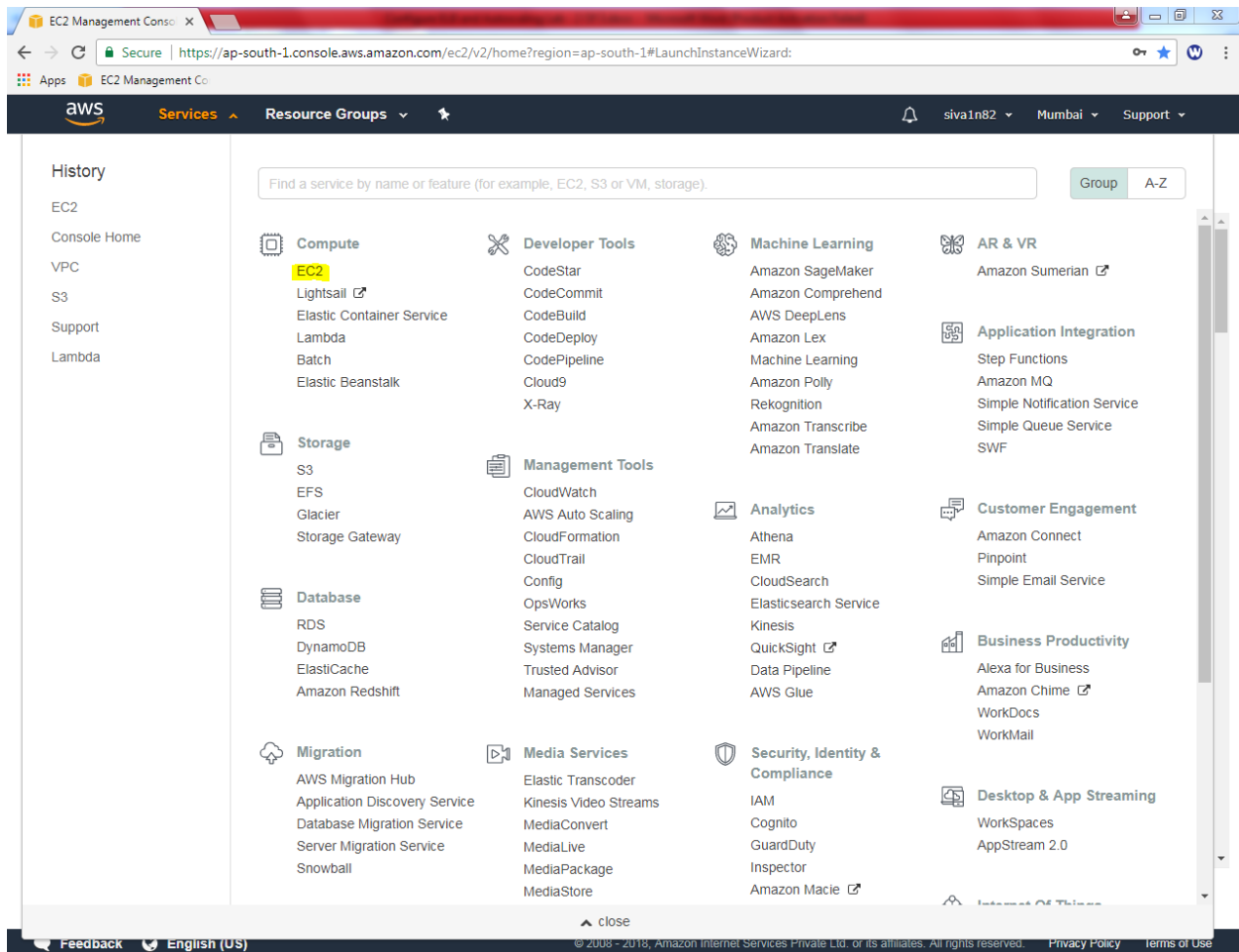


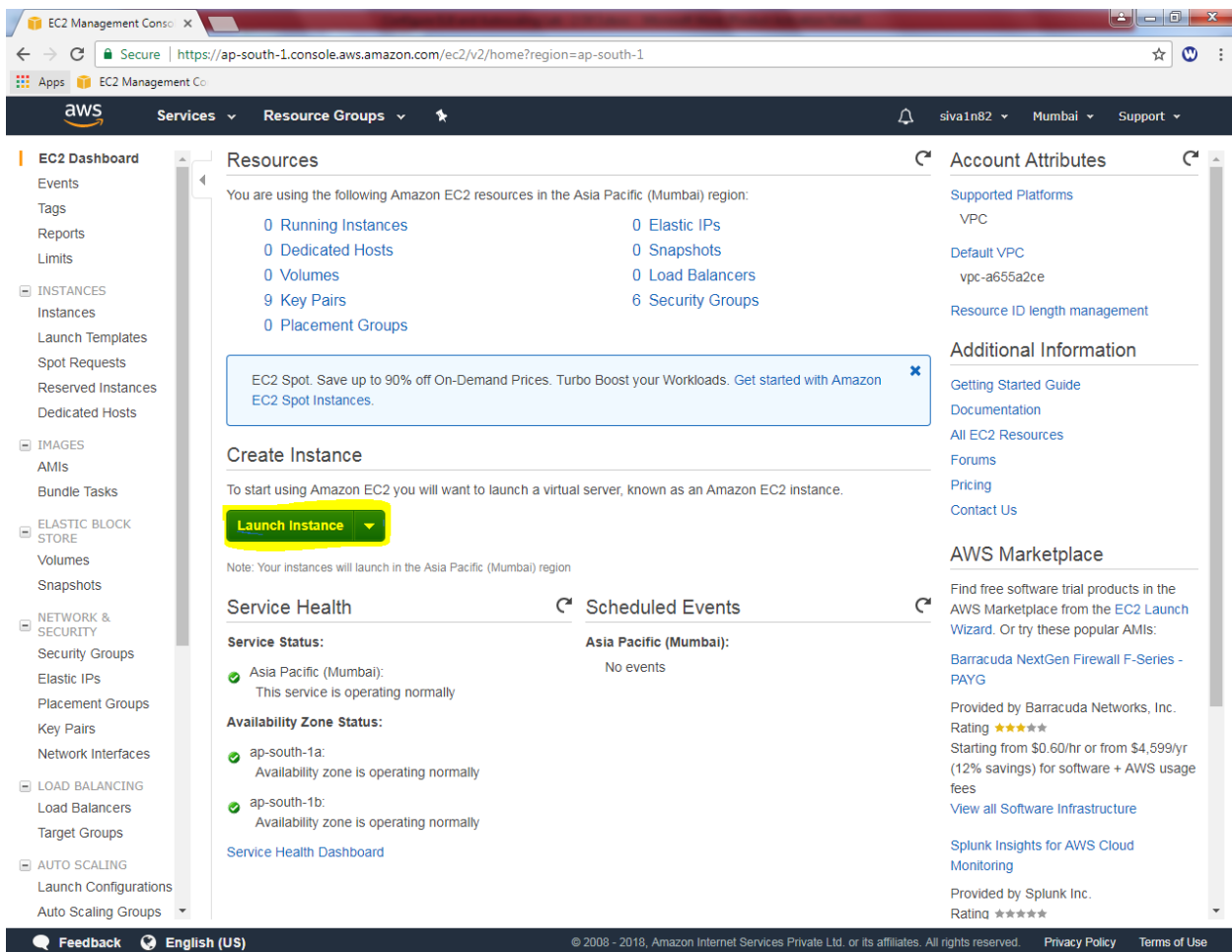
## Lab4

### Creating Amazon Machine Image (AMI) using Linux instance – for beginners

While logged into to AWS management console, we can able to see “Ec2” service.

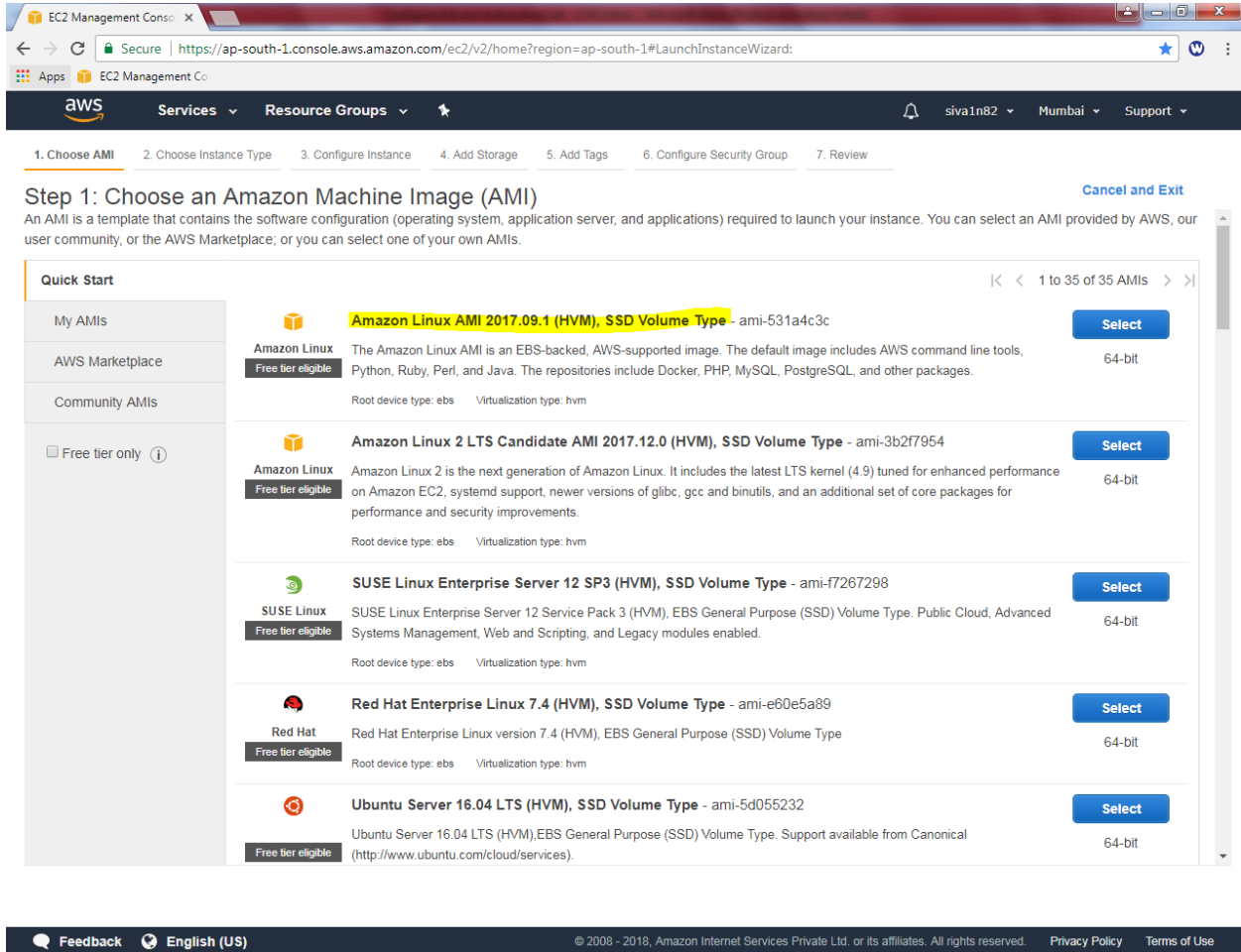


Click “launch instance”.



The screenshot displays the AWS Management Console for the Asia Pacific (Mumbai) region. The left-hand navigation pane shows the 'EC2 Dashboard' with various links like Events, Tags, Reports, Limits, INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, LOAD BALANCING, and AUTO SCALING. The main content area is titled 'Resources' and lists EC2 resources: 0 Running Instances, 0 Elastic IPs, 0 Dedicated Hosts, 0 Snapshots, 0 Volumes, 0 Load Balancers, 9 Key Pairs, 6 Security Groups, and 0 Placement Groups. A blue box promotes 'EC2 Spot' instances. Below this, the 'Create Instance' section is visible, with the 'Launch Instance' button highlighted in green. The 'Service Health' section shows that the Asia Pacific (Mumbai) service is operating normally. The 'Scheduled Events' section shows no events. On the right, the 'Account Attributes' section lists supported platforms, default VPC, and resource ID length management. The 'Additional Information' section provides links to the Getting Started Guide, Documentation, All EC2 Resources, Forums, Pricing, and Contact Us. The 'AWS Marketplace' section lists free software trial products, including Barracuda NextGen Firewall F-Series - PAYG and Splunk Insights for AWS Cloud Monitoring.

Select “Amazon Linux”.



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 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**

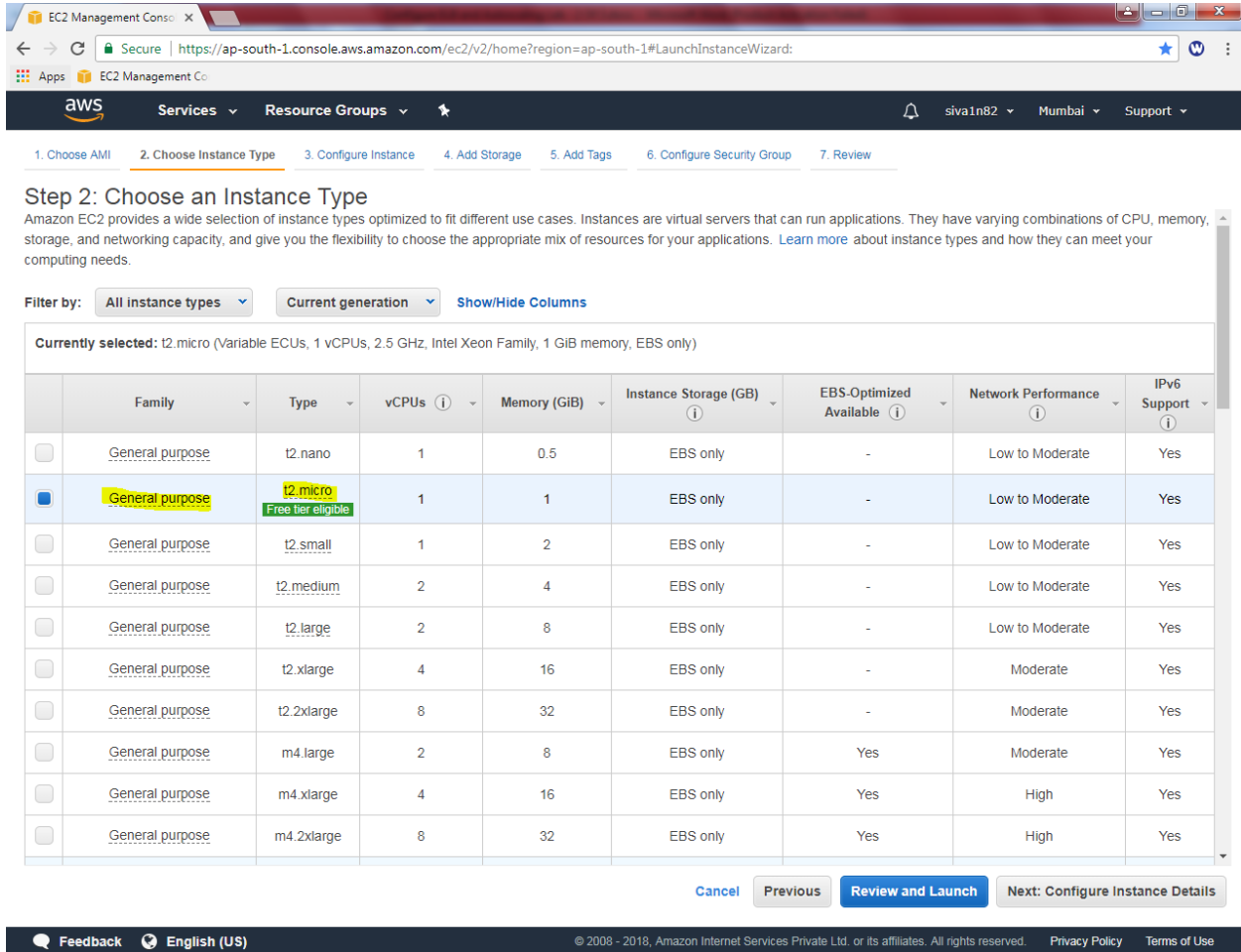
- My AMIs
- AWS Marketplace
- Community AMIs
- ☐ Free tier only ⓘ

1 to 35 of 35 AMIs

Logo	AMI Name	AMI ID	Architecture	Action
	<b>Amazon Linux AMI 2017.09.1 (HVM), SSD Volume Type</b>	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				
	<b>Amazon Linux 2 LTS Candidate AMI 2017.12.0 (HVM), SSD Volume Type</b>	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				
	<b>SUSE Linux Enterprise Server 12 SP3 (HVM), SSD Volume Type</b>	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				
	<b>Red Hat Enterprise Linux 7.4 (HVM), SSD Volume Type</b>	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				
	<b>Ubuntu Server 16.04 LTS (HVM), SSD Volume Type</b>	ami-5d055232	64-bit	Select
Ubuntu Server 16.04 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> ). Free tier eligible				

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

Select “t2.micro”.



EC2 Management Console | <https://ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard:>

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

### 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)

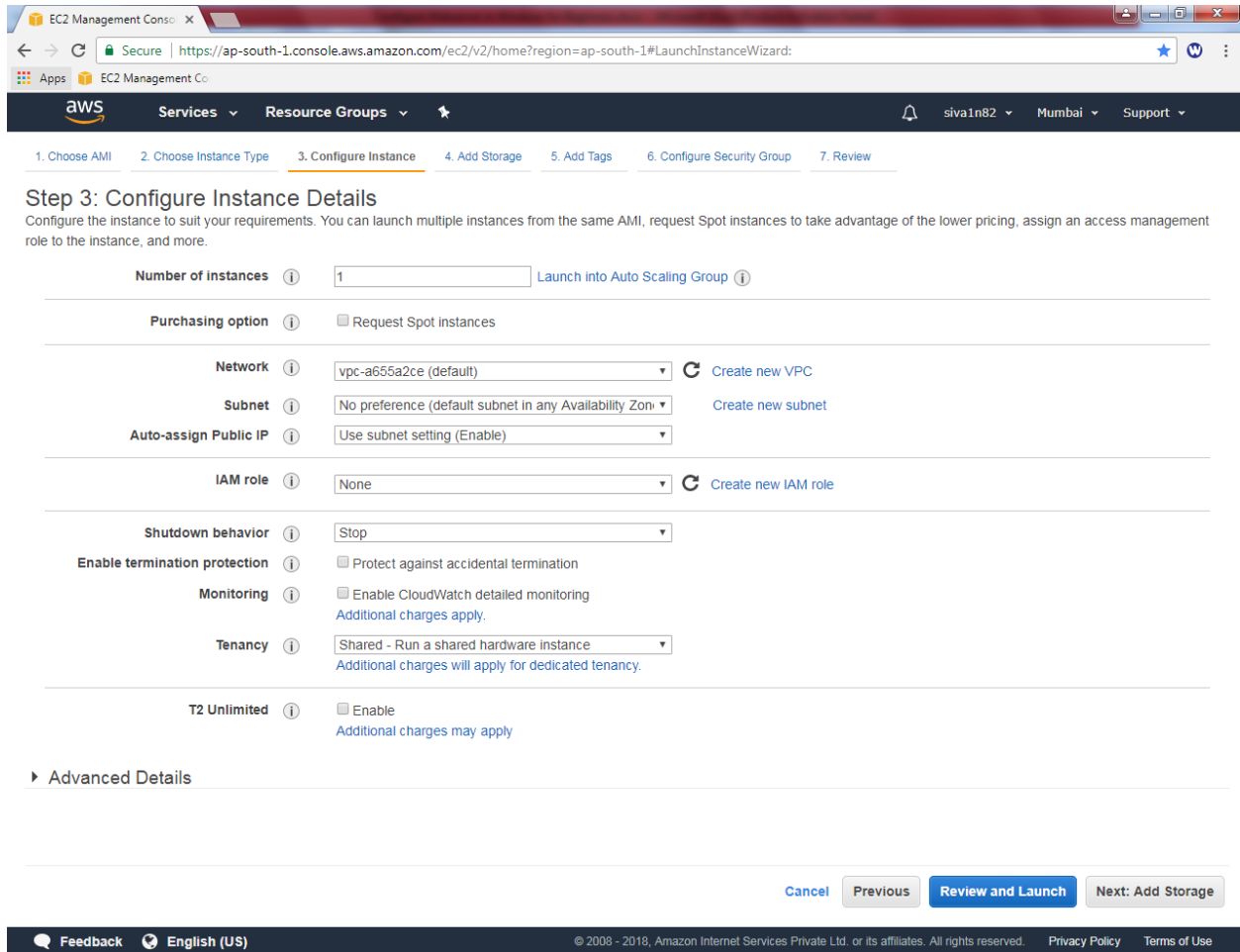
	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	<b>t2.micro</b> Free tier eligible	1	1	EBS only	-	Low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

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

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

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 Console

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

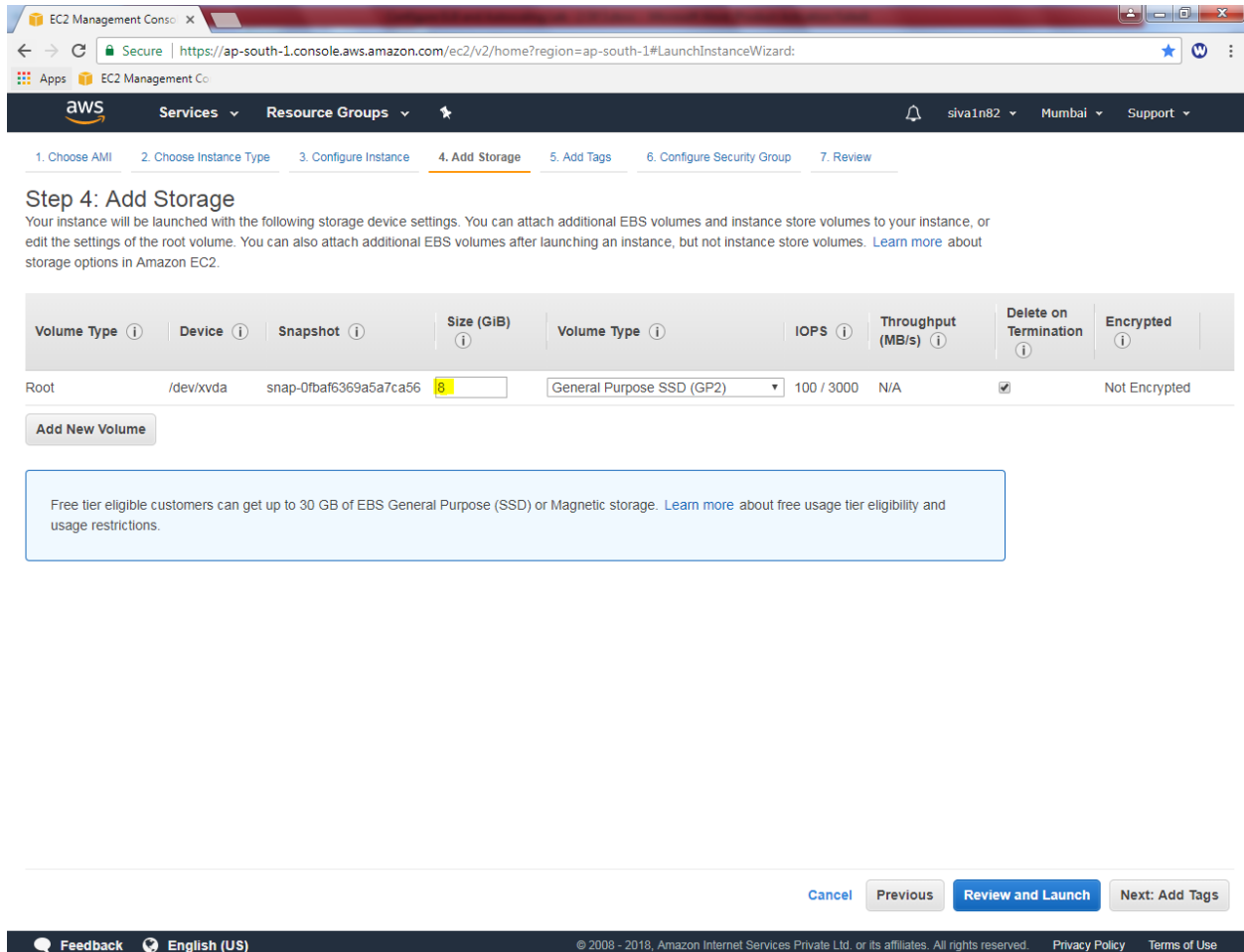
[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Feedback English (US)

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

Click "Next"

Leave default settings and click “Next”.



The screenshot shows the AWS Management Console interface for the 'Add Storage' step of the EC2 instance launch wizard. The breadcrumb navigation at the top indicates the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage (current step), 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](#)

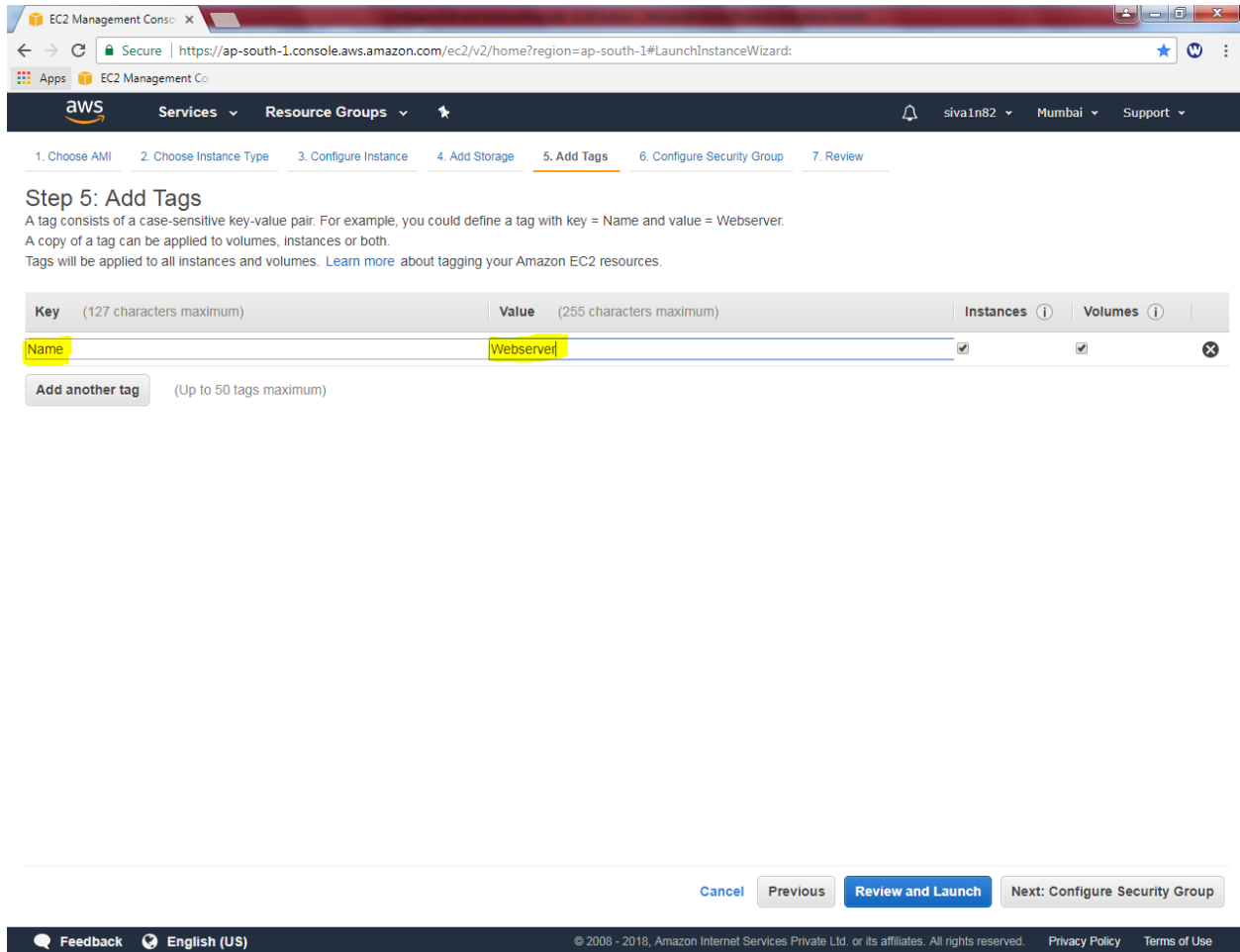
Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

At the bottom of the console, there are navigation buttons: [Cancel](#), [Previous](#), [Review and Launch](#) (highlighted in blue), and [Next: Add Tags](#).

The footer of the console includes a [Feedback](#) link, the language set to [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”.

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



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

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 (127 characters maximum)	Value (255 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](#)

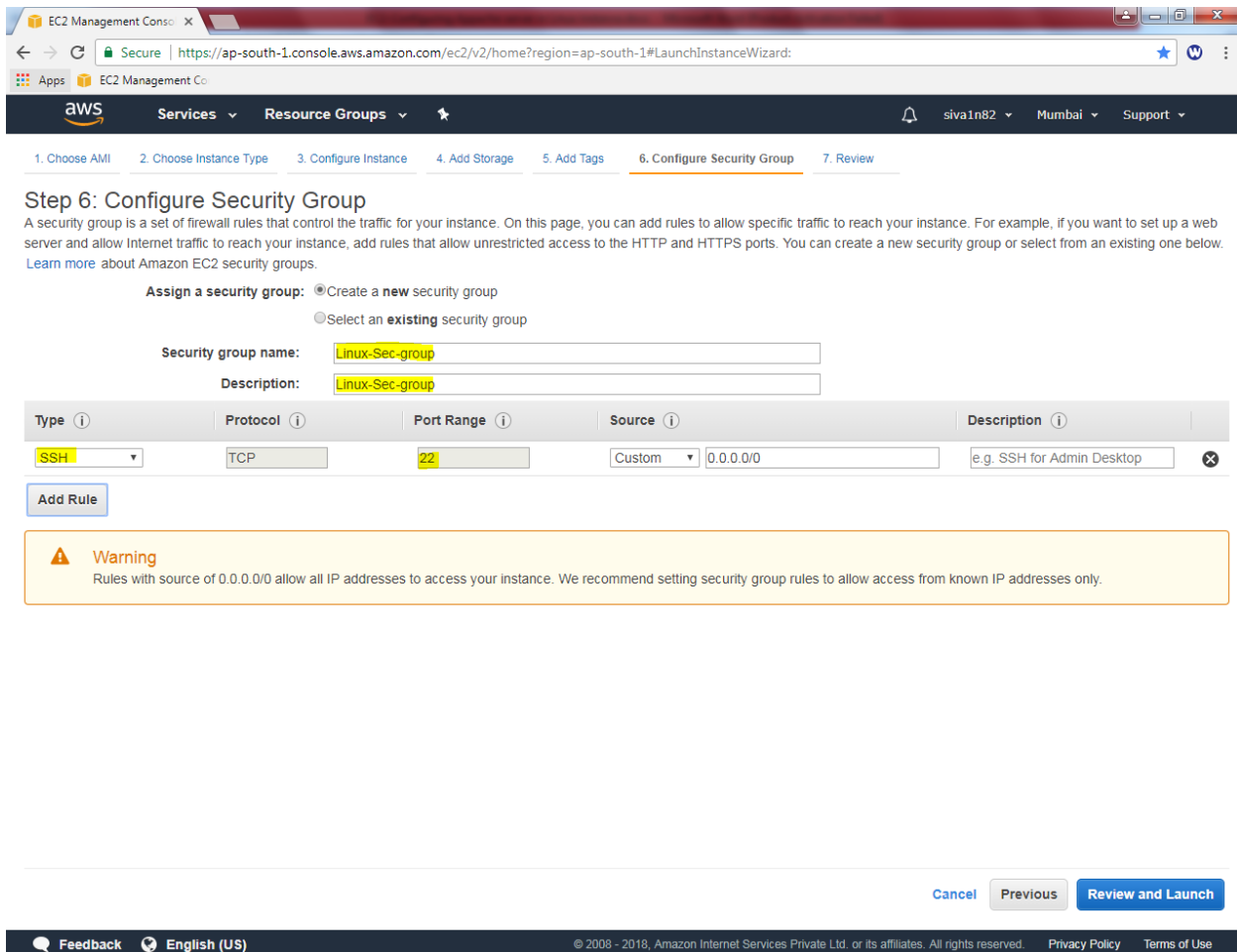
Feedback English (US) © 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

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>

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 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.

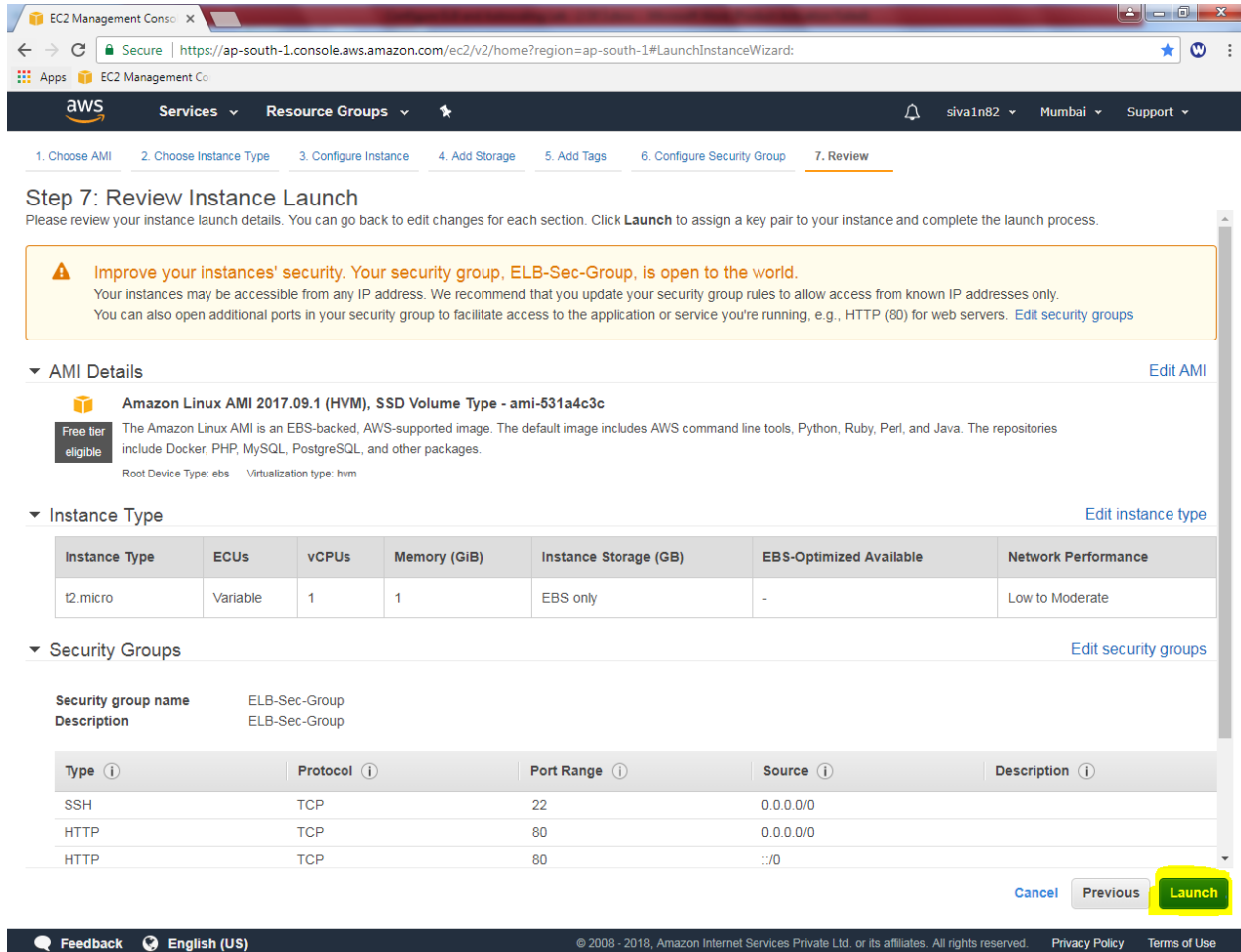
[Cancel](#) [Previous](#) [Review and Launch](#)

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”.





**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, ELB-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](#)

**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: ELB-Sec-Group  
 Description: ELB-Sec-Group

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	
HTTP	TCP	80	0.0.0.0/0	
HTTP	TCP	80	:::0	

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

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

Click "Launch".

**Note: If you are first time logged into Mumbai region at first time, you need to select the new key pair.**

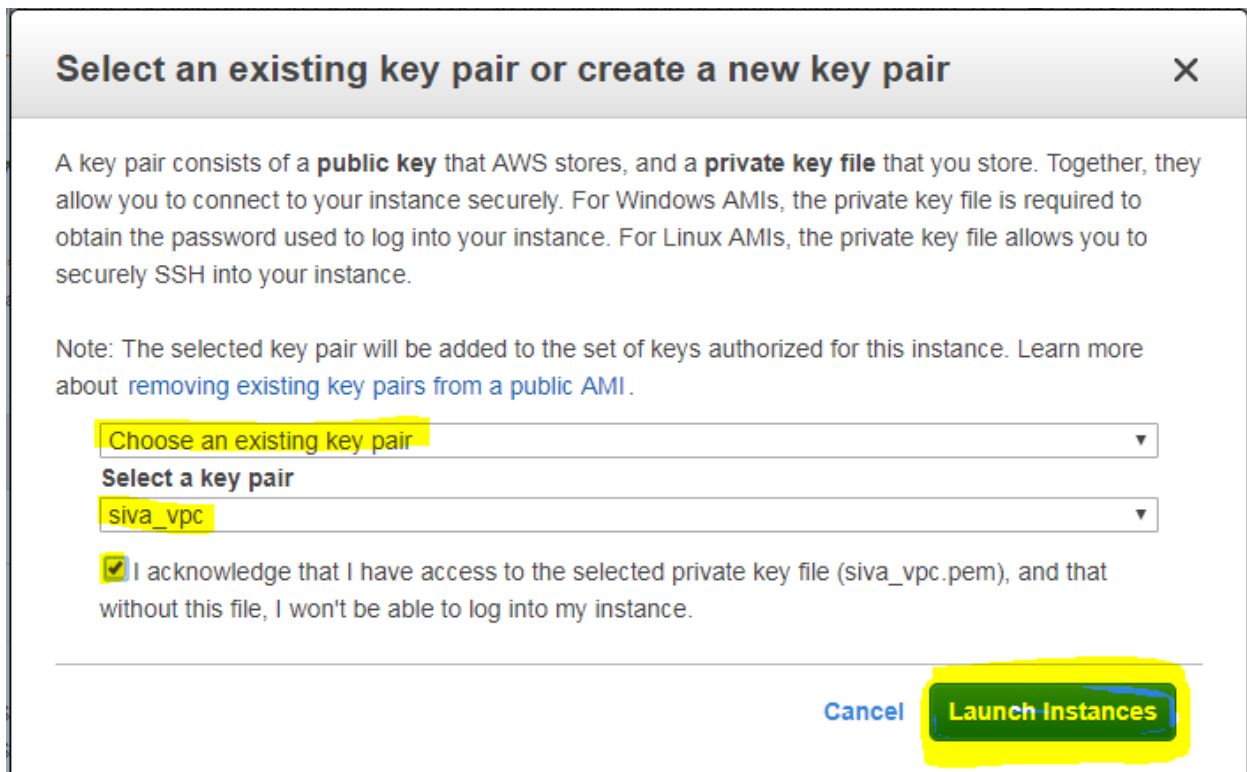
I have already logged into the Mumbai region, so I am using the existing key.

While launch instance, it asked to select an existing key pair or create a new key pair.

Choose an existing key pair.

Then select the key pair.

Click "I acknowledge "check box.



**Select an existing key pair or create a new key pair** X

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**

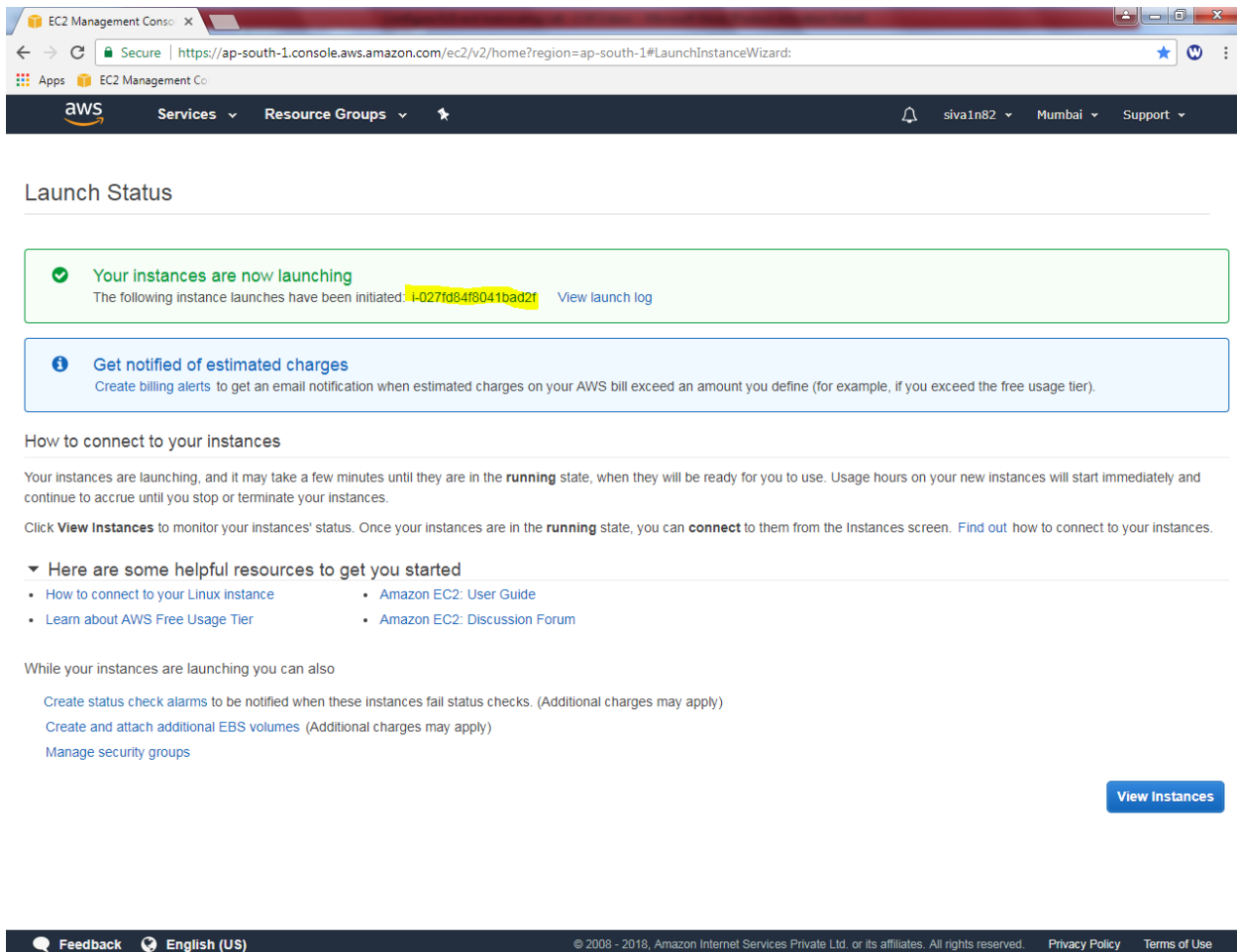
siva\_vpc ▼

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

Cancel Launch Instances

Click "launch instances".

Click Highlighted area to view instance.



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

siva1n82 Mumbai Support

### Launch Status

✓ **Your instances are now launching**

The following instance launches have been initiated: **i-027fd84f8041bad2f** [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](#)

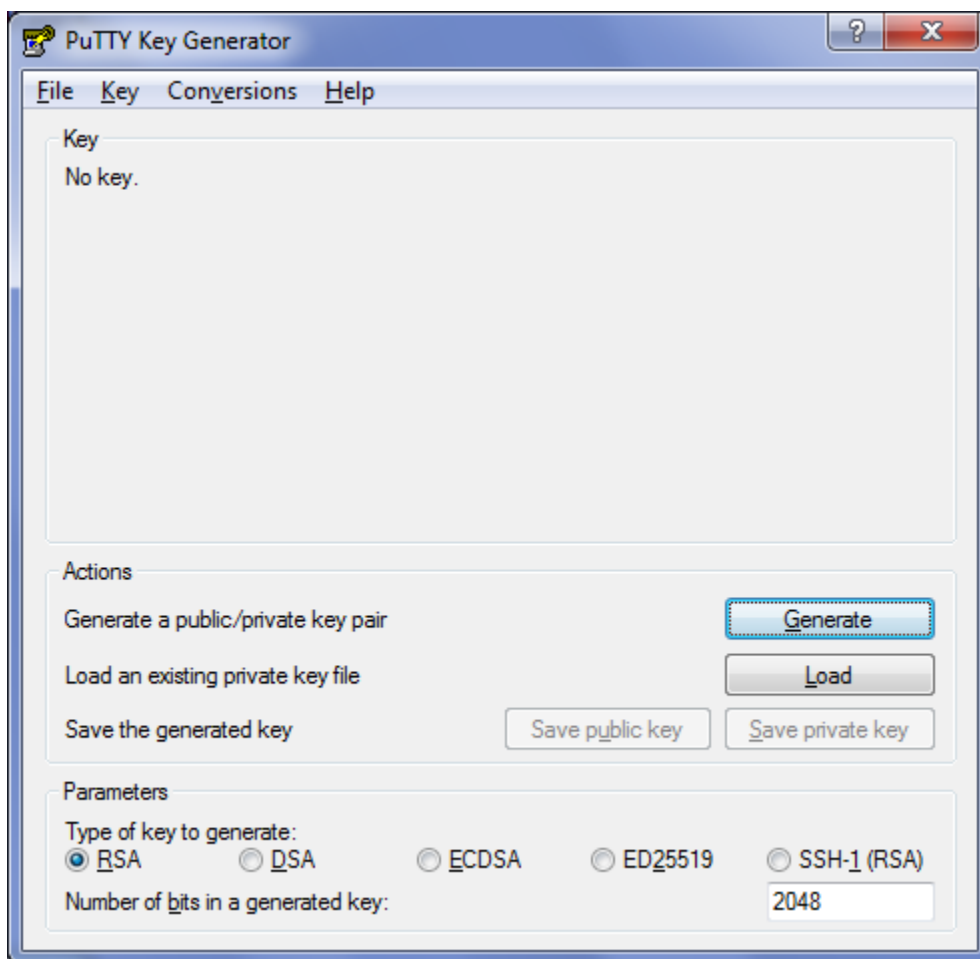
[View Instances](#)

Feedback English (US)

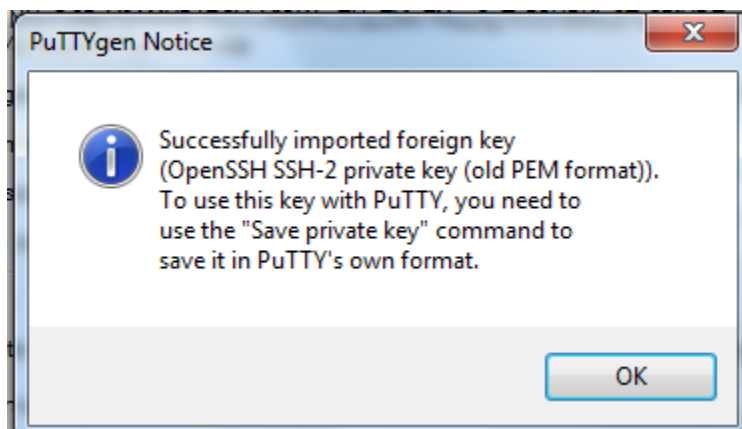
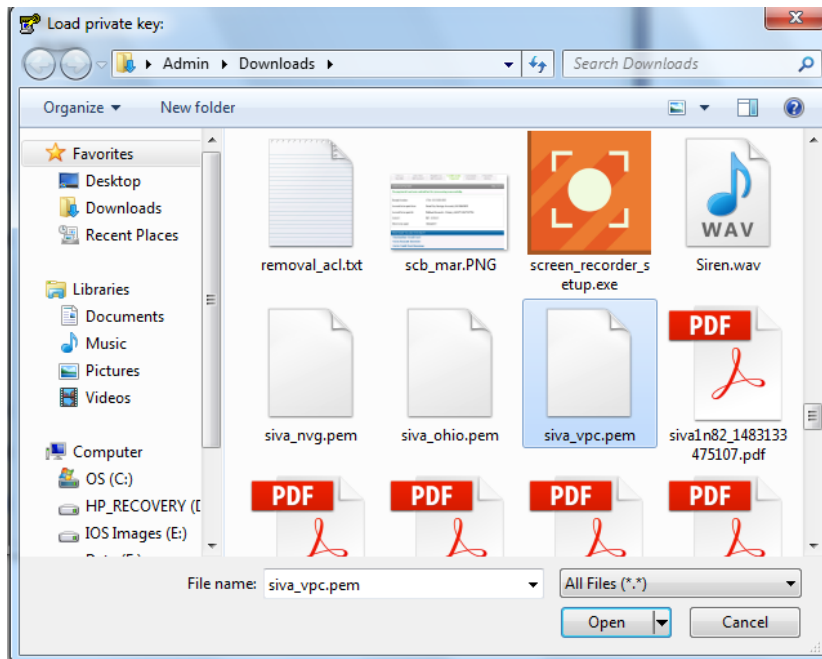
© 2008 - 2018, Amazon Internet Services Private Ltd, or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

Now we need to launch the instance (Linux) by using putty,

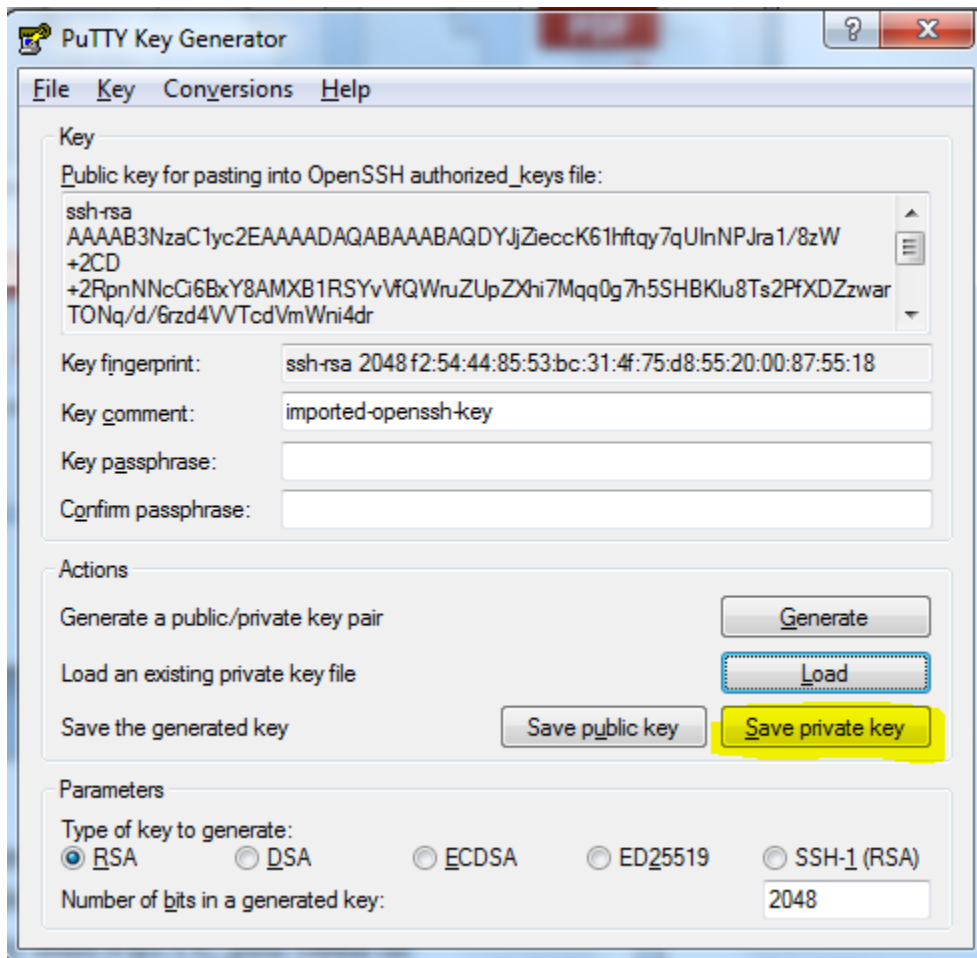
File → Load private key



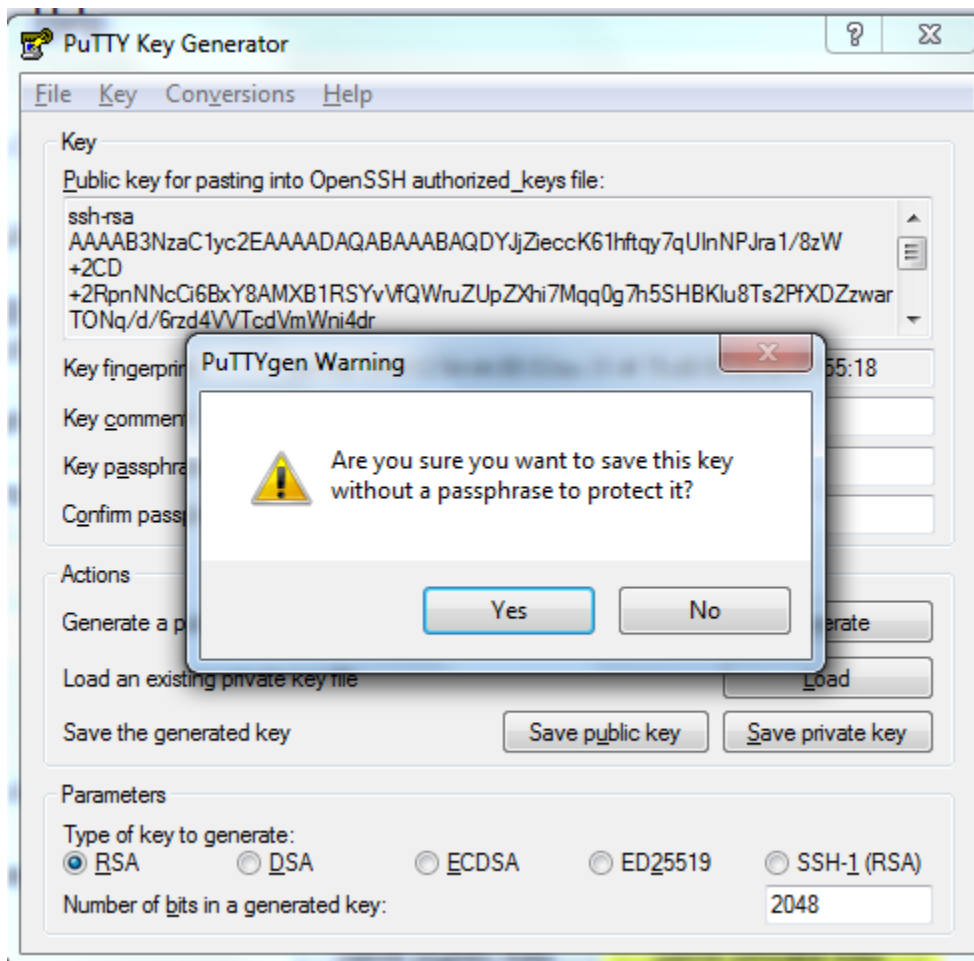
Click "All files" and locate the \*.pem file



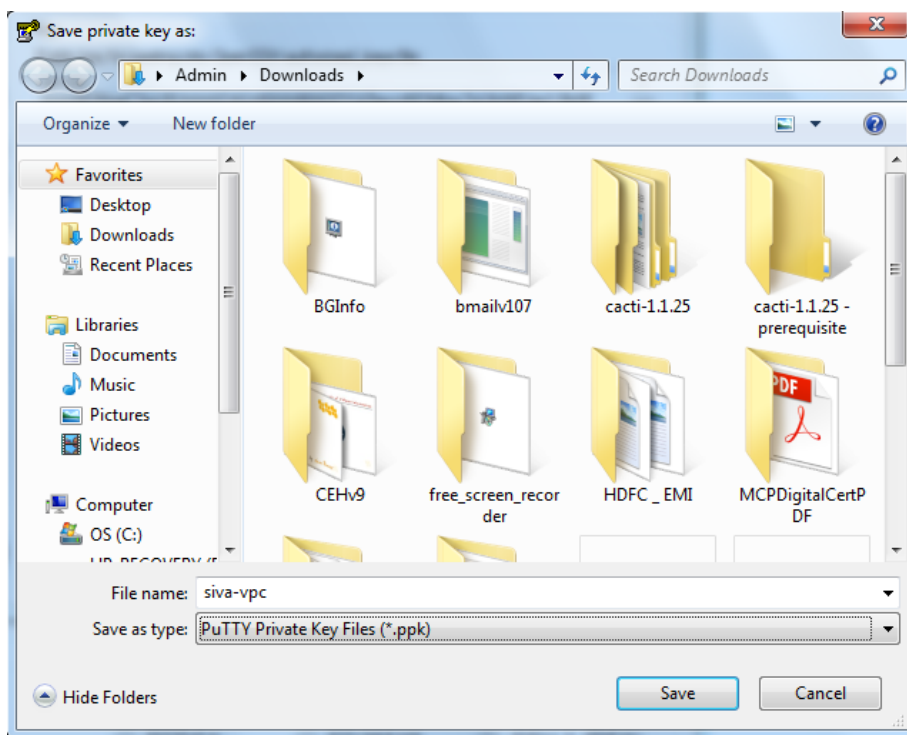
Click “save private key”.



Click “Yes”.

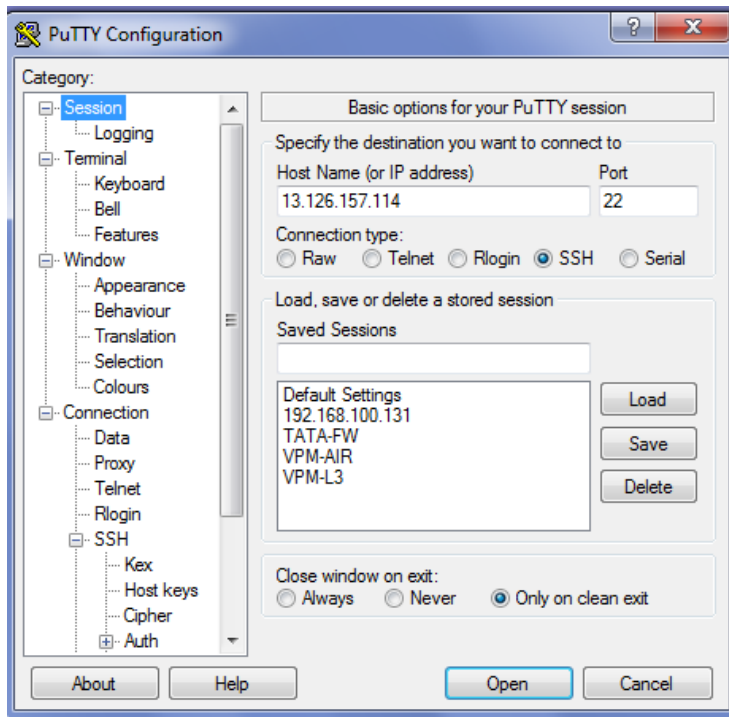


Type the filename to save as ppk file.

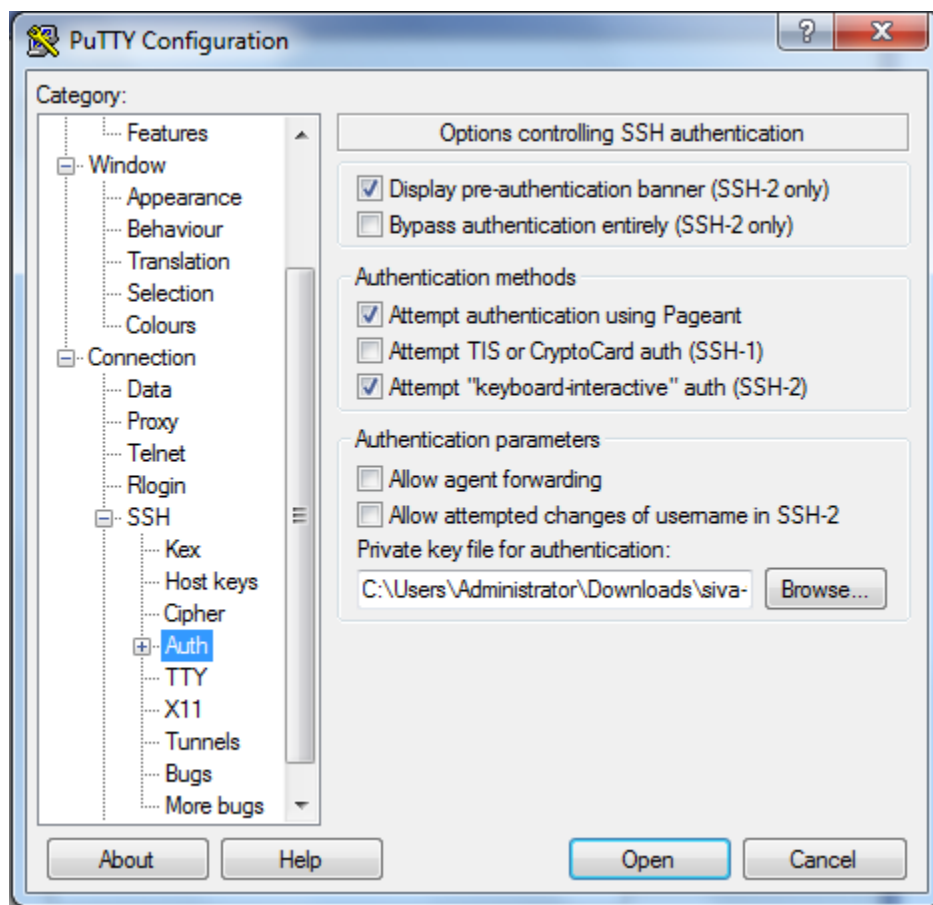




Type Public IP address of linux instance in putty,

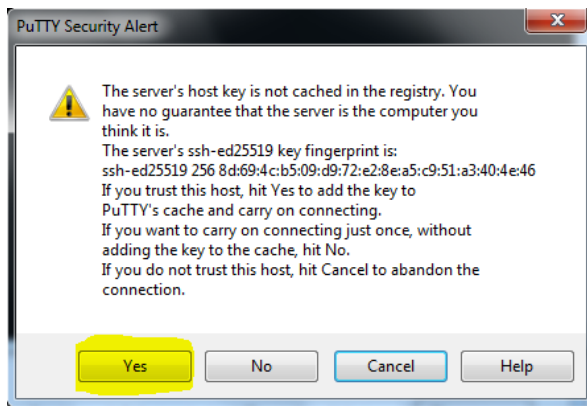


In SSH expand the plus symbol, click Auth, and browse the ppk file.

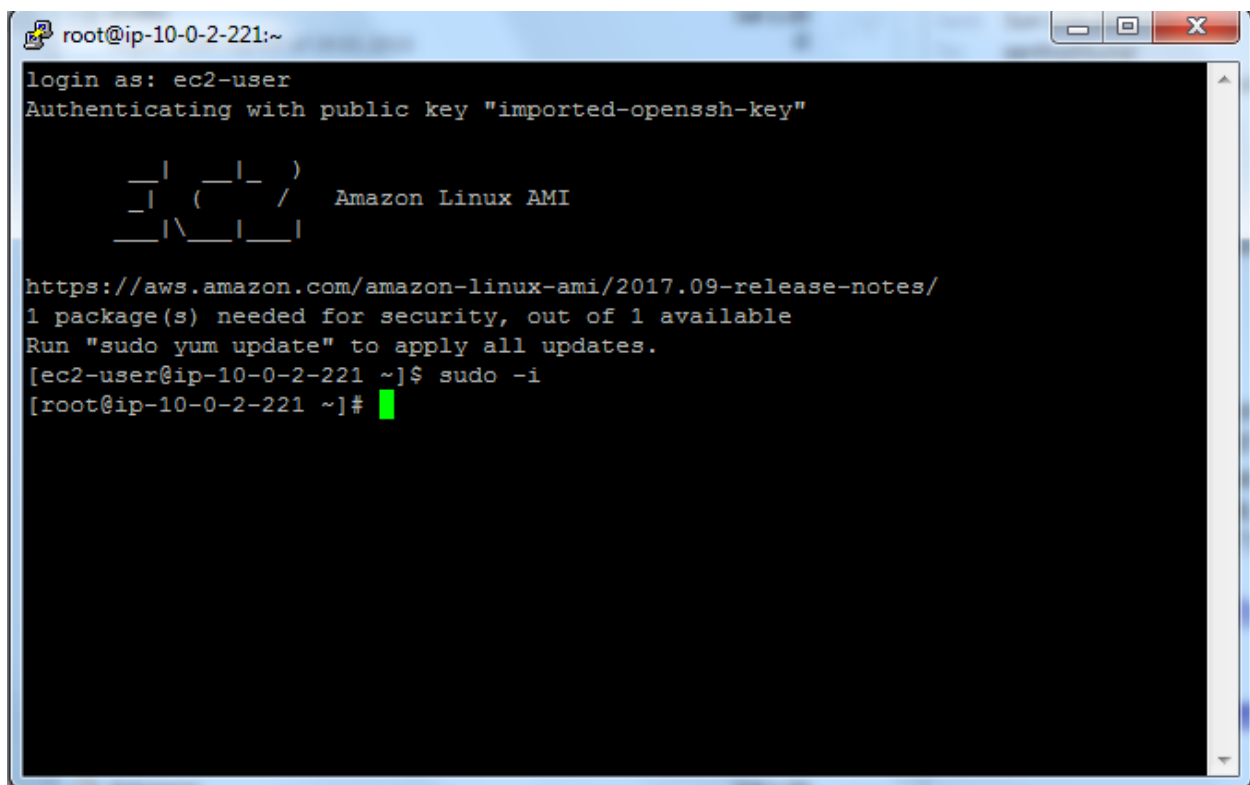


Click “Open”.

Click "Yes"



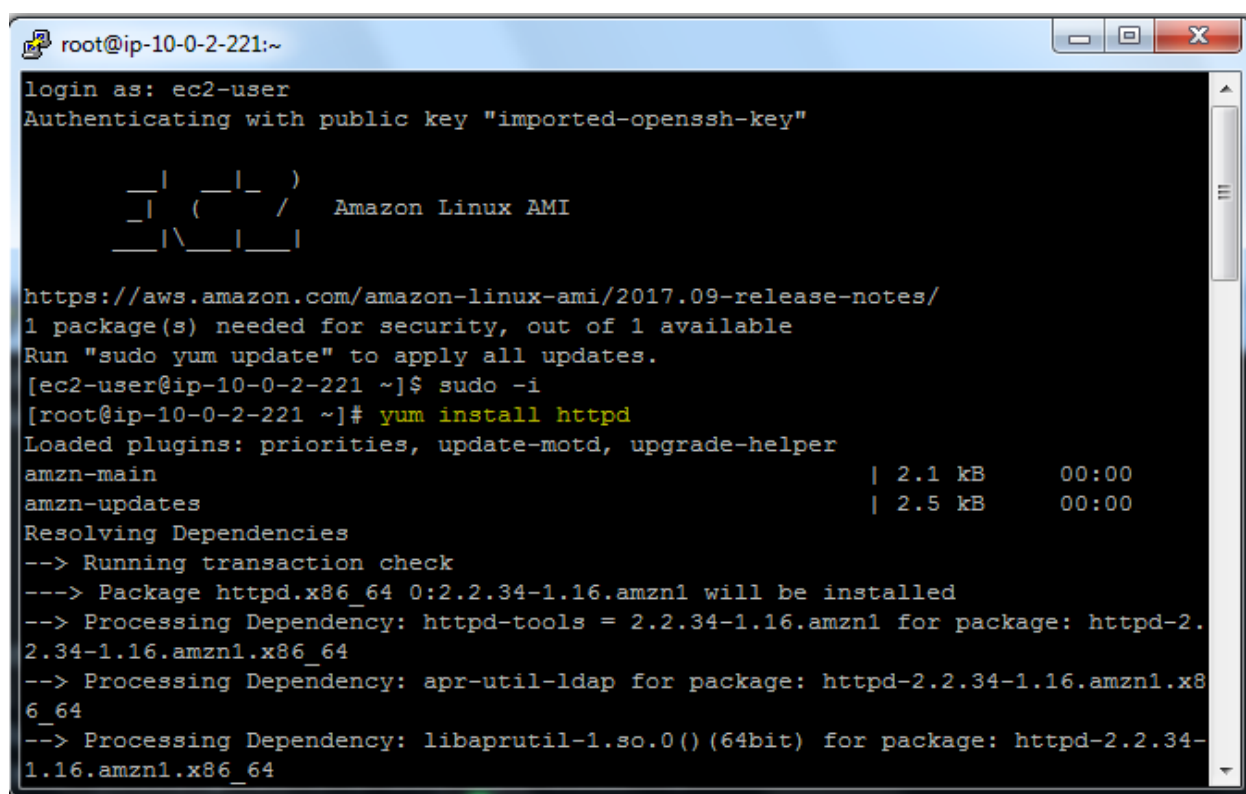
Type user as **ec2-user**



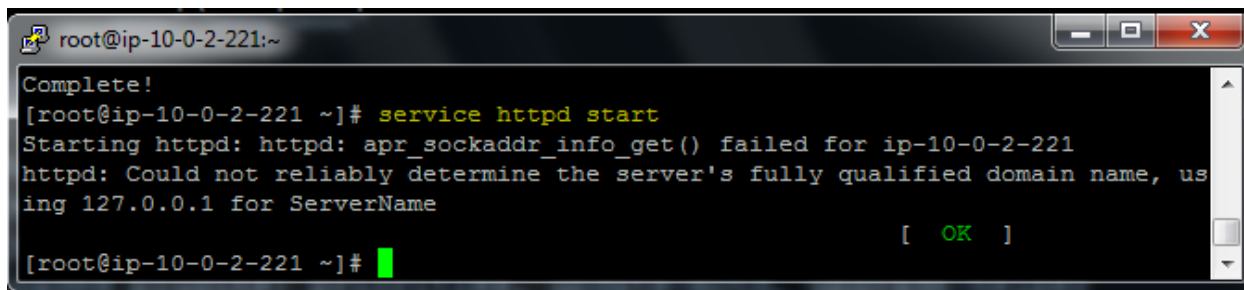
Then type ***sudo -i***

Then we need to install apache webserver in linux by using below mentioned command

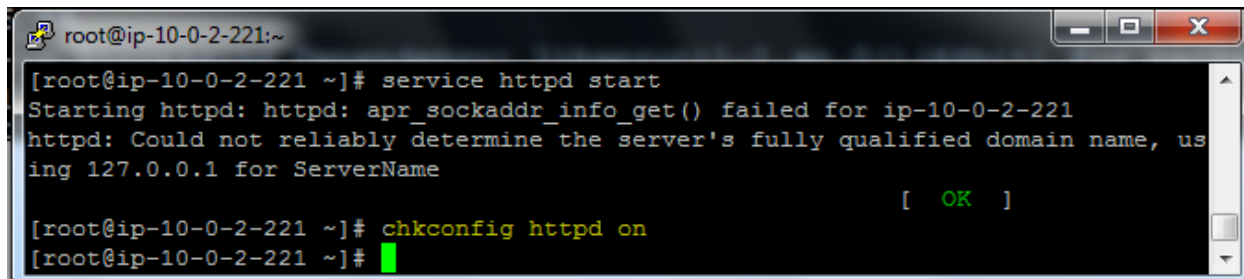
***Yum install httpd***



```
root@ip-10-0-2-221:~  
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-10-0-2-221 ~]$ sudo -i  
[root@ip-10-0-2-221 ~]# 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
```

***Service httpd start***

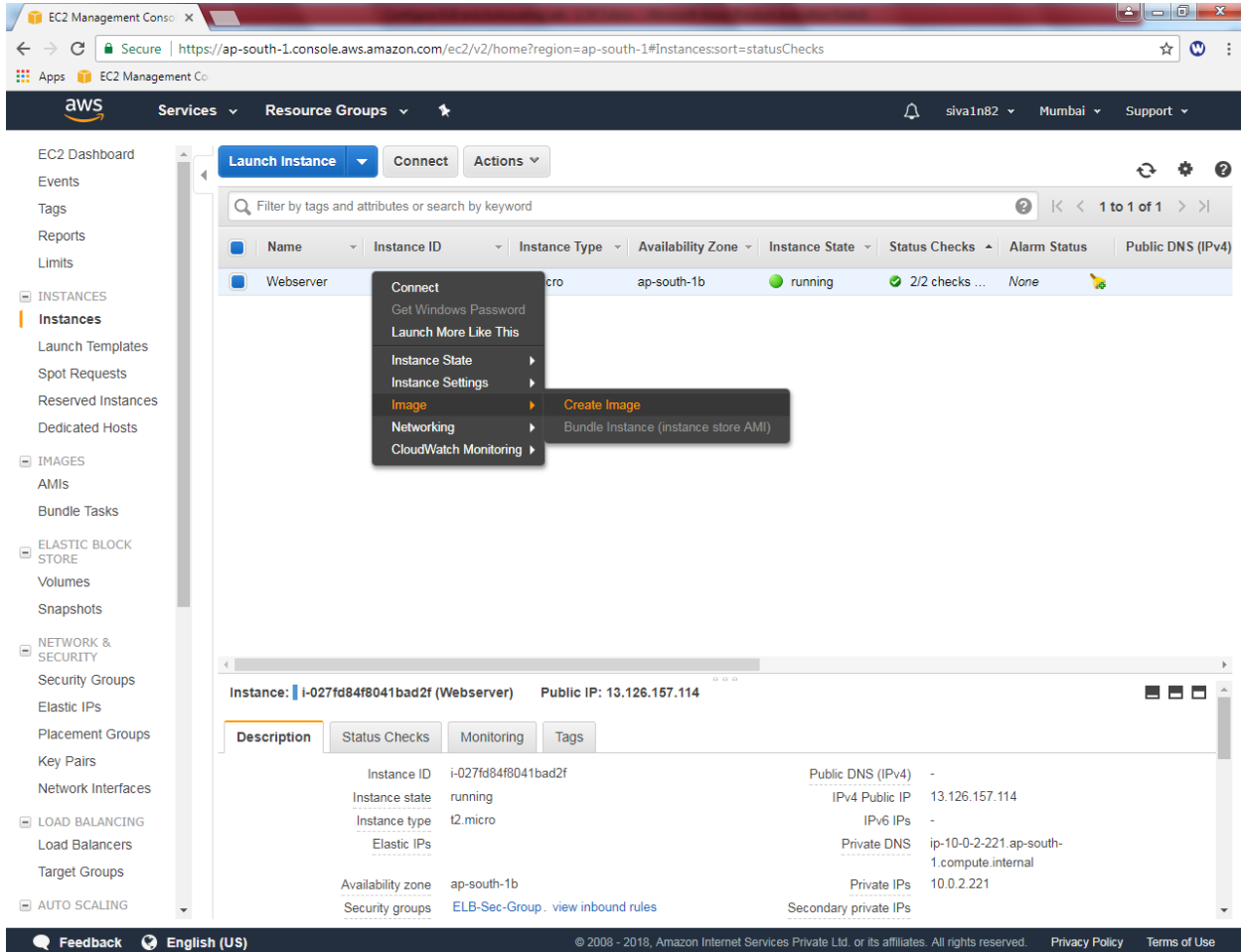
```
root@ip-10-0-2-221:~  
Complete!  
[root@ip-10-0-2-221 ~]# service httpd start  
Starting httpd: httpd: apr_sockaddr_info_get() failed for ip-10-0-2-221  
httpd: Could not reliably determine the server's fully qualified domain name, us  
ing 127.0.0.1 for ServerName  
[ OK ]  
[root@ip-10-0-2-221 ~]#
```

***Chkconfig httpd on***

```
root@ip-10-0-2-221:~  
[root@ip-10-0-2-221 ~]# service httpd start  
Starting httpd: httpd: apr_sockaddr_info_get() failed for ip-10-0-2-221  
httpd: Could not reliably determine the server's fully qualified domain name, us  
ing 127.0.0.1 for ServerName  
[ OK ]  
[root@ip-10-0-2-221 ~]# chkconfig httpd on  
[root@ip-10-0-2-221 ~]#
```

Now we need to create an image for Linux instance.

Select instance, right click click image → create image.



The screenshot shows the AWS Management Console interface. On the left, the navigation pane is visible with categories like INSTANCES, IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, LOAD BALANCING, and AUTO SCALING. The 'INSTANCES' section is expanded, showing a list of instances. One instance, 'Webserver', is selected. A context menu is open over this instance, with the 'Image' option highlighted, which has opened a sub-menu showing 'Create Image' and 'Bundle Instance (instance store AMI)'. Below the instance list, the details for the selected instance 'i-027fd84f8041bad2f (Webserver)' are displayed, including its public IP address 13.126.157.114 and various configuration details like instance type (t2.micro) and availability zone (ap-south-1b).

Type image name as “Sansbound webserver”

Image description as “ELB Testing”.

Create Image

Instance ID ⓘ i-027fd84f8041bad2f

Image name ⓘ Sansbound webserver

Image description ⓘ ELB Testing

No reboot ⓘ ☐

Instance Volumes

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

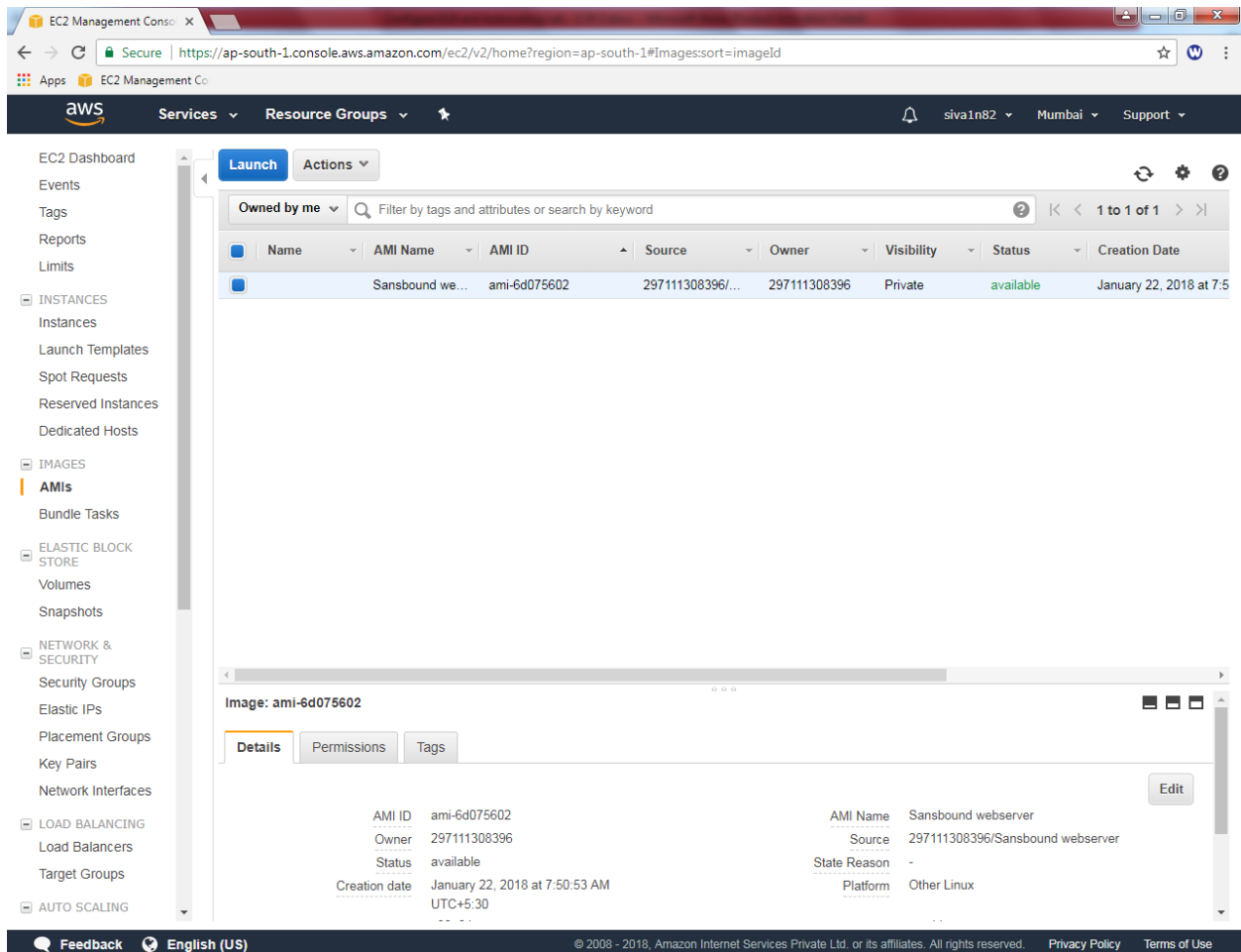
Add New Volume

Total size of EBS Volumes: 8 GiB  
When you create an EBS image, an EBS snapshot will also be created for each of the above volumes.

Cancel Create Image

Click “create image”.

To view the image , click “AMI”. Wait up to the state is **available**.



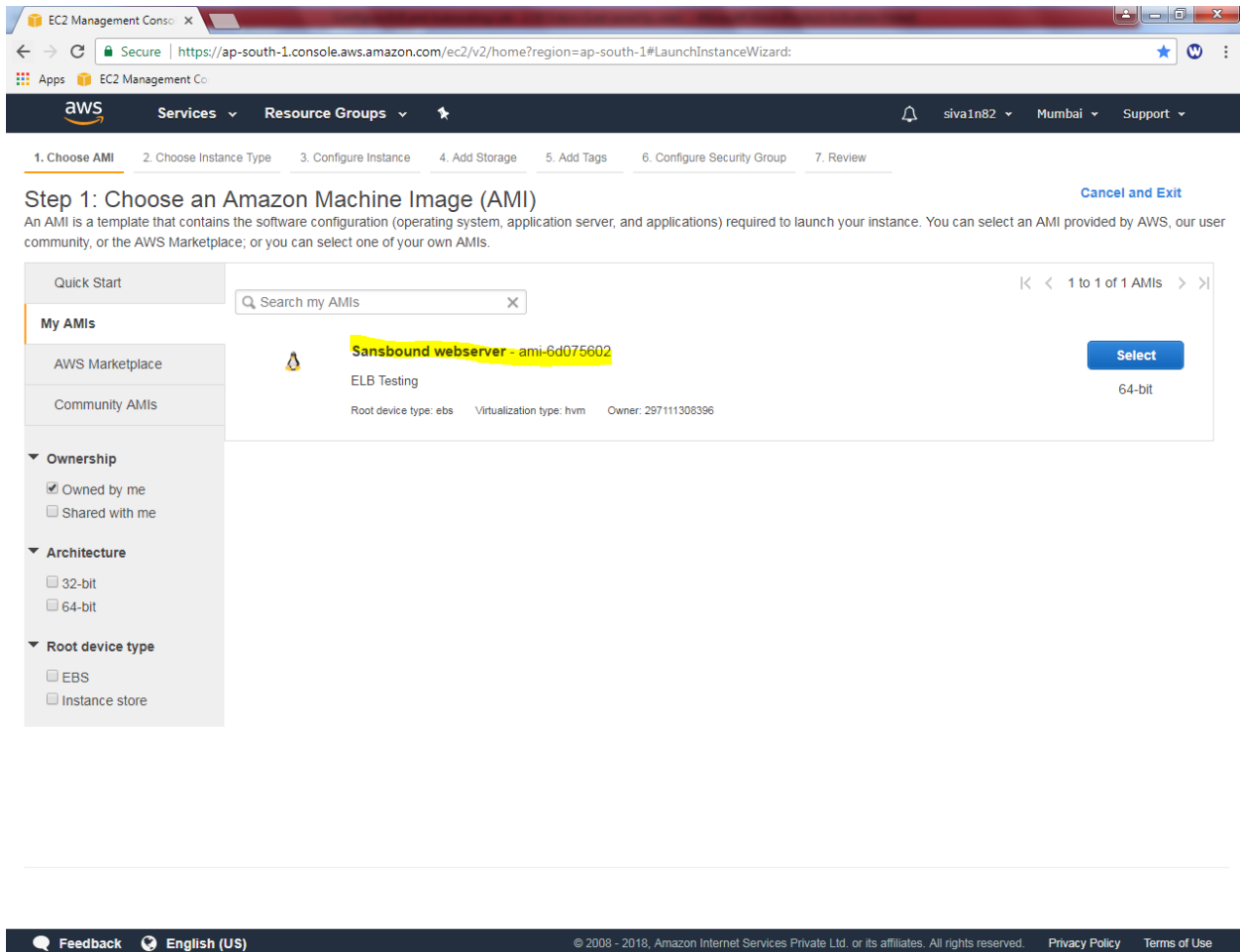
The screenshot shows the AWS Management Console interface. The left sidebar contains navigation links for EC2 Dashboard, INSTANCES, IMAGES (with AMIs selected), ELASTIC BLOCK STORE, NETWORK & SECURITY, LOAD BALANCING, and AUTO SCALING. The main content area displays a table of AMIs with one entry: 'Sansbound we...' with AMI ID 'ami-6d075602', Source '297111308396/...', Owner '297111308396', Visibility 'Private', Status 'available', and Creation Date 'January 22, 2018 at 7:5...'. Below the table, the 'Details' tab for 'Image: ami-6d075602' is active, showing a metadata table.

Details		Permissions		Tags	
AMI ID	ami-6d075602	AMI Name	Sansbound webserver		
Owner	297111308396	Source	297111308396/Sansbound webserver		
Status	available	State Reason	-		
Creation date	January 22, 2018 at 7:50:53 AM UTC+5:30	Platform	Other Linux		

Click “Launch”.



Click “My AMIs” and select “Sansbound webserver”.



The screenshot displays 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 console header includes the AWS logo, navigation tabs (Services, Resource Groups), and user information (siva1n82, Mumbai, Support).

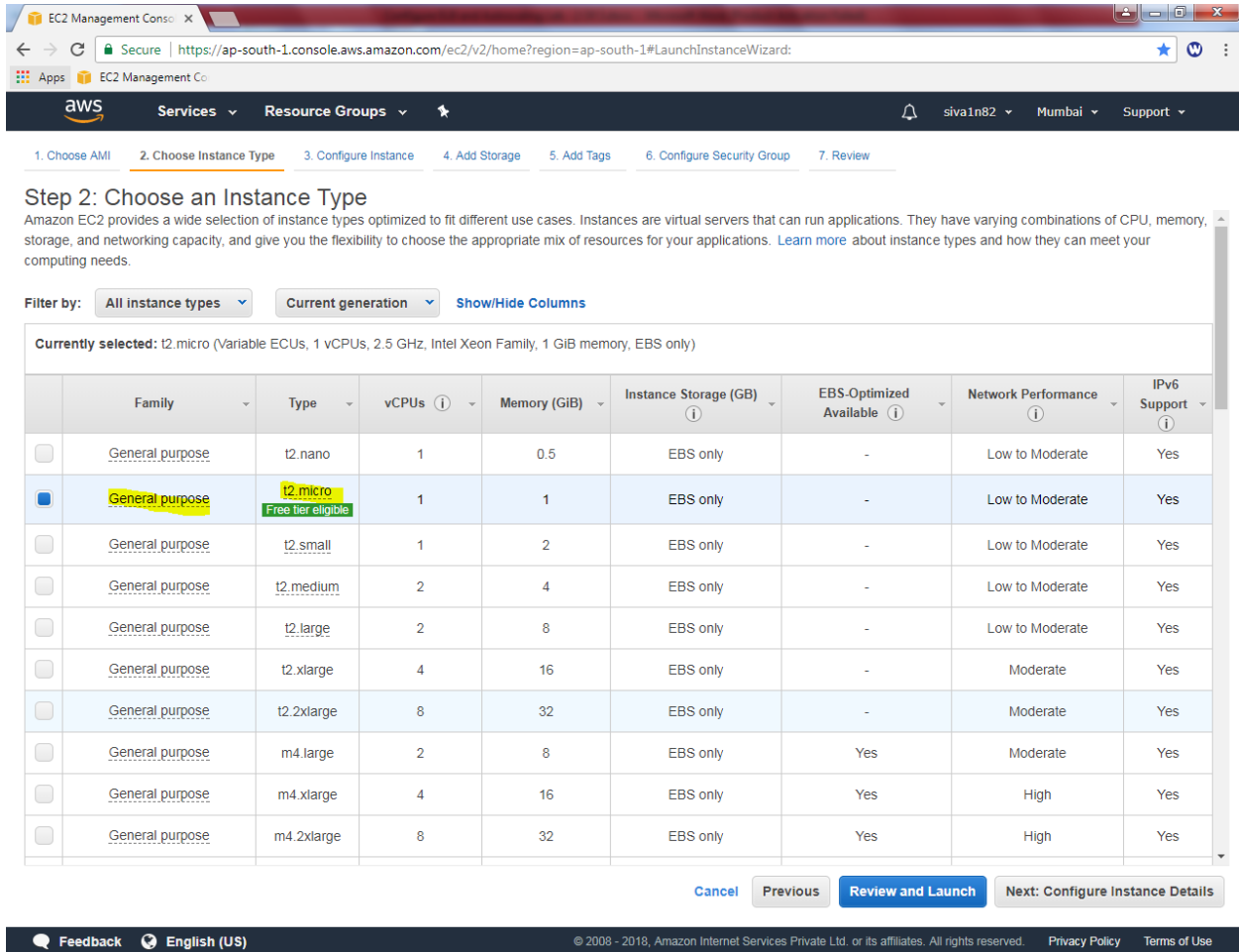
The wizard progress bar indicates the current step is '1. Choose AMI'. The main heading is 'Step 1: Choose an Amazon Machine Image (AMI)'. Below the heading, a descriptive text states: 'An AMI is a template that contains the software configuration (operating system, application server, and applications) 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.'

The 'My AMIs' section is active, showing a search bar and a list of AMIs. The first AMI, 'Sansbound webserver - ami-6d075602', is highlighted. It includes a Linux logo icon, the name 'Sansbound webserver - ami-6d075602', the description 'ELB Testing', and technical details: 'Root device type: ebs', 'Virtualization type: hvm', and 'Owner: 297111306396'. A blue 'Select' button is positioned to the right of the AMI entry.

On the left sidebar, there are filter options under 'Ownership' (Owned by me, Shared with me), 'Architecture' (32-bit, 64-bit), and 'Root device type' (EBS, Instance store).

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.' along with links to 'Privacy Policy' and 'Terms of Use'.

Select “t2.micro”.



**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 (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 <small>Free tier eligible</small>	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

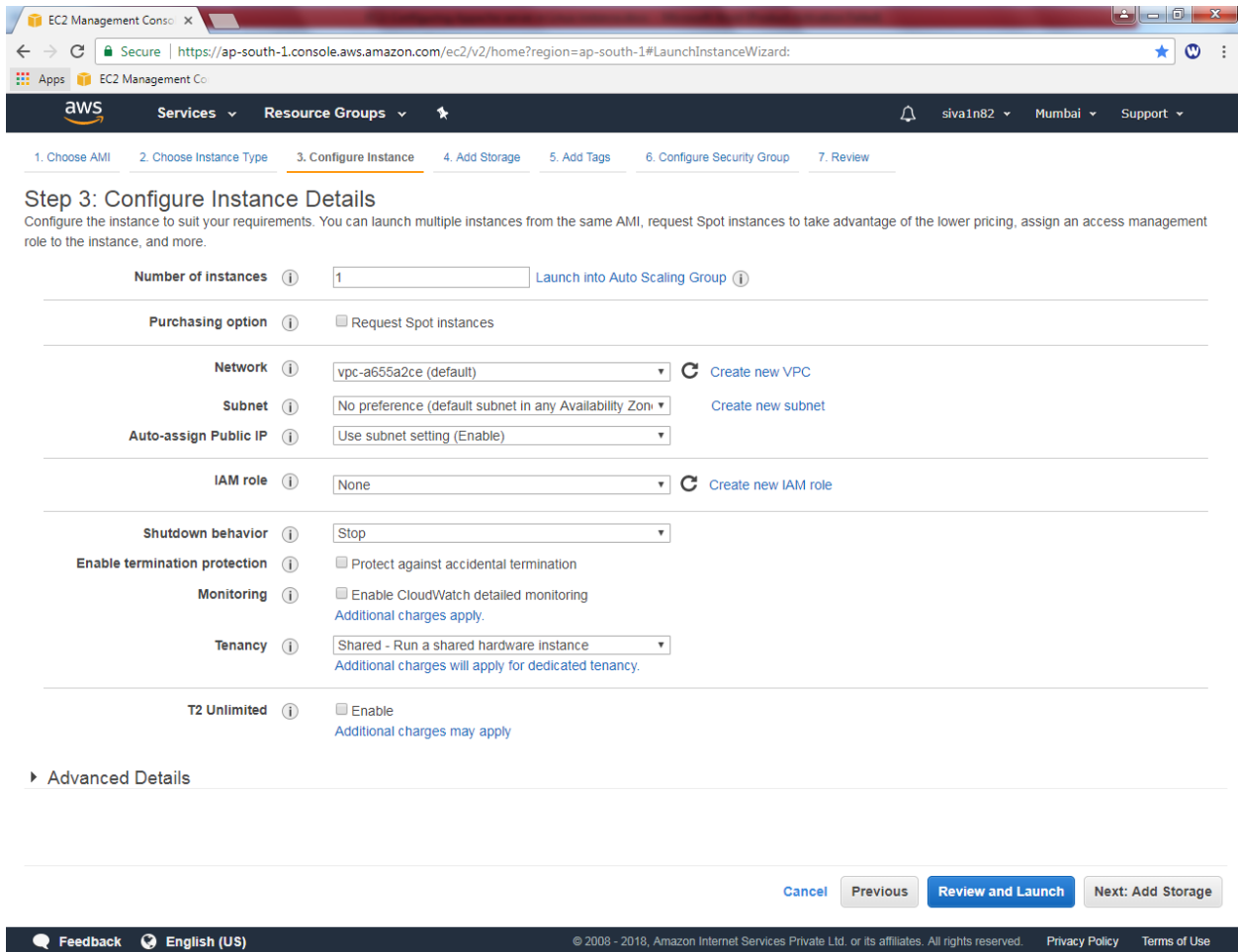
[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

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

Click “Next”.

Create a Number of instances as “1”.

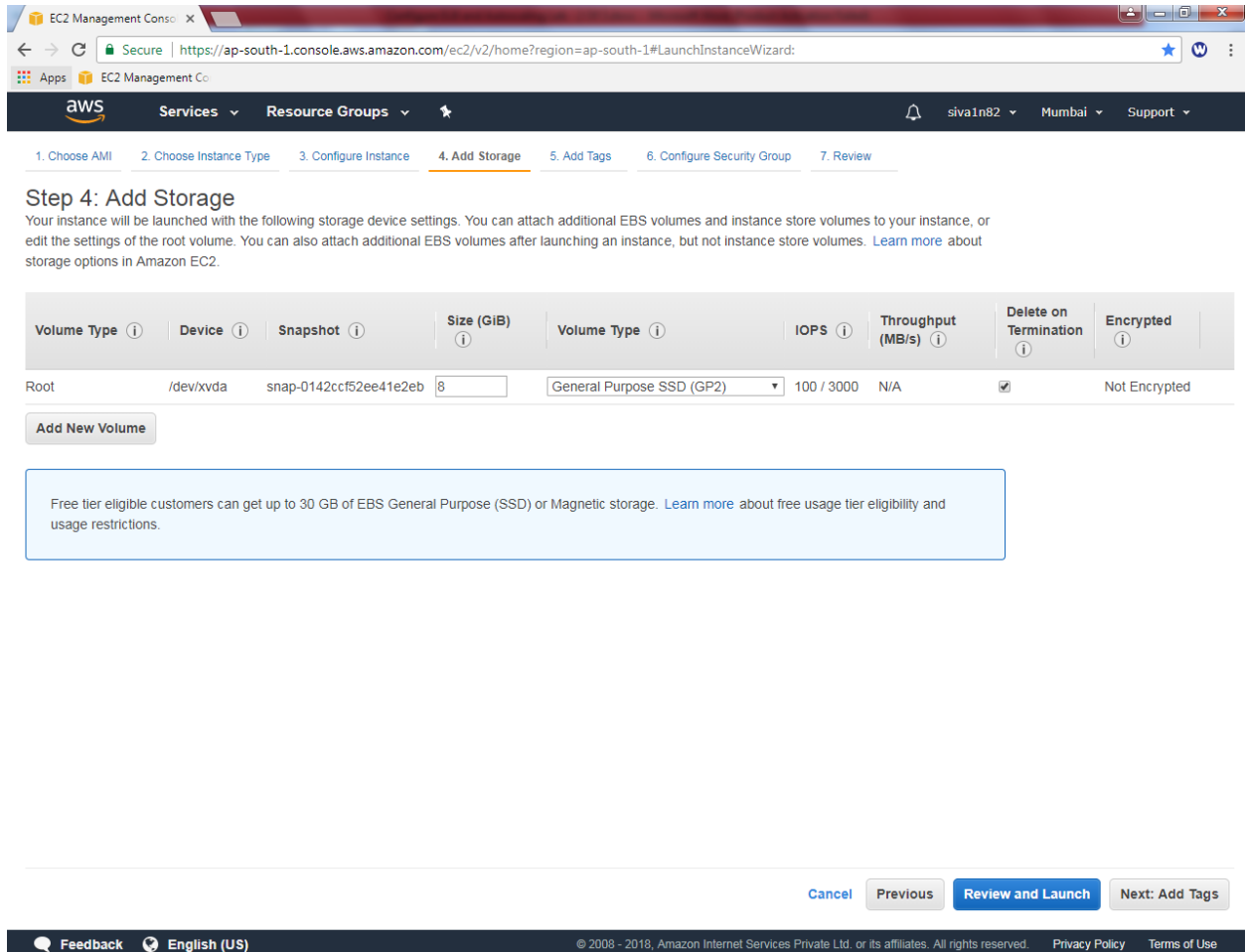
Leave settings by default.



The screenshot shows the AWS Management Console interface for the 'Step 3: Configure Instance Details' of the EC2 Launch Wizard. The breadcrumb trail at the top indicates the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance (current step), 4. Add Storage, 5. Add Tags, 6. Configure Security Group, and 7. Review. The page title is 'Step 3: Configure Instance Details' with a subtitle explaining that users can launch multiple instances from the same AMI, request Spot instances, assign an IAM role, and more. The form contains several sections: 'Number of instances' set to 1 with a 'Launch into Auto Scaling Group' link; 'Purchasing option' with 'Request Spot instances' unchecked; 'Network' section with 'vpc-a655a2ce (default)' selected, 'Create new VPC' link, 'Subnet' set to 'No preference (default subnet in any Availability Zone)' with 'Create new subnet' link, and 'Auto-assign Public IP' set to 'Use subnet setting (Enable)'; 'IAM role' set to 'None' with 'Create new IAM role' link; 'Shutdown behavior' set to 'Stop'; 'Enable termination protection' unchecked; 'Monitoring' with 'Enable CloudWatch detailed monitoring' unchecked and a link to 'Additional charges apply'; 'Tenancy' set to 'Shared - Run a shared hardware instance' with a link to 'Additional charges will apply for dedicated tenancy'; and 'T2 Unlimited' with 'Enable' unchecked and a link to 'Additional charges may apply'. Below the form is a section for 'Advanced Details'. At the bottom, there are navigation buttons: 'Cancel', 'Previous', 'Review and Launch' (highlighted in blue), and 'Next: Add Storage'. The footer includes a 'Feedback' link, 'English (US)' language selector, and copyright information for Amazon Internet Services Private Ltd. with links to 'Privacy Policy' and 'Terms of Use'.

Click “Next”.

Leave as default and click “Next”.



The screenshot shows the AWS Management Console interface for the 'Add Storage' step of the EC2 instance launch wizard. The breadcrumb navigation at the top indicates the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage (current step), 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-0142ccf52ee41e2eb	8	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

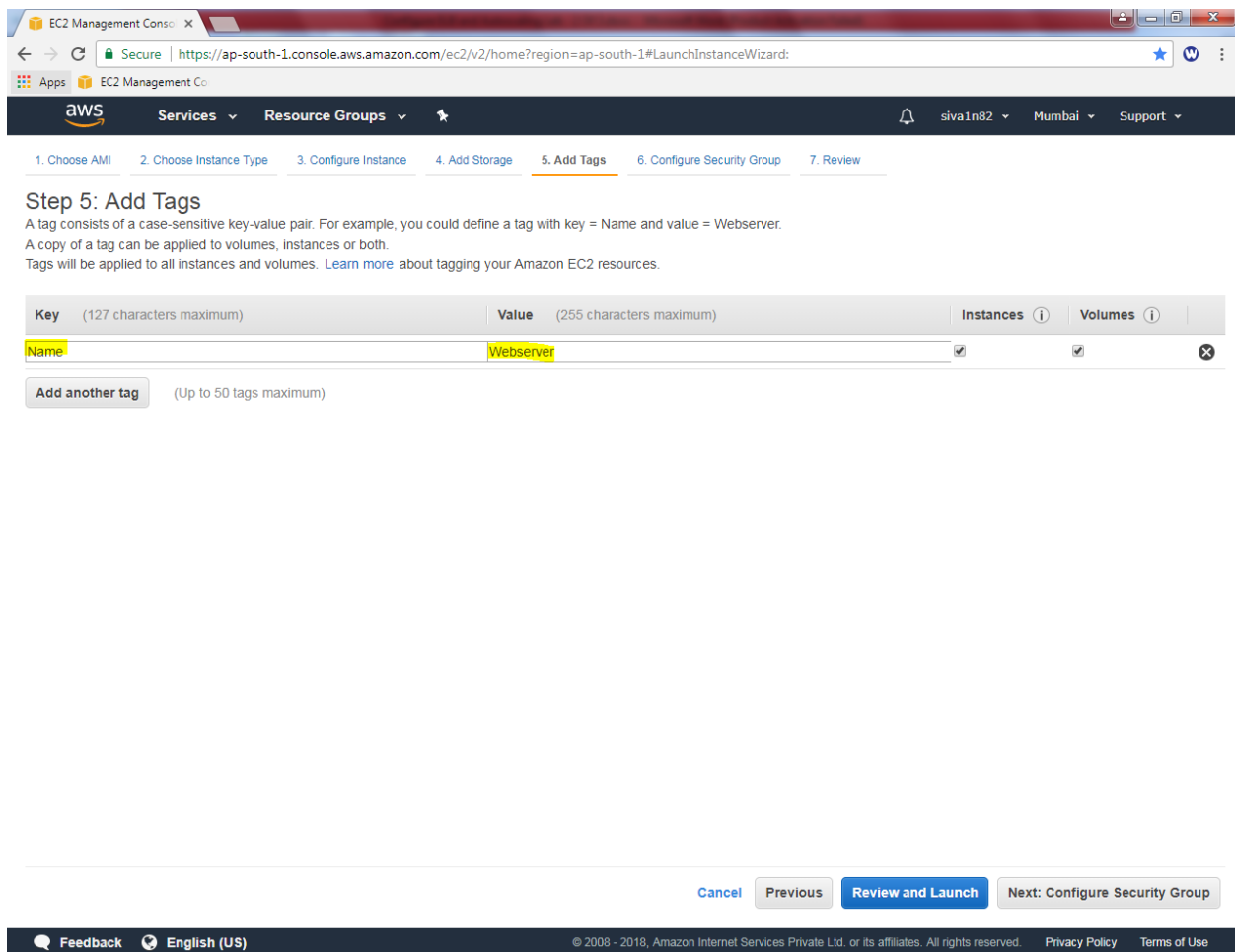
[Add New Volume](#)

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.

At the bottom of the console, there are navigation buttons: [Cancel](#), [Previous](#), [Review and Launch](#) (highlighted in blue), and [Next: Add Tags](#).

The footer of the console includes a [Feedback](#) link, the language set to [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](#).

In Add tags, Name: Webserver



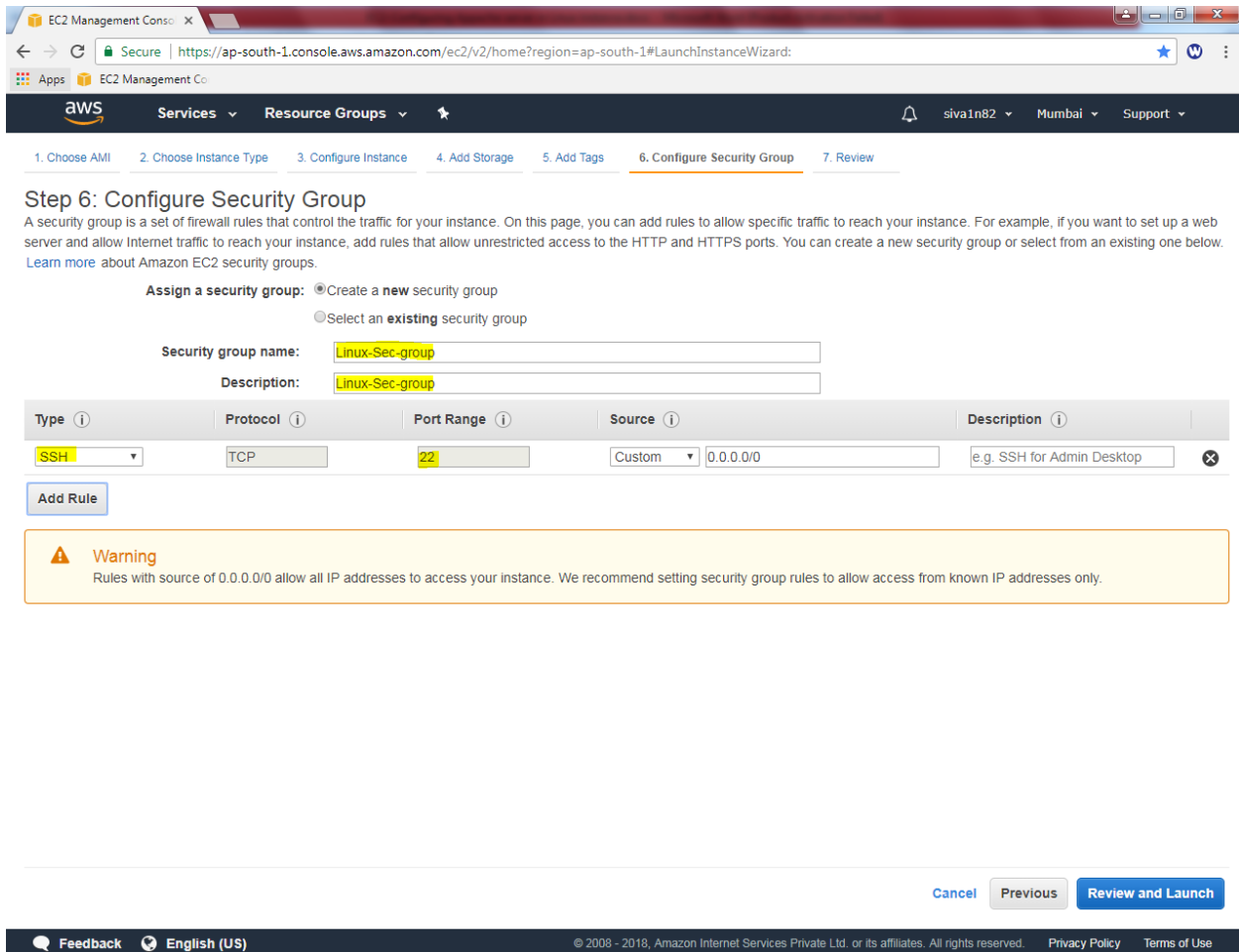
The screenshot shows the AWS Management Console 'Add Tags' step. The breadcrumb trail at the top indicates the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, 5. Add Tags (current step), 6. Configure Security Group, and 7. Review. The page title is 'Step 5: Add Tags'. Below the title, there is explanatory text: '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	Value	Instances	Volumes
Name	Webserver	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Below the table, there is a button 'Add another tag' and a note '(Up to 50 tags maximum)'. At the bottom of the console, there are navigation buttons: 'Cancel', 'Previous', 'Review and Launch' (highlighted in blue), and 'Next: Configure Security Group'. The footer contains 'Feedback', 'English (US)', and copyright information: '© 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use'.

Click "Next".

Select “Linux-Sec-group”



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

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**

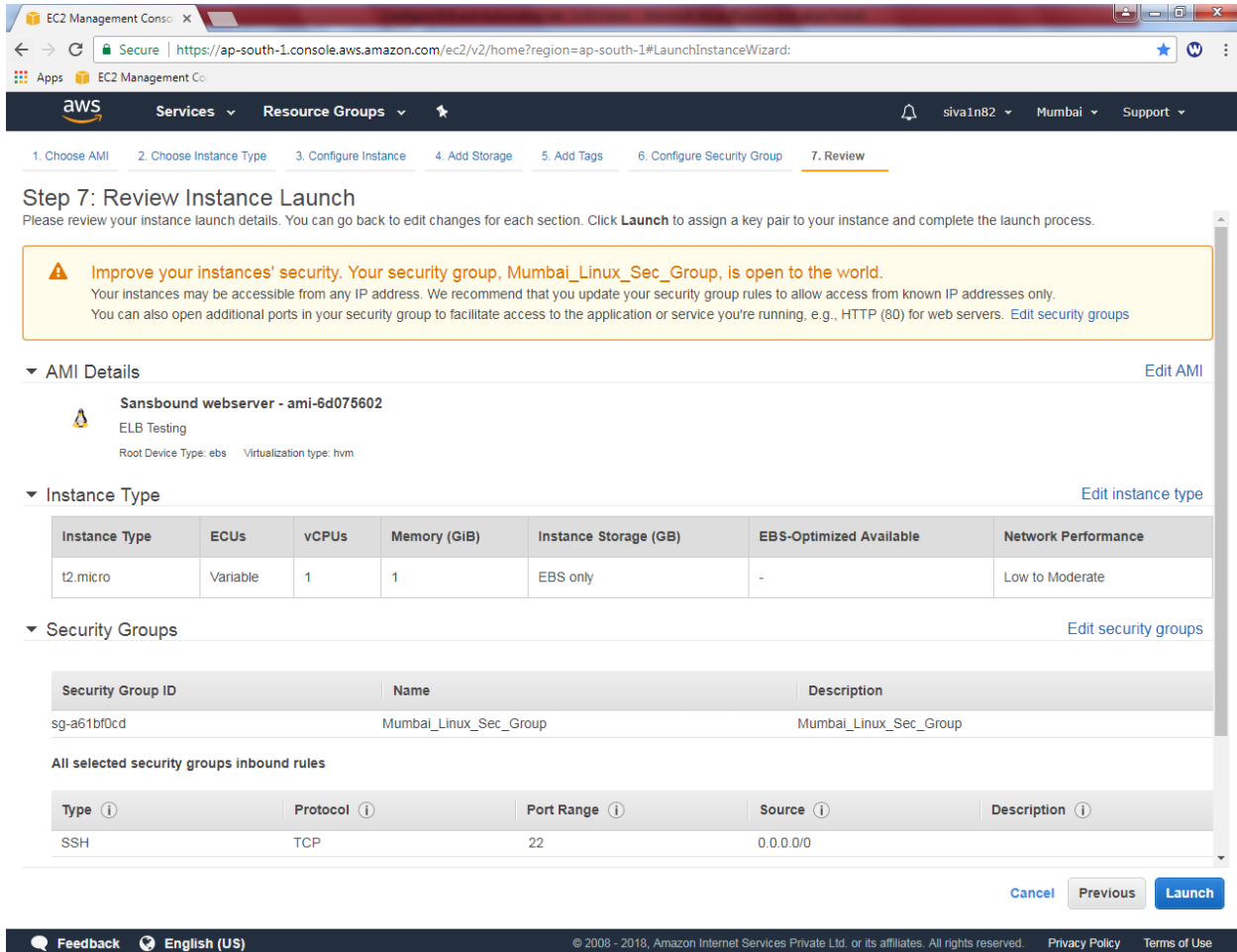
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

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”.



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 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, Mumbai\_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](#)

**Sansbound webservice - ami-6d075602**

ELB Testing

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 ID	Name	Description
sg-a61bf0cd	Mumbai_Linux_Sec_Group	Mumbai_Linux_Sec_Group

**All selected security groups inbound rules**

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

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

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

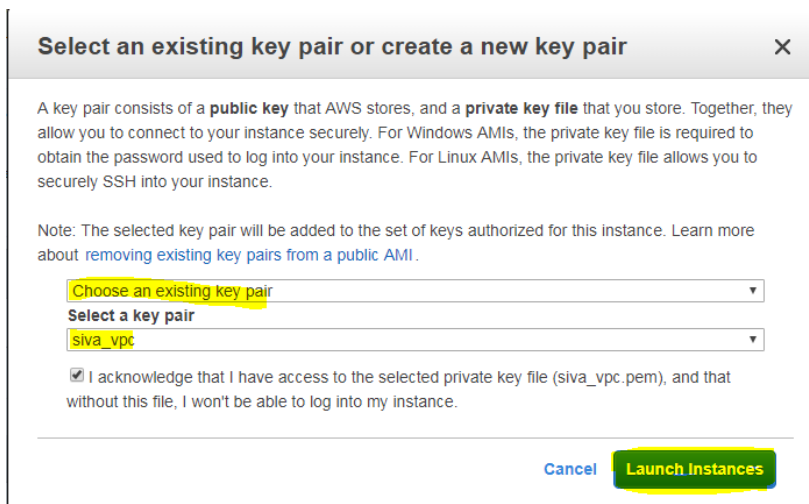
Click "Launch".

While launch instance it asks select an existing key pair or create a new key pair.

I will choose “Choose an existing key pair”

Select a key pair “siva\_vpc”.

Click “I acknowledge”.



The screenshot shows a modal dialog box titled "Select an existing key pair or create a new key pair" with a close button (X) in the top right corner. The dialog contains the following text:

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.

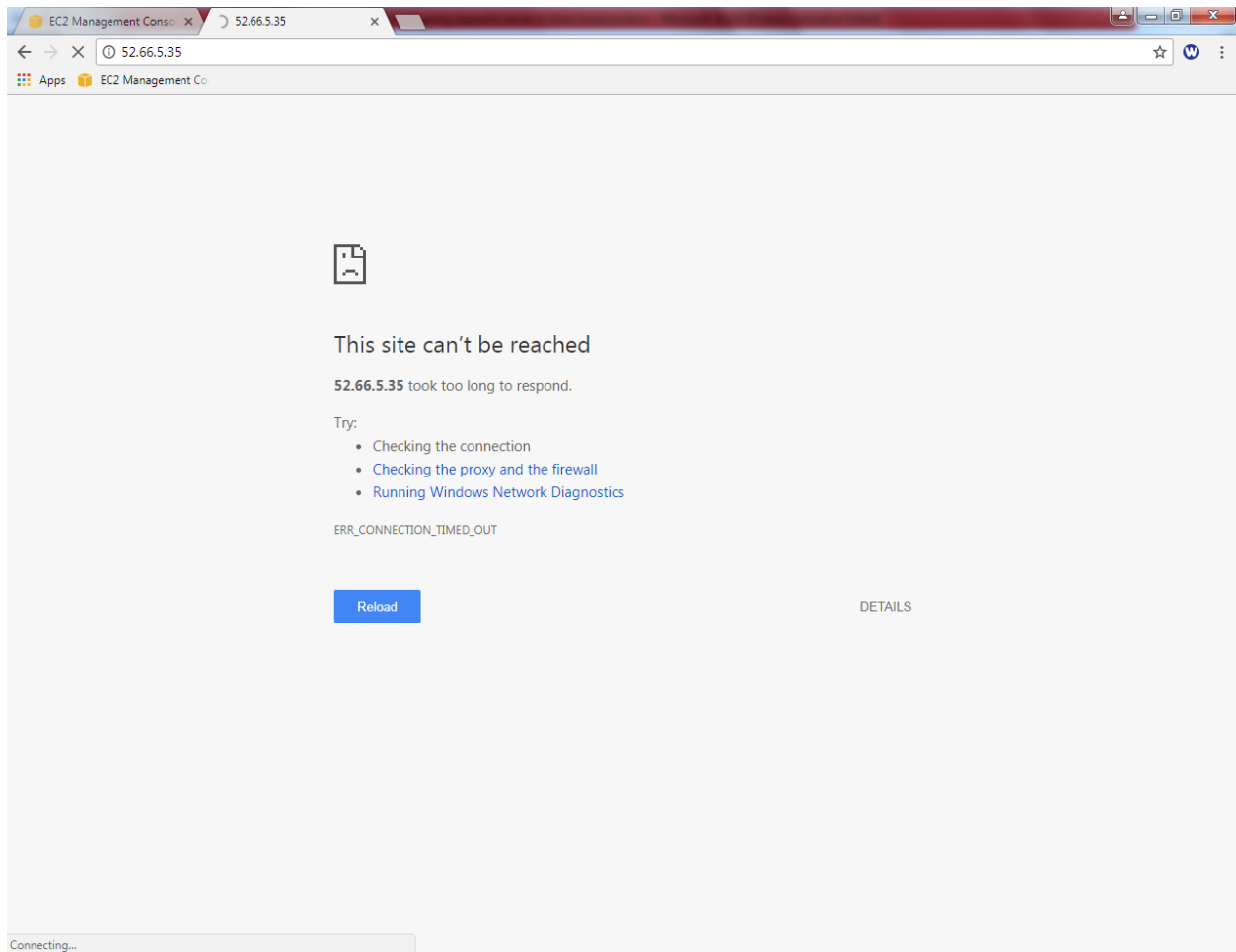
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Below the note, there are two dropdown menus. The first dropdown is labeled "Choose an existing key pair" and has a downward arrow. The second dropdown is labeled "Select a key pair" and has the text "siva\_vpc" selected, with a downward arrow. Below the dropdowns, there is a checkbox that is checked, with the text: "I acknowledge that I have access to the selected private key file (siva\_vpc.pem), and that without this file, I won't be able to log into my instance."

At the bottom right of the dialog, there are two buttons: "Cancel" and "Launch Instances". The "Launch Instances" button is highlighted with a yellow box.

Click “Launch instances”.



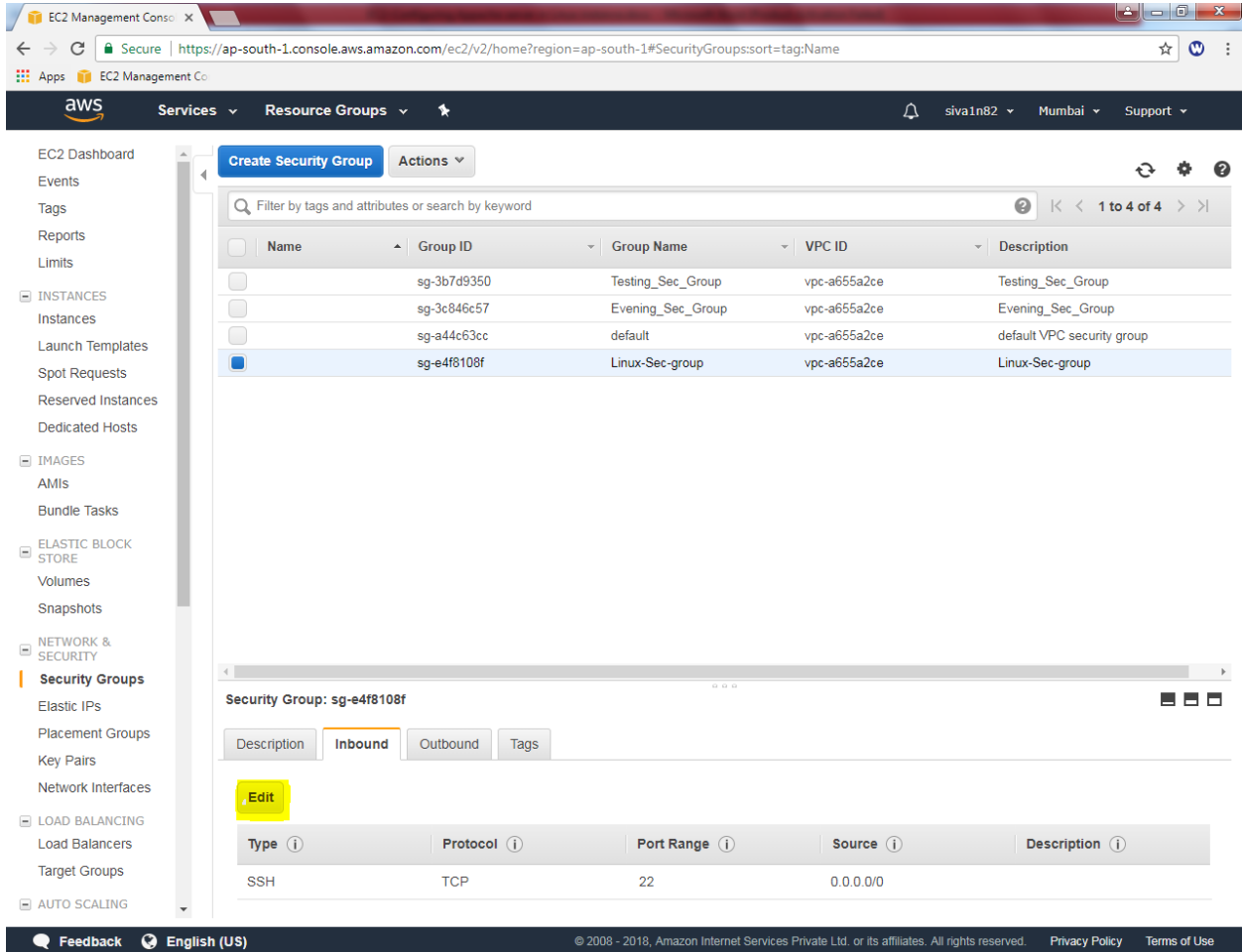


You would not be able to connect, what could be the reason?

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 shows the AWS Management Console interface for the EC2 Management Console. The left sidebar contains navigation links for various AWS services. The main content area displays a list of security groups, with 'Linux-Sec-group' selected. Below the list, the 'Inbound' tab is active, showing a table of rules. An '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

Security Group: sg-e4f8108f

[Description](#)
[Inbound](#)
[Outbound](#)
[Tags](#)

[Edit](#)

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.

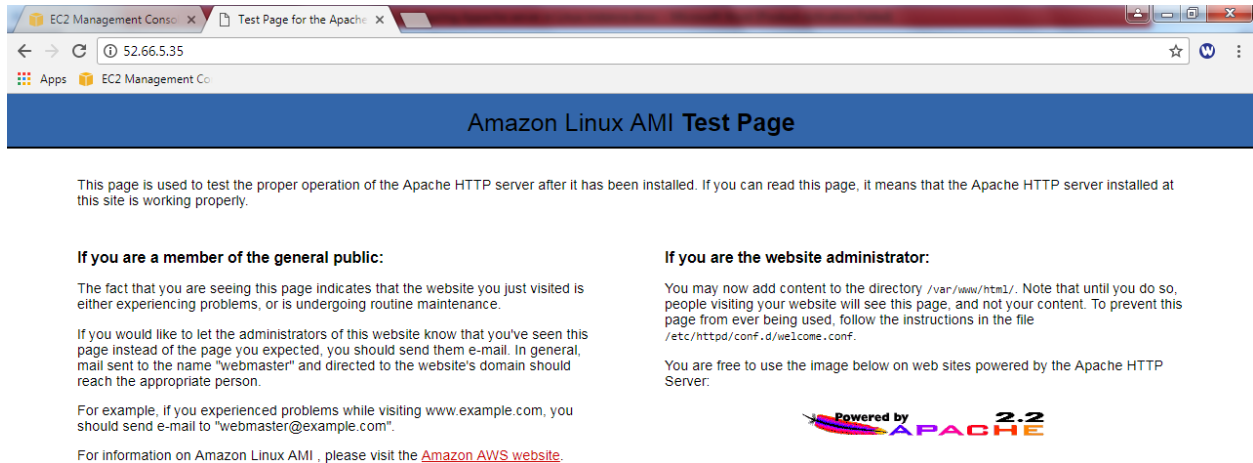
Cancel

Save

Click "Save".

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

<http://52.66.5.35> and try to connect another one web server ip deployed by using AMI.



We have successfully got the web server page.