Dashboards

 10 minutes 32

Dashboards are designed to display summaries of all the important information:

- Unlimited number of dashboards can be configured

A dashboard may contain one or several pages, which can be rotated in a slideshow:

- A dashboard page consists of one or multiple widgets
- Each widget is designed to display information of a certain kind and source:
  - ✓ Graphs
  - ✓ Maps
  - ✓ Data display
  - ✓ Problem views
  - ✓ Clocks
  - ✓ Other

Theory 33
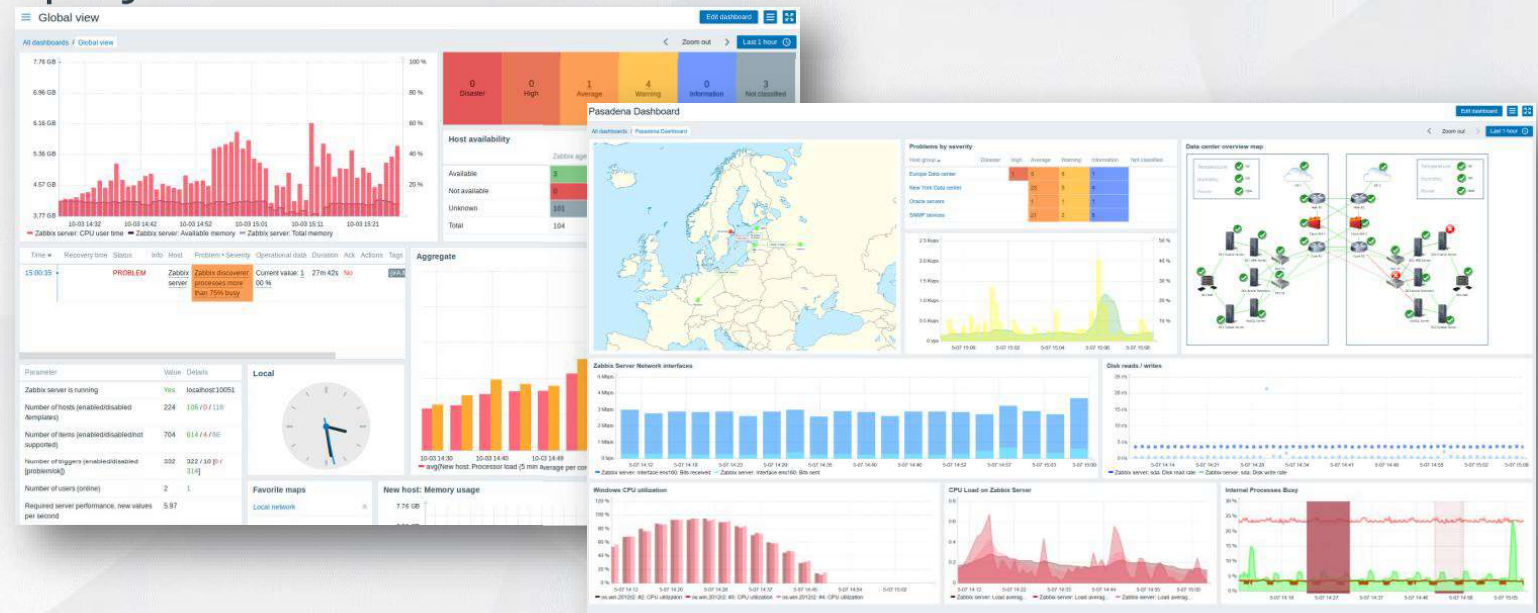
Dashboards are accessible through Monitoring -> Dashboards frontend section:

Access to dashboards is limited based on:
- ⚡ Private or public dashboard type
- ⚡ User permissions

It is possible to use User roles to remove
- ⚡ access to any dashboards at all
- ⚡ possibility to create new dashboards

Dashboards owned by the current user are displayed with a sharing tag:

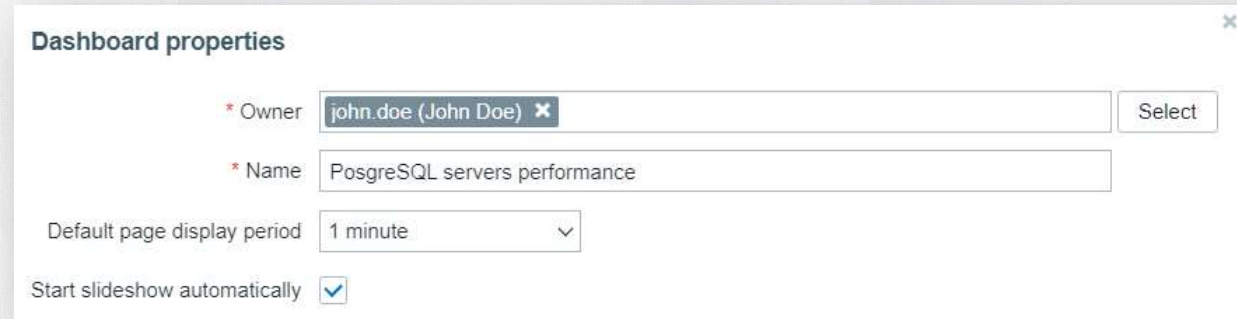∿ `My` private dashboards

∿ `Shared` public dashboards or a private dashboards shared with other users

Tags are not displayed for dashboards owned by other users

Press `Create dashboard` to create a new dashboard and define properties:

- ⟋⟍ Owner
- ⟋⟍ Name
- ⟋⟍ Slideshow options
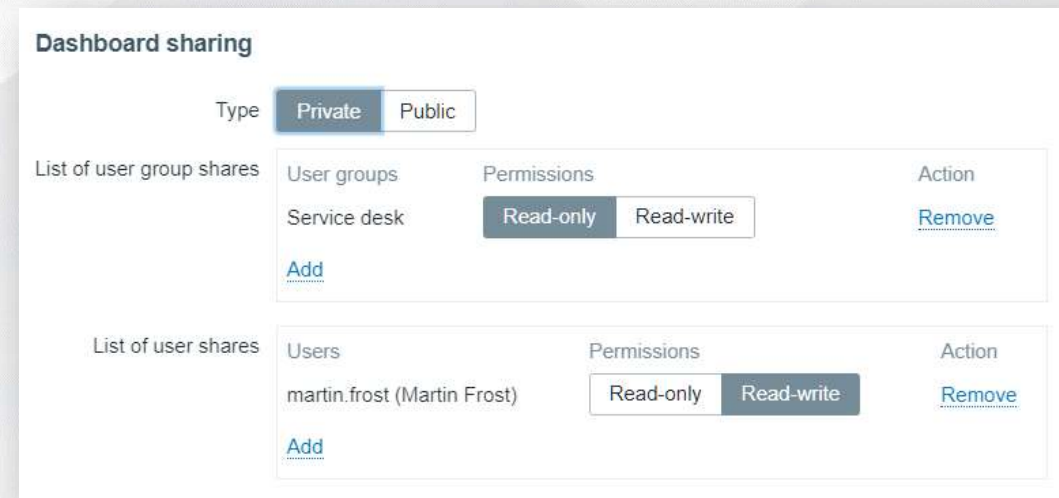
For already created dashboards, multiple controls are available

- ⟋⟍ `Edit dashboard`   edit, add, remove or rearrange widgets on the dashboard
- ⟋⟍ ☰   actions menu (sharing options, clone, delete reporting options etc.)
- ⟋⟍ ⤢   switch to kiosk mode

Dashboards are fully based on widgets:

- More than 20 different widgets are available
- Each widget has unique configuration options or filters
- Custom refresh interval can be defined for each widget
- Widgets can be arranged on 24-column grid
- Widgets can be dragged, dropped, rearranged and resized

A dashboard may have multiple pages:

- ⁓ Each page has a name and display period (used in slideshow)
- ⁓ Start/stop slideshow button will appear if multiple pages are created
- ⁓ Pages can be copy / pasted to quickly clone existing ones
- ⁓ Only the first page can be used to generate reports

It is possible to create dashboards for a host:

- Host dashboards display data about the host only
- They are configured on the template level and then generated for linked hosts
- Only a limited number of widgets is supported

Accessing host dashboards is different from global dashboards:

- Cannot be accessed from the Monitoring → Dashboard section
- Can be accessed from the host menu that is available in many frontend locations

Dashboard widgets

Item value widget allows to display information for a single item

- Description
- Time
- Value
- Change indicator

Advanced configuration options are available:

- Custom description using macros
- Custom colors for different elements
- Custom position for value and labels (top, bottom, middle etc)
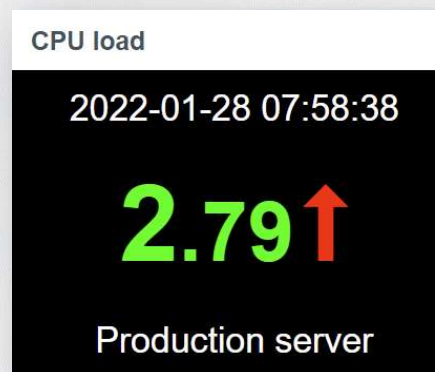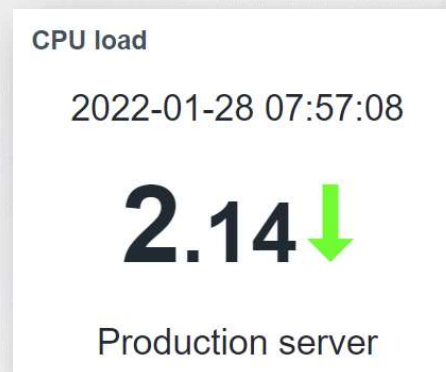
Top hosts widget displays hosts with the highest values for some metric:

- Possible to select host groups or individual hosts

- Hosts can be filtered using tag names and values

- Possible to specify number of hosts (default is 10)

Edit widget

Type	Top hosts	Show header ☑
Name	Top hosts by available memory	
Refresh interval	Default (1 minute)	
Host groups	Production/Servers ✖	Select
	type here to search	

Metrics are specified using **Columns** parameter:

- Choose column label

- Choose one or multiple metrics

- Choose which column is used to order the results

- Specify priority (Top N or Bottom N metrics)

* Columns	Name	Data	Action
	Host name	*Host name*	Edit Remove
	Available memory	Memory free	Edit Remove
	Total memory	Total memory size	Edit Remove
	Add		

Order	Top N Bottom N
* Order column	Available memory
* Host count	10

Top hosts widget can display information in three different ways:

- Values as is
- Using bars
- Using indicators

Top hosts by available memory

Host name	Available memory	Total memory
Database server	4.51 GB	31.25 GB
Production server	97.71 MB	7.81 GB
Web server	834.51 KB	3.91 GB

Top hosts by available memory

Host name	Available memory	Total memory
Database server		31.25 GB
Production server		7.81 GB
Web server		3.91 GB

Thresholds are defined on the widget level:

- Multiple thresholds using custom colors are allowed
- Thresholds defined on the widget are not associated with any trigger thresholds

Clock widget can display local time for:

- Browser (workstation time)
- Currently logged in user
- Specified host using
  - ✓ system.localtime[local] item is used
  - ✓ An item must exist on the host
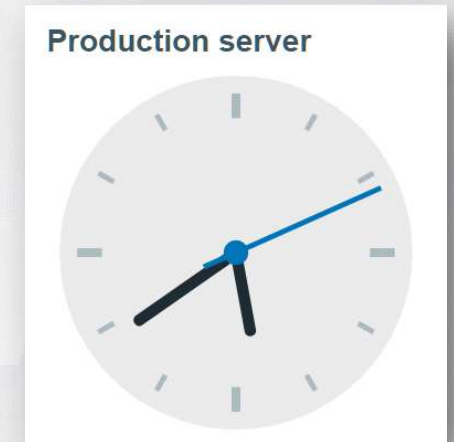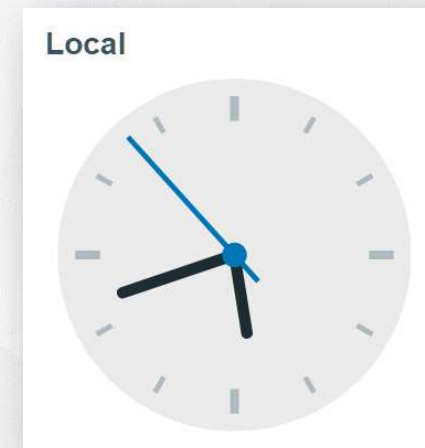
Local

Production server

Edit widget

Type	Clock ▾
Name	default
Refresh interval	Default (15 minutes) ▾
Time type	Host time ▾
* Item	Production server: Host local time ✖	Select

Show header ✔

Apply   Cancel

Server
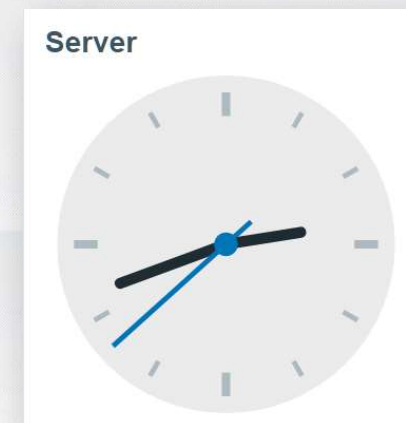
Graph widget provides a modern and versatile way of visualizing collected data:

- Vector image drawing technique is used
- Different draw types can be combined:
  - ✓ Line (set by default)
  - ✓ Points
  - ✓ Staircase
  - ✓ Bar
- It is possible to customize:
  - ✓ Base color
  - ✓ Line width, point size or fill level
  - ✓ Transparency level
- Aggregation functionality supports:
  - ✓ Functions (min, avg, sum, count, last, etc.)
  - ✓ Custom aggregation intervals
  - ✓ Each item or entire data set aggregation
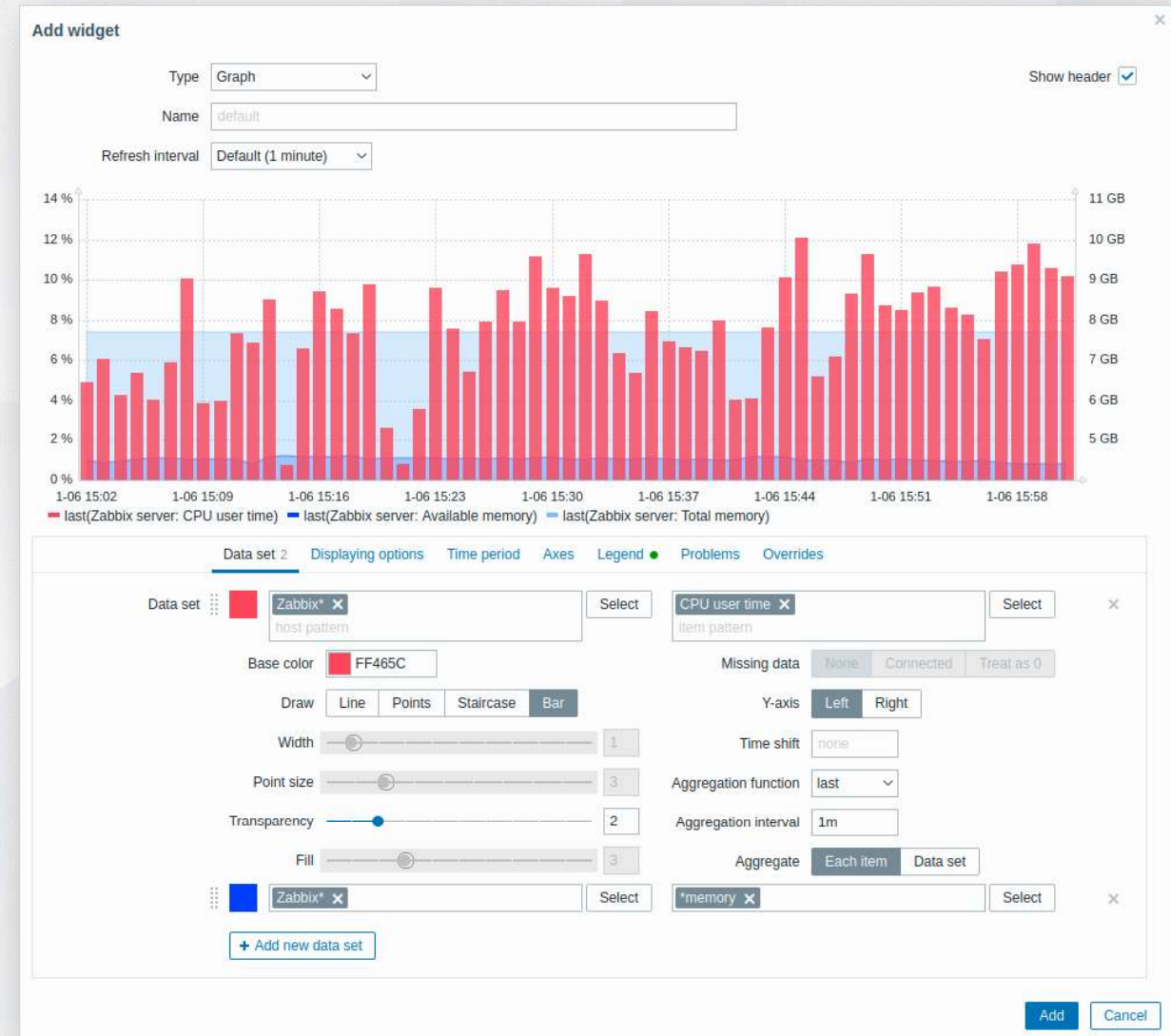
Graph widget is based on data sets, which have:

⋀ Host and item patterns (wildcard * may be used)

⋀ Base color

⋀ Draw style (line, points, staircase or bar)

⋀ Draw parameters (width, transparency etc.)

⋀ Missing data display options

⋀ Y-axis location

⋀ Time shift

⋀ Data aggregation options

Multiple data sets can be used

⋀ Each dataset may have different options
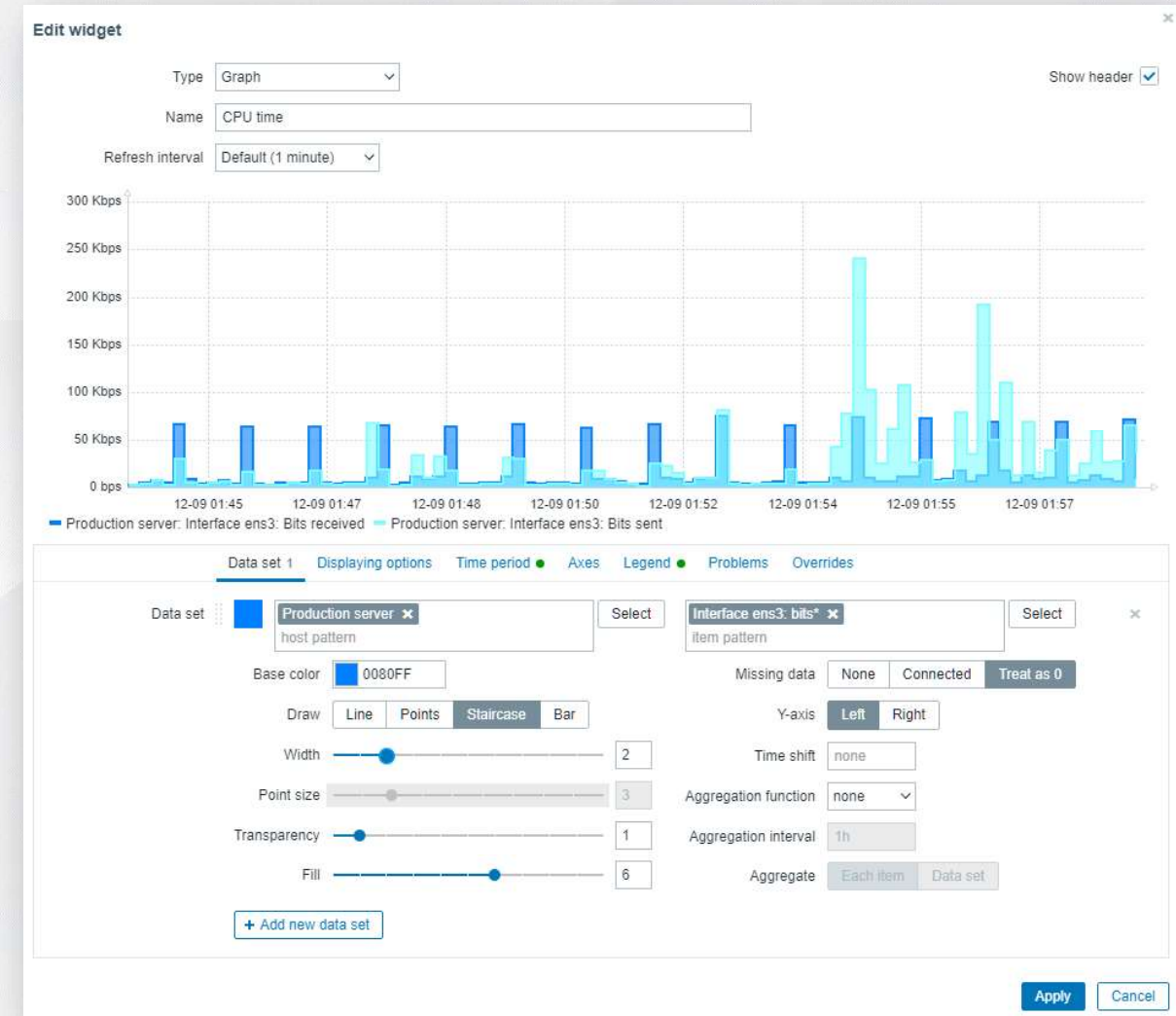
Graph widget has a lot of additional settings:

- Displaying option (auto, history or trends data)
- Custom time period
- Show or hide Left Y, Right Y and X axis
- Left Y and Right Y axis options (min, max, units)
- Legend settings (show/hide, number of rows)
- Display problems on graphs with filters
- Overrides based on host or item pattern

Host availability widget displays high-level statistics:

⤳ Four colored columns or lines are used

⤳ Host availability in each column/line is counted as follows:
  - ✓ Available   hosts with all interfaces available
  - ✓ Not available   hosts with at least one interface unavailable
  - ✓ Unknown   hosts with at least one interface unknown (none unavailable)
  - ✓ Total   total of all hosts
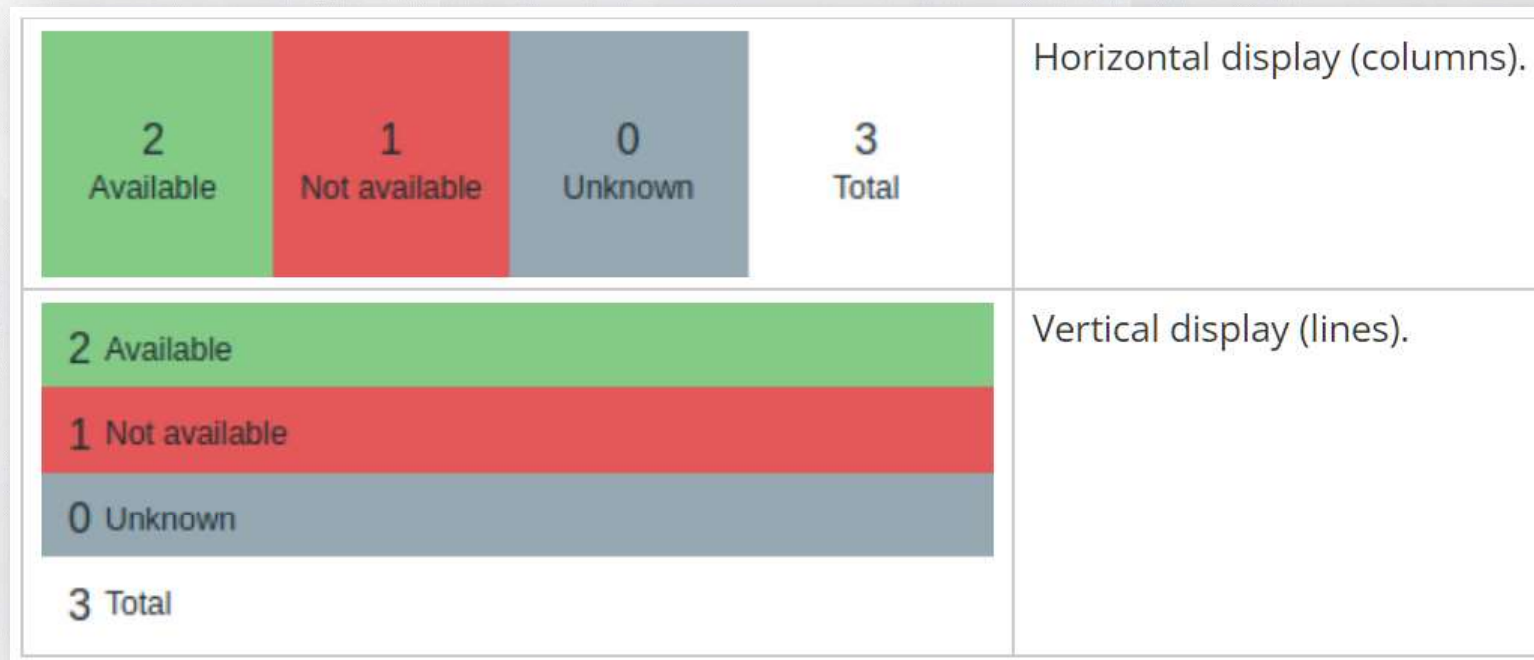
In the map widget you can display either:

-∿- A single configured network map

-∿- One of the configured network maps in the map navigation tree

Map navigation tree widget allows building a hierarchy of existing maps:

-∿- Problem statistics are also displayed with each included map and map group

-∿- Map widget can be linked to the navigation tree to display selected map

Geomap widget displays hosts as markers on a geographical map:

- Zabbix offers multiple predefined map tile service providers

- A custom tile service provider or even host tiles can be added
    - ✓ Administration → General → Geographical maps menu section

- When the widget loads initially it is possible to specify:
    - ✓ Comma-separated map center coordinates
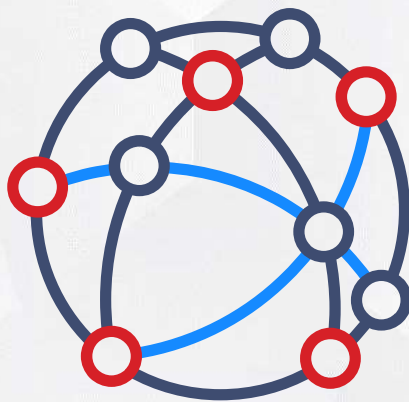   - ✓ Optional zoom level
    - ✓ Format <latitude>,<longitude>,<zoom>

OpenStreetMap Mapnik ⌄
OpenStreetMap Mapnik
OpenTopoMap
Stamen Toner Lite
Stamen Terrain
USGS US Topo
USGS US Imagery
Other

Add widget ✕

Type	Geomap ⌄		Show header ✓
Name	MySQL server nodes		
Refresh interval	Default (1 minute) ⌄		
Host groups	Database servers ✖		Select
	type here to search		
Hosts	type here to search		Select
Tags	And/Or Or		
	Type	Contains ⌄ MySQL	Remove
	Add		
Initial view ❓	40.6892494,-74.0466891,14		

Add Cancel

Geomap displays all enabled hosts that have Latitude and Longitude defined:

- Corresponding inventory fields are used
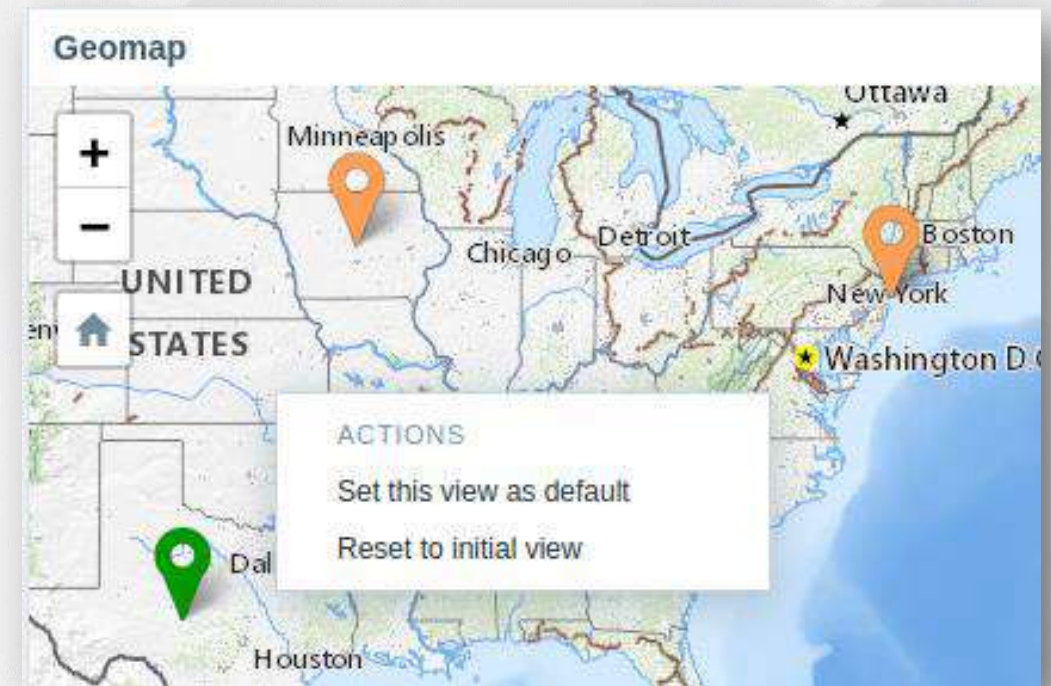
It is possible to configure host filtering in the widget parameters:

- Display only predefined hosts
- Display only hosts from some host groups

Hosts can be filtered by problem severity

Host markers displayed on the map have:

- The host's most serious problem color
- Green color if a host has no problems

PRACTICAL SETUP

1) Create a new dashboard named "Training dashboard":
   - ✔ Add clock widget that shows Zabbix server time
   - ✔ Add host availability widget
   - ✔ Add "Item value" widget that displays Available memory on Zabbix server
   - ✔ Change background, clock and item value colors for "Item value"
   - ✔ Add top hosts widget that shows available memory using bars with colored threshold
   - ✔ Add top hosts widget that shows CPU utilization on Zabbix server using bars with thresholds
   - ✔ Add map navigation tree and a linked map widget

2) Add a second dashboard page
   - ✔ Add a graph widget for incoming network traffic on all Training-VM servers