Hosting on aws

What is hosting

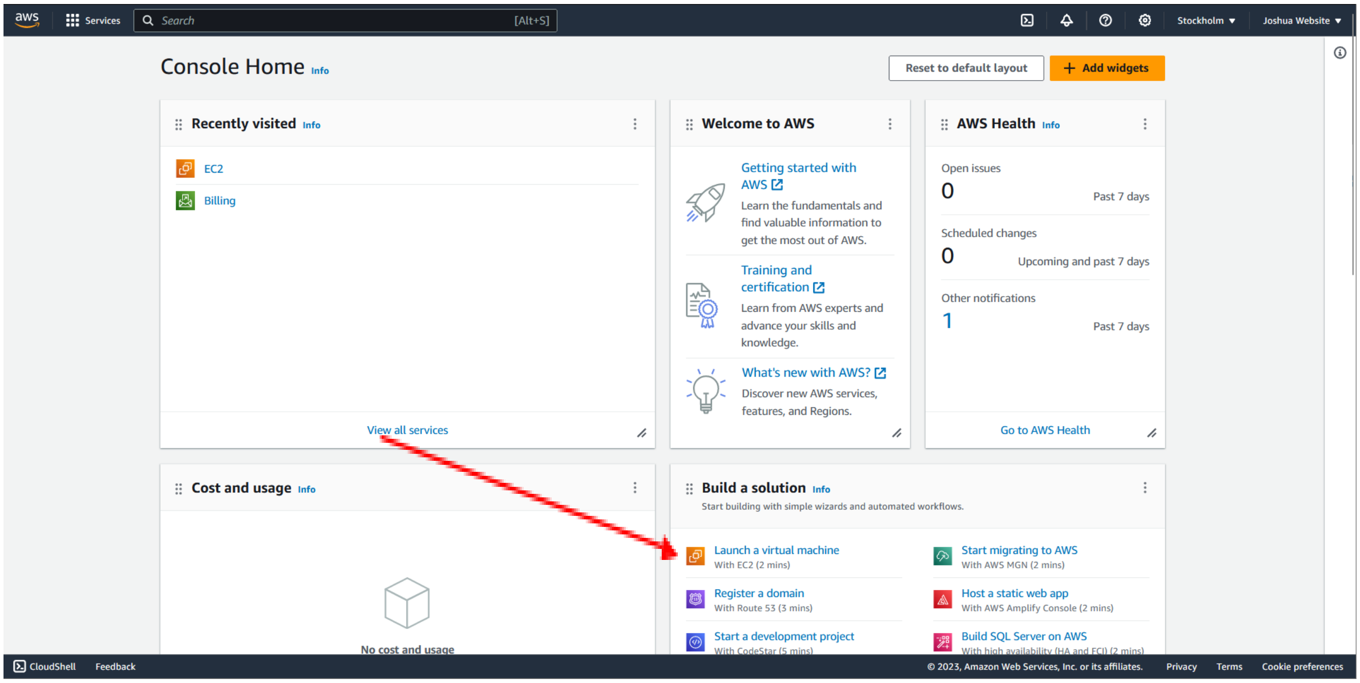
Hosting is like renting space on the internet for your website or app.Different types of hosting offer various features and costs. Hosting companies take care of technical stuff,like keeping your site online and secure, while you're responsible for your content. It's how you make your website available for people to visit online.Here we are going to learn how to host a website in AWS(Amazon Web Services).

1.Signup/Signin

- Visit Amazon Web Services.
- If you don't have an aws account,Click here To create an account.
- To sign in Visit Sign In

2.Launch an EC2 instance

Amazon Elastic Compute Cloud (EC2) is a web service provided by Amazon Web Services (AWS) that offers resizable compute capacity in the cloud. An EC2 instance is a virtual server in the cloud that can be used to run applications, host websites, store data, and perform various computing tasks. Lets see how to create an instance in aws.



Learn the fundamentals and find valuable information to get the most out of AWS.

Learn from AWS experts and advance your skills and knowledge.

Discover new AWS services, features, and Regions.

Open issues
0
Past 7 days

Scheduled changes
0
Upcoming and past 7 days

Other notifications
1
Past 7 days

Start building with simple wizards and automated workflows.

Launch a virtual machine
With EC2 (2 mins)

Register a domain
With Route 53 (3 mins)

Start a development project
With CodeStar (5 mins)

Start migrating to AWS
With AWS MGN (2 mins)

Host a static web app
With AWS Amplify Console (2 mins)

Build SQL Server on AWS
With high availability (HA and FCI) (2 mins)

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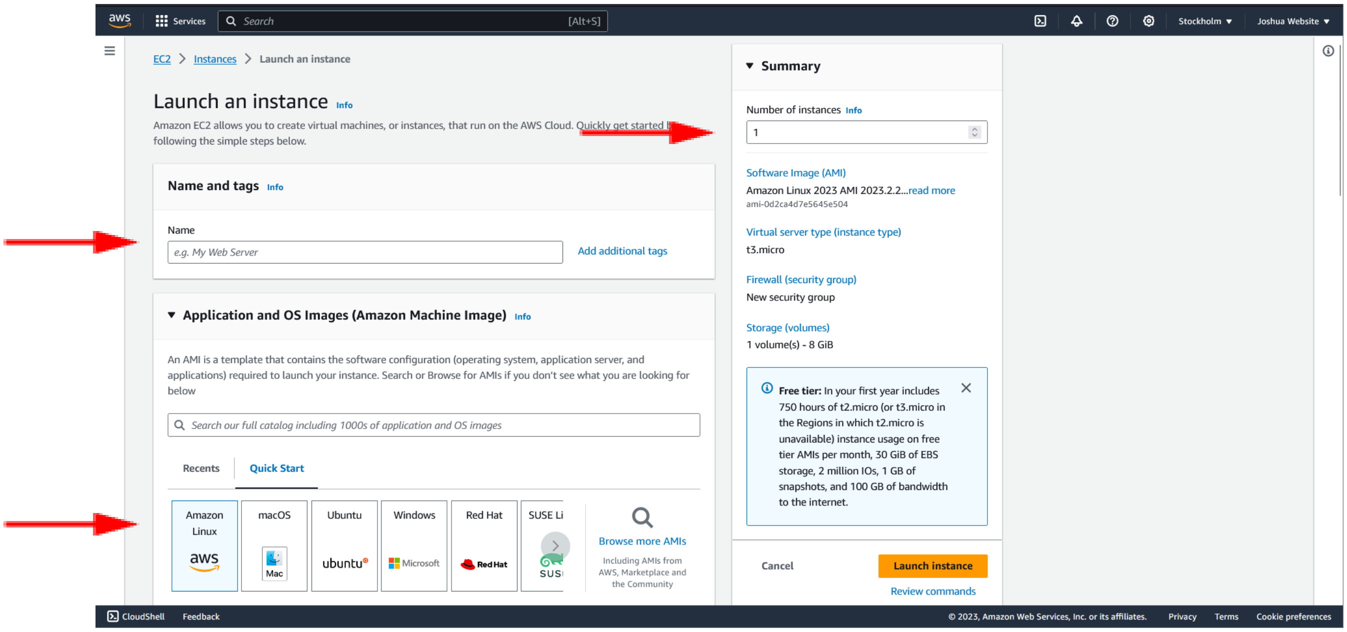
- Click Launch a virtual machine.
- You will get the following page

.



Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: e.g. My Web Server

▾ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

▾ Summary

Number of instances Info: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.2.2...read more ami-0d2ca4d7e5645e504

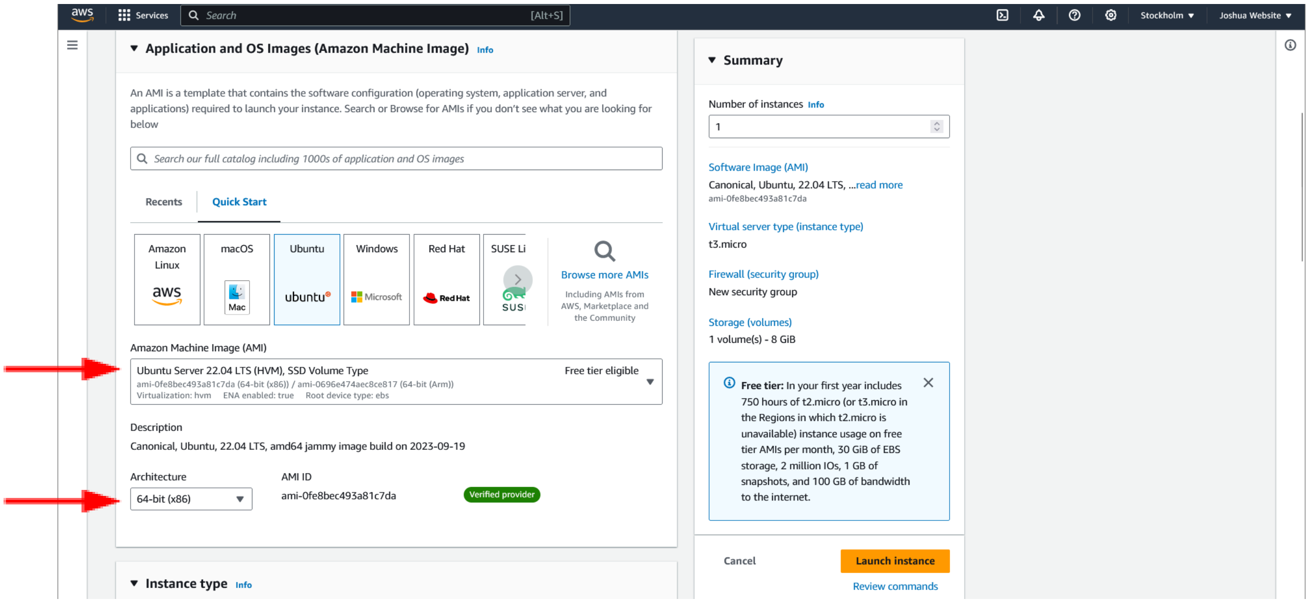
Virtual server type (instance type): t3.micro

Firewall (security group): New security group

Storage (volumes): 1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

- Give a name for your instance and Choose the Operating system you want to run in your virtual computer.
- We are going to name the instance as “demo” and choose Ubuntu as the OS here.
- We can create multiple instances at the same time by increasing the number of instances on the right side.



▾ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Amazon Machine Image (AMI): Ubuntu Server 22.04 LTS (HVM), SSD Volume Type — Free tier eligible
ami-0fe8bec493a81c7da (64-bit (x86)) / ami-0696e474aec8ce817 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Description: Canonical, Ubuntu, 22.04 LTS, amd64 jammy image build on 2023-09-19

Architecture: 64-bit (x86)

AMI ID: ami-0fe8bec493a81c7da — Verified provider

▾ Instance type Info

▾ Summary

Number of instances Info: 1

Software Image (AMI): Canonical, Ubuntu, 22.04 LTS, ...read more ami-0fe8bec493a81c7da

Virtual server type (instance type): t3.micro

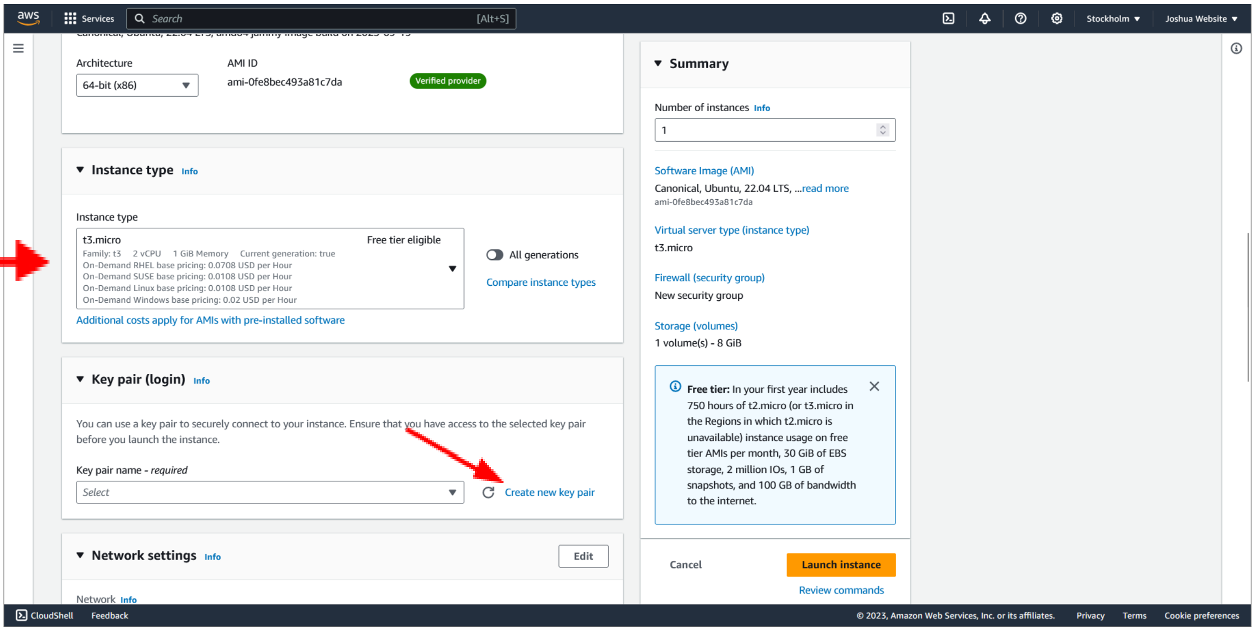
Firewall (security group): New security group

Storage (volumes): 1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

- You can change the machine image and architecture to ARM or x86 if needed.
- Here we are using default for both.

Instance type,Key pair



Architecture

64-bit (x86)

AMI ID

ami-0fe8bec493a81c7da

Verified provider

Instance type Info

Instance type

t3.micro Free tier eligible

Family: t3 2 vCPU 1 GiB Memory Current generation: true
On-Demand RHEL base pricing: 0.0708 USD per Hour
On-Demand SUSE base pricing: 0.0108 USD per Hour
On-Demand Linux base pricing: 0.0108 USD per Hour
On-Demand Windows base pricing: 0.02 USD per Hour

All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

Select

Create new key pair

Network settings Info

Edit

Network Info

Summary

Number of instances Info

1

Software Image (AMI)

Canonical, Ubuntu, 22.04 LTS, ...read more

ami-0fe8bec493a81c7da

Virtual server type (instance type)

t3.micro

Firewall (security group)

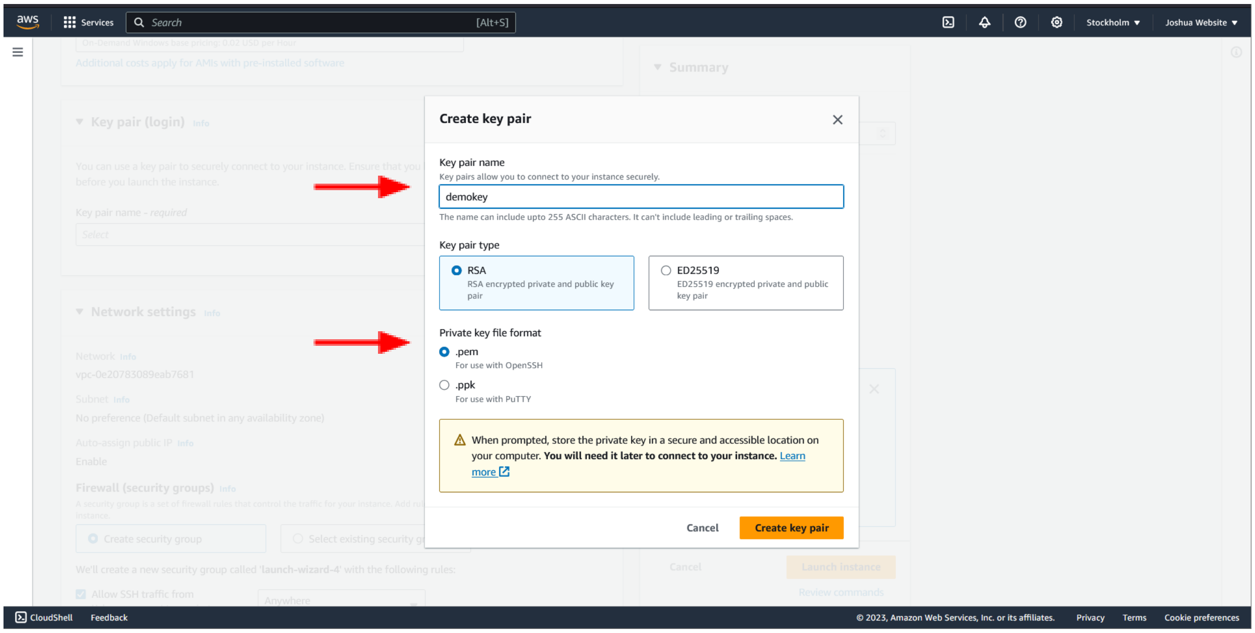
New security group

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

- You can choose instance types by requirement of our website.
- Keep in mind that the instance is our computer that runs the website.
- If your website needs complex computation or higher storage choose higher instances in the Instance type dropdown menu.
- Here we are choosing t3.micro which is enough for a small website to run.
- Key pair is used to login to your instance(Virtual computer).We are going to login to our instance via SSH. Click on Create new key pair.



Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

demokey

The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

● RSA
RSA encrypted private and public key pair

○ ED25519
ED25519 encrypted private and public key pair

Private key file format

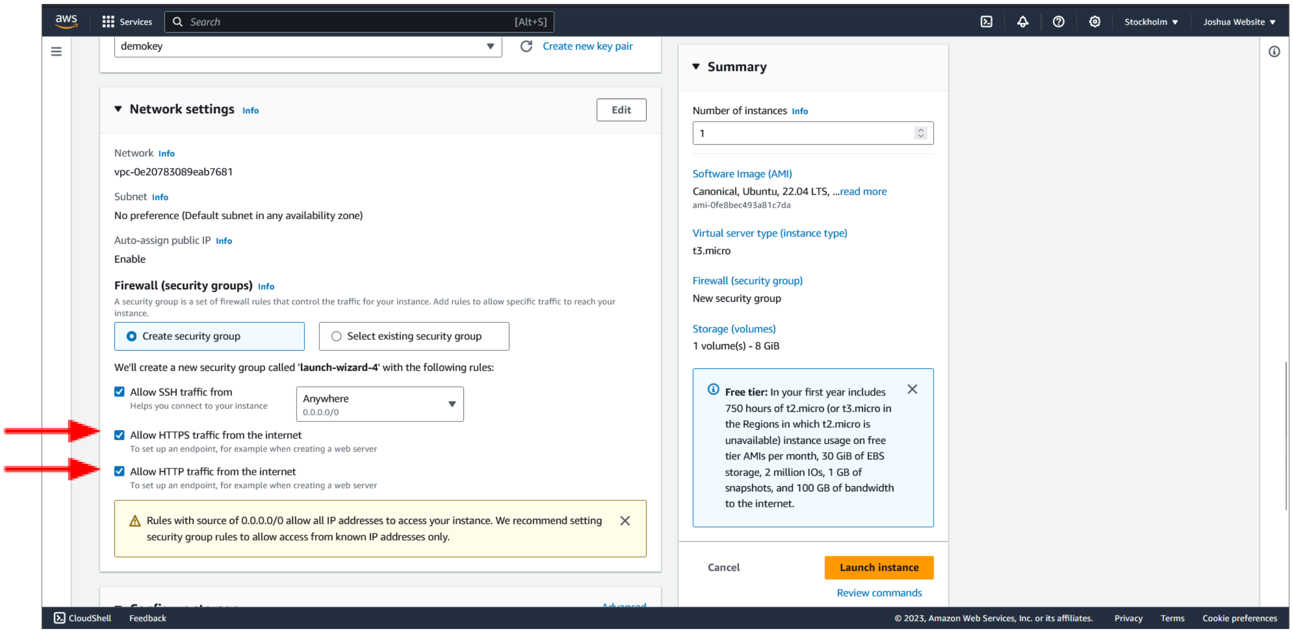
● .pem
For use with OpenSSH

○ .ppk
For use with PuTTY

When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

- Name the key pair,leave everything default and click create key pair.
- The key pair will be downloaded automatically.
- Make sure you keep the file safe because anyone can access our instance with the SSH key pair.

Network settings



Network settings Info

Network Info
vpc-0e20783089eab7681

Subnet Info
No preference (Default subnet in any availability zone)

Auto-assign public IP Info
Enable

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

● Create security group ○ Select existing security group

We'll create a new security group called '**launch-wizard-4**' with the following rules:

☑ Allow SSH traffic from — Anywhere 0.0.0.0/0
Helps you connect to your instance

☑ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

☑ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

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.

Summary

Number of instances Info
1

Software Image (AMI)
Canonical, Ubuntu, 22.04 LTS, ...read more
ami-0fe8bec493a81c7da

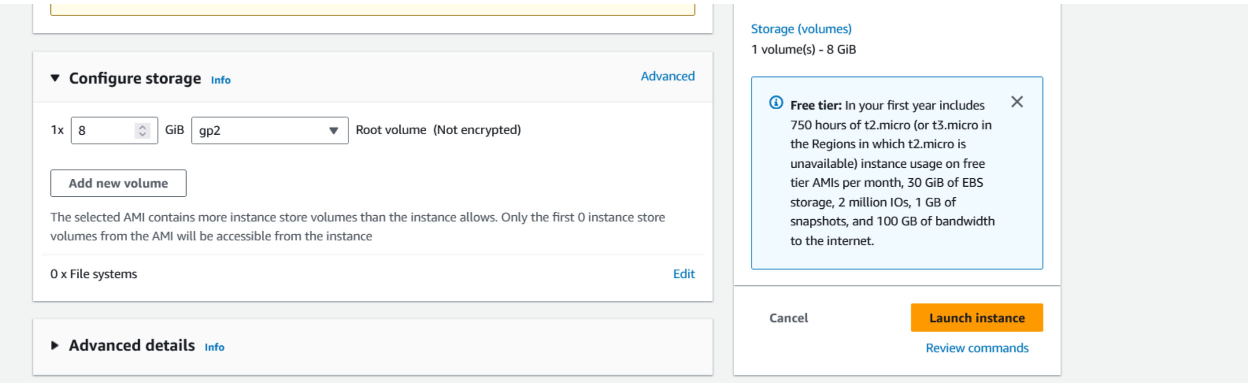
Virtual server type (instance type)
t3.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

- Make sure you have selected” Allow HTTPS traffic from the internet” and “Allow HTTP traffic from the
  the
  Internet”.



Configure storage Info

1x 8 GiB gp2 Root volume (Not encrypted)

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

0 x File systems

Storage (volumes)
1 volume(s) - 8 GiB

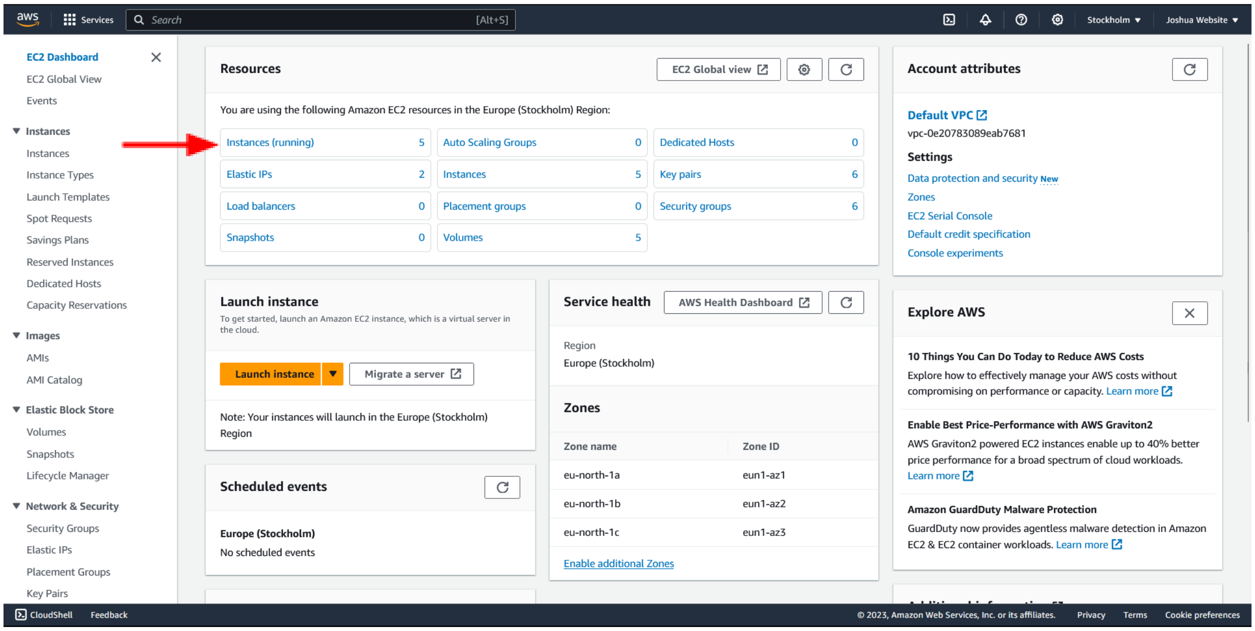
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

- Select Storage required and click Launch instance.
- You will get a success message with instance id.

We have successfully created an instance

Instances

- We can see all the instances we created at Dashboard:
- Click instances for more details



EC2 Dashboard
EC2 Global View
Events
Instances: Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations
Images: AMIs, AMI Catalog
Elastic Block Store: Volumes, Snapshots, Lifecycle Manager
Network & Security: Security Groups, Elastic IPs, Placement Groups, Key Pairs

Resources — EC2 Global view

You are using the following Amazon EC2 resources in the Europe (Stockholm) Region:

Instances (running)	5	Auto Scaling Groups	0	Dedicated Hosts	0
Elastic IPs	2	Instances	5	Key pairs	6
Load balancers	0	Placement groups	0	Security groups	6
Snapshots	0	Volumes	5		

Account attributes

Default VPC
vpc-0e20783089eab7681

Settings
Data protection and security New
Zones
EC2 Serial Console
Default credit specification
Console experiments

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Launch instance | Migrate a server

Note: Your instances will launch in the Europe (Stockholm) Region

Service health — AWS Health Dashboard

Region
Europe (Stockholm)

Zones

Zone name	Zone ID
eu-north-1a	eun1-az1
eu-north-1b	eun1-az2
eu-north-1c	eun1-az3

Enable additional Zones

Scheduled events

Europe (Stockholm)
No scheduled events

Explore AWS

10 Things You Can Do Today to Reduce AWS Costs
Explore how to effectively manage your AWS costs without compromising on performance or capacity. Learn more

Enable Best Price-Performance with AWS Graviton2
AWS Graviton2 powered EC2 instances enable up to 40% better price performance for a broad spectrum of cloud workloads. Learn more

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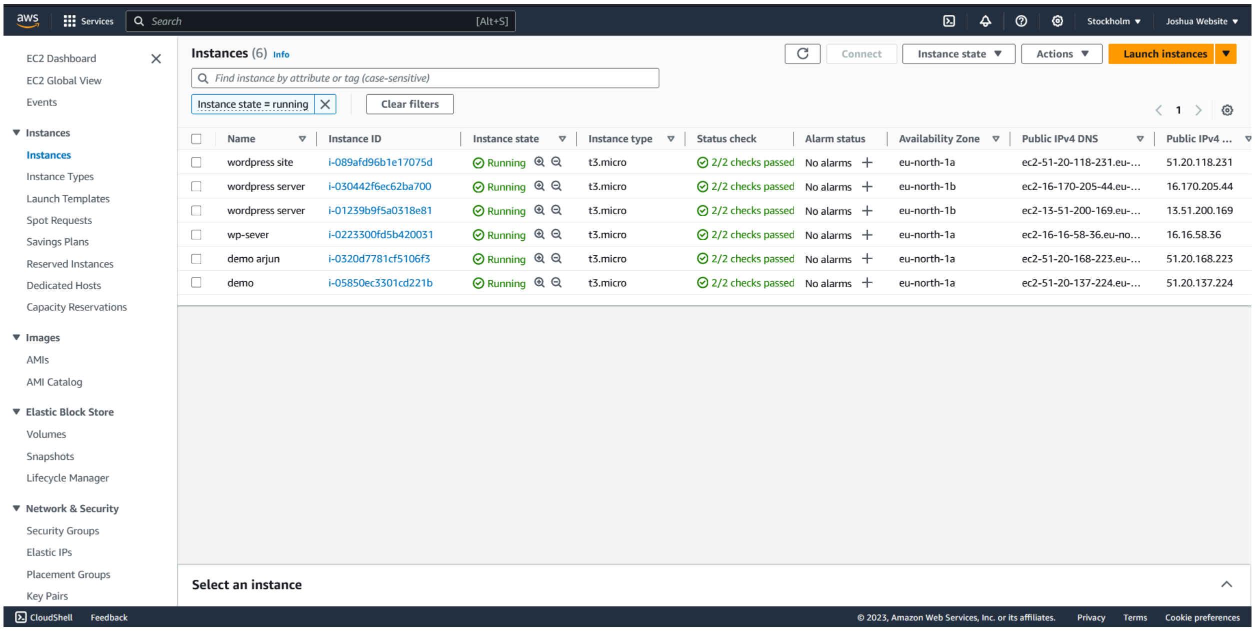

EC2 Dashboard
EC2 Global View
Events
Instances: Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations
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Network & Security: Security Groups, Elastic IPs, Placement Groups, Key Pairs

Instances (6) Info — Connect | Instance state | Actions | Launch instances

Find instance by attribute or tag (case-sensitive)

Instance state = running | Clear filters

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
wordpress site	i-089afd96b1e17075d	Running	t3.micro	2/2 checks passed	No alarms	eu-north-1a	ec2-51-20-118-231.eu-...	51.20.118.231
wordpress server	i-030442f6ec62ba700	Running	t3.micro	2/2 checks passed	No alarms	eu-north-1b	ec2-16-170-205-44.eu-...	16.170.205.44
wordpress server	i-01239b9f5a0318e81	Running	t3.micro	2/2 checks passed	No alarms	eu-north-1b	ec2-13-51-200-169.eu-...	13.51.200.169
wp-sever	i-0223300fd5b420031	Running	t3.micro	2/2 checks passed	No alarms	eu-north-1a	ec2-16-16-58-36.eu-no...	16.16.58.36
demo arjun	i-0320d7781cf5106f3	Running	t3.micro	2/2 checks passed	No alarms	eu-north-1a	ec2-51-20-168-223.eu-...	51.20.168.223
demo	i-05850ec3301cd221b	Running	t3.micro	2/2 checks passed	No alarms	eu-north-1a	ec2-51-20-137-224.eu-...	51.20.137.224

Select an instance

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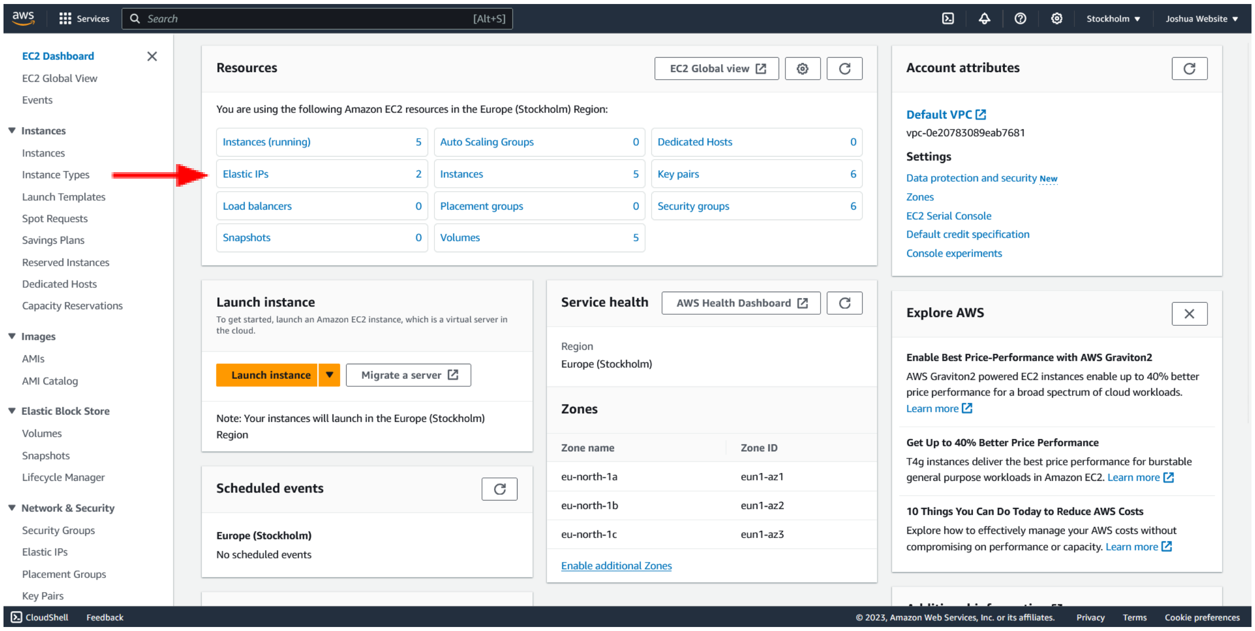
We can see instances we created so far and status,public IPV4 address etc . The IPV4 address we can see now will be changed if you reboot the instance. You can check that by right clicking on your instance and selecting reboot. Which makes DNS server routing difficult. So we need to make the public IPV4 address as fixed.
In order to make IPV4 as fixed we need to assign an elastic IP address to the instance.

3.Assigning elastic IP address



Resources

You are using the following Amazon EC2 resources in the Europe (Stockholm) Region:

Instances (running)	5	Auto Scaling Groups	0	Dedicated Hosts	0
Elastic IPs	2	Instances	5	Key pairs	6
Load balancers	0	Placement groups	0	Security groups	6
Snapshots	0	Volumes	5		

Account attributes

Default VPC
vpc-0e20783089eab7681

Settings
Data protection and security New
Zones
EC2 Serial Console
Default credit specification
Console experiments

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Note: Your instances will launch in the Europe (Stockholm) Region

Service health

Region
Europe (Stockholm)

Zones

Zone name	Zone ID
eu-north-1a	eun1-az1
eu-north-1b	eun1-az2
eu-north-1c	eun1-az3

Enable additional Zones

Scheduled events

Europe (Stockholm)
No scheduled events

Explore AWS

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Get Up to 40% Better Price Performance
T4g instances deliver the best price performance for burstable general purpose workloads in Amazon EC2. Learn more

10 Things You Can Do Today to Reduce AWS Costs
Explore how to effectively manage your AWS costs without compromising on performance or capacity. Learn more

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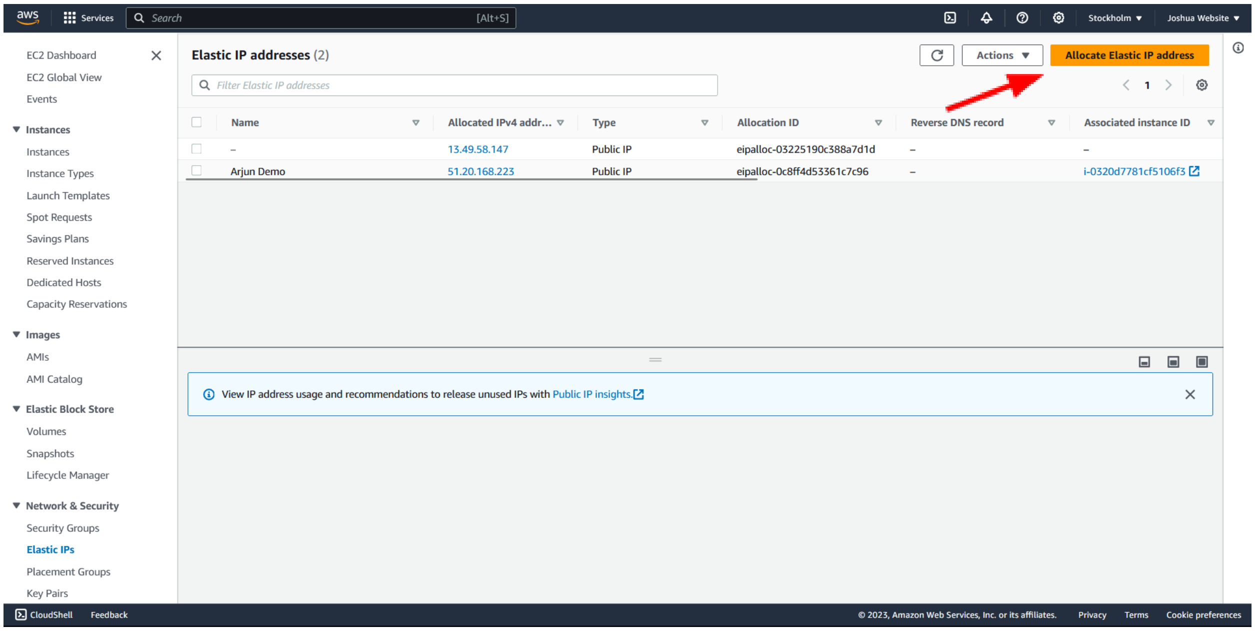
- Redirect to Dashboard
- Select Elastic IPs



Elastic IP addresses (2)

Name	Allocated IPv4 addr...	Type	Allocation ID	Reverse DNS record	Associated instance ID
–	13.49.58.147	Public IP	eipalloc-03225190c388a7d1d	–	–
Arjun Demo	51.20.168.223	Public IP	eipalloc-0c8ff4d53361c7c96	–	i-0320d7781cf5106f3

View IP address usage and recommendations to release unused IPs with Public IP insights.

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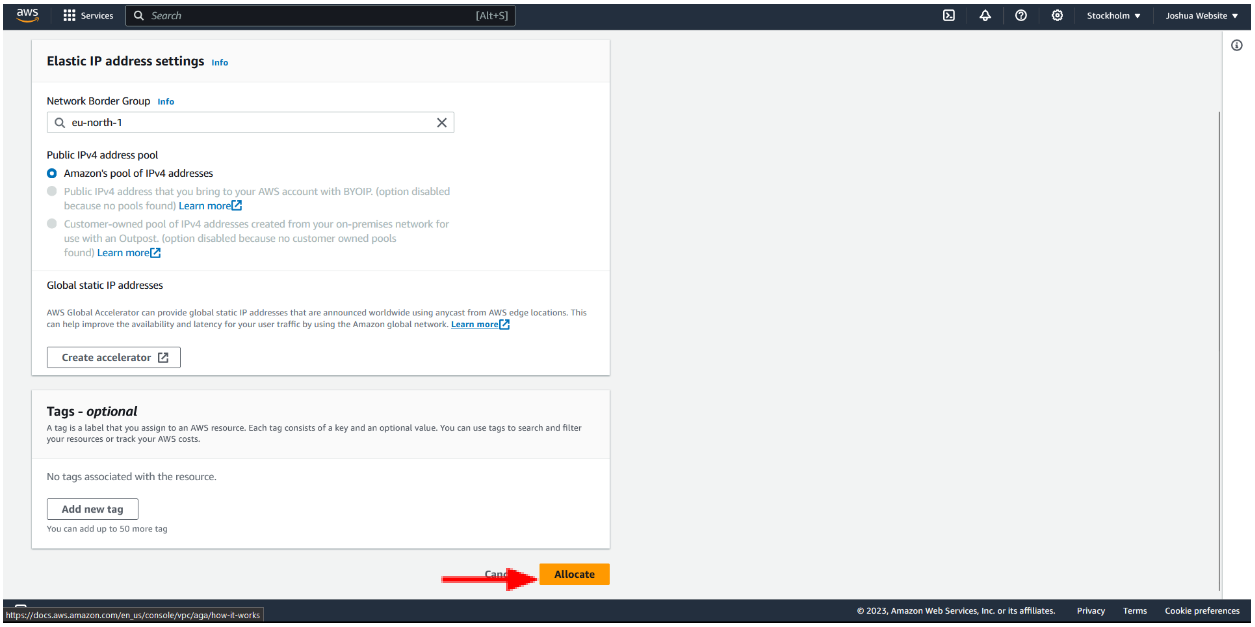
- Select “Allocate Elastic IP address”



Elastic IP address settings Info

Network Border Group Info

eu-north-1

Public IPv4 address pool

● Amazon's pool of IPv4 addresses

○ Public IPv4 address that you bring to your AWS account with BYOIP. (option disabled because no pools found) Learn more

○ Customer-owned pool of IPv4 addresses created from your on-premises network for use with an Outpost. (option disabled because no customer owned pools found) Learn more

Global static IP addresses

AWS Global Accelerator can provide global static IP addresses that are announced worldwide using anycast from AWS edge locations. This can help improve the availability and latency for your user traffic by using the Amazon global network. Learn more

Tags - *optional*

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

You can add up to 50 more tag

Create accelerator
Add new tag
Canc
Allocate
https://docs.aws.amazon.com/en_us/console/vpc/aga/how-it-works
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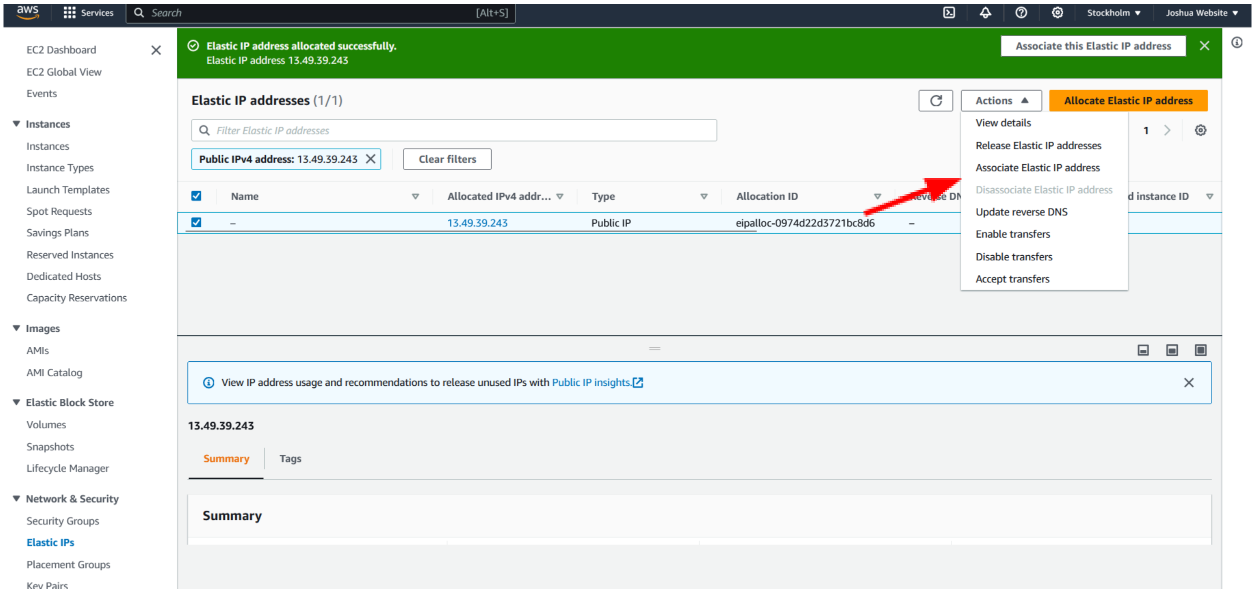
- Leave everything default and click “Allocate”
  Now we have created an Elastic IP address and we have to assign it to the virtual machine(instance) that we created.



Elastic IP address allocated successfully.
Elastic IP address 13.49.39.243

Elastic IP addresses (1/1)

Filter Elastic IP addresses

Public IPv4 address: 13.49.39.243

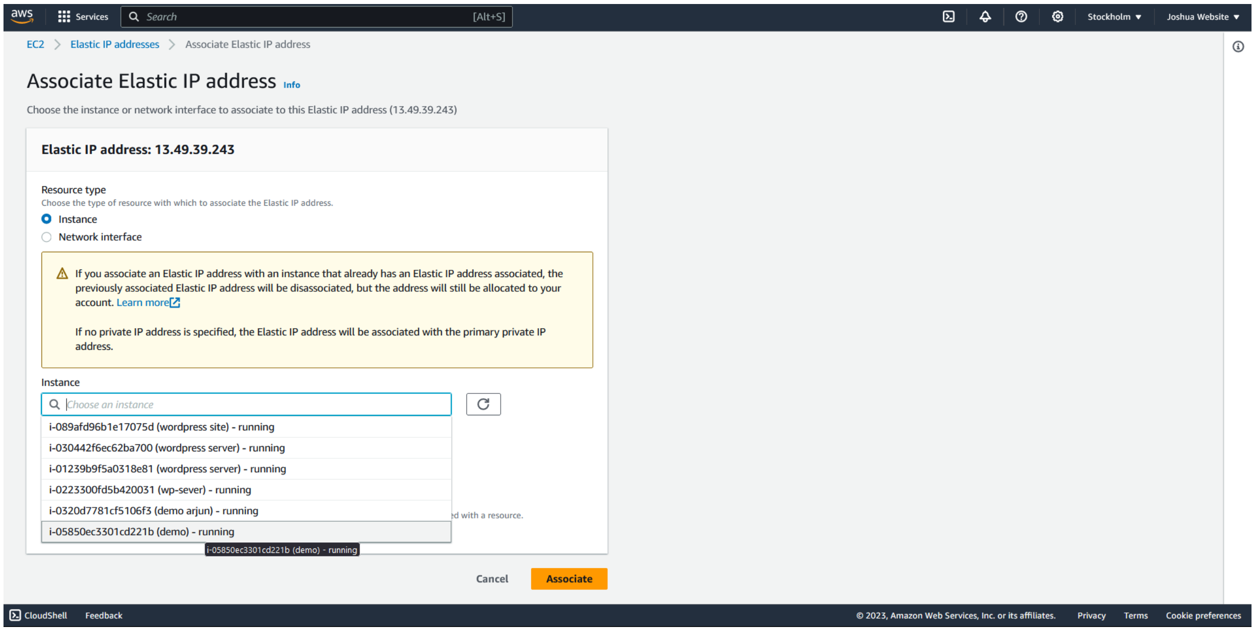
☑	Name	Allocated IPv4 addr...	Type	Allocation ID	Reverse DN	d instance ID
☑	–	13.49.39.243	Public IP	eipalloc-0974d22d3721bc8d6	–	

View IP address usage and recommendations to release unused IPs with Public IP insights

13.49.39.243

Summary

- Select on to the Elastic IP created.
- Click “Actions” and choose “Associate Elastic IP Address”



EC2 > Elastic IP addresses > Associate Elastic IP address

Associate Elastic IP address Info

Choose the instance or network interface to associate to this Elastic IP address (13.49.39.243)

Elastic IP address: 13.49.39.243

Resource type
Choose the type of resource with which to associate the Elastic IP address.

● Instance
○ Network interface

If you associate an Elastic IP address with an instance that already has an Elastic IP address associated, the previously associated Elastic IP address will be disassociated, but the address will still be allocated to your account. Learn more

If no private IP address is specified, the Elastic IP address will be associated with the primary private IP address.

Instance

Choose an instance

i-089afd96b1e17075d (wordpress site) - running
i-030442f6ec62ba700 (wordpress server) - running
i-01239b9f5a0318e81 (wordpress server) - running
i-0223300fd5b420031 (wp-sever) - running
i-0320d7781cf5106f3 (demo arjun) - running
i-05850ec3301cd221b (demo) - running

d with a resource.

Cancel Associate

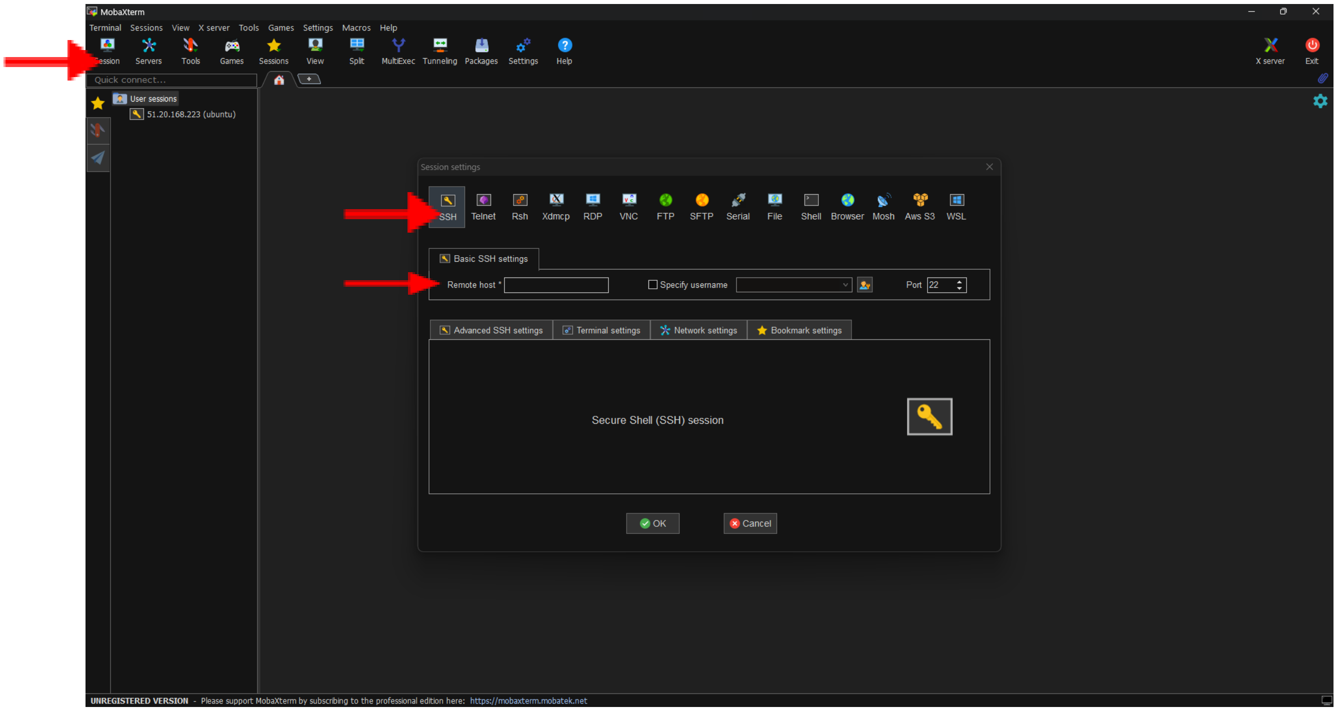
- Choose the instance here we choose demo(named while creating instance)
- And click Associate.

Now we created an instance and associated Elastic IPV4 address for it.

Next step is to access the instance. In Order to access the instance we have to install a SSH client. I'm using **MobaXterm.**

Click here to Download MobaXterm.

Connecting Instance with MobaXtrem



MobaXterm
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server
Exit
Quick connect...
User sessions
51.20.168.223 (ubuntu)
SSH Telnet Rsh Xdmcp RDP VNC FTP SFTP Serial File Shell Browser Mosh Aws S3 WSL
Advanced SSH settings
Terminal settings
Network settings
Bookmark settings
OK
Cancel

Session settings

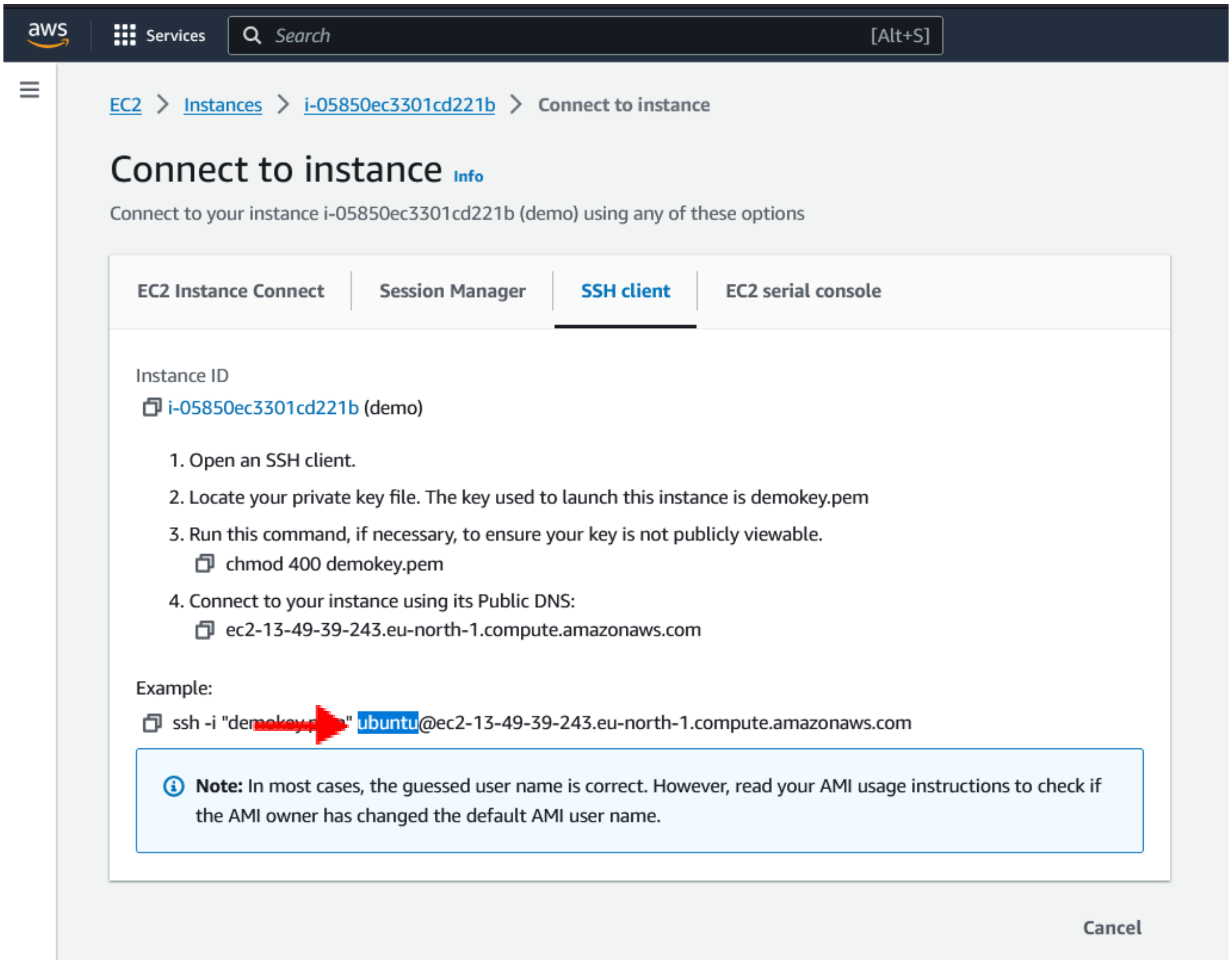
Basic SSH settings

Remote host *   □ Specify username   Port 22

Secure Shell (SSH) session

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net

- Click Session-> SSH
- Enter the Public IPV4 address (instance created from the AWS) in the remote host text field.
- Check the “Specify username”.We have to enter the username which is Ubuntu by default.
- If you don't know the username. Go back to instance page.Right click instance and choose connect



Connect to instance Info

Connect to your instance i-05850ec3301cd221b (demo) using any of these options

Instance ID

i-05850ec3301cd221b (demo)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is demokey.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.

```
chmod 400 demokey.pem
```

4. Connect to your instance using its Public DNS:

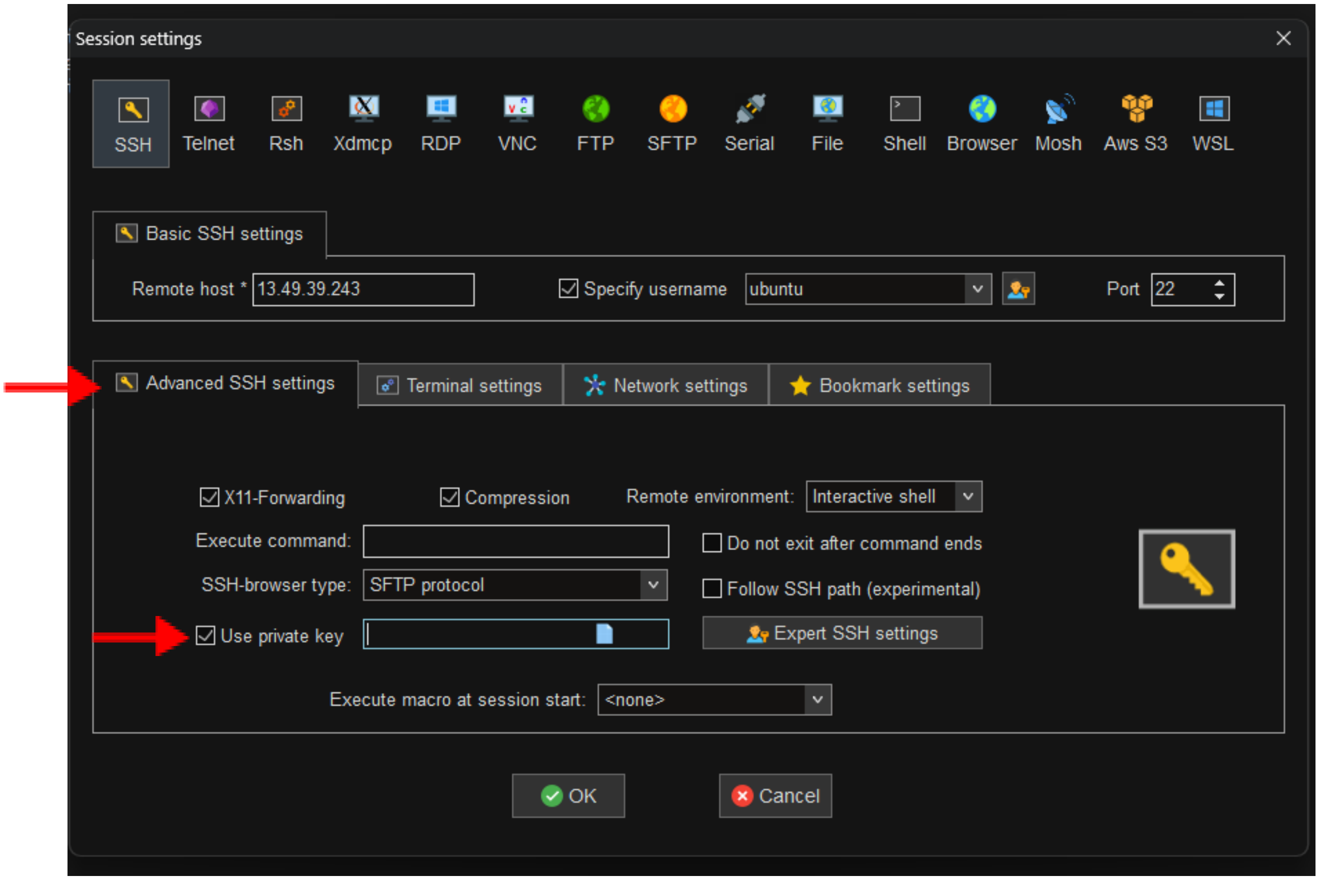
```
ec2-13-49-39-243.eu-north-1.compute.amazonaws.com
```

Example:

```
ssh -i "demokey.pem" ubuntu@ec2-13-49-39-243.eu-north-1.compute.amazonaws.com
```

Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

- After entering remote host and username click Advanced SSH settings



Remote host * 13.49.39.243

☑ Specify username ubuntu

Port 22

☑ X11-Forwarding

☑ Compression

Remote environment: Interactive shell

Execute command:

☐ Do not exit after command ends

SSH-browser type: SFTP protocol

☐ Follow SSH path (experimental)

☑ Use private key

Execute macro at session start: <none>

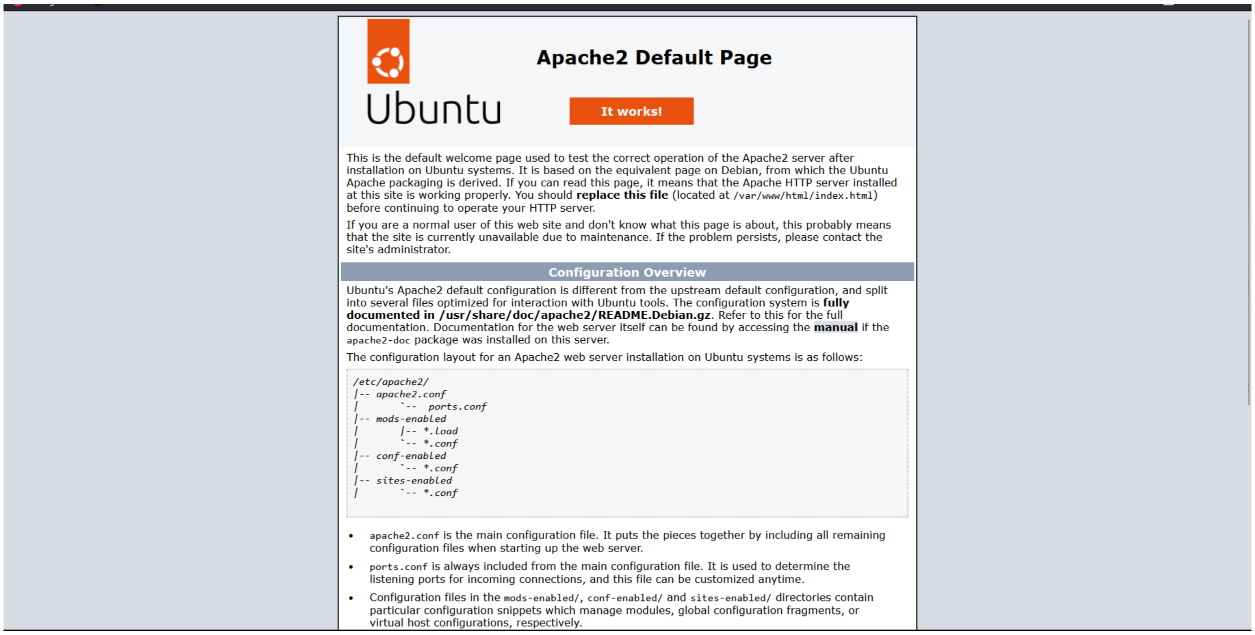
Select use private key box and choose the SSH file which is automatically created while creating the instance. You will see it in the downloads file with an extension of “.pem”
Click ok.
Now you are connected your system with your instance with the SSH client.

Installing the Apache2

Use the command below to install Apache server.

```
sudo apt install apache2
```

Now the web server will be working. You can cross-check it by simply copy pasting your IPV4 address in your browser. It will return apache default page.



Apache2 Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|       `--  ports.conf
|-- mods-enabled
|       |-- *.load
|       `-- *.conf
|-- conf-enabled
|       `-- *.conf
|-- sites-enabled
|       `-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.

This default page confirms that your web server is operational and ready to host content. Now, you can continue your hosting journey by adding your own website or web applications to make them accessible to the world.