

Vodenje robotov – ROS DEBUG

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www.robolab.si
www.cobotic.si

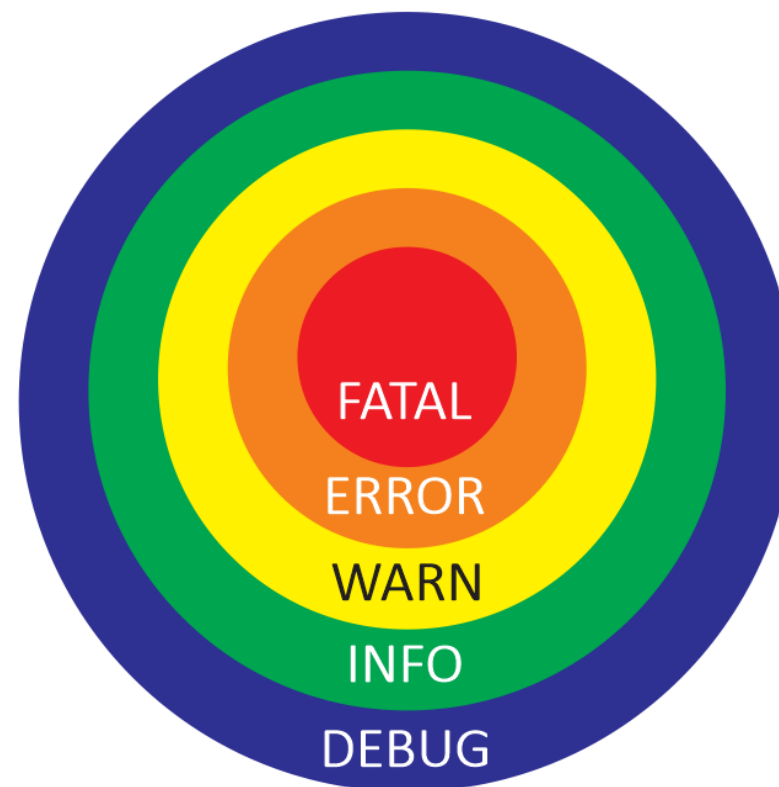
DEBUG orodja

- logiranje
- rqt_console
- rqt_plot
- rqt_graph
- rosbag
- RViz

LOGIRANJE

5 nivojev:

- DEBUG
 - INFO
 - WARN
 - ERROR
 - FATAL



LOGIRANJE

```
rospy.init_node('log_demo', log_level=rospy.DEBUG)
```

```
while not rospy.is_shutdown():  
    rospy.logdebug("Debug msg")  
    rospy.loginfo("Info msg")  
    rospy.logwarn("Warning msg")  
    rospy.logerr("Error msg" )  
    rospy.logfatal("Fatal msg")
```

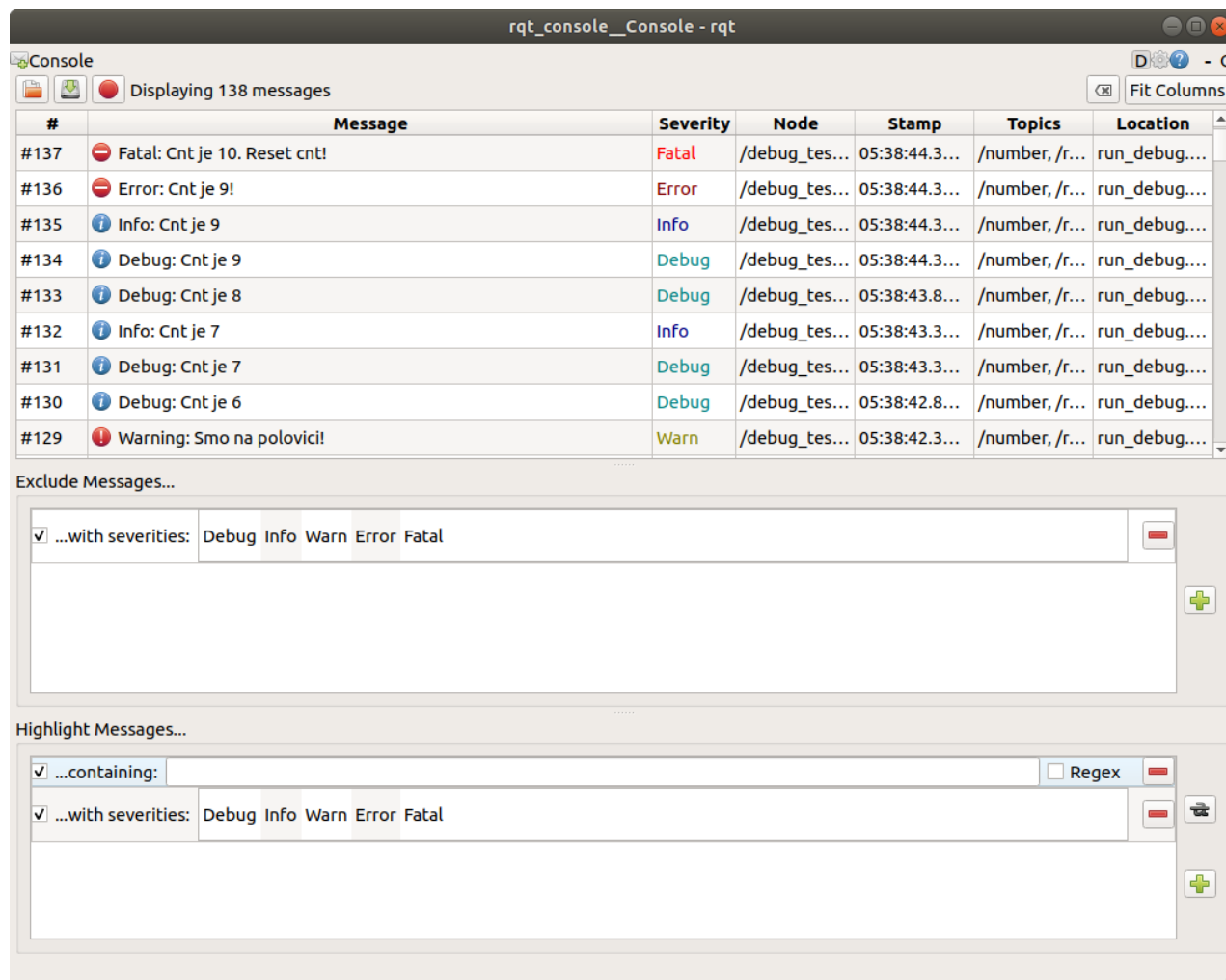
```
>> rosrn vodenje_robotov run_debug.py
```

RQT_CONSOLE

GUI za prikaz sporočil

- filtriranje
- označevanje

>> `rqt_console`



The screenshot shows the RQT Console window with the title "rqt_console__Console - rqt". It displays a table of 138 messages. The table has columns for #, Message, Severity, Node, Stamp, Topics, and Location. The messages are sorted by severity, with Fatal and Error messages at the top, followed by Info and Debug messages. Below the table, there are two sections for filtering messages: "Exclude Messages..." and "Highlight Messages...".

#	Message	Severity	Node	Stamp	Topics	Location
#137	Fatal: Cnt je 10. Reset cnt!	Fatal	/debug_tes...	05:38:44.3...	/number, /r...	run_debug...
#136	Error: Cnt je 9!	Error	/debug_tes...	05:38:44.3...	/number, /r...	run_debug...
#135	Info: Cnt je 9	Info	/debug_tes...	05:38:44.3...	/number, /r...	run_debug...
#134	Debug: Cnt je 9	Debug	/debug_tes...	05:38:44.3...	/number, /r...	run_debug...
#133	Debug: Cnt je 8	Debug	/debug_tes...	05:38:43.8...	/number, /r...	run_debug...
#132	Info: Cnt je 7	Info	/debug_tes...	05:38:43.3...	/number, /r...	run_debug...
#131	Debug: Cnt je 7	Debug	/debug_tes...	05:38:43.3...	/number, /r...	run_debug...
#130	Debug: Cnt je 6	Debug	/debug_tes...	05:38:42.8...	/number, /r...	run_debug...
#129	Warning: Smo na polovici!	Warn	/debug_tes...	05:38:42.3...	/number, /r...	run_debug...

Exclude Messages...

☒ ...with severities: Debug Info Warn Error Fatal

Highlight Messages...

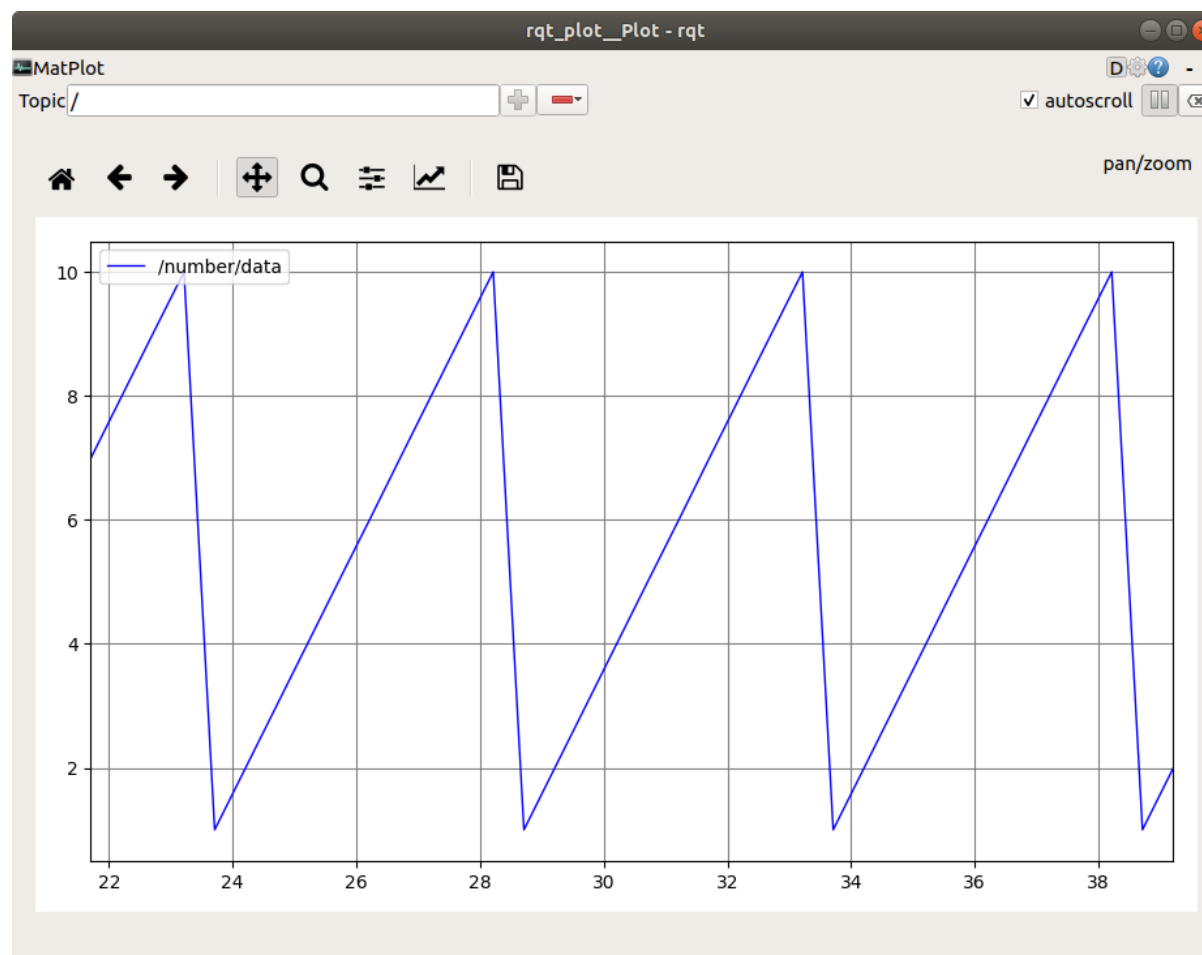
☒ ...containing: ☐ Regex

☒ ...with severities: Debug Info Warn Error Fatal

RQT_PLOT

grafični izris signalov

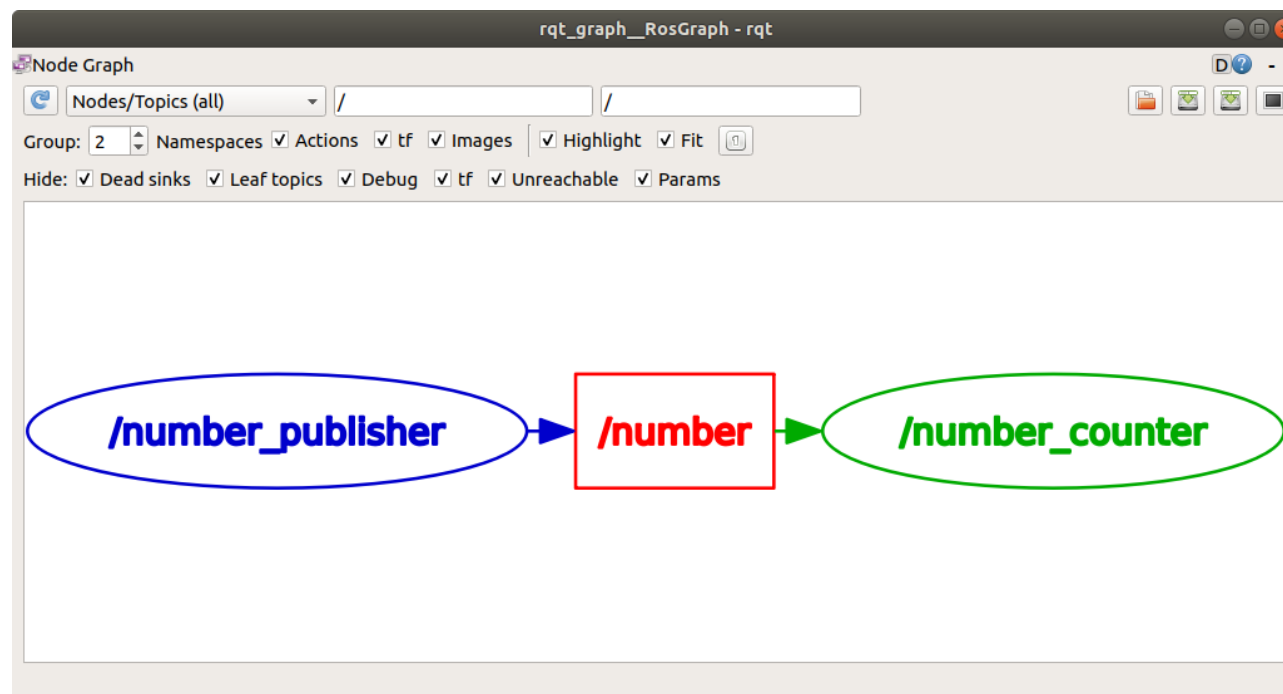
```
>> rqt_plot
```



RQT_GRAPH

povezave med posameznim gradniki

```
>> rqt_graph
```



ROSBAG

Shranjevanje podatkov

```
>> rosbag record -O name_bag_file.bag topic1 ... topicN
```

```
-O >> output_name
```

rosbag record



ROSBAG

Shranjevanje podatkov

```
>> rosbag record -O name_bag_file.bag topic1 ... topicN
```

```
-O >> output_name
```

Informacije o podatkih

```
>> rosbag info name_bag_file.bag
```

rosbag record



rosbag info

ROSBAG

Shranjevanje podatkov

```
>> rosbag record -O name_bag_file.bag topic1 ... topicN
```

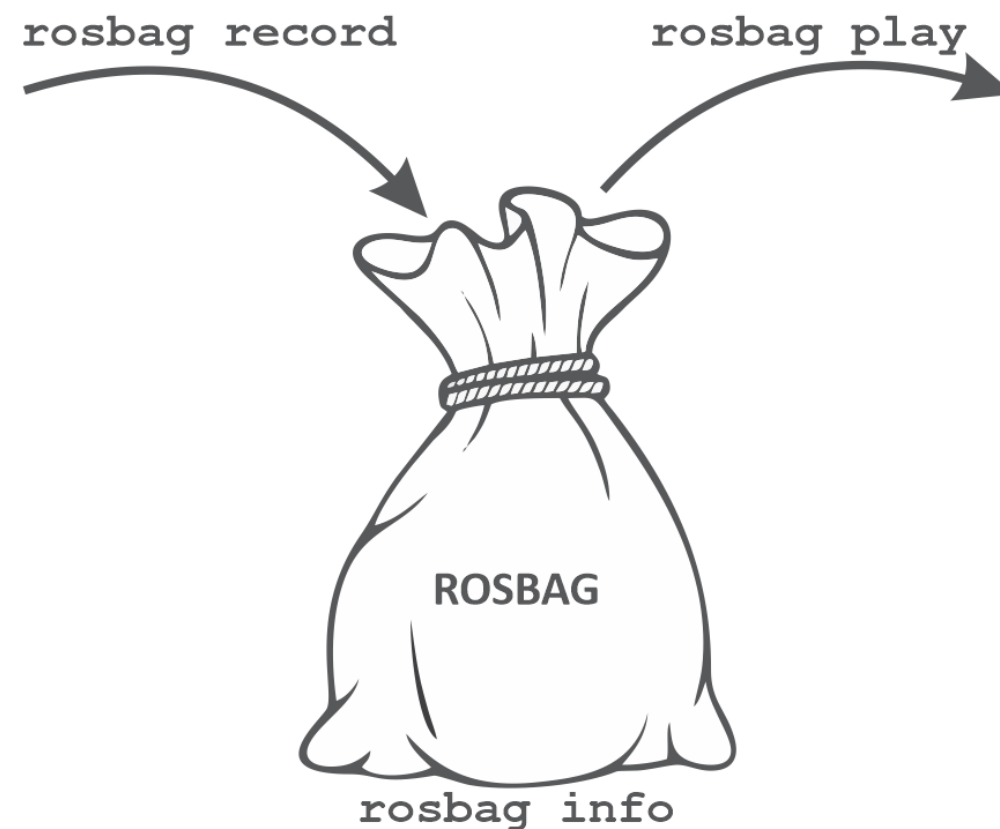
```
-O >> output_name
```

Informacije o podatkih

```
>> rosbag info name_bag_file.bag
```

Predvajanje podatkov

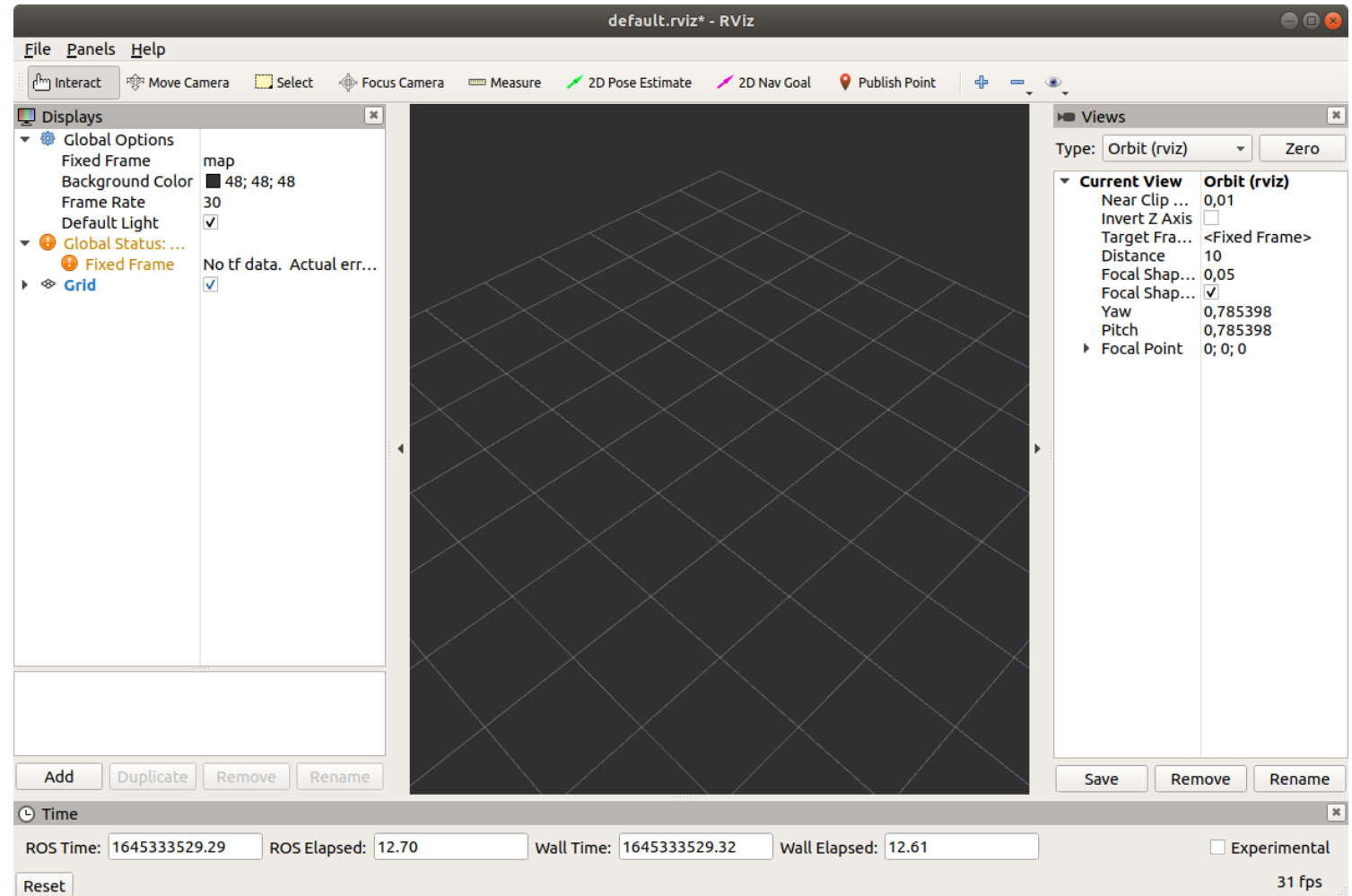
```
>> rosbag play name_bag_file.bag
```



RVIZ

- RViz vizualno predstavlja podatke, ki jih pošiljajo topics
- RViz NI simulacija, predstavlja trenutno stanje robota

```
>> rosrn rviz rviz
```



```
>> roslaunch vodenje_robotov display_gluon.launch
```

RVIZ

rviz

Create visualization

By display type By topic

- moveit_ros_visualization
 - MotionPlanning
 - PlanningScene
 - RobotState
 - Trajectory
- rviz
 - Axes
 - Camera
 - DepthCloud
 - Effort
 - FluidPressure
 - Grid
 - GridCells
 - Group
 - Illuminance
 - Image
 - InteractiveMarkers
 - LaserScan
 - Map
 - Marker
 - MarkerArray
 - Odometry
 - Path
 - PointCloud
 - PointCloud2
 - PointStamped
 - Polygon
 - Pose
 - PoseArray
 - PoseWithCovariance
 - Range
 - RelativeHumidity
 - RobotModel
 - TF
 - Temperature
 - WrenchStamped

Description:

Display Name

Cancel OK

urdf.rviz* - RViz

File Panels Help

Interact Move Camera Select Focus Camera Measure 2D Pose Estimate 2D Nav Goal Publish Point

Displays

- Global Options
 - Fixed Frame: base_link
 - Background Color: 48; 48; 48
 - Frame Rate: 30
 - Default Light: ☒
- Global Status: Ok
- Fixed Frame: OK
- Grid: ☒
- RobotModel: ☒
- TF: ☒

Show Names

Whether or not names should be shown next to the frames.

Add Duplicate Remove Rename

Views

Type: Orbit (rviz) Zero

Current View

- Near Clip ...: 0,01
- Invert Z Axis: ☐
- Target Fra...: <Fixed Frame>
- Distance: 1,27094
- Focal Shap...: 0,05
- Focal Shap...: ☒
- Yaw: 4,89857
- Pitch: 0,639798
- Focal Point: 0,023953; 0,135...

Save Remove Rename

Time

ROS Time: 1645333946.47 ROS Elapsed: 84.11 Wall Time: 1645333946.50 Wall Elapsed: 84.11

Reset

Experimental

31 fps

joint_state_publisher_...

axis_joint_1 0.00

axis_joint_2 0.00

axis_joint_3 0.00

axis_joint_4 0.00

axis_joint_5 0.00

axis_joint_6 0.00

Randomize

Center

6