

## STEP BY STEP LAUNCH OF K8S on UBUNTU MACHINE

### 1) Launch a t2.medium Kubernetes machine.

**Step 1: Choose an Amazon Machine Image (AMI)**

Quick Start (7)

- My AMIs (0)
- AWS Marketplace (1170)
- Community AMIs (41726)

☐ Free tier only ⓘ

**Ubuntu Server 22.04 LTS (HVM), SSD Volume Type** - ami-052efd3df9dad4825 (64-bit x86) / ami-070650c005cce4203 (64-bit Arm)

Free tier eligible

Ubuntu Server 22.04 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 ENA Enabled: Yes

**Select**

64-bit (x86) ☒ 64-bit (Arm) ☐

**Ubuntu Server 20.04 LTS (HVM), SSD Volume Type** - ami-08d4ac5b634553e16 (64-bit x86) / ami-0888c389af05d881a (64-bit Arm)

**Select**

**Step 2: Choose an Instance Type**

Currently selected: t2.medium (- ECU, 2 vCPUs, 2.3 GHz, -, 4 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 type="checkbox"/>	t2	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input checked="" 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**

In step 3 -> no change

Launch instance wizard | EC2 Ma x

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

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

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1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Add Tags6. Configure Security Group7. 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 ⓘ1Launch into Auto Scaling Group ⓘ

Purchasing option ⓘ☐ Request Spot instances

Network ⓘvpc-0cca36a819bbd7914 (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

CancelPreviousReview and LaunchNext: Add Storage

FeedbackLooking for language selection? Find it in the new Unified Settings

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10:41 AM6/25/2022

Launch instance wizard | EC2 Ma x

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

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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-02d9369affc74b4f8	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.

CancelPreviousReview and LaunchNext: Add Tags

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### 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 <a href="#">click to add a Name tag</a> . Make sure your <a href="#">IAM policy</a> includes permissions to create tags.				

Add Tag (Up to 50 tags maximum)

CancelPreviousReview and LaunchNext: Configure Security Group

Feedback

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Launch instance wizard | EC2 Ma

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aws

Services

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1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Add Tags6. Configure Security Group7. 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

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.

CancelPreviousReview and Launch

Feedback

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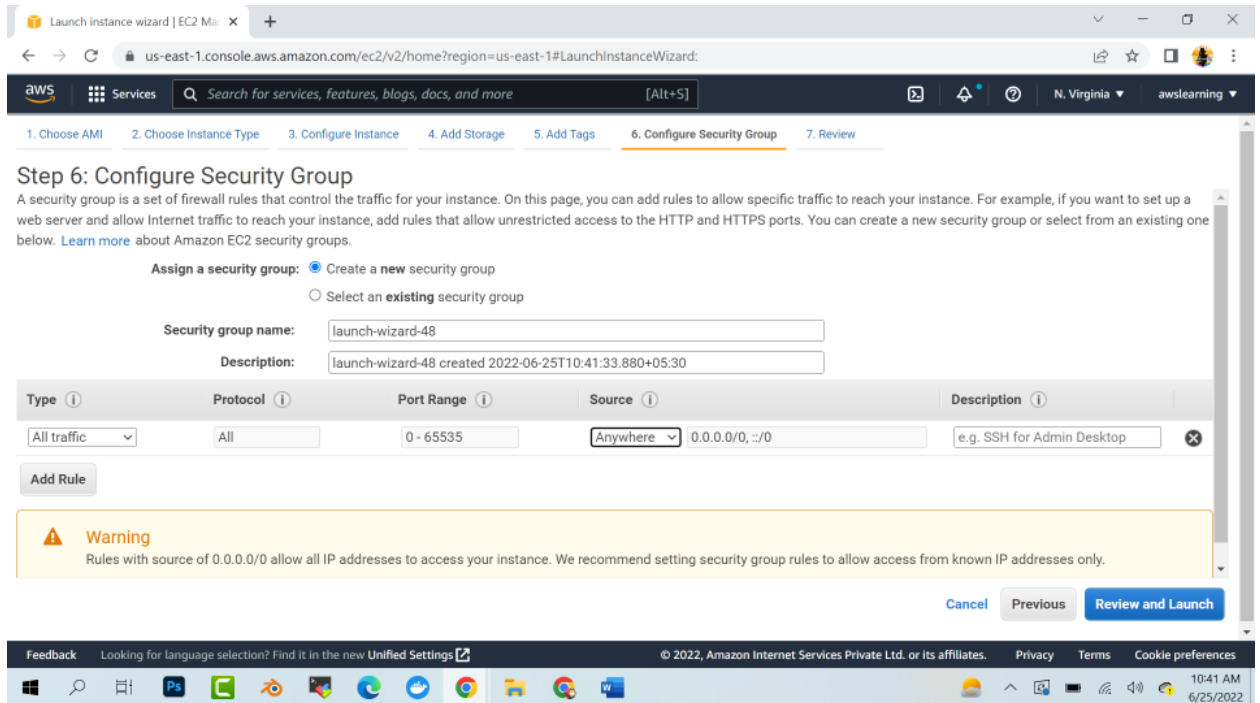
Privacy

Terms

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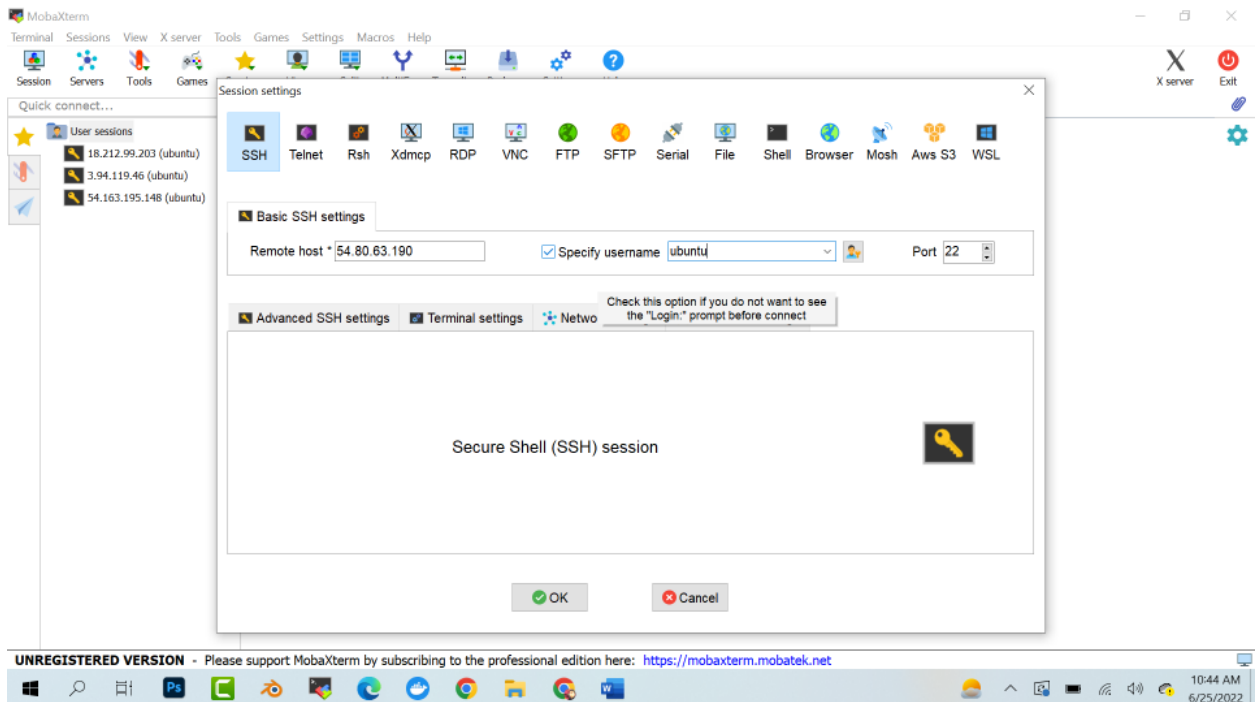
10:41 AM  
6/25/2022

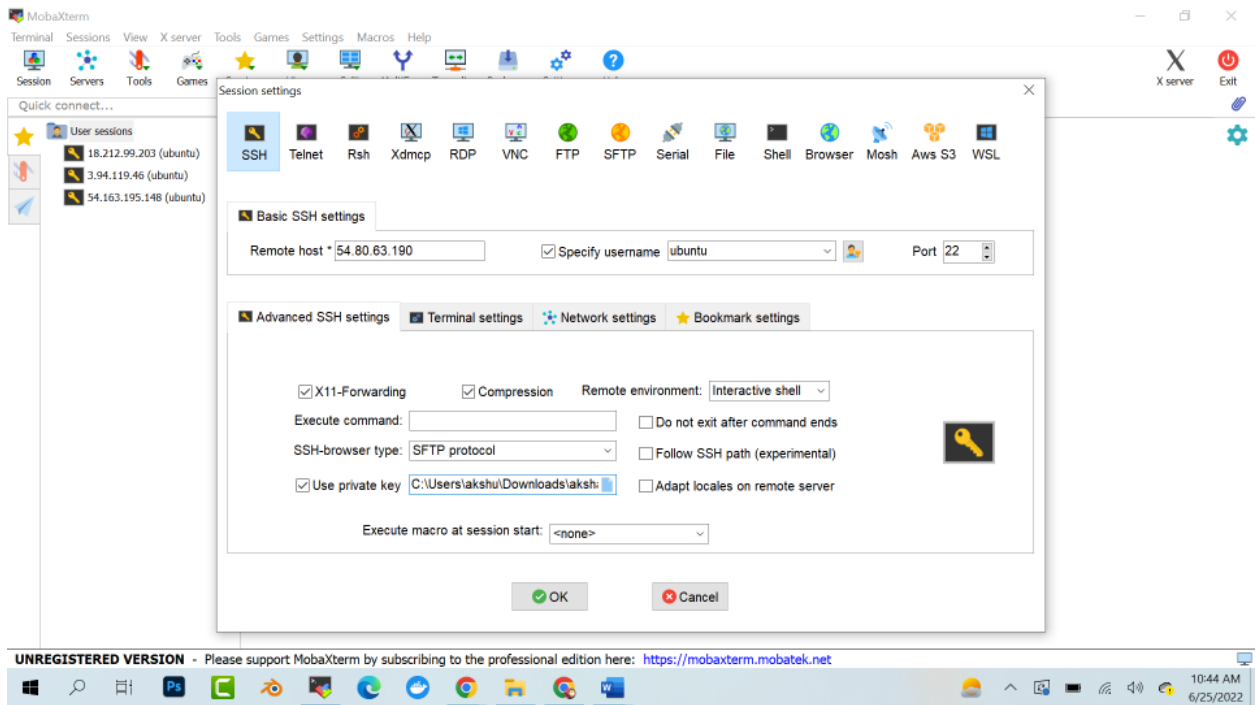
3



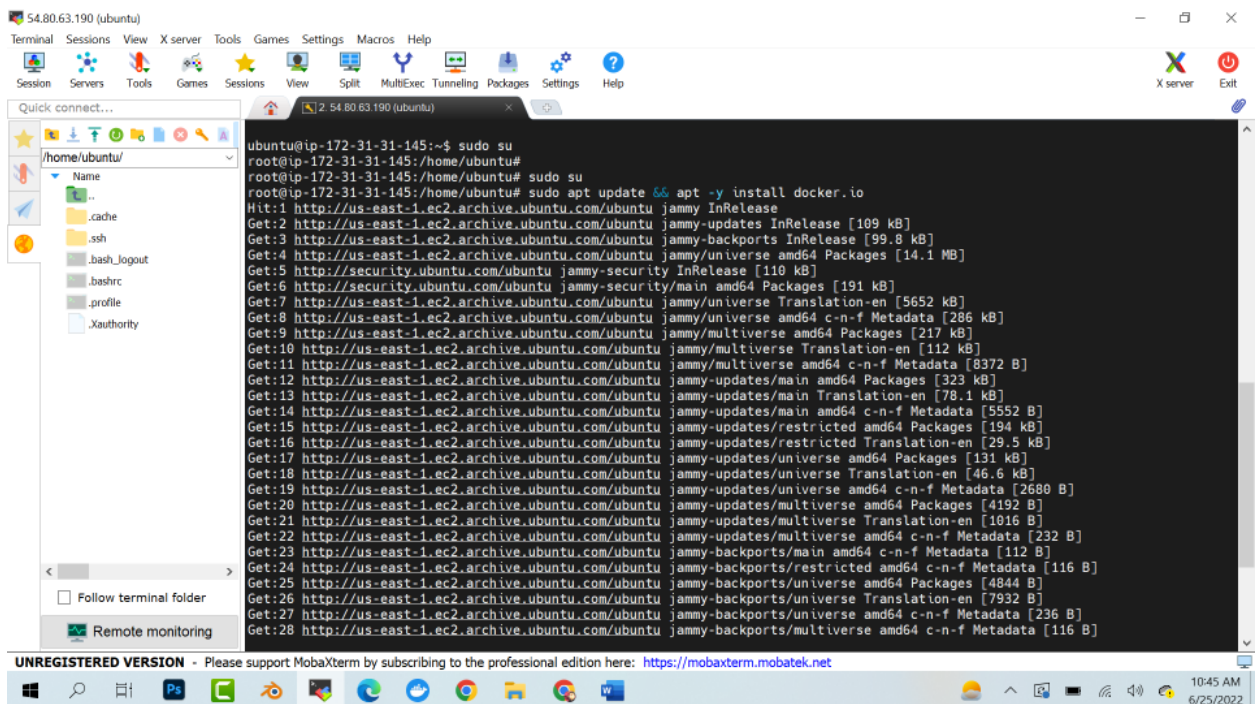
Review and launch it

Now open mobaterm





sudo su  
 sudo apt update && apt -y install docker.io

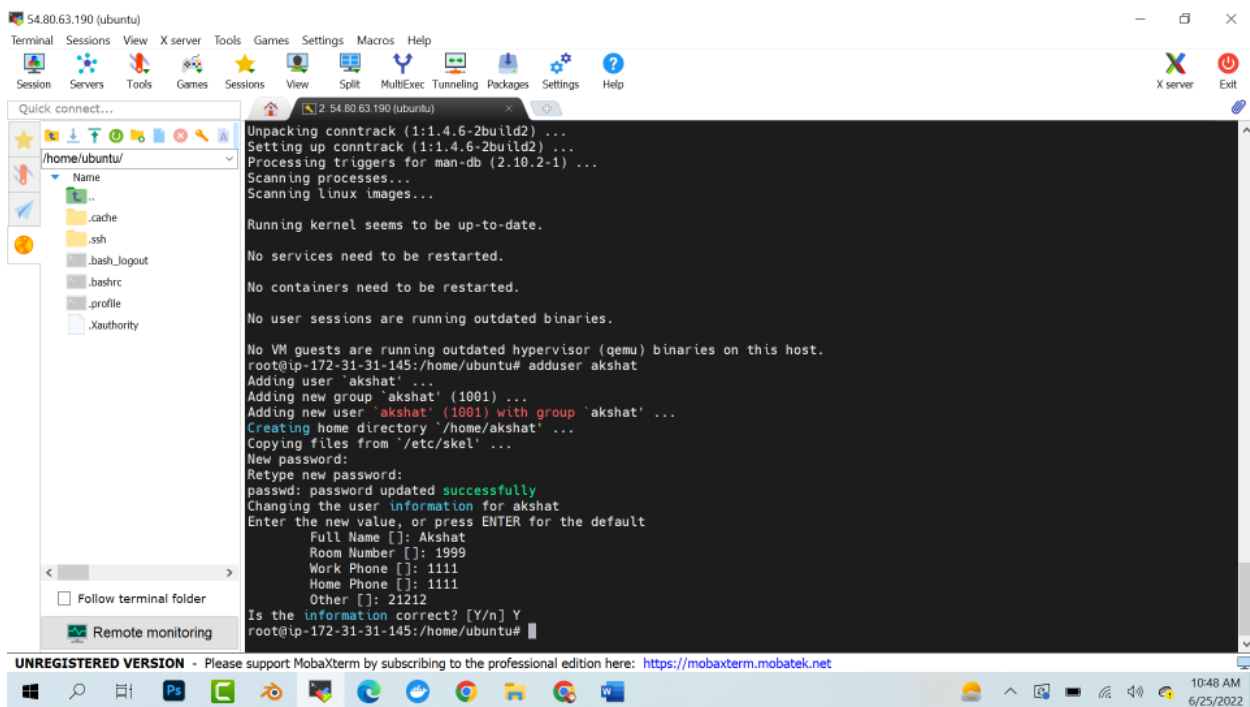


```
curl -LO https://storage.googleapis.com/kubernetes-release/release/$(curl -s https://storage.googleapis.com/kubernetes-release/release/stable.txt)/bin/linux/amd64/kubectl && chmod +x ./kubectl && sudo mv ./kubectl /usr/local/bin/kubectl
```

### ###install Minikube###

```
curl -Lo minikube https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64 && chmod +x minikube && sudo mv minikube /usr/local/bin/
```

```
apt install contrack  
adduser akshat
```



The screenshot shows a MobaXterm window with a terminal session on an Ubuntu machine. The terminal displays the following commands and output:

```
root@ip-172-31-31-145:/home/ubuntu# usermod -aG sudo akshat
root@ip-172-31-31-145:/home/ubuntu# su - akshat
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

akshat@ip-172-31-31-145:~$ sudo groupadd docker
[sudo] password for akshat:
groupadd: group 'docker' already exists
akshat@ip-172-31-31-145:~$
```

The terminal window also shows a list of usermod options on the right side, such as --gid, --groups, --append, --help, --login, --lock, --move-home, --non-unique, --password, --root, --prefix, --shell, --uid, --unlock, --add-subuids, --del-subuids, --add-subgids, --del-subgids, and --selinux-user.

usermod -aG sudo akshat

su - akshat

sudo groupadd docker

sudo usermod -aG docker \$USER && newgrp docker

minikube start --vm-driver=docker

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[sudo] password for akshat:
groupadd: group 'docker' already exists
akshat@ip-172-31-31-145:~$ sudo usermod -aG docker $USER && newgrp docker
akshat@ip-172-31-31-145:~$ minikube start --vm-driver=docker
* minikube v1.26.0 on Ubuntu 22.04 (xen/amd64)
* Using the docker driver based on user configuration
* Using Docker driver with root privileges
* Starting control plane node minikube in cluster minikube
* Pulling base image ...
* Downloading Kubernetes v1.24.1 preload ...
  > preloaded-images-k8s-v18-v1...: 148.97 MiB / 405.83 MiB 36.71% 32.42 MiB
```

The terminal window also shows a list of usermod options on the right side, such as --lock, --move-home, --non-unique, --password, --root, --prefix, --shell, --uid, --unlock, --add-subuids, --del-subuids, --add-subgids, --del-subgids, and --selinux-user.



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  > preloaded-images-k8s-v18-v1...: 405.83 MiB / 405.83 MiB 100.00% 32.79 Mi
  > gcr.io/k8s-minikube/kicbase: 385.99 MiB / 386.00 MiB 100.00% 27.37 MiB p
  > gcr.io/k8s-minikube/kicbase: 0 B [ ] ?% ? p/s 7.1s
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Preparing Kubernetes v1.24.1 on Docker 20.10.17 ...
  - Generating certificates and keys ...
  - Booting up control plane ...
  - Configuring RBAC rules ...
* Verifying Kubernetes components...
  - Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: default-storageclass, storage-provisioner
* Done! kubectrl is now configured to use "minikube" cluster and "default" namespace by default
akshat@ip-172-31-31-145:~$
```

minikube status

```
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[sudo] password for akshat:
groupadd: group 'docker' already exists
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akshat@ip-172-31-31-145:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured
akshat@ip-172-31-31-145:~$
```



