

Tasks

For these tasks you are presented a schema that you have not seen or worked with before. We have prepared a schema of a made-up simulation software in which self-driving cars are simulated. There is one self-driving car that has to navigate from a start point to an end point but there are also other vehicles and pedestrians simulated. For these tasks, the exact details are not important.

Task 1 - Setup

- 1) Go to <https://paulbredl.github.io/config-assistant/>
- 2) Select the option "Select a Schema": "From Example" → "Autonomous Vehicle Schema".
- 3) Open the example configuration file we have sent to you. The following tasks will assume this schema and this example file.

Task 2 - Questions

- 1) What is the name of the simulation?
- 2) What is the weather in our simulated environment?
- 3) What is the total duration of the simulation?
- 4) Humidity is a subproperty of the Environment. Would 150 be a valid value for Humidity?

Task 3 - Modify the configuration file

- 1) Change the name of the simulation to Sim_Advanced05.
- 2) The VehicleType of the self-driving car is currently "Level 3". Change it to the highest possible level.
- 3) The configuration file has validation errors, i.e. it is not valid according to the schema. Find out what the errors are. Edit the file so it becomes a valid configuration.
- 4) Add a new pedestrian group consisting of six people. Their average speed is 3 km/h. The path should contain the two elements "Pd19" and "Pd20".

Task 4 - Modify the schema

For this task, the goal is to modify the schema of the configuration files. Navigate to the schema editor to make changes in the schema.

- 1) For many applications it is good practice or even required that a schema has a unique identifier, which usually is a URL. Set the \$id field of this schema to "<https://www.example.com/self-driving-vehicle>".
- 2) The simulation software will get a premium version in the next update, for which the user needs a license. The license key should be stored in the configuration file. Add a new property "LicenseKey" to the "properties" object. It should be of the type "string". The length of the key is at most 20 characters long. Add a short exemplary description.
- 3) Go back to the file editor and verify that the new property "LicenseKey" is displayed and that the correct information is displayed when hovering over the property.