Modelling of dynamical systems with complex internal structure is a complicated task which has more and more frequently been solved using complex networks capturing the structure of interactions among individual elements of the system. An important task of this process is the selection of suitable methods and their parameters by which we create the network and subsequently examine it. However, there is no tool that could automatically configure various parametrized analytical pipelines, enable executing all potential runs and compare their results. Such a tool would consequently allow selection of methods and parameters most suitable for the system explored. This work presents the Neads library which is able to execute parametric analyses of general dynamical systems using complex networks, intermediate results being stored and available for subsequent calculations as well as potential pipelines extensions. The tool has the potential to significantly accelerate scientific work in this area.