

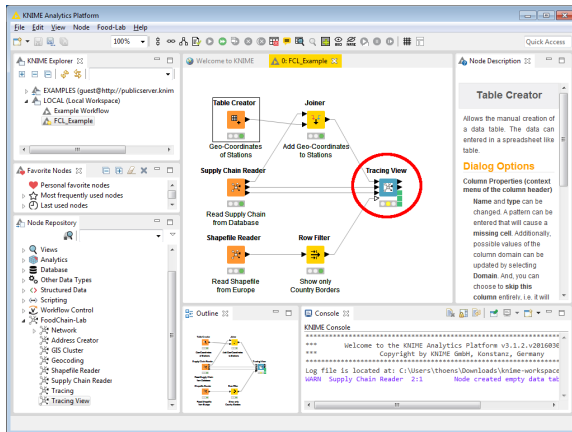
Clustering in FoodChain-Lab

Tasks

- Perform a clustering using the following workflow: https://github.com/SiLeBAT/BfROpenLabResources/raw/master/GitHubPages/workflows/FCL_Example.zip
- Cluster all French primary producers based on their city.
- That means all stations from the same city should be put into one meta-station.

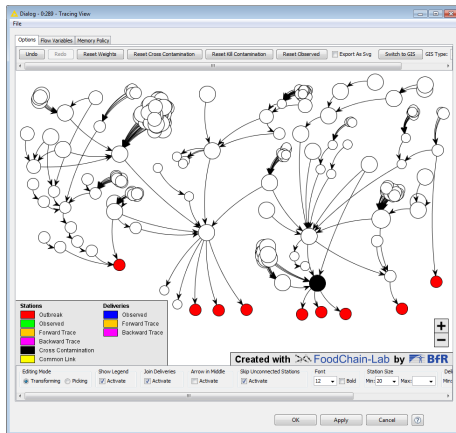
Tasks

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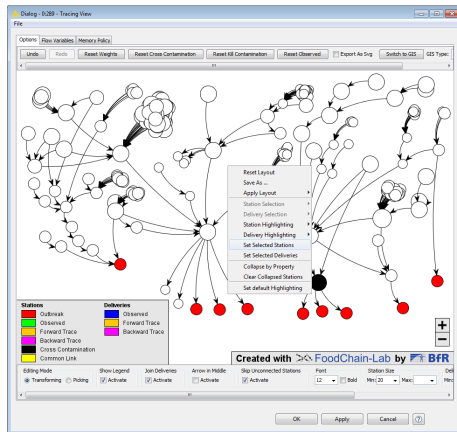
- Import the Example Workflow from https://github.com/SiLeBAT/BfROpenLabResources/raw/master/GitHubPages/workflows/FCL_Example.zip.
- Open the **Tracing View** by double-clicking on it.

Tasks



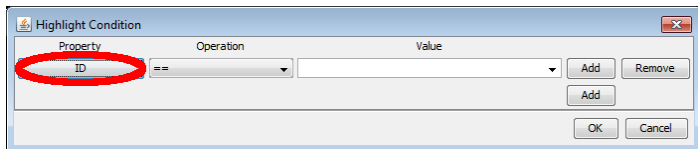
- A window showing the delivery network opens.

Tasks



- Right click in the graph to open the context menu and select **Set Selected Stations**.

Tasks



- You should see this dialog now.
- Press the button in the red circle to change the **Property** value.

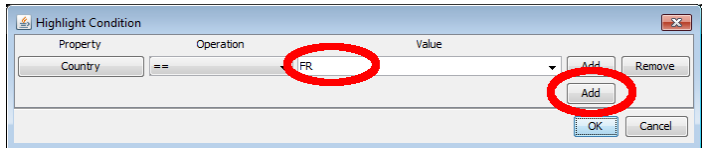
The screenshot shows a 'Select Property' dialog box with three columns of buttons. The 'Main' column contains buttons for ID, Serial, Name, node, type of business, SimpleSupplier, DeadStart, DeadEnd, ImportSources, and IsMeta. The 'Address' column contains buttons for Street, HouseNumber, ZIP, City, District, State, Country, County, GeocodingLatitude, and GeocodingLongitude. The 'Tracing' column contains buttons for Weight, CrossContamination, Kill Contamination, Observed, Score, Normalized Score, Positive Score, Negative Score, Backward, and Forward. The 'ID' button is highlighted with a red rectangle, and the 'Country' button is highlighted with a red oval. A 'Cancel' button is located at the bottom right.

Main	Address	Tracing
ID	Street	Weight
Serial	HouseNumber	CrossContamination
Name	ZIP	Kill Contamination
node	City	Observed
type of business	District	Score
SimpleSupplier	State	Normalized Score
DeadStart	Country	Positive Score
DeadEnd	County	Negative Score
ImportSources	GeocodingLatitude	Backward
IsMeta	GeocodingLongitude	Forward

Cancel

- Select "Country".

Tasks



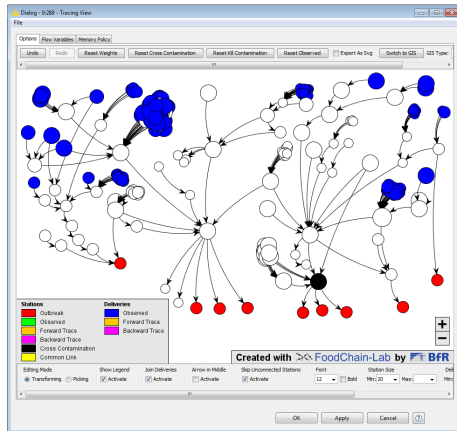
- Now select "FR" as **Value**, since we want to cluster stations in France.
- Afterwards press **Add** to add another condition.

Tasks

	Property	Operation	Value	
	Country	==	FR	Add Remove
And	type of business	==	Primary Producer	Add Remove
				Add
				OK Cancel

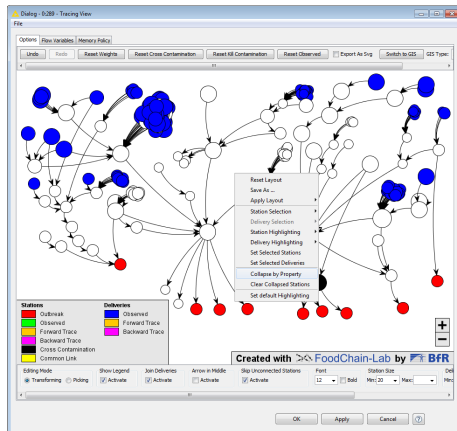
- For the new condition select "type of business" as **Property** and "Primary Producer" as **Value**, since we want to cluster primary producers only.
- Now press **OK**.

Tasks

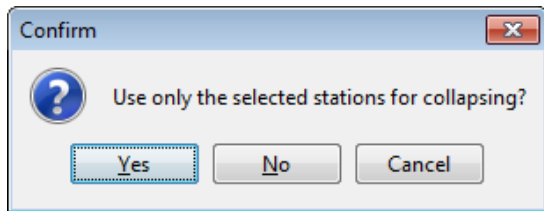


- All French primary producers are selected now, which is indicated by the blue color.

Tasks



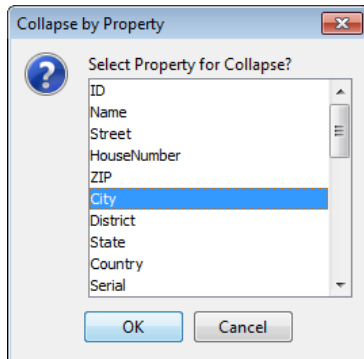
- Right click in the graph to open the context menu and select **Collapse by Property** to cluster the selected stations.



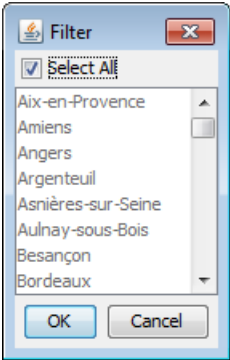
- Select **Yes** to only cluster selected stations.

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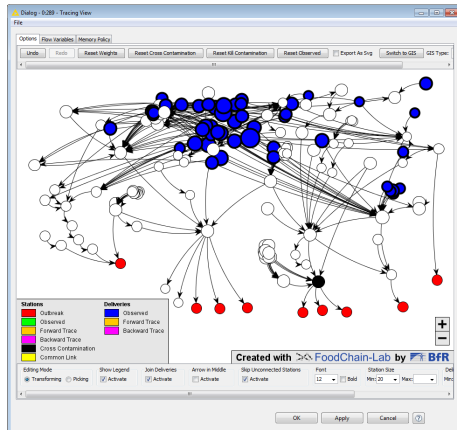


- We want to cluster on city level. That means all stations from the same city will be merged.
- Select **City** and press **OK**.



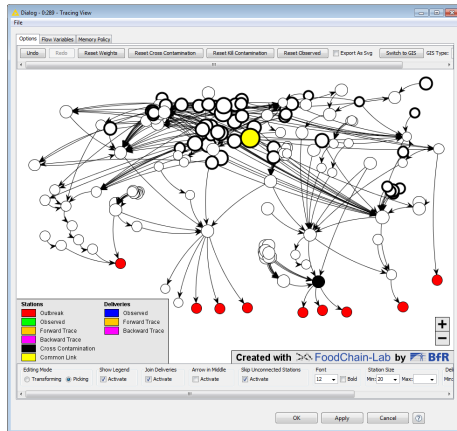
- Just press **OK**, since we do not want to exclude any cities.

Tasks



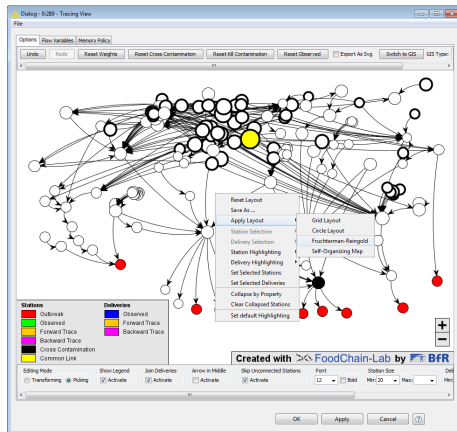
- All French primary producers have been clustered to cities.
- Each selected station (blue circle) is a French city.

Tasks



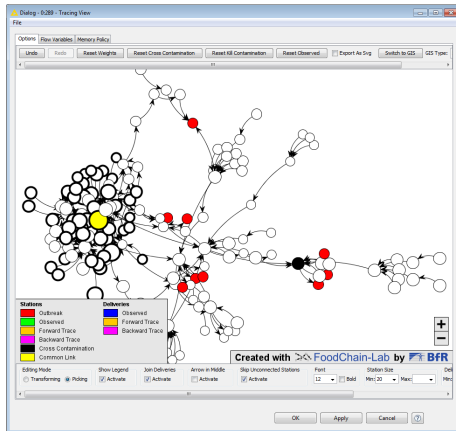
- Select "Picking" as **Editing Mode** and click in the graph to deselect all stations.
- You can now see, that one of the stations is yellow. That means, that this station (French city) is connected to all outbreak spots (red circles).

Tasks



- Since the graph looks confusing now, we should reapply the layout algorithm.
- Right click in the graph and select **Apply Layout** > **Fruchterman-Reingold** in the context menu.

Tasks



- The stations should be arranged in better way now.
- The layout algorithm is not deterministic, therefore your result will look different from the screenshot.
- To see which city is connected to all outbreak spots double click on the yellow circle.

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The image shows a 'Properties' dialog box with the following fields and values:

- Input:**
 - Weight: 0.0
 - CrossContamination: ☐
 - Kill Contamination: ☐
 - Observed: ☐
- Tracing:**
 - Score: 1.0
 - Normalized Score: 1.0
 - Positive Score: 1.0
 - Negative Score: 0.0
 - Backward: false
 - Forward: false
- Location Fields:**
 - ID: Perpignan
 - Name:
 - Street:
 - HouseNumber:
 - ZIP:
 - City: Perpignan
 - District:
 - State: Languedoc-Roussillon

At the bottom are 'OK' and 'Cancel' buttons.

- As you can see in the dialog the city is "Perpignan".
- Press **Switch to GIS** to see the city and its relations on a map.