POLY-VERIFICATION USER GUIDE

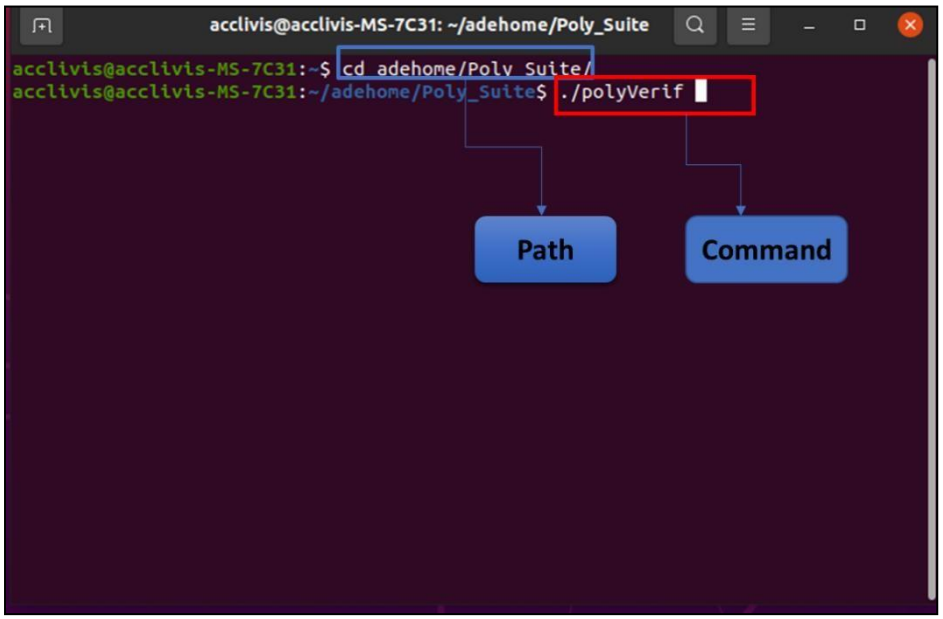
AutonomouStuff Map for Localization and Mission Planning

For running localization and mission planning on the AutonomouStuff map within the Poly-Verification Suite, follow these steps

Navigate to Poly_Suite Directory:

Go to the Poly_Suite directory located at adehome/Poly_Suite and execute the following command

```
$ ./polyverif
```



This command will initiate the PolyVerif framework for further configuration and execution

Select Validation Types for Localization and Mission Planning:

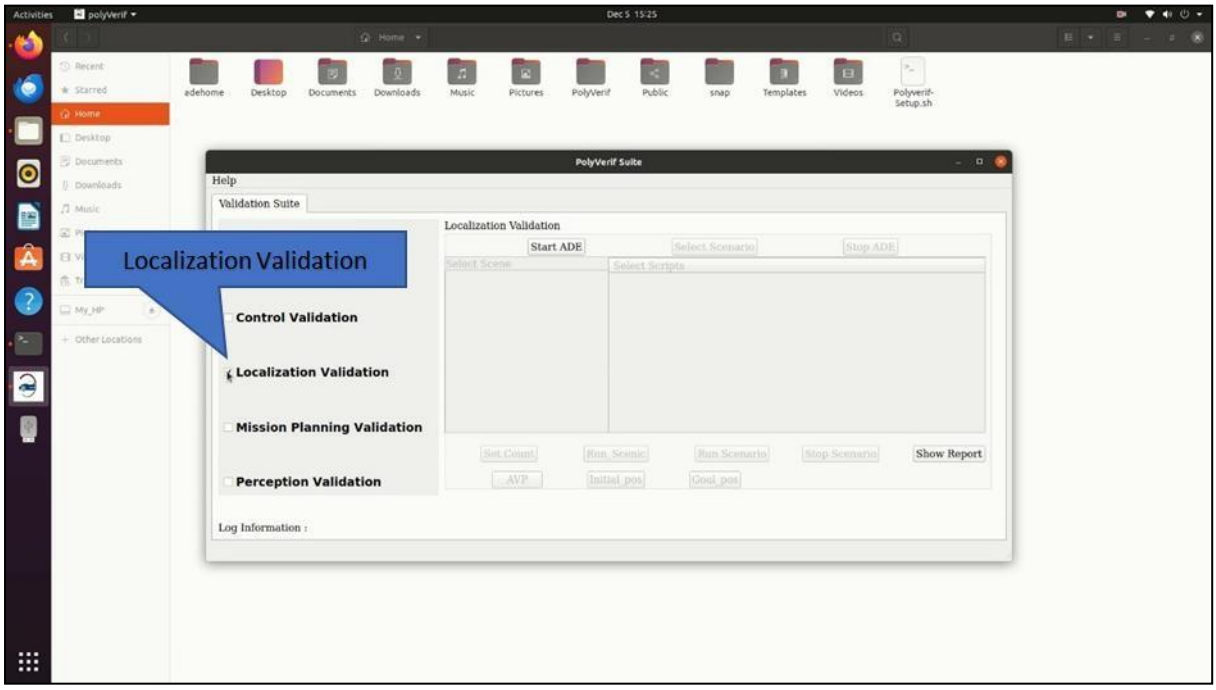
Currently, you have the option to choose from four available validations:

- Detection Validation
- Control Validation
- Localization Validation
- Mission Planning Validation

For the purpose of this guide, direct your focus towards Localization and Mission Planning Validation.

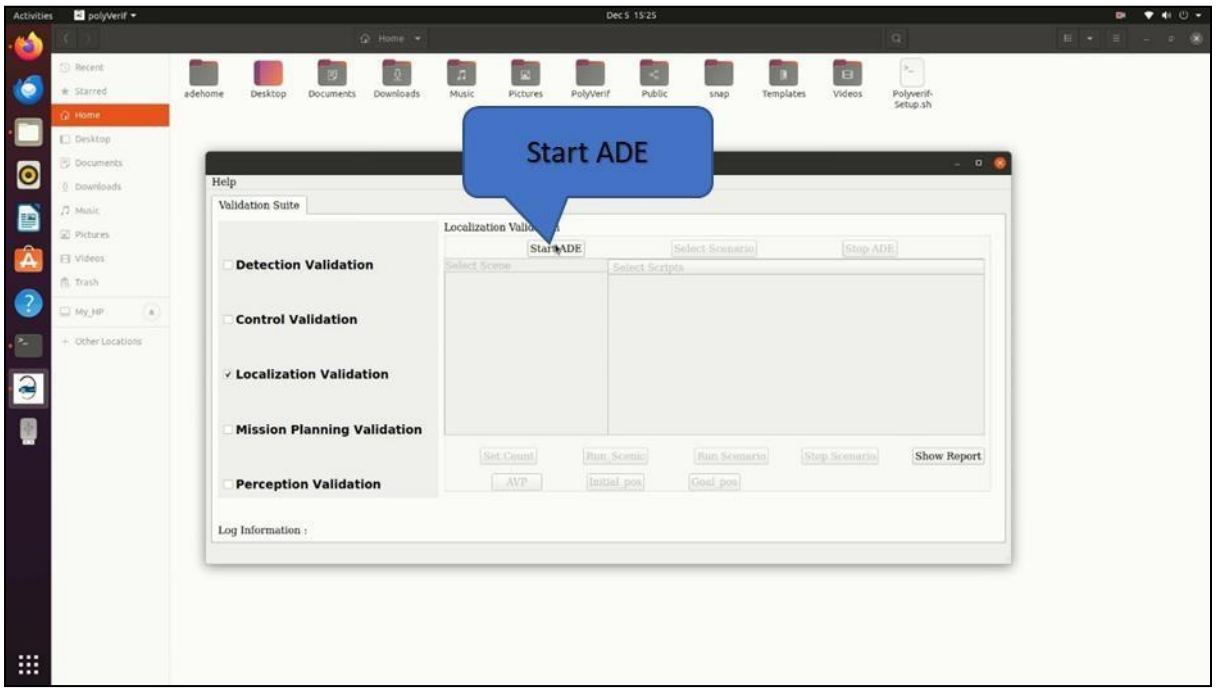
Localization and Mission Planning Setup:

Click on "Localization Validation" to proceed.



Start ADE and Required Modules:

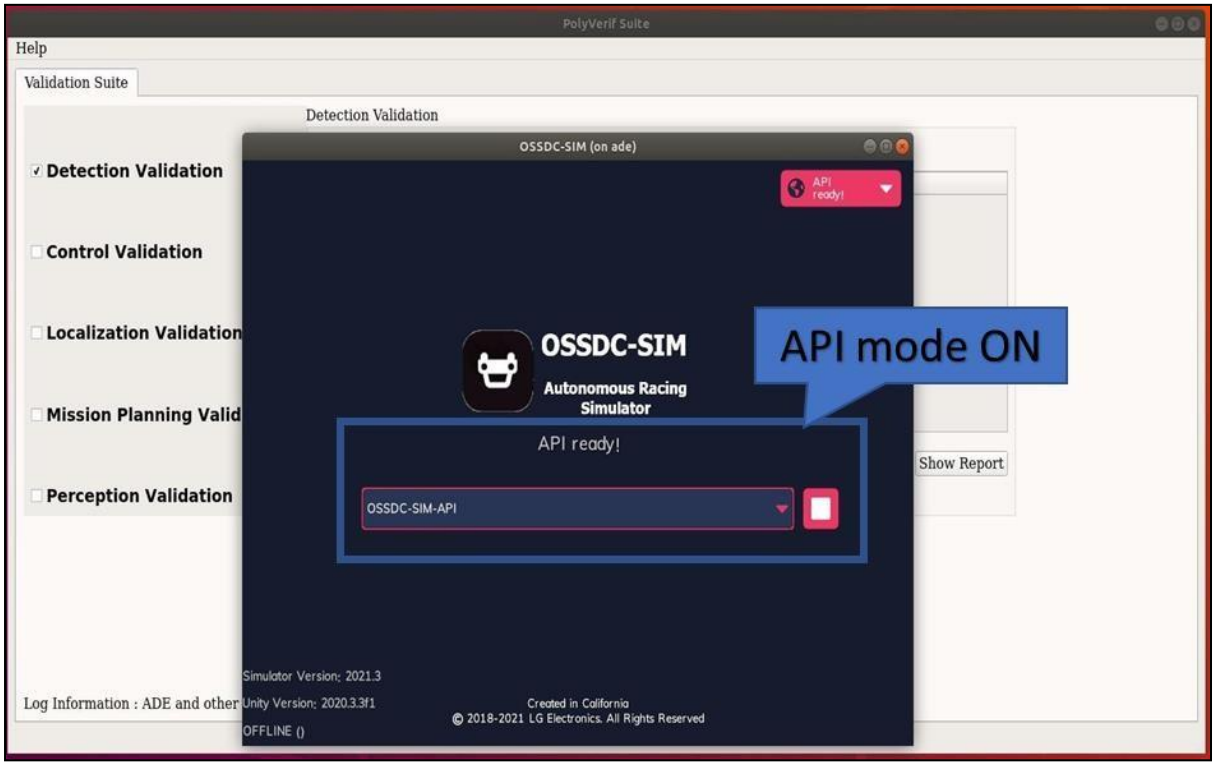
Click on the "Start ADE" button. This initializes necessary modules, including AutowareAuto, Perception Stack, OSSDC simulator, Rviz, and Ros2-lgsvl-bridge.



Allow some time for the ADE Docker and components to start

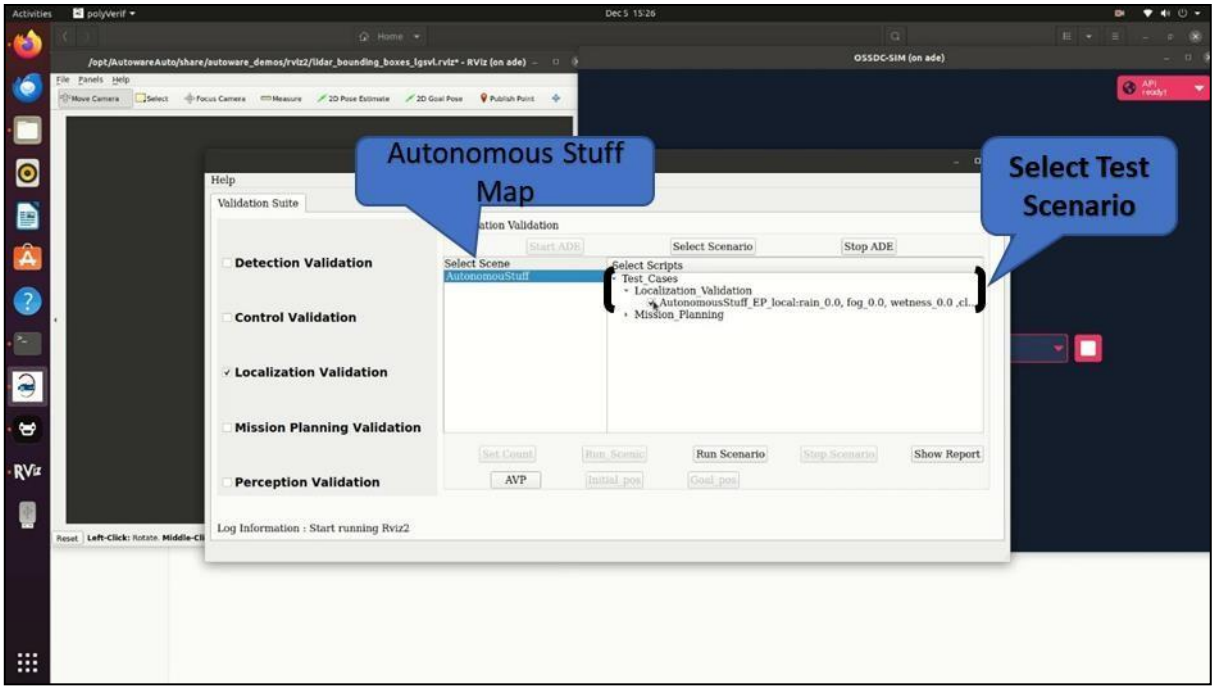
Simulator Configuration:

The simulator is now in API_Mode.



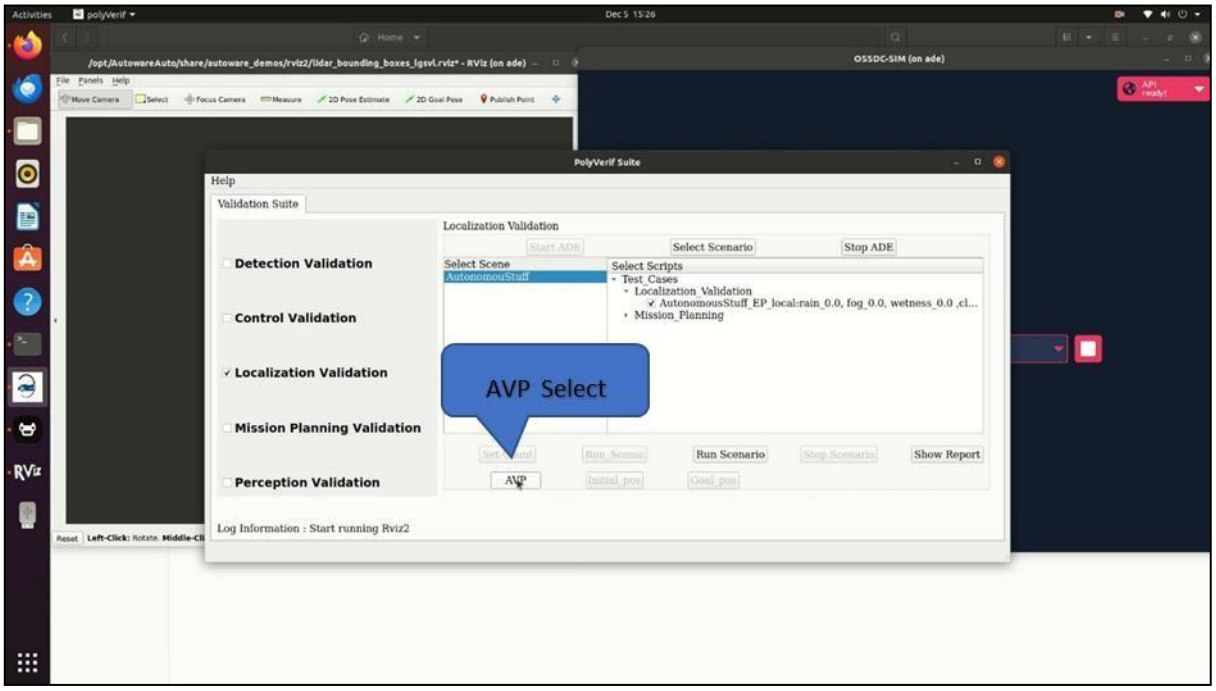
Select AutonomouStuff Map and Scenario:

Click the "Select Scenario" button, choose the "AutonomouStuff" map and select a scenario.



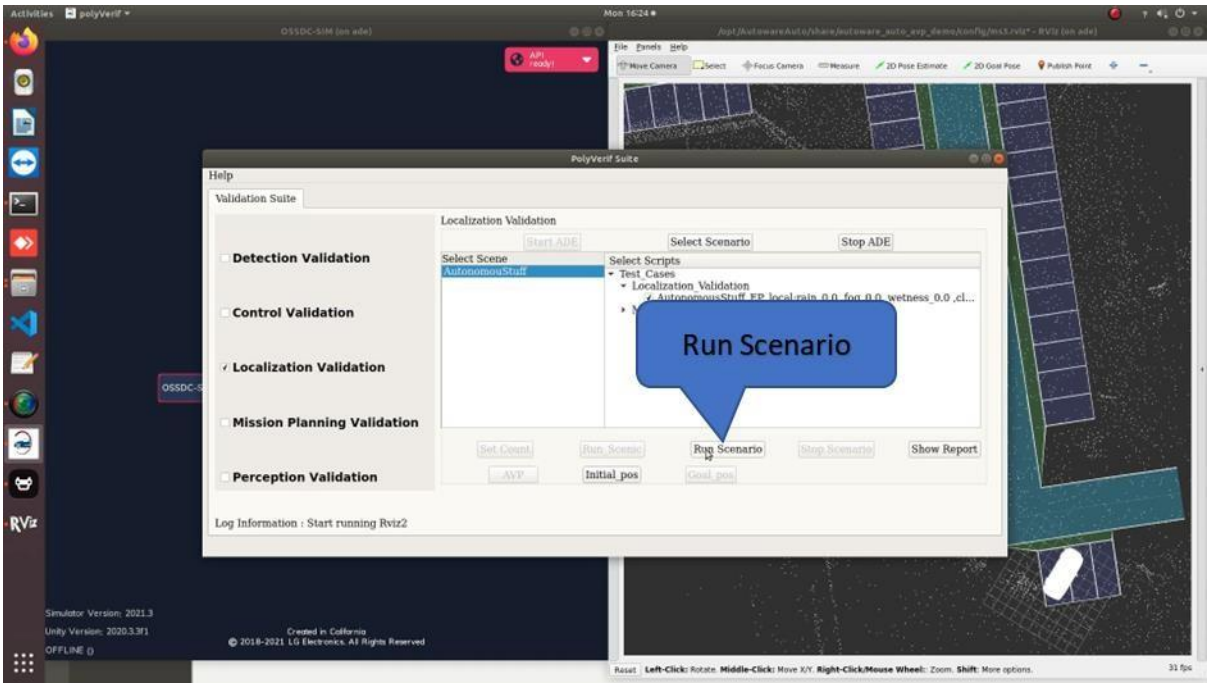
Run AVP Demo:

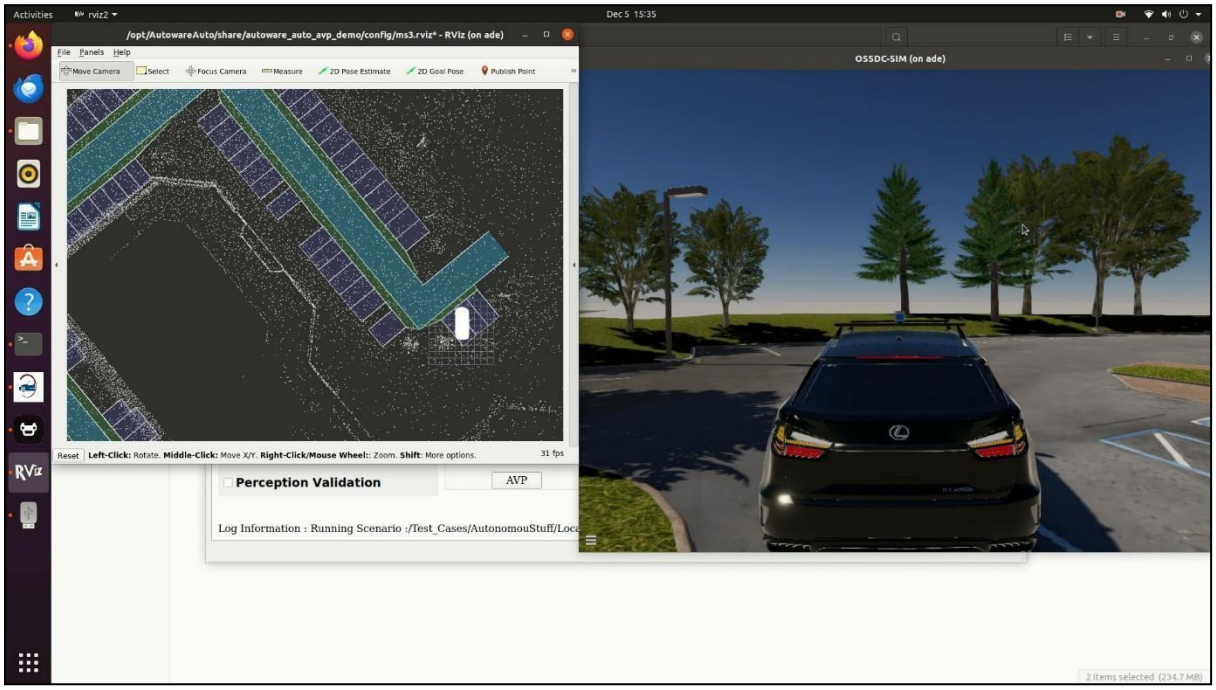
Once the script is selected, it enables the AVP button.
Click on the AVP button to start the modified Autoware_auto_avp demo for the AutonomouStuff map.



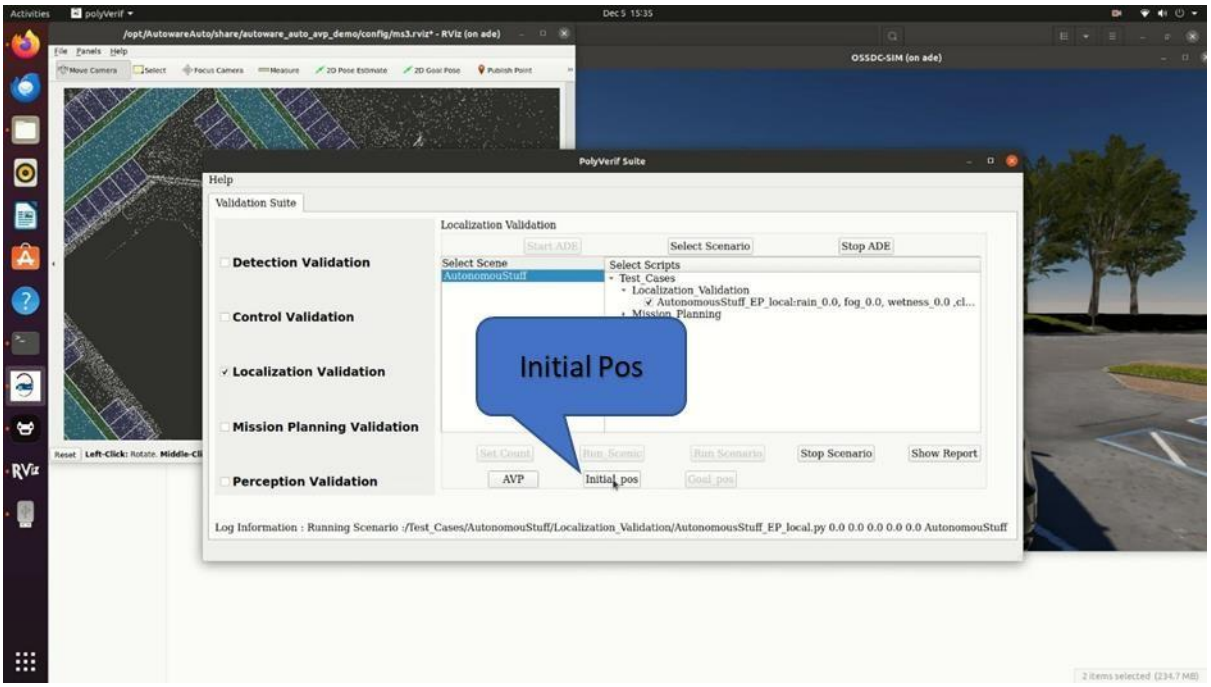
Rviz Setup and Simulation:

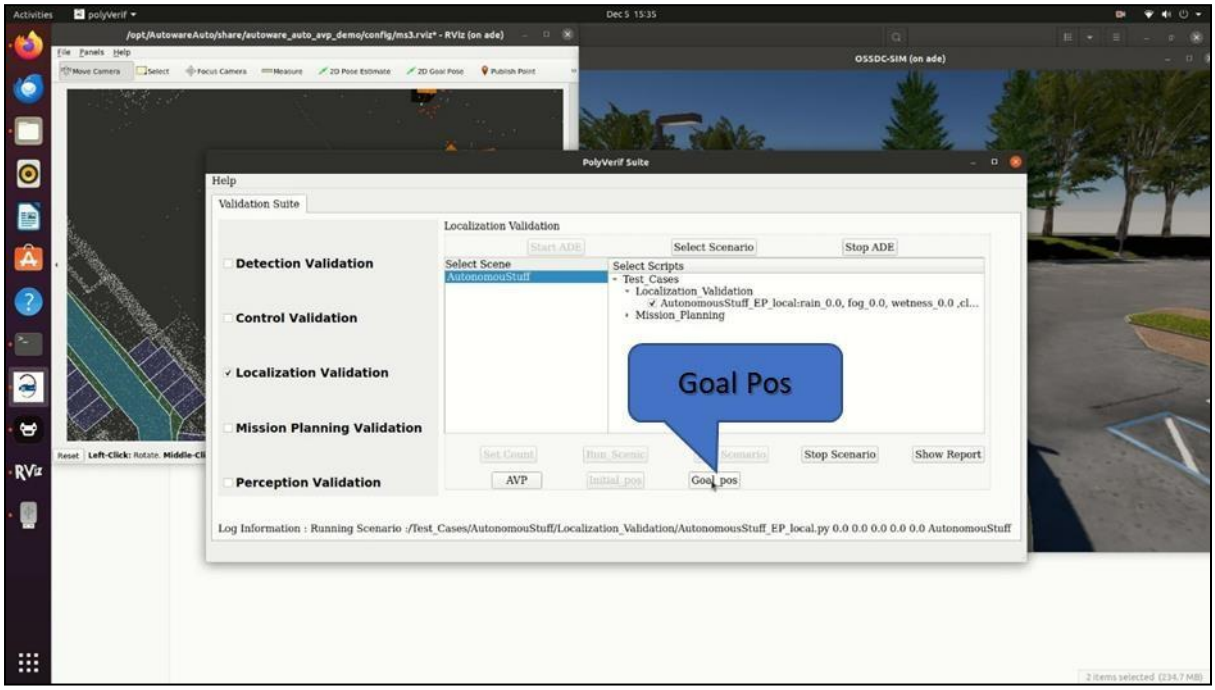
When Rviz starts, click on the "Run Scenario" button, followed by "Initial pos" and "Goal pos" buttons. This initiates the simulation in the OSSDC simulator, controlled by AutowareAuto decisions.





Ensure that the provided initial and goal position values are tailored for the AutonomouStuff map for accurate results.


Activities
polyVerif
Dec 5 15:35
/opt/AutowareAuto/share/autoware_auto_avp_demo/config/ms3.rviz* - RViz (on ade)
OSSDC-SIM (on ade)
PolyVerif Suite
Help
Validation Suite
Detection Validation
Control Validation
Localization Validation
Mission Planning Validation
Perception Validation
Localization Validation
Start ADE
Select Scenario
Stop ADE
Select Scene
AutonomouStuff
Select Scripts
Test_Cases
Localization_Validation
AutonomousStuff_EP_local:rain_0.0, fog_0.0, wetness_0.0 ,cl...
Mission_Planning
Initial Pos
Set Count
Run Scenic
Run Scenario
Stop Scenario
Show Report
AVP
Initial_pos
Goal_pos
Log Information : Running Scenario :/Test_Cases/AutonomouStuff/Localization_Validation/AutonomousStuff_EP_local.py 0.0 0.0 0.0 0.0 0.0 AutonomouStuff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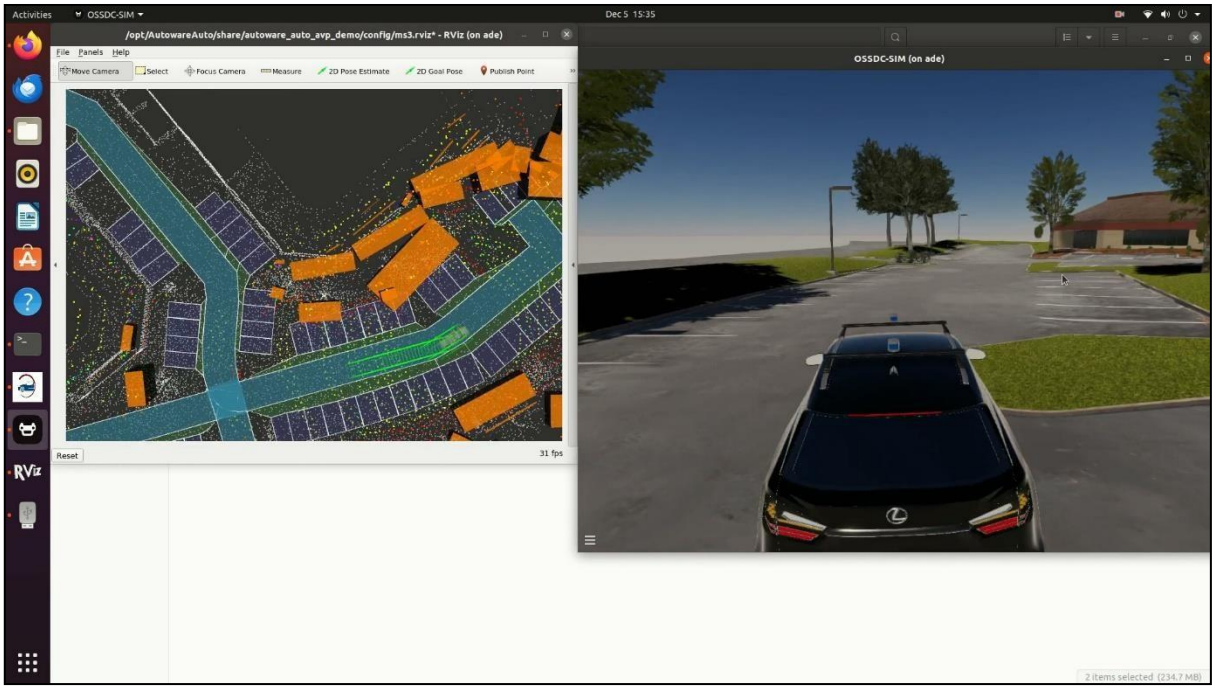
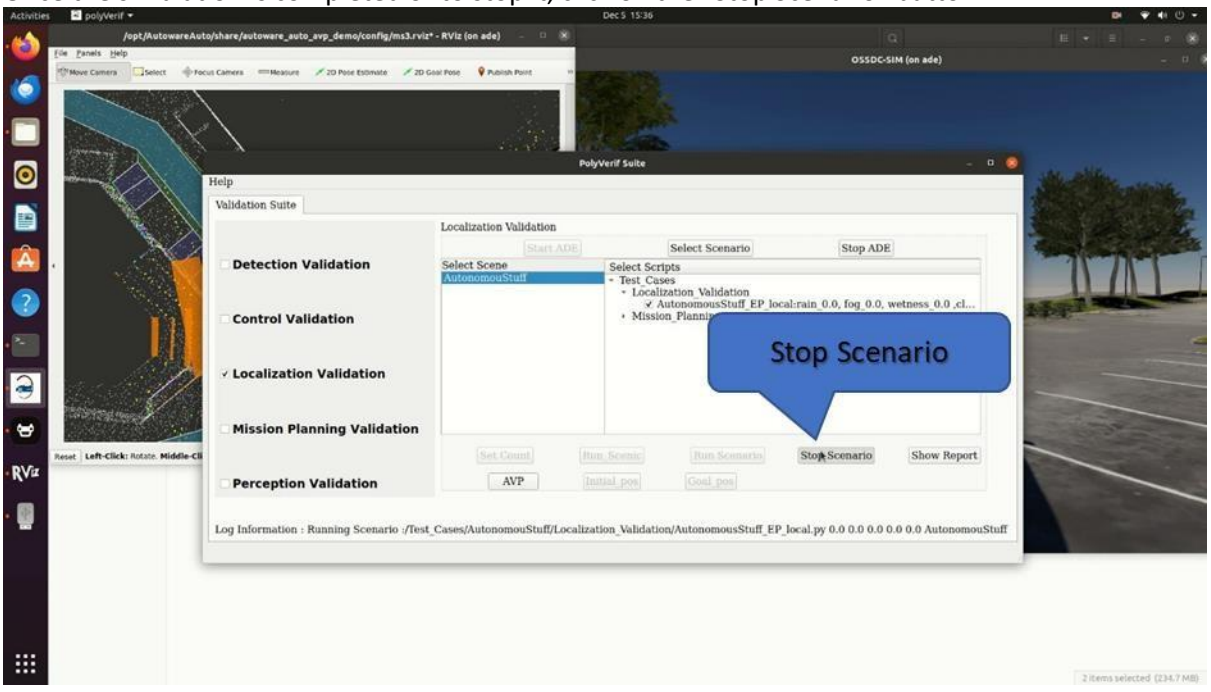


Completion and Report Access:

Once the simulation is completed or to stop it, click on the "Stop Scenario" button.

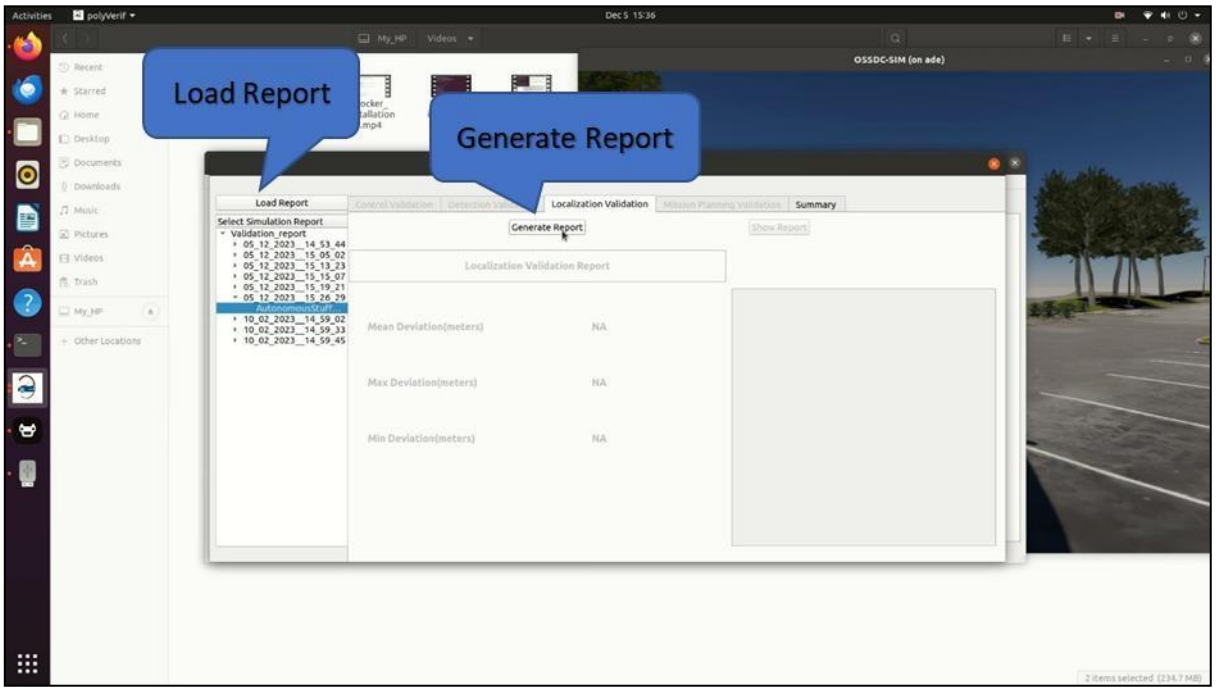


Click on the "Show Report" button to access simulation reports.

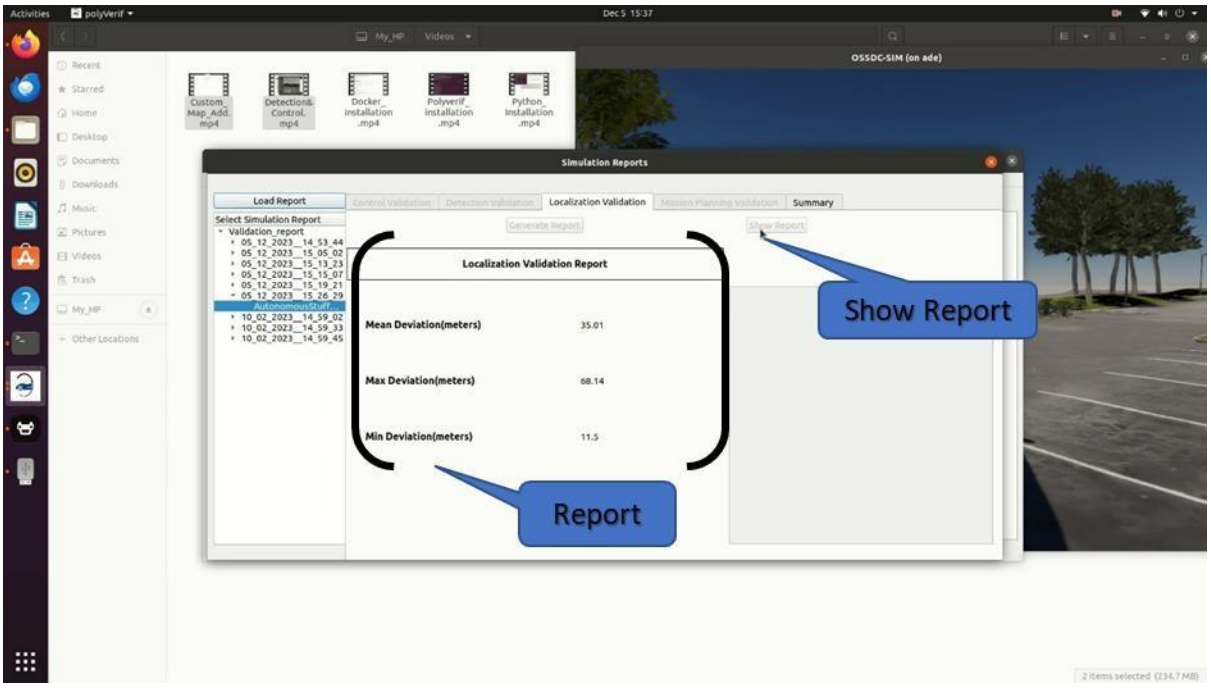
Report Insights:

The form contains reports specific to Localization Validation. It generates and displays the Localization report.

Utilize the "Load Report" button to list all simulation reports with dates and times. Select the last completed simulation report and click on "Generate Report." Report generation will take 2-3 minutes, so wait for background process.



After generation, click on "Show Report" for detailed parameters.



Stopping ADE:

After completing the test case runs, click on "Stop ADE" to halt the PolyVerif framework and then close the terminal.

Proceeding with Mission Planning Validation

Follow the previously outlined steps, ensuring to specifically opt for "Mission Planning Validation" when incorporating it into your simulation, focusing on the Autonomous Stuff map. Continue applying this standardized approach consistently for an organized and uniform method of managing simulations. Additionally, remember to choose the suitable testcase directory for mission planning validation, ensuring a tailored simulation that meets your specific requirements on the Autonomous Stuff map.

Assumptions and Challenges

- **Rviz Dynamics:**

Occasional crashes may happen, but rest assured, the perception stack persists.

- **Scenario Hurdles:**

Some scenarios may experience hang-ups while connecting to the Ros2 Bridge, necessitating a restart.

- **System Configurations:**

System hangs may occur based on machine specifications.

- **Network Issues:**

If the network is not functioning properly, you may encounter issues such as scenarios not running or reports not generating. To resolve this, simply restart ADE or the PolyVerif Framework.

Learn More

For further insights and references, explore the provided links:

- **OSSDC Simulator**
- **PythonAPI**
- **AutowareAuto AVP Demo**

Now, let's embark on a journey of seamless simulations with PolyVerif!!