

HelloWorldRobWork

This tutorial will show you how to make a RobWork project in the terminal and how to import the project to QtCreator. The HelloWorldRobWork program is already on the virtual machine and will show you how to create a:

- **Joint Configuration:** The First number is the number of robot joints (also called the Number of Degrees of Freedom, NDOF) and the rest of the coordinates are the angles of the joints in radians.
- **Transform3D:** has a position and rotational part and can be constructed in different ways.
- **Equivalent Angle Axis (EAA):** The direction vector should have a length of 1.

Go through the program code.

Before starting take a look at the RobWork website. Here you can get more information about RobWork:

RobWork website: <http://www.robwork.dk/>

RobWork manual: <http://www.robwork.dk/manual>

RobWork C++ API: <http://www.robwork.dk/apidoc/cpp/doxygen/>

RobWork Python API: <https://www.robwork.dk/apidoc/python/>

Try searching for:

- “Q” and choose “Q”.
- “Transform3D” and choose “Transform3D<T>”.
- “EAA” and choose “EAA<T>”.

Here you can see the namespace and how to include it.

1 Terminal

Open a new terminal by either:

1. Click on the terminal icon in the menu-bar on the left side.
2. Press `Ctrl+Alt+t`.

Go to the build folder in the workspace:

```
> cd ~/PathToFile/HelloWorldRobWork/build/
```

Run CMake on the project:

```
> cmake ..
```

Make the project: > make

The executable has now been placed in the build folder and can be run with:

```
> ./HelloWorldRobWork
```

2 QtCreator

If you wish to use the QtCreator IDE, open QtCreator in the menu-bar on the left side of the screen. When QtCreator opens select “Open Project” and navigate to “~/PathToFile/HelloWorldRobWork/” and select “CMakeLists.txt”. Now QtCreator loads the project and now you can run the project by pressing “Ctrl+r”.

3 Python

Open a new terminal as described above.

Use:

```
> python3 ~/PathToFile/HelloWorldRobWork/HelloWorldRobWork.py
```