



# Andhra Pradesh State Skill Development Corporation



# AWS CLOUD COMPUTING

LAUNCHING AN AMAZON LINUX ELASTIC COMPUTE CLOUD (EC2)  
INSTANCE



## **Launching an Amazon Linux Elastic Compute Cloud (EC2) Instance**

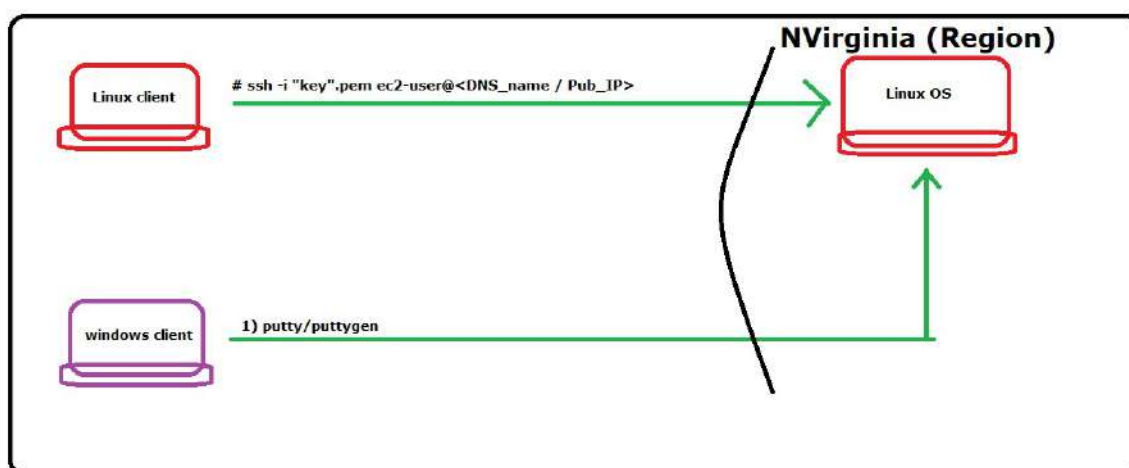


## Launching Amazon Linux EC2 Instance

**Amazon EC2:** Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale computing easier for developers. It is a simple web service interface that allows you to obtain and configure capacity with minimal friction. It provides you with complete control of your computing resources and lets you run on Amazon's proven computing environment. AmazonEC2 reduces the time required to obtain and boot new server instances (called Amazon EC2 instances) to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change.

### Objective:

To Launch Amazon Linux instances and to connect from Linux and Windows client PC.



**Setting Up with Amazon EC2:** Sign Up for AWS: When you sign up for Amazon Web Services (AWS), your AWS account is automatically signed up for all services in AWS, including Amazon EC2.

In the navigation pane first of all you need to choose your region and then click on EC2 in the Compute services.

## Launching Amazon Linux EC2 Instance

### Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.



Select **Amazon Linux AMI 2018.03.0(HVM)**, SSD Volume Type ami0761dd91277e34178

**Step 1: Choose an Amazon Machine Image (AMI)**

Quick Start

My AMIs

AWS Marketplace

Community AMIs

☐ Free tier only

**Amazon Linux 2 AMI (HVM), SSD Volume Type** - ami-02354e95b39ca8dec (64-bit x86) / ami-0c5bf07e510b75b11 (64-bit Arm)

**Amazon Linux**  
Free tier eligible

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

**Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type** - ami-0761dd91277e34178

**Amazon Linux**  
Free tier eligible

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

**Red Hat Enterprise Linux 8 (HVM), SSD Volume Type** - ami-098f16afa9edf40be (64-bit x86) / ami-029ba835ddd43c34f (64-bit Arm)

**Red Hat**  
Free tier eligible

Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Activate Windows  
Go to Settings to activate Windows.

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## Step 2: Choose an Instance Type Amazon

EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications.

**Step 2: Choose an Instance Type**

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more about instance types and how they can meet your computing needs.](#)

Filter by: All instance types Current generation Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GiB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes

Cancel Previous **Review and Launch** Next: Configure Instance Details

Go to Settings to activate Windows.

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Select **Next: Configure Instance Details**





### Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

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Number of instances: 1 Launch into Auto Scaling Group

Purchasing option: ☐ Request Spot instances

Network: vpc-29be8753 (default) Create new VPC

Subnet: No preference (default subnet in any Availability Zone) Create new subnet

Auto-assign Public IP: Use subnet setting (Enable)

Placement group: ☐ Add instance to placement group

Capacity Reservation: Open

IAM role: None Create new IAM role

Shutdown behavior: Stop

Next: Add Storage

Select Based on your requirement select instance type and subnet.

### Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes



aws Services Resource Groups

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 4: Add Storage

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Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/xvda	snap-00e56c293c6f295ta	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

Free tier eligible customers can get up to 30 GiB of EBS General Purpose (SSD) or Magnetic storage. [Learn more about free usage tier eligibility and usage restrictions.](#)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

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## Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.

aws Services Resource Groups

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.  
A copy of a tag can be applied to volumes, instances or both.  
Tags will be applied to all instances and volumes. [Learn more about tagging your Amazon EC2 resources.](#)

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes
Name	Webserver	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Add another tag](#) (Up to 50 tags maximum)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Security Group](#)

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## Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one .



**Step 6: Configure Security Group**

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more about Amazon EC2 security groups.](#)

Assign a security group: ☒ Create a **new** security group  
☐ Select an **existing** security group

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Anywhere 0.0.0.0/0::0	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Anywhere 0.0.0.0/0::0	e.g. SSH for Admin Desktop

[Add Rule](#)

**Warning**

[Cancel](#) [Previous](#) [Review and Launch](#)

Go to Settings to activate Windows.

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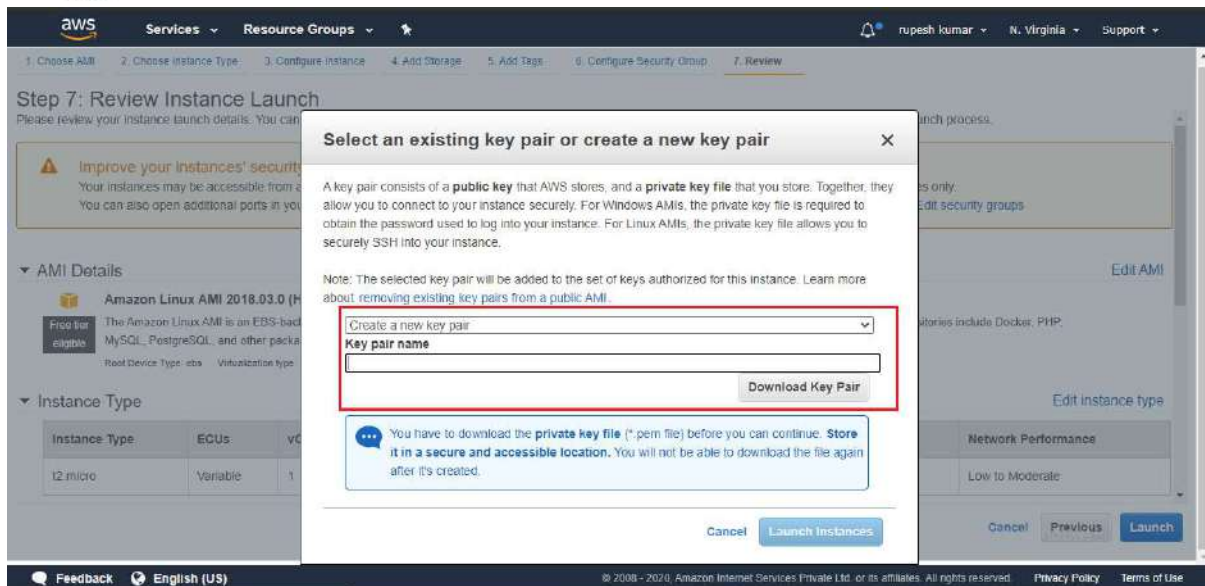
Click on → **Review and launch**

## Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

### Create a Key Pair:

Before launching your instance AWS uses public-key cryptography to secure the login information for your instance. A Linux instance has no password; you use a key pair to log in to your instance securely. You specify the name of the key pair when you launch your instance, then provide the private key when you login using SSH. If you haven't created a key pair already, you can create one using the Amazon EC2 console. From the navigation bar, select a region for the key pair. You can select any region that's available to you, regardless of your location. However, key pairs are specific to a region; for example, if you plan to launch an instance in the US East (Ohio) Region, you must create a key pair for the instance in the US East (Ohio) Region.



To connect to your instance using your key pair, To connect to your Linux instance from a computer running Mac or Linux, you'll specify the .pem file to your SSH client with the -i option and the path to your private key.

## To connect to Amazon Linux instance from linux client operating system

**Command:**

**\$ ssh -i "linux1.pem" ec2-user@ec2-54-152-135-243.compute-1.amazonaws.com**

Select your instance and make sure your key (pem file) matches your key pair name

```
Terminal
x Terminal
x Terminal

ubuntu@ip-10-212-101-187:~$ ssh -i amazon_aws.pem ubuntu@ec2-184-73-23-174.compute-1.amazonaws.com
The authenticity of host 'ec2-184-73-23-174.compute-1.amazonaws.com (184.73.23.174)' can't be established.
ECDSA key fingerprint is e9:ff:d3:1c:3f:a9:64:a0:cc:69:da:f1:08:30:df:10.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-184-73-23-174.compute-1.amazonaws.com,184.73.23.174' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 12.04.1 LTS (GNU/Linux 3.2.0-31-virtual i686)

 * Documentation:  https://help.ubuntu.com/

System information as of Thu Jan 31 16:09:50 UTC 2013

System load:  0.0          Processes:      66
Usage of /:   18.7% of 7.87GB   Users logged in:  0
Memory usage: 6%           IP address for eth0: 10.212.101.187
Swap usage:   0%

Graph this data and manage this system at https://landscape.canonical.com/

21 packages can be updated.
8 updates are security updates.

Get cloud support with Ubuntu Advantage Cloud Guest
http://www.ubuntu.com/business/services/cloud
ubuntu@ip-10-212-101-187:~$
```

## To connect to Amazon Linux instance from Windows client operating system



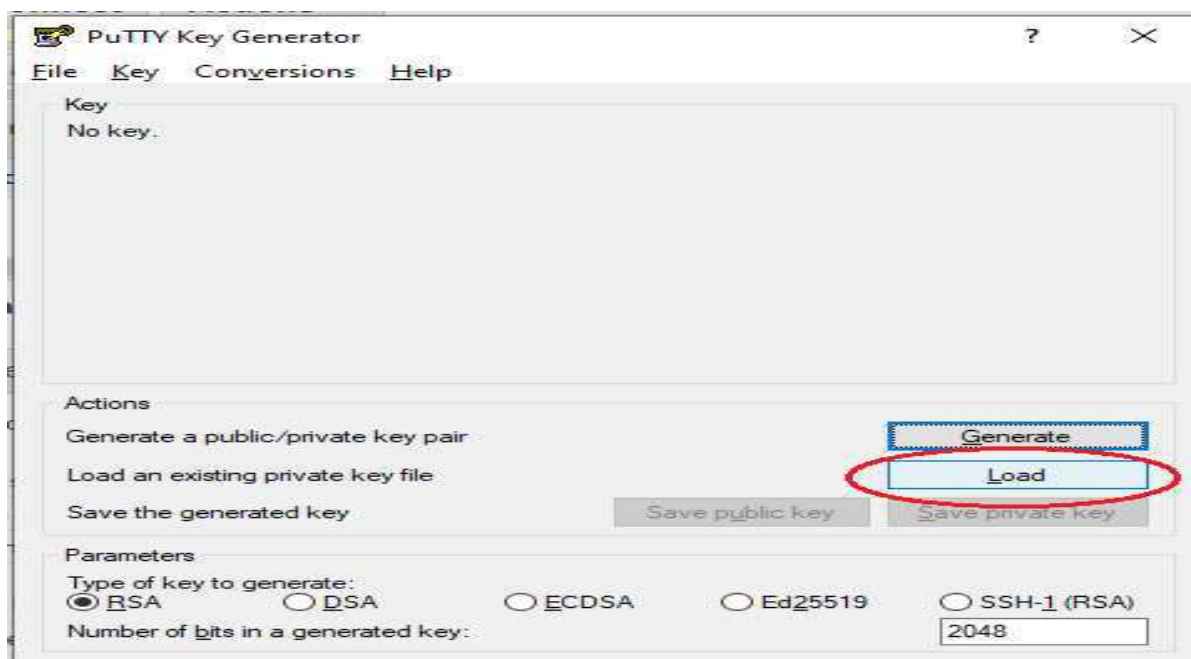


To connect to your Amazon Linux instance from a computer running Windows, you can use either MindTerm or PuTTY. If you plan to use PuTTY, you'll need to install it and use the following procedure to convert the .pem file to a .ppk file (for generation of PPK file Install Puttygen)

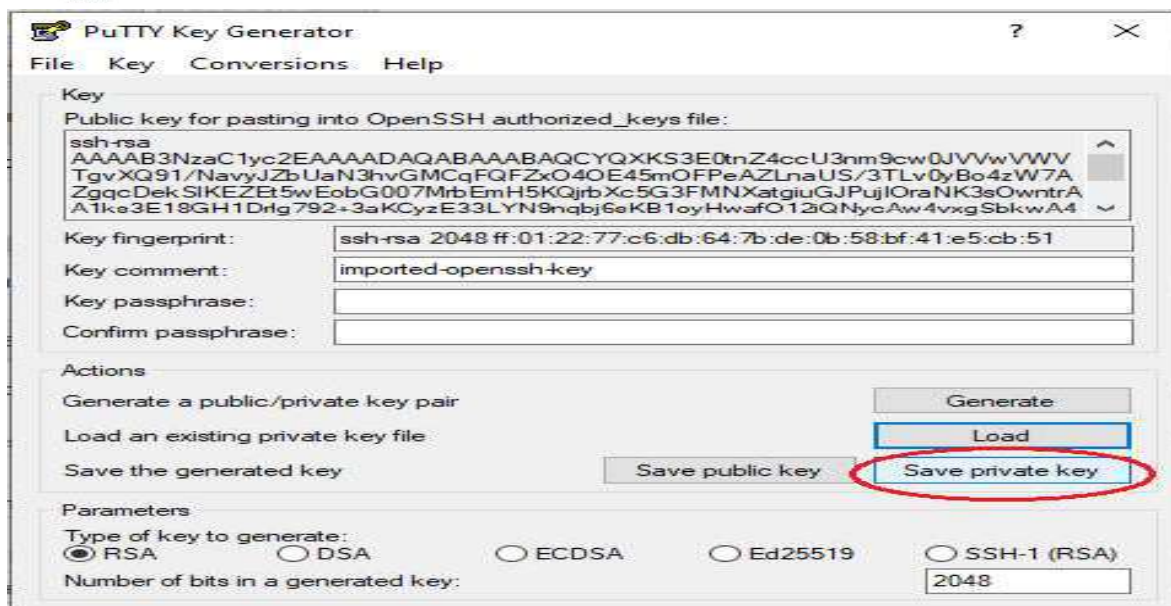
Download PuTTY: <https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>.

To prepare to connect to a Linux instance from Windows using PuTTY, **CONVERT YOUR PEM FILE TO PPK FORMAT**

1. Open puttygen and load the pem file into the puttygen



2. Save the private key by assigning a name to that file

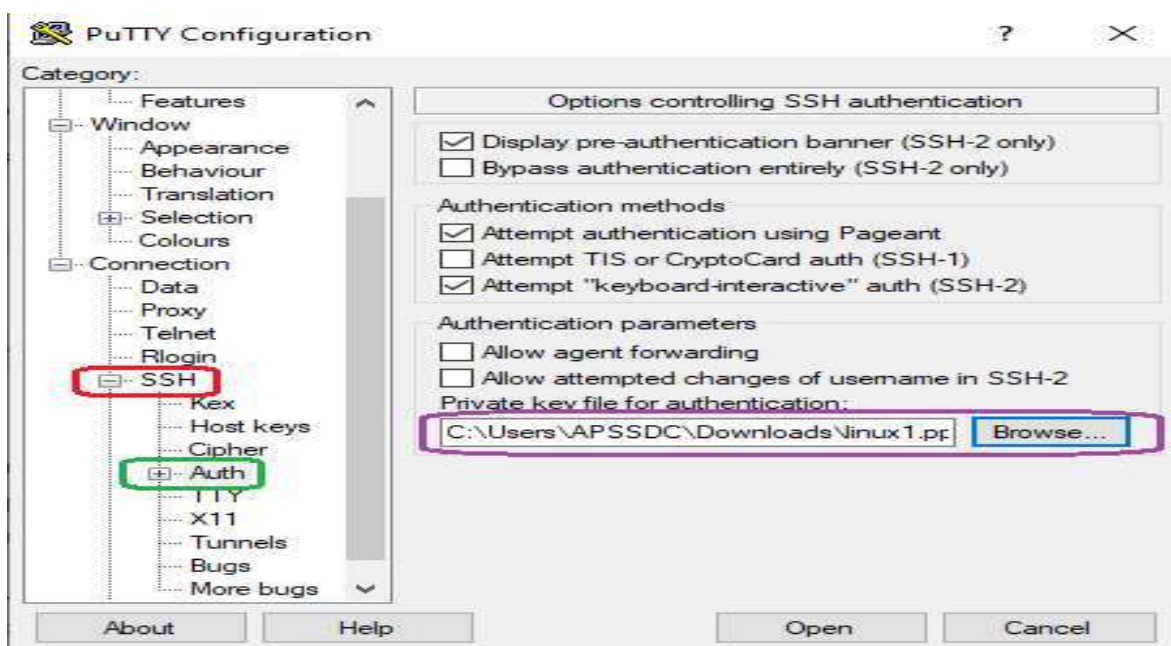


→ Open Putty

i. Enter Host Name

ii. Select your PPK file.

iii. Open your terminal Session



## Installing a NGINX Web Server on Amazon

To install and start the NGINX web server on Amazon Linux.

1. Connect to your instance in putty

**User name: ec2-user**



```
root@ip-172-31-46-51:/home/ec2-user
login as: ec2-user
Authenticating with public key "imported-openssh-key"

      _ _ _ _ _
     _/   ( _/   \_
    _/_____|_____\_

Amazon Linux AMI

https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
6 package(s) needed for security, out of 10 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-46-51 ~]$ sudo su
[root@ip-172-31-46-51 ec2-user]#
```

2. To ensure that all of your software packages are up to date, perform a quick software update on your instance. **\$ yum update -y**

3. Now that your instance is current, you can install the Nginx web server **\$ yum install nginx -y**

4. Restart the Apache web server. **\$ service nginx restart**

5. Also start all the web servers by executing its commands

6. If your server is installed and running, and your file permissions are set correctly, your ec2-user account should be able to create a file in the /usr/share/nginx/html directory that is available from the internet

7. In the web browser, type the URL of the file that you just created. This URL is the public DNS or IP address of your instance followed by a forward slash and the file name.

e.g: **54.152.135.243**

