

# RoCKIn YAML Data File Specification

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This document specifies the YAML file format that can be converted to ROS bag files. This closely follows the data items described in D-2.1.7. YAML format was chosen because it is a simple format, easy to produce without using any special library. Furthermore, the ROS messages format is already defined: as produced by the `rostopic echo` command.

## 1 Topic Names

Deliverable D-2.1.7 specifies the data types but does not specify the topic names. The following table lists the topic names adopted. The same topic name might have slightly different meanings for each benchmark where it appears, but always the same type.

Topic Name	Message Type
audio	audio_common_msgs/AudioData
command	std_msgs/String
condition_after	std_msgs/String
condition_rcv	std_msgs/String
container	std_msgs/String
image	sensor_msgs/Image
info	std_msgs/String
initial_plan	std_msgs/String
new_plan	std_msgs/String
notification	std_msgs/String
object	std_msgs/String
object_pose	geometry_msgs/Pose
path	nav_msgs/Path
plan	std_msgs/String
pointcloud	sensor_msgs/PointCloud2
pose2d	geometry_msgs/Pose2D
pose	geometry_msgs/Pose
position	geometry_msgs/Pose
transcriptions	std_msgs/String
tray	std_msgs/String
visitor	std_msgs/String

## 2 File Format

The YAML file should be composed of a single list of messages.

Each message should have 4 items:

- `topic` - The topic name.

- `secs` - Timestamp of the message, in number of seconds since 1970.
- `nsecs` - Nanoseconds component of the timestamp.
- `message` - The message, according to the topic type.

The message should be formatted in YAML, according to its structure. This is the same as the output of `rostopic echo`. However, binary fields may be specified in base 64 encoding for much smaller files. You can copy the file `src/base64.hpp` to your project, it depends only on boost to encode base 64.

### 3 Example File

```
- topic: pose2d
  secs: 1397024209
  nsecs: 156423000
  message:
    x: 5.5
    y: 6
    theta: 6.4
- topic: image
  secs: 1397024210
  nsecs: 53585000
  message:
    header:
      seq: 306
      stamp:
        secs: 1397024210
        nsecs: 53585000
      frame_id: ''
    height: 4
    width: 4
    encoding: bgr8
    is_bigendian: 0
    step: 12
    data:
      !!binary JaU8JY0kGXUIAZOUDWzgAXjgAb0kIglwbkGsnkWwoiWUfiGUhi2olhmUgc1YRaUw
```

## 4 Topics per Benchmark

### 4.1 @Home Task Benchmark 1

Topic Name	Message Type
<code>audio</code>	<code>audio_common_msgs/AudioData</code>
<code>command</code>	<code>std_msgs/String</code>
<code>pose2d</code>	<code>geometry_msgs/Pose2D</code>
<code>pose</code>	<code>geometry_msgs/Pose</code>
<code>image</code>	<code>sensor_msgs/Image</code>
<code>pointcloud</code>	<code>sensor_msgs/PointCloud2</code>

#### 4.2 @Home Task Benchmark 2

Topic Name	Message Type
command	std_msgs/String
pose2d	geometry_msgs/Pose2D
pose	geometry_msgs/Pose
visitor	std_msgs/String
audio	audio_common_msgs/AudioData
notification	std_msgs/String

#### 4.3 @Home Task Benchmark 3

Topic Name	Message Type
pose2d	geometry_msgs/Pose2D
pose	geometry_msgs/Pose

#### 4.4 @Work Task Benchmark 1

Topic Name	Message Type
tray	std_msgs/String
container	std_msgs/String
image	sensor_msgs/Image
path	nav_msgs/Path

#### 4.5 @Work Task Benchmark 2

Topic Name	Message Type
path	nav_msgs/Path
condition\_rcv	std_msgs/String
command	std_msgs/String
condition\_after	std_msgs/String
image	sensor_msgs/Image

#### 4.6 @Work Task Benchmark 3

Topic Name	Message Type
initial\_plan	std_msgs/String
path	nav_msgs/Path
notification	std_msgs/String
new\_plan	std_msgs/String
pose2d	geometry_msgs/Pose2D
pose	geometry_msgs/Pose

#### 4.7 @Home Functional Benchmark 1

Topic Name	Message Type
object	std_msgs/String
object\_pose	geometry_msgs/Pose
image	sensor_msgs/Image
pointcloud	sensor_msgs/PointCloud2

#### 4.8 @Home Functional Benchmark 2

Topic Name	Message Type
notification	std_msgs/String
position	geometry_msgs/Pose

#### 4.9 @Home Functional Benchmark 3

Topic Name	Message Type
audio	audio_common_msgs/AudioData
transcriptions	std_msgs/String
command	std_msgs/String
info	std_msgs/String

#### 4.10 @Work Functional Benchmark 1

Topic Name	Message Type
object	std_msgs/String
object\_pose	geometry_msgs/Pose
image	sensor_msgs/Image
pointcloud	sensor_msgs/PointCloud2

#### 4.11 @Work Functional Benchmark 2

Topic Name	Message Type
object	std_msgs/String
notification	std_msgs/String
image	sensor_msgs/Image
pointcloud	sensor_msgs/PointCloud2

#### 4.12 @Work Functional Benchmark 3

Topic Name	Message Type
plan	std_msgs/String