



# Linux Monitoring mit Munin

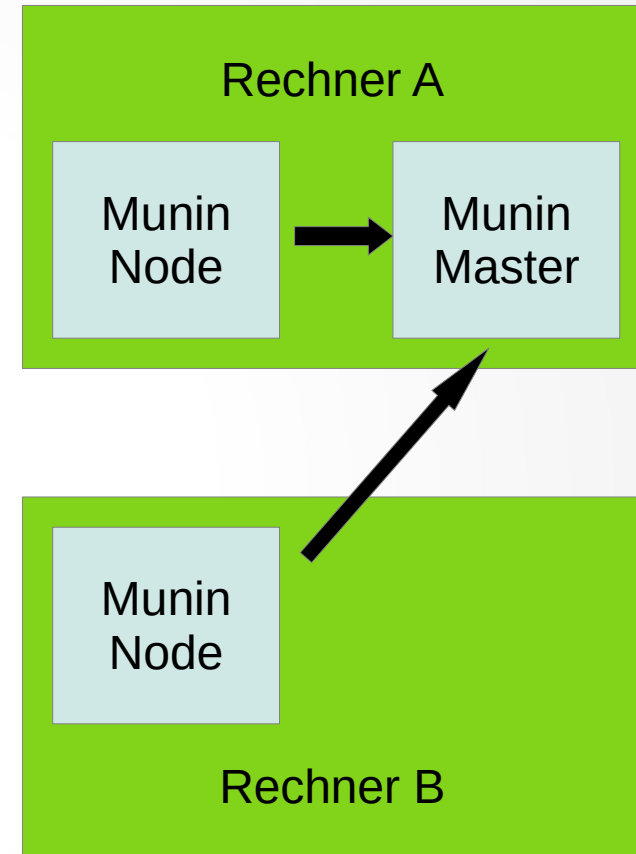
Jan Grosser, TroLUG, 2020/02/06

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# Was ist und kann Munin?

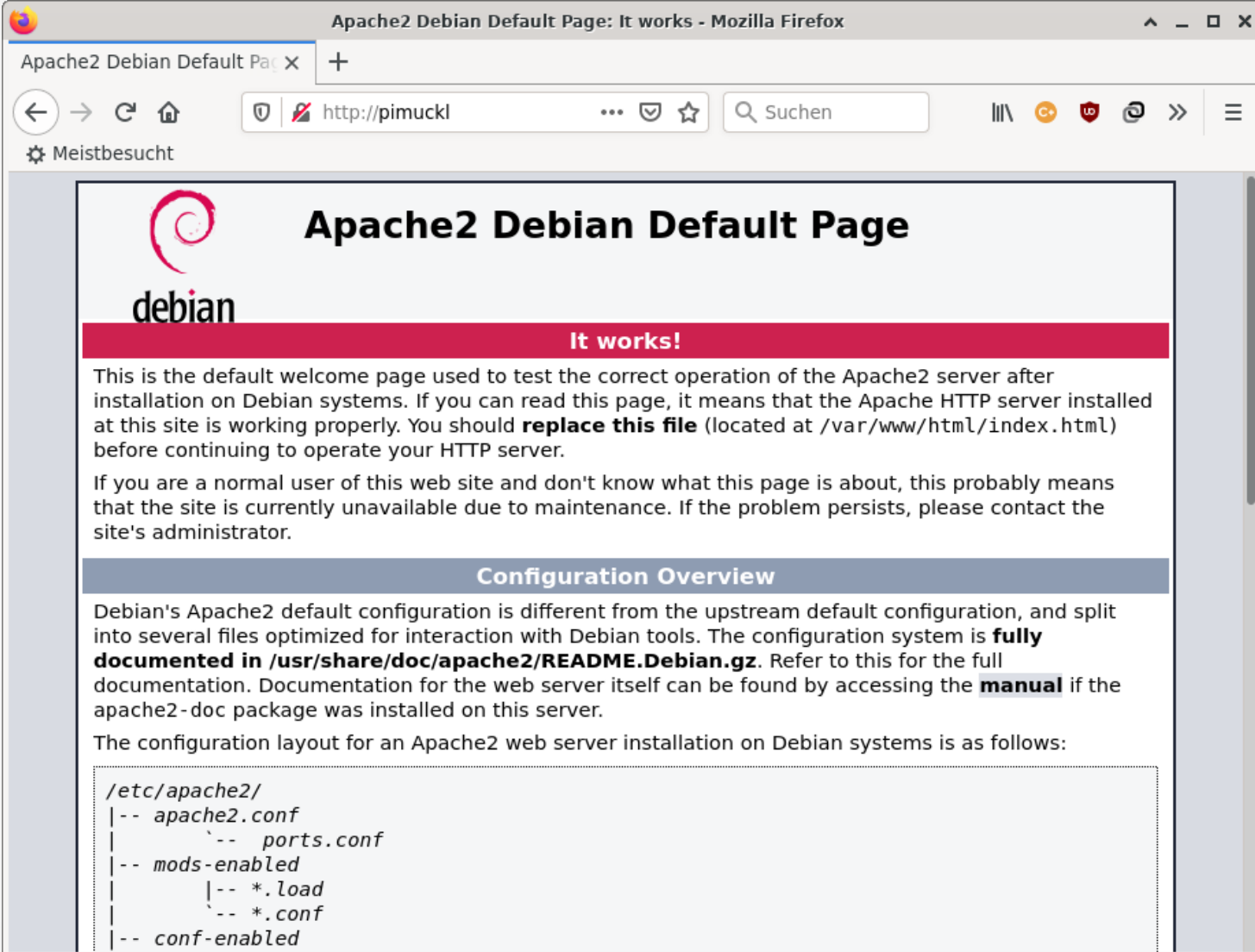
- Linux Monitoring Tool
- <http://munin-monitoring.org/>
- Geringe Systemanforderungen
- Sehr einfach erweiterbar
- Weboberfläche mit Diagrammen
- Master/Node Architektur
- Daten werden in RRD ([Link](#)) Datenbanken gespeichert



# Vorbereitung

- RaspberryPi 3 B+
- Raspbian Buster Lite, 2019-09-26, Kernel 4.19 ([Link](#))
- SSH Server für Headless Betrieb aktivieren ([Link](#))
- `# sudo apt-get install apache2 vim tmux htop`
- Buster Backports einbinden ([Link](#), [Link](#))
  - `# sudo echo „deb http://deb.debian.org/debian \`  
`buster-backports main“ >> \`  
`/etc/apt/sources.d/backports.list`
  - `# sudo apt-key adv --keyserver keyserver.ubuntu.com \`  
`--recv-keys 04EE7237B7D453EC 648ACFD62`
  - `# sudo apt-get update`
- `# sudo apt-get install -t buster-backports tmate`

# Vorbereitung




Apache2 Debian Default Page: It works - Mozilla Firefox

Apache2 Debian Default Page x +

← → ↻ 🏠 🔒 http://pimuckl ... 🛡️ ☆ 🔍 Suchen

⚙️ Meistbesucht

## Apache2 Debian Default Page



### It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

### Configuration Overview

Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Debian systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
```

# Munin installieren

```
# sudo apt-get install munin munin-node
```

# Apache konfigurieren

Datei: /etc/apache2/conf-available/munin.conf

...

```
<Directory /var/cache/munin/www>
    #Require local
    AuthType Basic
    AuthName "Munin - Restricted Server Statistics"
    AuthUserFile /var/www/passwd/passwords
    Require valid-user
    Options None
</Directory>
```

```
<Directory /usr/lib/munin/cgi>
    #Require local
    Require all granted
    ...
</Directory>
```

...

# Apache konfigurieren

```
# sudo mkdir -p /var/www/passwd/  
# sudo htpasswd -c \  
    /var/www/passwd/passwords munin  
# sudo a2enmod cgid  
# sudo systemctl restart apache2
```



# Munin Node konfigurieren

Datei: /etc/munin/munin-node.conf

...

```
# host_name localhost.localdomain
```

```
host_name pimuckl
```

...

- Ggf. Zeile mit „allow <IP>“ hinzufügen

# Munin Master konfigurieren

Datei: /etc/munin/munin.conf

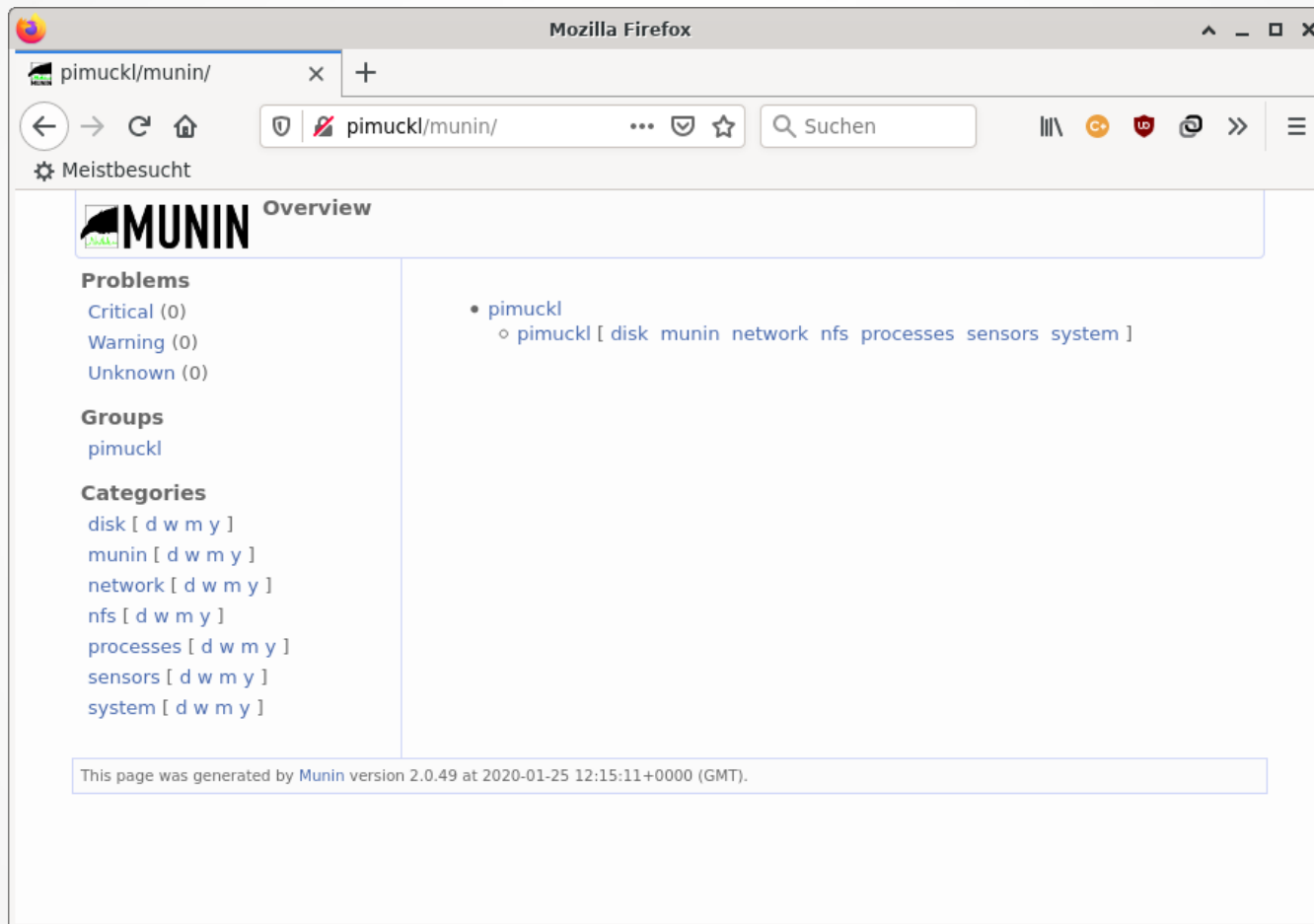
```
...  
#[localhost.localdomain]  
[pimuckl]  
    address 127.0.0.1  
    use_node_name yes  
...
```

# Munin Master & Node neu starten

```
# sudo systemctl restart munin
# sudo systemctl enable munin
# sudo systemctl restart munin-node
# sudo systemctl enable munin-node
```

# Munin Weboberfläche

<http://pimuckl.local/munin>



# Dateien/Verzeichnisse

- `/var/log/munin` – Log-Dateien
- `/var/lib/munin/` – RRD Datenbanken
- `/etc/munin` – Config
- `/etc/munin/plugins` – Aktivierte Plugins
- `/etc/munin/plugin-conf.d/` – Plugin Config
- `/usr/share/munin/plugins` – Plugins
- `/usr/local/munin/plugins` – Eigene Plugins

# Code Plugin

Datei /usr/local/munin/plugin/christmas

```
#!/bin/bash
```

```
# Wann ist Weihnachten?
```

```
christmas=${christmas:-"24-Dec"}
```

```
# Falls Argument "config" uebergeben, dann Konfigurations-
```

```
# Parameter ausgeben und beenden
```

```
if [[ "$1" == "config" ]]; then
```

```
    echo "graph_title Tage bis Weihnachten"
```

```
    echo "graph_args --base 1000"
```

```
    echo "graph_scale no"
```

```
    echo "graph_vlabel Tage"
```

```
    echo "graph_category deadlines"
```

```
    echo "christmas.label christmas"
```

```
    exit 0
```

```
fi;
```

```
# Tage bis Weihnachten ausgeben
```

```
heute=`date +%j`
```

```
xmas=`date -d $christmas +%j`
```

```
echo "christmas.value $((($xmas-$heute))"
```

# Plugin testen und aktivieren

```
# sudo ln -s /usr/local/munin/plugins/christmas \
/etc/munin/plugins/christmas
```

```
# sudo munin-run -d christmas
```

```
# sudo munin-run -d christmas config
```

```
# sudo systemctl restart munin-node
```

# Plugin in Aktion

Munin :: pimuckl :: pimuckl :: christmas - Mozilla Firefox

192.168.2.134/munin/pimuckl/pimuckl/christmas.html

## MUNIN Overview :: pimuckl :: pimuckl :: christmas

**Problems**  
Critical (0)  
Warning (0)  
Unknown (0)

**Groups**  
pimuckl

**Categories**  
**deadlines [ d w m y ]**  
disk [ d w m y ]  
munin [ d w m y ]  
network [ d w m y ]  
nfs [ d w m y ]  
processes [ d w m y ]  
sensors [ d w m y ]  
system [ d w m y ]

### Tage bis Weihnachten - by day

■ christmas  
Cur: 332.00 Min: 332.00 Avg: 332.31 Max: 333.00  
Last update: Sun Feb 2 22:50:06 2020  
Munin 2.0.49

### Tage bis Weihnachten - by week

■ christmas  
Cur: 332.00 Min: 332.00 Avg: 334.29 Max: 337.00  
Last update: Sun Feb 2 22:30:05 2020  
Munin 2.0.49

### Tage bis Weihnachten - by month

■ christmas  
Cur: 332.00 Min: 332.00 Avg: 334.31 Max: 337.00  
Last update: Sun Feb 2 22:00:06 2020  
Munin 2.0.49

### Tage bis Weihnachten - by year

■ christmas  
Cur: 333.00 Min: 332.02 Avg: 334.50 Max: 336.00  
Last update: Sun Feb 2 00:00:06 2020  
Munin 2.0.49

Field	Internal name	Type	Warn	Crit	Info
christmas	christmas	gauge			

Overview :: pimuckl :: pimuckl :: Deadlines :: christmas  
This page was generated by Munin version 2.0.49 at 2020-02-02 22:50:11+0000 (GMT).



**Vielen Dank!**

# RRD Dateien auslesen

```
cd /usr/lib/munin/pimuckl/  
rrdtool info pimuckl-cpuspeed-cpu0-d.rrd  
rrdtool fetch pimuckl-cpuspeed-cpu0-d.rrd  
LAST
```