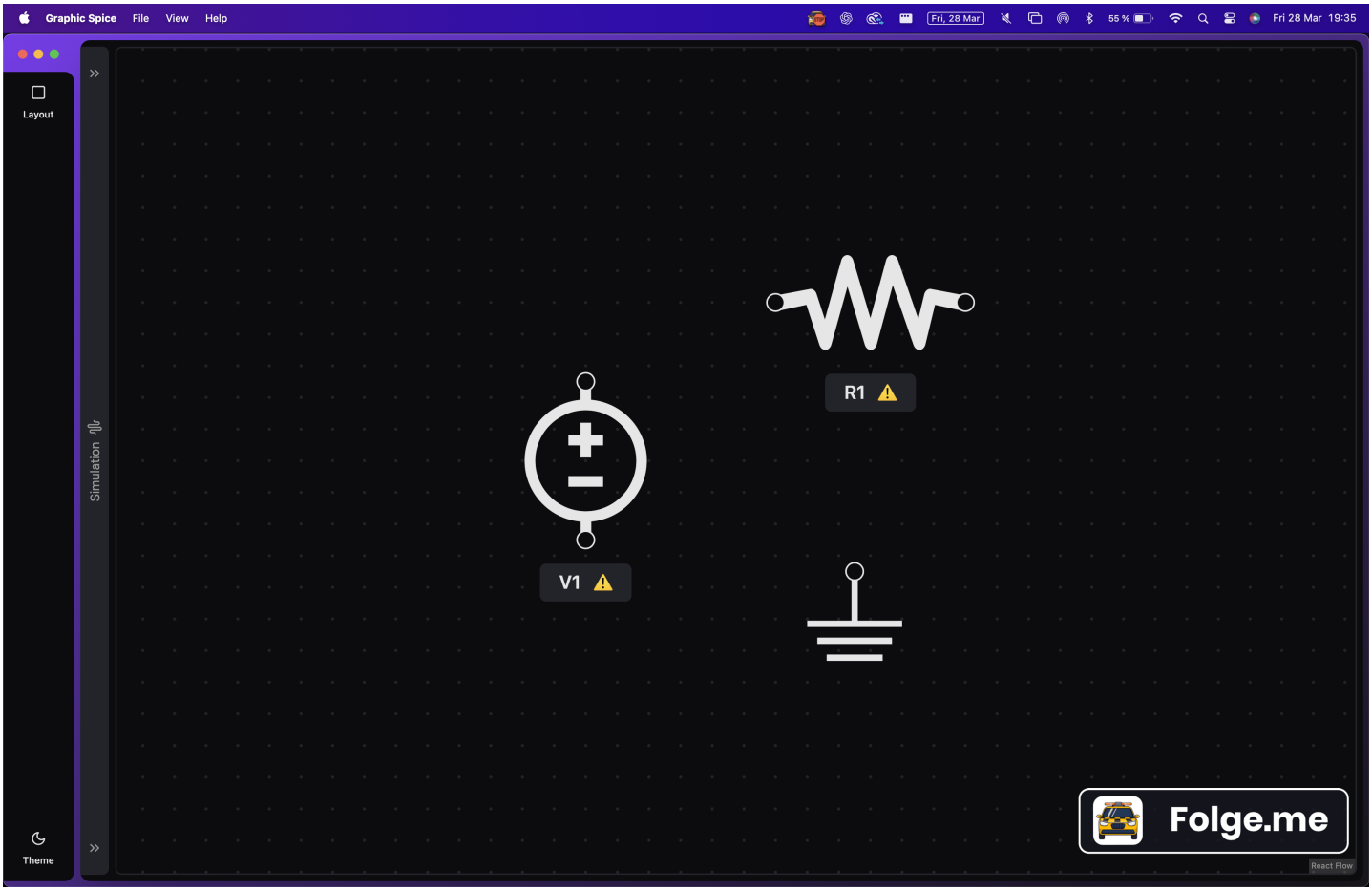
Introduction to circuit design in Graphic Spice

1 Placing elements in the canvas

As it can be seen in the UI introductory guide, to place elements in canvas one must use the provided shortcuts. For example:

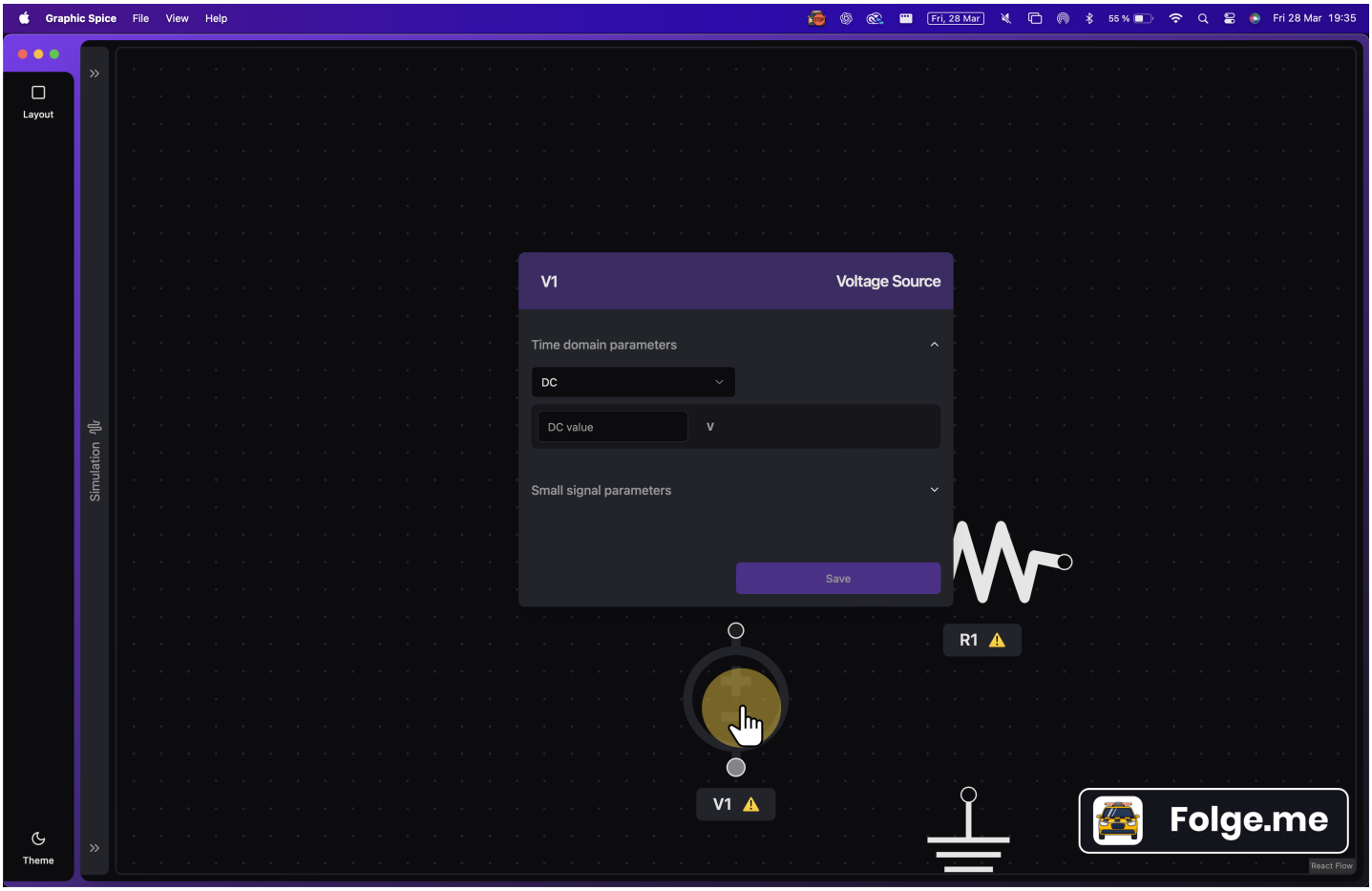
- **R** to place a resistance.
- **V** to place a voltage source.
- **Command / Alt + G** to place a ground reference.

Take note that both the voltage source and resistance on this example show a warning icon on their label due to them not being completely configured.



2 Configuring elements

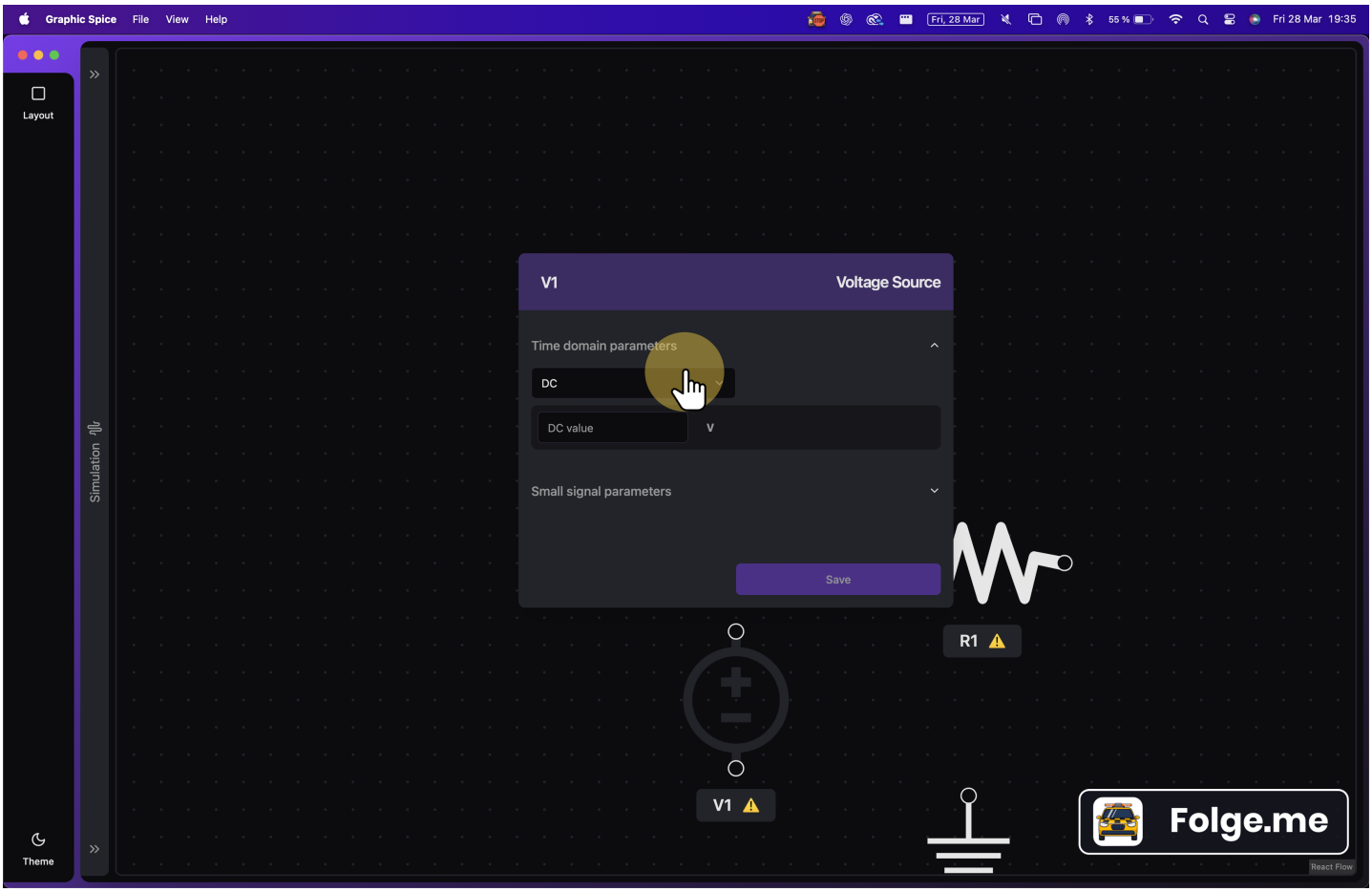
In order to configure an element, one must left click on it. The editor will adjust the screen to center the configuration screen.
As an example, the following slides will show how to configure a voltage source.



3 Example: Configuring a voltage source (1)

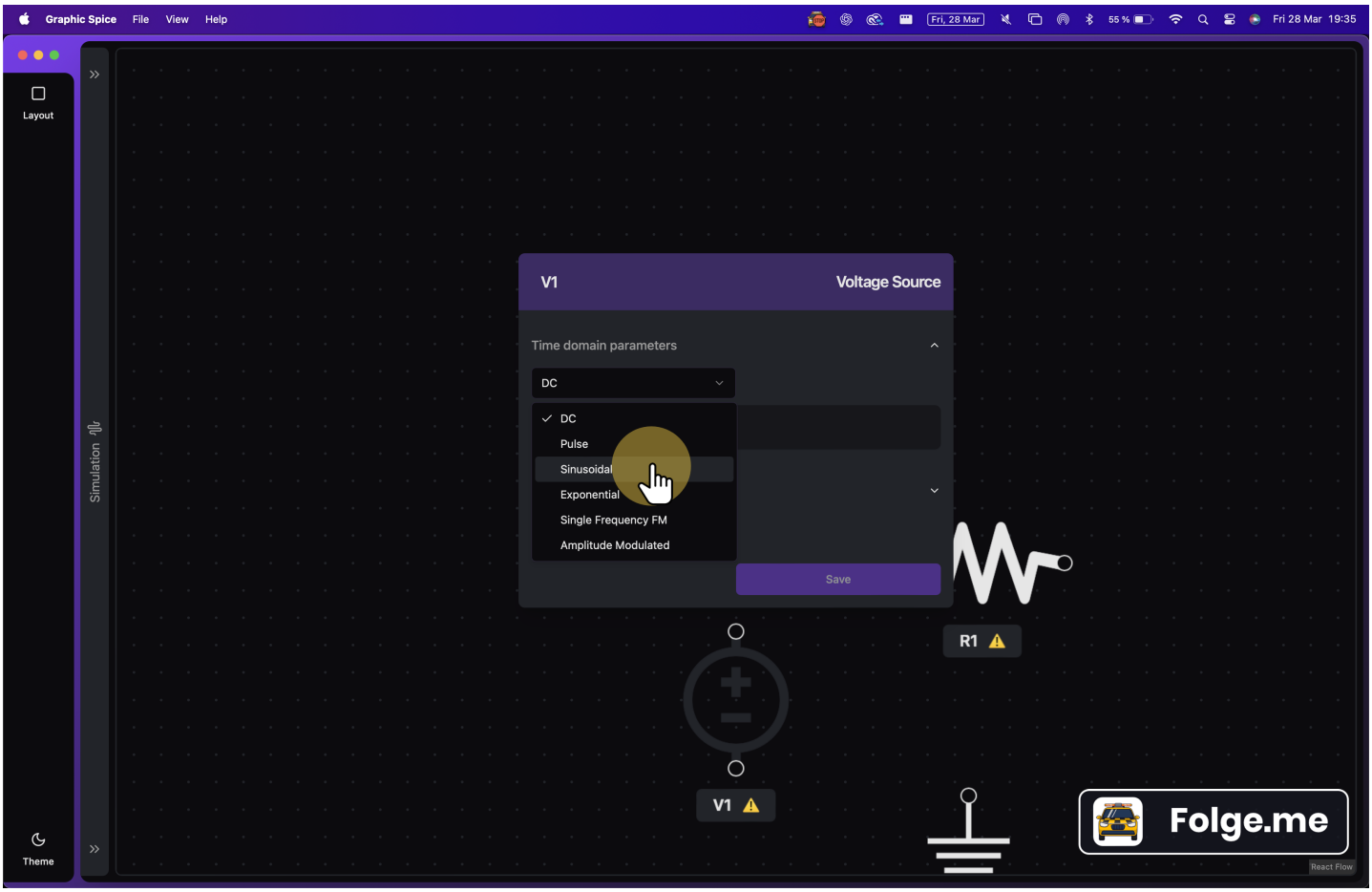
Voltage sources have 2 types of parameters:

1. Time domain parameters.
2. Small signal parameters.



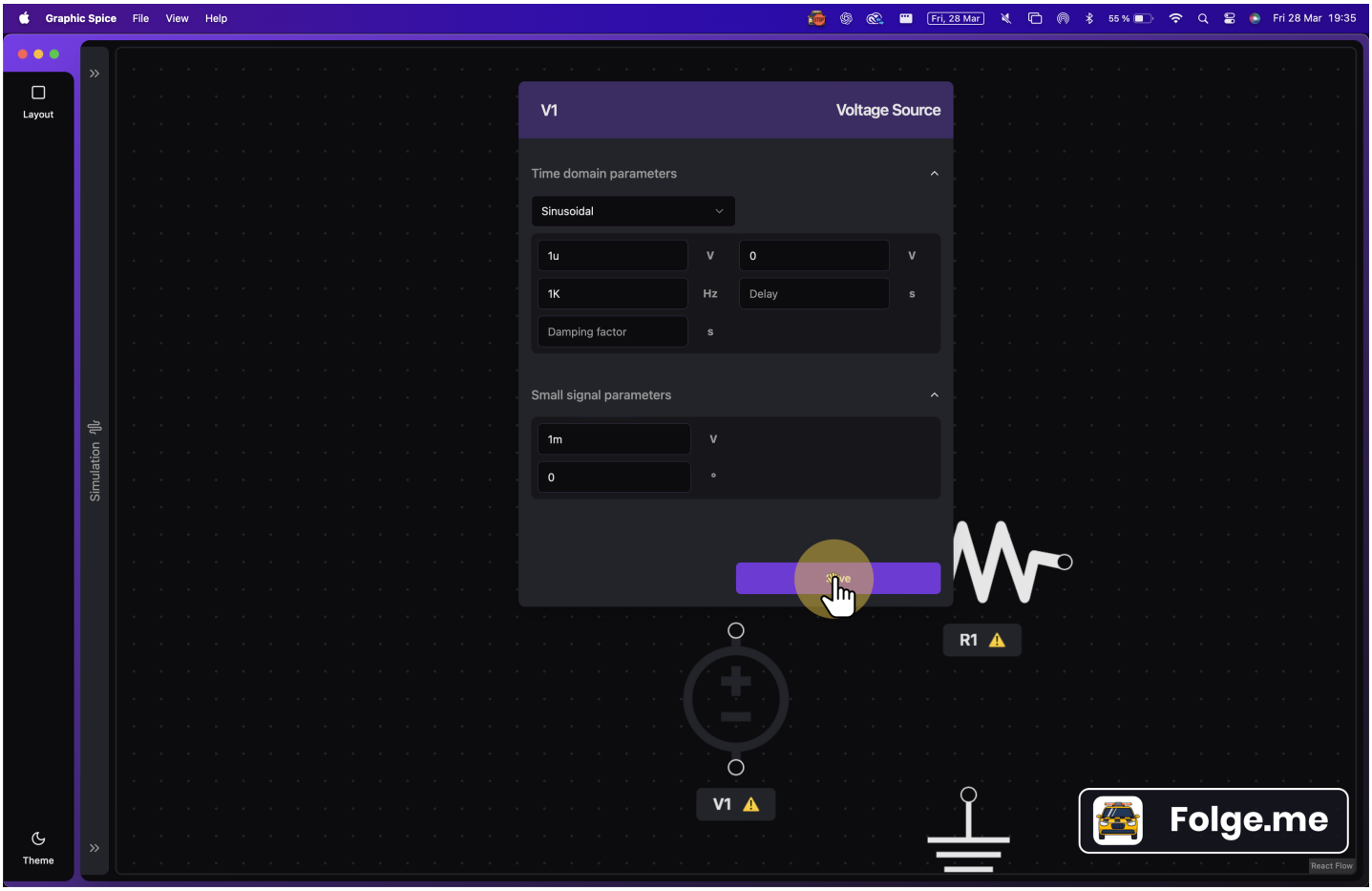
4 Example: Configuring a voltage source (2)

Sinusoidal signal configuration selected.



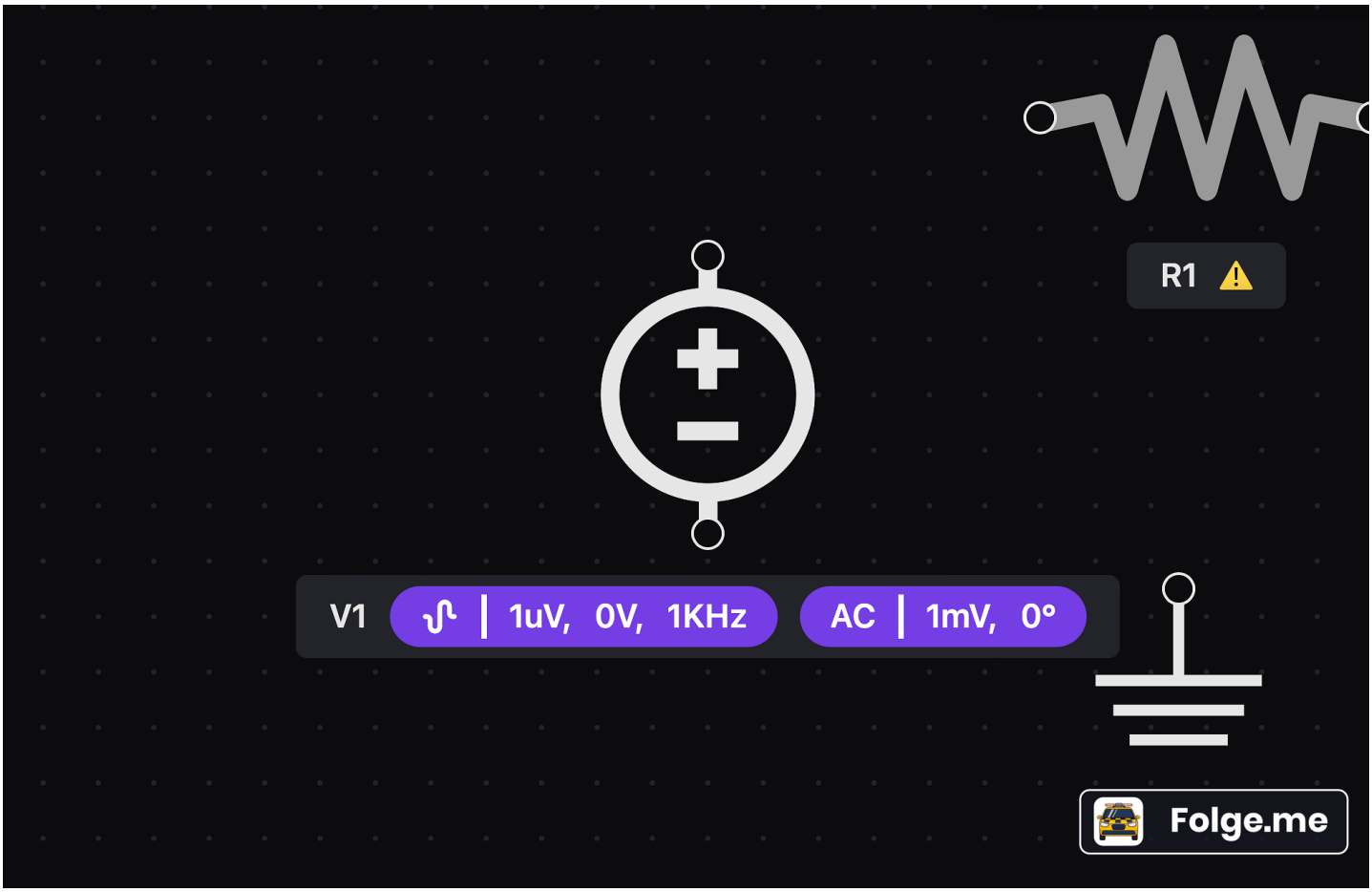
5 Example: Configuring a voltage source (3)

If configuration is valid, it can be saved.



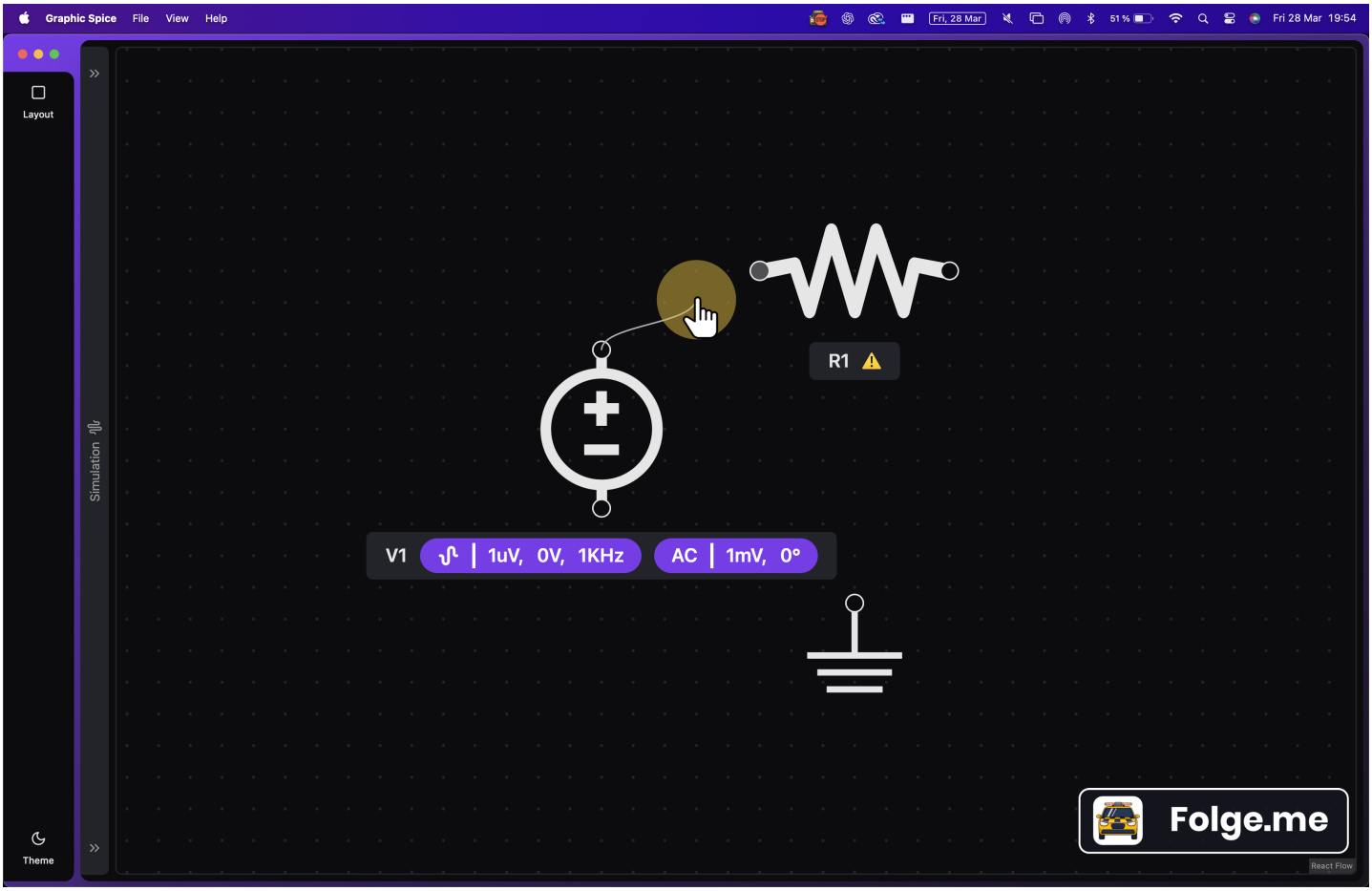
6 Example: Configuring a voltage source (4)

- Properly configured elements do not show the warning icon.
- They also show a brief summary of the current device configuration. Hovering over it will explain the parameters seen on screen.



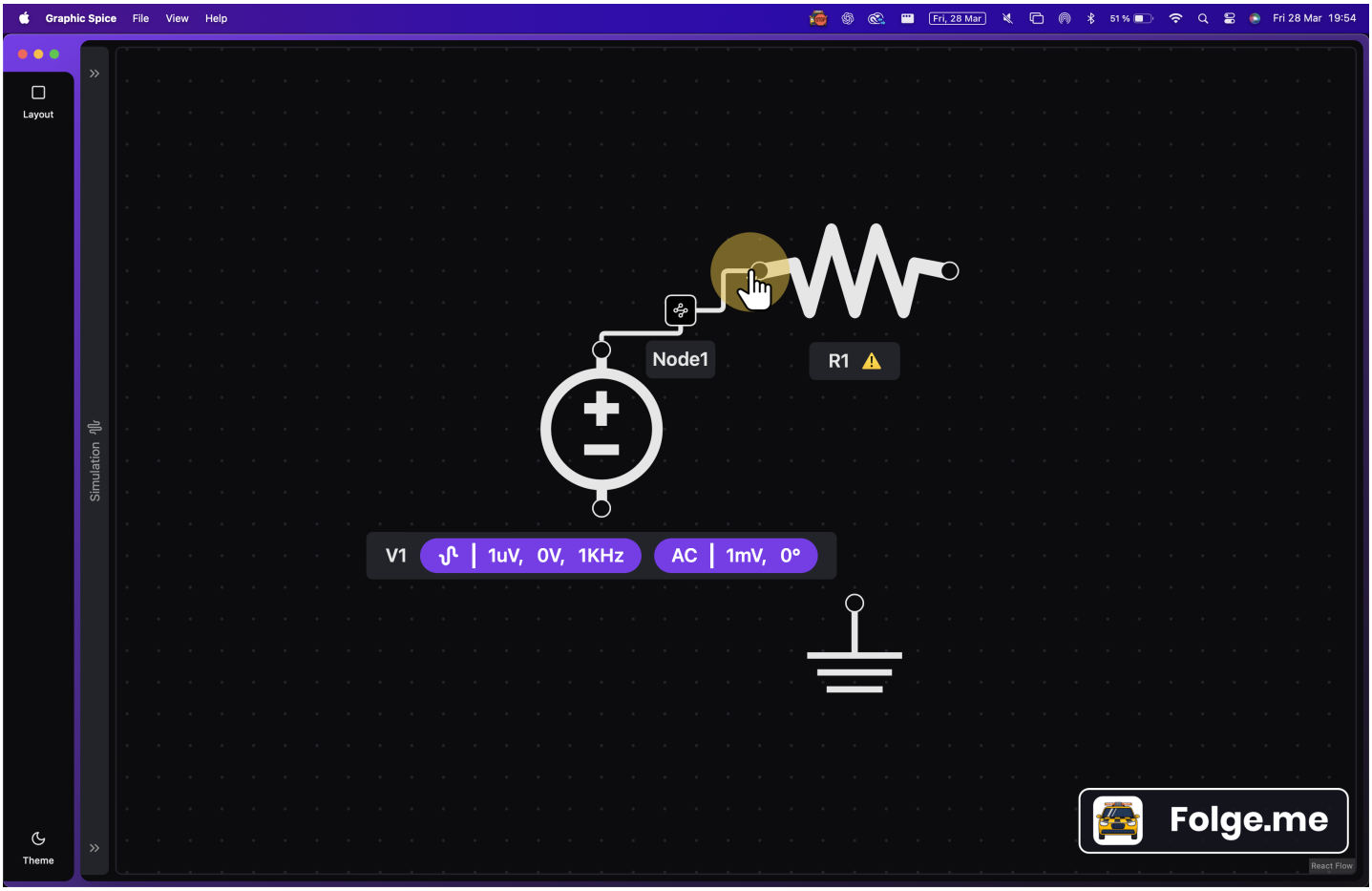
7 Connecting elements

To connect nodes or elements, one must click and drag from one element's connection port to either a connection node or another element's connection port.



8 Connection nodes

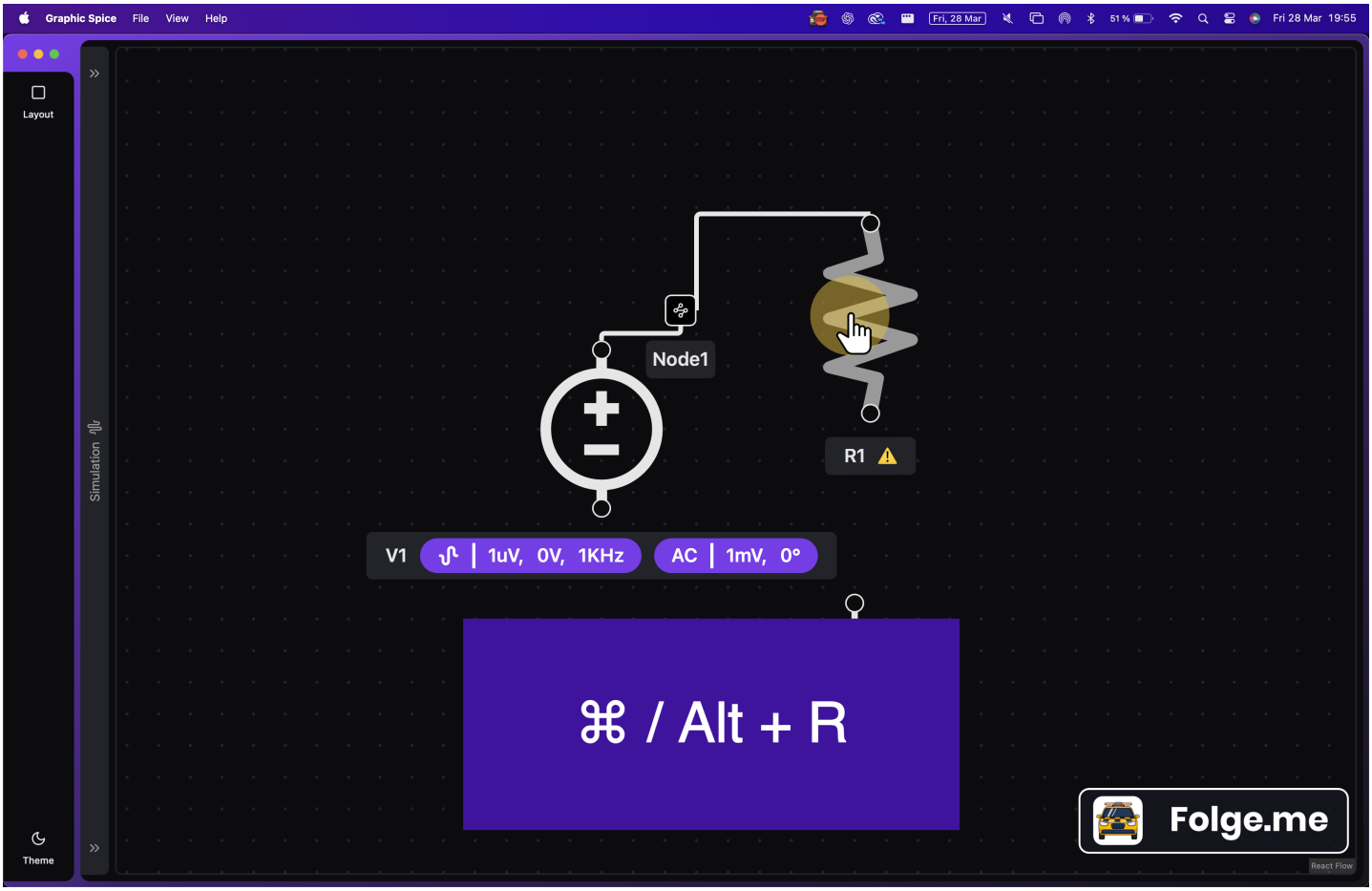
When two elements get directly connected, a connection node gets created. This represents any theoretical voltage node in a circuit. This new node accepts any incoming connections but it cannot be connected to another connection node, this reducing redundancy.



9 Rotating elements

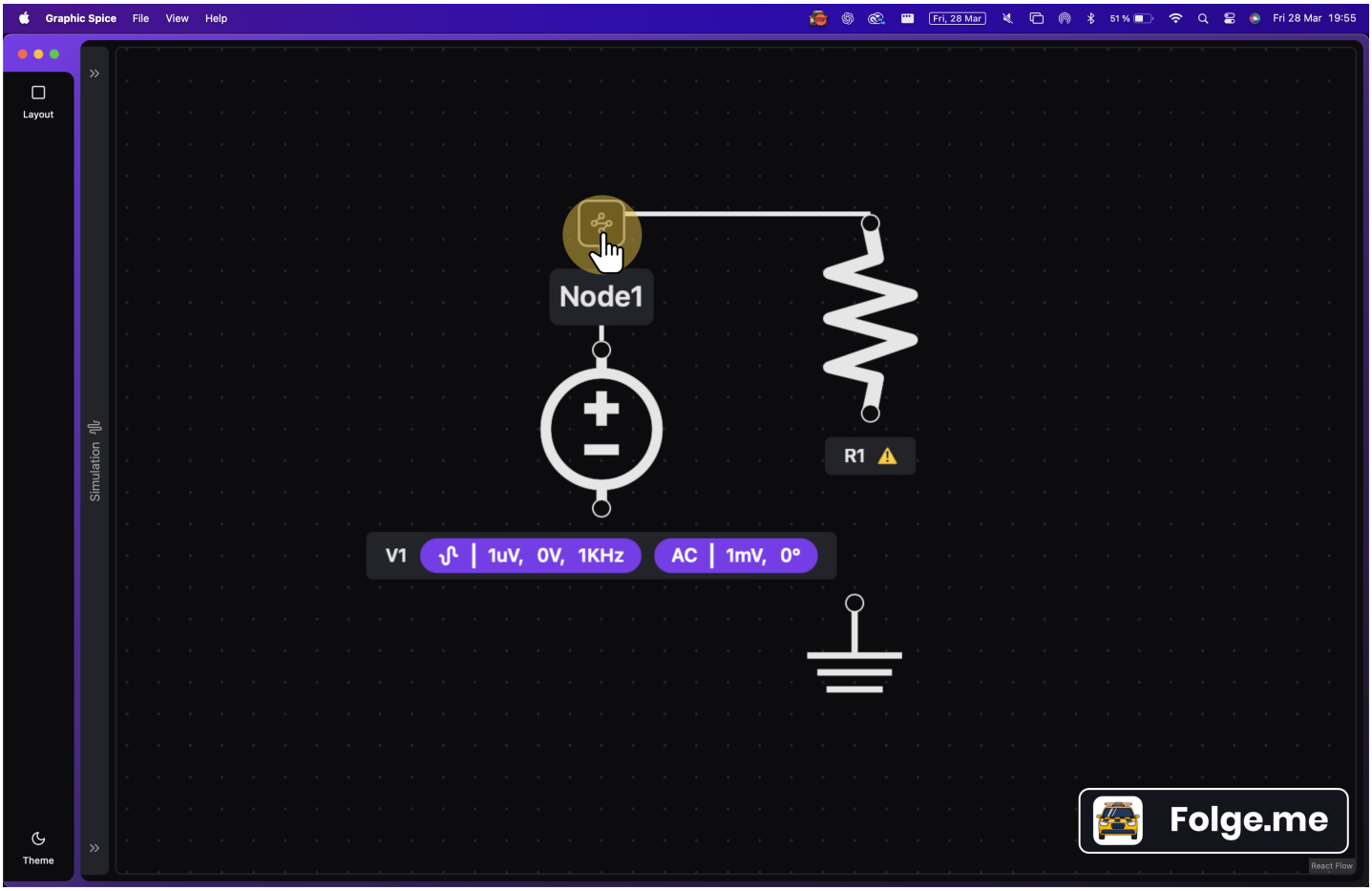
To rotate an element one must:

- Have selected an element or be rotating it.
- Press the following key combination: Command / Alt + R.



10 Positioning elements and nodes

All nodes and elements in the editor can be dragged to reposition them.



11 Changing a node's name

Nodes, or tags, in the editor accept any given name. **If two or more nodes share the same name, they will be considered to be a virtual short circuit.**