

# LGSVL-ROS仿真配置

## 1. SVL仿真环境配置

### 1.1 启动svl仿真器

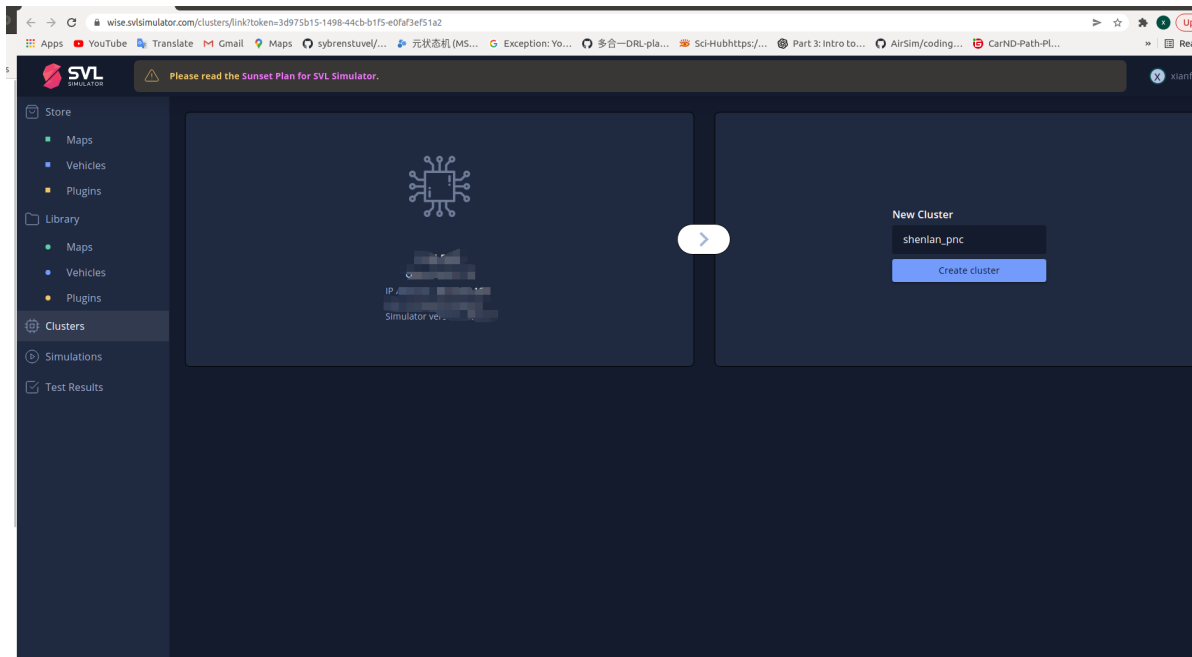
```
cd /${svl仿真器的路径}  
./simulator      // 启动仿真器
```

点击[Link to cloud](#)

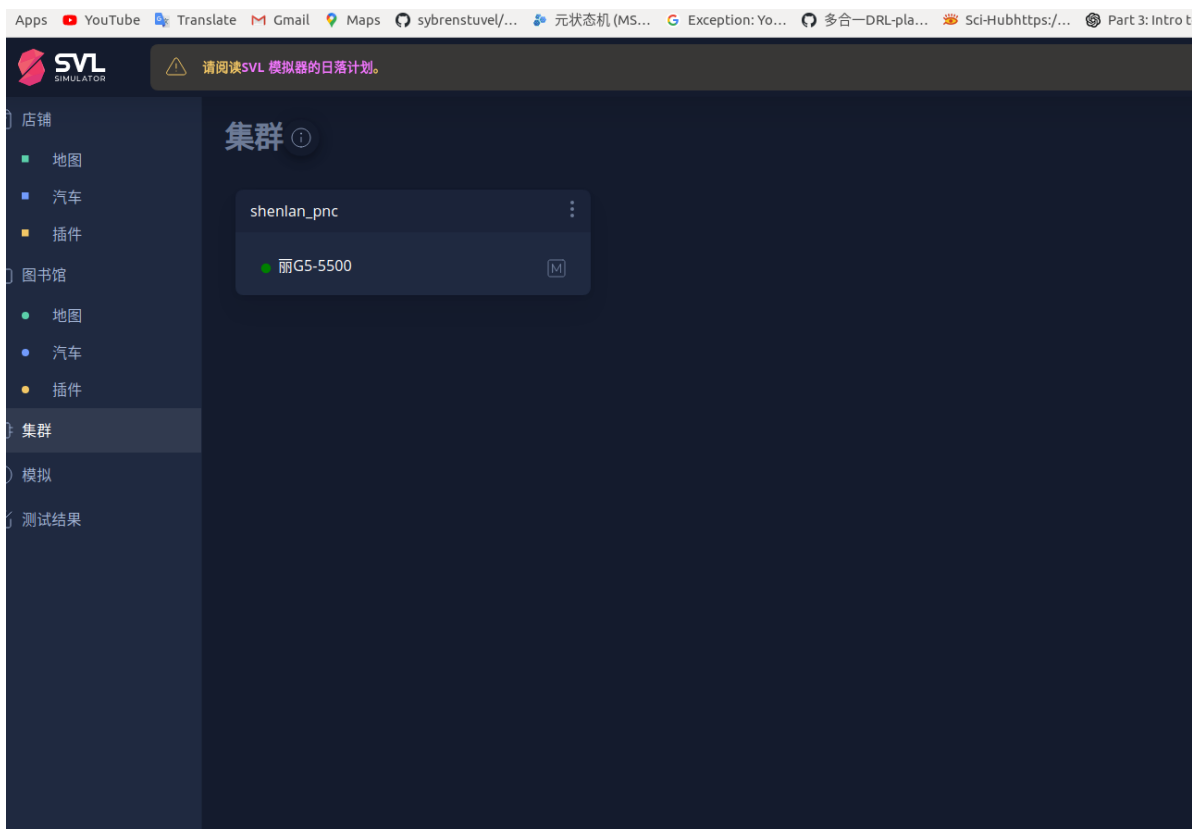


## 1.2 配置仿真环境

### 1.2.1 创建cluster

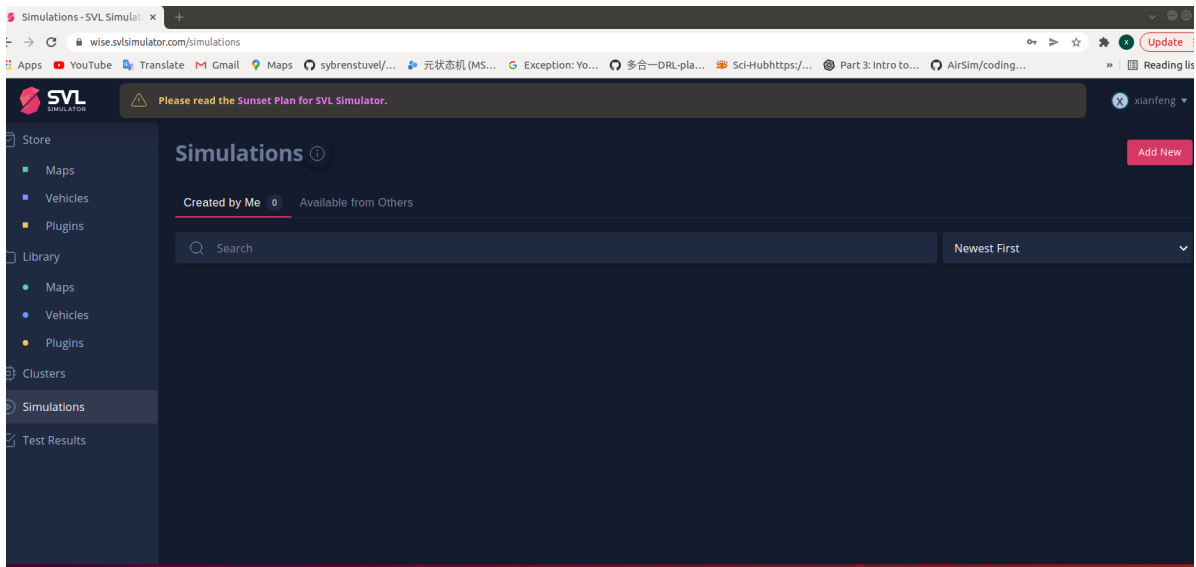


cluster创建完毕

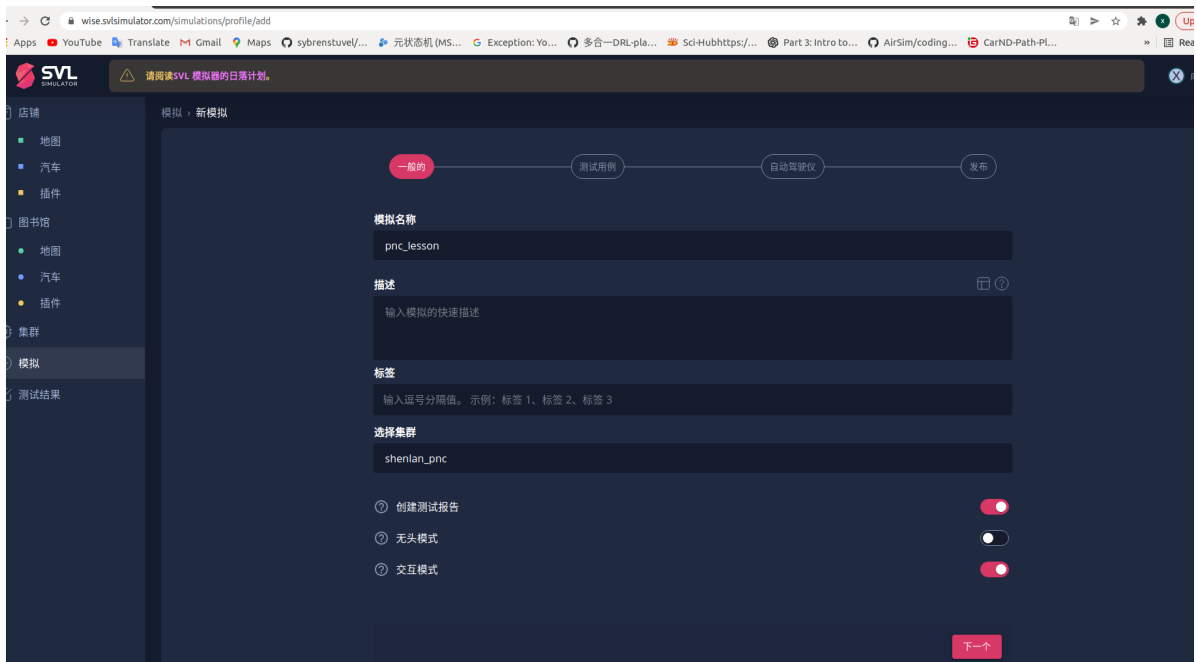


### 1.2.2 配置仿真环境

点击左侧列表的Simulations，然后点击右上角的Add New按钮，



做如下配置，其中Select Cluster是指你在最开始打开svl仿真器时创建的集群，



test case 按照下图配置（注意：在这里我们的地图Map选择最好不要随意更改，因为在课后作业中的参考轨迹是在下图CubeTown中对应的轨迹），

General

Test case

Autopilot

Publish

Runtime Template

Random Traffic

Map

CubeTown

Vehicle

Jaguar2015XE

shenlan\_pnc2021.3, 2021.2, 20...

+ Add another vehicle

Date and weather

Simulation Date

May 19

Time Of Day

12:00 PM

Set the environment time of day of the simulation.

Rain

0

Defines the amount of rain. This introduces particle droplet effects falling from the sky and camera post-processing effects. 0.0 - no rain, 1.0 - maximum raining.

Fog

0

Defines the amount of fog and other particles in the air. 0.0 - no fog, 1.0 - maximum fog.

Wetness

0

Cloudiness

0

Date and weather

Simulation Date

May 19

Time Of Day

12:00 PM

Set the environment time of day of the simulation.

Rain

0

Defines the amount of rain. This introduces particle droplet effects falling from the sky and camera post-processing effects. 0.0 - no rain, 1.0 - maximum raining.

Fog

0

Defines the amount of fog and other particles in the air. 0.0 - no fog, 1.0 - maximum fog.

Wetness

0

Defines the amount of water/wetness that covers the road and sidewalks. 0.0 - surface is dry, 1.0 - surface is fully covered with puddles.

Cloudiness

0

Defines the amount of clouds in the sky. 0.0 - sky is clear, 1.0 - sky is fully covered.

Traffic

Random Traffic

Random Pedestrians

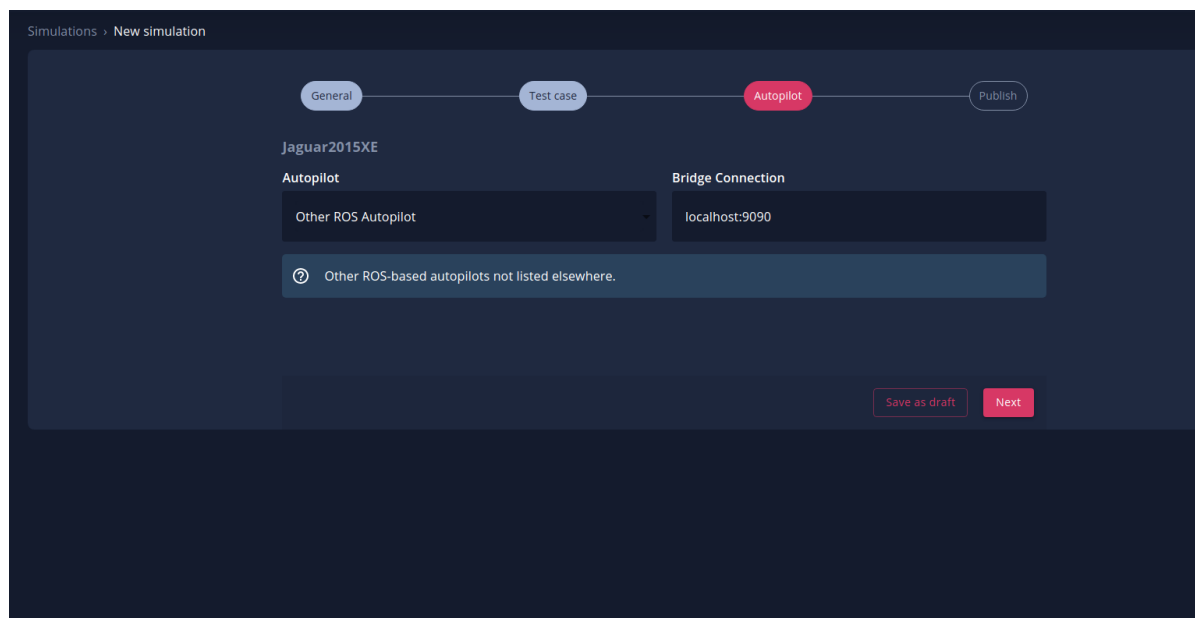
Random Bicyclists

Use Pre-defined Seed

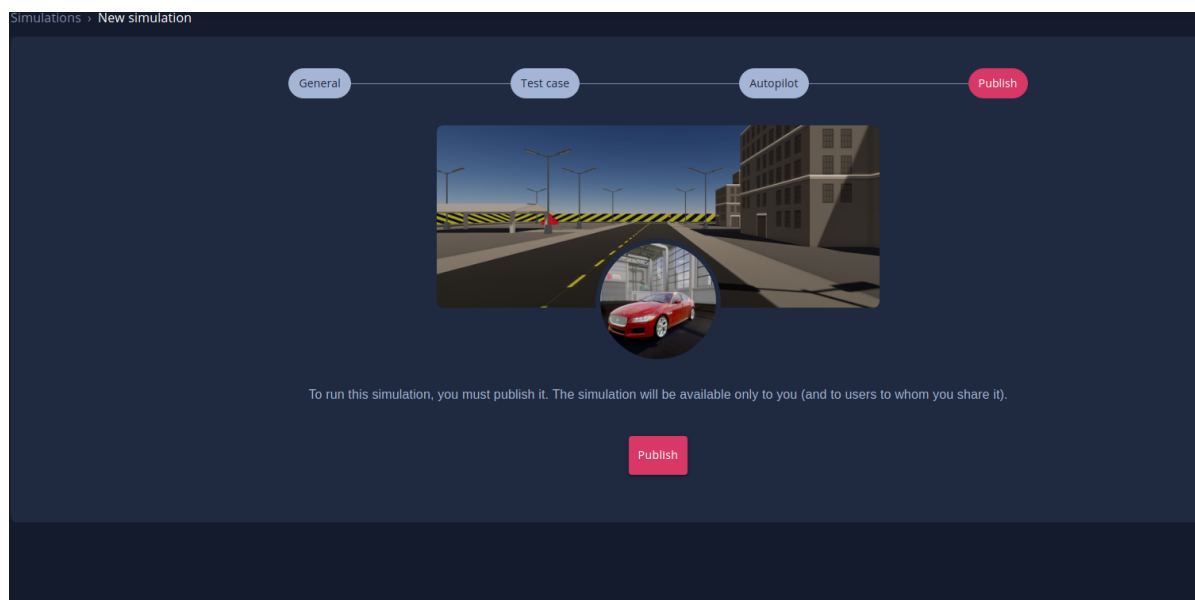
Save as draft

Next

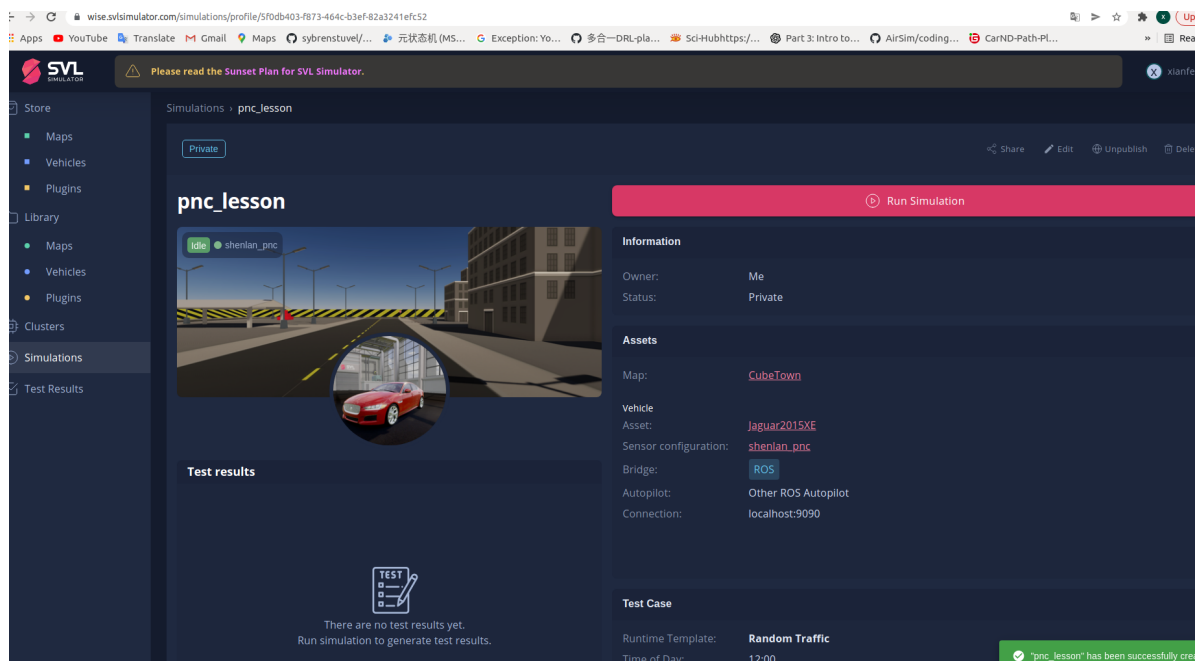
auto\_pilot配置,



Publish, 完成配置。



配置好的地图如图所示，



## 1.3 运行仿真

点击 run simulation，等待下载配置完成后，即可。



## 2. 仿真车辆配置

### 2.1 在网页端配置仿真设置

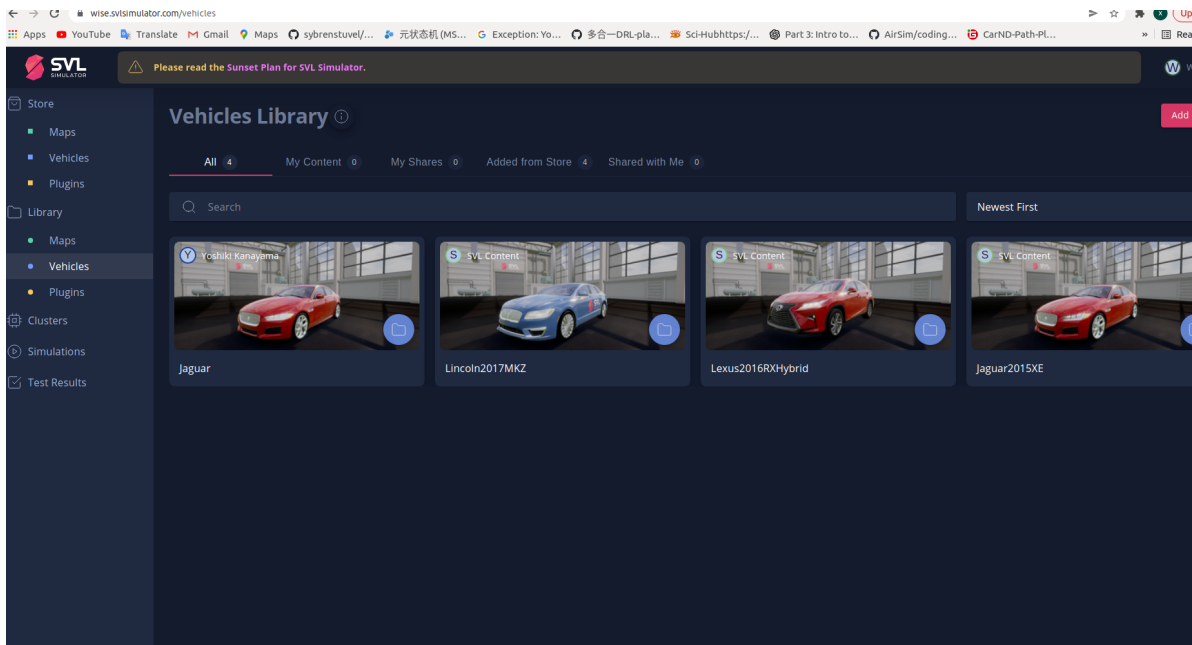
点击 open browser，

注：下图界面只有在你创建好了cluster后才会出现

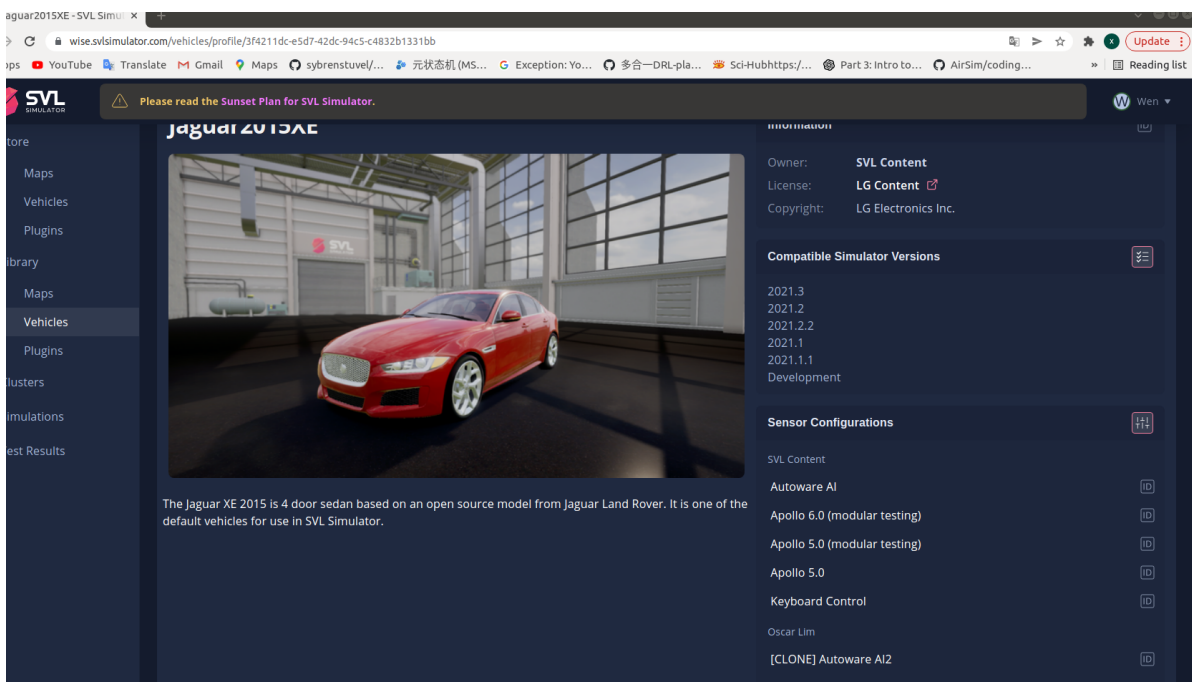


## 2.2 配置车辆传感器

点击左侧列表的Vehicles,



选择 Jaguar2015XE, 点击对应图标中的文件夹图标, 并点击Sensor Configurations一行对应的插件按钮,

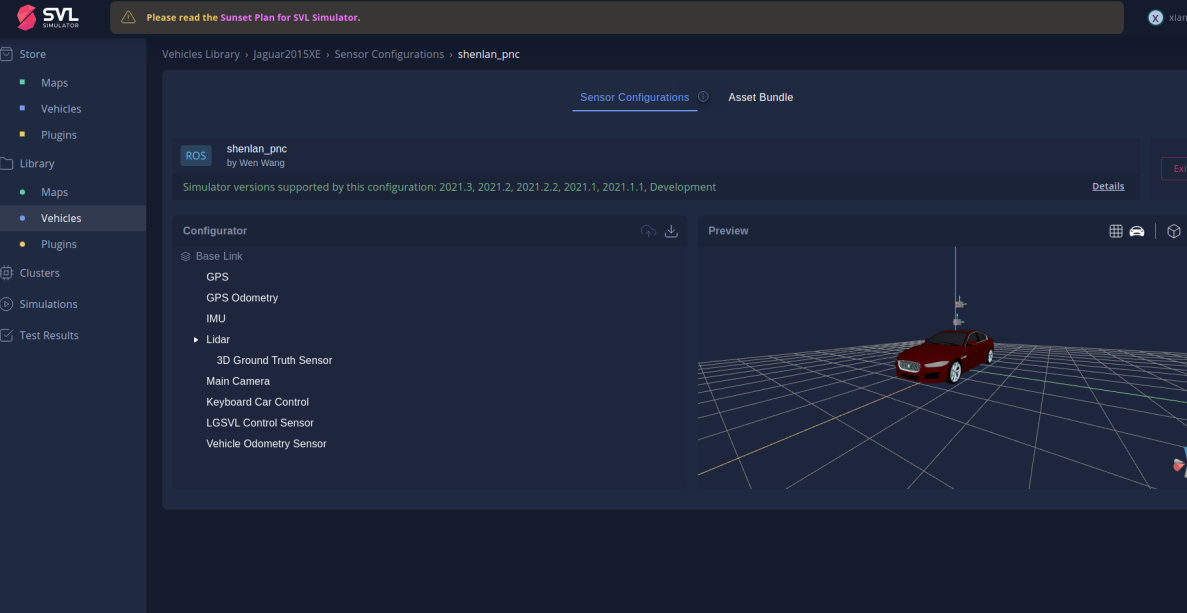


选择对应的shenlan\_pnc模型在对应模型配置的同—行, 选择view configuration, 可以修改配置,



	2021.1.1, Development				
my Autware AI	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	ROS		
teknofest	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	ROS		
[CLONE] Apollo 6.0 (modular testing)	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	CyberRT		
Apollo 5.0	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	CyberRT		
Keyboard Control	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	None		
Lane-Line	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	CyberRT		
autware_mpc	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	ROS		
MyConfiguration	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	ROS		
[CLONE] Autware AI	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	ROS		
wsy Lane-Line	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	None		
Me					
shenlan_pnc	2021.3, 2021.2, 2021.2.2, 2021.1, 2021.1.1, Development	Public	ROS		

现在你可以根据自己的需求对车辆的传感器进行配置，



车辆选型为 Jaguar2015xE,为汽车配置一些基础的传感器如GPS、IMU以及LGSVL Control Sensor等，并为每一传感器其相关属性，如Topic、Frame等。

Sensor Details

Sensor Type

LGSVL Control Sensor

Name

LGSVL Control Sensor

X

0

Y

0

Z

0

Roll

0

Pitch

0

Yaw

0

StuckTravelThreshold

0.1

StuckTimeThreshold

10

Topic

/vehicle\_cmd

Frame

## 3. 启动svl和ros的联合仿真

### 3.1 安装依赖库

```
sudo apt install ros-melodic-rosbridge-server // 通讯桥
sudo apt install ros-melodic-lgsvl-msgs // lgsvl的数据类型
sudo apt-get install libeigen3-dev // eigen3的库
```

### 3.2 启动svl仿真环境

(注：在打开仿真环境后，需要将左下角第二个按钮,播放键打开,否则无法接收到仿真器中的话题数据)

```
cd /${svl仿真器的路径}
./simulator // 启动仿真器
```



运行 `rosbridge_server` 接收来自svl的仿真信息

```
roslaunch rosbridge_server rosbridge_websocket.launch
```

将对应的ros程序编译通过运行

```
roslaunch ${你的ros程序}
```

联合仿真步骤完成。