Prerequisite: Assuming you know to Install Arduino IDE and Add libraries as and when necessary.

1. First download Arduino IDE v1.8.12 and use the below library for CAN bus based communications.

[SeeedStudio CAN BUS](https://github.com/Seeed-Studio/Seeed_Arduino_CAN/tree/old)

Go to Seeed-Studio (Github repo) 🡺 Seeed\_Arduino\_CAN 🡺 select old branch

Also we need to add libraries for sensors , which will later be discussed.

1. We will have to add Seeeduino Xiao , so go to this [seeeduino xiao](https://wiki.seeedstudio.com/Seeeduino-XIAO/) link and see **getting started** topic to add xiao to your Arduino board manager
2. We will have to add Blue Pill to our board manager. This link [BluePill](https://www.electronicshub.org/getting-started-with-stm32f103c8t6-blue-pill/) demonstrates how to use bluepill board. Also for Blue Pill we need a CAN library and hence use [exocan](https://github.com/exothink/eXoCAN) , the following link to add CAN to your bluepill board.

So for getting started with MPC5606B starterTRAK dev board , go to this link [MPC5606B](https://www.nxp.com/design/development-boards/automotive-development-platforms/startertrak-platforms/mpc5606b-startertrak-development-kit:TRK-MPC5606B) , It basically consists of all the resources required for you to go thru!

1. Having said that download this

**Embedded Software**

**BSP, Drivers & Middleware**

**Fast Start Kit For TRK-MPC5606B** (Bottom of the page)

1. Go to **Disk(D:/C:)\Freescale\FastStartKit\Documents\TRK5606B\ FSK\_TRK\_MPC5606B\_Training.pdf** It will provide you detailed information about compiling and uploading the code to MPC5606B.

The next important part would be the CAN and ETHERNET board called chipkit , it has PIC IC as a microcontroller. It has to be used with MPIDE.

1. To download mpide go to [MPIDE](http://www.chipkit.org/wiki/index.php?title=MPIDE) , download 2014-08-21 – 0023 , note that other versions of mpide won’t work, ( So if you ask me why bcoz the support for CAN is withdrawn In the newer versions of mpide)
2. So if you have driver issues ( suppose your computer could not detect the board) , just go to [driver](https://ftdichip.com/drivers/vcp-drivers/) link and download the driver version v2.12.28. And go to [instructions](https://www.usb-drivers.org/ft232r-usb-uart-driver.html) which will show you how to install those drivers on your PC.

**Setting Static IP to Jetson:**

#type this in terminal

gedit /etc/network/interfaces/

#add these inside that file

source-directory /etc/network/interfaces.d

source interfaces.d/eth0

#come out and again type

gedit /etc/network/interfaces.d/

#add these inside that file

auto eth0

iface eth0 inet static

address 10.0.0.10

#now restart

sudo reboot

PRO TIP: While testing each single(Accel , Relay , Sensor) board use a CAN analyzer to test them separately and then add them to the NXP 🡺 CHIPKIT 🡺 JETSON

IMPORTANT THEORY:

[CAN](https://www.csselectronics.com/screen/page/simple-intro-to-can-bus/language/en)

[CANOPEN](https://www.csselectronics.com/screen/page/canopen-tutorial-simple-intro)

Read about CAN2.0B & Ethernet TCP (Theory)

Also I2C (Theory)