

## Telnet and SMTP How To

### Objective

The objective of this document is to show how Telnet can be used to troubleshoot SMTP connectivity and operation. The troubleshooting of other protocols will also be discussed briefly.

### Table of Contents

|                                      |          |
|--------------------------------------|----------|
| <b>OVERVIEW</b> .....                | <b>1</b> |
| <b>EXAMPLE</b> .....                 | <b>2</b> |
| DETERMINE RECEIVER SMTP SERVER ..... | 2        |
| SENDING EMAIL WITH TELNET .....      | 3        |
| EMAIL VERIFICATION .....             | 4        |
| <b>SMTP COMMAND REFERENCE</b> .....  | <b>5</b> |

### Overview

Telnet is a basic tool included in both Windows and Linux which allows troubleshooting connectivity of many protocols, especially the SMTP protocol used to send emails.

Examples of the multiple uses of Telnet include the following:

1. Establishing the existence of connectivity on a certain port. A lack of response may be caused by either a physical disconnection, or by a port or protocol being blocked, or also caused by caused by an unavailable server.
2. The Possibility of discovering the identity of the responding server by reading the connection banner. For example, the SonicWALL Email Security server shows the host name and the software version number used. A typical ES response would be "220 ServerName ESMTP SonicWALL Email Security Version \_\_\_" (note that the prompt is configurable by the ES Admin console).
3. The possibility of sending an entire email through using the appropriate SMTP commands.
4. The possibility of verifying if a particular user is accepted by the server through using different commands.

## Example

This example shows how to send an email to the [jcatalaa@catium.com](mailto:jcatalaa@catium.com) email address using telnet.

### **Determine Receiver SMTP Server**

The first information that needs to be determined is the address of the appropriate SMTP server where email for **catium.com** is sent to. This is done by using the Domain Name Service (DNS) protocol. The MX record for catium.com is queried.

In Windows, the nslookup utility which acts as a DNS client can be used. Figure 1 shows the appropriate nslookup commands.

**Figure 1: Determine where to send email for the catium.com domain**



```
Command Prompt - nslookup
H:\>nslookup
Default Server: svl0dc03.sv.us.sonicwall.com
Address: 10.50.128.52

> set type=mx
> catium.com
Server: svl0dc03.sv.us.sonicwall.com
Address: 10.50.128.52

Non-authoritative answer:
catium.com      MX preference = 30, mail exchanger = mx5.biz.mail.yahoo.com
catium.com      MX preference = 20, mail exchanger = mx1.biz.mail.yahoo.com

mx5.biz.mail.yahoo.com internet address = 68.142.224.244
mx5.biz.mail.yahoo.com internet address = 66.196.126.37
mx1.biz.mail.yahoo.com internet address = 4.79.181.18
mx1.biz.mail.yahoo.com internet address = 67.28.113.136
mx1.biz.mail.yahoo.com internet address = 209.191.89.172
>
```

Once executed nslookup in interactive mode, it first shows that the default DNS server 10.50.128.52 will be used for the DNS queries. After setting the query type to MX, the lookup of catium.com yields an address of mx1.biz.mail.yahoo.com (note that this address is chosen because it has a lower preference number and therefore a higher priority number).

## Sending the Email with Telnet

Telnet is executed with the SMTP address and the standard SMTP port 25. The line below is executed from the Windows command prompt.

```
telnet mx1.biz.mail.yahoo.com 25
```

Figure 2 below shows the remainder of the transactions to accomplish sending the email.

**Figure 2: Sending an Email with Telnet**

```

jcatalaa@localhost:~$ telnet mx1.biz.mail.yahoo.com 25
Trying 4.79.181.18...
Connected to mx1.biz.mail.yahoo.com (4.79.181.18).
Escape character is '^]'.
220 mta101.biz.mail.mud.yahoo.com ESMTp YSmtp service ready
ehlo Jean-Marc here
250-mta101.biz.mail.mud.yahoo.com
250-8BITMIME
250-SIZE 31981568
250 PIPELINING
mail from:<>
250 null sender <> ok
rcpt to:<jcatalaa@catium.com>
250 recipient <jcatalaa@catium.com> ok
data
354 go ahead
Subject: Hello, Hola
How are you? Como estas?
Je ne sais quoi
Ciao,
Jean-Marc
.
250 ok dirdel
  
```

Use Port 25

Type ehlo to list server's capabilities

Accepting attachments up to 32 MBytes

Can I send an email from a NULL sender?

Can I send it to this user on you system?

Can I send the message now?

OK, user "jcatalaa" is verified

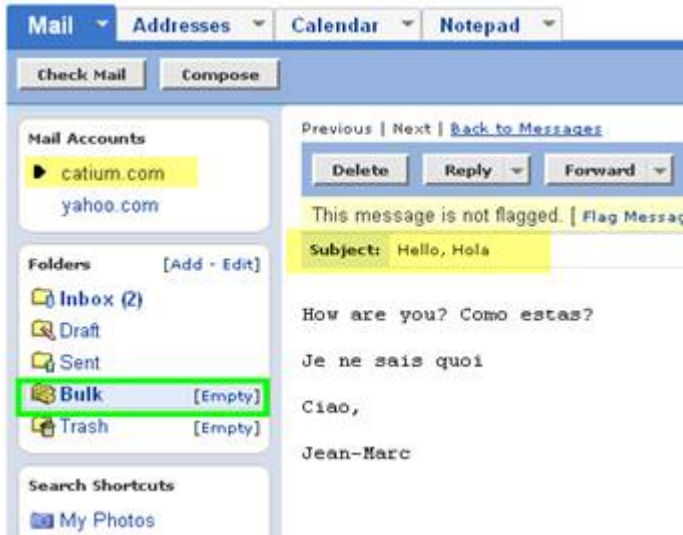
Here it is.. Finish with a dot (.)

OK, message sent

Yahoo does not bounce this email. It accepts it and places it in the "bulk" store.

## Email Verification

This section verifies that the email sent via Telnet was indeed received. The final “250 ok dirdel” message shows that the email was accepted. In this case the email is processed by Yahoo Business email on behalf of Catium.com. Yahoo determines this email to be SPAM (which is true) and places it in the Bulk folder.



---

## SMTP Command Reference

Table 1 shows the standard use of SMTP commands used.

**Table 1: SMTP Commands**

| Command                                      | Description  |
|--|--|
| <b>EHLO/HELO name</b>                        | <p>First command that must be executed after connection to the SMTP server. The server responds with the SMTP capabilities.</p> <p>The <b>name</b> following the command should be the name of the domain from which the client is connecting from. An anti-spam technique could be to compare this name to the reverse DNS of the SMTP IP address. Unfortunately the name field is not set appropriately by many SMTP servers causing many false positives.</p> |
| <b>MAIL FROM:&lt;someone@company.com&gt;</b> | The sender of the email. Note that the data section of the email should also contain the sender's email address.   |
| <b>RCPT TO:&lt;someone@domain.com&gt;</b>    |  |
| <b>DATA</b>                                  |  |

## Additional Telnet Information

### Backspacing

Hitting the backspace button when an error is made will not help. It is better to just press enter, receive an error response and re-type the line. Another solution is to use Putty which is much more forgiving because backspace works.

### CTL + ]

Sometimes a Telnet session running from a Windows Commands Prompt window becomes unresponsive in Windows. The CTL+C break command works and many times the user kills the window and opens a new one. A little known secret is that pressing the control button together with the closing square brackets (CTL + "]" ) will unblock the session.

### Contacting SonicWALL Sales

- Toll free US: +1 888.557.6642
- Local US: +1 408.745.9600
- Local Fax US: +1 408.745.9300
- If you wish to be contacted, use this form: [http://www.sonicwall.com/us/How\\_to\\_Buy.html](http://www.sonicwall.com/us/How_to_Buy.html)

*Created: MM/DD/07*

*Updated: 05/08/07*

*Created by SonicWALL Technical Publications*

*Updated and Maintained by: Jean-Marc Catalaa*

*Version 2.0*

