

bytecluster0001

bytecluster0001 ist ein virtueller Server, der Kommunikationsdienste für den Verein bereitstellt. Der Server wurde von der Firma Hetzner Online GmbH dankenswerter Weise zur Verfügung gestellt.

Administratoren

- [mape2k](#)
- [mkzero](#)
- [suicider](#)
- [hipposen](#)

Benutzer

- Bernd (Webseiten)

IPs /DNS

- bytecluster0001.bytespeicher.org
 - 88.198.111.196
 - 2a01:4f8:c17:1214::2

Installation

- Debian 8.2 minimal

User / Gruppen

- mkzero → sudo
- marcel → sudo
- maddi → sudo
- stephan → sudo
- bernd → sudo für www-data
- bytebot
- twitterstatus
- twitterstatus-ms
- spacestatus
- redmine
- ffapi
- synapse

Pakete

- zsh
- git
- screen
- mosh (SSH via UDP)
- python
- mc
- debian-goodies

Netzwerk

Skript für IPv6-Adressen (benötigt für Matrix-IRC-Bridge)

```
/usr/local/bin/manage_ipv6_addresses.sh
```

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

```

ACTION=$1
BASEADDR=$2
NETMASK=$3
COUNT=$4
INTERFACE=$5

for i in $(seq 1 $COUNT); do
  ip -6 address $ACTION $(printf "%s:%04x/%s" $BASEADDR $i $NETMASK) dev $INTERFACE
done

```

- **chmod +x /usr/local/bin/manage_ipv6_addresses.sh**

Konfiguration

/etc/network/interfaces

```

# Loopback device:
auto lo
iface lo inet loopback

# device: eth0
auto eth0
iface eth0 inet dhcp

iface eth0 inet6 static
  address 2a01:4f8:c17:1214::2
  netmask 64
  gateway fe80::1
# 128 IPv6-Adressen mit Prefix "2a01:4f8:c17:1214::1/64" anlegen
post-up /usr/local/bin/manage_ipv6_addresses.sh add 2a01:4f8:c17:1214::1 64 128 eth0
pre-down /usr/local/bin/manage_ipv6_addresses.sh delete 2a01:4f8:c17:1214::1 64 128 eth0

```

Konfiguration SSH

- HostKey DSA entfernt
- PermitRootLogin no
- PasswordAuthentication no

/etc/motd

```

|_ ) \ / / / - | _ / _ | | _ \ | _ / _ | | | _ | _ \
|_ \ \ V / | | | _ \ \ \ | | | | | | | | | | | | | | | | | | | | | |
| | ) | | | | | | | | | | | | | | | | | | | | | | | |
|_ / | | | | | | | | | | | | | | | | | | | | | | | |

```

> BYTECLUSTER0001

SUDO

- Administrative Benutzer sind Mitglied der Gruppe „sudo“

IPTABLES

- iptables-persistent

/etc/iptables/rules.v4

```
*filter
:INPUT DROP [0:0]
:FORWARD DROP [0:0]
:OUTPUT ACCEPT [0:0]

# Already opened connections
-A INPUT -m state --state RELATED,ESTABLISHED -j ACCEPT

# Garbage
-A INPUT -m state --state INVALID -j DROP

# Ping
-A INPUT -p icmp -m icmp --icmp-type 8 -j ACCEPT

# Localhorst
-A INPUT -s 127.0.0.0/8 -j ACCEPT

# Turnserver
-A INPUT -p udp -m udp --dport 3478 -j ACCEPT
-A INPUT -p udp -m udp --dport 5349 -j ACCEPT
-A INPUT -p udp -m udp --dport 49152:59999 -j ACCEPT

# SSH / mosh
-A INPUT -p tcp -m tcp --dport 22 -j ACCEPT
-A INPUT -p udp -m udp --dport 60000:60008 -j ACCEPT

# Webserver
-A INPUT -p tcp -m tcp --dport 80 -j ACCEPT
-A INPUT -p tcp -m tcp --dport 443 -j ACCEPT

# Mail
-A INPUT -p tcp --dport 25 -j ACCEPT
-A INPUT -p tcp --dport 110 -j ACCEPT
-A INPUT -p tcp --dport 143 -j ACCEPT
-A INPUT -p tcp --dport 465 -j ACCEPT
-A INPUT -p tcp --dport 587 -j ACCEPT
-A INPUT -p tcp --dport 993 -j ACCEPT
-A INPUT -p tcp --dport 995 -j ACCEPT
-A INPUT -p tcp --dport 2000 -j ACCEPT
-A INPUT -p tcp --dport 4190 -j ACCEPT

# Matrix
-A INPUT -p tcp -m tcp --dport 8008 -j ACCEPT
-A INPUT -p tcp -m tcp --dport 8448 -j ACCEPT
COMMIT
```

/etc/iptables/rules.v6

```
*filter
:INPUT DROP [0:0]
:FORWARD DROP [0:0]
:OUTPUT ACCEPT [0:0]

# Localhorst
-A INPUT -i lo -j ACCEPT

# Piing
-A INPUT -p ipv6-icmp -j ACCEPT
```

```

# Already opened connections
-A INPUT -m state --state RELATED,ESTABLISHED -j ACCEPT

# Garbage
-A INPUT -m state --state INVALID -j DROP

# Turnserver
-A INPUT -p udp -m udp --dport 3478 -j ACCEPT
-A INPUT -p udp -m udp --dport 5349 -j ACCEPT
-A INPUT -p udp -m udp --dport 49152:59999 -j ACCEPT

# SSH / mosh
-A INPUT -p tcp -m tcp --dport 22 -j ACCEPT
-A INPUT -p udp -m udp --dport 60000:60008 -j ACCEPT

# Webserver
-A INPUT -p tcp -m tcp --dport 80 -j ACCEPT
-A INPUT -p tcp -m tcp --dport 443 -j ACCEPT

# Mail
-A INPUT -p tcp --dport 25 -j ACCEPT
-A INPUT -p tcp --dport 110 -j ACCEPT
-A INPUT -p tcp --dport 143 -j ACCEPT
-A INPUT -p tcp --dport 465 -j ACCEPT
-A INPUT -p tcp --dport 587 -j ACCEPT
-A INPUT -p tcp --dport 993 -j ACCEPT
-A INPUT -p tcp --dport 995 -j ACCEPT
-A INPUT -p tcp --dport 2000 -j ACCEPT
-A INPUT -p tcp --dport 4190 -j ACCEPT

# Matrix
-A INPUT -p tcp -m tcp --dport 8008 -j ACCEPT
-A INPUT -p tcp -m tcp --dport 8448 -j ACCEPT
COMMIT

```

MySQL/MariaDB

- mariadb-server

/etc/mysql/my.cnf.patch

```

--- /etc/mysql/my.cnf.dist 2015-11-04 22:19:31.589007928 +0100
+++ /etc/mysql/my.cnf 2015-11-04 22:19:31.577007958 +0100
@@ -36,6 +36,9 @@
 skip-external-locking

 bind-address          = 127.0.0.1
+
+default_storage_engine = InnoDB
+
#
# * Fine Tuning
#
@@ -68,6 +71,22 @@
 #long_query_time = 2
 #log_queries_not_using_indexes

+table_cache          = 500
+query_cache_limit    = 4M
+query_cache_size     = 128M

```

```

+
+# INNODB PERFORMANCE
+innodb_buffer_pool_size      = 256M
+innodb_log_buffer_size      = 8M
+innodb_log_file_size        = 128M
+
+innodb_log_files_in_group    = 2
+innodb_flush_log_at_trx_commit = 2
+innodb_flush_method          = 0_DIRECT
+innodb_file_per_table
+
+innodb_thread_concurrency    = 8
+
[mysqldump]
quick
quote-names

```

NGINX

- nginx

/etc/nginx/conf.d/ssl.conf

```

ssl_protocols TLSv1.2;
ssl_prefer_server_ciphers on;

ssl_ciphers "EECDH+AESGCM:EDH+AESGCM:AES256+EECDH:AES256+EDH:!AES128";
ssl_ecdh_curve secp384r1; # Requires nginx >= 1.1.0

ssl_session_cache shared:SSL:10m;
ssl_session_timeout 10m;

ssl_session_tickets off; # Requires nginx >= 1.5.9
ssl_stapling on; # Requires nginx >= 1.3.7
ssl_stapling_verify on; # Requires nginx => 1.3.7

#add_header Strict-Transport-Security "max-age=63072000; includeSubdomains; preload";
add_header X-Frame-Options DENY;
add_header X-Content-Type-Options nosniff;

resolver 213.133.98.98 213.133.99.99 valid=300s;
resolver_timeout 5s;

```

/etc/nginx/patch

```

diff -Naur /etc/nginx.dist/nginx.conf /etc/nginx/nginx.conf
--- /etc/nginx.dist/nginx.conf 2014-12-01 12:12:00.000000000 +0100
+++ /etc/nginx/nginx.conf 2015-11-04 22:42:03.837950276 +0100
@@ -30,8 +30,8 @@
 # SSL Settings
 ##

- ssl_protocols TLSv1 TLSv1.1 TLSv1.2; # Dropping SSLv3, ref: P00DLE
- ssl_prefer_server_ciphers on;
+ #ssl_protocols TLSv1 TLSv1.1 TLSv1.2; # Dropping SSLv3, ref: P00DLE
+ #ssl_prefer_server_ciphers on;

##
 # Logging Settings

```

```
@@ -45,7 +45,7 @@
##

gzip on;
- gzip_disable "msie6";
+ #gzip_disable "msie6";

# gzip_vary on;
# gzip_proxied any;
```

Let's Encrypt (SSL-Zertifikate)

Installation

- ***useradd letsencrypt -m -G www-data***
- ***su - letsencrypt***
- ***git clone <https://github.com/lukas2511/letsencrypt.sh>***
- ***cd letsencrypt.sh***
- ***cp docs/examples/* ./***
- ***chmod ug+x hook.sh***
- ***mkdir /home/letsencrypt/letsencrypt.sh/.acme-challenges***

/etc/sudoers.d/letsencrypt

```
# Allow reload of NGINX
letsencrypt ALL=NOPASSWD: /bin/systemctl reload nginx.service
# Allow restart of Postfix/Dovecot
letsencrypt ALL=NOPASSWD: /bin/systemctl restart postfix.service
letsencrypt ALL=NOPASSWD: /bin/systemctl restart dovecot.service
```

Konfiguration Let's Encrypt-Client

/home/letsencrypt/letsencrypt.sh/config

```
CA="https://acme-v01.api.letsencrypt.org/directory"
...
CHALLENGETYPE="http-01"
...
KEYSIZE="4096"
...
HOOK=${SCRIPTDIR}/hook.sh
...
RENEW_DAYS="60"
...
PRIVATE_KEY_RENEW="yes"
...
KEY_ALGO=rsa
...
CONTACT_EMAIL=hostmaster@bytespeicher.org
```

/home/letsencrypt/letsencrypt.sh/hook.sh

```
function deploy_cert {
    # Reload NGINX
    sudo /bin/systemctl reload nginx.service
```

```
# Copy erfurt.chat-Certificate/Key to synapse-directory
if [ ${DOMAIN} = "erfurt.chat" ]; then
  cp -L ${KEYFILE} /home/synapse/ssl/
  cp -L ${CERTFILE} /home/synapse/ssl/
  cp -L ${FULLCHAINFILE} /home/synapse/ssl/
  chgrp synapse /home/synapse/ssl/*.pem
  chmod 640 /home/synapse/ssl/*.pem
fi

# Restart Postfix/Dovecot
[ ${DOMAIN} = "mail.bytespeicher.org" ] && (sudo /bin/systemctl restart postfix.service;
sudo /bin/systemctl restart dovecot.service)
}
```

Konfiguration NGINX

/etc/nginx/snippets/letsencrypt.conf

```
# Use acme-challenge directory from letsencrypt.sh
location ^~ /.well-known/acme-challenge/ {
  default_type "text/plain";
  alias /home/letsencrypt/letsencrypt.sh/.acme-challenges/;
}

# Hide using ACME-Client
location = /.well-known/acme-challenge/ {
  return 404;
}
```

/etc/crontab

```
# Let's Encrypt
23 4 * * * letsencrypt /home/letsencrypt/letsencrypt.sh/letsencrypt.sh -c >
/home/letsencrypt/letsencrypt.log 2>&1
```

Verwendung des LetsEncrypt Client für eine neue Domain

Pro Zertifikat können mehrere Domains/Subdomains integriert werden. Diese müssen in der domains.txt in einer Zeile stehen.

1. Let's Encrypt ACME-Challenge-Verifikation im VHost aktivieren

/etc/nginx/sites-available/example.org

```
server {
  ...
  include snippets/letsencrypt.conf;
  ...
}
```

2. Domain eintragen und Zertifikat erzeugen

/home/letsencrypt/letsencrypt.sh/domains.txt

```
example.org www.example.org
```

- o **su - letsencrypt**
- o **cd letsencrypt.sh**

- **`./letsencrypt.sh -c`**
- 3. Verbindung als Nutzer beenden
 - **`exit`**
- 4. DH-Parameter erstellen
 - **`mkdir /etc/ssl/example.org`**
 - **`openssl dhparam -out /etc/ssl/example.org/dhparam.pem 4096`**
- 5. SSL mit HSTS aktivieren und SSL-Zertifikate im NGINX einbinden

`/etc/nginx/sites-available/example.org`

```
server {
    ...
    ssl on;

    add_header Strict-Transport-Security "max-age=31536000";
    add_header X-Frame-Options SAMEORIGIN;

    ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/example.org/fullchain.pem;
    ssl_certificate_key /home/letsencrypt/letsencrypt.sh/certs/example.org/privkey.pem;
    ssl_dhparam /etc/ssl/example.org/dhparam.pem;

    ssl_trusted_certificate
    /home/letsencrypt/letsencrypt.sh/certs/example.org/fullchain.pem;
    ...
}
```

- 6. NGINX neuladen
 - **`systemctl reload nginx.service`**

User-Agent-Filter

`/etc/nginx/snippets/filter_useragents.conf`

```
### Block Mastodon
if ($http_user_agent ~* (Mastodon)) {
    return 403;
}
```

PHP

- `php5-fpm`
- `php5-curl`
- `php5-imap`
- `php5-gd`
- `php5-intl`
- `php5-mcrypt`
- `php5-json`
- `php5-mysqlnd`
- `php5-memcached`
- `php5-xmlrpc`

`/etc/php5/fpm/conf.d/50-local.ini`

```
[Date]
date.timezone = "Europe/Berlin"

[PHP]
upload_max_filesize = 64M
```

```
post_max_size = 64M
```

Ruby

- ruby

Bytebot

Pakete:

- python-pip
- virtualenv
- python-dev (virtualenv build dep)
- libjpeg-dev (virtualenv build dep)
- zlib1g-dev (virtualenv build dep)
- libffi-dev (virtualenv build dep)
- libssl-dev (virtualenv build dep)

Installation:

/etc/systemd/system/bytebot.service

```
[Unit]
Description=Bytespeicher IRC bot
After=network-online.target
After=syslog.service
Requires=network-online.target
Requires=syslog.service

[Service]
User=bytebot
Group=bytebot
Restart=always
RestartSec=30
ExecStart=/home/bytebot/Bytebot/env/bin/python /home/bytebot/Bytebot/bytebot.py
MemoryLimit=256M

[Install]
WantedBy=multi-user.target
```

- ***sudo -u bytebot /bin/bash***
- ***cd /home/bytebot***
- ***git clone <https://github.com/Bytespeicher/Bytebot>***
- ***cd Bytebot***
- ***virtualenv env***
- ***. env/bin/activate***
- ***pip install -r contrib/requirements.txt***
- ***systemctl enable bytebot.service***
- ***systemctl start bytebot.service***

Twitterstatus / Twitterstatus Makerspace

Die Anleitung ist für „twitterstatus“. Die Einrichtung von „twitterstatus-ms“ erfolgt

Pakete:

- python-pip
- virtualenv

Installation:

- ***useradd -m twitterstatus***
- ***sudo -u twitterstatus /bin/bash***
- ***cd /home/twitterstatus***
- ***mkdir tmp***
- ***git clone https://github.com/Bytespeicher/twitterstatus***
- ***cd twitterstatus***
- ***cp config.py{.example,}***
- ***nano config.py***

~/twitterstatus/config.py

```
OAUTH_TOKEN      = '...'
OAUTH_SECRET     = '...'
CONSUMER_KEY     = '...'
CONSUMER_SECRET  = '...'
ADMIN_NAME       = 'TWITTER_ACCOUNT_NAME_OF_ADMIN'
STATUS_FILE      = '/home/twitterstatus/tmp/twitter_old_status'
CURRENT_STATUS   = '/home/twitterstatus/tmp/status.json'
```

- ***virtualenv env***
- ***. env/bin/activate***
- ***pip install Twitter***
- ***exit***

/etc/systemd/system/twitterstatus.service

```
[Unit]
Description=Bytespeicher Twitter status bot
After=network-online.target
After=syslog.service
Requires=network-online.target
Requires=syslog.service

[Service]
User=twitterstatus
Group=twitterstatus
Restart=always
RestartSec=60
ExecStart=/home/twitterstatus/twitterstatus/env/bin/python
/home/twitterstatus/twitterstatus/bytebot.py
MemoryLimit=64M

[Install]
WantedBy=multi-user.target
```

- ***systemctl enable twitterstatus.service***
- ***systemctl start twitterstatus.service***
- ***crontab -u twitterstatus -e***

crontab -u twitterstatus -e

```
MAILTO=""
* * * * * /usr/bin/wget http://status.bytespeicher.org/status.json -O
/home/twitterstatus/tmp/status.json
```

Freifunk-API

Pakete

- python

Installation

- `mkdir -p /var/www/api.erfurt.freifunk.net/public_html/`
- `touch /var/www/api.erfurt.freifunk.net/public_html/freifunk-api.json`
- `chown -R www-data:www-data /var/www/api.erfurt.freifunk.net/`
- `chmod -R g+w /var/www/api.erfurt.freifunk.net/`
- `useradd -m -G www-data ffapi`
- `sudo -u ffapi /bin/bash`
- `cd /home/ffapi`
- `git clone https://github.com/FreifunkErfurt/ffapi`
- `git clone https://github.com/FreifunkErfurt/scripts/ffapi-update`
- `cp ffapi-update/ffapi/config.py.example ffapi-update/ffapi/config.py`

Konfiguration

~/ffapi-update/ffapi/config.py

```
BASE_URL = 'http://map.erfurt.freifunk.net'  
API_FILE_TEMPLATE = "/home/ffapi/ffapi/ff-erfurt.json"  
API_FILE = "/var/www/api.erfurt.freifunk.net/public_html/freifunk-api.json"
```

Test

- `ffapi-update/ffapi/ffapi-update.py`

ffapi-update/ffapi/ffapi-update.py

```
Update of /var/www/api.erfurt.freifunk.net/public_html/freifunk-api.json successful.  
We now have 146 Nodes
```

- `logout`

Konfiguration Webserver

/etc/nginx/sites-available/api.erfurt.freifunk.net

```
server {  
    listen      80;  
    listen [::]:80;  
    listen      443 ssl;  
    listen [::]:443 ssl;  
  
    server_name api.erfurt.freifunk.net;  
  
    include snippets/letsencrypt.conf;  
    if ($scheme != "https") {  
        rewrite ^ https://$host$uri permanent;  
    }  
  
    ssl on;  
  
    add_header Strict-Transport-Security "max-age=31536000";  
    add_header X-Frame-Options SAMEORIGIN;
```

```

ssl_certificate
/home/letsencrypt/letsencrypt.sh/certs/api.erfurt.freifunk.net/fullchain.pem;
ssl_certificate_key
/home/letsencrypt/letsencrypt.sh/certs/api.erfurt.freifunk.net/privkey.pem;
ssl_dhparam /etc/ssl/api.erfurt.freifunk.net/dhparam.pem;

ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/api.erfurt.freifunk.net/fullchain.pem;

gzip on;
gzip_disable "msie6";

gzip_vary on;
gzip_proxied any;
gzip_comp_level 6;
gzip_buffers 16 8k;
gzip_http_version 1.1;
gzip_types text/plain text/css application/json application/x-javascript text/xml
application/xml application/xml+rss text/javascript;

client_max_body_size 16m;

location / {
    root /var/www/api.erfurt.freifunk.net/public_html/;
    index index.php index.html index.htm;
    autoindex on;
}

access_log /var/log/nginx/api.erfurt.freifunk.net-access.log;
error_log /var/log/nginx/api.erfurt.freifunk.net-error.log;
}

```

- **cd /etc/nginx/sites-enabled/**
- **ln -s ../sites-available/api.erfurt.freifunk.net api.erfurt.freifunk.net**

Aktivierung Webserver

- alle SSL-Direktiven in der Konfiguration müssen kommentiert werden
- **systemctl reload nginx**
- nun muss das Let's Encrypt-Zertifikat nach Anleitung generiert werden
- alle SSL-Direktiven in der Konfiguration müssen wieder entkommentiert werden
- **systemctl reload nginx**

paste.bytespeicher.org

- Datenbank: bs_paste
- Config: /var/www/paste.bytespeicher.org/classes/Config.php

/etc/nginx/sites-available/paste.bytespeicher.org

```

server {
    listen      80;
    listen [::]:80;
    listen      443 ssl;
    listen [::]:443 ssl;

    include snippets/letsencrypt.conf;

    server_name paste.bytespeicher.org;
}

```

```

if ($scheme != "https") {
    rewrite ^ https://$host$uri permanent;
}

ssl on;

add_header Strict-Transport-Security "max-age=31536000";

ssl_certificate
/home/letsencrypt/letsencrypt.sh/certs/paste.bytespeicher.org/fullchain.pem;
ssl_certificate_key
/home/letsencrypt/letsencrypt.sh/certs/paste.bytespeicher.org/privkey.pem;
ssl_dhparam /etc/ssl/paste.bytespeicher.org/dhparam.pem;

ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/paste.bytespeicher.org/fullchain.pem;

root /var/www/paste.bytespeicher.org/;

index index.php;

location / {
    try_files $uri $uri/ index.php;
    if ( !-e $request_filename ) {
        rewrite ^/(.*)$ /index.php;
    }
}
location ~ .php$ {
    fastcgi_pass    unix:/var/run/php5-fpm.sock;
    fastcgi_index   index.php;
    fastcgi_param   SCRIPT_FILENAME /var/www/paste.bytespeicher.org/index.php;
    #fastcgi_param   QUERY_STRING $query_string;
    include         fastcgi_params;
}
location ~* ^.+\. (jpg|jpeg|gif|bmp|ico|png|css|js|swf)$ {
    expires 30d;
    access_log off;
}
}

```

bytespeicher.org

- Datenbank: wp_bs
- Config: /var/www/bytespeicher.org/wp-config.php

/etc/nginx/sites-available/bytespeicher.org

```

server {
    listen 80;
    listen [::]:80;

    server_name www.bytespeicher.org staging.bytespeicher.org bytespeicher.org
radio.bytespeicher.org;

    include snippets/filter_useragents.conf;
    include snippets/letsencrypt.conf;

    if ($host = "radio.bytespeicher.org") {
        rewrite ^ https://bytespeicher.org/category/radio-bytespeicher/ permanent;
    }
}

```

```
location / {
    rewrite /lpd https://bytespeicher.org/2015/linux-presentation-day-2015/ permanent;
    rewrite ^(.*)$ https://bytespeicher.org$1 permanent;
}
}

server {
    listen 443;
    listen [::]:443;

    server_name www.bytespeicher.org;

    include snippets/filter_useragents.conf;

    ssl on;

    add_header Strict-Transport-Security "max-age=31536000";
    add_header X-Frame-Options SAMEORIGIN;

    ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/bytespeicher.org/fullchain.pem;
    ssl_certificate_key /home/letsencrypt/letsencrypt.sh/certs/bytespeicher.org/privkey.pem;
    ssl_dhparam /etc/ssl/bytespeicher.org/bytespeicher.org.pem;

    ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/bytespeicher.org/fullchain.pem;

    location / {
        rewrite /lpd https://bytespeicher.org/2015/linux-presentation-day-2015/ permanent;
        rewrite ^(.*)$ https://bytespeicher.org$1 permanent;
    }
}

server {
    listen 443;
    listen [::]:443;

    server_name bytespeicher.org;

    ssl on;

    add_header Strict-Transport-Security "max-age=31536000";
    add_header X-Frame-Options SAMEORIGIN;

    ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/bytespeicher.org/fullchain.pem;
    ssl_certificate_key /home/letsencrypt/letsencrypt.sh/certs/bytespeicher.org/privkey.pem;
    ssl_dhparam /etc/ssl/bytespeicher.org/bytespeicher.org.pem;

    ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/bytespeicher.org/fullchain.pem;

    gzip on;
    gzip_disable "msie6";

    gzip_vary on;
    gzip_proxied any;
    gzip_comp_level 6;
    gzip_buffers 16 8k;
    gzip_http_version 1.1;
    gzip_types text/plain text/css application/json application/x-javascript text/xml
application/xml application/xml+rss text/javascript;
```

```

client_max_body_size 64m;

location / {
    root    /var/www/bytespeicher.org; # absolute path to your WordPress installation
    index  index.php index.html index.htm;

    rewrite /lpd https://bytespeicher.org/2015/linux-presentation-day-2015/ permanent;

    # this serves static files that exist without running other rewrite tests
    if (-f $request_filename) {
        expires 30d;
        break;
    }

    # this sends all non-existing file or directory requests to index.php
    if (!-e $request_filename) {
        rewrite ^(.+)$ /index.php?q=$1 last;
    }
}

location /piwik/ {
    proxy_pass http://stats.technikkultur-erfurt.de/;
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $remote_addr;
    proxy_set_header X-Forwarded-Host stats.technikkultur-erfurt.de;
}

location /status/ {
    proxy_pass http://status.bytespeicher.org/;
}

location ~ .php$ {
    root /var/www/bytespeicher.org;
    fastcgi_keep_conn off;
    fastcgi_pass    unix:/var/run/php5-fpm.sock;
    fastcgi_index  index.php;
    fastcgi_param  SCRIPT_FILENAME /var/www/bytespeicher.org$fastcgi_script_name;
    include        fastcgi_params;
}
}

```

status.bytespeicher.org

- ***useradd spacestatus -m -G www-data***
- ***sudo -u spacestatus /bin/bash***
- ***cd ~***
- ***git clone https://github.com/Bytespeicher/space-status***
- ***mkdir www***
- ***virtualenv env***
- ***. env/bin/activate***
- ***pip install jinja2***
- ***crontab -e***

crontab

```

# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run

```

```
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow  command
* * * * * /home/spacestatus/space-status/generate_status 1>/dev/null 2>&1
* * * * * /home/spacestatus/space-status/generate_status_html 1>/dev/null 2>&1
```

/etc/nginx/sites-available/status.bytespeicher.org

```
server {
    listen 80;
    listen [::]:80;

    listen 443 ssl;
    listen [::]:443 ssl;

    include snippets/letsencrypt.conf;

    root /home/spacestatus/www;

    index index.html;

    server_name status.bytespeicher.org;

    if ($scheme != "https") {
        rewrite ^ https://$host$uri permanent;
    }

    location / {
        try_files $uri $uri/ =404;
    }

    ssl on;

    add_header Strict-Transport-Security "max-age=31536000";
    add_header X-Frame-Options SAMEORIGIN;
    add_header Access-Control-Allow-Origin *;
    ssl_certificate
/home/letsencrypt/letsencrypt.sh/certs/status.bytespeicher.org/fullchain.pem;
    ssl_certificate_key
/home/letsencrypt/letsencrypt.sh/certs/status.bytespeicher.org/privkey.pem;
    ssl_dhparam /etc/ssl/status.bytespeicher.org/dhparam.pem;

    ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/status.bytespeicher.org/fullchain.pem;
```

```
}
```

makerspace-erfurt.de / fablab-erfurt.de

- Datenbank: makerspace_wp
- Config: /var/www/makerspace-erfurt.de/public_html/wp-config.php

/etc/nginx/sites-available/makerspace-erfurt.de

```
server {
    listen 80;
    listen [::]:80;
    listen 443;
    listen [::]:443;

    server_name makerspace-erfurt.de www.makerspace-erfurt.de fablab-erfurt.de
www.fablab-erfurt.de;

    include snippets/letsencrypt.conf;
    if ($host != "makerspace-erfurt.de") {
        rewrite ^ https://makerspace-erfurt.de$uri permanent;
    }
    if ($scheme != "https") {
        rewrite ^(.*)$ https://makerspace-erfurt.de$1 permanent;
    }

    ssl on;

    add_header Strict-Transport-Security "max-age=31536000";
    add_header X-Frame-Options SAMEORIGIN;

    ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/makerspace-erfurt.de/fullchain.pem;
    ssl_certificate_key /home/letsencrypt/letsencrypt.sh/certs/makerspace-erfurt.de/privkey.pem;
    ssl_dhparam /etc/ssl/makerspace-erfurt.de/dhparam.pem;

    ssl_trusted_certificate /home/letsencrypt/letsencrypt.sh/certs/makerspace-erfurt.de/fullchain.pem;

    gzip on;
    gzip_disable "msie6";

    gzip_vary on;
    gzip_proxied any;
    gzip_comp_level 6;
    gzip_buffers 16 8k;
    gzip_http_version 1.1;
    gzip_types text/plain text/css application/json application/x-javascript text/xml
application/xml application/xml+rss text/javascript;

    client_max_body_size 64m;

    location / {
        root /var/www/makerspace-erfurt.de/public_html; # absolute path to your WordPress
installation
        index index.php index.html index.htm;

        # this serves static files that exist without running other rewrite tests
        if (-f $request_filename) {
            expires 30d;
            break;
        }
    }
}
```

```

    }

    # this sends all non-existing file or directory requests to index.php
    if (!-e $request_filename) {
        rewrite ^(.+)$ /index.php?q=$1 last;
    }
}

location ~ .php$ {
    root /var/www/makerspace-erfurt.de/public_html;
    fastcgi_keep_conn off;
    fastcgi_pass    unix:/var/run/php5-fpm.sock;
    fastcgi_index  index.php;
    fastcgi_param  SCRIPT_FILENAME /var/www/makerspace-
erfurt.de/public_html/$fastcgi_script_name;
    include        fastcgi_params;
}

```

cloud.technikkultur-erfurt.de (Nextcloud)

- Datenbank: makerspace_oc
- Config: /var/www/oc.makerspace-erfurt.de/public_html/config/config.php

/etc/nginx/sites-available/cloud.technikkultur-erfurt.de

```

server {
    listen 80;
    listen [::]:80;
    listen 443 ssl;
    listen [::]:443 ssl;

    server_name cloud.technikkultur-erfurt.de oc.makerspace-erfurt.de;

    include snippets/letsencrypt.conf;

    if ($scheme != "https") {
        return 301 https://$host$request_uri;
    }

    ssl on;

    ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/cloud.technikkultur-
erfurt.de/fullchain.pem;
    ssl_certificate_key /home/letsencrypt/letsencrypt.sh/certs/cloud.technikkultur-
erfurt.de/privkey.pem;
    ssl_dhparam /etc/ssl/cloud.technikkultur-erfurt.de/dhparam.pem;

    ssl_trusted_certificate /home/letsencrypt/letsencrypt.sh/certs/cloud.technikkultur-
erfurt.de/fullchain.pem;

    # Add headers to serve security related headers
    # Before enabling Strict-Transport-Security headers please read into this topic first.
    add_header Strict-Transport-Security "max-age=15552000; includeSubDomains";
    add_header X-Content-Type-Options nosniff;
    add_header X-Frame-Options "SAMEORIGIN";
    add_header X-XSS-Protection "1; mode=block";
    add_header X-Robots-Tag none;
    add_header X-Download-Options noopen;
    add_header X-Permitted-Cross-Domain-Policies none;

```

```
# The following 2 rules are only needed for the user_webfinger app.
# Uncomment it if you're planning to use this app.
#rewrite ^/.well-known/host-meta /public.php?service=host-meta last;
#rewrite ^/.well-known/host-meta.json /public.php?service=host-meta-json last;

location = /.well-known/carddav {
    return 301 $scheme://$host/remote.php/dav;
}
location = /.well-known/caldav {
    return 301 $scheme://$host/remote.php/dav;
}

root    /var/www/oc.makerspace-erfurt.de/public_html/;
index  index.php;

# set max upload size
client_max_body_size 512M;
fastcgi_buffers 64 4K;

# Disable gzip to avoid the removal of the ETag header
gzip off;

# Uncomment if your server is build with the ngx_pagespeed module
# This module is currently not supported.
#pagespeed off;

error_page 403 /core/templates/403.php;
error_page 404 /core/templates/404.php;

location / {
    rewrite ^ /index.php$uri;
}

location ~ ^/(?:(?:build|tests|config|lib|3rdparty|templates|data)/ {
    return 404;
}
location ~ ^/(?!(?:\.|autotest|occ|issue|indie|db_|console) {
    return 404;
}

location ~ ^/(?!(?:index|remote|public|cron|core/ajax/update|status|ocs/v[12]|updater/.+|ocs-provider/.+|core/templates/40[34])\.php(?:$|/)) {
    fastcgi_split_path_info ^(.+\.(php|\.))(/.*)$;
    include fastcgi_params;
    fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
    fastcgi_param PATH_INFO $fastcgi_path_info;
    fastcgi_param HTTPS on;
    fastcgi_param modHeadersAvailable true; #Avoid sending the security headers twice
    fastcgi_param front_controller_active true;
    fastcgi_pass unix:/var/run/php5-fpm.sock;
    fastcgi_index index.php;
    fastcgi_intercept_errors on;
    #fastcgi_request_buffering off;
    fastcgi_keep_conn off;
    include fastcgi_params;
}

location ~ ^/(?!(?:updater|ocs-provider)(?:$|/)) {
    try_files $uri $uri/ =404;
    index index.php;
}
```

```
# Adding the cache control header for js and css files
# Make sure it is BELOW the PHP block
location ~* \.(?:css|js)$ {
    try_files $uri /index.php$uri$is_args$args;
    add_header Cache-Control "public, max-age=7200";
    # Add headers to serve security related headers (It is intended to have those duplicated
to the ones above)
    # Before enabling Strict-Transport-Security headers please read into this topic first.
    add_header Strict-Transport-Security "max-age=15552000; includeSubDomains";
    add_header X-Content-Type-Options nosniff;
    add_header X-Frame-Options "SAMEORIGIN";
    add_header X-XSS-Protection "1; mode=block";
    add_header X-Robots-Tag none;
    add_header X-Download-Options noopen;
    add_header X-Permitted-Cross-Domain-Policies none;
    # Optional: Don't log access to assets
    access_log off;
}

location ~* \.(?:svg|gif|png|html|ttf|woff|ico|jpg|jpeg)$ {
    try_files $uri /index.php$uri$is_args$args;
    # Optional: Don't log access to other assets
    access_log off;
}

location = /robots.txt {
    allow all;
    log_not_found off;
    access_log off;
}

#access_log /var/log/nginx/oc.makerspace-erfurt.de-access.log;
# error_log /var/log/nginx/oc.makerspace-erfurt.de-error.log;
}
```

Redmine

- Datenbank: redmine

Pakete:

- thin
- ruby
- rake
- rubygems
- ruby-mysql2
- ruby-dev
- libmysqlclient-dev
- curl
- rails
- ruby-sass
- ruby-compass

Installation:

/etc/tmpfiles.d/redmine.conf

```
D /run/thin 0755 redmine redmine -
```

/etc/thin/redmine.yml

```
---
chdir: /home/redmine/redmine
environment: production
timeout: 30
log: /var/log/thin/redmine.log
pid: /var/run/thin/redmine.pid
max_conns: 1024
max_persistent_conns: 512
require: []
wait: 30
socket: /var/run/thin/redmine.sock
daemonize: true
user: redmine
group: redmine
servers: 1
prefix: /
```

/etc/systemd/system/redmine.service

```
[Unit]
Description=A fast and very simple Ruby web server
After=syslog.target network.target

[Service]
Type=forking
User=redmine
Group=redmine
Environment="GEM_HOME=~/.redmine/vendor/bundle/"
WorkingDirectory=/home/redmine/redmine
ExecStart=/usr/bin/bundle exec thin start --config /etc/thin/redmine.yml
ExecReload=/usr/bin/bundle exec thin restart --config /etc/thin/redmine.yml
ExecStop=/usr/bin/bundle exec thin stop --config /etc/thin/redmine.yml

[Install]
WantedBy=multi-user.target
```

- **mkdir ~/.redmine**
- **cd ~/.redmine**
- Redmine-Archiv auspacken
- **export GEM_HOME=~/.redmine/vendor/bundle/**
- **cp ~/.redmine/config/configuration.yml.example ~/.redmine/config/configuration.yml**
- **cp ~/.redmine/config/database.yml.example ~/.redmine/config/database.yml**

~/redmine/config/database.yml

```
...
production:
  adapter: mysql2
  database: redmine
  host: localhost
  username: redmine
  password: "XXXX"
  encoding: utf8
...
```

~/redmine/config/configuration.yml

```
...
production:
  email_delivery:
    delivery_method: :smtp
    smtp_settings:
      address: mail.bytespeicher.org
      port: 587
      authentication: :plain
      user_name: 'XXXX'
      password: 'XXXX'
...
```

- ***bundle install -without development test rmagick***
- ***bundle exec rake generate_secret_token***
- ***bundle exec rake db:migrate RAILS_ENV=„production“***
- ***RAILS_ENV=production REDMINE_LANG=de bundle exec rake redmine:load_default_data***
- ***mkdir /run/thin***
- ***chmod 755 /run/thin***
- ***chown redmine:redmine /run/thin***
- ***systemctl enable redmine.service***
- ***systemctl start redmine.service***

/etc/nginx/sites-available/redmine.bytespeicher.org

```
server {
    listen      80;
    listen [::]:80;
    listen      443 ssl;
    listen [::]:443 ssl;

    include snippets/letsencrypt.conf;

    server_name redmine.bytespeicher.org;

    if ($scheme != "https") {
        rewrite ^ https://$host$uri permanent;
    }

    ssl on;

    add_header Strict-Transport-Security "max-age=31536000";

    ssl_certificate
/home/letsencrypt/letsencrypt.sh/certs/redmine.bytespeicher.org/fullchain.pem;
    ssl_certificate_key
/home/letsencrypt/letsencrypt.sh/certs/redmine.bytespeicher.org/privkey.pem;
    ssl_dhparam /etc/ssl/redmine.bytespeicher.org/dhparam.pem;

    ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/redmine.bytespeicher.org/fullchain.pem;

    root /home/redmine/redmine/public;

    client_max_body_size 20m;

    try_files $uri/index.html $uri.html $uri @app;
    location @app {
```

```
include /etc/nginx/proxy_params;
proxy_pass http://unix:/run/thin/redmine.0.sock;
proxy_redirect off;
}
error_page 500 502 503 504 /500.html;
error_page 404 /404.html;
}
```

Dokuwiki

- DocumentRoot: /var/www/technikkultur-erfurt.de/public_html
- Datenverzeichnis: /var/www/technikkultur-erfurt.de/data

/etc/nginx/sites-available/technikkultur-erfurt.de

```
server {

    listen      80;
    listen [::]:80;
    listen      443 ssl;
    listen [::]:443 ssl;

    include snippets/filter_useragents.conf;
    include snippets/letsencrypt.conf;

    server_name technikkultur-erfurt.de www.technikkultur-erfurt.de;

    if ($host = "www.technikkultur-erfurt.de") {
        rewrite ^ https://technikkultur-erfurt.de$uri permanent;
    }

    if ($scheme != "https") {
        rewrite ^ https://$host$uri permanent;
    }

    ssl on;

    add_header Strict-Transport-Security "max-age=31536000";

    ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/example.org/fullchain.pem;
    ssl_certificate_key /home/letsencrypt/letsencrypt.sh/certs/example.org/privkey.pem;
    ssl_dhparam /etc/ssl/example.org/dhparam.pem;

    ssl_trusted_certificate /home/letsencrypt/letsencrypt.sh/certs/example.org/fullchain.pem;

    # Maximum file upload size is 4MB - change accordingly if needed
    client_max_body_size 4M;
    client_body_buffer_size 128k;

    root /var/www/technikkultur-erfurt.de/public_html;
    index doku.php;

    #Remember to comment the below out when you're installing, and uncomment it when done.
    location ~ /(data/|conf/|bin/|inc/|install.php) {
        deny all;
    }

    location / {
        try_files $uri $uri/ @dokuwiki;
    }
}
```

```

location @dokuwiki {
    rewrite ^/_media/(.*) /lib/exe/fetch.php?media=$1 last;
    rewrite ^/_detail/(.*) /lib/exe/detail.php?media=$1 last;
    rewrite ^/_export/([~/]+)/(.*) /doku.php?do=export_$1&id=$2 last;
    rewrite ^/(.*) /doku.php?id=$1&$args last;
}

location ~ /\.php$ {
    fastcgi_pass    unix:/var/run/php5-fpm.sock;
    include         fastcgi_params;
    fastcgi_param  SCRIPT_FILENAME $document_root$fastcgi_script_name;
    fastcgi_param  REDIRECT_STATUS 200;
}
}

```

Pad

- Software: Etherpad-lite
- Datenbank: etherpad-lite

Pakete:

- nodejs
- npm

Plugins:

- ep_pad-lister

Installation:

/etc/systemd/system/etherpad-lite.service

```

[Unit]
Description=etherpad-lite (real-time collaborative document editing)
After=syslog.target network.target

[Service]
Type=simple
User=etherpad
Group=etherpad
ExecStart=/home/etherpad/etherpad/bin/run.sh

[Install]
WantedBy=multi-user.target

```

/etc/nginx/sites-enabled/pad.technikkultur-erfurt.de

```

server {

    listen      80;
    listen [::]:80;
    listen      443 ssl;
    listen [::]:443 ssl;

    server_name pad.technikkultur-erfurt.de;

    if ($scheme != "https") {
        rewrite ^ https://$host$uri permanent;
    }
}

```

```

ssl on;

add_header Strict-Transport-Security "max-age=31536000";

ssl_certificate /etc/ssl/pad.technikkultur-erfurt.de/pad.technikkultur-erfurt.de.pem;
ssl_certificate_key /etc/ssl/pad.technikkultur-erfurt.de/pad.technikkultur-erfurt.de.key;
ssl_dhparam /etc/ssl/pad.technikkultur-erfurt.de/dhparam.pem;

ssl_trusted_certificate /etc/ssl/pad.technikkultur-erfurt.de/pad.technikkultur-erfurt.de.pem;

location / {
    include /etc/nginx/proxy_params;
    proxy_pass http://localhost:13378/;
    proxy_set_header Host $host;
    proxy_pass_header Server;

    # be carefull, this line doesn't override any proxy_buffering on set in a
conf.d/file.conf
    proxy_buffering off;

    proxy_http_version 1.1; # recommended with keepalive connections

    # WebSocket proxying - from http://nginx.org/en/docs/http/websocket.html
    proxy_set_header Upgrade $http_upgrade;
    proxy_set_header Connection $connection_upgrade;
}
}

map $http_upgrade $connection_upgrade {
    default upgrade;
    ''      close;
}

```

Das Start-Skript für etherpad-lite sucht nach „node“ als nodejs-Server-Binary. Unter Debian lautet es nodejs:

- **cd /usr/bin/**
- **ln -s nodejs node**

Plugin-Installation

- **sudo -u etherpad /bin/bash**
- **cd ~/etherpad/**
- **npm install ep_pad-lister**

Konfiguration

~/etherpad/settings.json

```

{
  ...
  //IP and port which etherpad should bind at
  "ip": "127.0.0.1",
  "port" : 13378,
  ...
  ...
  "dbType" : "mysql",
  "dbSettings" : {
    "user"      : "etherpad-lite",
    "host"      : "localhost",

```

```
        "password": "XXX",
        "database": "etherpad-lite"
    },
    ...
}
```

- ***systemctl enable etherpad-lite.service***
- ***systemctl start etherpad-lite.service***

Migration dirty.db zu MySQL:

- <https://github.com/ether/etherpad-lite/wiki/Manipulating-the-database>

wall.technikkultur-erfurt.de

- Config: /var/www/wall.technikkultur-erfurt.de/config.php

/etc/nginx/sites-available/wall.technikkultur-erfurt.de

```
server {
    listen      80;
    listen [::]:80;
    server_name wall.technikkultur-erfurt.de;

    root /var/www/wall.technikkultur-erfurt.de/;

    index index.php;

    location ~ .php$ {
        fastcgi_pass   unix:/var/run/php5-fpm.sock;
        include        fastcgi_params;
        fastcgi_param  SCRIPT_FILENAME $document_root$fastcgi_script_name;
        fastcgi_param  REDIRECT_STATUS 200;
    }
}
```

opendata.bytespeicher.org

- Webspaces: /var/www/opendata.bytespeicher.org/public_html

/etc/nginx/sites-available/opendata.bytespeicher.org

```
server {
    listen 80;
    listen [::]:80;

    listen 443 ssl;
    listen [::]:443 ssl;

    include snippets/letsencrypt.conf;

    root /var/www/opendata.bytespeicher.org/public_html;

    index index.html;

    server_name opendata.bytespeicher.org;

    location / {
```

```
    try_files $uri $uri/ =404;
}

# PHP
location ~ /\.php$ {
    fastcgi_pass    unix:/var/run/php5-fpm.sock;
    include         fastcgi_params;
    fastcgi_param  SCRIPT_FILENAME $document_root$fastcgi_script_name;
    fastcgi_param  REDIRECT_STATUS 200;
}

ssl on;

# Use SSL as default
# if ($scheme != "https") {
#     rewrite ^ https://$host$uri permanent;
# }
# add_header Strict-Transport-Security "max-age=31536000";

ssl_certificate
/home/letsencrypt/letsencrypt.sh/certs/opendata.bytespeicher.org/fullchain.pem;
ssl_certificate_key
/home/letsencrypt/letsencrypt.sh/certs/opendata.bytespeicher.org/privkey.pem;

ssl_dhparam /etc/ssl/opendata.bytespeicher.org/dhparam.pem;

ssl_stapling on;
ssl_stapling_verify on;
ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/opendata.bytespeicher.org/fullchain.pem;

# Security options
add_header X-Frame-Options SAMEORIGIN;
add_header X-Content-Type-Options nosniff;
add_header Access-Control-Allow-Origin *;
}
```

Piwik

- Datenbank: bs_piwik
- Config: /var/www/stats.technikkultur-erfurt.de/config/config.ini.php

/etc/nginx/sites-available/stats.technikkultur-erfurt.de

```
server {
    listen      80;
    listen [::]:80;
    server_name stats.technikkultur-erfurt.de;

    root /var/www/stats.technikkultur-erfurt.de/;

    index index.php;

    location ~ /\.php$ {
        fastcgi_pass    unix:/var/run/php5-fpm.sock;
        include         fastcgi_params;
        fastcgi_param  SCRIPT_FILENAME $document_root$fastcgi_script_name;
        fastcgi_param  REDIRECT_STATUS 200;
    }
}
```

}

Roundcube

- Datenbank: roundcubemail
- Config: /var/www/mail.bytespeicher.org/config/config.inc.php
- **mkdir /var/www/mail.bytespeicher.org/**
- **cd /var/www/mail.bytespeicher.org/**
- **wget -O /tmp/roundcube.tar.gz**
<https://downloads.sourceforge.net/project/roundcubemail/roundcubemail/1.1.3/roundcubemail-1.1.3-complete.tar.gz>
- **tar -C /var/www/mail.bytespeicher.org/ -strip 1 -tf /tmp/roundcubemail-1.1.3-complete.tar.gz**
- **curl -sS <https://getcomposer.org/installer> | php**
- **mv composer.json{-dist,}**
- **php composer.phar install -no-dev**
- **chown www-data:www-data -R /var/www/mail.bytespeicher.org**
- **mysql \$> CREATE DATABASE roundcubemail;**
- **mysql \$> GRANT ALL PRIVILEGES ON roundcubemail.* TO roundcubemail@localhost IDENTIFIED BY '\$\$password\$\$';**
- **mysql \$> FLUSH PRIVILEGES;**

config/config.inc.php

```
[...]

$config['db_dsnw'] = 'mysql://roundcubemail:$$password$$/roundcubemail';
$config['default_host'] = array('bytespeicher.org', 'technikkultur-erfurt.de');
$config['product_name'] = 'Bytespeicher Webmail';
$config['des_key'] = '$$random-24-char-des-key$$';
$config['plugins'] = array(
    'archive',
    'zipdownload',
    'managesieve',
    'additional_message_headers',
    'attachment_reminder',
    'emoticons',
    'hide_blockquote',
    'jqueryui',
    'markasjunk',
    'newmail_notifier',
    'show_additional_headers',
    'subscriptions_option',
    'userinfo'
);
```

/etc/nginx/sites-available/mail.bytespeicher.org

```
server {
    listen      80;
    listen     [::]:80;
    listen     443 ssl;
    listen     [::]:443 ssl;

    include snippets/letsencrypt.conf;

    server_name mail.bytespeicher.org;
```

```
if ($scheme != "https") {
    rewrite ^ https://$host$uri permanent;
}

ssl on;

add_header Strict-Transport-Security "max-age=31536000";
add_header X-Frame-Options SAMEORIGIN;
ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/mail.bytespeicher.org/fullchain.pem;
ssl_certificate_key
/home/letsencrypt/letsencrypt.sh/certs/mail.bytespeicher.org/privkey.pem;
ssl_dhparam /etc/ssl/mail.bytespeicher.org/dhparam.pem;

ssl_trusted_certificate
/home/letsencrypt/letsencrypt.sh/certs/mail.bytespeicher.org/fullchain.pem;

root /var/www/mail.bytespeicher.org/;

client_max_body_size 64m;

index index.php index.html;
location ~ ^/favicon.ico$ {
    root /var/www/mail.bytespeicher.org/skins/default/images;
    log_not_found off;
    access_log off;
    expires max;
}

location = /robots.txt {
    allow all;
    log_not_found off;
    access_log off;
}

location ~ ^/(README|INSTALL|LICENSE|CHANGELOG|UPGRADING)$ {
    deny all;
}

location ~ ^/(bin|SQL)/ {
    deny all;
}

location ~ /\. {
    deny all;
    access_log off;
    log_not_found off;
}

location ~ \.php$ {
    try_files $uri =404;
    include /etc/nginx/fastcgi_params;
    fastcgi_pass unix:/var/run/php5-fpm.sock;
    fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
    fastcgi_index index.php;
}

location ~* ^.+\. (jpg|jpeg|gif|bmp|ico|png|css|js|swf)$ {
    expires 30d;
    access_log off;
}
}
```

- → Browser → <https://mail.bytespeicher.org/install>

- `rm -rf /var/www/mail.bytespeicher.org/installer/`

Matrix/Synapse

- `useradd -m synapse`
- `apt-get install build-essential python2.7-dev libffi-dev python-pip python-setuptools sqlite3 libssl-dev python-virtualenv libjpeg-dev libxslt1-dev coturn`
- `mkdir /home/synapse/ssl`
- `chown synapse:synapse /home/synapse/ssl`
- `chmod 770 /home/synapse/ssl`
- `usermod -G synapse letsencrypt`

/etc/nginx/sites-enabled/erfurt.chat

```
server {
    listen      80;
    listen [::]:80;
    listen      443 ssl;
    listen [::]:443 ssl;

    server_name erfurt.chat www.erfurt.chat;

    include snippets/letsencrypt.conf;

    if ($scheme != "https") {
        rewrite ^ https://$host$uri permanent;
    }
    if ($host = "www.erfurt.chat") {
        rewrite ^ https://erfurt.chat$uri permanent;
    }
    root /var/www/erfurt.chat;

    client_max_body_size 32m;

    location /_matrix {
        proxy_pass http://127.0.0.1:8008;
        proxy_set_header X-Forwarded-For $remote_addr;
    }

    ssl on;

    # add_header Strict-Transport-Security "max-age=31536000";
    add_header X-Frame-Options SAMEORIGIN;
    ssl_certificate /home/letsencrypt/letsencrypt.sh/certs/erfurt.chat/fullchain.pem;
    ssl_certificate_key /home/letsencrypt/letsencrypt.sh/certs/erfurt.chat/privkey.pem;
    ssl_dhparam /etc/ssl/erfurt.chat/dhparam.pem;

    ssl_trusted_certificate /home/letsencrypt/letsencrypt.sh/certs/erfurt.chat/fullchain.pem;

    access_log /var/log/nginx/erfurt.chat-access.log;
    error_log /var/log/nginx/erfurt.chat-error.log;
}
```

/etc/default/coturn

```
TURN_SERVER_ENABLED=1
```

/etc/turnserver.conf

```
external-ip=88.198.111.196
min-port=49152
max-port=59999
lt-cred-mech
use-auth-secret
static-auth-secret=[your secret key here]
realm=erfurt.chat
no-tcp
no-tls
no-tcp-relay
cert=/home/letsencrypt/letsencrypt.sh/certs/erfurt.chat/cert.pem
pkey=/home/letsencrypt/letsencrypt.sh/certs/erfurt.chat/privkey.pem
cipher-list="EECDH+AESGCM:EDH+AESGCM:AES256+EECDH:AES256+EDH:!AES128"
syslog
denied-peer-ip=10.0.0.0-10.255.255.255
denied-peer-ip=192.168.0.0-192.168.255.255
denied-peer-ip=172.16.0.0-172.31.255.255
allowed-peer-ip=172.31.1.100
no-sslv2
no-sslv3
```

- service coturn restart
- sudo -u synapse /bin/bash
- cd
- virtualenv -p python2.7 ~/.synapse
- source ~/.synapse/bin/activate
- pip install -upgrade pip
- pip install -upgrade setuptools
- pip install lxml
- pip install <https://github.com/matrix-org/synapse/tarball/master>
- cd ~/.synapse
- python -m synapse.app.homeserver --server-name erfurt.chat --config-path homeserver.yaml --generate-config --report-stats=no

/home/synapse/.synapse/homeserver.yaml

```
--- homeserver.yaml.orig 2017-06-05 12:56:46.729514635 +0200
+++ homeserver.yaml 2018-04-17 13:40:25.760622831 +0200
@@ -4,10 +4,10 @@
# autogenerated on launch with your own SSL certificate + key pair
# if you like. Any required intermediary certificates can be
# appended after the primary certificate in hierarchical order.
-tls_certificate_path: "/home/synapse/.synapse/erfurt.chat.tls.crt"
+tls_certificate_path: "/home/synapse/ssl/fullchain.pem"

# PEM encoded private key for TLS
-tls_private_key_path: "/home/synapse/.synapse/erfurt.chat.tls.key"
+tls_private_key_path: "/home/synapse/ssl/privkey.pem"

# PEM dh parameters for ephemeral keys
tls_dh_params_path: "/home/synapse/.synapse/erfurt.chat.tls.dh"
@@ -50,7 +50,7 @@
pid_file: /home/synapse/.synapse/homeserver.pid

# Whether to serve a web client from the HTTP/HTTPS root resource.
-web_client: True
+web_client: False
```

```
# The root directory to server for the above web client.
# If left undefined, synapse will serve the matrix-angular-sdk web client.
@@ -59,7 +59,7 @@
# web_client_location: "/path/to/web/root"

# The public-facing base URL for the client API (not including _matrix/...)
-# public_baseurl: https://example.com:8448/
+public_baseurl: https://erfurt.chat:8448/

# Set the soft limit on the number of file descriptors synapse can use
# Zero is used to indicate synapse should set the soft limit to the
@@ -71,7 +71,9 @@

# Set the limit on the returned events in the timeline in the get
# and sync operations. The default value is -1, means no upper limit.
-# filter_timeline_limit: 5000
+
+## activated by maddi
+filter_timeline_limit: 500

# List of ports that Synapse should listen on, their purpose and their
# configuration.
@@ -85,11 +87,11 @@
# Local addresses to listen on.
# This will listen on all IPv4 addresses by default.
bind_addresses:
-   - '0.0.0.0'
+   #- '0.0.0.0'
# Uncomment to listen on all IPv6 interfaces
# N.B: On at least Linux this will also listen on all IPv4
# addresses, so you will need to comment out the line above.
-   # - ':::'
+   - ':::'

# This is a 'http' listener, allows us to specify 'resources'.
type: http
@@ -123,7 +125,7 @@
bind_addresses: ['0.0.0.0']
type: http

-   x_forwarded: false
+   x_forwarded: True

resources:
-   - names: [client, webclient]
@@ -141,14 +143,18 @@
# Database configuration
database:
# The database engine name
- name: "sqlite3"
+ name: "psycopg2"
# Arguments to pass to the engine
args:
- # Path to the database
- database: "/home/synapse/.synapse/homeserver.db"
+ #user: synapse
+ database: synapse
+ #host: localhost
+ #password:
+ cp_min: 5
+ cp_max: 25
```

```
# Number of events to cache in memory.
-event_cache_size: "10K"
+event_cache_size: "1K"

@@ -156,7 +162,7 @@
  verbose: 0

# File to write logging to. Ignored if log_config is specified.
-log_file: "/home/synapse/.synapse/homeserver.log"
+log_file: "/home/synapse/.synapse/log/homeserver.log"

# A yaml python logging config file
log_config: "/home/synapse/.synapse/erfurt.chat.log.config"
@@ -171,7 +177,9 @@
  rc_message_burst_count: 10.0

# The federation window size in milliseconds
-federation_rc_window_size: 1000
+## edit by maddi
+# federation_rc_window_size: 2000
+federation_rc_window_size: 2000

# The number of federation requests from a single server in a window
# before the server will delay processing the request.
@@ -183,14 +191,19 @@

# The maximum number of concurrent federation requests allowed
# from a single server
-federation_rc_reject_limit: 50
+## edit by maddi
+# federation_rc_reject_limit: 50
+federation_rc_reject_limit: 10

# The number of federation requests to concurrently process from a
# single server
-federation_rc_concurrent: 3
-
-
+##federation_rc_concurrent: 3
+## edit by maddi
+federation_rc_concurrent: 1
+
+## add by maddi
+federation_domain_whitelist: ['erfurt.chat', 'matrix.ffggrz.de', 'bau-
ha.us', 'zner0l.de', 'byteschmeisser.de']
+
# Directory where uploaded images and attachments are stored.
media_store_path: "/home/synapse/.synapse/media_store"

@@ -231,7 +244,7 @@
# Is the preview URL API enabled? If enabled, you *must* specify
# an explicit url_preview_ip_range_blacklist of IPs that the spider is
# denied from accessing.
-url_preview_enabled: False
+url_preview_enabled: True

# List of IP address CIDR ranges that the URL preview spider is denied
# from accessing. There are no defaults: you must explicitly
```

```
@@ -241,14 +254,14 @@
# synapse to issue arbitrary GET requests to your internal services,
# causing serious security issues.
#
-# url_preview_ip_range_blacklist:
-# - '127.0.0.0/8'
-# - '10.0.0.0/8'
-# - '172.16.0.0/12'
-# - '192.168.0.0/16'
-# - '100.64.0.0/10'
-# - '169.254.0.0/16'
-#
+url_preview_ip_range_blacklist:
+ - '127.0.0.0/8'
+ - '10.0.0.0/8'
+ - '172.16.0.0/12'
+ - '192.168.0.0/16'
+ - '100.64.0.0/10'
+ - '169.254.0.0/16'
+
# List of IP address CIDR ranges that the URL preview spider is allowed
# to access even if they are specified in url_preview_ip_range_blacklist.
# This is useful for specifying exceptions to wide-ranging blacklisted
@@ -322,10 +335,10 @@
## Turn ##

# The public URIs of the TURN server to give to clients
-turn_uris: []
+turn_uris: [ "turn:erfurt.chat:3478?transport=udp", "turn:erfurt.chat:3478?transport=tcp" ]

# The shared secret used to compute passwords for the TURN server
-turn_shared_secret: "YOUR_SHARED_SECRET"
+turn_shared_secret: "$$$SECRET$$$"

# The Username and password if the TURN server needs them and
# does not use a token
@@ -346,7 +359,7 @@
## Registration ##

# Enable registration for new users.
-enable_registration: False
+enable_registration: True

# If set, allows registration by anyone who also has the shared
# secret, even if registration is otherwise disabled.
@@ -360,7 +373,7 @@
# Allows users to register as guests without a password/email/etc, and
# participate in rooms hosted on this server which have been made
# accessible to anonymous users.
-allow_guest_access: False
+allow_guest_access: True

# The list of identity servers trusted to verify third party
# identifiers by this server.
@@ -388,7 +401,9 @@

# A list of application service config file to use
-app_service_config_files: []
+#app_service_config_files: [ "ircbridge_registration.yaml" ]
+## deactivated by maddi
```

```
+app_service_config_files: [ ]

  macaroon_secret_key: "$$$SECRET$$$"
@@ -402,7 +417,7 @@
  signing_key_path: "/home/synapse/.synapse/erfurt.chat.signing.key"

  # The keys that the server used to sign messages with but won't use
  -# to sign new messages. E.g. it has lost its private key
  +# to sign new messages. dE.g. it has lost its private key
  old_signing_keys: {}
  # "ed25519:auto":
  #   # Base64 encoded public key
@@ -461,7 +476,8 @@
  enabled: true
  # Uncomment and change to a secret random string for extra security.
  # DO NOT CHANGE THIS AFTER INITIAL SETUP!
  - #pepper: ""
  + pepper: "$$$SECRET$$$"
  +

@@ -473,20 +489,20 @@
  # If your SMTP server requires authentication, the optional smtp_user &
  # smtp_pass variables should be used
  #
  -#email:
  -#  enable_notifs: false
  -#  smtp_host: "localhost"
  -#  smtp_port: 25
  -#  smtp_user: "exampleusername"
  -#  smtp_pass: "examplepassword"
  -#  require_transport_security: False
  -#  notif_from: "Your Friendly %(app)s Home Server <noreply@example.com>"
  -#  app_name: Matrix
  -#  template_dir: res/templates
  -#  notif_template_html: notif_mail.html
  -#  notif_template_text: notif_mail.txt
  -#  notif_for_new_users: True
  -#  riot_base_url: "http://localhost/riot"
+email:
+  enable_notifs: True
+  smtp_host: "localhost"
+  smtp_port: 587
+  smtp_user: "synapse@erfurt.chat"
+  smtp_pass: "$$$SECRET$$$"
+  require_transport_security: True
+  notif_from: "Your Friendly %(app)s Home Server <noreply@erfurt.chat>"
+  app_name: Matrix
+  template_dir: /home/synapse/.synapse/res/templates/
+  notif_template_html: notif_mail.html
+  notif_template_text: notif_mail.txt
+  notif_for_new_users: True
+  riot_base_url: "https://erfurt.chat/riot"

# password_providers:
```

/home/synapse/.synapse/erfurt.chat.log.config

```

version: 1

formatters:
  precise:
    format: '%(asctime)s - %(name)s - %(lineno)d - %(levelname)s - %(request)s- %(message)s'

filters:
  context:
    (): synapse.util.logcontext.LoggingContextFilter
    request: ""

handlers:
  file:
    class: logging.handlers.RotatingFileHandler
    formatter: precise
    filename: /home/synapse/.synapse/log/homeserver.log
    maxBytes: 104857600
    backupCount: 10
    filters: [context]
  console:
    class: logging.StreamHandler
    formatter: precise
    filters: [context]

loggers:
  synapse:
    level: INFO

  synapse.storage.SQL:
    # beware: increasing this to DEBUG will make synapse log sensitive
    # information such as access tokens.
    level: INFO

root:
  level: INFO
  handlers: [file]
# handlers: [file, console]

```

/etc/systemd/system/synapse.service

```

[Unit]
Description=Synapse Matrix homeserver

[Service]
Type=simple
User=synapse
Group=synapse
#EnvironmentFile=-/etc/sysconfig/synapse
WorkingDirectory=/home/synapse/.synapse
ExecStart=/home/synapse/.synapse/bin/python2.7 -m synapse.app.homeserver --config-
path=/home/synapse/.synapse/homeserver.yaml

[Install]
WantedBy=multi-user.target

```

- systemctl enable synapse
- systemctl start synapse

- `wget -O /usr/src/vector-im-v0.10.1.tar.gz`
<https://github.com/vector-im/riot-web/releases/download/v0.10.1/riot-v0.10.1.tar.gz>
- `mkdir /var/www/erfurt.chat/`
- `tar -strip-components=1 -xf /usr/src/vector-im-v0.10.1.tar.gz -C /var/www/erfurt.chat/`

/var/www/erfurt.chat/config.json

```
{
  "default_hs_url": "https://erfurt.chat",
  "default_is_url": "https://vector.im",
  "brand": "erfurt.chat",
  "integrations_ui_url": "https://scalar.vector.im/",
  "integrations_rest_url": "https://scalar.vector.im/api",
  "bug_report_endpoint_url": "https://riot.im/bugreports/submit",
  "enableLabs": true,
  "roomDirectory": {
    "servers": [
      "erfurt.chat",
      "matrix.org"
    ]
  },
}
```

Matrix IRC Bridge

- `curl -sL https://deb.nodesource.com/setup_6.x | sudo -E bash -`
- `apt-get install -y nodejs`
- `npm install matrix-appservice-irc -global`

/home/synapse/.synapse/ircbridge_config.yaml

```
homeserver:
  url: "https://erfurt.chat"

# CAUTION: This is a very coarse heuristic. Federated homeservers may have different
# clock times and hence produce different origin_server_ts values, which may be old
# enough to cause *all* events from the homeserver to be dropped.
# Default: 0 (don't ever drop)
# dropMatrixMessagesAfterSecs: 300 # 5 minutes

domain: "erfurt.chat"

ircService:
  servers:
    "irc.hackint.org":
      name: "Hackint"
      networkId: "hackint"
      port: 9999
      ssl: true
      sslselfsign: true
      ca: |
        -----BEGIN CERTIFICATE-----
        MIIGBzCCA++gAwIBAgIJAKZfNgKecw1WMA0GCSqGSIb3DQEBCwUAMIGEMRwwGgYD
        VQQKEsNIYWNraW50IElSQyB0ZXR3b3JrMR8wHQYDVQQLExZodHRwOi8vd3d3Lmhh
        Y2tpbnQub3JnMSQwIjE5Y2tpbnQub3JnMSQwIjE5Y2tpbnQub3JnMSQwIjE5Y2tpbnQub3Jn
        HTAbBgkqhkiG9w0BCQEWDMNhQGhhY2tpbnQub3JnMBA4XDTEIMDcwMTAwMDAwMFoX
        DTM1MTIzMTIzNTk1OVowgYQxHDAaBgNVBAoTE0hhY2tpbnQub3JnSVJDIIE5ldHdvcmx
        HzAdBgNVBAsTFmh0dHA6Ly93d3cuGFja2ludC5vcmcxJDAiBgNVBAMTG0hhY2tp
```

```
bnQgSVJDIE5ldHdvcmsgUm9vdCBDQTEdMbsGCSqGSiB3DQEJARYOY2FAaGFja2lu
dC5vcmcwgwiMA0GCSqSISB3DQEBAQUAA4ICDwAwggIKAoICAQDi57PWGLHMFxLN
yjtXUS4oYK77+C1ByJtziDWYbEiamrmYb0Z3ukzfH4nHH0LuAiQIT8Tw8gVXMw6w
CNpLAUN0mAIQhhu10PwsBLjf638F/NTPzBmziMZyyuSrvyAkZp6Ktv5DAXymIV6C
7LmVwhJiqC5+YFC1JbZJt8wGrew/YLrroYUJm0n7FpW/EkUrL3cQ0HIV5xFL9LxR
4xh/lC1AuAsawv8vaxQFGiun25F4jd6l/Evf0tr628kpEXH4hspkeNsQh9uUUpjx
CpNQqh7Wyi1M/QhiK9GFu0Dd0wsU77i0fccJl3FVf/bjLc09COMLOBWaJgEpJMNw
j2uBk7pMKScw3S2qvtqBxf7VtFvlyPeX5C7+XCXXViBFcYubzmNlNq5n3qEbMG4t
qwdXR4Mhbhy4Bh0GkFNdURsf4N47TvPV6egLHPLc05uYvL5ViddNxH1j rpxVYX76
KXvpR4+vUTYYVi8m2A4Rf+JMI5CELFie2chghhiojAuKDuKfmW3v+fkuGkjEC5A8
NfzD7E0GJB2osAbKP6rx77tVuAo0eMPLHijpgYciXIGoprWqFrjttvRaMkGywwLq
6JDyF8hMvMvmVPnqx4zBm0aS/Ut2irVwU0k9jiDN29dTvc3ySHwW0bd+Lt5fWJD
DL/lb2it8Z8pJYmZwt1e7vl4LNdm2QIDAQABo3oweDAPBgNVHRMBAf8EBTADAQH/
MB0GA1UdDgQWBQVmc++GVicHQ7I4FDpPkZdr3nNCzA0BgNVHQ8BAf8EBAMCAQYw
NgYIKwYBBQUHAQEekjAoMCYGCcsGAQUFBzACHhpodHRw0i8vaGFja2ludC5vcmcv
Y2EuaHRtbDANBgkqhkiG9w0BAQsFAA0CAgEAG82hdmLpfvG7RYbtCb6F4u8FBFvx
zR4Ye5n0PBKaA+CHA+KGScnBFg/E+aMI+IQ3j4Sgar0MZKwu5fI3ETdYReXWtSuE
3/UnT9U1ffUTTNUkwkFM3p5byrVzgmF3fI7aSAFyoa88xl6R/fzjXrXCp+eCy/tE
LTma2WRh+v0RCX397h+FFVux3JtfBD+6uW53M0mNvSd2hndi8RpVbgklMfUWxcwK
z+R97QXhNopH33J1rmRm9/RUadKjChiE+zM/eZJUP0bIqiCaCP/qVAXruwHTi8E
tpNFNTC0xe0lwZ6LVNLWun7zY3+vk0Puk6KqnfBlNGK1QDxkTQLILdGGo5WQ11YN
oMmHGztLgZtiWGLNhtRtAIRNKuc3sw0B0lv+osiH+KvDNvRKufc2eNkaGfLq7TJ
dhiAK2gKkYYAQ5zfDBwSspbtCszYgEAin3PqoQUdG8f+4I49E0xS7PWQE75e7J9
MCnElQxAPWk9xuZhtkeWUHskpCjrn07k3dshV0frn20xPtSgQjztZxQKQZYzQfPk
j/eVuFwWxQY9pZd0ku7fRGbaLeyTbQHZW802rgmaLxxItWQKqZxG1Za7RlKo4Wur
9ZGuYKMAEnPmhJj2KlmXJAaIdQF6LA3NS0KvpWt0frjaaroHH0UnrxBxCBlfoBpw
w3r7JBQGOVK95Sw=
-----END CERTIFICATE-----
```

```
# The connection password to send for all clients as a PASS command. Optional.
# password: 'pa$$w0rd'
```

```
sendConnectionMessages: false
```

```
quitDebounce:
```

```
# Whether parts due to net-splits are debounced for delayMs, to allow
# time for the netsplit to resolve itself. A netsplit is detected as being
# a QUIT rate higher than quitsPerSecond. Default: false.
enabled: false
# The maximum number of quits per second acceptable above which a netsplit is
# considered ongoing. Default: 5.
quitsPerSecond: 5
# The ti
# a net
# is not sent many requests to leave rooms all at once if a netsplit occurs and many
# people to not rejoin.
# If the user with the same IRC nick as the one who sent the quit rejoins a channel
# they are considered back online and the quit is not bridged, so long as the rejoin
# occurs before the randomly-jittered timeout is not reached.
# Default: 3600000, = 1h
delayMinMs: 3600000 # 1h
# Default: 7200000, = 2h
delayMaxMs: 7200000 # 2h
```

```
modePowerMap:
```

```
o: 50
```

```
botConfig:
```

```
enabled: true
nick: "MatrixBot"
password: "$$$$SECRET$$$$"
```

```

    joinChannelsIfNoUsers: true

privateMessages:
    enabled: true
    # exclude: ["Alice", "Bob"] # NOT YET IMPLEMENTED
    federate: true

# Configuration for mappings not explicitly listed in the 'mappings'
# section.
dynamicChannels:
    # Enable the ability for Matrix users to join *any* channel on this IRC
    # network.
    # Default: false.
    enabled: true
    # Should the AS create a room alias for the new Matrix room? The form of
    # the alias can be modified via 'aliasTemplate'. Default: true.
    createAlias: true
    # Should the AS publish the new Matrix room to the public room list so
    # anyone can see it? Default: true.
    published: true
    # What should the join_rule be for the new Matrix room? If 'public',
    # anyone can join the room. If 'invite', only users with an invite can
    # join the room. Note that if an IRC channel has +k or +i set on it,
    # join_rules will be set to 'invite' until these modes are removed.
    # Default: "public".
    joinRule: public
    # Should created Matrix rooms be federated? If false, only users on the
    # HS attached to this AS will be able to interact with this room.
    # Default: true.
    federate: true
    # The room alias template to apply when creating new aliases. This only
    # applies if createAlias is 'true'. The following variables are exposed:
    # $SERVER => The IRC server address (e.g. "irc.example.com")
    # $CHANNEL => The IRC channel (e.g. "#python")
    # This MUST have $CHANNEL somewhere in it.
    # Default: '#irc_$SERVER_$CHANNEL'
    #aliasTemplate: "#irc_$CHANNEL"
    # A list of user IDs which the AS bot will send invites to in response
    # to a !join. Only applies if joinRule is 'invite'. Default: []
    # whitelist:
    #   - "@foo:example.com"
    #   - "@bar:example.com"
    #
    # Prevent the given list of channels from being mapped under any
    # circumstances.
    # exclude: ["#foo", "#bar"]

# Configuration for controlling how Matrix and IRC membership lists are
# synced.
membershipLists:
    # Enable the syncing of membership lists between IRC and Matrix. This
    # can have a significant effect on performance on startup as the lists are
    # synced. This must be enabled for anything else in this section to take
    # effect. Default: false.
    enabled: true

    # Syncing membership lists at startup can result in hundreds of members to
    # process all at once. This timer drip feeds membership entries at the
    # specified rate. Default: 10000. (10s)
    floodDelayMs: 10000

```

```

global:
  ircToMatrix:
    # Get a snapshot of all real IRC users on a channel (via NAMES) and
    # join their virtual matrix clients to the room.
    initial: true
    # Make virtual matrix clients join and leave rooms as their real IRC
    # counterparts join/part channels. Default: false.
    incremental: true

  matrixToIrc:
    # Get a snapshot of all real Matrix users in the room and join all of
    # them to the mapped IRC channel on startup. Default: false.
    initial: true
    # Make virtual IRC clients join and leave channels as their real Matrix
    # counterparts join/leave rooms. Make sure your 'maxClients' value is
    # high enough! Default: false.
    incremental: true

# Apply specific rules to Matrix rooms. Only matrix-to-IRC takes effect.
rooms:
  - room: "!fuasirouddJoxtwfge:localhost"
    matrixToIrc:
      initial: false
      incremental: false

# Apply specific rules to IRC channels. Only IRC-to-matrix takes effect.
channels:
  - channel: "#foo"
    ircToMatrix:
      initial: false
      incremental: false

mappings:
  # 1:many mappings from IRC channels to room IDs on this IRC server.
  # The matrix room must already exist. Your matrix client should expose
  # the room ID in a "settings" page for the room.
  "#bytespeicher-testing": ["", "!SUxMwVVsKCFfBsKrR:unikorn.me"]
  "#bytespeicher": ["!bGHdpETBTpNZzPzIDo:erfurt.chat"]

# Configuration for virtual matrix users. The following variables are
# exposed:
# $NICK => The IRC nick
# $SERVER => The IRC server address (e.g. "irc.example.com")
matrixClients:
  # The user ID template to use when creating virtual matrix users. This
  # MUST have $NICK somewhere in it.
  # Optional. Default: "@$SERVER_$NICK".
  # Example: "@irc.example.com_Alice:example.com"
  userTemplate: "@irc_$NICK"
  # The display name to use for created matrix clients. This should have
  # $NICK somewhere in it if it is specified. Can also use $SERVER to
  # insert the IRC domain.
  # Optional. Default: "$NICK (IRC)". Example: "Alice (IRC)"
  displayName: "$NICK (IRC)"

# Configuration for virtual IRC users. The following variables are exposed:
# $LOCALPART => The user ID localpart ("alice" in @alice:localhost)
# $USERID => The user ID
# $DISPLAY => The display name of this user, with excluded characters
#             (e.g. space) removed. If the user has no display name, this
#             falls back to $LOCALPART.

```

```
ircClients:
# The template to apply to every IRC client nick. This MUST have either
# $DISPLAY or $USERID or $LOCALPART somewhere in it.
# Optional. Default: "M-$DISPLAY". Example: "M-Alice".
nickTemplate: "$DISPLAY[m]"
# True to allow virtual IRC clients to change their nick on this server
# by issuing !nick <server> <nick> commands to the IRC AS bot.
# This is completely freeform: it will NOT follow the nickTemplate.
allowNickChanges: true
# The max number of IRC clients that will connect. If the limit is
# reached, the client that spoke the longest time ago will be
# disconnected and replaced.
# Optional. Default: 30.
maxClients: 30
# IPv6 configuration.
ipv6:
# Optional. Set to true to force IPv6 for outgoing connections.
only: false
# Optional. The IPv6 prefix to use for generating unique addresses for each
# connected user. If not specified, all users will connect from the same
# (default) address. This may require additional OS-specific work to allow
# for the node process to bind to multiple different source addresses
# e.g IP_FREEBIND on Linux, which requires an LD_PRELOAD with the library
# https://github.com/matrix-org/freebindfree as Node does not expose setsockopt.
prefix: "2a01:4f8:c17:1214::1:" # modify appropriately
#
# The maximum amount of time in seconds that the client can exist
# without sending another message before being disconnected. Use 0 to
# not apply an idle timeout. This value is ignored if this IRC server is
# mirroring matrix membership lists to IRC. Default: 172800 (48 hours)
idleTimeout: 10800
# The number of milliseconds to wait between consecutive reconnections if a
# client gets disconnected. Setting to 0 will cause the scheduling to be
# disabled, i.e. it will be scheduled immediately (with jitter).
# Otherwise, the scheduling interval will be used such that one client
# reconnect for this server will be handled every reconnectIntervalMs ms using
# a FIFO queue.
# Default: 5000 (5 seconds)
reconnectIntervalMs: 5000
# The number of lines to allow being sent by the IRC client that has received
# a large block of text to send from matrix. If the number of lines that would
# be sent is > lineLimit, the text will instead be uploaded to matrix and the
# resulting URI is treated as a file. As such, a link will be sent to the IRC
# side instead of potentially spamming IRC and getting the IRC client kicked.
# Default: 3.
lineLimit: 3
# A list of user modes to set on every IRC client. For example, "RiG" would set
# +R, +i and +G on every IRC connection when they have successfully connected.
# User modes vary wildly depending on the IRC network you're connecting to,
# so check before setting this value. Some modes may not work as intended
# through the bridge e.g. caller ID as there is no way to /ACCEPT.
# Default: "" (no user modes)
# userModes: "R"

# Configuration for an ident server. If you are running a public bridge it is
# advised you setup an ident server so IRC mods can ban specific matrix users
# rather than the application service itself.
ident:
# True to listen for Ident requests and respond with the
# matrix user's user_id (converted to ASCII, respecting RFC 1413).
# Default: false.
```

```
enabled: false
# The port to listen on for incoming ident requests.
# Ports below 1024 require root to listen on, and you may not want this to
# run as root. Instead, you can get something like an Apache to yank up
# incoming requests to 113 to a high numbered port. Set the port to listen
# on instead of 113 here.
# Default: 113.
port: 1113

# Configuration for logging. Optional. Default: console debug level logging
# only.
logging:
# Level to log on console/logfile. One of error|warn|info|debug
level: "debug"
# The file location to log to. This is relative to the project directory.
logfile: "debug.log"
# The file location to log errors to. This is relative to the project
# directory.
errfile: "errors.log"
# Whether to log to the console or not.
toConsole: true
# The max size each file can get to in bytes before a new file is created.
maxFileSizeBytes: 134217728 # 128 MB
# The max number of files to keep. Files will be overwritten eventually due
# to rotations.
maxFiles: 5

# Optional. Enable Prometheus metrics. If this is enabled, you MUST install `prom-client`:
# $ npm install prom-client@6.3.0
# Metrics will then be available via GET /metrics on the bridge listening port (-p).
# metrics:
#   enabled: true

# The nedb database URI to connect to. This is the name of the directory to
# dump .db files to. This is relative to the project directory.
# Required.
databaseUri: "nedb://data"

# Configuration options for the debug HTTP API. To access this API, you must
# append ?access_token=$APPSERVICE_TOKEN (from the registration file) to the requests.
#
# The debug API exposes the following endpoints:
#
# GET /irc/$domain/user/$user_id => Return internal state for the IRC client for this
user ID.
#
# POST /irc/$domain/user/$user_id => Issue a raw IRC command down this connection.
#                                     Format: new line delimited commands as per IRC
protocol.
#
debugApi:
# True to enable the HTTP API endpoint. Default: false.
enabled: false
# The port to host the HTTP API.
port: 11100

# Configuration for the provisioning API.
#
# GET /_matrix/provision/link
# GET /_matrix/provision/unlink
# GET /_matrix/provision/listlinks
```

```
#
provisioning:
  # True to enable the provisioning HTTP endpoint. Default: false.
  enabled: false
  # The number of seconds to wait before giving up on getting a response from
  # an IRC channel operator. If the channel operator does not respond within the
  # allotted time period, the provisioning request will fail.
  # Default: 300 seconds (5 mins)
  requestTimeoutSeconds: 300

# WARNING: The bridge needs to send plaintext passwords to the IRC server, it cannot
# send a password hash. As a result, passwords (NOT hashes) are stored encrypted in
# the database.
#
# To generate a .pem file:
# $ openssl genpkey -out passkey.pem -outform PEM -algorithm RSA -pkeyopt
rsa_keygen_bits:2048
#
# The path to the RSA PEM-formatted private key to use when encrypting IRC passwords
# for storage in the database. Passwords are stored by using the admin room command
# `!storepass server.name password. When a connection is made to IRC on behalf of
# the Matrix user, this password will be sent as the server password (PASS command).
passwordEncryptionKeyPath: "passkey.pem"
```

/etc/systemd/system/matrix-irc-bridge.service

```
[Unit]
Description=Matrix IRC Bridge

[Service]
Type=simple
User=synapse
Group=synapse
#EnvironmentFile=-/etc/sysconfig/synapse
WorkingDirectory=/home/synapse/.synapse
ExecStart=/usr/local/bin/matrix-appservice-irc -c ircbridge_config.yaml -f ircbridge.yaml -p
9999

[Install]
WantedBy=multi-user.target
```

- matrix-appservice-irc -r -f ircbridge_registration.yaml -u „<http://erfurt.chat:9999>“ -c ircbridge_config.yaml -l ircbridge
- systemctl enable matrix-irc-bridge.service
- systemctl start matrix-irc-bridge.service

Upgrade zu Postgres

- wget -q <https://www.postgresql.org/media/keys/ACCC4CF8.asc> -O - | sudo apt-key add -
- echo deb <http://apt.postgresql.org/pub/repos/apt/> jessie-pgdg main > /etc/apt/sources.list.d/pgdg.list
- apt update
- apt install postgresql-10 postgresql-client-10 libpq-dev
- sudo -u postgres createuser -e synapse
- sudo -u postgres psql -c „CREATE DATABASE synapse ENCODING 'UTF8' LC_COLLATE='C' LC_CTYPE='C' template=template0 OWNER synapse_user;“
- service synapse stop
- cp -a /home/synapse/.synapse/homeserver.db{,.snapshot}
- cp -a /home/synapse/.synapse/homeserver{,-postgres}.yaml

/home/synapse/.synapse/homeserver-postgres.yaml

```
[...]
# Database configuration
database:
  # The database engine name
  name: "psycopg2"
  # Arguments to pass to the engine
  args:
    database: synapse
    cp_min: 5
    cp_max: 25
[...]
```

- service synapse start
- sudo -u synapse bash
- source ~/.synapse/bin/activate
- pip install psycopg2
- cd ~/.synapse
- synapse_port_db -sqlite-database homeserver.db.snapshot -postgres-config homeserver-postgres.yaml
- (as root) service synapse stop
- synapse_port_db -sqlite-database homeserver.db -postgres-config homeserver-postgres.yaml
- mv homeserver.yaml{.,old-sqlite}
- mv homeserver{-postgres,}.yaml
- mv homeserver.db{.,unused}
- exit
- service synapse start

Es wurde <https://github.com/matrix-org/synapse/pull/3099> mit eingespielt.

Externe Synapse Dokumentation

- <https://github.com/matrix-org/synapse/blob/master/README.rst#synapse-installation>
- <https://github.com/matrix-org/synapse/blob/master/README.rst#setting-up-federation>
- <https://github.com/matrix-org/synapse/blob/master/docs/turn-howto.rst>

users.bytespeicher.org

/etc/nginx/sites-available/users.bytespeicher.org

```
server {
    listen 80;
    listen [::]:80;

    index index.html;

    server_name users.bytespeicher.org;

    location / {
        try_files $uri $uri/ =404;
    }

    location ~ ^/~(.+?)(/.*)?$ {
        alias /home/$1/public_html$2;
        index index.html index.htm;
        autoindex on;
    }
}
```

Datensicherung

Die Datensicherung erfolgt verschlüsselt auf einen Server von [mape2k](#) und einen Server von [mkzero](#):

- 1 Full-Backup je Woche
- Inkrementelle Backups täglich
- Vorhaltezeit: 4 Wochen

Pakete:

- duply
- duplicity
- lftp

Installation nach folgender Anleitung: <https://wiki.fem.tu-ilmeneau.de/public/technik/howto/duply>

- MySQL-Dump-Skript unter /usr/local/bin/mysql-dump einrichten
- duply mape2k-backup create

Konfiguration:

.duply/mape2k-backup/conf

```
# GPG_KEY='_KEY_ID_'
GPG_PW=' '

GPG_KEY_SIGN='58252DC6'
GPG_KEYS_ENC='DD379EDC'
GPG_PW_SIGN='XXXXXXXXXXXXXXXXXX'

TARGET='ftps://XXXXX.YYY.ZZ/'
TARGET_USER='bytecluster0001.bytespeicher.org'
TARGET_PASS='XXXXXX'

# base directory to backup
SOURCE='/'

MAX_AGE=4W
MAX_FULL_BACKUPS=4
MAX_FULLBKP_AGE=1W
DUPL_PARAMS="$DUPL_PARAMS --full-if-older-than $MAX_FULLBKP_AGE "

VOLSIZE=250
DUPL_PARAMS="$DUPL_PARAMS --volsize $VOLSIZE "

#VERBOSITY=5
```

.duply/mkzero-backup/conf

```
# GPG_KEY='_KEY_ID_'
GPG_PW=' '

GPG_KEY_SIGN='58252DC6'
GPG_KEYS_ENC='DD379EDC'
GPG_PW_SIGN='XXXXXXXXXXXXXXXXXX'

TARGET='sftp://XXXXX.YYY.ZZ/'
TARGET_USER='bytespeicher'
```

```
TARGET_PASS='XXXXXX'

# base directory to backup
SOURCE='/'

MAX_AGE=4W
MAX_FULL_BACKUPS=4
MAX_FULLBKP_AGE=1W
DUPL_PARAMS="$DUPL_PARAMS --full-if-older-than $MAX_FULLBKP_AGE "

VOLSIZE=250
DUPL_PARAMS="$DUPL_PARAMS --volsize $VOLSIZE "

#VERBOSITY=5
```

Verzeichnisausnahmen:

```
.duply/mape2k-backup/exclude
```

```
+ /tmp/mysqldump
- /dev
- /sys
- /proc
- /run
- /tmp
- /var/tmp
- /root/.cache
- /root/backup
```

Benutzer für Sicherung der Datenbank einrichten:

Benutzer für Datensicherung

```
CREATE USER 'backup'@'localhost' IDENTIFIED BY 'PASSWORT';
GRANT USAGE ON * . * TO 'backup'@'localhost' IDENTIFIED BY 'PASSWORT' WITH
MAX_QUERIES_PER_HOUR 0 MAX_CONNECTIONS_PER_HOUR 0 MAX_UPDATES_PER_HOUR 0 MAX_USER_CONNECTIONS
0 ;

REVOKE ALL PRIVILEGES ON * . * FROM 'backup'@'localhost';
REVOKE GRANT OPTION ON * . * FROM 'backup'@'localhost';

GRANT SELECT, SHOW DATABASES, LOCK TABLES, SHOW VIEW ON * . * TO 'backup'@'localhost' WITH
MAX_QUERIES_PER_HOUR 0 MAX_CONNECTIONS_PER_HOUR 0 MAX_UPDATES_PER_HOUR 0 MAX_USER_CONNECTIONS
0;
FLUSH PRIVILEGES;
```

Zusätzliche Sicherung der Datenbanken vor der Datensicherung:

```
.duply/mape2k-backup/pre
```

```
mkdir -p /tmp/mysqldump
/usr/local/bin/mysql-dump
```

```
.duply/mape2k-backup/post
```

```
/bin/rm -rf /tmp/mysqldump
```

```
/usr/local/bin/mysql-dump.cnf
```

```
[client]
user=backup
password="PASSWORT"
host=localhost
```

Sicherung per Cronjob:

```
/etc/crontab
```

```
# Backup (mape2k)
0 4 * * 1 root HOME=/root && duply mape2k-backup cleanup_purge_purge-full --extra-
clean --force
30 4 * * * root HOME=/root && duply mape2k-backup backup

# Backup (mkzero)
0 2 * * 1 root HOME=/root && duply mkzero-backup cleanup_purge_purge-full --extra-
clean --force
30 2 * * * root HOME=/root && duply mkzero-backup backup
```

Dauerhafter Link zu diesem Dokument:

<https://wiki.technikkultur-erfurt.de/dienste:bytecluster0001?rev=1546034982>

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Verein zur Förderung von Technikkultur in Erfurt e.V

<https://wiki.technikkultur-erfurt.de/>

