

How To:

Test serial port connections in Debian Linux using getty.

Background:

Getty is a program that manages the physical and virtual terminals on a host machine. To verify that a serial port is communicating at the desired rate, enable a getty session on one of the serial ports of the Linux host in question, then connect from a client machine via a null modem and serial cable with a serial console terminal emulator such as Minicom or Hyperterminal. The instructions below refer connecting to a getty session on the Linux host in question via Minicom.

Procedure:

This procedure requires a host machine and a client machine.

Configure the Host Machine

1. As root or as a user who can execute commands as root via sudo, make a backup copy of `/etc/inittab`.
 - o `cp /etc/inittab /etc/inittab.bak`
2. Edit `/etc/inittab`.
 - o `nano /etc/inittab`
3. Find the section of the `/etc/inittab` file that contains the following commented example parameters:
 - o `# Example how to put a getty on a serial line`
 - o `# (for a terminal)`
 - o `#`
 - o `#T0:23:respawn:/sbin/getty -L ttyS0 9600 vt100`
 - o `#T1:23:respawn:/sbin/getty -L ttyS1 9600 vt100`
4. Add a line for the getty session with the desired parameters. The following line creates a getty session on `ttyS0` communicating at 11520bps as a vt100 terminal:
 - o `T0:23:respawn:/sbin/getty -L ttyS0 115200 vt100`
5. Save the changes and exit the text editor, and then apply the configuration change by executing the command:
 - o `init q`
6. Connect the null modem and serial cable to the Linux host and the client machine.

Configure the Client Machine

1. Configure the terminal emulator as follows:
 - o `115200 8N1`
 - o `No hardware flow control`
 - o `No software flow control`
2. From the client, open a session to the Linux host with a terminal emulator. The following example uses Minicom on a Linux client:
 - o `minicom -o`
 - o **Note:** The "-o" argument prevents modem initialization.
3. Press Return to get a login prompt in Minicom.

If a connection is established and the text is readable, then this serial port is communicating at the correct speed. If the text is garbled or there are dropped characters, then it is likely the client



and the host are not communicating at the same speed. Verify all speed settings as described above.

Additional Resources:

- [Linux Serial Console HOWTO](#)
- [VT1550 - Enabling Six Serial Ports on the EPM-32](#)

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