publisher

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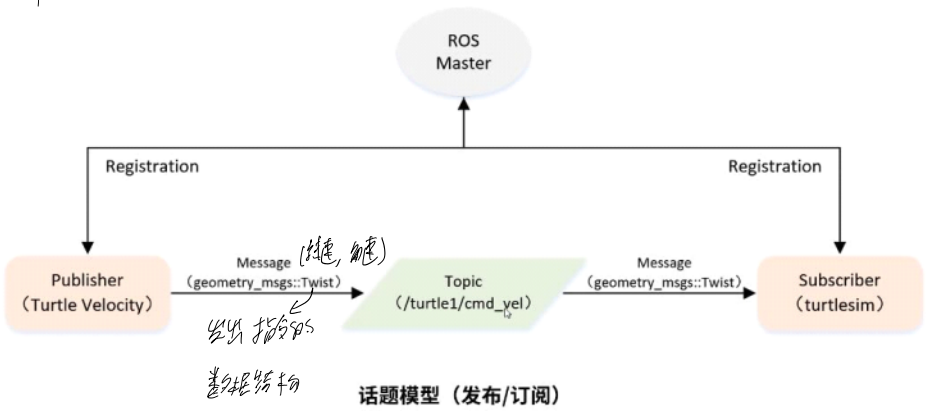
1. 创个包 (src)



话题模型（发布/订阅）

```
$ cd ~/catkin_ws/src
$ catkin_create_pkg learning_topic roscpp rospy std_msgs geometry_msgs turtlesim
```

2. 创个 publisher

```cpp
/**
 * 该例程将发布turtle1/cmd_vel话题，消息类型geometry_msgs::Twist
 */

#include <ros/ros.h>
#include <geometry_msgs/Twist.h>

int main(int argc, char **argv)
{
    // ROS节点初始化
    ros::init(argc, argv, "velocity_publisher");

    // 创建节点句柄
    ros::NodeHandle n;

    // 创建一个Publisher，发布名为/turtle1/cmd_vel的topic，消息类型为geometry_msgs::Twist，队列长度10
    ros::Publisher turtle_vel_pub = n.advertise<geometry_msgs::Twist>("/turtle1/cmd_vel", 10);

    // 设置循环的频率
    ros::Rate loop_rate(10);

    int count = 0;
    while (ros::ok())
    {
        // 初始化geometry_msgs::Twist类型的消息
        geometry_msgs::Twist vel_msg;
        vel_msg.linear.x = 0.5;
        vel_msg.angular.z = 0.2;

        // 发布消息
        turtle_vel_pub.publish(vel_msg);
        ROS_INFO("Publish turtle velocity command[%0.2f m/s, %0.2f rad/s]",
                 vel_msg.linear.x, vel_msg.angular.z);

        // 按照循环频率延时
        loop_rate.sleep();
    }

    return 0;
}
```

velocity_publisher.cpp

如何实现一个发布者

- 初始化ROS节点；
- 向ROS Master注册节点信息，包括发布的话题名和话题中的消息类型；
- 创建消息数据；
- 按照一定频率循环发布消息。

- 配置发布者代码编译规则

古月居

```
## Declare a C++ executable
## With catkin_make all packages are built within a single CMake context
## The recommended prefix ensures that target names across packages don't collide
# add_executable(${PROJECT_NAME}_node src/learning_topic_node.cpp)

## Specify libraries to link a library or executable target against
# target_link_libraries(${PROJECT_NAME}_node
#   ${catkin_LIBRARIES}
# )

add_executable(velocity_publisher src/velocity_publisher.cpp)
target_link_libraries(velocity_publisher ${catkin_LIBRARIES})
```

如何配置CMakeLists.txt中的编译规则

- 设置需要编译的代码和生成的可执行文件；
- 设置链接库；

```
#   ${catkin_LIBRARIES}
# )

add_executable(velocity_publisher src/velocity_publisher.cpp)
target_link_libraries(velocity_publisher ${catkin_LIBRARIES})
```

- 设置链接库；

可执行体　　源文件 编译

```
add_executable(velocity_publisher src/velocity_publisher.cpp)
target_link_libraries(velocity_publisher ${catkin_LIBRARIES})
```

CMakeLists.txt

- 编译并运行发布者

```
$ cd ~/catkin_ws
$ catkin_make
$ source devel/setup.bash
$ roscore
$ rosrun turtlesim turtlesim_node
$ rosrun learning_topic velocity_publisher
```