

Docker complete Step by step process

1) Create a VM on ec2 instance

The screenshot displays the AWS Management Console's 'Launch instance wizard' for the 'ap-south-1' region. The first step, 'Choose an Amazon Machine Image (AMI)', is active. It provides a search bar and a list of available AMIs. The 'Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type' is highlighted, showing its details: ami-0c6615d1e95c98aca (64-bit x86) and ami-086be6d514a32d0f4 (64-bit Arm). The 'Free tier eligible' badge is visible. The wizard progress bar at the top indicates the current step is 1 of 7.

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

Search for an AMI by entering a search term e.g. "Windows"

Quick Start

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

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type - ami-0c6615d1e95c98aca (64-bit x86) / ami-086be6d514a32d0f4 (64-bit Arm)

Free tier eligible

Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

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

1 to 45 of 45 AMIs

Select

64-bit (x86) 64-bit (Arm)

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Select amazon linux 2 ami

Launch instance wizard | EC2 M... x +

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard:

Services Search for services, features, blogs, docs, and more [Alt+S]

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 families Current generation Show/Hide Columns

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.xlarge	4	16	EBS only	-	Moderate	Yes

Cancel Previous Review and Launch Next: Configure Instance Details

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Select t2.micro and configure instance details

Add storage

Launch instance wizard | EC2 M... x +

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard:

Services Search for services, features, blogs, docs, and more [Alt+S]

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-05a608ed9abf73516 (default) Create new VPC

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

Auto-assign Public IP Use subnet setting (Enable)

Hostname type Use subnet setting (IP name)

DNS Hostname ☒ Enable IP name IPv4 (A record) DNS requests ☒ Enable resource-based IPv4 (A record) DNS requests ☐ Enable resource-based IPv6 (AAAA record) DNS requests

Placement group ☐ Add instance to placement group

Capacity Reservation Open

Cancel Previous Review and Launch Next: Add Storage

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Add tags

The screenshot shows the 'Step 4: Add Storage' page of the AWS Launch Instance Wizard. The breadcrumb trail 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. The page title is 'Step 4: Add Storage'. Below the title, a paragraph explains that the instance will be launched with the following storage device settings and that additional EBS volumes can be attached after launching. A table lists the storage settings for the 'Root' volume: Device is '/dev/xvda', Snapshot is 'snap-0d2b1848f14ffd3cd', Size is '8' GiB, Volume Type is 'General Purpose SSD (gp2)', IOPS is '100 / 3000', Throughput is 'N/A', Delete on Termination is checked, and Encryption is 'Not Encrypt'. Below the table is an 'Add New Volume' button. A blue box contains a note about free tier eligible customers. At the bottom, there is a section for 'Shared file systems' and navigation buttons: 'Cancel', 'Previous', 'Review and Launch', and 'Next: Add Tags'.

Launch instance wizard | EC2 M... x

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 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	Encryption
Root	/dev/xvda	snap-0d2b1848f14ffd3cd	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypt

[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.

Shared file systems

You currently don't have any file systems on this instance. Select "Add file system" button below to add a file system.

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

The screenshot shows the 'Step 5: Add Tags' page of the AWS Launch Instance Wizard. 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, a paragraph explains that a tag consists of a case-sensitive key-value pair and that a copy of a tag can be applied to volumes, instances or both. A table with columns 'Key' and 'Value' is shown, with a note that 'This resource currently has no tags'. Below the table, there is a section for 'Add Tag' with a note that 'Up to 50 tags maximum'. At the bottom, there are navigation buttons: 'Cancel', 'Previous', 'Review and Launch', and 'Next: Configure Security Group'.

Launch instance wizard | EC2 M... x

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 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	Value	Instances	Volumes	Network Interfaces
This resource currently has no tags				

Choose the [Add tag](#) button or [click to add a Name tag](#).

Make sure your [IAM policy](#) includes permissions to create tags.

[Add Tag](#) (Up to 50 tags maximum)

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

Configure security groups

Launch instance wizard | EC2 Ma x +

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard:

Services Search for services, features, blogs, docs, and more [Alt+S]

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
HTTP	TCP	80	Custom 0.0.0.0/0 ::/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**

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Add http and review and launch

Launch instance wizard | EC2 Ma x +

ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#LaunchInstanceWizard:

Services Search for services, features, blogs, docs, and more [Alt+S]

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

Instance type	Instance size	Number of instances	Instance storage (GB)	EBS storage (GB)	EC2 instance profile	Instance profile
t2.micro	-	1	1	EBS only	-	Low to Moderate

Security Groups [Edit security groups](#)

Security group name: launch-wizard-25
Description: launch-wizard-25 created 2022-02-27T12:08:44.384+05:30

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	

Instance Details [Edit instance details](#)

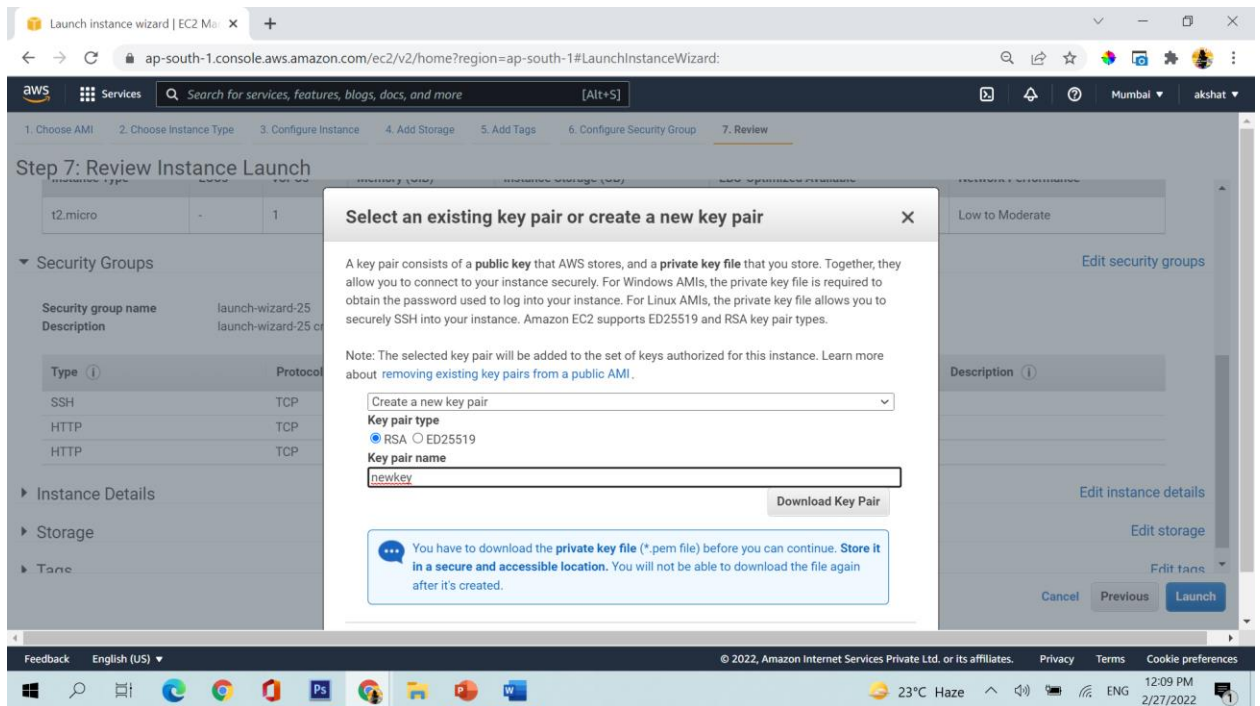
Storage [Edit storage](#)

Tags [Edit tags](#)

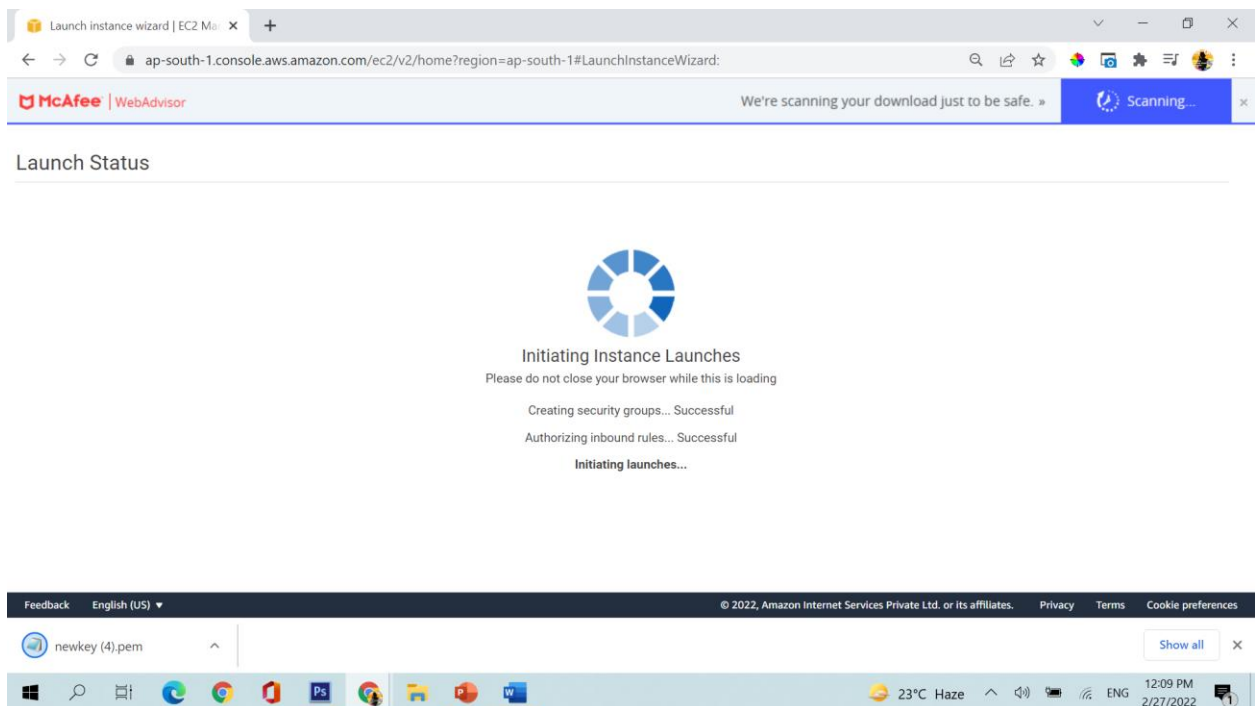
Cancel Previous **Launch**

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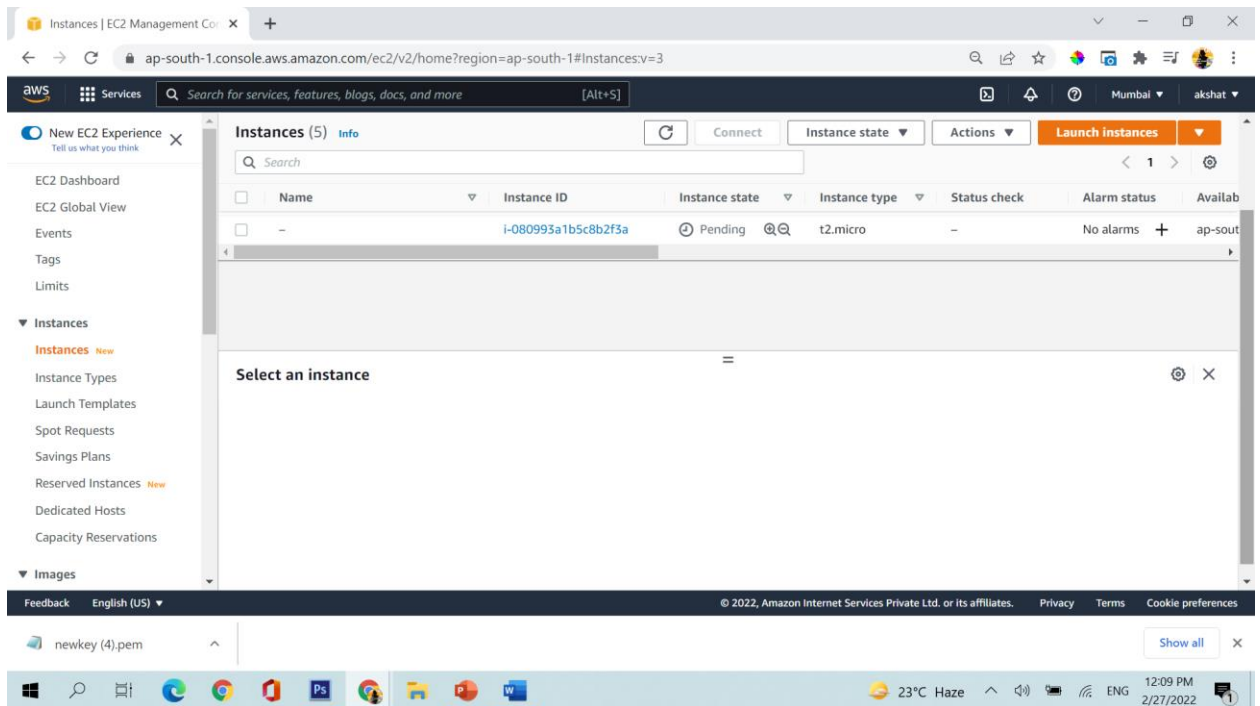
Now launch



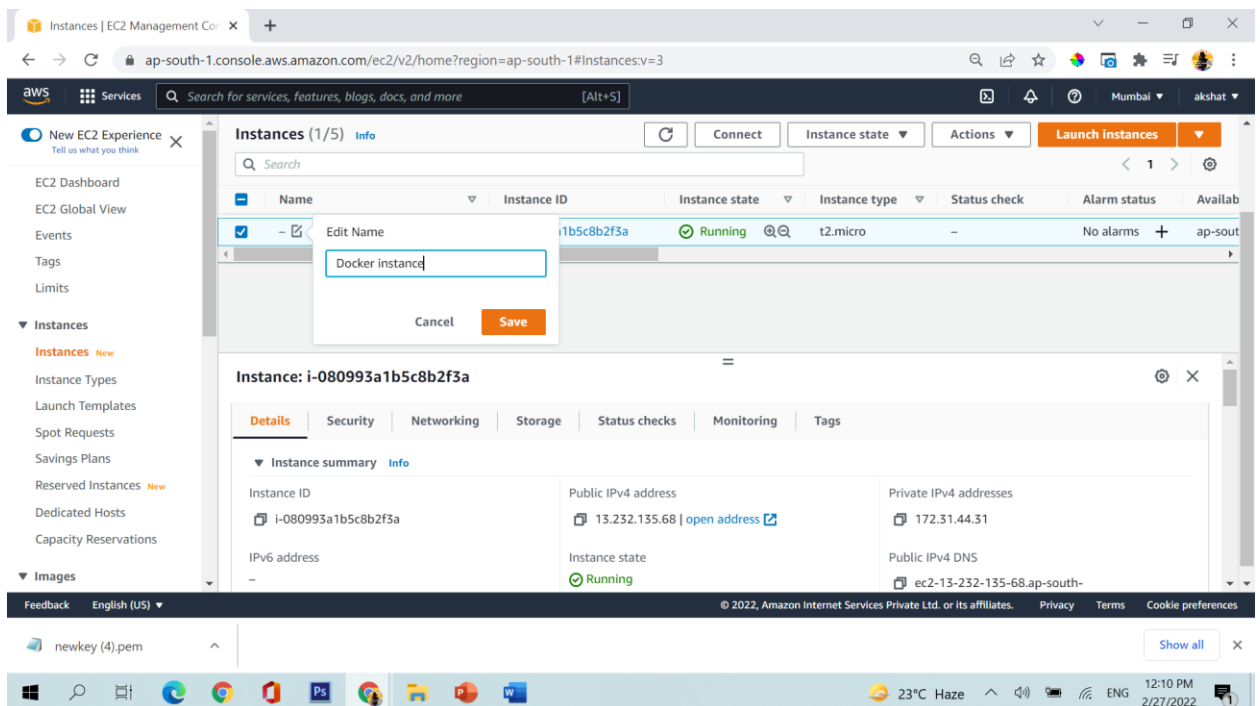
Create a new keypair and download it



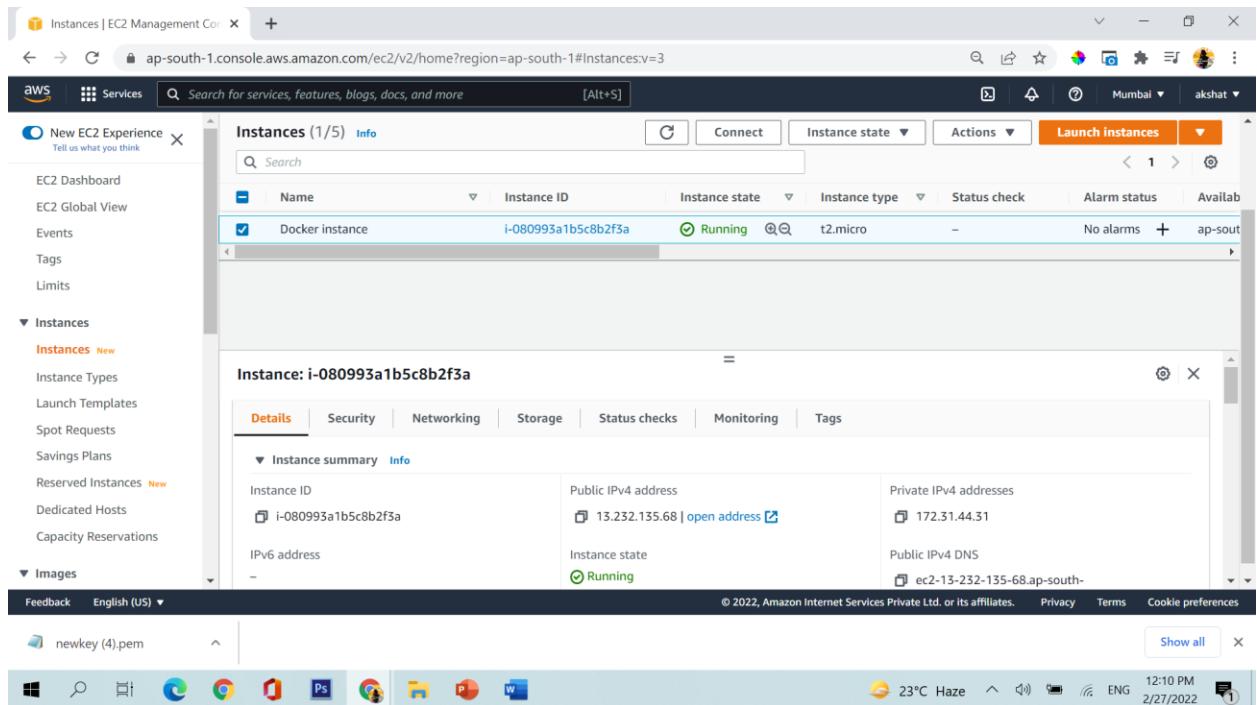
launch instance



See instance is created in pending state



give the instance (virtual machine) a name



Wait for 4-5 mins for machine to go live properly

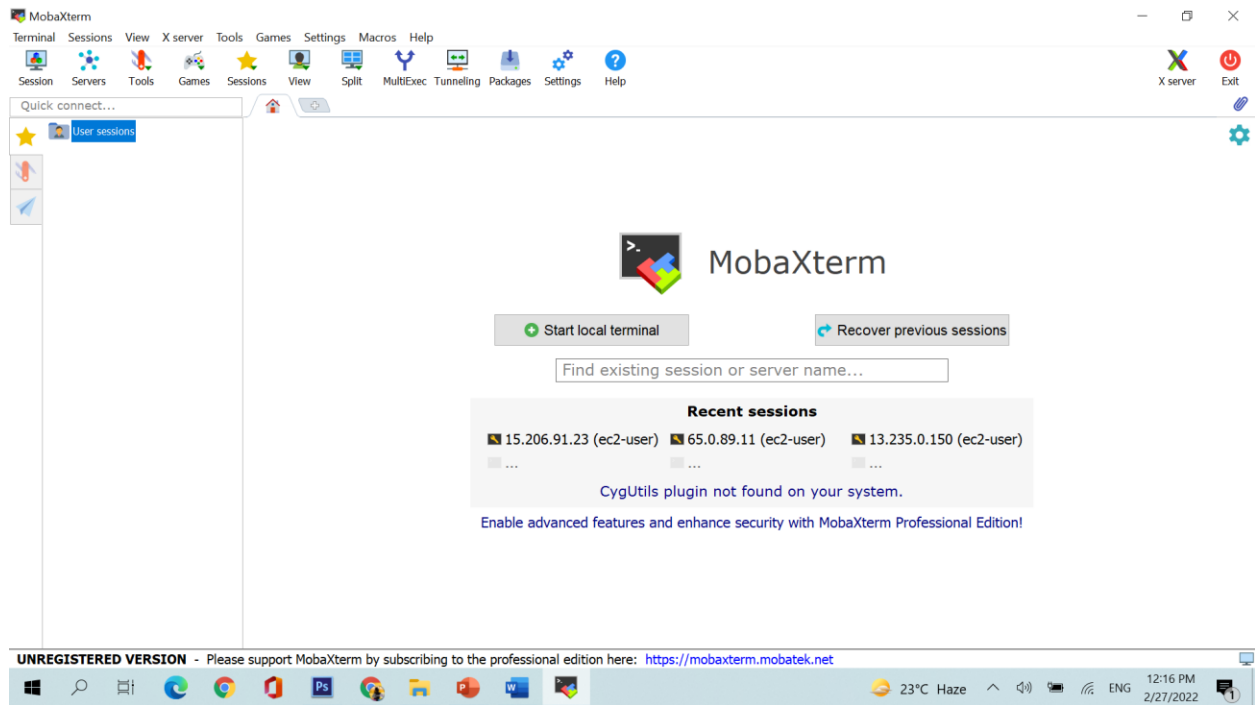
2) Connection with the instance (Virtual machine)

Download a software mobaxterm

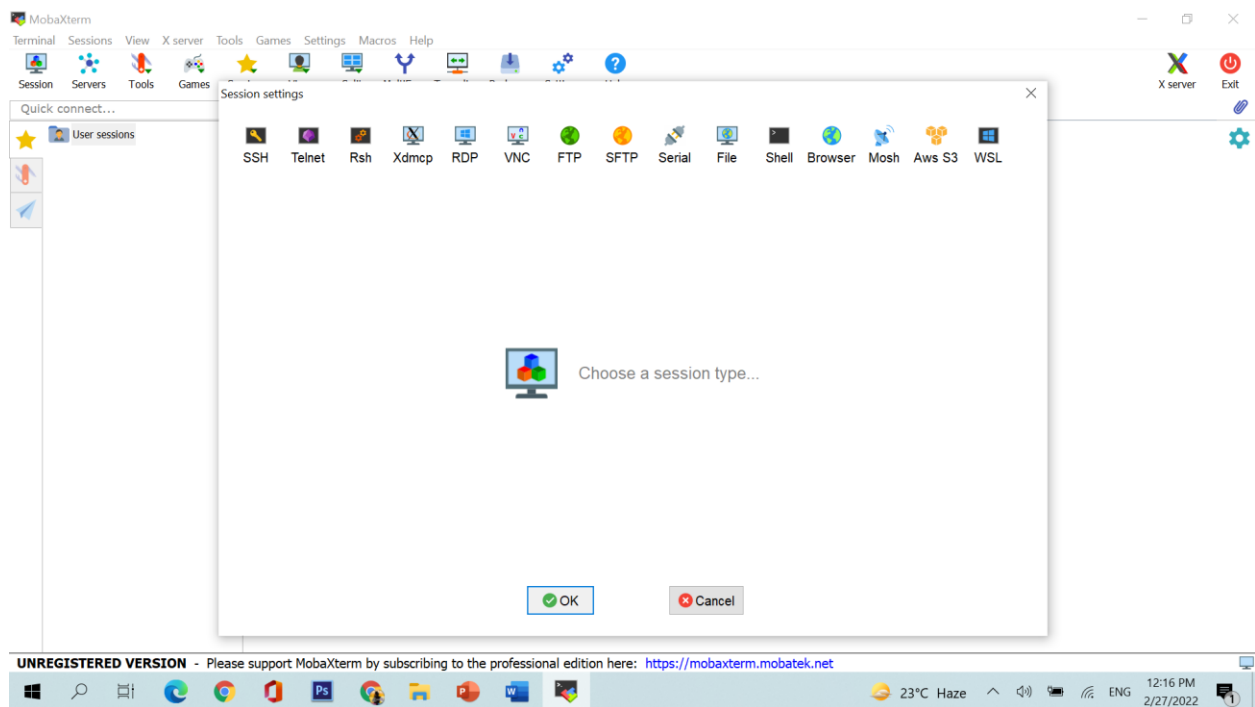
(<https://drive.google.com/file/d/1y-kG7FmY55jaDYa4lbrHbzSLISHNbodG/view?usp=sharing>)

from here

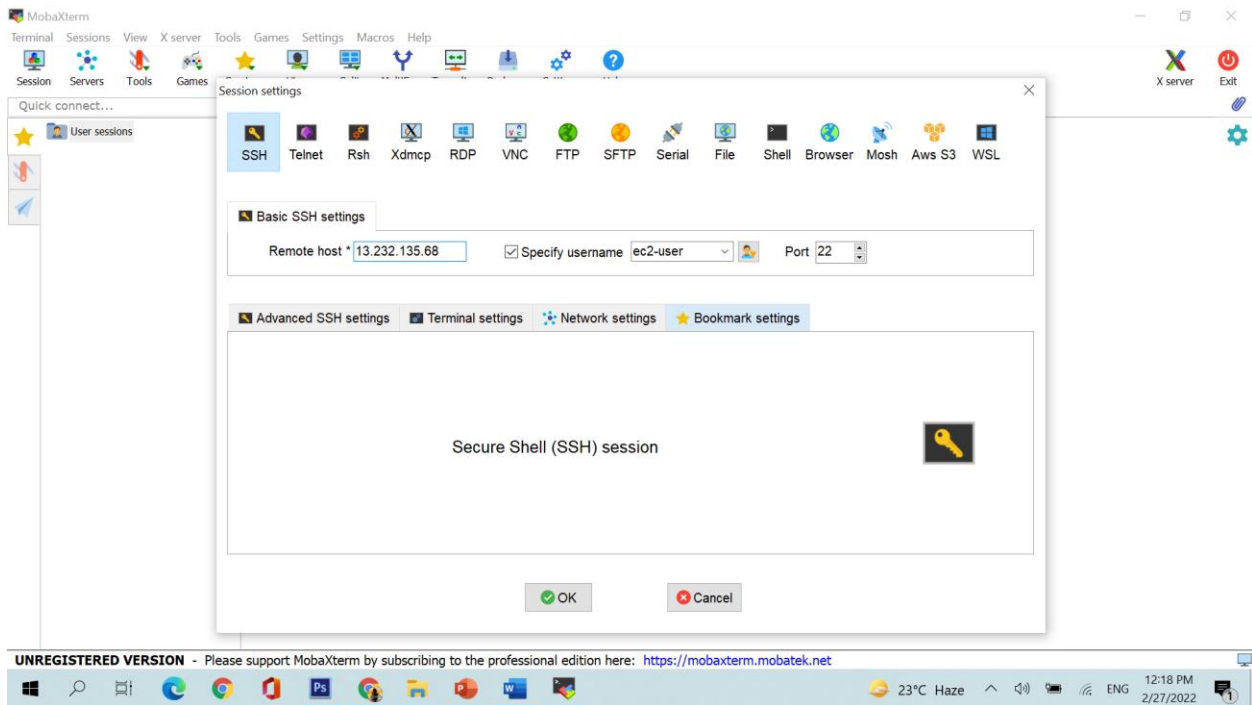
It will look like this



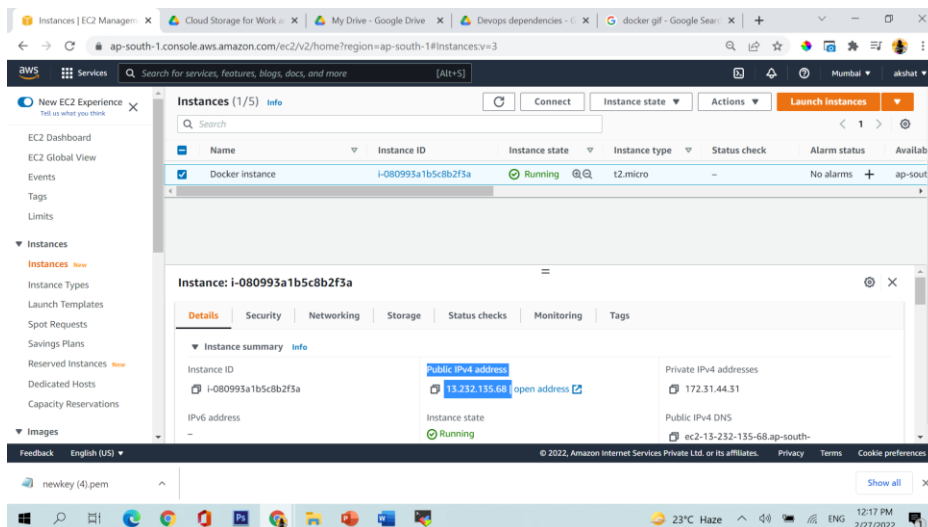
Now click on session and start a new session



Go to ssh and in remote host put public ip of the machine and tick mark specify username and put ec2-user there

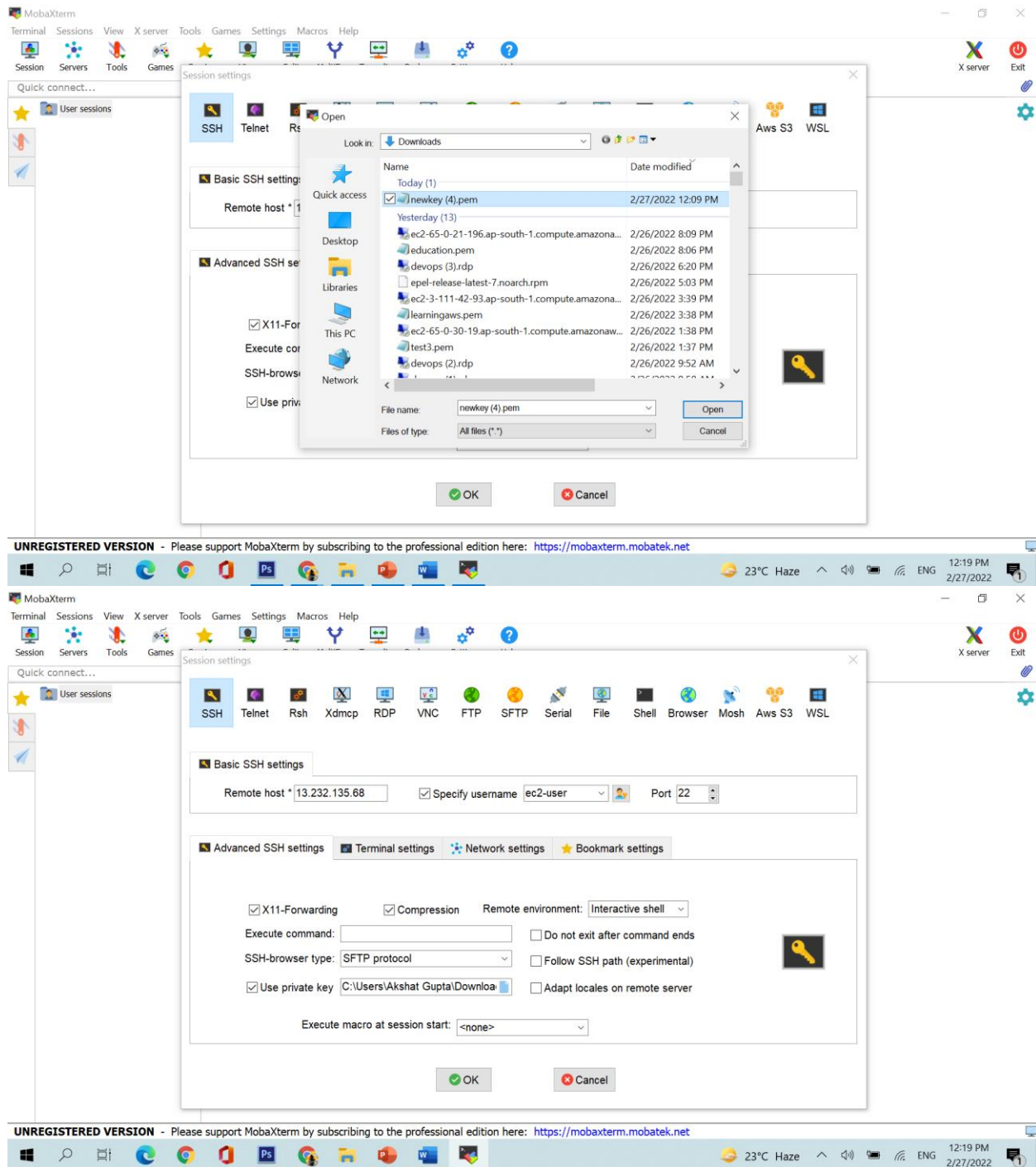


From here you will get the public ip of the machine

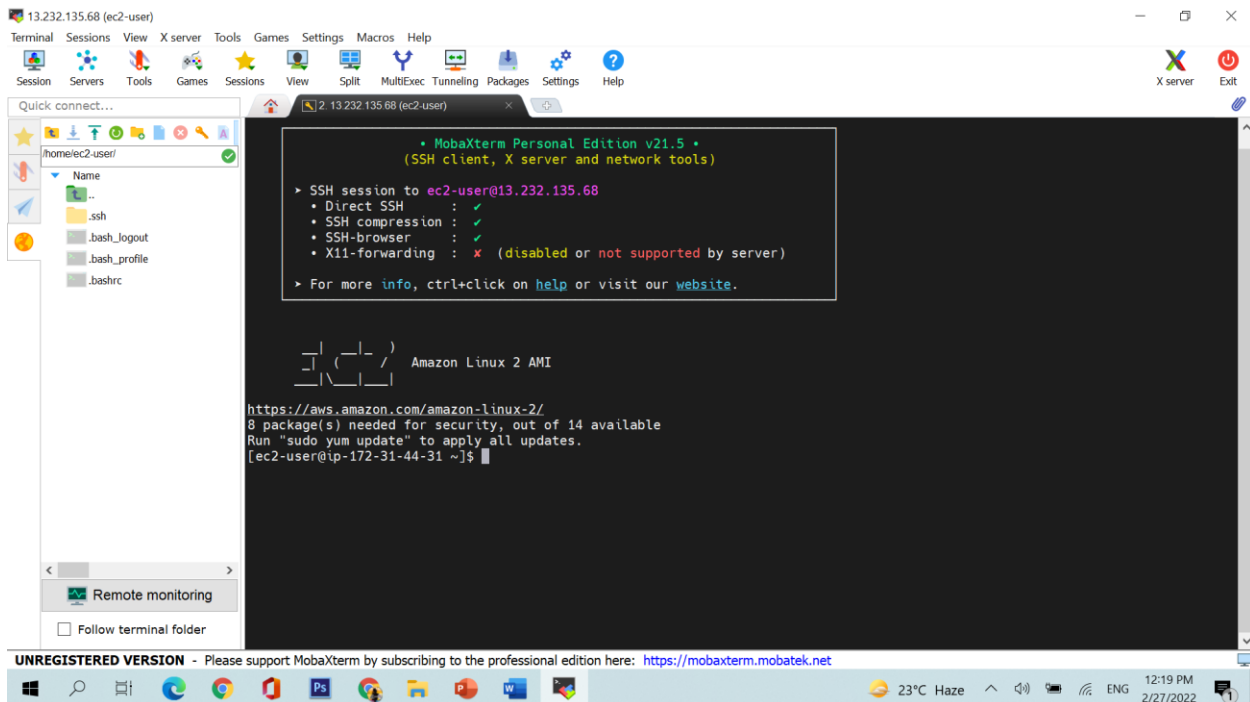


Click on Advance ssh setting in mobaxterm

And select use private key and select the key which you have downloaded while creating machine

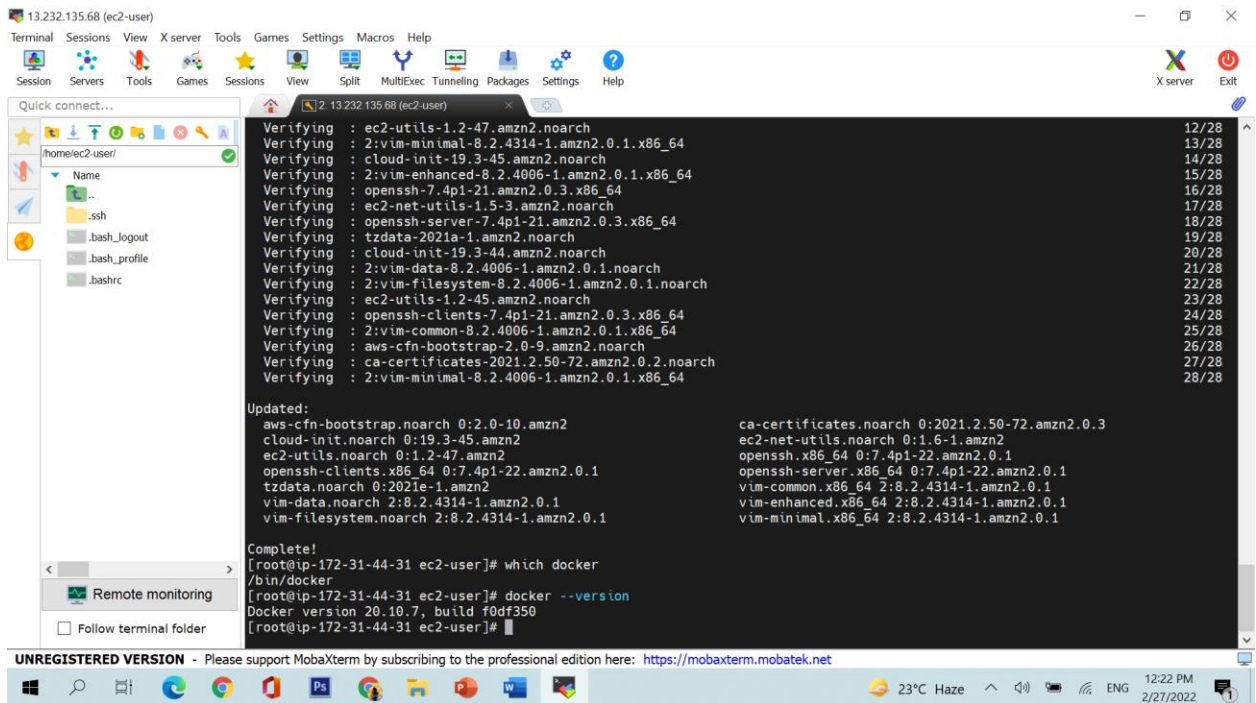


Successfully connected



3) Now put these commands in the machine

- `sudo su`
- `yum install docker -y` (this will install docker in your machine)
- `yum update -y` (update all the softwares in your machine)
- `which docker` (tells you the location where docker is installed)
- `docker --version` (tells you the docker version installed in your linux machine)



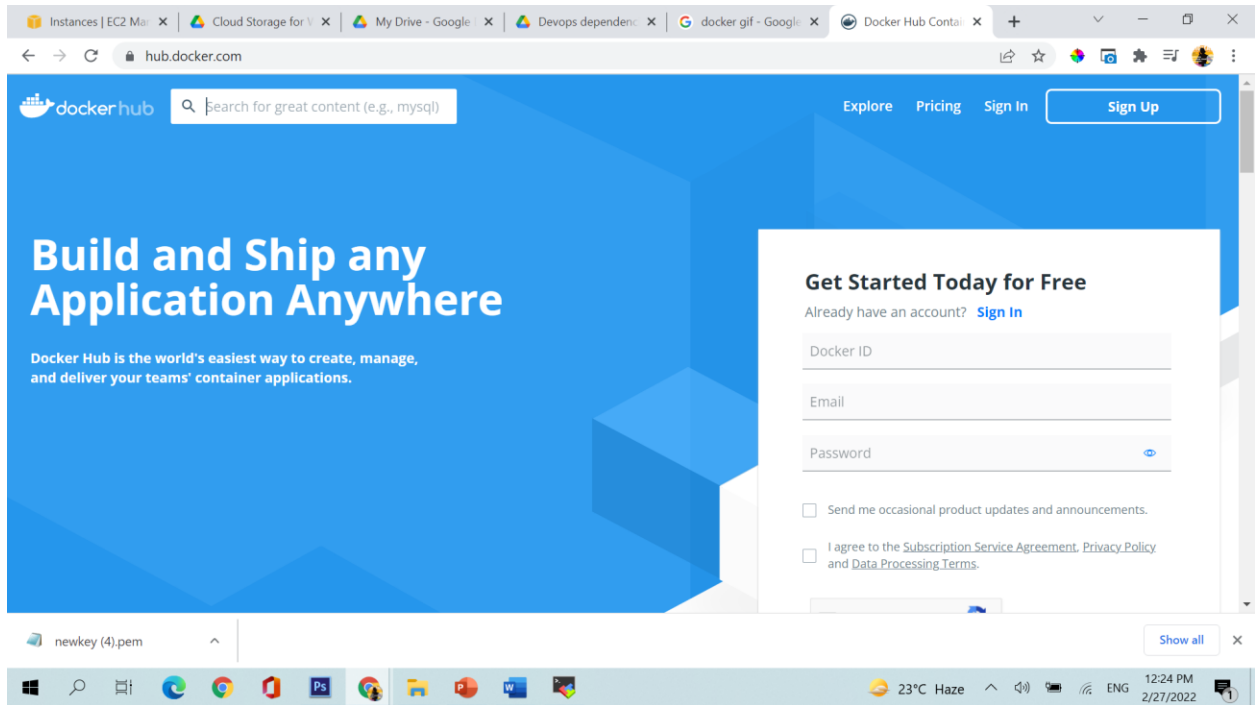
```
Verifying : ec2-utils-1.2-47.amzn2.noarch 12/28
Verifying : 2:vim-minimal-8.2.4314-1.amzn2.0.1.x86_64 13/28
Verifying : cloud-init-19.3-45.amzn2.noarch 14/28
Verifying : 2:vim-enhanced-8.2.4006-1.amzn2.0.1.x86_64 15/28
Verifying : openssh-7.4p1-21.amzn2.0.3.x86_64 16/28
Verifying : ec2-net-utils-1.5-3.amzn2.noarch 17/28
Verifying : openssh-server-7.4p1-21.amzn2.0.3.x86_64 18/28
Verifying : tzdata-2021a-1.amzn2.noarch 19/28
Verifying : cloud-init-19.3-44.amzn2.noarch 20/28
Verifying : 2:vim-data-8.2.4006-1.amzn2.0.1.noarch 21/28
Verifying : 2:vim-filesystem-8.2.4006-1.amzn2.0.1.noarch 22/28
Verifying : ec2-utils-1.2-45.amzn2.noarch 23/28
Verifying : openssh-clients-7.4p1-21.amzn2.0.3.x86_64 24/28
Verifying : 2:vim-common-8.2.4006-1.amzn2.0.1.x86_64 25/28
Verifying : aws-cfn-bootstrap-2.0-9.amzn2.noarch 26/28
Verifying : ca-certificates-2021.2.50-72.amzn2.0.2.noarch 27/28
Verifying : 2:vim-minimal-8.2.4006-1.amzn2.0.1.x86_64 28/28

Updated:
aws-cfn-bootstrap.noarch 0:2.0-10.amzn2
cloud-init.noarch 0:19.3-45.amzn2
ec2-utils.noarch 0:1.2-47.amzn2
openssh-clients.x86_64 0:7.4p1-22.amzn2.0.1
tzdata.noarch 0:2021e-1.amzn2
vim-data.noarch 2:8.2.4314-1.amzn2.0.1
vim-filesystem.noarch 2:8.2.4314-1.amzn2.0.1
ca-certificates.noarch 0:2021.2.50-72.amzn2.0.3
ec2-net-utils.noarch 0:1.6-1.amzn2
openssh.x86_64 0:7.4p1-22.amzn2.0.1
openssh-server.x86_64 0:7.4p1-22.amzn2.0.1
vim-common.x86_64 2:8.2.4314-1.amzn2.0.1
vim-enhanced.x86_64 2:8.2.4314-1.amzn2.0.1
vim-minimal.x86_64 2:8.2.4314-1.amzn2.0.1

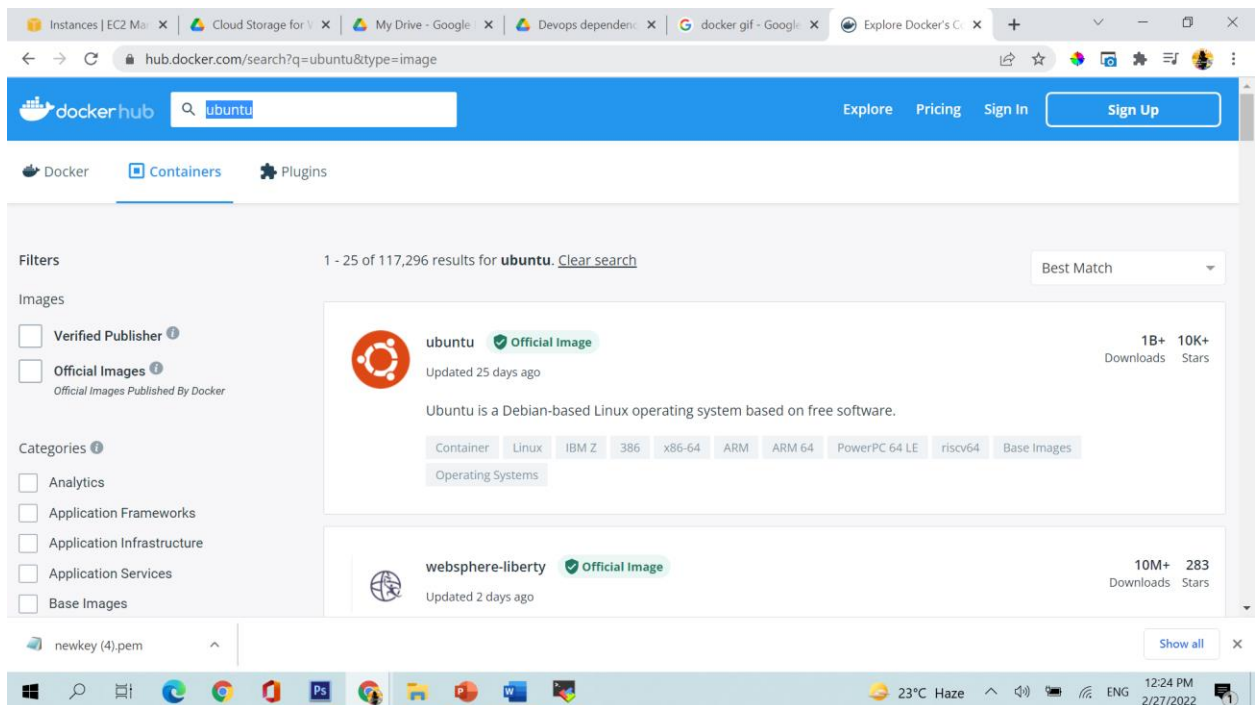
Complete!
[root@ip-172-31-44-31 ec2-user]# which docker
/bin/docker
[root@ip-172-31-44-31 ec2-user]# docker --version
Docker version 20.10.7, build f0df350
[root@ip-172-31-44-31 ec2-user]#
```

- service docker status
- service docker start (start docker in your machine)
- docker images
- docker ps (shows which all dockers are running)
- docker ps -a (shows which all dockers are created)

4) Now go to google chrome



Search ubuntu



Click on ubuntu https://hub.docker.com/_/ubuntu

- `docker run -it ubuntu /bin/bash` (put you inside the docker container)
- `ls`
- `cat /etc/os-release` (here the output would be ubuntu)
- `exit` (stop and exit from container)
- `docker images`
- `docker run-it ubuntu /bin/bash`
- `exit`
- `docker ps -a`
- `docker ps`
- `docker start <<name of the docker which you will get from docker ps -a command>>`