

## Lab 4

Getting rid of task

Outline

- ▣ xdc/std.h
- ▣ ti/sysbios/BIOS.h
- ▣ xdc/runtime/Log.h
- ▣ xdc/cfg/global.h
- ▣ stdint.h
- ▣ stdbool.h
- ▣ inc/hw\_types.h
- ▣ inc/hw\_memmap.h
- ▣ driverlib/sysctl.h
- ▣ driverlib/gpio.h
- ▣ inc/hw\_ints.h
- ▣ driverlib/interrupt.h
- ▣ driverlib/timer.h
- ▣ time.h
- ⊕ hardware\_init(void) : void
- ⊕ ledToggle(void) : void
- ⊕ delay(void) : void
- i16ToggleCount : volatile int16\_t
- main(void) : void
- hardware\_init(void) : void
- ledToggle(void) : void
- delay(void) : void

## Idle function

### ▸ User Defined Idle Functions

The functions below are added to the list of functions executed whenever there is no otl defined by

- your application: type its C name. For example, `_c_int00`.
- an existing module: you must type its fully '.' qualified name. For example, `ti.sysbios`

User idle function 0	ledToggle
User idle function 1	null
User idle function 2	null
User idle function 3	null
User idle function 4	null
User idle function 5	null
User idle function 6	null
User idle function 7	null

### ▸ All Idle Functions

## Config

Getting Started | Resource Explorer | empty.cfg | main.c

TI-RTOS | Products | SYSBIOS | BIOS - Basic Runtime Options

Welcome | System Overview | Runtime | Error Handling | Device Support | Advanced

#### ▸ Library Selection Options

SYS/BIOS library type

☐ Instrumented (Asserts and Logs enabled)  
☐ Non-instrumented (Asserts and Logs disabled)  
☒ Custom (Fully configurable)  
☐ Debug (Fully configurable)

The library options above allow you to select between several variations of SYS/BIOS libraries depending on your application's requirements. All options except Debug are aggressively optimized with minimal debug content.

☒ Enable Asserts  
☒ Enable Logs

Custom Compiler Options: `;-opt_for_speed=2 --program_level_compile -o3 -g --optimize_with_debug`

#### ▸ Threading Options

☒ Enable Tasks (When disabled, the Task module is not configurable)  
☒ Enable Software Interrupts (When disabled, the Swi module is not configurable)  
☒ Enable Clock Manager (When disabled, the Clock module is not configurable)

C Standard Library Lock: GateMutex

#### ▸ Dynamic Instance Creation Support

☒ Enable Dynamic Instance Creation  
 A savings in code and data size can be achieved by disabling dynamic instance creation.

#### ▸ Runtime Memory Options

System (Hwi and Swi) stack size: 4096

Heap size: 4096

Heap section: null

☐ Use HeapTrack  
 The heap configured above is used for the standard C malloc() and free() functions or when the 'heap' argument to Memory\_alloc() is NULL.

#### ▸ Platform Settings

These settings should reflect the hardware platform that runs your application.

CPU clock frequency (Hz): 80000000

TI-RTOS | Properties | cfg Script

## UIA Config

TI-RTOSProductsSYSBIOSBIOS - Basic Runtime Options

WelcomeSystem OverviewRuntimeError HandlingDevice SupportAdvanced

Library Selection Options

SYS/BIOS library type

☐ Instrumented (Asserts and Logs enabled)  
☐ Non-instrumented (Asserts and Logs disabled)  
☒ Custom (Fully configurable)  
☐ Debug (Fully configurable)

The library options above allow you to select between several variations of SYS/BIOS libraries depending on your application's requirements. All options except Debug are aggressively optimized with minimal debug content.

☒ Enable Asserts  
☒ Enable Logs

Custom Compiler Options4spd16 -q -ms --opt\_for\_speed=2 --program\_level\_compile -o3 -g --optimize\_with\_debug

Threading Options

☒ Enable Tasks (When disabled, the Task module is not configurable)  
☒ Enable Software Interrupts (When disabled, the Swi module is not configurable)  
☒ Enable Clock Manager (When disabled, the Clock module is not configurable)

C Standard Library LockGateMutex

Dynamic Instance Creation Support

☒ Enable Dynamic Instance Creation  
A savings in code and data size can be achieved by disabling dynamic instance creation.

Runtime Memory Options

System (Hwi and Swi) stack size1024

Heap size0

Heap sectionnull

☐ Use HeapTrack  
The heap configured above is used for the standard C malloc() and free() functions or when the 'heap' argument to [Memory\\_alloc\(\)](#) is NULL.

Platform Settings

These settings should reflect the hardware platform that runs your application.

CPU clock frequency (Hz)80000000

## RTOSAnalyzer

Live

Set Filter Expression in Live Session

Use Field Use Expression

Message contains LED

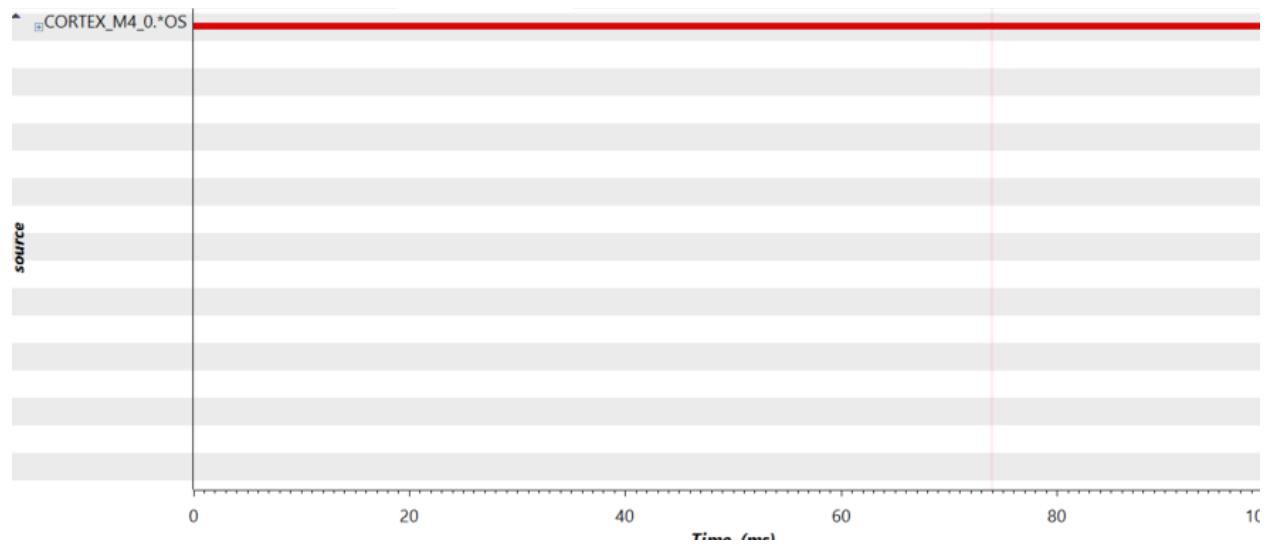
☐ Use Bits Mask (hex):

☐ Case Sensitive

Filter Clear Close Clear History

	Type	Time	Error	Master	Message	Event	EventClass	Data
13	i	3789720600		CORTEX_M4_0	./main.c:121] TOGGLED LED [15] times	Log_L_info	Info	
14	i	4042367425		CORTEX_M4_0	./main.c:121] TOGGLED LED [16] times	Log_L_info	Info	
15	i	4295013925		CORTEX_M4_0	./main.c:121] TOGGLED LED [17] times	Log_L_info	Info	
16	i	4547660737		CORTEX_M4_0	./main.c:121] TOGGLED LED [18] times	Log_L_info	Info	
17	i	4800312750		CORTEX_M4_0	./main.c:121] TOGGLED LED [19] times	Log_L_info	Info	
18	i	5052954075		CORTEX_M4_0	./main.c:121] TOGGLED LED [20] times	Log_L_info	Info	
19	i	5305606075		CORTEX_M4_0	./main.c:121] TOGGLED LED [21] times	Log_L_info	Info	
20	i	5558252887		CORTEX_M4_0	./main.c:121] TOGGLED LED [22] times	Log_L_info	Info	
21	i	5810899412		CORTEX_M4_0	./main.c:121] TOGGLED LED [23] times	Log_L_info	Info	
22	i	6063546225		CORTEX_M4_0	./main.c:121] TOGGLED LED [24] times	Log_L_info	Info	
23	i	6316198225		CORTEX_M4_0	./main.c:121] TOGGLED LED [25] times	Log_L_info	Info	
24	i	6568839550		CORTEX_M4_0	./main.c:121] TOGGLED LED [26] times	Log_L_info	Info	
25	i	6821491562		CORTEX_M4_0	./main.c:121] TOGGLED LED [27] times	Log_L_info	Info	
26	i	7074138375		CORTEX_M4_0	./main.c:121] TOGGLED LED [28] times	Log_L_info	Info	
27	i	7326784875		CORTEX_M4_0	./main.c:121] TOGGLED LED [29] times	Log_L_info	Info	
28	i	7579431700		CORTEX_M4_0	./main.c:121] TOGGLED LED [30] times	Log_L_info	Info	
29	i	7832078650		CORTEX_M4_0	./main.c:121] TOGGLED LED [31] times	Log_L_info	Info	

## execution graph



## Lab 5

TI-RTOS › Products › SYSBIOS › BIOS - Basic Runtime Options

Welcome System Overview Runtime Error Handling Device Support Advanced

**Library Selection Options**

SYS/BIOS library type

- ☐ Instrumented (Asserts and Logs enabled)
- ☐ Non-instrumented (Asserts and Logs disabled)
- ☒ Custom (Fully configurable)
- ☐ Debug (Fully configurable)

The library options above allow you to select between several variations of SYS/BIOS libraries depending on your application's requirements. All options except Debug are aggressively optimized with minimal debug content.

☒ Enable Asserts

☒ Enable Logs

Custom Compiler Options `4spd16 -q -ms --opt_for_speed=2 --program_level_compile -o3 -g --optimize_with_debug`

**Dynamic Instance Creation Support**

☒ Enable Dynamic Instance Creation

A savings in code and data size can be achieved by disabling dynamic instance creation.

**Runtime Memory Options**

System (Hwi and Swi) stack size

Heap size

Heap section

☐ Use HeapTrack

The heap configured above is used for the standard C malloc() and free() functions or when the 'heap' argument to Memory\_alloc() is NULL.

**Threading Options**

☒ Enable Tasks (When disabled, the Task module is not configurable)

☒ Enable Software Interrupts (When disabled, the Swi module is not configurable)

☒ Enable Clock Manager (When disabled, the Clock module is not configurable)

C Standard Library Lock

**Platform Settings**

These settings should reflect the hardware platform that runs your application.

CPU clock frequency (Hz)

## Hwi

TI-RTOS › Products › SYSBIOS › Scheduling › Hwi - Instance Settings

Module Instance Advanced

**Portable Hwis**

**Required Settings**

Handle

ISR function

Interrupt number

**Additional Settings**

Argument passed to ISR function

Interrupt priority

Event Id

☒ Enable at startup

Masking options

## Rtos analyzer

1e)) {

The screenshot shows the TI-RTOS Live Session interface. A dialog box titled "Set Filter Expression in Live Session" is open, allowing the user to filter log messages. The "Use Field" dropdown is set to "Message", the "Use Expression" dropdown is set to "contains", and the text "LED" is entered in the input field. Below the input field are checkboxes for "Use Bits Mask (hex):" and "Case Sensitive". The "Filter" button is highlighted. In the background, a table of log messages is visible, showing various events related to the LED task.

Type	Time	Error	Mast...	Message	Event	EventClass	Data1	Data2	SeqNo	Logger	Module	Domain	Process
4	1000013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			3	Main ...	xdc.ru...	xdc.ru...	
5	1250013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			4	Main ...	xdc.ru...	xdc.ru...	
6	1500013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			5	Main ...	xdc.ru...	xdc.ru...	
7	1750013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			6	Main ...	xdc.ru...	xdc.ru...	
8	2000013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			7	Main ...	xdc.ru...	xdc.ru...	
9	2250013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			8	Main ...	xdc.ru...	xdc.ru...	
1.	2500013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			9	Main ...	xdc.ru...	xdc.ru...	
1..	2750013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			10	Main ...	xdc.ru...	xdc.ru...	
1..	3000014...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			11	Main ...	xdc.ru...	xdc.ru...	
1..	3250013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			12	Main ...	xdc.ru...	xdc.ru...	
1..	3500013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			13	Main ...	xdc.ru...	xdc.ru...	
1..	3750013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			14	Main ...	xdc.ru...	xdc.ru...	
1..	4000013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			15	Main ...	xdc.ru...	xdc.ru...	
1..	4250013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			16	Main ...	xdc.ru...	xdc.ru...	
1..	4500013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			17	Main ...	xdc.ru...	xdc.ru...	
1..	4750013...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			18	Main ...	xdc.ru...	xdc.ru...	
2..	5000014...		COR...	[./main.c:135] LED TO...	Log_L_info	Info			19	Main ...	xdc.ru...	xdc.ru...	

## Lab 6

## Configuration:

The screenshot shows the "TI-RTOS" Instance Settings window for the "LEDSwi" module. The "Required Settings" section is expanded, showing the following configuration:

- Handle: LEDSwi
- Function: ledToggle
- Interrupt priority: -1
- Initial trigger: 0x0

The "Thread Context" section is also expanded, showing the following configuration:

- Argument 0: 0
- Argument 1: 0

Module Instance Advanced

Swis

LEDswi Add ... Remove

Required Settings

Handle LEDswi

Function ledToggle

Interrupt priority 1

Initial trigger 0x0

Thread Context

Argument 0 0

Argument 1 0

## Hwi

Getting started Resource Explorer main empty.org

TI-RTOS Products SYSBIOS Scheduling Hwi - Instance Settings

Module Instance Advanced

Portable Hwis

Timer\_2A\_INT Add ... Remove

Required Settings

Handle Timer\_2A\_INT

ISR function Timer\_ISR

Interrupt number 39

Additional Settings

Argument passed to ISR function 0

Interrupt priority -1

Event Id -1

☒ Enable at startup

Masking options MaskingOption\_SELF

## Logging

Built-in Software Instrumentation

☒ RTOS Execution Analysis [More Info...](#)

☒ Task Context (Always on) ☒ Swi Context ☐ Hwi Context ☐ Semaphores

☒ RTOS Load Analysis [More Info...](#)

☒ CPU Load (Always on) ☐ Task Load ☐ Swi Load ☐ Hwi Load

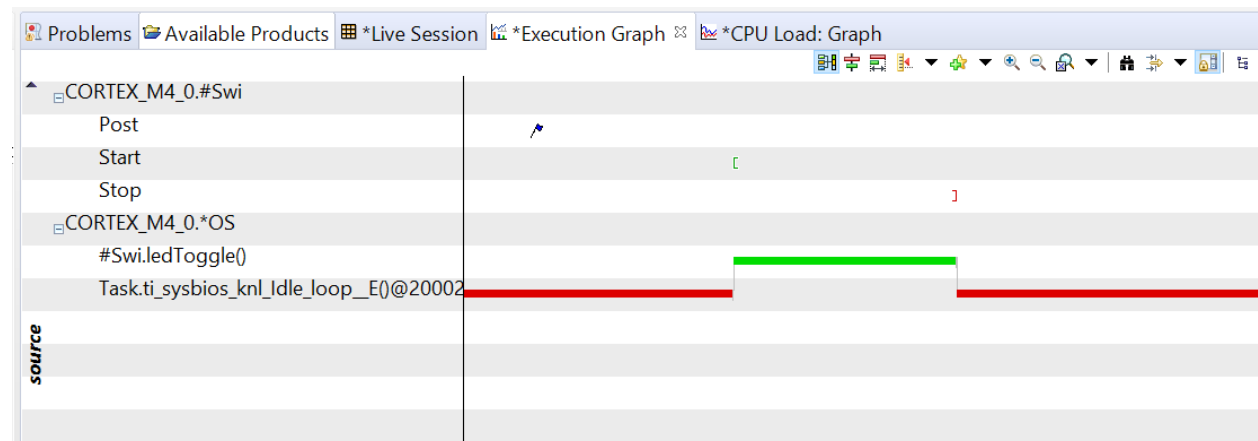
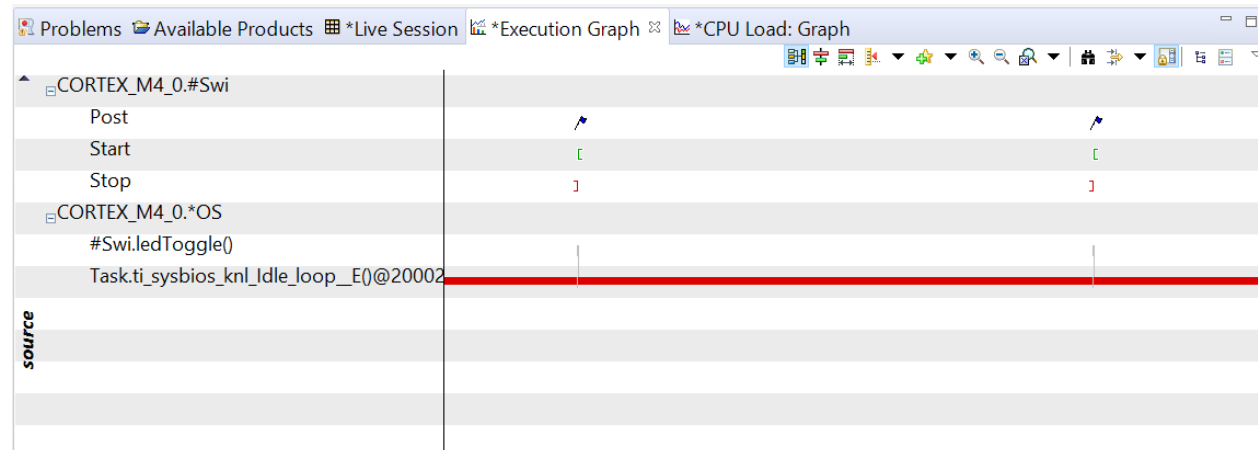
☐ Task Profiler [More Info...](#)

☐ Context-Aware Function Profiler [More Info...](#)

## RTOS Analyzer

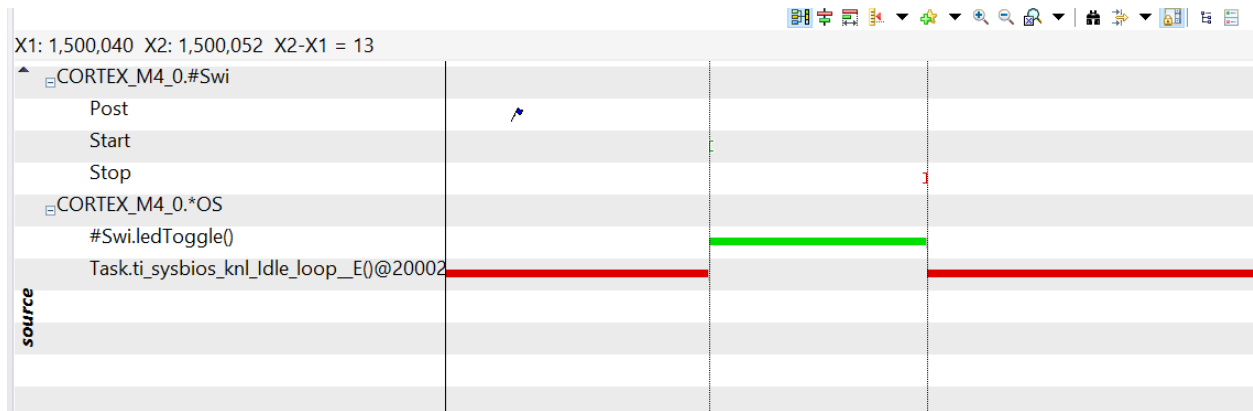
Type	Time	Error	Master	Message	Event	EventClass	Data1	Data2	SeqNo	Logger
	8637006375		CORTEX_M4_0	LM_begin: swi: 0x20002264, func: 0x2a09, preThread: 2	Start	SWI	ledToggle()		57	SYSBIO
	8637013525		CORTEX_M4_0	[./main.c:132] LED TOGGLED [19] TIMES	Log_L_info	Info			18	Main Lc
	8637019175		CORTEX_M4_0	LD_end: swi: 0x20002264	Stop	SWI	ledToggle()		58	SYSBIO
	9000151450		CORTEX_M4_0	LS_cpuLoad: 1%	Load	CPU	CPU	1.00	17	Load Lc
	9136994900		CORTEX_M4_0	LM_post: swi: 0x20002264, func: 0x2a09, pri: 1	Post	SWI	ledToggle()		59	SYSBIO
	9137006400		CORTEX_M4_0	LM_begin: swi: 0x20002264, func: 0x2a09, preThread: 2	Start	SWI	ledToggle()		60	SYSBIO
	9137013550		CORTEX_M4_0	[./main.c:132] LED TOGGLED [20] TIMES	Log_L_info	Info			19	Main Lc
	9137019200		CORTEX_M4_0	LD_end: swi: 0x20002264	Stop	SWI	ledToggle()		61	SYSBIO
	9500158200		CORTEX_M4_0	LS_cpuLoad: 1%	Load	CPU	CPU	1.00	18	Load Lc
	9636994925		CORTEX_M4_0	LM_post: swi: 0x20002264, func: 0x2a09, pri: 1	Post	SWI	ledToggle()		62	SYSBIO
	9637006425		CORTEX_M4_0	LM_begin: swi: 0x20002264, func: 0x2a09, preThread: 2	Start	SWI	ledToggle()		63	SYSBIO
	9637013575		CORTEX_M4_0	[./main.c:132] LED TOGGLED [21] TIMES	Log_L_info	Info			20	Main Lc
	9637019225		CORTEX_M4_0	LD_end: swi: 0x20002264	Stop	SWI	ledToggle()		64	SYSBIO
	10000164925		CORTEX_M4_0	LS_cpuLoad: 1%	Load	CPU	CPU	1.00	19	Load Lc
	10136994950		CORTEX_M4_0	LM_post: swi: 0x20002264, func: 0x2a09, pri: 1	Post	SWI	ledToggle()		65	SYSBIO
	10137006450		CORTEX_M4_0	LM_begin: swi: 0x20002264, func: 0x2a09, preThread: 2	Start	SWI	ledToggle()		66	SYSBIO
	10137013600		CORTEX_M4_0	[./main.c:132] LED TOGGLED [22] TIMES	Log_L_info	Info			21	Main Lc
	10137019250		CORTEX_M4_0	LD_end: swi: 0x20002264	Stop	SWI	ledToggle()		67	SYSBIO

## Execution Graph

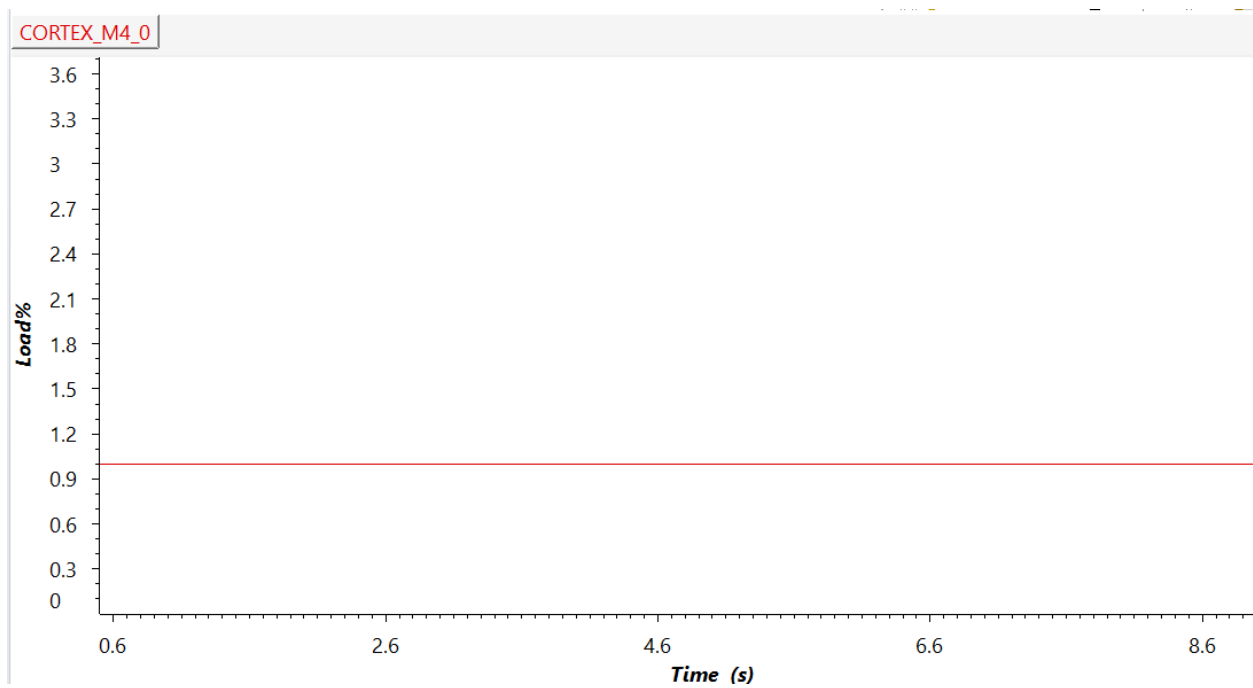




## Measurements



## CPU load

**Lab7**

## Clock

▼ **Timer Control**

Tick period (us)

Timer Id

Tick mode

**Timer Control**

Tick period (us)

Timer Id

Tick mode

---

**Products > SYSBIOS > Scheduling > Clock - Instance Settings**

Module [Instance](#) [Advanced](#)

**Portable Clocks**

ledToggleClk

**Required Settings**

Handle

Function

Initial timeout

Period

☒ Start at boot time when instance is created

**Thread Context**

Argument

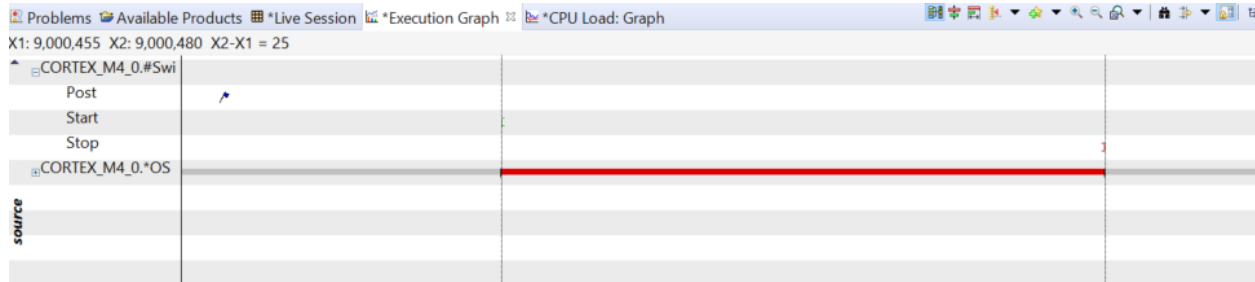
Benchmark and rtos analyzer

Error	Master	Message	Event
	CORTEX_M4_0	LM_begin: swi: 0x200023c0, func: 0x1831, preThread: 2	Start
	CORTEX_M4_0	[./main.c:137] LED BENCHMARK = [12] TM4C CYCLES	Log_L_infc
	CORTEX_M4_0	[./main.c:146] LED TOGGLED [21] TIMES	Log_L_infc
	CORTEX_M4_0	LD_end: swi: 0x200023c0	Stop
	CORTEX_M4_0	LS_cpuLoad: 0%	Load
	CORTEX_M4_0	LM_post: swi: 0x200023c0, func: 0x1831, pri: 15	Post
	CORTEX_M4_0	LM_begin: swi: 0x200023c0, func: 0x1831, preThread: 2	Start
	CORTEX_M4_0	[./main.c:146] LED TOGGLED [22] TIMES	Log_L_infc
	CORTEX_M4_0	LD_end: swi: 0x200023c0	Stop
	CORTEX_M4_0	LS_cpuLoad: 0%	Load

Rtos analyzer



## Measurement



## Lab 8

### Task config

Getting Started Resource Explorer Hwi\_stack.c Idle.c main.c empty.cfg

TI-RTOS Products SYSBIOS Scheduling Task - Instance Settings

Module Instance Advanced

**Tasks**

ledToggleTask Add ... Remove

**Required Settings**

Handle ledToggleTask

Function ledToggle

Priority 1

Use the vital flag to prevent system exit until this thread exits

☒ Task is vital

**Stack Control**

Stack size 2048

Stack memory section .bss:taskStackSection

Stack pointer null

Stack heap null

**Thread Context**

Argument 0 0

Argument 1 0

Environment pointer null

## Semaphore config

TI-RTOS › Products › SYSBIOS › Synchronization › Semaphore - Instance Settings

Module Instance Advanced

Semaphores

LEDSem Add ... Remove

Required Settings

Handle LEDSem

Initial count 0

Semaphore type

☒ Counting (FIFO)  
☐ Binary (FIFO)  
☐ Counting (priority-based)  
☐ Binary (priority-based)

Event Support

These options are only available when [Event](#) support is enabled by the [Semaphore module](#).

Event instance null Event Id Event\_Id\_00

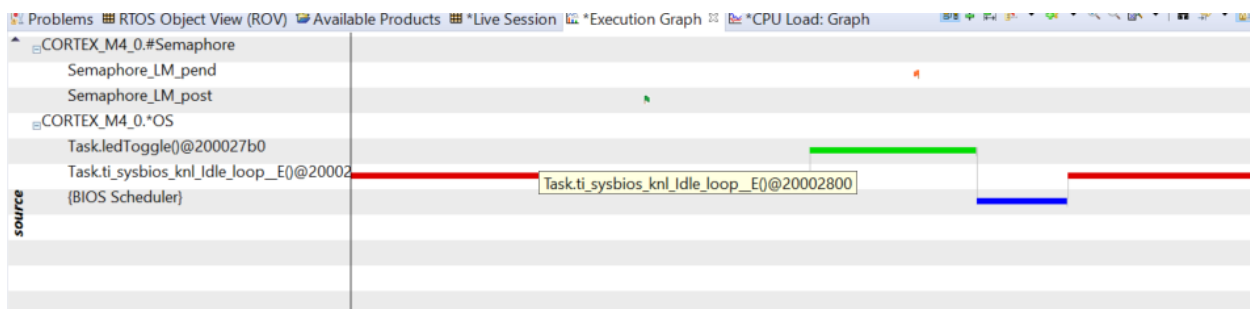
## ROV Task

Basic	Detailed	CallStacks	ReadyQs	Module	Raw					
address	label	priority	mode	fxn	arg0	arg1	stackSize	stackBase	curCoreId	affinity
0x200...	led...	1	Block...	le...	0x0	0x0	2048	0x20000...	n/a	n/a
0x200...	ti.sy...	0	Runn...	ti_...	0x0	0x0	2048	0x20000...	n/a	n/a

## ROV Semaphore

Basic	Raw					
address	label	event	eventId	mode	count	pendingTasks
0x200...	LED...	none	n/a	coun...	0	Label: ledTo...

## Execution Graph



## Task load summary

	Source	Co...	Min	Max	Average	Overall
1	CPU	6	0.0	0.0	0.00	0.00
2	TSK:ledTog...	5	0.01	0.01	0.01	0.01
3	TSK:ti_sysbi...	5	99...	99...	99.99	99.99

**Lab 9a**

## mailbox

TI-RTOS › Products › SYSBIOS › Synchronization › Mailbox - Instance Settings

[Module](#) [Instance](#) [Advanced](#)

**Mailboxes**

LED\_Mbx
Add ...
Remove

**Required Settings**

Handle LED\_Mbx
Size of messages (chars) 4
Max number of messages 2

**Event Synchronization**

The events below can be used to synchronize with threads that need to wait for messages to arrive in the mailbox (read the mailbox for a new message to be posted (writer event)). These options are only available when [Event](#) support is enabled.

Reader event null Event id Event\_Id\_00
Writer event null Event id Event\_Id\_00

**Message Memory Management**

Heap null
Buffer section null
Buffer pointer null
Buffer size (chars) 0

task

▸ **TI-RTOS** ▸ **Products** ▸ **SYSBIOS** ▸ **Scheduling** ▸ **Task - Instance Settings**

[Module](#) [Instance](#) [Advanced](#)

▾ **Tasks**

ledToggleTask

mailbox\_queue\_Task

Add ...

Remove

▾ **Required Settings**

Handle

mailbox\_queue\_Task

Function

mailbox\_queue

Priority

2

Use the vital flag to prevent system exit until this thread exits

☒ Task is vital

▾ **Stack Control**

Stack size

2048

Stack memory section

.bss:taskStackSection

Stack pointer

null

Stack heap

null

▾ **Thread Context**

Argument 0

0

Argument 1

0

Environment pointer

null

Semaphore

[Module](#) [Instance](#) [Advanced](#)

▾ **Semaphores**

mailbox\_queue\_Sem

Add ...

Remove

▾ **Required Settings**

Handle

mailbox\_queue\_Sem

Initial count

0

Semaphore type

☒ Counting (FIFO)

☐ Binary (FIFO)

☐ Counting (priority-based)

☐ Binary (priority-based)

▾ **Event Support**

These options are only available when [Event](#) support is enabled by the

Event instance null ▾

Event Id Event\_Id\_00 ▾

## Lab 9b

### Queue

TI-RTOS › Products › SYSBIOS › Synchronization › Queue - Instance Settings

[Module](#) [Instance](#)

Queues		Required Settings	
LED_Queue	Add ... Remove	Handle	LED_Queue

### Queue Semaphore

TI-RTOS › Products › SYSBIOS › Synchronization › Semaphore - Instance Settings

[Module](#) [Instance](#) [Advanced](#)

Semaphores		Required Settings	
mailbox_queue_Sem QueSem	Add ... Remove	Handle	QueSem
		Initial count	0
		Semaphore type	<input checked="" type="radio"/> Counting (FIFO) <input type="radio"/> Binary (FIFO) <input type="radio"/> Counting (priority-based) <input type="radio"/> Binary (priority-based)

Event Support

## Lab 10

### Runtime config

TI-RTOS › Products › SYSBIOS › BIOS - Basic Runtime Options

[Welcome](#) [System Overview](#) [Runtime](#) [Error Handling](#) [Device Support](#) [Advanced](#)

Library Selection Options		Dynamic Instance Creation Support	
SYS/BIOS library type <input type="radio"/> Instrumented (Asserts and Logs enabled) <input type="radio"/> Non-instrumented (Asserts and Logs disabled) <input checked="" type="radio"/> Custom (Fully configurable) <input type="radio"/> Debug (Fully configurable)		<input checked="" type="checkbox"/> Enable Dynamic Instance Creation A savings in code and data size can be achieved by disabling creation.	
The library options above allow you to select between several variations of SYS/BIOS libraries depending on your application's requirements. All options except Debug are aggressively optimized with minimal debug content.		<b>Runtime Memory Options</b>	
<input checked="" type="checkbox"/> Enable Asserts <input checked="" type="checkbox"/> Enable Logs Custom Compiler Options: <input type="text" value="6 -q -ms --opt_for_speed=2 --program_level_compile -o3 -g --optimize_with_debug"/>		System (Hwi and Swi) stack size: <input type="text" value="1024"/> Heap size: <input type="text" value="256"/> Heap section: <input type="text" value="null"/> <input type="checkbox"/> Use HeapTrack The heap configured above is used for the standard C malloc() or when the 'heap' argument to Memory_alloc() is NULL.	
<b>Threading Options</b> <input checked="" type="checkbox"/> Enable Tasks (When disabled, the Task module is not configurable) <input checked="" type="checkbox"/> Enable Software Interrupts (When disabled, the Swi module is not configurable) <input checked="" type="checkbox"/> Enable Clock Manager (When disabled, the Clock module is not configurable) C Standard Library Lock: <input type="text" value="GateMutex"/>		<b>Platform Settings</b> These settings should reflect the hardware platform that runs y CPU clock frequency (Hz): <input type="text" value="40000000"/>	

## ROV Semaphore

Basic	Detailed	FreeList	Raw					
address	label	buf	minBlockAlign	sectionName	totalSize	totalFreeSize	largestFreeSize	
0x200...		0x20002620	8		0x100	0xe0	0xe0	

## Increase Heap Size

Getting Started Resource Explorer empty.cfg

TI-RTOS Products SYSBIOS BIOS - Basic Runtime Options

Welcome System Overview Runtime Error Handling Device Support Advanced

Library Selection Options

SYS/BIOS library type

☐ Instrumented (Asserts and Logs enabled)

☐ Non-instrumented (Asserts and Logs disabled)

☒ Custom (Fully configurable)

☐ Debug (Fully configurable)

The library options above allow you to select between several variations of SYS/BIOS libraries depending on your application's requirements. All options except Debug are aggressively optimized with minimal debug content.

☒ Enable Asserts

☒ Enable Logs

Custom Compiler Options 6 -q -ms --opt\_for\_speed=2 --program\_level\_compile -o3 -g --optimize\_with\_debug

Threading Options

☒ Enable Tasks (When disabled, the Task module is not configurable)

☒ Enable Software Interrupts (When disabled, the Swi module is not configurable)

☒ Enable Clock Manager (When disabled, the Clock module is not configurable)

C Standard Library Lock GateMutex

Dynamic Instance Creation Support

☒ Enable Dynamic Instance Creation

A savings in code and data size can be achieved by disabling dynamic instance creation.

Runtime Memory Options

System (Hwi and Swi) stack size 1024

Heap size 4096

Heap section null

☐ Use HeapTrack

The heap configured above is used for the standard C malloc() and free() functions or when the 'heap' argument to Memory\_alloc() is NULL.

Platform Settings

These settings should reflect the hardware platform that runs your application.

CPU clock frequency (Hz) 40000000