AWS OVERVIEW

Q1)List out the types of instance based on the pricing model and write a brief about your understanding about it.

Sol:

1. On-Demand Instances

- **Description**: Pay-as-you-go with no long-term commitments.
- **Use Cases**: Short-term or unpredictable workloads, testing, and development environments.
- **Understanding**: Flexible and easy to manage but costlier than other options, ideal for inconsistent workload patterns.

2. Reserved Instances

- **Description**: Commit to a specific instance type for 1 or 3 years for a discount.
- **Use⌷ Cases**: Long-term, predictable workloads, steady-state applications.
- **Understanding**: Cost-effective for consistent usage but requires upfront planning.

3. Spot Instances

- **Description**: Use unused capacity at up to 90% discount; AWS can terminate these instances if needed.
- **Use Cases**: Fault-tolerant workloads like batch jobs and big data processing.
- **Understanding**: Extremely cost-effective but not suitable for critical tasks due to interruptions.

4. Savings Plans

- **Description**: Commit to a fixed usage amount (in $/hour) over 1 or 3 years for discounts.

- **Use Cases**: Predictable workloads needing flexibility in instance types or regions.
- **Understanding**: Offers flexibility and savings across multiple instances and regions.

5. Dedicated Hosts

- **Description**: Physical servers dedicated to a single customer for compliance and licensing needs.
- **Use Cases**: Workloads needing server isolation or specific licensing.
- **Understanding**: Provides control and isolation but is the most expensive option.

6. Dedicated Instances

- **Description**: Instances on hardware dedicated to a single customer.
- **Use Cases**: Applications needing dedicated hardware without full server control.
- **Understanding**: Offers hardware isolation without the cost and complexity of Dedicated Hosts.

7. Spot Fleet

- **Description**: Combine Spot and On-Demand Instances to meet capacity efficiently.
- **Use Cases**: Scaling large, fault-tolerant applications cost-effectively.
- **Understanding**: Balances cost and availability for distributed workloads.

Q2)Host a static website in S3.

Sol:
- Create an S3 bucket with a unique name.
- Upload static website files like myhtml.html.
- Enable static website hosting .
- Access our site using the provided S3 website endpoint URL.

Buckets are containers for data stored in S3.

General configuration

AWS Region
Europe (Stockholm) eu-north-1

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

aws-aishwarya-bucket

Bucket names must be 3 to 63 characters and unique within the global namespace. Bucket names must also begin and end with a letter or number. Valid characters are a-z, 0-9, periods (.), and hyphens (-). Learn More ☐

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

[Choose bucket]

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.

Amazon S3

- General purpose buckets
- Directory buckets
- Table buckets
- Access Grants
- Access Points for general purpose buckets
- Access Points for directory buckets
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- IAM Access Analyzer for S3

Block Public Access settings for this account

▼ **Storage Lens**
- Dashboards
- Storage Lens groups
- AWS Organizations settings

myhtml.html Info

[Copy S3 URI] [⬇ Download] [Open ☐] [Object actions ▼]

Properties   Permissions   Versions

Object overview

Owner
5bae57eb132db33b5f371e90f4d8813bd1c5cef71fdce8e65cbdd6b108e6173b

AWS Region
Europe (Stockholm) eu-north-1

Last modified
June 16, 2025, 23:12:03 (UTC+05:30)

Size
1.7 KB

Type
html

Key
myhtml.html

S3 URI
s3://aws-aishwarya-bucket/myhtml.html

Amazon Resource Name (ARN)
arn:aws:s3:::aws-aishwarya-bucket/myhtml.html

Entity tag (Etag)
f9f8c8d53a67bdeac8a5ee54bb78bfa6
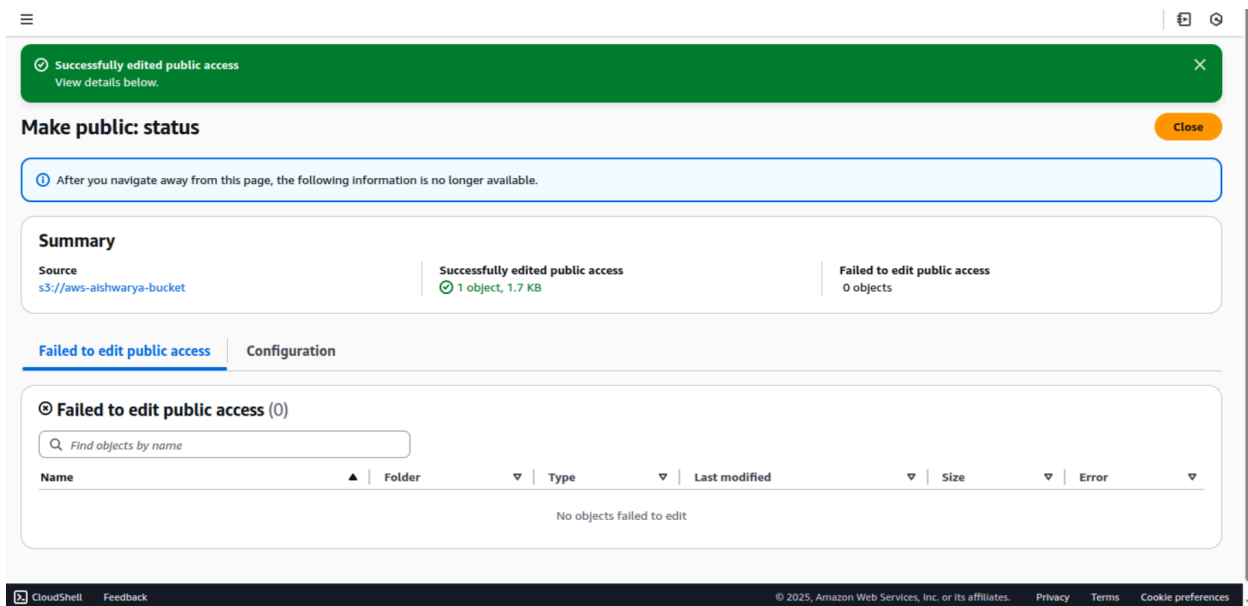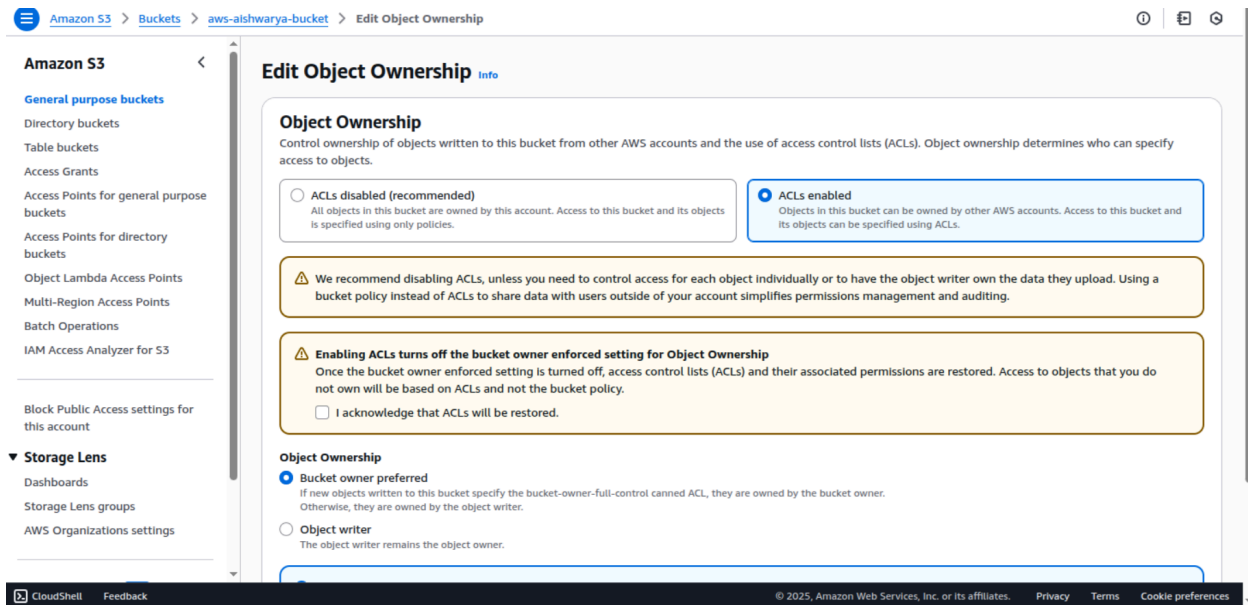
Object URL
https://aws-aishwarya-bucket.s3.eu-north-1.amazonaws.com/myhtml.html

Object management overview

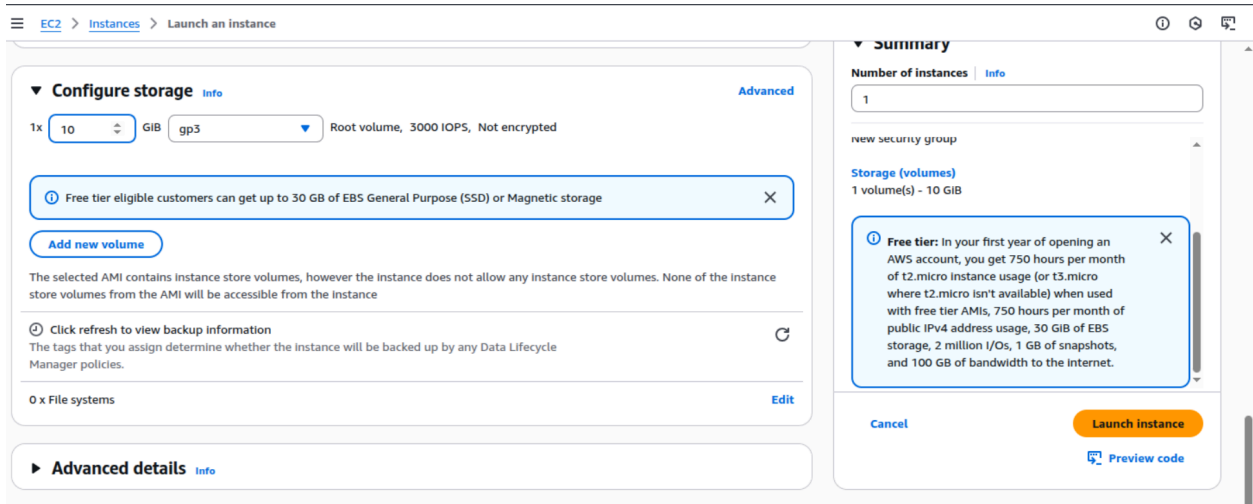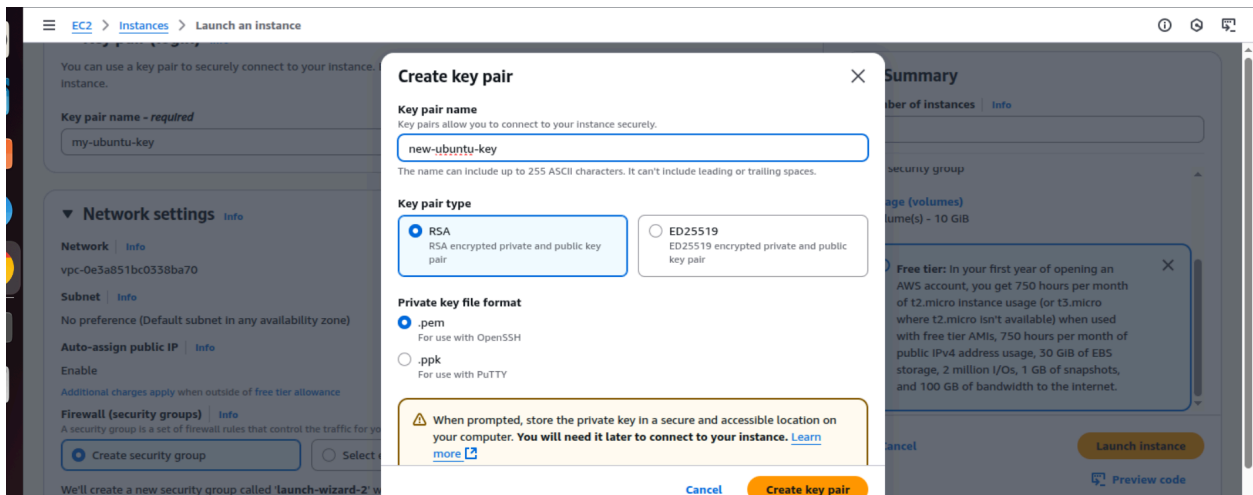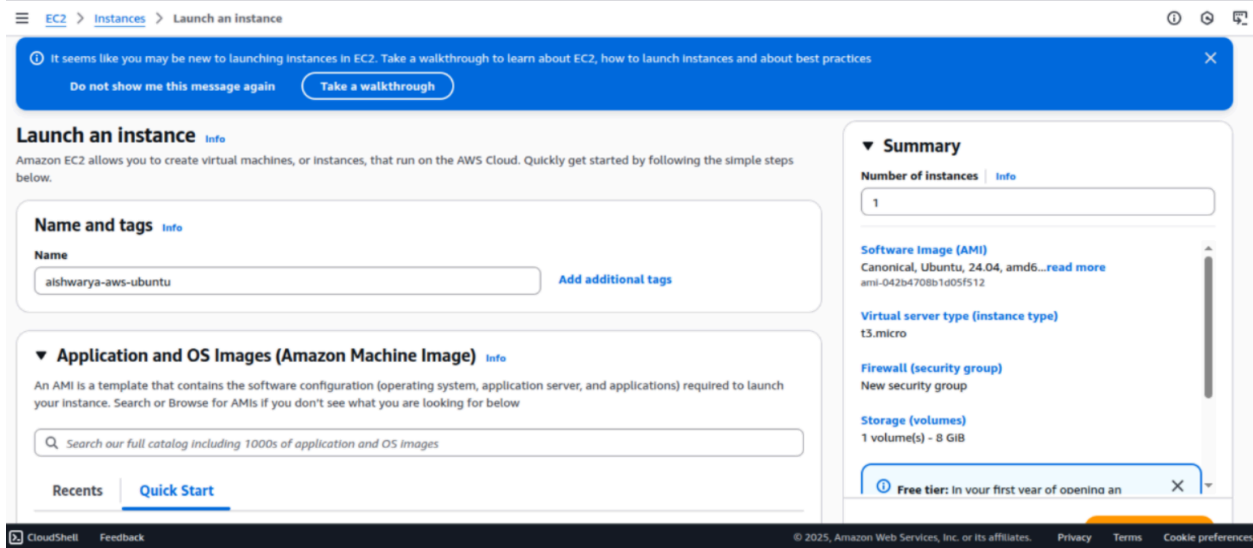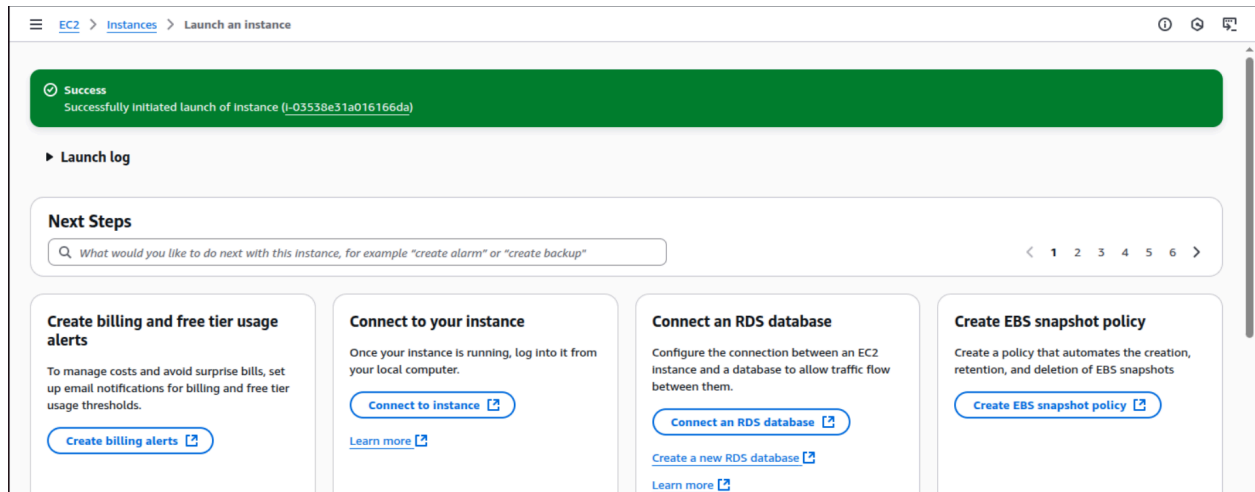The following bucket properties and object management configurations impact the behavior of this object.

Q3)Launch an Ubuntu EC2 instance on AWS, with 10GB root volume, and SSH from your local machine using the private key.

Sol:

ⓘ It seems like you may be new to launching instances in EC2. Take a walkthrough to learn about EC2, how to launch instances and about best practices ✕

Do not show me this message again   Take a walkthrough

Launch an instance   Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags   Info

Name

| aishwarya-aws-ubuntu | Add additional tags |

▼ Application and OS Images (Amazon Machine Image)   Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

🔍 Search our full catalog including 1000s of application and OS images

Recents   **Quick Start**

▼ Summary

Number of instances | Info

| 1 |

Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-042b4708b1d05f512

Virtual server type (instance type)
t3.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

ⓘ Free tier: In your first year of opening an ✕

You can use a key pair to securely connect to your instance. instance.

Key pair name - *required*

| my-ubuntu-key |

▼ Network settings   Info

Network   Info
vpc-0e3a851bc0338ba70

Subnet   Info
No preference (Default subnet in any availability zone)

Auto-assign public IP   Info
Enable

Additional charges apply when outside of free tier allowance

Firewall (security groups) | Info
A security group is a set of firewall rules that control the traffic for yo...

◉ Create security group   ○ Select ...

We'll create a new security group called 'launch-wizard-2' w...

Create key pair ✕

Key pair name
Key pairs allow you to connect to your instance securely.

| new-ubuntu-key |

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

◉ RSA
RSA encrypted private and public key pair

○ ED25519
ED25519 encrypted private and public key pair

Private key file format

◉ .pem
For use with OpenSSH

○ .ppk
For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more ↗

Cancel   **Create key pair**

Summary

ber of instances | Info

security group

...age (volumes)
...ume(s) - 10 GiB

ⓘ Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs, 750 hours per month of public IPv4 address usage, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet. ✕

...ancel   Launch instance

🖵 Preview code

▼ Configure storage   Info   Advanced

1x | 10 ⌃⌄ | GiB | gp3 ▼ | Root volume, 3000 IOPS, Not encrypted

ⓘ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage ✕

Add new volume

The selected AMI contains instance store volumes, however the instance does not allow any instance store volumes. None of the instance store volumes from the AMI will be accessible from the instance

⟳ Click refresh to view backup information
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems   Edit

▶ Advanced details   Info

▼ Summary

Number of instances | Info

| 1 |

New security group

Storage (volumes)
1 volume(s) - 10 GiB

ⓘ Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs, 750 hours per month of public IPv4 address usage, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet. ✕

Cancel   Launch instance

🖵 Preview code

Q4)Install nginx package in the above server and access this page from your local browser using a domain name instead of IP address of the server.

Sol:

```
ubuntu@ip-172-31-22-125:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
0 upgraded, 2 newly installed, 0 to remove and 6 not upgraded.
Need to get 551 kB of archives.
After this operation, 1596 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx-common all 1.24.0-2ubuntu7.3 [31.2 kB]
Get:2 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 nginx amd64 1.24.0-2ubuntu7.3 [520 kB]
Fetched 551 kB in 0s (5894 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 70681 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.3_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.3) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7.3_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7.3) ...
Setting up nginx (1.24.0-2ubuntu7.3) ...
Setting up nginx-common (1.24.0-2ubuntu7.3) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.
```

EC2 > Instances > i-03538e31a016166da

EC2

Dashboard
EC2 Global View
Events

▼ Instances
  Instances
  Instance Types
  Launch Templates
  Spot Requests
  Savings Plans
  Reserved Instances
  Dedicated Hosts
  Capacity Reservations

▼ Images
  AMIs
  AMI Catalog

▼ Elastic Block Store
  Volumes
  Snapshots
  Lifecycle Manager

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

▼ **Security details**

IAM Role	Owner ID	Launch time
–	545009847527	Mon Jun 16 2025 23:52:27 GMT+0530 (India Standard Time)

Security groups

sg-080977e31101d3b23 (launch-wizard-2)

▼ **Inbound rules**

Filter rules

Name	Security group rule ID	Port range	Protocol	Source	Securi
–	sgr-0bfc8339171ad50f2	80	TCP	0.0.0.0/0	launch

▼ **Outbound rules**

Filter rules

Name	Security group rule ID	Port range	Protocol	Destination	Securi
–	sgr-005cda3f8aa31b163	All	All	0.0.0.0/0	launch

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.