Registering a Domain and Setting Up a Static Website with Route 53

Introduction

Goals

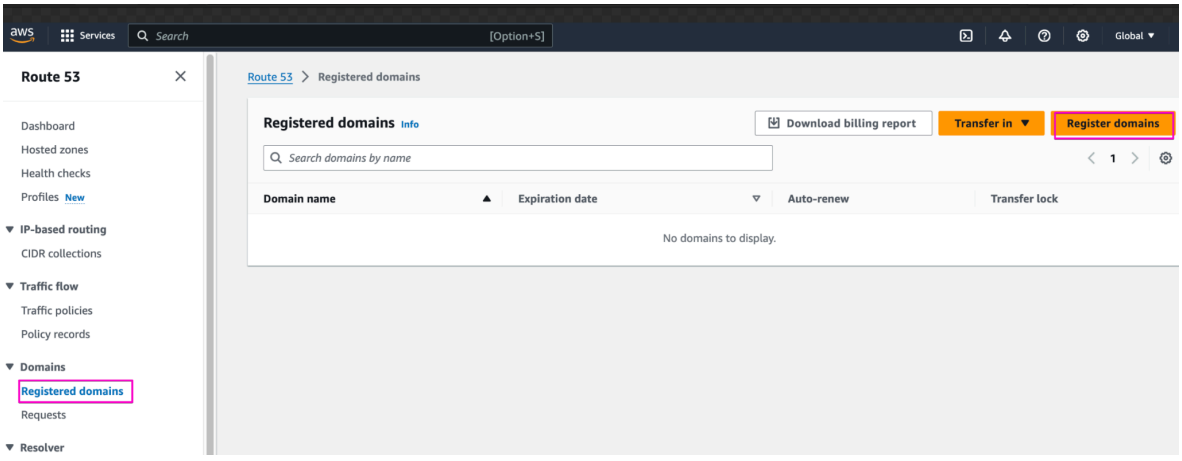
This runbook provides a detailed step-by-step guide to register a new domain or import an existing domain, set up a static website using Amazon S3, and configure Amazon Route 53 to route traffic to the website.

By the end of this runbook, you will:

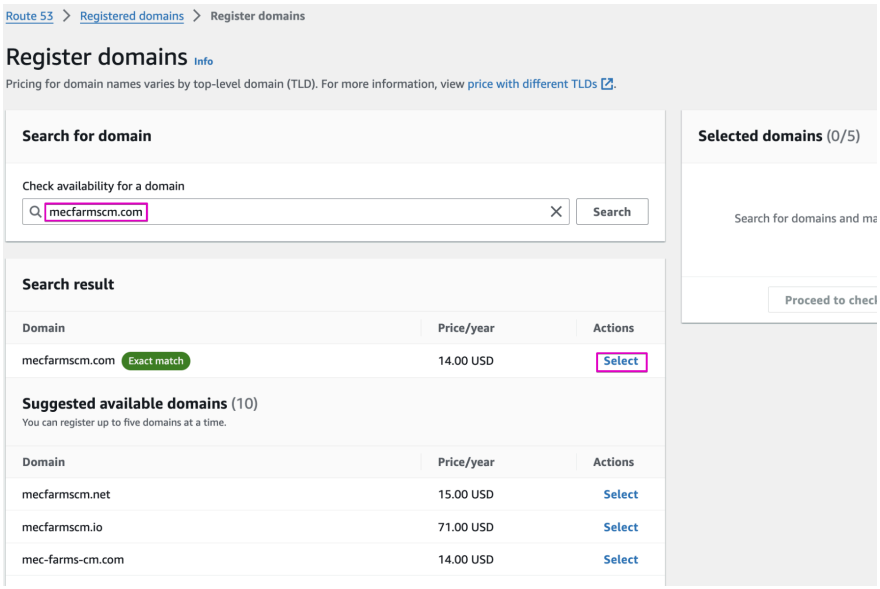
- Register a new domain or import an existing domain into Route 53.
- Set up Amazon S3 buckets for your root domain and subdomain.
- Configure the S3 buckets for website hosting and redirection.
- Upload a sample HTML file to your root domain bucket.
- Configure Amazon Route 53 to route DNS traffic to your static website.

Register a New Domain

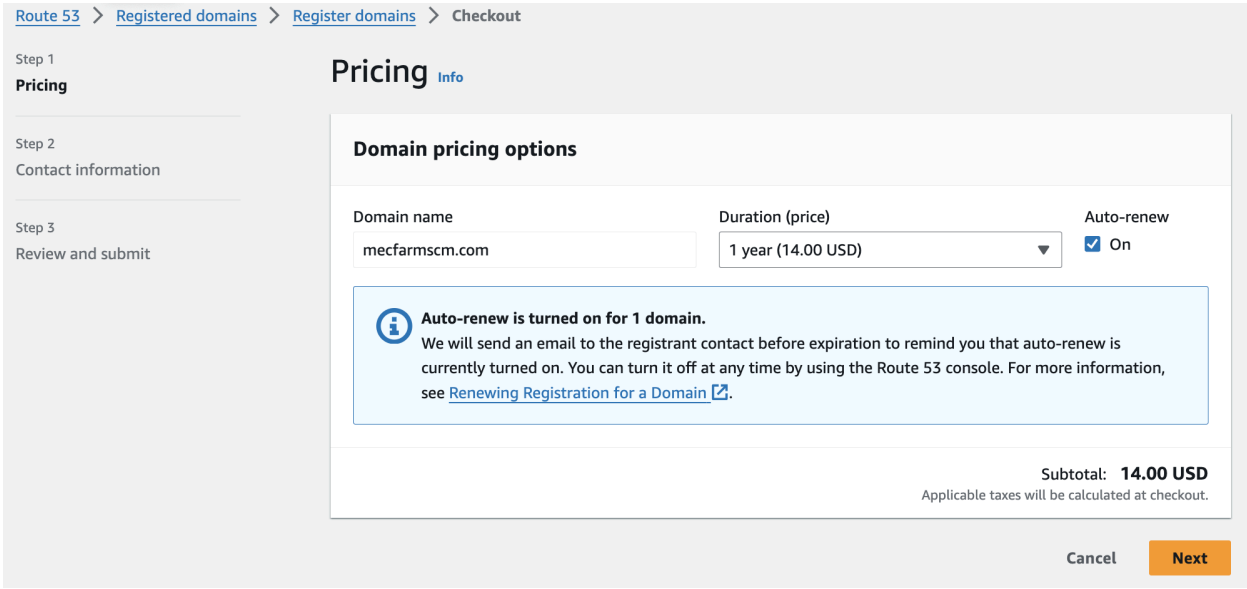
1. **Navigate to Route 53:**
    - Open the AWS Management Console.
    - Go to the Route 53 console by searching for "Route 53" in the search bar.
2. **Register a New Domain:**
    - In the Route 53 console, click on "**Registered domains**" in the left-hand menu.
    - Click the "**Register Domain**" button.



    - Enter your desired domain name (e.g., jjtech.com) and check its availability.



- If the domain is available, follow the prompts to complete the registration process. This will include providing your contact information and making a payment.



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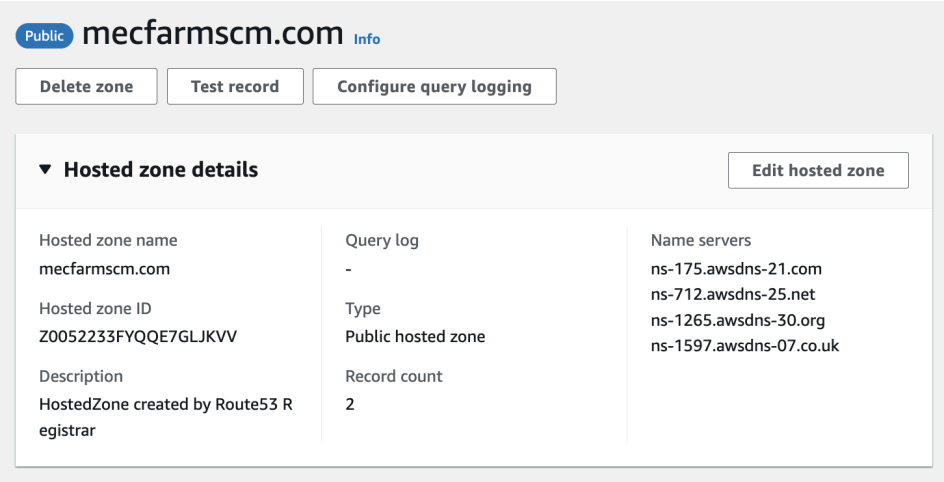
3. **Wait for Registration Confirmation:**
   - It may take a few minutes to complete the registration process. You will receive an email confirmation once your domain is registered.

- click on the verification link in your email to validate your email. After this, AWS will provision a public hosted zone in your account.



Transfer an Existing Domain into Route53

if you already own a domain, you could transfer that into AWS using the procedure below.

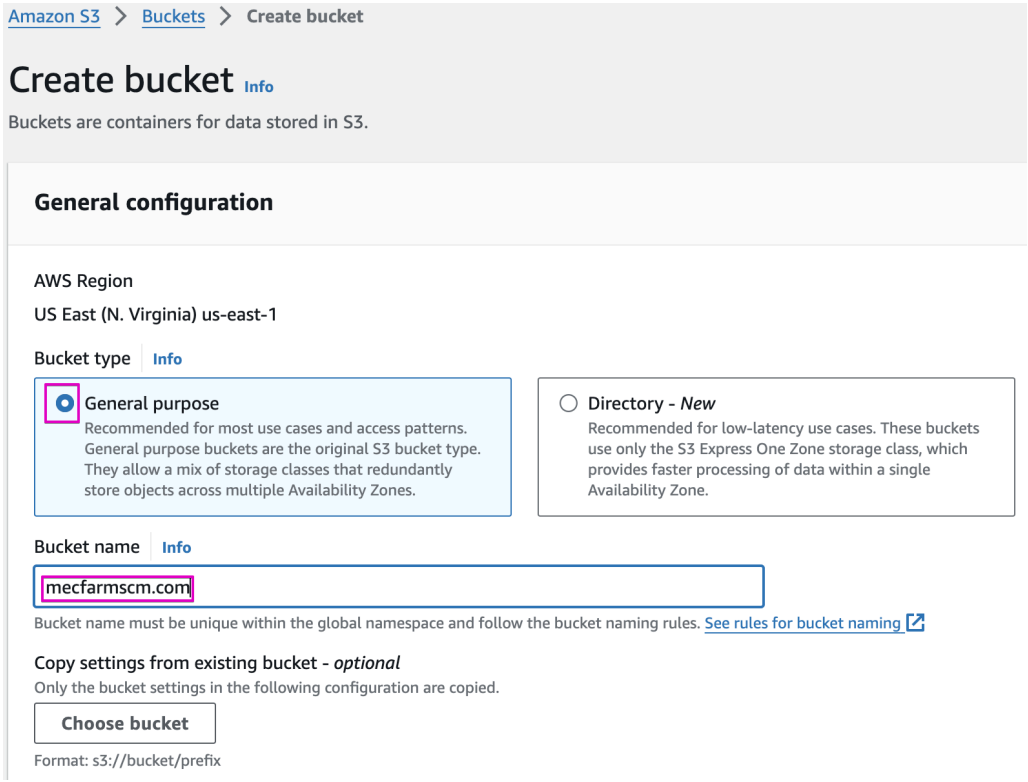
1. ***Navigate to Route 53:***
   - *Open the AWS Management Console.*
   - *Go to the Route 53 console by searching for "Route 53" in the search bar.*
2. ***Transfer Domain to Route 53:***
   - *In the Route 53 console, click on "Registered domains" in the left-hand menu.*
   - *Click the "Transfer Domain" button.*
   - *Enter your existing domain name and follow the prompts to transfer the domain to Route 53.*
3. ***Verify Domain Transfer:***
   - *Verify that the domain transfer is successful, and you can see the domain listed under "Registered domains" in Route 53.*

Setting up

Step 1: Create a Bucket for Your Root Domain

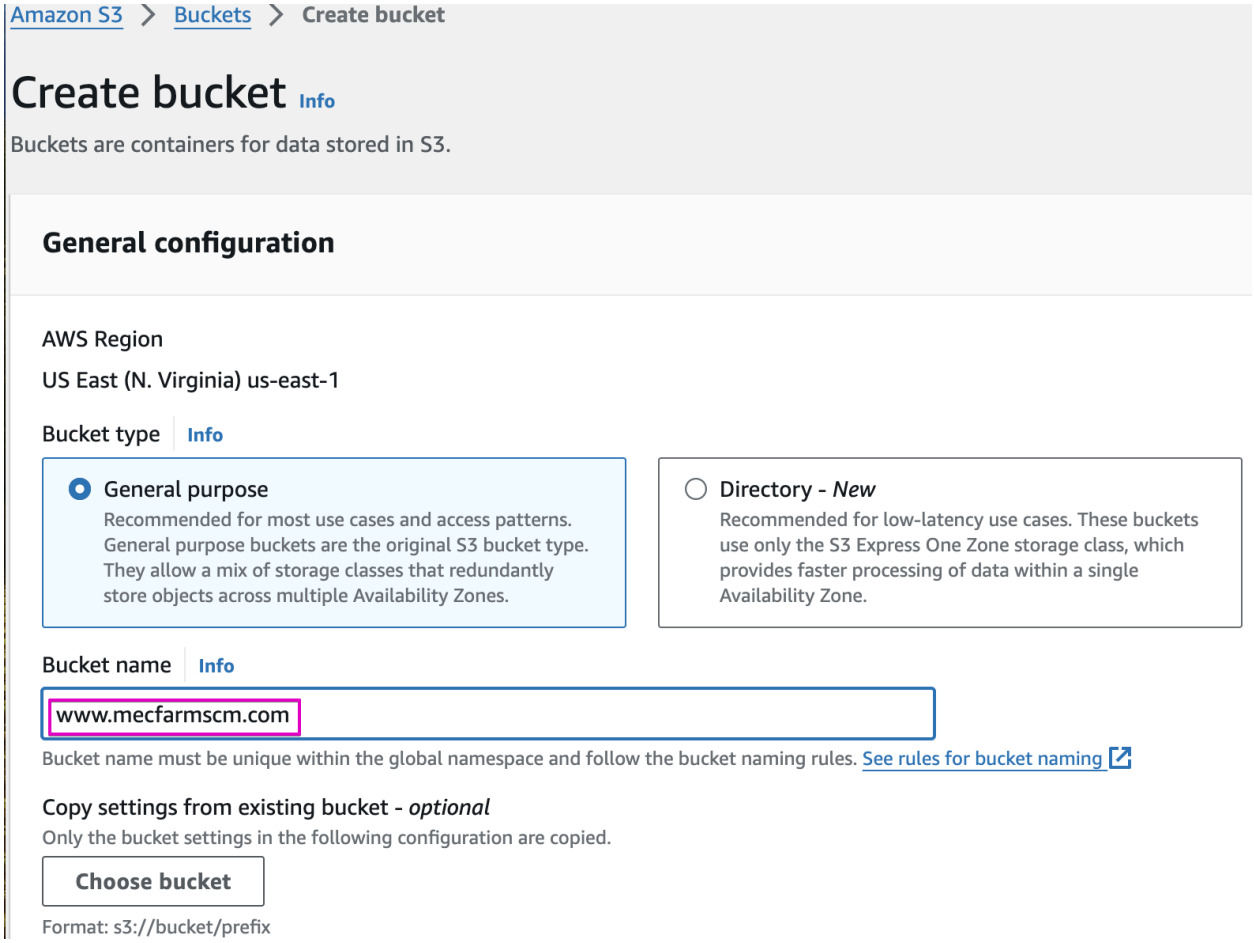
1. **Navigate to S3:**
   - Open the AWS Management Console.
   - Go to the S3 console by searching for "S3" in the search bar.
2. **Create a Bucket for the Root Domain:**
   - Click the "**Create bucket**" button.
   - Enter the bucket name as your root domain (e.g., jjtech.com).
   - Select the region closest to your target audience.

- Leave the other settings at their defaults and click the "Create bucket" button.



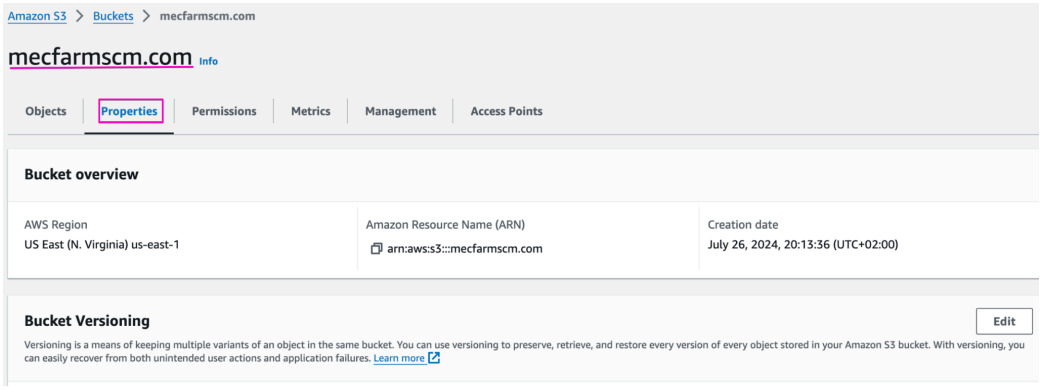
Step 2: Create a Bucket for Your Subdomain

1. **Create a Bucket for the Subdomain:**
   - Repeat the steps to create another bucket, this time naming it with your subdomain (e.g., www.jjtech.com).

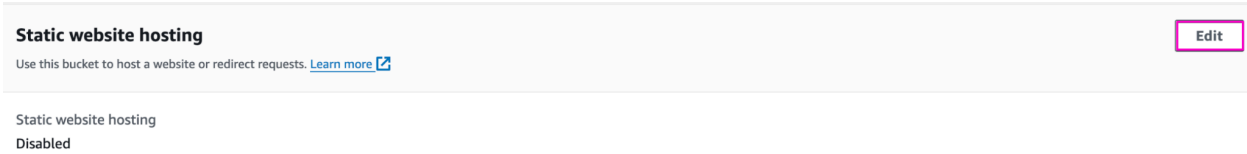


Step 3: Set Up Your Root Domain Bucket for Website Hosting

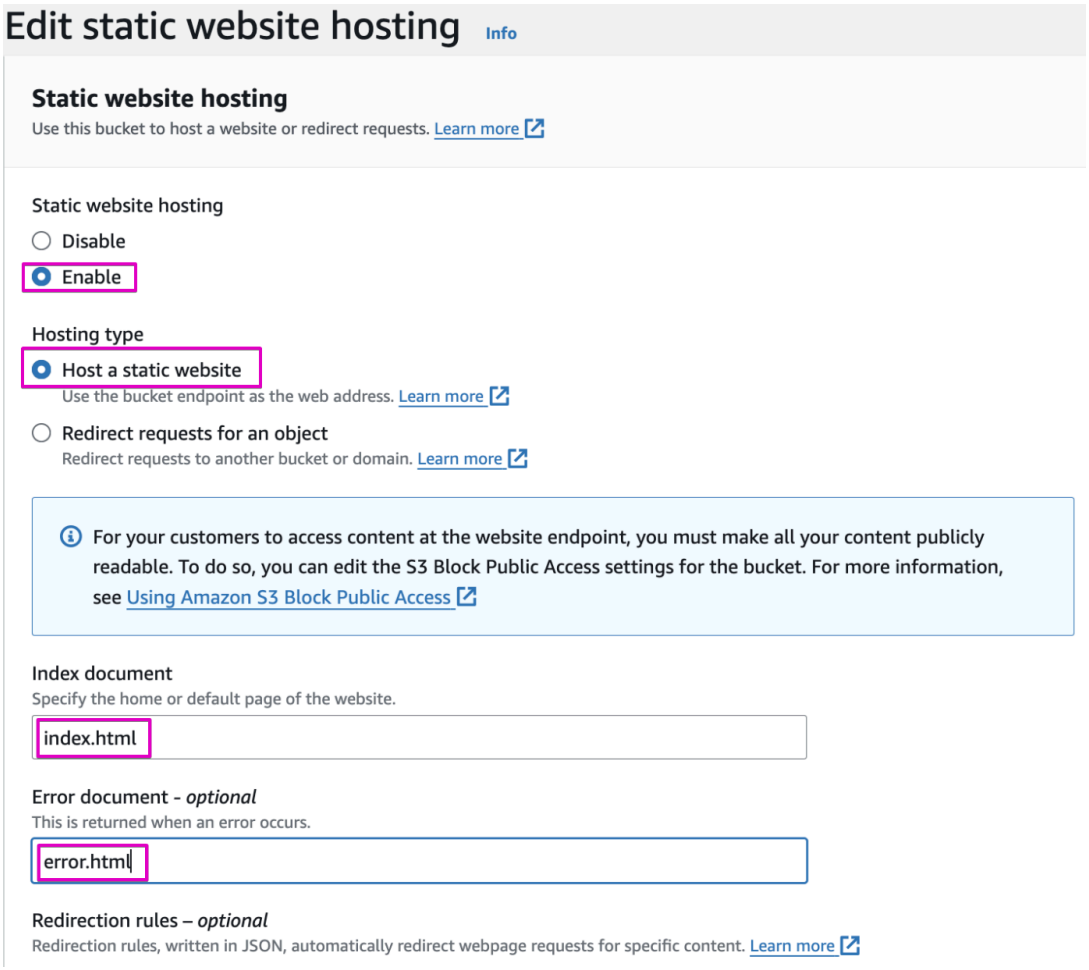
1. **Enable Static Website Hosting:**
    - In the S3 console, click on the root domain bucket (e.g., jjtech.com).
    - Go to the "**Properties**" tab.



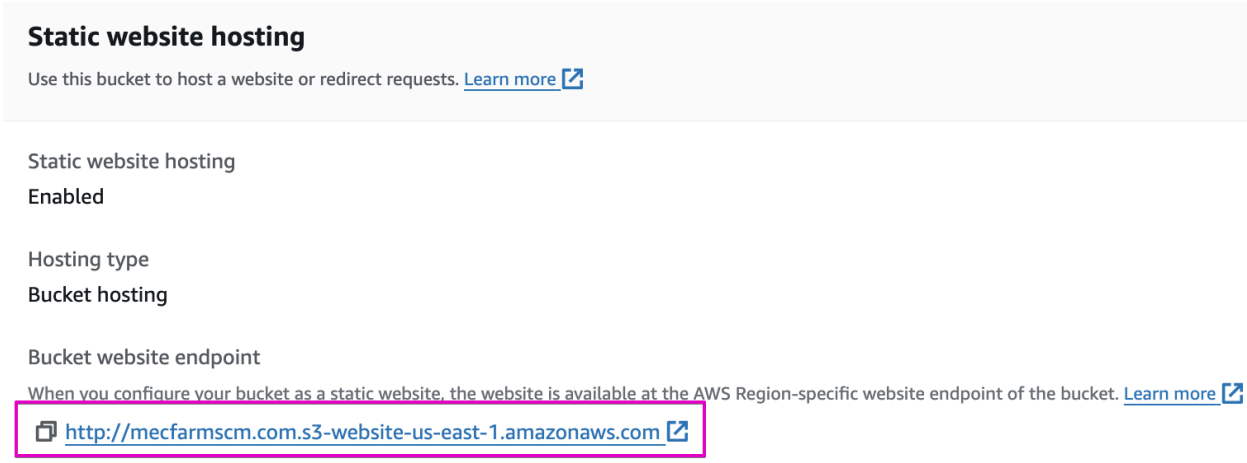
    - Scroll down to the "Static website hosting" section and click "Edit".



- select "**Enable**" and choose "**Host a static website**".
- For the "Index document," enter **index.html**.
- For the "Error document," enter **error.html**.

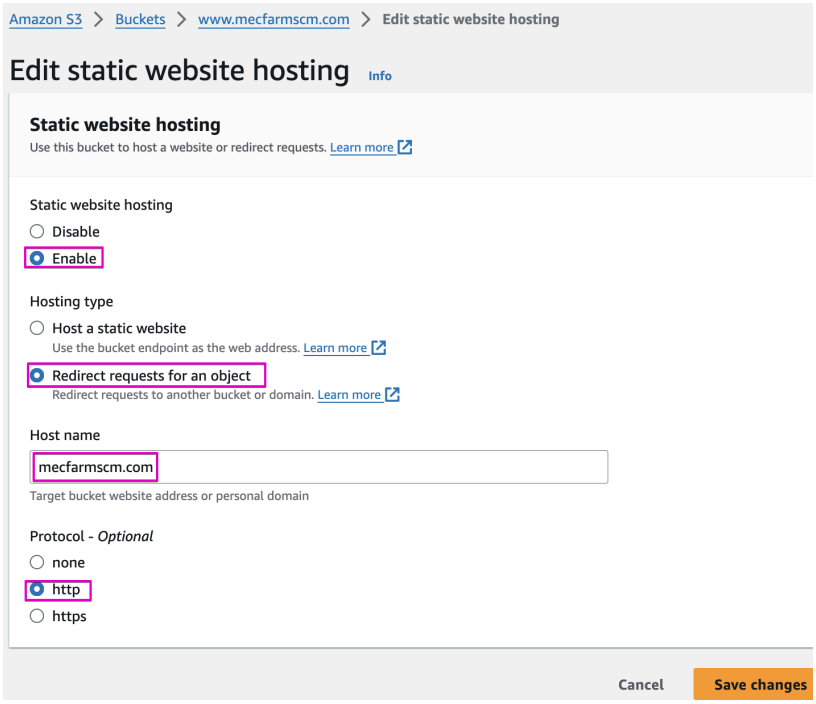


- scroll down and click "**Save changes**".
- Note the "Endpoint" URL under the "Static website hosting" section.



Step 4: Set Up Your Subdomain Bucket for Website Redirect

1. **Enable Redirection:**
    - In the S3 console, click on the subdomain bucket (e.g., www.jjtech.com).
    - Go to the "**Properties**" tab.
    - Scroll down to the "**Static website hosting**" section and click "**Edit**".
    - Select "**Enable**" and choose "**Redirect requests for an object**".
    - In the "Target bucket" box, enter your root domain (e.g., jjtech.com).
    - For "Protocol," choose http.
    - Click "Save changes".



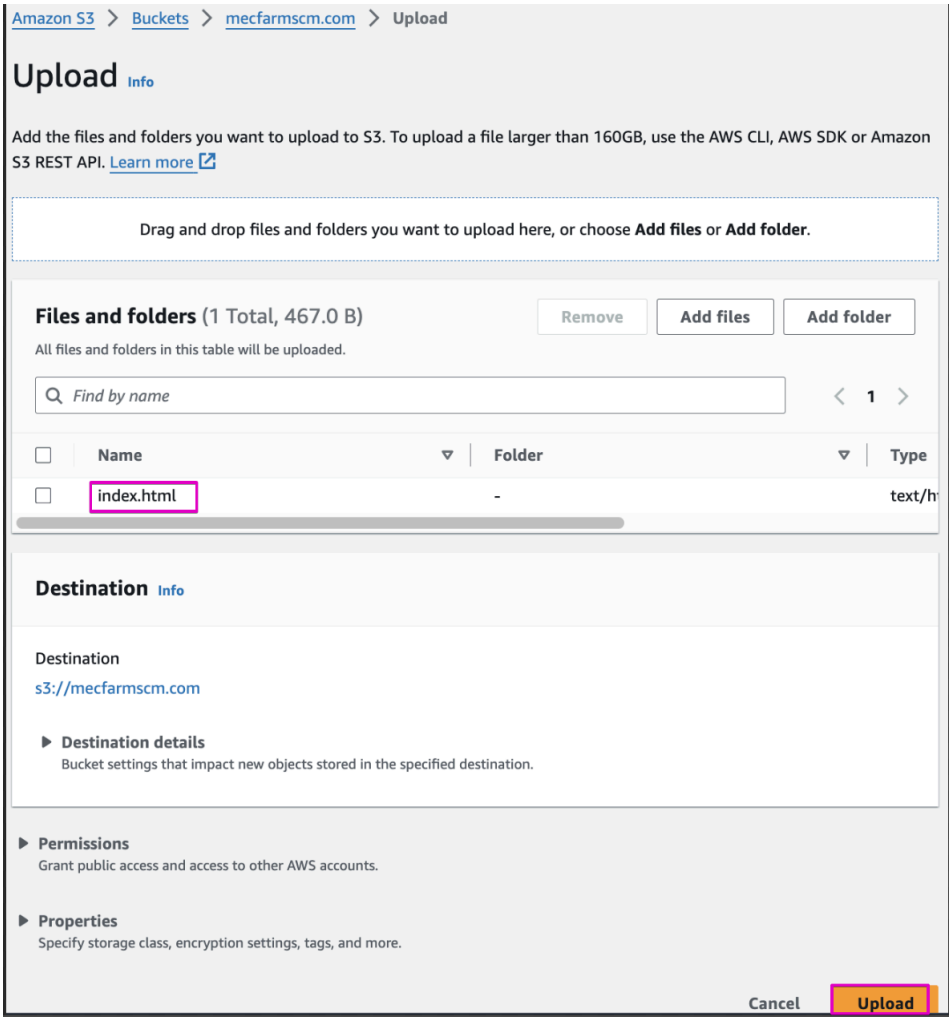
Step 5: Upload index.html to Create Website Content

1. **Create an index.html File:**
   - Create a simple index.html file on your local machine with the following content:

     html
     Copy code

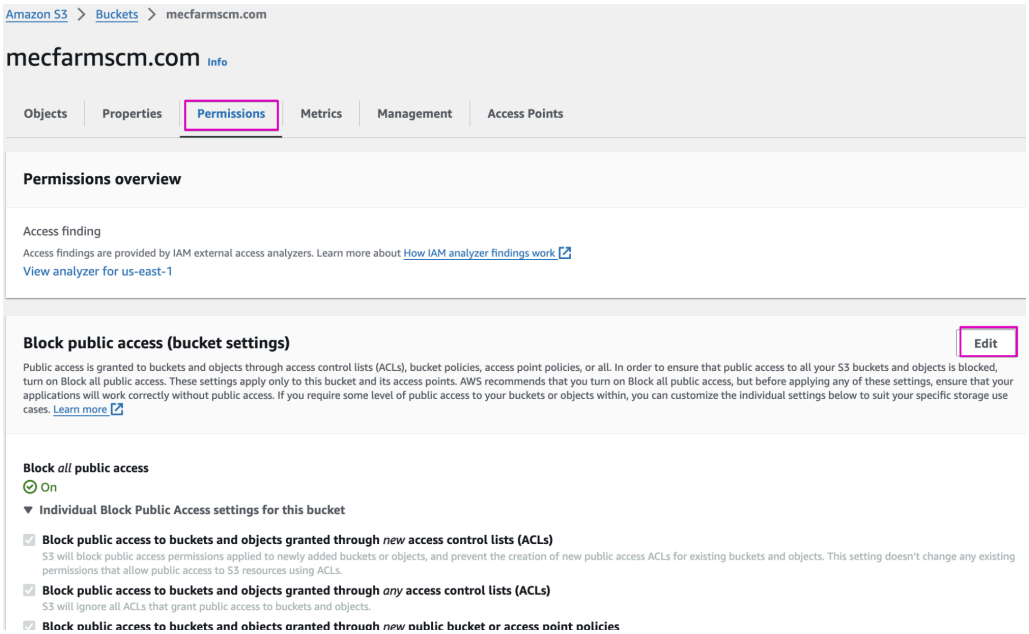
```
<!DOCTYPE html>
<html>
<head>
  <title>Amazon Route 53 DNS</title>
</head>
<body>
  <h1>JJTech Model Batch B is learning how to to use Route53 DNS for a static website</h1>
  <p>For more information, checkout
  <a href="https://academy.jjtechinc.co/our-courses/aws-foundational-and-advanced-training/">JJTech's Advance training course outline</a>
  For more <emphasis>information on JJTech's detail curriculum</emphasis>.</p>
</body>
</html>
```

2. **Upload the index.html File:**
   - In the S3 console, click on the root domain bucket (e.g., jjtech.com).
   - Go to the "Objects" tab.
   - Click the "Upload" button.
   - Drag and drop your index.html file or click "Add files" to upload it from your local machine.
   - Click "Upload".



Step 6: Edit S3 Block Public Access Settings

1. **Disable Block Public Access:**
    - In the S3 console, click on the root domain bucket (e.g., jjtech.com).
    - Go to the "**Permissions**" tab.
    - Click "**Edit**" under "**Block public access** (bucket settings)".

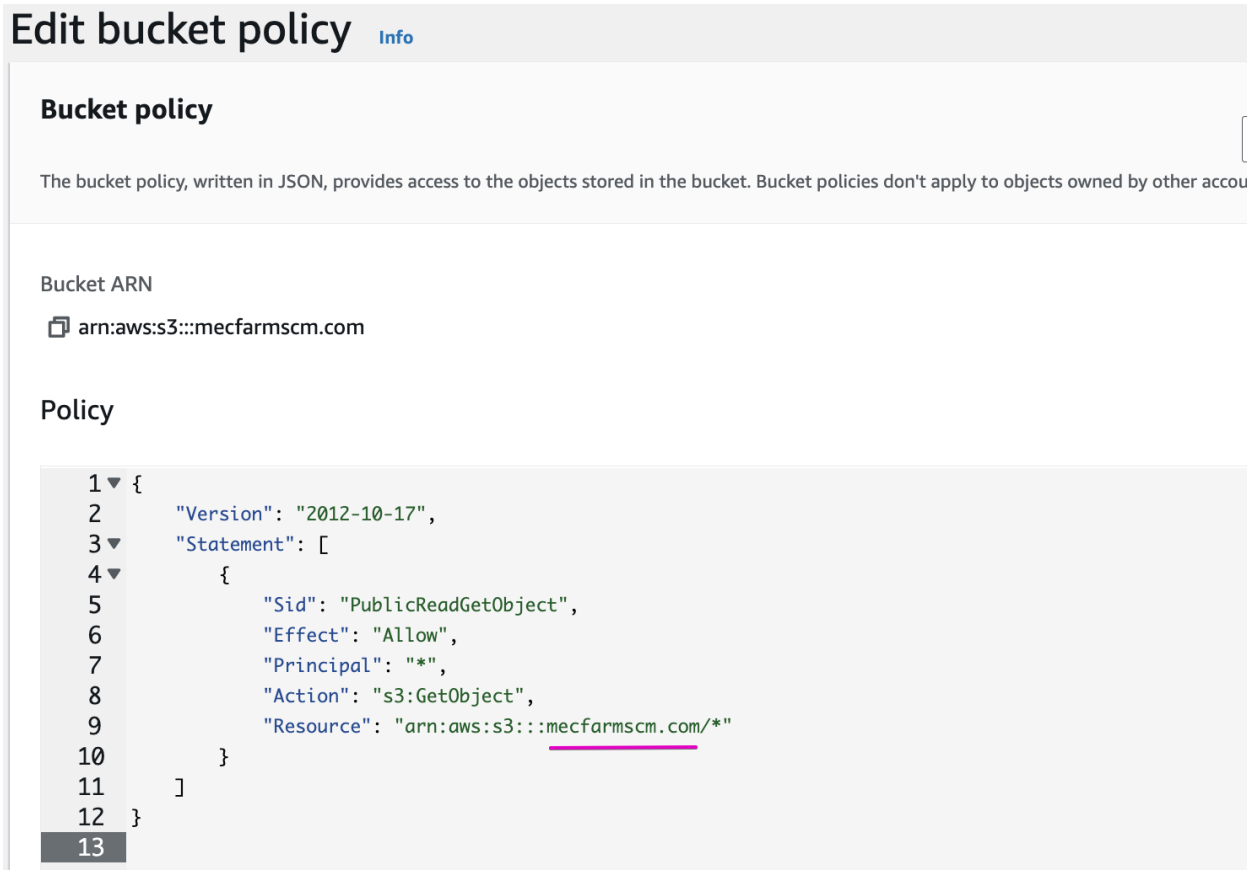


- **uncheck** "*Block all public access*" and acknowledge the warning.
- Click "**Save changes**", and **confirm** the change in settings.

Step 7: Attach a Bucket Policy

1. **Set the Bucket Policy:**
   - In the S3 console, go to the "**Permissions**" tab of the root domain bucket (e.g., jjtech.com).
   - Scroll down to the "**Bucket policy**" section and click "**Edit**".
   - Add the following bucket policy, replacing jjtech.com with your domain:

```
json
Copy code
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
      "Principal": "*",
      "Action": "s3:GetObject",
      "Resource": "arn:aws:s3:::jjtech.com/*"
    }
  ]
}
```



- Click "**Save changes**".

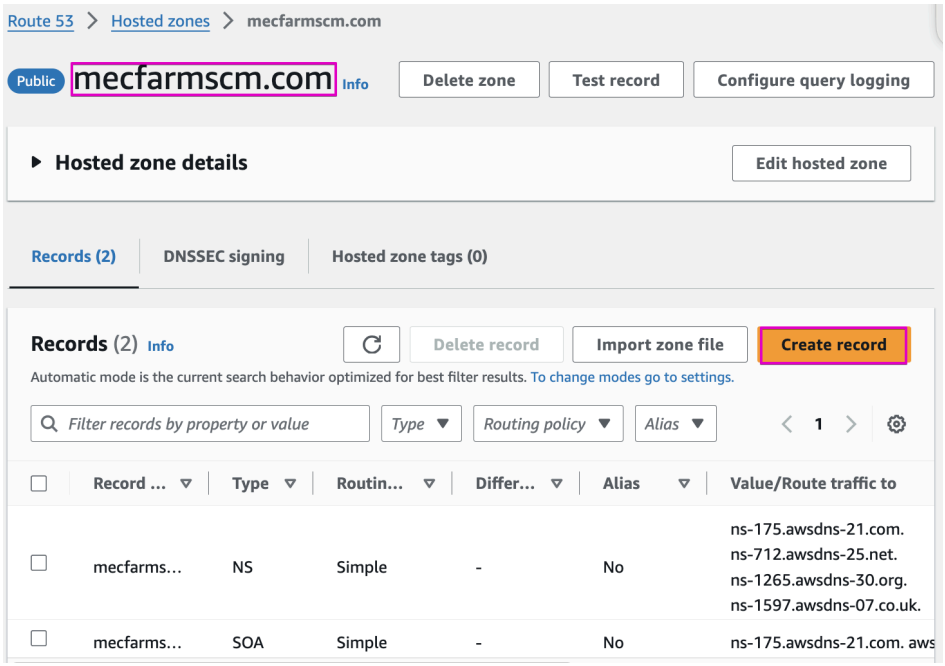
Step 8: Test Your Domain Endpoint

1. **Verify Website Hosting:**
   - Open a web browser and enter the URL for your root domain bucket. It should be in the format: http://jjtech.com.s3-website-<region>.amazonaws.com.
   - You should see your static website displayed.

Step 9: Route DNS Traffic for Your Domain to Your Website

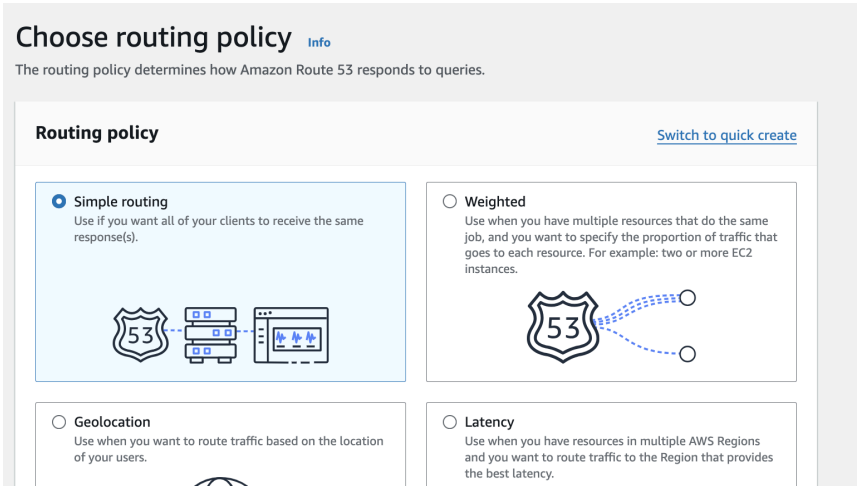
1. **Open the Route 53 Console:**
   - In the AWS Management Console, navigate to the **Route 53** console.
   - In the navigation pane, choose "**Hosted zones**" and select your hosted zone.

2. **Create Record Sets for Your Domain:**
   - Click "Create record".



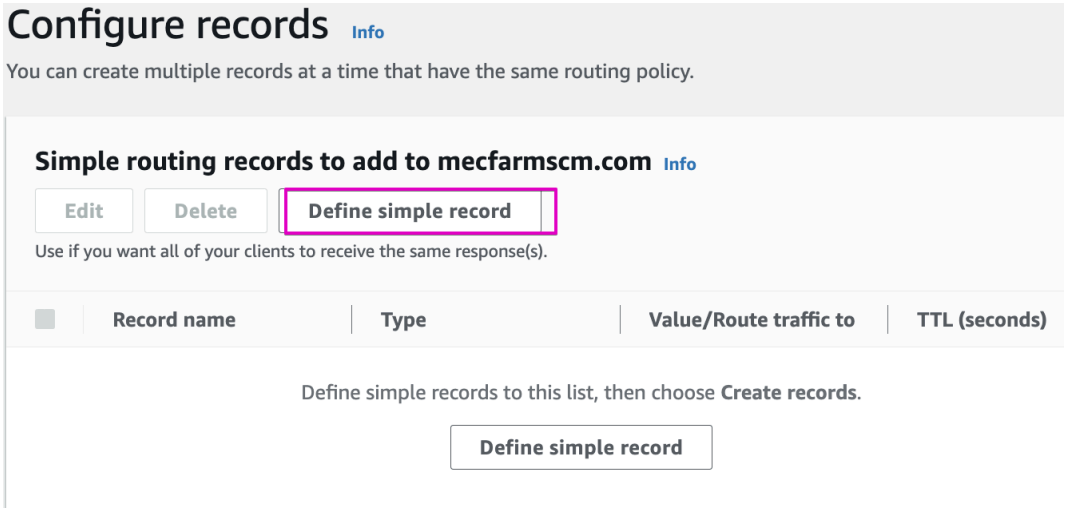
   - Choose "**Switch to wizard**".

   - Select "**Simple routing**" and choose "Next".

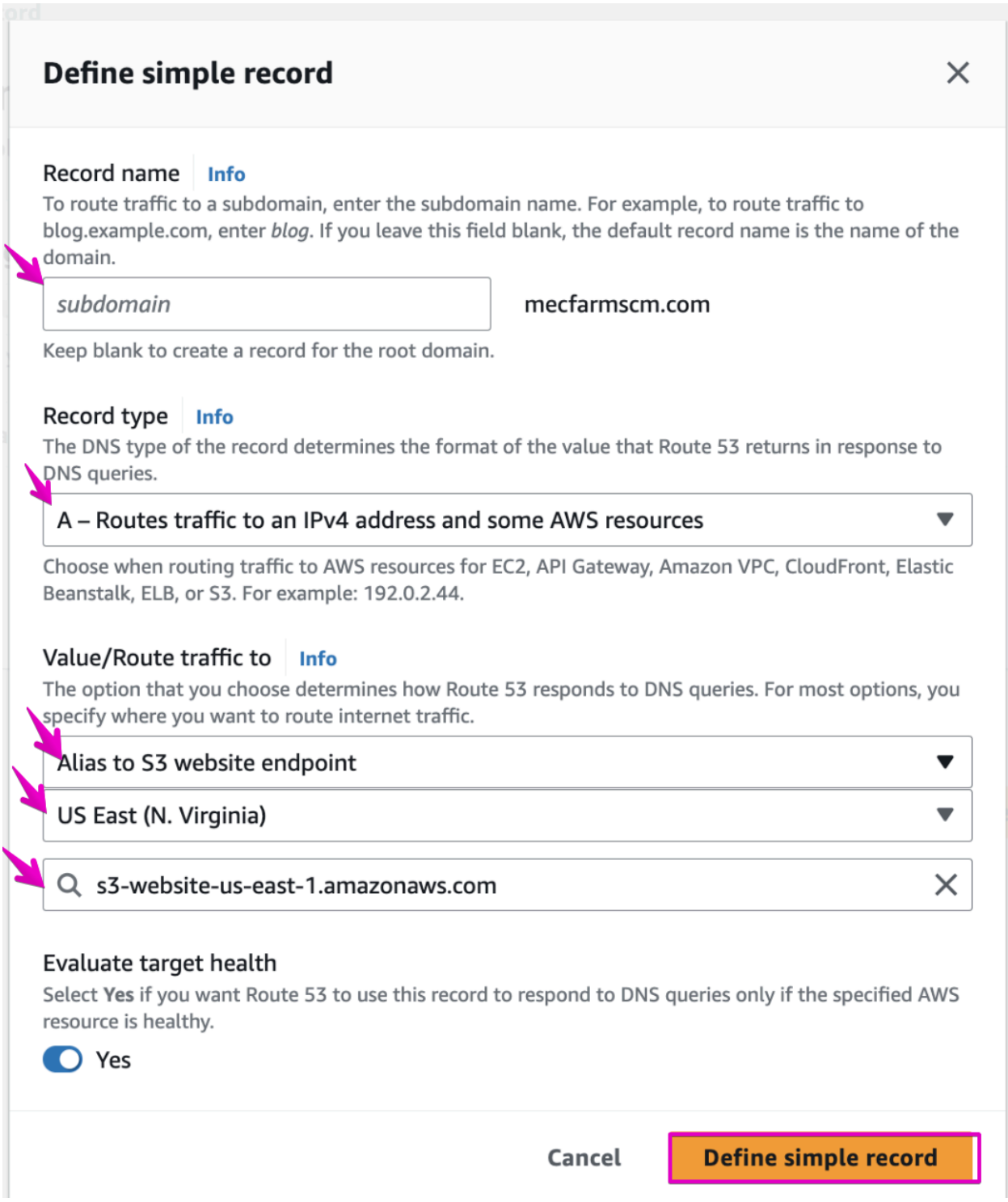


   -

- Choose "**Define simple record**".

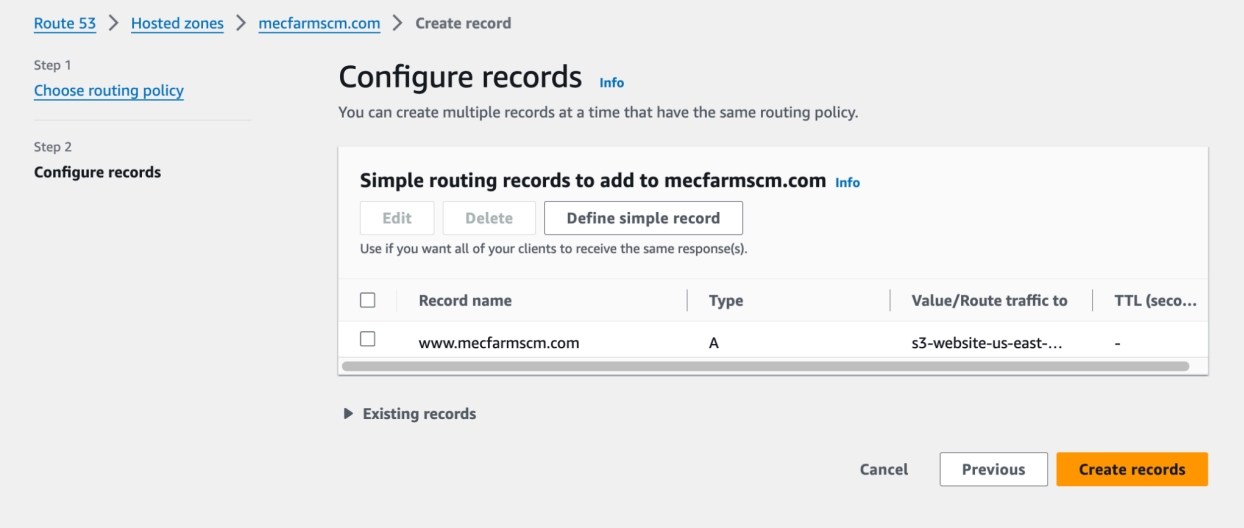


- In "Record name," accept the default value, which is the name of your hosted zone and your domain.
- In "Record type," choose **A - Routes traffic to an IPv4 address and some AWS resources**.
- In "Value/Route traffic to," choose **Alias to S3 website endpoint**.
- Choose the region and select your S3 bucket for the root domain.
- Click "**Define simple record**".



Finally click on **Create records**.

3. **Create another A Record for Your Subdomain:**
    - Repeat as above for creating the subdomain. Under "Configure records," choose "Define simple record".
    - In "Record name" for your subdomain, type www.
    - In "Record type," choose A - Routes traffic to an IPv4 address and some AWS resources.
    - In "Value/Route traffic to," choose Alias to S3 website endpoint.
    - Choose the region and select your S3 bucket for the subdomain.
    - Click "Define simple record".
    - On the "Configure records" page, choose "Create records".



Step 10: Test Your Website

1. **Verify Website Functionality:**
    - Open a web browser and browse to the following URLs:
        - http://your-domain-name (e.g., jjtech.com) – Displays the index document in the root domain bucket.
        - http://www.your-domain-name (e.g., `www.jjtech.com)