AWS RHEL 8 EC2 Postfix Install

In this tutorial, we will be installing Postfix as an outbound send-only email server on an RHEL 8 EC2.

Prerequisites

- an AWS Free Tier account
- AWS RHEL 8 EC2 instance
- Amazon SES (Simple Email Service) configured
- internet access

If you do not have an AWS account, you can access my **AWS Create Free Tier Account** tutorial **here**.

If you do not have an AWS RHEL 8 EC2 instance, my tutorial **Create AWS RHEL 8 EC2 Instance** is **here**.

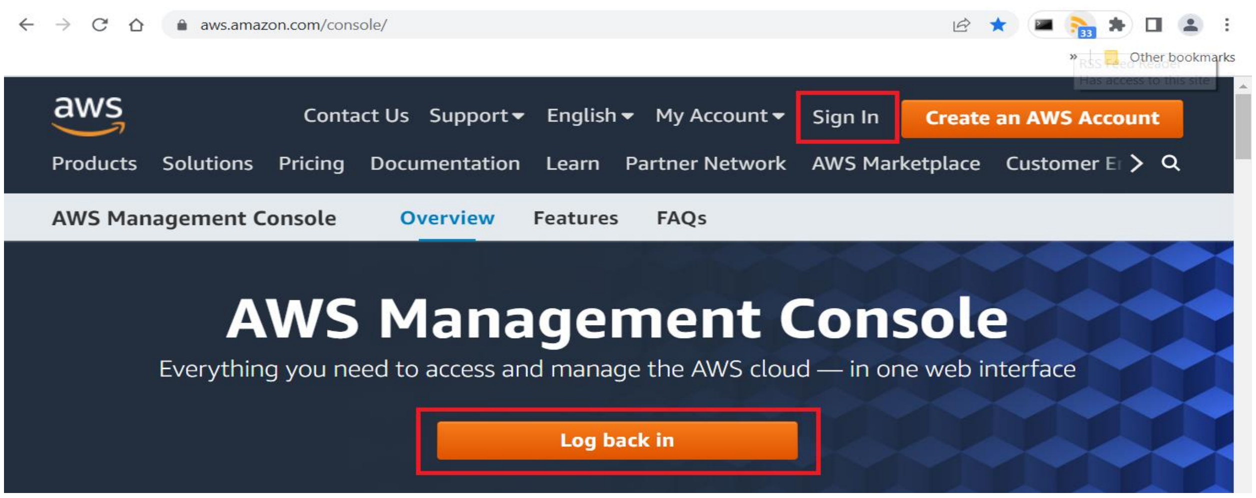
Finally, if you have not yet configured the required components to use Amazon SES, complete my other tutorial **Amazon SES Configuration**, accessible **here**, then return to this tutorial.

Steps to complete tutorial:

- Start RHEL 8 EC2 Instance
- Connect to RHEL 8
- Install Postfix Email Server
- Test Postfix Email Server using sendmail
- Set Sender/Recipient Email Address
- Test Postfix Email Server using cronjob

Start RHEL 8 EC2 Instance

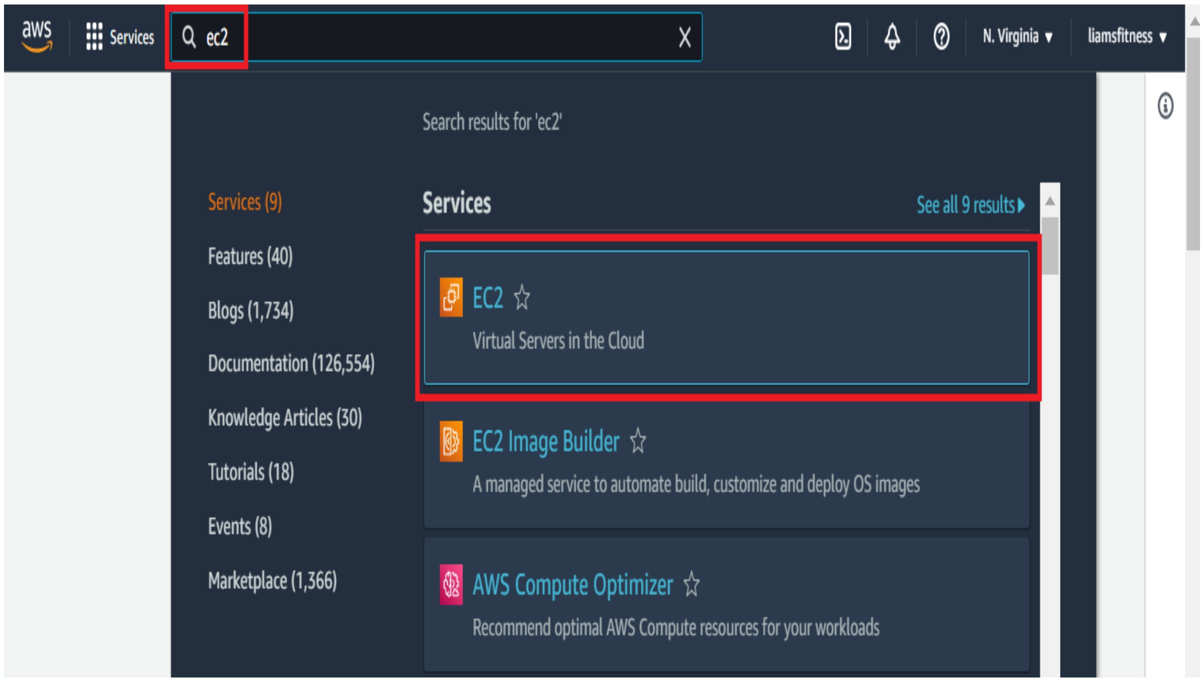
To begin, go to the following website, https://aws.amazon.com/console/ and log in to the console.



At the end of my **Create AWS RHEL 8 EC2 Instance** tutorial, I suggested shutting down your EC2 instances when they are not being used due to the AWS Free Tier EC2 limit of 750 hours per month.

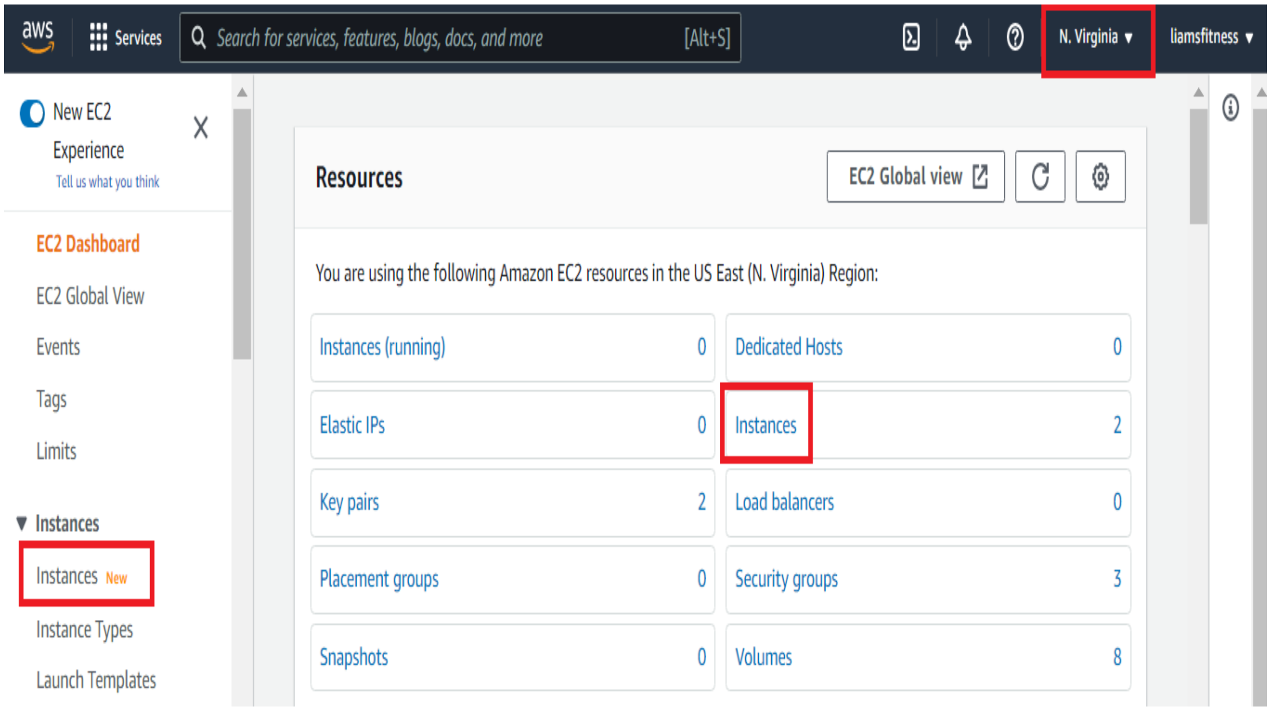
If you already know that your RHEL 8 EC2 instance is running, you can skip this step and go directly to **Connect to RHEL 8**.

Otherwise, we need to ensure that our instance is running. Once on the **Console Home** screen, enter **EC2** in the search bar and select the 1st EC2 listing.



You will be brought to the **EC2** Dashboard. It contains links to the resources being used in the selected AWS region. In my case it's US East (N. Virginia).

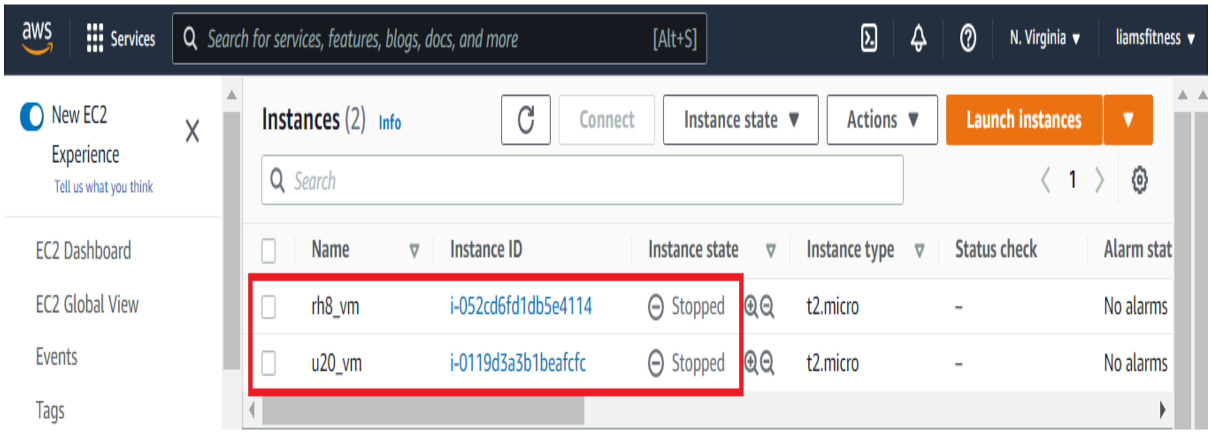
From the EC2 dashboard, click **Instances** (either link will work, your choice).



You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

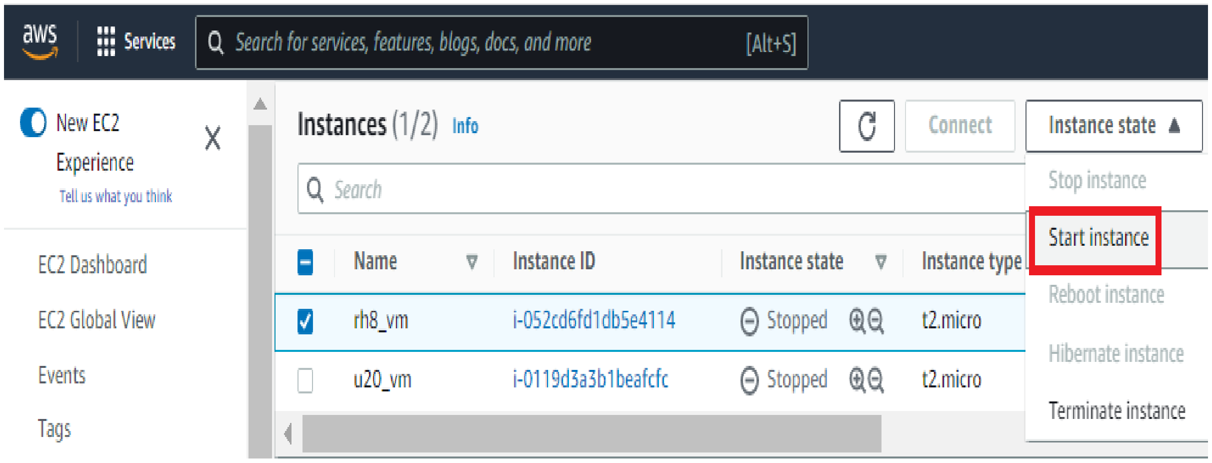
Instances (running)	0	Dedicated Hosts	0
Elastic IPs	0	Instances	2
Key pairs	2	Load balancers	0
Placement groups	0	Security groups	3
Snapshots	0	Volumes	8

You will notice that both of my instances are in the stopped stated.



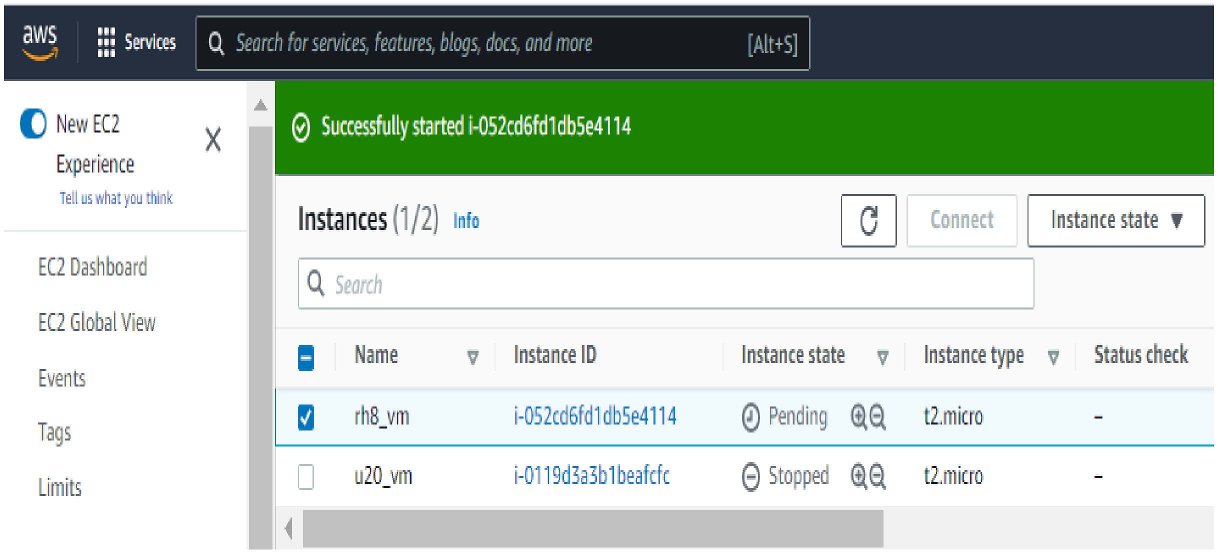
Name	Instance ID	Instance state	Instance type	Status check	Alarm stat
rh8_vm	i-052cd6fd1db5e4114	Stopped	t2.micro	-	No alarms
u20_vm	i-0119d3a3b1beafcfc	Stopped	t2.micro	-	No alarms

To start my RHEL 8 instance, I will ensure that my **rh8_vm** is selected (checkbox), then I will click the **Instance state** drop-down menu and click **Start instance**.



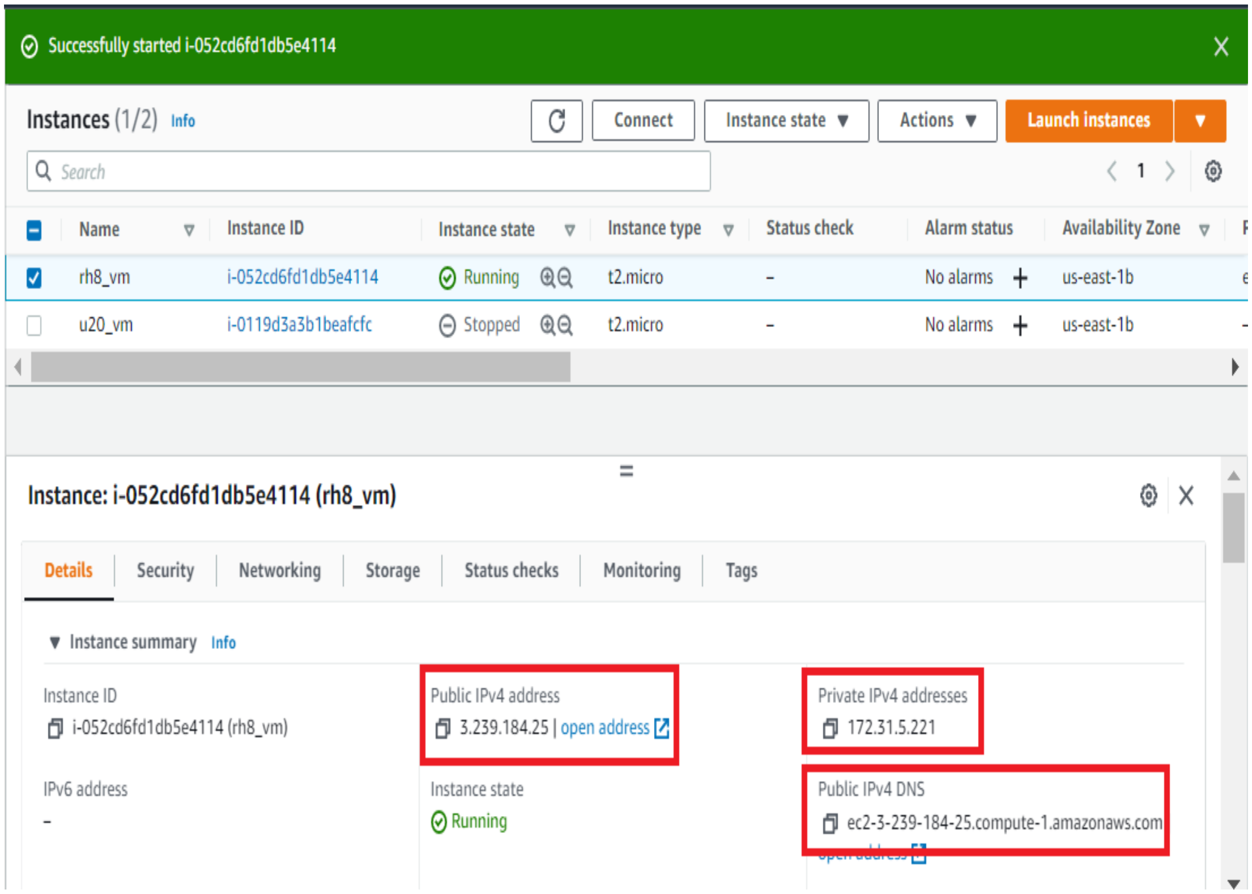
Name	Instance ID	Instance state	Instance type
✓ rh8_vm	i-052cd6fd1db5e4114	Stopped	t2.micro
u20_vm	i-0119d3a3b1beafcfc	Stopped	t2.micro

The instance will start and be given new connection details.



Name	Instance ID	Instance state	Instance type	Status check
✓ rh8_vm	i-052cd6fd1db5e4114	Pending	t2.micro	-
u20_vm	i-0119d3a3b1beafcfc	Stopped	t2.micro	-

Ensure your new instance is selected (**rh8_vm**), then on the **Details** tab, note the value for **Public IPv4 DNS**. I usually keep the instance's name, public IP, private IP and public IPv4 DNS stored for easy access. We will need this to connect to the instance.



Successfully started i-052cd6fd1db5e4114

Instances (1/2)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
rh8_vm	i-052cd6fd1db5e4114	Running	t2.micro	-	No alarms	us-east-1b
u20_vm	i-0119d3a3b1beafcfc	Stopped	t2.micro	-	No alarms	us-east-1b

Instance: i-052cd6fd1db5e4114 (rh8_vm)

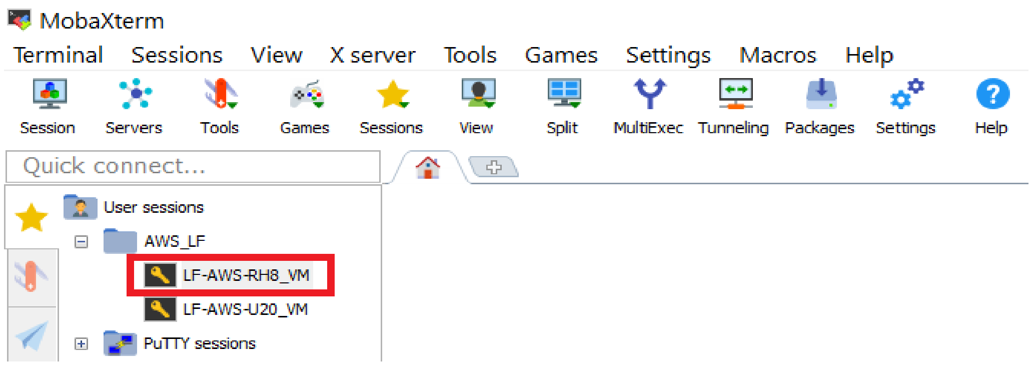
Instance summary

Instance ID: i-052cd6fd1db5e4114 (rh8_vm)
Public IPv4 address: 3.239.184.25 | open address
Private IPv4 addresses: 172.31.5.221
IPv6 address: -
Instance state: Running
Public IPv4 DNS: ec2-3-239-184-25.compute-1.amazonaws.com

Connect to RHEL 8

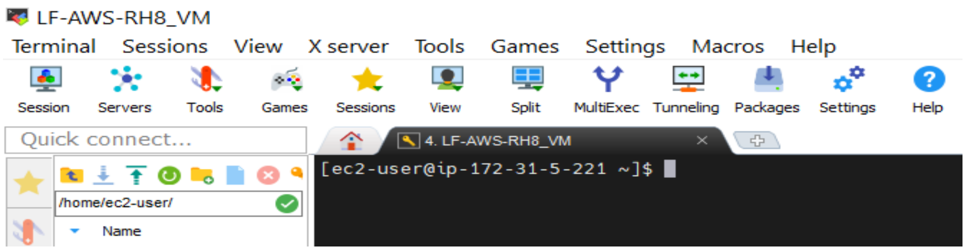
As I mentioned in my **Create AWS RHEL 8 EC2 Instance** tutorial, accessible **here,** I am using **MobaXterm Portable** as my SSH client. Since I restarted my RHEL 8 EC2 instance, the connection details changed and I had to update my saved SSH session by changing the **Remote Host:** to the updated **Public IPv4 DNS** of my RHEL 8 instance.

After updating my saved SSH connection, from the MobaXterm main interface, I double clicked my SSH session to connect to my RHEL 8 EC2 instance.



MobaXterm
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
User sessions
AWS_LF
LF-AWS-RH8_VM
LF-AWS-U20_VM
PuTTY sessions

After the session opened, I executed the **`clear`** command to clear the terminal.


LF-AWS-RH8_VM
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
4. LF-AWS-RH8_VM
/home/ec2-user/
Name

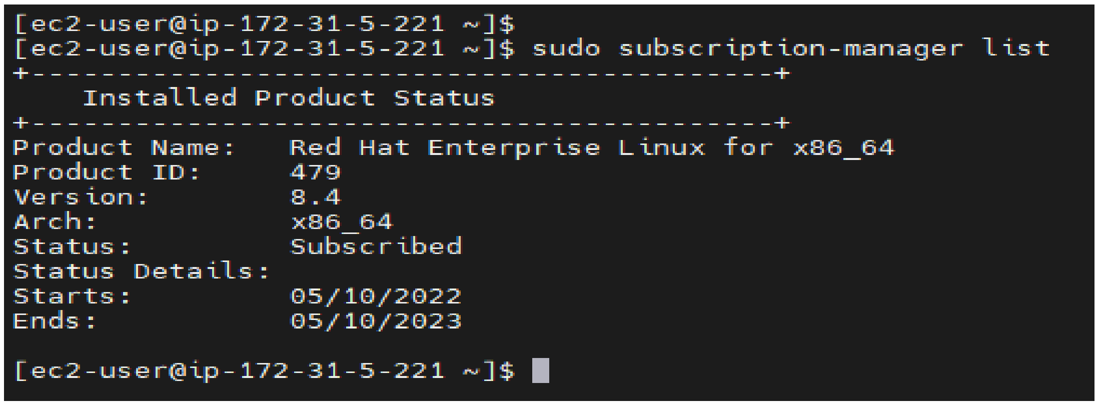
```
[ec2-user@ip-172-31-5-221 ~]$
```

We are now ready to install the Postfix email server.

Install Postfix Email Server

Please note that your RHEL 8 instance must be registered, and have access to a Red Hat subscription, in order to install packages. RHEL 8 registration was covered in my **Create AWS RHEL 8 EC2 Instance** tutorial, accessible here. To verify system registration, issue the following:

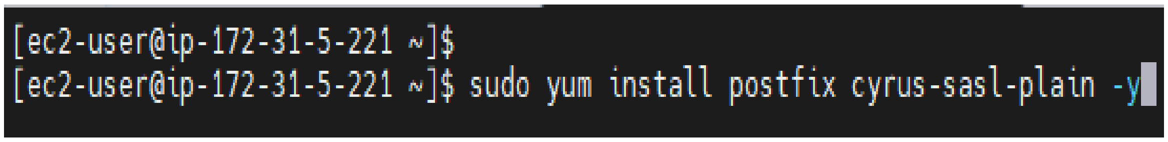
`$ sudo subscription-manager list`



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo subscription-manager list
+-------------------------------------------+
    Installed Product Status
+-------------------------------------------+
Product Name:   Red Hat Enterprise Linux for x86_64
Product ID:     479
Version:        8.4
Arch:           x86_64
Status:         Subscribed
Status Details:
Starts:         05/10/2022
Ends:           05/10/2023

[ec2-user@ip-172-31-5-221 ~]$
```

We first install the **postfix** package, as well as, the authentication and security package for RHEL.

`$ sudo yum install postfix cyrus-sasl-plain -y`

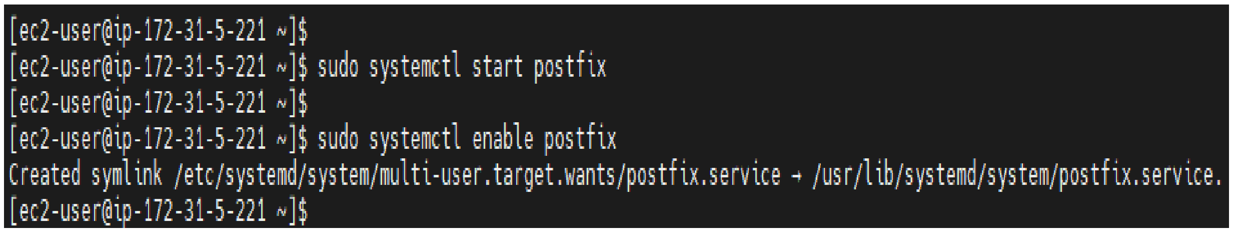


```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo yum install postfix cyrus-sasl-plain -y
```

Post-installation, we must start and enable the Postfix service.

`$ sudo systemctl start postfix`

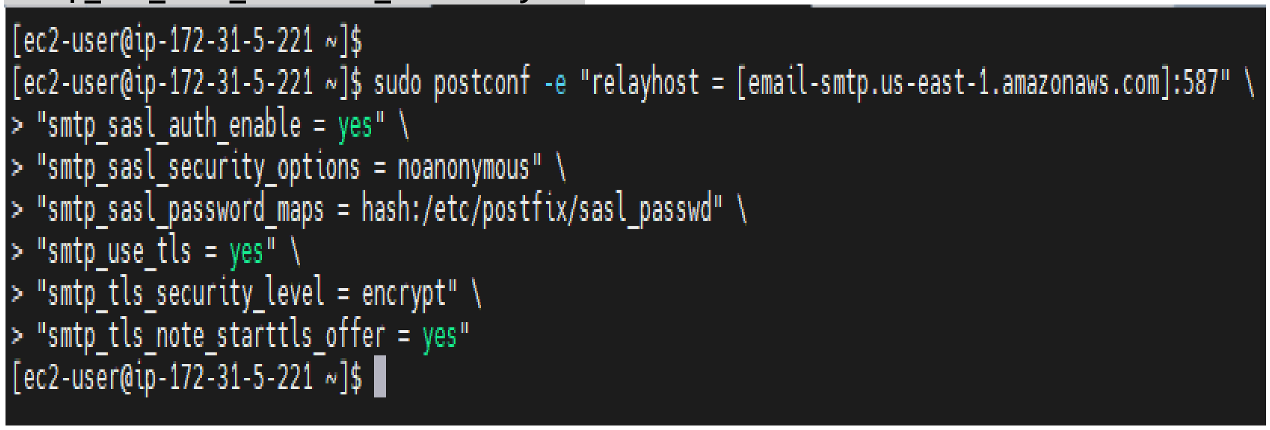
`$ sudo systemctl enable postfix`



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo systemctl start postfix
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo systemctl enable postfix
Created symlink /etc/systemd/system/multi-user.target.wants/postfix.service → /usr/lib/systemd/system/postfix.service.
[ec2-user@ip-172-31-5-221 ~]$
```

Now, I will configure Postfix to use the **Amazon SES SMTP Service Endpoint** in my region (**us-east-1 US East (N. Virginia)**) along with the security group's inbound rule for port 587 (which I opened in my **Amazon SES Configuration** tutorial).

```
sudo postconf -e "relayhost = [email-smtp.us-east-1.amazonaws.com]:587" \
"smtp_sasl_auth_enable = yes" \
"smtp_sasl_security_options = noanonymous" \
"smtp_sasl_password_maps = hash:/etc/postfix/sasl_passwd" \
"smtp_use_tls = yes" \
"smtp_tls_security_level = encrypt" \
"smtp_tls_note_starttls_offer = yes"
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo postconf -e "relayhost = [email-smtp.us-east-1.amazonaws.com]:587" \
> "smtp_sasl_auth_enable = yes" \
> "smtp_sasl_security_options = noanonymous" \
> "smtp_sasl_password_maps = hash:/etc/postfix/sasl_passwd" \
> "smtp_use_tls = yes" \
> "smtp_tls_security_level = encrypt" \
> "smtp_tls_note_starttls_offer = yes"
[ec2-user@ip-172-31-5-221 ~]$
```

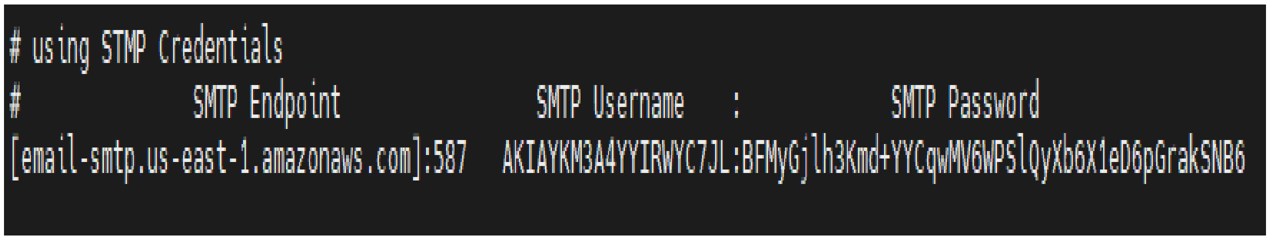
In the next step, we will create a password file that contains the SMTP credentials (**Amazon SES Configuration** tutorial). This will allow Postfix to connect to the **Amazon SES SMTP interface** which is acting as the **relayhost**.

"**relayhost = [email-smtp.us-east-1.amazonaws.com]:587**"

Open **your** SMTP credentials file (**credentials.csv**) downloaded while completing the **Amazon SES Configuration** tutorial and following the layout below, add to **`/etc/postfix/sasl_passwd`**

```
$ sudo vi /etc/postfix/sasl_passwd
```

```
# using STMP Credentials

#       SMTP Endpoint        SMTP Username   :   SMTP Password

[email-smtp.us-east-1.amazonaws.com]:587 AKIAYKM3A4YYIRWYC7JL:BFMyGjlh3Kmd+YYCqwMV6WPSlQyXb6X1eD6pGrakSNB6
```



```
# using STMP Credentials
#            SMTP Endpoint             SMTP Username   :          SMTP Password
[email-smtp.us-east-1.amazonaws.com]:587   AKIAYKM3A4YYIRWYC7JL:BFMyGjlh3Kmd+YYCqwMV6WPSlQyXb6X1eD6pGrakSNB6
```

Next, type the following command to create a hashmap database file containing your SMTP credentials

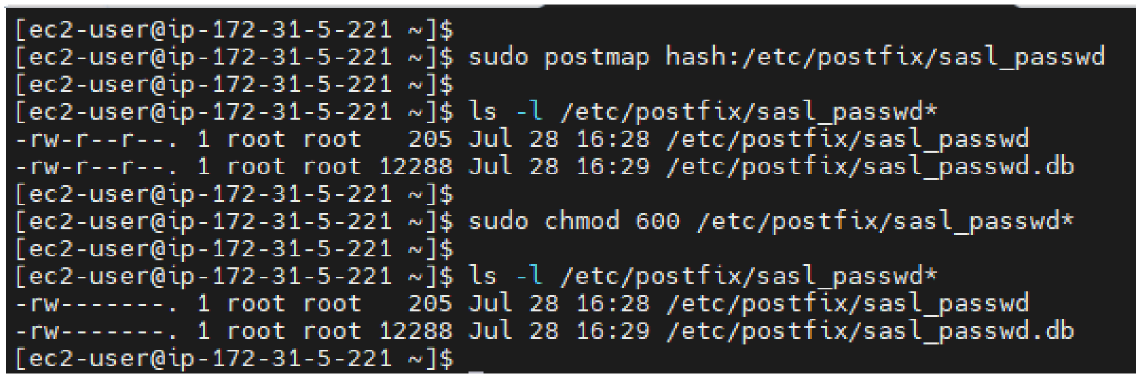
```
$ sudo postmap hash:/etc/postfix/sasl_passwd
```

Now secure the **sasl_passwd** & **sasl_passwd.db** files by applying restrictive priviliges.

```
$ ls -l /etc/postfix/sasl_passwd*
```

```
$ sudo chmod 600 /etc/postfix/sasl_passwd*
```

```
$ ls -l /etc/postfix/sasl_passwd*
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo postmap hash:/etc/postfix/sasl_passwd
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ ls -l /etc/postfix/sasl_passwd*
-rw-r--r--. 1 root root   205 Jul 28 16:28 /etc/postfix/sasl_passwd
-rw-r--r--. 1 root root 12288 Jul 28 16:29 /etc/postfix/sasl_passwd.db
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo chmod 600 /etc/postfix/sasl_passwd*
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ ls -l /etc/postfix/sasl_passwd*
-rw-------. 1 root root   205 Jul 28 16:28 /etc/postfix/sasl_passwd
-rw-------. 1 root root 12288 Jul 28 16:29 /etc/postfix/sasl_passwd.db
[ec2-user@ip-172-31-5-221 ~]$ _
```

Tell Postfix where to find the CA certificate (needed to verify the Amazon SES server certificate).

```
$ sudo postconf -e 'smtp_tls_CAfile = /etc/ssl/certs/ca-bundle.crt'
```

Since we are in the SES (Simple Email Service) sandbox, we can only use verified identities as the sender and recipient of emails. As I only have one verified identity, I will use the same email address for both sender and recipient.

Please note, for all of the following tests and configuration changes, use your verified identity (email address.)

Test Postfix Email Server using sendmail

First, create the contents of the email by creating a file called **input.txt** that contains the following:

Note: remember to use **your** SES verified identity (email address) as the sender address and place a period on the last line.

```
$ vi input.txt
```

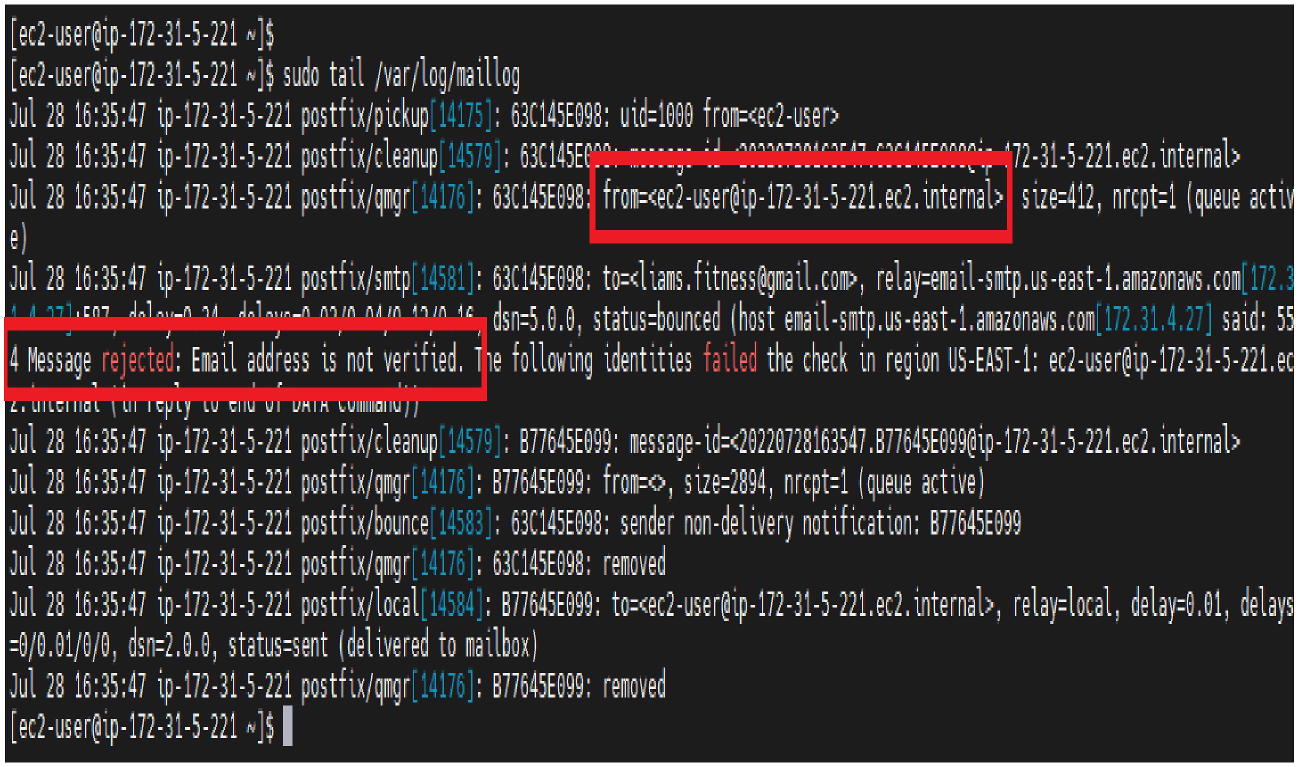
```
From: Sender Name <liams.fitness@gmail.com>
Subject: Amazon SES Test from RHEL 8 EC2
This message was sent using Amazon SES.
.
```

Then, execute the following command:

```
$ sendmail liams.fitness@gmail.com < input.txt
```

If you did not receive the test email, an error occured, check the log file.

```
$ sudo tail /var/log/maillog
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo tail /var/log/maillog
Jul 28 16:35:47 ip-172-31-5-221 postfix/pickup[14175]: 63C145E098: uid=1000 from=<ec2-user>
Jul 28 16:35:47 ip-172-31-5-221 postfix/cleanup[14579]: 63C145E098: message-id=<20220728163547.63C145E098@ip-172-31-5-221.ec2.internal>
Jul 28 16:35:47 ip-172-31-5-221 postfix/qmgr[14176]: 63C145E098: from=<ec2-user@ip-172-31-5-221.ec2.internal>, size=412, nrcpt=1 (queue activ
e)
Jul 28 16:35:47 ip-172-31-5-221 postfix/smtp[14581]: 63C145E098: to=<liams.fitness@gmail.com>, relay=email-smtp.us-east-1.amazonaws.com[172.3
1.4.27]:587, delay=0.34, delays=0.03/0.04/0.12/0.16, dsn=5.0.0, status=bounced (host email-smtp.us-east-1.amazonaws.com[172.31.4.27] said: 55
4 Message rejected: Email address is not verified. The following identities failed the check in region US-EAST-1: ec2-user@ip-172-31-5-221.ec
2.internal (in reply to end of DATA command))
Jul 28 16:35:47 ip-172-31-5-221 postfix/cleanup[14579]: B77645E099: message-id=<20220728163547.B77645E099@ip-172-31-5-221.ec2.internal>
Jul 28 16:35:47 ip-172-31-5-221 postfix/qmgr[14176]: B77645E099: from=<>, size=2894, nrcpt=1 (queue active)
Jul 28 16:35:47 ip-172-31-5-221 postfix/bounce[14583]: 63C145E098: sender non-delivery notification: B77645E099
Jul 28 16:35:47 ip-172-31-5-221 postfix/qmgr[14176]: 63C145E098: removed
Jul 28 16:35:47 ip-172-31-5-221 postfix/local[14584]: B77645E099: to=<ec2-user@ip-172-31-5-221.ec2.internal>, relay=local, delay=0.01, delays
=0/0.01/0/0, dsn=2.0.0, status=sent (delivered to mailbox)
Jul 28 16:35:47 ip-172-31-5-221 postfix/qmgr[14176]: B77645E099: removed
[ec2-user@ip-172-31-5-221 ~]$
```

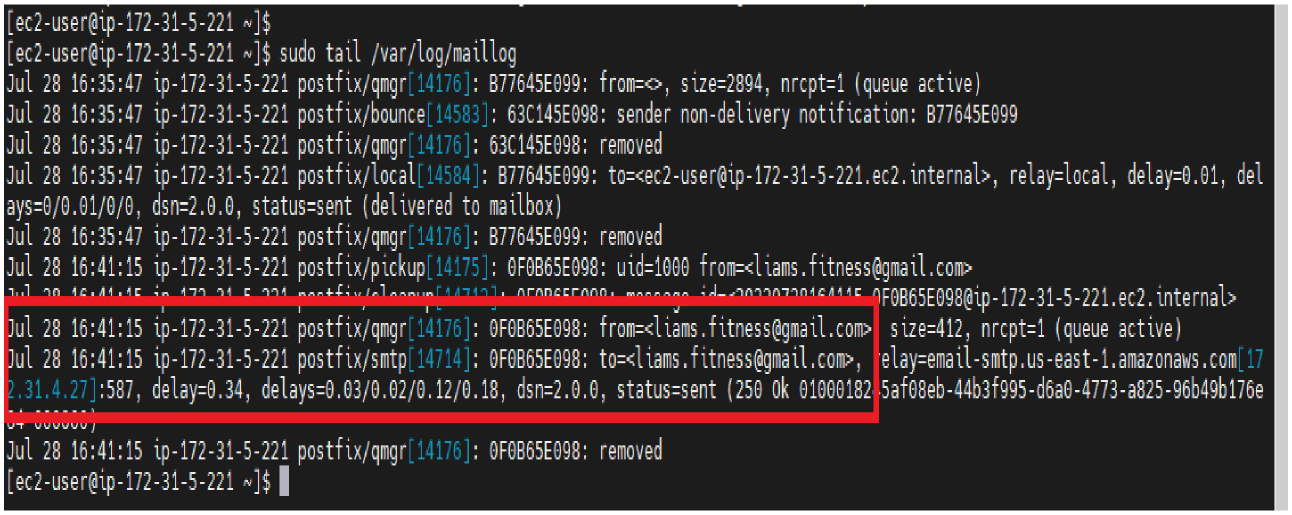
You will notice that the unverified identity was prevented from sending an email.

ec2-user@ip-172-31-5-221.ec2.internal

We will now change the command to the following (-f specifies sender):

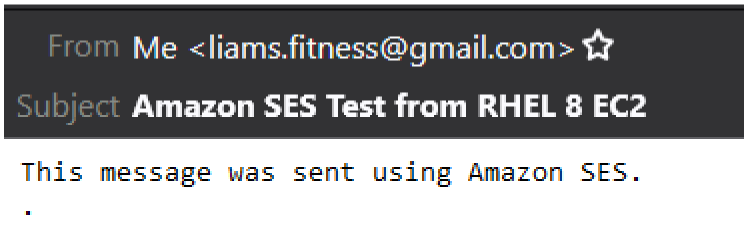
```
$ sendmail -f liams.fitness@gmail.com liams.fitness@gmail.com < input.txt
```

```
$ sudo tail /var/log/maillog
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo tail /var/log/maillog
Jul 28 16:35:47 ip-172-31-5-221 postfix/qmgr[14176]: B77645E099: from=<>, size=2894, nrcpt=1 (queue active)
Jul 28 16:35:47 ip-172-31-5-221 postfix/bounce[14583]: 63C145E098: sender non-delivery notification: B77645E099
Jul 28 16:35:47 ip-172-31-5-221 postfix/qmgr[14176]: 63C145E098: removed
Jul 28 16:35:47 ip-172-31-5-221 postfix/local[14584]: B77645E099: to=<ec2-user@ip-172-31-5-221.ec2.internal>, relay=local, delay=0.01, del
ays=0/0.01/0/0, dsn=2.0.0, status=sent (delivered to mailbox)
Jul 28 16:35:47 ip-172-31-5-221 postfix/qmgr[14176]: B77645E099: removed
Jul 28 16:41:15 ip-172-31-5-221 postfix/pickup[14175]: 0F0B65E098: uid=1000 from=<liams.fitness@gmail.com>
Jul 28 16:41:15 ip-172-31-5-221 postfix/cleanup[14713]: 0F0B65E098: message-id=<20220728164115.0F0B65E098@ip-172-31-5-221.ec2.internal>
Jul 28 16:41:15 ip-172-31-5-221 postfix/qmgr[14176]: 0F0B65E098: from=<liams.fitness@gmail.com>, size=412, nrcpt=1 (queue active)
Jul 28 16:41:15 ip-172-31-5-221 postfix/smtp[14714]: 0F0B65E098: to=<liams.fitness@gmail.com>, relay=email-smtp.us-east-1.amazonaws.com[17
2.31.4.27]:587, delay=0.34, delays=0.03/0.02/0.12/0.18, dsn=2.0.0, status=sent (250 Ok 01000182-5af08eb-44b3f995-d6a0-4773-a825-96b49b176e
64-000000)
Jul 28 16:41:15 ip-172-31-5-221 postfix/qmgr[14176]: 0F0B65E098: removed
[ec2-user@ip-172-31-5-221 ~]$
```

I can confirm receipt by checking my email client:


From Me <liams.fitness@gmail.com>

Subject **Amazon SES Test from RHEL 8 EC2**

```
This message was sent using Amazon SES.
.
```

Set Sender/Recipient Email Address

The next test emails will be transmitted as the result of successfully completed cron jobs. One for the **root** user and the other for the **ec2-user**. Completed cron job notifications (emails) are sent locally, from the local user, to the local user. Since I am in the Amazon SES sandbox, only verified identities are capable of sending and receiving emails. I want these notifications sent from, and to, my Amazon SES verified identity (email address).

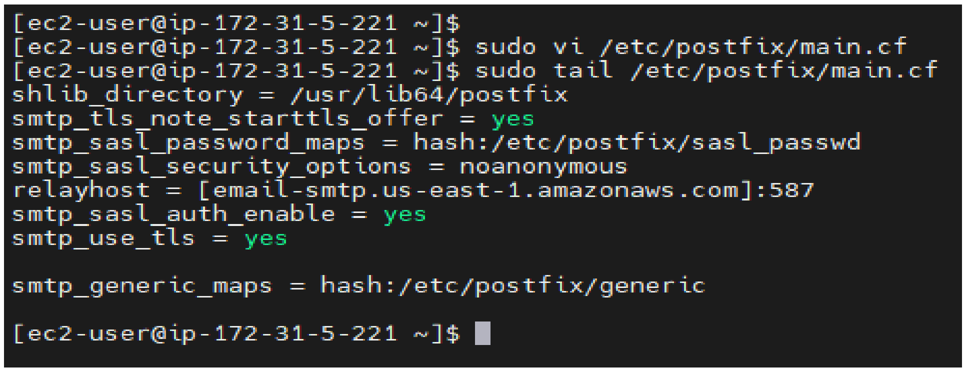
In order to do this, 2 changes must be made. The first, will be to configure Postfix address rewriting, for the sender, and the second will be to specify who should automatically be sent emails when no recipient is specified.

As we saw during the first test email sent via **sendmail**, the sender email address defaults to **username@hostname** (**ec2-user@ip-172-31-5-221.ec2.internal**). We can override this behaviour with Postfix address rewriting using the **smtp_generic_maps** parameter. The **smtp_generic_maps** parameter specifies generic lookup tables that replace local mail addresses with valid internet email addresses when mail leaves the machine via SMTP. As it pertains to the Amazon SES sandbox, this will ensure that sent emails use a verified identity as their sender to prevent rejects.

To begin, open /etc/postfix/main.cf and add the following at the bottom of the file.

```
$ sudo vi /etc/postfix/main.cf
```

```
smtp_generic_maps = hash:/etc/postfix/generic
```

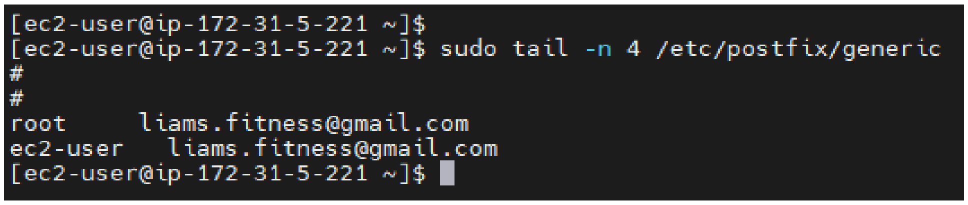


```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo vi /etc/postfix/main.cf
[ec2-user@ip-172-31-5-221 ~]$ sudo tail /etc/postfix/main.cf
shlib_directory = /usr/lib64/postfix
smtp_tls_note_starttls_offer = yes
smtp_sasl_password_maps = hash:/etc/postfix/sasl_passwd
smtp_sasl_security_options = noanonymous
relayhost = [email-smtp.us-east-1.amazonaws.com]:587
smtp_sasl_auth_enable = yes
smtp_use_tls = yes

smtp_generic_maps = hash:/etc/postfix/generic

[ec2-user@ip-172-31-5-221 ~]$
```

Open **/etc/postfix/generic**. If it doesn't already exist, create it and use your verified identity:

```
$ sudo vi /etc/postfix/generic
```

```
root      liams.fitness@gmail.com

ec2-user    liams.fitness@gmail.com
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo tail -n 4 /etc/postfix/generic
#
#
root      liams.fitness@gmail.com
ec2-user    liams.fitness@gmail.com
[ec2-user@ip-172-31-5-221 ~]$
```

Create or update the generic postfix table using the **postmap** command and reload the Postfix service.

```
$ sudo postmap /etc/postfix/generic
```

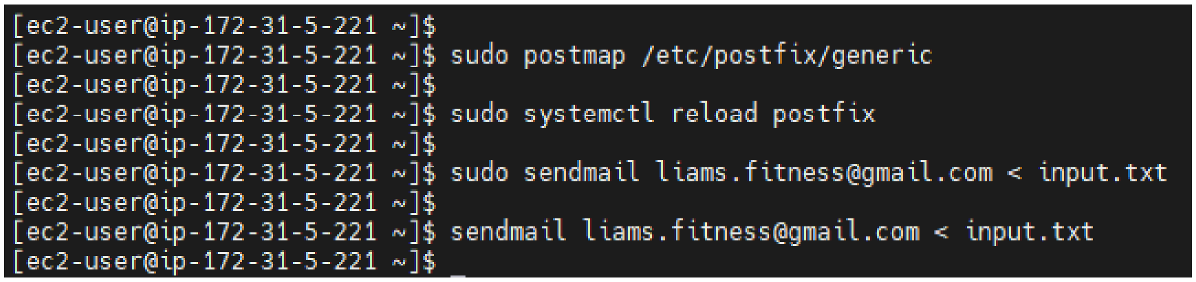
```
$ sudo systemctl postfix reload
```

Then, execute the following command as the **root** user without specifying a sender email address.

```
$ sudo sendmail liams.fitness@gmail.com < input.txt
```

Followed by executing the same command as the **ec2-user** user.

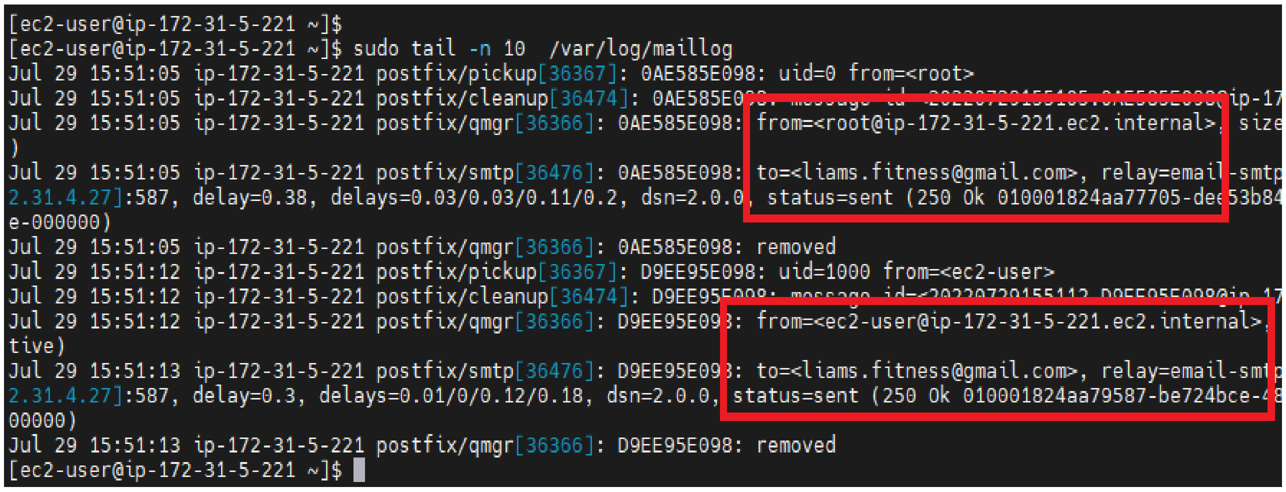
```
$ sendmail liams.fitness@gmail.com < input.txt
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo postmap /etc/postfix/generic
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo systemctl reload postfix
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo sendmail liams.fitness@gmail.com < input.txt
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sendmail liams.fitness@gmail.com < input.txt
[ec2-user@ip-172-31-5-221 ~]$ _
```

Check the log file at **/var/log/maillog** to confirm that both the emails were sent.

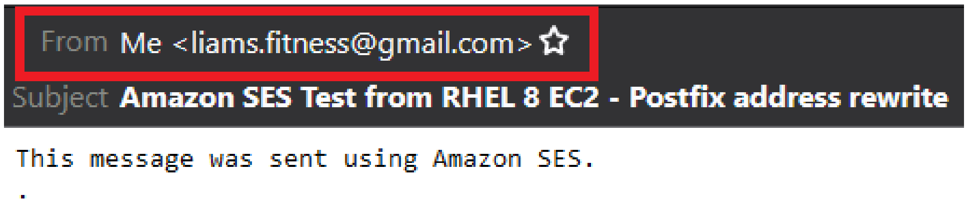
```
$ tail -n 10 /var/log/maillog
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo tail -n 10  /var/log/maillog
Jul 29 15:51:05 ip-172-31-5-221 postfix/pickup[36367]: 0AE585E098: uid=0 from=<root>
Jul 29 15:51:05 ip-172-31-5-221 postfix/cleanup[36474]: 0AE585E098: message-id=<20220729155105.0AE585E098@ip-17
Jul 29 15:51:05 ip-172-31-5-221 postfix/qmgr[36366]: 0AE585E098: from=<root@ip-172-31-5-221.ec2.internal>, size
)
Jul 29 15:51:05 ip-172-31-5-221 postfix/smtp[36476]: 0AE585E098: to=<liams.fitness@gmail.com>, relay=email-smtp
2.31.4.27]:587, delay=0.38, delays=0.03/0.03/0.11/0.2, dsn=2.0.0, status=sent (250 Ok 010001824aa77705-dee53b84
e-000000)
Jul 29 15:51:05 ip-172-31-5-221 postfix/qmgr[36366]: 0AE585E098: removed
Jul 29 15:51:12 ip-172-31-5-221 postfix/pickup[36367]: D9EE95E098: uid=1000 from=<ec2-user>
Jul 29 15:51:12 ip-172-31-5-221 postfix/cleanup[36474]: D9EE95E098: message-id=<20220729155112.D9EE95E098@ip-17
Jul 29 15:51:12 ip-172-31-5-221 postfix/qmgr[36366]: D9EE95E098: from=<ec2-user@ip-172-31-5-221.ec2.internal>,
tive)
Jul 29 15:51:13 ip-172-31-5-221 postfix/smtp[36476]: D9EE95E098: to=<liams.fitness@gmail.com>, relay=email-smtp
2.31.4.27]:587, delay=0.3, delays=0.01/0/0.12/0.18, dsn=2.0.0, status=sent (250 Ok 010001824aa79587-be724bce-48
00000)
Jul 29 15:51:13 ip-172-31-5-221 postfix/qmgr[36366]: D9EE95E098: removed
[ec2-user@ip-172-31-5-221 ~]$
```

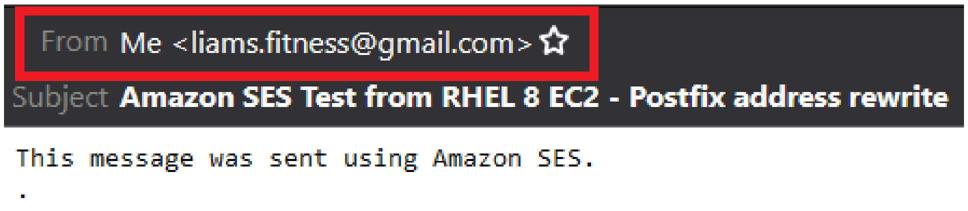
Notice that the **from** email addresses in the log are root@ip-172-31-5-221.ec2.internal and ec2-user@ip-172-31-5-221.ec2.internal, but the emails were sent.

Finally, from my email client, I can confirm that I've received two new emails from my verified identity.



From Me <liams.fitness@gmail.com>
Subject **Amazon SES Test from RHEL 8 EC2 - Postfix address rewrite**

```
This message was sent using Amazon SES.
.
```



From Me <liams.fitness@gmail.com>
Subject **Amazon SES Test from RHEL 8 EC2 - Postfix address rewrite**

```
This message was sent using Amazon SES.
.
```

This confirms that address rewriting was performed by Postfix.

Now we will specify who should automatically be sent emails when no recipient is specified. As it pertains to the Amazon SES sandbox, this will ensure that sent emails use a verified identity as their recipient to prevent rejects.

To begin, in the file **`/etc/aliases`**, change the line that begins with postmaster:

```
postmaster:    root, ec2-user
```

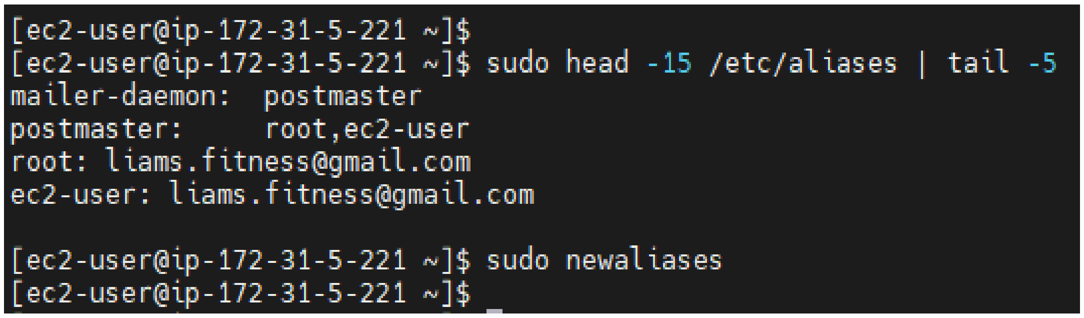
Next, add the following entries to **`/etc/aliases`** (use **your** verified identity)

```
root: liams.fitness@gmail.com
```

```
ec2-user: liams.fitness@gmail.com
```

Now, to ensure that the aliases database file is updated by executing the following:

```
$ sudo newaliases
```



```
[ec2-user@ip-172-31-5-221 ~]$
[ec2-user@ip-172-31-5-221 ~]$ sudo head -15 /etc/aliases | tail -5
mailer-daemon:  postmaster
postmaster:     root,ec2-user
root: liams.fitness@gmail.com
ec2-user: liams.fitness@gmail.com

[ec2-user@ip-172-31-5-221 ~]$ sudo newaliases
[ec2-user@ip-172-31-5-221 ~]$ _
```

We can now configure a simple cron job, one for **root** and one for **ec2-user**, to test notification transmission, via Amazon SES, for successfully completed cron jobs.

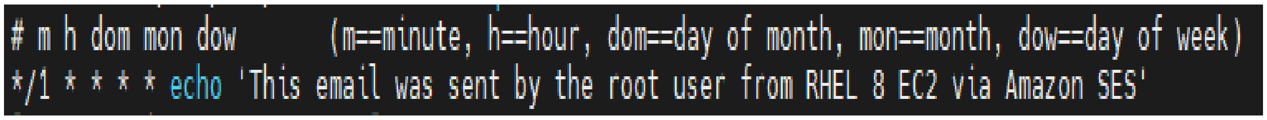
Test Postfix Email Server using cronjob

We will create a simple cron job for each local user, **root** & **ec2-user**. Then, we will verify notification transmission via Amazon SES.

First, we will add a simple cron job to the root user's crontab file. For testing purposes, I will have the job execute every minute.

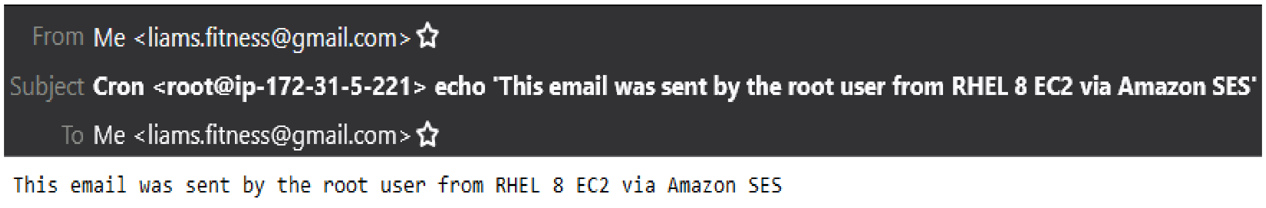
```
$ sudo crontab -e
```

```
# m h dom mon dow     (m==minute, h==hour, dom==day of month, mon==month, dow==day of week)
*/1 * * * * echo 'This email was sent by the root user from RHEL 8 EC2 via Amazon SES'
```



```
# m h dom mon dow     (m==minute, h==hour, dom==day of month, mon==month, dow==day of week)
*/1 * * * * echo 'This email was sent by the root user from RHEL 8 EC2 via Amazon SES'
```

I will now confirm that the cron notification email was sent using my email client.



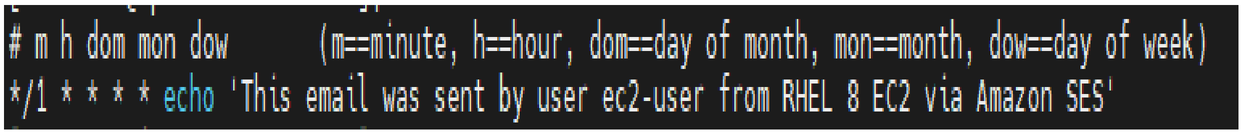
From Me <liams.fitness@gmail.com>
Subject **Cron <root@ip-172-31-5-221> echo 'This email was sent by the root user from RHEL 8 EC2 via Amazon SES'**
To Me <liams.fitness@gmail.com>

```
This email was sent by the root user from RHEL 8 EC2 via Amazon SES
```

Now I will add a simple cron job to the **ec2-user**'s crontab file. Again, for testing purposes, I will have the job execute every minute.

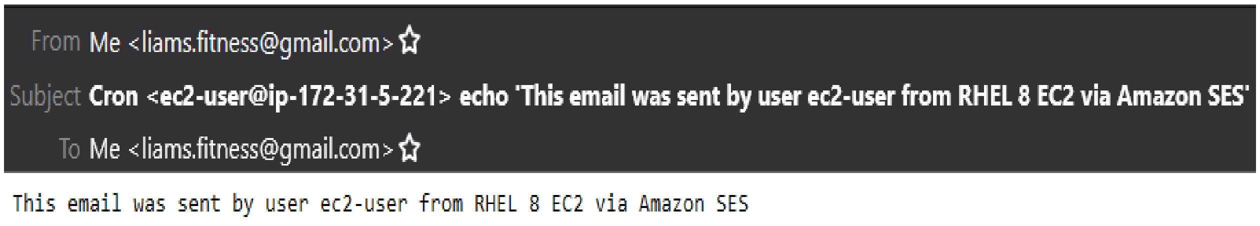
```
$ crontab -e
```

```
# m h dom mon dow     (m==minute, h==hour, dom==day of month, mon==month, dow==day of week)
*/1 * * * * echo 'This email was sent by user ec2-user from RHEL 8 EC2 via Amazon SES'
```



```
# m h dom mon dow     (m==minute, h==hour, dom==day of month, mon==month, dow==day of week)
*/1 * * * * echo 'This email was sent by user ec2-user from RHEL 8 EC2 via Amazon SES'
```

I will now confirm that the cron notification email was sent using my email client.



From Me <liams.fitness@gmail.com>
Subject **Cron <ec2-user@ip-172-31-5-221> echo 'This email was sent by user ec2-user from RHEL 8 EC2 via Amazon SES'**
To Me <liams.fitness@gmail.com>

```
This email was sent by user ec2-user from RHEL 8 EC2 via Amazon SES
```

Both cron job notifications were successfully sent and received. Now would be a good time to disable each cron job (root & ec2-user) to prevent unnecessary notification transmissions. Do this by commenting out, or deleting, each job via **`sudo crontab -e`** for root & **`crontab -e`** for ec2-user.

I hope you've enjoyed this tutorial.

We’ve successfully configured Postfix as an outbound send-only email server on a RHEL 8 EC2.

Now we can send emails from our RHEL 8 EC2 instance either manually using **sendmail**, or automatically, via **cron jobs**.

I have another tutorial where I configure Postfix as a send-only email server on my **Ubuntu 20** EC2 instance, accessible **here**. Although the steps are practically identical, I wanted to have two different instances for testing purposes. This will enable me to test my shell scripts that monitor services locally, as well as, remotely. If you’re interested, the scripts can be accessed via my Linux tutorials page, **here**, while my main tutorials page is accessible **here**.

Please note that the free tier allows for 750 hours per month of Amazon EC2. You can create many EC2 instances but beware of the limit. If you go over that limit, you will pay the cost. My advice to you is to shutdown your instance/s after you've done your work.

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