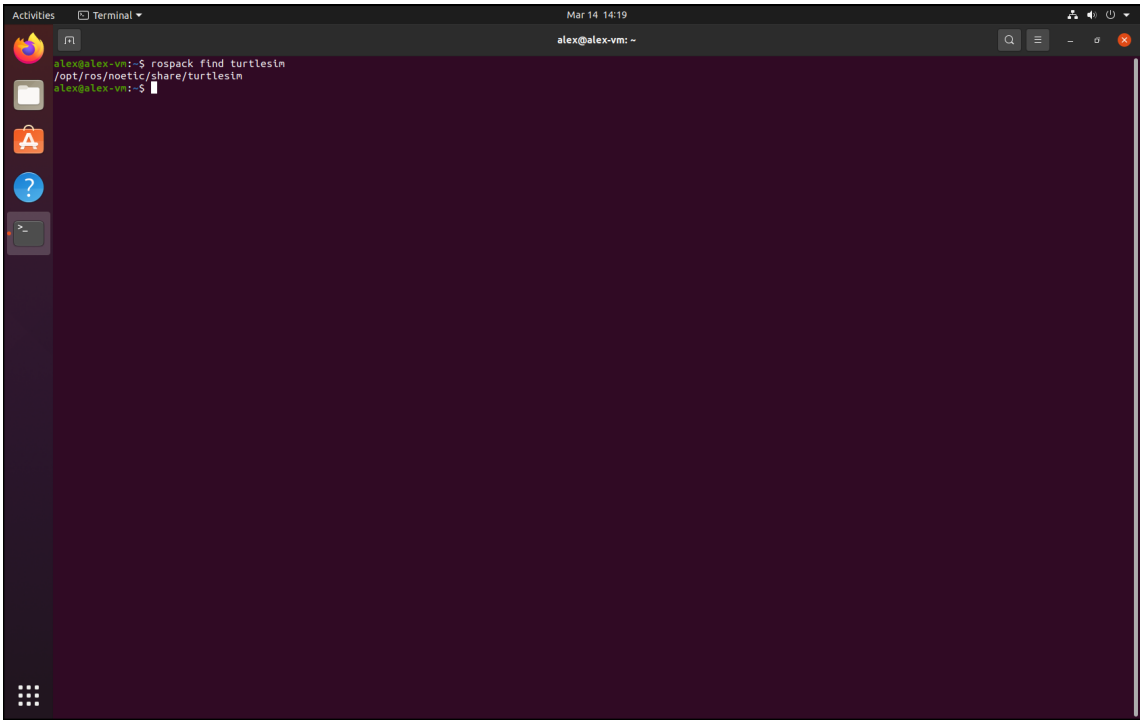
Week 2

1.1 `rospack` and `rosls`

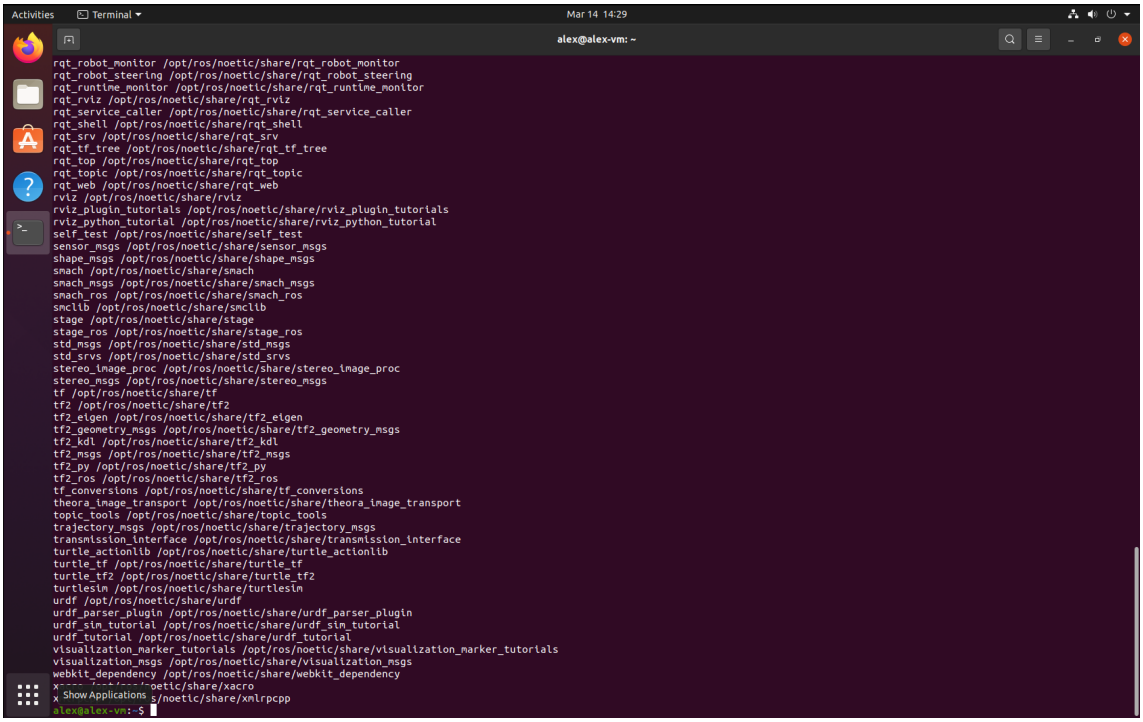
1.1.1

The output of this command shows the path to the `turtlesim` package.



1.1.2

This outputs all the available packages and their filepaths



1.1.3

xmlrpcpp /opt/ros/noetic/share/xmlrpcpp

xacro /opt/ros/noetic/share/xacro

webkit_dependency /opt/ros/noetic/share/webkit_dependency

visualization_msgs /opt/ros/noetic/share/visualization_msgs

visualization_marker_tutorials /option/ros/noetic/share/visualization_marker_tutorials

urdf_tutorial /opt/ros/noetic/share/urdf_tutorial

urdf_sim_tutorial /opt/ros/noetic/share/urdf_sim_tutorial

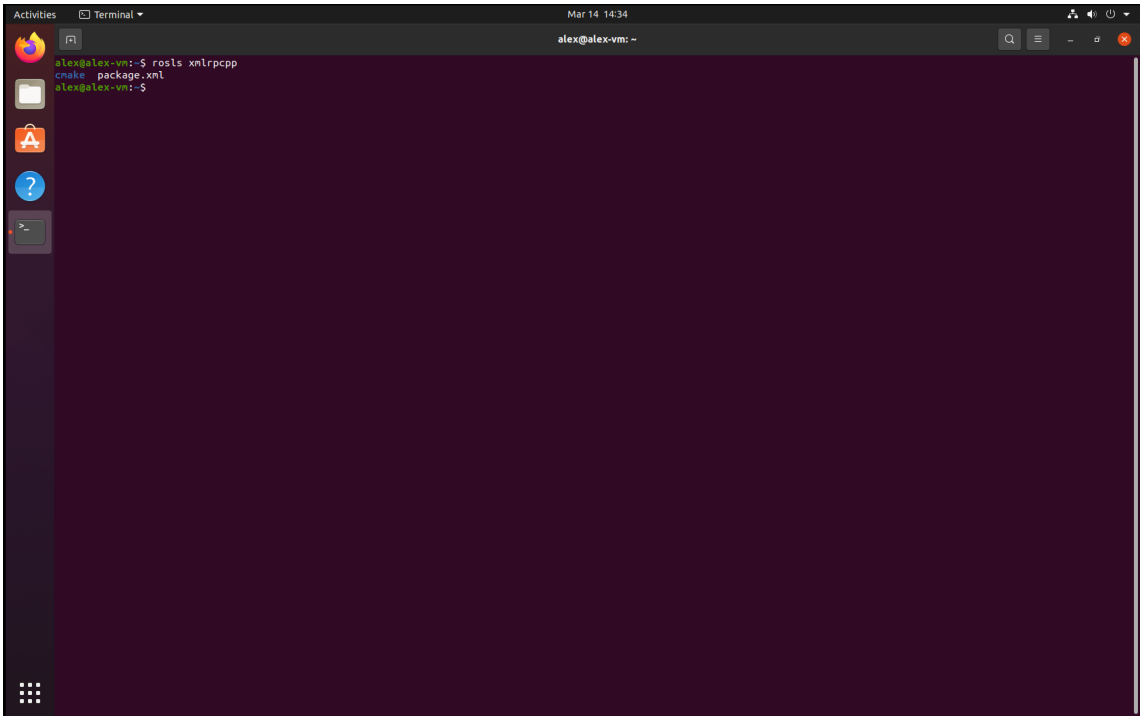
urdf_parser_plugin /opt/ros/noetic/share/urdf_parser_plugin

urdf /opt/ros/noetic/share/urdf

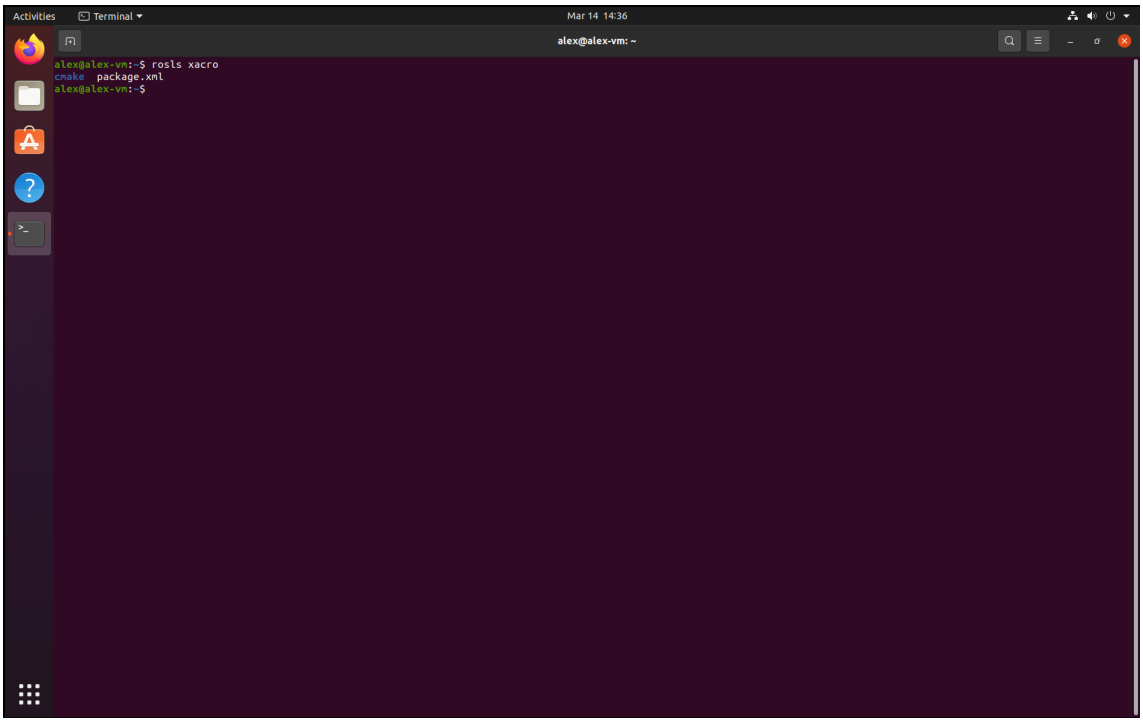
turtle_tf /opt/ros/noetic/share/turtle_tf

1.1.4

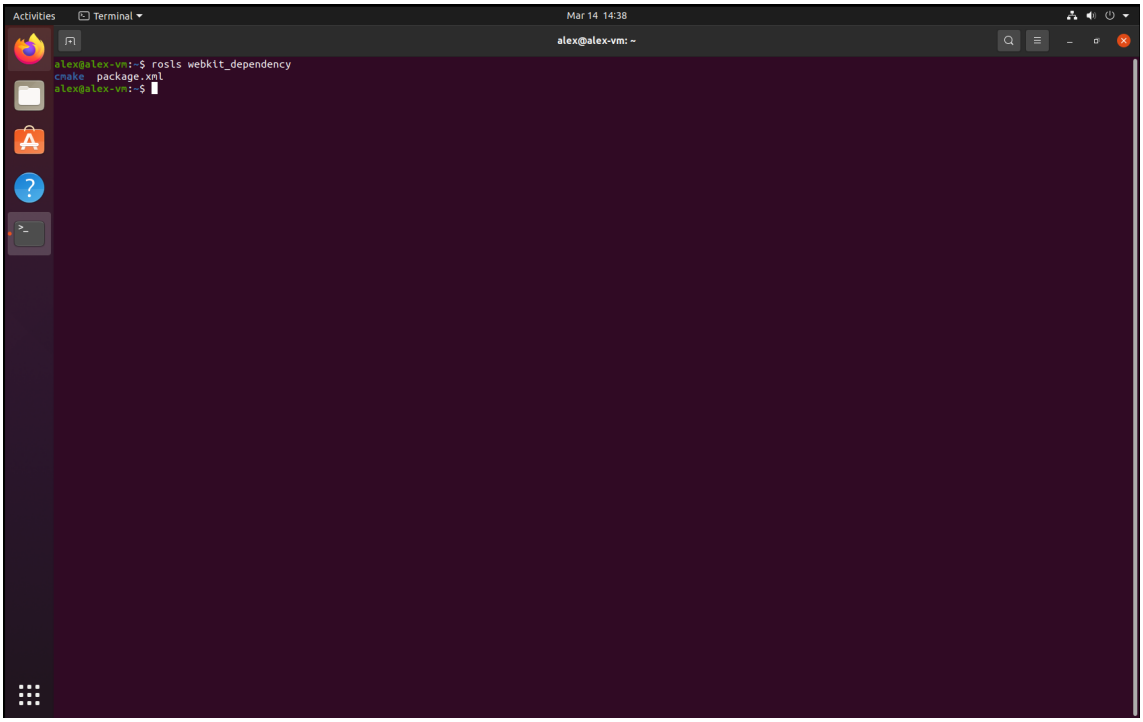
The output of the `rosls` command shows the contents of the package



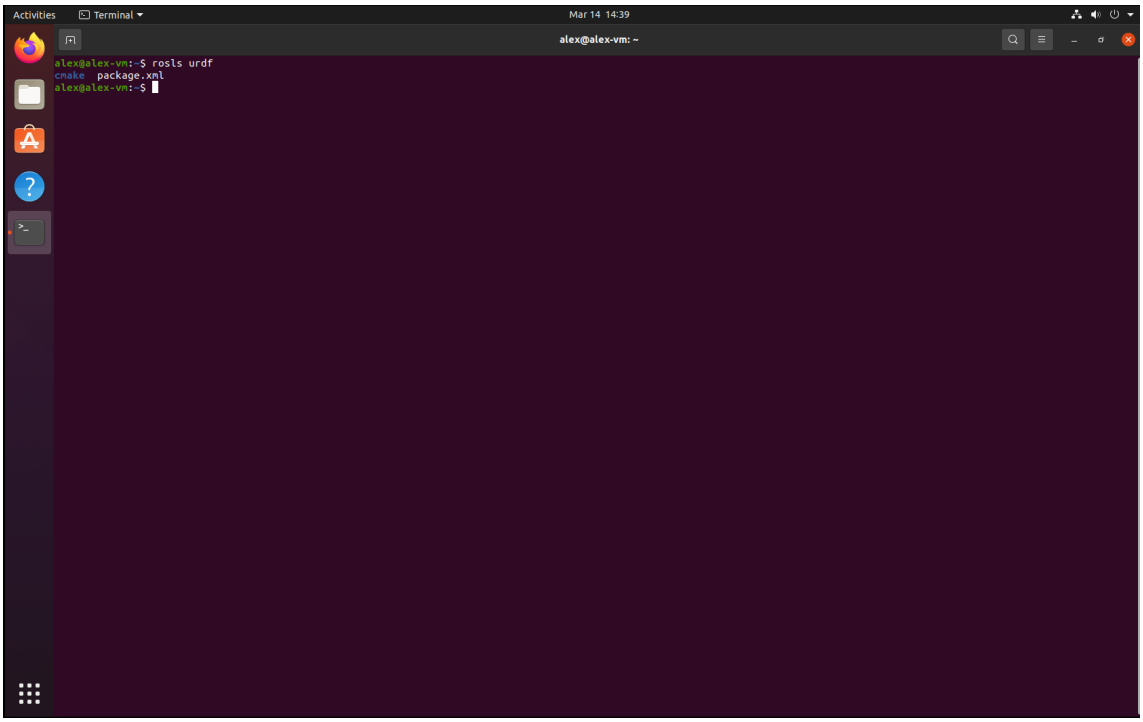
xmlrpcpp



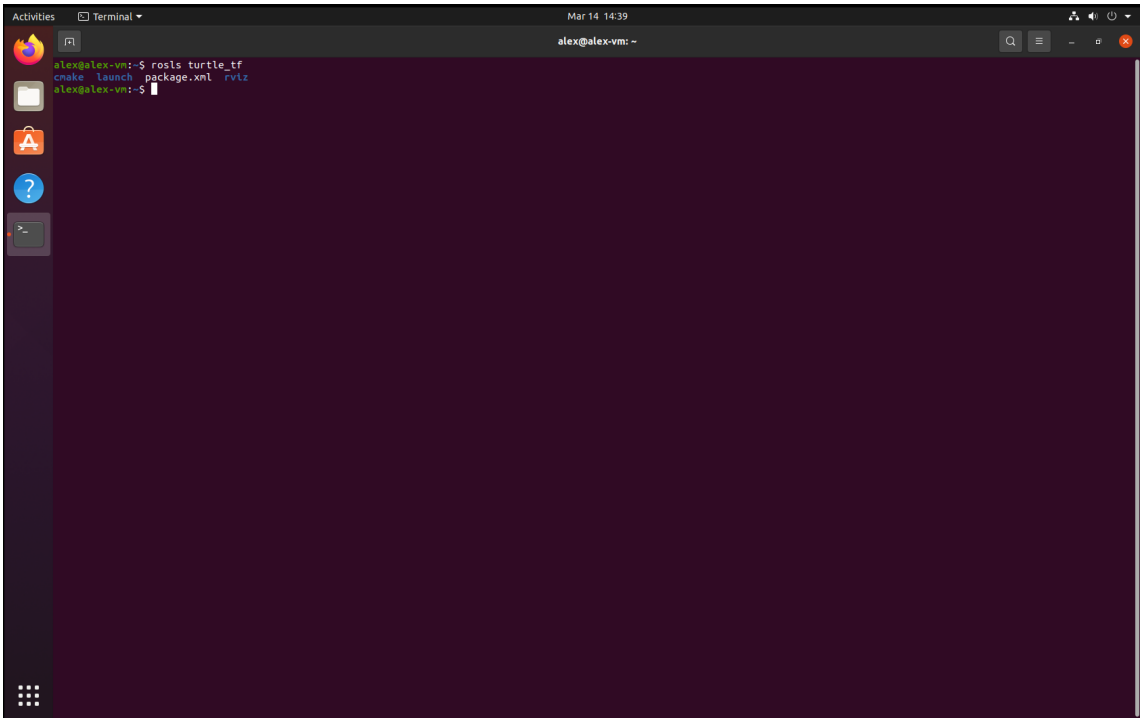
xacro



webkit_dependency

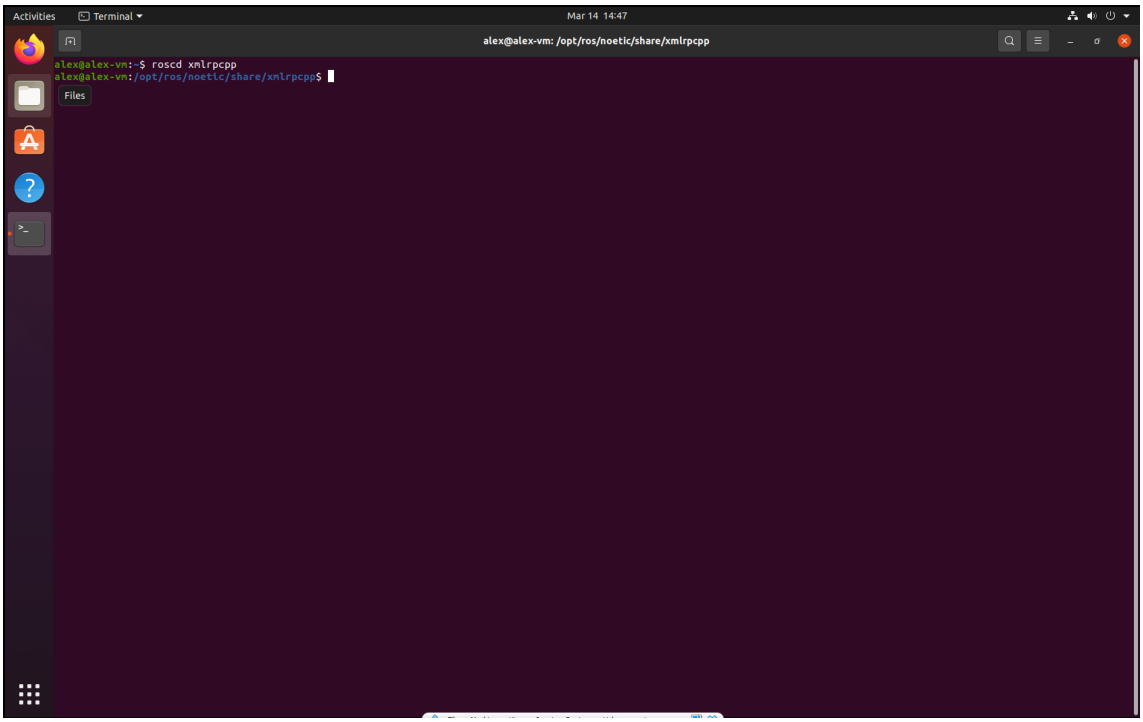


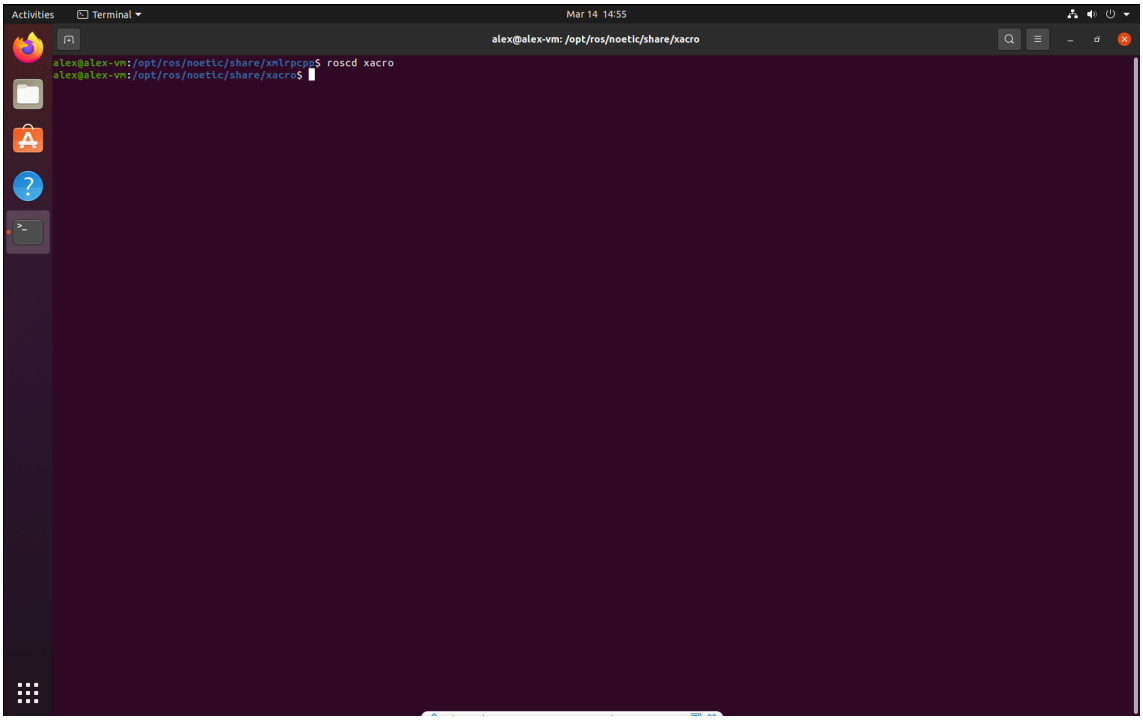
urdf

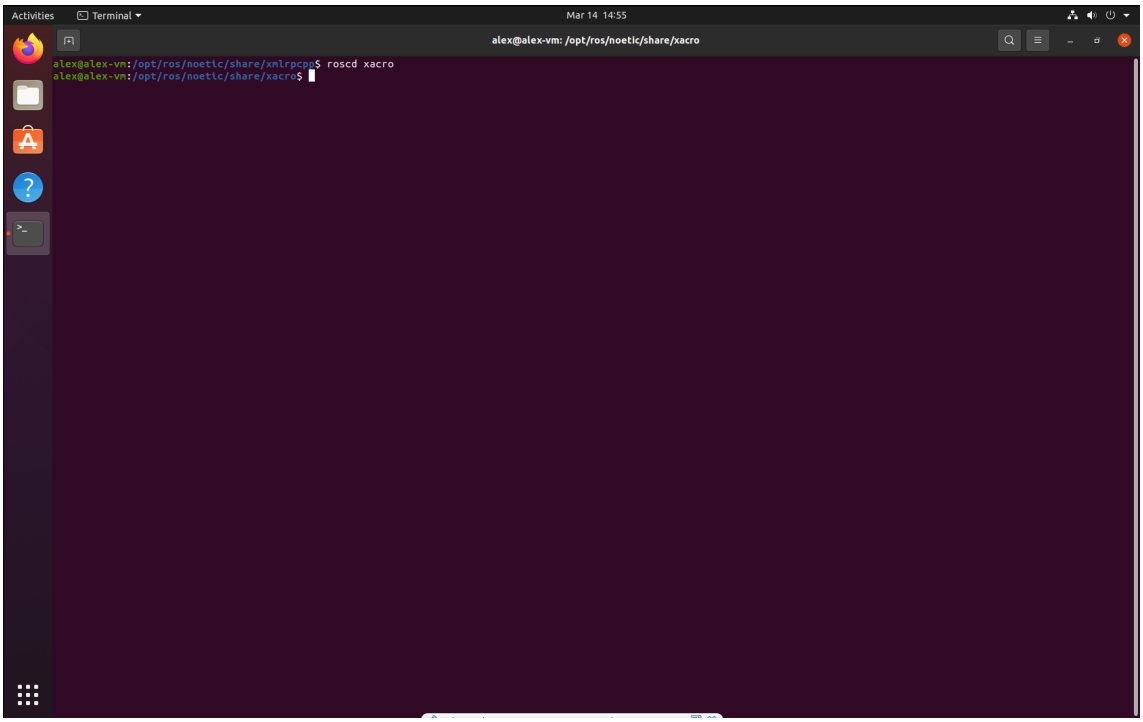


turtle_tf

1.2 `roscd`




Activities
Terminal
Mar 14 14:55
alex@alex-vm: /opt/ros/noetic/share/xacro
alex@alex-vm:/opt/ros/noetic/share/xmlrpcpp$ roscd xacro
alex@alex-vm:/opt/ros/noetic/share/xacro$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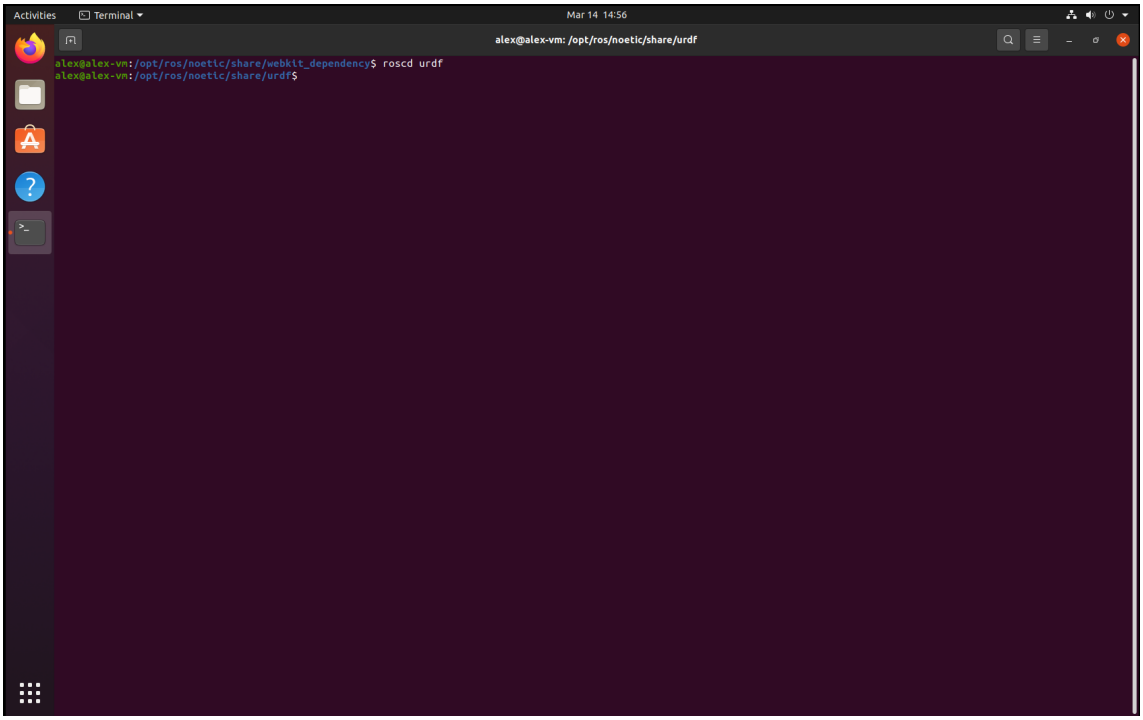
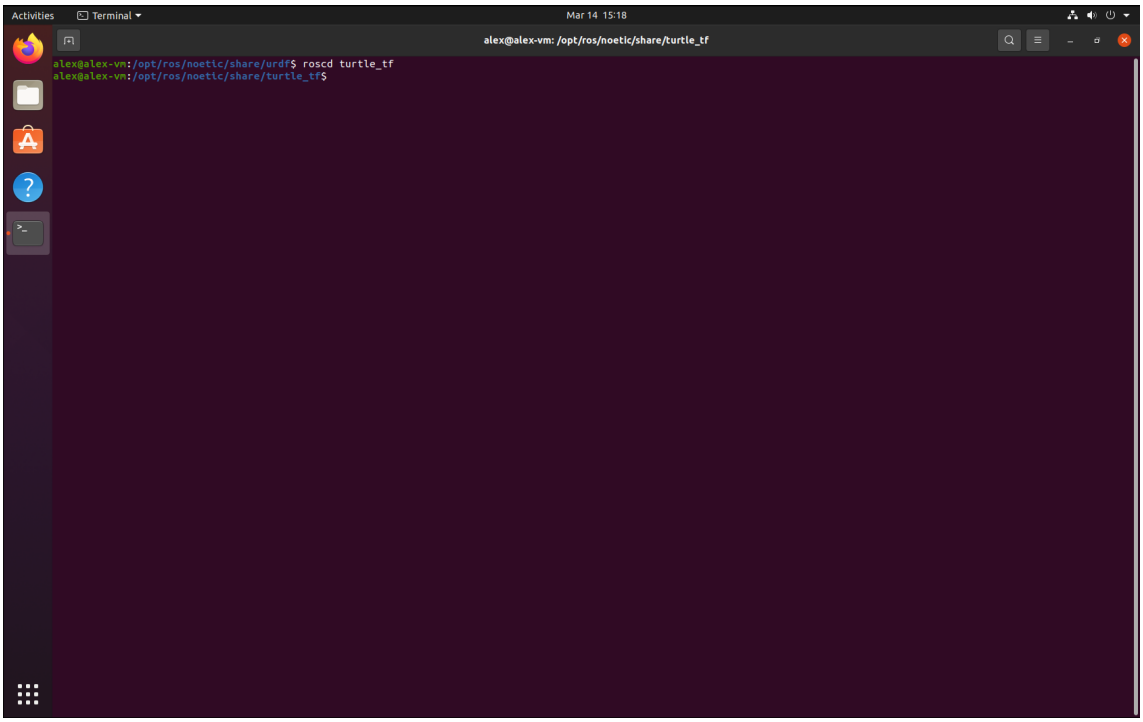
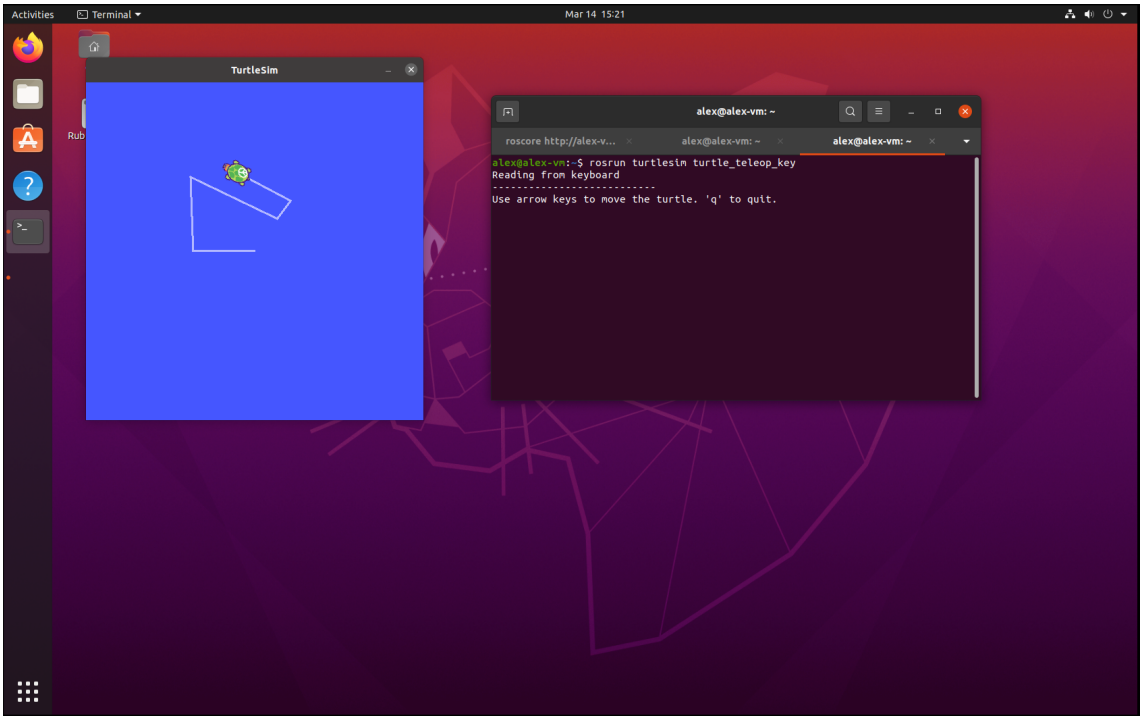




2 `roscore` and `rosrun`

2.1



2.2

In `rosrun turtlesim turtlesim_node` the first `turtlesim` is the package and the `turtlesim_node` is the node. In `rosrun turtlesim turtlesim_teleop_key` `turtlesim_teleop_key` is the node name and `turtlesim` is the package name.

3 Getting information about nodes, topics and messages

3.1.1

The following nodes are running

```
/rosout
/teleop_turtle
/turtlesim
```

3.1.2

Publications

```
/rosout [rosgraph_msgs/Log]
/turtle1/color_sensor [turtlesim/Color]
/turtle1/pose [turtlesim/Pose]
```

Subscriptions

```
/turtle1/cmd_vel [geometry_msgs/Twist]
```

3.1.3

Publications

```
/rosout [rosgraph_msgs/Log]
/turtle1/cmd_vel [geometry_msgs/Twist]
```

Subscriptions

```
/teleop_turtle/get_loggers
/teleop_turtle/set_logger_level
```

3.2.1

```
/rosout
/rosout_agg
/turtle1/cmd_vel
/turtle1/color_sensor
/turtle1/pose
```

3.2.2

The `teleop_turtle` node is using the `turtle1/cmd_vel` topic to communicate with `turtlesim`. `turtle1/cmd_vel` listens to messages from `teleop_turtle` and `turtlesim` listens to messages from `turtle1/cmd_vel`.

3.2.3

`geometry_msgs/Twist`

3.3.1

```
{
    "geometry_msgs/Vector3": {
        "linear": {
            "x": {},
            "y": {},
            "z": {}
        },
        "angular": {
            "x": {},
            "y": {},
            "z": {}
        }
    }
}
```

3.3.2

Topcis are a way of commuincating with other nodes via a named channel. Communication through these channels will relate only to these topics. A message contains information in a simplified format that ROS nodes can send between each other via topics.