

4.4.1.1 MRAPI SHMEM_CREATE

NAME

mrapi_shmem_create

SYNOPSIS

```
mrapi_shmem_hndl_t mrapi_shmem_create(  
    MRAPI_IN mrapi_shmem_id_t shmem_id,  
    MRAPI_IN mrapi_uint_t size,  
    MRAPI_IN mrapi_node_t* nodes,  
    MRAPI_IN mrapi_uint_t nodes_size,  
    MRAPI_IN mrapi_shmem_attributes_t* attributes,  
    MRAPI_OUT mrapi_status_t* status  
);
```

DESCRIPTION

This function creates a shared memory segment. The `size` parameter specifies the size of the shared memory region in bytes. Unless you want the defaults, attributes must be set before the call to `mrapi_shmem_create()`. A list of nodes that can access the shared memory can be passed in the `nodes` parameter and `nodes_size` should contain the number of nodes in the list. If `nodes` is NULL, then all nodes will be allowed to access the shared memory. Once a shared memory segment has been created, its attributes may not be changed. If the attributes parameter is NULL, then implementation defined default attributes will be used. In the case where the shared memory segment already exists, status will be set to `MRAPI_EXISTS` and the handle returned will not be a valid handle. If `shmem_id` is set to `MRAPI_SHMEM_ID_ANY`, then MRAPI will choose an internal id for you. All nodes in the `nodes` list must be initialized nodes in the system.

RETURN VALUE

On success a shared memory segment handle is returned, the address is filled in and `*status` is set to `MRAPI_SUCCESS`. On error, `*status` is set to the appropriate error defined below.

ERRORS

MRAPI_ERR_SHMEM_ID_INVALID	The <code>shmem_id</code> is not a valid shared memory segment id.
MRAPI_ERR_SHM_NODES_INCOMPAT	The list of nodes is not compatible for setting up shared memory.
MRAPI_ERR_SHM_EXISTS	This shared memory segment is already created.
MRAPI_ERR_MEM_LIMIT	No memory available.
MRAPI_ERR_NODE_NOTINIT	The calling node is not initialized or one of the nodes in the list of nodes to share with is not initialized.
MRAPI_ERR_PARAMETER	Incorrect size, attributes, attribute_size, or nodes_size parameter.

NOTE

SEE ALSO

See `mrapi_shmem_init_attributes()` and `mrapi_shmem_set_attribute()`.