2.4

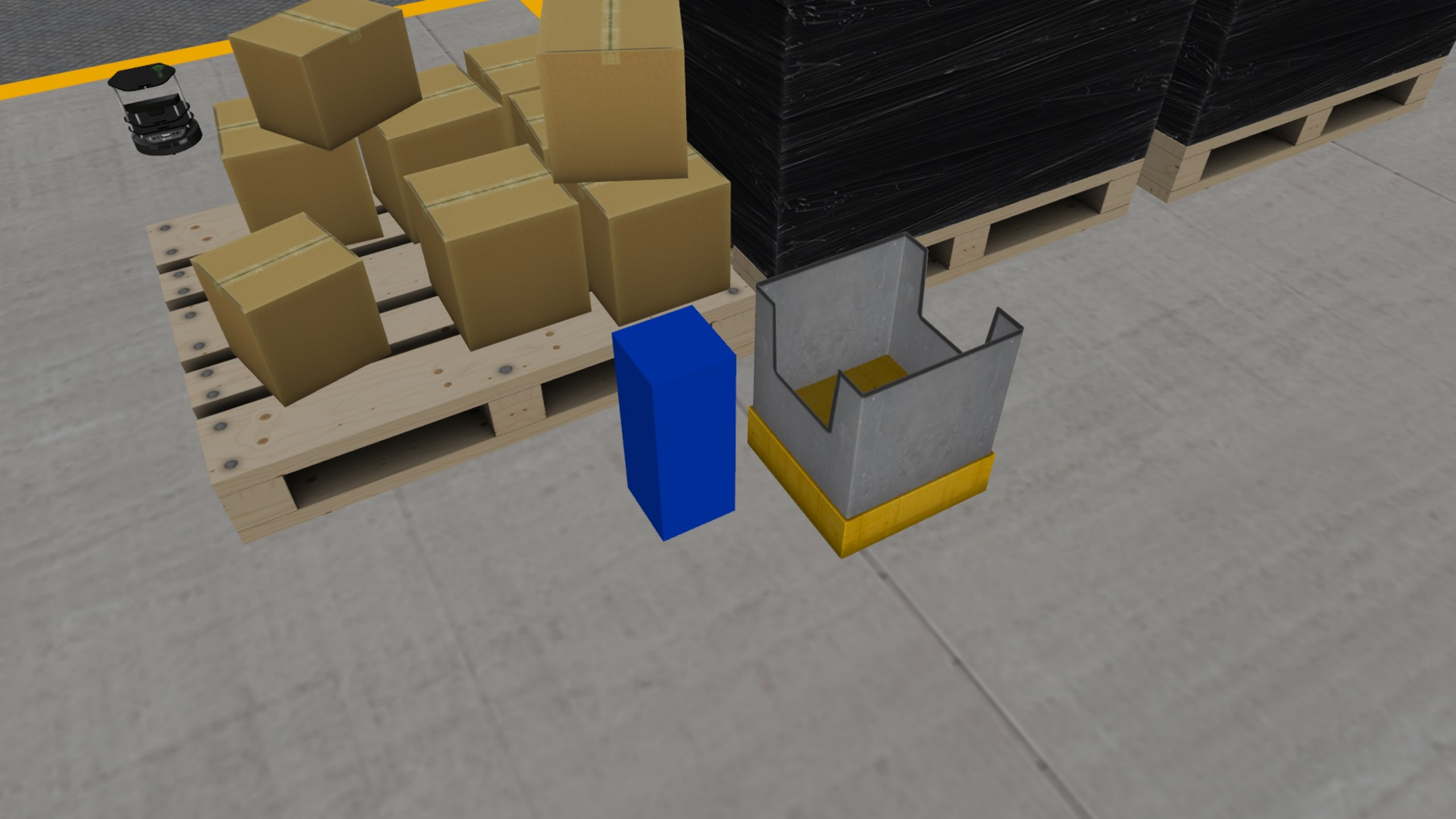
URDF: using an existing model

Gijs van der Hoorn

Getting the simulation ready

Tasks:

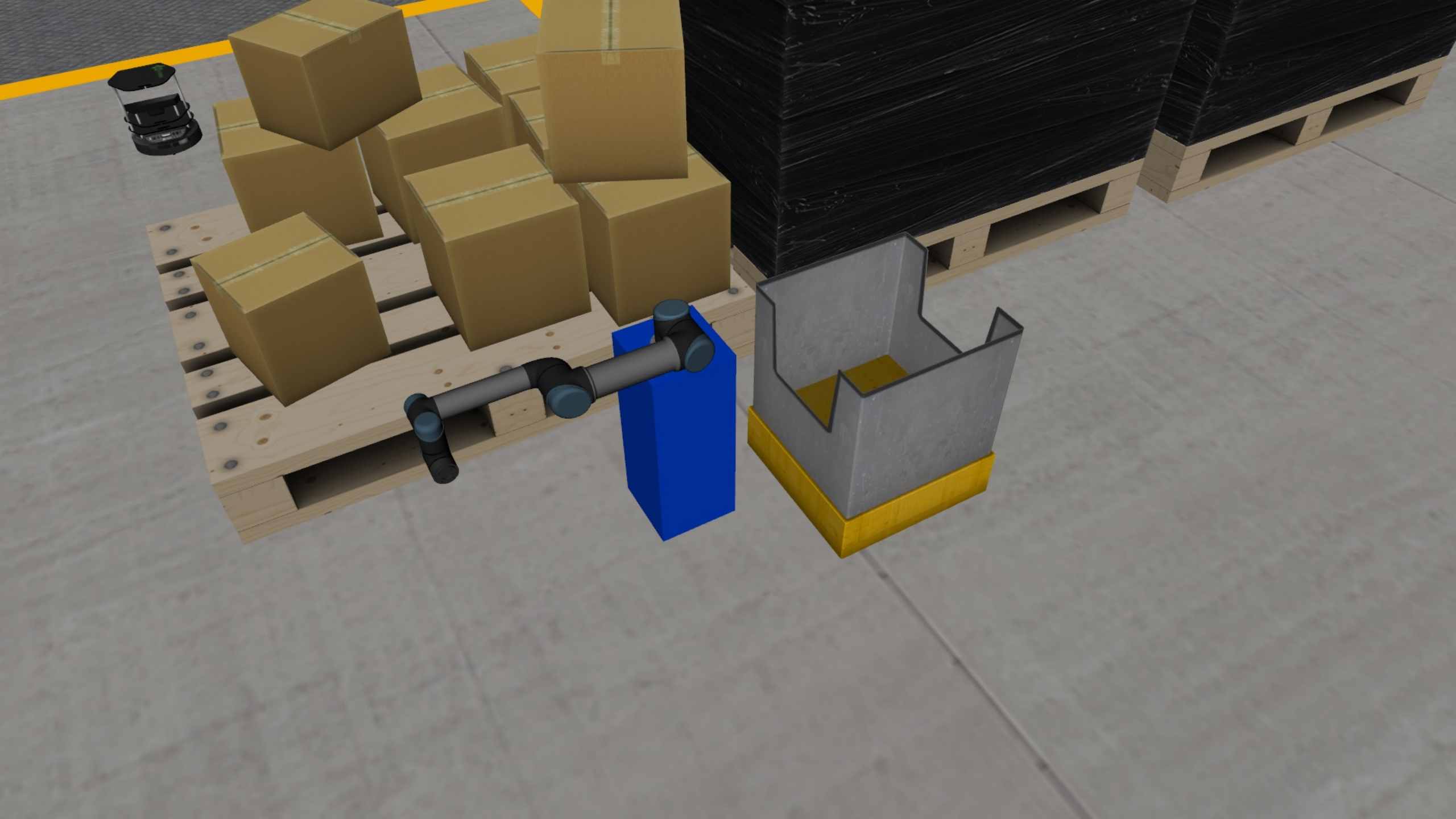
- ✓ Remove unneeded bins
- ✓ Move bin to turtlebot delivery station
- ✓ Add a pedestal
- ❑ Add the second robot

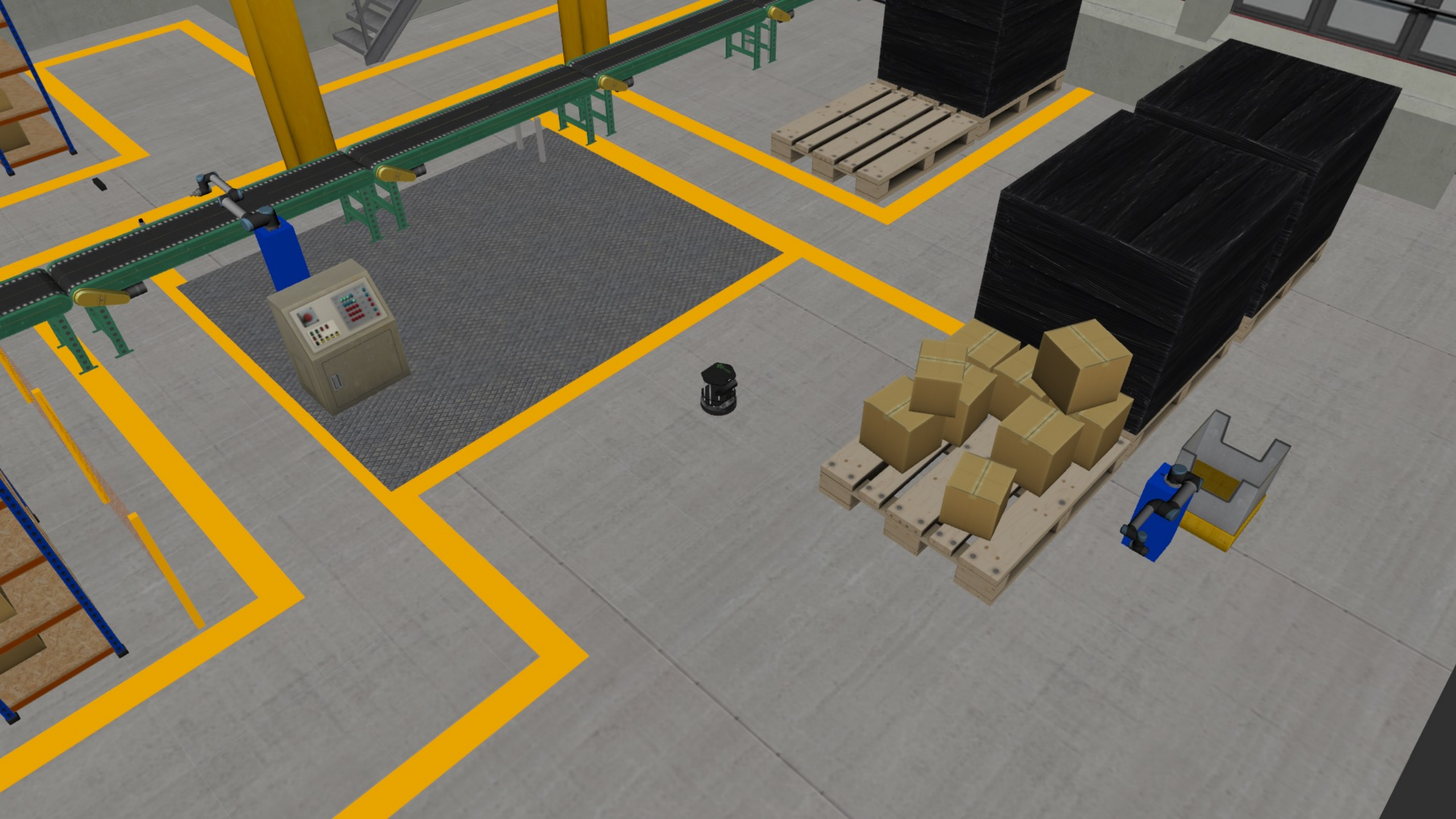


Steps

1. Import the model definition (xacro macro)
2. Add the model to the factory (instantiation)
3. Fixating it in place (joint)
4. Update orientation

```
<?xml version="1.0" ?>
<robot name="hrwros" xmlns:xacro="http://www.ros.org/wiki/xacro">

  <!-- robot system -->
  <xacro:include filename="$(find hrwros_support)/urdf/robot_system/robot_system.xacro"/>

  <!-- bins -->
  <xacro:include filename="$(find hrwros_support)/urdf/bin/bin.urdf.xacro"/>
  <xacro:bin_urdf prefix="bin_1_"/>

  <!-- depth camera -->
  <xacro:include filename="$(find hrwros_support)/urdf/depth_camera/depth_camera.urdf.xacro"/>
  <xacro:depth_camera_urdf prefix="depth_camera_"/>

  <!-- break beam -->
  <xacro:include filename="$(find hrwros_support)/urdf/break_beam/break_beam.urdf.xacro"/>
  <xacro:break_beam_urdf prefix="break_beam_"/>

  <!-- workcell -->
  <xacro:include filename="$(find hrwros_support)/urdf/workcell/workcell.xacro"/>

  <!-- Joints -->
  <joint name="workcell_to_world" type="fixed">
    <parent link="world" />
    <child link="world_interface" />
  </joint>

  <!-- a break_beam type sensor in the frame break_beam_frame -->
  <joint name="break_beam_joint" type="fixed">
    <parent link="world" />
    <child link="break_beam_world_interface" />
  </joint>

  <!-- a kinect camera in the frame kinect_camera_frame -->
  <joint name="camera_link" type="fixed">
    <parent link="world"/>
    <child link="depth_camera_world_interface" />
  </joint>

  <!-- a bin in the frame bin1_frame -->
  <joint name="bin_1_joint" type="fixed">
    <parent link="world" />
    <child link="bin_1_base_link" />
    <origin xyz="-8.0 -2.2 0.0" rpy="0 0 0" />
  </joint>


<link name="pedestal">
  <visual>
    <geometry>
      <box size="1 1 1" />
    </geometry>
  </visual>
</link>

<joint name="pedestal_joint" type="fixed">
  <parent link="world" />
```





Getting the simulation ready - done

Tasks completed:

- ✓ Remove unneeded bins
- ✓ Move bin to turtlebot delivery station
- ✓ Add a pedestal
- ✓ Add the second robot