A Quick Tour of ROS

Basic ROS concepts

Some nouns

- A **node** is an executing program that uses ROS to communicate with other nodes.
- A **topic** is a channel for one-way, many-to-many communication between nodes, from **publishers** to **subscribers**, based on sending **messages**.
- The **ROS graph** has edges for each publish-subscribe relationship.

More nouns

- A **service** is a channel for two-way, one-to-one communication between a **client** and a **server**, based on a **request** and a **response**.
- An **action** is a method for asking a node to complete a time-extended task, based on a **request** (or **goal**) which leads to a **result**, along with **feedback** along the way.
- An **interface** is a data type used for a topic, service, or action.

But wait, there's more!

- A **package** is a collection of related executables and associated files.
- A **launch file** is a Python program or XML file used to launch and configure several nodes at once.
- A **parameter** is a bit of configuration data associated with a node.
- A **bag** is a file that store messages to be replayed later.

ROS versions

Major versions:

- ROS1: 2007–2025
- **ROS2**: 2015–present

Distributions:

- Ardent Apalone
- Bouncy Bolson
- Crystal Clemmys
- Dashing Diademata
- Eloquent Elusor
- Galactic Geochelone
- Foxy Fitzroy
- jazzy Hawksbill
- Iron Irwini
- **Jazzy Jalisco**
- Kilted Kaiju

Documentation

https://docs.ros.org/