

Q1) A screenshot from the autoscaling group after indicating the minimum ,maximum and desired instance

Scal0

The screenshot shows the AWS Management Console interface for an Auto Scaling group named 'scal0'. The left sidebar contains a navigation menu with categories like Elastic Block Store, Network & Security, Load Balancing, and Auto Scaling. The main content area is titled 'Group details' and contains a table with the following information:

Auto Scaling group name	Desired capacity	Status	Amazon Resource Name (ARN)
scal0	1	-	arn:aws:autoscaling:us-west-1:758918584409:autoScalingGroup:5033ef5e-9455-4558-9ba6-fa99ddbc4b42:autoScalingGroupName/scal0

Below the table, there is a 'Launch template' section with an 'Edit' button. The launch template details are as follows:

Launch template	AMI ID	Instance type	Owner
lt-02e0751ef98b61baf tem0	ami-0d50e5e845c552faf	t2.micro	arn:aws:iam::758918584409:user/RM1

Additional details for the launch template include:

Version	Security groups	Security group IDs	Create time
Default	-	-	Sun Mar 26 2023 02:55:31 GMT+0200 (Eastern European Standard Time)

At the bottom of the console, there is a footer with 'Feedback', 'Language', and copyright information for Amazon Web Services, Inc. or its affiliates.

Scal-group-1

The screenshot shows the AWS Management Console interface for an Auto Scaling group named 'scal1'. The left sidebar contains a navigation menu with categories like Elastic Block Store, Network & Security, Load Balancing, and Auto Scaling. The main content area is titled 'scal1' and contains a table with the following information:

Auto Scaling group name	Desired capacity	Status	Amazon Resource Name (ARN)
scal1	1	-	arn:aws:autoscaling:us-west-1:758918584409:autoScalingGroup:ee7fbf48-bab4-42ce-9f84-d3e6cf4ebc41:autoScalingGroupName/scal1

Below the table, there is a 'Launch template' section with an 'Edit' button. The launch template details are as follows:

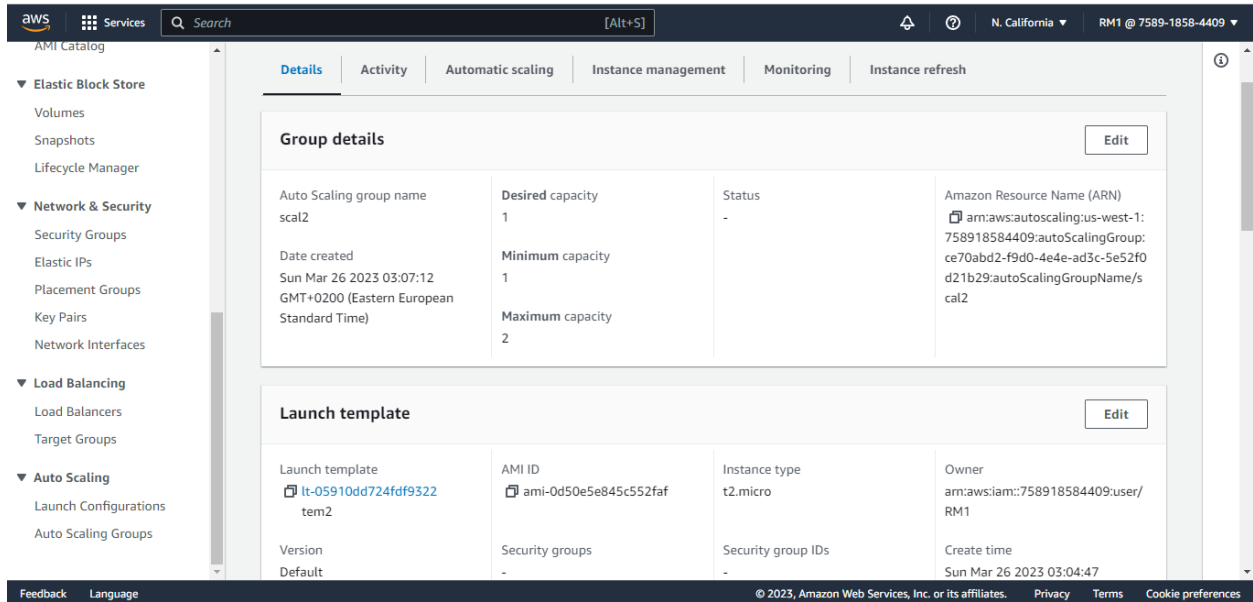
Launch template	AMI ID	Instance type	Owner
lt-02e0751ef98b61baf tem0	ami-0d50e5e845c552faf	t2.micro	arn:aws:iam::758918584409:user/RM1

Additional details for the launch template include:

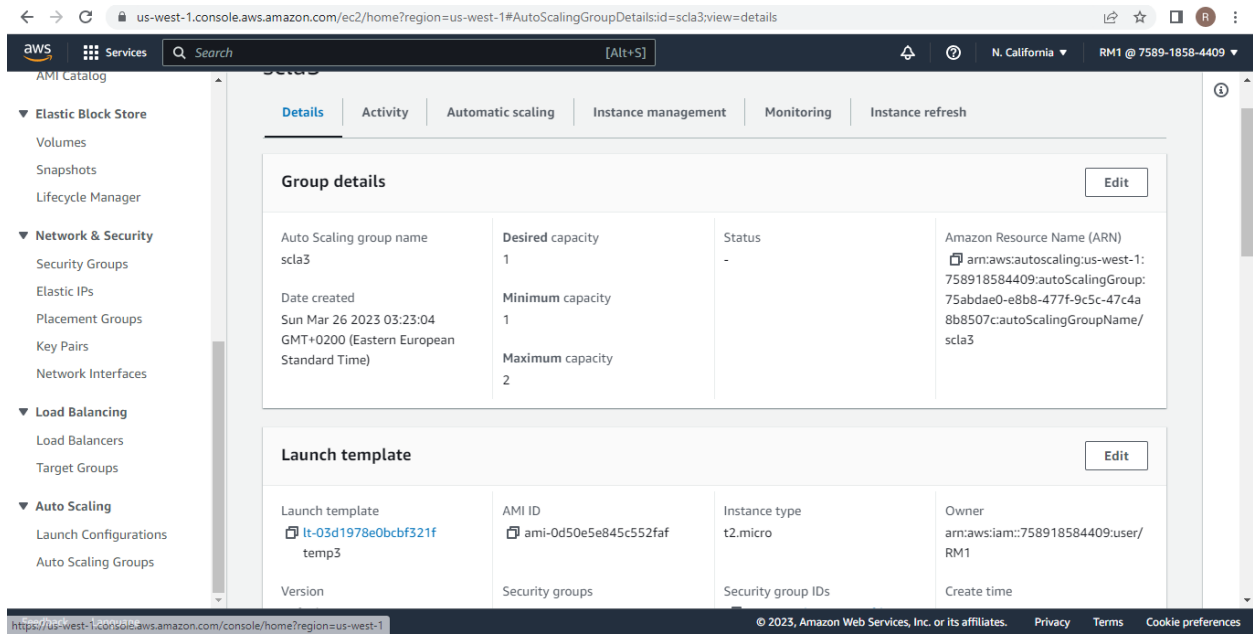
Version	Security groups	Security group IDs	Create time
Default	-	-	Sun Mar 26 2023 03:10:05 GMT+0200 (Eastern European Standard Time)

At the bottom of the console, there is a footer with 'Feedback', 'Language', and copyright information for Amazon Web Services, Inc. or its affiliates.

Scal-group-2



## Scal-group-3



Screenshot from the 2 target groups indicating the machines are healthy

Public-target-information

us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#TargetGroup:targetGroupArn=arn:aws:elasticloadbalancing:us-west-1:758918584409:targetgroup/pu...

Services Search [Alt+S]

N. California RM1 @ 7589-1858-4409

AMI Catalog

- ▼ Elastic Block Store
  - Volumes
  - Snapshots
  - Lifecycle Manager
- ▼ Network & Security
  - Security Groups
  - Elastic IPs
  - Placement Groups
  - Key Pairs
  - Network Interfaces
- ▼ Load Balancing
  - Load Balancers
  - Target Groups
- ▼ Auto Scaling
  - Launch Configurations
  - Auto Scaling Groups

EC2 > Target groups > public-target

### public-target

Actions

**Details**

arn:aws:elasticloadbalancing:us-west-1:758918584409:targetgroup/public-target/e8a8f655bf088b4b

Target type	Protocol : Port	Protocol version	VPC
Instance	HTTP: 80	HTTP1	vpc-0b821a682f5d84ac2
IP address type	Load balancer		
IPv4	public-load		

Total targets	Healthy	Unhealthy	Unused	Initial	Draining
2	2	0	0	0	0

► **Distribution of targets by Availability Zone (AZ)**

Select values in this table to see corresponding filters applied to the Registered targets table below.

Targets Monitoring Health checks Attributes Tags

Feedback Language © 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

## Private-target-information

us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#TargetGroup:targetGroupArn=arn:aws:elasticloadbalancing:us-west-1:758918584409:targetgroup/priv...

Services Search [Alt+S]

N. California RM1 @ 7589-1858-4409

New EC2 Experience Tell us what you think

- EC2 Dashboard
- EC2 Global View
- Events
- Tags
- Limits
- ▼ Instances
  - Instances
  - Instance Types
  - Launch Templates
  - Spot Requests
  - Savings Plans
  - Reserved Instances
  - Dedicated Hosts
  - Capacity Reservations
- ▼ Images
  - AMIs

EC2 > Target groups > private-target

### private-target

Actions

**Details**

arn:aws:elasticloadbalancing:us-west-1:758918584409:targetgroup/private-target/7934e604c156796d

Target type	Protocol : Port	Protocol version	VPC
Instance	HTTP: 80	HTTP1	vpc-0b821a682f5d84ac2
IP address type	Load balancer		
IPv4	private-load		

Total targets	Healthy	Unhealthy	Unused	Initial	Draining
2	2	0	0	0	0

► **Distribution of targets by Availability Zone (AZ)**

Select values in this table to see corresponding filters applied to the Registered targets table below.

Targets Monitoring Health checks Attributes Tags

Feedback Language © 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot indicate the the machines BE WS are private

BE1

us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#Instances:instanceState=running

Services Search [Alt+S] N. California RM1 @ 7589-1858-4409

New EC2 Experience Tell us what you think

EC2 Dashboard  
EC2 Global View  
Events  
Tags  
Limits  
▼ Instances  
Instances  
Instance Types  
Launch Templates  
Spot Requests  
Savings Plans  
Reserved Instances  
Dedicated Hosts  
Capacity Reservations  
▼ Images  
AMIs

Instances (1/4) Info

Find instance by attribute or tag (case-sensitive)

Instance state = running X Clear filters

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	-	i-0e610ba28eb1620ff	Running	t2.micro	2/2 checks passed	No alarms	us-west-1a
<input checked="" type="checkbox"/>	-	i-000afbec3e807b69c	Running	t2.micro	2/2 checks passed	No alarms	us-west-1a
<input type="checkbox"/>	-	i-024bc7fa284b9345b	Running	t2.micro	2/2 checks passed	No alarms	us-west-1c
<input type="checkbox"/>	-	i-0b64549df4e62fd78	Running	t2.micro	2/2 checks passed	No alarms	us-west-1c

Instance: i-000afbec3e807b69c

Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary Info

Instance ID i-000afbec3e807b69c	Public IPv4 address -	Private IPv4 addresses 10.0.1.147
IPv6 address -	Instance state Running	Public IPv4 DNS -
Hostname type IP-10.0.1.147.us-west-1.compute.internal	Private IP DNS name (IPv4 only) IP-10.0.1.147.us-west-1.compute.internal	

https://us-west-1.console.aws.amazon.com/console/home?region=us-west-1 © 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

BE2

us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#Instances:instanceState=running

Services Search [Alt+S] N. California RM1 @ 7589-1858-4409

New EC2 Experience Tell us what you think

EC2 Dashboard  
EC2 Global View  
Events  
Tags  
Limits  
▼ Instances  
Instances  
Instance Types  
Launch Templates  
Spot Requests  
Savings Plans  
Reserved Instances  
Dedicated Hosts  
Capacity Reservations  
▼ Images  
AMIs

Instances (1/4) Info

Find instance by attribute or tag (case-sensitive)

Instance state = running X Clear filters

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	-	i-0e610ba28eb1620ff	Running	t2.micro	2/2 checks passed	No alarms	us-west-1a
<input type="checkbox"/>	-	i-000afbec3e807b69c	Running	t2.micro	2/2 checks passed	No alarms	us-west-1a
<input type="checkbox"/>	-	i-024bc7fa284b9345b	Running	t2.micro	2/2 checks passed	No alarms	us-west-1c
<input checked="" type="checkbox"/>	-	i-0b64549df4e62fd78	Running	t2.micro	2/2 checks passed	No alarms	us-west-1c

Instance: i-0b64549df4e62fd78

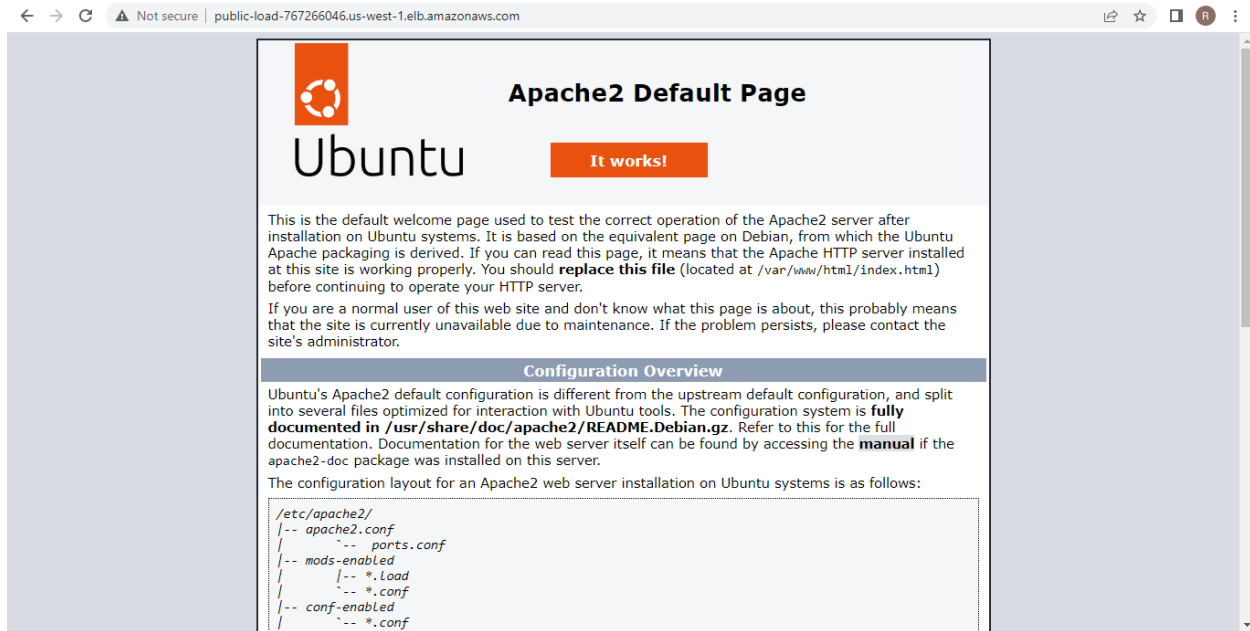
Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary Info

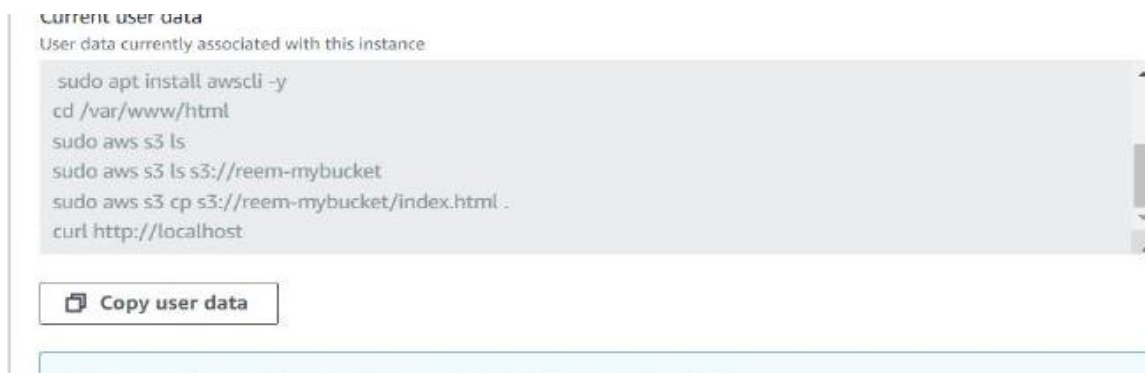
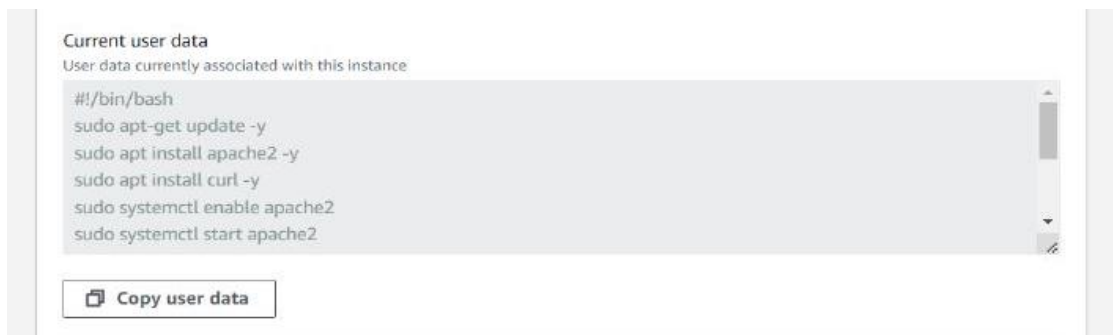
Instance ID i-0b64549df4e62fd78	Public IPv4 address -	Private IPv4 addresses 10.0.3.28
IPv6 address -	Instance state Running	Public IPv4 DNS -
Hostname type IP-10.0.3.28.us-west-1.compute.internal	Private IP DNS name (IPv4 only) IP-10.0.3.28.us-west-1.compute.internal	

Feedback Language © 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Screenshot from the public load balancer when you hit a request from it from a browser with a response returned from the instances



## Q2) Screenshot from the userdata



## Screenshot from the logs of the instance

## System log

Review system log for instance i-0be911e3166137718 as of Mon Mar 27 2023 22:40:27 GMT+0200 (Eastern European Standard Time)



Copy log

Download

```
[ 85.689552] cloud-init[1200]: Get:34 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libxpm4 amd64 1:3.5.12-1ubuntu0.22.04.1 [36.4 kB]
[ 85.711716] cloud-init[1200]: Get:35 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libxaw7 amd64 2:1.0.14-1 [191 kB]
[ 85.727997] cloud-init[1200]: Get:36 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 groff amd64 1.22.4-8build1 [4104 kB]
[ 85.739681] cloud-init[1200]: Get:37 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 python3-dateutil all 2.8.1-6 [78.4 kB]
[ 85.751636] cloud-init[1200]: Get:38 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 python3-jmespath all 0.10.0-1 [21.7 kB]
[ 85.767643] cloud-init[1200]: Get:39 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 python3-boto3 all 1.23.34+repack-1 [4508 kB]
[ 85.796597] cloud-init[1200]: Get:40 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 xml-core all 0.18+mmu1 [21.6 kB]
[ 85.807465] cloud-init[1200]: Get:41 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 docutils-common all 0.17.1+dfsg-2 [117 kB]
[ 85.820816] cloud-init[1200]: Get:42 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 python3-roman all 3.3-1 [10.6 kB]
[ 85.831725] cloud-init[1200]: Get:43 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 python3-docutils all 0.17.1+dfsg-2 [387 kB]
[ 85.843693] cloud-init[1200]: Get:44 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 python3-rsa all 4.8-1 [28.4 kB]
[ 85.859108] cloud-init[1200]: Get:45 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 python3-s3transfer all 0.5.0-1 [51.5 kB]
[ 85.875960] cloud-init[1200]: Get:46 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 awscli all 1.22.34-1 [1172 kB]
[ 85.889237] cloud-init[1200]: Get:47 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fontconfig amd64 2.13.1-4.2ubuntu5 [177 kB]
[ 85.906956] cloud-init[1200]: Get:48 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 fonts-noto-mono all 20201225-1build1 [397 kB]
[ 85.920595] cloud-init[1200]: Get:49 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libgs9-common all 9.55.0-0dfsg1-0ubuntu5.1 [751 kB]
[ 85.943746] cloud-init[1200]: Get:50 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-common-data amd64 0.8-5ubuntu5 [23.9 kB]
[ 85.959534] cloud-init[1200]: Get:51 http://ca-central-1.ec2.archive.ubuntu.com/ubuntu jammy/main amd64 libavahi-common3 amd64 0.8-5ubuntu5 [23.7 kB]
[ 85.976767] cloud-init[1200]: Get:52 http://ca-central-1.ec2.a
```

Screenshot indicate the machine is private.

The screenshot shows the AWS Management Console interface. On the left is a navigation menu with options like EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, and Capacity Reservations. The main area displays the 'Instances (1/1) Info' page. A table lists one instance: 'private-vm' with ID 'i-0be911e3166137718', state 'Running', type 't2.micro', and '2/2 checks passed'. Below the table, the 'Instance: i-0be911e3166137718 (private-vm)' details are shown. The 'Details' tab is active, displaying fields: Instance ID (i-0be911e3166137718 (private-vm)), IPv6 address (none), Hostname type (IP name: ip-10-0-1-224.ca-central-1.compute.internal), Public IPv4 address (none), Instance state (Running), Private IP DNS name (ip-10-0-1-224.ca-central-1.compute.internal), Private IPv4 addresses (10.0.1.224), and Public IPv4 DNS (none). The footer shows '© 2023, Amazon Web Services, Inc. or its affiliates.' and links for Privacy, Terms, and Cookie preferences.

Check if the private ec2 can reach s3 through jump-host

```
ubuntu@ip-10-0-1-224:~$  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
  
Last login: Mon Mar 27 20:52:35 2023 from 156.219.179.37  
ubuntu@ip-10-0-0-150:~$ vim inkey.pem  
ubuntu@ip-10-0-0-150:~$ ssh -i "inkey.pem" ubuntu@10.0.1.224  
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1028-aws x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
System information as of Mon Mar 27 21:04:30 UTC 2023  
  
System load: 0.0          Processes:            101  
Usage of /:  25.8% of 7.57GB   Users logged in:     1  
Memory usage: 19%          IPv4 address for eth0: 10.0.1.224  
Swap usage:  0%  
  
* Introducing Expanded Security Maintenance for Applications.  
  Receive updates to over 25,000 software packages with your  
  Ubuntu Pro subscription. Free for personal use.  
  
    https://ubuntu.com/aws/pro  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
  
Last login: Mon Mar 27 21:03:23 2023 from 10.0.0.150  
ubuntu@ip-10-0-1-224:~$ curl http://localhost  
<html>  
<head>  
</head>  
<body>  
<h1>Welcome from Reem </h1>  
</body>  
</html>  
ubuntu@ip-10-0-1-224:~$
```