ROS 1 CHEAT SHEET

ROS KINETIC KAME ON UBUNTU – INSTALLATION

```
sudo sh -c 'echo "deb http://packages.ros.org/ro
s/ubuntu (lsb_release -sc) main" > /etc/apt/sour
ces.list.d/ros-latest.list'
```

```
sudo apt-key adv --keyserver hkp://ha.poo
l.sks-keyservers.net:80 --recv-key 421C36
5BD9FF1F717815A3895523BAEEB01FA116
```

```
sudo apt-key adv --keyserver hkp://ha.poo
l.sks-keyservers.net:80 --recv-key 421C36
5BD9FF1F717815A3895523BAEEB01FA116
```

```
sudo apt-get update
```
```
sudo apt-get install ros-kinetic-desktop-
full
```

Creating package
• `catkin_create_pkg`: This command is used to create a new package
• `rospack`: This command is used to get information about the package in the file system
• `catkin_make`: This command is used to build the packages in the workspace
• `rosdep`: This command will install the system dependencies required for this package

ROS Bash command
• `roscd`: This command is used to change the `package` folder. If we give the argument a package name, it will switch to that package folder.
• `roscp`: This command is used to copy a file from a package.
• `rosed`: This command is used to edit a file.
• `rosrun`: run an executable inside a package.

ROS Nodes
• rosnode info [node_name]: This will print the information about the node
• rosnode kill [node_name]: This will kill a running node
• rosnode list: This will list the running nodes
• rosnode machine [machine_name]: This will list the nodes running on a particular machine or a list of machines
• rosnode ping: This will check the connectivity of a node
• rosnode cleanup: This will purge the registration of unreachable nodes

ROS Messages
• `rosmsg show [message]`: This shows the message description
• `rosmsg list`: This lists all messages
• `rosmsg md5 [message]`: This displays `md5sum` of a message
• `rosmsg package [package_name]`: This lists messages in a package
• `rosmsg packages [package_1] [package_2]`:

ROS TOPIC
• `rostopic bw /topic`: This command will display the bandwidth used by the given topic
• `rostopic echo /topic`: This command will print the content of the given topic
• `rostopic find /message_type`: This command will find topics using the given message type
• `rostopic hz /topic`: This command will display the publishing rate of the given topic
• `rostopic info /topic`: This command will print information about an active topic
• `rostopic list`: This command will list all active topics in the ROS system
• `rostopic pub /topic message_type args`: This command can be used to publish a value to a topic with a message type
• `rostopic type /topic`: This will display the message type of the given topic

ROS Services
• rosservice call /service args: This tool will call the service using the given arguments
• rosservice find service_type: This command will find services in the given service type
• rosservice info /services: This will print information about the given service
• rosservice list: This command will list the active services running on the system
• rosservice type /service: This command will print the service type of a given service
• rosservice uri /service: This tool will print the service ROSRPC URI

ROS Parameters
• `rosparam set [parameter_name] [value]`: This command will set a value in the given parameter
• `rosparam get [parameter_name]`: This command will retrieve a value from the given parameter
• `rosparam load [YAML file]`: The ROS parameters can be saved into a YAML file and it can load to the parameter server using this command
• `rosparam dump [YAML file]`: This command will dump the existing ROS parameters to a YAML file
• `rosparam delete [parameter_name]`: This command will delete the given parameter
• `rosparam list`: This command will list existing parameter names