Build PETALINUX IMAGE FOR ZCUXXX BOARD

1)source the petalinux environment for zcu102 board:

$ source /home/ruquiya/PetaLinux/2020.1/settings.sh

2) create a Project:

$ petalinux-create -t project -s ./xilinx-zcu102-v2020.1-final.bsp -n xyz

3) change directory :

$ cd xyz

4) copy .XSA file to created project ex:xyz

5) hardware configuration (.xsa file configuration):

$ petalinux-config --get-hw-description=./Vivado_Export_to_SDK_Directory

1) IMAGE PACKAGING CONFIGURATION : SD CARD[*] (enable)

2) DTG Settings : ZCU102-reva

6) kernel configuration:

$ petalinux-config -c kernel

1) kernel hacking -- filter access to dev/mem (disable)

2) CPU Power Management -- CPU Idle --- CPU idle PM support (disable)

7) go to project directory/project-spec/meta-user/conf/user-rootfsconfig (add):

CONFIG_nano
CONFIG_python3-pip
CONFIG_python3-numpy
CONFIG_python3-pandas

8) rootfs configuration :

$ petalinux-config -c rootfs

ENABLE

1) Filesystem packages -- admin --- sudo --sudo [*] (enable)

2) Filesystem packages -- misc-- python3--python3[*]
python-mmap[*]
python-shell[*]
python-io[*]
python-distutils[*]
python-pydoc[*]

3) Filesystem packages -- misc-- packagegroup -core-buildessential[*]

Filesystem packages -- misc-- packagegroup -core-boot[*]

Filesystem packages -- misc-- packagegroup -core-sdk[*]

{enable}

4) user packages --- [*] enable all the packages.

9)build the image:

$ petalinux-build

10)package a image:

$ petalinux-package --boot --fsbl images/linux/zynqmp_fsbl.elf --u-boot images/linux/u-boot.elf --pmufw images/linux/pmufw.elf --atf images/linux/bl31.elf --fpga images/linux/system.bit