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# Documentation

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## rosmsg

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# Package Summary



rosmsg contains two command-line tools: rosmsg and rossrv. rosmsg is a command-line tool for displaying information about ROS Message types. rossrv is a command-line tool for displaying information about ROS Service types.

- · Maintainer status: maintained
- Maintainer: Dirk Thomas <dthomas AT osrfoundation DOT org>
- Author: Ken Conley, Tully Foote
- · License: BSD
- Source: git https://github.com/ros/ros\_comm.git (branch: melodic-devel)

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# 1. Overview

rosmsg and rossrv are handy command-line tools that provide reference information for developers and also serve as a powerful introspection tool for learning more about data being transmitted in ROS.

For example, if you are using a message in your code, you can type rosmsg show at the command-line to look up its fields:

\$ rosmsg show sensor\_msgs/CameraInfo Header header uint32 seq time stamp string frame\_id uint32 height uint32 width RegionOfInterest roi uint32 x\_offset uint32 y\_offset uint32 height uint32 width float64[5] D float64[9] K float64[9] R float64[12] P

For even quicker typing, you can omit "my\_pkg", and rosmsg will search all packages for a matching message.

You can also use this in an online system with tools like rostopic. For example, rostopic type will tell you the message type of a topic:

\$ rostopic type rosout roslib/Log

You can pass this to rosmsg to quickly see the fields of the message:

```
rostopic type rosout | rosmsg show
byte DEBUG=1
byte INFO=2
byte WARN=4
byte ERROR=8
byte FATAL=16
Header header
 uint32 seq
 time stamp
 string frame_id
byte level
string name
string msg
string file
string function
uint32 line
string[] topics
```

Once you know more about the fields of a particular message, you can then listen them at the command-line, e.g.

\$ rostopic echo rosout/msg

# 2. Command-Line Tools

# 2.1 rosmsg

The rosmsg command-line tool displays information about ROS Message types. The following sections describe the commands that are available.

### 2.1.1 rosmsg show

show <message type>

Display the fields in a ROS message type. You may omit the package name of the type, in which case rosmsg will search for matching types in all packages. Example:

\$ rosmsg show std\_msgs/String

or, if you don't know the package name:

\$ rosmsg show Pose

You can use rosmsg in combination with rostopic to display the type information about a topic:

\$ rostopic type /topic\_name | rosmsg show

-r

Display the raw msg definition.

```
$ rosmsg show -r robot_msgs/Quaternion
# xyz - vector rotation axis, w - scalar term (cos(ang/2))
float64 x
float64 y
float64 z
float64 w
```

## -b BAGFILE

Show message as defined in BAGFILE.

#### 2.1.2 rosmsg list

# New in Fuerte

list

Display a list of all messages. This command does not take in any additional arguments. This command is mainly for use by experts who wish to perform operations on packages with .msg files.

```
$ rosmsg list
nav_msgs/GridCells
nav_msgs/MapMetaData
nav_msgs/OccupancyGrid
nav_msgs/Odometry
nav_msgs/Path
...
```

Note that messages in a subfolder may not be listed as of March 2017 ( ●open ticket).

## 2.1.3 rosmsg package

package <package-name>

Display a list of all messages in a package.

```
$ rosmsg package nav_msgs
nav_msgs/OccupancyGrid
nav_msgs/Path
nav_msgs/MapMetaData
```

```
nav_msgs/Odometry
nav_msgs/GridCells
```

-S

Display all messages on a single line. Useful for backtick invocations.

## 2.1.4 rosmsg packages

### packages

Display a list of all packages with messages. This command does not take in any additional arguments. This command is mainly for use by experts who wish to perform operations on packages with .msg files.

```
$ rosmsg packages
std_msgs
roscpp
roslib
...
```

-S

Display all packages on a single line. Useful for backtick invocations.

#### 2.1.5 rosmsg users

#### Only available in ROS Electric and earlier

users <message type>

Search for code files that use the message type. This is useful when renaming message types. This command may take a long time, depending on the size of your code base.

NOTE: As ROS supports many different coding languages, rosmsg users is not guaranteed to find every file that uses the message type and should only be used as a supplementary tool.

```
$ rosmsg users sensor_msgs/CameraInfo
Files using sensor_msgs/CameraInfo:
Usages directly depended upon:sensor_msgs/CameraInfo
/home/user/ros-pkg/pr2_simulator/pr2_gazebo_plugins/include/pr2_gazebo_plugins/gazebo_ros_prosilica.h
...
```

# 2.1.6 rosmsg md5

NOTE: The md5 command is meant for expert users only.

```
md5 <message type>
```

Display the md5 sum of a message. This will will also warn if the compiled version doesn't match.

### 2.2 rossrv

The rossrv command-line tool displays information about ROS services. It has the exact same usage as rosmsg (see what it offers when it runs without sub-command below):

```
$ rossrv
```

rossrv is a command-line tool for displaying information about ROS Service types.

#### Commands:

rossrv show Show service description
rossrv list List all services
rossrv md5 Display service md5sum
rossrv package List services in a package
rossrv packages List packages that contain services

Type rossrv <command> -h for more detailed usage

# 2.3 Syntax highlighting

Sublime Text 3

# 3. Roadmap

rosmsg and rossrv are stable tools. There is currently no plan to add new features to them.

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