













ROS入门
21讲

5.安装ROS系统

主讲人：古月

• ROS版本选择

发行版本	发布日期	海报	海龟	停止支持日期
ROS Melodic Morenia	2018 年 5 月 23 日			2023 年 5 月
ROS Lunar Loggerhead	2017 年 5 月 23 日			2019 年 5 月
ROS Kinetic Kame (推荐版本)	2016 年 5 月 23 日			2021 年 4 月
ROS Jade Turtle	2015 年 5 月 23 日			2017 年 5 月
ROS Indigo Igloo	2014 年 7 月 22 日			2019 年 4 月
ROS Hydro Medusa	2013 年 9 月 4 日			2015 年 5 月

ROS Groovy Galapagos	2012 年 12 月 31 日			2014 年 7 月
ROS Fuerte Turtle	2012 年 4 月 23 日			--
ROS Electric Emys	2011 年 8 月 30 日			--
ROS Diamondback	2011 年 3 月 2 日			--
ROS C Turtle	2010 年 8 月 2 日			--
ROS Box Turtle	2010 年 3 月 2 日			--

ROS所有发布版本的相关信息

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Ubuntu install of ROS Melodic

We are building Debian packages for several Ubuntu platforms, listed below. These packages are more efficient than source-based builds and are our preferred installation method for Ubuntu. Note that there are also packages available from Ubuntu upstream. Please see [UpstreamPackages](#) to understand the difference.

Ubuntu packages are built for the following distros and architectures.

Distro	amd64	arm64	armhf
Artful	X		
Bionic	X	X	X

If you need to install from source (**not recommended**), please see [source \(download-and-compile\) installation instructions](#).



If you rely on these packages, please support OSRF.

These packages are built and hosted on infrastructure maintained and paid for by the [Open Source Robotics Foundation](#), a 501(c)(3) non-profit organization. If OSRF were to receive one penny for each downloaded package for just two months, we could cover our annual costs to manage, update, and host all of our online services. Please consider [donating to OSRF today](#).

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ROS安装步骤: <http://wiki.ros.org/melodic/Installation/Ubuntu>



1. 添加ROS软件源

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

2. 添加密钥

```
$ sudo apt-key adv --keyserver 'hkp://keyserver.ubuntu.com:80' --recv-key C1CF6E31E6BADE8868B172B4F42ED6FBAB17C654
```

3. 安装ROS

```
$ sudo apt update
```

```
$ sudo apt install ros-melodic-desktop-full
```

4. 初始化rosdep

```
$ sudo rosdep init
```

```
$ rosdep update
```

5. 设置环境变量

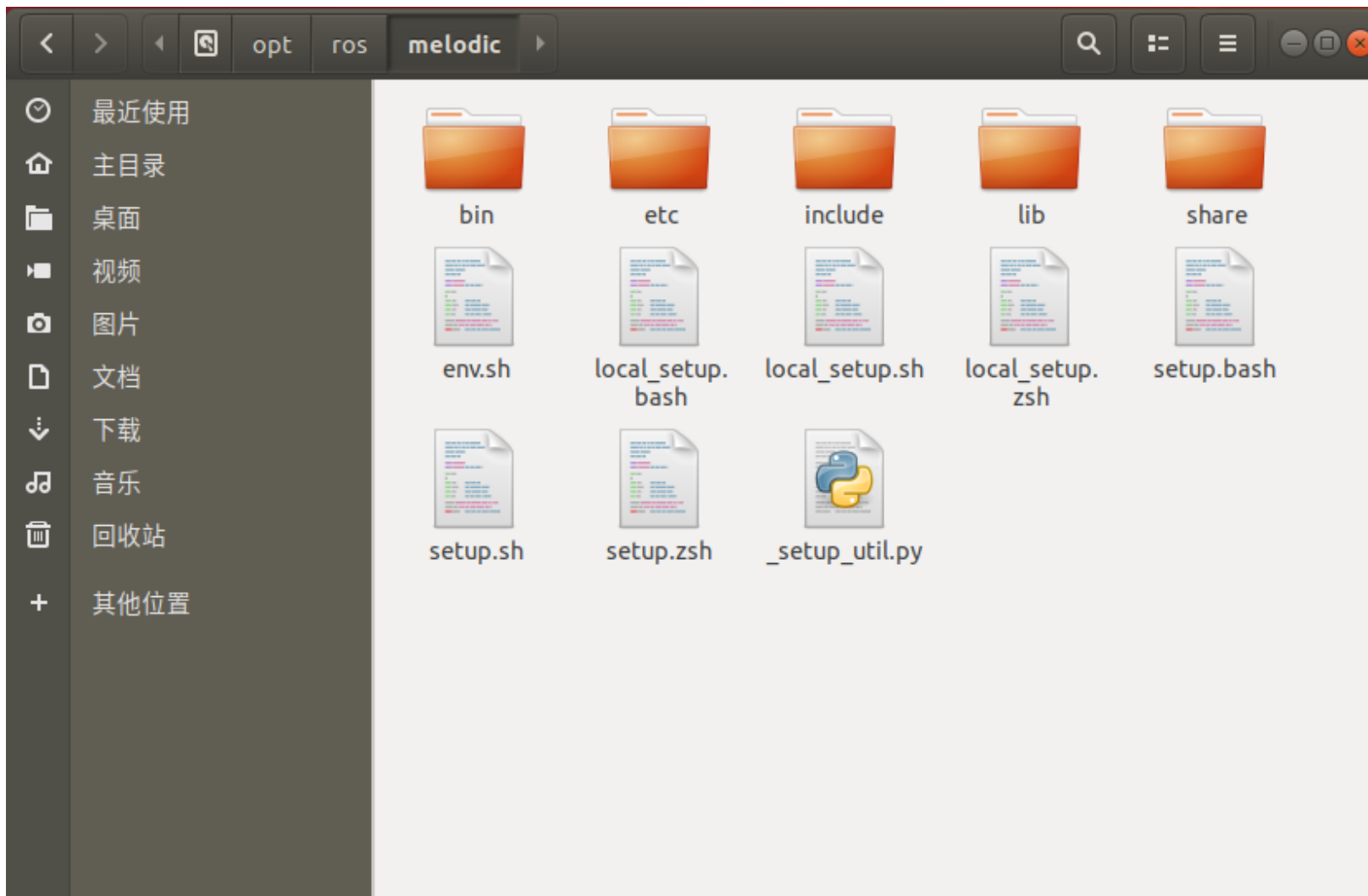
```
$ echo "source /opt/ros/melodic/setup.bash" >> ~/.bashrc
```

```
$ source ~/.bashrc
```

6. 安装rosinstall

```
$ sudo apt install python-rosinstall python-rosinstall-generator python-wstool build-essential
```

• 安装完成



安装目录，默认在/opt/ros路径下

```
hcx@hcx-vpc:~$ roscore
... logging to /home/hcx/.ros/log/afee815c-94db-11e9-8cc9-000c29d22e4d/roslaunch-hcx-vpc-26763.log
Checking log directory for disk usage. This may take awhile.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://hcx-vpc:37365/
ros_comm version 1.14.3

SUMMARY
=====

PARAMETERS
* /rostdistro: melodic
* /rosversion: 1.14.3

NODES

auto-starting new master
process[master]: started with pid [26774]
ROS_MASTER_URI=http://hcx-vpc:11311/

setting /run_id to afee815c-94db-11e9-8cc9-000c29d22e4d
process[rosout-1]: started with pid [26785]
started core service [/rosout]
█
```

使用roscore命令启动ROS Master

- 安装完成

启动ROS Master

```
$ roscore
```



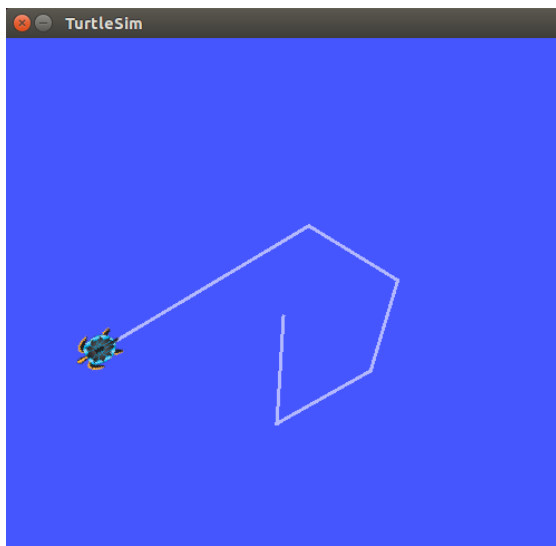
启动小海龟仿真器

```
$ rosrun turtlesim turtlesim_node
```



启动海龟控制节点

```
$ rosrun turtlesim turtle_teleop_key
```



小海龟仿真器界面

```
hcx@hcx-vpc:~$ rosrun turtlesim turtlesim_node
[ INFO] [1561200736.947992315]: Starting turtlesim with node name /turtlesim
[ INFO] [1561200736.954437402]: Spawning turtle [turtle1] at x=[5.544445], y=[5.544445], theta=[0.000000]
```

启动海龟仿真器节点

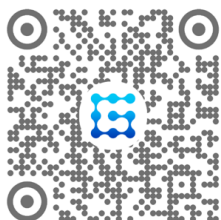
```
hcx@hcx-vpc:~$ rosrun turtlesim turtle_teleop_key
Reading from keyboard
-----
Use arrow keys to move the turtle.
```

启动海龟控制节点

感谢观看

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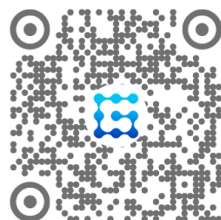
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