type, info and rosmsg

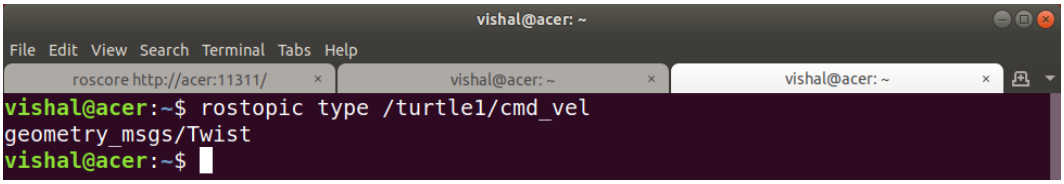
type

Communication on topics happens by sending ROS messages between nodes. To communicate, the publisher and subscriber must send and receive the same **type** of message. This means that a topic **type** is defined by the message **type** published on it. The **type** of the message sent on a topic can be determined using `rostopic type`.

```
rostopic type [topic]
```

- From the previous section, we know that the turtlesim node has 3 topics being published/subscribed.
    - `/turtle1/cmd_vel`
    - `/turtle1/pose`
    - `/turtle1/color_sensor`
- Lets consider the topics `/turtle1/cmd_vel`. Enter the following command to get the message type.

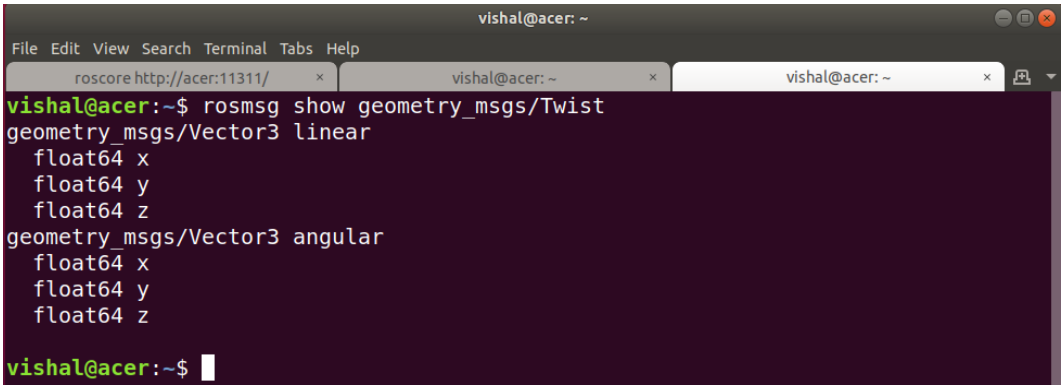
```
rostopic type /turtle1/cmd_vel
```



rosmsg

- As you can observe the type of message associated with `/turtle1/cmd_vel` is `geometry_msgs/Twist`. let's look into more detail of the message, using `rosmsg show [messageType]` command:

```
rosmsg show geometry_msgs/Twist
```



- A message consists of two parts, *field and constant*. Simply, **fields** is the datatype and **constants** are the representative value. From the above figure, you can observe that these *field*

and constants are displayed twice. However, both of these sections, are separate since they have a different **header** or different sub-information from the same robot. The 2 **headers** seen are...

- `geometry_msgs/Vector3 linear` : Describes the linear velocities of all the 3 axes.
- `geometry_msgs/Vector3 angular` : While this header describes, angular velocities of all 3 axes.

For more details regarding *messages* in ROS refer to wiki.ros.org/msg.

For more information on `geometry_msgs/Twist` refer, this thread of Stackoverflow forum.

info

- This command provides a little more detail about topics then `type` argument.

```
rostopic info /turtle1/cmd_vel
```

- The output of this command will yield both
  - the message **type** and
  - the **nodes** which are publishing it or subscribing it.