



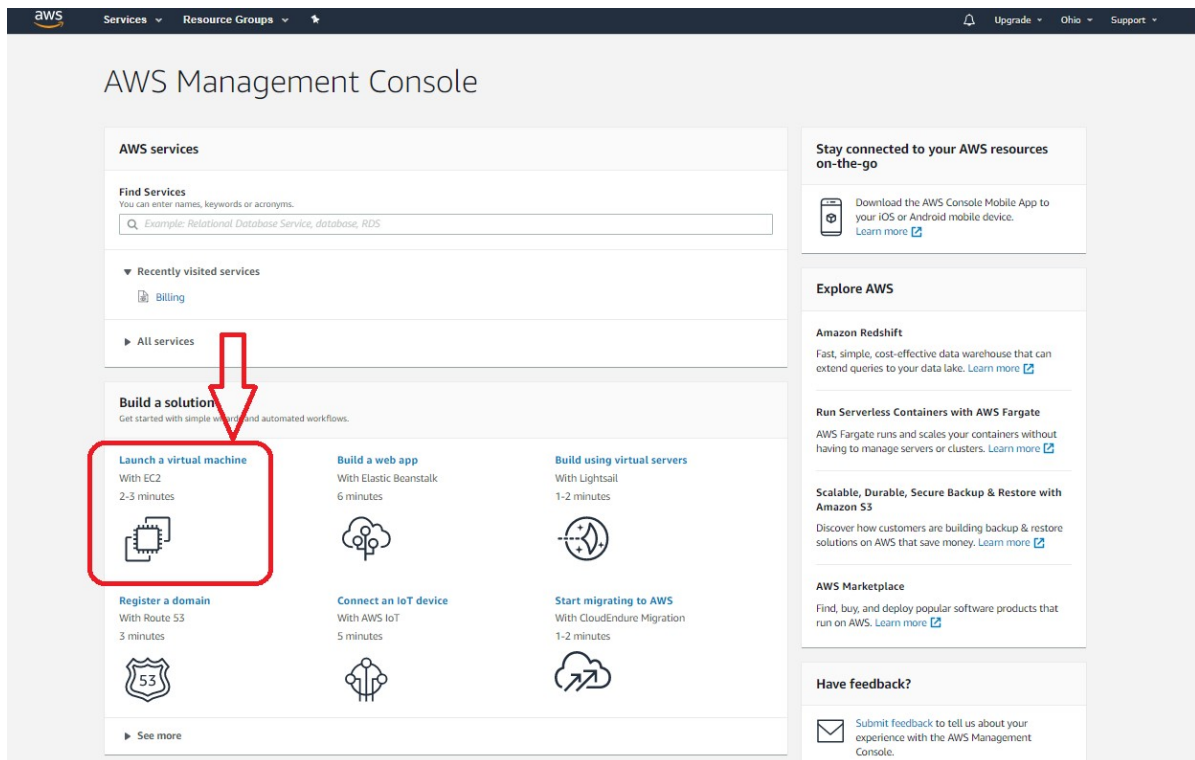
Deploying a web server in Windows instance using AMI : Ubuntu Server 18.04 LTS (HVM) AWS(AMAZON WEB SERVICES)

This step-by-step guide, EC2 configuration will help you understand the Deploying a web server in Windows instance using AMI : Ubuntu Server 18.04 LTS (HVM) in AWS, You will first activate your AWS account, then setup your EC2 environment where your instance will be launched into.

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8/20/2020

STEP BY STEP Follow

- Activate AWS account & login
- Goto Console



Click on EC2 (Elastic Compute Cloud)

aws Services Resource Groups Upgrade Ohio Support

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"

Search by Systems Manager parameter

Quick Start 1 to 40 of 40 AMIs

My AMIs AWS Marketplace Community AMIs

☐ Free tier only

	Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-07c8bc5c1ce9598c3 (64-bit x86) / ami-09a67037138f6e67 (64-bit Arm)	Select
	Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.28, Binutils 2.29.1, and the latest software packages through extras.	64-bit (x86) 64-bit (Arm)
	Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-02b0c55eeae6d5096	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.	64-bit (x86)
	Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-0a54aef4ef3b5f881 (64-bit x86) / ami-0ff59b53e6797671 (64-bit Arm)	Select
	Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type	64-bit (x86) 64-bit (Arm)
	SUSE Linux Enterprise Server 15 SP2 (HVM), SSD Volume Type - ami-03f4c416f489586a3 (64-bit x86) / ami-0d24f1c1ba96d2803 (64-bit Arm)	Select
	SUSE Linux Enterprise Server 15 Service Pack 2 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.	64-bit (x86) 64-bit (Arm)
	Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0bbe28eb2173f6167 (64-bit x86) / ami-04ad33460efc8798 (64-bit Arm)	Select
	Ubuntu Server 18.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).	64-bit (x86) 64-bit (Arm)
	Are you launching a database instance? Try Amazon RDS.	Hide
	Amazon Relational Database Service (RDS) makes it easy to set up, operate, and scale your database on AWS by automating time-consuming database management tasks. With RDS, you can easily deploy Amazon Aurora, MariaDB, MySQL, Oracle, PostgreSQL, and SQL Server databases on AWS. Aurora is a MySQL- and PostgreSQL-compatible, enterprise-class database at 1/10th the cost of commercial databases. Learn more about RDS	Launch a database using RDS
	Microsoft Windows Server 2019 Base - ami-0239d3998515e9ed1	Select

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Choose an AMI (Amazon Machine Image)

As per assignment Deploying a web server in Windows instance USING AMI Ubuntu Server 18.04 LTS (HVM)

Choose AMI - Ubuntu Server 18.04 LTS (HVM)

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 (1)	Memory (GiB)	Instance Storage (GB) (1)	EBS-Optimized Available (1)	Network Performance (1)	IPv6 Support (1)
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro	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	t3a.nano	2	0.5	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3a.micro	2	1	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3a.small	2	2	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3a.medium	2	4	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3a.large	2	8	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3a.xlarge	4	16	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3a.2xlarge	8	32	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3.nano	2	0.5	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3.micro	2	1	EBS only	Yes	Up to 5 Gigabit	Yes
<input type="checkbox"/>	General purpose	t3.small	2	2	EBS only	Yes	Up to 5 Gigabit	Yes

Cancel Previous **Review and Launch** Next: Configure Instance Details

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- Choose **instance type** - General purpose 12 Micro (which available for only free tier)

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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 Launch into Auto Scaling Group

Purchasing option ☐ Request Spot instances

Network Create new VPC

Subnet Create new subnet

Auto-assign Public IP

Placement group ☐ Add instance to placement group

Capacity Reservation

IAM role Create new IAM role

Shutdown behavior

Stop - Hibernate behavior ☐ Enable hibernation as an additional stop behavior

Enable termination protection ☒ Protect against accidental termination

Monitoring ☐ Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy
Additional charges will apply for dedicated tenancy.

Elastic Inference ☐ Add an Elastic Inference accelerator
Additional charges apply.

T2/T3 Unlimited ☐ Enable
Additional charges may apply.

File systems Create new file system

Advanced Details

Metadata accessible

Metadata version

Metadata token response hop limit

User data ☒ As text ☐ As file ☐ Input is already base64 encoded
(Optional)

Cancel Previous **Review and Launch** Next: Add Storage

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Configure instance Details

- ✓ INSTANCE TYPE - 1(As Per Requirement)
- ✓ Auto Assign Public IP- Enable
- ✓ Protect Against Accidental Termination (For protection against Data deletion / server)

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#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/sda1	snap-0cd981931a8ffac8	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.

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

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Type here to search

Add storage – As per requirement (Free tier no need to be changed)

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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
All traffic	All	0 - 65535	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

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.

Configure security groups

- ✓ Traffic Type - All type traffic
- ✓ Source –anywhere (as per requirement)

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard:

aws Services Resource Groups Upgrade Ohio Support

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, launch-wizard-2, 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](#)

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0bbe28eb2173f6167

Free tier eligible Ubuntu Server 18.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).
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 launch-wizard-2
Description launch-wizard-2 created 2020-08-17T14:46:15.717+05:30

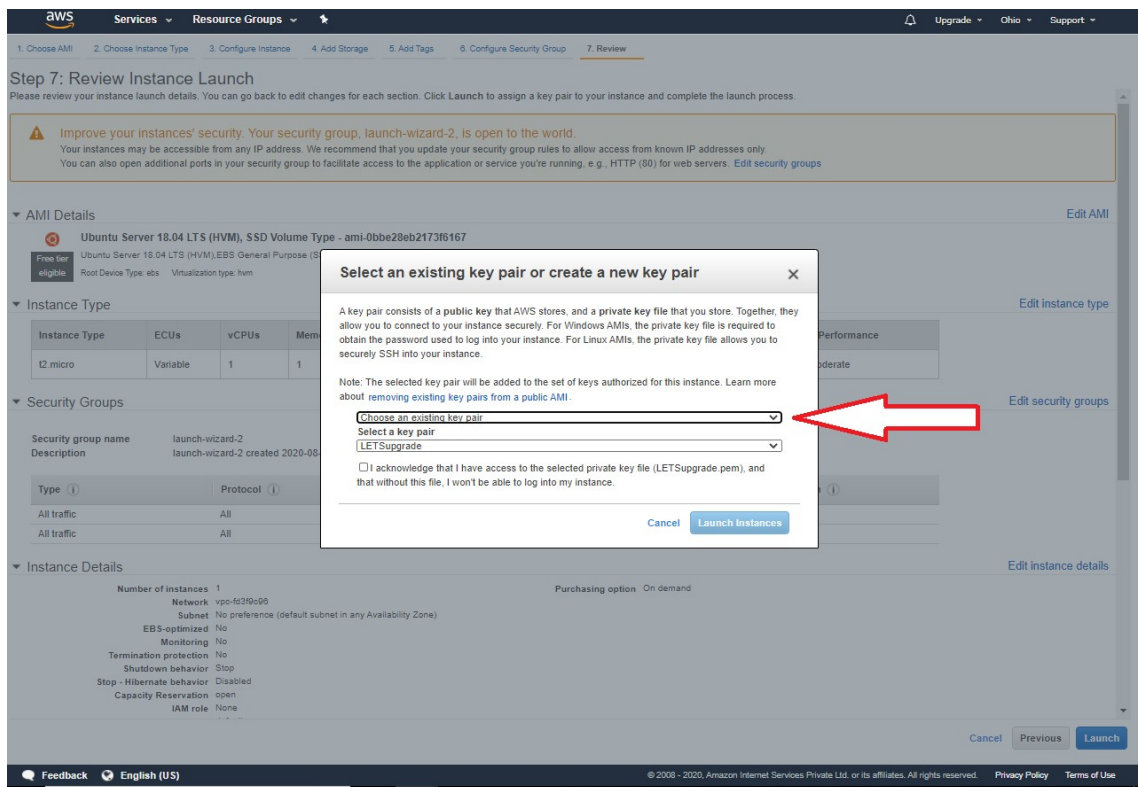
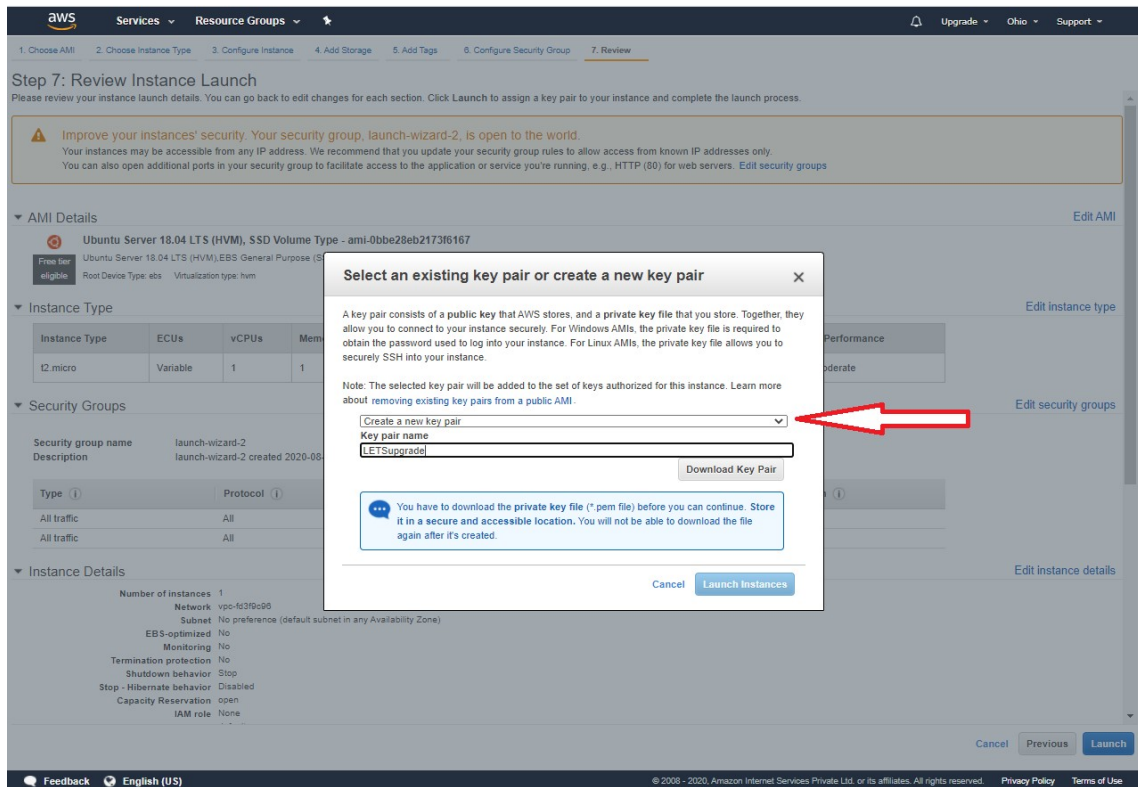
Type	Protocol	Port Range	Source	Description
All traffic	All	All	0.0.0.0/0	
All traffic	All	All	:::0	

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

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Type here to search

✓ Review and **instance** final launch.



➤ Download / Existing **KEY** Pair for Session login.

aws

Services

Resource Groups

Upgrade

Ohio

Support

Launch Status

Your instances are now launching

The following instance launches have been initiated: i-063601ace9c0c0431 [View launch log](#)

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](#)

[Learn about AWS Free Usage Tier](#)

[Amazon EC2: User Guide](#)

[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](#)

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- ✓ Your instances launched.
- ✓ Ready for connect.

The screenshot shows the AWS Management Console interface for EC2 instances. The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Limits, Instances, Images, Elastic Block Store, Network & Security, and Load Balancing. The main content area displays a table of EC2 instances. Two red arrows point to the 'Status Checks' and 'Public DNS (IPv4)' columns. The table shows two instances: 'linux' and 'WEBSERVER', both in a 'running' state with '2/2 checks' passed. The 'WEBSERVER' instance has a public IP of 3.15.170.78.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs
linux	i-063601ace9e0c0d431	t2.micro	us-east-2c	running	2/2 checks ...	None	ec2-3-15-180-138...	3.15.180.138	-
WEBSERVER	i-0e34ee2d44dcd70	t2.micro	us-east-2c	running	2/2 checks ...	None	ec2-3-15-170-78.u...	3.15.170.78	-

Check Instance status

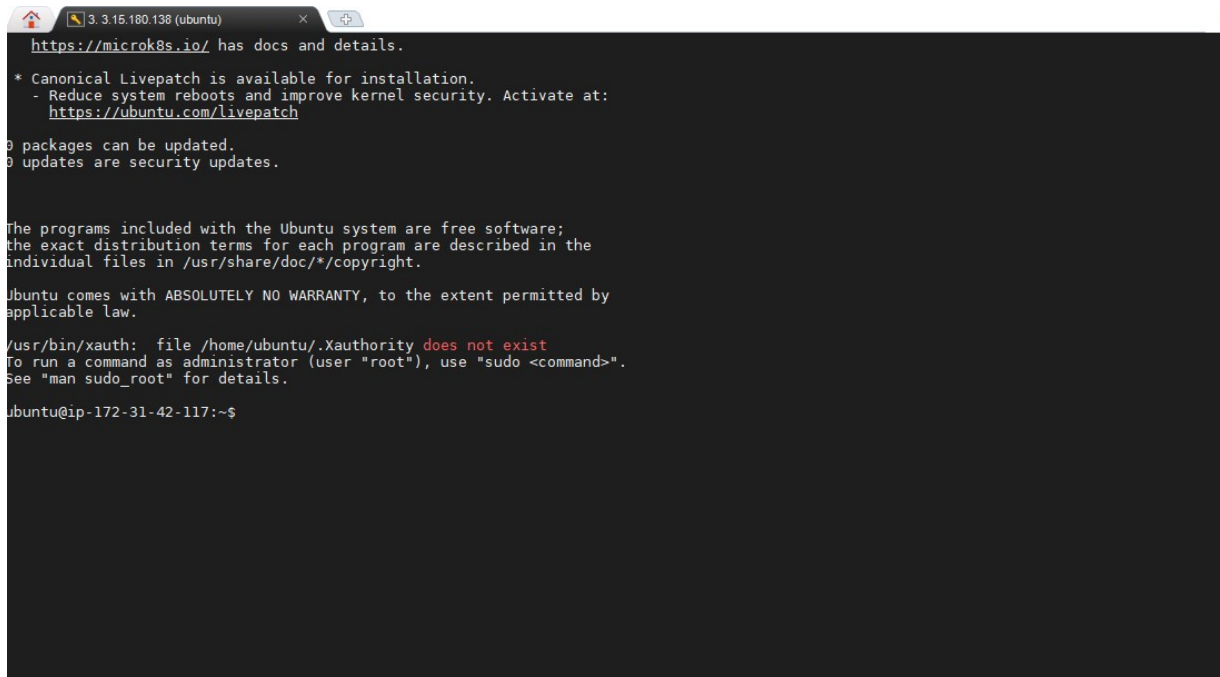
- 2/2 Check. (Must)
- Public & Private IP assigned by Server.

Download **Mobaxtream** for SSH login

Connect the server with **Mobaxtream** SSH fill-out the credential details

Ex.

- ✓ Public IP - 3.15.180.138
- ✓ User name – UBUNTU
- ✓ KEY pair - Existing/ download Encrypted key pair.



```
3.15.180.138 (ubuntu)
https://micro8s.io/ has docs and details.
* Canonical Livepatch is available for installation.
- Reduce system reboots and improve kernel security. Activate at:
  https://ubuntu.com/livepatch
0 packages can be updated.
0 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

/usr/bin/xauth: file /home/ubuntu/.Xauthority does not exist
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-42-117:~$
```

Ubuntu Server is connected !

➤ Install nginx web server using bash

```
3. 3.15.180.138 (ubuntu) x
https://microk8s.io/ has docs and details.

* Canonical Livepatch is available for installation.
- Reduce system reboots and improve kernel security. Activate at:
  https://ubuntu.com/livepatch

9 packages can be updated.
9 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

/usr/bin/xauth: file /home/ubuntu/.Xauthority does not exist
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-42-117:~$ sudo apt-get -y update
Hit:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic InRelease
Get:2 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:3 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Get:4 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Get:5 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 Packages [1036 kB]
Get:6 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main Translation-en [348 kB]
Get:7 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/restricted amd64 Packages [85.1 kB]
Get:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/restricted Translation-en [18.7 kB]
Get:9 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 Packages [1100 kB]
Get:10 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe Translation-en [342 kB]
Get:11 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 Packages [692 kB]
Get:12 http://security.ubuntu.com/ubuntu bionic-security/universe Translation-en [230 kB]
Fetched 4104 kB in 3s (1638 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-42-117:~$
```

- ✓ type → sudo apt-get -y update (the package sources list to **get** the latest list of available packages in the repositories and “**apt-get upgrade**” **updates** all the packages presently installed in your Linux system to their latest versions)


```
3. 3.15.180.138 (ubuntu)
Get:6 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main Translation-en [348 kB]
Get:7 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/restricted amd64 Packages [85.1 kB]
Get:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/restricted Translation-en [18.7 kB]
Get:9 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 Packages [1100 kB]
Get:10 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe Translation-en [342 kB]
Get:11 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 Packages [692 kB]
Get:12 http://security.ubuntu.com/ubuntu bionic-security/universe Translation-en [230 kB]
Fetched 4104 kB in 3s (1638 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-42-117:~$ sudo apt-get -y install nginx
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4
  nginx-common nginx-core
Suggested packages:
  libgd-tools fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4 nginx
  nginx-common nginx-core
0 upgraded, 18 newly installed, 0 to remove and 0 not upgraded.
Need to get 2462 kB of archives.
After this operation, 8210 kB of additional disk space will be used.
Get:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libjpeg-turbo8 amd64 1.5.2-0ubuntu5.18.04.4 [110 kB]
Get:2 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fonts-dejavu-core all 2.37-1 [1041 kB]
Get:3 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 fontconfig-config all 2.12.6-0ubuntu2 [55.8 kB]
Get:4 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libfontconfig1 amd64 2.12.6-0ubuntu2 [137 kB]
Get:5 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libjpeg8 amd64 8c-2ubuntu8 [2194 B]
Get:6 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libjpeg-turbo8 amd64 2.1-3.1build1 [26.7 kB]
Get:7 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libtiff5 amd64 4.0.9-5ubuntu0.3 [153 kB]
Get:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libwebp6 amd64 0.6.1-2 [185 kB]
Get:9 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 libxpm4 amd64 1:3.5.12-1 [34.0 kB]
Get:10 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libgd3 amd64 2.2.5-4ubuntu0.4 [119 kB]
Get:11 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 nginx-common all 1.14.0-0ubuntu1.7 [37.4 kB]
Get:12 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libnginx-mod-http-geoip amd64 1.14.0-0ubuntu1.7 [11.2 kB]
```

- ✓ type → sudo apt-get -y install nginx (using for install nginx (open-source, high-performance HTTP and reverse proxy server that powers some of the largest sites on the Internet.)



When its successfully completing at once.



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Success

- Check your public IP, Which is visible in web. (<http://3.15.180.138/>)

END

THANK YOU
