

Tutorial 3 – Usage of the Split-Screen View

In this tutorial, we will use the split-screen view of *travis*. With the split-screen view, you can visualize the relation between a Petri net and a transition system, either if the Petri net was synthesized from the transition system or the transition system is the reachability graph of the Petri net.

When you click on a state of the transition system, the related marking is depicted in the Petri net and when you click on a place of the Petri net, the related minimal region is depicted in the transition system.

Step 1

Start *travis* via: <http://www.fernuni-hagen.de/sttp/travis/travis.html>

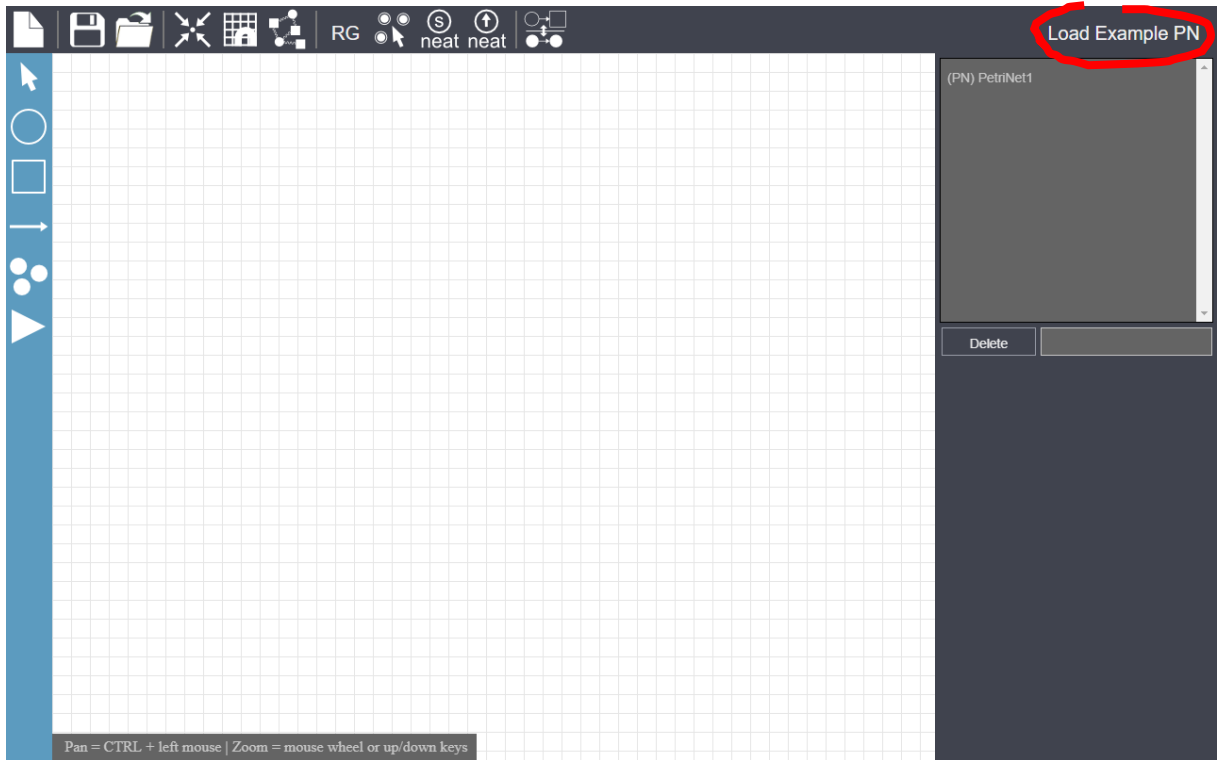
Step 2

From the start window, choose “Create Petri Net” to create a new empty Petri net.



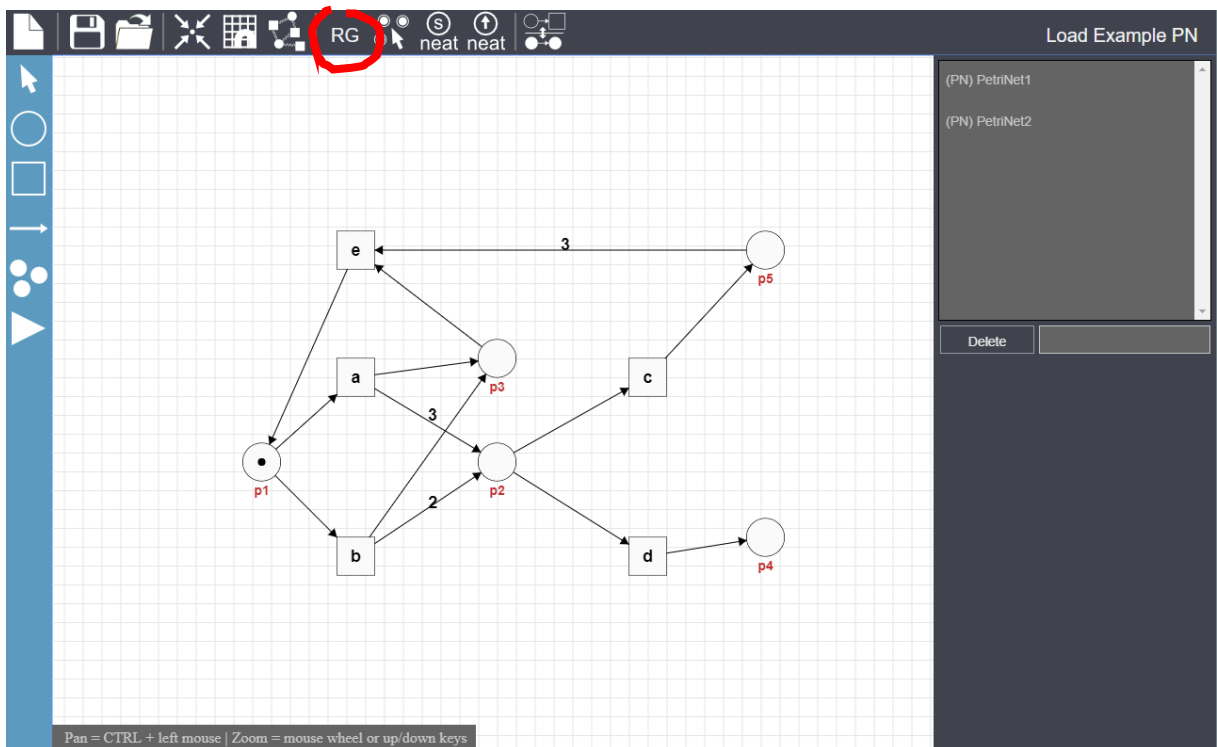
Step 3

We are now in the Petri net editor. We will load an example Petri net by clicking on the “Load Example PN” button in the upper right corner of the Petri net editor.



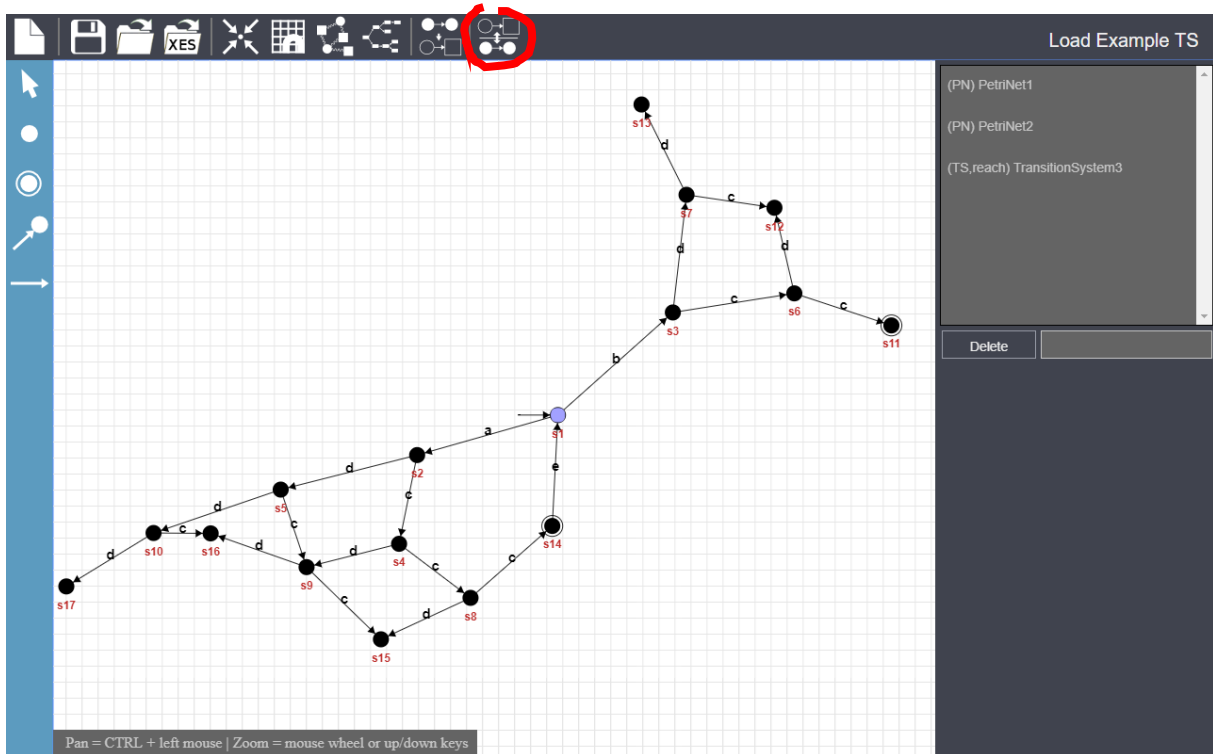
Step 4

In the next step, we calculate the reachability graph of the Petri net.



Step 5

Now, open the split-screen view by clicking on the depicted button.

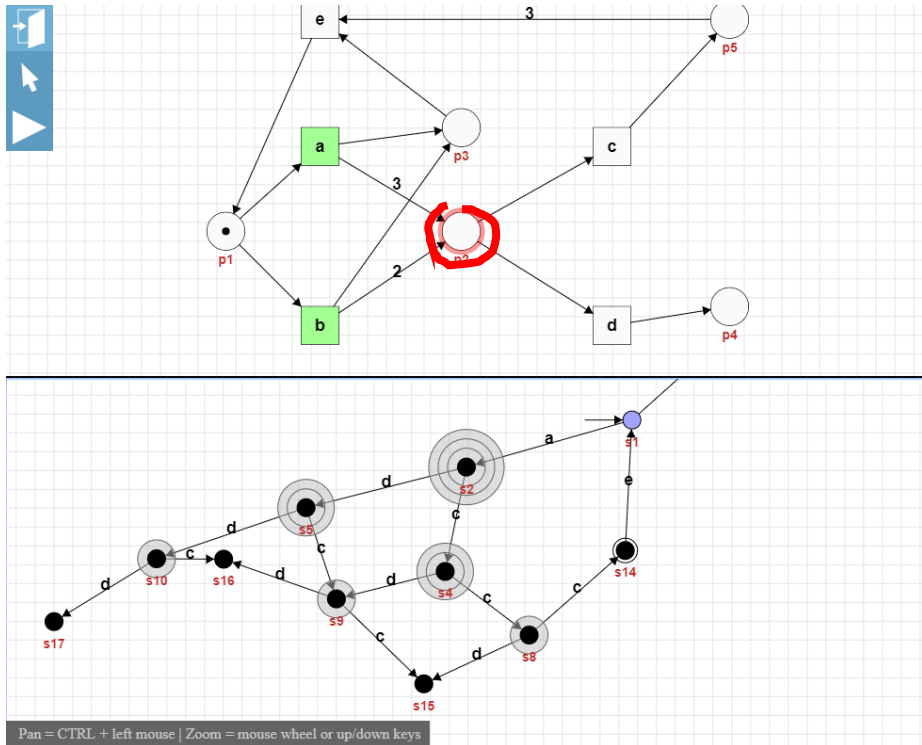


Step 6

Travis switches to the split-screen view. Please note that travis only can open the split-screen view, if the input Petri net or the output reachability graph were not edited (except from moving nodes around).

Step 7

Now you can either click on a place (e.g. the depicted one) in the Petri net to show its related minimal region in the transition system or click on a state of the transition system to show the related marking in the Petri net.



How to use the dependency editor:

The split-screen view is divided into two parts, a Petri net editor at the top and a transition system editor at the bottom.

Petri net editor (top):

The Petri net editor shows the Petri net and its initial marking. Activated transitions are marked green. On the left, there is a small toolbar with three buttons. With these buttons you can:

- 1) Quit the split-screen view
- 2) Select and move elements
- 3) Play the tokengame (click on a transition to fire it)

When you select a place by clicking on it, you can see the related region in the transition system in the transition system editor. The multiplicity of a state of the region is depicted by grey circles. E.g. three circles mean a multiplicity of three.

Transition sytem editor (bottom):

The transition system editor shows the related transition system. You can move elemnts by dragging them around. When you click on a state, the Petri net in the Petri net editor shows the related marking.

To go back to the initial marking, just click on the initial state (blue state with ingoing arc).

Pan = CTRL + left mouse | Zoom = mouse wheel or up/down keys

Step 8

You can also use the split-screen view, synthesizing a Petri net from a transition system instead of calculating a reachability graph. Switch to the transition system editor, load an example transition system, by clicking on the upper right button of the editor, Click the “synthesize a Petri net” button, choose a bound of 3 and synthesize the net. Now you can also open the split-screen view to visualize markings and minimal regions.