

Cisco DSL Router Configuration and Troubleshooting Guide – Step-by-Step Configuration of a PC Acting as a PPPoE Client

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Introduction

Your Internet Service Provider (ISP) has provided you with a Point-to-Point Protocol over Ethernet (PPPoE) connection and you are using a PPPoE client application on your PC.

Important: Before you begin, close all programs on the PC that might monitor your COM port. Devices such as PDAs and digital cameras often place programs in the system tray that render your COM port unusable for configuring your Cisco DSL Router.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Configure

Connect the Cisco DSL Router and Your PC

A console connection is made with a rolled cable and connects the console port of the Cisco Digital Subscriber Line (DSL) Router to a COM port on a PC. The console cable that is included with the Cisco DSL Router is a flat light blue cable. For more information on the pinouts of a rolled cable, or the pinouts of an RJ-45 to DB9 converter, refer to Cabling Guide for Console and AUX Ports.

1. Connect the RJ-45 connector on one end of a Cisco console cable to the console port of the Cisco DSL Router.
2. Connect the RJ-45 connector at the other end of the console cable to an RJ-45 to DB9 converter.
3. Connect the DB9 connector to an open COM port on your PC.

Start and Set Up HyperTerminal

Complete these steps:

1. Start the HyperTerminal program on the PC.
2. Set up your HyperTerminal session.
 - a. Assign a name to your session, and click **OK**.
 - b. From the Connect To window, click **Cancel**.
 - c. From the File menu, click **Properties**.
 - d. From the Properties window, in the Connect Using list, select the COM port where you connect the DB9 end of the console cable.
 - e. From the Properties window click **Configure** and fill in these values:
 - ◇ Bits per second: **9600**
 - ◇ Data bits: **8**
 - ◇ Parity: **None**
 - ◇ Stop bits: **1**
 - ◇ Flow Control: **None**
 - f. Click **OK**.
 - g. From the Call menu, click **Disconnect**.
 - h. From the Call menu, click **Call**.
 - i. Press **Enter** until you see a router prompt on your HyperTerminal screen.

Clear Existing Configurations on the Cisco DSL Router

Complete these steps:

1. Type **enable** at the router prompt to enter privileged mode.

```
Router>enable
Router#
```

!--- The # symbol indicates that you are in privileged mode.

2. Clear existing configurations on the router.

```
Router#write erase
```

3. Reload the router so it boots with a blank startup configuration.

```
Router#reload
System configuration has been modified. Save? [yes/no]:no
Proceed with reload? [confirm]yes
```

!--- Reloading the router can take a few minutes.

4. After the router has reloaded, enter enable mode again.

```
Router>enable
Router#
```

Configure the Cisco DSL Router

Complete these steps:

1. Configure **service timestamp** to properly log and display **debug** output in the troubleshooting section.

```
Router#configure terminal
Router(config)#service timestamps debug datetime msec
Router(config)#service timestamps log datetime msec
Router(config)#end
```

2. Disable logging console on your Cisco DSL Router to suppress console messages that can be triggered while you configure the router.

```
Router#configure terminal
Router(config)#no logging console
Router(config)#end
```

3. Disable routing and configure a bridge protocol on your Cisco DSL Router.

```
Router#configure terminal
Router(config)#no ip routing
Router(config)#bridge 1 protocol ieee
Router(config)#end
```

4. Configure a bridge group on the Cisco DSL Router Ethernet interface.

```
Router#configure terminal
Router(config)#interface ethernet 0
Router(config-if)#bridge group 1
Router(config-if)#no shut
Router(config-if)#end
```

5. Configure the ATM interface of your Cisco DSL Router with an ATM permanent virtual circuit (PVC), encapsulation type, and bridge group.

```
Router#configure terminal
Router(config)#interface atm 0
Router(config-if)#bridge-group 1
Router(config-if)#pvc <vpi/vci>
Router(config-if-atm-vc)#encapsulation aal5snap
Router(config-if-atm-vc)#no shut
Router(config-if-atm-vc)#end
```

6. Enable logging console on the Cisco DSL Router, and then write all the changes to memory.

```
Router#configure terminal
Router(config)#logging console
Router(config)#end
*Jan 1 00:00:00.100: %SYS-5-CONFIG_I: Configured from console by console
Router#write memory
Building configuration... [OK]
Router#
```

Configuration

This is the configuration that results after you complete the configuration procedures in this document.

```
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!--- Comments contain explanations and additional information.

service timestamps debug datetime msec
service timestamps log datetime msec
!
no ip routing
!
interface ethernet0
 no shut
 no ip address
 no ip directed-broadcast
 bridge-group 1
!
interface atm0
 no shut
 no ip address
 no ip directed-broadcast
 no atm ilmi-keepalive
 pvc <vpi/vci>
  encapsulation aal5snap

!--- Common PVC values supported by ISPs are 0/35 or 8/35.
!--- Confirm your PVC values with your ISP.

!
 bridge-group 1
!
bridge 1 protocol ieee
!
end
```

Verify

Your Cisco DSL Router should now be operational for Asymmetric Digital Subscriber Line (ADSL) service. You can issue a **show run** command to see the configuration.

```
Router#show run
Building configuration...
```

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

Troubleshoot

Refer to Troubleshooting a PC PPPoE Client if your ADSL service does not work properly.

Related Information

- Cisco DSL Router Configuration and Troubleshooting Guide – Cisco DSL Router: PC Acting as a PPPoE Client

- **Cisco DSL Router Configuration and Troubleshooting Guide**
 - **Technical Support & Documentation – Cisco Systems**
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