ROS Command-line tools

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1. Common user tools

The following tools are built when a top-level make is called in `$ROS_ROOT`. They are installed to `$ROS_ROOT/bin`, which should have been added to your `PATH` variable as part of the installation process. If this is not the case, please follow the Installation Guide (/ROS/Installation)

1.1 rosbag

rosbag (/rosbag) is a command-line tool for performing various operations on ROS bag files (/Bags), including playing, recording, and validating.

1.2 rosbash

rosbash (/rosbash) is not a command, but rather a suite of commands and functionality. It requires that you source the contents of the rosbash file

```
source $ROS_ROOT/tools/rosbash/rosbash
```

which, if you followed the installation guide, should already be done by your bashrc file.

rosbash provides the commands `roscd` and `rosed`, in addition to adding correct tab-completion functionality to `roscd`, `rosed`, `rosmake`, and `rosrun`.

1.3 roscd

`roscd` is part of the rosbash (/rosbash) suite. It allows you to cd directly to a package, stack, or common location by name rather than having to know the package path.

Usage:

```
roscd locationname[/subdir]
```

Example:

```
roscd roscpp/include
```

roscd without an argument will take you `$ROS_ROOT`. In addition to your packages and stacks, there are some common locations, "log", and "test_results" which will take you directly to those locations.

For advanced users, you can extend `roscd` with your own keywords by modifying the `$ROS_LOCATIONS` environment variable to contain a colon-separated list of keys and locations that will be included in the roscd path. For example,

```
export $ROS_LOCATIONS="rospkg=/path/to/rospkg:stairpkg=/path/to/stairpkg"
```

Prior to ROS-0.8, you could roscd to the first directory on your `$ROS_PACKAGE_PATH` using the pkg keyword. This functionality can be restored with:

```
export $ROS_LOCATIONS="pkg=$ROS_PACKAGE_PATH"
```

1.4 rosclean

New in C Turtle

Cleanup filesystem resources (e.g. log files) created by ROS. See rosclean (/rosclean).

1.5 roscore

roscore (/roscore) runs the ROS Core Stack (Master (/Master), Parameter Server (/Parameter%20Server), rosout (/rosout), etc...).

1.6 rosdep

Documented at rosdep (/rosdep), this installs system dependencies

Usage:

```
rosdep install PACKAGE_NAME
```

1.7 rosed

`rosed` is part of the rosbash (/rosbash) suite. It allows you to directly edit a file within a package by package name rather than having to know the package path.

Usage:

```
rosed packagename filename
```

Example:

```
rosed roscpp ros.h
```

If the filename is not uniquely defined within the package, a menu will prompt you to choose which of the possible files you want to edit.

`rosed` will open the editor defined in your `$EDITOR` environmental variable, or else default to `vim`.

1.8 roscreate-pkg

`roscreate-pkg` creates common Manifest (/Manifest), CMakeLists (/CMakeLists), Doxygen (/Doxygen) and other files necessary for a new ROS package. It is part of the roscreate (/roscreate) package.

1.9 roscreate-stack

`roscreate-stack` creates common Stack Manifest (/Stack%20Manifest), CMakeLists (/CMakeLists) and other files necessary for a new ROS stack. It is part of the roscreate (/roscreate) package.

1.10 rosrun

`rosrun` allows you to run an executable in an arbitrary package without having to cd (or roscd) there first.

Usage:

```
rosrun package executable
```

Example:

```
rosrun roscpp_tutorials talker
```

1.11 roslaunch

roslaunch (/roslaunch) launches a set of nodes from an XML configuration file and includes support for launching on remote machines. More documentation is available on the roslaunch page (/roslaunch).

1.12 roslocate

Removed in ROS 1.4: this is now part of the rosinstall (/rosinstall) tool

roslocate (/roslocate) finds the repository that a ROS package is stored in, e.g. `roslocate svn tf`. It makes it easy to quickly checkout the source of a package: ``svn co `roslocate svn tf` ``. More documentation is available on the roslocate page (/roslocate).

1.13 rosmake

See the rosmake (/rosmake) page.

1.14 rosmsg

rosmsg (/rosmsg) displays Message (/Message) data structure definitions. More documentation is available on the rosmsg page (/rosmsg).

1.15 rosnode

rosnode (/rosnode) displays runtime node information and lets you ping nodes to check connectivity. More documentation is available on the rosnode page (/rosnode).

1.16 rospack

See the rospack (/rospack) page.

1.17 rosparam

rosparam (/rosparam) enables getting and setting parameter server values from the command-line using YAML-encoded text.

1.18 rossrv

rossrv (/rossrv) displays Service srv (/srv) data structure definitions. More documentation is available on the rossrv page (/rossrv).

1.19 rosservice

rosservice (/rosservice) displays run-time information about Services (/Services) and also lets you print out messages being sent to a topic. More documentation is available on the rosservice page (/rosservice).

1.20 rosstack

See the rosstack (/rosstack) page.

1.21 rostopic

rostopic (/rostopic) displays run-time information about Topics (/Topics) and also lets you print out messages being sent to a topic. More documentation is available on the rostopic page (/rostopic).

1.22 rosversion

New in Diamondback

Report the version of a ROS stack (/Stacks).

2. Graphical tools

The ROS graphical tools often require additional dependencies before they can be used, such as graphviz and Python GTK. You can use `bash <(rosdep satisfy PACKAGE_NAME)` to quickly install the dependencies for these tools.

2.1 rqt_bag

rqt_bag (/rqt_bag) is a graphical tool for viewing data in ROS bag files (/Bags).

2.2 rqt_deps

rqt_deps (/rqt_deps) generates a PDF of ROS dependencies.

2.3 rqt_graph

`rqt_graph` displays an interactive graph of ROS nodes and topics. See the rosgraph (/rosgraph) package for documentation.

2.4 rqt_plot

rqt_plot (/rqt_plot) plots numerical data on a ROS topic over time.

3. Less-used tools

The following tools may be commonly used by internal tools, but aren't often used by end users.

3.1 gendeps

See the roslib (/roslib) page

/Review (/ROS/CommandLineTools/Review)

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