~/catkin\_ws/src$ git clone -b <distro>-devel <https://github.com/ros-industrial/universal_robot.git>  
  
~/catkin\_ws/src$ git clone <https://github.com/filesmuggler/robotiq.git>

~/catkin\_ws/src/universal\_robot/ur\_description/urdf$ wget <https://raw.githubusercontent.com/utecrobotics/ur5/master/ur5_description/urdf/ur5_robotiq85_gripper.urdf.xacro>  
  
Modify line4 in ur5\_robotiq85\_gripper.urdf.xacro  
<**xacro:include** filename="$(find ur\_description)/urdf/ur5\_joint\_limited\_robot.urdf.xacro" />  
  
Modify line 9 and 14 in robotiq\_description/urdf/robotiq\_85\_gripper.transmission.xacro   
<**hardwareInterface**>hardware\_interface/EffortJointInterface</**hardwareInterface**>

<**hardwareInterface**>hardware\_interface/EffortJointInterface</**hardwareInterface**>

Modify line 5 of ur\_description/urdf/ur5\_joint\_limited\_robot.urdf.xacro  
<**xacro:arg** name="transmission\_hw\_interface" default="hardware\_interface/EffortJointInterface"/>

Creating move it configuration package:

roslaunch moveit\_setup\_assistant setup\_assistant.launch

Graphical user interface

Description automatically generated

Table

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated  
  
  
Graphical user interface, text, application

Description automatically generated

Graphical user interface

Description automatically generated

Graphical user interface, text, application

Description automatically generated

elbow\_joint: 1.5447

* shoulder\_lift\_joint: -1.5447
* shoulder\_pan\_joint: 0.0
* wrist\_1\_joint: -1.5794
* wrist\_2\_joint: -1.5794
* wrist\_3\_joint: 0.0

Graphical user interface, application

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

* robotiq\_85\_left\_inner\_knuckle\_joint
* robotiq\_85\_left\_finger\_tip\_joint
* robotiq\_85\_right\_inner\_knuckle\_joint
* robotiq\_85\_right\_finger\_tip\_joint
* robotiq\_85\_right\_knuckle\_joint

Graphical user interface, application

Description automatically generated

Graphical user interface

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application

Description automatically generated

**Modifications to the ros\_controller.yaml file**

|  |  |
| --- | --- |
| 43  44  45  46  47  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72  73  74  75  76  77  78  79  80  81  82  83  84  85  86  87  88  89  90  91  92 | ur5\_arm\_controller:    type: effort\_controllers/JointTrajectoryController    joints:      - shoulder\_pan\_joint      - shoulder\_lift\_joint      - elbow\_joint      - wrist\_1\_joint      - wrist\_2\_joint      - wrist\_3\_joint    gains:      shoulder\_pan\_joint:        p: 1000        d: 50        i: 10        i\_clamp: 100      shoulder\_lift\_joint:        p: 5000        d: 30        i: 100        i\_clamp: 400      elbow\_joint:        p: 5000        d: 50        i: 10        i\_clamp: 100      wrist\_1\_joint:        p: 200        d: 20        i: 10        i\_clamp: 100      wrist\_2\_joint:        p: 100        d: 10        i: 0.1        i\_clamp: 100      wrist\_3\_joint:        p: 10        d: 1        i: 0.1        i\_clamp: 100  gripper\_controller:    type: effort\_controllers/JointTrajectoryController    joints:      - robotiq\_85\_left\_knuckle\_joint    gains:      robotiq\_85\_left\_knuckle\_joint:        p: 40        d: 0        i: 0        i\_clamp: 1 |

**Ros\_controllers.launch line 9**output="screen" args="ur5\_arm\_controller gripper\_controller joint\_state\_controller"

Gazebo.launch line 18  
<node name="spawn\_gazebo\_model" pkg="gazebo\_ros" type="spawn\_model" args="-urdf -param robot\_description -model robot -x 0 -y 0 -z 0.1"

~/catkin\_ws/src$ git clone <https://github.com/dairal/ur5_gripper_moveit_config>

$ roslaunch ur5\_gripper\_moveit\_config demo\_gazebo.launch

