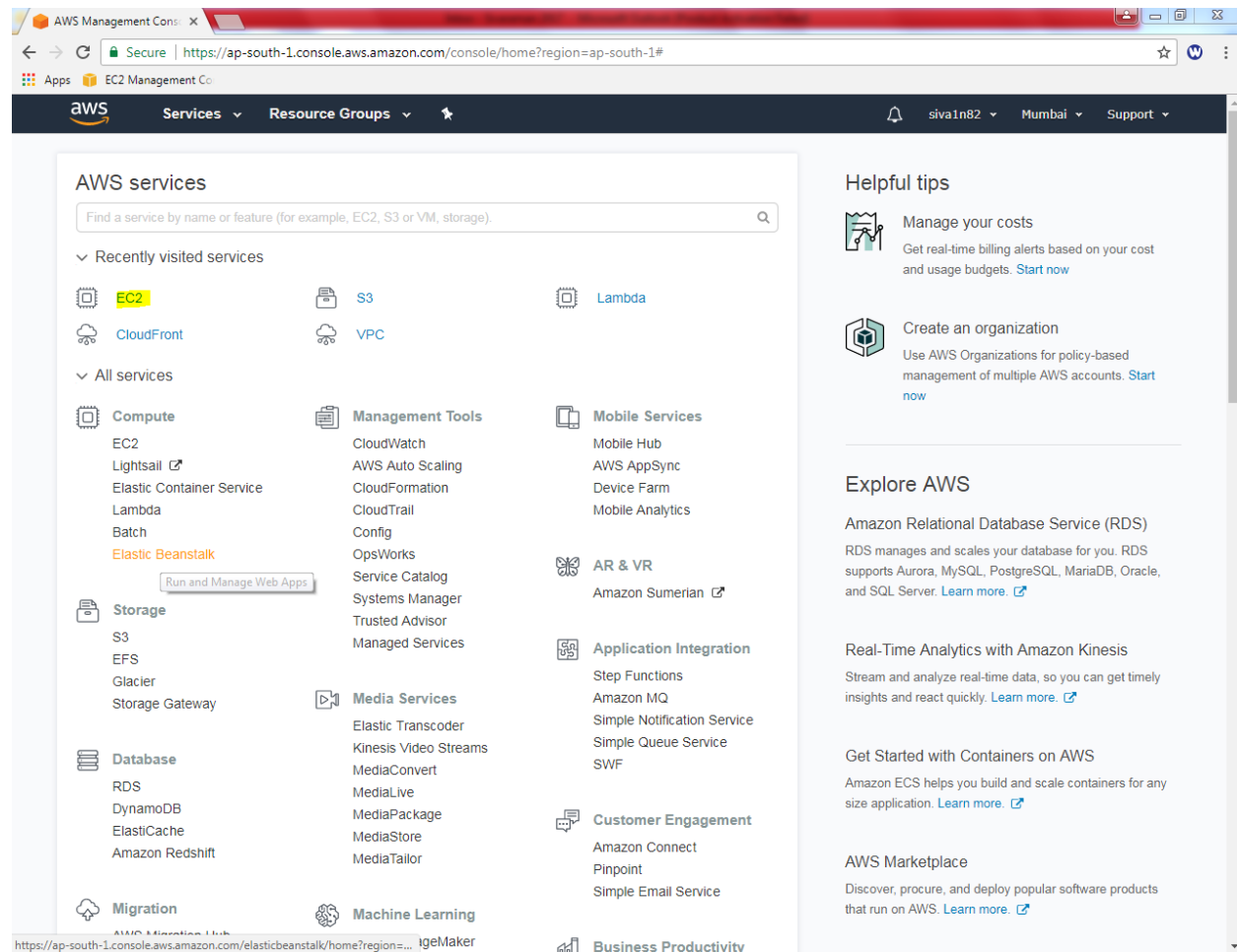


Lab3

Configuring Apache Web server in Linux instance – for Beginners

While logged in to AWS management console, Kindly click “EC2” service.



Click “Launch Instance”.

The screenshot displays the AWS Management Console for the EC2 service in the Asia Pacific (Mumbai) region. The left-hand navigation pane lists various EC2-related services, including INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, LOAD BALANCING, and AUTO SCALING. The main content area is titled 'Resources' and shows a summary of EC2 resources: 0 Running Instances, 0 Elastic IPs, 0 Dedicated Hosts, 0 Snapshots, 0 Volumes, 0 Load Balancers, 9 Key Pairs, 3 Security Groups, and 0 Placement Groups. A prominent blue banner promotes EC2 Spot instances, offering up to 90% off on-demand prices. Below this, the 'Create Instance' section is visible, with the 'Launch Instance' button highlighted in a yellow box. The 'Service Health' section indicates that the Asia Pacific (Mumbai) service is operating normally. The 'Scheduled Events' section shows no events. The right-hand pane displays 'Account Attributes' and 'Additional Information' links.

EC2 Management Console

Secure | <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#>

Apps EC2 Management Co

aws Services Resource Groups

siva1n82 Mumbai Support

EC2 Dashboard

- Events
- Tags
- Reports
- Limits
- INSTANCES**
 - Instances
 - Launch Templates
 - Spot Requests
 - Reserved Instances
 - Dedicated Hosts
- IMAGES**
 - AMIs
 - Bundle Tasks
- ELASTIC BLOCK STORE**
 - Volumes
 - Snapshots
- 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

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Mumbai) region:

- 0 Running Instances
- 0 Elastic IPs
- 0 Dedicated Hosts
- 0 Snapshots
- 0 Volumes
- 0 Load Balancers
- 9 Key Pairs
- 3 Security Groups
- 0 Placement Groups

EC2 Spot. Save up to 90% off On-Demand Prices. Turbo Boost your Workloads. [Get started with Amazon EC2 Spot Instances.](#)

Create Instance

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

Launch Instance

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

Service Health

Service Status:

- Asia Pacific (Mumbai): This service is operating normally

Availability Zone Status:

- ap-south-1a: Availability zone is operating normally
- ap-south-1b: Availability zone is operating normally

[Service Health Dashboard](#)

Scheduled Events

Asia Pacific (Mumbai):

No events

Account Attributes

Supported Platforms

VPC

Default VPC

vpc-a655a2ce

[Resource ID length management](#)

Additional Information

- [Getting Started Guide](#)
- [Documentation](#)
- [All EC2 Resources](#)
- [Forums](#)
- [Pricing](#)
- [Contact Us](#)

AWS Marketplace

Find free software trial products in the AWS Marketplace from the [EC2 Launch Wizard](#). Or try these popular AMIs:

[Barracuda NextGen Firewall F-Series - PAYG](#)

Provided by Barracuda Networks, Inc.

Rating ★★★★★

Starting from \$0.60/hr or from \$4,599/yr (12% savings) for software + AWS usage fees

[View all Software Infrastructure](#)

[Splunk Insights for AWS Cloud Monitoring](#)

Provided by Splunk Inc.

Rating ★★★★★

Feedback English (US)

© 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

Select “Amazon Linux”.

The screenshot shows the AWS Management Console interface for the 'Choose AMI' step of the EC2 instance launch wizard. The browser address bar shows the URL: <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard:>. The console header includes the AWS logo, navigation tabs (Services, Resource Groups), and user information (siva1n82, Mumbai, Support).

The wizard progress bar shows seven steps: 1. Choose AMI (active), 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, 5. Add Tags, 6. Configure Security Group, and 7. Review.

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.

Quick Start

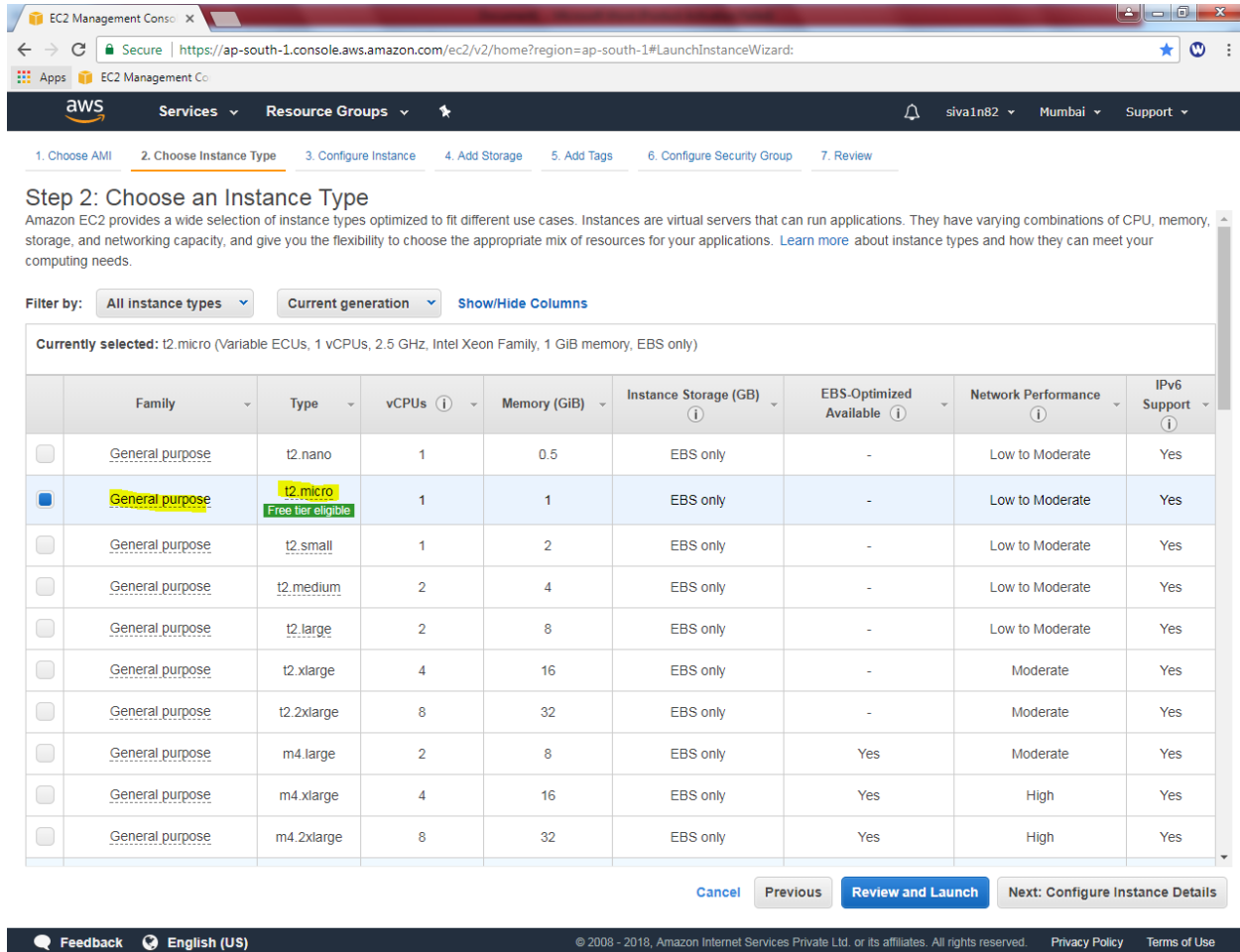
- My AMIs
- AWS Marketplace
- Community AMIs
- ☐ Free tier only ⓘ

1 to 35 of 35 AMIs

Logo	AMI Name	AMI ID	Architecture	Action
	Amazon Linux AMI 2017.09.1 (HVM), SSD Volume Type	ami-531a4c3c	64-bit	Select
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				
	Amazon Linux 2 LTS Candidate AMI 2017.12.0 (HVM), SSD Volume Type	ami-3b2f7954	64-bit	Select
Amazon Linux 2 is the next generation of Amazon Linux. It includes the latest LTS kernel (4.9) tuned for enhanced performance on Amazon EC2, systemd support, newer versions of glibc, gcc and binutils, and an additional set of core packages for performance and security improvements. Root device type: ebs Virtualization type: hvm				
	SUSE Linux Enterprise Server 12 SP3 (HVM), SSD Volume Type	ami-f7267298	64-bit	Select
SUSE Linux Enterprise Server 12 Service Pack 3 (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				
	Red Hat Enterprise Linux 7.4 (HVM), SSD Volume Type	ami-e60e5a89	64-bit	Select
Red Hat Enterprise Linux version 7.4 (HVM), EBS General Purpose (SSD) Volume Type Root device type: ebs Virtualization type: hvm				
	Ubuntu Server 16.04 LTS (HVM), SSD Volume Type	ami-5d055232	64-bit	Select
Ubuntu Server 16.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services). Free tier eligible				

Feedback English (US) © 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Ensure that “General Purpose – t2 micro” is selected.



The screenshot shows the AWS Management Console interface for the EC2 Launch Wizard. The breadcrumb navigation at the top indicates the current step is '2. Choose Instance Type'. Below the navigation bar, a summary of the current selection is shown: 'Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)'. A table lists various instance types, with 't2.micro' highlighted in blue and marked as 'Free tier eligible'. The table columns include Family, Type, vCPUs, Memory (GiB), Instance Storage (GB), EBS-Optimized Available, Network Performance, and IPv6 Support. At the bottom of the table, there are buttons for 'Cancel', 'Previous', 'Review and Launch', and 'Next: Configure Instance Details'.

	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
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes
<input type="checkbox"/>	General purpose	t2.2xlarge	8	32	EBS only	-	Moderate	Yes
<input type="checkbox"/>	General purpose	m4.large	2	8	EBS only	Yes	Moderate	Yes
<input type="checkbox"/>	General purpose	m4.xlarge	4	16	EBS only	Yes	High	Yes
<input type="checkbox"/>	General purpose	m4.2xlarge	8	32	EBS only	Yes	High	Yes

Buttons at the bottom: Cancel, Previous, Review and Launch, Next: Configure Instance Details

Click “Next”.

Leave default settings and click “Next”.

EC2 Management Console

Secure | <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>

Apps EC2 Management Co

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

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.

Number of instances ⓘ 1 [Launch into Auto Scaling Group](#) ⓘ

Purchasing option ⓘ ☐ Request Spot Instances

Network ⓘ vpc-a655a2ce (default) [Create new VPC](#)

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

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

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

Shutdown behavior ⓘ Stop

Enable termination protection ⓘ ☐ Protect against accidental termination

Monitoring ⓘ ☐ Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy ⓘ Shared - Run a shared hardware instance
Additional charges will apply for dedicated tenancy.

T2 Unlimited ⓘ ☐ Enable
Additional charges may apply

► Advanced Details

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

Feedback English (US) © 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

Leave default settings and click “Next”.

The screenshot shows the AWS Management Console interface for the 'Launch Instance Wizard'. The browser address bar shows the URL: <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>. The navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information 'siva1n82' in 'Mumbai'. The wizard progress bar shows seven steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage (active), 5. Add Tags, 6. Configure Security Group, and 7. Review.

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 ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encrypted ⓘ
Root	/dev/xvda	snap-0fbaf6369a5a7ca56	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 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

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

Footer: [Feedback](#) [English \(US\)](#) © 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

In Add tags, Key as “Name” and value as “Linux Instance”.

The screenshot shows the AWS Management Console interface for the EC2 Launch Wizard. The browser address bar displays the URL: `https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard:`. The console header includes the AWS logo, navigation tabs for Services, Resource Groups, and a user profile section with the name 'siva1n82' and location 'Mumbai'. Below the header, a progress bar indicates the current step is '5. Add Tags', with other steps being '1. Choose AMI', '2. Choose Instance Type', '3. Configure Instance', '4. Add Storage', '6. Configure Security Group', and '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 (127 characters maximum)	Value (255 characters maximum)	Instances ⁱ	Volumes ⁱ
Name	Linux Instance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(Up to 50 tags maximum)

At the bottom of the wizard, there are four buttons: 'Cancel' (blue), 'Previous' (grey), 'Review and Launch' (blue), and 'Next: Configure Security Group' (grey).

The footer of the console contains a 'Feedback' link, the language 'English (US)', and copyright information: '© 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.' It also includes links for 'Privacy Policy' and 'Terms of Use'.

Click “Next”.

While configuring security group, create a new security group for Linux Instance.

Type security group name as Linux-Sec-Group

Description as Linux-Sec-Group

EC2 Management Console

Secure | <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>

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 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

Add Rule

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Previous **Review and Launch**

Feedback English (US) © 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Click “Review and Launch”.

Leave default settings and click “Launch”.

EC2 Management Console

Secure | <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>

Apps EC2 Management Console

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 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.

⚠ Improve your instances' security. Your security group, Linux-Sec-group, is open to the world.

Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

▼ AMI Details [Edit AMI](#)

Free tier eligible **Amazon Linux AMI 2017.09.1 (HVM), SSD Volume Type - ami-531a4c3c**

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

▼ Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

▼ Security Groups [Edit security groups](#)

Security group name: Linux-Sec-group

Description: Linux-Sec-group

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	

► Instance Details [Edit instance details](#)

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

Feedback English (US) © 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use

While click “launch” it ask to select an existing key pair or create a new key pair option.

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](#).

Choose an existing key pair

Select a key pair

Eveningaws

☒ I acknowledge that I have access to the selected private key file (Eveningaws.pem), and that without this file, I won't be able to log into my instance.

Cancel

Launch Instances

Select the choose an existing key pair if you have already downloaded *.pem file. Otherwise click create a new key pair. We have already key with us, hence I have selected choose an existing key pair option. And select the “Eveningaws” key from drop down box. Then click “I acknowledge”.

Click “launch instance”.

Now you have created an instance and launched successfully. Click the highlighted area or view instance to view the Linux instance.

The screenshot shows the AWS Management Console interface for the EC2 service. The browser address bar displays the URL: <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>. The console header includes the AWS logo, navigation tabs for Services and Resource Groups, and user information for 'siva1n82' in the 'Mumbai' region. The main content area is titled 'Launch Status' and features two informational boxes. The first box, with a green checkmark, states 'Your instances are now launching' and provides a link to 'View launch log' for instance ID 'i-0e37e8250cf4cc521'. The second box, with an information icon, encourages users to 'Get notified of estimated charges' by creating billing alerts. Below these boxes, a section titled 'How to connect to your instances' explains that instances will be in a 'running' state and provides instructions on how to monitor and connect to them. A dropdown menu titled 'Here are some helpful resources to get you started' lists links to Linux instance connection guides, AWS Free Usage Tier information, the Amazon EC2 User Guide, and the Amazon EC2 Discussion Forum. Further down, a section titled 'While your instances are launching you can also' lists tasks such as creating status check alarms, attaching EBS volumes, and managing security groups. A blue 'View Instances' button is located at the bottom right of the main content area. The footer contains a feedback link, language selection (English (US)), and copyright information for Amazon Internet Services Private Ltd.

EC2 Management Console

Secure | <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard>

Apps EC2 Management Console

aws Services Resource Groups

siva1n82 Mumbai Support

Launch Status

✓ **Your instances are now launching**

The following instance launches have been initiated: [i-0e37e8250cf4cc521](#) [View launch log](#)

i **Get notified of estimated charges**

Create [billing alerts](#) to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ **Here are some helpful resources to get you started**

- [How to connect to your Linux instance](#)
- [Amazon EC2: User Guide](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

- [Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)
- [Create and attach additional EBS volumes](#) (Additional charges may apply)
- [Manage security groups](#)

[View Instances](#)

Feedback English (US)

© 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

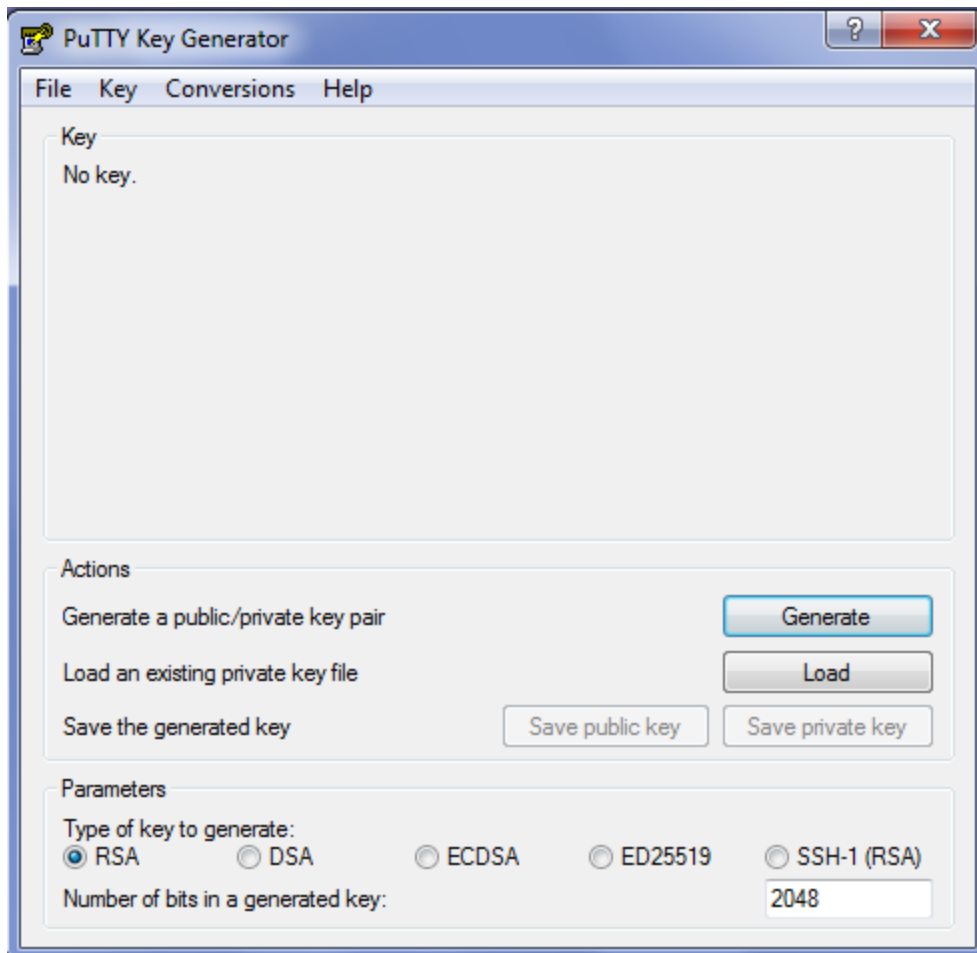
Please wait up to the status checks becomes 2/2 checks.

The screenshot displays the AWS Management Console interface for an EC2 instance. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information. The left sidebar lists various AWS services, with 'INSTANCES' and 'Instances' highlighted. The main content area shows a list of instances with columns for Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, and Public DNS (IPv4). A single instance is listed: 'Linux Instance' with ID 'i-0e37e8250cf4cc521', type 't2.micro', in 'ap-south-1b' availability zone, and state 'running'. The 'Status Checks' column shows '2/2 checks' with a green checkmark. Below the list, the instance details for 'i-0e37e8250cf4cc521 (Linux Instance)' are shown, including its Public DNS: 'ec2-52-66-5-35.ap-south-1.compute.amazonaws.com'. The details are organized into tabs: Description, Status Checks, Monitoring, and Tags. The 'Description' tab is active, showing instance metadata.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Linux Instance	i-0e37e8250cf4cc521	t2.micro	ap-south-1b	running	2/2 checks	None	ec2-52-66-5-35.ap-

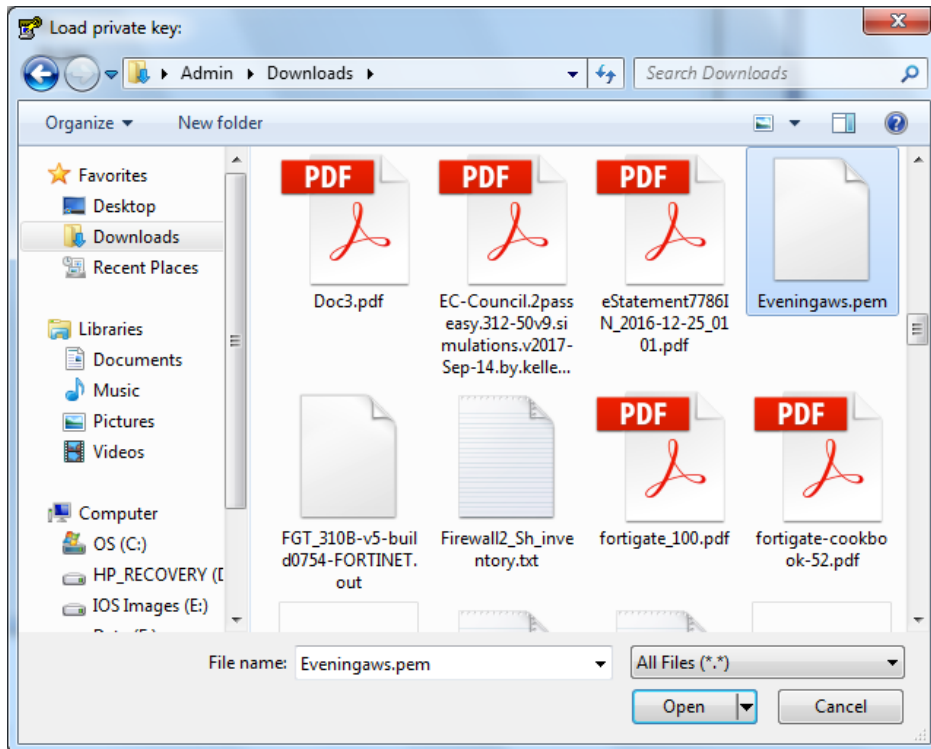
Instance: i-0e37e8250cf4cc521 (Linux Instance)		Public DNS: ec2-52-66-5-35.ap-south-1.compute.amazonaws.com	
Instance ID	i-0e37e8250cf4cc521	Public DNS (IPv4)	ec2-52-66-5-35.ap-south-1.compute.amazonaws.com
Instance state	running	IPv4 Public IP	52.66.5.35
Instance type	t2.micro	IPv6 IPs	-
Elastic IPs		Private DNS	ip-172-31-13-237.ap-south-1.compute.internal
Availability zone	ap-south-1b	Private IPs	172.31.13.237

Install putty application in your machine

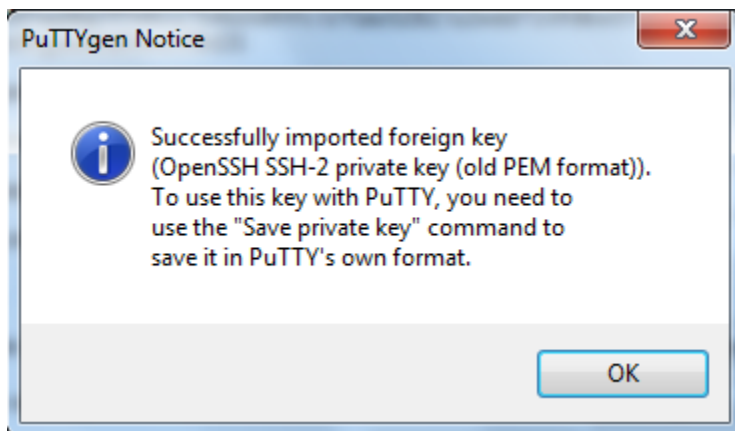


Click File → Load private key

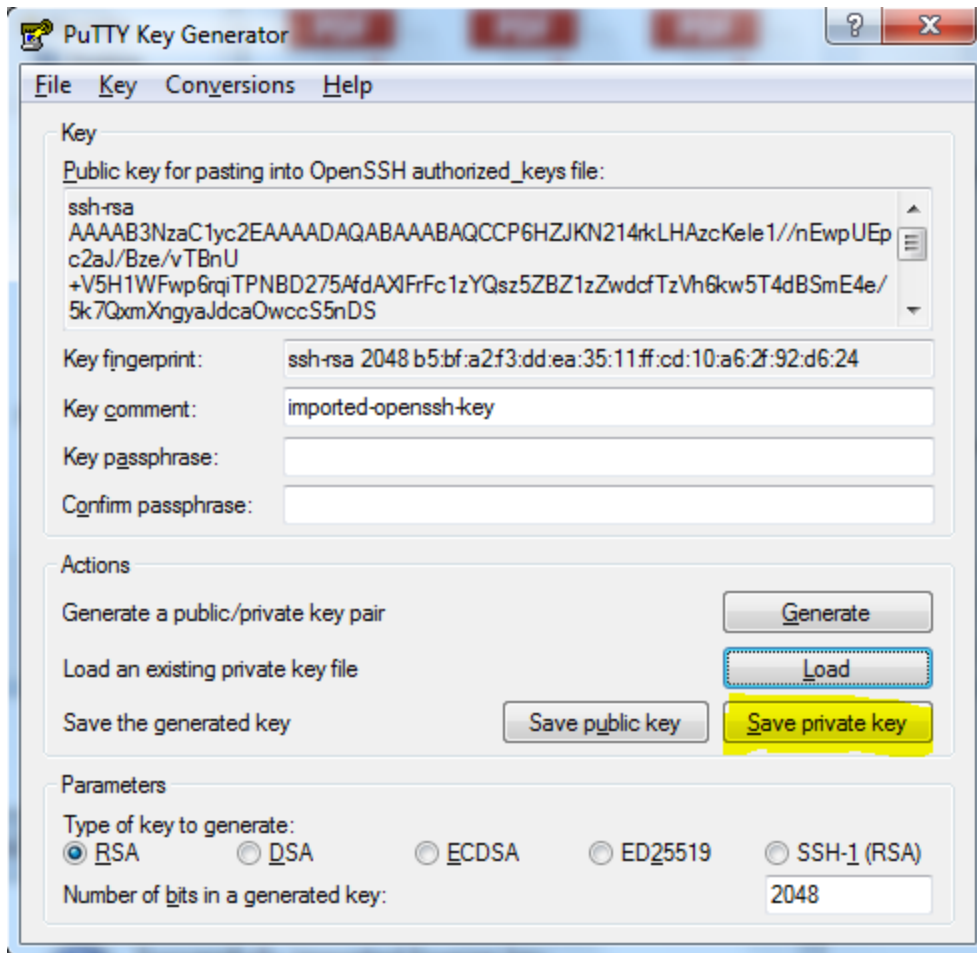
Select the private key file and then click "Open".



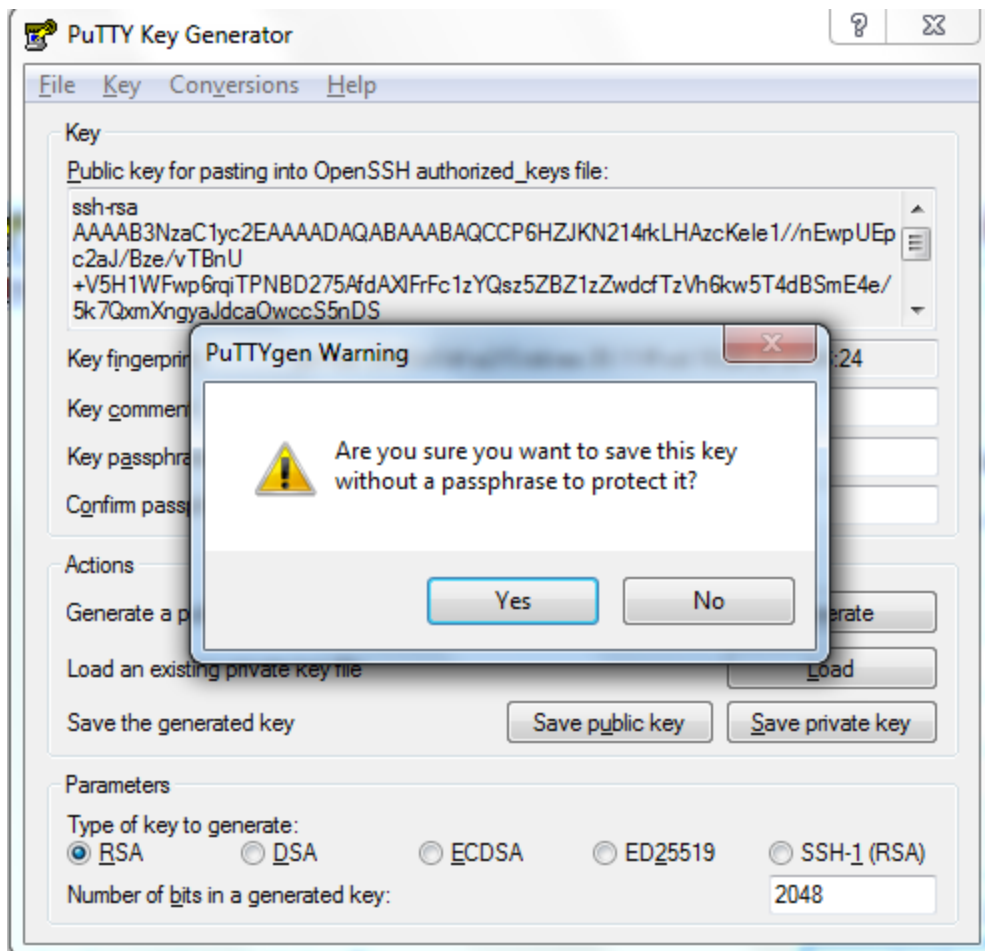
Getting notice that successfully imported the key.



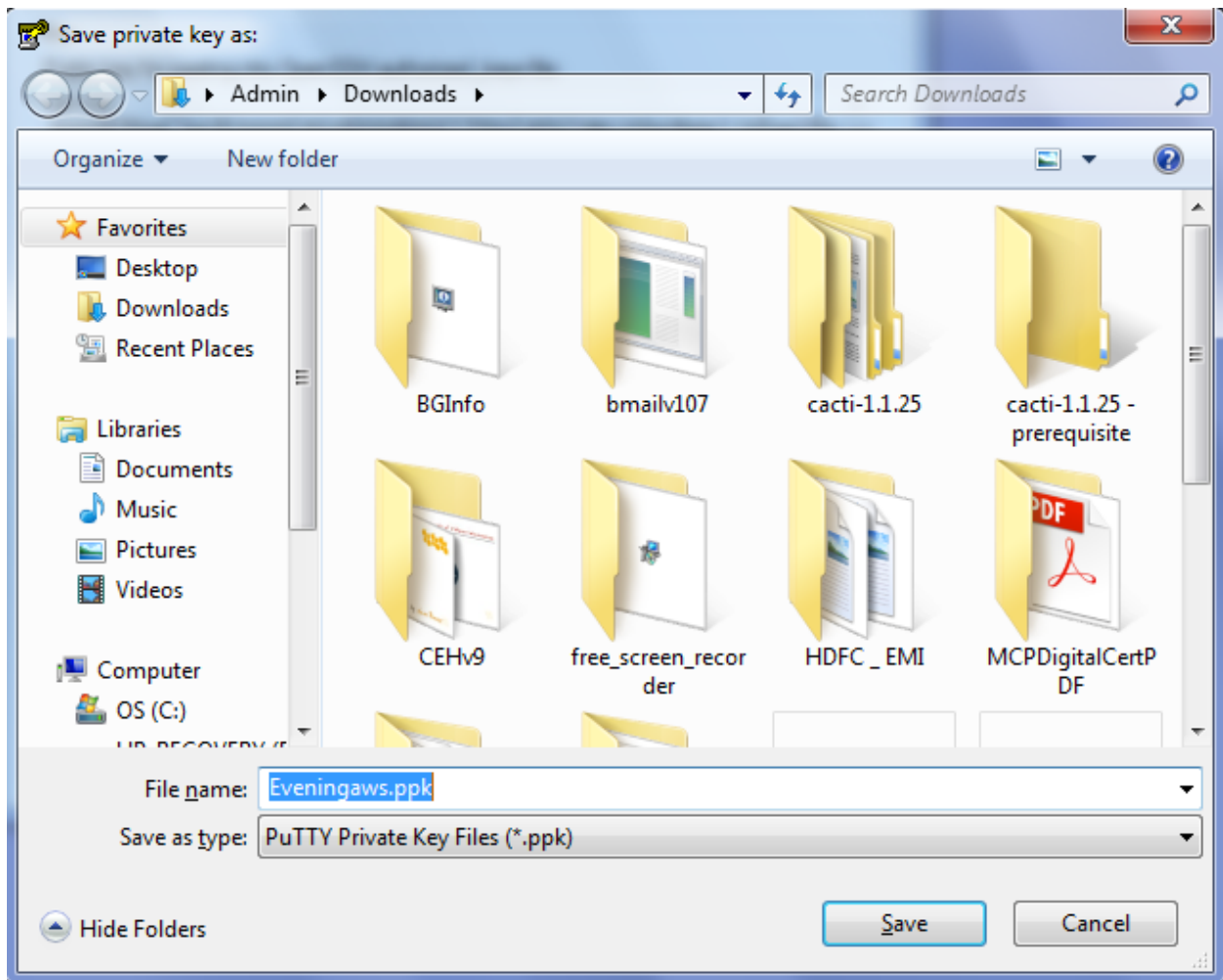
Click "Save Private Key".



Click "Yes" to continue.

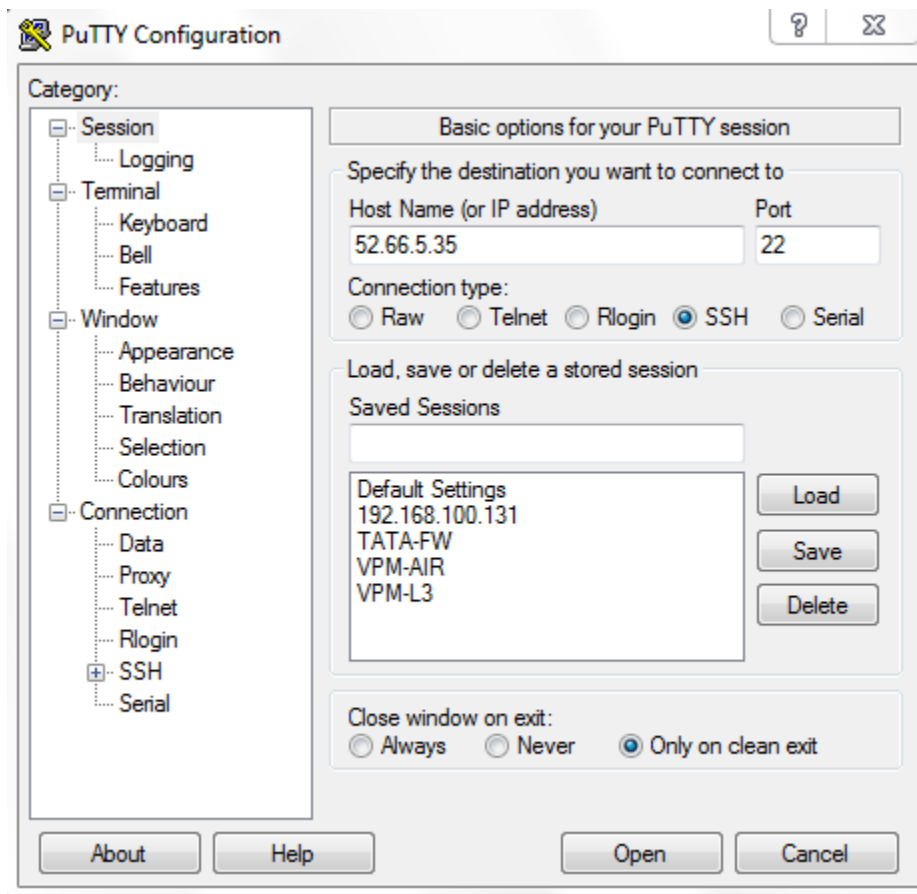


Save the file as "Eveningaws.ppk"

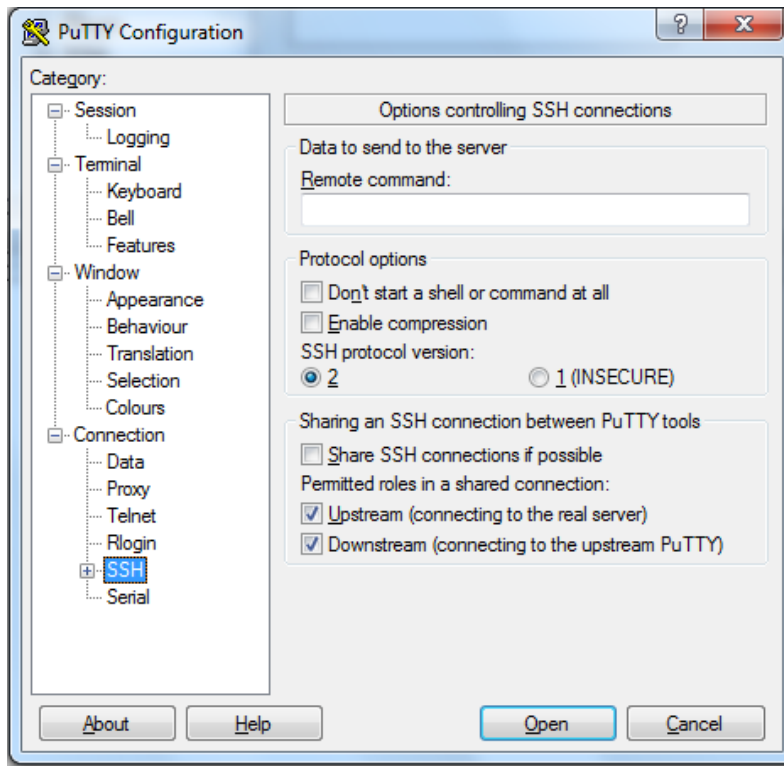


Click “save”.

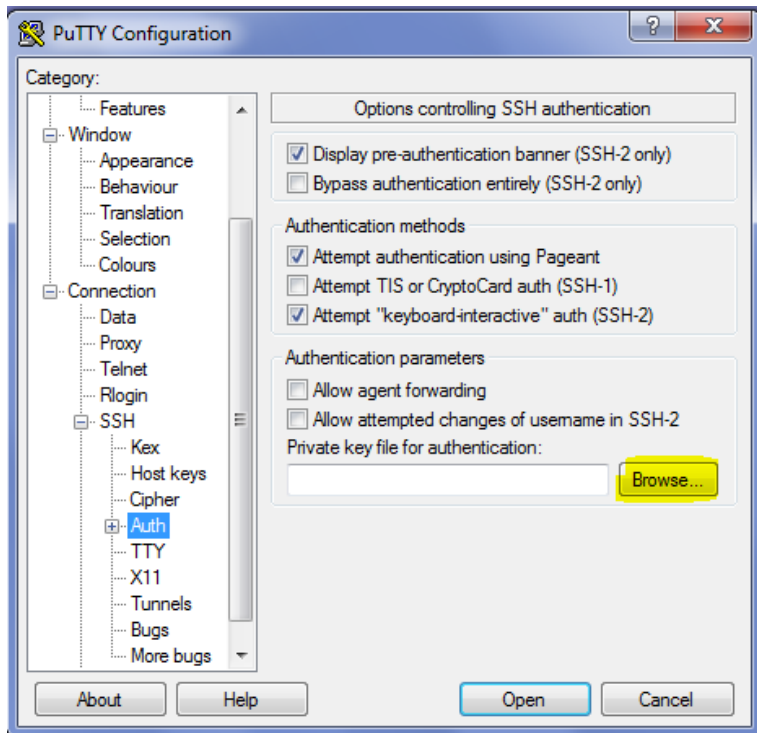
In Putty, type the Public IP address of Linux.



Click “SSH”

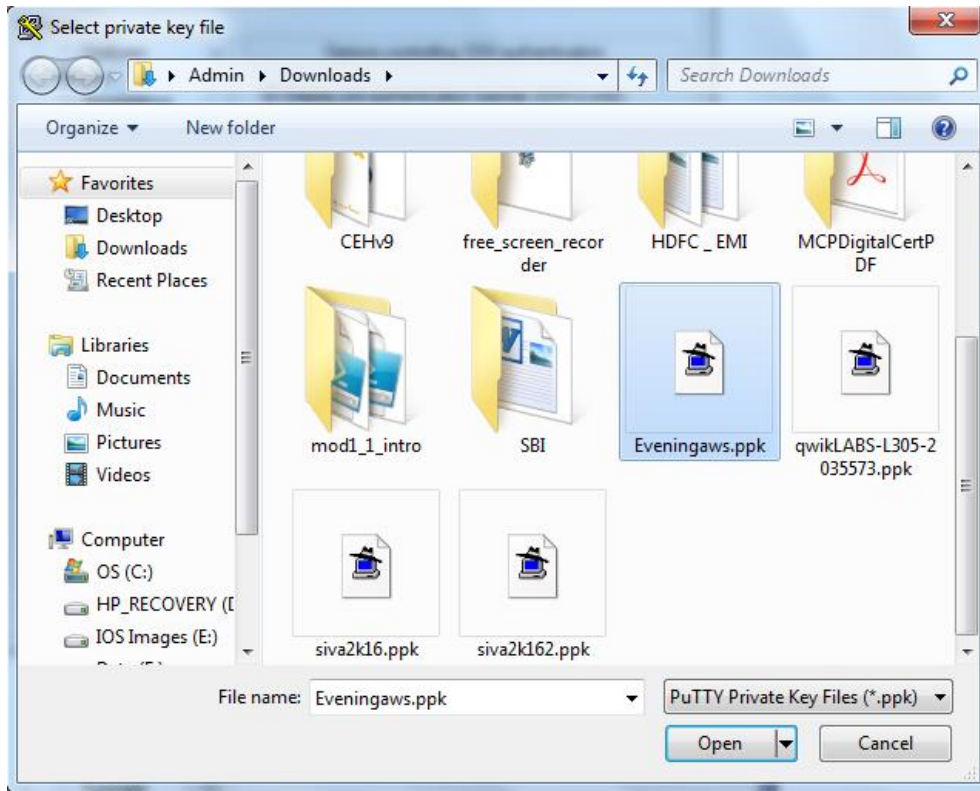


Expand “SSH” then click “Auth”.

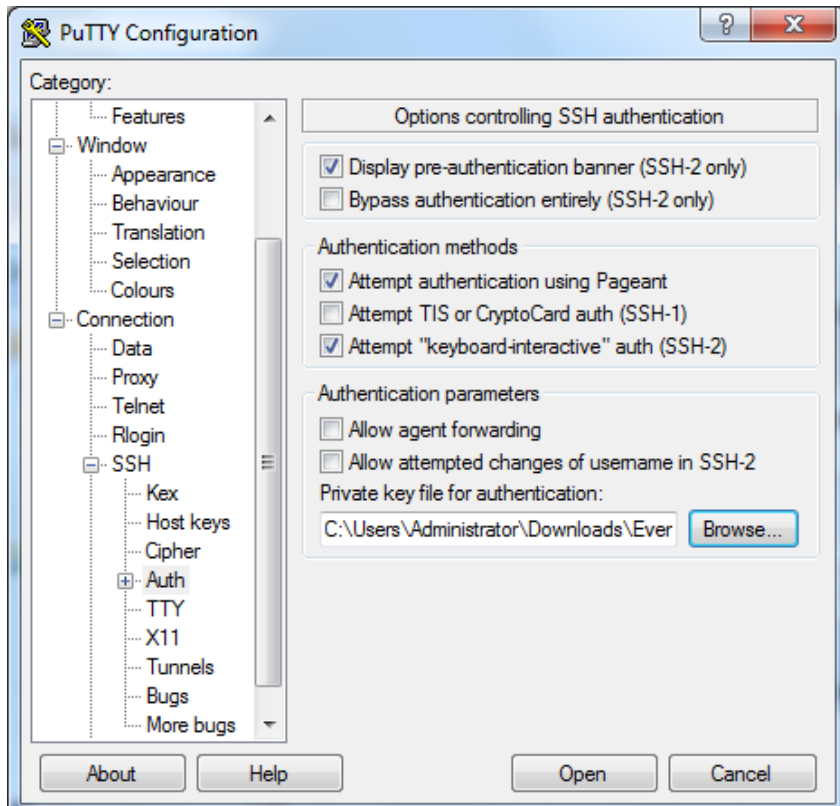


Then Browse and

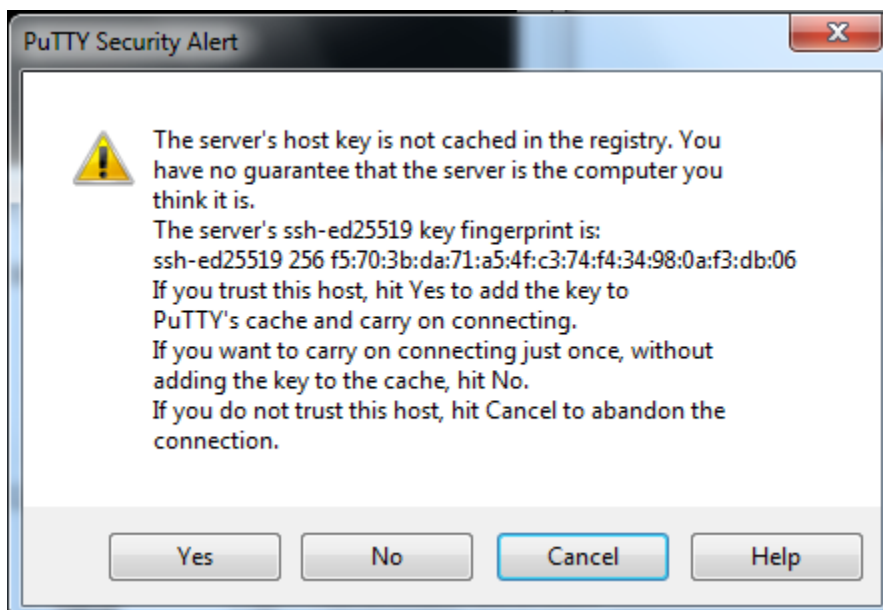
locate the *.ppk file.



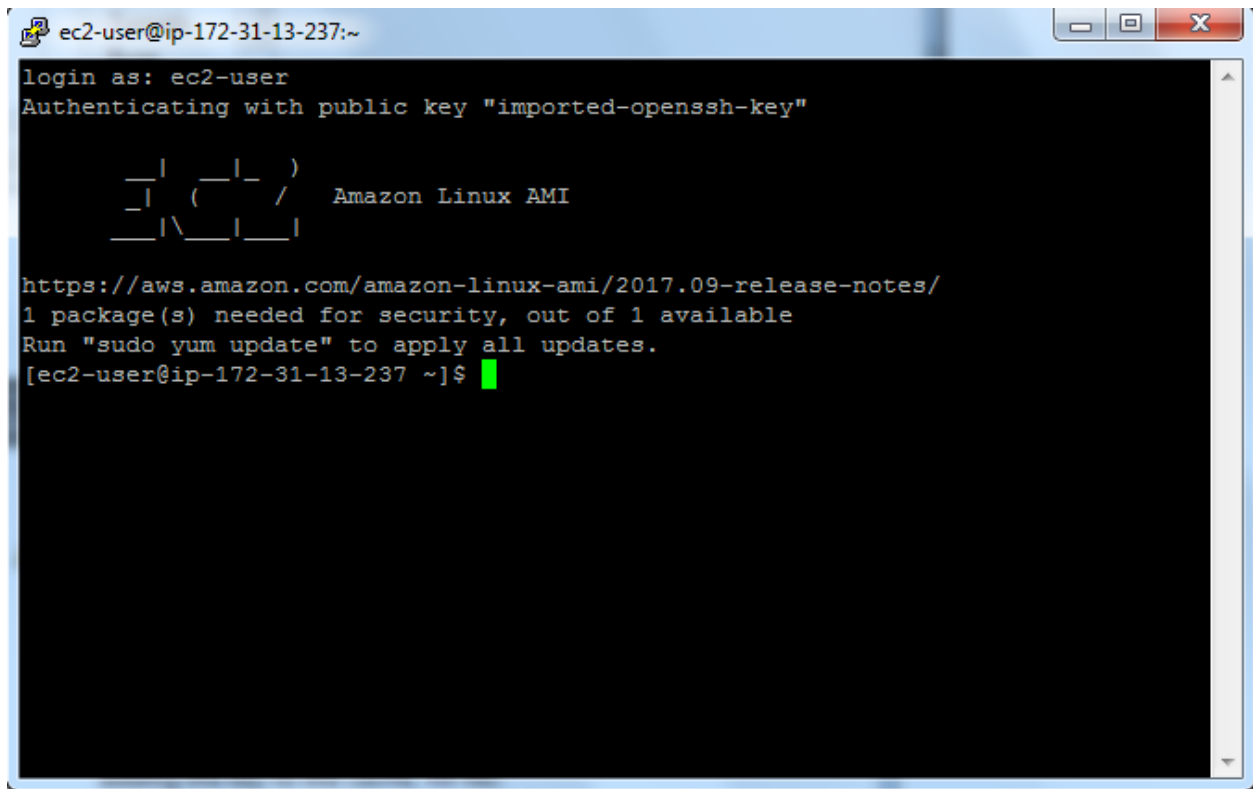
Click “Open”.



Click “Yes”.



Type user as **ec2-user**

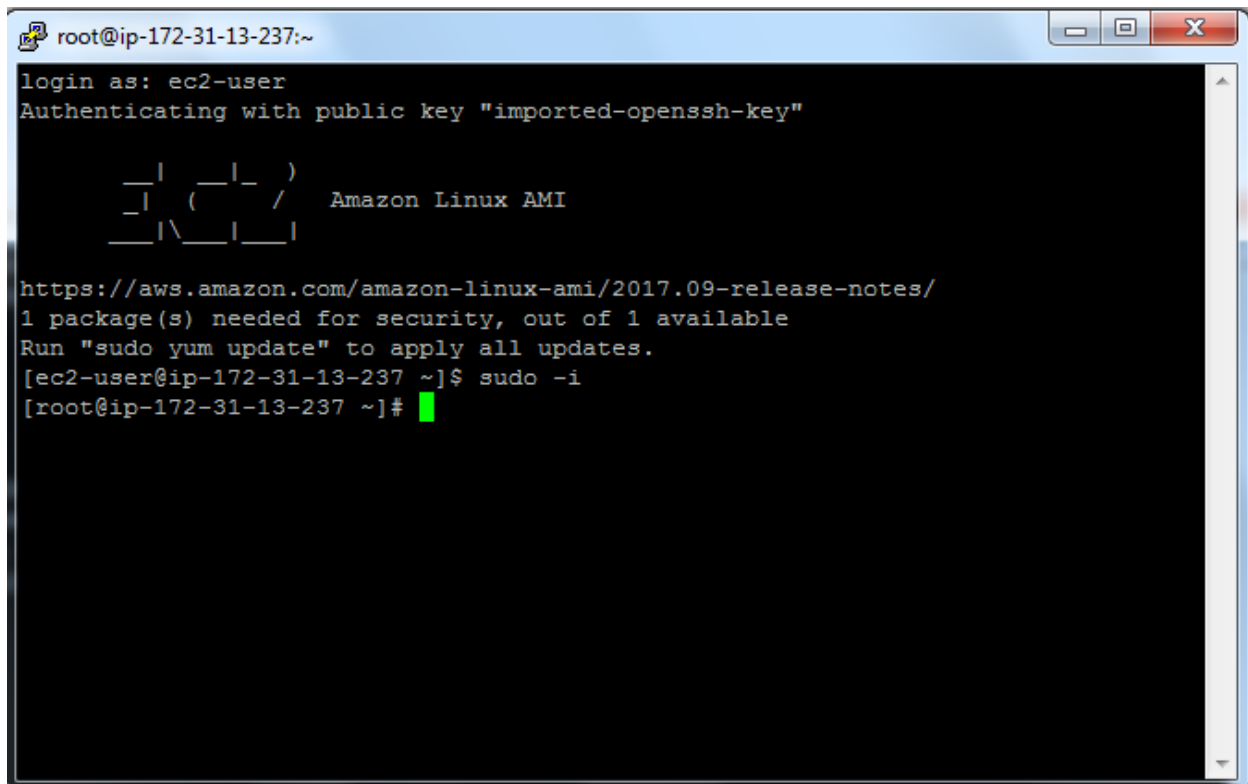


```
ec2-user@ip-172-31-13-237:~  
login as: ec2-user  
Authenticating with public key "imported-openssh-key"  
  
  _|_  _|_ )  
  _|_ ( _|_ /  Amazon Linux AMI  
  __|\\__|__|  
  
https://aws.amazon.com/amazon-linux-ami/2017.09-release-notes/  
1 package(s) needed for security, out of 1 available  
Run "sudo yum update" to apply all updates.  
[ec2-user@ip-172-31-13-237 ~]$
```

Type,

Sudo -i

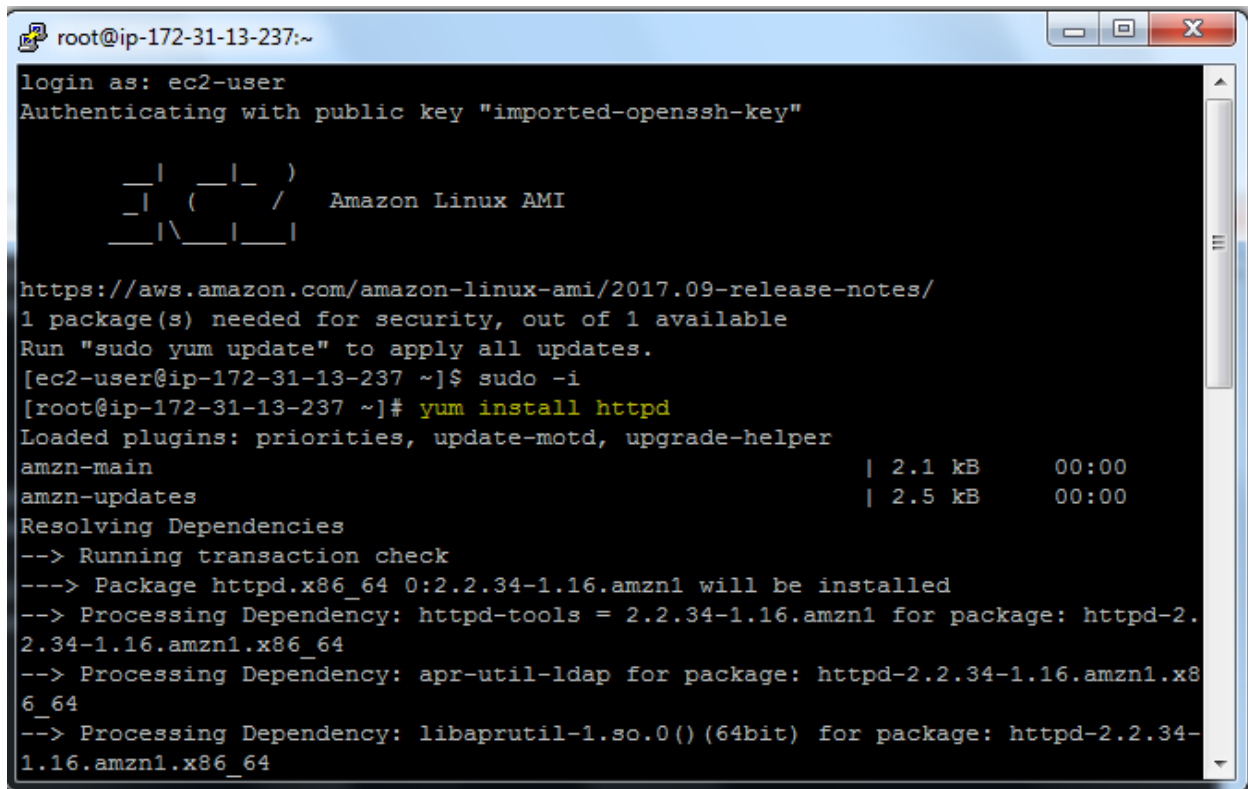
Now it has been switched root privilege account.



```
root@ip-172-31-13-237:~  
login as: ec2-user  
Authenticating with public key "imported-openssh-key"  
  
  _|  _|  _|  )  
  _|  (  _|  /  Amazon Linux AMI  
  _| \__|  __|  
  
https://aws.amazon.com/amazon-linux-ami/2017.09-release-notes/  
1 package(s) needed for security, out of 1 available  
Run "sudo yum update" to apply all updates.  
[ec2-user@ip-172-31-13-237 ~]$ sudo -i  
[root@ip-172-31-13-237 ~]#
```

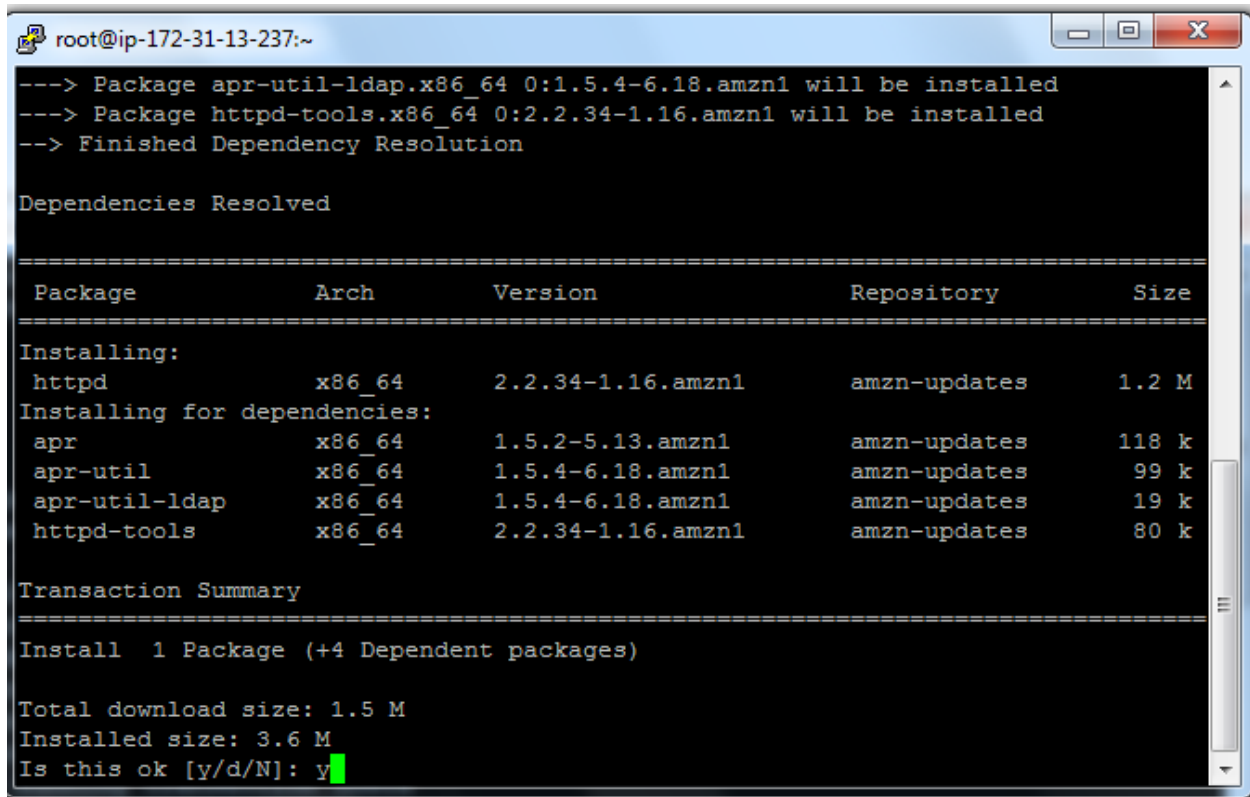
Type

Yum install httpd



```
root@ip-172-31-13-237:~  
login as: ec2-user  
Authenticating with public key "imported-openssh-key"  
  
  _|  _|_ )  
  _| (  /  Amazon Linux AMI  
  _|\_|_|_|  
  
https://aws.amazon.com/amazon-linux-ami/2017.09-release-notes/  
1 package(s) needed for security, out of 1 available  
Run "sudo yum update" to apply all updates.  
[ec2-user@ip-172-31-13-237 ~]$ sudo -i  
[root@ip-172-31-13-237 ~]# yum install httpd  
Loaded plugins: priorities, update-motd, upgrade-helper  
amzn-main | 2.1 kB 00:00  
amzn-updates | 2.5 kB 00:00  
Resolving Dependencies  
--> Running transaction check  
---> Package httpd.x86_64 0:2.2.34-1.16.amzn1 will be installed  
--> Processing Dependency: httpd-tools = 2.2.34-1.16.amzn1 for package: httpd-2.2.34-1.16.amzn1.x86_64  
--> Processing Dependency: apr-util-ldap for package: httpd-2.2.34-1.16.amzn1.x86_64  
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.2.34-1.16.amzn1.x86_64
```

Type “Y” to install the packages.



```
root@ip-172-31-13-237:~  
---> Package apr-util-ldap.x86_64 0:1.5.4-6.18.amzn1 will be installed  
---> Package httpd-tools.x86_64 0:2.2.34-1.16.amzn1 will be installed  
--> Finished Dependency Resolution  
  
Dependencies Resolved  
  
=====
```

Package	Arch	Version	Repository	Size
Installing:				
httpd	x86_64	2.2.34-1.16.amzn1	amzn-updates	1.2 M
Installing for dependencies:				
apr	x86_64	1.5.2-5.13.amzn1	amzn-updates	118 k
apr-util	x86_64	1.5.4-6.18.amzn1	amzn-updates	99 k
apr-util-ldap	x86_64	1.5.4-6.18.amzn1	amzn-updates	19 k
httpd-tools	x86_64	2.2.34-1.16.amzn1	amzn-updates	80 k

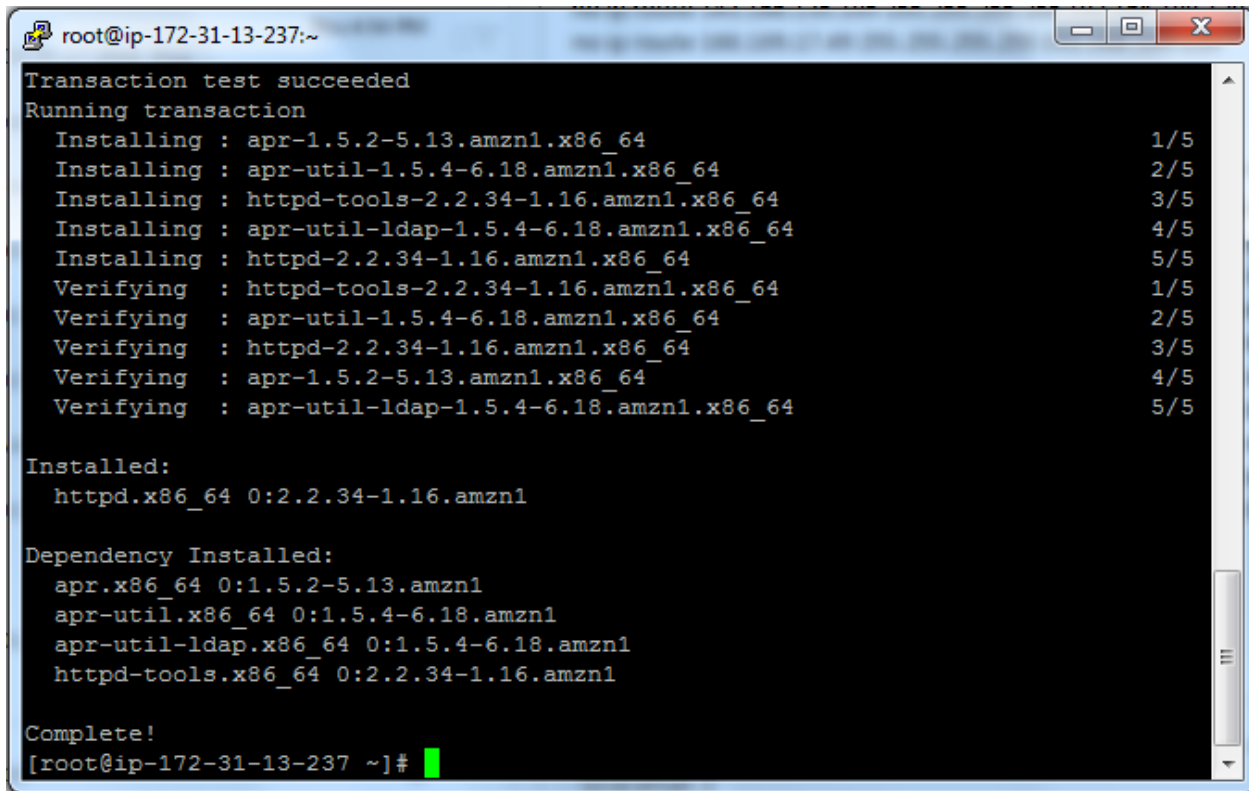
```
=====
```

Transaction Summary

Install 1 Package (+4 Dependent packages)

Total download size: 1.5 M
Installed size: 3.6 M
Is this ok [y/d/N]: y

Now web server has been installed successfully.



```
root@ip-172-31-13-237:~
Transaction test succeeded
Running transaction
  Installing : apr-1.5.2-5.13.amzn1.x86_64                1/5
  Installing : apr-util-1.5.4-6.18.amzn1.x86_64           2/5
  Installing : httpd-tools-2.2.34-1.16.amzn1.x86_64       3/5
  Installing : apr-util-ldap-1.5.4-6.18.amzn1.x86_64      4/5
  Installing : httpd-2.2.34-1.16.amzn1.x86_64            5/5
  Verifying   : httpd-tools-2.2.34-1.16.amzn1.x86_64      1/5
  Verifying   : apr-util-1.5.4-6.18.amzn1.x86_64          2/5
  Verifying   : httpd-2.2.34-1.16.amzn1.x86_64           3/5
  Verifying   : apr-1.5.2-5.13.amzn1.x86_64              4/5
  Verifying   : apr-util-ldap-1.5.4-6.18.amzn1.x86_64    5/5

Installed:
  httpd.x86_64 0:2.2.34-1.16.amzn1

Dependency Installed:
  apr.x86_64 0:1.5.2-5.13.amzn1
  apr-util.x86_64 0:1.5.4-6.18.amzn1
  apr-util-ldap.x86_64 0:1.5.4-6.18.amzn1
  httpd-tools.x86_64 0:2.2.34-1.16.amzn1

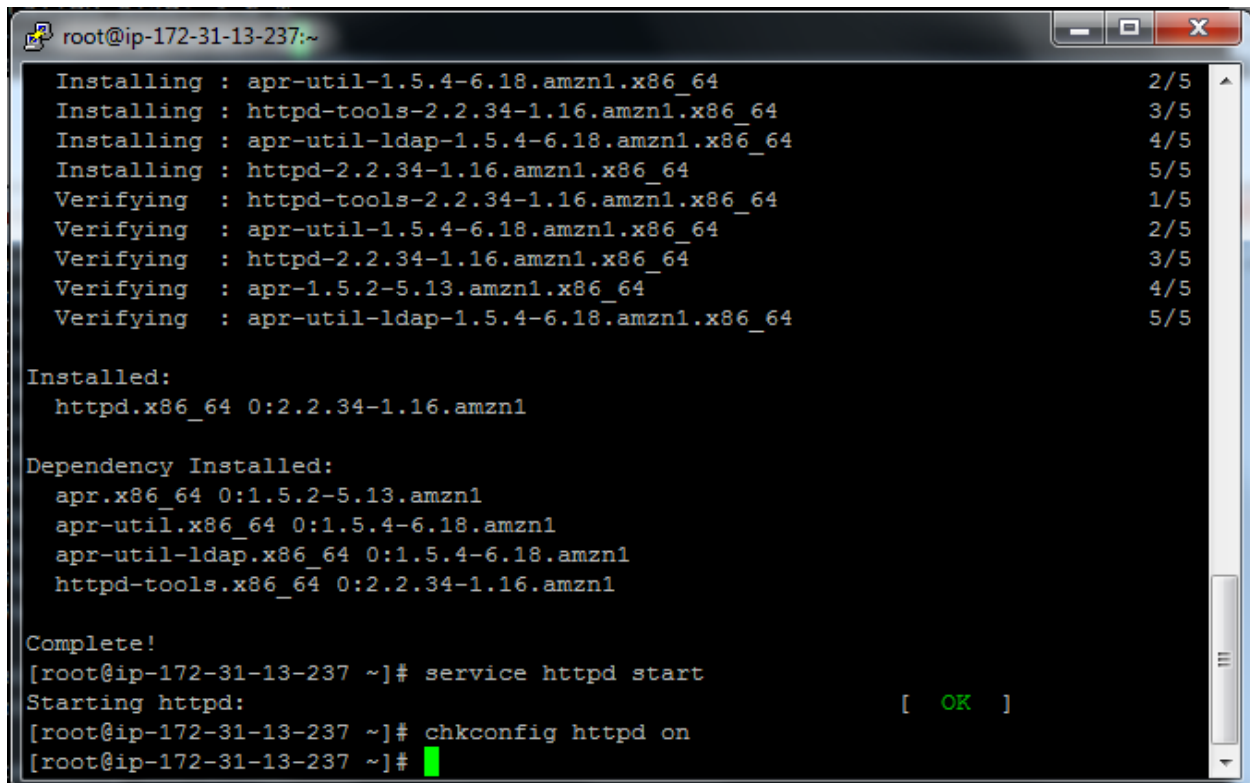
Complete!
[root@ip-172-31-13-237 ~]#
```

Now we need to start the service httpd

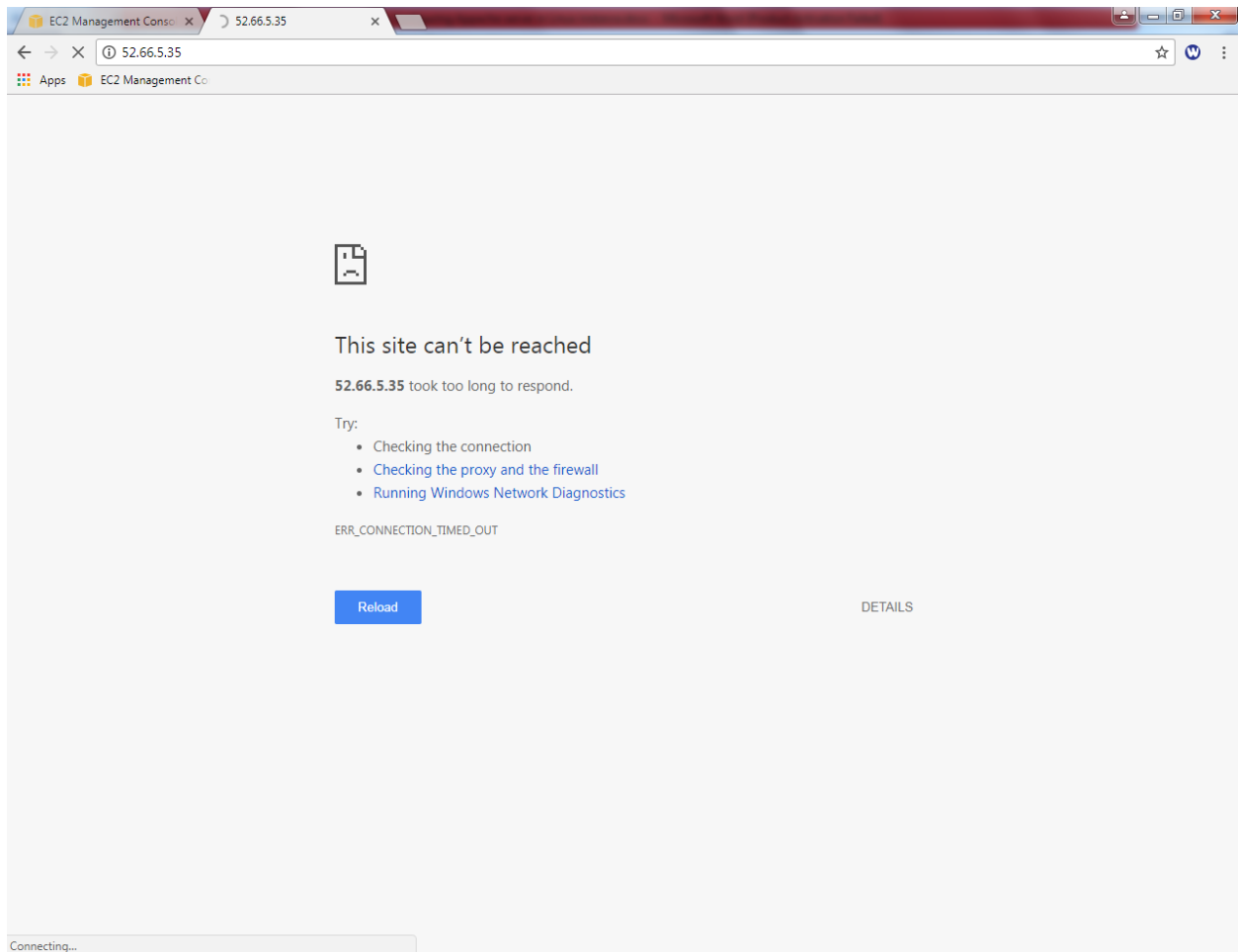
Type command,

Service httpd start

Chkconfig httpd on



```
root@ip-172-31-13-237:~  
Installing : apr-util-1.5.4-6.18.amzn1.x86_64 2/5  
Installing : httpd-tools-2.2.34-1.16.amzn1.x86_64 3/5  
Installing : apr-util-ldap-1.5.4-6.18.amzn1.x86_64 4/5  
Installing : httpd-2.2.34-1.16.amzn1.x86_64 5/5  
Verifying : httpd-tools-2.2.34-1.16.amzn1.x86_64 1/5  
Verifying : apr-util-1.5.4-6.18.amzn1.x86_64 2/5  
Verifying : httpd-2.2.34-1.16.amzn1.x86_64 3/5  
Verifying : apr-1.5.2-5.13.amzn1.x86_64 4/5  
Verifying : apr-util-ldap-1.5.4-6.18.amzn1.x86_64 5/5  
  
Installed:  
  httpd.x86_64 0:2.2.34-1.16.amzn1  
  
Dependency Installed:  
  apr.x86_64 0:1.5.2-5.13.amzn1  
  apr-util.x86_64 0:1.5.4-6.18.amzn1  
  apr-util-ldap.x86_64 0:1.5.4-6.18.amzn1  
  httpd-tools.x86_64 0:2.2.34-1.16.amzn1  
  
Complete!  
[root@ip-172-31-13-237 ~]# service httpd start  
Starting httpd: [ OK ]  
[root@ip-172-31-13-237 ~]# chkconfig httpd on  
[root@ip-172-31-13-237 ~]#
```



You would not be able to connect, what could be the reason?

In security group, we have permitted only SSH Port (22). Hence we are unable to connect port 80 from outside of the network. Now we need to allow port 80 (HTTP) in security group "Linux-Sec-Group".

Go to security Group in EC2, select Linux-sec-group and then click “Inbound” tab.

Click “Edit”.

The screenshot displays the AWS Management Console interface for the EC2 Management Console. The left sidebar shows the navigation menu with categories like INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, and LOAD BALANCING. The 'Security Groups' link under NETWORK & SECURITY is highlighted. The main content area shows a list of security groups. The 'Linux-Sec-group' (ID: sg-e4f8108f) is selected. Below the list, the 'Inbound' tab is active, showing a single rule for SSH access. The 'Edit' button is highlighted in yellow.

Name	Group ID	Group Name	VPC ID	Description
Testing_Sec_Group	sg-3b7d9350	Testing_Sec_Group	vpc-a655a2ce	Testing_Sec_Group
Evening_Sec_Group	sg-3c846c57	Evening_Sec_Group	vpc-a655a2ce	Evening_Sec_Group
default	sg-a44c63cc	default	vpc-a655a2ce	default VPC security group
Linux-Sec-group	sg-e4f8108f	Linux-Sec-group	vpc-a655a2ce	Linux-Sec-group

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	

Click “Add rule” button

Edit inbound rules

Type ⓘ

Protocol ⓘ

Port Range ⓘ

Source ⓘ

Description ⓘ

SSH

TCP

22

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.

Cancel

Save

Select “HTTP” and custom source as 0.0.0.0/0, (for IPV4) and ::/0 (for IPV6).

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, ::/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.

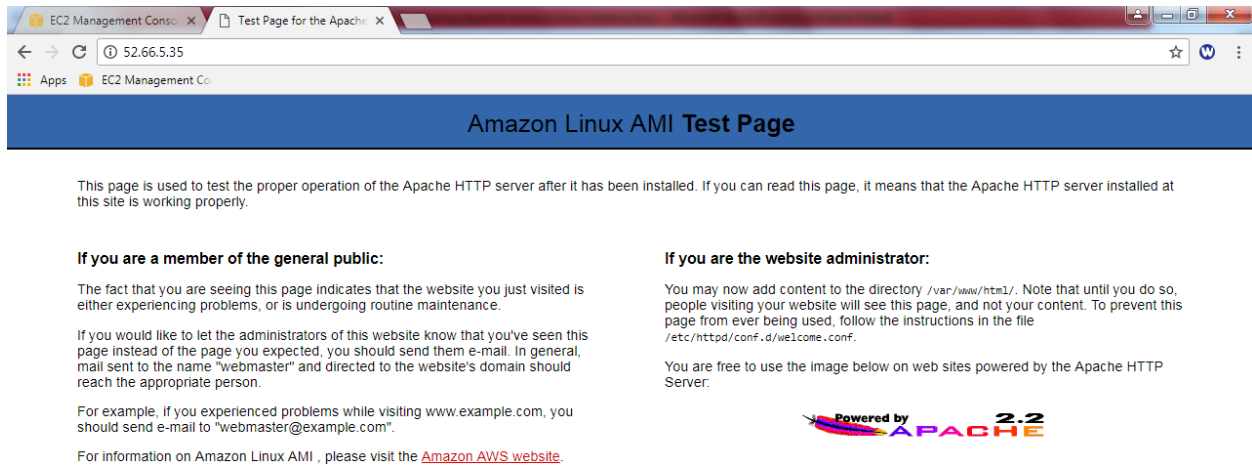
Cancel

Save

Click “Save”.

Now try to connect the Apache web server in your local machine.

`http://52.66.5.35`



We have successfully got the web server page.