Course-End Project: Email Notification and Movement Process in an Organization

This section will guide you to:

1. Create a website where a user can upload a file on the localhost
2. Create a Lambda handler
3. Create an empty S3 bucket
4. Add an event for email notification using the Lambda function
5. Create and configure a queue using the SQS service
6. Verify the email address using SES service
7. Create and verify the domain using the SES service
8. Create a hosted zone along with two record sets of type MX and TXT using Route 53
9. Create a receipt rule using Route 53
10. Check whether the file that is removed from the email moves to the empty bucket

Step 1: Create a website where a user can upload a file on the localhost

- Here, HTML+CSS+JAVASCRIPT has been used

HTML

```
<input type="file" id="real-file" hidden="hidden" />
<button type="button" id="custom-button">CHOOSE A FILE</button>
<span id="custom-text">No file chosen, yet.</span>
```

CSS

```
#custom-button {
  padding: 10px;
  color: white;
  background-color: #009578;
  border: 1px solid #000;
  border-radius: 5px;
  cursor: pointer;
}

#custom-button:hover {
  background-color: #00b28f;
```

```
}

#custom-text {
  margin-left: 10px;
  font-family: sans-serif;
  color: #aaa;
}
```

Javascript

```
const realFileBtn = document.getElementById("real-file");
const customBtn = document.getElementById("custom-button");
const customTxt = document.getElementById("custom-text");
customBtn.addEventListener("click", function() {
  realFileBtn.click();
});
realFileBtn.addEventListener("change", function() {
  if (realFileBtn.value) {
        customTxt.innerHTML = realFileBtn.value.match(
        /[\/\\]([\w\d\s\.\-\(\)]+)$/
        )[1];
  } else {
        customTxt.innerHTML = "No file chosen, yet.";
  }
});
```

Step 2: Create a Lambda handler

- Click on **Create Lambda function**
- Select author from scratch
- Give a name for the Lambda function
- Choose **Runtime** as node.js 8.10
- Choose an existing role, and select the name which you have created in the previous step

- Click on **Create Function**

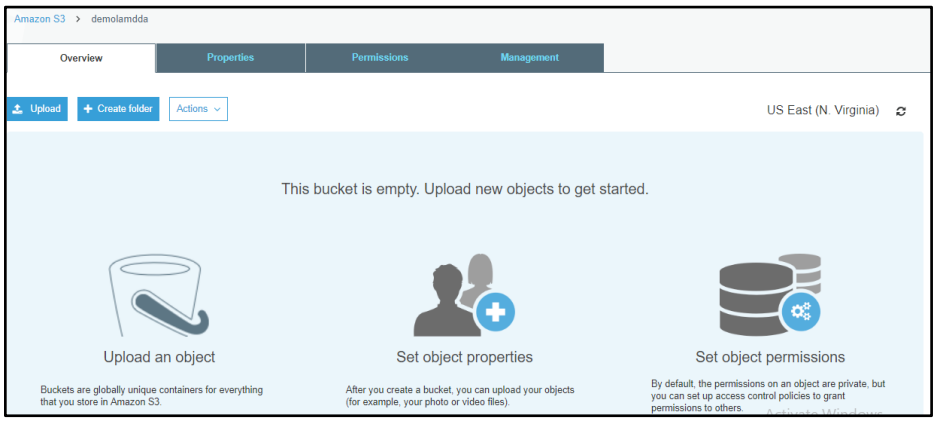
- Type the code below in your Lambda function and save it

```
var aws = require('aws-sdk');
var ses = new aws.SES({
region: 'us-east-1'
});
exports.handler = function(event, context){
console.log("Incoming:", event);
var eParams = {
Destination: {
ToAddress: ["test@simplilearn.com"] //give the email id verified
by SES
},
Message: {
Body: {Text: {
Data: "Lambda is working"
}
},
Subject: { Data: "mail from ses"}
},
Source: test@simplilearn.com //give the email ID which is
verified by SES
};
console.log('===SENDING EMAIL===');
var email = ses.sendEmail(eParams, function(err, data){
if(err) console.log(err);
else {
console.log("===Email Sent===");
console.log(data);
console.log("EMAIL CODE END");
console.log('EMAIL: ',email);
```

```
context.succeed(event);
}
});
};
```

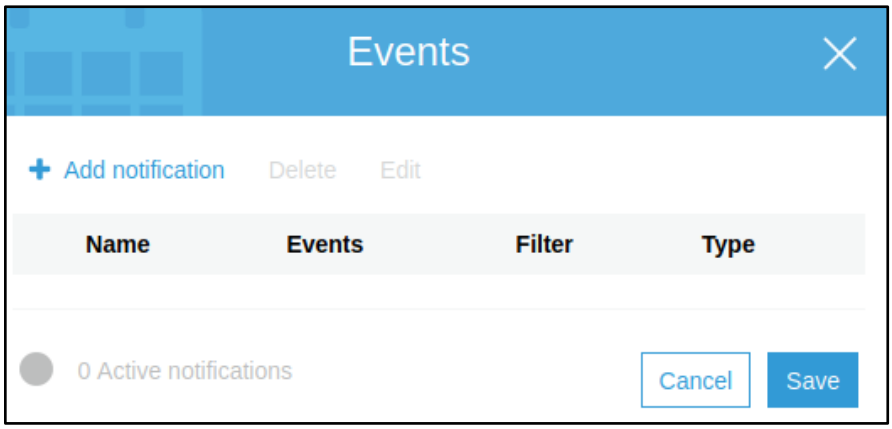
Step 3: Create an empty S3 bucket

- Click on **Create Bucket**
- Provide name to your bucket and keep the rest of the properties as default and click on **Create**

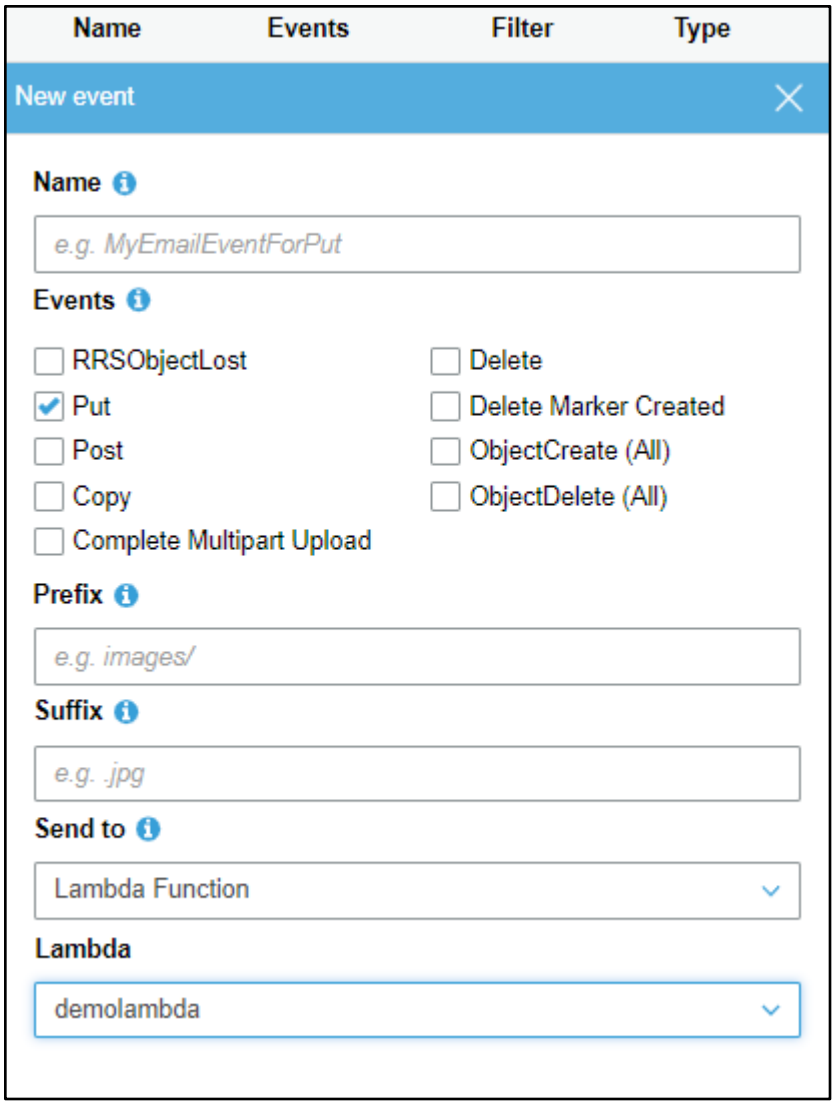


Step 4: Add an event for email notification using the Lambda function

- In **Properties**, select **Events**
- Click on **Add notifications**

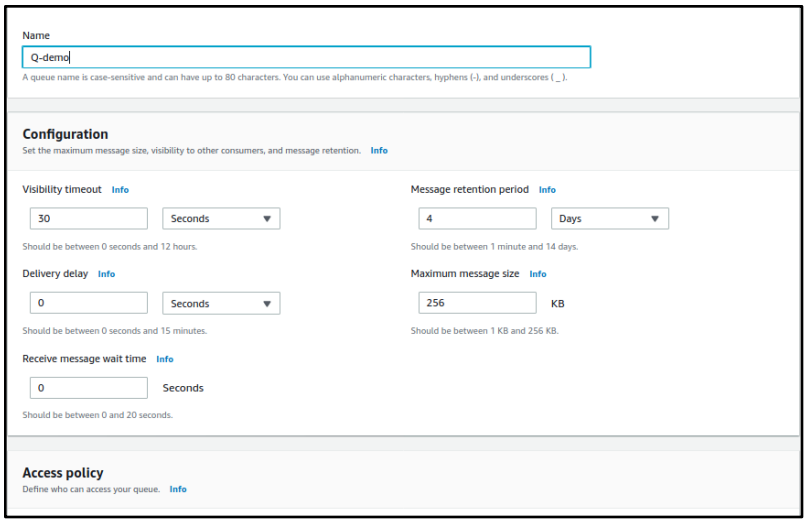


- Select an event, and under the **Send to** option, select **Lambda Function**
- In Lambda, choose the Lambda function you have created and save it

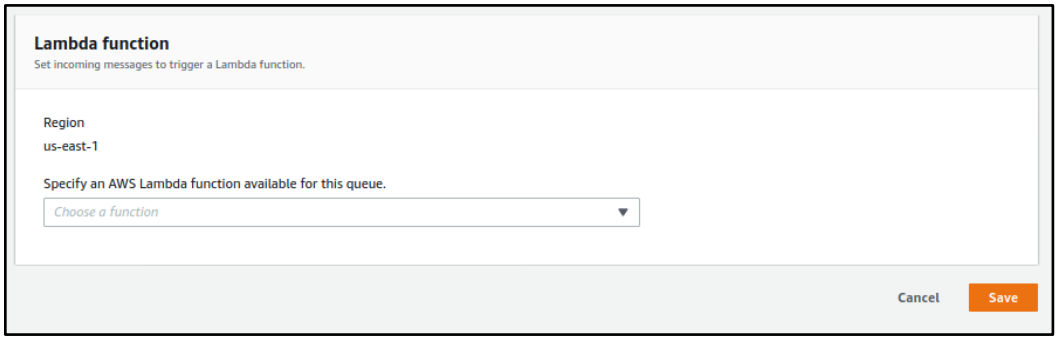


Step 5: Create and configure a queue using the SQS service

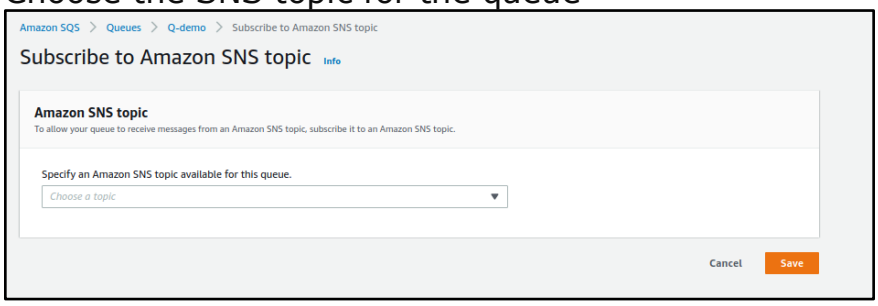
- In your AWS Management Console, search for SQS Service and select it
- Click on **Create queue**
- Give a name to the queue and click on **Create**



- In **Queue lambda triggers**, click on **Configure a lambda function trigger**
- Select the Lambda function you have created and click on Save as shown below:

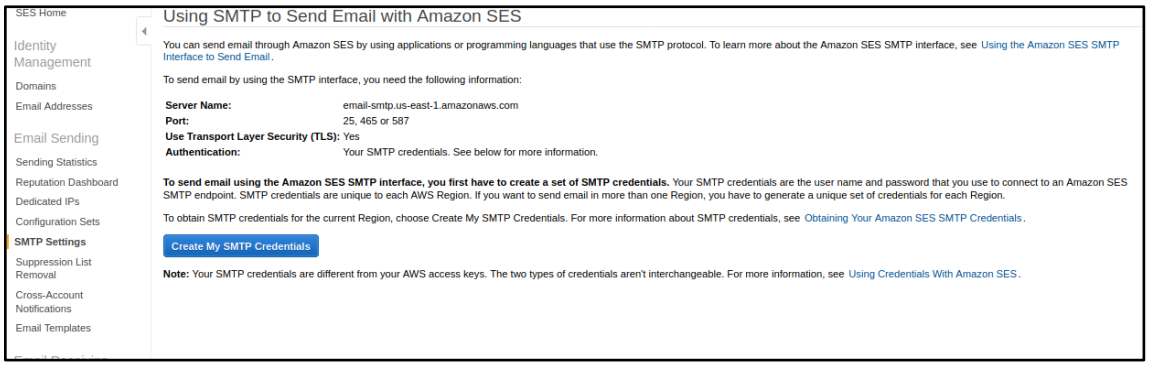


- Under SNS subscription, click on **Subscribe to Amazon SNS topic**
- Choose the SNS topic for the queue



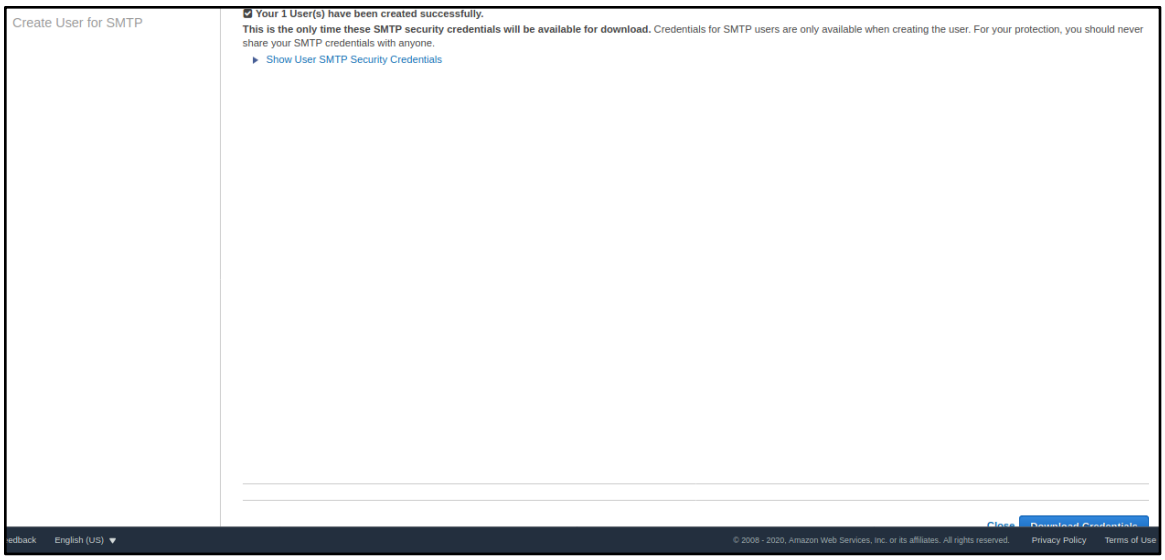
Step 6: Verify the email address using SES service

- In your SES dashboard, click on **SMTP Settings**
- Then, click on **Create My SMTP Credentials**

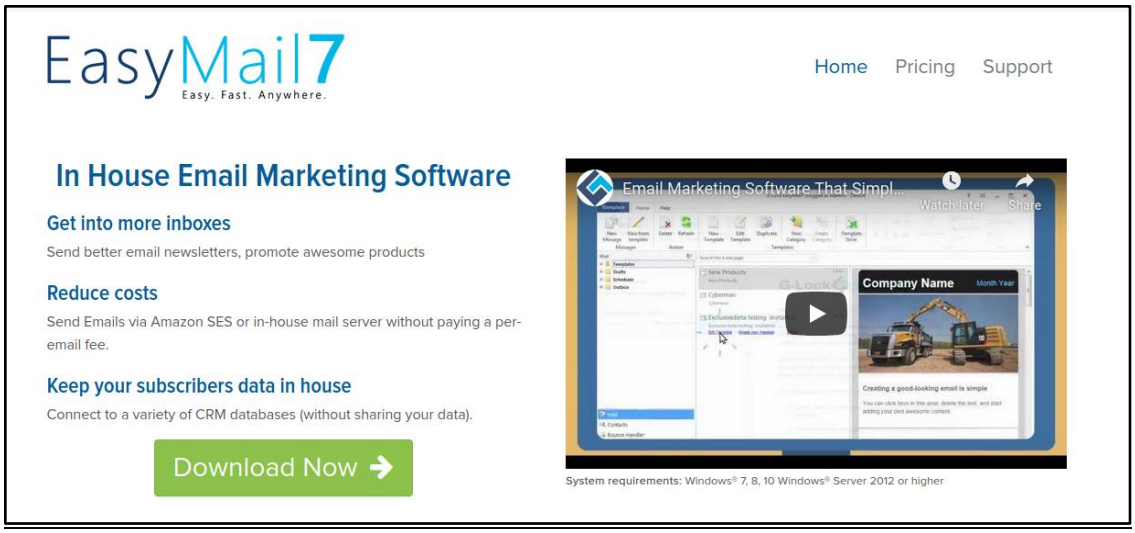


- Enter an IAM username and click on **Create**

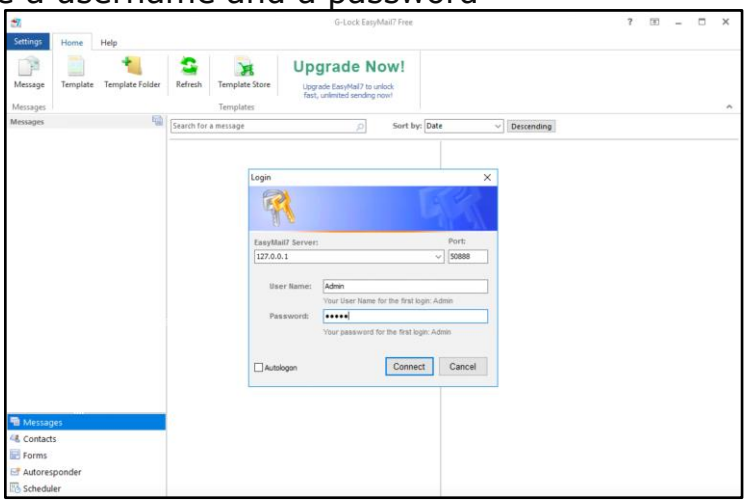
- Now, click on **Download Credentials** to get the credentials
- After downloading the credentials, click on **Close**



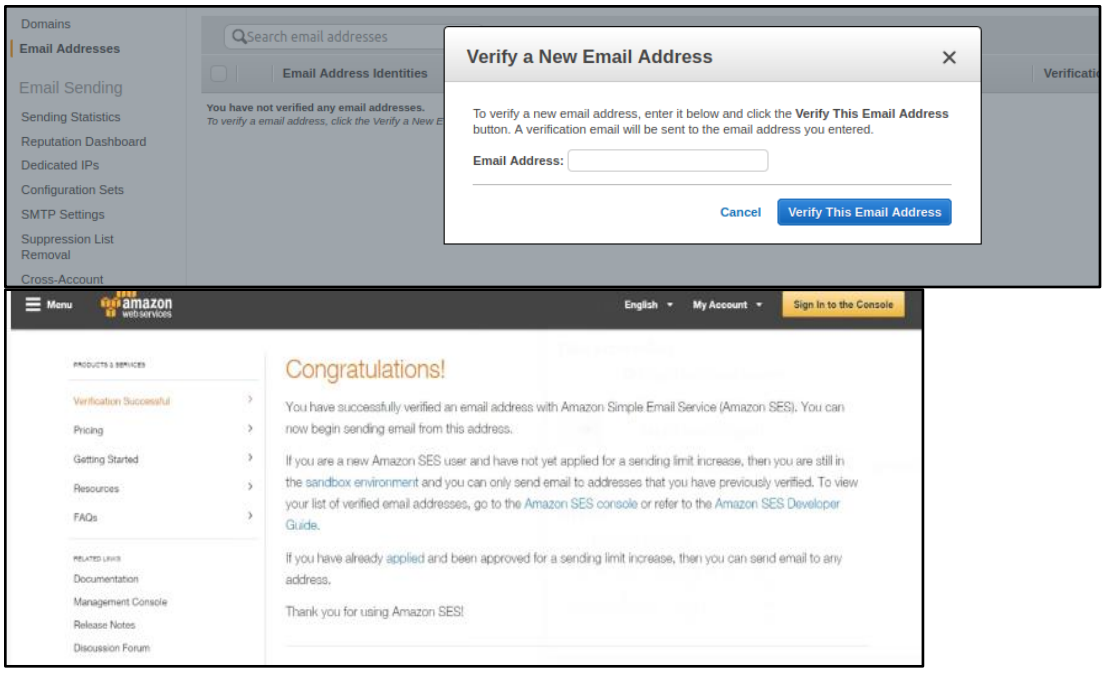
- Download and install **G-Lock EasyMail7** software from https://easymail7.com/



- Open the software for a first-time login and use the following credentials:
  User name: Admin **Password:** Admin
- Create a username and a password

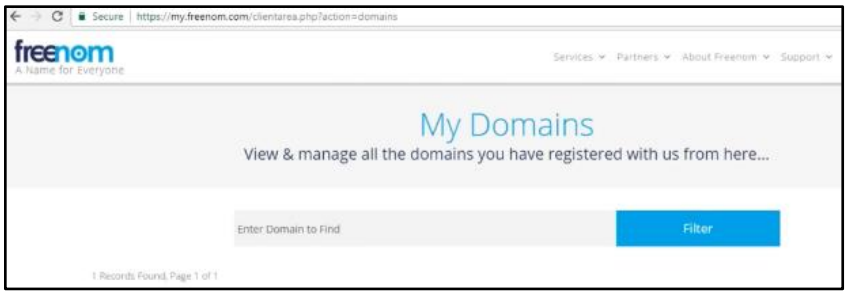


- Activate the software by entering the personal key you received in your email
- In your SES dashboard, choose the **Email Address** option and click on **Verify Email Address**
- Enter the email address and click on **Verify This Email Address**
- Approve the email you will receive

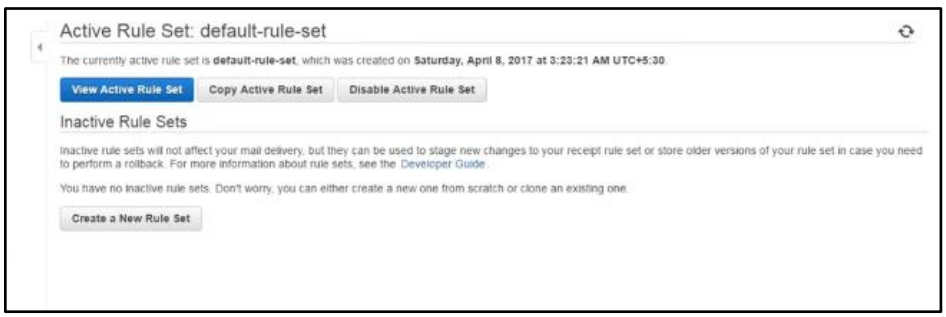


Step 7: Create and verify the domain using the SES service

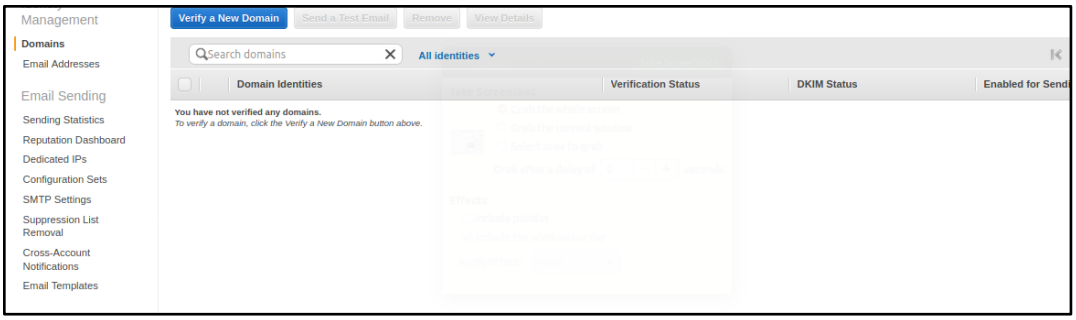
- A user can use any website to create a domain (Here, freenom has been used)



- Create a **New Rule Set**

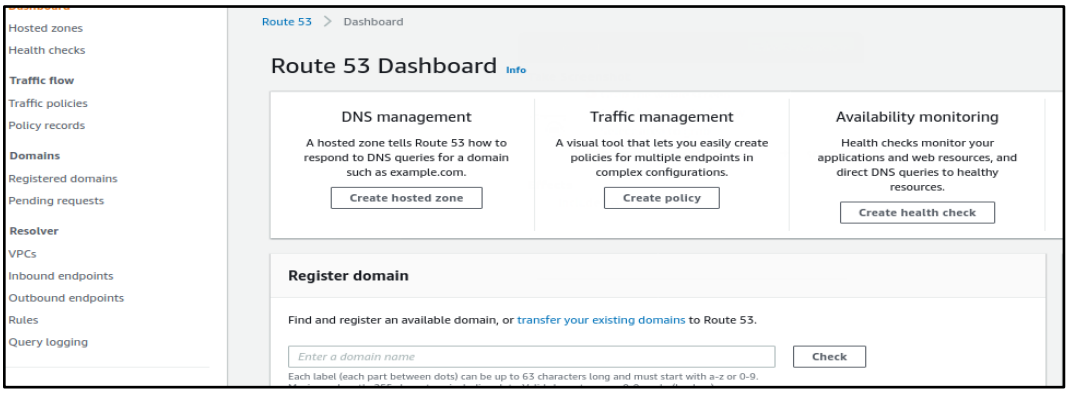


- Verify the domain on entering it

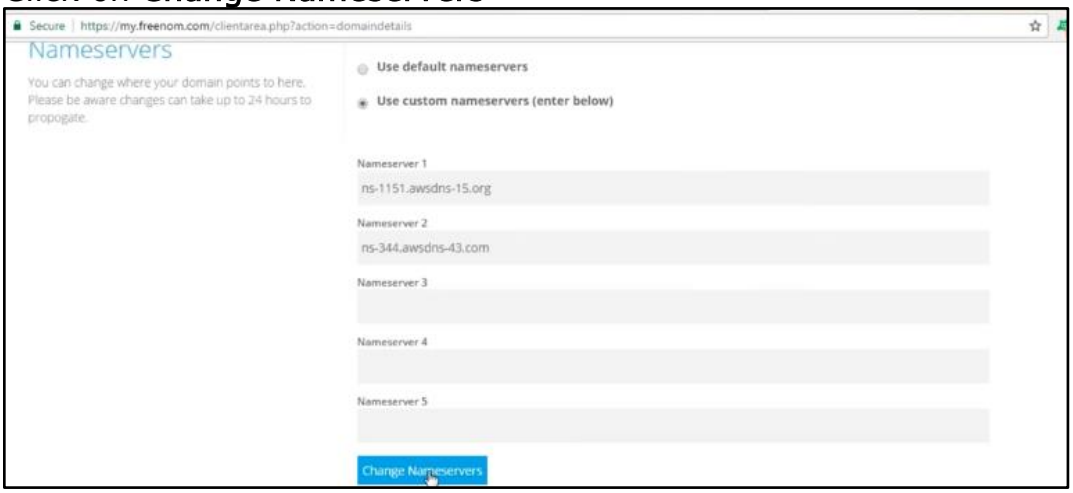


Step 8: Create a hosted zone along with two record sets of type MX and TXT using Route 53

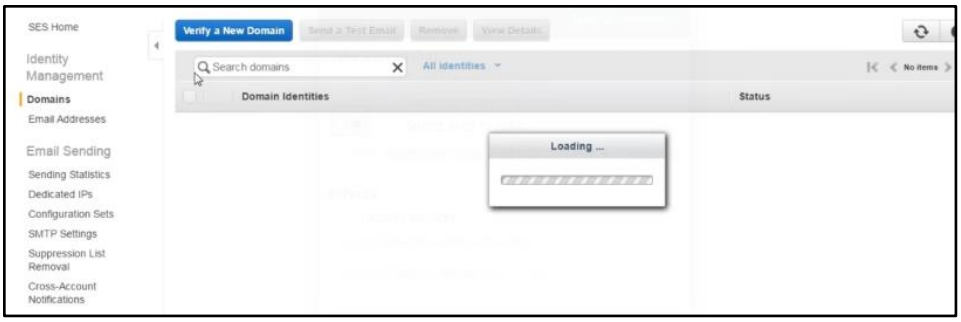
- Select **Route 53** from the dashboard



- Select **DNS Management**
- Enter the domain name and create the hosted zone
- Copy the value and paste it on freenom nameservers, 1 and 2
- Click on **Change Nameservers**



- Click on **Create Record set**
- Refresh the screen to check if the status is verified



Step 9: Create a receipt rule using Route 53

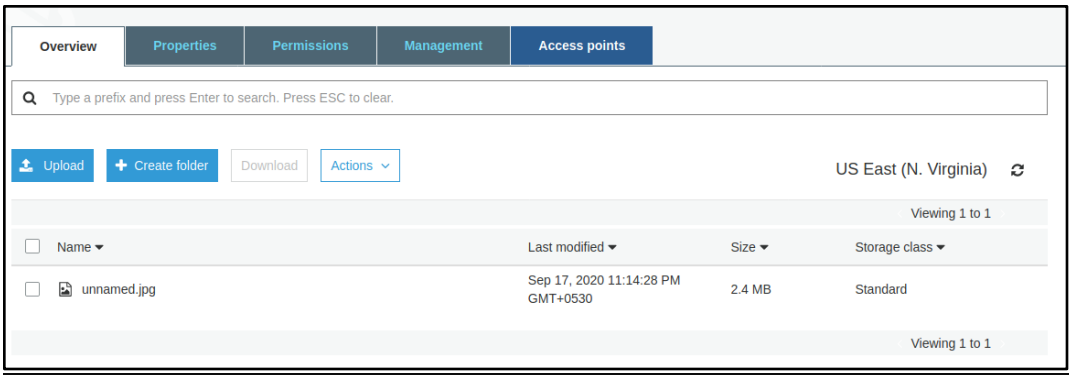
- Click on **Create Receipt Rule** under SES

- Click on **Create Rule** as shown below:

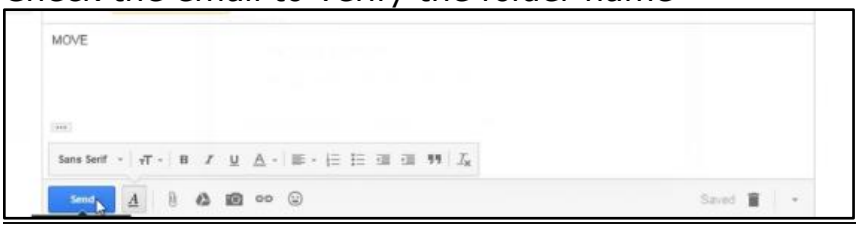
- Add recipient and rules
- Review and click on **Create Rule**

Step 10: Check whether the file that is removed from the email moves to the empty bucket

- Upload a file from the website
- Check the S3 folder to see if the file is uploaded



- Check the email to verify the folder name



- Reply **Move** to the mail thread; the file gets deleted from the existing folder and moves to another one