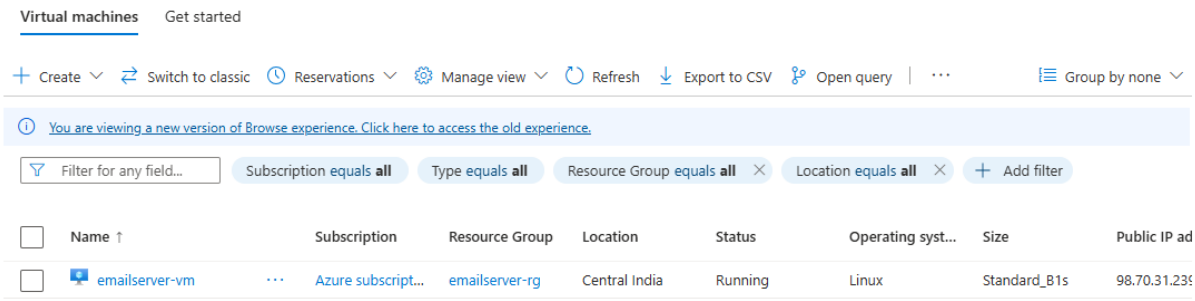
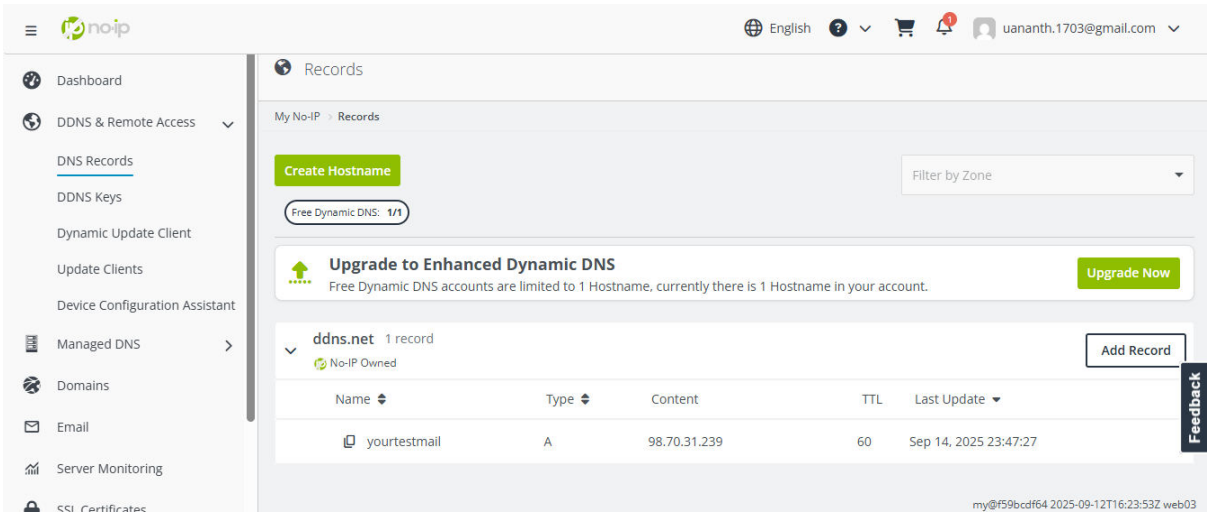
Set Up an Email Server on an Azure VM

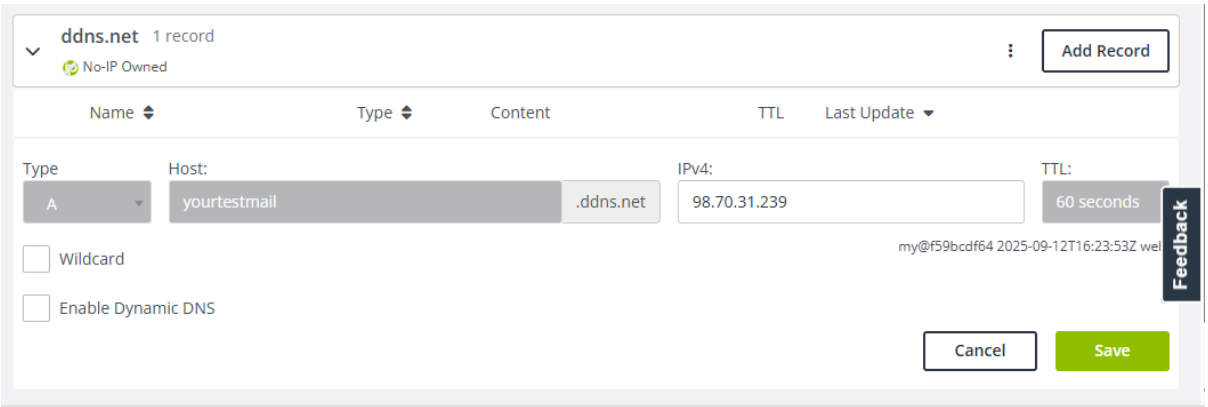
Step 1: Prepare Azure VM and No-IP Subdomain

1. Provision an Azure Ubuntu Server 22.04 VM:
    - Example: VM Name: emailserver-vm(NSG allows 22,80,443,587)
    - Public IP: (your actual assigned public IP)



2. Set up a free No-IP subdomain:
    - Register/login at noip.com
    - Create hostname: yourtestmail.ddns.net
    - Point the IPv4 value to your Azure VM public IP





Step 2: Install and Configure Postfix

SSH into your VM:

bash

ssh azureuser@<your-azure-vm-public-ip>

Install Postfix and mailutils:

bash

sudo apt update && sudo apt install postfix mailutils -y

- During configuration choose: "Internet Site"
- Set system mail name: yourtestmail.ddns.net

Edit Postfix config:

bash

sudo nano /etc/postfix/main.cf

Set (replace values if your VM's real hostname is different):

text

myhostname = yourtestmail.ddns.net

mydomain = ddns.net

myorigin = /etc/mailname

inet_interfaces = all

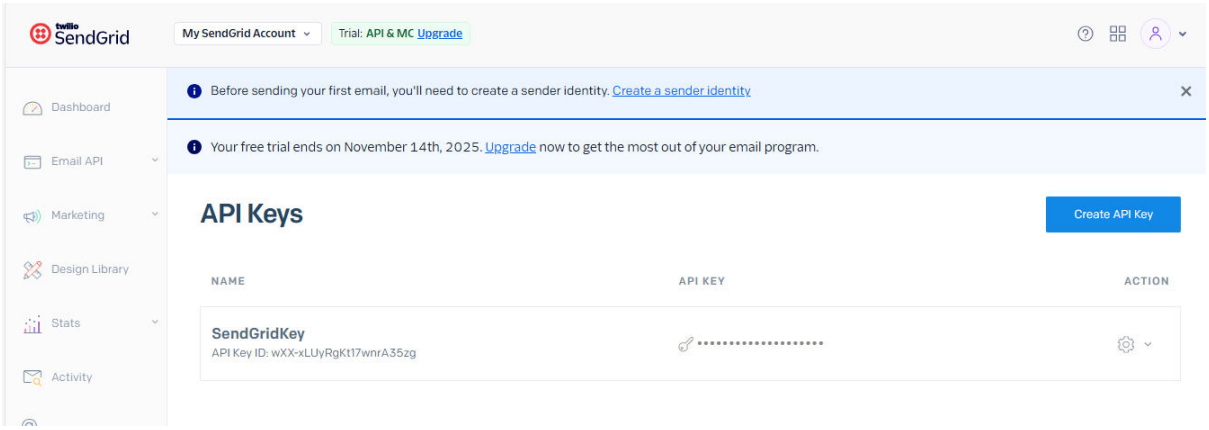
inet_protocols = all

mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain

home_mailbox = Maildir/

Step 3: Create and Use SendGrid API Key

- Sign up at SendGrid
- Go to Settings > API Keys > Create API Key
- Name: AzureVMRelay, Permissions: Full Access (for SMTP)
- Save the generated API key (format: SG.xxxxxxx)



Step 4: Configure Postfix to Use SendGrid as Relay

Add to /etc/postfix/main.cf:

text

relayhost = [smtp.sendgrid.net]:587

smtp_sasl_auth_enable = yes

smtp_sasl_password_maps = static:apikey:SG.xxxxxxx # (use your actual API key here)

smtp_sasl_security_options = noanonymous

smtp_tls_security_level = encrypt

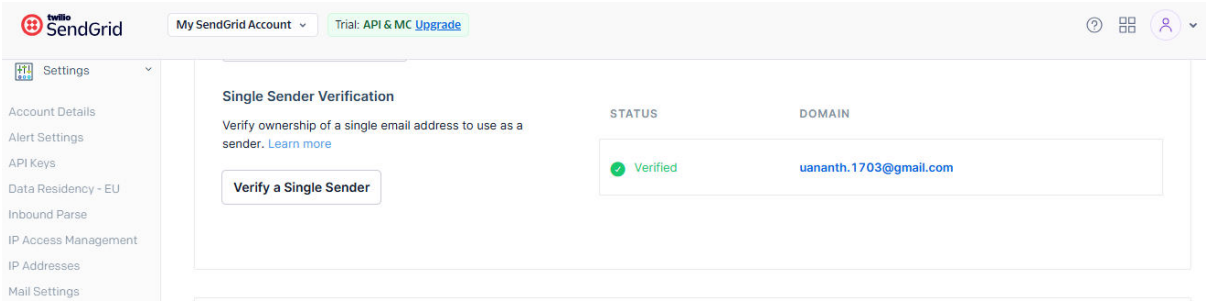
smtp_tls_CAfile = /etc/ssl/certs/ca-certificates.crt

smtp_use_tls = yes

Step 5: Verify Single Sender in SendGrid

1. In SendGrid, go to Settings > Sender Authentication > Single Sender Verification

2. Click "Get Started" and enter:
    - Name: Ananth
    - Email: uananth.1703@gmail.com
    - Fill in address details as per your info
3. Confirm verification by clicking the link sent to your Gmail inbox



Step 6: Set Postfix to Always Use Verified Sender

Edit /etc/postfix/sender_canonical:

bash

sudo nano /etc/postfix/sender_canonical

Add:

text

azureuser@emailserver-vm uananth.1703@gmail.com

Create the lookup map:

bash

sudo postmap /etc/postfix/sender_canonical

In /etc/postfix/main.cf add or uncomment:

text

sender_canonical_maps = hash:/etc/postfix/sender_canonical

Reload Postfix:

bash

sudo systemctl reload postfix

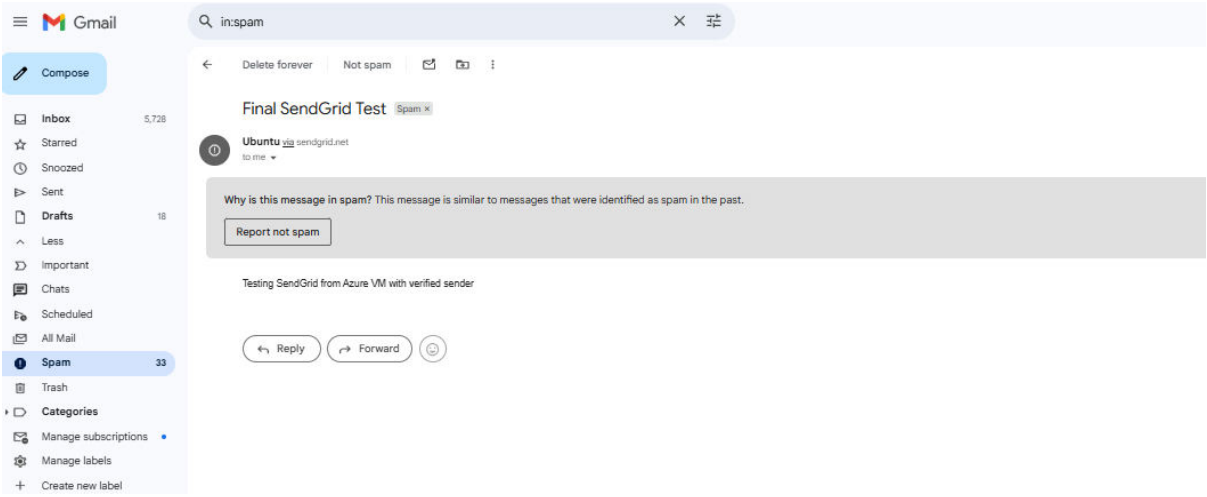
Step 7: Send and Verify Test Mail

Send:

bash

echo "Testing SendGrid from Azure VM with verified sender" | mail -s "Final SendGrid Test" uananth.1703@gmail.com

Check your Gmail inbox (including Spam) for the message.

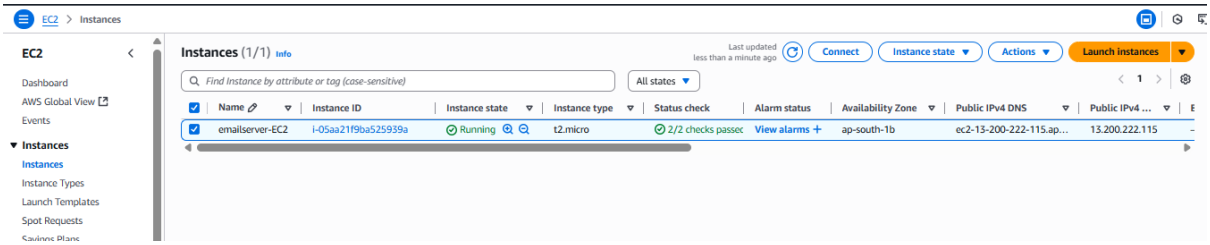


Complete Email Server Setup on AWS Ubuntu with SendGrid Relay

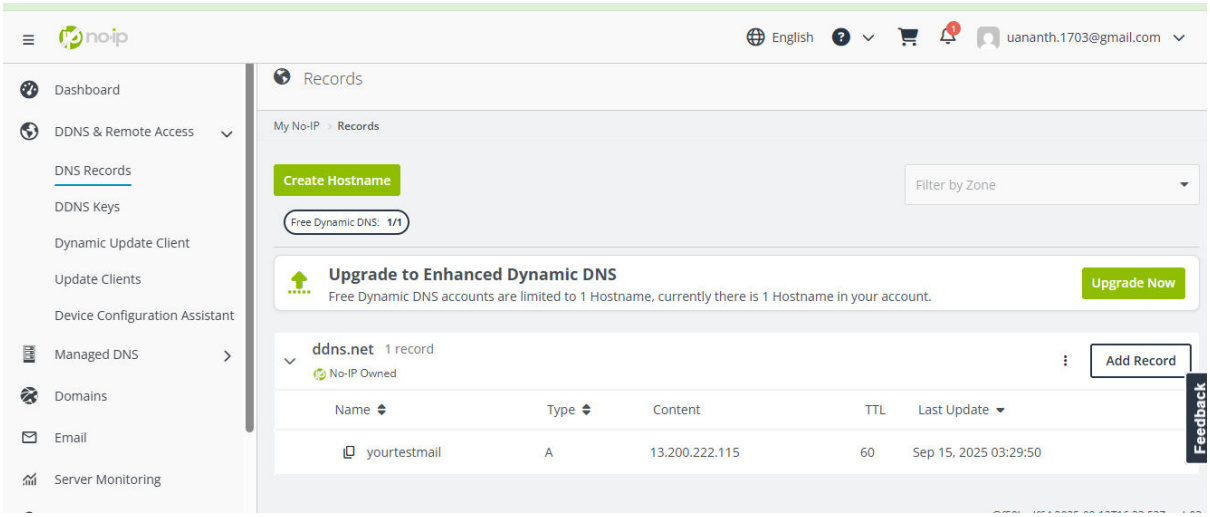
---

Step 1: Prepare AWS EC2 Ubuntu Server and No-IP Subdomain

1. Launch an AWS EC2 instance with:
    - Ubuntu Server 22.04
    - Public Elastic IP (e.g. 13.200.222.115)
    - Security group allows inbound ports 22 (SSH), 80 (HTTP), 587 (SMTP submission)



2. Register and create a free No-IP hostname:
    - Hostname: yourtestmail.ddns.net
    - Point this hostname to your AWS Elastic IP



Step 2: Install and Configure Postfix

SSH into the EC2 instance:

bash

ssh -i "keypair.pem" ubuntu@13.200.222.115

Install Postfix and mailutils:

bash

sudo apt update && sudo apt install postfix mailutils -y

- Choose “Internet Site” when prompted for mail configuration
- Set system mail name as:

text

yourtestmail.ddns.net

Edit Postfix config:

bash

sudo nano /etc/postfix/main.cf

Set these essential parameters (modify if your hostname differs):

text

myhostname = yourtestmail.ddns.net

mydomain = ddns.net

myorigin = /etc/mailname

inet_interfaces = all

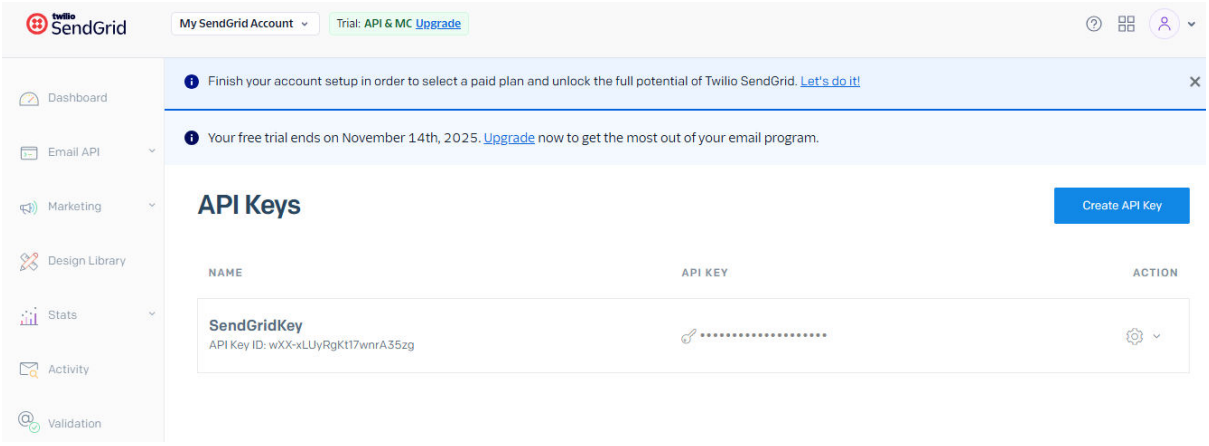
inet_protocols = all

mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain

home_mailbox = Maildir/

Step 3: Create SendGrid API Key

- Register/login at SendGrid
- Navigate: Settings > API Keys > Create API Key
- Name it e.g. AWSRelay, set permissions as Full Access
- Copy your API key (format: SG.xxxxxxxx...)



Step 4: Configure Postfix to Use SendGrid

In /etc/postfix/main.cf append:

text

relayhost = [smtp.sendgrid.net]:587

smtp_sasl_auth_enable = yes

smtp_sasl_password_maps = static:apikey:SG.xxxxxxxx... # Replace with your API key exactly

smtp_sasl_security_options = noanonymous

smtp_tls_security_level = encrypt

smtp_tls_CAfile = /etc/ssl/certs/ca-certificates.crt

smtp_use_tls = yes

Save and reload Postfix:

bash

sudo systemctl reload postfix

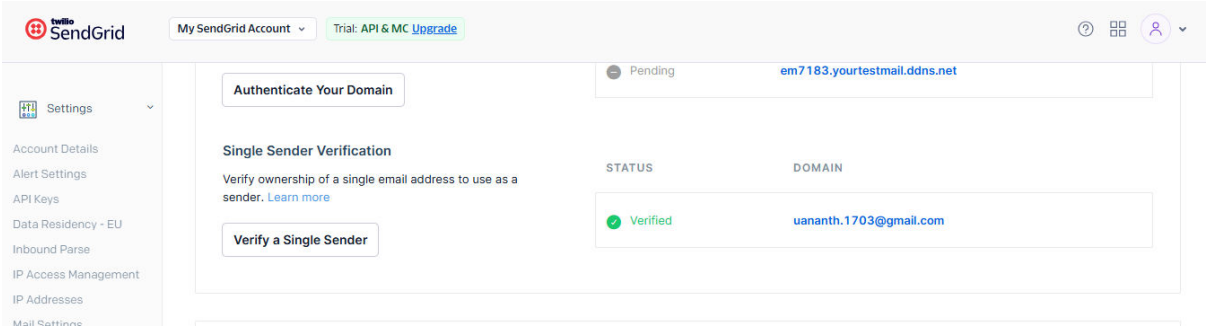
Step 5: Verify Single Sender on SendGrid

- Go to SendGrid dashboard > Settings > Sender Authentication > Single Sender Verification
- Click "Get Started," enter your sending email, e.g.:

text

uananth.1703@gmail.com

- Fill in required contact details.
- Click the verification link sent to your email inbox.



Step 6: Configure Postfix Sender Rewriting

Create or edit sender canonical map:

bash

sudo nano /etc/postfix/sender_canonical

Add this line replacing with your actual hostname:

text

ubuntu@ip-172-31-8-96.ap-south-1.compute.internal uananth.1703@gmail.com

Save and generate the database:

bash

sudo postmap /etc/postfix/sender_canonical

Add the following to /etc/postfix/main.cf if not present:

text

sender_canonical_maps = hash:/etc/postfix/sender_canonical

Reload Postfix to apply all changes:

bash

sudo systemctl reload postfix

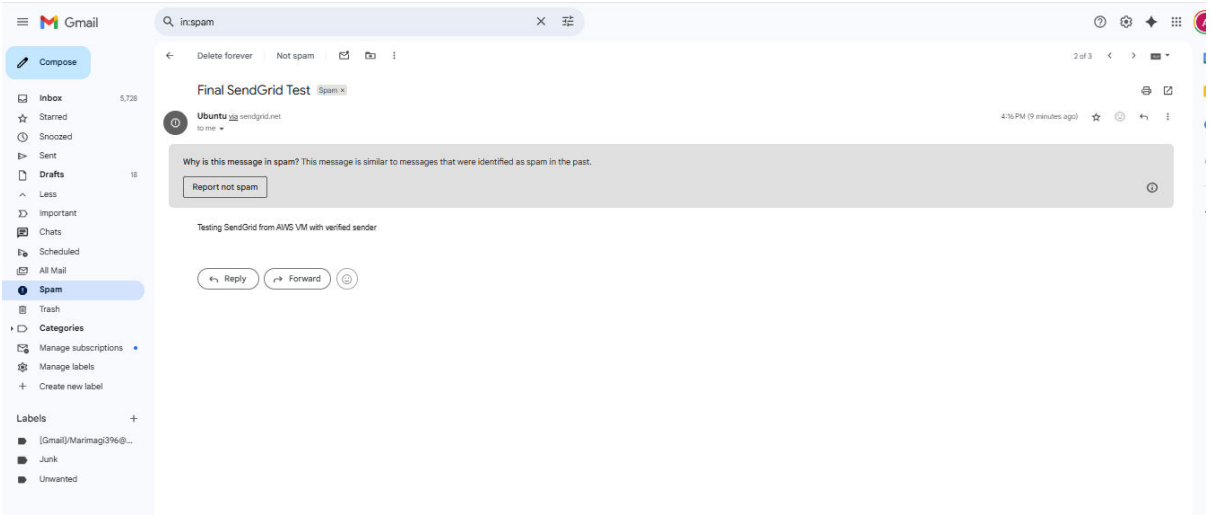
Step 7: Send Test Email

Send a test email command:

bash

echo "Testing final SendGrid mail relay setup on AWS" | mail -s "SendGrid Relay Test" uananth.1703@gmail.com

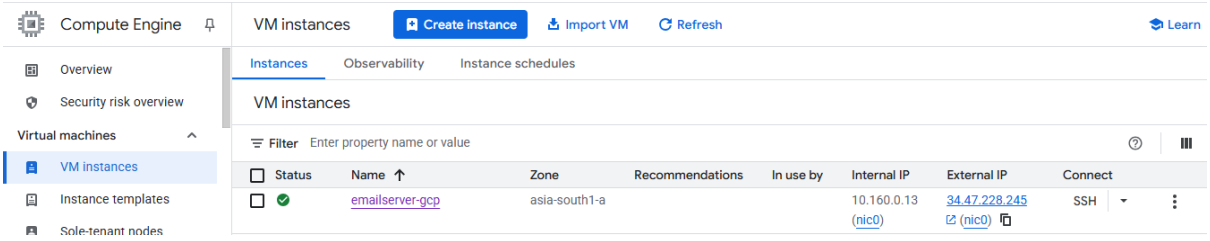
Check your Gmail inbox (including Spam folder) to verify receipt.



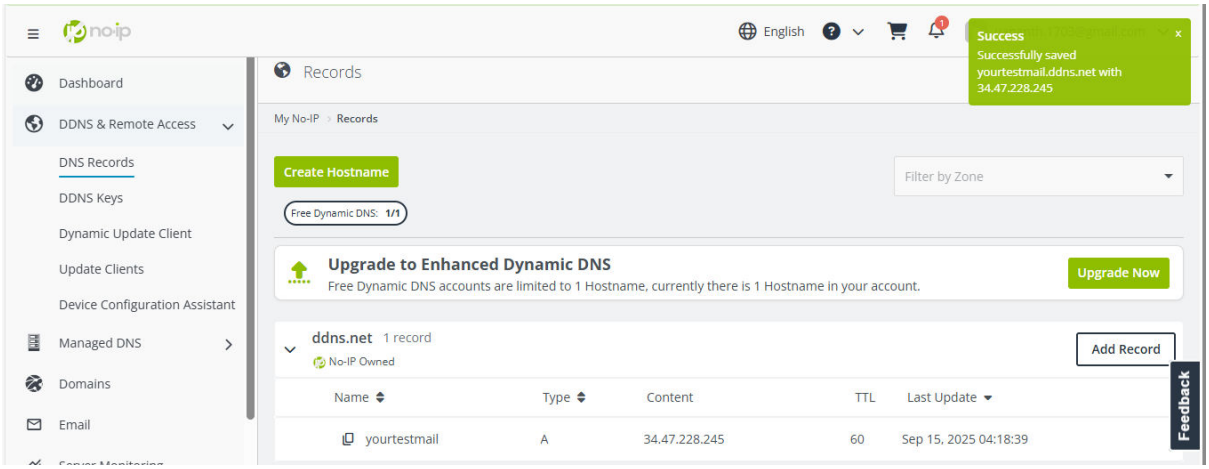
Complete Email Server Setup on GCP Ubuntu VM Using SendGrid SMTP Relay (With SASL and Sender Canonical Mapping)

Step 1: Prepare Google Cloud Compute Engine VM and No-IP Subdomain

1. Create a GCP Compute Engine VM (Ubuntu 22.04 recommended).
2. Allocate a static external IP to your VM.
3. Configure GCP firewall to allow inbound ports:
    - 22 (SSH)
    - 80 (HTTP)
    - 587 (SMTP submission)



4. Create a free No-IP subdomain (e.g., yourtestmail.ddns.net) pointing to your VM's static IP.



Step 2: Install Postfix and Required SASL Packages

SSH into your GCP VM:

bash

ssh ubuntu@<your-gcp-vm-public-ip>

Install required packages:

bash

sudo apt update

sudo apt install postfix mailutils libsasl2-2 sasl2-bin libsasl2-modules ca-certificates libsasl2-modules-db -y

- During Postfix install, choose Internet Site.
- Set system mail name as yourtestmail.ddns.net.

Step 3: Configure SASL for Postfix

Create SASL config for Postfix:

bash

sudo mkdir -p /etc/postfix/sasl

sudo nano /etc/postfix/sasl/smtpd.conf

Add:

text

pwcheck_method: saslauthd

mech_list: plain login

Save and exit.

Restart SASL daemon:

bash

sudo systemctl restart saslauthd

sudo systemctl enable saslauthd

Step 4: Configure Postfix (/etc/postfix/main.cf)

Edit main Postfix config:

bash

sudo nano /etc/postfix/main.cf

Ensure the following settings are present and correct (adjust hostname):

text

myhostname = emailserver-gcp.asia-south1-a.c.compact-flash-471109-h5.internal

mydomain = ddns.net

myorigin = /etc/mailname

inet_interfaces = all

inet_protocols = all

mydestination = $myhostname, yourtestmail.ddns.net, localhost.$mydomain, localhost, $mydomain

home_mailbox = Maildir/

relayhost = [smtp.sendgrid.net]:587

smtp_sasl_auth_enable = yes

smtp_sasl_password_maps = static:apikey:SG.xxxxxxxx-your-api-key-here

smtp_sasl_security_options = noanonymous

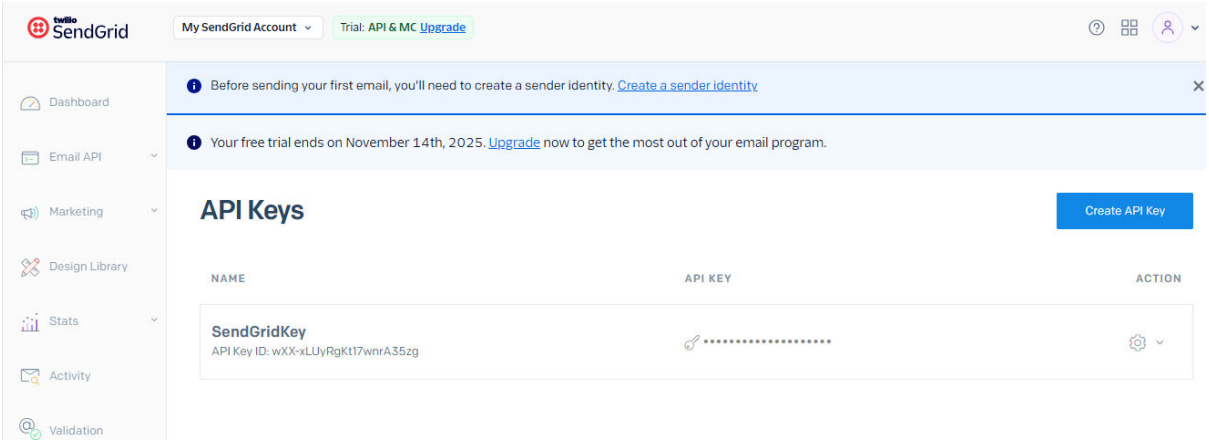
smtp_tls_security_level = encrypt

smtp_tls_CAfile = /etc/ssl/certs/ca-certificates.crt

smtp_use_tls = yes

sender_canonical_maps = hash:/etc/postfix/sender_canonical

Replace SG.xxxxxxxx-your-api-key-here with your actual SendGrid API key.



Step 5: Setup Sender Canonical Mapping

Create or edit /etc/postfix/sender_canonical to rewrite sender address:

bash

sudo nano /etc/postfix/sender_canonical

Add this line:

text

uananth_1703@emailserver-gcp.asia-south1-a.c.compact-flash-471109-h5.internal uananth.1703@gmail.com

Save and exit.

Generate hash map:

bash

sudo postmap /etc/postfix/sender_canonical

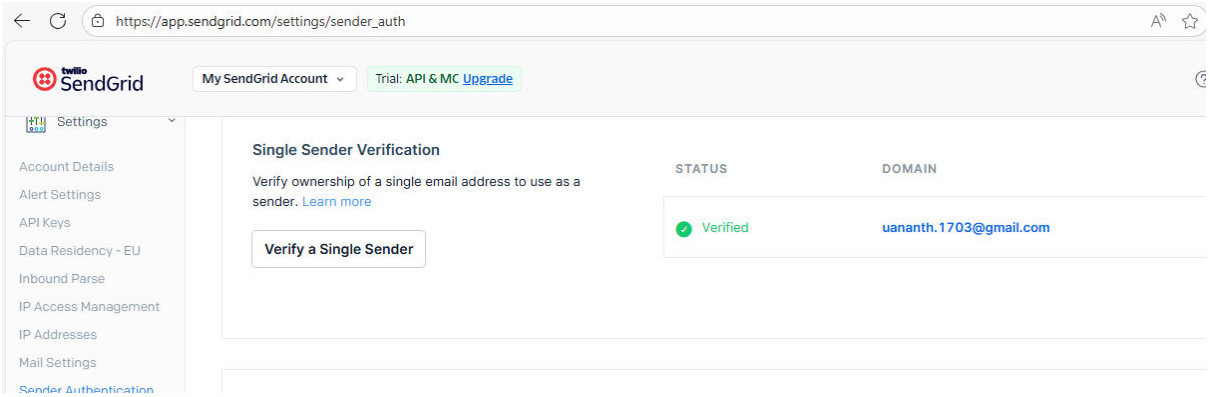
Step 6: Reload Postfix to Apply Changes

bash

sudo systemctl reload postfix

Step 7: Verify Single Sender on SendGrid

- Verify your sender email (uananth.1703@gmail.com) as a Single Sender Verification in the SendGrid dashboard under Settings > Sender Authentication.
- Click verification link sent to your Gmail inbox.



Step 8: Test Sending Email

Send a test mail from your VM:

bash

echo "Final successful SendGrid mail relay test" | mail -s "SendGrid GCP Test" uananth.1703@gmail.com

Check your Gmail inbox (including spam/junk folder) for email delivery.