

# ROS2 with FastDDS

**Use Fast-DDS environment variables to enable shared memory (works with older versions)**

```
colcon build --symlink-install --cmake-args -DCMAKE_BUILD_TYPE=Debug  
-DCMAKE_CXX_FLAGS="-O0 -g"
```

Older Fast-DDS versions allow you to **enable shared memory transport** without XML, using environment variables:

```
export FASTRTPS_DEFAULT_PROFILES_FILE=""  
export FASTRTPS_DEFAULT_PROFILES_FILE_DISABLED=true  
export FASTRTPS_SHM_TRANSPORT=true
```

Create an **empty XML file** and point Fast-DDS to it:

```
mkdir -p ~/Desktop/OS/ros2_ws/src/rosl2_shm_demo/config  
echo '<?xml version="1.0"?><dds></dds>' >  
~/Desktop/OS/ros2_ws/src/rosl2_shm_demo/config/empty_profiles.xml
```

## Command:

Publisher:

```
source ~/Desktop/OS/ros2_ws/install/setup.bash  
export RMW_IMPLEMENTATION=rmw_fastrtps_cpp  
  
export  
FASTRTPS_DEFAULT_PROFILES_FILE=$HOME/Desktop/OS/ros2_ws/src/rosl2_shm_demo/c  
onfig/empty_profiles.xml  
  
export FASTRTPS_SHM_TRANSPORT=true  
ros2 run rosl2_shm_demo shm_publisher
```

Subscriber:

```
source ~/Desktop/OS/ros2_ws/install/setup.bash
```

```
export RMW_IMPLEMENTATION=rmw_fastrtps_cpp  
  
export  
FASTRTPS_DEFAULT_PROFILES_FILE=$HOME/Desktop/OS/ros2_ws/src/ros2_shm_demo/c  
onfig/empty_profiles.xml  
  
export FASTRTPS_SHM_TRANSPORT=true  
  
ros2 run ros2_shm_demo shm_subscriber
```

```
nm  
/home/hanzhengwang/Desktop/OS/ros2_ws/build/ros2_sh  
m_demo/shm_publisher | grep publish_message  
000000000000d3d0 W _ZN12ShmPublisher15publish_messageEv  
0000000000062040 u  
_ZN12ShmPublisher15publish_messageEvE26__rcutils_logging_location
```