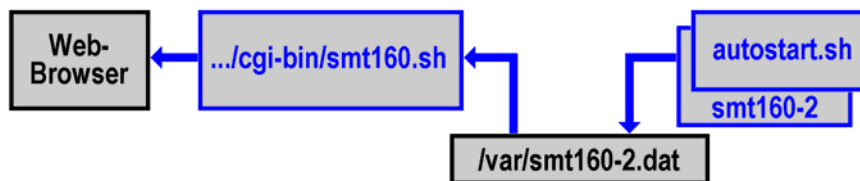SSV

How to access the SMT-160 Temperature Data with a Web Browser

The DIL/NetPC DNP/5280 Starter Kit CD-ROM Version 1.5 (or newer) comes with some sample programs for the SMT-160 intelligent temperature sensor board. This document describes how to access the SMT-160 temperature sensor data with a standard Web browser. Please use this document in addition with *mHT5280-39.pdf: How to use the SMT-160 intelligent Temperature Sensor Board*.
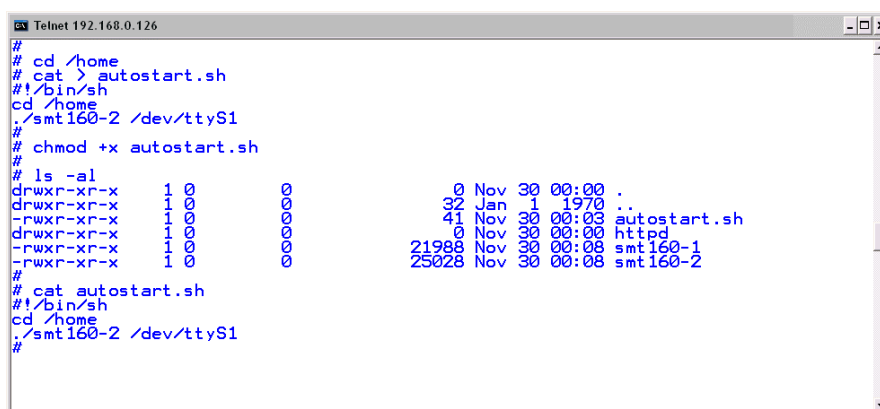
- **1. Step**: We need two Linux shell script files for the Web browser access. One shell script (**autostart.sh**) starts the program **smt160-2** at boot time. This program writes a new sensor data value to a RAM disk file with the name **smt160-2.dat**. The second shell script (**smt160.sh**) is the CGI program. This script delivers the sensor data value to the Web browser. The following picture shows the details.

- **2. Step**: Create a Linux shell script file with the name **autostart.sh** on your development system and transfer this file to the DNP/5280 directory **/home**. Use a simple text editor program for this job. It is also possible to create the shell script file direct with the help of a Telnet session:

```
cd /home
cat > autostart.sh
#!/bin/sh
cd /home
./smt160-2 /dev/ttyS1
```
CTRL-D (*CTRL-D stops the Linux cat command*)
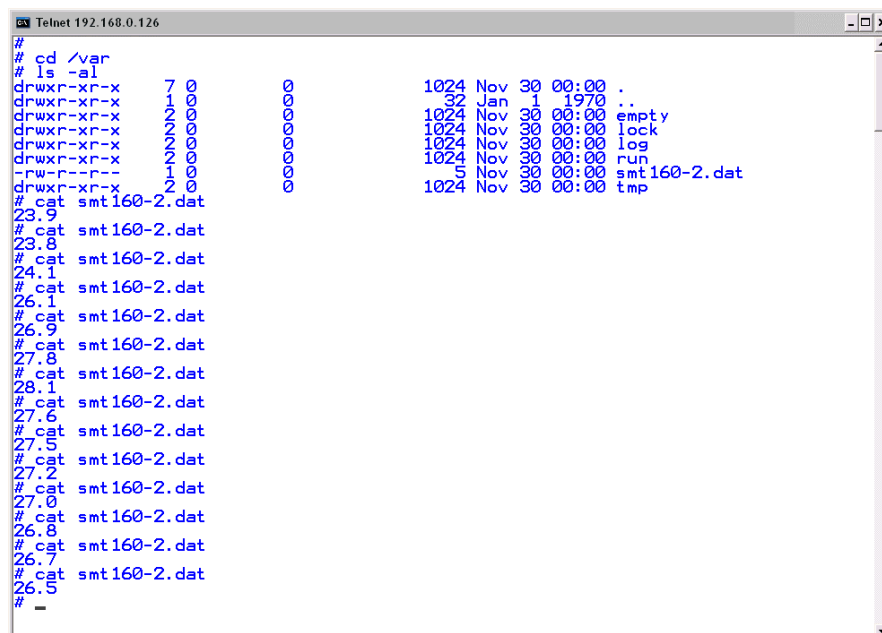```
chmod +x autostart.sh
```



- **3. Step:** Transfer the executable file **smt160-2** from the DIL/NetPC DNP/5280 Starter Kit CD-ROM directory **/uClinux/Demos/Specials/SMT160/SMT160-2** to the DNP/5280 directory **/home**. Please use TFTP for this task.

- **4. Step**: Create the CGI program as Linux shell script file. Use the name **smt160.sh** for this file. Create this file on your development system with the help of a simple text editor program and transfer this file to the DNP/5280 directory **/home/httpd/cgi-bin**. It is also possible to create the file direct within the directory **/home/httpd/cgi-bin** with the help of a Telnet session:

```
cd /home/httpd/cgi-bin
cat > smt160.sh
#!/bin/sh
smt160.sh
Show content of /var/smt160-2.dat
echo "Content-type: text/html"
echo
echo "<html>"
echo "<head>"
echo "<title>"
echo "Show content of /var/smt160-2.dat"
echo "</title>"
echo "</head>"
echo "<body>"
echo "<h1>"
cat /var/smt160-2.dat
echo "</h1>"
echo "</body>"
echo "</html>"
exit 0
```
CTRL-D  (*CTRL-D stops the Linux cat command*)
```
chmod +x smt160.sh
```

- **5. Step**: Now reboot the DIL/NetPC DNP/5280 for running **autostart.sh** at boot time. This Linux shell script sample file from the 2. step writes every second with the help of executable file **smt160-2** a new sensor data value string into the file **/var/smt160-2.dat**.

- **6. Step**: Run the CGI shell script file. Start the Web browser of your development system and enter the URL *http://192.168.0.126/cgi-bin/smt160.sh*. This URL runs the CGI shell script and generates a Browser window with the current content of the file **/var/smt160-2.dat**.



**Please note:** If you edit shell script files for Linux systems on a Windows-based PC, it is necessary to convert these files with a DOS2UNIX tool before you transfer them to the DIL/NetPC DNP/5280. Linux shell script files are simple text files. Windows is using the good old MS-DOS format for text files. MS-DOS and Unix systems use different methods to identify end-of-line information in text files. MS-DOS, including Windows 9x/ME/NT/2000/XP, use a carriage return/linefeed pair (CR/LF), whilst Unix only uses the LF character.

That's all.