

**NAME**

`mlx5dv_create_qp` – creates a queue pair (QP)

**SYNOPSIS**

```
#include <infiniband/mlx5dv.h>

struct ibv_qp *mlx5dv_create_qp(struct ibv_context      *context,
                                struct ibv_qp_init_attr_ex *qp_attr,
                                struct mlx5dv_qp_init_attr *mlx5_qp_attr)
```

**DESCRIPTION**

`mlx5dv_create_qp()` creates a queue pair (QP) with specific driver properties.

**ARGUMENTS**

Please see *ibv\_create\_qp\_ex(3)* man page for *context* and *qp\_attr*.

**mlx5\_qp\_attr**

```
struct mlx5dv_qp_init_attr {
    uint64_t comp_mask;
    uint32_t create_flags;
    struct mlx5dv_dc_init_attr dc_init_attr;
    uint64_t send_ops_flags;
};
```

*comp\_mask*

Bitmask specifying what fields in the structure are valid: MLX5DV\_QP\_INIT\_ATTR\_MASK\_QP\_CREATE\_FLAGS: valid values in *create\_flags* MLX5DV\_QP\_INIT\_ATTR\_MASK\_DC: valid values in *dc\_init\_attr* MLX5DV\_QP\_INIT\_ATTR\_MASK\_SEND\_OPS\_FLAGS: valid values in *send\_ops\_flags*

*create\_flags*

A bitwise OR of the various values described below.

MLX5DV\_QP\_CREATE\_TUNNEL\_OFFLOADS: Enable offloading such as checksum and LRO for incoming tunneling traffic.

MLX5DV\_QP\_CREATE\_TIR\_ALLOW\_SELF\_LOOPBACK\_UC: Allow receiving loopback unicast traffic.

MLX5DV\_QP\_CREATE\_TIR\_ALLOW\_SELF\_LOOPBACK\_MC: Allow receiving loopback multicast traffic.

MLX5DV\_QP\_CREATE\_DISABLE\_SCATTER\_TO\_CQE: Disable scatter to CQE feature which is enabled by default.

MLX5DV\_QP\_CREATE\_ALLOW\_SCATTER\_TO\_CQE: Allow scatter to CQE for requester even if the qp was not configured to signal all WRs.

MLX5DV\_QP\_CREATE\_PACKET\_BASED\_CREDIT\_MODE: Set QP to work in end-to-end packet-based credit, instead of the default message-based credits (IB spec. section 9.7.7.2).

It is the applications responsibility to make sure that the peer QP is configured with same mode.

*dc\_init\_attr*

DC init attributes.

*dc\_init\_attr*

```
struct mlx5dv_dc_init_attr {
    enum mlx5dv_dc_type dc_type;
    uint64_t dct_access_key;
};
```

*dc\_type*

MLX5DV\_DCTYPE\_DCT QP type: Target DC. MLX5DV\_DCTYPE\_DCI QP type: Initiator DC.

*dct\_access\_key*

used to create a DCT QP.

*send\_ops\_flags*

A bitwise OR of the various values described below.

MLX5DV\_QP\_EX\_WITH\_MR\_INTERLEAVED: Enables the `mlx5dv_wr_mr_interleaved()` work request on this QP.

MLX5DV\_QP\_EX\_WITH\_MR\_LIST: Enables the `mlx5dv_wr_mr_list()` work request on this QP.

## NOTES

**mlx5dv\_qp\_ex\_from\_ibv\_qp\_ex()** is used to get *struct mlx5dv\_qp\_ex* for accessing the send ops interfaces when `IBV_QP_INIT_ATTR_SEND_OPS_FLAGS` is used.

## RETURN VALUE

**mlx5dv\_create\_qp()** returns a pointer to the created QP, on error NULL will be returned and `errno` will be set.

## SEE ALSO

**ibv\_query\_device\_ex(3)**, **ibv\_create\_qp\_ex(3)**,

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