

```
1 #ifndef __TIMER_H__
2 #define __TIMER_H__
3
4 #include "stm32f4xx.h"
5 #include "stm32f4xx_hal.h"
6
7 typedef volatile struct _tUserTimer
8 {
9     uint32_t    target_tick;
10    uint32_t    interval;
11    uint32_t    flag;
12    uint32_t    flag2;
13    uint32_t    event_cnt;
14 } tUserTimer;
15
16 void SetupTimer(tUserTimer *t, uint32_t interval);
17 void StartTimer(tUserTimer *t);
18 void StopTimer(tUserTimer *t);
19 void ClearTimer(tUserTimer *t);
20 void TimerProcess(tUserTimer *t);
21 uint32_t isTimerEventExist(tUserTimer *t);
22
23 void User_Timer_Callback(void);
24
25 #endif /* __TIMER_H__ */
```