

Torque Mode:

Joint state configuration →
endpoint.pose
endpoint.header.stamp
end_pointstate_pub.publisher(endpoint)

Takes a jointstate message and uses a callback to return the desired endpoint pose and the final timestamp

Retrieves the appropriate forward kinematics from the joint states (posestamped)

The initialized topic is /robot/limb/left/endpoint_state topic

However there is no twist or wrench information on the topic because they were never implemented

```
header:
  seq: 307258
  stamp:
    secs: 0
    nsecs: 0
  frame_id: ''
pose:
  position:
    x: 0.572575815071
    y: 0.181186651371
    z: 0.24619470767
  orientation:
    x: 0.140772189718
    y: 0.989644952796
    z: 0.0116515084487
    w: 0.0255009874122
twist:
  linear:
    x: 0.0
    y: 0.0
    z: 0.0
  angular:
    x: 0.0
    y: 0.0
    z: 0.0
wrench:
  force:
    x: 0.0
    y: 0.0
    z: 0.0
  torque:
    x: 0.0
    y: 0.0
    z: 0.0
---
```

https://github.com/RethinkRobotics/baxter_simulator/blob/master/baxter_sim_kinematics/src/position_kinematics.cpp#L120-L134

https://github.com/RethinkRobotics/baxter_simulator/issues/44

Rosbag to matlab:

To format the rosbag_to_matlab codeline here is an example

rosvun rosbag_to_matlab bag_to_mat.py example.bag src/

in order for this to run properly you MUST have cd to the directory where your bag files exist
at the current time I do not have the <output directory> section working (src/) when I run this line of
code I seem to run into errors.

A terminal window titled 'user@atlas8: ~/ros_ws' with two tabs: 'user@atlas8: ~/ros_ws' and 'rosvun http://atlas8:11311/'. The terminal shows the command 'rosvun rosbag_to_matlab bag_to_mat.py joint_state_empty_ha nd.bag src/' being executed. The output shows 'Parsing data for topic: /robot/joint_states' followed by a 'Traceback (most recent call last):' error. The error traceback points to 'File "/home/user/ros_ws/src/EECS-651-Testing/rosbag_to_matlab/scripts/bag_to_m at.py", line 32, in <module>' and then to 'File "/home/user/ros_ws/src/EECS-651-Testing/rosbag_to_matlab/scripts/../src/b ag_to_mat_converter.py", line 221, in convert_bag_to_mat' where it says 'for bag_topic, bag_msg, bag_time in self.bag_iterator:'. The final error message is 'File "/opt/ros/indigo/lib/python2.7/dist-packages/rosbag/bag.py", line 2331, i n read_messages' followed by 'yield self.seek_and_read_message_data_record((entry.chunk_pos, entry.offset) , raw)' and 'File "/opt/ros/indigo/lib/python2.7/dist-packages/rosbag/bag.py", line 2461, i n seek_and_read_message_data_record' and 'raise ROSBagFormatException('Expecting OP_MSG_DATA, got %d' % op)'. The final line of the error is 'rosbag.bag.ROSBagFormatException: Expecting OP_MSG_DATA, got 6'. The prompt 'user@atlas8:~/ros_ws\$' is followed by a cursor.

```
user@atlas8:~/ros_ws$ rosvun rosbag_to_matlab bag_to_mat.py joint_state_empty_ha
nd.bag src/
Parsing data for topic: /robot/joint_states
Traceback (most recent call last):
  File "/home/user/ros_ws/src/EECS-651-Testing/rosbag_to_matlab/scripts/bag_to_m
at.py", line 32, in <module>
    if bag_converter.convert_bag_to_mat():
  File "/home/user/ros_ws/src/EECS-651-Testing/rosbag_to_matlab/scripts/../src/b
ag_to_mat_converter.py", line 221, in convert_bag_to_mat
    for bag_topic, bag_msg, bag_time in self.bag_iterator:
  File "/opt/ros/indigo/lib/python2.7/dist-packages/rosbag/bag.py", line 2331, i
n read_messages
    yield self.seek_and_read_message_data_record((entry.chunk_pos, entry.offset)
, raw)
  File "/opt/ros/indigo/lib/python2.7/dist-packages/rosbag/bag.py", line 2461, i
n seek_and_read_message_data_record
    raise ROSBagFormatException('Expecting OP_MSG_DATA, got %d' % op)
rosbag.bag.ROSBagFormatException: Expecting OP_MSG_DATA, got 6
user@atlas8:~/ros_ws$
```