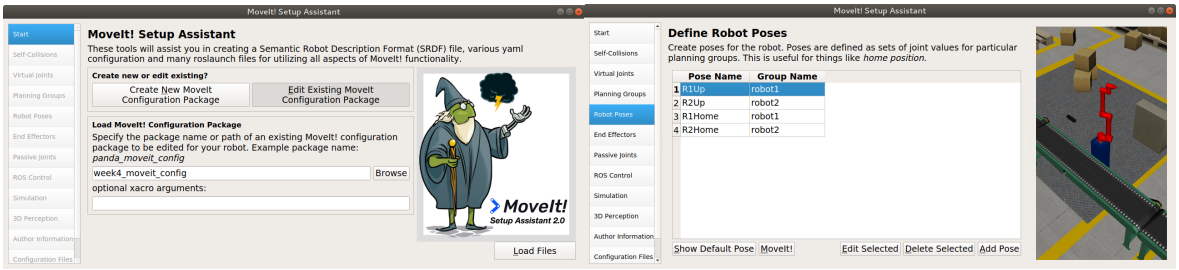
HRW ROS Assignment 1 Week 4 Part 1 (1)

The goal for this assignment is to add four new Robot Poses. You can reach this goal by following the steps below:

1. Open a new CCS. Then launch the `week4_moveit_config` setup assistant:
   `$ roslaunch week4_moveit_config setup_assistant.launch`
   Make sure that: Edit Existing MoveIt Configuration Package is selected and that the Configuration Package reads `week4_moveit_config`.
2. Click on the "Load Files" button in the setup assistant GUI.
   You should be able to see the factory on the right pane, and the elements on Self-Collisions and Planning Groups should be ready.
3. Click on the Robot Poses entity on the left navigation pane. You should be able to see 4 Robot Poses there (R1Up, R2Up, R1Home, R2Home).
4. Add four new poses (two for each robot) with the following names and joint values:



Robot1 group:

```
R1PreGrasp:
        <joint name="robot1_elbow_joint" value="1.57" />
        <joint name="robot1_shoulder_lift_joint" value="-1.57" />
        <joint name="robot1_shoulder_pan_joint" value="0.4143" />
        <joint name="robot1_wrist_1_joint" value="-1.57" />
        <joint name="robot1_wrist_2_joint" value="-1.57" />
        <joint name="robot1_wrist_3_joint" value="0" />
R1Place:
        <joint name="robot1_elbow_joint" value="1.57" />
        <joint name="robot1_shoulder_lift_joint" value="-1.57" />
        <joint name="robot1_shoulder_pan_joint" value="2.87" />
        <joint name="robot1_wrist_1_joint" value="-1.57" />
        <joint name="robot1_wrist_2_joint" value="-1.57" />
        <joint name="robot1_wrist_3_joint" value="0" />
```

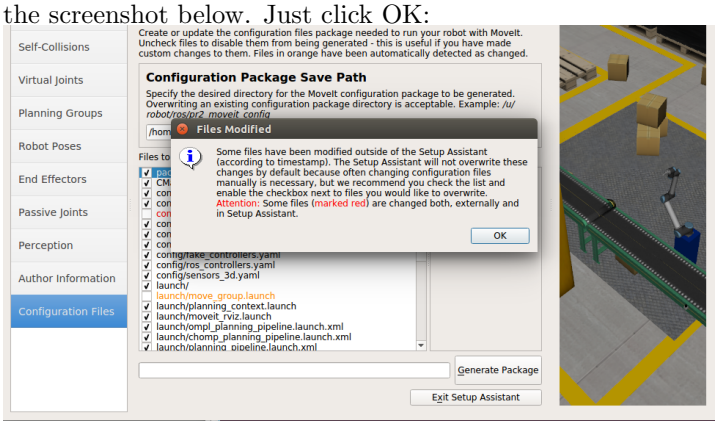
Robot2 group:

```
R2PreGrasp:
        <joint name="robot2_elbow_joint" value="1.3809" />
        <joint name="robot2_shoulder_lift_joint" value="-0.8976" />
        <joint name="robot2_shoulder_pan_joint" value="0.7" />
        <joint name="robot2_wrist_1_joint" value="-2.0023" />
        <joint name="robot2_wrist_2_joint" value="-1.6225" />
        <joint name="robot2_wrist_3_joint" value="0" />
R2Place:
        <joint name="robot2_elbow_joint" value="1.3364" />
        <joint name="robot2_shoulder_lift_joint" value="-1.3017" />
        <joint name="robot2_shoulder_pan_joint" value="2.6902" />
        <joint name="robot2_wrist_1_joint" value="-1.6489" />
        <joint name="robot2_wrist_2_joint" value="-1.6225" />
        <joint name="robot2_wrist_3_joint" value="0" />
```

This part continues on the next page

HRW ROS Assignment 1 Week 4 Part 1 (2)

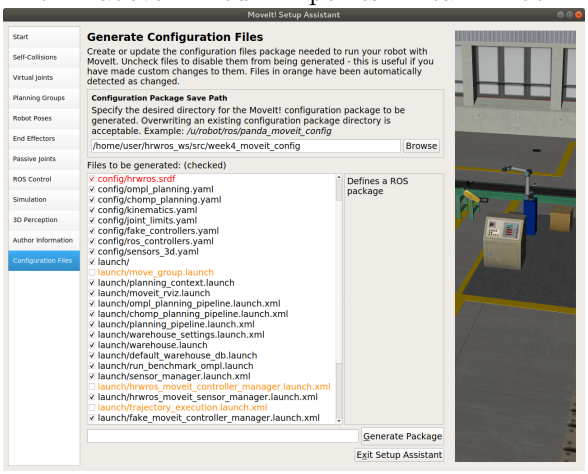
Once you have finished adding all four poses, select the R2Place pose, change the visualization on the right pane to focus on Robot2. Click on the show default pose button and then click MoveIt!
The assignments is to take a screenshot of the result at this point and upload it. But Watch out! You are not done yet after uploading the screen shot.
The screenshot should clearly show the eight robot poses and the robot 2 on the R2Place position.
Update the author information and also click on the "Configuration Files" entity. The moment you click on Configuration Files entity on the left panel, you will receive a pop-up window like shown in the screenshot below. Just click OK:



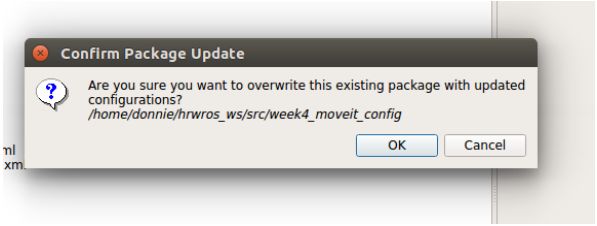
Then, the most important thing to ensure is four aspects in the Configuration files window.

1. The '`config/hrwros.srdf` file should have a "check" mark against it.
2. The `launch/move_group.launch` file should NOT have a check mark against it.
3. The `launch/hrwros_moveit_controller_manager.launch.xml` should NOT have a check mark against it.
4. The `launch/trajectory_execution.launch.xml` should NOT have a check mark against it.

The above four points can be verified against the screenshot below.



Finally, click on "Generate Package", confirm that we don't have any end effectors, you will get another pop-up window like shown below, warning you that you will be overwriting packages. Click OK.



You can now exit the setup assistant!

This concludes HRW ROS Assignment 1 Week 4