



Human-readable data

Unit symbols are used for a human-readable **representation of data**:

- ⚡ Can be used with numerical data only (unsigned / float)
- ⚡ If units are defined, **K/M/G/T/P/E/Z/Y** prefix will be used

Stored in database	Units	Displayed in frontend
5000	Hz	5 KHz
5341623	bits	5.34 Mbits
3765986812	W	3.76 GW

Special processing is used to display **B, Bps, unixtime, uptime, s** units:

Stored in database	Units	Displayed in frontend
1024	B	1 KB
125	uptime	00:02:05
1630316392	unixtime	2021.08.30 09:39:52
614	s	10m 14s

Any unit can be prevented from being converted by using a **!** prefix

Stored in database	Units	Displayed in frontend
5000	Hz	5 KHz
5000	!Hz	5000 Hz
614	s	10m 14s
614	!s	614s
1500	ms	1.5 Kms
1500	!ms	1500 ms

Try to store **base units** (bytes, seconds, etc.) to avoid strange results in the frontend:

⚡ Data can be converted using preprocessing steps if needed (discussed later)

Stored in database	Units	Displayed in frontend
3200	MB	3.2 KMB
3200	!MB	3200 MB
3435972078	B	3.2 GB

Value maps contain the **mapping** between raw values and string representations:

- ⚡ Used both by Zabbix frontend and notifications
- ⚡ Value maps are defined **on the Host or Template** level
- ⚡ Available value map can be specified in the item configuration form
- ⚡ Can be used with items having type of information:
 - ✓ Numeric (unsigned)
 - ✓ Numeric (float)
 - ✓ Character



Value mapping

* Name:

* Mappings

Type	Value	Mapped to	Action
equals	0	Not Available	Remove
equals	1	Available	Remove

[Add](#)

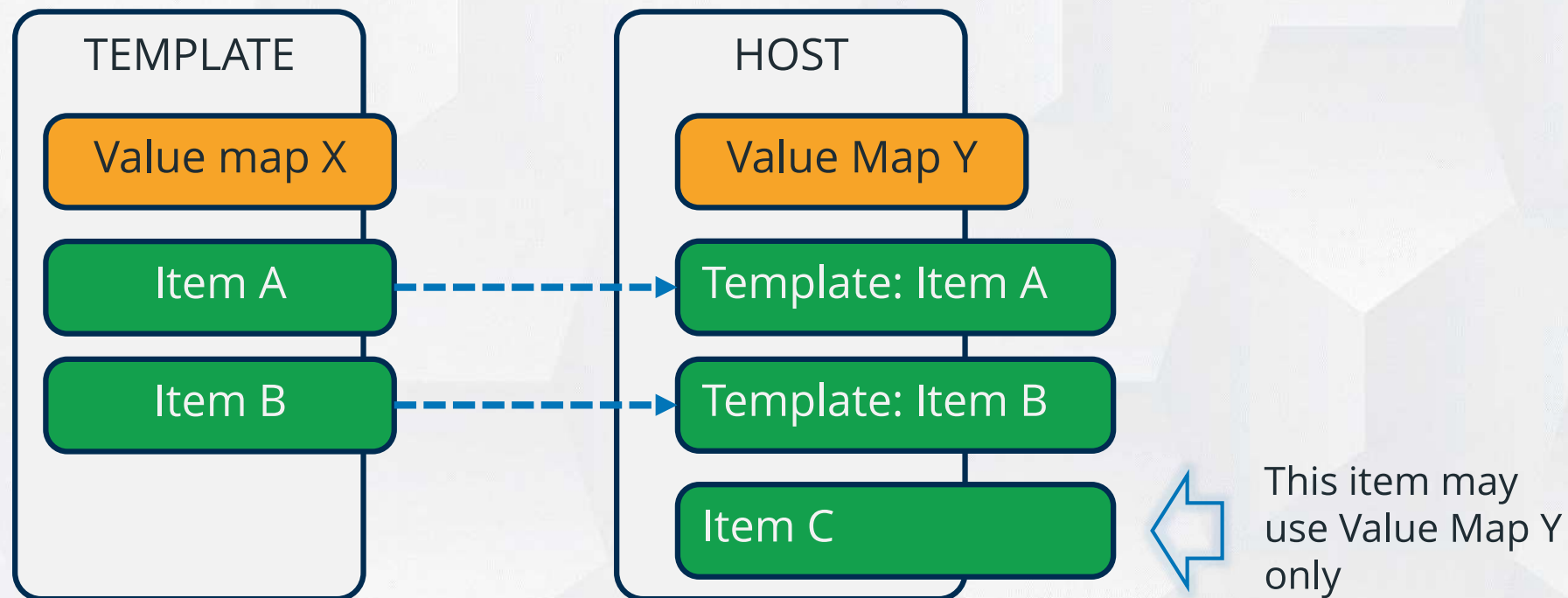
[Add](#) [Cancel](#)



<input type="checkbox"/> Host	Name ▲	Last check	Last value
<input type="checkbox"/> Production server	HTTP service status	2021-08-31 08:30:36	Available (1)

Value maps do not have inheritance from templates:

- ⚡ They can be defined on both **template** or **host** level
- ⚡ Linking a template to the host does not make the host inherit the value maps:
 - ✓ A local item on a host can use only the value map from the host
 - ✓ A templated item on a host will use the value map from the template



It is not possible to create a template with a value map and use it for host items!

Usually, multiple mappings are defined per value map:

- ⚡ Mapping is applied according to **the order of mapping rules**
- ⚡ If multiple mappings overlap, the **first match** will be applied
- ⚡ It is possible to **reorder** mappings by dragging

Supported mapping types:

- ⚡ equals - equal values will be mapped
- ⚡ is greater than or equals - equal or greater values will be mapped
- ⚡ is less than or equals - equal or smaller values will be mapped
- ⚡ in range - values in range will be mapped. Multiple ranges are supported (e.g., 1-10, 20 -25)
- ⚡ regexp - values corresponding to the regular expression will be mapped
- ⚡ default - all outstanding values will be mapped, other than these with specific mappings

Multiple value mappings can overlap:

- ⚡ Mapping is applied according to the order of mapping rules (first match)
- ⚡ It is possible to reorder mappings by dragging

"220" will be mapped as "Normal"

Value mapping

* Name
Voltage

* Mappings

Type	Value	Mapped to	Action
is less than or equals	209	Low	Remove
in range	210-230	Normal	Remove
is greater than or equals	231	High	Remove
equals	220	Perfect	Remove

Add

Add
Cancel

The last mapping will be ignored because "Normal" range is matched first

"220" will be mapped as "Perfect"

Value mapping

* Name
Voltage

* Mappings

Type	Value	Mapped to	Action
is less than or equals	209	Low	Remove
equals	220	Perfect	Remove
in range	210-230	Normal	Remove
is greater than or equals	231	High	Remove

Add

Add
Cancel

Mappings are reordered properly

PRACTICAL SETUP

1) Add corresponding units to the items on Training-VM-XX host

System uptime	s
Total memory size	B
Free memory size	B
MySQL uptime (use s or uptime units)	

2) Create a new value map for Training resources host

- ✓ Name: Web performance
- ✓ Mappings:
 - 0 for service down
 - 0 - 100 for fast response time
 - > 100 for slow response time

3) Improve "Service Web performance" item

- ✓ Assign the value map " Web performance"
- ✓ Add seconds as item unit

4) Add value maps to ICMP ping status and Service NTP availability items

5) Check the results