

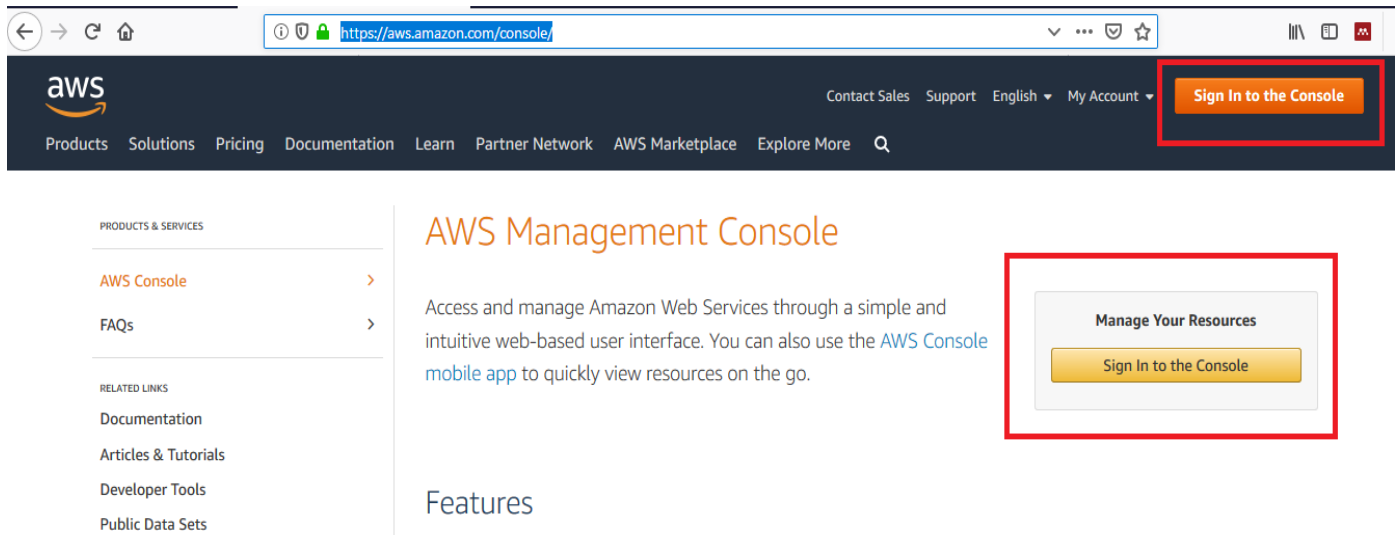
## How to create EC2 Instance in AWS

Steps:

Step 1) Login into account using the link

<https://aws.amazon.com/console/>

Step 2) click on “Sign to the Console” as shown in the fig.



Step 3) Enter the Password and click “Sign In”



### Root user sign in

Email

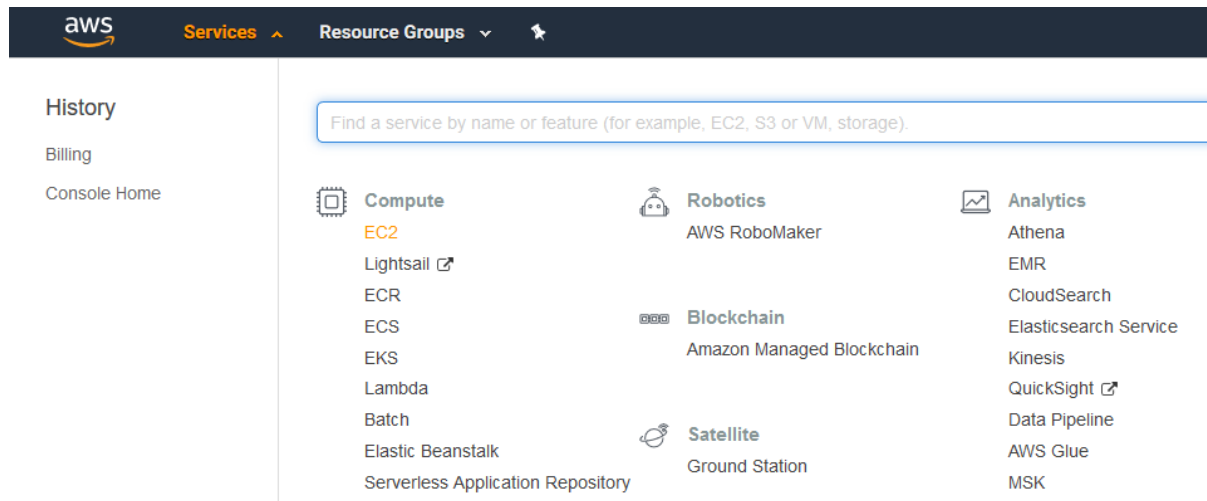
Password

Sign In

[Sign in to a different account](#)

[Forgot your password?](#)

Step 4) Click on Service -> Compute -> EC2



Step 5) Click on “Launch Instance”

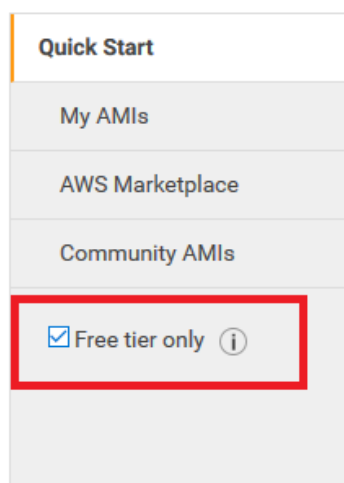
## Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.



Note: Your instances will launch in the Asia Pacific (Mumbai) region




Step 6) selects the check box “Free tier only”



## Step 7) Select “Ubuntu Server 18.04 LTS”

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

Cancel and Exit

 Red Hat Free tier eligible	<b>Red Hat Enterprise Linux 7.5 (HVM), SSD Volume Type</b> - ami-5b673c34 Red Hat Enterprise Linux version 7.5 (HVM), EBS General Purpose (SSD) Volume Type Root device type: ebs    Virtualization type: hvm	<a href="#">Select</a> 64-bit (x86)
 SUSE Linux Free tier eligible	<b>SUSE Linux Enterprise Server 15 (HVM), SSD Volume Type</b> - ami-025d8258d76079367 SUSE Linux Enterprise Server 15 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled. Root device type: ebs    Virtualization type: hvm	<a href="#">Select</a> 64-bit (x86)
 Ubuntu Free tier eligible	<b>Ubuntu Server 18.04 LTS (HVM), SSD Volume Type</b> - ami-007d5db58754fa284 Ubuntu Server 18.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical ( <a href="http://www.ubuntu.com/cloud/services">http://www.ubuntu.com/cloud/services</a> ). Root device type: ebs    Virtualization type: hvm	<a href="#">Select</a> 64-bit (x86)

## Step 8) Select “t2.micro” type machine and click on “Next: Configure Instance details” button.

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	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

## Step 9) Keep the default values as it is and click on “Next: Add Storage”

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 3: Configure Instance Details

Subnet *i* No preference (default subnet in any Availability Zone) [Create new subnet](#)

Auto-assign Public IP *i* Use subnet setting (Enable)

Placement group *i* ☐ Add instance to placement group

Capacity Reservation *i* Open [Create new Capacity Reservation](#)

IAM role *i* None [Create new IAM role](#)

Shutdown behavior *i* Stop

Enable termination protection *i* ☐ Protect against accidental termination

Monitoring *i* ☐ Enable CloudWatch detailed monitoring

## Step 10) Add New Volume and click on “Next: Add Tags”

### 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. [Learn more](#) about storage options in Amazon EC2.

Volume Type <sup>i</sup>	Device <sup>i</sup>	Snapshot <sup>i</sup>	Size (GiB) <sup>i</sup>	Volume Type <sup>i</sup>	IOPS <sup>i</sup>	Throughput (MB/s) <sup>i</sup>	Delete on Termination <sup>i</sup>	Encrypted <sup>i</sup>
Root	/dev/sda1	snap-02fb12e5e1d2255d6	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
EBS	/dev/sdb	Search (case-insensiti	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encryp

Add New Volume

## Step 11) Click on “Add Tag”. Enter “Key” -> Name and “Value” -> Red Hat (You can give any name) and then click on “Review and Launch”

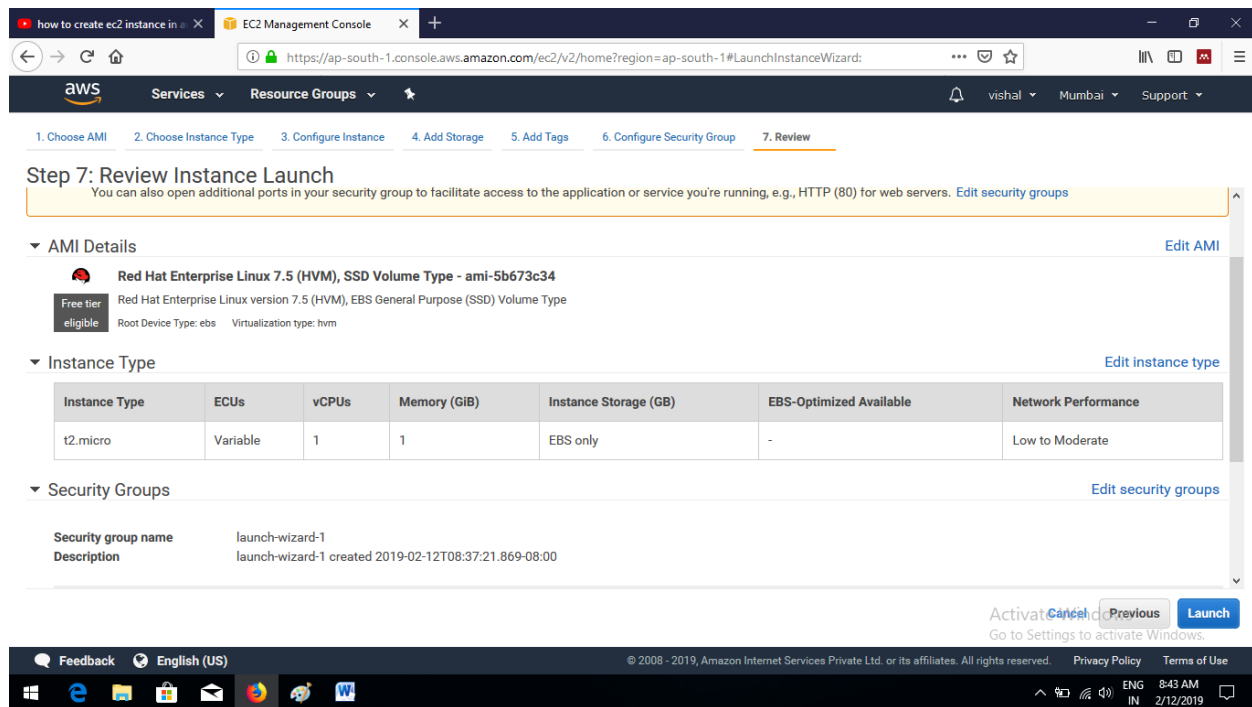
### Step 5: Add Tags

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 <sup>i</sup> (127 characters maximum)	Value <sup>i</sup> (255 characters maximum)	Instances <sup>i</sup>	Volumes <sup>i</sup>
Name	RedHat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add another tag (Up to 50 tags maximum)

## Step 12) Review all parameters and click “Launch”



Step 13) select “Create a new key pair”. Give key pair name as “redhat” (you can give any name). and click on “Download Key pair”

### Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

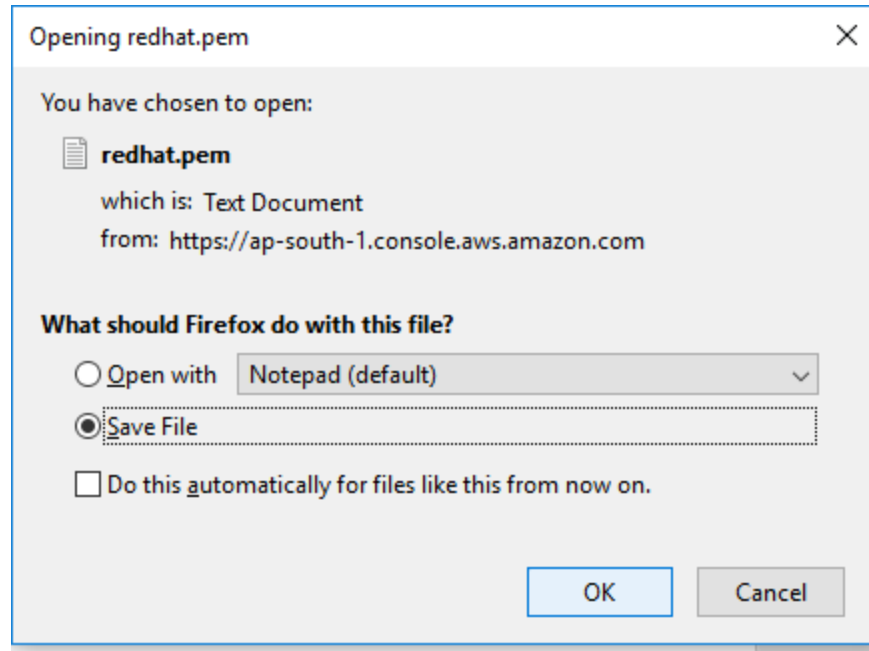
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

**Key pair name**  
redhat

Download Key Pair

You have to download the **private key file** (\*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.



Step 14) review Launch Status

Launch Status

**Your instances are now launching**

The following instance launches have been initiated: [i-061b427ba1b9a95c9](#) [Hide launch log](#)

Creating security groups	Successful (sg-0886c105819185bc1)
Authorizing inbound rules	Successful
Initiating launches	Successful
Launch initiation complete	

Step 15) Click on “View Instance”



Step 16) check the status

Launch Instance

Connect

Actions

Filter by tags and attributes or search by keyword

1 to 1 of 1

<input type="checkbox"/>	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
<input type="checkbox"/>		i-061b427ba1b9a95c9	t2.micro	ap-south-1a	<div><div></div>running</div>	<div><div></div>2/2 checks ...</div>	None	ec2-13-233-229-165.ap...

Step 17) copy the public Ip

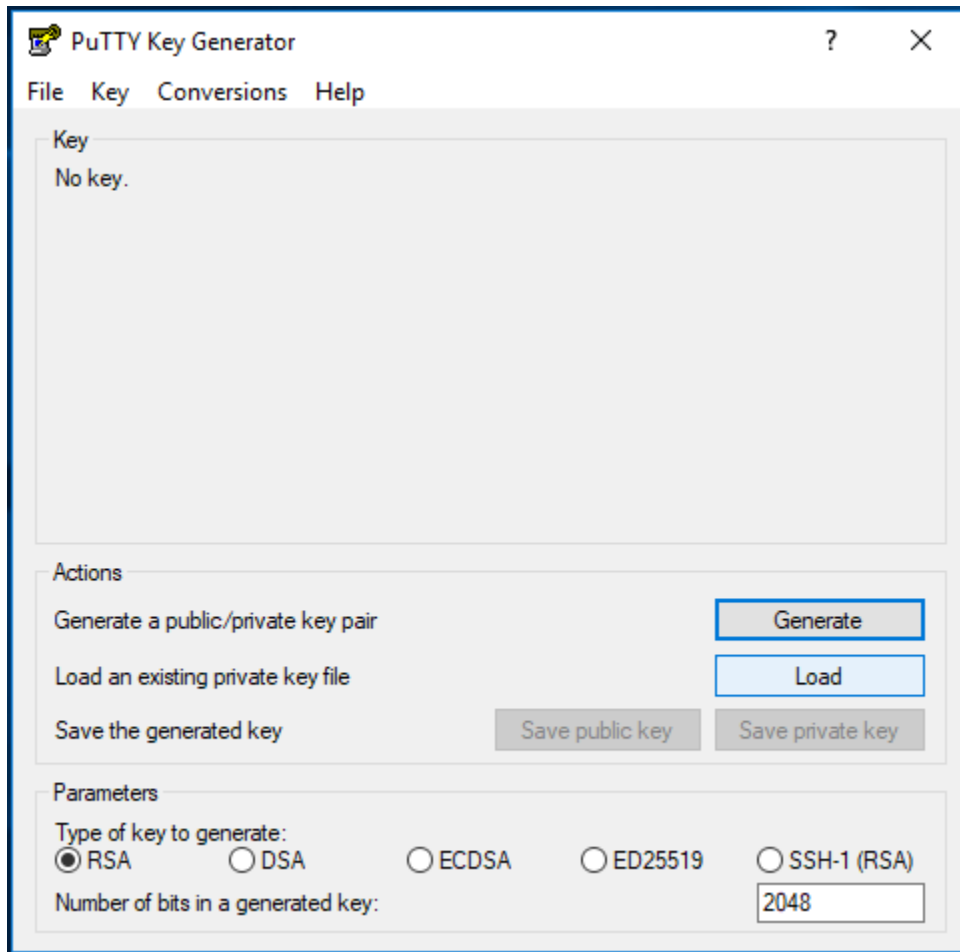
Description		Status Checks	Monitoring	Tags	
Instance ID	i-061b427ba1b9a95c9			Public DNS (IPv4)	ec2-13-233-229-165.ap-south-1.compute.amazonaws.com
Instance state	running			IPv4 Public IP	13.233.229.165
Instance type	t2.micro			IPv6 IPs	-

## How to Connect to Instance

- Putty Software doesn't support the .pem format first convert the .pem form using **"puttygen software"** and save the key with new name.

Steps to convert ".pem" file to ".ppk" using "puttygen software"

- a) Open puttygen software click on “Load” and select the path of your downloaded “.pem” file.

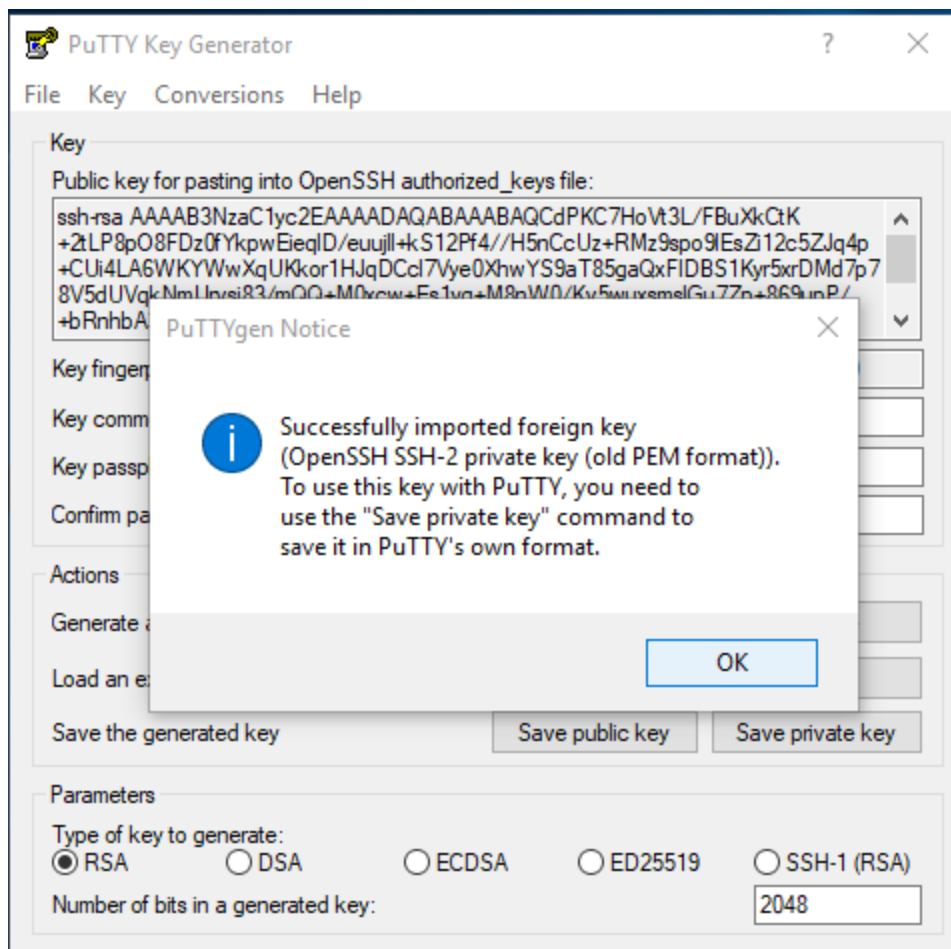


- b) (If the file is not listed, then click on “All Files”)

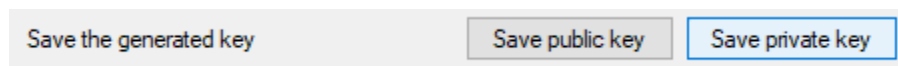


- c) Click “Ok”

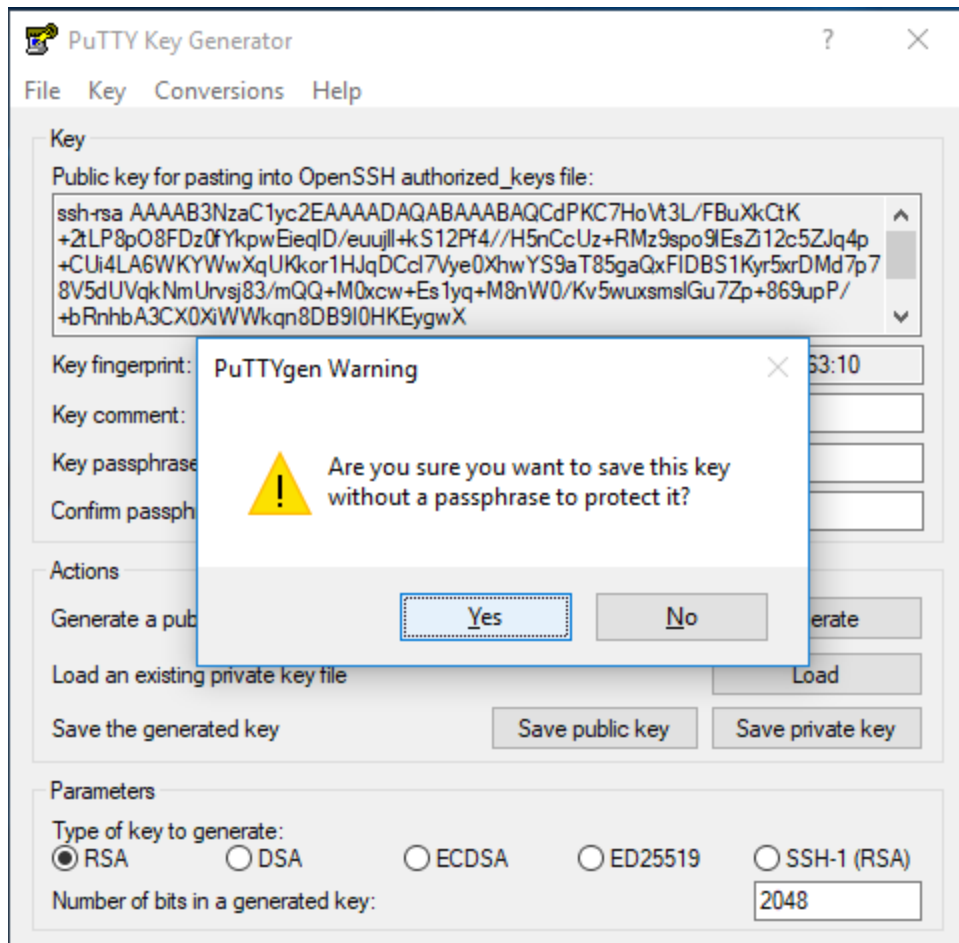




d) Select "Save private key"



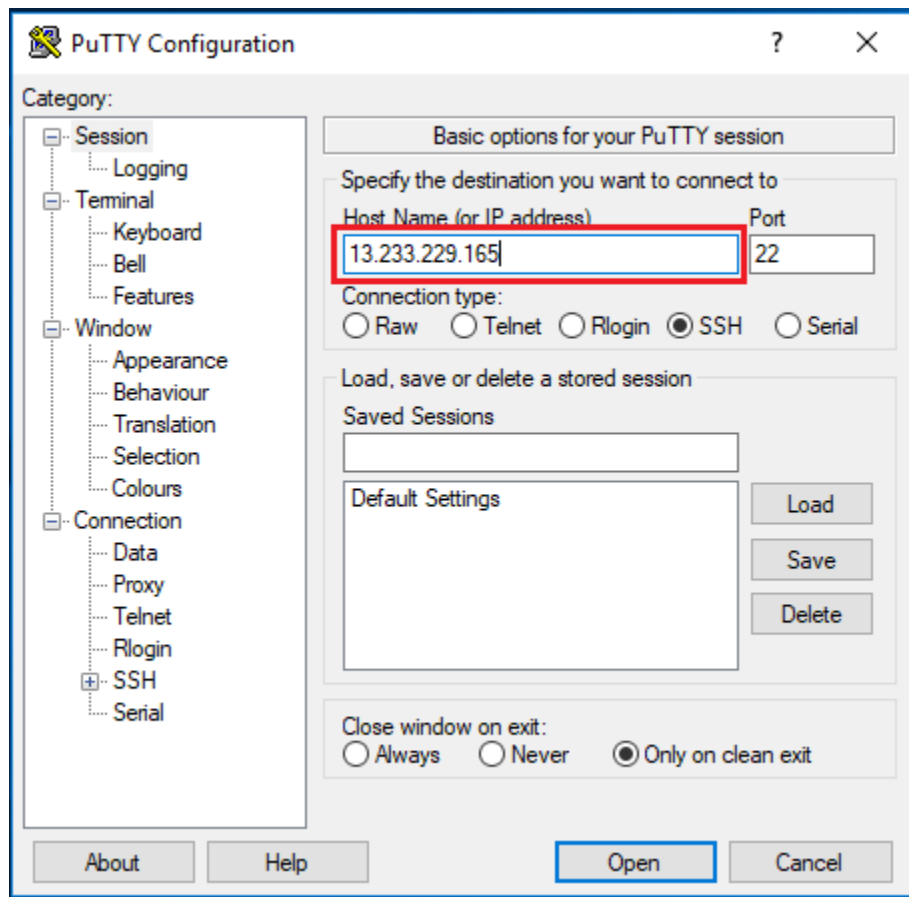
e) Select "Yes"



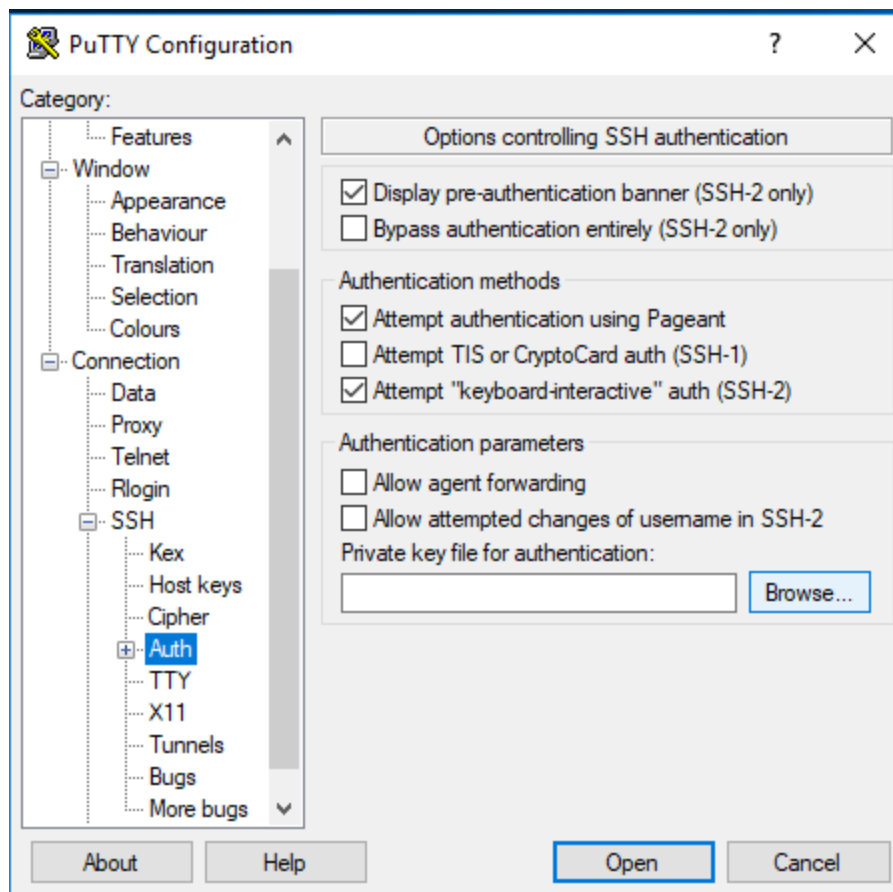
f) Save the key with new name.

***Now start the putty software..***

Step 18) Open Putty software and copy public Ip of redhat machine of aws in Host name.

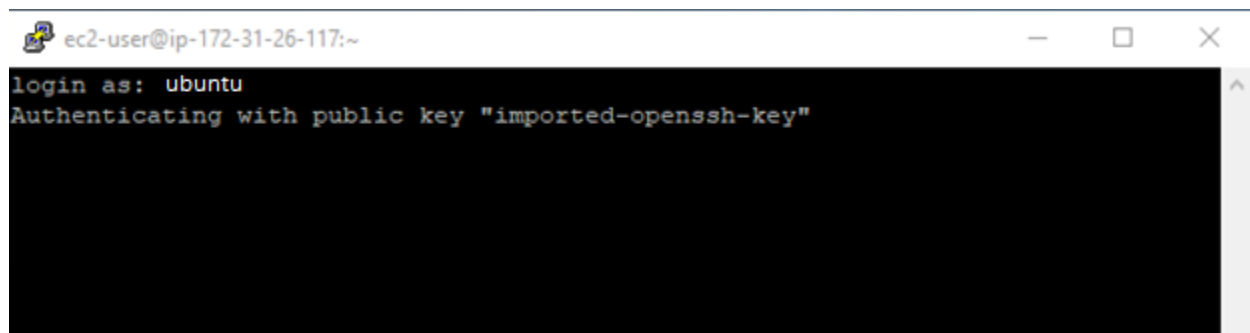


Step 19) Click on SSH -> Auth -> Browse. Give the path of Downloaded key from AWS.



Step 20) it will open a command prompt:

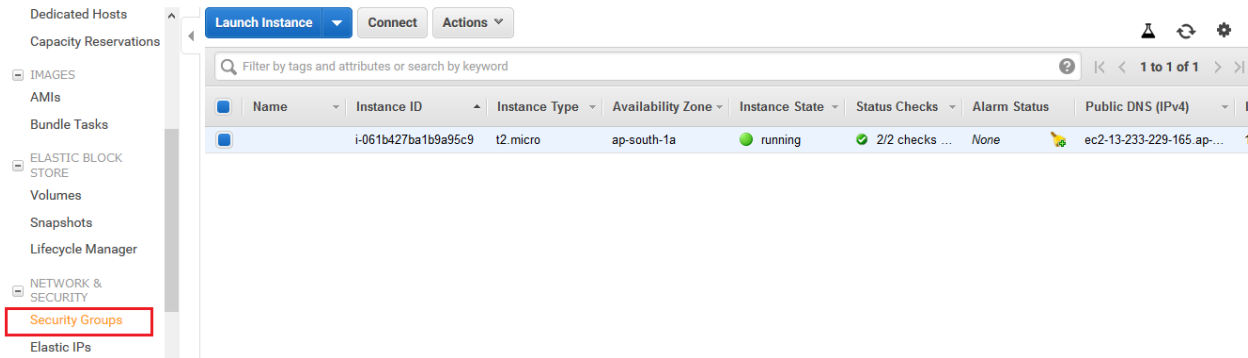
**User Name: Ubuntu**



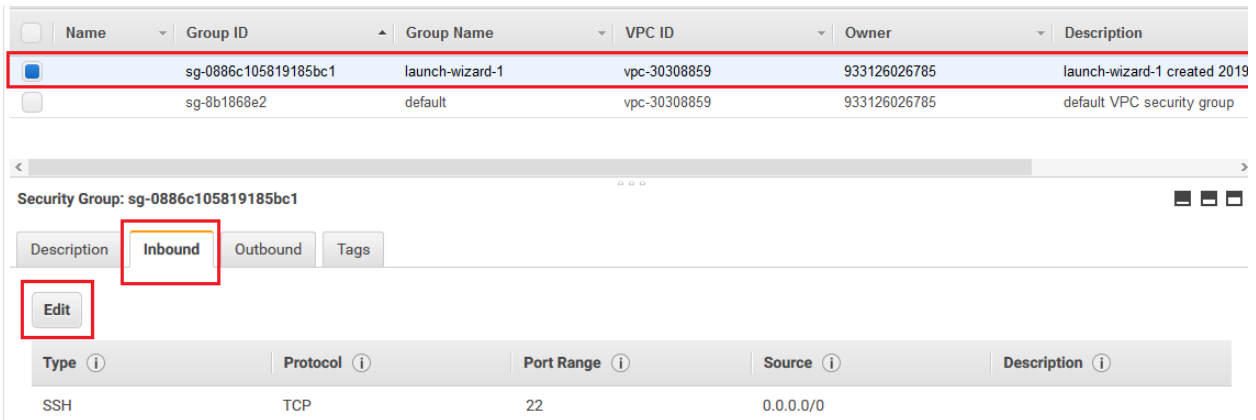
***And Congrats You are in Ubuntu machine running in AWS... 😊***

## How to create a Website on Ubuntu on AWS

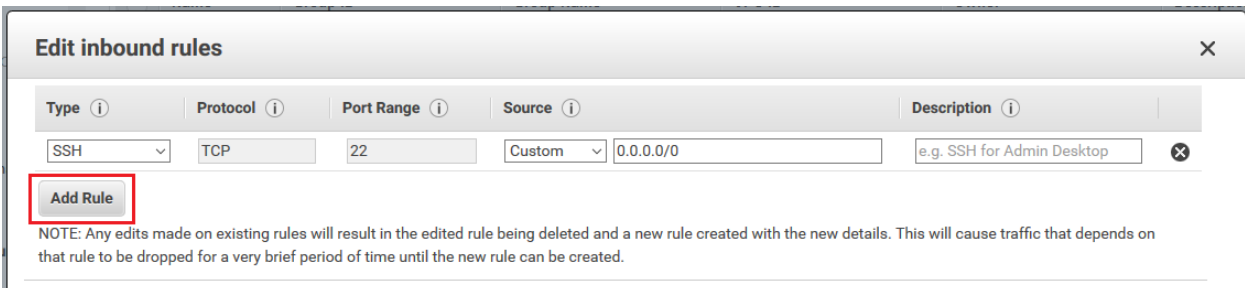
Step 1) your red hat instance is running. Now click on “Security Group”



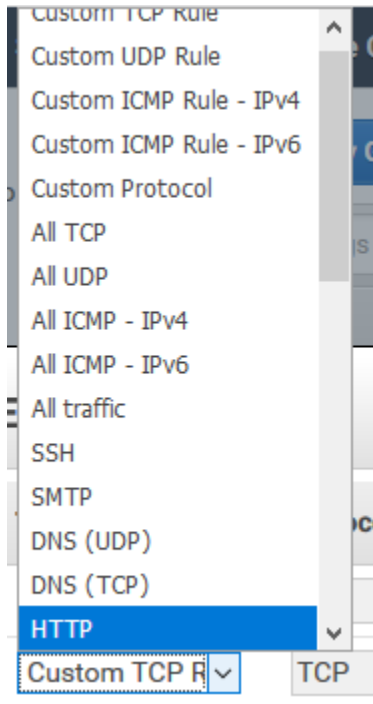
Step 2) select the “launch-wizard-1” security group and click on “Inbound” and then “Edit”



Step 3) click on “Add Rule”



Step 4) Select Type: HTTP



Step 5) select Type: HTTP and Source:0.0.0.0/0. Then click on “Save”

Edit inbound rules

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

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

CancelSave

# LAMP Installation:

## Note:

1. Update repositories:

```
ubuntu@ip-172-31-21-89:~$ sudo apt update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease
Get:2 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Get:5 http://security.ubuntu.com/ubuntu bionic-security/multiverse Sources [2300 B]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu bionic/multiverse Sources [181 kB]
```

2. Install apache2

```
ubuntu@ip-172-31-21-89:~$ sudo apt-get install apache2
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1
  libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.2-0 ssl-cert
Suggested packages:
  www-browser apache2-doc apache2-suexec-pristine | apache2-suexec-custom
  openssl-blacklist
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1
  libaprutil1-dbd-sqlite3 libaprutil1-ldap liblua5.2-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 62 not upgraded.
Need to get 1730 kB of archives.
After this operation, 6985 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

3. Install MySQL Server

```
ubuntu@ip-172-31-21-89:~$ sudo apt-get install mysql-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libaiol libcgi-fast-perl libcgi-pm-perl libencode-locale-perl
  libevent-core-2.1-6 libfcgi-perl libhtml-parser-perl libhtml-tagset-perl
  libhtml-template-perl libhttp-date-perl libhttp-message-perl libio-html-perl
  liblwp-mediatypes-perl libtimedate-perl liburi-perl mysql-client-5.7
  mysql-client-core-5.7 mysql-common mysql-server-5.7 mysql-server-core-5.7
Suggested packages:
  libdata-dump-perl libipc-sharedcache-perl libwww-perl mailx tinyca
```

#### 4. Install PHP

```
ubuntu@ip-172-31-21-89:~$ sudo apt-get install php php-mysql
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php7.2 libsodium23 php-common php7.2 php7.2-cli php7.2-common
  php7.2-json php7.2-mysql php7.2-opcache php7.2-readline
Suggested packages:
  php-pear
```

#### 5.

Change permission of the /var/www/html/ folder.

Create a user in MySQL. Remember the username and password

```
ubuntu@ip-172-31-21-89:~$ sudo chmod 777 -R /var/www/html/
ubuntu@ip-172-31-21-89:~$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.7.25-0ubuntu0.18.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE USER 'user1'@'localhost' IDENTIFIED BY 'password';
Query OK, 0 rows affected (0.00 sec)

mysql> GRANT ALL privileges on *.* to user1@localhost identified by 'password';
Query OK, 0 rows affected, 1 warning (0.00 sec)
```



6. Use the username and password of the user to open MySQL shell.

Create database and create a table in that database.

```
ubuntu@ip-172-31-21-89:~$ mysql -u user1 -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 3
Server version: 5.7.25-0ubuntu0.18.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE DATABASE users_db;
Query OK, 1 row affected (0.00 sec)

mysql> USE users_db;
Database changed
mysql> CREATE TABLE users(name VARCHAR(30));
Query OK, 0 rows affected (0.06 sec)
```

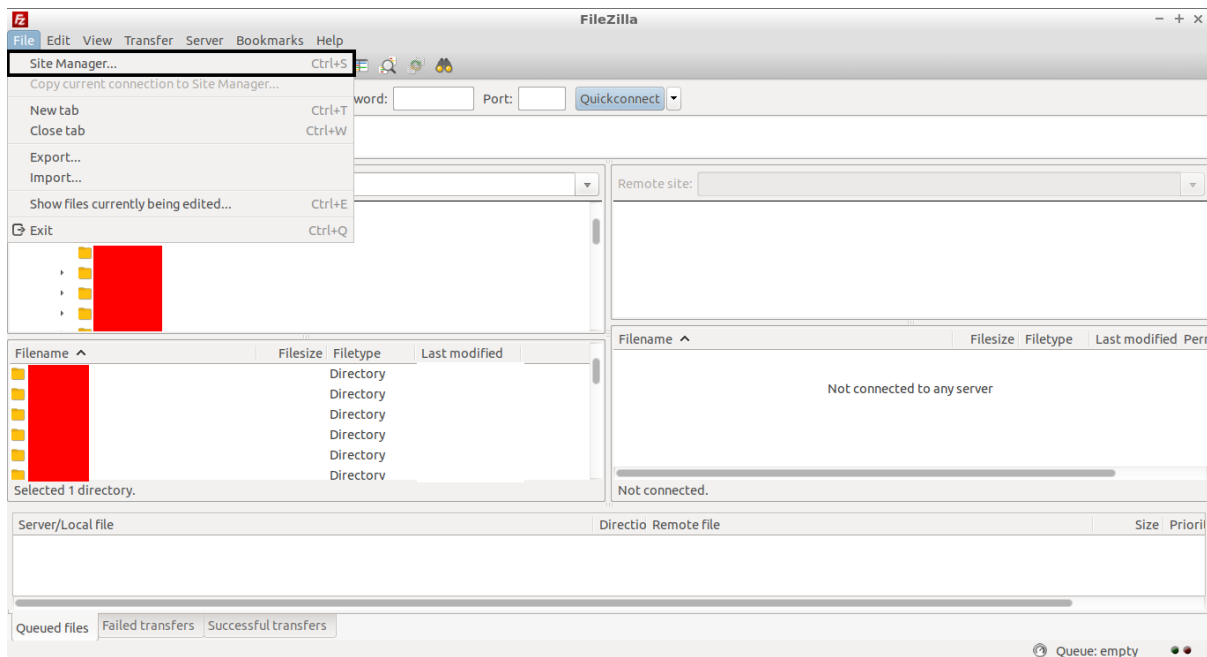
7. SCP(Secure Copy your PHP file(s) to the server). (use this command if your client os is Linux, for windows use Filezilla)

```
ubuntu@ip-172-31-21-89:~$ scp -i ~/MyFiles/.../... .pem /var/www/html/db_demo
.php ubuntu@ec2-35-154-67-52.ap-south-1.compute.amazonaws.com:/var/www/html/db_d
emo.php
db_demo.php                               100% 1493    153.2KB/s   00:00
```

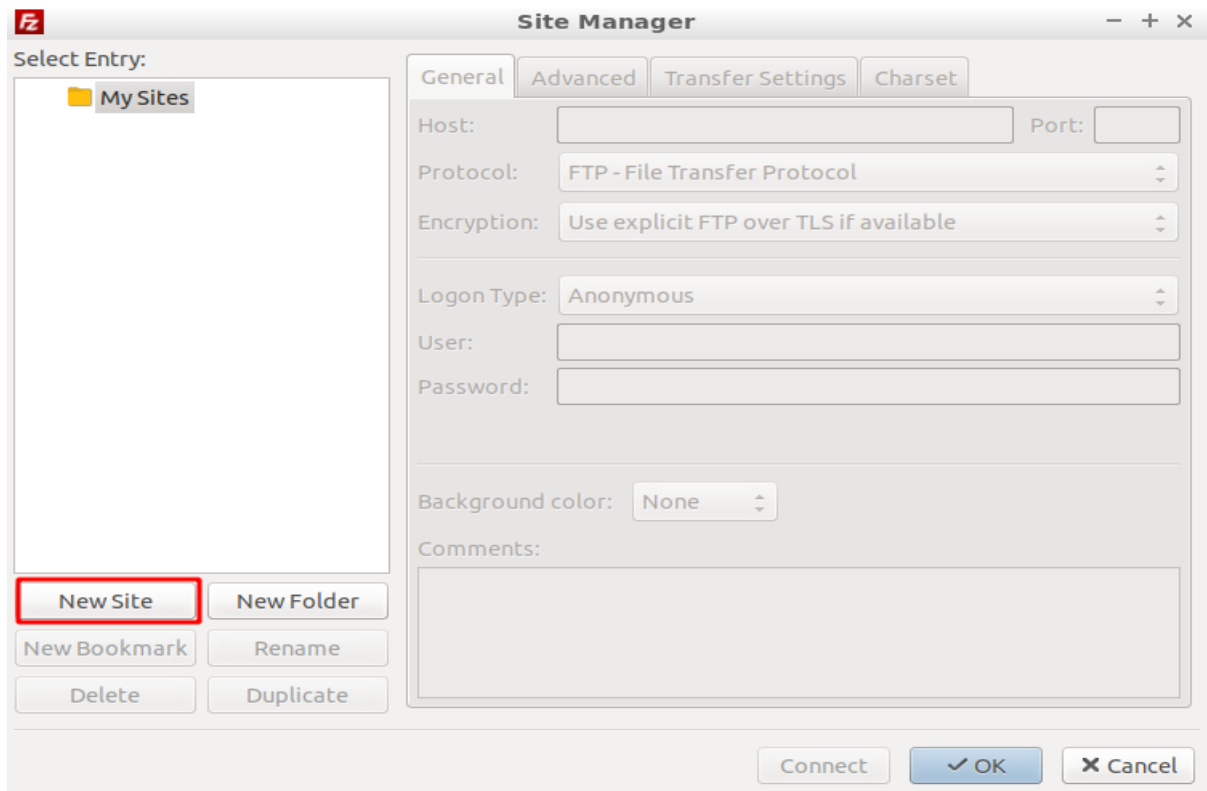
OR

1. Use filezilla to transfer files.

Go to File -> Site Manager



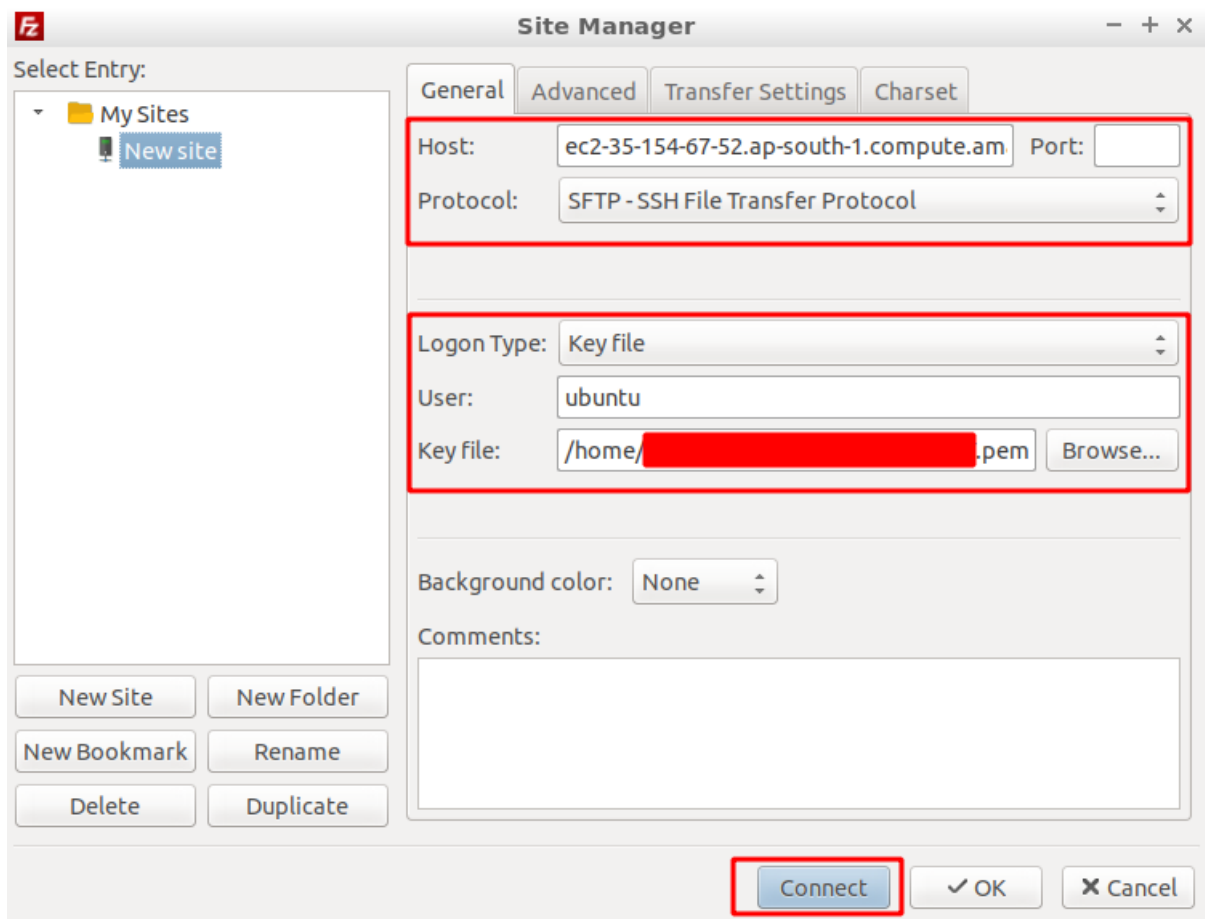
2. Click on “New Site”



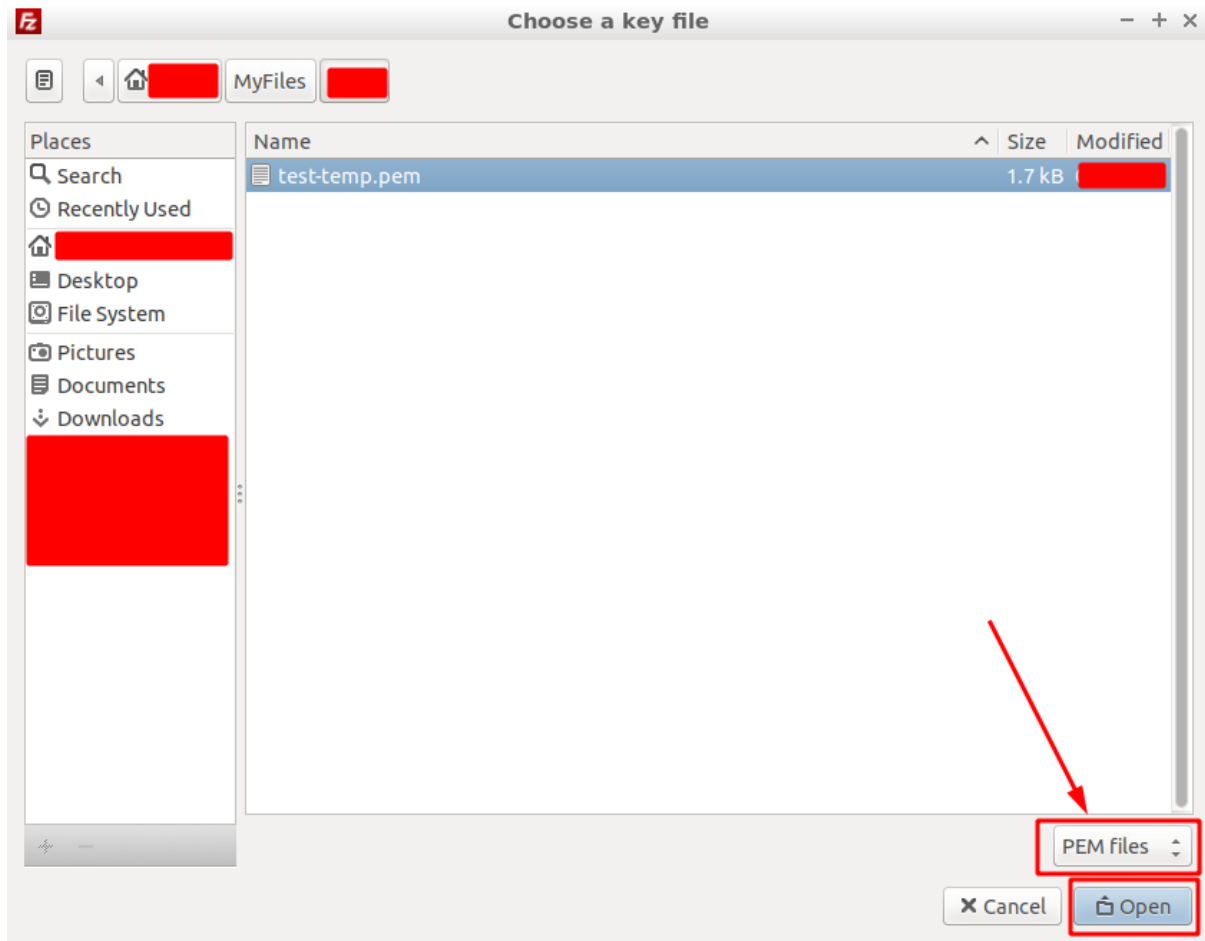
3. Use public DNS for hostname. Change protocol to “SFTP”. Leave port default(22).

Change Logon Type to “Key File”. User as “ubuntu”(if you are using AWS ubuntu 18.04/16.04)

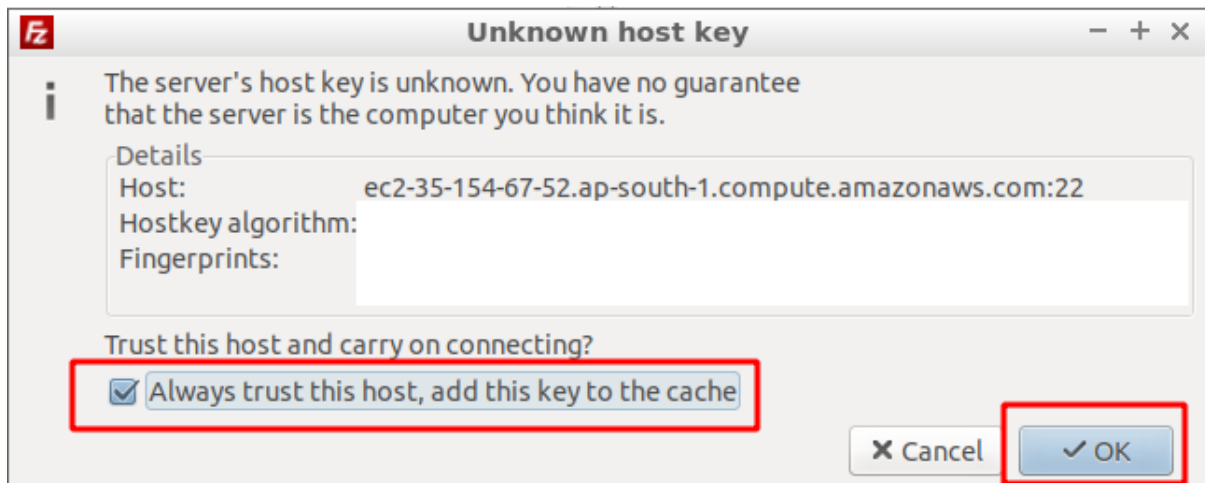
Select keyfile from you directory.



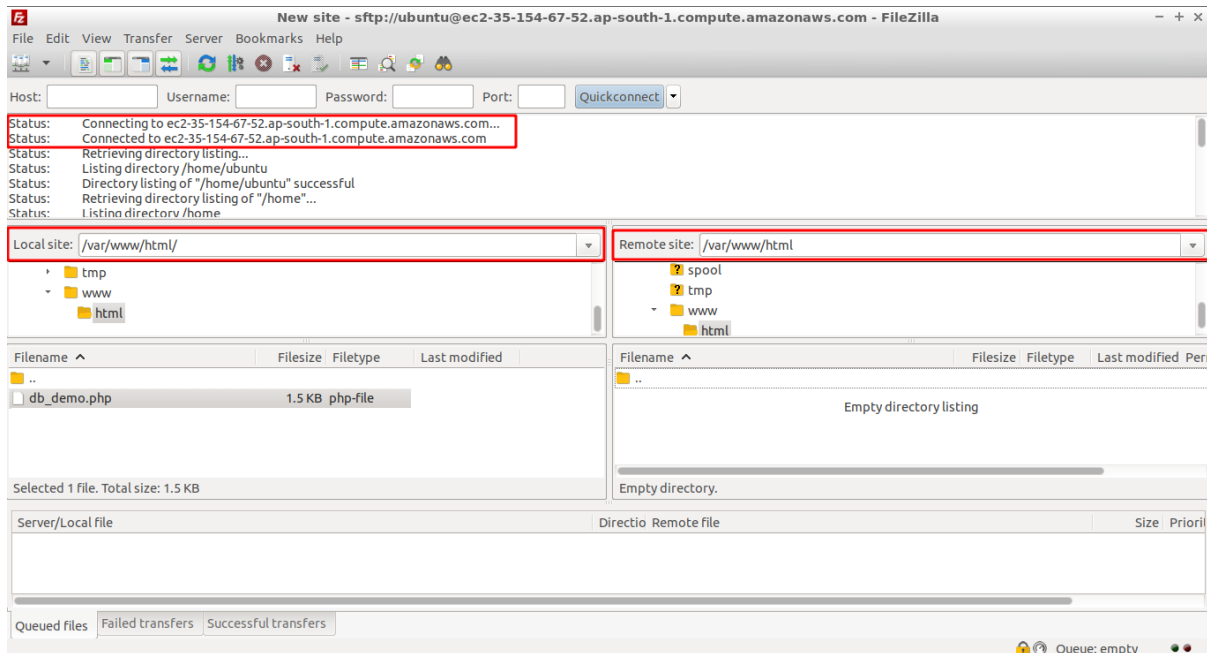
4. **NOTE:** You may not find the pem file listed in the directory. In which case change the filters in your file explorer as follows.



5. Trust the host. Click OK.

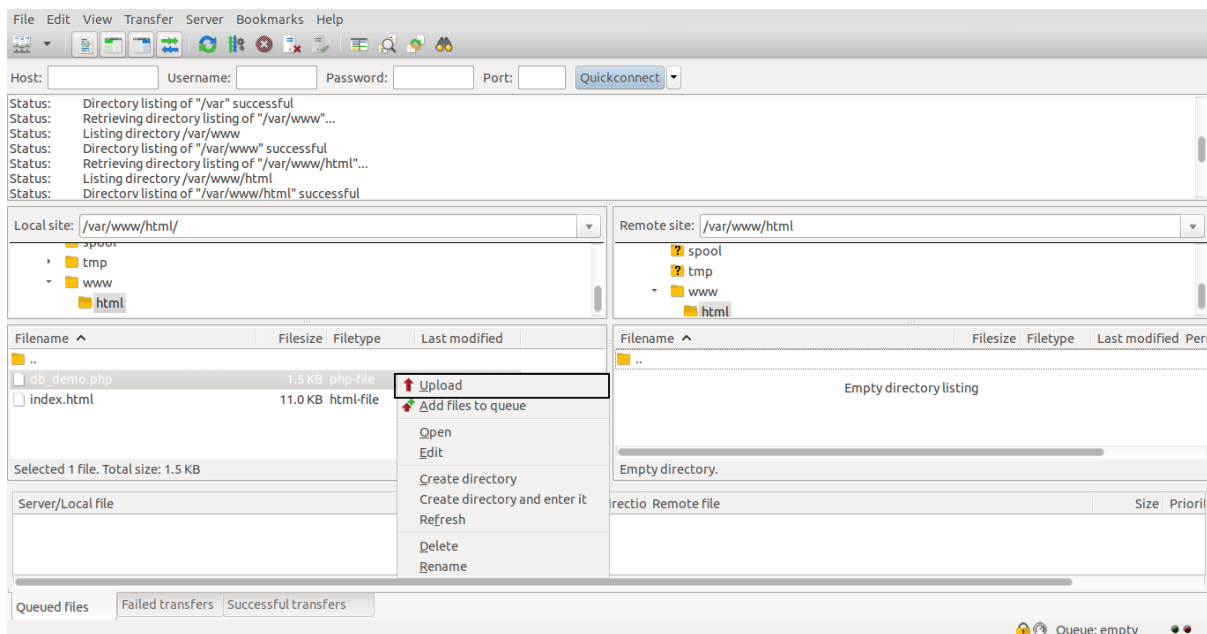


6. FileZilla will connect to your server. Go to your local PHP script (at /var/www/html/) and navigate to same location on the RHS(server file listings).



7. Select the script(s) which you want to upload. Right Click on the script and click upload.

The files will be uploaded to remote site(The directory on RHS).



8. Go to your browser and go to Public DNS/public IP of the EC2 instance.

Make sure your security group allows HTTP(Port 80) traffic.

**CONGRATS!!!!**

**For successfully deploying mini project on AWS  
EC2 Ubuntu Instance.**

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