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## Moving the Robot

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Estimated time to completion: **30 seconds**

### 5.1 Introduction

Now that your URDF-defined robot is successfully simulated in Gazebo, it's time to bring it to life by enabling **joint movement** and broadcasting **TF transforms** for its movement.

In this unit, you'll learn how to make your robot's joints move within the simulation using **Gazebo plugins**. You'll explore:

- The **Joint State Publisher** and **Differential Drive Plugin**, which allow your robot to update and control joint states.
- The **Gazebo ROS 2 Control plugin**, which enables hardware-like control over your robot's actuators.

By the end of this unit, you'll be able to integrate motion into your simulated robot, making it one step closer to real-world deployment. Let's get started!



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