# Quick image build using YOCTO-PROJECT.

If you build first time linux image by using Yocto-project. First you need basic requirements for yocto-project and selection of host machine architecture.

Better option you will build start process on Linux machine to configure the yocto project.
Linux machine is easily compatible to build any source files. So better option you will use Debian and Ubuntu linux distribution for starting the yocto-project.

Iam tested this process on Ubuntu 20.04 version to easily work yocto-image. Ubuntu 20.04 is best for using yocto-project. Now start the building process on Ubuntu 20.04 with latest or LTS(long term support) releases.

Let's Start the Build procedure:-

Create a new folder in your terminal
**$ mkdir YOCTO_PROJECT**

All the command and files are write in this folder. Now enter this folder
**$ cd YOCTO_PROJECT**

** Important Notes **
* First check your system hard-disk or ssd space because yocto require atleast 100 GB free space.
* Minimum 8GB RAM for your system.
* Minimum i3 processor for your system.
* Minimum Ubuntu 20.04 version supportable.
* Check the tar version in your system
  **$ tar - - version**
  It take tar version is greater than 1.28 or above , if this version not show then again update your tar package
  **$ sudo apt-get install tar** && now check the version again

* Check the Git version in your system
  **$ git - - version**
  It take git version is greater than 1.8.3.1 or above , if this version not show then again update your git package
  **$ sudo apt-get install git** && now check the version again

* Check the python3 version in your system
  **$ python3 - - version**
  It take python3 version is greater than 3.8.0 or above , if this version not show then again update your python3 package
  **$ sudo apt-get install python3** && now check the version again

*Check the gcc version in your system
  **$ gcc - - version**
  It take gcc version is greater than 8.0 or above , if this version not show then again update your gcc package

**$ sudo apt-get install gcc** && now check the version again

* Check the make version in your system

$ make - - version

It take make version is greater than 4.0 or above , if this version not show then again update your make package

**$ sudo apt-get install make** && now check the version again

* Check the make version in your system

$ cmake - - version

It take cmake version is greater than 4.0 or above , if this version not show then again update your cmake package

**$ sudo apt-get install cmake** && now check the version again

" Now all the version are matches and fill proper requirement as per Yocto-project now again start. All the command write in your create directory. "

**$ cd YOCTO_PROJECT**

Enter this packages command in this folder

**$ sudo apt install gawk wget git diffstat unzip texinfo gcc build-essential chrpath socat cpio python3 python3-pip python3-pexpect xz-utils debianutils iputils-ping python3-git python3-jinja2 libegl1-mesa libsdl1.2-dev python3-subunit mesa-common-dev zstd liblz4-tool file locales libacl1**

** This command helps to install important package which is need yocto during the build image for your host machine.**

**$ sudo locale-gen en_US.UTF-8**

** This command sets the local understand coding format for your yocto-project. 8 means it understand all 8 coding language format.

**$ git clone git://git.yoctoproject.org/poky –b kirkstone**

** This command helps to clone the poky repository as per selected Kirkstone branch , if you directly clone without use any branch and selected manually also **

**$ cd poky**

** this command enter the clone poky directory

**$ git clone git://git.yoctoproject.org/poky**

** this command clone without any release this will clone only poky repository

**$ git branch –a**

** this command show all the updated release which is working on yocto project. So iam selected kirkstone branch this branch is LTS branch and updated to 2020 to 2026.

**$ git checkout kirkstone**

** This command select your poky repositiory acc to kirkstone branch.
** optional if you delete any branch use this command **( $ git branch - - delete (branch-name**) )

**$ source oe-init-build-env ../build/**

** this command help to sets the build environment for your yocto-project and create the build directory exit of the poky directory and add one folder in build directory the name is conf .

** It also show the which type of image you are build so time you are build basic minimal image as qemux86-64 architecture supportable machine and it also run in qemu.

**$ bitbake core-image-minimal**

** This command helps to build the basic bootable linux image and image is core-image-minimal.
** It takes around 3 to 4 hours as per depend your machine speed and processing speed.
** After image is build successfully then it test on qemu virtual emulator.

**$ runqemu core-image-minimal**

** It runs this image on virtual environment on QEMU platform application and check your image is working there.

**$ runqemu core-image-minimal nographic**

** This command helps to run your image on your Host machine do not use virtual environment machine.

**Optional Notes ::**

** If you run your image on your architecture also

**$ runqemu qemux86-64 nographic**

**qemux86-64** is a machine architecture name.
**nographic** is a non-virtual environment machine creator.

** Login Image Name is " **root**"

** All image data will be present also temp folder next pdf understand temp folder working.
**$ cd Build / tmp/ deploy / images / qemux86-64 / your images in tar format.**

********** THANK-YOU**********