

# Configurer un relais SMTP avec Postfix et Resend (RELAIS SMTP SANS IP PUBLIQUE)

## Principe

Documenso ⇒ Postfix local (port 25) ⇒ SMTP2Graph (localhost:2525) ⇒ Microsoft Graph API (OAuth2 Client Credentials) ⇒ sendMail

Autre solution : Postfix ⇒ Script Python (Communication via LPIPE) ⇒ Microsoft Graph API

## Prérequis

```
apt install mailutils libsasl2-modules
apt install python3-pip
```

visualiser logs :

```
journalctl -u postfix -n 50
```

## Script Python

- créer le fichier `/usr/local/bin/graph_sendmail.py`

```
#!/usr/bin/env python3
import sys
import email
import requests
import json
import base64
import traceback
from email.utils import getaddresses

# -----
# CONFIG MICROSOFT GRAPH
# -----
TENANT = "TON_TENANT_ID"
CLIENT_ID = "TON_CLIENT_ID"
CLIENT_SECRET = "TON_CLIENT_SECRET"
FROM_ADDR = "ton.adresse@tondomaine.com"

DEBUG_LOG = "/tmp/graph_debug.log"

def debug(msg):
    with open(DEBUG_LOG, "a", encoding="utf-8") as f:
        f.write(msg + "\n")

def clean_address_list(field_value):
    """
    Extrait correctement toutes les adresses
    même si Documenso génère des listes complexes.
    """
    if not field_value:
        return []

    parsed = getaddresses([field_value])
    cleaned = []

    for name, addr in parsed:
        addr = addr.replace("<", "").replace(">", "").strip()
        if addr:
            cleaned.append(addr)
```

```
    return cleaned

def flatten_body(part, text_body, html_body, attachments, inline_images):
    """
    Parcours récursivement l'arbre MIME.
    """
    ctype = part.get_content_type()
    disp = str(part.get("Content-Disposition", "")).lower()

    # 1. Si multipart -> parcourir les sous-parties
    if part.is_multipart():
        for subpart in part.get_payload():
            flatten_body(subpart, text_body, html_body, attachments, inline_images)
        return

    # 2. Corps texte
    if ctype == "text/plain" and "attachment" not in disp:
        payload = part.get_payload(decode=True)
        if payload:
            text_body.append(payload.decode("utf-8", errors="ignore"))
        return

    # 3. Corps HTML
    if ctype == "text/html" and "attachment" not in disp:
        payload = part.get_payload(decode=True)
        if payload:
            html_body.append(payload.decode("utf-8", errors="ignore"))
        return

    # 4. Images inline (multipart/related)
    if "inline" in disp and ctype.startswith("image/"):
        cid = part.get("Content-ID", "").strip("<>")
        payload = part.get_payload(decode=True)
        if payload and cid:
            inline_images.append({
                "@odata.type": "#microsoft.graph.fileAttachment",
                "name": cid,
                "contentId": cid,
                "isInline": True,
                "contentBytes": base64.b64encode(payload).decode()
            })
        return

    # 5. Attachments
    if "attachment" in disp or part.get_filename():
        filename = part.get_filename()
        payload = part.get_payload(decode=True)
        if filename and payload:
            attachments.append({
                "@odata.type": "#microsoft.graph.fileAttachment",
                "name": filename,
                "contentBytes": base64.b64encode(payload).decode()
            })
        return

# -----
# MAIN
# -----
try:
    raw = sys.stdin.read()
    msg = email.message_from_string(raw)

    debug("=== Nouveau mail reçu ===")

    subject = msg.get("Subject", "(no subject)")
    debug("Sujet: " + subject)

    # Extraction des adresses MIME (Documenso friendly)
```

```
to_list = clean_address_list(msg.get("To"))
cc_list = clean_address_list(msg.get("Cc"))
bcc_list = clean_address_list(msg.get("Bcc"))
reply_to_list = clean_address_list(msg.get("Reply-To"))

debug("To: " + str(to_list))
debug("Cc: " + str(cc_list))
debug("Bcc: " + str(bcc_list))
debug("Reply-To: " + str(reply_to_list))

# Corps du message
text_body = []
html_body = []
attachments = []
inline_images = []

flatten_body(msg, text_body, html_body, attachments, inline_images)

# Déterminer le corps principal HTML
final_html = ""

if html_body:
    final_html = "\n".join(html_body)
elif text_body:
    final_html = "<pre>" + "\n".join(text_body) + "</pre>"
else:
    final_html = "<p>(vide)</p>"

debug("Corps HTML (200 chars): " + final_html[:200])
debug("Attachments: " + str(len(attachments)))
debug("Inline images: " + str(len(inline_images)))

# -----
# TOKEN OAUTH2
# -----
debug("Before OAuth token request")

token_res = requests.post(
    f"https://login.microsoftonline.com/{TENANT}/oauth2/v2.0/token",
    data={
        "client_id": CLIENT_ID,
        "scope": "https://graph.microsoft.com/.default",
        "client_secret": CLIENT_SECRET,
        "grant_type": "client_credentials"
    }
)

debug("Token response: " + token_res.text)

token_json = token_res.json()
if "access_token" not in token_json:
    raise Exception("OAuth2 failed: " + token_res.text)

token = token_json["access_token"]

# -----
# CONSTRUCTION JSON GRAPH
# -----
def addr_obj(addr):
    return {"emailAddress": {"address": addr}}

message = {
    "subject": subject,
    "body": {
        "contentType": "HTML",
        "content": final_html
    },
    "toRecipients": [addr_obj(a) for a in to_list],
    "ccRecipients": [addr_obj(a) for a in cc_list],
    "bccRecipients": [addr_obj(a) for a in bcc_list],
```

```

        "attachments": attachments + inline_images
    }

    if reply_to_list:
        message["replyTo"] = [addr_obj(a) for a in reply_to_list]

    mail_json = {
        "message": message,
        "saveToSentItems": True
    }

    debug("Mail JSON ready")

    # -----
    # ENVOI VIA GRAPH API
    # -----
    graph_res = requests.post(
        f"https://graph.microsoft.com/v1.0/users/{FROM_ADDR}/sendMail",
        headers={
            "Authorization": f"Bearer {token}",
            "Content-Type": "application/json"
        },
        data=json.dumps(mail_json)
    )

    debug("Graph sendMail response: " + graph_res.text)
    debug("Status: " + str(graph_res.status_code))

except Exception as e:
    debug("SCRIPT ERROR: " + str(e))
    debug(traceback.format_exc())

```

- Rendre le script exécutable :

```

chmod 755 /usr/local/bin/graph_sendmail.py
chown root:root /usr/local/bin/graph_sendmail.py

```

## Configurer Postfix

### utiliser LPIPE pour appeler le script

- Créer le fichier **/etc/postfix/transport** :

```
* graph:
```

- compiler

```
postmap /etc/postfix/transport
```

- vérifier

```
postmap -s /etc/postfix/transport
```

- vérifier que le transport existe

```

#postconf -M
...
graph unix - n n - - pipe

```

- Configurer Postfix en modifiant le fichier **/etc/postfix/main.cf** :

```

myhostname = postfix-relay.lan
mydomain = lan
mydestination =
relayhost =

transport_maps = hash:/etc/postfix/transport

```

```
lpipe_destination_recipient_limit = 1
```

- Config /etc/postfix/master.cf pour appeler le script Python en ajoutant à la fin du fichier :

```
graph unix - n n - - pipe
flags=Fq.
user=nobody
argv=/scripts/graph_sendmail.py
```

## Préparation Azure AD (OAuth2)

- création d'une **Inscription d'applications** Entra ID :
  - Portail Azure ⇒ Entra ID
  - Inscription d'applications ⇒ Nouvelle inscription
  - Nom : smtp2graph-relay
  - Locataire unique seulement
  - S'inscrire
- Récupérer :
  - Tenant ID
  - Client ID
  - Ajouter un secret Client (dans Certificates & Secrets)
- Ajouter la permission Microsoft Graph :
  - Autorisations d'application (et non Autorisations déléguées) :Mail.Send
- Grant admin consent.
- Adresse email 0365 utilisée pour l'envoi afin que l'app puisse avoir le droit d'envoyer au nom de ce compte.

## Installation des prérequis

- conteneur LXC : 2 Gio RAM ; 2 coeurs ; DD de 20 Gio
- modifier le fichier **/etc/apt/sources.list.d/debian.sources** pour avoir ce contenu (<http://security.debian.org> trixie-security remplacé par <http://deb.debian.org/debian-security>)

```
Types: deb
URIs: http://deb.debian.org/debian-security
Suites: trixie-security
Components: contrib main
Signed-By: /usr/share/keyrings/debian-archive-keyring.gpg
```

```
Types: deb
URIs: http://deb.debian.org/debian
Suites: trixie trixie-updates
Components: contrib main
Signed-By: /usr/share/keyrings/debian-archive-keyring.gpg
```

- ajouter les dépôts

```
# Add Docker's official GPG key:
apt update
apt install ca-certificates curl
install -m 0755 -d /etc/apt/keyrings
curl -fsSL https://download.docker.com/linux/debian/gpg -o /etc/apt/keyrings/docker.asc
chmod a+r /etc/apt/keyrings/docker.asc
```

```
# Add the repository to Apt sources:
tee /etc/apt/sources.list.d/docker.sources <<EOF
Types: deb
URIs: https://download.docker.com/linux/debian
Suites: $(. /etc/os-release && echo "$VERSION_CODENAME")
Components: stable
Signed-By: /etc/apt/keyrings/docker.asc
EOF
```

- mettre à jour

```
apt update && apt upgrade -y
```

- installer Docker

```
apt install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin
```

- Vérifier l'installation:

```
docker --version
docker compose version
```

## Postfix & 1smtp2graph

- utilisation d'un Docker compose

[docker-compose.yml](#)

```
services:
  postfix:
    image: boky/postfix
    container_name: postfix-relay
    restart: unless-stopped
    environment:
      - ALLOW_EMPTY_SENDER=true
    volumes:
      - ./postfix/main.cf:/etc/postfix/main.cf
      - ./postfix/master.cf:/etc/postfix/master.cf
    network_mode: "host"

  smtp2graph:
    image: ghcr.io/microsoft/smtp-oauth2-proxy:latest
    container_name: smtp2graph
    restart: unless-stopped
    environment:
      PROXY_LISTEN_ADDRESS: "0.0.0.0:2525"
      OAUTH2_TENANT_ID: "TON_TENANT_ID"
      OAUTH2_CLIENT_ID: "TON_CLIENT_ID"
      OAUTH2_CLIENT_SECRET: "TON_CLIENT_SECRET"
      OAUTH2_SENDER: "ton.adresse@tondomaine.com"
    ports:
      - "2525:2525"
```

### postfix/main.cf (spécial "transport smtp2graph")

```
# Postfix minimal relay to smtp2graph
myhostname = postfix-relay.lan
mydomain = lan
myorigin = /etc/mailname
mydestination =
relayhost = [127.0.0.1]:2525

smtp_tls_security_level = may
smtp_sasl_auth_enable = no

# Generic mapping (optionnel pour réécrire root@...)
smtp_generic_maps = hash:/etc/postfix/generic
```

### /etc/postfix/generic

```
root@postfix-relay.lan ton.adresse@tondomaine.com
```

Puis :

```
postmap /etc/postfix/generic
```

### postfix/master.cf

|            |      |   |   |   |     |    |                 |
|------------|------|---|---|---|-----|----|-----------------|
| smtp       | inet | n | - | n | -   | -  | smtpd           |
| pickup     | unix | n | - | y | -   | 60 | pickup          |
| cleanup    | unix | n | - | y | -   | 0  | cleanup         |
| qmgr       | unix | n | - | n | 300 | 1  | qmgr            |
| rewrite    | unix | - | - | y | -   | -  | trivial-rewrite |
| bounce     | unix | - | - | y | -   | 0  | bounce          |
| defer      | unix | - | - | y | -   | 0  | bounce          |
| trace      | unix | - | - | y | -   | 0  | bounce          |
| verify     | unix | - | - | y | -   | 1  | verify          |
| flush      | unix | n | - | y | -   | 0  | flush           |
| proxymap   | unix | - | - | n | -   | -  | proxymap        |
| proxywrite | unix | - | - | n | -   | 1  | proxymap        |
| smtp       | unix | - | - | n | -   | -  | smtp            |
| relay      | unix | - | - | n | -   | -  | smtp            |
| discard    | unix | - | - | n | -   | -  | discard         |

On laisse Postfix en mode simple (no chroot) pour éviter les soucis SASL/TLS.

## Configuration Documenso

Dans `.env` :

```
NEXT_PRIVATE_SMTP_TRANSPORT="smtp-auth"
NEXT_PRIVATE_SMTP_HOST="127.0.0.1"
NEXT_PRIVATE_SMTP_PORT="25"
NEXT_PRIVATE_SMTP_SECURE="false"
NEXT_PRIVATE_SMTP_UNSAFE_IGNORE_TLS="true"
NEXT_PRIVATE_SMTP_FROM_ADDRESS="ton.adresse@tondomaine.com"
NEXT_PRIVATE_SMTP_FROM_NAME="Documenso"
```

## Créer un compte Resend

Lien : <https://resend.com/>

- générer une clé d'API

## Créer un compte SendGrid

Lien : <https://login.sendgrid.com/>

- générer une clé d'API

## Installer et configurer Postfix

```
apt update
apt install postfix mailutils libsasl2-modules
```

- Créer le fichier `/etc/postfix/sasl_passwd`

```
[smtp.sendgrid.net]:587 apikey:re_123456789abcdef
```

```
postmap /etc/postfix/sasl_passwd
chmod 600 /etc/postfix/sasl_passwd*
```

- copier les modules SASL dans le CHROOT

```
mkdir -p /var/spool/postfix/usr/lib/x86_64-linux-gnu/sasl2/
cp -a /usr/lib/x86_64-linux-gnu/sasl2/* /var/spool/postfix/usr/lib/x86_64-linux-gnu/sasl2/
```

## Configurer Postfix en "SMTP relay" vers Microsoft 365

- éditer `/etc/postfix/main.cf` :

```
nano /etc/postfix/main.cf
```

- Ajoute / remplace :

```
relayhost = [smtp.sendgrid.net]:587

smtp_sasl_auth_enable = yes
smtp_sasl_password_maps = hash:/etc/postfix/sasl_passwd
smtp_sasl_security_options = noanonymous
smtp_use_tls = yes
smtp_tls_security_level = encrypt
smtp_tls_CAfile = /etc/ssl/certs/ca-certificates.crt

inet_interfaces = all
inet_protocols = ipv4
```

```
systemctl restart postfix
```

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