Running on BlueField:

1. Login to BlueField
2. Enter the code folder

```
# cd /opt/mellanox/doca/applications
```

3. MPI is used for compilation and running of this application. Make sure that MPI is installed on your setup. By default, DOCA All will provide openmpi but not mpicc. So, need to run below in addition before build the application:

- Check if mpicc is not installed

```
# dpkg –l | grep mpich
```

If you need to execute as root, please add "sudo" before this command or use "sudo -i" to switch to root .

- If not installed, install mpich

```
# apt-get install mpich
```

4. Build DOCA DPA All-to-all Application on BlueField under /opt/mellanox/doca/applications

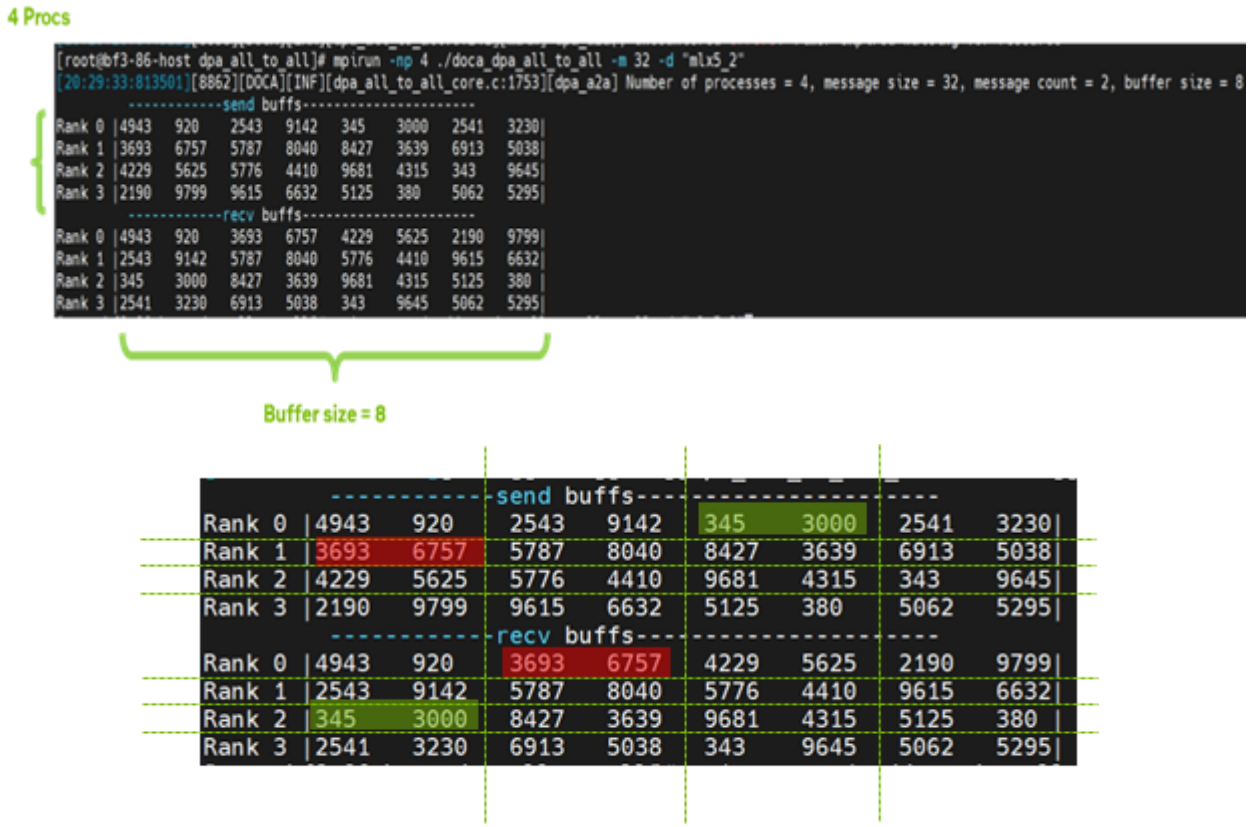
```
# meson /tmp/build –Denable_all_applications=false –Denable_dpa_all_to_all=true
# ninja –C /tmp/build
```

5. Check the mlx device name on BlueField

```
# mst status -v
……
PCI devices:
------------
DEVICE_TYPE             MST                           PCI       RDMA         NET
NUMA
BlueField3(rev:1)       /dev/mst/mt41692_pciconf0.1   03:00.1   mlx5_1       net-
en3f1pf1sf0,net-pf1hpf,net-p1       -1
BlueField3(rev:1)       /dev/mst/mt41692_pciconf0     03:00.0   mlx5_0       net-
en3f0pf0sf0,net-p0,net-pf0hpf       -1
```

6. Run DPU All-to-all application with 4 processes, with 32 bytes as message size, and with mlx5_0 as the InfiniBand devices:

```
# mpirun -np 4 /tmp/build/dpa_all_to_all/doca_dpa_all_to_all -m 32 -d "mlx5_0"
```



Notes:

-d is the RDMA device shown in above step

-m is the message size, represent the size of the sendbuf & recvbuf. It's divided to nProcs * Buffer size and BufSize further divided to message count * nProcs

Remove previous compiliation

```
# rm -rf /tmp/build
```