

Tutorial: Constructing and visualizing pathways with web-based SBGN editor Newt

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Aim of the tutorial

This tutorial aims to introduce the free, open-source pathway editor Newt (<http://newteditor.org>). Basics of the tool will be demonstrated and the attendees will be asked to reproduce parts of some demos. In addition, an exercise is to be provided for each attendee to construct a simple map from scratch.

Tools/methods planned to be presented

We plan to have short demos followed by small exercises for the attendees. Tutorials include:

- Basics of editing with Newt: creating map entities, creating relations between, aligning entities, annotating entities, export and import facilities, launching Newt with a URL
- Automatic layout capabilities in Newt: re-calculating layout and modifying settings for layout
- Complexity management with Newt: how to create submaps, how to collapse-expand submaps, compartments, and complexes, how to hide-show parts of a map
- [For tool builders] Customizing Newt: how to change look & feel and functionality in the Newt application

Exercises include:

- Creating simple Process Description and Activity Flow maps from scratch using basic Newt functionality

Technical requirements for attendees: software installation, data downloading

Newt is a web based tool and works on all modern browsers with recent versions. Sample data is available within the tool. Attendees are not required to have any prior knowledge of using a similar editor as both there is plenty of online documentation and quick help available within and outside the tool.

Expected take-home message, learning objectives

At the end of the tutorial, attendees are expected to be able to:

- draw both process description and activity flow maps from scratch
- interactively modify both topology and geometry of existing maps
- manage complexity of maps through expand-collapse and hide-show operations
- persist maps on disk as SBGN-ML or static images
- embed their maps in their web pages for convenient editing with Newt
- perform live queries to the Pathway Commons database
- [for tool builders] modify Newt for building custom applications with specific functionality