Reference document : <https://www.linux4sam.org/bin/view/Linux4SAM/Sama5d27Som1EKMainPage>

1. Clone the Garuda3 source code from git

$ mkdir <your\_dir>

$ cd <your\_dir>

$ git clone <https://gs.globaledgesoft.com/garuda/garuda_3.git>

$ git checkout <branch\_name>

$ cd garuda\_3

$ ls

docs README.md scripts yocto

$ cd yocto

1. Clone the **sama5d27-som1-ek-sd** source code

$ git clone <https://git.yoctoproject.org/poky> -b kirkstone

$ git clone <https://git.openembedded.org/meta-openembedded> -b kirkstone

$ git clone <https://github.com/linux4sam/meta-atmel.git> -b kirkstone

$ git clone <https://git.yoctoproject.org/meta-arm> -b kirkstone

1. Inside the .templateconf file, you will need to modify the TEMPLATECONF variable to match the path to the meta-atmel layer "conf" directory: export TEMPLATECONF=${TEMPLATECONF:-../meta-atmel/conf}

$ vim .templateconf

export TEMPLATECONF=${TEMPLATECONF:-../meta-atmel/conf}

1. ../meta-poky/conf
2. Update the Garuda3 configuartions

$ cd meta-garuda

$ mkdir build-microchip

$ source ../poky/oe-init-build-env build-microchip

[ The current working directory is changed to meta-garuda/build-microchip ]

$ bitbake-layers add-layer ../../meta-garuda3/

[ This file will update <your\_dir>/garuda\_3/yocto/meta-garuda3/build-microchip/conf/bblayers.conf with the path to the meta-garuda3 ]

$ sed -i 's/MACHINE ??= "sama5d2-xplained"/MACHINE ??= "sama5d27-som1-ek-sd"/g' conf/local.conf

This command will change

MACHINE ??= "sama5d2-xplained"

TO

MACHINE ??= "sama5d27-som1-ek-sd"

$ echo "IMAGE\_INSTALL:append = " garuda3 gdb libsocketcan iproute2"" >> conf/local.conf

[ This command will append 'local.conf' with below line ]

IMAGE\_INSTALL:append = " garuda3"

$ echo "CORE\_IMAGE\_EXTRA\_INSTALL += "glib-2.0 libsocketcan kernel-modules can-utils coreutils"" >> conf/local.conf

[ This command will append 'local.conf' with below line ]

CORE\_IMAGE\_EXTRA\_INSTALL += = "glib-2.0 libsocketcan kernel-modules can-utils coreutils"

1. Build the complete image

MACHINE=sama5d27-som1-ek-sd bitbake core-image-minimal

1. On successful build, the images are located at : <your\_dir>/garuda\_3/yocto/meta-garuda3/build-microchip/tmp/deploy/images/sama5d27-som1-ek-sd/
   * core-image-minimal-sama5d27-som1-ek-sd-20230821075712.rootfs.wic

**Full build duration :** ~7hrs:15mins on Lenova ThinkPad i5-8265U CPU @ 1.60GHz, 8 core, 8GB RAM