



# Dashboards

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

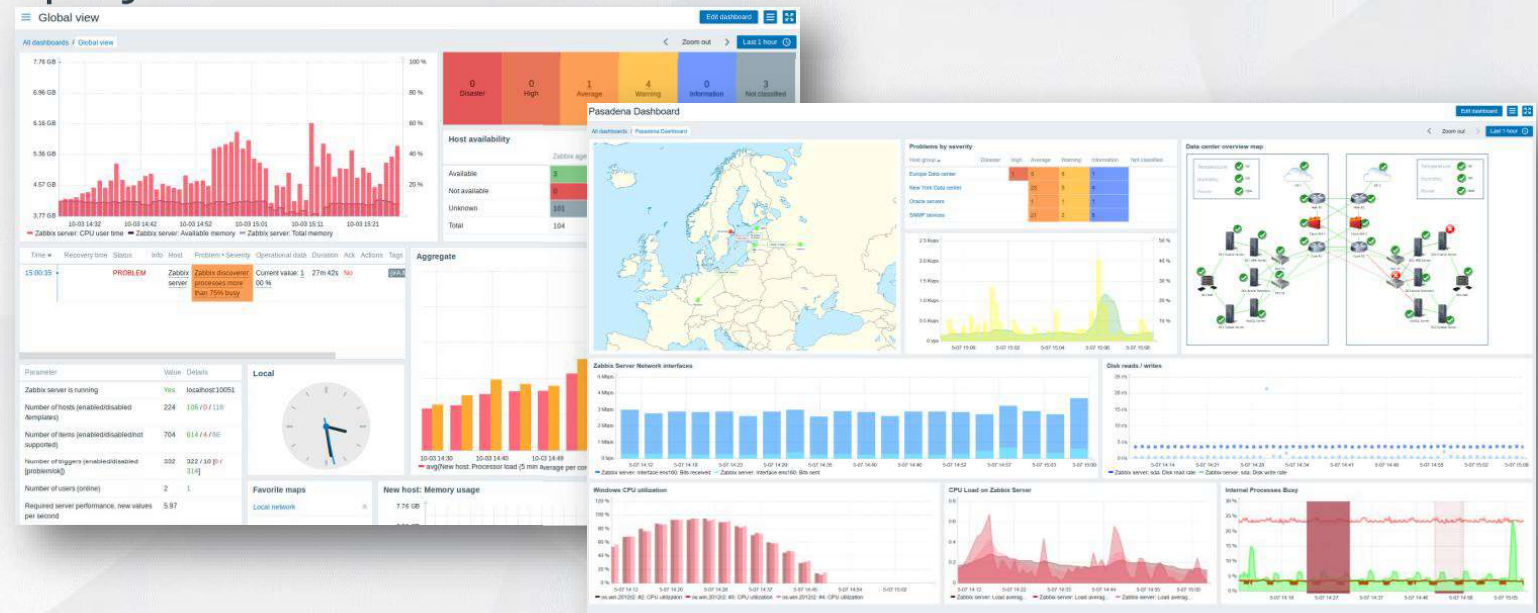
⚡ Unlimited number of dashboards can be configured

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



Dashboards are accessible through Monitoring -> Dashboards frontend section:

Access to dashboards is limited based on:

- ⚡ Private or public dashboard type
- ⚡ User permissions

Dashboard sharing

Type: ☒ Private ☐ Public

List of user group shares

User groups	Permissions	Action
Service desk	<input checked="" type="radio"/> Read-only <input type="radio"/> Read-write	<a href="#">Remove</a>

[Add](#)

List of user shares

Users	Permissions	Action
john.doe (John Doe)	<input type="radio"/> Read-only <input checked="" type="radio"/> Read-write	<a href="#">Remove</a>
martin.frost (Martin Frost)	<input checked="" type="radio"/> Read-only <input type="radio"/> Read-write	<a href="#">Remove</a>

[Add](#)

[Update](#) [Cancel](#)

It is possible to use User roles to remove

- ⚡ access to any dashboards at all
- ⚡ possibility to create new dashboards

Access to UI elements

Monitoring ☐ Dashboard ☒ Problems ☒ Hosts

☒ Latest data ☒ Maps ☐ Discovery

☒ Services

Access to actions

☐ Create and edit dashboards

☒ Create and edit maps

☐ Create and edit maintenance



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

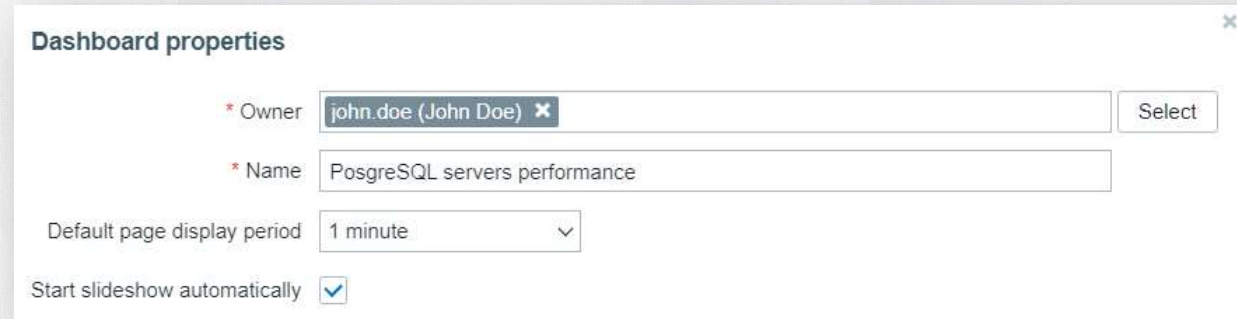
- 📶 **My** private dashboards
- 📶 **Shared** public dashboards or a private dashboards shared with other users

Tags are not displayed for dashboards owned by other users

<input type="checkbox"/> Name ▲	
<input type="checkbox"/> Database servers dashboard	<b>My</b> <b>Shared</b>
<input type="checkbox"/> Global view	
<input type="checkbox"/> John's dashboard	<b>My</b>
<input type="checkbox"/> Zabbix server health	
Displaying 4 of 4 found	

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



- ⚡ Owner
- ⚡ Name
- ⚡ Slideshow options

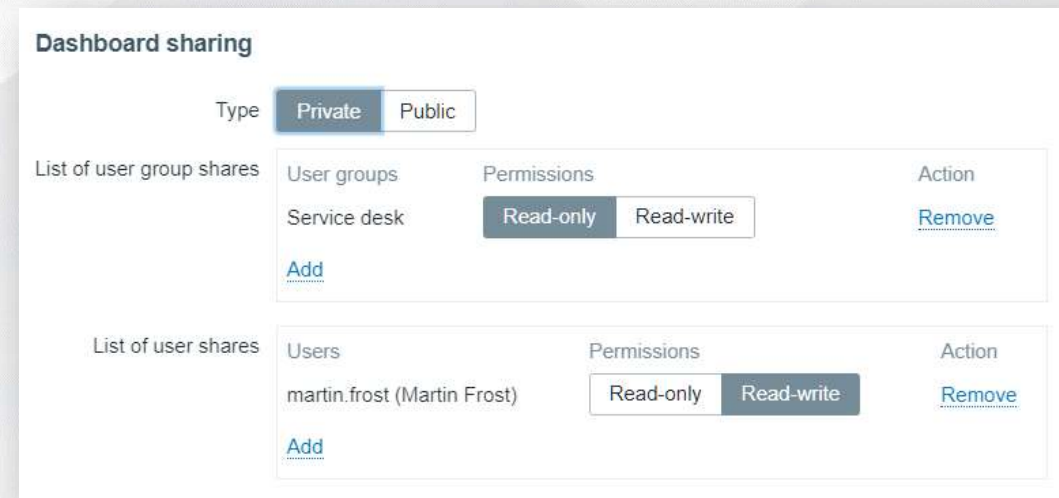


The 'Dashboard properties' dialog box contains the following fields and options:

- Owner:** A text input field containing 'john.doe (John Doe)' with a 'Select' button to its right.
- Name:** A text input field containing 'PosgreSQL servers performance'.
- Default page display period:** A dropdown menu set to '1 minute'.
- Start slideshow automatically:** A checked checkbox.

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



The 'Dashboard sharing' dialog box shows sharing settings for a dashboard:

- Type:** Two tabs, 'Private' (selected) and 'Public'.
- List of user group shares:** A table with columns 'User groups', 'Permissions', and 'Action'.

User groups	Permissions	Action
Service desk	<b>Read-only</b> Read-write	<a href="#">Remove</a>
<a href="#">Add</a>		
- List of user shares:** A table with columns 'Users', 'Permissions', and 'Action'.

Users	Permissions	Action
martin.frost (Martin Frost)	Read-only <b>Read-write</b>	<a href="#">Remove</a>
<a href="#">Add</a>		

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

**Edit widget**

Type:  Show header: ☒

Name:

Refresh interval:

Host groups:

Interface type: ☒ Zabbix agent  
☒ SNMP  
☐ JMX  
☐ IPMI

Layout: ☒ Horizontal ☐ Vertical

Show hosts in maintenance: ☒

**Edit widget**

Type:  Show header: ☒

Name:

Refresh interval:

Show: ☒ System stats ☐ High availability nodes

**Add widget**

Type:  Show header: ☒

Name:

Refresh interval:

Show: ☒ Recent problems ☐ Problems ☐ History

Host groups:

Exclude host groups:

Hosts:

Problem:

Severity: ☐ Not classified ☐ Warning ☒ High  
☐ Information ☒ Average ☒ Disaster

Tags: ☒ And/Or ☐ Or

Type:  Equals:

Type:  Equals:

Show tags: ☐ None ☐ 1 ☒ 2 ☐ 3

Tag name: ☐ Full ☒ Shortened ☐ None

Tag display priority:

Show operational data: ☒ None ☐ Separately ☐ With problem name



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

The screenshot shows the Zabbix dashboard interface. At the top, there are tabs for different dashboard pages: 'Singapore data center', 'New York network switches', 'Los Angeles infrastructure', and 'MySQL servers'. A 'Start slideshow' button is located to the right of these tabs. Below the tabs, the 'System information' section is visible, displaying a table of system parameters and their values.

Parameter	Value	Details
Zabbix server is running	Yes	
Number of hosts (enabled/disabled)	14	
Number of templates	238	
Number of items (enabled/disabled/not supported)	537	
Number of triggers (enabled/disabled [problem/ok])	229	228 / 1 [8 / 220]
Number of users (online)	12	1
Required server performance, new values per second	44.44	
High availability cluster	Disabled	

Overlaid on the dashboard is a 'Dashboard page properties' dialog box. It contains the following fields:

- Name:** Network infrastructure
- Page display period:** 2 minutes

At the bottom right of the dialog box are 'Apply' and 'Cancel' buttons.

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

Hosts <span>Create host</span>										
Name ▲	Interface	Availability	Tags	Problems	Status	Latest data	Problems	Graphs	Dashboards	Web
prod	127.0.0.1:10050	ZBX			Enabled	Latest data	Problems	Graphs	Dashboards	Web
Production server	prod.example.com:10050	ZBX		1	Enabled	Latest data	Problems 1	Graphs 8	Dashboards 2	Web
Production server clone	production.example.com:10050	ZBX SNMP		1 1	Enabled	Latest data	Problems 2	Graphs 18	Dashboards 2	Web

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# Dashboard widgets

Item value widget allows to display information for a single item

- ⚡ Description
- ⚡ Time
- ⚡ Value
- ⚡ Change indicator

Add widget

Type: Item value (dropdown) Show header: ☒

Name: CPU load (text input)

Refresh interval: Default (1 minute) (dropdown)

\* Item: Training-VM-XX: CPU load (text input) Select (button)

\* Show: ☒ Description ☒ Value  
☒ Time ☒ Change indicator

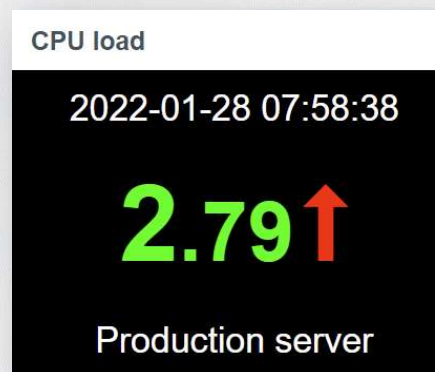
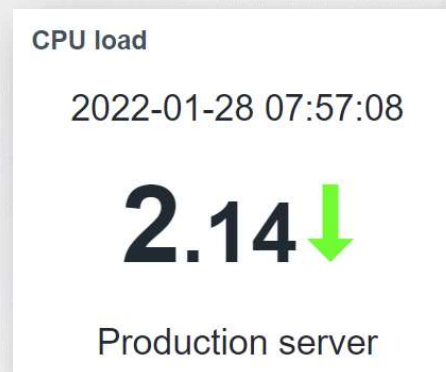
Advanced configuration: ☐

Dynamic item: ☐

Add (button) Cancel (button)

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  Show header ☒

Name

Refresh interval

Host groups    
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	<a href="#">Edit</a> <a href="#">Remove</a>
Available memory	Memory free	<a href="#">Edit</a> <a href="#">Remove</a>
Total memory	Total memory size	<a href="#">Edit</a> <a href="#">Remove</a>
<a href="#">Add</a>		

Order ☒ Top N ☐ Bottom N

\* Order column

\* Host count





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

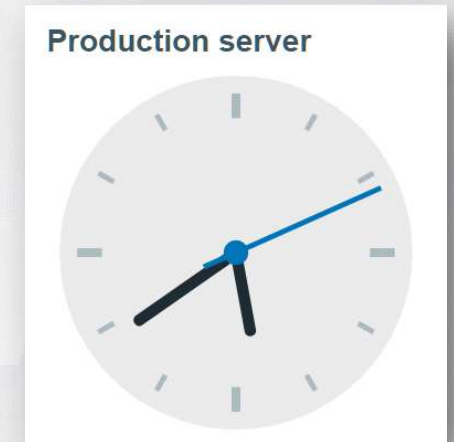
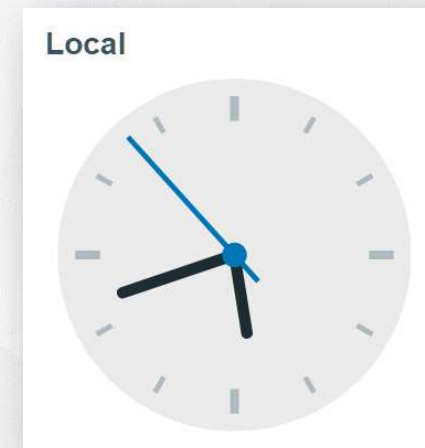
Host name	Available memory	Total memory
Database server		31.25 GB
Production server		7.81 GB
Web server		3.91 GB

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



**Edit widget** [X]

Type: Clock [v] Show header: ☒

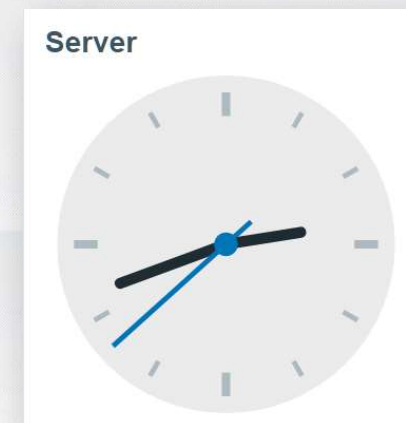
Name:

Refresh interval: Default (15 minutes) [v]

Time type: Host time [v]

\* Item: Production server: Host local time [X] Select

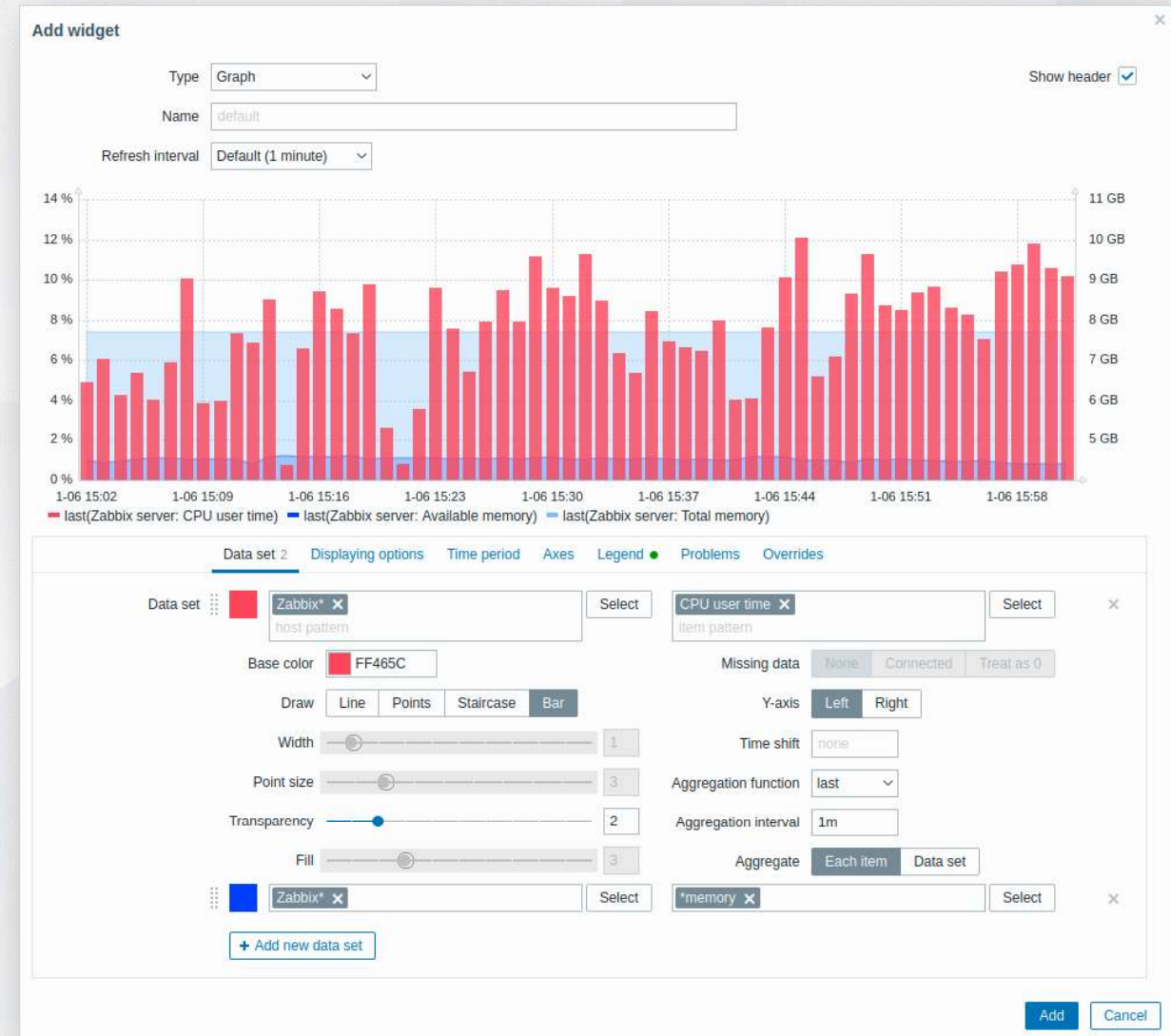
Apply Cancel





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



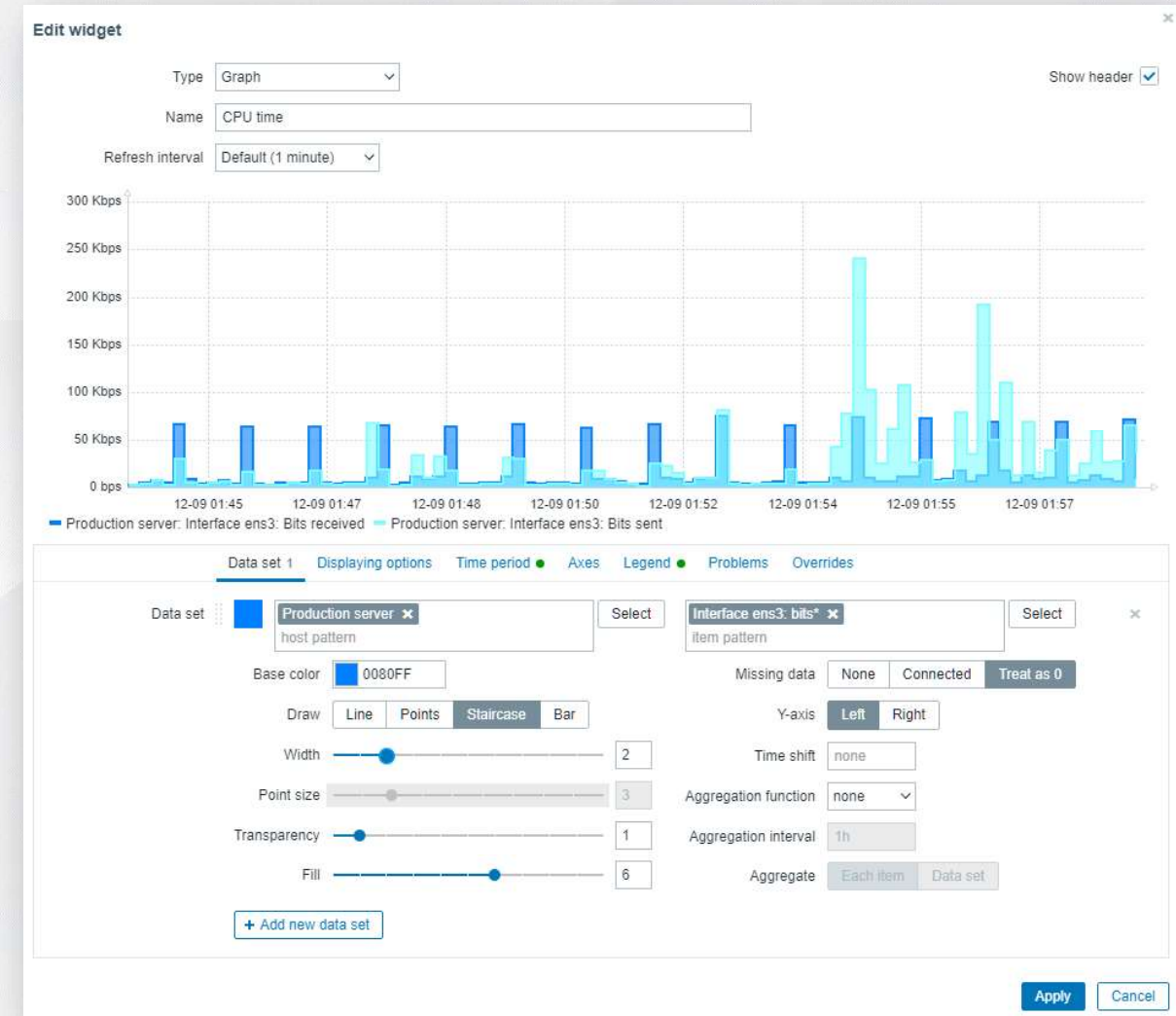


Graph widget is based on data sets, which have:

- ⚡ 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

Set custom time period ☒

From

To

Show problems ☒

Selected items only ☒

Problem hosts  × Select  
host pattern

Severity ☐ Not classified ☒ Warning ☒ High  
☐ Information ☒ Average ☐ Disaster

Problem

Tags

Remove

ADD OVERRIDE

Base color

Width

Draw ▶

Transparency ▶

Fill ▶

Point size ▶

Missing data ▶

Y-axis ▶

Time shift

Line

Points

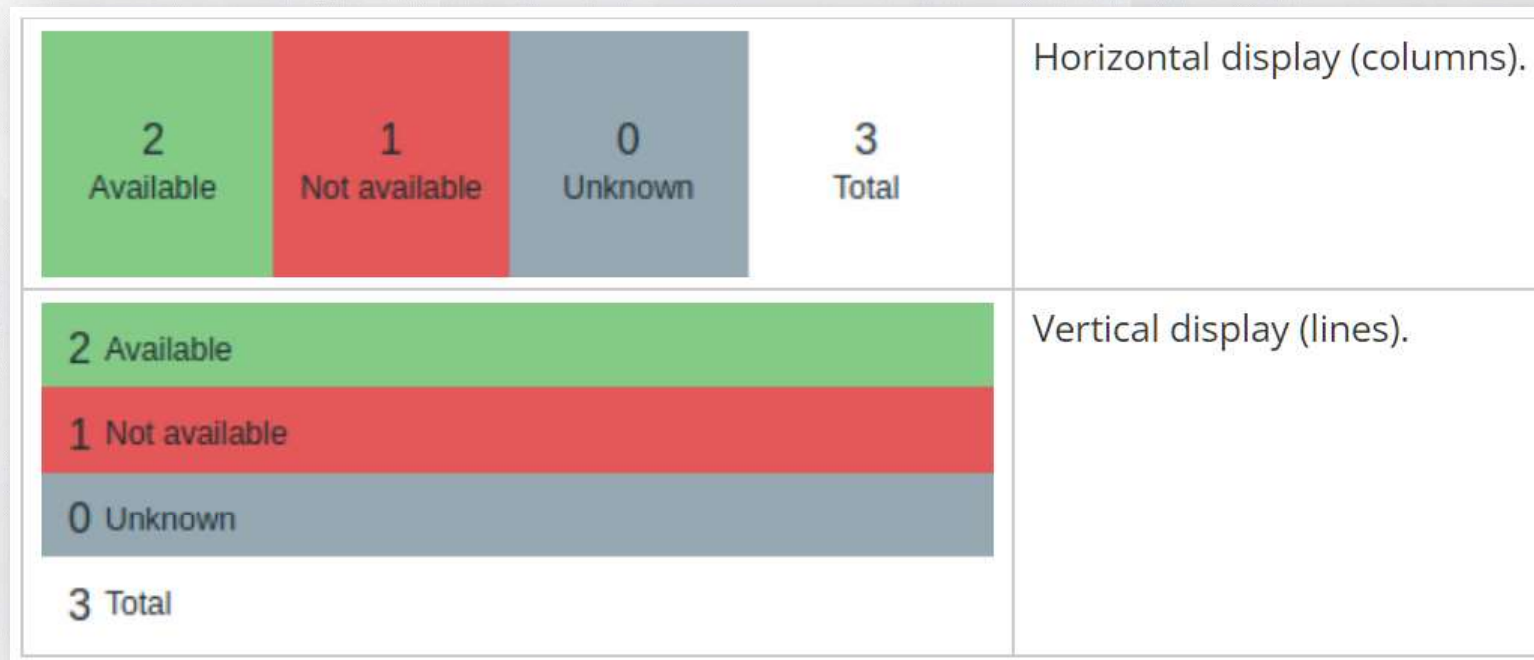
Staircase

Bar



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

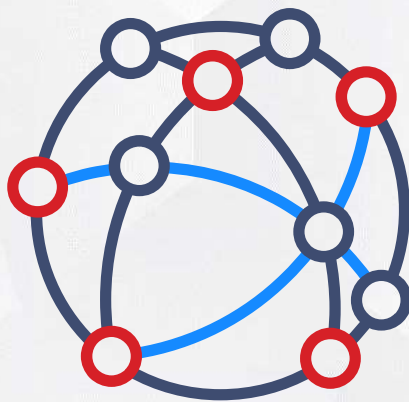
**Map navigation tree** widget allows building a hierarchy of existing maps:

- ⚡ 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
Hosts: type here to search
Tags: And/Or Or
Type: Contains MySQL
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

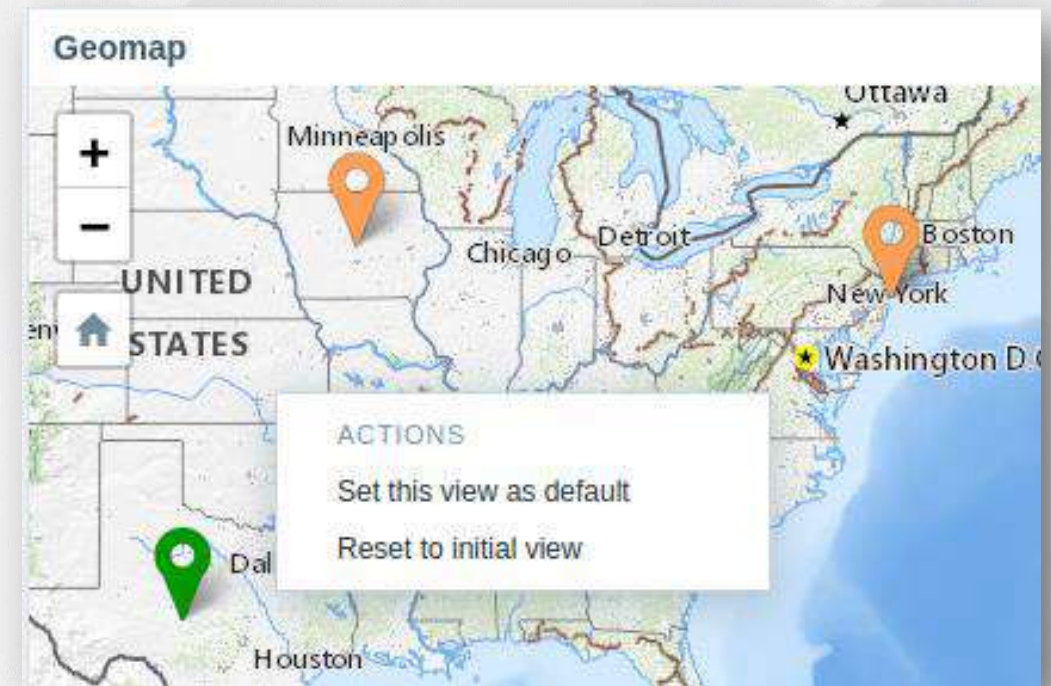
It is possible to configure host filtering in the widget parameters:

- ⚡ 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