

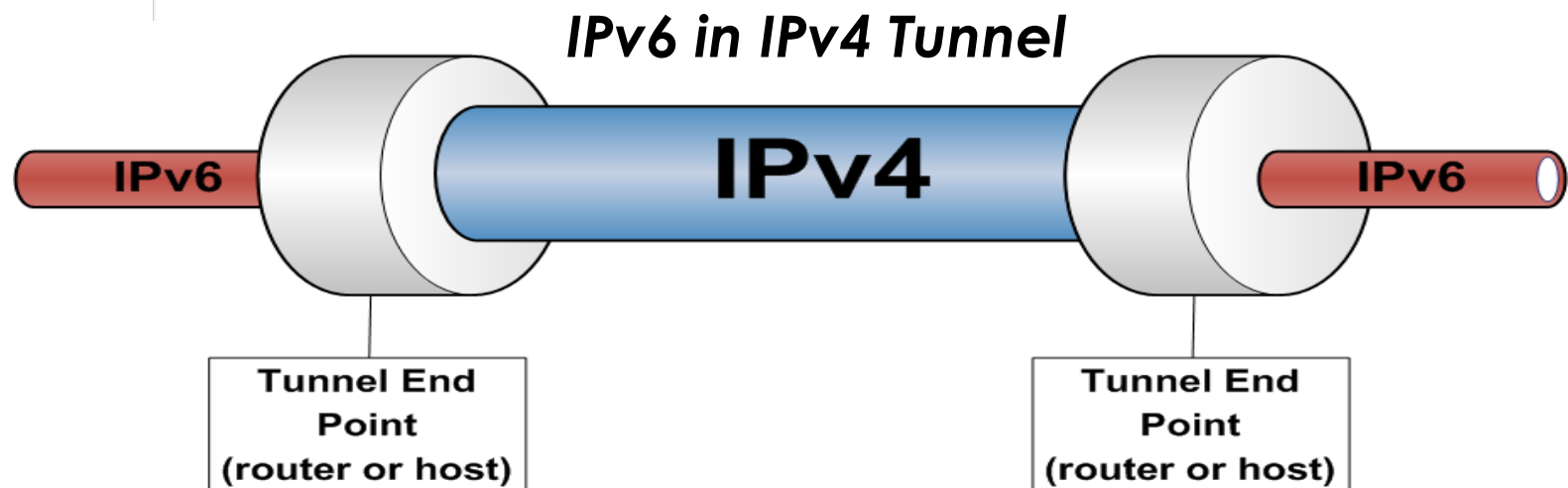
IPv6 Tunnel Brokers

How to Setup an IPv6 Tunnel Using a
Public Tunnel Broker and Windows

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Network Operations Manager

What is an IPv6 Tunnel?

- **IPv6 encapsulated in another protocol**
 - Usually IPv4 but other protocols work too
- **Common implementations**
 - 6in4 (RFC3056)
 - Protocol 41 (RFC2893 & RFC1933)
 - Anything in Anything (AYIYA) (<http://www.sixxs.net/tools/ayiya>)



What is a Tunnel Broker?

- **A provider of IPv6 tunneling services**
- **At least 12 public tunnel brokers**
- **Use various provisioning techniques**
 - Static
 - Dynamic (via helpers)
- **Some provide /48s, reverse DNS, BGP**
- **Most are FREE**

List of Tunnel Brokers



| Provider | Website | Region |
|---------------------------|---|-----------------|
| Hurricane Electric | http://www.tunnelbroker.net | US (Global) |
| SixXS | http://www.sixxs.net | Europe (Global) |
| Go6 (Hexago) | http://www.go6.net | Canada (Global) |
| IIJ | http://www.ij.ad.jp/en/service/IPv6/index.html | Japan |
| IPv6Now | http://www.ipv6now.com.au/ | Australia |
| Renater | http://tunnel-broker.renater.fr/ | France |

Setting up a Tunnel with Go6



Why Go6?

- Easy to setup client for many Oses
- Supports clients behind NATs
- Provides /48 networks
- Support forum



3 Easy Steps

1. Create Account

2. Download and Install Software

3. Run Software



Create an Account

go6 | IPv6 community - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.go6.net/

Most Visited Getting Started Latest Headlines

Mozilla Firefox is free and open software from the non-profit Mozilla Foundation. Know your rights...

go6 The IPv6 Portal

Home | Services | Applications | Discussion Forums | IPv6 Knowledge Center | News & Events | About

You are using IPv6 from 2001:500:4:15:1cee:87ba:1bfa:e218

Free IPv6 connectivity with Freenet6

The IPv6 Blog

IPv6... a case of confirmation bias

Is the glass half full or half empty? The human reflex of selective deafness to information or arguments countering one's established beliefs lives on. The ISOC organized lunchtime IPv6 panel (1) at IETF 74 in San Francisco illustrates the point. The half full perception is exemplified by one write-up (2) on the event, the half-empty [...]

Posted on 30 March 2009 | 11:18 pm

The IPv6 killer app, saving the Internet

The IPv6 killer application has finally been found, making sure Internet continues to run. The general consensus at Google's IPv6 implementors conference was that the reason to deploy IPv6 is to ensure business continuity for your Internet services. The survival of the Internet is the killer app of IPv6 as one of the participants put [...]

Posted on 23 March 2009 | 7:13 pm

IPv6... floating on the ethernet

Top 6 IPv6 Applications

1. Gateway6 Client 6.0
2. ipv6.google.com
3. VideoLAN
4. Azureus
5. µTorrent
6. Windows Media Player

Learn more

IPv6 Events

Global IPv6 Summit - China - 3/31/2009

The meeting will be held April 15 - 16, 2009 in Beijing, China

Learn more

Rocky Mountain IPv6 Task Force - 3/24/2009

The meeting will be held April 21-22 2009, at the University of Denver, Sturm Hall, Davis Auditorium

Learn more

What's New?

IPv6 Application Contest 2009 - 4/3/2009

Join go6 to get free IPv6 access, receive the IPv6 news bulletin and to post in the forum and IPv6 wiki.

HEXAGO

Hexago is the IPv6 market leader. Its flagship product, Gateway6, provides the Freenet6 services offered on go6. Gateway6 is an IP gateway that provides access and interoperability between IPv4 and IPv6 networks.

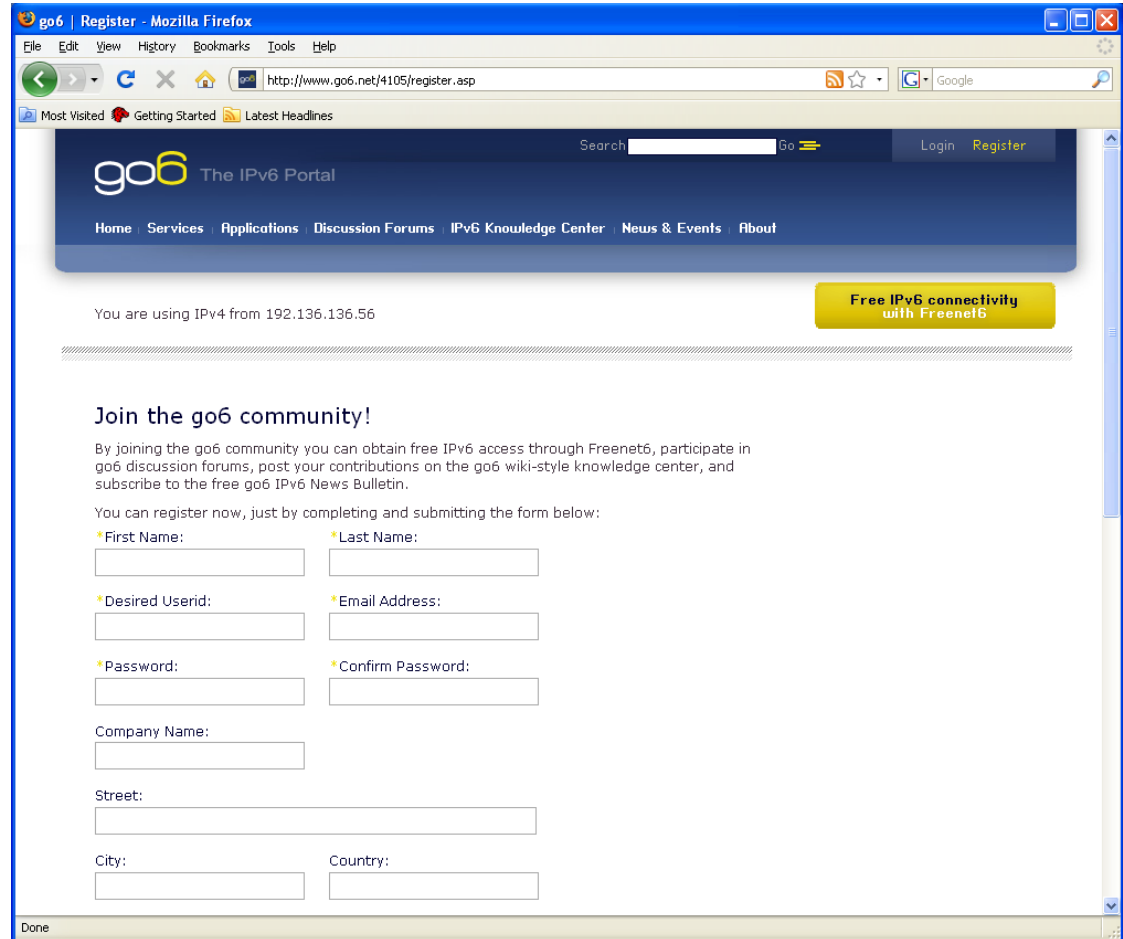
Visit Hexago

The IPv6 Forum

Create an Account

- Enter Your Information
- Required Fields:
 - Name
 - Username
 - E-mail
 - Password

You are automatically signed in once you submit the form



The screenshot shows a Mozilla Firefox browser window displaying the go6 Register page. The browser's address bar shows the URL <http://www.go6.net/4105/register.asp>. The page header includes the go6 logo and navigation links: Home, Services, Applications, Discussion Forums, IPv6 Knowledge Center, News & Events, and About. A search bar and a 'Go' button are also present. A yellow banner on the right side of the page reads 'Free IPv6 connectivity with Freenet6'. Below the banner, the page indicates the user is using IPv4 from 192.136.136.56. The main content area features a heading 'Join the go6 community!' followed by a paragraph explaining the benefits of joining the community. Below this, a registration form is provided with the following fields: First Name, Last Name, Desired Userid, Email Address, Password, Confirm Password, Company Name, Street, City, and Country. The form is currently empty.

Download Go6 Client

go6 | Downloads - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.go6.net/4105/download.asp

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Applications Support Downloads Contributing

You are using IPv6 from 2001:500:4:15:1cee:87ba:1bfa:e218

Free IPv6 connectivity with Freenet6

Applications Download

Download Binaries and Source Packages.

Please be advised that the porting of the Gateway6 Client to OpenWRT is a proof-of-concept project which is not supported by Hexago and go6.net. Thank you.

Gateway6 Client

- [Download](#) Gateway6 Client 6.0 Windows Installer 32-bit
- [Download](#) Gateway6 Client 6.0 Windows Installer 64-bit
- [Download](#) Gateway6 5.1 Source Code (Linux/Unix/Darwin/BSD)
- [Download](#) Gateway6 6.0 Source Code (Linux/Unix/Darwin/BSD)
- [Download](#) Gateway6 Client 6.0 Platform Specific Build - Darwin, PowerPC
- [Download](#) Gateway6 Client 6.0 Platform Specific Build - FreeBSD
- [Download](#) Gateway6 Client 6.0 Platform Specific Build - Linux
- [Download](#) Gateway6 Client 6.0 Platform Specific Build - NetBSD

Done

Install Go6 Client

The image displays a series of overlapping windows from the Gateway6 Client Version 6.0-RELEASE x86 Setup wizard. The windows shown are:

- Open File - Security Warning**: A small dialog box at the top left.
- License Agreement**: A window with the text "Please review the license terms before installing Gateway6 Client Version 6.0-RELEASE x86." and the HEXAGO logo.
- Choose Components**: A window with the text "Choose which Features of Gateway6 Client Version 6.0-RELEASE x86 you want to install." and the HEXAGO logo.
- Choose Install Location**: A window with the text "Choose the folder in which to install Gateway6 Client Version 6.0-RELEASE x86." and the HEXAGO logo.
- Hardware Installation**: A window with a yellow warning icon and the text: "The software you are installing for this hardware: Hexago Virtual Multi-Tunnel Adapter has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing." Buttons for "Continue Anyway" and "STOP Installation" are at the bottom.
- Completing the Gateway6 Client Version 6.0-RELEASE x86 Setup**: A window with the text "Gateway6 Client Version 6.0-RELEASE x86 has been installed on your computer." and "Click Finish to close this wizard." It includes checkboxes for "Launch the Gateway6 Client Utility" and "Show README", and a link to "Visit the Go6 site for the latest news, FAQs and support". Buttons for "< Back", "Finish", and "Cancel" are at the bottom.

An orange arrow points from the Hardware Installation window to the final completion window.

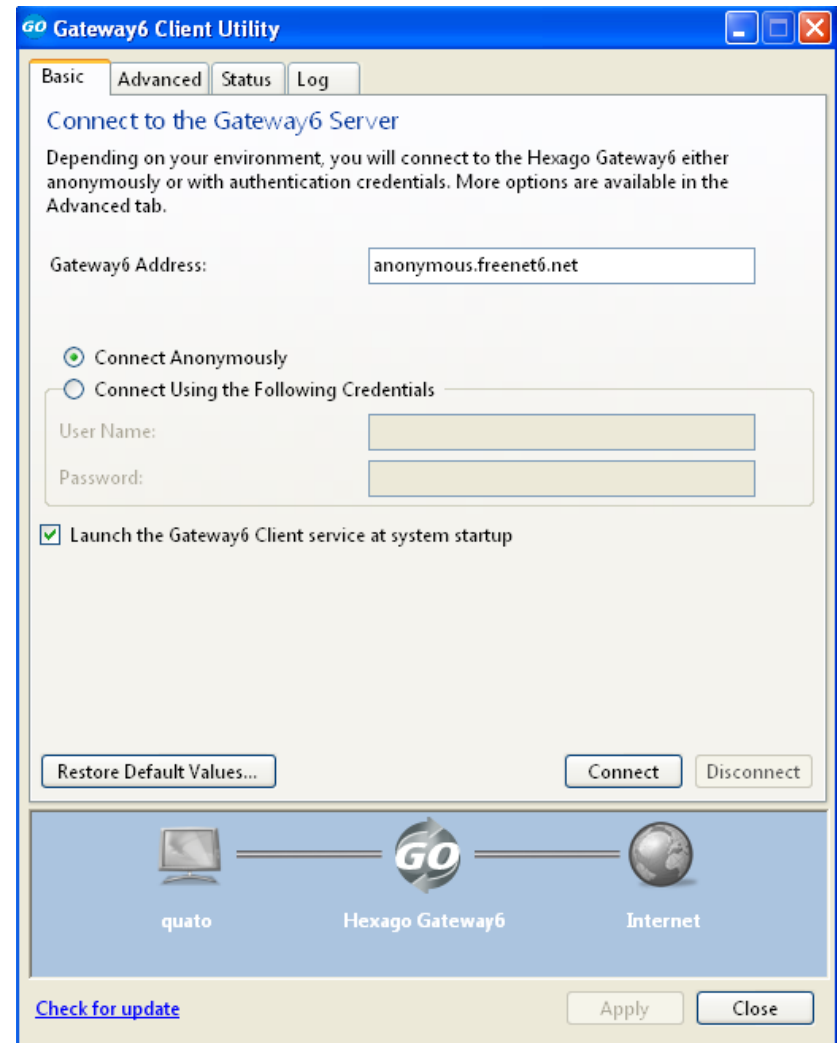
Run the Go6 Client

Works out of the box if:

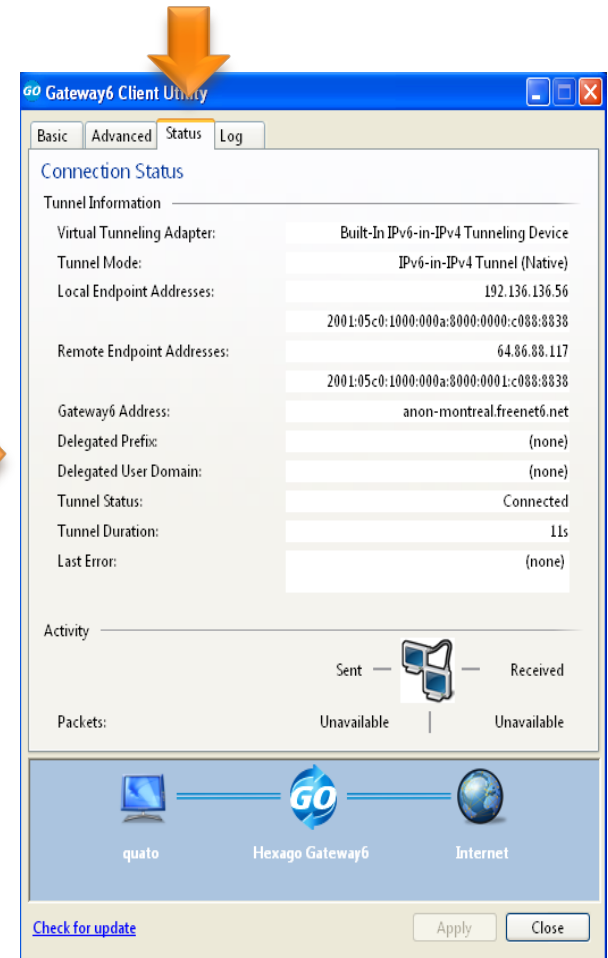
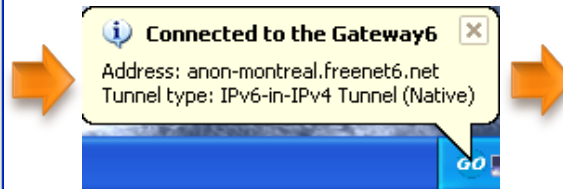
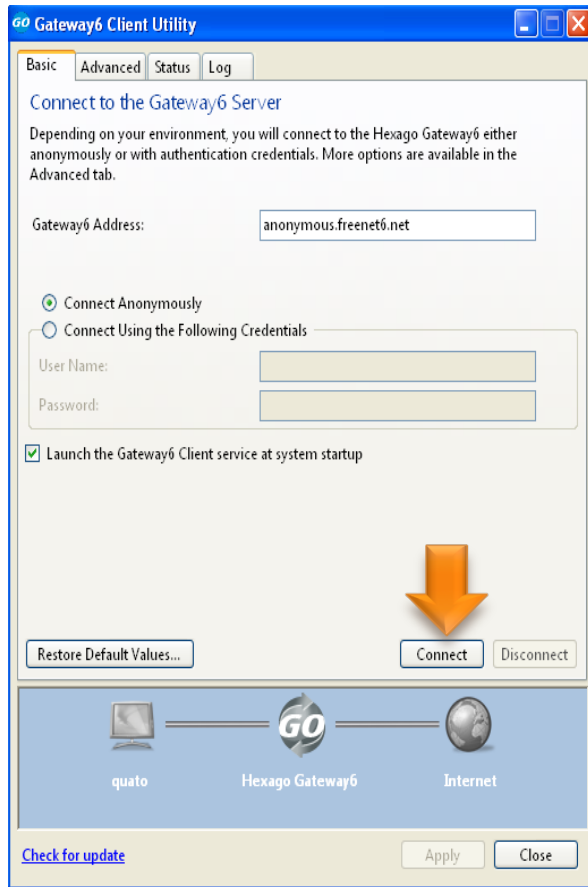
- You have public IP address
- No Filters / Firewalls

Notice that:

- Configured for anonymous access
- Defaults to starting on boot



Run the Go6 Client



Run the Go6 Client

From command prompt:

- Tunnel adapter listed
- Valid global IPv6 address

```
C:\ Command Prompt

Tunnel adapter Automatic Tunneling Pseudo-Interface:

    Connection-specific DNS Suffix . : arin.net.
    IP Address . . . . . : fe80::5efe:192.136.136.56%2
    Default Gateway . . . . . :

C:\Documents and Settings\ryanczak>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection 3:

    Media State . . . . . : Media disconnected

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix . : arin.net.
    IP Address . . . . . : 192.136.136.56
    Subnet Mask . . . . . : 255.255.255.128
    IP Address . . . . . : fe80::a00:27ff:fe16:73f3%5
    Default Gateway . . . . . : 192.136.136.1

Tunnel adapter hexago_tunv6: ←
    Connection-specific DNS Suffix . : arin.net.
    IP Address . . . . . → 2001:5c0:1000:a:8000:0:c088:8838
    IP Address . . . . . : fe80::11:c088:8838%17
    Default Gateway . . . . . :

Tunnel adapter Teredo Tunneling Pseudo-Interface:

    Connection-specific DNS Suffix . :
    IP Address . . . . . : fe80::ffff:ffff:ffff%6
    Default Gateway . . . . . :

Tunnel adapter Automatic Tunneling Pseudo-Interface:

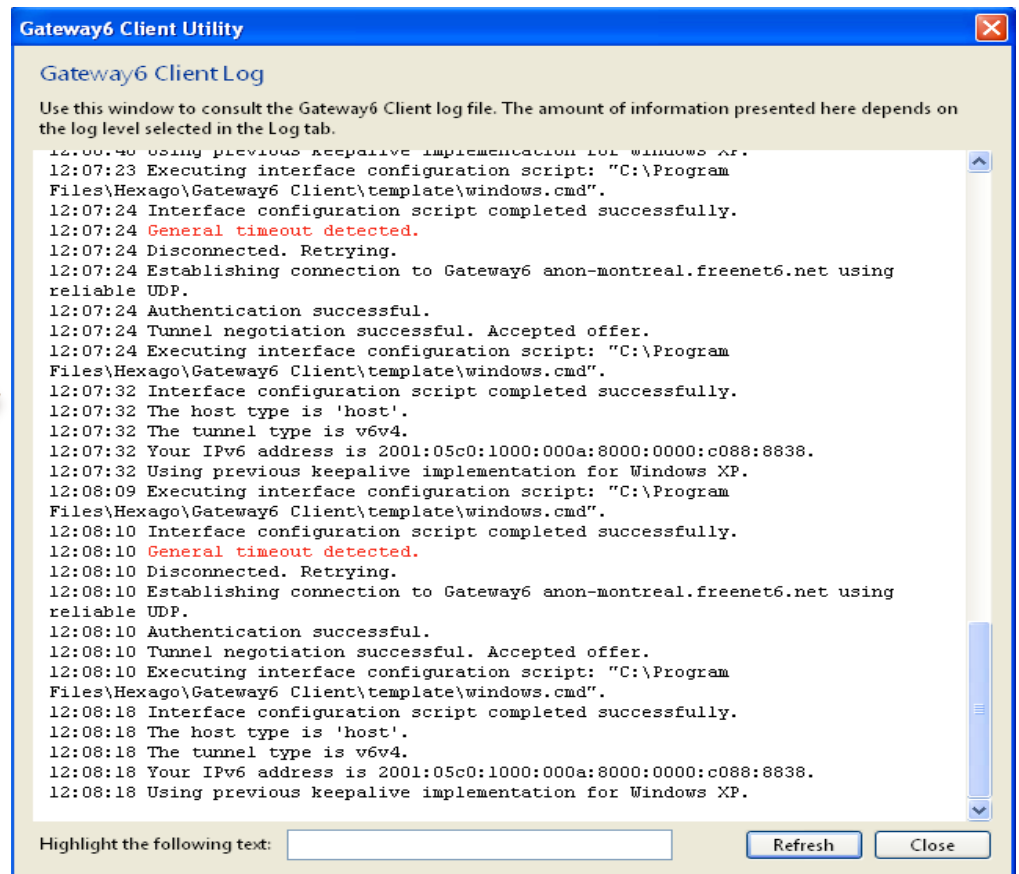
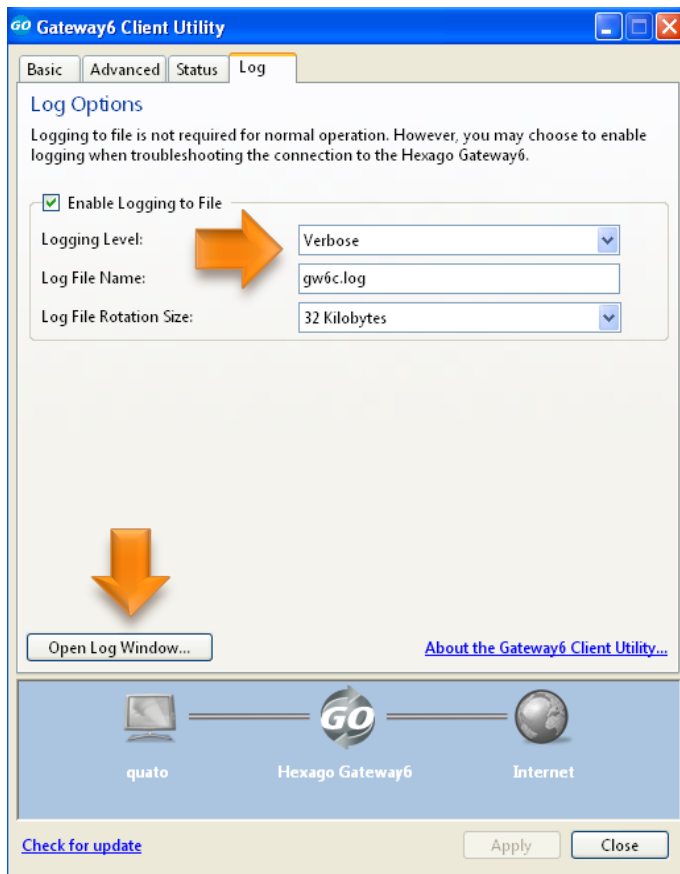
    Connection-specific DNS Suffix . : arin.net.
    IP Address . . . . . : fe80::5efe:192.136.136.56%2
    Default Gateway . . . . . :

C:\Documents and Settings\ryanczak>
```

Troubleshooting

- Enable verbose logging
- Open log window

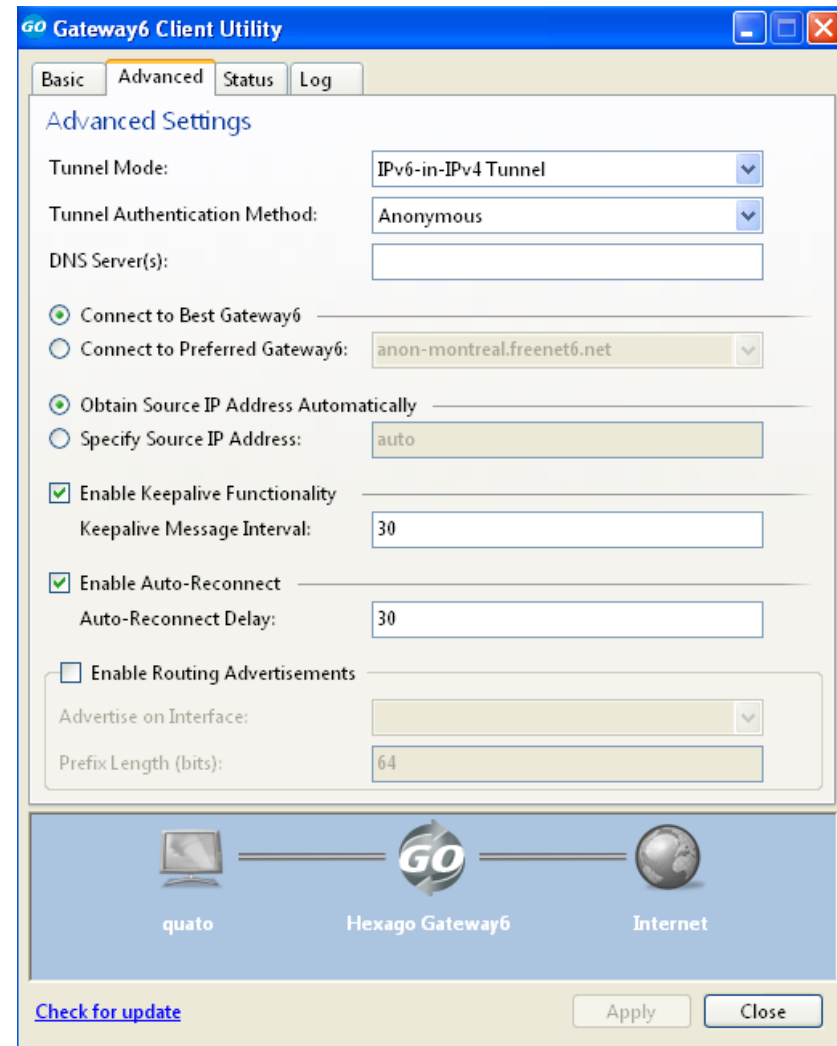
- Visit Forums:
<http://forum.go6.net/>



Troubleshooting

Advanced Tab

- **Tunnel Modes**
 - NAT Traversal
- **Keep Alive Functionality**
 - Increase Interval



Now What?

- <http://www.arin.net>
- <http://www.kame.net>
- <http://www.sixxs.net/misc/coolstuff>
- <http://ipv6.google.com>
- <news://reader.ipv6.xsnews.nl>
- <telnet://towel.blinkenlights.nl>
- <telnet://mud.fataldimensions.org:4000>

Thank You!

