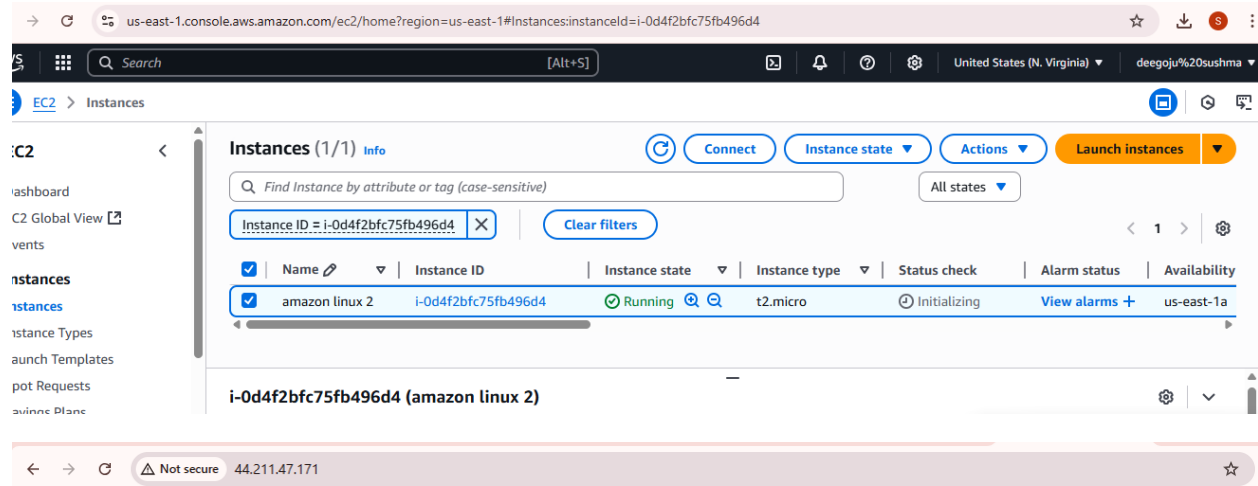


1) Launch one ec2 using Amazon Linux2 image and add script in user data to install Apache.



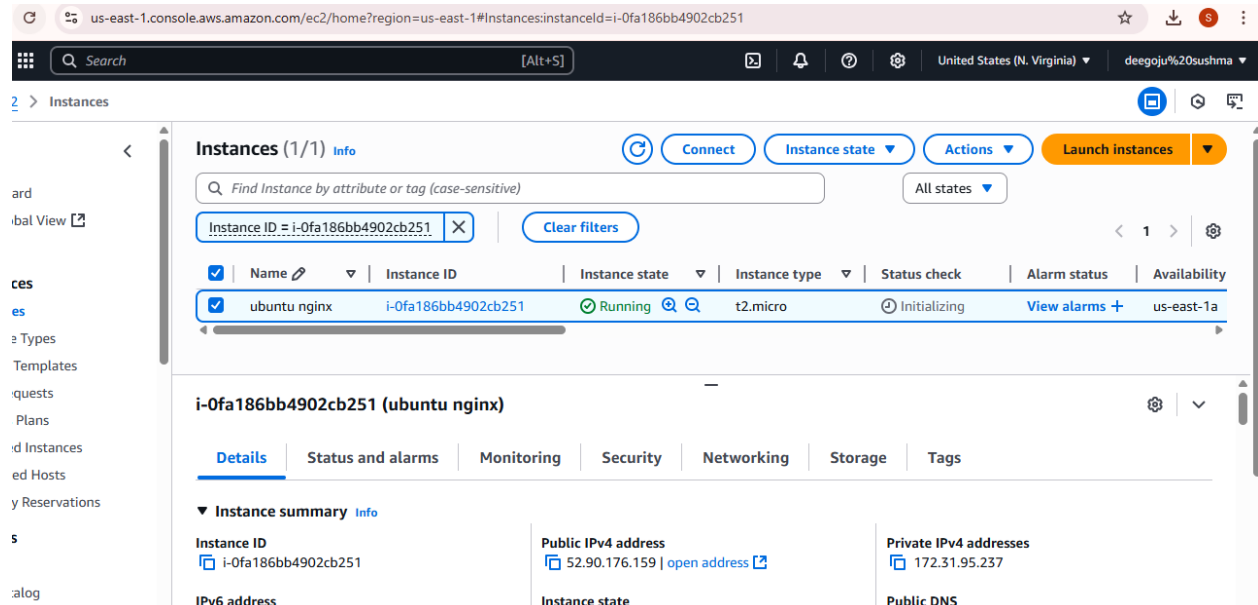
The screenshot shows the AWS Management Console for the us-east-1 region. The 'Instances' page displays a single instance named 'amazon linux 2' with ID 'i-0d4f2bfc75fb496d4'. The instance is in a 'Running' state, using the 't2.micro' instance type. The status check shows 'Initializing'. The instance is located in the 'us-east-1a' availability zone. Below the instance list, the details for 'i-0d4f2bfc75fb496d4 (amazon linux 2)' are shown. The browser address bar shows the URL 'us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceId=i-0d4f2bfc75fb496d4' and the IP address '44.211.47.171'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
amazon linux 2	i-0d4f2bfc75fb496d4	Running	t2.micro	Initializing	View alarms +	us-east-1a

i-0d4f2bfc75fb496d4 (amazon linux 2)

Apache Web Server is running on Amazon Linux 2

2) Launch one ec2 using Ubuntu image and add script in user data to install Nginx.



The screenshot shows the AWS Management Console for the us-east-1 region. The 'Instances' page displays a single instance named 'ubuntu nginx' with ID 'i-0fa186bb4902cb251'. The instance is in a 'Running' state, using the 't2.micro' instance type. The status check shows 'Initializing'. The instance is located in the 'us-east-1a' availability zone. Below the instance list, the details for 'i-0fa186bb4902cb251 (ubuntu nginx)' are shown. The browser address bar shows the URL 'us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceId=i-0fa186bb4902cb251'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
ubuntu nginx	i-0fa186bb4902cb251	Running	t2.micro	Initializing	View alarms +	us-east-1a

i-0fa186bb4902cb251 (ubuntu nginx)

Instance summary Info

Instance ID i-0fa186bb4902cb251	Public IPv4 address 52.90.176.159 open address	Private IPv4 addresses 172.31.95.237
IPv6 address	Instance state	Public DNS

← → ↻ ⚠ Not secure 52.90.176.159 ☆ ⬇ \$

Nginx Web Server is running on Ubuntu EC2

3) Launch one windows server and install tomcat in windows.

EC2 > Instances > i-0070ecdf9b38a27f6

Instance summary for i-0070ecdf9b38a27f6 (windows) Info ⌚ Connect Instance state ▾ Actions ▾

Updated less than a minute ago


Instance ID i-0070ecdf9b38a27f6	Public IPv4 address 54.224.215.194 open address	Private IPv4 addresses 172.31.28.130
IPv6 address -	Instance state Running	Public DNS ec2-54-224-215-194.compute-1.amazonaws.com open address
Hostname type IP name: ip-172-31-28-130.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-28-130.ec2.internal	Elastic IP addresses -
Answer private resource DNS name IPv4 (A)	Instance type t3.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommen
Auto-assigned IP address 54.224.215.194 [Public IP]	VPC ID vpc-094bc96058326e6e0	

⌚ ⚠ Not secure 54.224.215.194:8080 ☆ ⬇ \$

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/10.1.41

If you're seeing this, you've successfully installed Tomcat. Congratulations!

 Recommended Reading:
[Security Considerations How-To](#)
[Manager Application How-To](#)
[Clustering/Session Replication How-To](#)

Server Status
Manager App
Host Manager

Developer Quick Start
[Tomcat Setup](#) [Realms & AAA](#) [Examples](#) [Servlet Specifications](#)
[First Web Application](#) [JDBC DataSources](#) [Tomcat Versions](#)

Managing Tomcat
For security, access to the [manager.webapp](#) is restricted. Users are defined in:
\$CATALINA_HOME/conf/tomcat-users.xml
In Tomcat 10.1 access to the manager application is split between different users.
[Read more...](#)

Documentation
[Tomcat 10.1 Documentation](#)
[Tomcat 10.1 Configuration](#)
[Tomcat Wiki](#)
Find additional important configuration information in:
\$CATALINA_HOME/README.txt

Getting Help
FAQ and Mailing Lists
The following mailing lists are available:
[tomcat-announce](#)
Important announcements, releases, security vulnerability notifications. (Low volume).
[tomcat-users](#)
User support and discussion

4) Take snapshot of the instance created in Task 1.

aws Search [Alt+S] United States (N. Virginia) deegoju%20sushma

EC2 > Instances > i-0d4f2bfc75fb496d4

EC2

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

Instance summary for i-0d4f2bfc75fb496d4 (amazon linux 2) Info

Updated less than a minute ago

Connect Instance state Actions

Instance ID i-0d4f2bfc75fb496d4	Public IPv4 address 44.211.47.171 open address	Private IPv4 addresses 172.31.80.249
IPv6 address -	Instance state Running	Public DNS ec2-44-211-47-171.compute-1.amazonaws.com open address
Hostname type IP name: ip-172-31-80-249.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-80-249.ec2.internal	Elastic IP addresses -
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	AWS Compute Optimizer finding -
Auto-assigned IP address -	VPC ID -	

5) Assign password less authentication for ec2 created on Task 2.

```
PC@DESKTOP-8JMOQCN MINGW64 ~/downloads
$ ssh -i "C:\Users\PC\.ssh\my-key" ubuntu@52.90.176.159
Enter passphrase for key 'C:\Users\PC\.ssh\my-key':
Enter passphrase for key 'C:\Users\PC\.ssh\my-key':
Enter passphrase for key 'C:\Users\PC\.ssh\my-key':
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1029-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Mon Jun  9 05:26:01 UTC 2025

System load:  0.0          Processes:      110
Usage of /:   29.0% of 6.71GB   Users logged in: 1
Memory usage: 22%          IPv4 address for enX0: 172.31.95.237
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

9 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Mon Jun  9 05:07:40 2025 from 103.143.169.218
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```

6) Launch any ec2 using spot purchasing option.

EC2 > Instances > i-0fa581fb705fcacc4

EC2







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

Instance summary for i-0fa581fb705fcacc4 (spotinstance) Info

Updated less than a minute ago

Connect Instance state Actions

Instance ID i-0fa581fb705fcacc4	Public IPv4 address 13.219.93.11 open address	Private IPv4 addresses 172.31.80.62
IPv6 address -	Instance state Running	Public DNS ec2-13-219-93-11.compute-1.amazonaws.com open address
Hostname type IP name: ip-172-31-80-62.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-80-62.ec2.internal	Elastic IP addresses -
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more
Auto-assigned IP address 13.219.93.11 [Public IP]	VPC ID vpc-094bc96058326e6e0	

<p>▼ Instance details Info</p> <p>AMI ID  ami-0e9bbd70d26d7cf4f</p> <p>AMI name  amzn2-ami-kernel-5.10-hvm-2.0.20250603.0-x86_64-gp2</p> <p>Stop protection Disabled</p> <p>Instance auto-recovery Default</p> <p>AMI Launch index 0</p> <p>Credit specification standard</p>	<p>Monitoring disabled</p> <p>Allowed image -</p> <p>Launch time  Mon Jun 09 2025 11:01:06 GMT+0530 (India Standard Time) (1 minute)</p> <p>Lifecycle spot</p> <p>Key pair assigned at launch  spotinstance</p> <p>Kernel ID -</p>	<p>Platform details  Linux/UNIX</p> <p>Termination protection Disabled</p> <p>AMI location  amazon/amzn2-ami-kernel-5.10-hvm-2.0.20250603.0-x86_64-gp2</p> <p>Stop-hibernate behavior Disabled</p> <p>State transition reason -</p> <p>State transition message -</p>
--	--	---

The screenshot displays the AWS Management Console interface for an EC2 instance. At the top, a green banner states: "Successfully enabled termination protection for instance i-0fa186bb4902cb251. The instance can't be deleted." Below this, the "Instance summary for i-0fa186bb4902cb251 (ubuntu nginx)" is shown. The instance is in the "Running" state, updated 12 minutes ago. Key details include: Instance ID: i-0fa186bb4902cb251, Public IPv4 address: 52.90.176.159, Private IPv4 address: 172.31.95.237, Instance state: Running, Hostname type: IP name: ip-172-31-95-237.ec2.internal, Answer private resource DNS name: IPv4 (A), and Instance type: t2.micro. The left sidebar shows the navigation menu with "Instances" selected.

```
An error occurred (InvalidKeyValuePair.NotFound) when calling the RunInstances operation: The key pair 'nginxserver' does not exist
~ $ aws ec2 run-instances \
> --count 1 \
> --image-id ami-0e58b56aa4d64231b \
> --instance-type t2.micro \
> --key-name apacheserver \
> --security-group-ids sg-07533ca2de92dc45e \
> --tag-specifications 'ResourceType=instance,Tags=[{Key=Name,Value=Instance_sushma}]'
{
  "ReservationId": "r-0e8a4f57eb2e5c640",
  "OwnerId": "866018956544",
  "Groups": [],
  "Instances": [
    {
      "Architecture": "x86_64",
      "BlockDeviceMappings": [],
      "ClientToken": "9051a65a-71ab-4df3-a9fa-fcf057f77604",
      "EbsOptimized": false,
      "EnaSupport": true,
      "Hypervisor": "xen",
      "NetworkInterfaces": [
        {
          "Attachment": {
            "AttachTime": "2025-06-09T09:46:56+00:00",
            "AttachmentId": "eni-attach-04113dc9babcfa3",
            "DeleteOnTermination": true
          }
        }
      ]
    }
  ]
}
```

Search

[Alt+S]

United States (N. Virginia)

deegoju sushm

Instances

i-0c8c807b27affc7a2

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Types

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Plans

Instances

Hosts

Reservations

Instance summary for i-0c8c807b27affc7a2 (Instance_sushma) Info

Connect

Instance state

Actions

Updated less than a minute ago

Instance ID

i-0c8c807b27affc7a2

IPv6 address

-

Hostname type

IP name: ip-172-31-83-11.ec2.internal

Answer private resource DNS name

-

Auto-assigned IP address

18.206.205.32 [Public IP]

Public IPv4 address

18.206.205.32 | open address

Instance state

Running

Private IP DNS name (IPv4 only)

ip-172-31-83-11.ec2.internal

Instance type

t2.micro

VPC ID

vpc-094bc96058326e6e0

Private IPv4 addresses

172.31.83.11

Public DNS

ec2-18-206-205-32.compute-1.amazonaws.com | open address

Elastic IP addresses

-

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations.