7) Create an overview system map for the NASA FS PC needs

Maps are used to show the logic structure of system processes. They are a hierarchical structure for VLBI systems. The complete antenna system (e.g. TTW1) is one upper layer. It is split into sublayers of maps according to the individual parts, e.g. Control, Antenna, Infrastructure, IT, and so on. The structure can be individually.

7.1) Create own icons for individual processes

- To adapt to individual processes, individual icons for elements in the map can be created an load to Zabbix. New icons can be created with MS Powerpoint Sample icon in MS Powerpoint or graphic tools. It is important that different images (e.g. PNG format) are always created for the following width sizes in pixel: 24 , 48 , 64 , 96 , 128 pixels. These different sizes are used to increase a highlighted icon if an alert level is fired.
- A new icon can be added using "**Administration→general→Images**"
- 

- Push the button "Create icon" to install a new icon set.
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- Select the icon image file in the upload dialog and give a name for the icon, e.g. the icon type in combination with the size.

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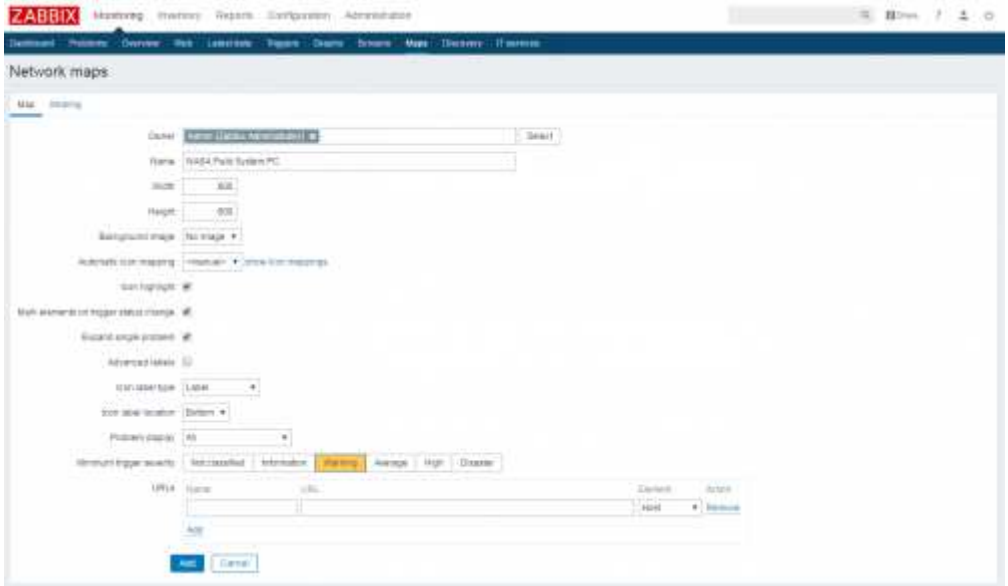
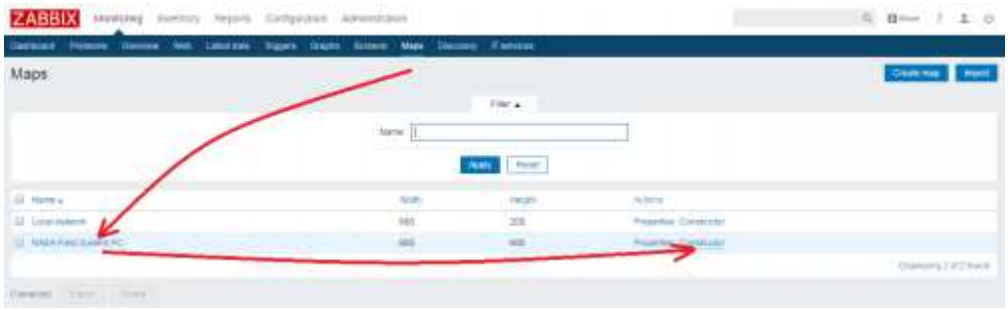
- Do this step for all individual icons

7.2) Create a new map for the NASA field system PC

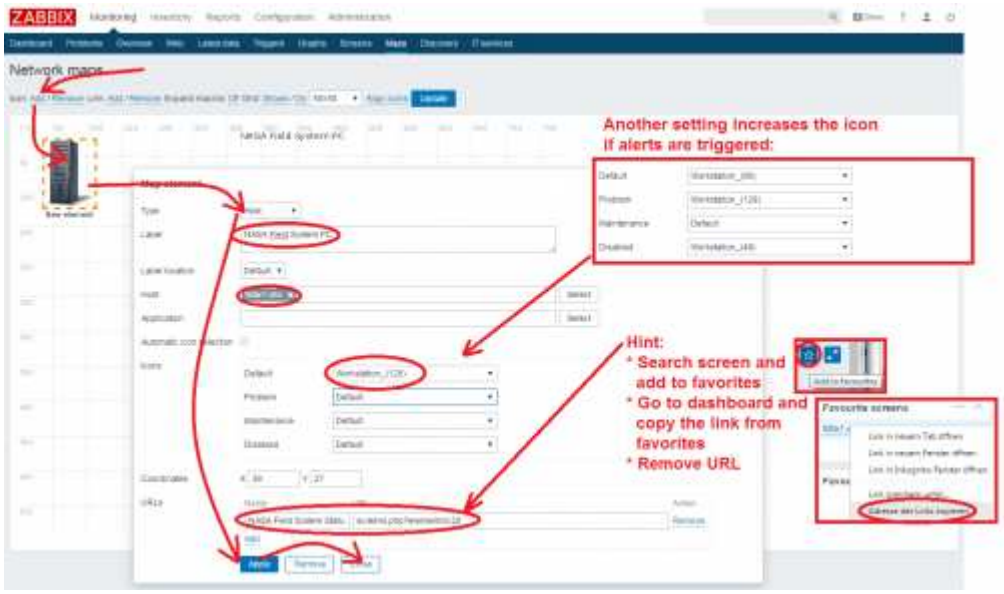
- Create a new map for the NASA Field System PC using "**Monitoring→Maps→Create map**"
- 

- Enter an owner. Also other users can be defined here to be owner of the map. Define a name for the map, e.g. "NASA Field System PC", the dimensions of the map and check the checkboxes. Minimum trigger severity should be "Warning", so that warnings and higher alerts are highlighted. Finally, press the button "Add" to create the map.
- 

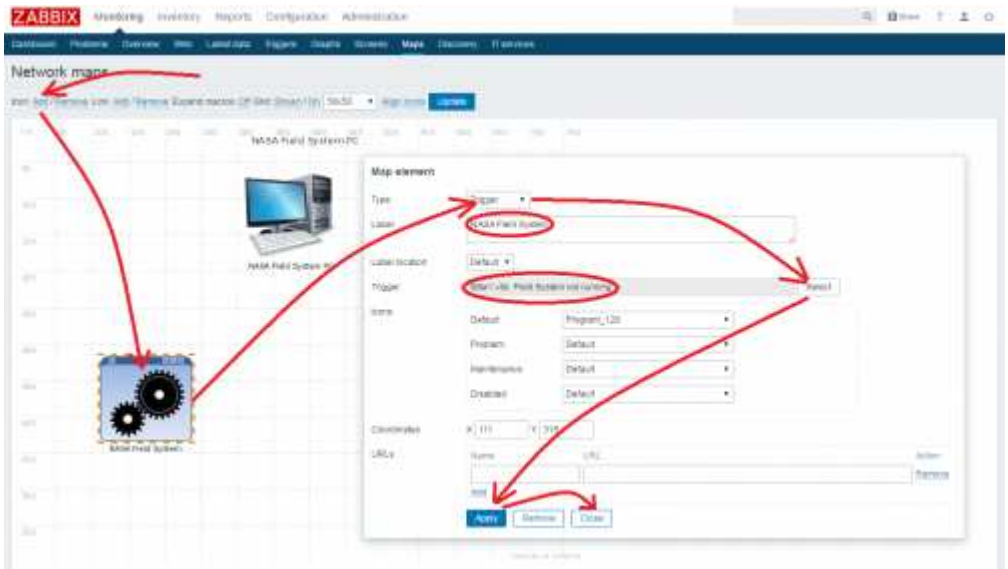
- Construct the new map to set icons and network connections clicking on the "Constructor" of the the newly created map.

- 

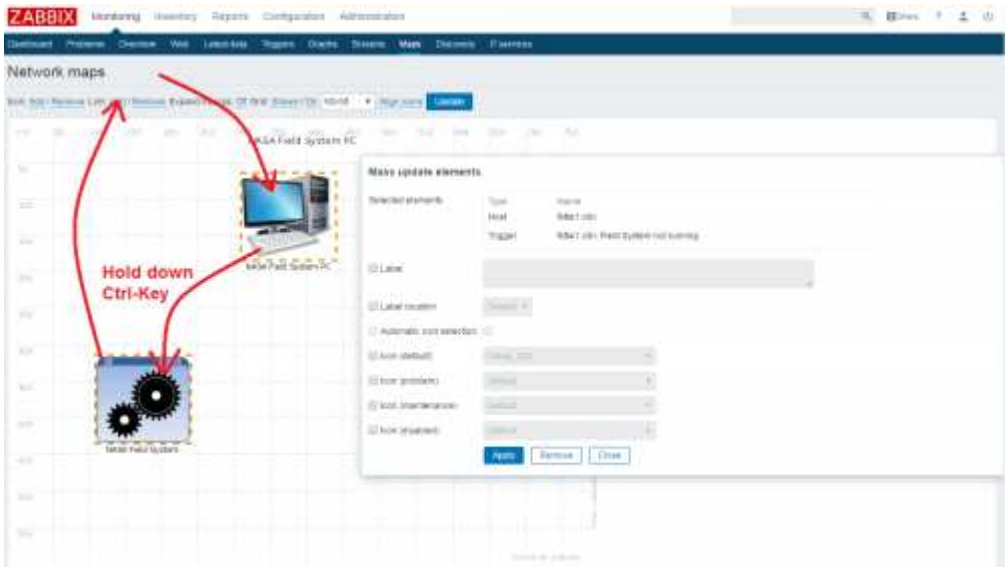
- Add a new icon and pull it to a position on the map. Click on the new icon and fill out the form which opens. Select the type (e.g. Host or Trigger or …), set the label, asign a host, define the different sizes of the icons for different alert situations and add an individual screen link to the URLs (use the internal references shown in the image below). “Apply” and “Close” the dialog.

- 

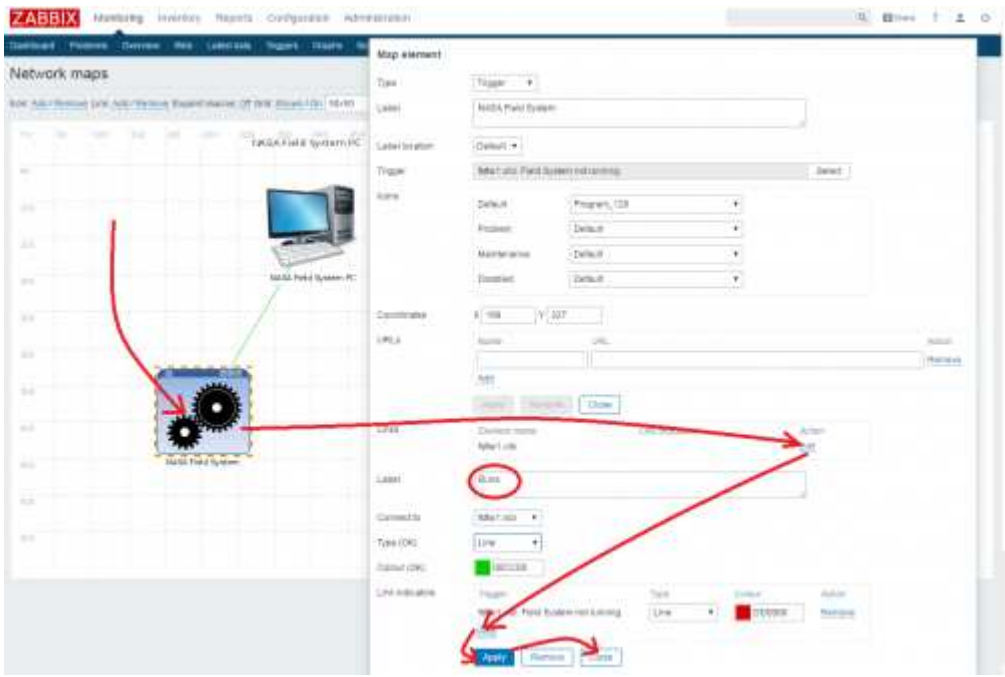
- Add further icons, e.g. for triggers

- 

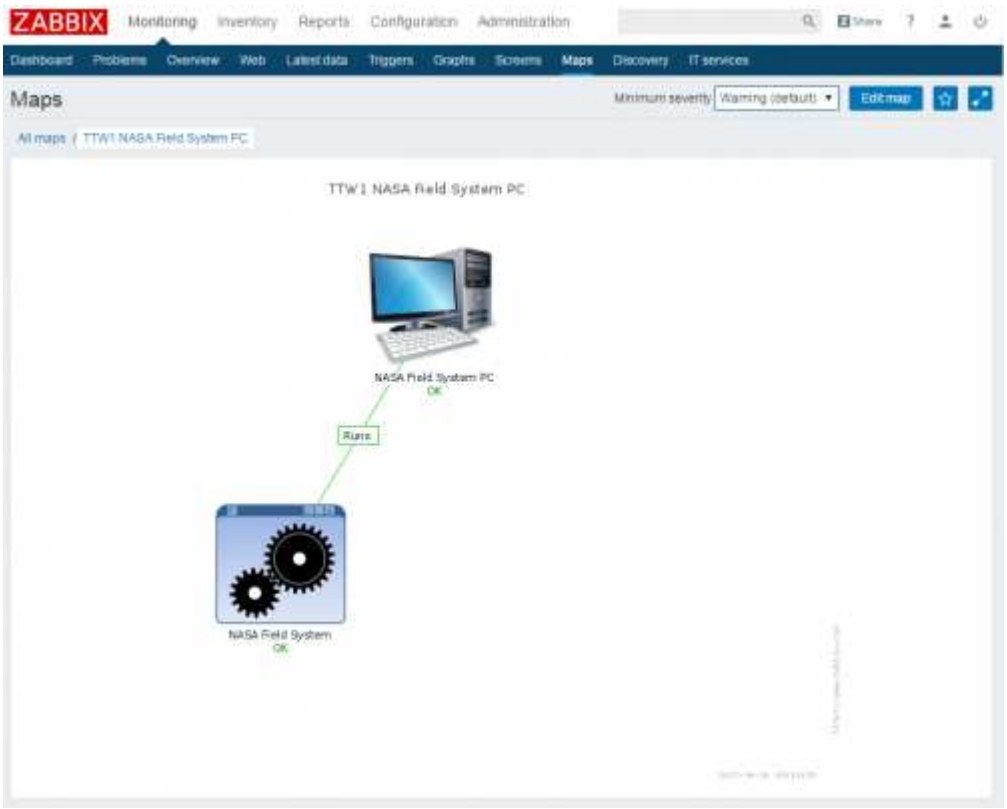
- Link the individual icons. Click on one icon, hold doan the Ctrl-key and click on another icon. Using “Add” of a “Link” to connect both icons.



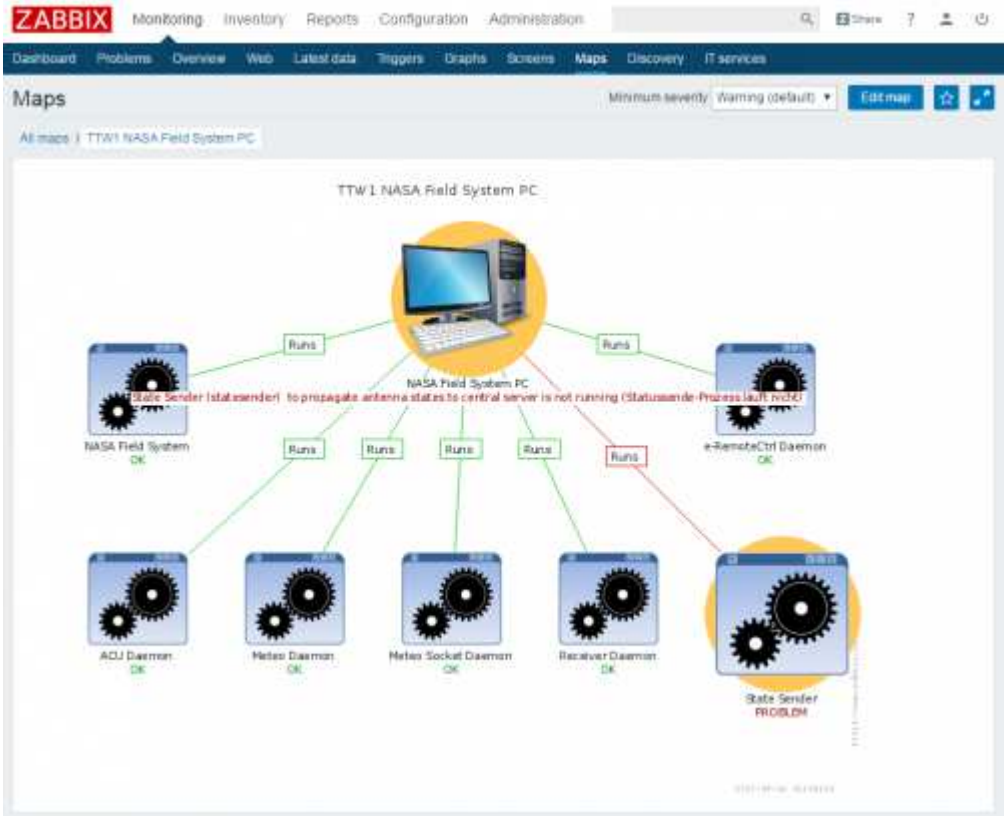
- Label the newly created link and connect it to a trigger, so that the line will be colored when the trigger fires.



- The finished link should look like this:

- 

- If several system parameters are connected and set, the map with a warning severity looks like this:

- 

We will use the following ZABBIX symbols for the map

Find out how the ZABBIX API

https://www.zabbix.com/documentation/3.2/manual/api

can be used to insert one of the above symbols to a specific position on the map.

Create a standardized JSON HTTP setup, where only the position and a specific antenna connection to a sub map of the antenna can be linked and positioned on the world map.