

In the following, I'll explain how to run the simulator in the Virtual Machine environment. The first step (1.1-1.6) is only needed the first time, in order to update the simulator and to make you familiar with the build system. The password for the virtual machine is 'adminuser' (as the user name).

1. Update simulator

1.1 Download OpenDaVINCI including the parking demo:

```
wget http://www.cse.chalmers.se/~bergerc/parking/2015-02-02_OpenDaVINCI.tar.gz .
```

1.2 Untar the content to /home/adminuser/OpenDaVINCI:

```
tar xvf 2015-02-02_OpenDaVINCI.tar.gz
```

1.3 Empty the installation directory:

```
sudo rm -rf /opt/parking/*
```

1.4 Build the software:

```
cd OpenDaVINCI
```

```
mkdir build && cd build
```

```
cmake -D CMAKE_INSTALL_PREFIX=/opt/parking ..
```

```
make && make test
```

```
sudo make install
```

1.5 Download the configuration and scenario data:

```
cd
```

```
wget http://www.cse.chalmers.se/~bergerc/parking/config.tar.gz .
```

1.7 remove the old config:

```
rm -rf config
```

1.6 Untar the content:

```
tar xvf config.tar.gz
```

2. Run the simulator

2.1 Start the supercomponent in Docker:

```
sudo docker run --rm=true --net host -v /home/adminuser/config:/opt/data -w "/opt/data" -t -i  
seresearch/parking:v12 /opt/sim/bin/supercomponent --cid=111 --freq=10 --managed=simulation_rt
```

2.2 Start the vehicle simulation in Docker:

```
sudo docker run --rm=true --net host -t -i seresearch/parking:v12 /opt/sim/bin/vehicle --cid=111
```

2.3 Start the irus sensor simulation that uses the scenario data (.scnx file) in Docker:

```
sudo docker run --rm=true --net host -w "/opt/data" -t -i -v /home/adminuser/config:/opt/data  
seresearch/parking:v12 /opt/sim/bin/irus --cid=111
```

2.4 Enable access to X11 from anywhere to run visualization environment cockpit:

```
xhost +
```

2.5 Start visualization environment cockpit:

```
sudo docker run --rm=true --net host -w "/opt/data" -t -i -e DISPLAY=$DISPLAY -e  
QT_X11_NO_MITSHM=1 -v /home/adminuser/config:/opt/data -v /tmp/.X11-unix:/tmp/.X11-unix  
seresearch/parking:v12 /opt/sim/bin/cockpit --cid=111
```

2.6 Start the visualization plugin "BirdsEyeMap" to watch the simulation.

Note1: Steps 2.1, 2.2, 2.3 and 2.5 need to run in their own terminal windows.

Note2: Whenever your simulation run is completed, simply stop vehicle and irus by pressing Ctrl-C.

2.7 Start the parking code (once you have programmed it):

```
/opt/parking/bin/boxparker --cid=111
```