# Experiment 01

a) To develop a website and host it on your local machine on a VM

## Configure storage — Info    Advanced

1x  8  GiB  gp3 ▼    Root volume (Not encrypted)

ⓘ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage    ✕

Add new volume

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

⟳ Click refresh to view backup information
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.    ⟳

0 x File systems    Edit

▶ Advanced details  Info

### Summary

Number of instances  Info
```
1
```

Software Image (AMI)
Canonical, Ubuntu, 24.04 LTS, ...read more
ami-04a81a99f5ec58529

Virtual server type (instance type)
t2.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    ✕

Cancel    Launch instance

Review commands

---

EC2 > Instances > Launch an instance

⊘ Success
Successfully initiated launch of instance (i-0f3bd5bcbbc35b81a)

▶ Launch log

### Next Steps

🔍 What would you like to do next with this instance, for example "create alarm" or "create backup"    ‹ 1 2 3 4 5 6 ›

**Create billing and free tier usage alerts**

To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

Create billing alerts 🗗

**Connect to your instance**

Once your instance is running, log into it from your local computer.

Connect to instance 🗗

Learn more 🗗

**Connect an RDS database**

Configure the connection between an EC2 instance and a database to allow traffic flow between them.

Connect an RDS database 🗗

Create a new RDS database 🗗

Learn more 🗗

**Create EBS snapshot policy**

Create a policy that automates the creation, retention, and deletion of EBS snapshots

Create EBS snapshot policy 🗗

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EC2 Dashboard  ✕
EC2 Global View
Events
Console-to-Code  Preview
▼ Instances
  Instances
  Instance Types
  Launch Templates
  Spot Requests
  Savings Plans
  Reserved Instances
  Dedicated Hosts
  Capacity Reservations  New
▼ Images
  AMIs
  AMI Catalog
▼ Elastic Block Store
  Volumes

**Instances (1/2)** Info    Last updated 1 minute ago    ⟳  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 | Availability Zone | ▽ | Public I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ☐ | Mynewapp-env | | i-0365889e6b3d22cdb | ⊘ Running ⊕ ⊖ | | t3.micro | | ⊘ 2/2 checks passec | View alarms + | us-east-1a | | ec2-44- |
| ☑ | prathamesh_instance | | i-0f3bd5bcbbc35b81a | ⊘ Running ⊕ ⊖ | | t2.micro | | ⧖ Initializing | View alarms + | us-east-1b | | ec2-54- |

**i-0f3bd5bcbbc35b81a (vedant_Instance)**    ⚙ ✕

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

▼ Instance summary  Info

Instance ID
⧉ i-0f3bd5bcbbc35b81a (vedant_Instance)

IPv6 address
–

Hostname type

Public IPv4 address
⧉ 54.159.13.162 | open address 🗗

Instance state
⊘ Running

Private IP DNS name (IPv4 only)

Private IPv4 addresses
⧉ 172.31.33.103

Public IPv4 DNS
⧉ ec2-54-159-13-162.compute-1.amazonaws.com |
open address 🗗

▫ CloudShell  Feedback    © 2024, Amazon Web Services, Inc. or its affiliates.    Privacy  Terms  Cookie preferences

EC2 > Instances > i-0365889e6b3d22cdb > Connect to instance

# Connect to instance Info

Connect to your instance i-0365889e6b3d22cdb (Mynewapp-env) using any of these options

| EC2 Instance Connect | Session Manager | SSH client | EC2 serial console |

⚠ **Port 22 (SSH) is not authorized**
Port 22 (SSH) is currently not authorized by your security group. To use EC2 Instance Connect, you must authorize port 22 for the EC2 Instance Connect service IP addresses in your Region: 18.206.107.24/29.
Learn more.

**Instance ID**
📋 i-0365889e6b3d22cdb (Mynewapp-env)

**Connection Type**

◉ Connect using EC2 Instance Connect
Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.

○ Connect using EC2 Instance Connect Endpoint
Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

**Public IP address**
📋 44.205.155.152

**Username**
Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, root.

---

```
supra>ssh -i "supra-key.pem" ubuntu@3.110.164.61
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1009-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:      https://landscape.canonical.com
 * Support:         https://ubuntu.com/pro

 System information as of Mon Aug  5 14:53:57 UTC 2024

  System load:  0.01              Processes:             185
  Usage of /:   22.7% of 6.71GB   Users logged in:       0
  Memory usage: 28%               IPv4 address for enX0: 172.31.6.34
  Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


The list of available updates is more than a week old.
To check for new updates run: sudo apt update


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.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```

```
ubuntu@ip-172-31-6-34:~$ sudo apt update && sudo apt upgrade -y
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [317 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [82.7 kB]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [5640 B]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [318 kB]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [133 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [45.0 kB]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [12.5 kB]
Get:20 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [208 kB]
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [40.7 kB]
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 c-n-f Metadata [416 B]
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [14.1 kB]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [3608 B]
Get:25 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [212 B]
Get:26 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [532 B]
Get:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:29 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [10.3 kB]
Get:30 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [10.5 kB]
Get:31 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.6 kB]
Get:32 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1016 B]
Get:33 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:34 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
```

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-6-34:~$ sudo apt install apache2 -y
Reading package lists... Done
Building dependency tree... Done
Enabling module auth_basic.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /usr/lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /usr/lib/systemd/system/apache-htcacheclean
.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Pending kernel upgrade!
```

```
*** System restart required ***
Last login: Mon Aug  5 14:53:58 2024 from 152.58.43.204
ubuntu@ip-172-31-6-34:~$ sudo mv /home/ubuntu/index.html /var/www/html/
ubuntu@ip-172-31-6-34:~$ sudo chown -R www-data:www-data /var/www/html
ubuntu@ip-172-31-6-34:~$ sudo nano /etc/apache2/sites-available/000-default.conf
ubuntu@ip-172-31-6-34:~$ sudo a2ensite 000-default.conf
Site 000-default already enabled
ubuntu@ip-172-31-6-34:~$ sudo systemctl restart apache2
ubuntu@ip-172-31-6-34:~$ sudo apt install certbot python3-certbot-apache
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  augeas-lenses libaugeas0 python3-acme python3-augeas
  python3-certbot python3-configargparse python3-icu
  python3-josepy python3-parsedatetime python3-rfc3339
Suggested packages:
  augeas-doc python-certbot-doc python3-certbot-nginx
  augeas-tools python-acme-doc python-certbot-apache-doc
The following NEW packages will be installed:
  augeas-lenses certbot libaugeas0 python3-acme python3-augeas
  python3-certbot python3-certbot-apache
..
Unpacking python3-parsedatetime (2.6-3) ...
Selecting previously unselected package python3-certbot.
Preparing to unpack .../08-python3-certbot_2.9.0-1_all.deb ...
Unpacking python3-certbot (2.9.0-1) ...
Selecting previously unselected package certbot.
Preparing to unpack .../09-certbot_2.9.0-1_all.deb ...
Unpacking certbot (2.9.0-1) ...
Selecting previously unselected package python3-certbot-apache.
Preparing to unpack .../10-python3-certbot-apache_2.9.0-1_all.deb ...
Unpacking python3-certbot-apache (2.9.0-1) ...
Selecting previously unselected package python3-icu.
Preparing to unpack .../11-python3-icu_2.12-1build2_amd64.deb ...
Unpacking python3-icu (2.12-1build2) ...
```



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## Introduction



## Promotional Video