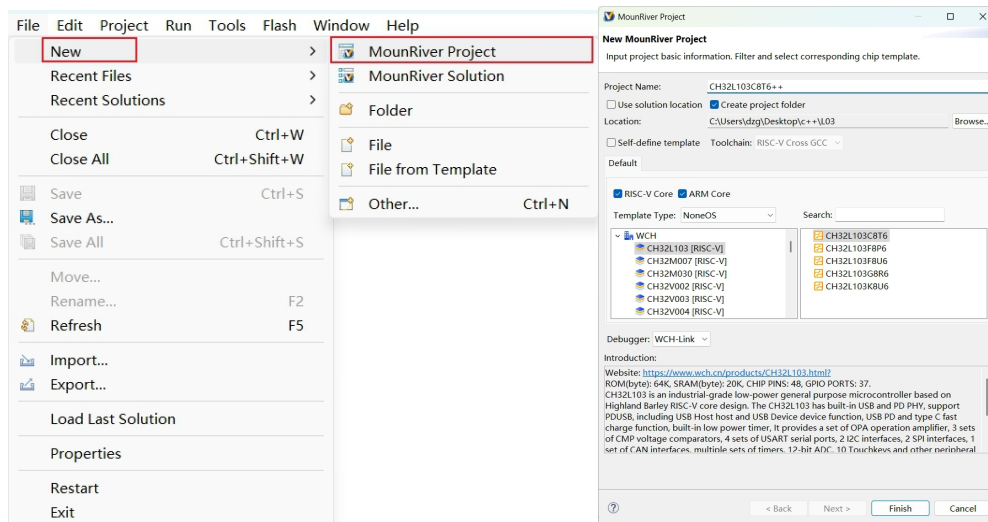


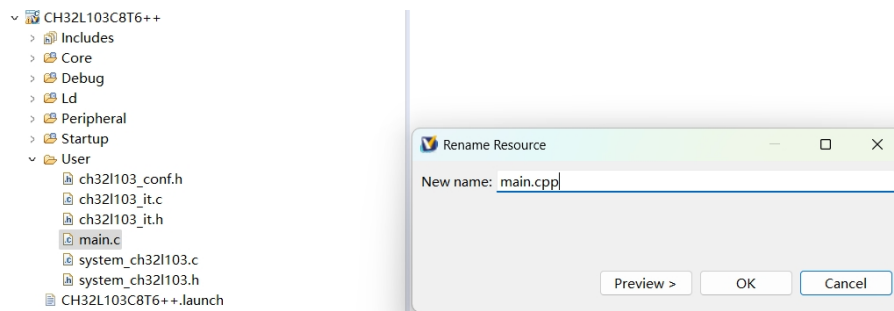
Create a C++ project based on MRS

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.

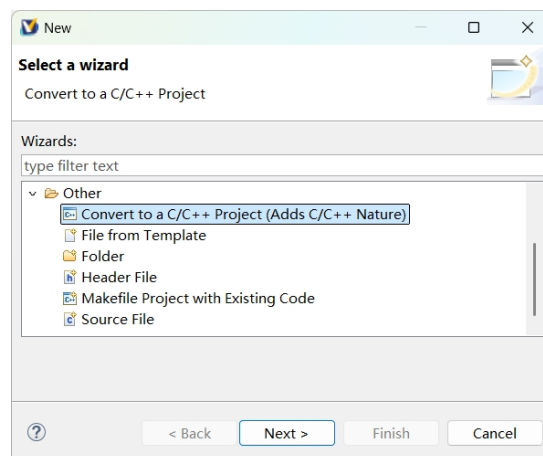
1. Normally create a project based on .C



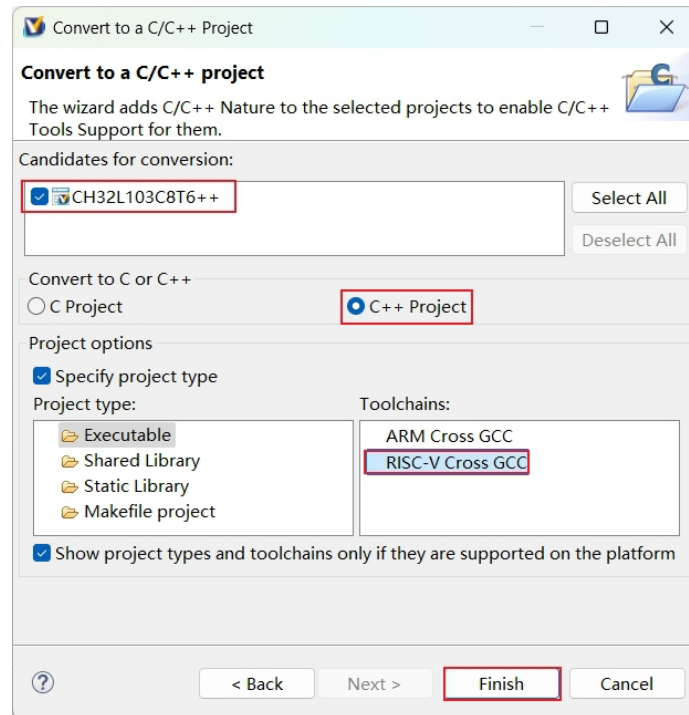
2. Make the main.c file into main.cpp by renaming it. Of course, you can also add a new .cpp by adding a File.



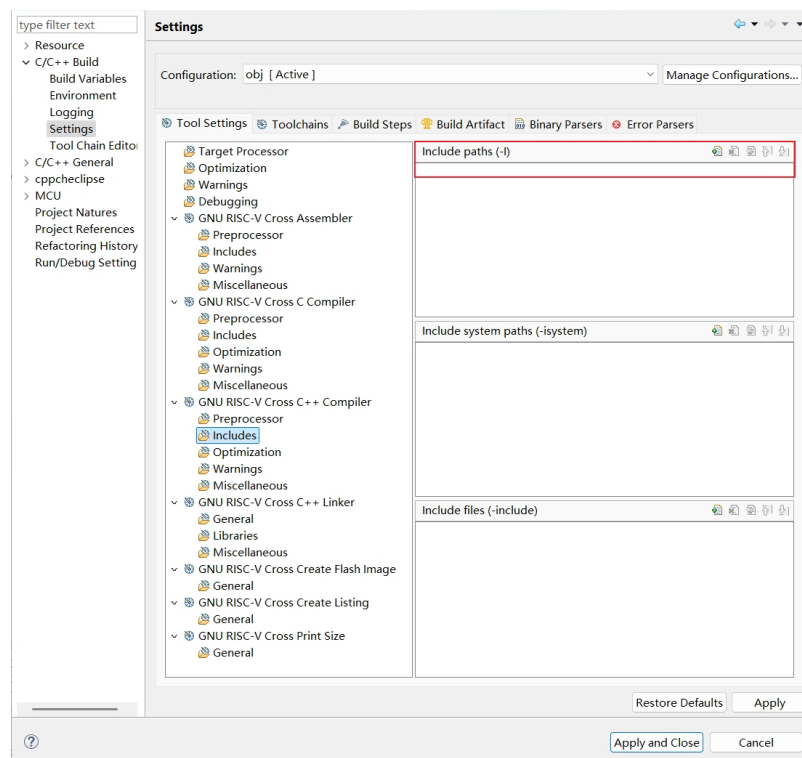
3. Right-click the project, new->other, select it according to the following figure, and then click Next.



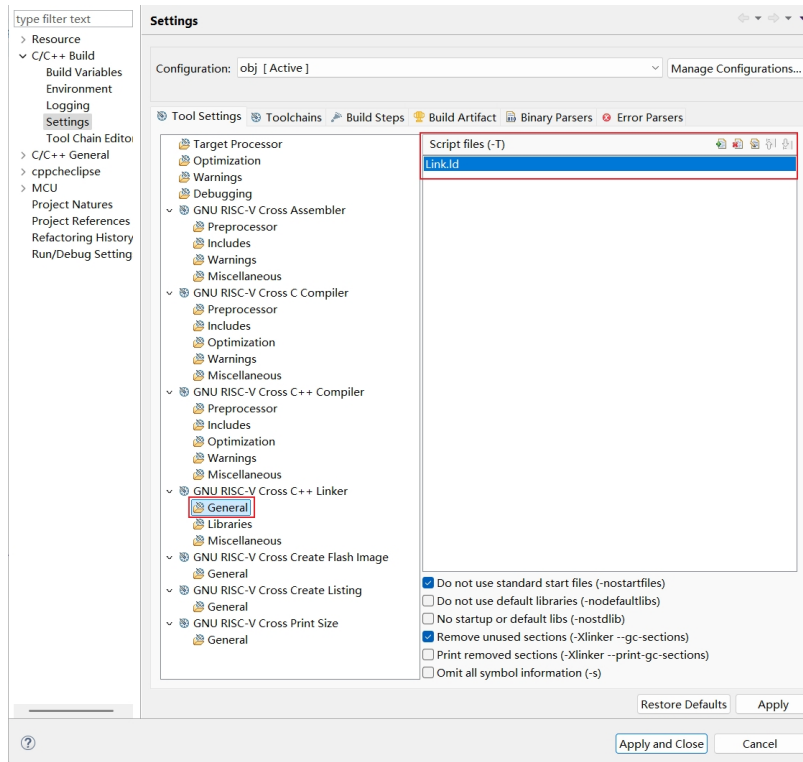
4. Configure as shown below



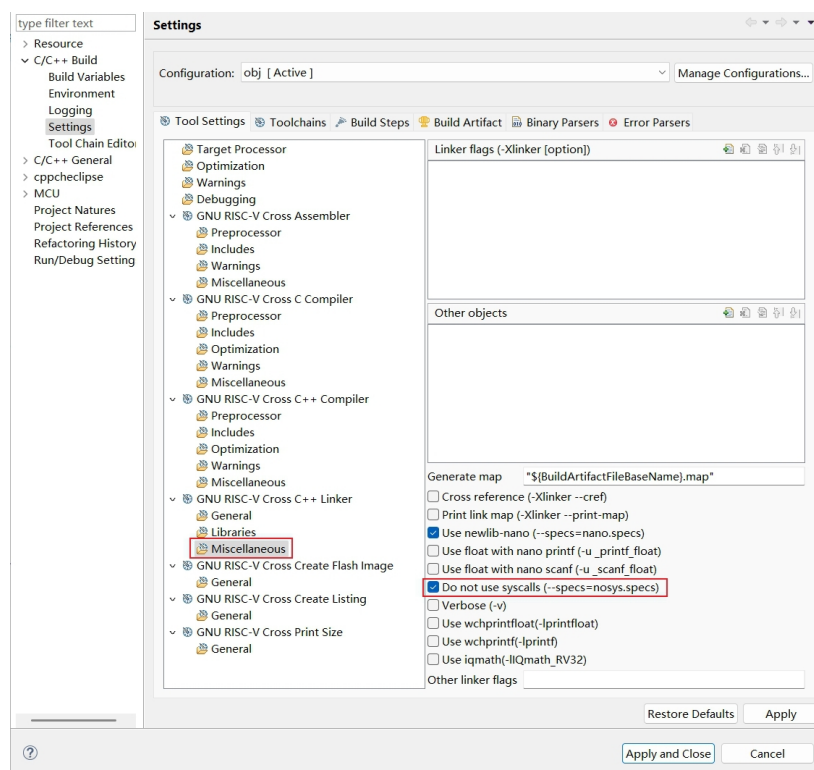
5. The original settings will become the default and need to be added again.



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.

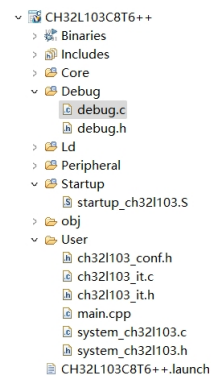
```
la a0, __libc_fini_array
call atexit
call __libc_init_array
```



```
249:
250 /* Configure pipelining and instruction predictio
251     li t0, 0x1f
252     csw 0x800, t0
253 /* Enable interrupt nesting and hardware stack */
254     li t0, 0x3
255     csw 0x804, t0
256 /* Enable global interrupt and configure privilege
257     li t0, 0x88
258     csw mstatus, t0
259 /* Configure the interrupt vector table recogniti
260     la t0, _vector_base
261     ori t0, t0, 3
262     csw mtvec, t0
263
264     la a0, __libc_fini_array
265     call atexit
266     call __libc_init_array
267
268     jal SystemInit
269     la t0, main
270     csw mepc, t0
271     mret
```

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

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



```
173:
174 * @fn _sbrk
175 *
176 * @brief Change the spatial position of data segment.
177 *
178 * @return size: Data length
179 */
180 __attribute__((used))
181 void *_sbrk(ptrdiff_t incr)
182 {
183     extern char _end[];
184     extern char _heap_end[];
185     static char *curbrk = _end;
186
187     if ((curbrk + incr < _end) || (curbrk + incr > _heap_end))
188         return NULL - 1;
189
190     curbrk += incr;
191     return curbrk - incr;
192 }
193
194 void _fini() {}
195 void _init() {}
196
```

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