

Final Project

Online Resume on AWS

Course: CNE430 Cloud Architecture

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**Students: Tyler Subin, Abiyu Gebremeskel,
Van Vuong**

Instructor: Christin Sutton

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I. Project Overview

In this project, CAN IT Consulting builds and hosts an interactive resume for XYZ Company on a secure web server using a range of AWS services. Specifically, it will utilize S3, Route 53, CloudFront, and AWS Certificate Manager to provide scalability, security, and reliability.

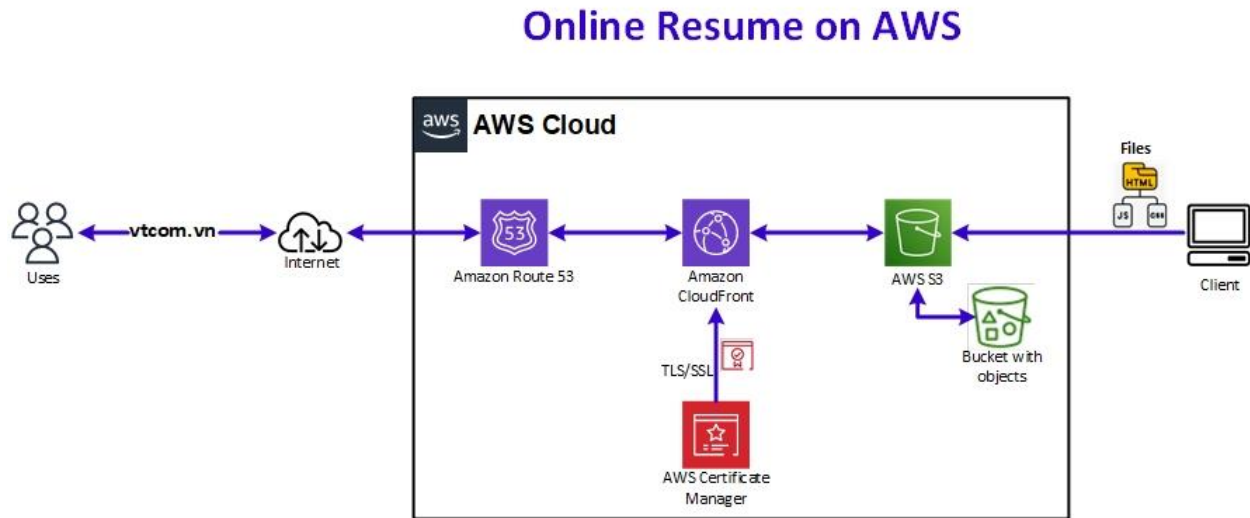


Figure 1. Online Resume on AWS Architecture.

II. Project Scope of Work

Scope of Work:

- Creating a branch of the main repository on GitHub, including granting the write privileges to CNA IT Consulting, debugging code, and conducting QA on Pull Request from GitHub.
- Create project management on Jira and conduct scrum meetings twice weekly on Monday and Thursday.
- Building budget for all AWS resources for this project.
- Build a static Online Resume Website on S3. This website has 4 pages:
 - Main page: introduction.
 - Page 1: John Doe's Resume.
 - Page 2: Alex Johnson's Resume.
 - Page 3: Ryan Miller's Resume.
- Configure Route53 as a DNS Service for Domain Name: "vtcom.vn".
- Create TLS/SSL Certificate using AWS Certificate Manager.
- Distribute the website by using CloudFront Distribution.
- CNA IT Consulting Push final commit to conclude the project.

III. How to Build a Static Online Resume Website on S3

1. Prerequisites

AWS Account: Ensure you have an active AWS account.

Domain Name: Acquire a domain name (you can register one on AWS Route 53 or use an external provider).

Website Files: Prepare your static HTML, CSS, and JavaScript files for the resume website.

2. Default Resume Home Page

a. HTML File (index.html)

This HTML file outlines the structure of the "Online Resume Hub" page. It includes a header welcoming users, an introduction section explaining the project, and a technical overview describing how it uses AWS services like S3, Route 53, CloudFront, and ACM. The file also contains a navigation section with links to individual resumes for John, Alex, and Ryan.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Online Resume Hub</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <header>
    <h1>Welcome to the Online Resume Hub</h1>
  </header>

  <section id="introduction">
    <h2>About This Project</h2>
    <p>This hub showcases professional resumes for talented individuals. Click on a name below to view their resume and learn more about their skills and experience.</p>

    <h2>Technical Overview</h2>
    <p>This project leverages Amazon Web Services (AWS) to host the online resume hub with a focus on scalability, security, and reliability. The setup utilizes:</p>
    <ul class="no-bullets">
      <li><strong>Amazon S3</strong> for static website hosting</li>
      <li><strong>Route 53</strong> for DNS management</li>
      <li><strong>CloudFront</strong> for content delivery and caching</li>
      <li><strong>AWS Certificate Manager (ACM)</strong> for SSL/TLS encryption</li>
    </ul>
    <p>This combination ensures resumes are securely accessible and optimized for fast loading across the globe, demonstrating best practices for hosting static websites on AWS.</p>
  </section>
```

```

    <nav>
      <ul>
        <li><a href="/john/john_doe.html" target="_blank">John
Doe</a></li>
        <li><a href="/alex/alex_johnson.html" target="_blank">Alex
Johnson</a></li>
        <li><a href="/ryan/ryan_miller.html" target="_blank">Ryan
Miller</a></li>
      </ul>
    </nav>

    <script src="script.js"></script>
  </body>
</html>

```

b. JavaScript File (script.js)

This JavaScript file triggers a welcome alert when the page is loaded, greeting visitors and prompting them to click on a name to view the respective resume.

```

1  // Display a welcome alert when the page loads
2  document.addEventListener("DOMContentLoaded", function() {
3    alert("Welcome to the Online Resume Hub! Click on a name to view their resume.");
4  });

```

c. CSS File (styles.css):

This file styles the website with a clean design, using a gradient background and flexible layouts. It also customizes the navigation links with hover effects and adds spacing between sections for better readability.

```

/* Reset default styling */
* {
  margin: 0;
  padding: 0;
  box-sizing: border-box;
}

body {
  font-family: Arial, sans-serif;
  background: linear-gradient(135deg, #e2e8f0, #f4f4f9);
  color: #333;
  display: flex;
  flex-direction: column;
  align-items: center;
  padding: 20px;
}

header {

```

```

        text-align: center;
        margin-bottom: 20px;
    }

    header h1 {
        font-size: 2.5em;
        color: #3b82f6;
    }

    /* Section spacing */
    section {
        margin-bottom: 30px; /* Adds space between sections */
    }

    /* Paragraph spacing */
    p {
        margin-bottom: 15px; /* Adds space between paragraphs */
    }

    #introduction {
        text-align: center;
        font-size: 1.1em;
        color: #475569;
    }

    /* Remove bullets from specific lists */
    .no-bullets {
        list-style-type: none;
        padding: 0;
    }

    nav ul {
        list-style-type: none;
        display: flex;
        gap: 20px;
    }

    nav a {
        display: block;
        padding: 10px 20px;
        font-size: 1.5em;
        color: #3b82f6;
        background-color: #ffffff;
        border-radius: 8px;
        text-decoration: none;
        transition: transform 0.2s ease, box-shadow 0.2s ease;
        box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
    }

    nav a:hover {
        color: #2563eb;
        transform: translateY(-5px);
        box-shadow: 0 8px 12px rgba(0, 0, 0, 0.2);
    }

```


3. Alex's Resume Page

a. HTML File (index.html)

Modify the structure and content of Alex's resume. Such as professional summary, technical skills, education, professional experiences, projects, and personal information like LinkedIn and GitHub links.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Alex's Resume</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <div class="container">
    <!-- Sidebar for Quick Navigation -->
    <aside class="sidebar">
      <header>
        <h1>Alex Johnson</h1>
        <p>Renton, WA</p>
        <p><a href="mailto:alex.johnson@email.com">alex.johnson@email.com</a></p>
        <p><a href="https://linkedin.com/in/2323alex-johnson" target="_blank">LinkedIn</a> | <a href="https://github.com/2323alexjohnson" target="_blank">GitHub</a></p>
      </header>
      <nav>
        <ul>
          <li><a href="#summary">Professional Summary</a></li>
          <li><a href="#skills">Technical Skills</a></li>
          <li><a href="#education">Education</a></li>
          <li><a href="#experience">Experience</a></li>
          <li><a href="#projects">Projects</a></li>
        </ul>
      </nav>
    </aside>

    <!-- Main Content Area -->
    <main class="content">
      <section id="summary" class="card">
        <h2>Professional Summary</h2>
        <p>Detail-oriented IT professional with a strong background in cloud infrastructure, network engineering, and systems administration. Proven expertise in implementing and managing AWS-based solutions and skilled in both software and network troubleshooting. Currently pursuing a Bachelor of Applied Science in Computer Network Engineering, demonstrating a commitment to continuous learning and technical proficiency.</p>
      </section>

      <section id="skills" class="card">
        <h2>Technical Skills</h2>
        <ul>
          <li><strong>Cloud Platforms:</strong> AWS (S3, EC2, Route 53, CloudFront, IAM)</li>
        </ul>
      </section>
    </main>
  </div>
</body>
</html>
```

```

        <li><strong>Networking:</strong> DNS, DHCP, TCP/IP,
Network Security, VPN</li>
        <li><strong>Languages:</strong> Python, Bash, SQL</li>
        <li><strong>Tools & Software:</strong> GitHub, Jira,
Linux, Docker</li>
        <li><strong>Certifications:</strong> AWS Cloud
Practitioner, CompTIA Linux+</li>
    </ul>
</section>

    <section id="education" class="card">
        <h2>Education</h2>
        <div>
            <h3>Bachelor of Applied Science in Computer Network
Engineering</h3>
            <p>Renton Technical College | Expected Graduation:
2025</p>
        </div>
        <div>
            <h3>Associate of Applied Science - Transfer in Cloud
Network Technology</h3>
            <p>Renton Technical College | 2022</p>
        </div>
    </section>

    <section id="experience" class="card">
        <h2>Professional Experience</h2>
        <div class="job">
            <h3>Network Intern</h3>
            <p>ABC Solutions, Kent, WA | Jan 2024 - Present</p>
            <ul>
                <li>Assisted in configuring and monitoring network
systems, troubleshooting connectivity issues to ensure optimal
performance.</li>
                <li>Implemented AWS infrastructure solutions for
testing environments, including setting up EC2 instances and configuring S3
buckets.</li>
                <li>Collaborated with team to develop documentation
and support materials for network configurations and AWS solutions.</li>
            </ul>
        </div>
        <div class="job">
            <h3>IT Support Technician</h3>
            <p>XYZ Tech, Renton< WA | Jun 2022 - Dec 2023</p>
            <ul>
                <li>Provided technical support for a range of
software and hardware issues, ensuring a high level of customer
satisfaction.</li>
                <li>Automated routine processes using Python scripts,
reducing time spent on manual tasks by 30%.</li>
                <li>Configured routers, switches, and firewalls to
enhance network security and reliability.</li>
            </ul>
        </div>
    </section>

    <section id="projects" class="card">

```

```

        <h2>Projects</h2>
        <div class="project">
            <h3>Online Resume Website</h3>
            <p>Developed a static resume website hosted on AWS S3,
configured with Route 53 for DNS, CloudFront for content delivery, and
secured using AWS Certificate Manager (ACM).</p>
            <p>Created and managed a GitHub repository with all
configuration files and documentation, enabling easy deployment and
collaboration.</p>
        </div>
        <div class="project">
            <h3>Network Automation with Python</h3>
            <p>Designed Python scripts to automate network monitoring
and troubleshooting tasks, reducing the need for manual interventions and
improving response times.</p>
        </div>
    </section>
</main>
</div>

<script src="script.js"></script>
</body>
</html>

```

b. JavaScript File (script.js)

Customize interactive features like expand/collapse for sections. Add new dynamic elements tailored to Alex's website.

```

// Wait for the DOM to load before adding event listeners
document.addEventListener("DOMContentLoaded", () => {
    // Select all sections to add expand/collapse functionality
    const sections = document.querySelectorAll("section");

    sections.forEach(section => {
        // Add a "clickable" cursor and event listener to each section
        heading (h2)
        const header = section.querySelector("h2");
        header.style.cursor = "pointer";

        // Set up a click event listener to toggle visibility of section
        content
        header.addEventListener("click", () => {
            // Toggle visibility of each child element (e.g., paragraphs,
            lists) within the section
            const content = section.querySelectorAll("p, ul, div");
            content.forEach(element => {
                // Switch between displaying and hiding each content element
                element.style.display = element.style.display === "none" ?
"block" : "none";
            });

            // Optionally, toggle the arrow symbol on the header to indicate
            open/close state

```

```

        if (header.textContent.endsWith("▼")) {
            header.textContent = header.textContent.replace("▼", "▲");
        } else {
            header.textContent += " ▼";
        }
    });

    // Initially collapse all sections except the first (optional)
    if (section !== sections[0]) {
        const content = section.querySelectorAll("p, ul, div");
        content.forEach(element => {
            element.style.display = "none";
        });
        header.textContent += " ▼"; // Add down arrow to collapsed
sections
    }
    });
});

```

c. CSS File (styles.css)

Adjust visual styles like colors, fonts, and layout spacing to enhance Alex's website design.

```

/* General Reset */
* {
    margin: 0;
    padding: 0;
    box-sizing: border-box;
}

body {
    font-family: Arial, sans-serif;
    background-color: #f4f4f9;
    color: #333;
    line-height: 1.6;
    padding: 20px;
}

header {
    text-align: center;
    margin-bottom: 20px;
}

header h1 {
    font-size: 2em;
    color: #444;
}

header p {
    margin-top: 10px;
    color: #555;
}

section {

```

```

        margin: 20px 0;
    }

h2 {
    color: blue;
    border-bottom: 2px solid #e4e4e4;
    padding-bottom: 5px;
    margin-bottom: 10px;
}

.job h3, .project h3 {
    font-size: 1.2em;
    color: #333;
}

.job p, .project p {
    font-style: italic;
    color: #666;
    margin-top: 5px;
}

ul {
    margin: 10px 0 10px 20px;
}

ul li {
    margin-bottom: 5px;
}

a {
    color: #009688;
    text-decoration: none;
}

a:hover {
    text-decoration: underline;
}

```

4. John's Resume Page

a. HTML File (index.html)

Update John's resume content, including contact details, education, skills, and work experience.

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>John Doe - Resume</title>
    <link rel="stylesheet" href="styles.css">
</head>
<body>
    <header>
        <h1>John Doe</h1>
        <p>Renton, WA | <a

```

```

href="mailto:johndoe@google.com">johndoe@google.com</a></p>
    <p><a href="https://linkedin.com/in/doe-john"
target="_blank">LinkedIn</a> | <a href="https://github.com/johndoe"
target="_blank">GitHub</a></p>
</header>

<section id="education">
    <h2>Education</h2>
    <p>Bachelor of Applied Science in Computer Network Engineering
(Expected Graduation Date: June 2025)</p>
    <p>GPA: 4.0</p>
    <p>Scholarships: College's Foundations Scholarship</p>
</section>

<section id="skills">
    <h2>Skills</h2>
    <ul>
        <li><strong>Development & Version Control:</strong> Jira, Agile,
Git, GitHub, Docker, GitHub Repositories</li>
        <li><strong>Cloud Computing & Platforms:</strong> AWS, Azure, GCP,
Lambda</li>
        <li><strong>Networking & Systems:</strong> VirtualBox, Packet
Tracer, Linux, Ubuntu, SSH, Cisco Networking Basics Badge</li>
        <li><strong>Databases:</strong> SQL Database
Analysis/Collection</li>
        <li><strong>Programming Languages & Automation:</strong> Python,
BASH, PHP, SQL, Powershell</li>
        <li><strong>Web Development:</strong> WordPress, Nginx, AI</li>
        <li><strong>Operating Systems:</strong> Windows, Linux, Android,
iOS</li>
        <li><strong>Security & SSL:</strong> SSL</li>
        <li><strong>PC Customization & Solutions:</strong> Deploying PCs
and networks in home/small office environments, network solutions, training,
sales</li>
        <li><strong>Other Tools:</strong> Genesys CLI, AS/400 CLI,
Markdown</li>
        <li><strong>Office Productivity:</strong> MS Office/Office 365</li>
    </ul>
</section>

<section id="experience">
    <h2>Experience</h2>

    <h3>Company Name #1, Owner</h3>
    <p>November 2019 - June 2023</p>
    <ul>
        <li>Assisted home and small office computer networks, reducing
customer costs by 25%</li>
        <li>Set up and maintained networks for LAN events (up to 12
computers), reducing setup time by 5%</li>
        <li>Provided clients with instruction/training manuals and
technical documentation, reducing training costs by 10%</li>
    </ul>

    <h3>Company Name #2, Vehicle Inspector</h3>
    <p>September 2017 - October 2019</p>
    <ul>

```

- Conducted vehicle inspections and handled initial reports and disputes, saving over \$100,000 annually
- Leveraged CLI tools to insert and update 3,000+ rows in the vehicle database, improving SQL data accuracy by 10%
- Provided critical data to the vehicle database used by the state's largest auction, processing over 5M cars annually

Improved inventory location, organization, and accuracy by 10% - Increased sales of wood-free products by 5% and provided technical customer support Won first place in company's national stick vacuum registered warranty competition - Increased company customer warranty registrations by 10% and answered technical customer queries Improved inventory location, organization, and accuracy by 5% - Received customer satisfaction and service awards while enhancing customer appliance knowledge by 5% - Boosted appliance warranty sales by 5% and answered technical customer questions Hired and trained 2 staff members, funded training/technical manuals, reducing costs by 5% - Wrote NDAs, set budgets, raised funds, and organized meetings, improving company efficiency by 5% - Coordinated visual graphics personnel with programming teams to improve cross-department communication by 5% Trained and led 20 students in end-to-end carbon fiber production, contributing to the successful completion of projects - Raised \$2,500 and recruited 4 new members to enhance program awareness - Created training manuals and technical documentation for 30 students, reducing training and part production time by 50%

```

        </ul>

</section>

<br><br>

    <footer>
        <p>&copy; 2024 John Doe</p>
    </footer>

    <script src="scripts.js"></script>
</body>
</html>

```

b. JavaScript File (script.js)

The script provided controls the visibility of the "Education" section on your website. When the section is clicked.

```

// Example of a simple script to toggle visibility of a section
document.addEventListener('DOMContentLoaded', function() {
    const educationSection = document.getElementById('education');
    educationSection.addEventListener('click', function() {
        educationSection.style.display = educationSection.style.display ===
'none' ? 'block' : 'none';
    });
});

```

c. CSS File (styles.css)

The CSS file styles John's resume, handling layout, colors, fonts, and spacing to create a visually appealing presentation.

```

body {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
    background-color: #f4f4f4;
}

header {
    background-color: #333;
    color: white;
    padding: 20px;
    text-align: center;
}

header h1 {
    margin: 0;
}

```



```

header p a {
  color: #66c2ff;
  text-decoration: none;
}

header p a:hover {
  text-decoration: underline;
}

section {
  padding: 20px;
  margin: 20px;
  background-color: white;
  border-radius: 8px;
  box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}

h2 {
  color: #333;
}

ul {
  list-style-type: none;
  padding-left: 0;
}

ul li {
  margin-bottom: 8px;
}

footer {
  background-color: #333;
  color: white;
  text-align: center;
  padding: 10px;
  position: fixed;
  width: 100%;
  bottom: 0;
}

```

5. Ryan's Resume Page

a. HTML File (index.html)

Ryan's HTML file sets up the basic structure of his resume, with sections like About Me, Professional Experience, Skills, and Education. It links to an external CSS file for styling.

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Online Resume Hub</title>
  <link rel="stylesheet" href="styles.css">

```

```

</head>
<body>
  <header>
    <h1>Welcome to the Online Resume Hub</h1>
  </header>

  <section id="introduction">
    <h2>About This Project</h2>
    <p>This hub showcases professional resumes for talented individuals. Click on a name below to view their resume and learn more about their skills and experience.</p>

    <h2>Technical Overview</h2>
    <p>This project leverages Amazon Web Services (AWS) to host the online resume hub with a focus on scalability, security, and reliability. The setup utilizes:</p>
    <ul class="no-bullets">
      <li><strong>Amazon S3</strong> for static website hosting</li>
      <li><strong>Route 53</strong> for DNS management</li>
      <li><strong>CloudFront</strong> for content delivery and caching</li>
      <li><strong>AWS Certificate Manager (ACM)</strong> for SSL/TLS encryption</li>
    </ul>
    <p>This combination ensures resumes are securely accessible and optimized for fast loading across the globe, demonstrating best practices for hosting static websites on AWS.</p>
  </section>

  <nav>
    <ul>
      <li><a href="/john/john_doe.html" target="_blank">John Doe</a></li>
      <li><a href="/alex/alex_johnson.html" target="_blank">Alex Johnson</a></li>
      <li><a href="/ryan/ryan_miller.html" target="_blank">Ryan Miller</a></li>
    </ul>
  </nav>

  <script src="script.js"></script>
</body>
</html>

```

b. JavaScript File (script.js)

This JavaScript file adds an alert when the page loads, welcoming visitors to the resume hub. It serves as a simple interactive element for the user.

```

// Display a welcome alert when the page loads
document.addEventListener("DOMContentLoaded", function() {
  alert("Welcome to the Online Resume Hub! Click on a name to view their resume.");
});

```

c. CSS File (styles.css)

The CSS file styles Ryan's resume, giving it a clean, modern look with easy-to-read sections and a professional color scheme.

```
/* Reset default styling */
* {
  margin: 0;
  padding: 0;
  box-sizing: border-box;
}

body {
  font-family: Arial, sans-serif;
  background: linear-gradient(135deg, #e2e8f0, #f4f4f9);
  color: #333;
  display: flex;
  flex-direction: column;
  align-items: center;
  padding: 20px;
}

header {
  text-align: center;
  margin-bottom: 20px;
}

header h1 {
  font-size: 2.5em;
  color: #3b82f6;
}

/* Section spacing */
section {
  margin-bottom: 30px; /* Adds space between sections */
}

/* Paragraph spacing */
p {
  margin-bottom: 15px; /* Adds space between paragraphs */
}

#introduction {
  text-align: center;
  font-size: 1.1em;
  color: #475569;
}

/* Remove bullets from specific lists */
.no-bullets {
  list-style-type: none;
  padding: 0;
}
```

```

}

nav ul {
  list-style-type: none;
  display: flex;
  gap: 20px;
}

nav a {
  display: block;
  padding: 10px 20px;
  font-size: 1.5em;
  color: #3b82f6;
  background-color: #ffffff;
  border-radius: 8px;
  text-decoration: none;
  transition: transform 0.2s ease, box-shadow 0.2s ease;
  box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
}

nav a:hover {
  color: #2563eb;
  transform: translateY(-5px);
  box-shadow: 0 8px 12px rgba(0, 0, 0, 0.2);
}

```

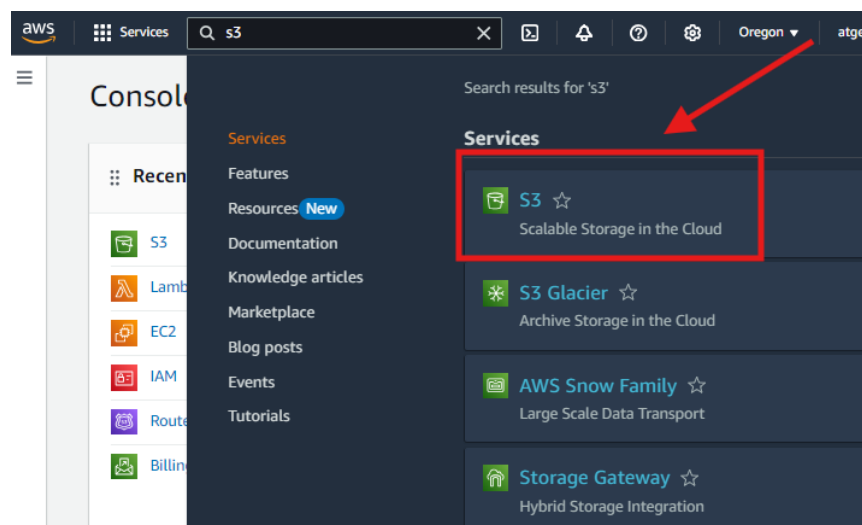
6. Create a S3-hosted website

a. Step 1: Create an S3 Bucket

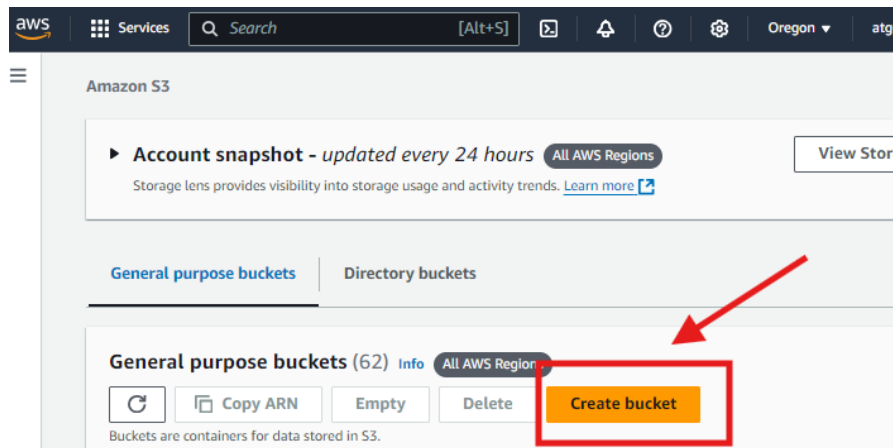
Go to AWS Console, and login.

Create an S3 Bucket

Navigate to S3 in the AWS Management Console.



Click Create Bucket



Choose your AWS Region. It's best to choose the one closest to you.

Enter your Bucket name. (Tip: If you plan to use a custom domain, match the bucket name with your domain name, e.g., cne.com.)

Set Object Ownership to ACLs disabled (recommended).

Amazon S3 > Buckets > Create bucket

Create bucket [Info](#)

Buckets are containers for data stored in S3.

General configuration

AWS Region
US West (Oregon) us-west-2

Bucket type [Info](#)

☒ **General purpose**
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.

☐ **Directory**
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.

Bucket name [Info](#)
vtcom.vn

Bucket name must be unique within the global namespace and follow the bucket naming rules. [See rules for bucket naming](#)

Copy settings from existing bucket - optional
Only the bucket settings in the following configuration are copied.

Format: s3://bucket/prefix

Object Ownership [Info](#)

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

☒ **ACLs disabled (recommended)**
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

☐ **ACLs enabled**
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

Object Ownership
Bucket owner enforced

Allow Public Access

Scroll down to Block Public Access settings for this bucket.

Deselect Block all public access (required for a public resume).

Confirm by selecting the acknowledgment checkbox for public access.

Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

☐ Block all public access

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

- ☐ **Block public access to buckets and objects granted through *new* access control lists (ACLs)**
S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.
- ☐ **Block public access to buckets and objects granted through *any* access control lists (ACLs)**
S3 will ignore all ACLs that grant public access to buckets and objects.
- ☐ **Block public access to buckets and objects granted through *new* public bucket or access point policies**
S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.
- ☐ **Block public and cross-account access to buckets and objects through *any* public bucket or access point policies**
S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.



Turning off block all public access might result in this bucket and the objects within becoming public

AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.

- ☒ I acknowledge that the current settings might result in this bucket and the objects within becoming public.

Create Bucket

Use default settings for the rest of the configuration, then click Create bucket.

Default encryption [Info](#)
 Server-side encryption is automatically applied to new objects stored in this bucket.

Encryption type [Info](#)

- ☒ Server-side encryption with Amazon S3 managed keys (SSE-S3)
- ☐ Server-side encryption with AWS Key Management Service keys (SSE-KMS)
- ☐ Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)
 Secure your objects with two separate layers of encryption. For details on pricing, see [DSSE-KMS pricing](#) on the **Storage** tab of the [Amazon S3 pricing page](#).

Bucket Key
 Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. [Learn more](#)

- ☐ Disable
- ☒ Enable

► **Advanced settings**

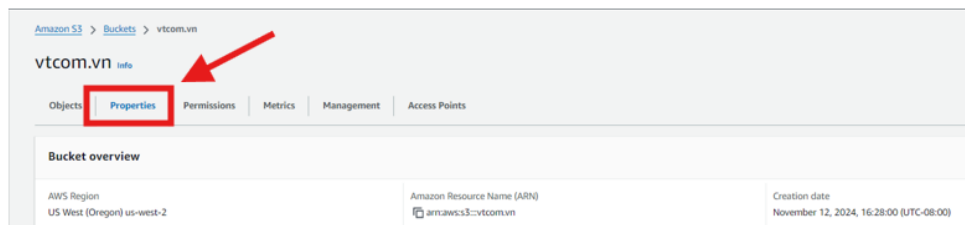
ⓘ After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.

Cancel **Create bucket**

b. Step 2: Enable Static Website Hosting on S3

Open Bucket Properties

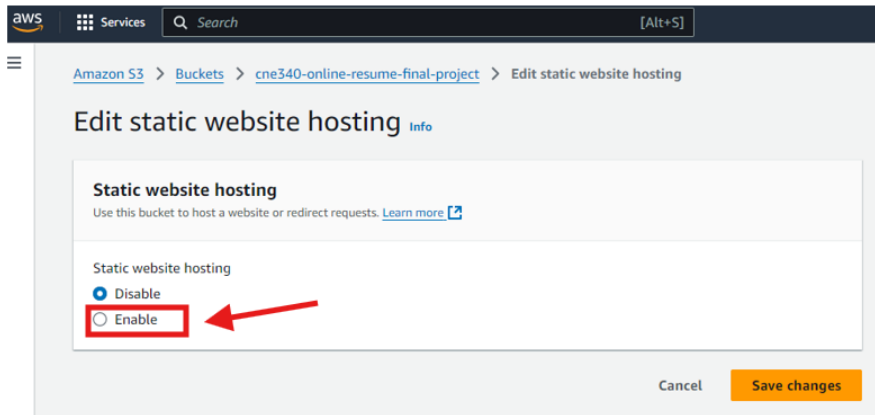
Click into the bucket you just created, and navigate to the Properties tab.



Enable Static Website Hosting

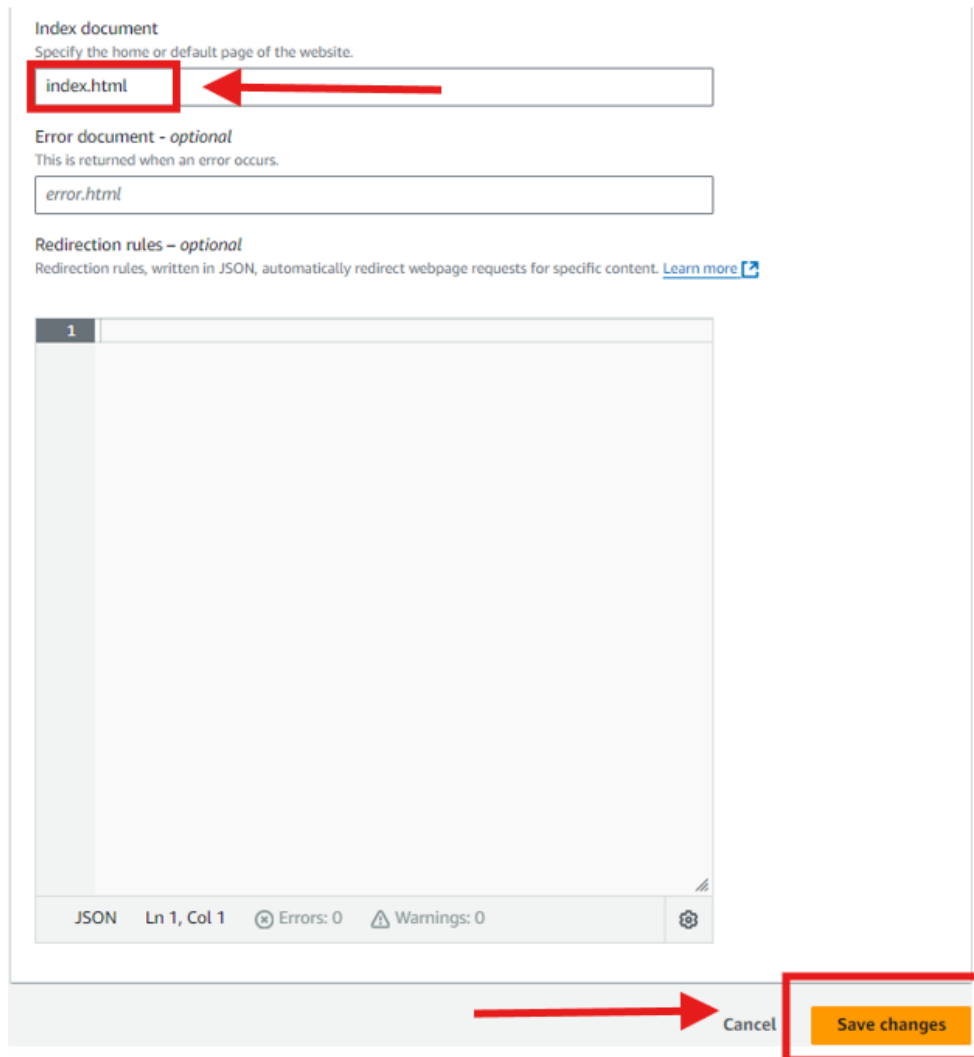
Scroll down to the Static website hosting section and click Edit.

Select Enable to allow static website hosting.



In the Index document field, type index.html (this serves as the default homepage for your website).

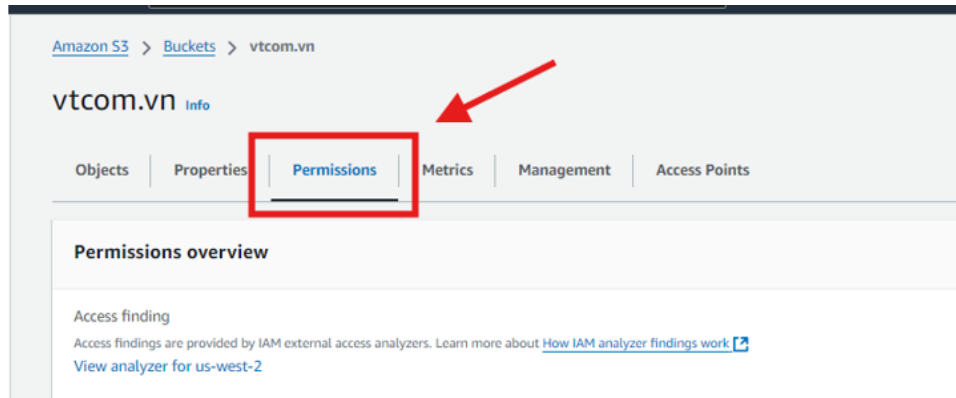
Click Save changes.



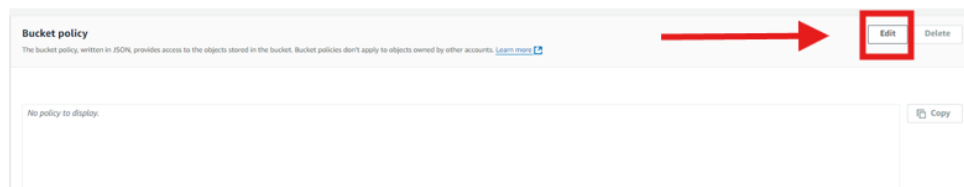
c. Step 3: Configure Bucket Policy for Public Access

Open Bucket Permissions

Go to the Permissions tab in the S3 bucket.



Scroll to Bucket policy and click Edit.



Copy the following policy code and paste it into the policy editor:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadGetObject",
      "Effect": "Allow",
      "Principal": "*",
      "Action": [
        "s3:GetObject"
      ],
      "Resource": [
        "arn:aws:s3:::your-bucket-name/*"
      ]
    }
  ]
}
```

Edit bucket policy [Info](#)

Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. [Learn more](#)

Bucket ARN
arn:aws:s3::vtcom.vn

Policy

```

1  {
2    "Version": "2012-10-17",
3    "Statement": [
4      {
5        "Sid": "PublicReadGetObject",
6        "Effect": "Allow",
7        "Principal": "*",
8        "Action": [
9          "s3:GetObject"
10       ],
11       "Resource": [
12         "arn:aws:s3:::vtcom.vn/*"
13       ]
14     }
15   ]
16 }

```

Replace "your-bucket-name" with your actual bucket name.

Click Save changes to apply the policy.

[+ Add new statement](#)

JSON Ln 16, Col 1

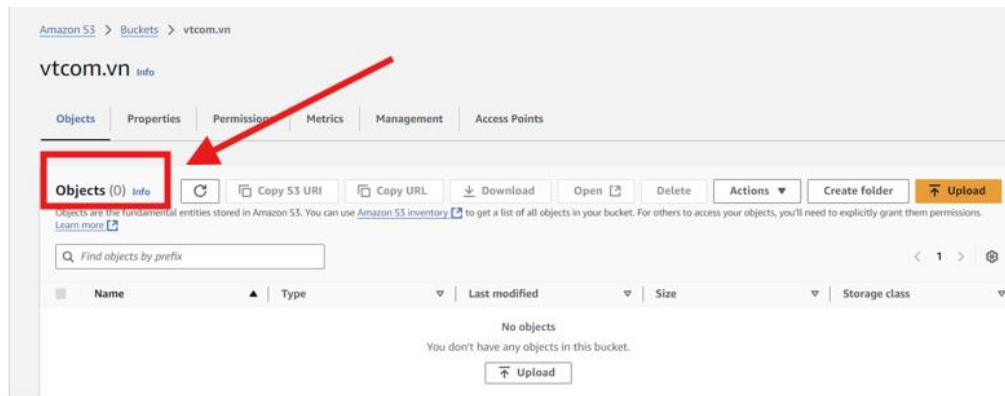
Security: 0 Errors: 0 Warnings: 0 Suggestions: 0 [Preview external access](#)

[Cancel](#) [Save changes](#)

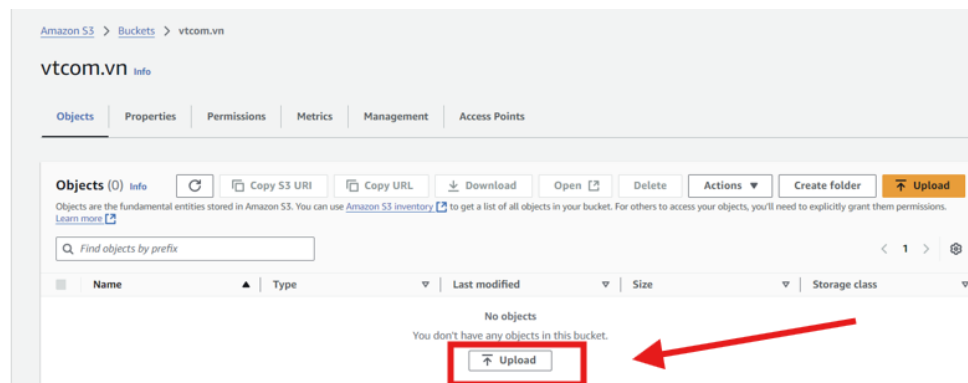
d. Step 4: Upload Your Resume Files to S3

Go to Objects

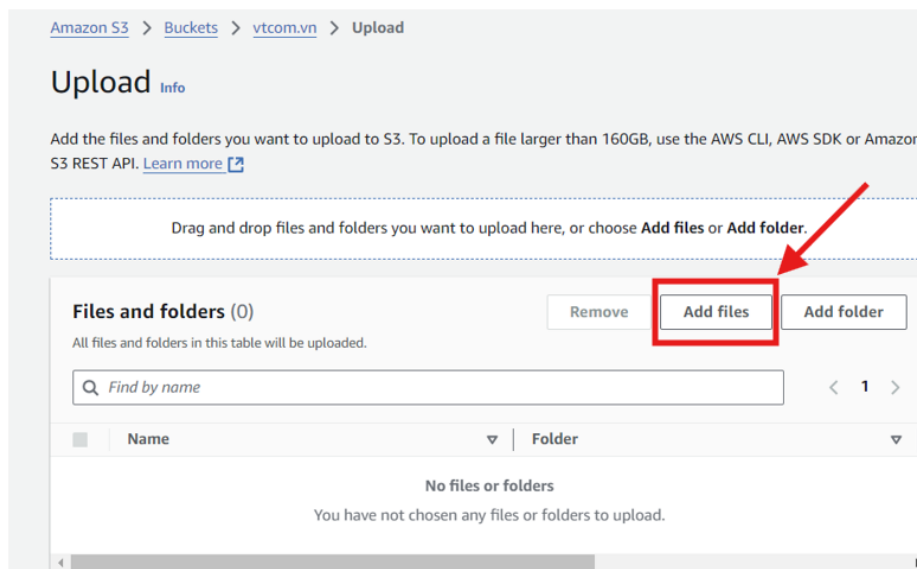
Click the Objects tab in your bucket.



Click Upload and drag-and-drop all your website files (e.g., index.html, styles.css, script.js, and headshot.jpg) into the upload area.



Click Upload to add the files to your bucket.



Confirm All Files are Uploaded.

The screenshot shows the AWS S3 console interface. At the top, a green banner indicates "Upload succeeded" with a link to "View details below". Below this is a "Summary" section showing the destination as "s3://vtcom.vn", with 7 files (18.5 KB) successfully uploaded (100.00%) and 0 files (0 B) failed (0%). The "Files and folders" tab is selected, showing a list of 7 files. A red box highlights the first six files, and a red arrow points to the "Status" column of the "script.js" file.

Name	Folder	Type	Size	Status	Error
ryan_millerh...	-	text/html	4.1 KB	✓ Succeeded	-
script.js	-	text/javascript	384.0 B	✓ Succeeded	-
styles.css	-	text/css	2.2 KB	✓ Succeeded	-
john_doe.ht...	-	text/html	4.8 KB	✓ Succeeded	-
read.txt	-	text/plain	7.0 B	✓ Succeeded	-
alex_johnson...	-	text/html	5.3 KB	✓ Succeeded	-
index.html	-	text/html	1.7 KB	✓ Succeeded	-

e. Step 5: Test Your Resume Website

Locate the Website Endpoint

In your S3 bucket, navigate to the Properties tab.

The screenshot shows the AWS S3 console interface for the "vtcom.vn" bucket. The "Properties" tab is selected and highlighted with a red box and a red arrow. Below the tabs is the "Bucket overview" section, which displays the AWS Region (US West (Oregon) us-west-2), the Amazon Resource Name (ARN) (arn:aws:s3:::vtcom.vn), and the Creation date (November 12, 2024, 16:28:00 (UTC-08:00)).

Bucket overview		
AWS Region US West (Oregon) us-west-2	Amazon Resource Name (ARN) arn:aws:s3:::vtcom.vn	Creation date November 12, 2024, 16:28:00 (UTC-08:00)

Scroll to the Static website hosting section and find the Bucket website endpoint link.

Static website hosting Edit

Use this bucket to host a website or redirect requests. [Learn more](#)

We recommend using AWS Amplify Hosting for static website hosting

Deploy a fast, secure, and reliable website quickly with AWS Amplify Hosting. Learn more about [Amplify Hosting](#) or [View your existing Amplify apps](#)

Create Amplify app

S3 static website hosting

Enabled

Hosting type

Bucket hosting

Bucket website endpoint

When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. [Learn more](#)

<http://vtcom.vn.s3-website-us-west-2.amazonaws.com>

Click the endpoint link to view your live resume website.

Your resume website is now live!

← → ↻ ⚠ Not secure vtcom.vn.s3-website-us-west-2.amazonaws.com ☆ 📁 🎵 ⚙

Welcome to the Online Resume Hub

About This Project

This hub showcases professional resumes for talented individuals. Click on a name below to view their resume and learn more about their skills and experience.

Technical Overview

This project leverages Amazon Web Services (AWS) to host the online resume hub with a focus on scalability, security, and reliability. The setup utilizes:

- Amazon S3** for static website hosting
- Route 53** for DNS management
- CloudFront** for content delivery and caching
- AWS Certificate Manager (ACM)** for SSL/TLS encryption

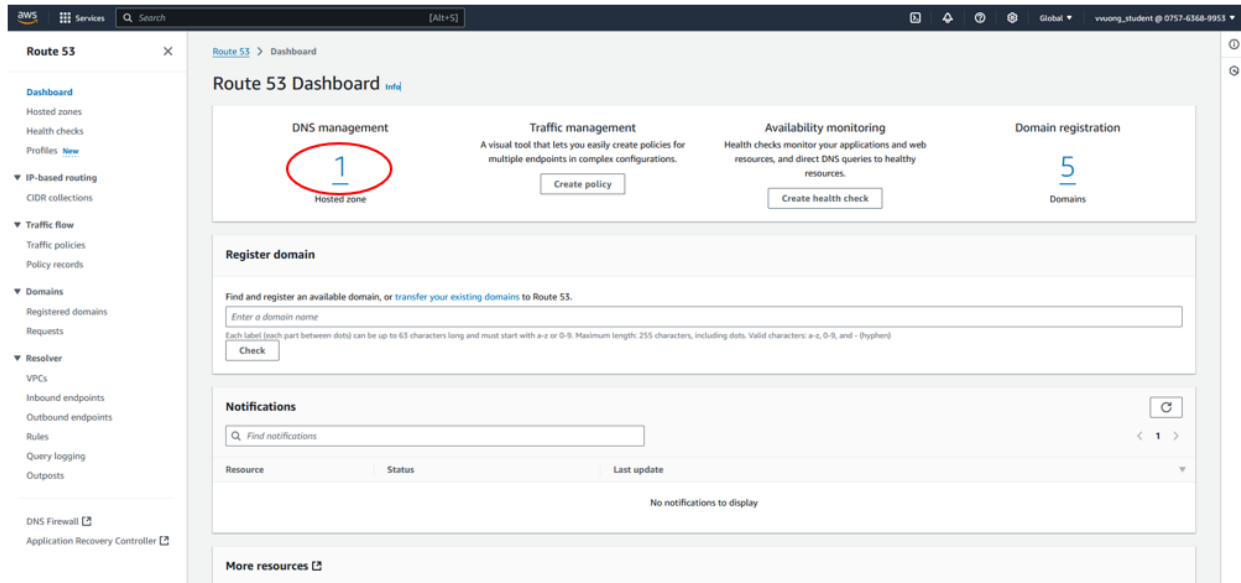
This combination ensures resumes are securely accessible and optimized for fast loading across the globe, demonstrating best practices for hosting static websites on AWS.

[John Doe](#) [Alex Johnson](#) [Ryan Miller](#)

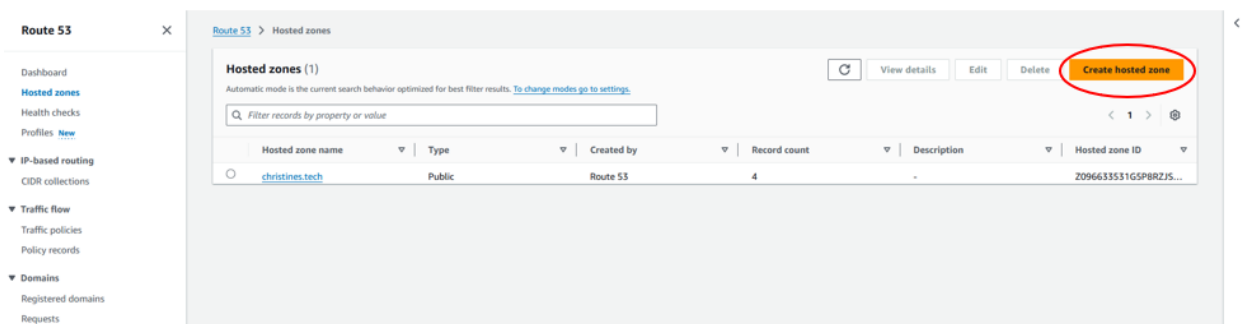
IV. How to Configure Route53 as a DNS Service for Domain Name: “vtcom.vn”.

Go to Route53 Dashboard.

Because we have our own domain name, so we will skip the register domain process.



Click Hosted Zone:



Click Create hosted zone.

Domain name: Type your domain name.

[Route 53](#) > [Hosted zones](#) > Create hosted zone

Create hosted zone [Info](#)

Hosted zone configuration

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

Domain name [Info](#)

This is the name of the domain that you want to route traffic for.

Valid characters: a-z, 0-9, ! * # \$ % & ' () * + , - / : ; < = > ? @ [\] ^ _ ' { | } . ~

Description - optional [Info](#)

This value lets you distinguish hosted zones that have the same name.

The description can have up to 256 characters. 0/256

Type [Info](#)

The type indicates whether you want to route traffic on the internet or in an Amazon VPC.

☒ **Public hosted zone**
A public hosted zone determines how traffic is routed on the internet.

☐ **Private hosted zone**
A private hosted zone determines how traffic is routed within an Amazon VPC.

Tags [Info](#)

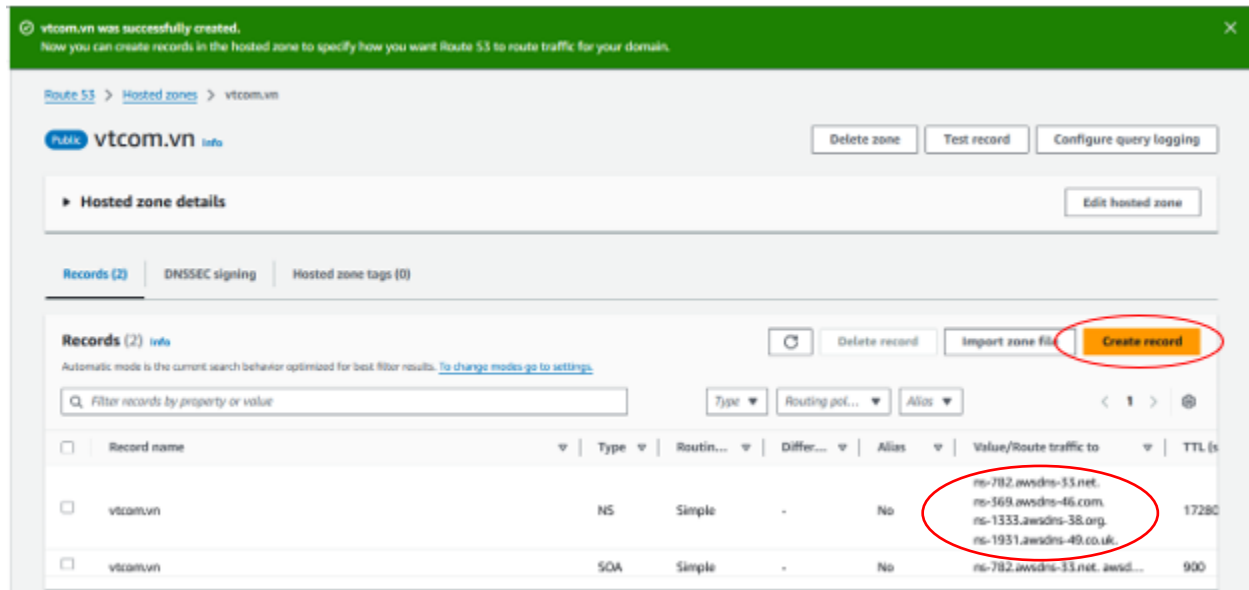
Apply tags to hosted zones to help organize and identify them.

No tags associated with the resource.

You can add up to 50 more tags.

Click Create hosted zone.

Click Create record:



Now, you have to update the Name Servers on your domain name provider to be on the list of Name Servers.

Name Server 1	ns-782.awsdns-33.net
IPv4	
IPv6	
Name Server 2	ns-369.awsdns-46.com
IPv4	
IPv6	
Name Server 3	ns-1333.awsdns-38.org
IPv4	
IPv6	
Name Server 4	ns-1931.awsdns-49.co.uk
IPv4	
IPv6	
Name Server 5	
IPv4	
IPv6	

▼ Record creation method

Quick create (recommended for expert users)

Choose this method if you are confident in the process of creating records and know which options you need.

Wizard (recommended for new users)

Choose this method if you need more explanations as you create your record.

Create record [Info](#)

Quick create record [Switch to wizard](#)

▼ Record 1 Delete

Record name [Info](#)

subdomain vtcom.vn

Record type [Info](#)

A – Routes traffic to an IPv4 address and some AWS resources

Keep blank to create a record for the root domain.

Alias

Value [Info](#)

192.0.2.235

Enter multiple values on separate lines.

TTL (seconds) [Info](#)

300 1m 1h 1d

Recommended values: 60 to 172800 (two days)

Routing policy [Info](#)

Simple routing

Add another record

Cancel Create records

Click Alias:

Alias

Route traffic to [Info](#)

Alias to S3 website endpoint

US West (Oregon)

s3-website-us-west-2.amazonaws.com

Routing policy [Info](#)

Simple routing

Evaluate target health

Yes

Click Create record.

Click View status and wait a little bit of time, Status will turn to “INSYNC”

Route 53 > Hosted zones > vtcom.vn > Change info

C10112342Q565MJ6F5VC6 [Info](#)

Change info details C

ID

/change/C10112342Q565MJ6F5VC6

Submitted at

November 13, 2024, 19:09 (UTC-08:00)

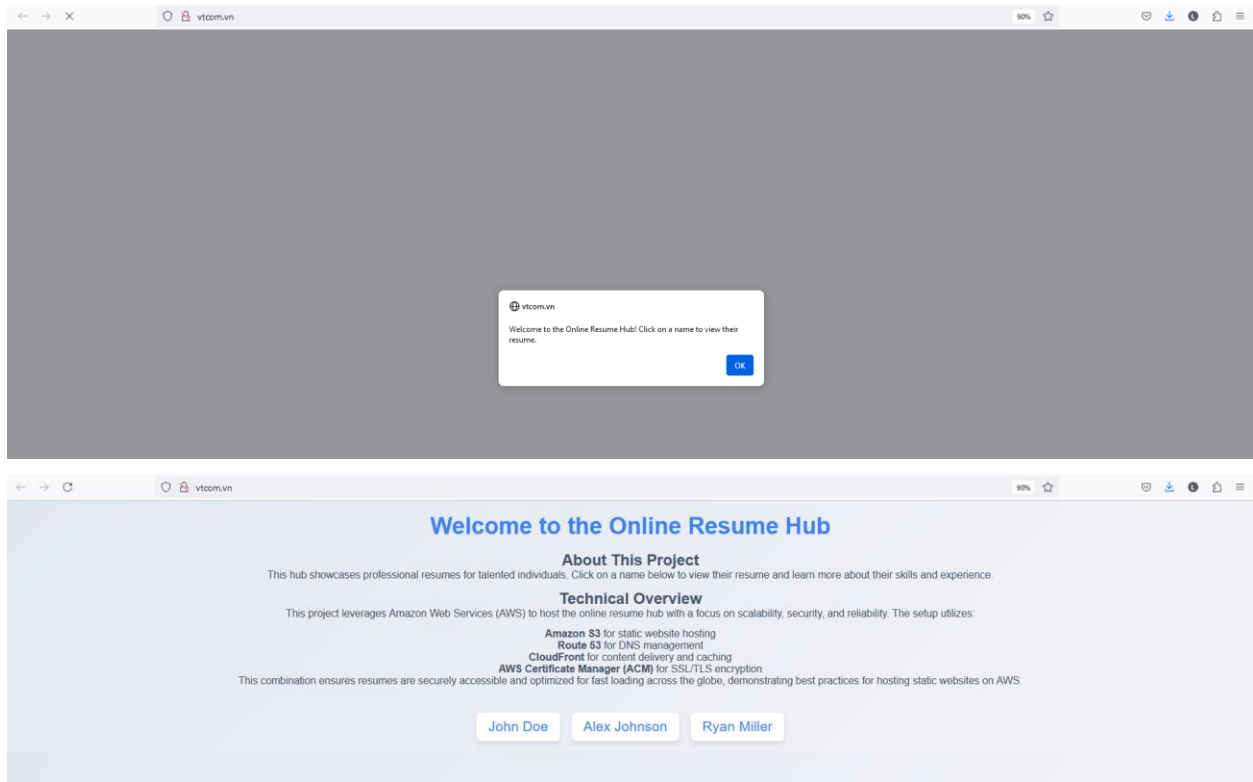
Status

INSYNC

Comment

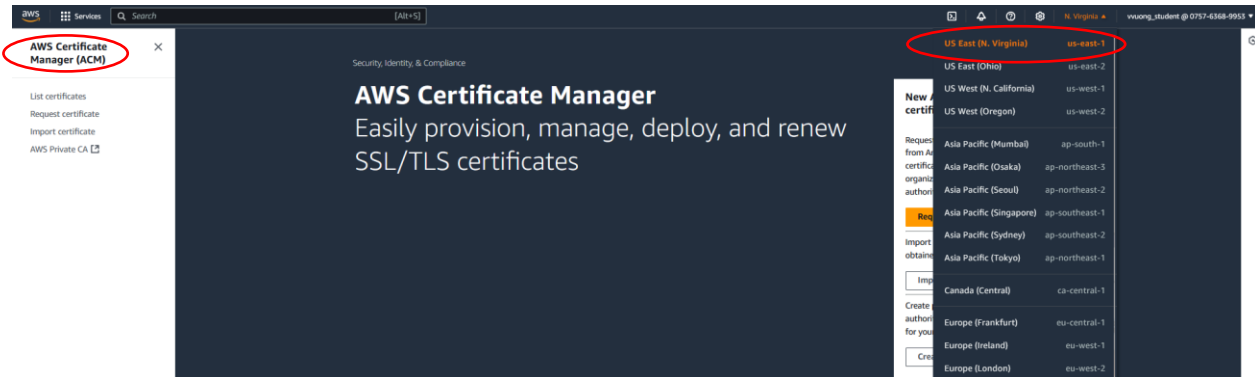
-

Open web browser, on address bar, type: vtcom.vn:

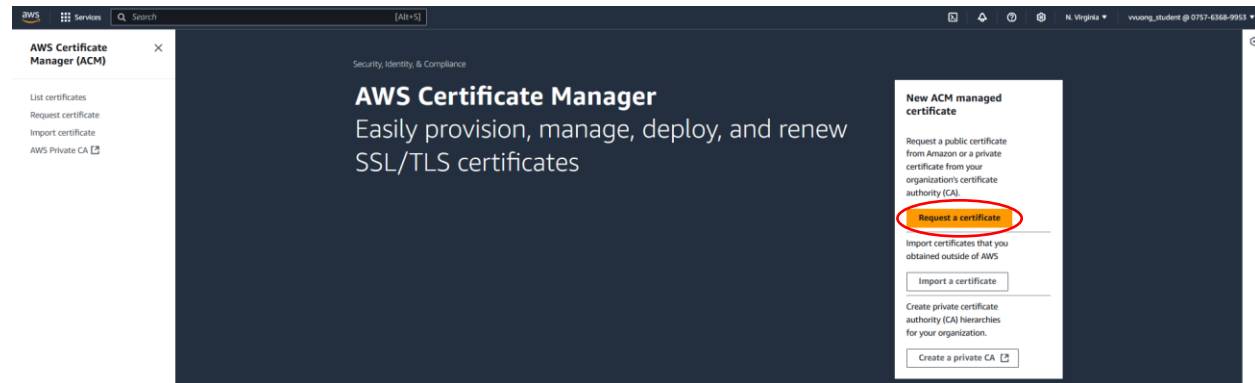


V. Create TLS/SSL Certificate using AWS Certificate Manager.

On AWS console, go to AWS Certificate Manager.



Select Region: N.Virgina. Then click Request a certificate.



Click Next to continue.

Request public certificate

Domain names

Provide one or more domain names for your certificate.

Fully qualified domain name [Info](#)

vtcom.vn

Add another name to this certificate

You can add additional names to this certificate. For example, if you're requesting a certificate for "www.example.com", you might want to add the name "example.com" so that customers can reach your site by either name.

Validation method [Info](#)

Select a method for validating domain ownership.

☒ **DNS validation - recommended**

Choose this option if you are authorized to modify the DNS configuration for the domains in your certificate request.

☐ **Email validation**

Choose this option if you do not have permission or cannot obtain permission to modify the DNS configuration for the domains in your certificate request.

Key algorithm [Info](#)

Select an encryption algorithm. Some algorithms may not be supported by all AWS services.

☒ **RSA 2048**

RSA is the most widely used key type.

☐ **ECDSA P 256**

Equivalent in cryptographic strength to RSA 3072.

☐ **ECDSA P 384**

Equivalent in cryptographic strength to RSA 7680.

Typing the domain name, then click Request.

① Successfully requested certificate with ID 2a34ea34-c330-44bd-95cf-41ea8d9622ab
A certificate request with a status of pending validation has been created. Further action is needed to complete the validation and approval of the certificate.

[AWS Certificate Manager](#) > [Certificates](#) > 2a34ea34-c330-44bd-95cf-41ea8d9622ab

2a34ea34-c330-44bd-95cf-41ea8d9622ab

[View certificate](#) [Delete](#)

Click View certificate.

AWS Certificate Manager > Certificates > 2a34ea34-c330-44bd-95cf-41ea8d9622ab

2a34ea34-c330-44bd-95cf-41ea8d9622ab Delete

Certificate status

Identifier	Status
2a34ea34-c330-44bd-95cf-41ea8d9622ab	Pending validation Info
ARN	
arn:aws:acm-us-east-1:075763689953:certificate/2a34ea34-c330-44bd-95cf-41ea8d9622ab	
Type	
Amazon Issued	

Domains (1)
Create records in Route 53 Export to CSV

Domain	Status	Renewal status	Type	CNAME name	CNAME value
vtcom.vn	Pending validation	-	CNAME	_2d5718ecc10af576fa7f58379422071d.vtcom.vn.	_5a9b8e6bb90d01010686dc8323780f9fdjqtzrsxkq.acm-validations.aws.

Click Create records in Route53.

AWS Certificate Manager > Certificates > 2a34ea34-c330-44bd-95cf-41ea8d9622ab > Create DNS records in Amazon Route 53

Create DNS records in Amazon Route 53 (1/1)

1 match

Validation status = Pending validation Validation status = Failed
Is domain in Route 53? = Yes Clear filters

<input checked="" type="checkbox"/>	Domain	Validation status	Is domain in Route 53?
<input checked="" type="checkbox"/>	vtcom.vn	Pending validation	Yes

Cancel
Create records

Click Create records.

Successfully created DNS records
Successfully created DNS records in Amazon Route 53 for certificate with ID 2a34ea34-c330-44bd-95cf-41ea8d9622ab.

Notifications
0 0 0 1 0 0

Now, back to Route53.

Route 53

Dashboard
Hosted zones
Health checks
Profiles
New

IP-based routing
CIDR collections
Traffic flow
Traffic policies
Policy records

Route 53 > Hosted zones

Hosted zones (2)
Automatic mode is the current search behavior optimized for best filter results. [To change modes go to settings.](#)

Hosted zone name	Type	Created by	Record count	Description	Hosted zone ID
christines.tech	Public	Route 53	4	-	Z096633531GSP8RZJ555W
vtcom.vn	Public	Route 53	4	-	Z059980712Y00CN3U1CYS

Click on the domain name.

Public vtcom.vn Info Delete zone Test record Configure query logging

► Hosted zone details Edit hosted zone

Records (4) DNSSEC signing Hosted zone tags (0)

Records (4) Info Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.

Filter records by property or value Type Routing pol... Alias

Record name	Type	Routin...	Differ...	Alias	Value/Route traffic to	TTL (s...	Health ...	Evaluat...	Re
vtcom.vn	A	Simple	-	Yes	s3-website-us-west-2.amazo...	-	-	Yes	-
vtcom.vn	NS	Simple	-	No	ns-782.awsdns-33.net. ns-369.awsdns-46.com. ns-1333.awsdns-38.org. ns-1931.awsdns-49.co.uk.	172800	-	-	-
vtcom.vn	SOA	Simple	-	No	ns-782.awsdns-33.net. awsd...	900	-	-	-
_2d5718ecc10af576fa7f5837922071d.vtcom.vn	CNAME	Simple	-	No	_5a9b8e6bb90d01010686dc...	300	-	-	-

One CNAME record has been created through the Certificate Manager.

Back to Certificate Manager, click refresh.

AWS Certificate Manager > Certificates > 25a5334e-ba6e-4b29-9626-24de3e593ba1

AWS Certificate Manager (ACM) < List certificates Request certificate Import certificate AWS Private CA

Identifier 25a5334e-ba6e-4b29-9626-24de3e593ba1 Status Pending validation Info

ARN arn:aws:acm:us-west-2:075763689953:certificate/25a5334e-ba6e-4b29-9626-24de3e593ba1

Type Amazon Issued

Domains (1) Create records in Route 53 Export to CSV

Domain	Status	Renewal status	Type	CNAME name
vtcom.vn	Pending validation	-	CNAME	_2d5718ecc10af576fa7f58379422071d.vtcom.vn.

Details

In use	Serial number	Requested at	Renewal eligibility
No	N/A	November 15, 2024, 15:59:32 (UTC-08:00)	Ineligible
Domain name	Public key info	Issued at	
vtcom.vn	RSA 2048	N/A	
Number of additional names	Signature algorithm	Not before	
0	SHA-256 with RSA	N/A	
	Can be used with	Not after	
	CloudFront, Elastic Load Balancing, API Gateway and other integrated services.	N/A	

To make sure this validation goes successfully, we have to add an A/CNAME record or URL redirect to your website address on S3 Bucket.

Host	Logi	Giá trị	TTL
@	URL Redirect	s3-website-us-west-2.amazonaws.com	Mặc định TTL

The validation process will take about 30 minutes to be issued.

Certificate status

Identifier
29085180-916b-47b6-9147-954b09ae34dd

Status
Issued

ARN
arn:aws:acm:us-east-1:075763689953:certificate/29085180-916b-47b6-9147-954b09ae34dd

Type
Amazon Issued

Domains (1)

Create records in Route 53Export to CSV

< 1 >

Domain	Status	Renewal status	Type	CNAME name	CNAME value
vtcom.vn	Success	-	CNAME	_2d5718ecc10af576fa7f58379422071d.vtcom.vn.	_5a9b8e6bb90d0101validations.aws.

Details

In use
No

Domain name
vtcom.vn

Number of additional names
0

Serial number
07:9d:87:c7:45:ad:4d:d8:2e:14:77:9f:4c:66:44:07

Public key info
RSA 2048

Signature algorithm
SHA-256 with RSA

Can be used with
CloudFront, Elastic Load Balancing, API Gateway and other integrated services.

Requested at
November 18, 2024, 00:47:26 (UTC-08:00)

Issued at
November 18, 2024, 00:52:40 (UTC-08:00)

Not before
November 17, 2024, 16:00:00 (UTC-08:00)

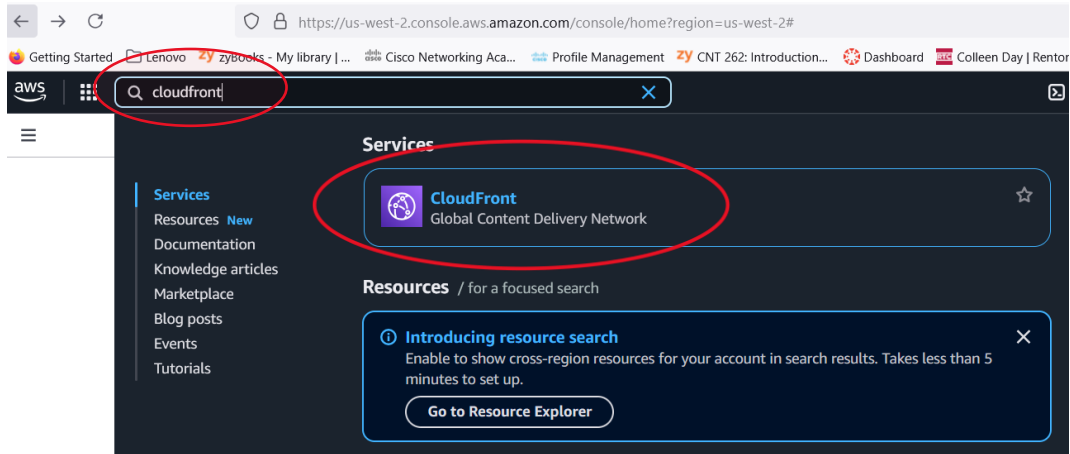
Not after
December 17, 2025, 15:59:59 (UTC-08:00)

Renewal eligibility
Ineligible

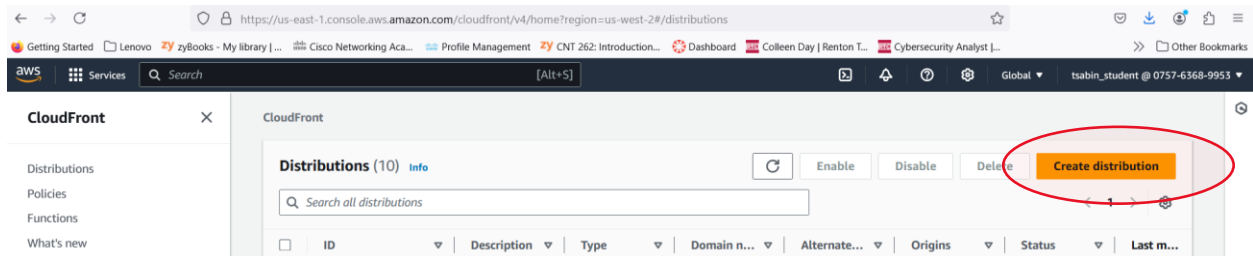
VI. Distribute the website by using CloudFront Distribution.

1. Setting up Origin Access Control to CloudFront

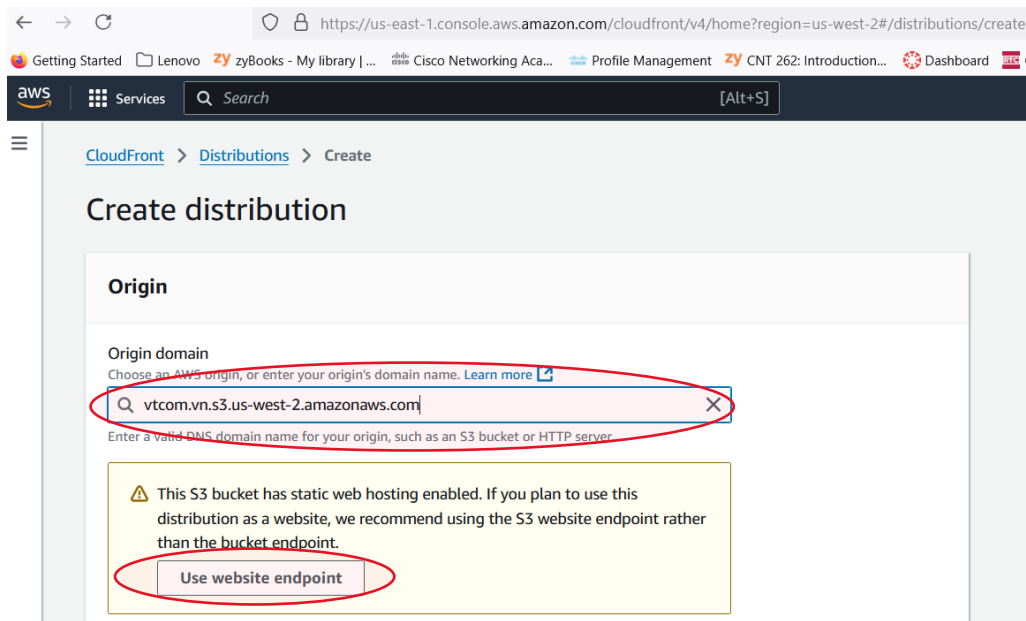
1. Log into AWS account and search for CloudFront. Then click on CloudFront



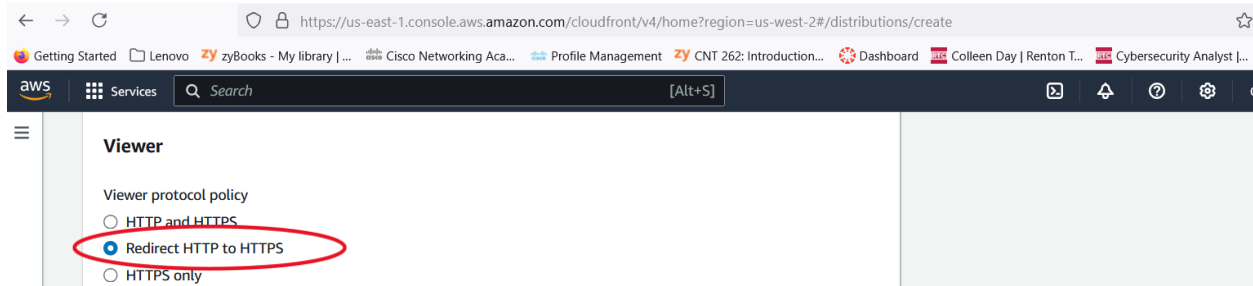
2. Then click on Create distribution.



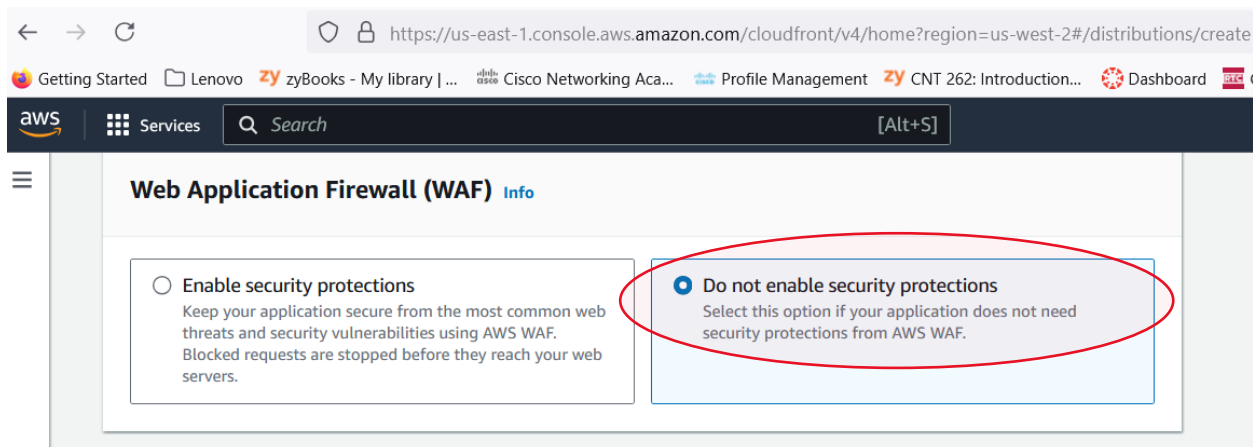
3. For Origin domain, select the S3 Bucket you created earlier. Next click Use website endpoint. This is necessary as the S3 Bucket is being used for a website.



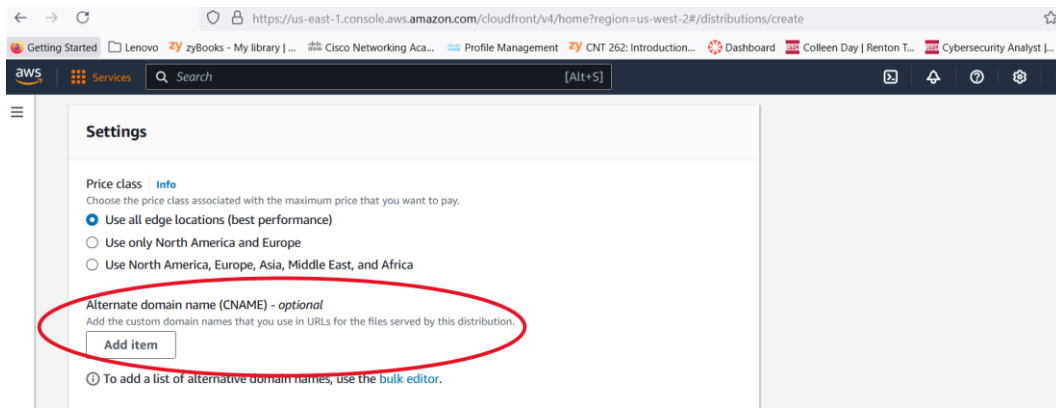
4. Leave everything default and scroll down to Viewer and select Redirect HTTP to HTTPS.



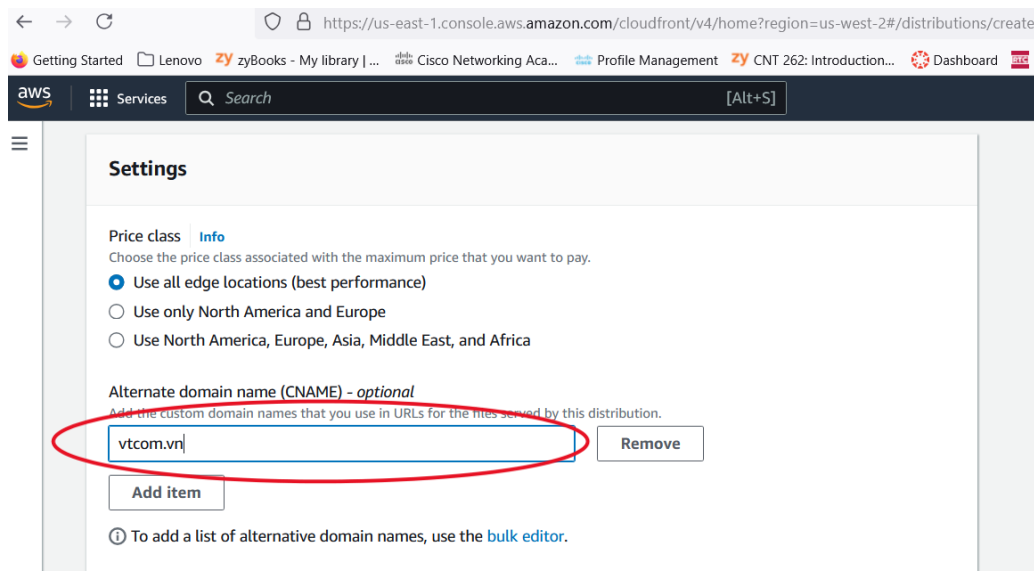
5. Leave everything else default and scroll down to Web Application Firewall (WAF) and select Do not enable security protections.



6. Scroll down to Settings and click on add item.



Next type in the domain name you created earlier in the Alternate domain name (CNAME) – optional.



Furthermore, you should see Custom SSL certificate – optional, click on the downward pointing arrow.

Custom SSL certificate - optional

Associate a certificate from AWS Certificate Manager. The certificate must be in the US East (N. Virginia) Region (us-east-1).

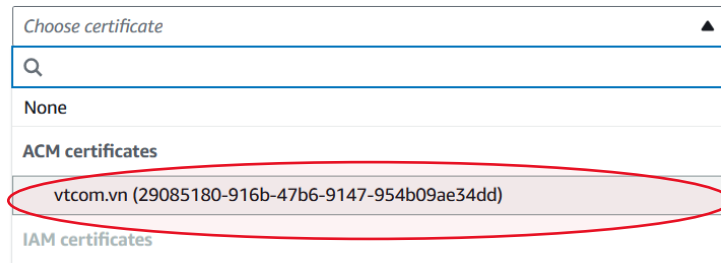
Choose certificate  

[Request certificate](#) 

In the dropdown menu, under ACM certificates, select the certificate you created in the previous ACM section.

Custom SSL certificate - optional

Associate a certificate from AWS Certificate Manager. The certificate must be in the US East (N. Virginia) Region (us-east-1).



Choose certificate

Q

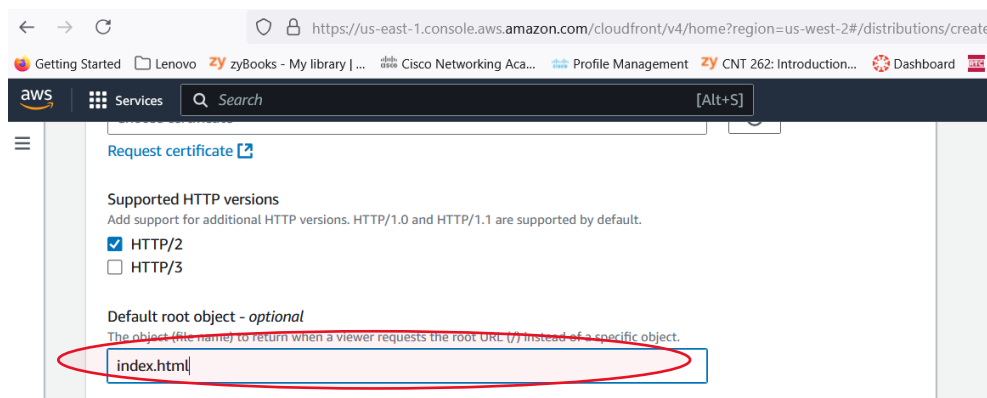
None

ACM certificates

vtcom.vn (29085180-916b-47b6-9147-954b09ae34dd)

IAM certificates

Now scroll down to the default root object – optional and type your default home page, which is usually *index.html*



Request certificate

Supported HTTP versions

Add support for additional HTTP versions. HTTP/1.0 and HTTP/1.1 are supported by default.

☒ HTTP/2

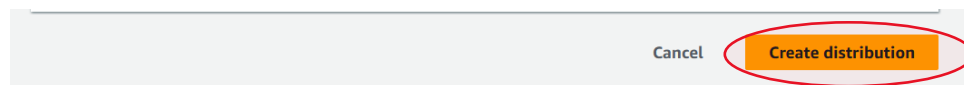
☐ HTTP/3

Default root object - optional

The object (file name) to return when a viewer requests the root URL (/) instead of a specific object.

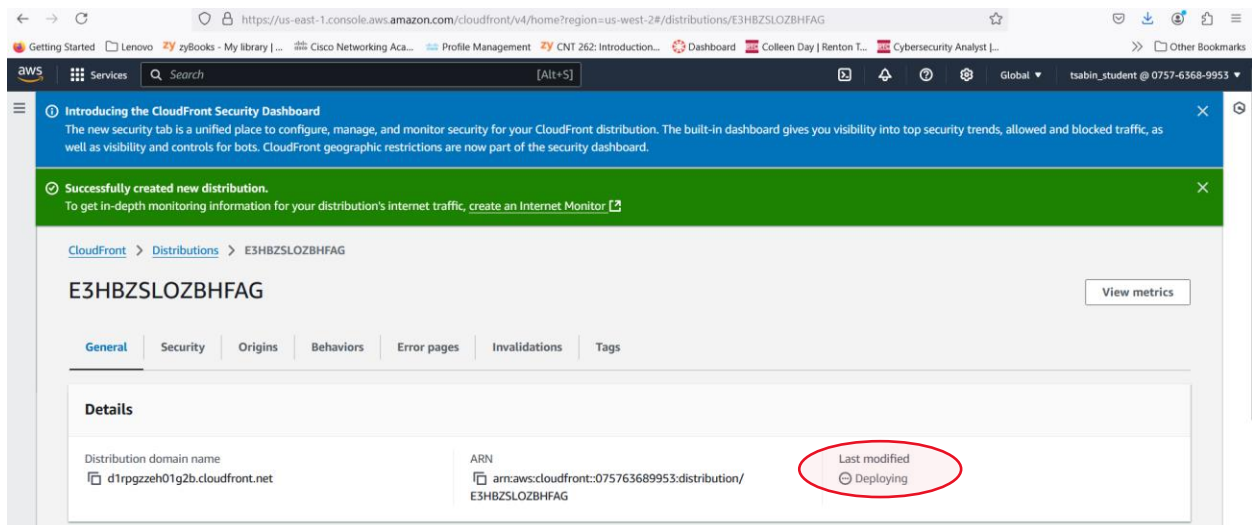
index.html

After that scroll down and click Create distribution.



Cancel Create distribution

You will see a success screen like this. This may take some time and when last modified changes to a date, it is finished.



Introducing the CloudFront Security Dashboard

The new security tab is a unified place to configure, manage, and monitor security for your CloudFront distribution. The built-in dashboard gives you visibility into top security trends, allowed and blocked traffic, as well as visibility and controls for bots. CloudFront geographic restrictions are now part of the security dashboard.

Successfully created new distribution.

To get in-depth monitoring information for your distribution's internet traffic, create an Internet Monitor

CloudFront > Distributions > E3HBZSLOZBHFAG

E3HBZSLOZBHFAG

View metrics

General Security Origins Behaviors Error pages Invalidations Tags

Details

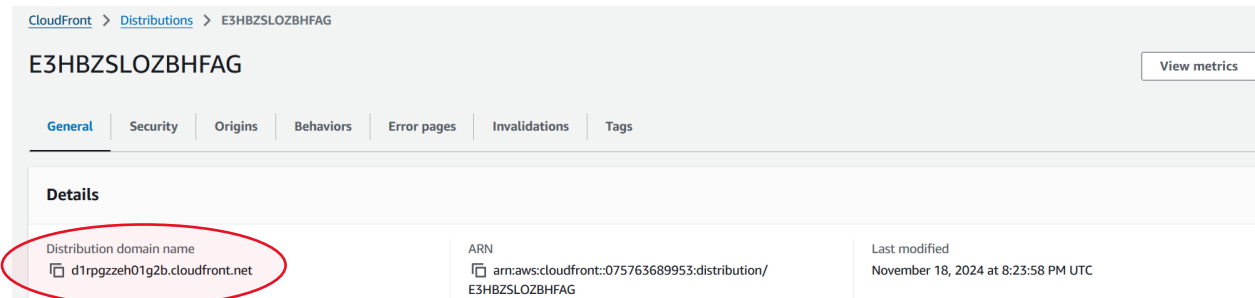
Distribution domain name	ARN	Last modified
d1rpgzkeh01g2b.cloudfront.net	arn:aws:cloudfront::075763689953:distribution/E3HBZSLOZBHFAG	Deploying

After several minutes, Last Modified should look like this when finished.

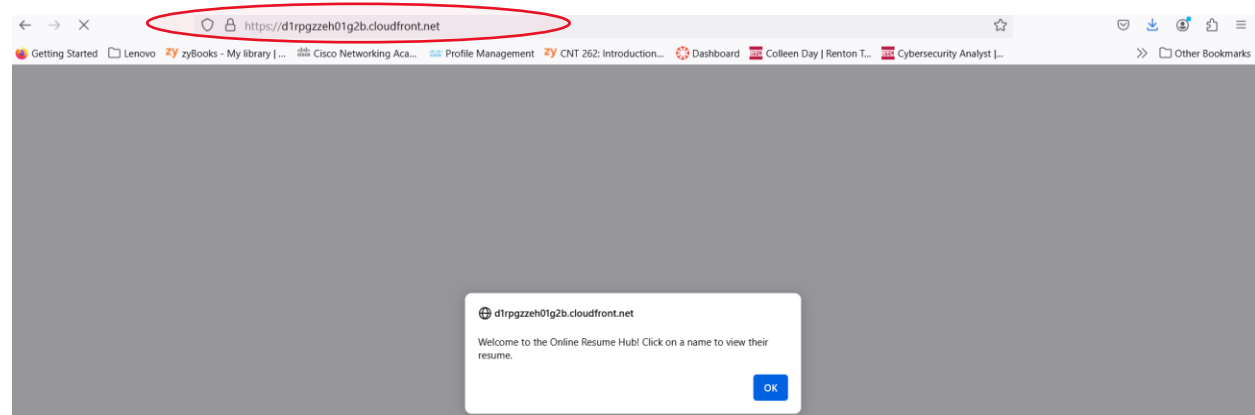
Last modified

November 18, 2024 at 8:23:58 PM UTC

7. Testing, type in the Distribution domain name into a new tab in your web browser and navigate to the site, see eg. Below.

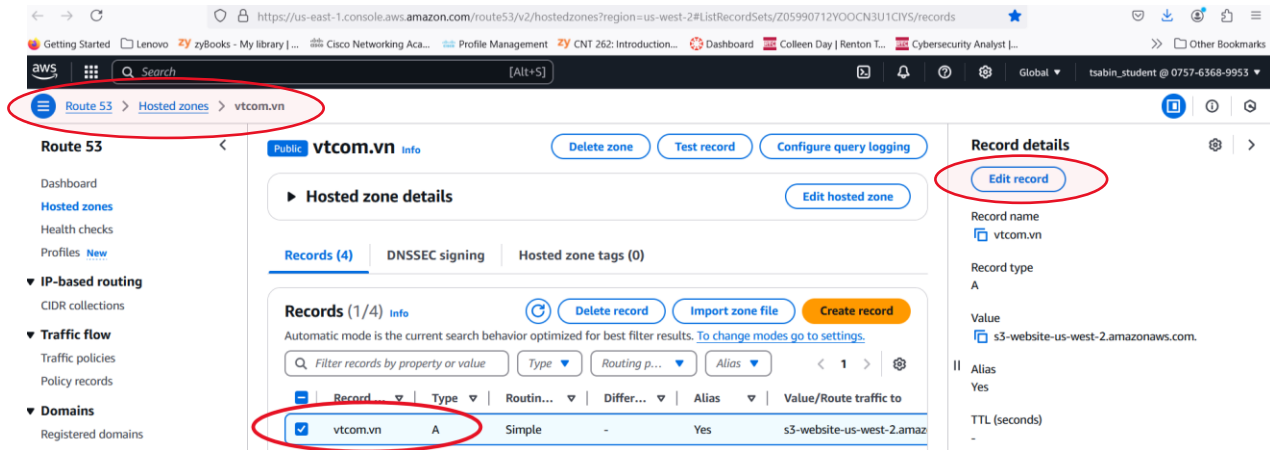


Example of our webpage being navigated to successfully. The padlock icon means that the connection is secure.



2. Updating the A Record in Route53 to point to CloudFront distribution

1. Navigate to Route53 that you previously created, select A under type, and click Edit record.



In Edit record, change Alias to S3 website endpoint to Alias to CloudFront Distribution, see eg's of before and after below.

Edit record

Record name [Info](#)

vtcom.vn

Keep blank to create a record for the root domain.

Record type [Info](#)

A – Routes traffic to an IPv4 address and so... ▼

☒ Alias

Route traffic to [Info](#)

Alias to S3 website endpoint ▼

US West (Oregon) ▼

✕

Routing policy [Info](#)

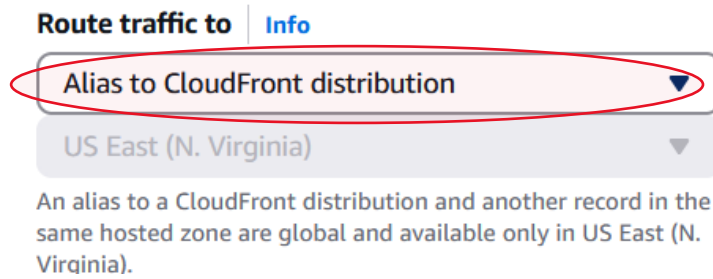
Simple routing ▼

Evaluate target health

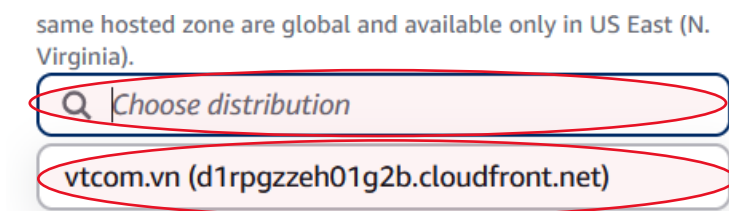
☒ Yes

[Cancel](#) [Save](#)

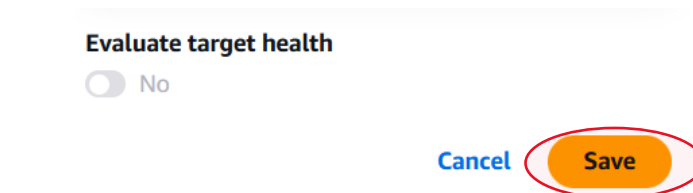
Example of what to change to.



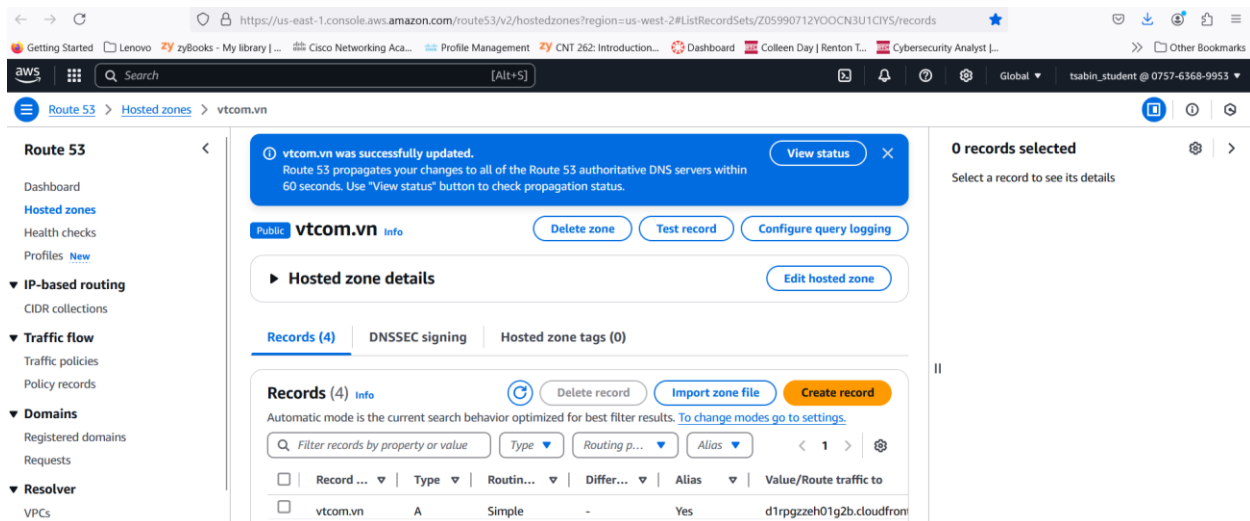
Now choose distribution and select the one it generates below it.



Then click on Save.



A screen like this should appear.



Furthermore, view the propagation status by clicking on view status.

vtcom.vn was successfully updated.

Route 53 propagates your changes to all of the Route 53 authoritative DNS servers within 60 seconds. Use "View status" button to check propagation status.

[View status](#)

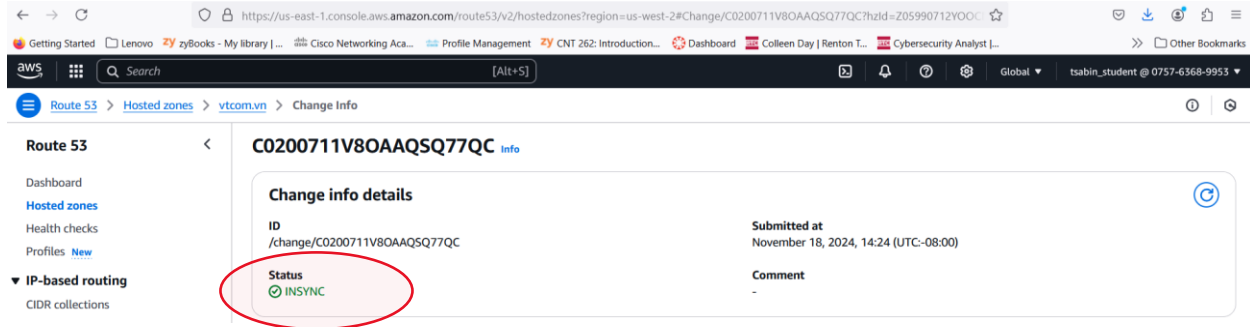
Public **vtcom.vn** Info

Delete zone

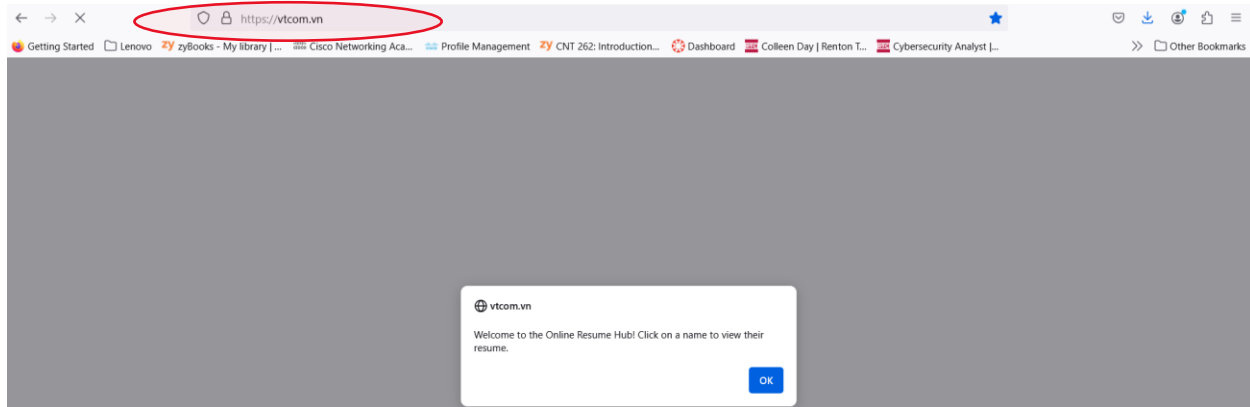
Test record

Configure query logging

The status should show it is in sync.



2. Testing. In a new browser tab, type in your domain name, do not use the distribution domain name. You should be navigated to the name of your website.



VII. References

freeCodeCamp. (2023, November 8). *How to build an online résumé on AWS using S3, Route 53, CloudFront, and ACM*. freeCodeCamp.org. <https://www.freecodecamp.org/news/aws-project-build-a-resume>

YouTube. (n.d.). YouTube. https://www.youtube.com/watch?v=x7YjX2_zGsk