

# OS Abstraction Layer :: OSAL

## Kernel API

```
osal_result_t osal_start( void )
osal_result_t osal_stop( void )
osal_result_t osal_suspend_all( void )
osal_result_t osal_resume_all( void )
uint32_t osal_get_ticks( void )
void osal_assert( uint32_t )
```

## Memory API

```
osal_result_t osal_memory_allocate( size_t, void** )
osal_result_t osal_memory_free( void* )
osal_result_t osal_memory_get_heap_info( osal_memory_heap_info_t* )
```

## Thread API

```
osal_result_t osal_thread_create( char*, osal_thread_attr_t, osal_thread_fn,
                                void*, osal_thread_handle_t* )
osal_result_t osal_thread_delete( osal_thread_handle_t* )
osal_result_t osal_thread_suspend( osal_thread_handle_t* )
osal_result_t osal_thread_resume( osal_thread_handle_t* )
osal_result_t osal_thread_resume_from_isr( osal_thread_handle_t* )
osal_result_t osal_thread_get_handle( osal_thread_handle_t* )
osal_result_t osal_thread_get_info( osal_thread_handle_t*, osal_thread_info_t* )
osal_result_t osal_thread_delay( uint32_t )
```

## Queue APIs

```
osal_result_t osal_queue_create( char*, size_t, size_t, osal_queue_handle_t* )
osal_result_t osal_queue_delete( osal_queue_handle_t* )
osal_result_t osal_queue_reset( osal_queue_handle_t* )
osal_result_t osal_queue_peek( osal_queue_handle_t*, void*, size_t*, uint32_t )
osal_result_t osal_queue_peek_from_isr( osal_queue_handle_t*, void*, size_t* )
osal_result_t osal_queue_receive( osal_queue_handle_t*, void*, size_t*, uint32_t )
osal_result_t osal_queue_receive_from_isr( osal_queue_handle_t*, void*, size_t* )
osal_result_t osal_queue_send( osal_queue_handle_t*, void*, size_t, uint32_t )
osal_result_t osal_queue_send_from_isr( osal_queue_handle_t*, void*, size_t )
```

## Sleep API

```
osal_result_t osal_sleep_sec( uint32_t )
osal_result_t osal_sleep_ms( uint32_t )
osal_result_t osal_sleep_us( uint32_t )
```

## Timer API

```
osal_result_t osal_timer_create( char*, uint32_t, bool, void*, osal_timer_handle_t* )
osal_result_t osal_timer_delete( osal_timer_handle_t*, uint32_t )
osal_result_t osal_timer_reset( osal_timer_handle_t*, uint32_t )
osal_result_t osal_timer_reset_from_isr( osal_timer_handle_t* )
osal_result_t osal_timer_start( osal_timer_handle_t*, uint32_t )
osal_result_t osal_timer_start_from_isr( osal_timer_handle_t* )
osal_result_t osal_timer_stop( osal_timer_handle_t*, uint32_t )
osal_result_t osal_timer_stop_from_isr( osal_timer_handle_t* )
osal_result_t osal_timer_set_period( osal_timer_handle_t*, uint32_t, uint32_t )
osal_result_t osal_timer_set_period_from_isr( osal_timer_handle_t*, uint32_t )
osal_result_t osal_timer_get_remaining_time( osal_timer_handle_t*, uint32_t* )
```

## Clock API

```
osal_result_t osal_clock_get_ticks( uint32_t* )
osal_result_t osal_clock_get_time( osal_clock_time_t* )
osal_result_t osal_clock_set_time( osal_clock_time_t )
```

## Event API

```
osal_result_t osal_event_create( osal_event_handle_t* handle )
osal_result_t osal_event_delete( osal_event_handle_t* handle )
osal_result_t osal_event_set_bits( osal_event_handle_t*, uint32_t )
osal_result_t osal_event_set_bits_from_isr( osal_event_handle_t*, uint32_t )
osal_result_t osal_event_get_bits( osal_event_handle_t*, uint32_t* )
osal_result_t osal_event_get_bits_from_isr( osal_event_handle_t*, uint32_t* )
osal_result_t osal_event_wait_bits( osal_event_handle_t*, uint32_t, bool,
                                    bool, uint32_t, uint32_t* )
osal_result_t osal_event_clear_bits( osal_event_handle_t*, uint32_t )
osal_result_t osal_event_clear_bits_from_isr( osal_event_handle_t*, uint32_t )
```

## Semaphore API

```
osal_result_t osal_semphr_create( osal_semphr_type_t, osal_semphr_count_attr_t*,
                                osal_semphr_handle_t* )
osal_result_t osal_semphr_delete( osal_semphr_handle_t* )
osal_result_t osal_semphr_take( osal_semphr_handle_t*, uint32_t )
osal_result_t osal_semphr_take_from_isr( osal_semphr_handle_t* )
osal_result_t osal_semphr_give( osal_semphr_handle_t* )
osal_result_t osal_semphr_give_from_isr( osal_semphr_handle_t* )
```