POLY-VERIFSHELL USER GUIDE

This document contains information of how to run the simulation through the Poly-VerifShell. Once the installation and setup is completed you are ready to use the polyVerif framework.

If you have not done the setup and installation then please follow **Setup_And_Installation** document for the reference.

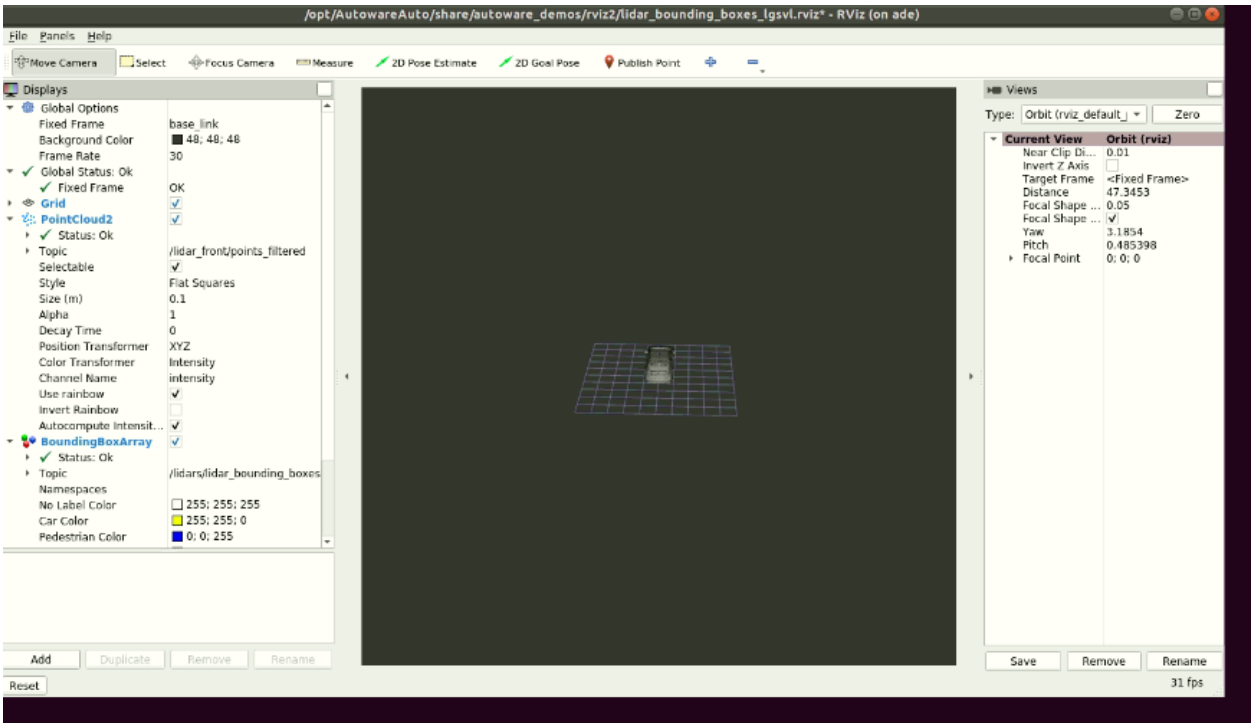
This framework uses predefined metrics for the validation of the stacks which will be calculated after running the test cases.on the basis of these metrices threshold success/failure of the stack validated. **/PTS/adehome/PolyVerifShell/**

1. Go to the PolyVerif_Shell directory and run the command

   $ python PolyVerif_Shell.py test1.xml

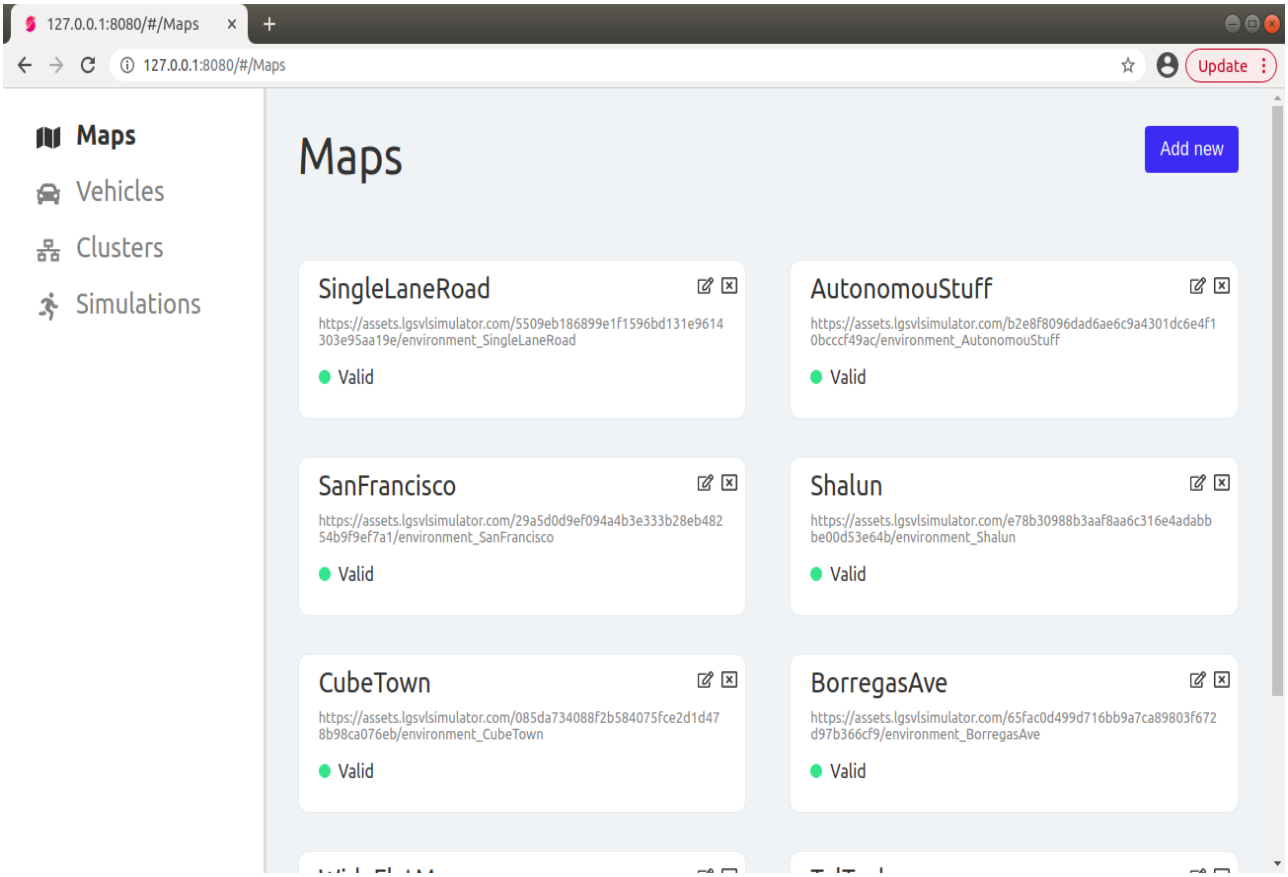
Note: testcase may change while testing like test1.xml as test2.xml… test15.xml

2. Once the command run it will start all the required module for example-
    - AutowareAuto
    - Perception Stack
    - Lgsvl simulator
    - Rviz
    - Ros2-lgsvl-bridge



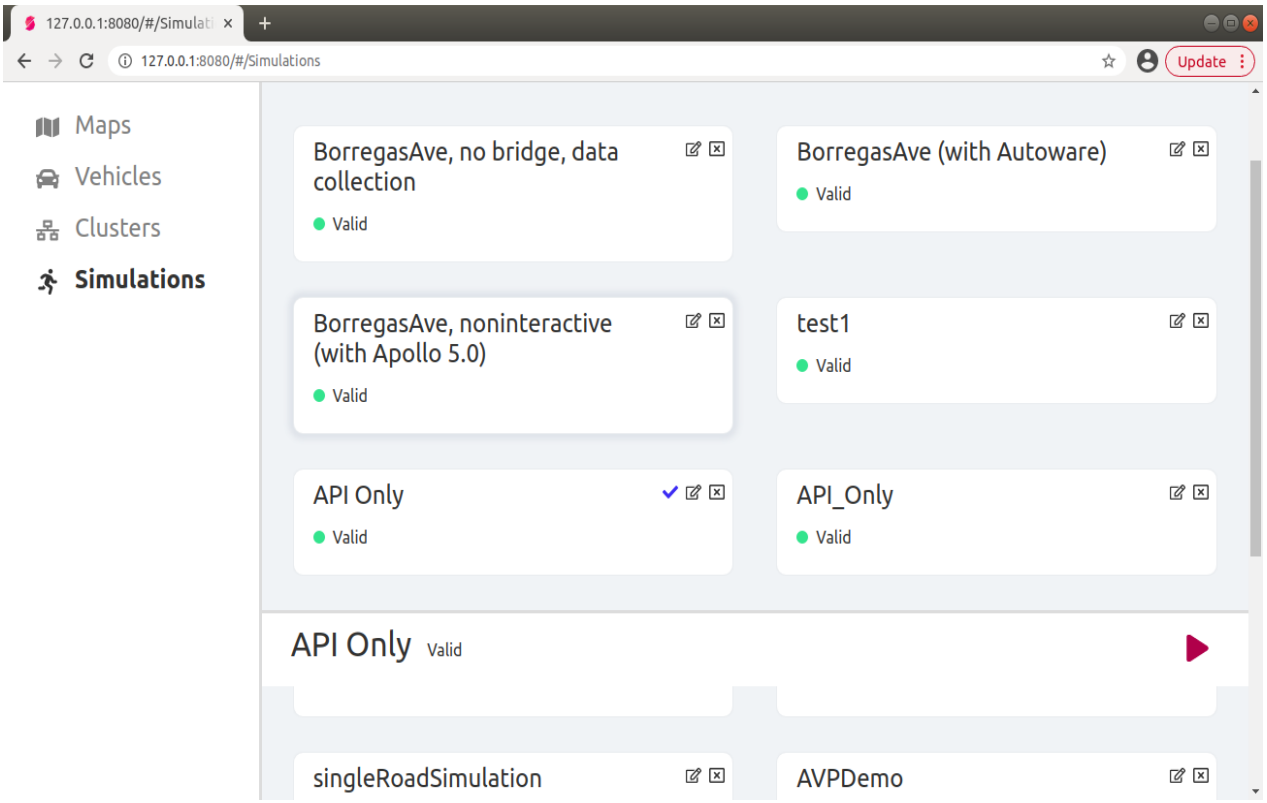
3. Once lgsvl simulator and rviz are started, go to any web browser.

4. Enter localhost:8080 on address bar and hit enter.

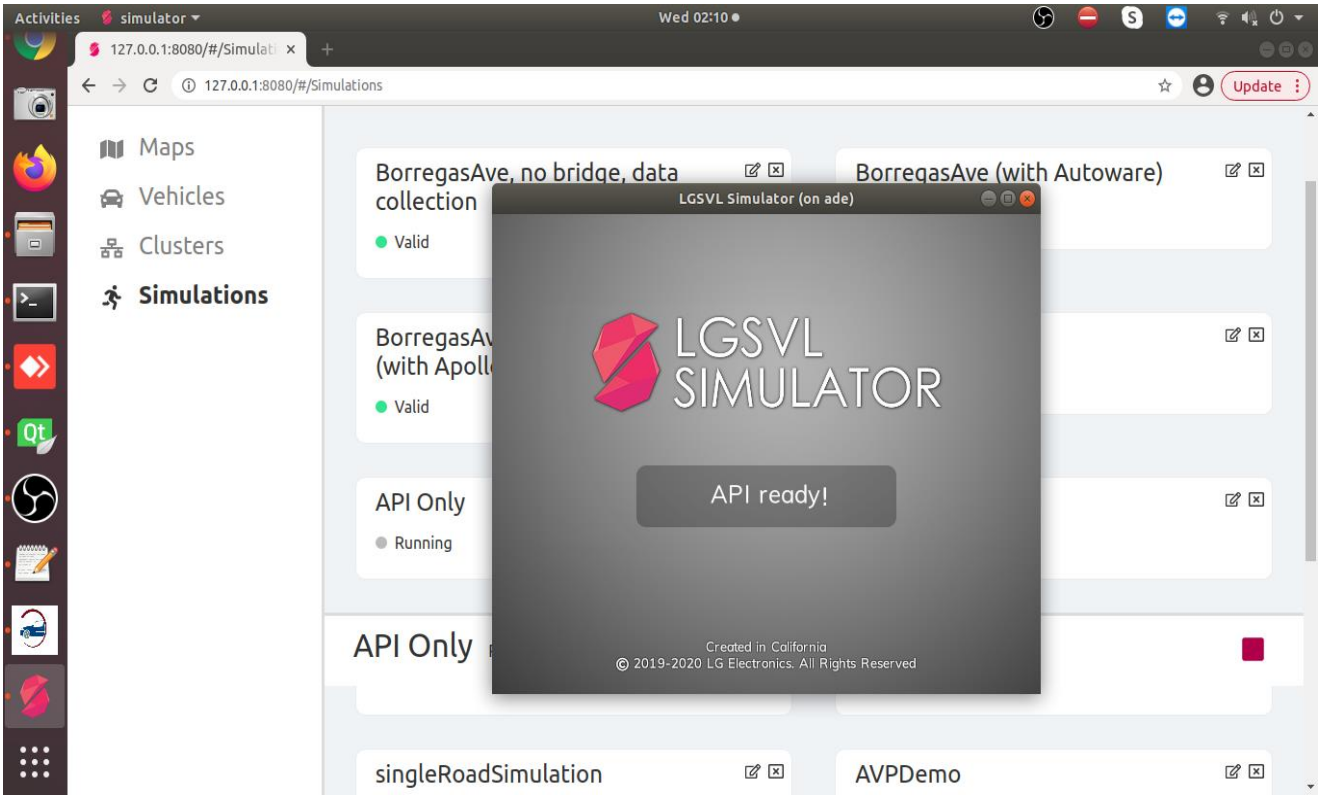


Note: - If the lg web page is not open then try the below given address on address bar- 127.0.0.1:8080

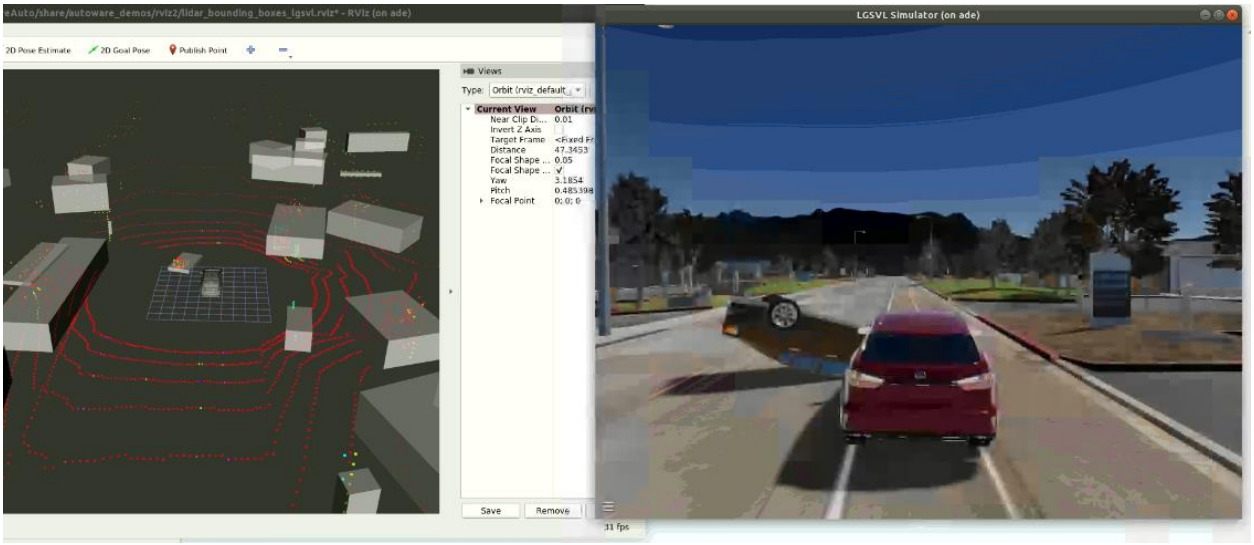
5. Click on the Simulations tab and select the API_Only.
    a. Click on the Play button



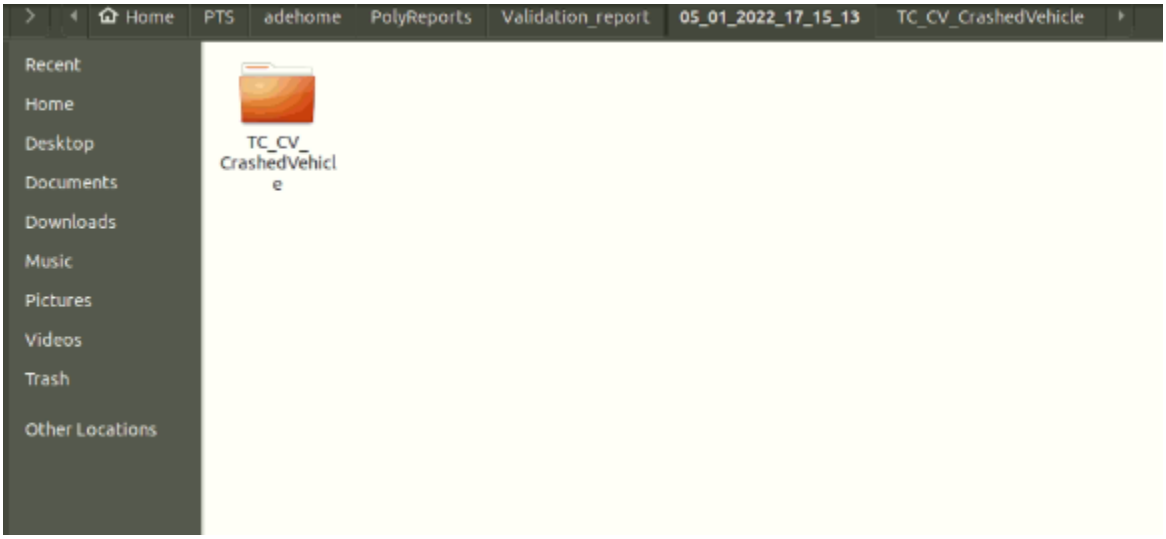
6. Now the simulator is in the **API_Mode**



7. Go to LGSVL and Rviz tool, Scenario has been started running as selected scene and test case in xml file ,wait for a while to complete the scenario.



8. Once the scenario is completed then go to Linux terminal and hit the enter button to save the scenario reports. In PolyReports folder you will be able to see the saved simulation reports ,it will take some time to process the report.



Assumptions/Issues:

- **If there is one only ego vehicle in the simulation then data will not compute.**
- **Sometimes rviz tool get crashed but the perception stack keep running in the back ground.**
- **While running scenario using scenic, it may get hanged while connecting to Ros2 Bridge. so need to forcefully terminate script using Ctrl+C and start it again.**

References:

- **Lgsvl Simulator - https://github.com/lgsvl/simulator/releases/tag/2020.06**
- **Scenic - https://scenic-lang.readthedocs.io/en/latest/syntax_guide.html?highlight=facing#specifiers**
- **PythonAPI - https://www.svlsimulator.com/docs/python-api/python-api/**
- **AutowareAuto avp demo - https://autowarefoundation.gitlab.io/autoware.auto/AutowareAuto/avpdemo.html**