

Course Catalog - VMware Lab | Launch an instance | EC2 | us-east-1 | Create access key | IAM | Global | EC2 Instance Connect | us-east-1

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?addressFamily=ipv4&connType=standard&instanceId=i-0b2154...

aws [Alt+S] Ask Amazon Q United States (N. Virginia) Account ID: 0286-8611-0019 Harsh Pandey

```
AWS Secret Access Key [None]: +p/QnOLPkaG/WnlsGfz55vJlEpjcnkbYrDzcC7z6
Default region name [None]: us-east-1
Default output format [None]: text
ubuntu@ip-172-31-37-124:~$
aws sts get-caller-identity
# Should print your Account, Arn, User
028686110019  arn:aws:iam::028686110019:root  028686110019
ubuntu@ip-172-31-37-124:~$ cd ^C
ubuntu@ip-172-31-37-124:~$ cd terraform-vms
ubuntu@ip-172-31-37-124:~/terraform-vms$ terraform init
Initializing the backend...
Initializing provider plugins...
- Reusing previous version of hashicorp/aws from the dependency lock file
- Using previously-installed hashicorp/aws v5.100.0

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
ubuntu@ip-172-31-37-124:~/terraform-vms$ terraform plan
```

i-0b2154824b493e559 (Final\_task-VM)

Public IPs: 34.230.34.225 Private IPs: 172.31.37.124

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us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?addressFamily=ipv4&connType=standard&instanceId=i-0b2154...

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```
    protocol      = "tcp"
    security_groups = []
    self          = false
    to port       = 22
  },
  ]
  name           = "k8s-sg"
  name_prefix    = (known after apply)
  owner_id       = (known after apply)
  revoke_rules_on_delete = false
  tags_all       = (known after apply)
  vpc_id         = "vpc-023c94ae7d2450e4"
```

Plan: 3 to add, 0 to change, 0 to destroy.

Changes to Outputs:

- master\_public\_ip = (known after apply)
- worker\_public\_ip = (known after apply)

Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run "terraform apply" now.

ubuntu@ip-172-31-37-124:~/terraform-vm\$

i-0b2154824b493e559 (Final\_task-VM)

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```
+ master_public_ip = (known after apply)
+ worker_public_ip = (known after apply)

Do you want to perform these actions?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

aws_instance.master: Creating...
aws_instance.worker: Creating...
aws_instance.worker: Still creating... [00m10s elapsed]
aws_instance.master: Still creating... [00m10s elapsed]
aws_instance.worker: Creation complete after 13s [id=i-0d0c2cdc1044bfb0e]
aws_instance.master: Creation complete after 13s [id=i-042d80fb7f159b19e]

Apply complete! Resources: 2 added, 0 changed, 0 destroyed.

Outputs:
master_public_ip = "52.53.192.42"
worker_public_ip = "13.56.19.55"
ubuntu@ip-172-31-37-124:~/terraform-vm$ nano ansible.cfg
ubuntu@ip-172-31-37-124:~/terraform-vm$ nano timeout = 60Show more lines
hosts.ini
```

### i-0b2154824b493e559 (Final\_task-VM)

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Course Catalog - VMware Lab

Instances | EC2 | us-west-1

Create access key | IAM | Global

EC2 Instance Connect | us-east

us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#instances:

aws

Search

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United States (N. California)

Account ID: 0286-8611-0019

Harsh Pandey

EC2

Instances

EC2

Dashboard

AWS Global View

Events

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Capacity Manager

Images

AMIs

AMI Catalog

Instances (1/2)

Info

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

1

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input checked="" type="checkbox"/>	Harsh-master	i-042d80fb7f159b19c	Running	t3.small	Initializing	View alarms +
<input type="checkbox"/>	Harsh-worker	i-0dccc2cdc1044bfb0c	Running	t3.small	Initializing	View alarms +

i-042d80fb7f159b19c (Harsh-master)

DetailsStatus and alarmsMonitoringSecurityNetworkingStorageTags

Instance summary

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```
TASK [Show TCP check result] *****
**
ok: [worker1] => {
  "top_check.stdout": "reachable"
}

TASK [Join this worker to the cluster (retry on transient errors)] *****
**
changed: [worker1]

TASK [Fail with clear message if API server is not reachable] *****
**
skipping: [worker1]

PLAY RECAP *****
**
master1      : ok=33  changed=6  unreachable=0  failed=0  skipped=1  rescued=0  ignored=0
worker1      : ok=31  changed=7  unreachable=0  failed=0  skipped=2  rescued=0  ignored=0

ubuntu@ip-172-31-25-24:~/k8s-ansible$ kubectl get nodes
NAME                STATUS    ROLES    AGE   VERSION
ip-172-31-24-118    Ready    <none>    59s   v1.33.7
ip-172-31-25-24     Ready    control-plane  35m   v1.33.7
ubuntu@ip-172-31-25-24:~/k8s-ansible$
```

**i-0b37204b793ea3738 (Harsh-Master)**

PublicIPs: 13.56.195.20 PrivateIPs: 172.31.25.24

```
cd ~/k8s-ansible
mkdir three-tier-app
cd three-tier-app
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 00-namespace.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 01-postgres-secret.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 02-postgres-statefulset.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 03-postgres-service.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 10-backend-configmap.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 11-backend-deployment.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 12-backend-service.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 20-frontend-deployment.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 21-frontend-service.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 30-ingress.yml
kubect1 apply -f 00-namespace.yml
kubect1 apply -f 01-postgres-secret.yml
kubect1 apply -f 02-postgres-statefulset.yml
kubect1 apply -f 03-postgres-service.yml
kubect1 apply -f 10-backend-configmap.yml
kubect1 apply -f 11-backend-deployment.yml
kubect1 apply -f 12-backend-service.yml
kubect1 apply -f 20-frontend-deployment.yml
kubect1 apply -f 21-frontend-service.yml
kubect1 apply -f 30-ingress.yml
namespace/ecommerce created
```

**i-0b37204b793ea3738 (Harsh-Master)**

PublicIPs: 13.56.195.20 PrivateIPs: 172.31.25.24

SecurityGroup | EC2 | us-west-1 x EC2 Instance Connect | us-west-1 x EC2 Instance Connect | us-west-1 x +

us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?region=us-west-1&connType=standard&instanceId=i-0b37204b793ea373...

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GNU nano 7.2 cluster7.yml

```
vars:
  sysctl_config_path: /etc/sysctl.d/kubernetes.conf
tasks:
  - name: Disable swap immediately
    ansible.builtin.command: swapoff -a
    changed_when: false
    tags: [prepare]

  - name: Disable swap in fstab (comment out swap line)
    ansible.builtin.replace:
      path: /etc/fstab
      regexp: '^s*([^\#].*\s+swap\s+.*)$'
      replace: '# \1'
      tags: [prepare]

  - name: Ensure required packages for networking and repo handling are present
    ansible.builtin.apt:
      name:
        - apt-transport-https
        - ca-certificates
        - curl
```

^C Help ^O Write Out ^W Where Is ^K Cut ^X Execute ^G Location ^U Undo ^R Set Mark ^I To Bracket
^X Exit ^R Read File ^\ Replace ^V Paste ^\_ Justify ^\_ Go To Line ^-E Redo ^-C Copy ^\_ Where Was

i-0b37204b793ea3738 (Harsh-Master)

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SecurityGroup | EC2 | us-west-1 | EC2 Instance Connect | us-west-1 | EC2 Instance Connect | us-west-1

us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?region=us-west-1&connType=standard&instanceId=i-0b37204b793ea373...

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GNU nano 7.2 ansible.cfg

```
[defaults]
inventory = ./inventory.ini
host_key_checking = False
remote_user = ubuntu
```

Read 5 lines

Help Write Out Where Is Cut Execute Location Undo Set Mark To Bracket
Exit Read File Replace Paste Justify Go To Line Redo Copy Where Was

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```
cd ~/k8s-ansible
mkdir three-tier-app
cd three-tier-app
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 00-namespace.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 01-postgres-secret.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 02-postgres-statefulset.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 03-postgres-service.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 10-backend-configmap.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 11-backend-deployment.yml
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ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 20-frontend-deployment.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 21-frontend-service.yml
ubuntu8ip-172-31-25-24:~/k8s-ansible/three-tier-app$ nano 30-ingress.yml
kubect1 apply -f 00-namespace.yml
kubect1 apply -f 01-postgres-secret.yml
kubect1 apply -f 02-postgres-statefulset.yml
kubect1 apply -f 03-postgres-service.yml
kubect1 apply -f 10-backend-configmap.yml
kubect1 apply -f 11-backend-deployment.yml
kubect1 apply -f 12-backend-service.yml
kubect1 apply -f 20-frontend-deployment.yml
kubect1 apply -f 21-frontend-service.yml
kubect1 apply -f 30-ingress.yml
namespace/ecommerce created
```

**i-0b37204b793ea3738 (Harsh-Master)**

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us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?region=us-west-1&connType=standard&instanceId=i-046d9ccd6cf47d0d7...

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```
kubectl get pvc -n demo
service "postgres-service" deleted
statefulset.apps "postgres" deleted
persistentvolumeclaim "postgres-storage postgres-0" deleted
persistentvolume/pv-postgres unchanged
service/postgres-service created
statefulset.apps/postgres created
```

NAME	CAPACITY	ACCESS MODES	RECLAIM POLICY	STATUS	CLAIM	STORAGECLASS	VOLUMEATTRIBUTESCLASS
pv postgres	10Gi	RWO	Retain	Bound	demo/postgres-storage postgres-0	manual	<unset>

```
NAME          AGE
pv postgres   18m
```

NAME	STATUS	VOLUME	CAPACITY	ACCESS MODES	STORAGECLASS	VOLUMEATTRIBUTESCLASS	AGE
postgres-storage postgres-0	Pending	pv postgres	0		manual	<unset>	0s

```
ubuntu@ip-172-31-11-247:~$ kubectl get pvc -n demo
NAME          STATUS    VOLUME    CAPACITY    ACCESS MODES    STORAGECLASS    VOLUMEATTRIBUTESCLASS    AGE
postgres-storage postgres-0    Bound      pv postgres  10Gi          RWO             manual                <unset>                7s
ubuntu@ip-172-31-11-247:~$ kubectl get pods -n demo
NAME                                READY    STATUS    RESTARTS    AGE
backend-7f7c446858-gb24s            1/1     Running   0            173m
backend-7f7c446858-hcmss            1/1     Running   0            173m
frontend-9b5c4649c-77ts1            1/1     Running   0            38m
frontend-9b5c4649c-qrv99            1/1     Running   0            38m
frontend-9b5c4649c-rr55k            1/1     Running   0            38m
postgres-0                           1/1     Running   0            17s
ubuntu@ip-172-31-11-247:~$
```

i-046d9ccd6cf47d0d7 (MASTER-KUBE)

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