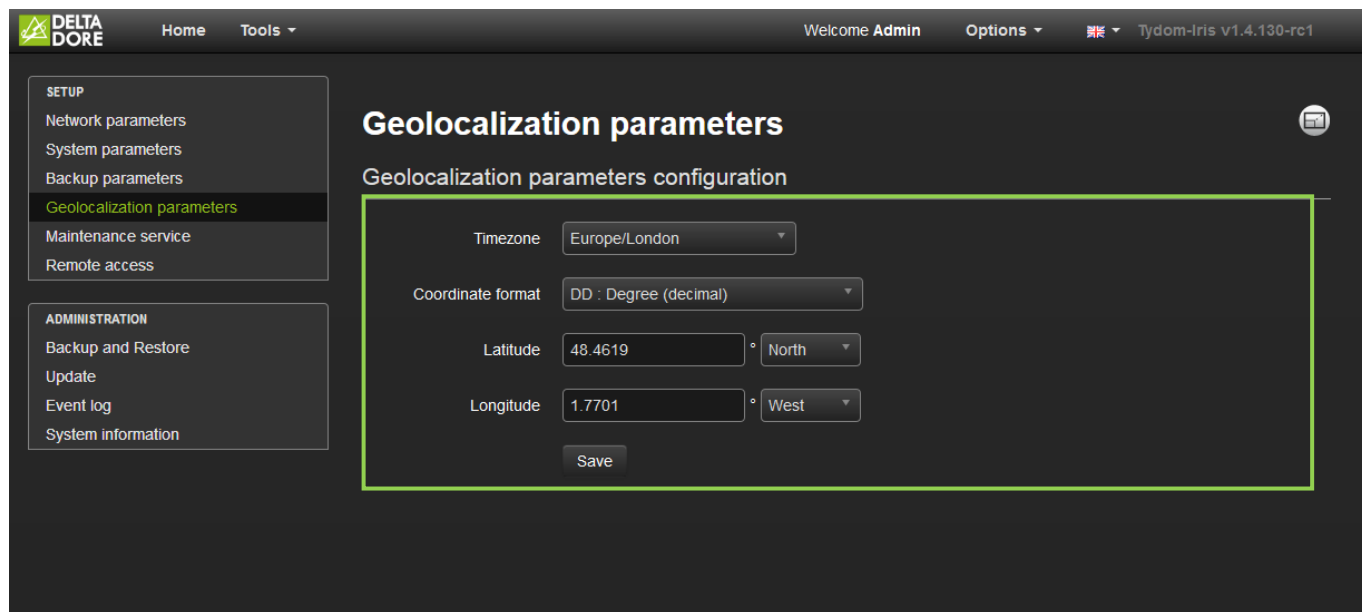# Ephemeris Module

● Presentation

With this module, you can see and use the data related to the position of the sun in Tydom.

The data in question is: sunrise time, sunset time, zenith time, sunshine duration, as well as sun elevation and azimuth down to the minute. This information will be used in Design Studio's 'What I See' function and also, and primarily, in the logic module.

No specific home automation equipment is required to use this module. You only need to enter the geographic coordinates for the Tydom 3.0 server. Tydom will use this data to integrate a calculation algorithm to restore the data.

● Configuration

As indicated above, the only relevant information is the geographic coordinates. This data must be entered in the 'Geolocation parameters' tab of Tydom's web interface:

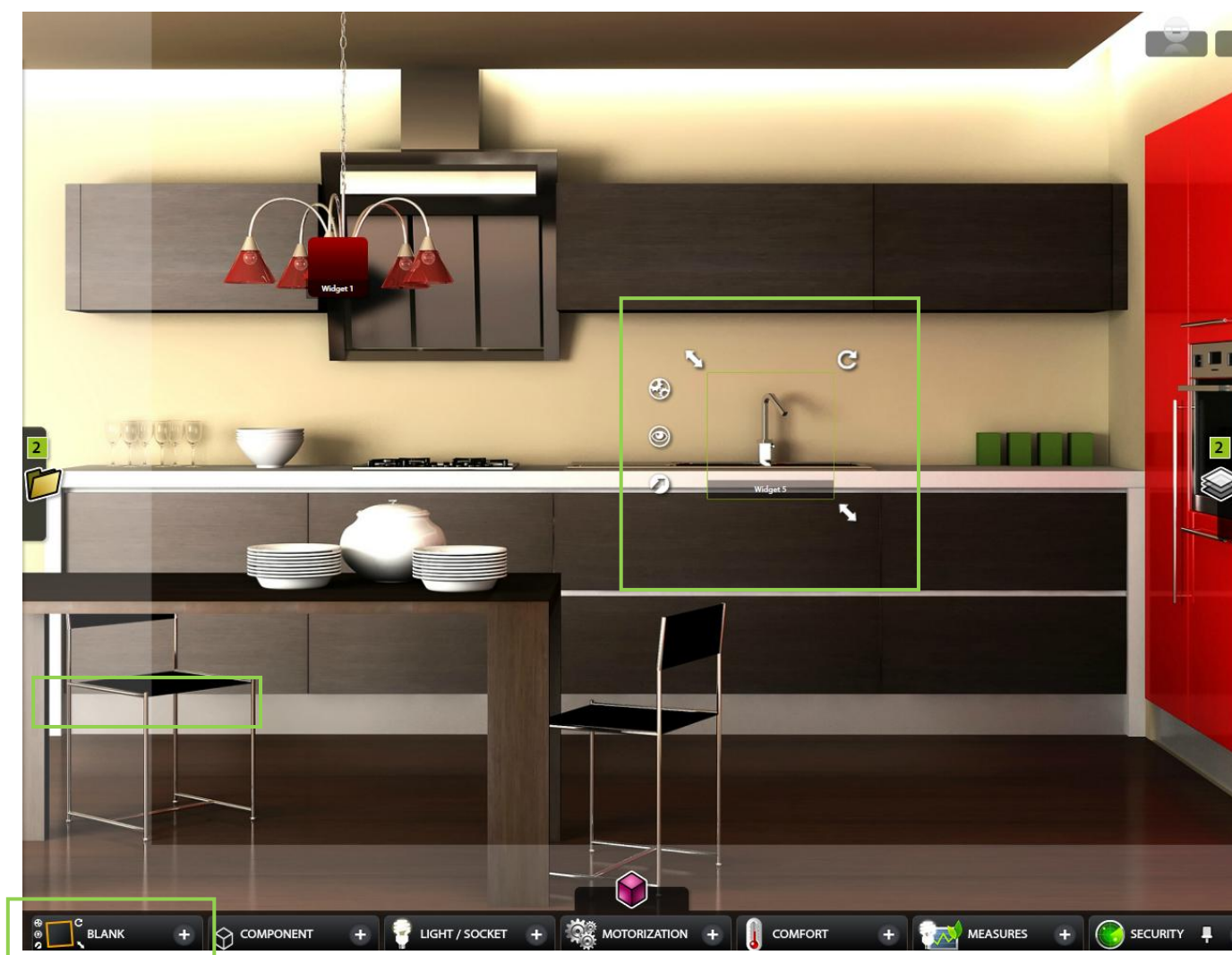Note that without these coordinates, the data will not be usable.

- # Use

  - **Design studio**

To view the data, you first have to open the **edit mode** in Design Studio. Click on the following icon in the top right toolbar:
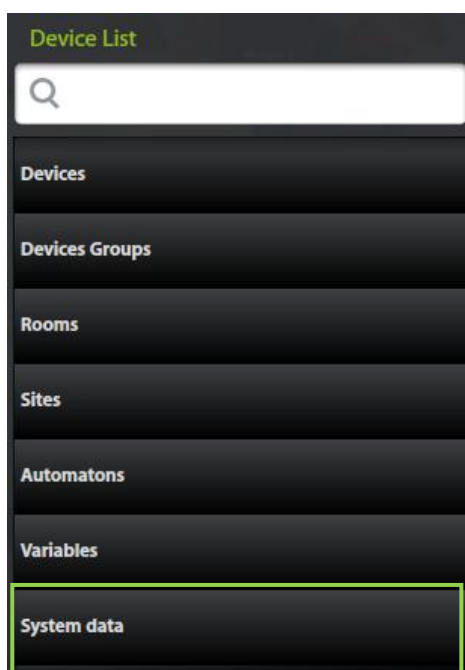
The edit mode is now active and you have to create a widget. Click on the toolbar at the bottom of the screen. Then click the 'Blank' tab. You will now see the widget.

The following 'What I see' icon appears on the right-hand side of the widget: . Click on the icon.

A new 'System data' tab appears below the 'Variables' tab.

In this tab you will see the ephemeris data already available in the logic module: time, date, day of the week and day of the month on the server.

Like all 'What I See' data, it can be combined with all state feedbacks.

- **Controllers**

The ephemeris data is added to the other system data in the logic module for editing triggers, functions, 'IF' conditions or variables. You can use the data either as main element or for comparison:
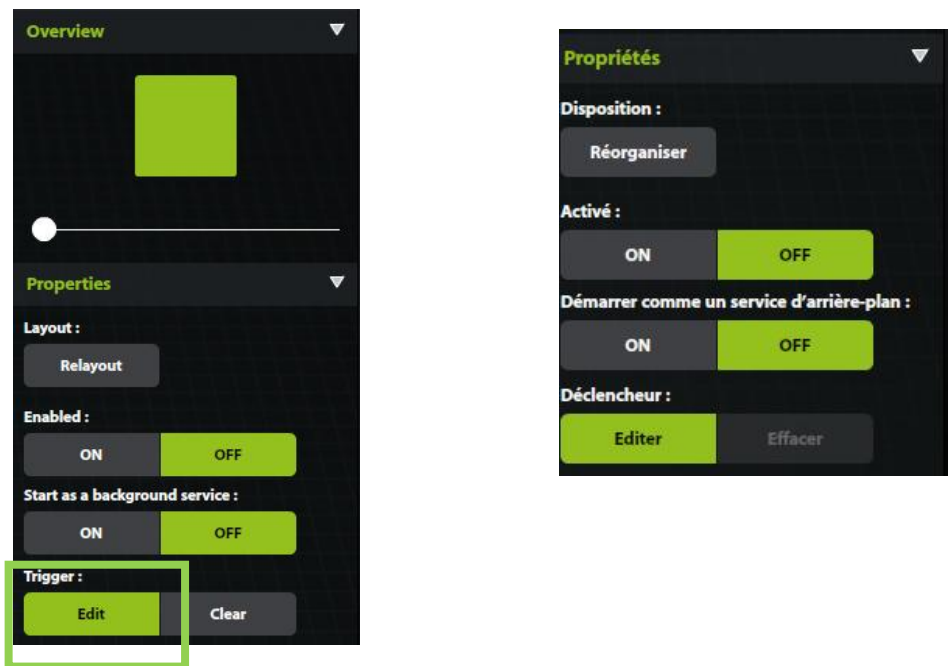
- **If the azimuth is above 150**

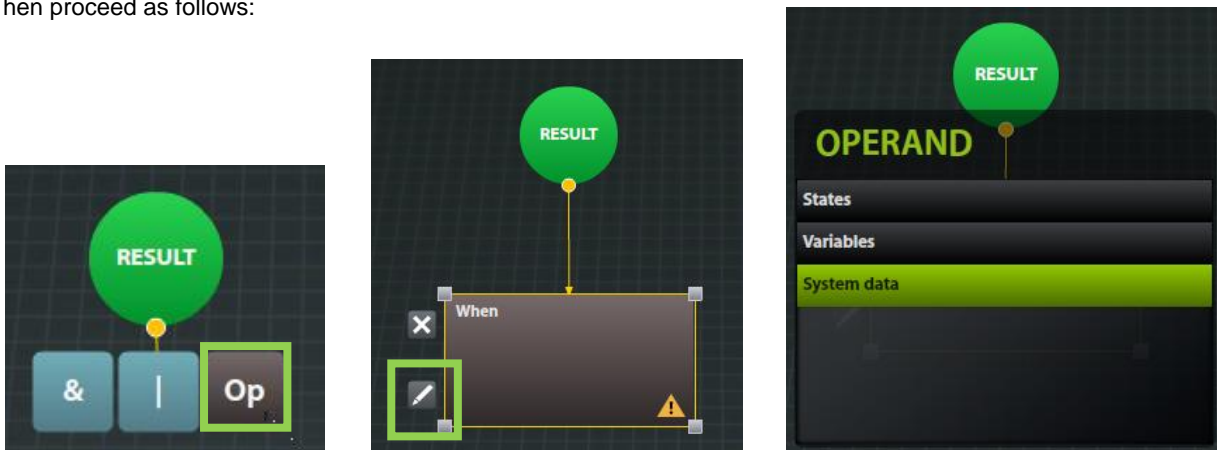In this case we will base our trigger on an ephemeris data item.

To do this, log in to Config Studio and click on 'Control system' to create a controller. When the controller is created, click on
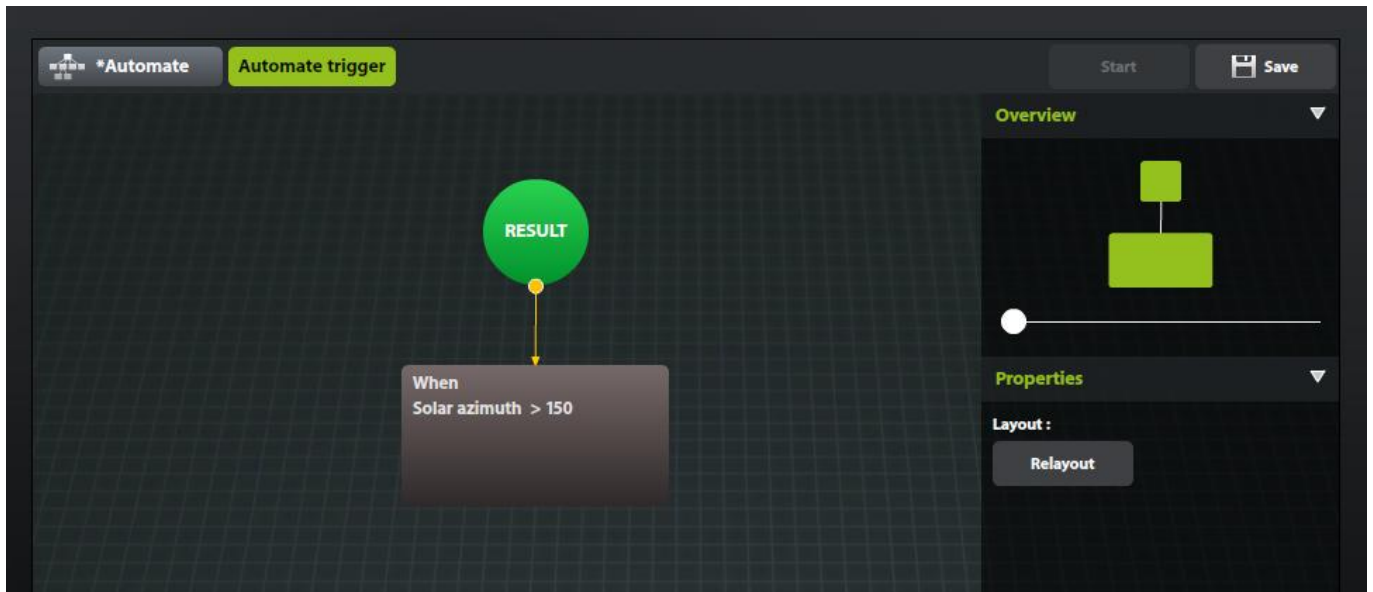
the 'What I see' icon: .

Then click on 'Edit' in the trigger properties.

Then proceed as follows:

- **'Sunrise' trigger**

We will use our ephemeris as a comparison like for standard variables.

Select the 'time' system data, then in the right hand pane, a new 'SYS' button will appear, enabling you to select a similar system variable (the sunrise time in this case).

- **'Half an hour before sunset' trigger**

To create this type of trigger, you have to use an intermediate variable.

Tydom will only propose the sunset time. You have to create a controller that will have the following trigger: 'Every time the sunset time changes'. In this controller, you will set a time variable equal to 'sunset time – 0h30'. You will then create a second controller with the trigger 'when the server time is my variable'.