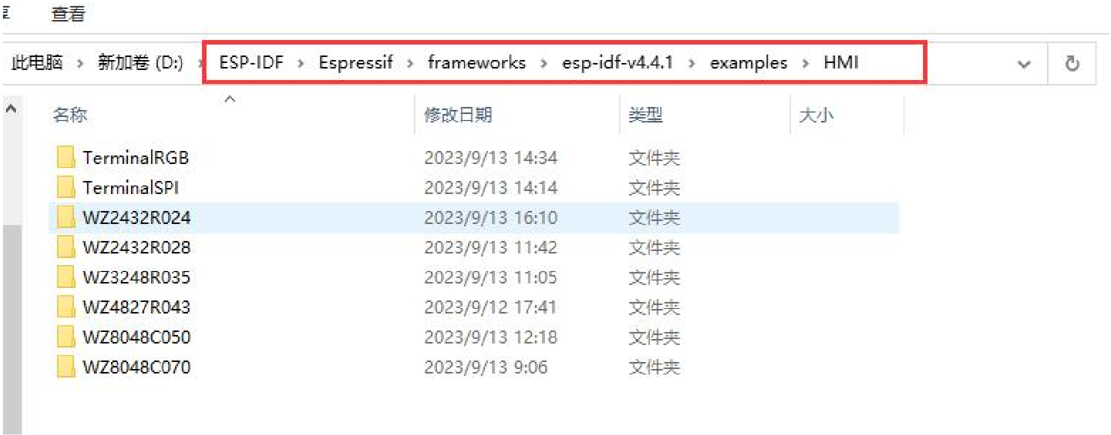
WZ3248R035 Use a tutorial

Place the downloaded project under the IDF directory (as shown below):



查看

此电脑 › 新加卷 (D:) › ESP-IDF › Espressif › frameworks › esp-idf-v4.4.1 › examples › HMI

名称	修改日期	类型	大小
TerminalRGB	2023/9/13 14:34	文件夹	
TerminalSPI	2023/9/13 14:14	文件夹	
WZ2432R024	2023/9/13 16:10	文件夹	
WZ2432R028	2023/9/13 11:42	文件夹	
WZ3248R035	2023/9/13 11:05	文件夹	
WZ4827R043	2023/9/12 17:41	文件夹	
WZ8048C050	2023/9/13 12:18	文件夹	
WZ8048C070	2023/9/13 9:06	文件夹	

Let's first learn at the use of commands：

cd xxx---Moving to the xxx directory, xxx represents the name of the directory, for example: cd example

idf.py set-target esp32s3---Set the target chip for example: esp32s3

idf.py fullclean---Delete the entire build directory, including all the CMake configuration output files.

idf.py clean---It removes the building output files from the building directory and cleans up the entire project..

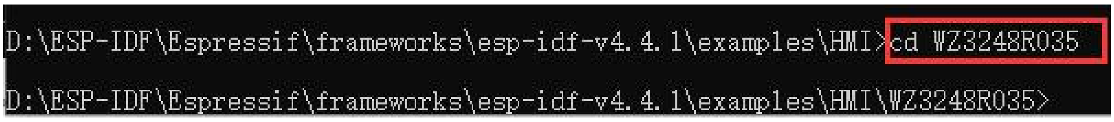
idf.py menuconfig---Configure the target chip

idf.py build---Compile a private code base

idf.py -p com3 flash---Download the program to the target chip

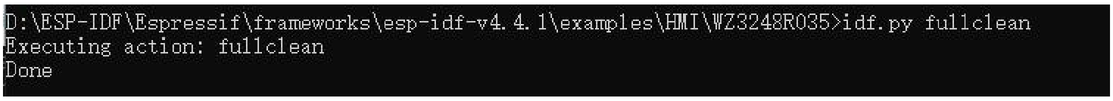
idf.py -p com3 flash monitor---Once compile burn and open monitoring

Now we open the terminal and go to the WZ3248R035 project catalog

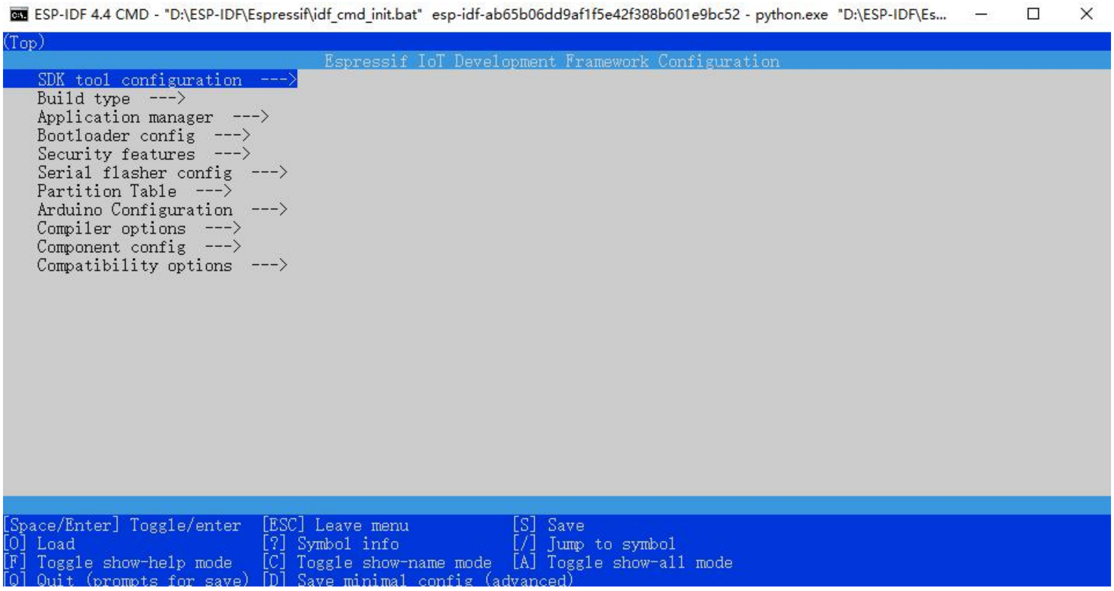


```
D:\ESP-IDF\Espressif\frameworks\esp-idf-v4.4.1\examples\HMI>cd WZ3248R035

D:\ESP-IDF\Espressif\frameworks\esp-idf-v4.4.1\examples\HMI\WZ3248R035>
```

Now we have to empty the project idf.py fullclean once first, and then go into the configuration



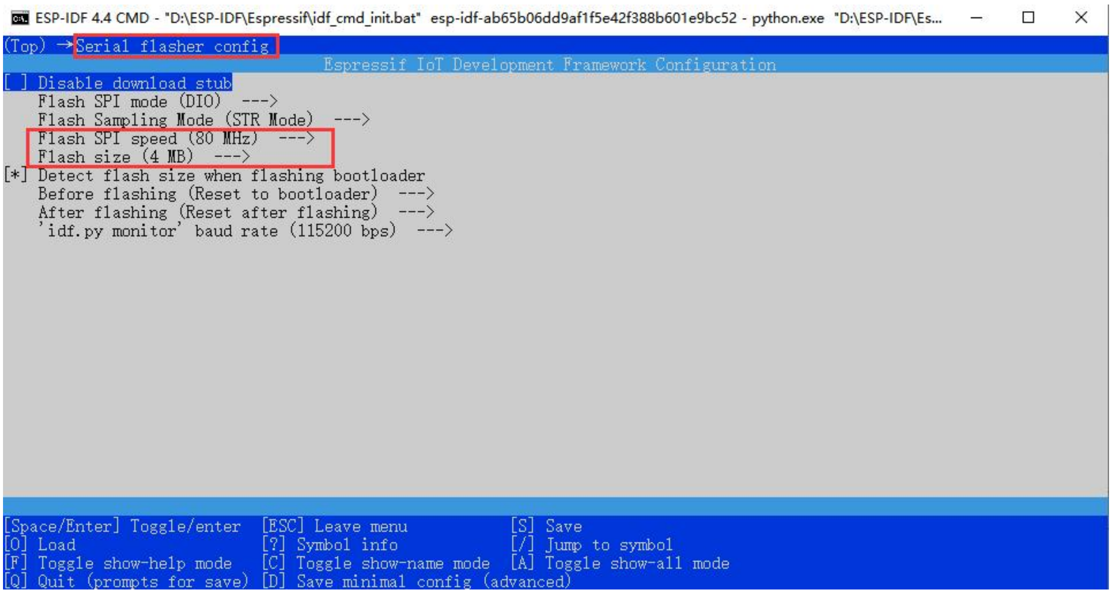
```
D:\ESP-IDF\Espressif\frameworks\esp-idf-v4.4.1\examples\HMI\WZ3248R035>idf.py fullclean
Executing action: fullclean
Done
```



ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat" esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe "D:\ESP-IDF\Es...

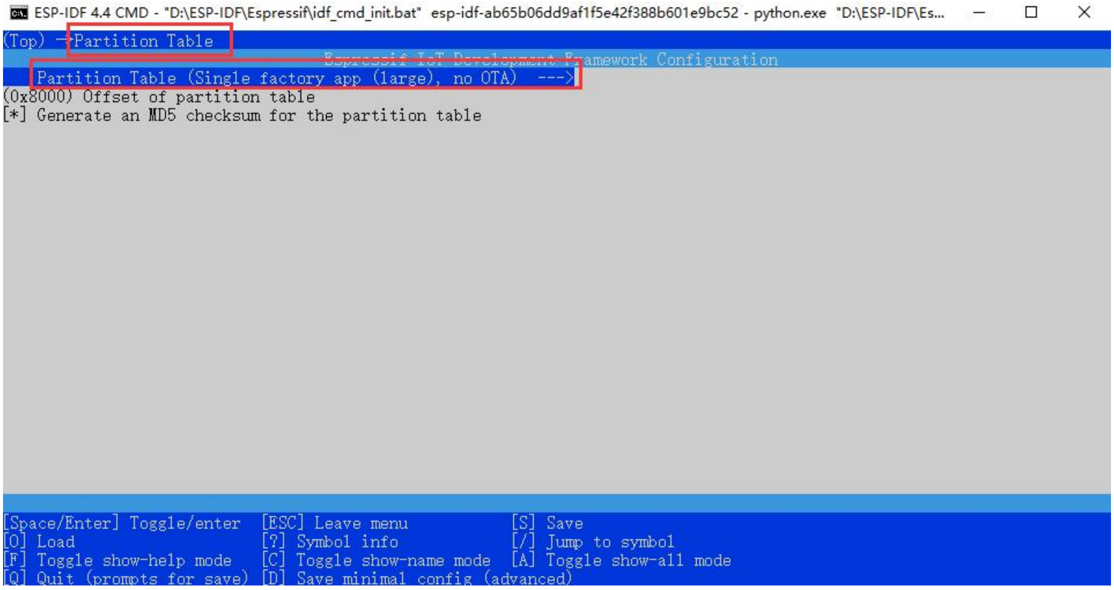
```
(Top)
                          Espressif IoT Development Framework Configuration
    SDK tool configuration  --->
    Build type  --->
    Application manager  --->
    Bootloader config  --->
    Security features  --->
    Serial flasher config  --->
    Partition Table  --->
    Arduino Configuration  --->
    Compiler options  --->
    Component config  --->
    Compatibility options  --->

[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```

Now modify the options by following the following steps:

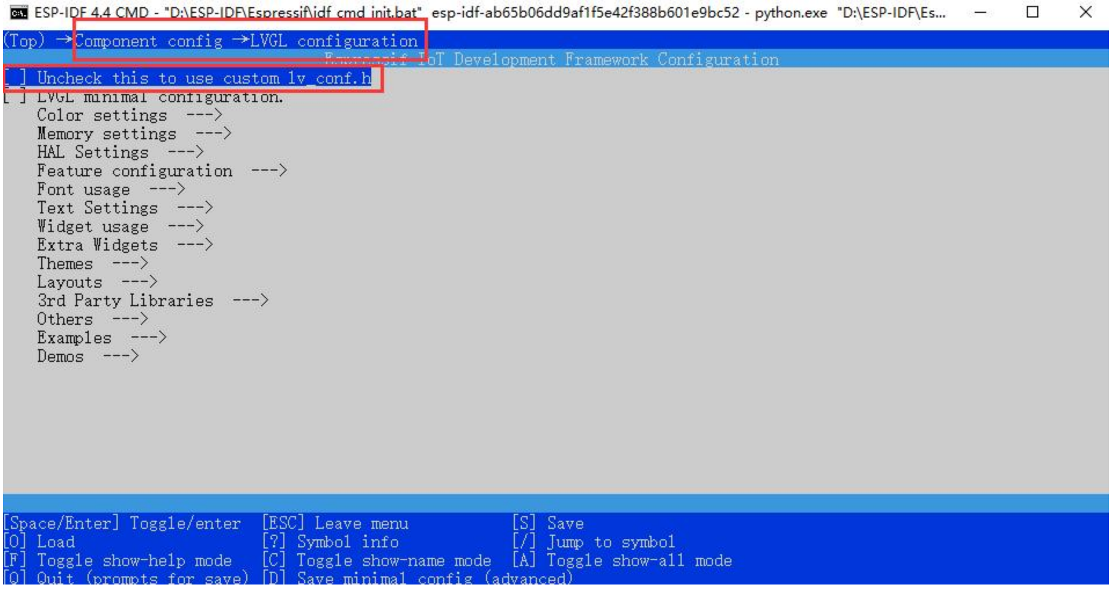


ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat" esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe "D:\ESP-IDF\Es...

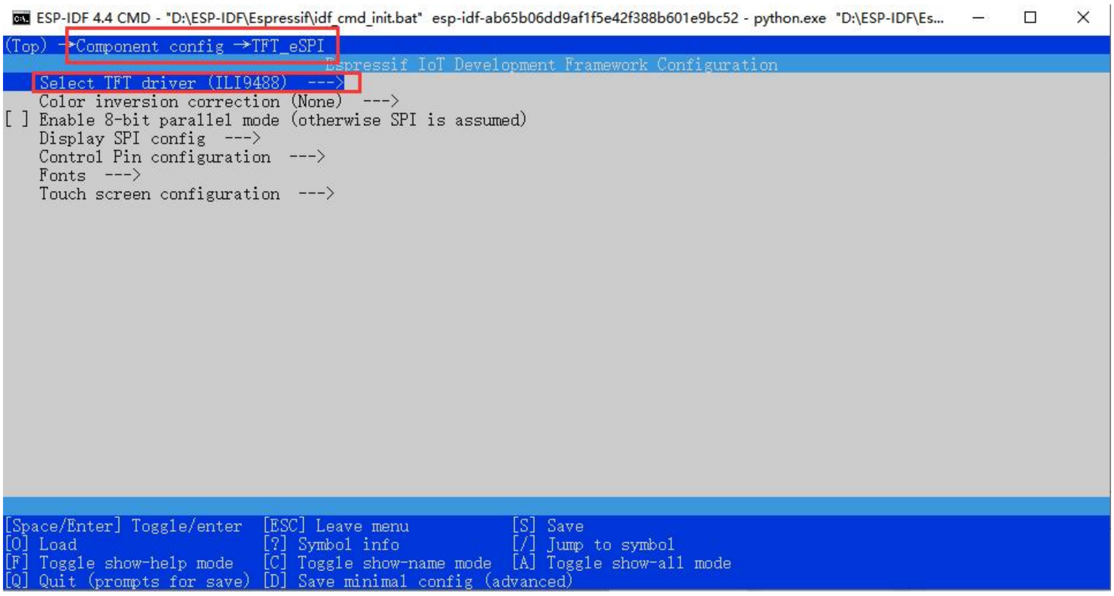
```
(Top) → Serial flasher config
                          Espressif IoT Development Framework Configuration
[ ] Disable download stub
    Flash SPI mode (DIO)  --->
    Flash Sampling Mode (STR Mode)  --->
    Flash SPI speed (80 MHz)  --->
    Flash size (4 MB)  --->
[*] Detect flash size when flashing bootloader
    Before flashing (Reset to bootloader)  --->
    After flashing (Reset after flashing)  --->
    'idf.py monitor' baud rate (115200 bps)  --->

[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```



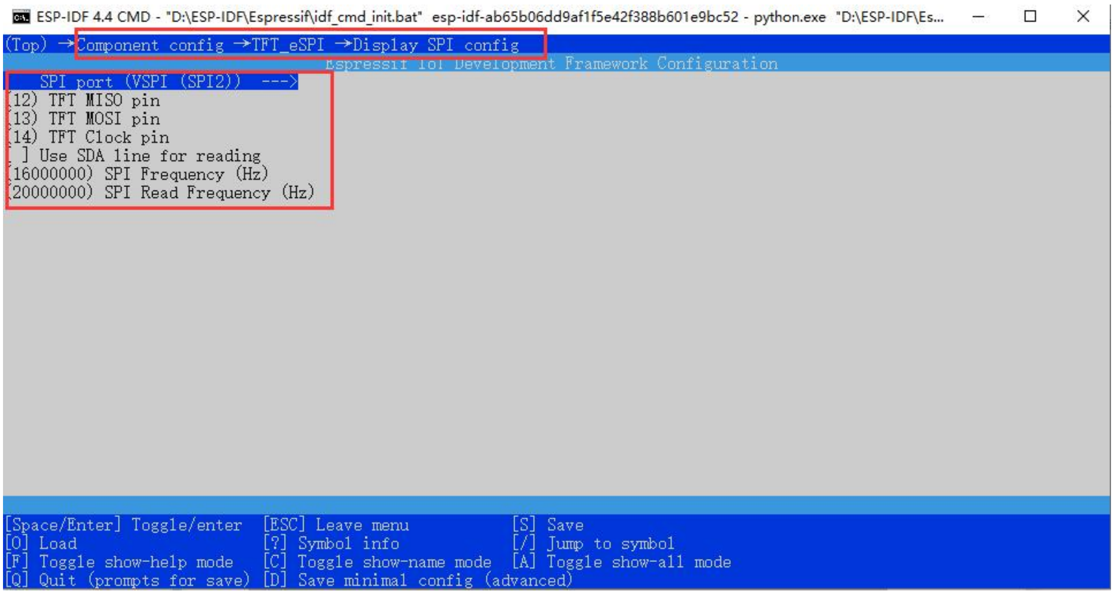
```
ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat"  esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe  "D:\ESP-IDF\Es...
(Top) → Partition Table
                              Espressif IoT Development Framework Configuration
   Partition Table (Single factory app (large), no OTA)  --->
(0x8000) Offset of partition table
[*] Generate an MD5 checksum for the partition table











[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```



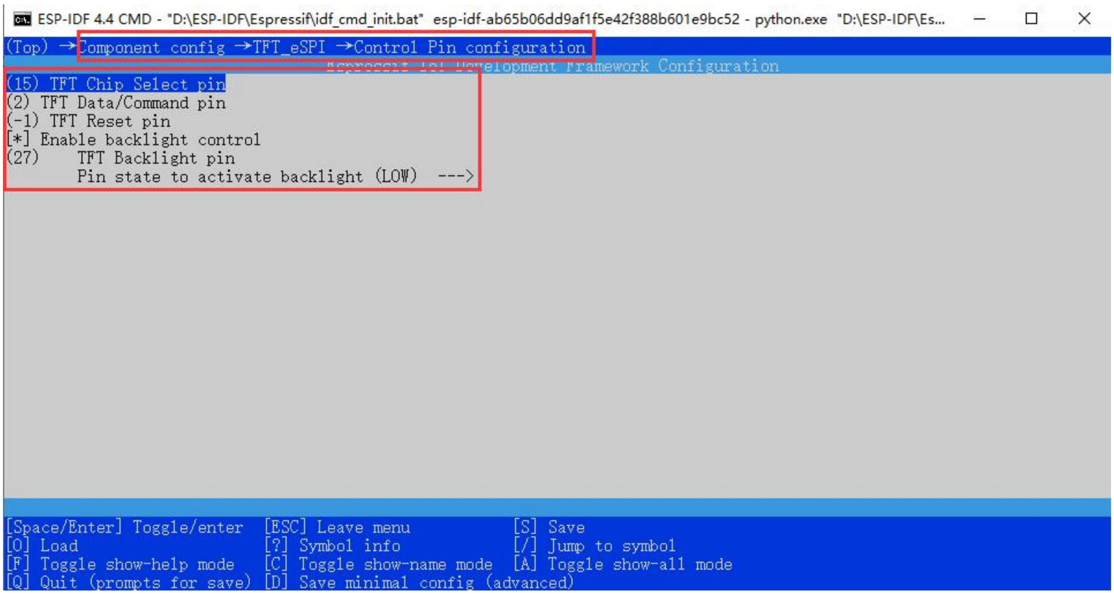
```
ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat"  esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe  "D:\ESP-IDF\Es...
(Top) → Component config → LVGL configuration
                              Espressif IoT Development Framework Configuration
[ ] Uncheck this to use custom lv_conf.h
[ ] LVGL minimal configuration.
    Color settings  --->
    Memory settings  --->
    HAL Settings  --->
    Feature configuration  --->
    Font usage  --->
    Text Settings  --->
    Widget usage  --->
    Extra Widgets  --->
    Themes  --->
    Layouts  --->
    3rd Party Libraries  --->
    Others  --->
    Examples  --->
    Demos  --->

[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```



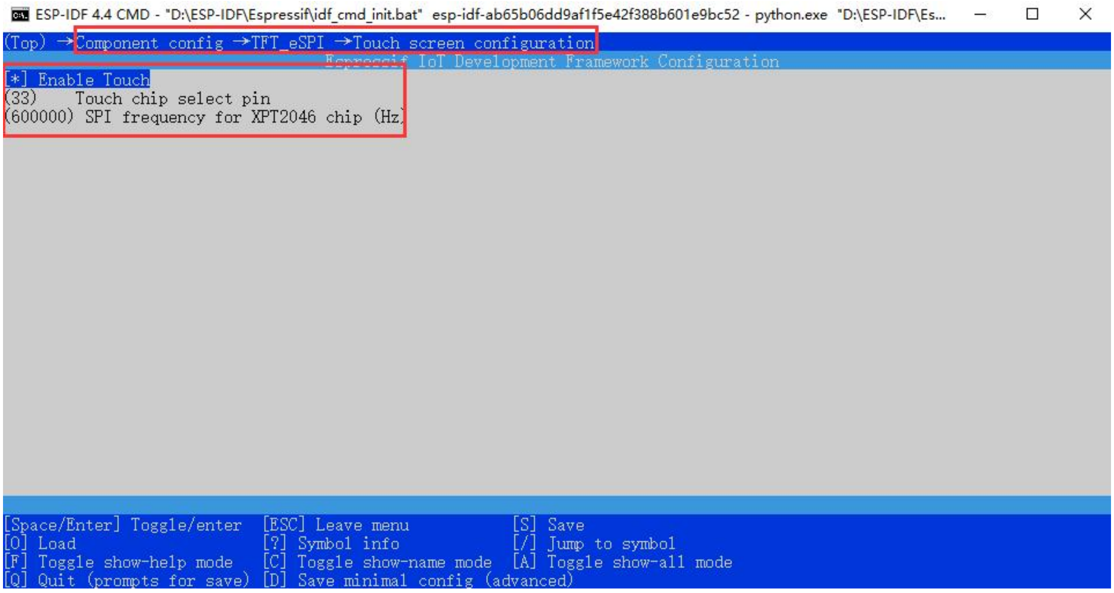
```
ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat"  esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe  "D:\ESP-IDF\Es...
(Top) → Component config → TFT_eSPI
                              Espressif IoT Development Framework Configuration
    Select TFT driver (ILI9488)  --->
    Color inversion correction (None)  --->
[ ] Enable 8-bit parallel mode (otherwise SPI is assumed)
    Display SPI config  --->
    Control Pin configuration  --->
    Fonts  --->
    Touch screen configuration  --->

[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```



```
ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat"  esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe  "D:\ESP-IDF\Es...
(Top) → Component config → TFT_eSPI → Display SPI config
                                    Espressif IoT Development Framework Configuration
    SPI port (VSPI (SPI2))  --->
(12) TFT MISO pin
(13) TFT MOSI pin
(14) TFT Clock pin
[ ] Use SDA line for reading
(16000000) SPI Frequency (Hz)
(20000000) SPI Read Frequency (Hz)

[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```

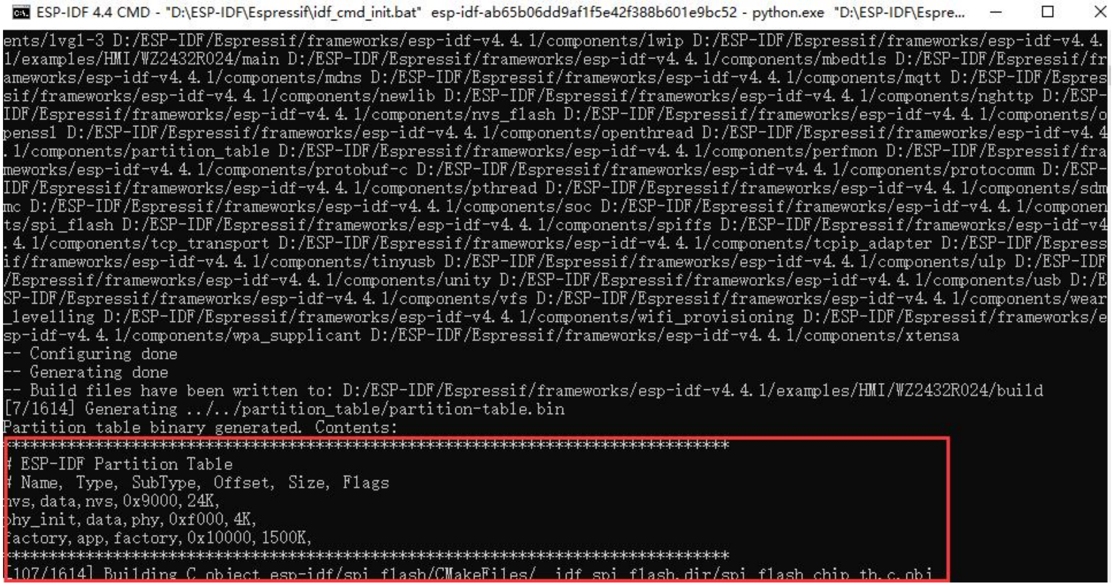


```
ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat"  esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe  "D:\ESP-IDF\Es...
(Top) → Component config → TFT_eSPI → Control Pin configuration
                                    Espressif IoT Development Framework Configuration
(15) TFT Chip Select pin
(2) TFT Data/Command pin
(-1) TFT Reset pin
[*] Enable backlight control
(27)    TFT Backlight pin
        Pin state to activate backlight (LOW)  --->

[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```



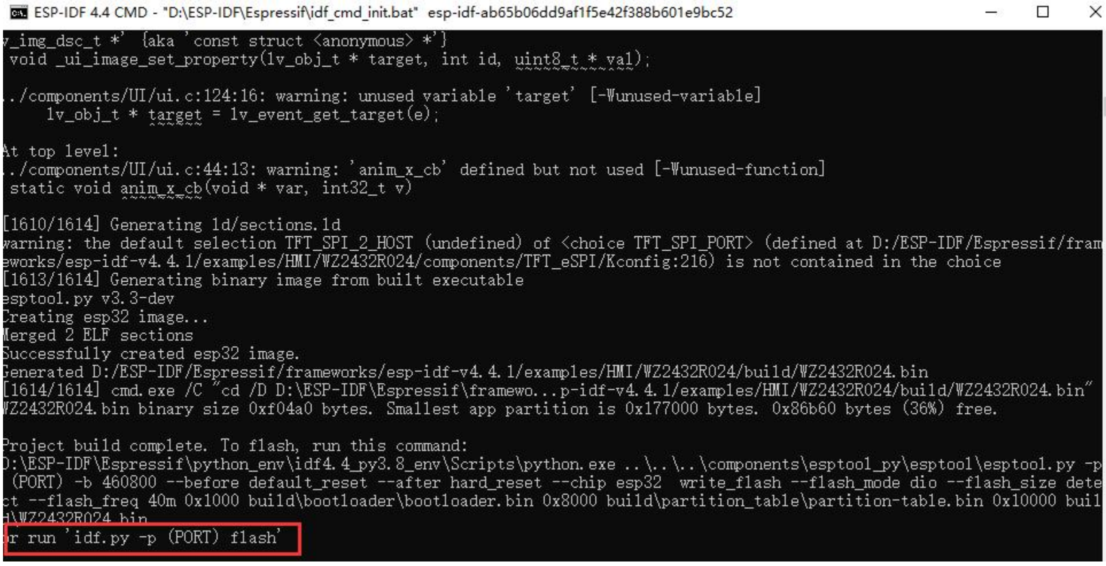
```
ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat"  esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe  "D:\ESP-IDF\Es...
(Top) → Component config → TFT_eSPI → Touch screen configuration
                                    Espressif IoT Development Framework Configuration
[*] Enable Touch
(33)    Touch chip select pin
(600000) SPI frequency for XPT2046 chip (Hz)

[Space/Enter] Toggle/enter   [ESC] Leave menu           [S] Save
[O] Load                     [?] Symbol info            [/] Jump to symbol
[F] Toggle show-help mode    [C] Toggle show-name mode  [A] Toggle show-all mode
[Q] Quit (prompts for save)  [D] Save minimal config (advanced)
```

Save the exit after setup, and then execute the idf.py build


ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat" esp-idf-ab65b06dd9af1f5e42f388b601e9bc52 - python.exe "D:\ESP-IDF\Espre...

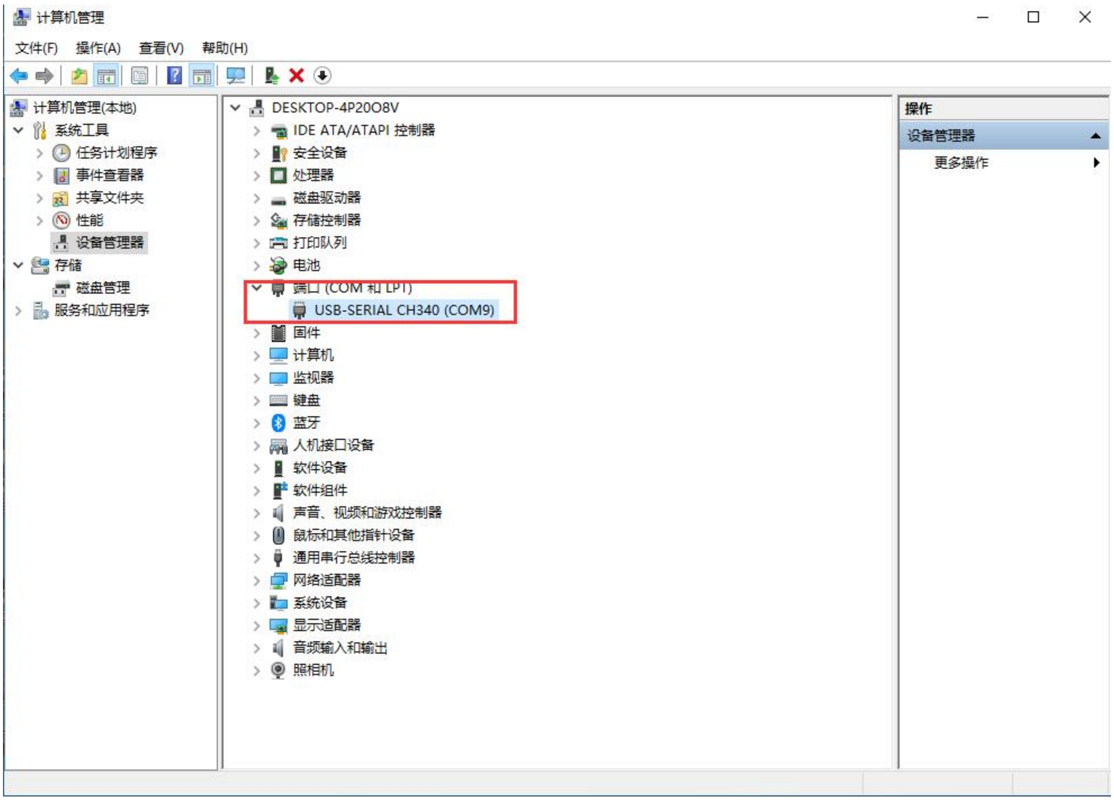
```
ents/lvgl-3 D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/lwip D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.
1/examples/HMI/WZ2432R024/main D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/mbedtls D:/ESP-IDF/Espressif/fr
ameworks/esp-idf-v4.4.1/components/mdns D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/mqtt D:/ESP-IDF/Espres
sif/frameworks/esp-idf-v4.4.1/components/newlib D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/nghttp D:/ESP-
IDF/Espressif/frameworks/esp-idf-v4.4.1/components/nvs_flash D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/o
penssl D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/openthread D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4
.1/components/partition_table D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/perfmon D:/ESP-IDF/Espressif/fra
meworks/esp-idf-v4.4.1/components/protobuf-c D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/protocomm D:/ESP-
IDF/Espressif/frameworks/esp-idf-v4.4.1/components/pthread D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/sdm
mc D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/soc D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/componen
ts/spi_flash D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/spiffs D:/ESP-IDF/Espressif/frameworks/esp-idf-v4
.4.1/components/tcp_transport D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/tcpip_adapter D:/ESP-IDF/Espress
if/frameworks/esp-idf-v4.4.1/components/tinyusb D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/ulp D:/ESP-IDF
/Espressif/frameworks/esp-idf-v4.4.1/components/unity D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/usb D:/E
SP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/vfs D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/wear
_levelling D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/wifi_provisioning D:/ESP-IDF/Espressif/frameworks/e
sp-idf-v4.4.1/components/wpa_supplicant D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/components/xtensa
-- Configuring done
-- Generating done
-- Build files have been written to: D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/examples/HMI/WZ2432R024/build
[7/1614] Generating ../../partition_table/partition-table.bin
Partition table binary generated. Contents:
*******************************************************************************
# ESP-IDF Partition Table
# Name, Type, SubType, Offset, Size, Flags
nvs,data,nvs,0x9000,24K,
phy_init,data,phy,0xf000,4K,
factory,app,factory,0x10000,1500K,
*******************************************************************************
[107/1614] Building C object esp-idf/spi_flash/CMakeFiles/__idf_spi_flash.dir/spi_flash_chip_th.c.obj
```

Waiting for the compilation to complete, the following figure interface appears:

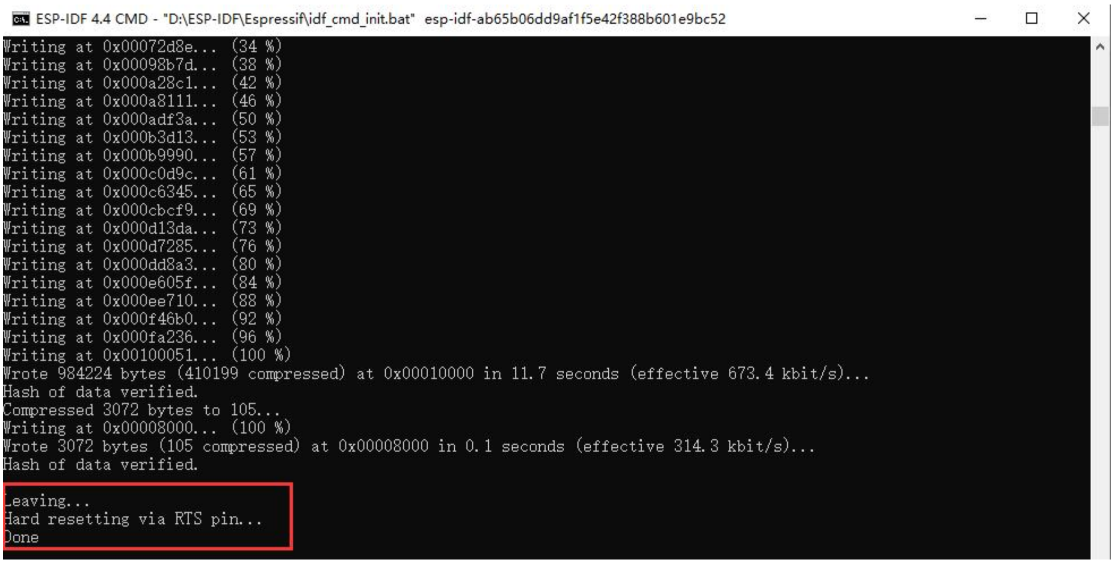

ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat" esp-idf-ab65b06dd9af1f5e42f388b601e9bc52

```
v_img_dsc_t *' {aka 'const struct <anonymous> *'}
 void _ui_image_set_property(lv_obj_t * target, int id, uint8_t * val);
                                                        ~~~~~~~~~~~~~~

../components/UI/ui.c:124:16: warning: unused variable 'target' [-Wunused-variable]
     lv_obj_t * target = lv_event_get_target(e);
                ^~~~~~

At top level:
../components/UI/ui.c:44:13: warning: 'anim_x_cb' defined but not used [-Wunused-function]
 static void anim_x_cb(void * var, int32_t v)
             ^~~~~~~~~

[1610/1614] Generating ld/sections.ld
warning: the default selection TFT_SPI_2_HOST (undefined) of <choice TFT_SPI_PORT> (defined at D:/ESP-IDF/Espressif/fram
eworks/esp-idf-v4.4.1/examples/HMI/WZ2432R024/components/TFT_eSPI/Kconfig:216) is not contained in the choice
[1613/1614] Generating binary image from built executable
esptool.py v3.3-dev
Creating esp32 image...
Merged 2 ELF sections
Successfully created esp32 image.
Generated D:/ESP-IDF/Espressif/frameworks/esp-idf-v4.4.1/examples/HMI/WZ2432R024/build/WZ2432R024.bin
[1614/1614] cmd.exe /C "cd /D D:\ESP-IDF\Espressif\framewo...p-idf-v4.4.1/examples/HMI/WZ2432R024/build/WZ2432R024.bin"
WZ2432R024.bin binary size 0xf04a0 bytes. Smallest app partition is 0x177000 bytes. 0x86b60 bytes (36%) free.

Project build complete. To flash, run this command:
D:\ESP-IDF\Espressif\python_env\idf4.4_py3.8_env\Scripts\python.exe ..\..\..\components\esptool_py\esptool\esptool.py -p
 (PORT) -b 460800 --before default_reset --after hard_reset --chip esp32  write_flash --flash_mode dio --flash_size dete
ct --flash_freq 40m 0x1000 build\bootloader\bootloader.bin 0x8000 build\partition_table\partition-table.bin 0x10000 buil
d\WZ2432R024.bin
or run 'idf.py -p (PORT) flash'
```

Perform the idf.py-p com9 flash



success!


ESP-IDF 4.4 CMD - "D:\ESP-IDF\Espressif\idf_cmd_init.bat" esp-idf-ab65b06dd9af1f5e42f388b601e9bc52

```
Writing at 0x00072d8e... (34 %)
Writing at 0x00098b7d... (38 %)
Writing at 0x000a28c1... (42 %)
Writing at 0x000a8111... (46 %)
Writing at 0x000adf3a... (50 %)
Writing at 0x000b3d13... (53 %)
Writing at 0x000b9990... (57 %)
Writing at 0x000c0d9c... (61 %)
Writing at 0x000c6345... (65 %)
Writing at 0x000cbcf9... (69 %)
Writing at 0x000d13da... (73 %)
Writing at 0x000d7285... (76 %)
Writing at 0x000dd8a3... (80 %)
Writing at 0x000e605f... (84 %)
Writing at 0x000ee710... (88 %)
Writing at 0x000f46b0... (92 %)
Writing at 0x000fa236... (96 %)
Writing at 0x00100051... (100 %)
Wrote 984224 bytes (410199 compressed) at 0x00010000 in 11.7 seconds (effective 673.4 kbit/s)...
Hash of data verified.
Compressed 3072 bytes to 105...
Writing at 0x00008000... (100 %)
Wrote 3072 bytes (105 compressed) at 0x00008000 in 0.1 seconds (effective 314.3 kbit/s)...
Hash of data verified.

Leaving...
Hard resetting via RTS pin...
Done
```