

Exercise 16 Message queue

In this exercise we will look at defining a message queue between two threads and then use it to send process data.

In the Pack Installer select “Ex 16 Message Queue” and copy it to your tutorial directory.

Open Main.c and view the message queue initialization code.

```
osMessageQId    Q_LED;          osMessageQDef
(Q_LED,0x16,unsigned char); osEvent result; int main
(void) {
    LED_Init ();
    Q_LED = osMessageCreate(osMessageQ(Q_LED),NULL);
```

We define and create the message queue in the main thread along with the event structure.

```
osMessagePut(Q_LED,0x1,osWaitForever);
osDelay(100);
```

Then in one of the threads we can post data and receive it in the second.

```
result = osMessageGet(Q_LED,osWaitForever);
LED_On(result.value.v);
```

Build the project and start the debugger.

Set a breakpoint in led_thread1.

```
34 void led_Thread1 (void const *argument) {
35     for (;;) {
36         result = osMessageGet(Q_LED,osWaitForever);
37         LED_On(result.value.v);
```

Fig 53 Set a breakpoint on the receiving thread

Now run the code and observe the data as it arrives.