

## ROS 2 Basic Concepts

Estimated time to completion: **2 minutes**

### 2.7 What are ROS 2 Nodes?

This is one of the most important concepts in ROS 2.

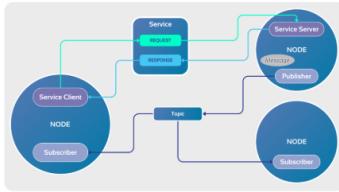
The cornerstone of ROS 2 programs is that each launched program will start at least one entity known as a **ROS 2 node**.

In ROS 2, each node is designed to handle a specific function or capability of the robot. For example:

- One node for controlling wheel motors
- One node for managing a laser rangefinder
- One node for face recognition
- And so on...

Each node operates independently but can communicate with other nodes, enabling modular and scalable robotic systems.

Take a look at the diagram below for a visual representation of how nodes interact with each other.



- For now, do not worry about understanding everything you see in the picture.
- Focus on the nodes and how they connect.
- A full robotic system consists of **many nodes working together**.
- In ROS2, a single entry point (such as a C++ or Python program) can start **one or more nodes**.

Let's see what we can do with these nodes!

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