



DERDACK
: SIGNAL 4

ZABBIX '23

CONFERENCE

GERMANY

Integrating a Mobile Alerting
Service with Zabbix

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Ziele

- Einblicke in Alarmierung per Webhook Media Typ
- Zabbix Events per API updaten
- Impulse für weiterführende Ideen



Zabbix Media Types

ZABBIX

Media Types

- E-Mail
- SMS
- Script
- Webhook ←

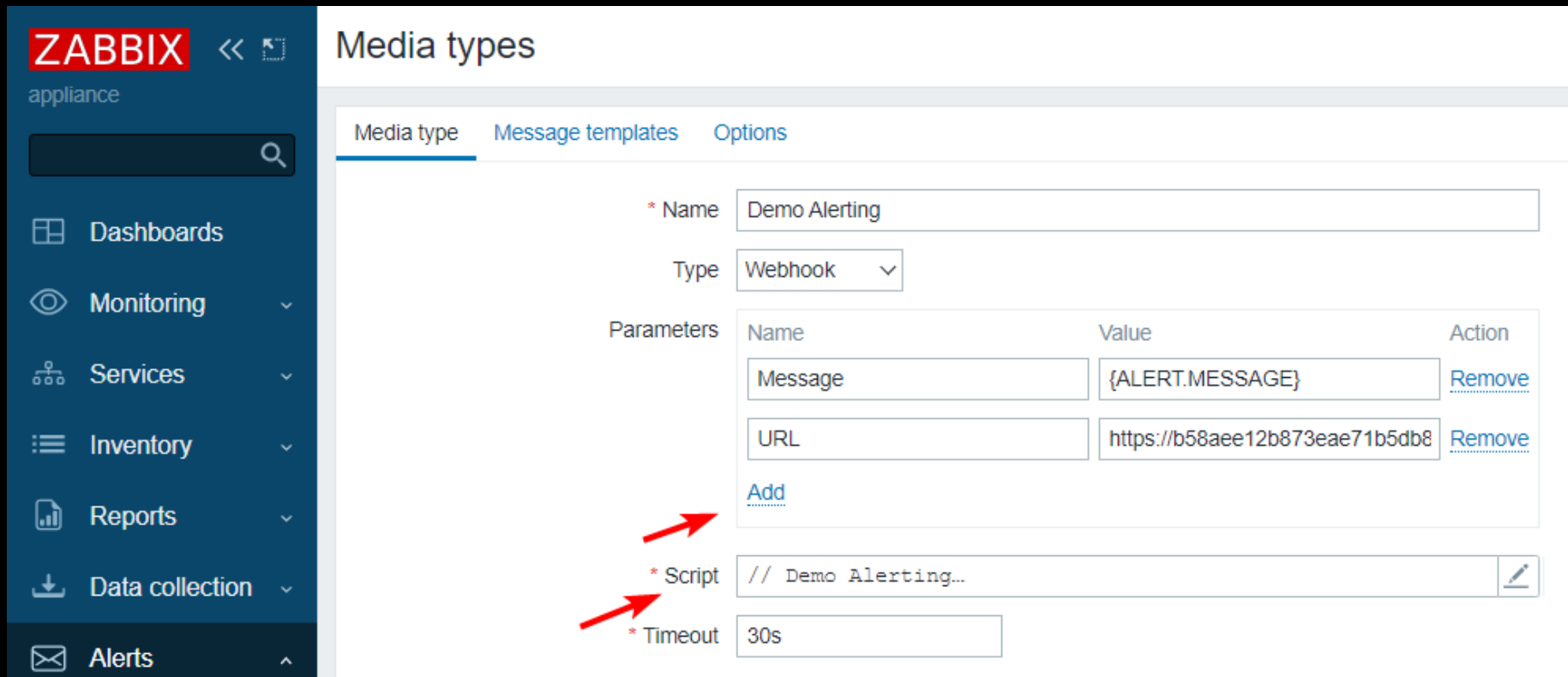


Demo Media Type

The screenshot shows the Zabbix web interface for configuring media types. The left sidebar contains a navigation menu with 'Media types' selected. The main content area is titled 'Media types' and includes a search bar, a filter dropdown, and a table of media types. The 'Demo Alerting' media type is selected and highlighted in yellow. A red arrow points to the 'Create media type' button in the top right corner. Another red arrow points to the 'Media types' menu item in the left sidebar.

| <input type="checkbox"/> | Name ▲ | Type | Status | Used in actions | Details | Action |
|-------------------------------------|----------------------|---------|----------|-----------------|--|--------|
| <input type="checkbox"/> | Brevis.one | Webhook | Disabled | | | Test |
| <input checked="" type="checkbox"/> | Demo Alerting | Webhook | Enabled | | | Test |
| <input type="checkbox"/> | Discord | Webhook | Disabled | | | Test |
| <input type="checkbox"/> | Email | Email | Disabled | | SMTP server: "mail.example.com", SMTP helo: "example.com", email: "zabbix@example.com" | Test |
| <input type="checkbox"/> | Email (HTML) | Email | Disabled | | SMTP server: "mail.example.com", SMTP helo: "example.com", email: "zabbix@example.com" | Test |
| <input type="checkbox"/> | Event-Driven Ansible | Webhook | Disabled | | | Test |
| <input type="checkbox"/> | Express.ms | Webhook | Disabled | | | Test |
| <input type="checkbox"/> | Github | Webhook | Disabled | | | Test |

Parameter und Script



The screenshot shows the Zabbix web interface for configuring a media type. The left sidebar contains navigation options: Dashboards, Monitoring, Services, Inventory, Reports, Data collection, and Alerts. The main content area is titled 'Media types' and has three tabs: 'Media type', 'Message templates', and 'Options'. The 'Media type' tab is active, showing the configuration for a media type named 'Demo Alerting'. The configuration includes a 'Name' field with the value 'Demo Alerting', a 'Type' dropdown menu set to 'Webhook', and a 'Parameters' table. The 'Parameters' table has three columns: 'Name', 'Value', and 'Action'. It contains two rows: one for 'Message' with the value '{ALERT.MESSAGE}' and a 'Remove' link, and one for 'URL' with the value 'https://b58aee12b873eae71b5db8' and a 'Remove' link. Below the table is an 'Add' link. The 'Script' field contains '// Demo Alerting...' and the 'Timeout' field contains '30s'. Two red arrows point to the 'Script' and 'Timeout' fields.

ZABBIX appliance

Media types

Media type Message templates Options

* Name Demo Alerting

Type Webhook

| Parameters | Name | Value | Action |
|------------|---------|--------------------------------|------------------------|
| | Message | {ALERT.MESSAGE} | Remove |
| | URL | https://b58aee12b873eae71b5db8 | Remove |

[Add](#)

* Script // Demo Alerting...

* Timeout 30s

Parameter Macros

Macros:

- {ALERT.SUBJECT}
- {ALERT.MESSAGE}
- {ALERT.SENDTO}

- {EVENT.VALUE}
- ...


* Name

Type

| Parameters | Name | Value | Action |
|------------|---|--|------------------------|
| | <input type="text" value="Hostname"/> | <input type="text" value="{HOST.NAME}"/> | Remove |
| | <input type="text" value="Message"/> | <input type="text" value="{ALERT.MESSAGE}"/> | Remove |
| | <input type="text" value="Subject"/> | <input type="text" value="{ALERT.SUBJECT}"/> | Remove |
| | <input type="text" value="teamsecret"/> | <input type="text" value="{ALERT.SENDTO}"/> | Remove |

Users

User Media 1 Permissions

| Media | Type | Send to | When active | Use if severity | Status | Action |
|-------|--------|---|-----------------|-----------------|---------|---|
| | SIGNL4 |  | 1-7,00:00-24:00 | N I W A H D | Enabled | Edit Remove |

[Add](#)

Script


```
JavaScript x  
  
1 // Demo Alerting  
2 try {  
3     var response,  
4     payload,  
5     params = JSON.parse(value),  
6     endpoint = params.URL,  
7     request = new HttpRequest();  
8  
9     payload = JSON.stringify(params);  
10    Zabbix.log(4, '[ SIGNAL4 Webhook ] Sending request: ' + payload);  
11  
12    request.addHeader('Content-Type: application/json');  
13    response = request.post(endpoint, payload);  
14  
15    Zabbix.log(4, '[ SIGNAL4 Webhook ] Received response with status code ' +  
16        request.getStatus() + '\n' + response  
17    );  
18  
19    if (request.getStatus() !== 200) {  
20        throw 'Request failed with status code ' + request.getStatus() +  
21            '. Check debug log for more information.';  
22    }  
23  
24    return 'OK';  
25 }
```

64729 characters remaining Apply Cancel

Testen des Media Types

Demo Alerting Webhook **Enabled**  [Test](#)

Test media type "Demo Alerting"

 Media type test successful.

Message

URL

Response

Response type: String

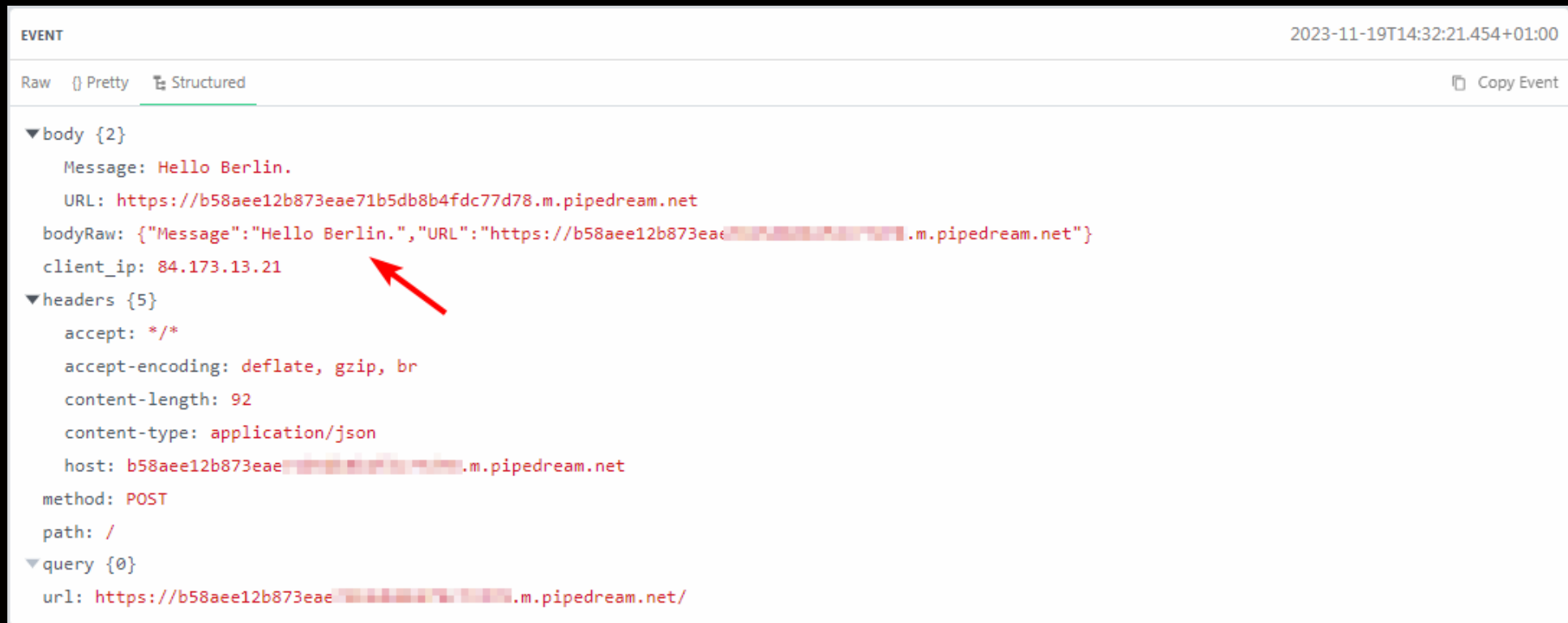
[Open log](#)

Ergebnis in Pipedream

EVENT 2023-11-19T14:32:21.454+01:00

Raw {} Pretty Structured Copy Event

```
▼ body {2}
  Message: Hello Berlin.
  URL: https://b58aee12b873eae71b5db8b4fdc77d78.m.pipedream.net
  bodyRaw: {"Message":"Hello Berlin.", "URL":"https://b58aee12b873eae71b5db8b4fdc77d78.m.pipedream.net"}
  client_ip: 84.173.13.21
▼ headers {5}
  accept: */*
  accept-encoding: deflate, gzip, br
  content-length: 92
  content-type: application/json
  host: b58aee12b873eae71b5db8b4fdc77d78.m.pipedream.net
  method: POST
  path: /
▼ query {0}
  url: https://b58aee12b873eae71b5db8b4fdc77d78.m.pipedream.net/
```



Webhook Media Type

Parameter

+

Script

YAML Beispiel

```
zabbix_export:  
  version: '6.4'  
  media_types:  
    - name: 'Demo Alerting'  
      type: WEBHOOK  
      parameters:  
        - name: Message  
          value: '{ALERT.MESSAGE}'  
      script: |  
        try {  
          // Send request ...  
        }  
        catch (error) {  
          Zabbix.log(4, '[ Webhook ] ERROR: ' + error);  
        }  
      }
```

Nutzung der
Parameter im
JavaScript code.

Webhook JavaScript

```
// Demo Alerting
try {
  var response, payload,

  // Create JSON from parameters
  params = JSON.parse(value),

  // Get the URL value
  endpoint = params.URL,


  request = new HttpRequest();
  request.addHeader('Content-Type: application/json');

  // Send request
  payload = JSON.stringify(params);
  response = request.post(endpoint, payload);

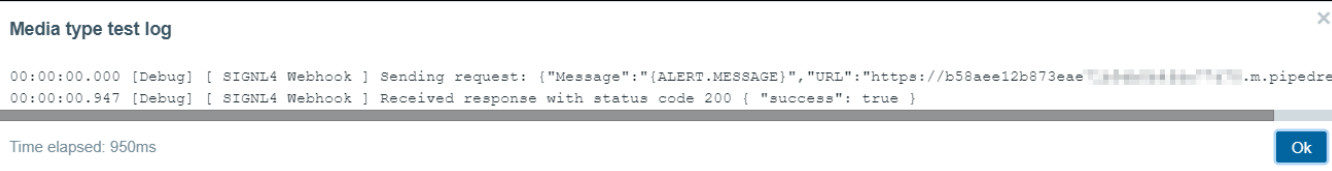
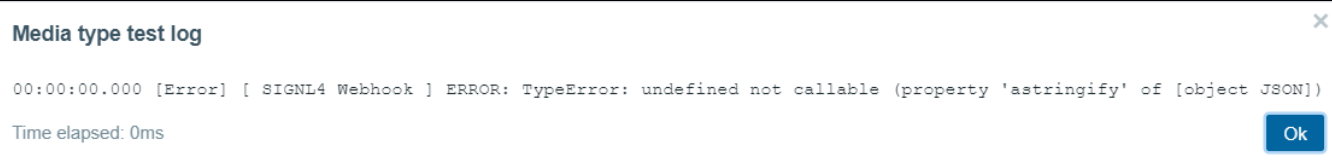
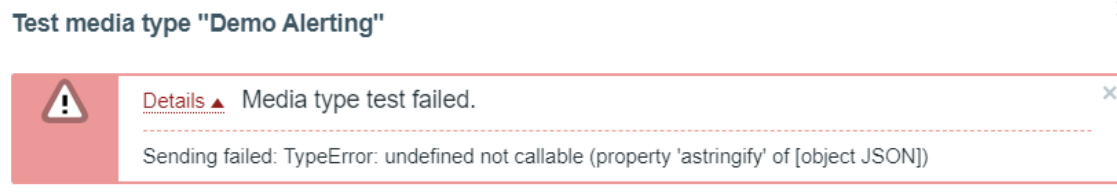
  return 'OK';
}
```

Entwicklung und Debugging

Debugging:

- Test
- Logs
- Request Bin
- In andere Media Types schauen
- Zabbix Dokumentation 

```
Zabbix.log(3, '[ SIGNAL4 Webhook ] ERROR: ' + error);
```



Magic mit Webhooks

- Nachrichten und URLs kreieren
- Alarm schließen
- Alarm-Anreicherung
- KB, Suche, ChatGPT
- Message / Auto-Ack

```
// Add Link parameter  
params['Link'] = params.Zabbix_URL +  
"tr_events.php?triggerid="+params.Trigger_ID +  
"&eventid=" + params.Event_ID;
```

```
// {EVENT.VALUE}: 1 for problem, 0 for recovering  
if (params.event_value == '0') {  
    params['X-S4-Status'] = 'resolved';  
}  
else {  
    params['X-S4-Status'] = 'new';  
}
```

Export / Import

| | | | |
|--------------------------|-------------------------|---------|----------|
| <input type="checkbox"/> | SolarWinds Service Desk | Webhook | Disabled |
| <input type="checkbox"/> | SysAid | Webhook | Disabled |
| <input type="checkbox"/> | Telegram | Webhook | Disabled |
| <input type="checkbox"/> | TOPdesk | Webhook | Disabled |
| <input type="checkbox"/> | VictorOps | Webhook | Disabled |
| <input type="checkbox"/> | Zammad | Webhook | Disabled |
| <input type="checkbox"/> | Zendesk | Webhook | Disabled |

2 selected Enable Disable Export Delete

- YAML
- XML
- JSON

Status Updates (Zabbix API)

The ZABBIX logo consists of the word "ZABBIX" in a bold, white, sans-serif font, centered within a solid red rectangular background.

- Automation Tools
- Graphing Tools
- Notification Systems ←
- Ticketing Systems
- Configuration Management
- Custom Systems

Status Updates (Zabbix API)

Status-Updates in Zabbix.

- Authentication
- Acknowledge
- Close
- Message
- ...

```
# Acknowledge a problem in Zabbix, action 2 ack + 4 message  
POST http://192.168.2.227/api_jsonrpc.php  
Content-Type: application/json-rpc
```

```
{  
  "jsonrpc": "2.0",  
  "method": "event.acknowledge",  
  "params": {  
    "eventids": "134",  
    "action": 6,  
    "message": "I will take care."  
  },  
  "auth": "*****",  
  "id": 1  
}
```

http://192.168.2.227/tr_events.php?triggerid=23605&eventid=134

Status Updates mit CURL

```
ron@RON: ~  
ron@RON:~$ curl -XPOST -H "Content-type: application/json" -d '{  
  "jsonrpc": "2.0",  
  "method": "event.acknowledge",  
  "params": {  
    "eventids": "134",  
    "action": 6,  
    "message": "I will take care."  
  },  
  "auth": "b4ffbb4dc9b36e32cf66f6773299a1f49266cfe25e530f81e8e0b8f68968cd76",  
  "id": 1  
' 'http://192.168.2.227/api_jsonrpc.php'  
{ "jsonrpc": "2.0", "result": { "eventids": [134] }, "id": 1 }  
ron@RON:~$
```

curlbuilder.com

Status Updates (Zabbix API)

Event details

Trigger details

| | |
|---------------------|---|
| Host | My-Host-2 |
| Trigger | Linux: Zabbix agent is not available |
| Severity | Average |
| Problem expression | max(/My-Host-2/zabbix[host_agent,available],3m)=0 |
| Recovery expression | |
| Event generation | Normal |
| Allow manual close | Yes |
| Enabled | Yes |

Event details

| | |
|------------------|---|
| Event | Linux: Zabbix agent is not available (for 3m) |
| Operational data | not available (0) |
| Severity | Average |
| Time | 2023-11-17 14:59:31 |
| Acknowledged | Yes |

Actions

| Step | Time | User/Recipient | Action | Message/Command | Status | Info |
|------|---------------------|---------------------------------------|--------|--|--------|---|
| | 2023-11-17 15:05:32 | Admin (Zabbix Administrator) | ✓ | I will take care. | | |
| 1 | 2023-11-17 14:59:34 | Admin (Zabbix Administrator) vbguzfsi | ✉ | Problem: Linux: Zabbix agent is not available (for 3m) | Sent | Problem started at 14:59:31 on 2023.11.17 Problem name: Linux: Zabbix agent is not available (for 3m) Host: My-Host-2 Severity: Average Operational data: not available (0) Original problem ID: 134 |
| | 2023-11-17 14:59:31 | | 📅 | | | |

Event list [previous 20]

| Time | Recovery time | Status | Age | Duration | Update | Actions |
|---------------------|---------------|---------|-------|----------|--------|---------|
| 2023-11-17 14:59:31 | | PROBLEM | 6m 5s | 6m 5s | Update | ✓ 1 2 |

SIGNAL4 Alerting

| | | | |
|-------------------------------------|------------|---------|--|
| <input type="checkbox"/> | ServiceNow | Webhook | Disabled |
| <input checked="" type="checkbox"/> | SIGNAL4 | Webhook | Enabled Report problems to Zabbix administrators |
| <input type="checkbox"/> | Slack | Webhook | Disabled |
| <input type="checkbox"/> | SMS | SMS | Disabled |

Event details

Trigger details

Host: My-Host-2

Trigger: [Linux: Zabbix agent is not available](#)

Severity: Average

Problem expression: `max(/My-Host-2/zabbix{host_agent_available},3m)=0`

Recovery expression:

Event generation: Normal

Allow manual close: Yes

Enabled: Yes

Event details

Event: Linux: Zabbix agent is not available (for 3m)

Operational data: not available (0)

Severity: Average

Time: 2023-11-17 14:59:31

Acknowledged: Yes

Actions

| Step | Time | User/Recipient | Action | Message/Command | Status | Info |
|------|---------------------|---------------------------------------|-------------------------------------|--|--------|--|
| | 2023-11-17 15:05:32 | Admin (Zabbix Administrator) | <input checked="" type="checkbox"/> | I will take care | | |
| 1 | 2023-11-17 14:59:34 | Admin (Zabbix Administrator) vbguzfs/ | <input checked="" type="checkbox"/> | Problem: Linux: Zabbix agent is not available (for 3m) | Sent | <p>Problem started at 14:59:31 on 2023.11.17</p> <p>Problem name: Linux: Zabbix agent is not available (for 3m)</p> <p>Host: My-Host-2</p> <p>Severity: Average</p> <p>Operational data: not available (0)</p> <p>Original problem ID: 134</p> |
| | 2023-11-17 14:59:31 | | <input type="checkbox"/> | | | |

Event list [previous 20]

| Time | Recovery time | Status | Age | Duration | Update | Actions |
|---------------------|---------------|---------|-------|----------|--------|---|
| 2023-11-17 14:59:31 | | PROBLEM | 6m 5s | 6m 5s | Update | <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |



← [Back] [Alert Icon] [User Profile]

TODAY / 15:59:35

Super SIGNAL4

Problem: Linux: Zabbix agent is not available (for 3m)

Problem started at [14:59:31](#) on [2023.11.17](#)

Problem name: Linux: Zabbix agent is not available (for 3m)

Host: My-Host-2

Severity: Average


Operational data: not available (0)

Original problem ID: [134](#)

ACTIONS

Unack Close Escalate

Weitere Use Cases

- Erstellung / Anpassung von Alarmierungs Media Types
- Alarmierung bei Netzwerk-Ausfall
 - Website Check
 - Heartbeats
- Zusätzliche Funktionalitäten
 - ITSM Tickets erstellen 
 - Tasks (z.B. Server-Restart) anstoßen 
 - Integration mit No-Code Plattformen, z.B. n8n, Make.com, Node-RED
 - Interaktion mit IoT Systemen  



Fragen?

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