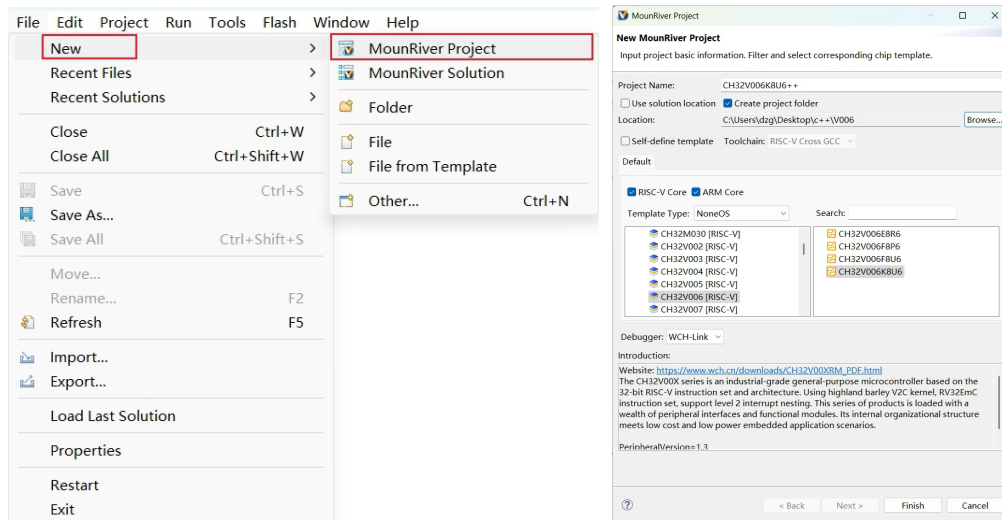


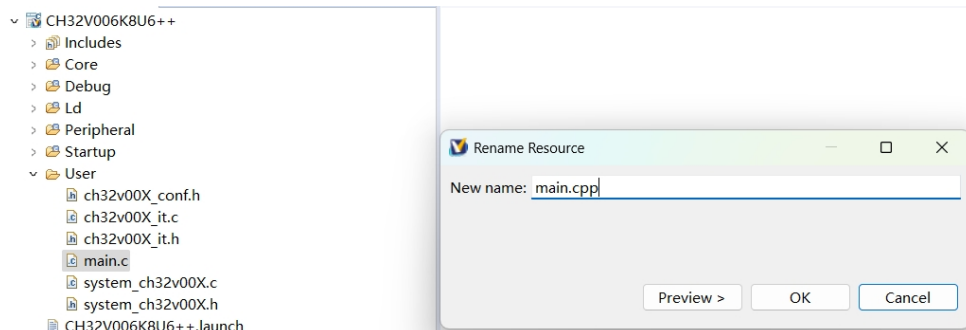
## Create a C++ project based on MRS

Create a C++ project based on MRS . First build a main.c project , and then modifying the configuration so that the .cpp file calls the C++ compiler to compile it. The detailed steps are as follows.

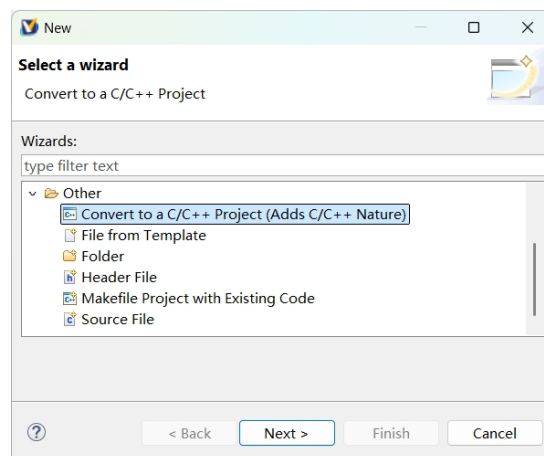
1. Normally create a project based on .C



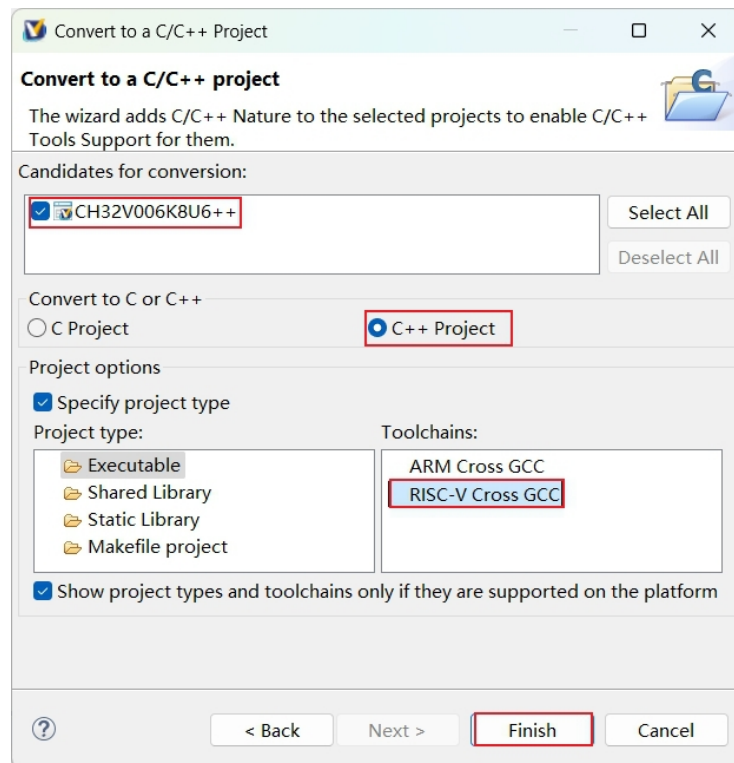
2. Make the main.c file into main.cpp by renaming it. Of course, you can also add a new .cpp by adding a File.



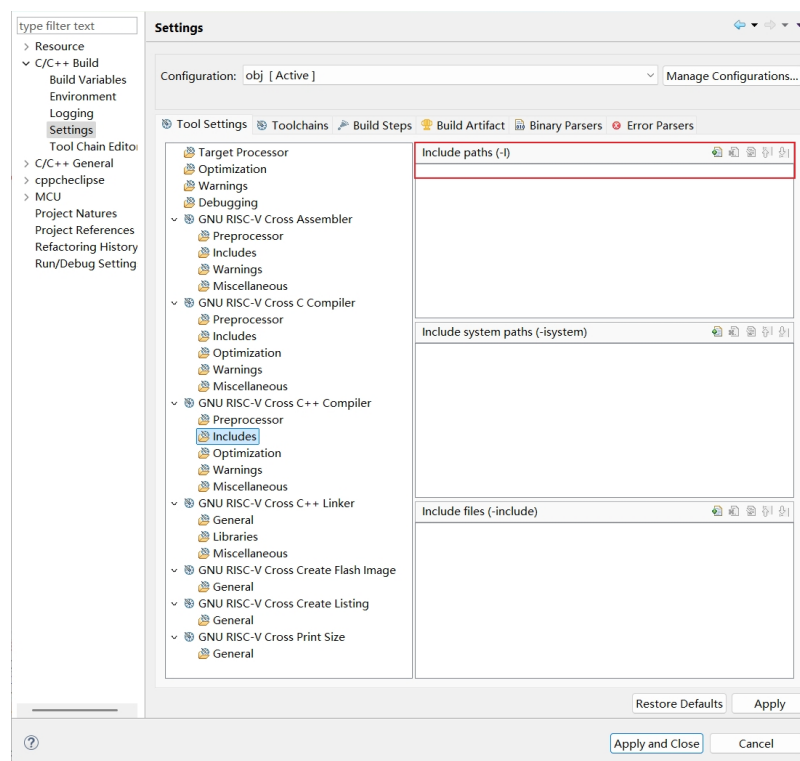
3. Right-click the project, new->other, select it according to the following figure, and then click Next.



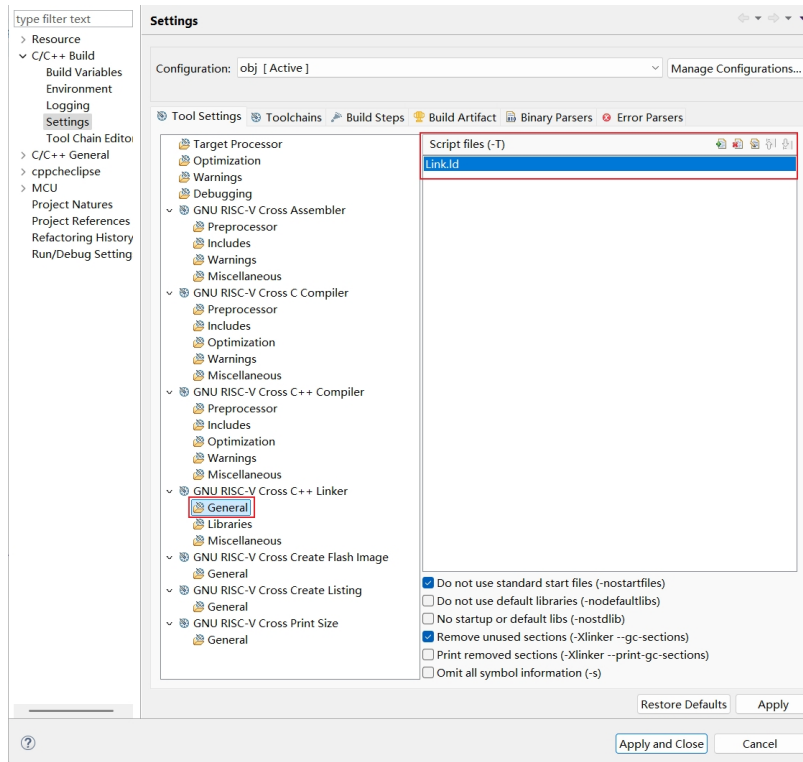
4. Configure as shown below



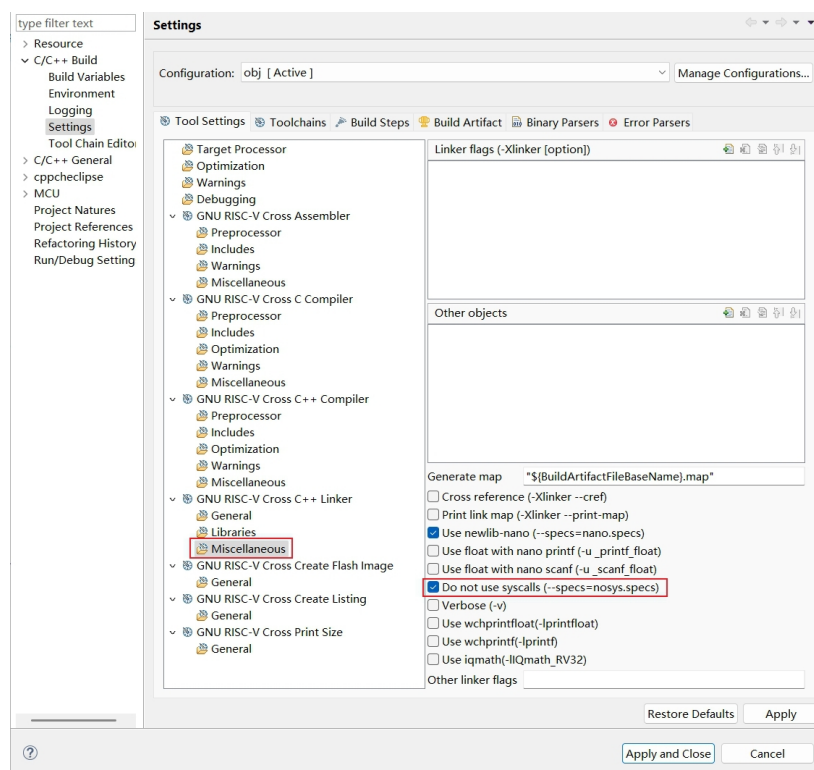
5. The original settings will become the default and need to be added again.



Add the header file path in the above image.



Add the link script path in the above figure.



The above figure uses the default function, if the original project uses the library, the library also needs to be added again after conversion.

6. Add the C++ initialization function before the main function is called in the startup file.

```
la a0, __libc_fini_array
call atexit
call __libc_init_array
```

```

158    li t0, 0x1880
159    csrw mstatus, t0
160    /* Enable interrupt nesting and hardware stack */
161    li t0, 0x3
162    csrw 0x804, t0
163    /* Configure the interrupt vector table recognition mode */
164    la t0, _start
165    ori t0, t0, 3
166    csrw mtvec, t0
167
168    la a0, __libc_fini_array
169    call atexit
170    call __libc_init_array
171
172    jal SystemInit
173    la t0, main
174    csrw mepc, t0
175    mret
176

```

7. Two more empty functions are needed and must be declared in files with a .c suffix.

```
void _fini() {}
void _init() {}
```

```

345    * ~~~~~
346    * @brief   Change the spatial position of data segment.
347    *
348    * @return  size: Data length
349    */
350    __attribute__((used))
351    void *_sbrk(ptrdiff_t incr)
352    {
353        extern char _end[];
354        extern char _heap_end[];
355        static char *curbrk = _end;
356
357        if ((curbrk + incr < _end) || (curbrk + incr > _heap_end))
358            return NULL - 1;
359
360        curbrk += incr;
361        return curbrk - incr;
362    }
363
364    void _fini() {}
365    void _init() {}
366

```

8. At this point the project file environment has been configured, the files with the .cpp suffix will call the C++ compiler to compile.