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Launch node with root permissions

root permissions

Hi guys,

I need to launch a specific node with root permissions. The reason is that I need to reset a USB device under specific circumstances (sometimes the device crashes and requires to be reset). Invoking the appropriate ioctl system call requires root permissions.



I'd like to launch that node through `roslaunch`. However it should be the only node to get into god mode.

The user ROS runs under is in a sudoer. Any idea on how to achieve that?

Thanks a lot!

Cheers, Hendrik

asked May 15 '14
Hendrik Wiese
855 ● 61 ● 78 ● 91

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Asked: May 15 '14
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open a new terminal beside others, run `>sudo -s`, then `> roslaunch`

[lanyusea](#) (May 15 '14)

But this way all nodes run as root, don't they?

[Hendrik Wiese](#) (May 15 '14)

I don't think so, you just root the current terminal session, i.e. the current node. others are still running without root.

[lanyusea](#) (May 15 '14)

But I launch all my nodes with a single roslaunch call. What you supposedly mean is rosrn...

[Hendrik Wiese](#) (May 15 '14)

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1 Answer

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This can be done using the roslaunch `launch-prefix` option in the [node tag](#). For example, if you user has passwordless sudo enabled, you could try:

answered May 15 '14
ahendrix
41487 ● 123 ● 267 ● 571
<http://hamniart.com/>

```
<node pkg="my_pkg" type="my_node" name="my_super_node" launch-prefix="sudo"/>
```

If you don't want to set up passwordless sudo, and your node doesn't change very often, you could try setting the `setuid` bit on it, so that it runs as root even if started by a non-root user. The only trouble with this is that you'll have to reset the permissions whenever your node changes, and it generally won't be deployable through debs, and it will only work for compiled nodes; not for scripts.

```
cd devel/lib/my_pkg      # cd to the directory with your node
chown root:root my_node  # change ownership to root
chmod a+rx my_node       # set as executable by all
chmod u+s my_node        # set the setuid bit
```

Note that both of these methods will unset `LD_LIBRARY_PATH` before executing your node (it's a security feature of glibc). This means that your node will either need to be statically compiled, or you'll need to turn on `RPATH` during the compilation process, so that the library search path is included in your executable rather than relying on the environment to be set up correctly.

Comments

[link](#)

Yes, I think passwordless sudo with a python node should work. You may want to check that sudo is configured to pass the PYTHONPATH variable.

 ahendrix (May 16 '14)

I know this old question, but I got stuck on that issue for some days.

Could someone please be more specific how this is solved, especially concerning the staical compilation and turning on the RPATH?

 Wedigo (Aug 1 '15)

Have a look at http://www.cmake.org/Wiki/CMake_RPATH...

 ahendrix (Aug 9 '15)

Thank you for the link.

I found a solution before you posted this. I added the needed environment variables to the sudo prefix in the .launch file. It works for now....

 Wedigo (Aug 10 '15)

- 1 if using `sudo` as the launch-prefix, it may be necessary to use `sudo -E` to preserve the ROS environment variables.

 suforeman (Jan 21 '17)

hi ! how can I do the reverse of the command line 4 instructions set ? This broke my node and I don't understand the following documentation well enough to do the compilation part of the fix. Between, I'm trying to solve [this](#)

 Blupon (Aug 2 '17)

- 1 You can remove the setuid bit with `sudo chmod u-s my_node`

 ahendrix (Aug 3 '17)

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