

clCreateImage2D

Creates a 2D image object.

```
cl_mem clCreateImage2D (cl_context context,  
                        cl_mem_flags flags,  
                        const cl_image_format *image_format,  
                        size_t image_width,  
                        size_t image_height,  
                        size_t image_row_pitch,  
                        void *host_ptr,  
                        cl_int *errcode_ret)
```

Parameters

context

A valid OpenCL context on which the image object is to be created.

flags

A bit-field that is used to specify allocation and usage information about the image memory object being created and is described in the table List of supported *cl_mem_flags* values for [clCreateBuffer](#).

image_format

A pointer to a structure that describes format properties of the image to be allocated. See [cl_image_format](#) for a detailed description of the image format descriptor.

image_width , *image_height*

The width and height of the image in pixels. These must be values greater than or equal to 1.

image_row_pitch

The scan-line pitch in bytes. This must be 0 if *host_ptr* is NULL and can be either 0 or greater than or equal to *image_width* * size of element in bytes if *host_ptr* is not NULL. If *host_ptr* is not NULL and *image_row_pitch* is equal to 0, *image_row_pitch* is calculated as *image_width* * size of element in bytes. If *image_row_pitch* is not 0, it must be a multiple of the image element size in bytes.

host_ptr

A pointer to the image data that may already be allocated by the application. The size of the buffer that *host_ptr* points to must be greater than or equal to *image_row_pitch* * *image_height*. The size of each element in bytes must be a power of 2. The image data specified by *host_ptr* is

stored as a linear sequence of adjacent scanlines. Each scanline is stored as a linear sequence of image elements.

errcode_ret

Will return an appropriate error code. If *errcode_ret* is NULL, no error code is returned.

Errors

clCreateImage2D returns a valid non-zero image object created and the *errcode_ret* is set to CL_SUCCESS if the image object is created successfully. Otherwise, it returns a NULL value with one of the following error values returned in *errcode_ret*:

- CL_INVALID_CONTEXT if *context* is not a valid context.
- CL_INVALID_VALUE if values specified in *flags* are not valid.
- CL_INVALID_IMAGE_FORMAT_DESCRIPTOR if values specified in *image_format* are not valid or if *image_format* is NULL.
- CL_INVALID_IMAGE_SIZE if *image_width* or *image_height* are 0 or if they exceed values specified in CL_DEVICE_IMAGE2D_MAX_WIDTH or CL_DEVICE_IMAGE2D_MAX_HEIGHT respectively for all devices in context or if values specified by *image_row_pitch* do not follow rules described in the argument description above.
- CL_INVALID_HOST_PTR if *host_ptr* is NULL and CL_MEM_USE_HOST_PTR or CL_MEM_COPY_HOST_PTR are set in *flags* or if *host_ptr* is not NULL but CL_MEM_COPY_HOST_PTR or CL_MEM_USE_HOST_PTR are not set in *flags*.
- CL_IMAGE_FORMAT_NOT_SUPPORTED if the *image_format* is not supported.
- CL_MEM_OBJECT_ALLOCATION_FAILURE if there is a failure to allocate memory for image object.
- CL_INVALID_OPERATION if there are no devices in *context* that support images (i.e. CL_DEVICE_IMAGE_SUPPORT (specified in the table of OpenCL Device Queries for [clGetDeviceInfo](#)) is CL_FALSE).
- CL_OUT_OF_HOST_MEMORY if there is a failure to allocate resources required by the OpenCL implementation on the host.

Specification

 [OpenCL Specification](#)

Also see

clCreateImage3D



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