

Cytoscape and graphNEL

by Alexander Pico

This vignette will show you how to convert networks between graphNEL and Cytoscape.

Installation

```
source("https://bioconductor.org/biocLite.R")
biocLite("RCy3")
```

Required Software

The whole point of RCy3 is to connect with Cytoscape. You will need to install and launch Cytoscape:

- Download the latest Cytoscape from <http://www.cytoscape.org/download.php>
- Complete installation wizard
- Launch Cytoscape

From graphNEL to Cytoscape

The graph package is a popular network tool among R users. With RCy3, you can easily translate graphNEL networks to Cytoscape networks!

Create a simple GraphNEL object

```
g <- makeSimpleGraph()
```

Now pass it along to Cytoscape:

```
createNetworkFromGraph(g, "myGraph")
```

From Cytoscape to GraphNEL

Inversely, you can use `createGraphFromNetwork()` in RCy3 to retrieve vertex (node) and edge data.frames to construct a GraphNEL object.

```
g2 <- createGraphFromNetwork("myGraph")
```

Compare the round-trip result for yourself...

```
g;g2
```