

# Freescalé MQX RTOS Example Guide

## mutex example

This document explains the mutex example, what to expect from the example and a brief introduction to the API.

## The example

The mutex example code is used to demonstrate how to use a mutex to synchronize two tasks. It creates a mutex and two tasks. Both tasks use STDOUT to print out messages. Each task will lock the mutex before printing and unlock it after printing to ensure that the outputs from tasks are not mixed together.

## Running the example

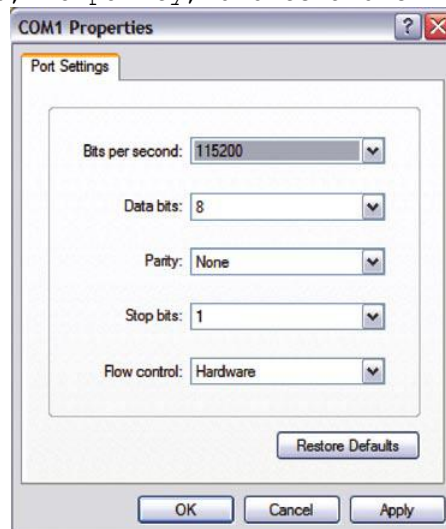
The user only needs to do compilation of MQX libraries, ksdk library and the example without any further step.

Start HyperTerminal on the PC (Start menu->Programs->Accessories->Communications).

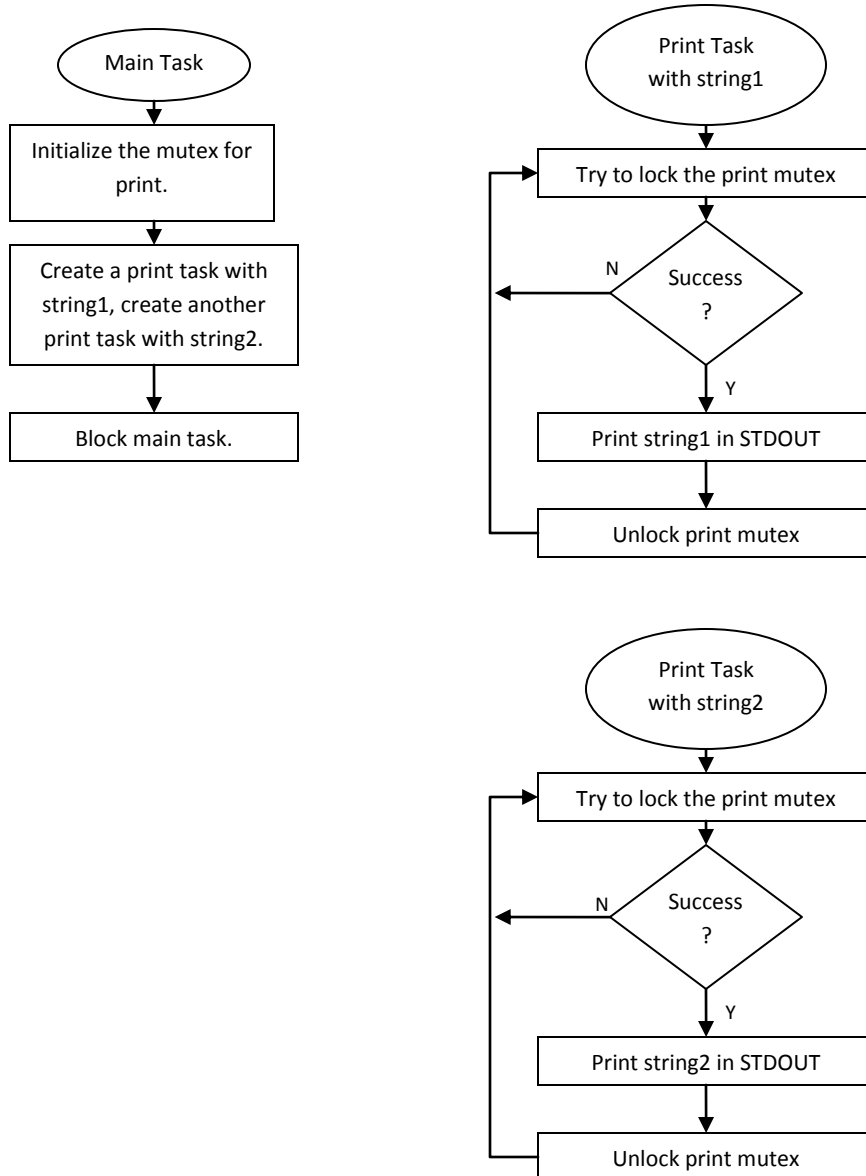
Make a connection to the serial port that is connected to the board (usually will be COM1).



Set it for 115200 baud, no parity, 8 bits and click OK.







The main task first initializes the mutex with the following line:  
`_mutex_init(&print_mutex, &mutexattr)`

Then the main task creates a print task with parameter sting1, and creates a second print task with parameter strings withthe following line:

```

_task_create(0, PRINT_TASK, (uint_32)string1);
_task_create(0, PRINT_TASK, (uint_32)string2);

```

Then the main task blocks itself.

The two print tasks both use the STDOUT. If they used it in the same time, there would be conflicts, so a mutex is used to synchronize the two tasks.

Each print task will try to lock the mutex before printing the message; it will wait for the mutex as long as needed. Once the mutex is locked it prints the message and then unlocks the mutex so that the other task can lock it. This process is repeated indefinitely.