



eYRC 2021-22: Agri Bot (AB)

Create a ROS Launch File

roslaunch Command

- `roslaunch` is a tool for easily launching multiple ROS nodes locally and remotely via SSH.
- It includes options to automatically respawn processes that have already died. `roslaunch` takes in one or more XML configuration files (with the `.launch` extension) that specify the parameters to set and nodes to launch.
- Usage:

```
roslaunch <package> file.launch
```



`<package>` is nothing but the package name which you have created using `catkin_create_pkg` command or used any other package.

Steps to create a launch file

1. After creating a package, create a folder in the package names as a `launch` folder to store all the launch files in that folder.

```
cd ~/catkin_ws/src/<package>  
mkdir launch
```



2. Here we can create launch files by running this command by going into the `launch` directory, we can keep any name for the launch file,

```
cd launch  
touch filename.launch
```



Now you can edit your launch file by adding different nodes that you have to run simultaneously.

Steps to add a ROS node in the launch file

1. Launch files always starts with

```
<launch>
```



and end with

```
</launch>
```



2. Now to add any executable file which we have seen in the `roslaunch_command` section, we have to add this line,

```
<node pkg="name_of_package" type="name_of_executable.py" name="name_of_executable"  
output="screen"/>
```



- `pkg` is the package name which you have created
- `type` is the name of executable file
- `name` is the name of the node which is created in that executable
- `output` means it will print the data given to the `roslaunch` command

Steps to load Config YAML file in ROS Parameter Server

- You can use `roslaunch` tag to load the YAML file.

```
<roslaunch file ="$(find name_of_package)/config/config.yaml"/>
```



- `name_of_package` is the name of your ROS package.
- `config.yaml` is the name of your configuration file.

Steps to add a Shell Script in the launch file

- You can use `node` tag to run any shell script using launch file

```
<node pkg="name_of_package" type="shell_script.sh" name="shell_script" output="screen">  
  <param name="cmd" value="$(find name_of_package)/launch/shell_script.sh"/>  
</node>
```



- `name_of_package` is the name of your ROS package.
- `shell_script.sh` is the name of your configuration file.
- `/launch/shell_script.sh` is the location of the shell script inside your ROS Package folder.

