

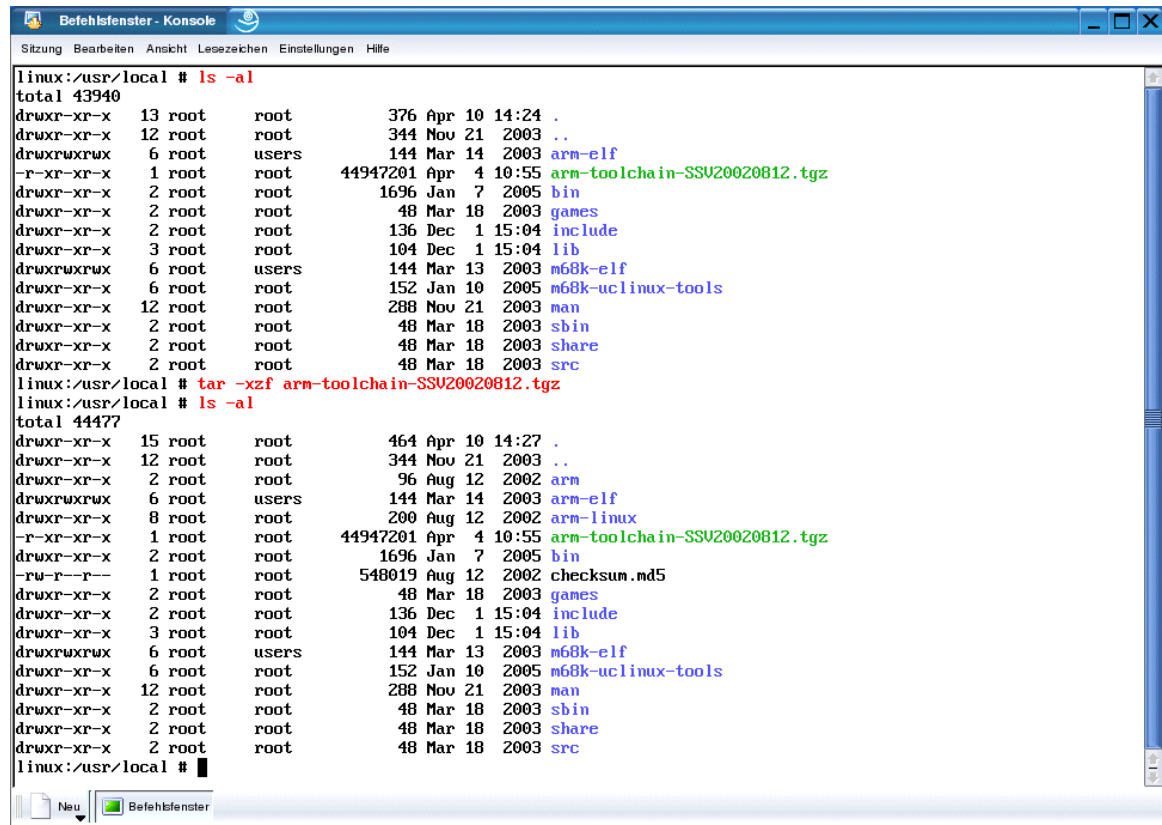
How to use the pre-build ARM GNU tool chain for DNP/9200 C Programming

The pre-build SSV ARM Linux tool chain allows you to write C/C++ programs for the DIL/NetPC DNP/9200 within your Linux PC environment. It is only necessary to install these GNU tools from the DNP/9200 starter kit CD-ROM.

- **1. Step:** Copy the archive file *arm-toolchain-SSV20020812.tgz* from the DNP/9200 starter kit CD-ROM directory */linux/toolchain* into the Linux PC directory */usr/local*.
- **2. Step:** Run the Linux tar utility command on your PC and unpack the archive file *arm-toolchain-SSV20020812.tgz* within the Linux PC directory */usr/local*. Just enter

```
tar -xzf arm-toolchain-SSV20020812.tgz
```

The activity needs some time. So please wait until the Linux tar command execution ends.



```

Befehlsfenster - Konsole
Sitzung Bearbeiten Ansicht Lesezeichen Einstellungen Hilfe

linux:/usr/local # ls -al
total 43940
drwxr-xr-x 13 root root 376 Apr 10 14:24 .
drwxr-xr-x 12 root root 344 Nov 21 2003 ..
drwxrwxrwx 6 root users 144 Mar 14 2003 arm-elf
-r-xr-xr-x 1 root root 44947201 Apr 4 10:55 arm-toolchain-SSV20020812.tgz
drwxr-xr-x 2 root root 1696 Jan 7 2005 bin
drwxr-xr-x 2 root root 48 Mar 18 2003 games
drwxr-xr-x 2 root root 136 Dec 1 15:04 include
drwxr-xr-x 3 root root 104 Dec 1 15:04 lib
drwxrwxrwx 6 root users 144 Mar 13 2003 m68k-elf
drwxr-xr-x 6 root root 152 Jan 10 2005 m68k-uclinux-tools
drwxr-xr-x 12 root root 288 Nov 21 2003 man
drwxr-xr-x 2 root root 48 Mar 18 2003 sbin
drwxr-xr-x 2 root root 48 Mar 18 2003 share
drwxr-xr-x 2 root root 48 Mar 18 2003 src
linux:/usr/local # tar -xzf arm-toolchain-SSV20020812.tgz
linux:/usr/local # ls -al
total 44477
drwxr-xr-x 15 root root 464 Apr 10 14:27 .
drwxr-xr-x 12 root root 344 Nov 21 2003 ..
drwxr-xr-x 2 root root 96 Aug 12 2002 arm
drwxrwxrwx 6 root users 144 Mar 14 2003 arm-elf
drwxr-xr-x 8 root root 200 Aug 12 2002 arm-linux
-r-xr-xr-x 1 root root 44947201 Apr 4 10:55 arm-toolchain-SSV20020812.tgz
drwxr-xr-x 2 root root 1696 Jan 7 2005 bin
-rw-r--r-- 1 root root 548019 Aug 12 2002 checksum.md5
drwxr-xr-x 2 root root 48 Mar 18 2003 games
drwxr-xr-x 2 root root 136 Dec 1 15:04 include
drwxr-xr-x 3 root root 104 Dec 1 15:04 lib
drwxrwxrwx 6 root users 144 Mar 13 2003 m68k-elf
drwxr-xr-x 6 root root 152 Jan 10 2005 m68k-uclinux-tools
drwxr-xr-x 12 root root 288 Nov 21 2003 man
drwxr-xr-x 2 root root 48 Mar 18 2003 sbin
drwxr-xr-x 2 root root 48 Mar 18 2003 share
drwxr-xr-x 2 root root 48 Mar 18 2003 src
linux:/usr/local #

```

- **3. Step:** After the tar utility was successfully executed, it should be possible to run the GNU cross compiler for the DNP/9200 from each Linux PC directory. Create a simple C source code file. Then compile this file and build an executable for the DIL/NetPC DNP/9200. Just enter

```
/usr/local/arm/2.95.2/bin/arm-linux-gcc -o name name.c
```

Within this sample command line *name* is the file name of the executable for the DNP/9200 and *name.c* the C source code file name.

```

Befehlsfenster - Konsole
Sitzung Bearbeiten Ansicht Lesezeichen Einstellungen Hilfe

linux:/usr/local # /usr/local/arm/2.95.2/bin/arm-linux-gcc -v
Reading specs from /usr/local/arm-linux/lib/gcc-lib/arm-linux/2.95.2/specs
gcc version 2.95.2 19991024 (release)
linux:/usr/local # cat > hello.c
#include <stdio.h>

void main (void)
{
    printf ("Hello DNP/9200 User...\n");
}
linux:/usr/local # /usr/local/arm/2.95.2/bin/arm-linux-gcc -o hello hello.c
hello.c: In function `main':
hello.c:4: warning: return type of `main' is not `int'
linux:/usr/local # ls -al
total 44493
drwxr-xr-x 15 root    root      512 Apr 10 14:37 .
drwxr-xr-x 12 root    root      344 Nov 21 2003 ..
drwxr-xr-x  2 root    root       96 Aug 12 2002 arm
drwxrwxrwx  6 root    users    144 Mar 14 2003 arm-elf
drwxr-xr-x  8 root    root     200 Aug 12 2002 arm-linux
-r-xr-xr-x  1 root    root    44947201 Apr  4 10:55 arm-toolchain-SSU20020812.tgz
drwxr-xr-x  2 root    root     1696 Jan  7 2005 bin
-rw-r--r--  1 root    root   548019 Aug 12 2002 checksum.md5
drwxr-xr-x  2 root    root       48 Mar 18 2003 games
-rwxr-xr-x  1 root    root    11052 Apr 10 14:37 hello
-rw-r--r--  1 root    root       81 Apr 10 14:36 hello.c
drwxr-xr-x  2 root    root     136 Dec  1 15:04 include
drwxr-xr-x  3 root    root     104 Dec  1 15:04 lib
drwxrwxrwx  6 root    users    144 Mar 13 2003 m68k-elf
drwxr-xr-x  6 root    root     152 Jan 10 2005 m68k-uclinux-tools
drwxr-xr-x 12 root    root     288 Nov 21 2003 man
drwxr-xr-x  2 root    root       48 Mar 18 2003 sbin
drwxr-xr-x  2 root    root       48 Mar 18 2003 share
drwxr-xr-x  2 root    root       48 Mar 18 2003 src
linux:/usr/local #

```

- **4. Step:** Transfer the executable with the help of FTP or TFTP to the DIL/NetPC DNP/9200 and run the demo application on your target.

```

Befehlsfenster - Konsole
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drwxr-xr-x 15 root    root      512 Apr 10 14:37 .
drwxr-xr-x 12 root    root      344 Nov 21 2003 ..
drwxr-xr-x  2 root    root       96 Aug 12 2002 arm
drwxrwxrwx  6 root    users    144 Mar 14 2003 arm-elf
drwxr-xr-x  8 root    root     200 Aug 12 2002 arm-linux
-r-xr-xr-x  1 root    root    44947201 Apr  4 10:55 arm-toolchain-SSU20020812.tgz
drwxr-xr-x  2 root    root     1696 Jan  7 2005 bin
-rw-r--r--  1 root    root   548019 Aug 12 2002 checksum.md5
drwxr-xr-x  2 root    root       48 Mar 18 2003 games
-rwxr-xr-x  1 root    root    11052 Apr 10 14:37 hello
-rw-r--r--  1 root    root       81 Apr 10 14:36 hello.c
drwxr-xr-x  2 root    root     136 Dec  1 15:04 include
drwxr-xr-x  3 root    root     104 Dec  1 15:04 lib
drwxrwxrwx  6 root    users    144 Mar 13 2003 m68k-elf
drwxr-xr-x  6 root    root     152 Jan 10 2005 m68k-uclinux-tools
drwxr-xr-x 12 root    root     288 Nov 21 2003 man
drwxr-xr-x  2 root    root       48 Mar 18 2003 sbin
drwxr-xr-x  2 root    root       48 Mar 18 2003 share
drwxr-xr-x  2 root    root       48 Mar 18 2003 src
linux:/usr/local # telnet 192.168.0.126
Trying 192.168.0.126...
Connected to 192.168.0.126.
Escape character is '^]'.
- SSV Embedded Linux - Version 0.62

emlinux login: root
Password:
[root@emlinux /root]# cd /home/gast
[root@emlinux gast]# ls -al
drwxr-xr-x  2 gast    users      128 Jan  1 12:23 .
drwxr-xr-x  4 root    root      128 Aug  6 2002 ..
-rwxr-xr-x  1 gast    users    11052 Jan  1 12:23 hello
[root@emlinux gast]# ./hello
Hello DNP/9200 User...
[root@emlinux gast]#

```

That is all.