Execute basic commands

Contents

Stable: 17.11.2021 - 16:30 / Revision: 10.11.2021 - 16:29

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Return to Main Page.

Stable: 17.11.2021 - 16:46 / Revision: 17.11.2021 - 15:58

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<bookshelf src="Book:Getting started" /> {| class="st-table" style="text-align:center; margin: auto" | colspan="9" style="border-style: hidden;" | [[Image:STM32MP157X-DK2.png | 80px | link=]] |- | colspan="4" style="border-style: hidden; text-align:left;" | [[Getting started/STM32MP1 boards/STM32MP157x-DK2/Let's start | {{GSModuleCurrent|Let's start}}]] | colspan="5" style="border-style: hidden; text-align:right;" | [[Getting started /STM32MP1 boards/STM32MP157x-DK2/Develop on Arm® Cortex®-A7 | {{GSModuleNext|Develop on Arm® Cortex®-A7}}]] |- | style="border-style: hidden;" | [[Image:step_category_in.png|link=]] | style="border-style: hidden; width:110px;" | [[Getting started/STM32MP1 boards/STM32MP157x-DK2/Let's start/Unpack the STM32MP157x-DK2 board | {{GSStepNext|Unpack the board}}]] | style="border-style: hidden;" | [[Image:step.png|link=]] | style=" border-style: hidden; width:110px;" | [[Getting started/STM32MP1 boards/STM32MP157x-DK2/Let's start/Populate the target and boot the image | {{GSStepNext|Populate the target and boot the image}}]] | style="border-style: hidden;" | [[Image:step.png|link=]] | style="border-style: hidden; width:110px;" | [[Getting started/STM32MP1 boards /STM32MP157x-DK2/Let's start/Execute basic commands | {{GSStepCurrent|Execute basic commands}}]] | style=" border-style: hidden;" | [[Image:step.png|link=]] | style="border-style: hidden; width:110px;" | [[Getting started /STM32MP1 boards/STM32MP157x-DK2/Let's start/Use the demo launcher | {{GSStepNext|Use the demo launcher}}]] | style="border-style: hidden;" | [[Image:step_category_out.png|link=]] |}
 ==Overview== This stage explains how to connect the Linux terminal of your board to your host computer through the ST-LINK/V2-1.
 Then you will see how to execute basic commands with the Linux command line interface in order to be familiarized with the Linux console. ==The serial terminal== The serial terminal allows to communicate with the board trough a UART serial interface. * Install minicom {{PC$}} sudo apt-get install minicom * Get the ttyACM device instance that need to be used to access the ST-LINK/V2-1 {{PC$}} ls /dev/ttyACM* /dev/ttyACM0 * Connect the minicom to the /dev/ttyACM0 device {{PC$}} minicom -D /dev/ttyACM0 Welcome to minicom 2.7 OPTIONS: I18n Compiled on Nov 15 2018, 20:18:47. Port /dev/ttyACM0, 15:56:03 Press CTRL-A Z for help on special keys * Press the reset button to reset the board. You should see boot log displayed in the minicom window "'For {{EcosystemRelease | revision=2.0.0}}"': <pre> NOTICE: CPU: STM32MP157FAC Rev.Z NOTICE: Model: STMicroelectronics STM32MP157F-DK2 Discovery Board NOTICE: Board: MB1272 Var4.0 Rev.C-02 INFO: Reset reason (0x14): INFO: Pad Reset from NRST INFO: PMIC version = 0x20 INFO: Using SDMMC INFO: Instance 1 INFO: Boot used partition fsbl1 NOTICE: BL2: v2.2-r1.0(debug):v2.2-dirty NOTICE: BL2: Built : 13:36: 23, Oct 22 2019 INFO: Using crypto library 'stm32_crypto_lib' INFO: BL2: Doing platform setup INFO: RAM: DDR3-DDR3L 16bits 533000Khz INFO: Memory size = 0x20000000 (512 MB) INFO: BL2 runs SP_MIN setup INFO: BL2: Loading image id 4 INFO: Loading image id=4 at address 0x2ffed000 INFO: Image id=4 loaded: 0x2ffed000 - 0x2ffff000 INFO: BL2: Loading image id 5 INFO: Loading image id=5 at address 0xc0100000 INFO: STM32 Image size : 870692 INFO: Image id=5 loaded: 0xc0100000 - 0xc01d4924 WARNING: Skip signature check (header option) NOTICE: ROTPK is not deployed on platform. Skipping ROTPK verification. NOTICE: BL2: Booting BL32 INFO: Entry point address = 0x2ffed000 INFO: SPSR = 0x1d3 NOTICE: SP_MIN: v2.2-r1.0(debug): v2.2-dirty NOTICE: SP_MIN: Built : 13:36:23, Oct 22 2019 INFO: ARM GICv2 driver initialized INFO: stm32mp IWDG1 (12): Secure INFO: SP_MIN: Initializing runtime services INFO: SP_MIN: Preparing exit to normal world U-Boot 2020.01-stm32mp-r1 (Jan 06 2020 - 20:56:31 +0000) CPU: STM32MP157FAC Rev.Z Model: STMicroelectronics STM32MP157F-DK2 Discovery Board Board: stm32mp1 in trusted mode (st,stm32mp157f-dk2) Board: MB1272 Var4.0 Rev.C-02 DRAM: 512 MiB Clocks: - MPU : 800 MHz - MCU : 208.878 MHz - AXI : 266.500 MHz - PER : 24 MHz - DDR : 533 MHz WDT: Started with servicing (32s timeout) NAND: 0 MiB MMC: STM32 SD/MMC: 0, STM32 SD/MMC: 1 Loading Environment from MMC... OK In: serial Out: serial Err: serial Net: eth0: ethernet@5800a000 Hit any key to stop autoboot: 0 Boot over mmc0! switch to partitions #0, OK mmc0 is current device Scanning mmc 0:4... Found /mmc0_extlinux/stm32mp157f-dk2_extlinux.conf Retrieving file:

/mmc0_extlinux/stm32mp157f-dk2_extlinux.conf 706 bytes read in 32 ms (21.5 KiB/s) Retrieving file: /splash.bmp 18244 bytes read in 33 ms (539.1 KiB/s) Select the boot mode 1: OpenSTLinux 2: stm32mp157f-dk2-a7-examples 3: stm32mp157f-dk2-m4-examples Enter choice: 1: OpenSTLinux Retrieving file: /uInitrd 3632439 bytes read in 185 ms (18.7 MiB/s) Retrieving file: /uImage 7309840 bytes read in 341 ms (20.4 MiB/s) append: root=PARTUUID=e91c4e10-16e6-4c0e-bd0e-77becf4a3582 rootwait rw console=ttySTM0,115200 Retrieving file: /stm32mp157f-dk2.dtb 72902 bytes read in 35 ms (2 MiB/s) ## Booting kernel from Legacy Image at c2000000 ... Image Name: Linux-5.4.31 Created: 2020-04-08 7:08:47 UTC Image Type: ARM Linux Kernel Image (uncompressed) Data Size: 7309776 Bytes = 7 MiB Load Address: c2000040 Entry Point: c2000040 Verifying Checksum ... OK ## Flattened Device Tree blob at c4000000 Booting using the fdt blob at 0xc4000000 XIP Kernel Image Loading Ramdisk to cfc89000, end cffffd37 ... OK Loading Device Tree to cfc74000, end cfc88cc5 ... OK Starting kernel ... [0.000000] Booting Linux on physical CPU 0x0 [0.000000] Linux version 5.4.31 (oe-user@oe-host) (gcc version 9.3.0 (GCC)) #1 SMP PREEMPT Wed Apr 8 07:08:47 UTC 2020 [...] [6.169691] NET: Registered protocol family 10 [6.211281] Segment Routing with IPv6 [6.261437] systemd[1]: systemd 244.3+ running in system mode. (+PAM -AUDIT -SELINUX +IMA -APPARMOR -SMACK +SYSVINIT +UTMP -

running in system mode. (+PAM -AUDIT -SELINUX +IMA -APPARMOR -SMACK +SYSVINIT +UTMP -LIBCRYPTSETUP -GCRYPT -GNUTLS -ACL +XZ -LZ4 -SECCOMP +BLKID -ELFUTILS +KMOD -IDN2 -IDN -PCRE2 default-hierarchy=hybrid) [6.282618] systemd[1]: Detected architecture arm. Welcome to ST OpenSTLinux - Weston - (A Yocto Project Based Distro) 3.1-openstlinux-5.4-dunfell-mp1-20-06-24 (dunfell)! [6.424921] systemd[1]: Set hostname to <stm32mp1>. [6.439941] systemd[1]: Hardware watchdog 'STM32 Independent Watchdog', version 0 [6.447247] systemd[1]: Set hardware watchdog to 32s. [7.203641] systemd[1]: Unnecessary job for /dev/ttySTM0 was removed. [7.216113] systemd[1]: Created slice system-getty.slice. [...] Starting Update UTMP about System Runlevel Changes... [OK] Started Update UTMP about System Runlevel Changes. [OK] Started Weston Wayland Compositor (on tty7). ST OpenSTLinux - Weston - (A Yocto Project Based Distro) 3.1-openstlinux-5.4-dunfell-mp1-20-06-24 stm32mp1 ttySTM0 stm32mp1 login: root (automatic login) Last login: Fri Feb 7 15:51:04 UTC 2020 on tty7 root@stm32mp1: </pre> ==Basic commands== ===Printing distribution specific information=== '''For {{EcosystemRelease | revision=2.0.0}}''': {{Board$}} cat /etc/build ---------- Build Configuration: | ---------- BB_VERSION = 1.46.0 BUILD_SYS = x86_64-linux NATIVELSBSTRING = universal TARGET_SYS = arm-ostl-linux-gnueabi MACHINE = stm32mp1 DISTRO = openstlinux-weston DISTRO_VERSION = 3.1-openstlinux-5.4-dunfell-mp1-20-06-24 TUNE_FEATURES = arm vfp cortexa7 neon vfpv4 thumb callconvention-hard TARGET_FPU = hard MANIFESTVERSION = ostl-20-06-24-rc7-1-gcb1de90 DISTRO_CODENAME = dunfell ACCEPT_EULA_stm32mp1 = 1 GCCVERSION = 9.% PREFERRED_PROVIDER_virtual/kernel = linux-stm32mp PREFERRED_VERSION_linux-stm32mp = ---------- Layer Revisions: | ---------- meta-python = HEAD: b5f510e48080b6dc710ff4800feb90ef679c5456 meta-oe = HEAD:b5f510e48080b6dc710ff4800feb90ef679c5456 meta-gnome = HEAD:b5f510e48080b6dc710ff4800feb90ef679c5456 meta-xfce = HEAD: b5f510e48080b6dc710ff4800feb90ef679c5456 meta-initramfs = HEAD: b5f510e48080b6dc710ff4800feb90ef679c5456 meta-multimedia = HEAD: b5f510e48080b6dc710ff4800feb90ef679c5456 meta-networking = HEAD: b5f510e48080b6dc710ff4800feb90ef679c5456 meta-webserver = HEAD: b5f510e48080b6dc710ff4800feb90ef679c5456 meta-filesystems = HEAD: b5f510e48080b6dc710ff4800feb90ef679c5456 meta-perl = HEAD:b5f510e48080b6dc710ff4800feb90ef679c5456 meta-st-stm32mp = HEAD:b86c2f2e092830f011a813d7f2c8fb076b2cbe66 meta-qt5 = HEAD: ac7514e2bc295c97faa86d24e8823829257adbb8 meta-st-openstlinux = HEAD: 0124236609b3c1c56df265d7986919df4deb1814 meta = HEAD:1795f30d8ab73d35710ca99064c51190dc84853e ===Printing system information=== '''For {{EcosystemRelease | revision=2.0.0}}''': {{Board$}} uname -a Linux stm32mp1 5.4.31 #1 SMP PREEMPT Wed Apr 8 07:08:47 UTC 2020 armv7l armv7l armv7l GNU/Linux ===Printing Linux kernel and GCC versions=== '''For {{EcosystemRelease | revision=2.0.0}}''': {{Board$}} cat /proc /version Linux version 5.4.31 (oe-user@oe-host) (gcc version 9.3.0 (GCC)) #1 SMP PREEMPT Wed Apr 8 07:08: 47 UTC 2020 ===Printing the amount of disk space available on all mounted file systems=== {{Board$}} df -h Filesystem Size Used Avail Use% Mounted on devtmpfs 148M 0 148M 0% /dev /dev/mmcblk0p6 690M 416M 229M 65% / tmpfs 214M 64K 214M 1% /dev/shm tmpfs 214M 8.8M 205M 5% /run tmpfs 214M 0 214M 0% /sys/fs /cgroup tmpfs 214M 4.0K 214M 1% /tmp /dev/mmcblk0p4 58M 14M 41M 25% /boot /dev/mmcblk0p5 15M 6.7M 6.8 M 50% /vendor tmpfs 214M 144K 214M 1% /var/volatile /dev/mmcblk0p7 14G 39M 13G 1% /usr/local tmpfs 43M 0 43M 0% /run/user/0 ===ssh connection (only if Ethernet cable is connected)=== * Get the IP address of your board {{Board$}} ip addr show eth0 3: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000 link/ether xx:xx:xx:xx:xx:xx brd ff:ff:ff:ff:ff:ff inet {{highlight|xx.xx.xx.xx}}/xx brd xx. xx.xx.xx scope global dynamic eth0 valid_lft 159045sec preferred_lft 159045sec inet6 xxxx::xx:xx:xx:xx/64 scope link valid_lft forever preferred_lft forever * On the host computer connect the terminal to the board using ssh

{{PC$}} ssh root@{{highlight|xx.xx.xx.xx}} root@stm32mp1:~#
 {| class="st-table" style="margin: auto" | style=" border-style: hidden; width:120px; text-align:left" | [[Image:back_button.png|link=Getting started/STM32MP1 boards /STM32MP157x-DK2/Let's start/Populate the target and boot the image]] | style="border-style: hidden; width: 360px; text-align:center" | [[Image:overview_button.png|link=Getting started/STM32MP1 boards/STM32MP157x-DK2]] | style="border-style: hidden; width:120px; text-align:right" | [[Image:next_button.png|link=Getting started /STM32MP1 boards/STM32MP157x-DK2/Let's start/Use the demo launcher]] |} <noinclude> {{DISPLAYTITLE: {{SUBPAGENAME}}}} __NOTOC__ [[Category:STM32MP157x-DK2 - let's start | 03]] {{PublicationRequestId | Auto}} </noinclude>

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Return to Main Page.