Revision History

Section	Edition	Revised by	Date	Description
All	1.0	Jans Lien.	07/25/2024	New

Index

1 Purpose :

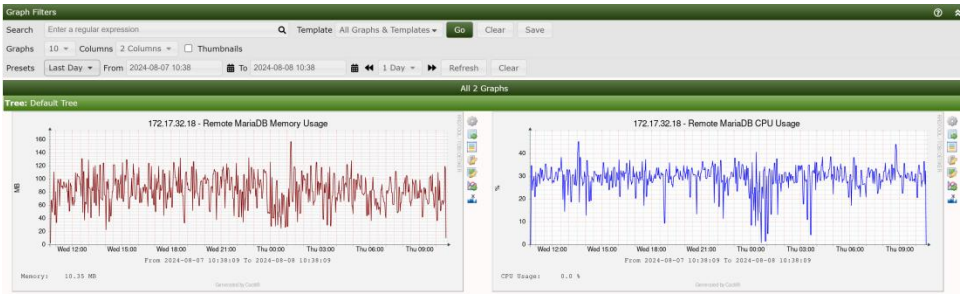
This SOP provides the steps for retrieved the CPU and Memory usage information from the specific process on remote Linux server and monitor them for daily or any incident reference.

2 Scope：

TPV.

3 Definition：

Cacti Server: 172.17.32.16.
Remote Linux: 172.17.32.18. (Be monitored Server)
Cacti server will get the CPU and Memory usage of specific process on 172.17.32.18 and show graph on Cacti server.



4 Reference：

None.

5 Contents：

5.1 rsh setup:

add 172.17.32.16 + into /etc/hosts.equiv file.

root@TWTPSVHQ018:/etc

```
[root@TWTPSVHQ018 etc]# more hosts.equiv
172.17.32.17
172.17.32.16
[root@TWTPSVHQ018 etc]#
```

Create /home/apache directory and change it owner and group to apache on 172.17.32.18 linux server.

root@TWTPSVHQ018:/

```
[root@TWTPSVHQ018 /]# mkdir /home/apache
[root@TWTPSVHQ018 /]# chown apache:apache /home/apache
[root@TWTPSVHQ018 /]#
```

Add “172.17.32.16 apache” into /home/apache/.rhosts

```
[root@TWTPSVHQ018 apache]# more /home/apache/.rhosts
172.17.32.16 apache
[root@TWTPSVHQ018 apache]#
```

5.2 Shell script programming(172.17.32.18): Script path: /usr/bin

5.2.1 Get CPU usage Script: Get the CPU usage data of ‘php’ process.

Show the full script below:

is cpu_usage script.

The content of the script shows below:

```
#!/bin/bash

result=$(ps -eo %cpu,cmd | grep "php" | grep -v grep | awk '{cpu+=$1} END {print cpu}')

cpu_cores=$(nproc)

cpu_usage=$(echo "$result / $cpu_cores" | bc -l)

if [[ ! "$cpu_usage" =~ ^[0-9.]+$ ]]; then
  cpu_usage="0"
fi

cpu_usage=$(printf "%.2f" "$cpu_usage")

echo "$cpu_usage"
```

cpu_cores=$(nproc): number or CPU cores on Linux server.

cpu_usage = average CPU utilization. (Total CPU usage divided by cpu_cores).

5.2.2 Get Memory usage script: Get the Memory usage data of 'php' process.

The content of the script shows below:

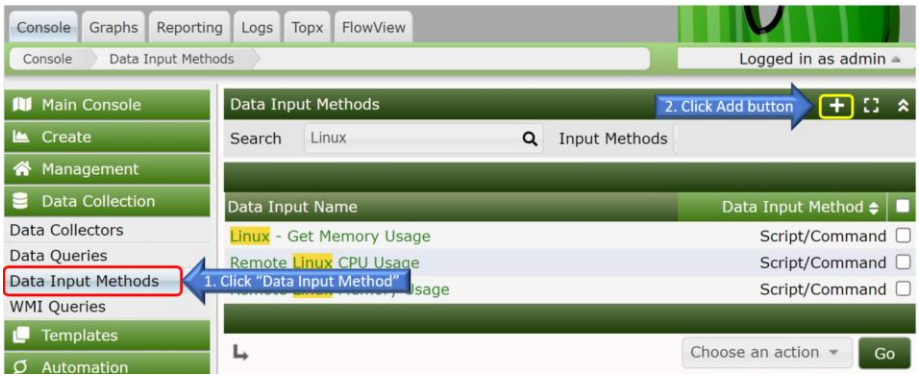
is mem_usage script.

```
#!/bin/bash

result=$(ps -eo %mem,cmd | grep "php" | grep -v grep | awk '{mem+=$1} END {print mem}')

mem_usage=$(echo "$result" | awk '{print $1}')

if [[ ! "$mem_usage" =~ ^[0-9.]+$ ]]; then
  echo "Error: Memory usage is not a valid number."
  mem_usage="0"
fi

#echo "mem:$mem_usage"
echo "$mem_usage"
```

5.3 Cacti Server, 172.17.32.16, setup for CPU, Memory usage display on Cacti server:

5.3.1 Input Method

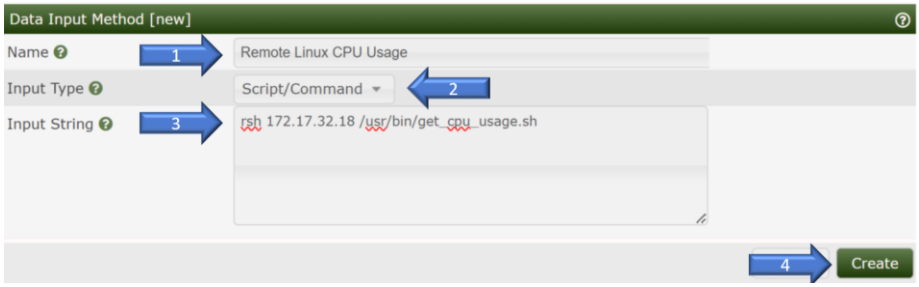
Click "+" Add button to create input method:



5.3.1.1 CPU and Memory Input Method Creation.

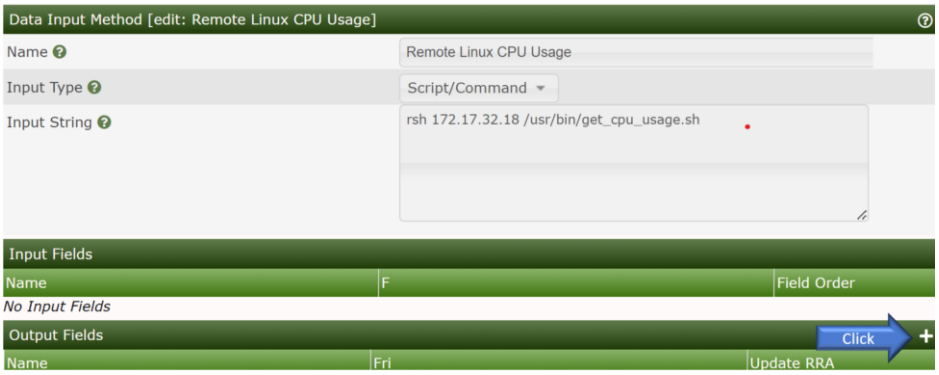
Click "+" Add button to create input method:

- Name: "Remote MariaDb CPU Usage" (User define).
- Input Type: "Script/Command" selected.
- Input String: Call "172.17.32.18 get_cpu_script.sh" script.
- Click "Create" button to create "Data input method".

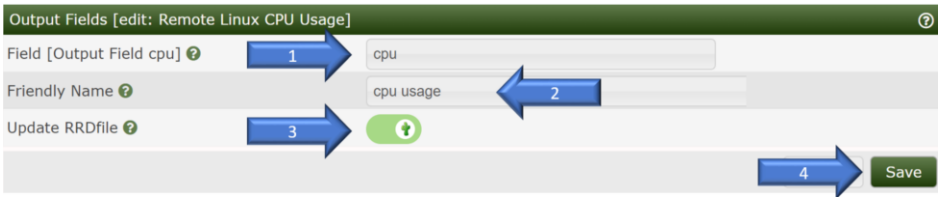


"Output Fields" Define:

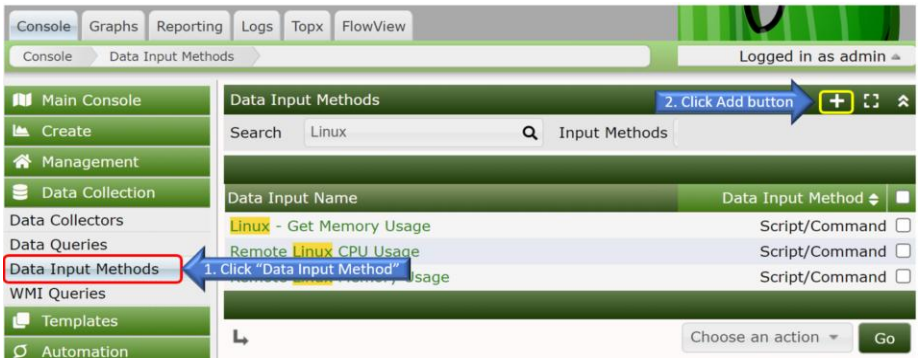
Click "Output Fields" "+" button to create output field.



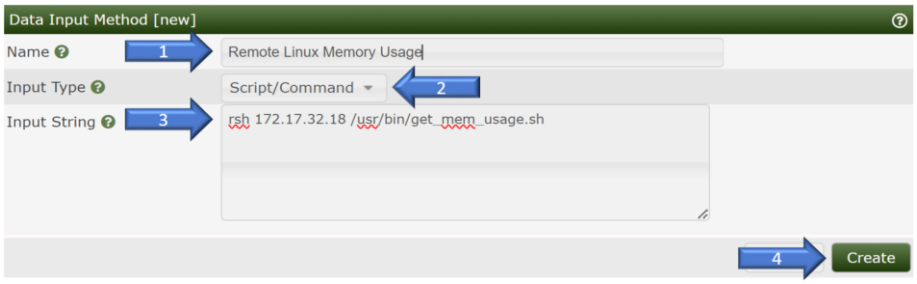
- Field: "cpu" (user define).
- Friendly Name: "cpu usage" (user define).
- Update RRDfile: "enabled".
- Click "Save" button.



Click “+” Add button to create input method:

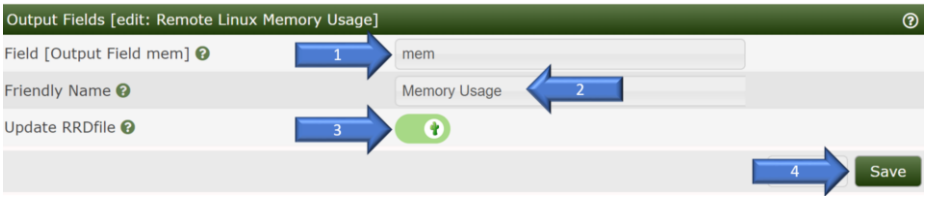


- Name: “Remote Linux Memory Usage” (User define).
- Input Type: “Script/Command” selected.
- Input String: Call “172.17.32.18 get_mem_script.sh script”.
- Click “Create” button to create “Data input method”.



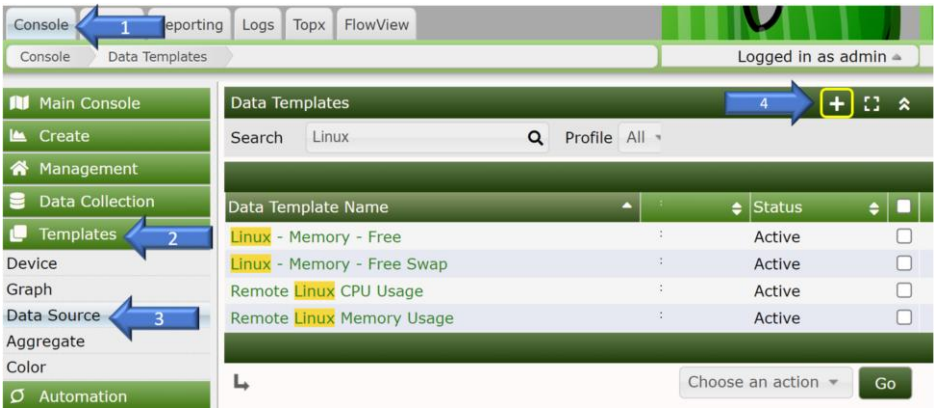
Click “Output Fields” “+” button to create output field.

- Field: “mem” (user define).
- Friendly Name: “Memory usage”(user define).
- Update RRDfile: “enabled”.
- Click “Save” button.

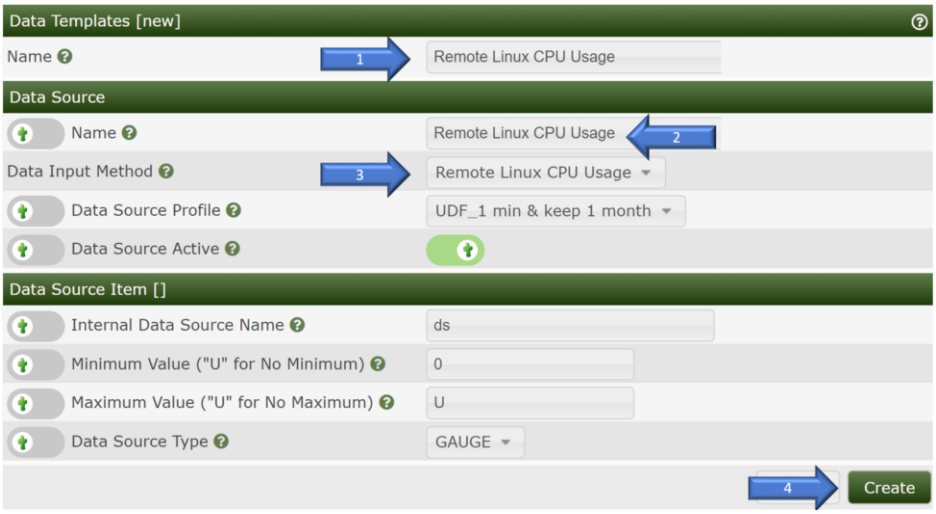


5.3.2 CPU Memory Data Template Creation

Data Source Setup: Console → Template → Data Source→ "+" add button.

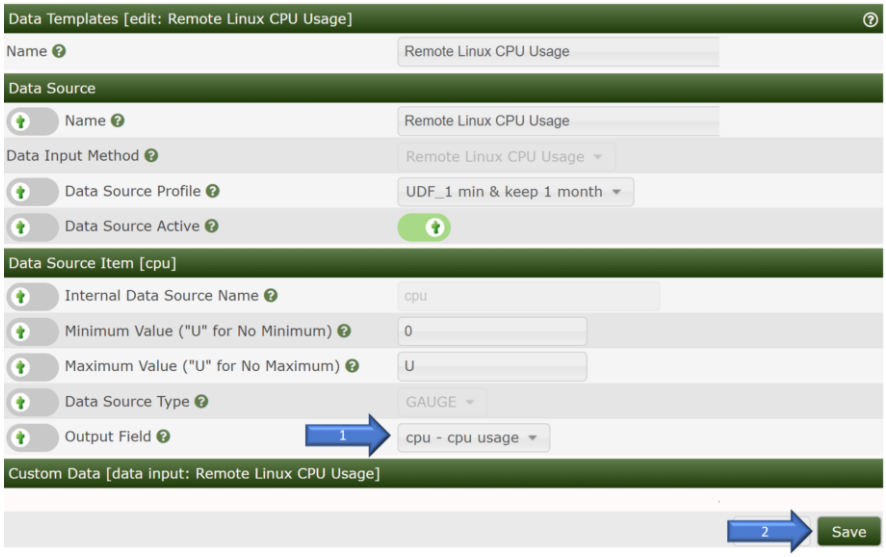


- Data Templates Name: "Remote Linux CPU Usage" (User define).
- Data Source Name: "Remote Linux CPU Usage" (User define).
- Data Input Method: "Remote Linux CPU usage" selected which defined on input method.
- Click "Create" button.

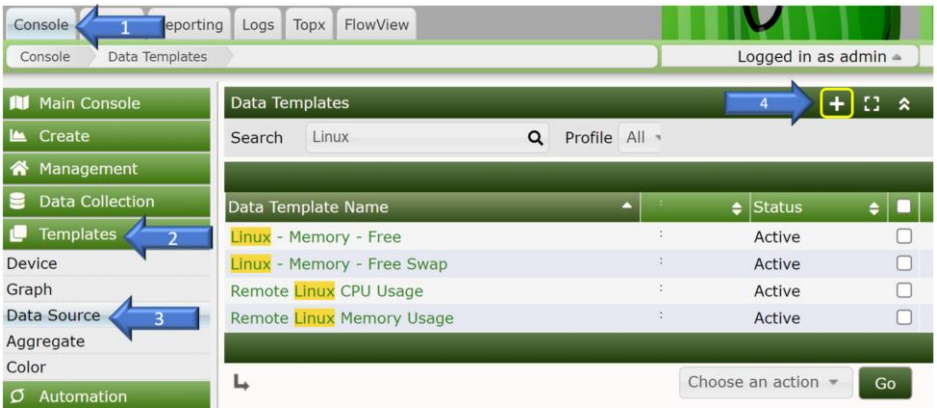


Data Source Item[]:

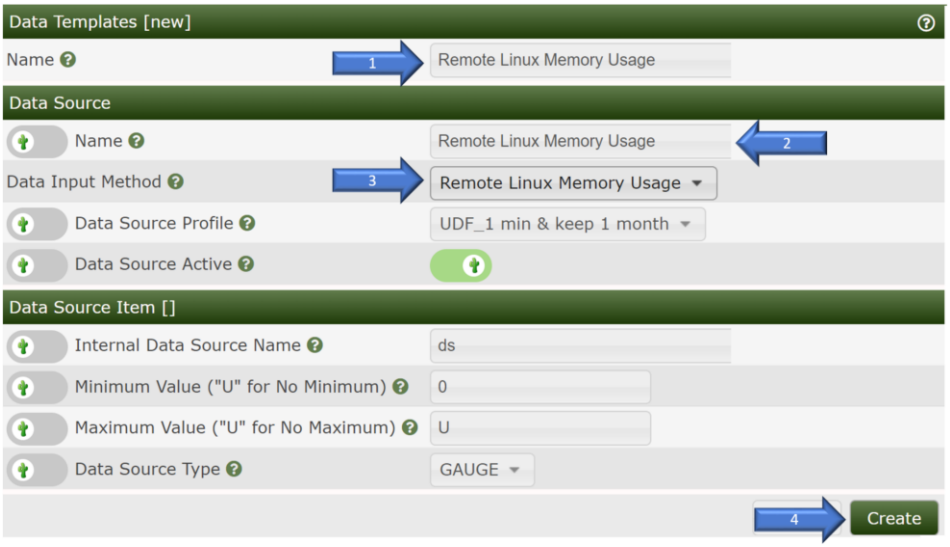
- Output Field: “cpu-cpu usage” selected. (Internal Data Source Name: “cpu” which need same as the value on input method output field.)
- Click “Save” button.



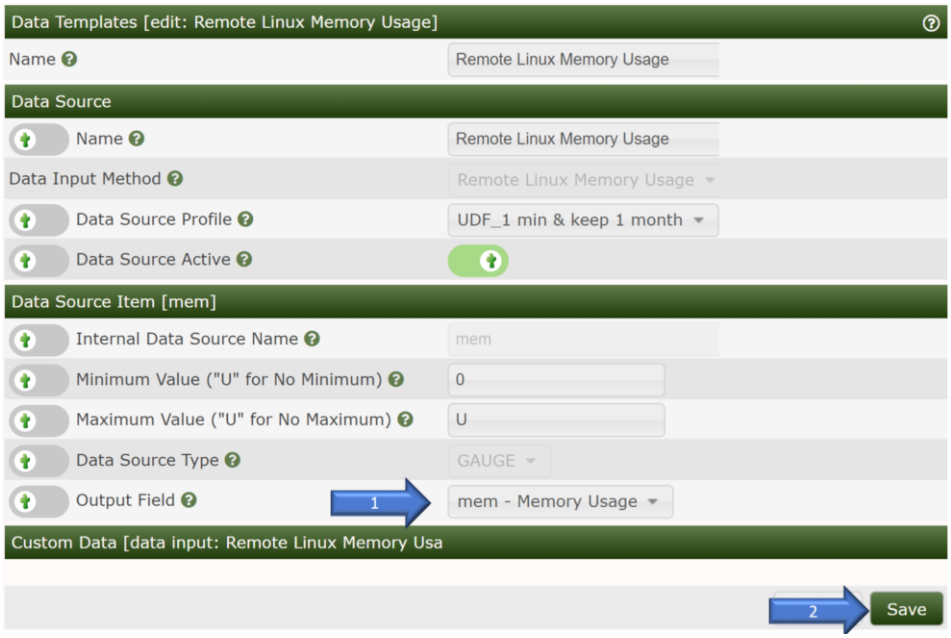
Data Source Setup: Console → Template → Data Source→ “+” add button.



- Data Template Name: “Remote Linux Memory Usage” (User define).
- Data Source Name : “Remote Linux Memory Usage” (User define).
- Data Input Method: “Remote Linux Memory usage” selected which defined on input method.
- Click “Create” button.

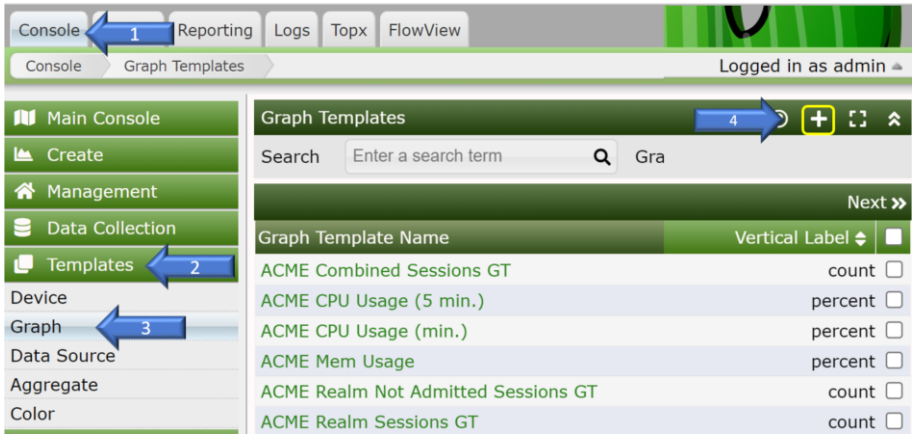


- Output Field: mem-Memory Usage selected. (Internal Data Source Name: “mem” which need same as the value on input method output field.)
- Click “Save” button.

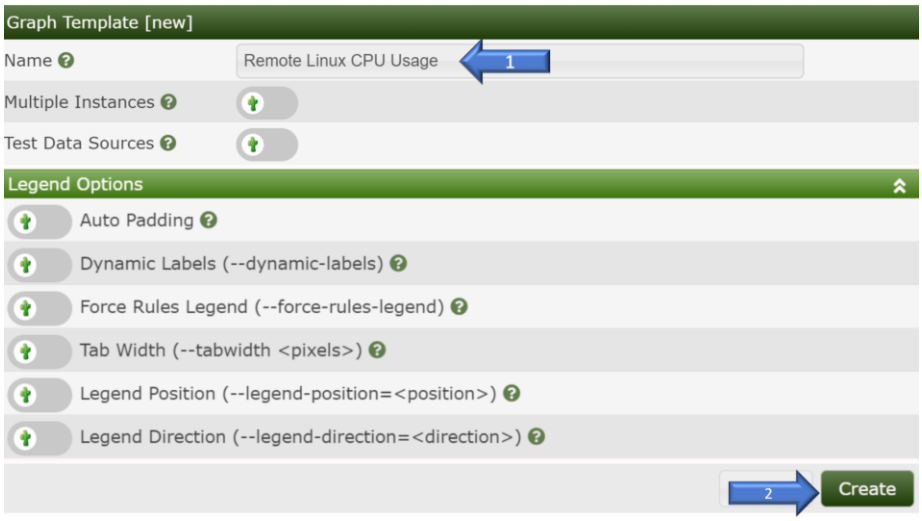


5.3.3 CPU Memory Graph Template Creation

Console → Template → Graph → "+" to create Graph Template.

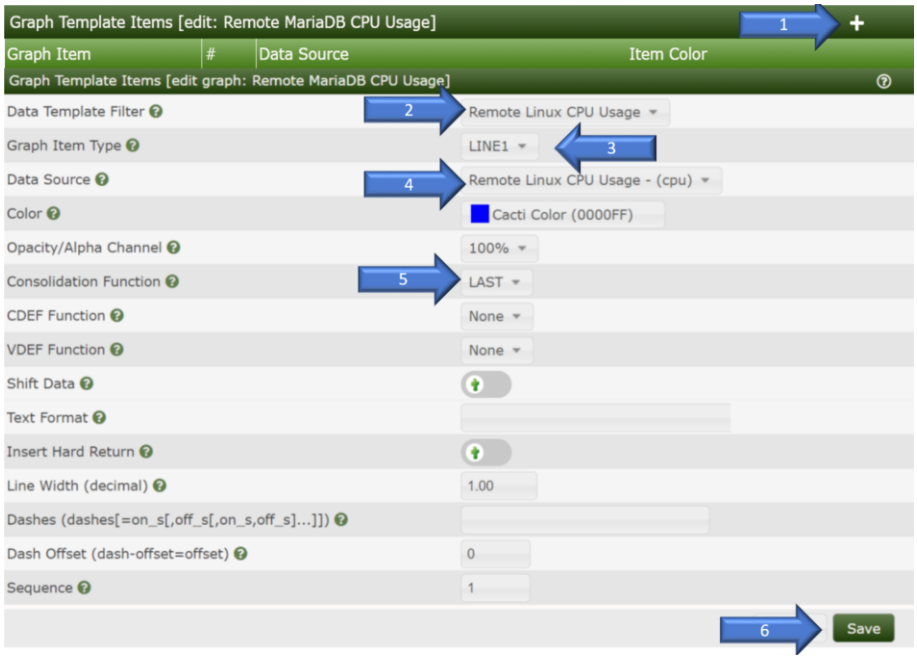


- Graph Template Name: "Remote Linux CPU Usage" (User define).
- Click "Create" to create graph template.

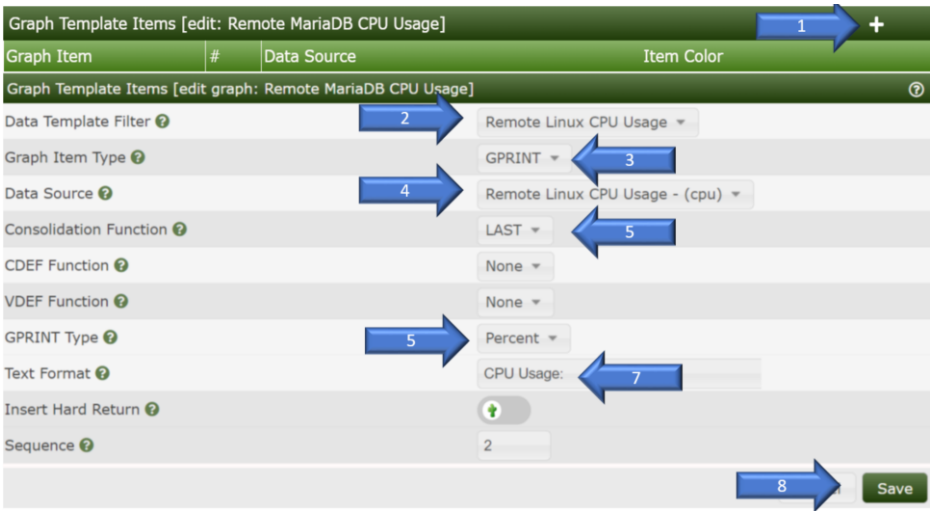


CPU Graph Template Creation:

- Click “Graph Template Items” add button “+”.
- Data Template Filter: “Remote Linux CPU Usage” selected.
- Graph Item Type: “LINE1” selected.
- Data Source: “Remote Linux CPU Usage-(cpu)” selected.
- Consolidation Function: “LAST” selected.
- Click “Save” button.

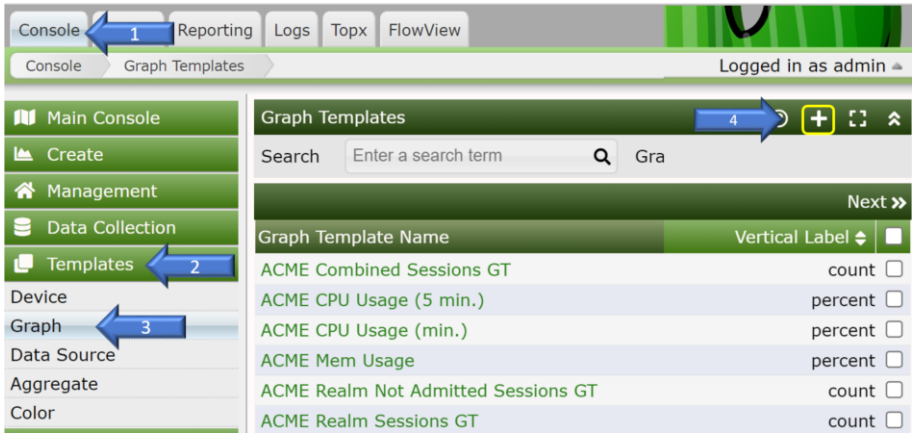


- Click “Graph Template Items” add button “+”.
- Data Template Filter: “Remote Linux CPU Usage” selected.
- Graph Item Type: “CPRINT” selected.
- Data Source: “Remote Linux CPU Usage-(cpu)” selected.
- Consolidation Function: “LAST” selected.
- CPRINT TYPE: “Percent” selected.
- Text Format: “CPU Usage” inputted.
- Click “Save” button.

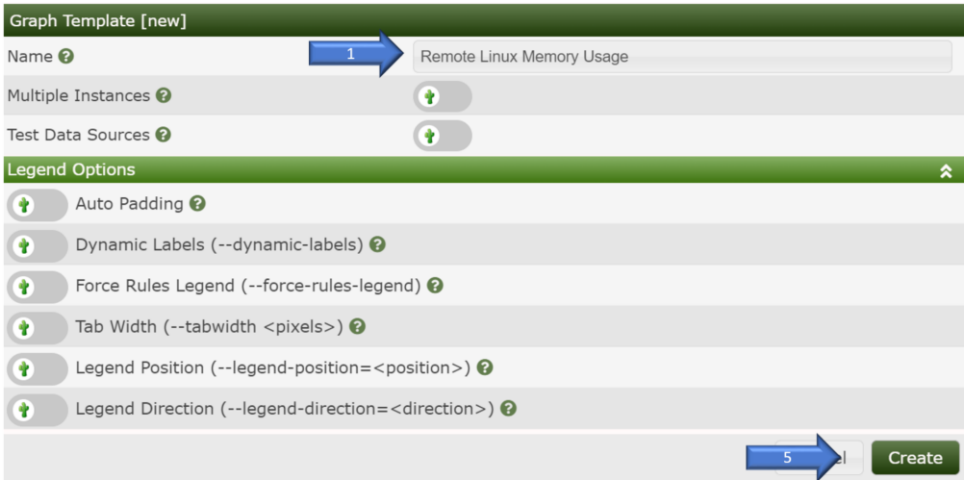


Memory Graph Template Creation:

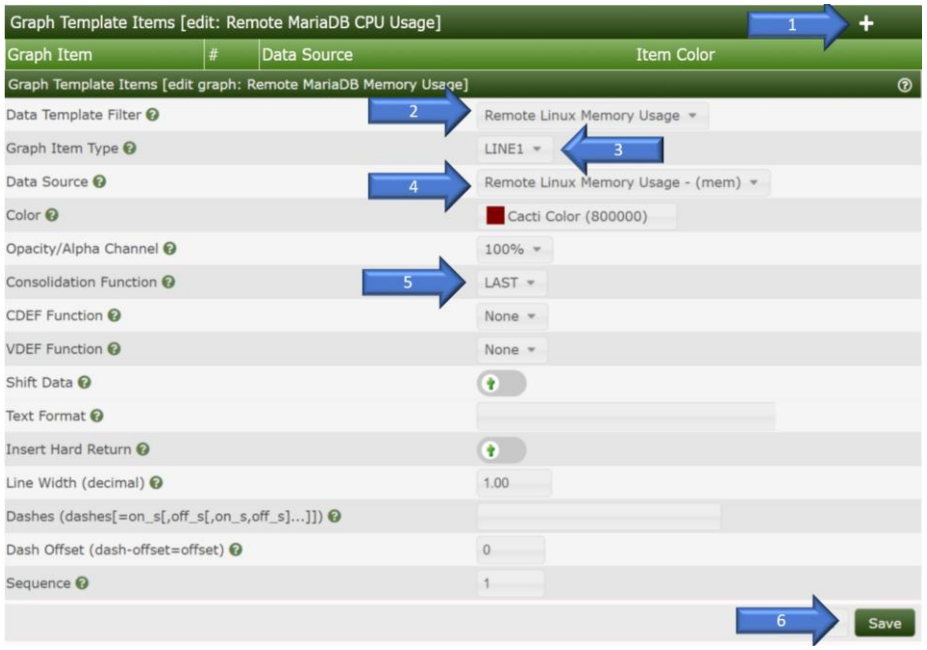
Console → Template → Graph → “+” to create Graph Template.



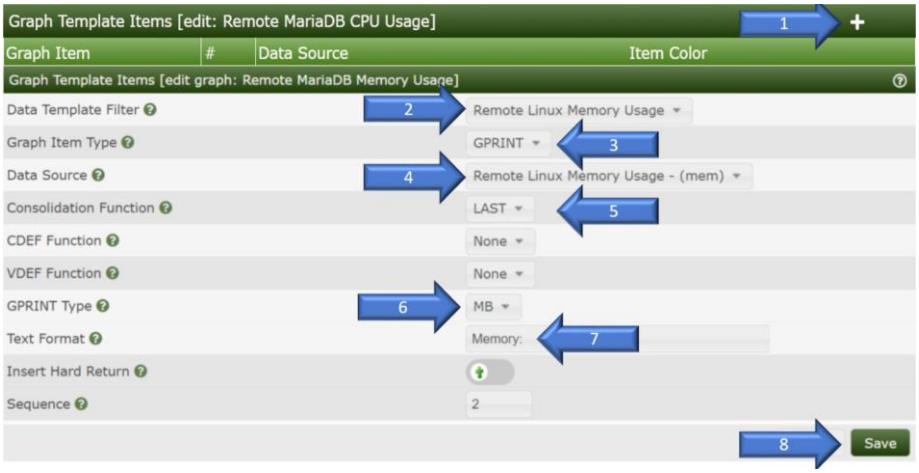
- Graph Template Name: “Remote Linux CPU Usage” (User define).
- Click “Create” to create graph template.



- Click “Graph Template Items” add button “+”.
- Data Template Filter: “Remote Linux Memory Usage” selected.
- Graph Item Type: “LINE1” selected.
- Data Source: “Remote Linux Memory Usage-(mem)” selected.
- Consolidation Function: “LAST” selected.
- Click “Save” button.

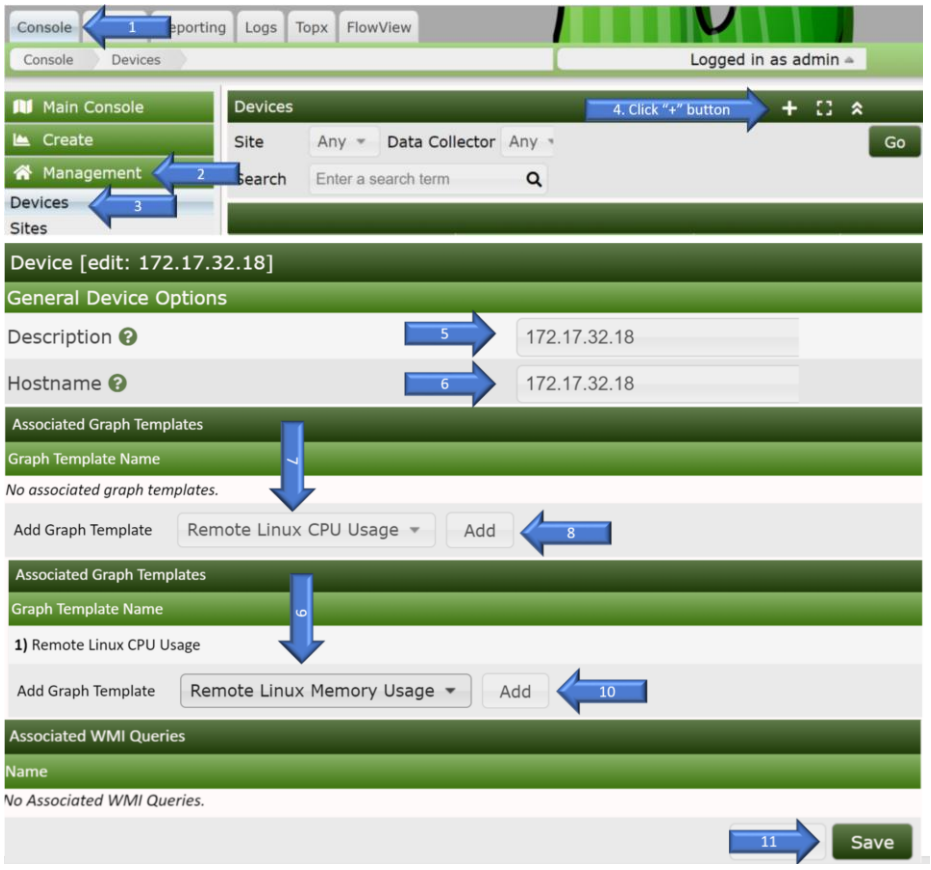


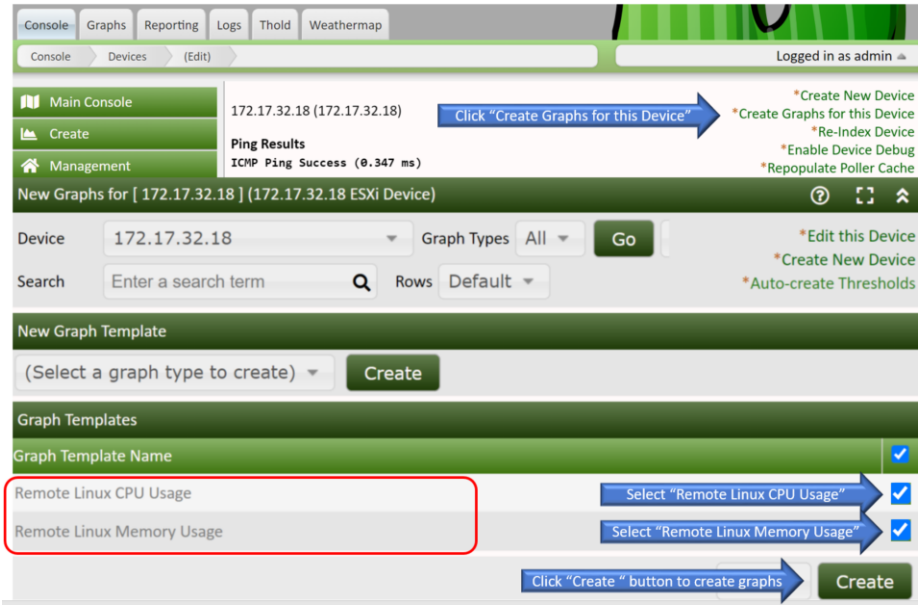
- Click “Graph Template Items” add button “+”.
- Data Template Filter: “Remote Linux Memory Usage” selected.
- Graph Item Type: “CPRINT” selected.
- Data Source: “Remote Linux Memory Usage-(mem)” selected.
- Consolidation Function: “LAST” selected.
- CPRINT TYPE: “MB” selected.
- Text Format: “CPU Usage” inputted.
- Click “Save” button.



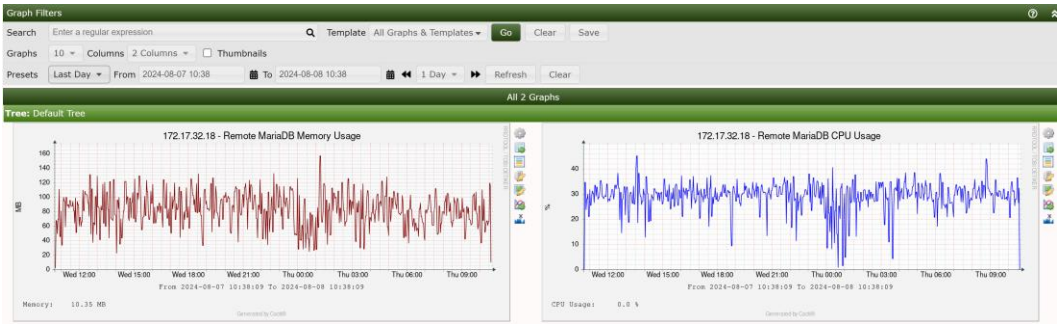
5.3.4 Host Graph Creation:

- "Console": selected
- "Management": selected.
- "Devices": selected.
- Click "+" to add new device.
- "Description": user defined.
- "Hostname": IP address
- Add "Remote Linux CPU Usage" to "Associated Graph Templates."
- Click "Add" button.
- Add "Remote Linux Memory Usage" to "Associated Graph Templates."
- Click "Add" button.
- Click "Save" button.





5.3.4.1 172.17.32.18 CPU-Memory Usage Graphs created.



6 Attachment：

None.