

Bitbake Useful Commands And Tips

This page gives you some useful Bitbake command to re-build some components and gives some causes and solutions when got issue in fetching sources.

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Re-build Linux Kernel/Device tree

The main recipe which builds Linux Kernel/Device tree is

meta-renesas/meta-rcar-gen3/recipes-kernel/linux/linux-renesas_4.14.bb,

when we update this recipe, it will be re-build automatically, but in the case that you want to force it to re-build please use below commands:

Re-build procedure

```
bitbake linux-renesas -c cleansstate
bitbake linux-renesas
```

The output at **tmp/deploy/images/<board name>/** (board name: salvator-x/ebisu/h3ulcb/m3ulcb/draak)

```
Image
*.dtb files
```

Re-build IPL (arm trusted firmware, optee os and u-boot)

arm-trusted-firmware

The recipe is meta-renesas/meta-rcar-gen3/recipes-bsp/arm-trusted-firmware/arm-trusted-firmware_git.bb

Re-build procedure

```
bitbake arm-trusted-firmware -c cleansstate
bitbake arm-trusted-firmware
```

The output at **tmp/deploy/images/<board name>/** (board name: salvator-x/ebisu/h3ulcb/m3ulcb/draak)

```
bl2-salvator-x.bin
bl2-salvator-x.elf
bl2-salvator-x.srec
bl31-salvator-x.bin
bl31-salvator-x.elf
bl31-salvator-x.srec
bootparam_sa0.srec
cert_header_sa6.srec
```

optee-os

The recipe is **meta-renesas/meta-rcar-gen3/recipes-bsp/optee/optee-os_git.bb**

Re-build procedure

```
bitbake optee-os -c cleansstate
bitbake optee-os
```

The output at **tmp/deploy/images/<board name>/** (board name: salvator-x/ebisu/h3ulcb/m3ulcb/draak)

```
tee-salvator-x.bin
tee-salvator-x.elf
tee-salvator-x.srec
```

u-boot

The recipe is **meta-renesas/meta-rcar-gen3/recipes-bsp/u-boot/u-boot_2015.04.bb**

Re-build procedure

```
bitbake u-boot -c cleansstate
bitbake u-boot
```

The output at **tmp/deploy/images/<board name>/** (board name: salvator-x/ebisu/h3ulcb/m3ulcb/draak)

```
u-boot.bin
u-boot-elf-salvator-x.srec
u-boot-elf-salvator-x-v2015.04+gitAUTOINC+fb85875847-r0.srec
u-boot-elf.srec
u-boot-salvator-x.bin
u-boot-salvator-x-v2015.04+gitAUTOINC+fb85875847-r0.bin
```

NOTE: For all above, if you want to re-build from scratch (fetch source again) please replace cleansstate by cleanall

Install and use SDK

Please refer to Yocto startup Guide: **RENESAS_RCH3M3M3NE3_YoctoStartupGuide_UME_<yocto_version>.pdf** session 6
Exporting Toolchains

The documents available at **RCarSW/rvc_git_repo/yocto/_YOCTO_IMAGES_/Gen3/<yocto_version>/Doc**

Here is the extraction of installation guide (base on SDK 2.4.2):

Extract SDK

```
$ sudo (shared dir. where able to access from each Host PCs)/poky-glibc-x86_64-core-image-weston-sd
k-aarch64-toolchain-2.4.2.sh
[sudo] password for (INSTALL person): (password of your account)
Enter target directory for SDK (default: /opt/poky/2.4.2): (just a return)
Extracting SDK...done
Setting it up...done
SDK has been successfully set up and is ready to be used.
```

Setup environment variables

```
$ cd (Your working directory)
$ source /opt/poky/2.4.2/environment-setup-aarch64-poky-linux
$ export LDFLAGS=""
$ ${CC} (Your source code).c ....
```

Fetch source failure

The popular failure while building Yocto offline is **fetch source failure**, the reason maybe wrong setup, or missing/broken source code packages in **downloads** on server http://172.29.143.228/packages/download_dir

The root causes maybe as following:

- Missing the setup to build offline in procedure at [#4962](#), especially, did not change **git** to **git-sm** for required recipes (git submodule), did not apply WORKAROUND patch into Poky.
- Someone linked to **downloads** (former: /shsv/RCarSW/rvc_git_repo/yocto/downloads), so they override and broke the packages, currently, the shared downloads directory was updated to use web interface http://172.29.143.228/packages/download_dir, we can avoid the broken packages by user linking.
- Packages is missed in downloads directory (in case of add other package that Yocto team did not build before - Not official environment).
- Build with wrong commit ID of meta layers (different commit ID of layers will cause many packages with other version).

In this case, you should inform to Yocto team to fix the broken packages or support provide the missing packages (need details your build environment: added layers by **bbayers.conf**, added installed by **local.conf**, the commit ID of each layer)

Below is the example for fetch source failure:

```
ERROR: kernel-module-mmngr-1.0-r0 do_fetch: Network access disabled through BB_NO_NETWORK (or set indirectly due to use of BB_FETCH_PREMIRRORONLY) but access requested with command /usr/bin/env wget -t 2 -T 30 -nv --passive-ftp --no-check-certificate -P /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/downloads 'http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_drv.git.tar.gz' (for url http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_drv.git.tar.gz)
ERROR: kernel-module-mmngr-1.0-r0 do_fetch: Function failed: base_do_fetch
ERROR: Logfile of failure stored in: /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/tmp/work/salvator_x-poky-linux/kernel-module-mmngr/1.0-r0/temp/log.do_fetch.13862
ERROR: Task (/shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/../../meta-renesas/meta-rcar-gen3/recipes-kernel/kernel-module-mmngr/kernel-module-mmngr.bb:do_fetch) failed with exit code '1'
ERROR: mmngr-user-module-1.0-r0 do_fetch: Network access disabled through BB_NO_NETWORK (or set in directly due to use of BB_FETCH_PREMIRRORONLY) but access requested with command /usr/bin/env wget -t 2 -T 30 -nv --passive-ftp --no-check-certificate -P /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/downloads 'http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_lib.git.tar.gz' (for url http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_lib.git.tar.gz)
ERROR: mmngr-user-module-1.0-r0 do_fetch: Function failed: base_do_fetch
ERROR: Logfile of failure stored in: /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/tmp/work/salvator_x-poky-linux/mmngr-user-module/1.0-r0/temp/log.do_fetch.20520
ERROR: Task (/shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/../../meta-renesas/meta-rcar-gen3/recipes-multimedia/mmngr-module/mmngr-user-module.bb:do_fetch) failed with exit code '1'
ERROR: kernel-module-mmngrbuf-1.0-r0 do_fetch: Network access disabled through BB_NO_NETWORK (or set indirectly due to use of BB_FETCH_PREMIRRORONLY) but access requested with command /usr/bin/env wget -t 2 -T 30 -nv --passive-ftp --no-check-certificate -P /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/downloads 'http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_drv.git.tar.gz' (for url http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_drv.git.tar.gz)
ERROR: kernel-module-mmngrbuf-1.0-r0 do_fetch: Function failed: base_do_fetch
ERROR: Logfile of failure stored in: /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/tmp/work/salvator_x-poky-linux/kernel-module-mmngrbuf/1.0-r0/temp/log.do_fetch.25008
ERROR: Task (/shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/../../meta-renesas/meta-rcar-gen3/recipes-kernel/kernel-module-mmngrbuf/kernel-module-mmngrbuf.bb:do_fetch) failed with exit code '1'
```

```
car-gen3/recipes-kernel/kernel-module-mmngr/kernel-module-mmngrbuf.bb:do_fetch) failed with exit code '1'
ERROR: weston-2.0.0-r0 do_fetch: Network access disabled through BB_NO_NETWORK (or set indirectly due to use of BB_FETCH_PREMIRRORONLY) but access requested with command /usr/bin/env wget -t 2 -T 30 -nv --passive-ftp --no-check-certificate -P /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/downloads 'http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.weston.git.tar.gz' (for url http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.weston.git.tar.gz)
ERROR: weston-2.0.0-r0 do_fetch: Function failed: base_do_fetch
ERROR: Logfile of failure stored in: /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/tmp/work/aarch64-poky-linux/weston/2.0.0-r0/temp/log.do_fetch.28584
ERROR: Task (/shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/../../poky/meta/recipes-graphics/wayland/weston_2.0.0.bb:do_fetch) failed with exit code '1'
ERROR: mmngrbuf-user-module-1.0-r0 do_fetch: Network access disabled through BB_NO_NETWORK (or set indirectly due to use of BB_FETCH_PREMIRRORONLY) but access requested with command /usr/bin/env wget -t 2 -T 30 -nv --passive-ftp --no-check-certificate -P /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/downloads 'http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_lib.git.tar.gz' (for url http://downloads.yoctoproject.org/mirror/sources/git2_github.com.renesas-rcar.mmngr_lib.git.tar.gz)
ERROR: mmngrbuf-user-module-1.0-r0 do_fetch: Function failed: base_do_fetch
ERROR: Logfile of failure stored in: /shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/tmp/work/salvator_x-poky-linux/mmngrbuf-user-module/1.0-r0/temp/log.do_fetch.29132
ERROR: Task (/shsv/SS2/RSS1/25_dangle/YOCTO/y370_2SI_H3/M3_buid_RC/M3_build/../../meta-renesas/meta-rcar-gen3/recipes-multimedia/mmngr-module/mmngrbuf-user-module.bb:do_fetch) failed with exit code '1'
```

Customize Kernel configurations

There are many situations that we need to Enable/Disable Kernel configurations, the following will show how to do that in Yocto:

E.g. Enable GPIO Sysfs Interface for Userspace (CONFIG_GPIO_SYSFS)

Step 1: Start menuconfig tool

```
bitbake linux-renesas -c menuconfig
```

The menuconfig window appears, typing "/" and search the needed configuration, enable/disable it as your expectation, In this example, we will enable CONFIG_GPIO_SYSFS (find it and type Y to enable) and then Save your changing.

Troubleshooting:

If menuconfig does not appear, please check:

1. libncurses-dev is installed?
\$ apt list --installed | grep libncurses
2. And To confirm we can run menuconfig and check the status of configuration,

NOTE:

We do the same in case of disable.

If the menuconfig does not appear please try the following:

Checking the shell:

```
echo $SHELL
```

if not /bin/bash, reset by:

```
export SHELL=/bin/bash
```

If the SHELL is correct, try to specify the terminal in conf/local.conf
E.g.:

```
OE_TERMINAL = "gnome"
```

Step 2: Creating Configuration Fragment

Using the following command to create a configuration fragment file:

```
bitbake linux-renesas -c diffconfig
```

The result is similar to:

Config fragment has been dumped into:

```
/ssd/v390-1stSI/build_mmp/H3_build_mmp/tmp/work/salvator_x-poky-linux/linux-renesas/4.14.35+gitAU  
TOINC+752935cb4a-r1/fragment.cfg
```

NOTE: Tasks Summary: Attempted 24 tasks of which 23 didn't need to be rerun and all succeeded.

The fragment file is Kernel config that we want to enable/disable, in our example, its content is:

```
CONFIG_GPIO_SYSFS=y
```

Step 3: Apply configuration fragment by Yocto recipe

Copy configuration file into linux-renesas directory:

```
cp /<path>/<to>/fragment.cfg ../meta-renesas/meta-rcar-gen3/recipes-kernel/linux/linux-renesas/sys  
fs.cfg
```

Update recipe to apply the configuration:

E.g.: vi meta-renesas/meta-rcar-gen3/recipes-kernel/linux/linux-renesas_4.14.bb

Add

```
SRC_URI_append = " file://sysfs.cfg"
```

To confirm we can run menuconfig and check the status of configuration,

NOTE:

We do the same in case of disable.

If the menuconfig does not appear please try the following:

Checking the shell:

```
echo $SHELL
```

if not **/bin/bash**, reset by:

```
export SHELL=/bin/bash
```

If the SHELL is correct, try to specify the terminal in **conf/local.conf**

E.g.:

```
OE_TERMINAL = "gnome"
```