Add a self-starting program

I. Create a new application named new_program

- 1. Choose a suitable path
 [mtk13451@mszsdc1x1021 aud-base]\$pwd
 /proj/mtk13451/codebase/yocto_p1v2/src/apps/aud-base
 my path: yocto_p1v2/src/apps/aud-base
- Create a folder to place the source code for new program [mtk13451@mszsdclx1021 aud-base] \$mkdir new_program
- 3. Enter the source code folder [mtk13451@mszsdclx1021 aud-base] %cd new program/
- 4. Write code for new_program [mtk13451@mszsdclx1021 new_program] \$vim main.c

The main.c looks like this:

```
1 #include <stdio.h>
2
3 int main(void) {
4     printf("<mediatek>This is a pe# program!\n");
5     return 0;
6 }
```

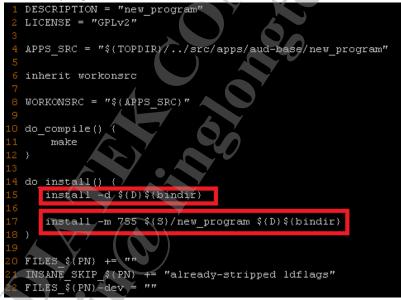
5. Write Makefile

[mtk13451@mszsdc1x1021 new program] \$vim Makefile The Makefile looks like this:

- II. Add new program to project compilation
 - 1. Go to the suitable rule storage path
 [mtk13451@mszsdclx1021 recipes-apps]\$pwd
 /proj/mtk13451/codebase/yocto_p1v2/meta/meta-mediatek-aud/recipes-apps
 rule path: yocto_p1v2/meta/meta-mediatek-aud/recipes-apps
 - 2. Create a rule storage folder [mtk13451@mszsdc1x1021 recipes-apps] \$mkdir new-program Created a folder with the name new-program
 - Enter the rule folder
 [mtk13451@mszsdclx1021 recipes-apps]%cd new-program
 - Create a new rule to call the new program's Makefile
 [mtk13451@mszsdclx1021 new-program] \$vim new-program.bb

new-program.bb is new program's rule file. PS:It should be noted that the new-program.bb is "-" instead of " ".

The new-program.bb looks like this:



- \${D} means that when new_program compiled, the path of some files need to be collected into the image.
- 2) **\${bindir}** means that usr/bin.
- 3) \${\$} means that the path that new_program source code will store when compiled.
- 4) install -d means that when new_program is compiled, create a folder that will be collected into the image.
- 5) install -m means that the new_program executable program under the \${S} will be install to \${D}/usr/bin, and it will be collected into the image.

5. Go to the path of the project compilation rules

[mtk13451@mszsdclx1021 images]\$pwd

/proj/mtk13451/codebase/yocto_p1v2/meta/meta-mediatek-aud/recipes-audio/images

project compilation path: yocto_p1v2/meta/meta-mediatek-aud/recipes-audio/images

6. Add new-program.bb to the project compiled rules

[mtk13451@mszsdclx1021 images] \$vim mtk-image-aud-8516.bb

modify mtk-image-aud-8516.bb like this:

20 IM.	AGE_INSTALL_append = " \
21	\${@base_contains('LICENSE_FLAGS_WHITELIST', ^commercial', 'ffmpeg', '',d)) \
22	mdns
23	openssl \
24	hostapd \
2.5	wpa-supplicant \
2.6	alsa-utils \
27	alsa-lib \
28	dhcp-server-config \
29	wpa-supplicant-passphrase \
30	mtkcombotool\
31	mtkwlan \
32	mtkcombo
33	hostapd
34	bluetooth \
35 36	fuse \
36	curl \ dhcpcd \
38	appmainprog \
39	AssistantCenter \
40	new-program \
41	ppc)
42	ppccli \

add "new-program" at "IMAGE_INSTALL_append"

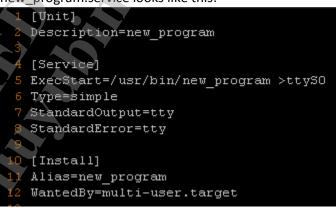
III. Add self-start features

1. Enter the new program source code path

[mtk13451@mszsdc1x1021 new_program] \$pwd /proj/mtk13451/codebase/yocto_p1v2/src/apps/aud-base/new_program

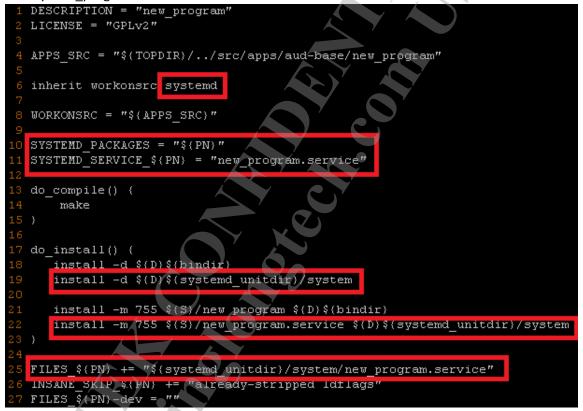
2. Create a new_program.service file

[mtk13451@mszsdclx1021 new_program] \$vim new_program.service new program.service looks like this:



">ttyS0"/"StandardOutput = tty"/"StandardError = tty" is to redirect the output of new_program to the serial port.

- 3. Enter the new program rule file path [mtk13451@mszsdc1x1021 new-program]\$pwd /proj/mtk13451/codebase/yocto_p1v2/meta/meta-mediatek-aud/recipes-apps/new-program
- 4. modify new program.bb file



The modification is shown in Figure.

IV. Verification

Compile the project, download the image to platform, if see this two serial log:

- 1. [OK] Started new_program.
- 2. <mediatek>This is a new program!

means that new program has been self-start success!