

```

driver
(
  name "create"
  provides ["position2d:0"
"power:0" "bumper:0" "ir:0" ]
  port "/dev/ttyS2"
  safe 1
)
define roomba position
(
  size [0.33 0.33 0.1]
  block( #this block approximates
the circular shape of a Roomba
  points 16
  point[0] [ 0.225 0.000 ]
  point[1] [ 0.208 0.086 ]
  point[2] [ 0.159 0.159 ]
  point[3] [ 0.086 0.208 ]
  point[4] [ 0.000 0.225 ]
  point[5] [ -0.086 0.208 ]
  point[6] [ -0.159 0.159 ]
  point[7] [ -0.208 0.086 ]
  point[8] [ -0.225 0.000 ]
  point[9] [ -0.208 -0.086 ]
  point[10] [ -0.159 -0.159 ]
  point[11] [ -0.086 -0.208 ]
  point[12] [ -0.000 -0.225 ]
  point[13] [ 0.086 -0.208 ]
  point[14] [ 0.159 -0.159 ]
  point[15] [ 0.208 -0.086 ]
)
  bumper( bcount 2
    blength 0.33
    bpose[0] [0.12 0.12
45]
    bpose[1] [0.12 -0.12 -
45]
  )

```

```

<controller:diffdrive_plugin name="differential_drive_controller"
plugin="libdiffdrive_plugin.so">
  <alwaysOn>true</alwaysOn>
  <update>100</update>
  <updateRate>100.0</updateRate>
  <leftJoint>base_link_right_wheel_joint</leftJoint>
  <rightJoint>base_link_left_wheel_joint</rightJoint>
  <wheelSeparation>${caster_wheel_offset_y*2}</wheelSeparation>
  <wheelDiameter>${wheel_radius*2}</wheelDiameter>
  <torque>50</torque>
  <interface:position name="position_iface_0"/>
  <robotNamespace>/</robotNamespace>
  <topicName>cmd_vel</topicName>
</controller:diffdrive_plugin >

```

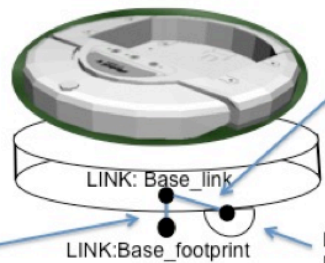
ROS URDF Overview for iRobot Create

Mesh/stl files
attached to base link
provide "skin" and
collision models

JOINT: Continuous
joint defines wheel
actuation relative to the
base

Framework specific
data defines
parameters for ROS/
Gazebo Simulation

JOINT: Rigid joint
defines link to
ground plane



Links include visual,
Inertial and collision
information to support
visualization of robots

LINK: Rear_left_wheel
Defines geometry
(sphere), actuation type
(Simple), wheel radius,
friction, max velocity,
damping, etc