

# Tips and Tricks

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## Tips and Tricks

This section shows useful tips and tricks to use RoboDK software more productively.

### Smaller/Larger References (-/+)

Having a suitable size for reference frames helps grabbing the right coordinate systems, targets, tools or robots and move them to the desired location.

Press the **minus key (-)** or the **plus key (+)** once or multiple times to make the reference frames smaller or larger, respectively.

**Tip:** More information available in the [Reference Frames section](#).

**Video:** [https://www.youtube.com/watch?v=q-Uy1jvl-Co&t=0s&index=2&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=q-Uy1jvl-Co&t=0s&index=2&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

### Rename Object (F2)

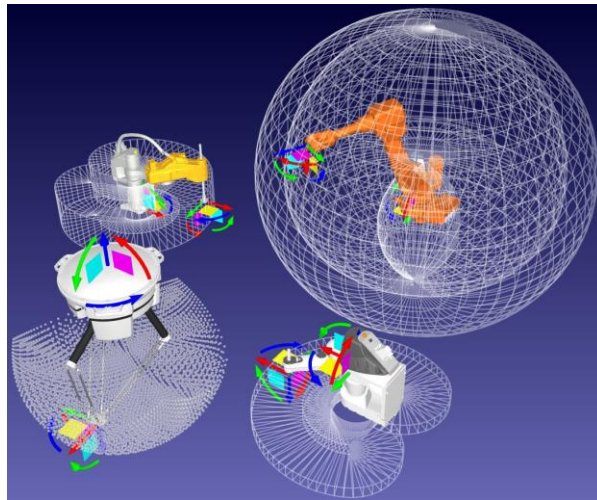
Select any item in the tree such as an object, a reference frame or a robot and press **F2** to rename it.

**Video:** [https://www.youtube.com/watch?v=NyBUutbRD3M&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=3](https://www.youtube.com/watch?v=NyBUutbRD3M&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=3).

### Show/Hide Robot Workspace (\*)

You can quickly display the robot workspaces to evaluate the reachability of a robot. Displaying the workspace helps you make sure that the location of your part is reasonable given the size of your robot. Double click a robot and select to display the workspace for the current tool. Otherwise, the workspace of the robot wrist will be displayed by default.

Press the asterisk key (\*) to show or hide robot workspaces.



**Video:** [https://www.youtube.com/watch?v=mQiOkIBDGcl&index=4&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=mQiOkIBDGcl&index=4&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

### Open your last project or file (Ctrl+1)

You can load the last file you opened or saved by pressing Ctrl+1. You can also access recently opened or saved files in the **File** menu.

**Video:** [https://www.youtube.com/watch?v=sZsC53UndwU&index=5&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=sZsC53UndwU&index=5&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

## Show the Station Tree as a side window

You can display the station tree as a side window. Select **Tools-Options** and set the **Display tree preference** as a **Side Window**. This layout may be preferable if you work with large objects or complex stations.

**Video:**

[https://www.youtube.com/watch?v=wTsJozezS-w&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=6](https://www.youtube.com/watch?v=wTsJozezS-w&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=6).

## Show or Hide Objects (F7)

Select one or more objects and press F7 to make them invisible. Press F7 again and they will switch to visible.

**Tip:** You can select multiple objects in the tree or the screen by holding the Ctrl key.

**Video:**

[https://www.youtube.com/watch?v=MuvjlkWPv1Y&index=7&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=MuvjlkWPv1Y&index=7&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

## Show or Hide the text on the screen (/)

You can show or hide the text on the screen by selecting the / key (forward slash).

**Video:**

[https://www.youtube.com/watch?v=ToMAUOsF07I&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=8](https://www.youtube.com/watch?v=ToMAUOsF07I&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=8).

## Move Reference Frames or Objects (Alt)

Move any reference frame, robot, target or object by holding the **Alt** key. You can place one or multiple objects under a reference frame to represent the position of the object or reference frame with respect to the robot.

**Tip:** More information available in the [Reference Frames section](#).

**Video:**

[https://www.youtube.com/watch?v=nqKs5KcJSrQ&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=9](https://www.youtube.com/watch?v=nqKs5KcJSrQ&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=9).

## Move a Robot Tool (Alt+Shift)

You can move a robot tool (TCP) by holding the **Alt + Shift** keys. Robot programs will be updated automatically.

**Tip:** More information available in the [robot tool \(TCP\) section](#).

**Video:**

[https://www.youtube.com/watch?v=aA1UHu2QeGM&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=10](https://www.youtube.com/watch?v=aA1UHu2QeGM&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=10)

## Reorder Items in the Tree

You can reorder items in the tree with one drag and drop operation inside the station tree. You can do so by dragging objects with the mouse right button.

**Tip:** More information available in the [Reference Frames section](#).

**Video:**

[https://www.youtube.com/watch?v=z3d7k9H\\_528&index=11&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=z3d7k9H_528&index=11&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

## Reorder Items in the Tree without moving them

You can reorder items in the tree without changing their absolute position. You can do so by holding the **Shift** key while you **drag and drop** items within the tree.

This operation modifies the relative position to maintain the same absolute position.

You can also right click a target and use the **Change support** option.

**Tip:** More information available in the [Reference Frames section](#).

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**Video:**

[https://www.youtube.com/watch?v=vDa4SvnJZLA&index=12&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=vDa4SvnJZLA&index=12&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

## Change the size of the Station Tree

Hold the **Ctrl** key while moving the **mouse wheel** to change the size of the tree. You can also specify the size of the text, icons and toolbar in the **Tools→Options** menu.

**Video:**

[https://www.youtube.com/watch?v=4cJNar776fA&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=13](https://www.youtube.com/watch?v=4cJNar776fA&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=13).

## Teach a Robot Target (Ctrl+T)

You can move the robot to a specific location and press **Ctrl+T** to create a new target. The current robot position will be recorded in the joint space and the Cartesian space.

Right click the newly created target to specify if you want to prioritize the robot joint axes or the Cartesian coordinates.

**Tip:** More information available in the [getting started section](#).

**Video:**

[https://www.youtube.com/watch?v=jbf8PprOT4I&index=14&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=jbf8PprOT4I&index=14&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

## Modify a Robot Target (F3)

You can select a target or a movement instruction and press **F3** to modify the robot target. You can select to teach a new position or manually enter new coordinates.

**Tip:** More information available in the [interface section](#).

**Video:**

[https://www.youtube.com/watch?v=ghBYySeAHXU&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=15](https://www.youtube.com/watch?v=ghBYySeAHXU&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=15).

## Teach Robot Targets on a Surface

You can select **Program-Teach Targets on Surface** to create new targets as you select points on a surface. The targets will be normal to the surface by default. You can also modify the tool orientation by using the settings on the left panel.

**Tip:** More information available in the [getting started section](#).

**Video:**

[https://www.youtube.com/watch?v=ZUja5mZT1KM&index=16&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=ZUja5mZT1KM&index=16&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

## Move Robot Targets on a Surface (Alt+Shift)

Hold the **Alt+Shift** keys to move a target while keeping it on the object surface. You can also hold the **Alt** key only if you prefer to freely move the target without constraining it on the object surface.

**Tip:** More information available in the [getting started section](#) and [interface section](#).

**Video:**

[https://www.youtube.com/watch?v=A9BD4QTEFyc&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=17](https://www.youtube.com/watch?v=A9BD4QTEFyc&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=17).

## Change the Robot Configuration

You can select a target and press **F4** to change the robot configuration. Industrial robots can reach the same position with different robot configurations. Having the right starting configuration is important as it helps making sure the program does not hit a robot singularity, axis limit or a collision.

**Tip:** More information available in the [getting started section](#) and [robot configuration section](#).

**Video:**

[https://www.youtube.com/watch?v=pZ1mlxD0v5Q&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=18](https://www.youtube.com/watch?v=pZ1mlxD0v5Q&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=18).

## Check the status of a Robot Program (F5)

Select a program and press **F5** to check if there are any issues with the program path. RoboDK will validate the program and display issues such as robot singularities or axis limits.

You can also select **Shift+F5** to include a check for collisions. Make sure to set the right collision map in Tools-Collision Map (**Shift+X**) and specify the object correlations that you want to include during collision checking.

**Tip:** More information available in the [robot programs section](#) and [collisions section](#).

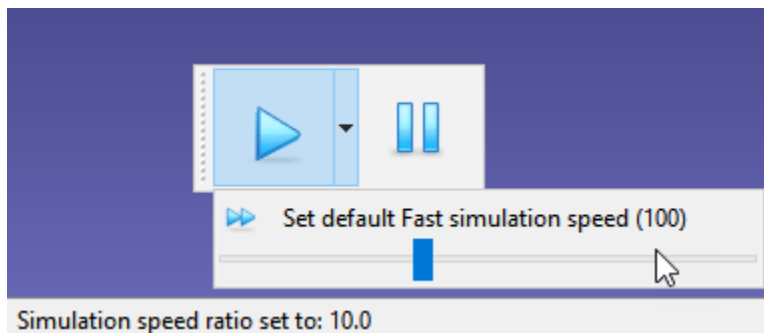
**Video:**

[https://www.youtube.com/watch?v=E-Y7R-Y0Sdl&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=19](https://www.youtube.com/watch?v=E-Y7R-Y0Sdl&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=19)

## Faster Simulation (hold Spacebar)

You can accelerate a robot simulation by holding the space bar. You can also select the **play** button in the toolbar. RoboDK simulates robot programs at a ratio of 5 times the real speed by default. This ratio is accelerated to 100 with the space bar.

You can also select the dropdown arrow to change the default normal/fast speeds.



**Tip:** More information available in the [robot programs section](#) and [simulation speed section](#).

**Video:**

[https://www.youtube.com/watch?v=5CEpnSRItCM&index=20&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich](https://www.youtube.com/watch?v=5CEpnSRItCM&index=20&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich).

## Generate a Robot Program (F6)

Select one or more programs in the tree and press **F6** to generate the robot programs. RoboDK will automatically generate all available robot programs in the station if you don't select any program.

**Tip:** More information available in the [robot programs section](#) and [post processors section](#).

**Video:**

[https://www.youtube.com/watch?v=iiF5\\_ZUIbkl&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=21](https://www.youtube.com/watch?v=iiF5_ZUIbkl&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=21).

## Export a Simulation (Ctrl+E)

Once you have a program simulation ready, right click the program and select **Export Simulation...** to generate a 3D HTML or a 3D PDF simulation.

**Tip:** More information available in the [robot programs section](#).

Examples:

- [UR painting robot](#)
- [Three Fanuc welding robots](#)

**Video:**

[https://www.youtube.com/watch?v=Vuq\\_hD2AZPw&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=22](https://www.youtube.com/watch?v=Vuq_hD2AZPw&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=22).

## Send a Program to the Robot (Ctrl+F6)

You can connect your robot to a computer to send programs directly from RoboDK to the robot. Select **Connect**→**Connect Robot** and enter the Robot IP. Then, right click your program and select **Send Program to robot**. The program will be generated and automatically transferred to the robot.

This option uses FTP transfer or other dedicated protocols depending on the robot controller. These protocols can be FTP, socket communication or a serial connection.

**Tip:** More information available in the [robot programs section](#).

**Video:**

[https://www.youtube.com/watch?v=WOMiEsIO\\_xM&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=23](https://www.youtube.com/watch?v=WOMiEsIO_xM&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=23).

## Run the Program on the Robot

You can connect robots to a computer to move the robots directly from RoboDK. Select **Connect**→**Connect Robot** and enter the Robot IP. Then, select **Connect** to establish communication using the robot driver.

You can right click any robot program and activate the **Run on robot** option. Then, double click a program to move the real robot together with the simulation.

This option uses a dedicated driver connection. This allows you to program robots online and proper debugging.

**Tip:** More information available in the [robot drivers section](#).

## Display the Robot Trace (Alt+T)

You can activate the trace of the robot by pressing **Alt+T**. You can also change the trace style in the **Tools**→**Trace** menu.

**Tip:** More information available in the [getting started section](#).

**Video:**

[https://www.youtube.com/watch?v=Wb6ToEJVYg0&list=PLjiA6TvRACQcNitucNzKjV9\\_V3UFnSich&index=24](https://www.youtube.com/watch?v=Wb6ToEJVYg0&list=PLjiA6TvRACQcNitucNzKjV9_V3UFnSich&index=24).