

# TASK ON AWS EC2

## 1) Launch one ec2 using Amazon Linux 2 image and add script in user data to install Apache:

```
[ec2-user@ip-172-31-12-72 ~]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
  Active: active (running) since Sun 2025-02-23 06:16:15 UTC; 6min ago
    Docs: man:httpd.service(8)
 Main PID: 3343 (httpd)
  Status: "Total requests: 2; Idle/Busy workers 100/0;Requests/sec: 0.00514; Bytes served/sec: 2 B/sec"
   CGroup: /system.slice/httpd.service
           └─3343 /usr/sbin/httpd -DFOREGROUND
           └─3345 /usr/sbin/httpd -DFOREGROUND
           └─3346 /usr/sbin/httpd -DFOREGROUND
           └─3347 /usr/sbin/httpd -DFOREGROUND
           └─3348 /usr/sbin/httpd -DFOREGROUND
           └─3369 /usr/sbin/httpd -DFOREGROUND

Feb 23 06:16:15 ip-172-31-12-72.ap-south-1.compute.internal systemd[1]: Starting The Apache HTTP Server...
Feb 23 06:16:15 ip-172-31-12-72.ap-south-1.compute.internal systemd[1]: Started The Apache HTTP Server.
[ec2-user@ip-172-31-12-72 ~]$ cd /var/www/html/
[ec2-user@ip-172-31-12-72 html]$ cat html
cat: html: No such file or directory
[ec2-user@ip-172-31-12-72 html]$
[ec2-user@ip-172-31-12-72 html]$
[ec2-user@ip-172-31-12-72 html]$ ls
index.html
[ec2-user@ip-172-31-12-72 html]$ cat index.html
Apache is running on Amazon Linux 2
```

← → ↻ ⚠ Not secure 15.206.88.127

Apache is running on Amazon Linux 2

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

```
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-4-248:~$ systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
  Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
  Active: active (running) since Sun 2025-02-23 06:50:06 UTC; 3min 40s ago
    Docs: man:nginx(8)
 Main PID: 1552 (nginx)
   Tasks: 2 (limit: 1130)
  Memory: 1.7M (peak: 1.9M)
     CPU: 9ms
   CGroup: /system.slice/nginx.service
           └─1552 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
           └─1553 "nginx: worker process"

Feb 23 06:50:06 ip-172-31-4-248 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Feb 23 06:50:06 ip-172-31-4-248 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-4-248:~$
```

← → ↻ ⚠ Not secure 3.110.115.200

Nginx is running on Ubuntu

### 3) Launch one windows server and install tomcat in windows:

aws Search [Alt+S]

EC2 > Instances > i-076a041c07e4227c0 > Connect to instance

#### Connect to instance Info

Connect to your instance i-076a041c07e4227c0 (windows-2) using any of these options

Session Manager **RDP client** EC2 serial console

Instance ID  
i-076a041c07e4227c0 (windows-2)

Connection Type

- Connect using RDP client**  
Download a file to use with your RDP client and retrieve your password.
- Connect using Fleet Manager  
To connect to the instance using Fleet Manager Remote Desktop, the SSM Agent must be installed and running on the instance. For more information, see [Working with SSM Agent](#)

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

[Download remote desktop file](#)

When prompted, connect to your instance using the following username and password:

Public DNS  
ec2-65-2-127-127.ap-south-1.compute.amazonaws.com

Username Info  
Administrator

Password [Get password](#)

If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.

→ ↻ ⚠ Not secure 3.110.48.94:8082

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## Apache Tomcat/9.0.99

 **APACHE** SOFTWARE FOUNDATION  
<http://www.apache.org/>

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](#)  
[First Web Application](#)

[Realms & AAA](#)  
[JDBC DataSources](#)

[Examples](#)

[Servlet Specifications](#)  
[Tomcat Versions](#)

**4) Take snapshot of the instance created in Task 1:**

The screenshot shows the Amazon Management Console interface for the EC2 service. The top navigation bar includes the AWS logo, search bar, and user information. The left sidebar contains navigation links for Dashboard, Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, Elastic Block Store, Volumes, Snapshots, and Lifecycle Manager.

### Amazon Machine Images (AMIs) (1/1) Info

**Owning IAM role:** Find AMI by attribute or tag

AMI name	AMI ID	Source	Owner	Visibility	Status
ec2-server-backup	ami-093b9fc7e8339b8c6	971422718404/ec2-server-backup	971422718404	Private	Available

---

#### AMI ID: ami-093b9fc7e8339b8c6

- Details** | Permissions | Storage | Tags

AMI ID	Image type	Platform details	Root device type
ami-093b9fc7e8339b8c6	machine Linux/UNIX		EBS

AMI name	Owner account ID	Architecture	Usage operation
ec2-server-backup	971422718404	x86_64	RunInstances

Root device name	Status	Source	Virtualization type
/dev/xvda	Available	971422718404/ec2-server-backup	hvm

```
-- V//  
-- V-.->  
--  
--  
A newer version of Amazon Linux is available!  
  
Amazon Linux 2023, GA and supported until 2028-03-15.  
https://aws.amazon.com/linux/amazon-linux-2023/  
_m/_
```

```
[ec2-user@ip-172-31-12-72 ~]$ systemctl status httpd  
-bash: systemctl: command not found  
[ec2-user@ip-172-31-12-72 ~]$ systemctl status httpd  
● httpd.service - The Apache HTTP Server  
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)  
   Active: active (running) since Sun 2025-02-23 18:26:15 UTC; 11min ago  
     Docs: man:httpd.service(8)  
 Main PID: 2962 (httpd)  
    Status: "Total requests: 1; Idle/Busy workers 100/0; Requests/sec: 0.00147; Bytes served/sec: 0 B/sec"  
   CGroup: /system.slice/httpd.service  
           └─2962 /usr/sbin/httpd -DFOREGROUND
```

```
naren@narendar MINGW64 /d/downloads
$ ssh ec2-user@3.7.45.230
Last login: Sun Feb 23 17:28:31 2025 from 45.127.59.91

#_
~\#### Amazon Linux 2
~\#####
~\###| AL2 End of Life is 2026-06-30.
~\#/
~V~'-'>
~..
~/-'-/
_/m/'-/

A newer version of Amazon Linux is available!

Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/

[ec2-user@ip-172-31-12-72 ~]$
```

The screenshot shows the AWS Management Console interface for EC2 Instances. The left-hand navigation pane includes sections for 'Instances' (with sub-links like Instance Types, Launch Templates, etc.), 'Images', 'Elastic Block Store', and 'Network & Security'. The main content area displays a table of instances. The instance 'spot-instance' with ID 'i-0338e692e374faded' is selected and highlighted in blue. Below the table, the details for this instance are shown, with the 'Lifecycle' tab selected and circled in red. Other tabs visible include 'Time', 'Key pair assigned at launch', and 'Kernel ID'. The 'Lifecycle' tab shows the instance is a 'spot' type.

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input type="checkbox"/>	ec-2	i-0ee22ee73627a4a69	Stopped	t2.micro	-	<a href="#">View alarms +</a>	ap-south-1b	-
<input type="checkbox"/>	ubuntu	i-03c173fe79596d95	Running	t2.micro	2/2 checks passed	<a href="#">View alarms +</a>	ap-south-1b	ec2-13-2
<input type="checkbox"/>	windows	i-0910dfc68c10e3414	Running	t3.micro	3/3 checks passed	<a href="#">View alarms +</a>	ap-south-1b	ec2-13-2
<input checked="" type="checkbox"/>	spot-instance	i-0338e692e374faded	Running	t2.micro	2/2 checks passed	<a href="#">View alarms +</a>	ap-south-1b	ec2-3-11

**Instance details for i-0338e692e374faded (spot-instance)**

- Time (8 minutes)**
- Lifecycle** (highlighted with a red circle): spot
- Key pair assigned at launch**: aws-services
- Kernel ID**

Other details visible on the right side of the instance details pane include:

- Instance type**: o-x86\_64-gp2
- Stop-hibernate behavior**: Disabled
- State transition reason**: -
- State transition message**

## 7) Enable Termination policy on ec2 created in Task 2.

Successfully enabled termination protection for instance i-03c173fe579596d95. The instance can't be deleted.

Instances (1/2) Info

Find Instance by attribute or tag (case-sensitive)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IP
<input type="checkbox"/>	ec-2	i-0ee22ee73627a4a69	Stopped	t2.micro	-	View alarms +	ap-south-1b	-
<input checked="" type="checkbox"/>	ubuntu	i-03c173fe579596d95	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1b	ec2-13-2

i-03c173fe579596d95 (ubuntu)

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

▼ Instance summary Info

Instance ID i-03c173fe579596d95	Public IPv4 address 13.201.76.91   open address	Private IPv4 addresses 172.31.4.248
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-13-201-76-91.ap-south-1.compute.amazonaws.com   open address

## 8) Launch one ec2 using Aws CLI:

```
naren@narendar MINGW64 ~ (master)
$ aws configure
```

```
$ aws ec2 run-instances --image-id ami-02a53b0d62d37a757 --count 1 --instance-type t2.micro --key-name load --security-group-ids sg-028dab48f38639d92 --subnet-id subnet-02fb34737f8e35dfa
{
  "ReservationId": "r-078cda9925a1648c6",
  "OwnerId": "108782070222",
  "Groups": [],
  "Instances": [
    {
      "Architecture": "x86_64",
      "BlockDeviceMappings": [],
      "ClientToken": "90aa0ff3-d8b4-4d2c-86e5-68bb1c9b6a79",
      "EbsOptimized": false,
      "EnaSupport": true,
      "Hypervisor": "xen",
      "NetworkInterfaces": [
        {
          "Attachment": {
            "AttachTime": "2025-03-07T10:54:51+00:00",
            "AttachmentId": "eni-attach-095641629a1f08bfd",
            "DeleteOnTermination": true,
            "DeviceIndex": 0,
            "Status": "attaching",
            "NetworkCardIndex": 0
          },
          "Description": "",
          "Groups": [
            {
              "GroupId": "sg-028dab48f38639d92",
              "GroupName": "default"
            }
          ],
          "Ipv6Addresses": [],
          "MacAddress": "06:00:52:29:95:6b",
          "NetworkInterfaceId": "eni-0486aacfc19d7291",
          "OwnerId": "108782070222",
          "PrivateDnsName": "ip-172-31-57-230.ec2.internal",
          "PrivateIpAddress": "172.31.57.230",
          "PrivateIpAddresses": [
            {
              "Primary": true,
              "PrivateDnsName": "ip-172-31-57-230.ec2.internal",
              "PrivateIpAddress": "172.31.57.230"
            }
          ],
          "SourceDestCheck": true,
          "Status": "in-use",
          "SubnetId": "subnet-02fb34737f8e35dfa",
          "VpcId": "vpc-0a0605985cabca44b",
          "InterfaceType": "interface",
          "Operator": {
            "Managed": false
          }
        }
      ],
      "Status": "pending",
      "SubnetId": "subnet-02fb34737f8e35dfa",
      "VpcId": "vpc-0a0605985cabca44b",
      "InterfaceType": "interface",
      "Operator": {
        "Managed": false
      }
    }
  ]
}
```

```
{
  "CapacityReservationSpecification": {
    "CapacityReservationPreference": "open"
  },
  "MetadataOptions": {
    "State": "pending",
    "HttpTokens": "optional",
    "HttpPutResponseHopLimit": 1,
    "HttpEndpoint": "enabled",
    "HttpProtocolIpv6": "disabled",
    "InstanceMetadataTags": "disabled"
  },
  "EnclaveOptions": {
    "Enabled": false
  },
  "PrivateDnsNameOptions": {
    "HostnameType": "ip-name",
    "EnableResourceNameDnsRecord": false,
    "EnableResourceNameDnsAAAARecord": false
  },
  "MaintenanceOptions": {
    "AutoRecovery": "default"
  },
  "CurrentInstanceBootMode": "legacy-bios",
  "Operator": {
    "Managed": false
  },
  "InstanceId": "i-045991b8519625900",
  "ImageId": "ami-02a53b0d62d37a757",
  "State": {
    "Code": 0,
    "Name": "pending"
  },
  "PrivateDnsName": "ip-172-31-57-230.ec2.internal",
  "PublicDnsName": "",
  "StateTransitionReason": "",
  "KeyName": "load",
  "AwsLaunchIndex": 0,
  "ProductCodes": [],
  "InstanceType": "t2.micro",
  "LaunchTime": "2025-03-07T10:54:51+00:00",
  "Placement": {
    "GroupName": "",
    "Tenancy": "default",
    "AvailabilityZone": "us-east-1e"
  },
  "Monitoring": {
    "State": "disabled"
  },
  "SubnetId": "subnet-02fb34737f8e35dfa",
  "VpcId": "vpc-0a0605985cabca44b",
  "PrivateIpAddress": "172.31.57.230"
}
```

EC2

Dashboard

EC2 Global View

Events

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

Instance summary for i-045991b85196259b2

Updated 3 minutes ago

Instance ID

i-045991b85196259b2

IPv6 address

-

Hostname type

IP name: ip-172-31-57-230.ec2.internal

Answer private resource DNS name

-

Auto-assigned IP address

100.25.10.220 [Public IP]

IAM Role

-

IMDSv2

Optional

EC2 recommends setting IMDSv2 to required | Learn more

Operator

-

Public IPv4 address

100.25.10.220 | open address

Instance state

Running

Private IP DNS name (IPv4 only)

ip-172-31-57-230.ec2.internal

Instance type

t2.micro

VPC ID

vpc-0a0605985cabca44b

Subnet ID

subnet-02fb34737f8e35dfa

Instance ARN

arn:aws:ec2:us-east-1:108782070222:instance/i-045991b85196259b2

Private IPv4 addresses

172.31.57.230

Public IPv4 DNS

ec2-100-25-10-220.compute-1.amazonaws.com | open address

Elastic IP addresses

-

AWS Compute Optimizer finding

Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Auto Scaling Group name

-

Managed

false

Connect

Instance state

Actions