1.概述

写了这么多ROS的launch脚本，怎么才能开机就启动呢，本文介绍1种方法，使用ROS的 *robot_upstart*包,下面以pibot_bringuppackage的·bringup.launch`演示

2.robot_upstart包

2.1 安装

使用pibot_install_ros.sh一键安装工具即可安装所有pibot所需要的ROS包，如需单独安装sudo apt-get install ros-{ROS_DIST}-robot-upstart

> ROS_DIST即为indigo或者kinetic

2.2 设置

- rosrun robot_upstart install pibot_bringup/launch/bringup.launch

```
pibot@pibot-desktop:~$ rosrun robot_upstart install
pibot_bringup/launch/bringup.launch
/lib/systemd/systemd
Preparing to install files to the following paths:
 /etc/ros/kinetic/pibot.d/.installed_files
 /etc/ros/kinetic/pibot.d/bringup.launch
 /etc/systemd/system/multi-user.target.wants/pibot.service
 /lib/systemd/system/pibot.service
 /usr/sbin/pibot-start
 /usr/sbin/pibot-stop
Now calling: /usr/bin/sudo /opt/ros/kinetic/lib/robot_upstart/mutate_files
Filesystem operation succeeded.
** To complete installation please run the following command:
 sudo systemctl daemon-reload && sudo systemctl start pibot
```

- 照着提示操作 sudo systemctl daemon-reload && sudo systemctl start pibot

2.3 测试

- ps -aux | grep pibot_bringup查看进程

```
pibot@pibot-desktop:~/pibot_ros$ ps -aux | grep pibot_bringup
pibot    15971 96.3  0.7  85620  7488 ?        Rsl  23:26   1:13
/home/pibot/pibot_ros/ros_ws/devel/lib/pibot_bringup/pibot_driver
__name:=pibot_driver __log:=/tmp/0656ed38-5ba5-11e9-be9a-
b827ebff3168/pibot_driver-2.log
```

已经可以查到该进程了

- `rosnode list`查看`node`

```
pibot@pibot-desktop:~$ rosnode list
/pibot_driver
/rosout
```

也可以看到2个`node`

- `roslaunch pibot keyboard_teleop.launch`启动键盘控制程序，也可以支持控制小车了

> 为了验证程序是否开启启动了，重启后再次重复**2.3**的测试步骤即可

2.4 停止以及取消开机启动

- 启动&停止

```
sudo service pibot start
sudo service pibot  stop
```

- 取消

```
rosrun robot_upstart uninstall pibot
```

3 robot_upstart服务名称

可以看到上面的service名称为pibot，通过查看源码可以看到

```
def main():
    """ Implementation of the ``install`` script."""

    args = get_argument_parser().parse_args()

    pkg, pkgpath = args.pkgpath[0].split('/', 1)
    job_name = args.job or pkg.split('_', 1)[0]
```

```
job_name = args.job or pkg.split('_', 1)[0]
```

`job_name`取了`args.job`或者包名的下划线前面，上面例子`args.job`为空则用了`pibot_bringup`下划线前面即`pibot`

我们只需要指定job参数即可自定义

```
rosrun robot_upstart install pibot_bringup/launch/bringup.launch --job=mybringup
```

```
pibot@pibot-desktop:~$ rosrun robot_upstart install pibot_bringup/launch/bringup.launch --job=mybringup
/lib/systemd/systemd
Preparing to install files to the following paths:
  /etc/ros/kinetic/mybringup.d/.installed_files
  /etc/ros/kinetic/mybringup.d/bringup.launch
  /etc/systemd/system/multi-user.target.wants/mybringup.service
  /lib/systemd/system/mybringup.service
  /usr/sbin/mybringup-start
  /usr/sbin/mybringup-stop
Now calling: /usr/bin/sudo /opt/ros/kinetic/lib/robot_upstart/mutate_files
[sudo] password for pibot:
Filesystem operation succeeded.
** To complete installation please run the following command:
 sudo systemctl daemon-reload && sudo systemctl start mybringup
```

我们就可以使用`sudo service mybringup start`启动服务

4.总结

- 添加启动项

```
rosrun robot_upstart install pibot_bringup/launch/bringup.launch --job=mybringup
sudo systemctl daemon-reload
```

- 删除启动项

```
rosrun robot_upstart uninstall mybringup
```

- 当次启动服务

```
sudo service mybringup start
```

- 当次关闭服务

```
sudo service mybringup stop
```

- 查看服务状态

```
sudo service mybringup status
```