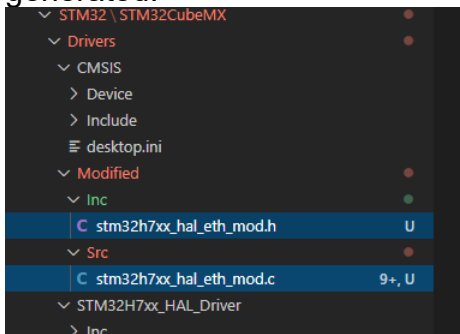# Using modified STM32 HAL Ethernet drivers alongside STM32CubeMX autogenerated code

If you wish to keep the auto generated portion of your code able to keep being auto generated without any manual intervention, but want to use the modified ethernet drivers, here is how to do it. This will still allow auto generation of STM32CubeMX driver package without losing the modified files (which would happen if you just replaced them).

An alternate is to simply replace the files in your auto generated code and make sure to discard the changes manually every time STM32CubeMX generates new code...

My motiviation to not replace the auto generated files was so in the future I could see any changes or bug fixes made to the ethernet driver by ST. i.e. after auto code generation these files show as changed and a quick diff reveals said changes.

- Rename the modified .c and .h files to stm32h7xx_hal_eth_mod.c and .h (or dont...).
- Place them in the STM32CubeMX generated source tree as shown. They need to be in their own folder or STM32CubeMX will delete them each time code is generated!

- Change your build to compile the stm32h7xx_hal_eth_mod.c file rather than stm32h7xx_hal.c
- Add a new include path, pointing to your modified files. Make sure it comes BEFORE the include path to …/STM32H7xx_HAL_Driver/Inc
- Yout may also want to define the following in stm32h7xx_hal_eth_mod.c as they cant be defined in the auto generated stm32h7xx_conf.h file:

```
#define ETH_PMT_IT_ENABLED 0
#define ETH_EEE_IT_ENABLED 0
#define ETH_EXTI_IT_ENABLED 0
```

- If you are not using the defualt ETH_TX_DESC_CNT or ETH_RX_DESC_CNT of 4 then you will need to add these to stm32h7xx_hal_eth_mod.h as STM32CubeMX is broken and does not correctly set them in stm32h7xx_hal_conf.h as it should!

```
#undef ETH_TX_DESC_CNT
#undef ETH_RX_DESC_CNT
#define ETH_TX_DESC_CNT 16
#define ETH_RX_DESC_CNT 16
```

- If you are using eth.c, you may also want to move that to the Modified folder and edit it. Eth.c by default declares Rx_Buff which is not used by the modified ethernet driver.

Maybe one day ST will fix their driver and it can just be auto generated by STM32CubeMX as usual...