, Functor functor)
```

5、QNetworkInterface 类，主要用于获取主机所有 IP 地址和网络接口列表信息。具体常用函数如下：

QNetworkInterface Class

The **QNetworkInterface** class provides a listing of the host's IP addresses and network interfaces. [More...](#)

Header: `#include <QNetworkInterface>`

qmake: QT += network

Since: Qt 4.2

- List of all members, including inherited members

Note: All functions in this class are **reentrant**.

Public Functions

```
QNetworkInterface()
QNetworkInterface(const QNetworkInterface &other)
~QNetworkInterface()
QList<QNetworkAddressEntry> addressEntries() const
QNetworkInterface::InterfaceFlags flags() const
QString hardwareAddress() const
QString humanReadableName() const
int index() const
bool isValid() const
int maximumTransmissionUnit() const
QString name() const
void swap(QNetworkInterface &other)
QNetworkInterface::InterfaceType type() const
QNetworkInterface & operator=(QNetworkInterface &&other)
QNetworkInterface & operator=(const QNetworkInterface &other)
```

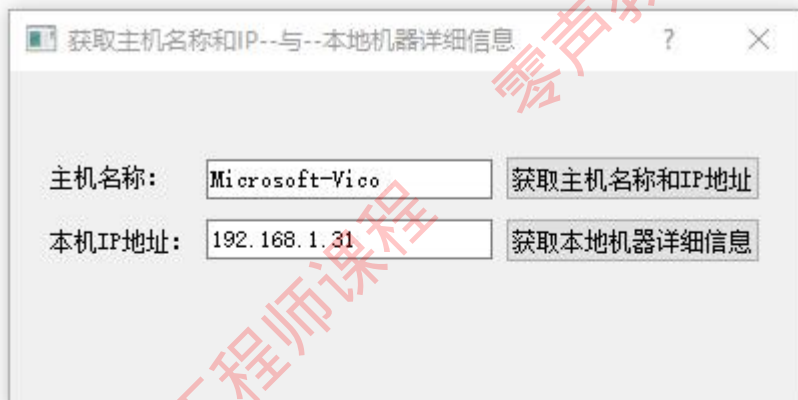
Static Public Members

```
QList<QHostAddress> allAddresses()
QList<QNetworkInterface> allInterfaces()
QNetworkInterface interfaceFromIndex(int index)
QNetworkInterface interfaceFromName(const QString &name)
int interfaceIndexFromName(const QString &name)
QString interfaceNameFromIndex(int index)
const QMetaObject staticMetaObject
```

二、【程序运行结果】

1、获取本地主机名称和 IP 地址 与 本地机器详细信息。





2、查询域名或 IP 地址。

