

JavaRosWrapper: Located in Cyphyhouse/ros

JavaRosWrapper serves as the wrapper which allows Java code to publish and subscribe to ROS topics. This object is currently instantiated in various MotionAutomaton files to allow the different platforms to:

1. Send destination messages (of type: `ros.msgs.geometry_msgs.Point`)
2. Receive ack messages from hardware controller acknowledging that a destination has been reached.

General Usage Guideline:

In order to properly use the JavaRosWrapper to communicate with ROS, one must:

1. Instantiate JavaRosWrapper object and provide it with a port string (set to `ws://localhost:9090` if using default `rosbridge_server` package).
2. Use the `createTopic` method to create any new ROS topics which Java will be publishing to.
3. Use the `subscribe_to_ROS` method to subscribe to any ROS topics for which the Java code should get new messages from.
4. Use the `sendMsg` method to publish messages to a previously created ROS topic.

Supported Message Types:

The current JavaRosWrapper version supports a number of common ROS message types. All supported message types can be found in the RosJavaBridge GitHub repository. Additional message types can be added there as needed in the future. After adding the new message types, compile the project in RosJavaBridge and add the .jar files in the target directory to the targets directory in newLib.

Callback Functions for Subscribed Topics:

The `subscribe_to_ROS` method of the JavaRosWrapper class contains a list of all the currently supported topics. In order to add support for subscription to a new topic with a specific callback function, append to the case statement with the appropriate topic. Note that you must define a callback function for new topic subscriptions.

