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Academic Year 2025-26
SY MCA- SEM III

IT35 Principles of Cloud Management and Security
Assessment 1

Date: 14/11/2025
Time: 90 Mins
Marks: 80 Marks

Roll No: 2401088
Name: Atharva Ganesh Kandhare

Assignment 1 – Set B3

Kindly write the question and paste the screenshots of execution from your system

Save the file as rollno_name of the student

Q.1. Create an AWS EC2 (t2.nano) instance using the Ubuntu 20.04 LTS image. Attach a disk of 8 GB to the root volume only (no addition disks).

Tag the instance using the following data:

- (name) – Compulsory
- (roll_no) – Compulsory
- (owner) – Student-Group-1
- (date) –
- (description) – No extra disk test

Create a keypair using your roll_number.

Login to the instance using SSH.

Answers :



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1. Tags Screen

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](#)

Key	Value	Resource types
name	Atharva	Instances
roll_no	2401088	Instances
owner	Student-Group-1	Instances

Summary

Number of instances: 1

Software Image (AMI)
Canonical, Ubuntu, 22.04, amd64...[read more](#)
ami-01fd6fa49060e89a6

Virtual server type (instance type)
t3.micro

Firewall (security group)
New security group

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

[Cancel](#) [Launch instance](#) [Preview code](#)

2. Tags Screen

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](#)

Key	Value	Resource types
date	14/11/2025	Instances
description	No Extra disk test	Instances

[Add new tag](#)

You can add up to 45 more tags.

Application and OS Images (Amazon Machine Image) [Info](#)

An AMI contains the operating system, application server, and applications for your instance. If you don't see a suitable AMI below, use the search field or choose [Browse more AMIs](#).

Summary

Number of instances: 1

Software Image (AMI)
Canonical, Ubuntu, 22.04, amd64...[read more](#)
ami-01fd6fa49060e89a6

Virtual server type (instance type)
t3.micro

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New security group

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1 volume(s) - 8 GiB

[Cancel](#) [Launch instance](#) [Preview code](#)



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3. Selecting OS Image – Instead using Ubuntu 20.04 LTS using Ubuntu 22.04 LTS

Index | Launch an instance | EC2 | eu-north-1

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#LaunchInstances:

Search [Alt+S] Europe (Stockholm) vforesee (4460-4827-0507) 2401088

EC2 > Instances > Launch an instance

Application and OS Images (Amazon Machine Image) Info

An AMI contains the operating system, application server, and applications for your instance. If you don't see a suitable AMI below, use the search field or choose [Browse more AMIs](#).

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

Quick Start

Amazon Linux macOS **Ubuntu** Windows Red Hat SUSE Linux Del

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type
ami-01fd6fa49060e89a6 (64-bit (x86)) / ami-0269e551f9c122e04 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs Free tier eligible

Summary

Number of instances | Info
1

Software Image (AMI)
Canonical, Ubuntu, 22.04, amd64...[read more](#)
ami-01fd6fa49060e89a6

Virtual server type (instance type)
t3.micro

Firewall (security group)
New security group

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

Cancel Launch instance Preview code

4. Description of Selected OS Image

Index | Launch an instance | EC2 | eu-north-1

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#LaunchInstances:

Search [Alt+S] Europe (Stockholm) vforesee (4460-4827-0507) 2401088

EC2 > Instances > Launch an instance

Description

Ubuntu Server 22.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).

Canonical, Ubuntu, 22.04, amd64 jammy image

Architecture **AMI ID** **Publish Date** **Username** | Info

64-bit (x86_64) ami-01fd6fa49060e89a6 2025-10-15 ubuntu Verified provider

Instance type Info | Get advice

Instance type

t3.micro
Family: t3 2 vCPU 1 GiB Memory Current generation: true Free tier eligible

On-Demand Ubuntu Pro base pricing: 0.0143 USD per Hour
On-Demand RHEL base pricing: 0.0396 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

Additional costs apply for AMIs with pre-installed software

Summary

Number of instances | Info
1

Software Image (AMI)
Canonical, Ubuntu, 22.04, amd64...[read more](#)
ami-01fd6fa49060e89a6

Virtual server type (instance type)
t3.micro

Firewall (security group)
New security group

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

Cancel Launch instance Preview code



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5. Created Key-Pair login with Roll Number - 2401088

On-Demand Linux base pricing: 0.0108 USD per Hour
On-Demand Windows base pricing: 0.02 USD per Hour
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*

2401088 [Create new key pair](#)

Network settings Info [Edit](#)

Network [Info](#)

vpc-2b5fa142

Subnet [Info](#)

vpc-2b5fa142

No preference (Default subnet in any availability zone)

Summary

Number of instances [Info](#)

1

Software Image (AMI)

Canonical, Ubuntu, 22.04, amd64...[read more](#)
ami-01fd6fa49060e89a6

Virtual server type (instance type)

t3.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

[Cancel](#) [Launch instance](#) [Preview code](#)

Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

roll-2401088

The name can include up to 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

[Cancel](#) [Create key pair](#)



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6. Network Setting setup for login to instance

The screenshot shows the 'Launch an instance' page in the AWS Management Console, specifically the 'Network settings' tab. The page is for the 'eu-north-1' region. The 'Network' section shows a VPC 'vpc-2b5fa142'. The 'Subnet' section shows 'No preference (Default subnet in any availability zone)'. The 'Auto-assign public IP' is set to 'Enable'. The 'Firewall (security groups)' section has a 'Create security group' button selected. Below this, it says 'We'll create a new security group called 'launch-wizard-5' with the following rules:'. There are two checkboxes: 'Allow SSH traffic from' (checked) and 'Allow HTTPS traffic from the internet' (unchecked). The 'Allow SSH traffic from' rule is configured for 'Anywhere' (0.0.0.0/0). The 'Summary' panel on the right shows 'Number of instances' as 1, 'Software Image (AMI)' as 'Canonical, Ubuntu, 22.04, amd64', 'Virtual server type (instance type)' as 't3.micro', 'Firewall (security group)' as 'New security group', and 'Storage (volumes)' as '1 volume(s) - 8 GiB'. At the bottom, there are 'Cancel', 'Launch instance', and 'Preview code' buttons.

7. Attached a disk of 8 GB to root volume

The screenshot shows the 'Launch an instance' page in the AWS Management Console, specifically the 'Configure storage' tab. The 'Number of instances' is 1. The 'Software Image (AMI)' is 'Canonical, Ubuntu, 22.04, amd64'. The 'Virtual server type (instance type)' is 't3.micro'. The 'Firewall (security group)' is 'New security group'. The 'Storage (volumes)' section shows '1 volume(s) - 8 GiB'. The 'Configure storage' section shows '1x 8 GiB gp2 Root volume, Not encrypted'. There is an 'Add new volume' button. Below this, it says 'The selected AMI contains instance store volumes, however the instance does not allow any instance store volumes. None of the instance store volumes from the AMI will be accessible from the instance'. There is a 'Click refresh to view backup information' button. The 'Advanced details' section shows 'Domain join directory' as 'Select'. At the bottom, there are 'Cancel', 'Launch instance', and 'Preview code' buttons.



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8. Additional details (not required)

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#LaunchInstances:

EC2 > Instances > Launch an instance

Advanced details Info

Domain join directory | Info

Select [Create new directory](#)

IAM instance profile | Info

Select [Create new IAM profile](#)

Hostname type | Info

IP name

DNS Hostname | Info

☒ Enable IP name IPv4 (A record) DNS requests

☒ Enable resource-based IPv4 (A record) DNS requests

☐ Enable resource-based IPv6 (AAAA record) DNS requests

Instance auto-recovery | Info

Select

Shutdown behavior | Info

Summary

Number of instances | Info

1

Software Image (AMI)

Canonical, Ubuntu, 22.04, amd64...[read more](#)

ami-01fd6fa49060e89a6

Virtual server type (instance type)

t3.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

[Cancel](#) [Launch instance](#) [Preview code](#)

9. Instance Created

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#LaunchInstances:

EC2 > Instances > Launch an instance

Success

Successfully initiated launch of instance (i-0ba72ff5269da19c6)

Launch log

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

Create billing usage alerts

To manage costs and avoid surprise bills, set up email notifications for billing 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](#)

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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10. Tags after created instance

The screenshot shows the AWS Management Console for the eu-north-1 region. The EC2 Instances page is displayed, showing a list of instances. The instance 'AtharvaK' is selected, and its details are shown below the table.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
AtharvaK	i-0ba72ff5269da19c6	Running	t3.micro	3/3 checks passed	View alarms	eu-north-1a
Siddhi	i-06747c870ff7ff8b6	Running	t3.nano	3/3 checks passed	View alarms	eu-north-1a
AtharvInstance	i-0df60a428b43d6926	Running	t3.micro	3/3 checks passed	View alarms	eu-north-1a

Details for i-0ba72ff5269da19c6 (AtharvaK):

Key	Value
name	Atharva
Name	AtharvaK
date	14/11/2025
roll_no	2401088

11. Instance Details Screens

The screenshot shows the AWS Management Console for the eu-north-1 region. The EC2 Instance Details page is displayed for the instance 'AtharvaK' (i-0ba72ff5269da19c6).

Instance summary:

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0ba72ff5269da19c6	16.16.187.218 open address	172.31.25.144

Instance state: Running

Public DNS: ec2-16-16-187-218.eu-north-1.compute.amazonaws.com | open address

IPv6 address: -

Instance type: t3.micro

Private IP DNS name (IPv4 only): ip-172-31-25-144.eu-north-1.compute.internal

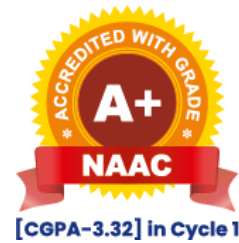
Hostname type: IP name: ip-172-31-25-144.eu-north-1.compute.internal

Answer private resource DNS name: -

Elastic IP addresses: -



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eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#Instances:

EC2 > Instances

Instances (1/55) Info

Last updated 10 minutes ago

Instance state Actions

Launch instances

Find Instance by: All states

Name	Instance ID
samruddhi	i-0eab00000000000000
Ruturaj Khalane	i-08238d3d6
	i-04a8067e5
priti	i-04b20f270
aryankale	i-0d7b81221
pooja	i-0196b72a5
Tannu	i-072697bb9

IAM Role

IMDSv2 Required

Operator

Instance details Info

AMI ID

AMI name

Stop protection

Subnet ID

Instance ARN

Monitoring disabled

Allowed image

Launch time

entStatus action

Auto Scaling Group name

Managed false

Platform details

Termination protection

AMI location

CloudShell Feedback Console Mobile App

27°C Sunny

eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#Instances:

EC2 > Instances

Instances (1/55) Info

Last updated 11 minutes ago

Instance state Actions

Launch instances

Find Instance by: All states

Name	Instance ID
samruddhi	i-0eab00000000000000
Ruturaj Khalane	i-08238d3d6
	i-04a8067e5
priti	i-04b20f270
aryankale	i-0d7b81221
pooja	i-0196b72a5
Tannu	i-072697bb9

Disabled

Instance reboot migration

Stop-hibernate behavior

State transition reason

State transition message

Owner

Current instance boot mode

Answer RBN DNS hostname IPv4

Instance auto-recovery

AMI Launch index

Credit specification

Usage operation

Enclaves Support

Allow tags in instance metadata

Lifecycle

Key pair assigned at launch

Kernel ID

RAM disk ID

Boot mode

Use RBN as guest OS hostname

CloudShell Feedback Console Mobile App

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The screenshot shows the AWS Management Console for the eu-north-1 region. The left sidebar contains navigation options like Dashboard, AWS Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Capacity Manager, and Images. The main content area shows the 'Instances (1/55)' page. A table lists instances with columns for Name, Instance ID, and State. The instance 'samruddhi' is selected, and its details are shown on the right. The details include the instance's state (Running), host ID, capacity reservation settings, and other configuration options.

12. Successful Login to Ubuntu

```
ubuntu@ip-172-31-25-144: ~$ ssh -i "C:\Users\ADMIN\Downloads\2401088.pem" ubuntu@16.16.187.218
PS C:\Users\ADMIN> ssh -i "C:\Users\ADMIN\Downloads\2401088.pem" ubuntu@16.16.187.218
The authenticity of host '16.16.187.218 (16.16.187.218)' can't be established.
ED25519 key fingerprint is SHA256:yiZIn8KfB8YqDI7T6BhGt/28LrKholXgTuglkkPI0f4.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '16.16.187.218' (ED25519) to the list of known hosts.
Welcome to Ubuntu 22.04.5 LTS (GNU/Linux 6.8.0-1040-aws x86_64)

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

System information as of Fri Nov 14 08:25:30 UTC 2025

System load:  0.0          Processes:      104
Usage of /:   22.7% of 7.57GB Users logged in:   0
Memory usage: 25%         IPv4 address for ens5: 172.31.25.144
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.
```



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```
ubuntu@ip-172-31-25-144: ~  
System information as of Fri Nov 14 08:25:30 UTC 2025  
  
System load: 0.0          Processes:            104  
Usage of /:  22.7% of 7.57GB Users logged in:       0  
Memory usage: 25%        IPv4 address for ens5: 172.31.25.144  
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-172-31-25-144:~$
```



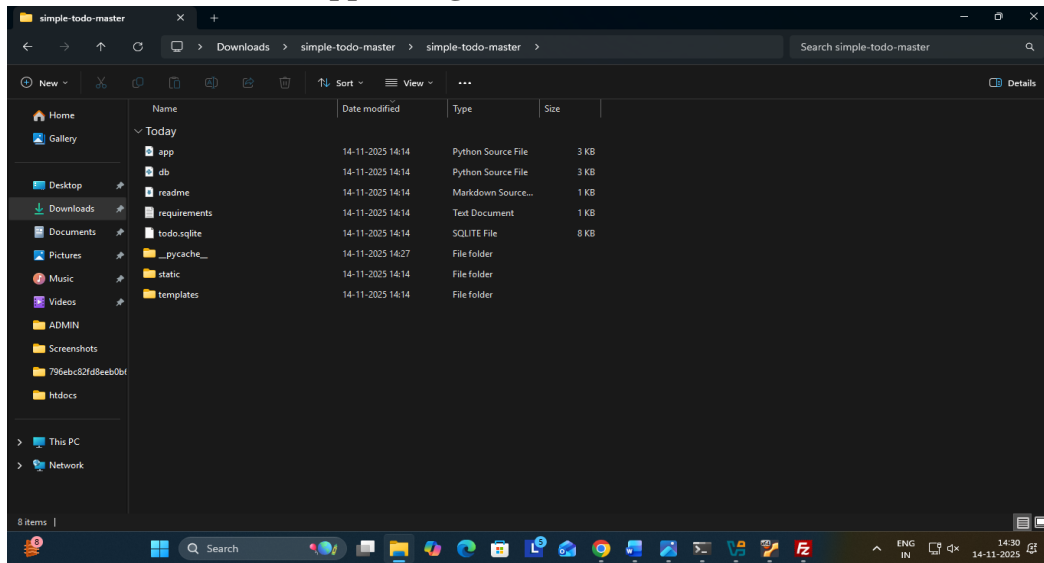
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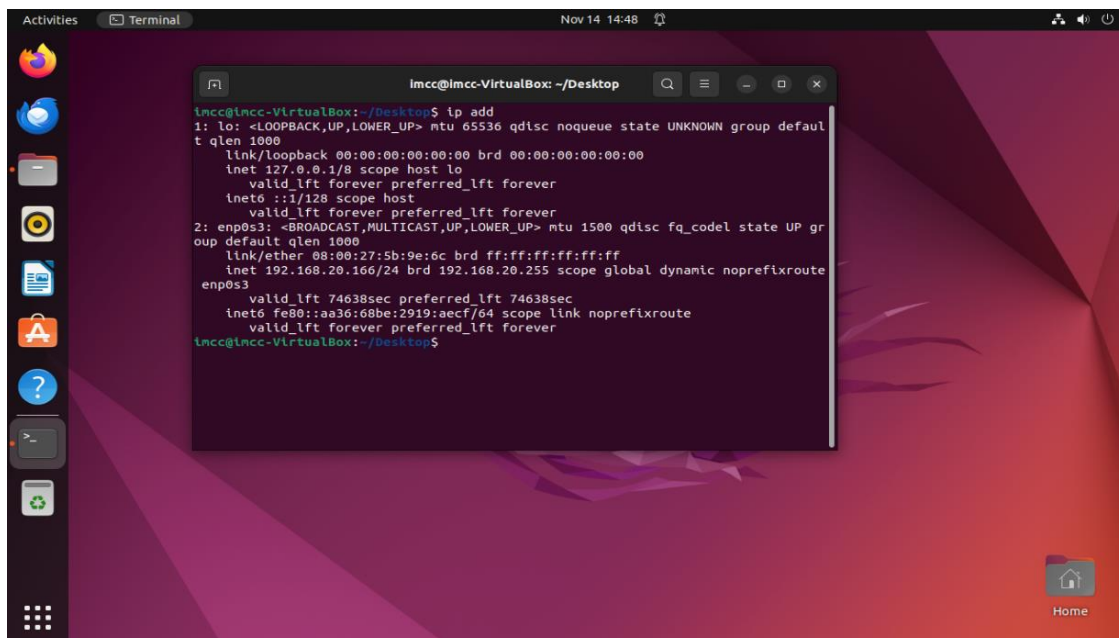
Q.2. Select a simple Flask To-do App.

- 1. Set up under C:\python_lab13.**
- 2. Deploy and show it to the examiner. Take Screenshots.**
- 3. Migrate to Linux /home/student/python_lab13/ and deploy there.**
- 4. Capture screenshots and upload.**

Answers: 1. Downloaded To-Do App from github.com



- 2. Opened Ubuntu and get ip address using command – ip add (choose inet ip address from 2)**

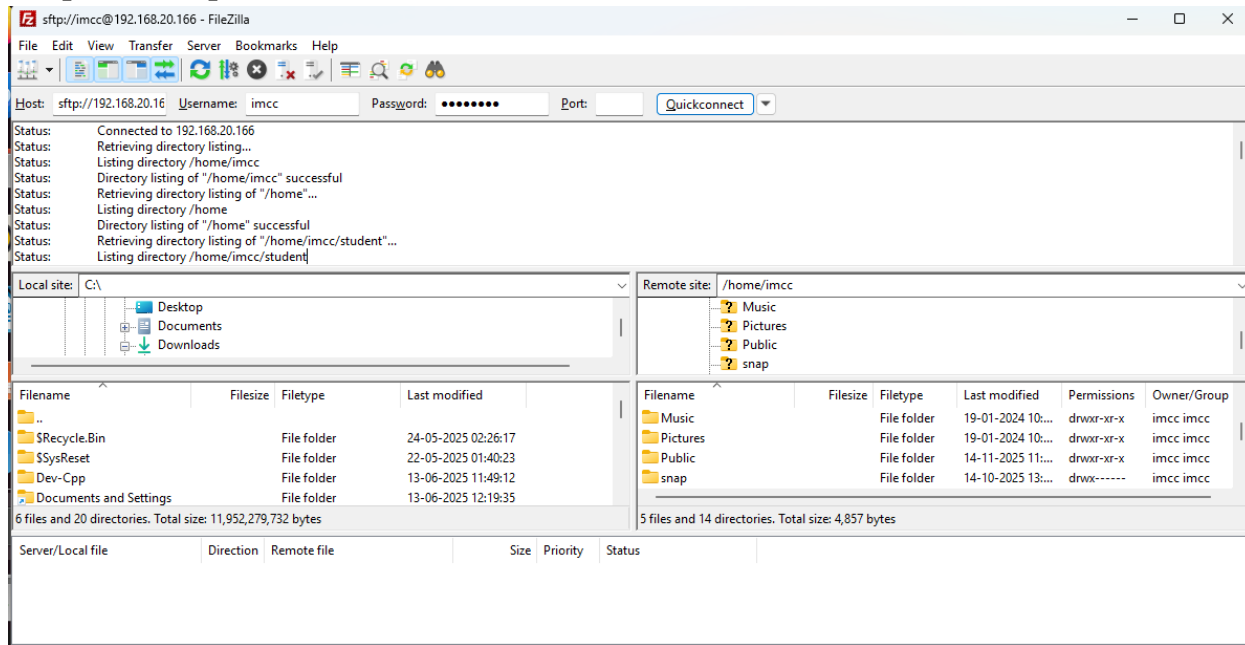




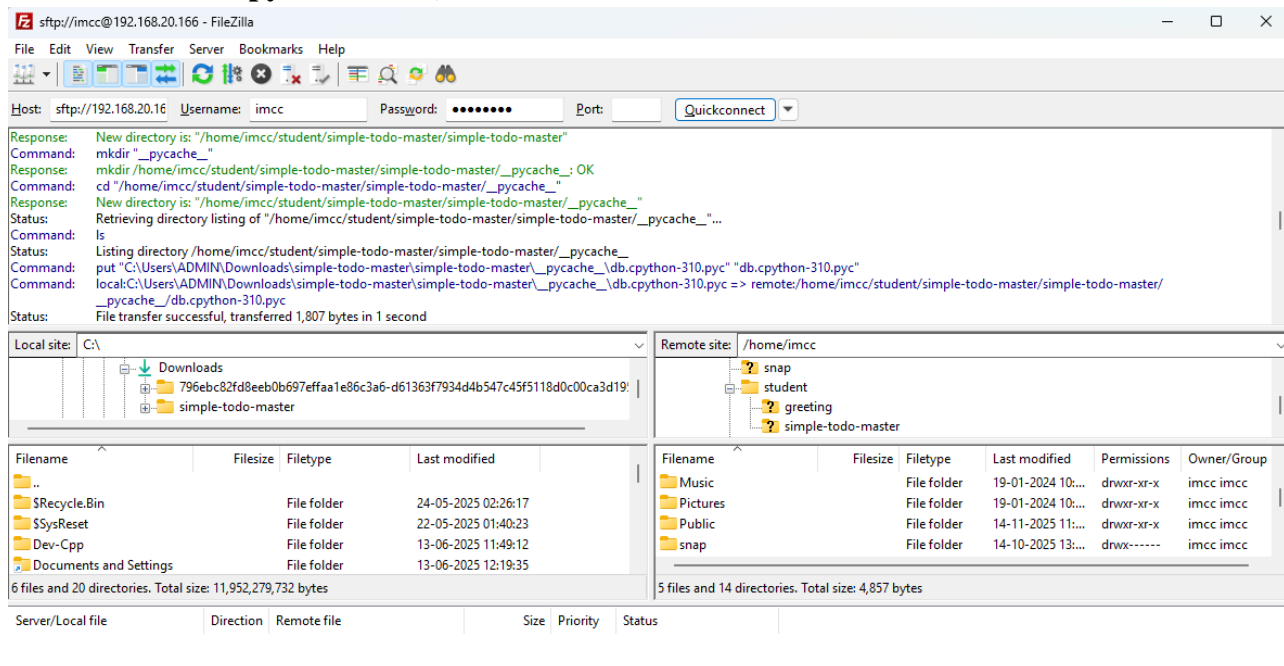
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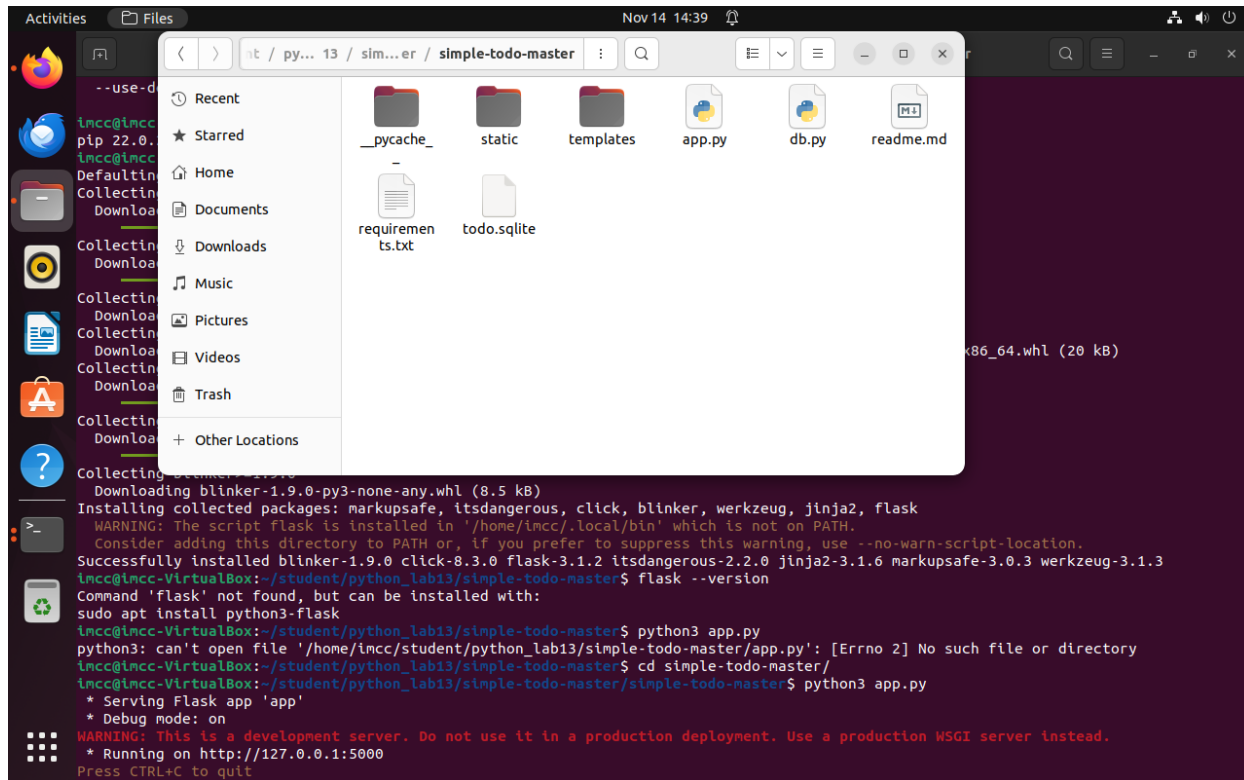
3. Connected Ubuntu and Windows using FileZilla (Ubuntu ip address, username and password, port - 22)



4. Dragged and Dropped Extracted To-Do App in Connected Ubuntu (under home/student/python_lab13)



5. Opened Imported folder in Ubuntu terminal



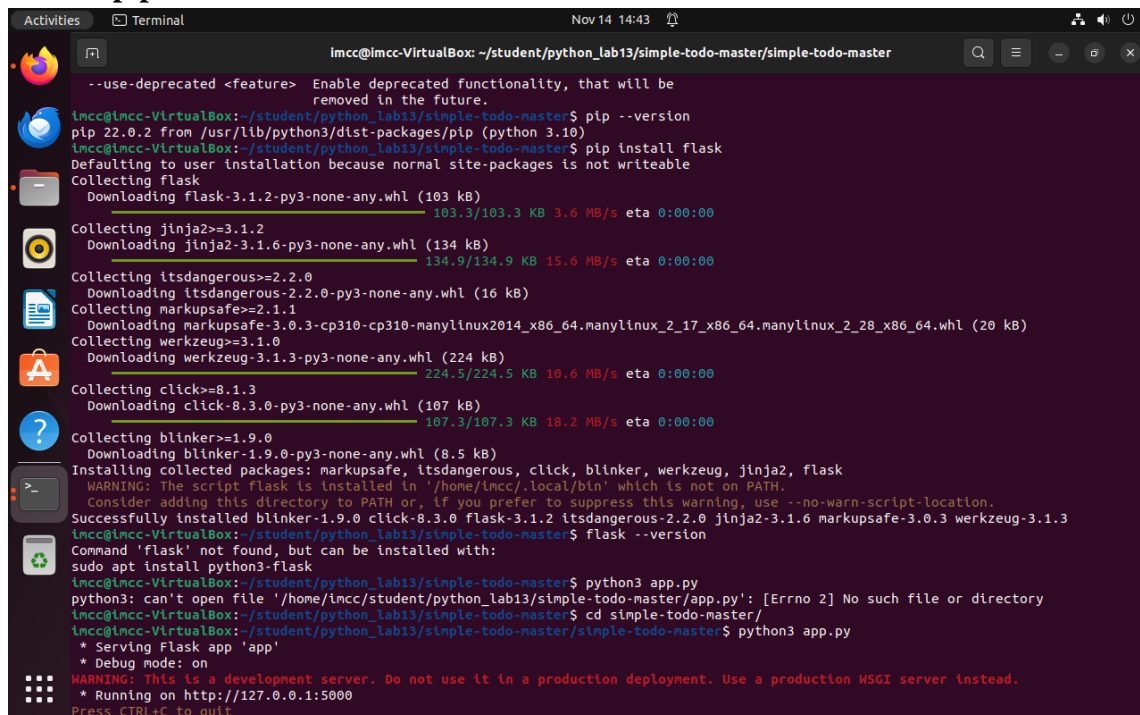
The screenshot shows an Ubuntu terminal window with the following commands and output:

```
--use-d
imcc@imcc:~$ pip 22.0.
imcc@imcc:~$ pip install flask
Collecting flask
  Downloading flask-3.1.2-py3-none-any.whl (103 kB)
Collecting jinja2>=3.1.2
  Downloading jinja2-3.1.6-py3-none-any.whl (134 kB)
Collecting itsdangerous>=2.2.0
  Downloading itsdangerous-2.2.0-py3-none-any.whl (16 kB)
Collecting markupsafe>=2.1.1
  Downloading markupsafe-3.0.3-cp310-cp310-manylinux2014_x86_64.manylinux_2_17_x86_64.manylinux_2_28_x86_64.whl (20 kB)
Collecting werkzeug>=3.1.0
  Downloading werkzeug-3.1.3-py3-none-any.whl (224 kB)
Collecting click>=8.1.3
  Downloading click-8.3.0-py3-none-any.whl (107 kB)
Collecting blinker>=1.9.0
  Downloading blinker-1.9.0-py3-none-any.whl (8.5 kB)
Installing collected packages: markupsafe, itsdangerous, click, blinker, werkzeug, jinja2, flask
WARNING: The script flask is installed in '/home/imcc/.local/bin' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed blinker-1.9.0 click-8.3.0 flask-3.1.2 itsdangerous-2.2.0 jinja2-3.1.6 markupsafe-3.0.3 werkzeug-3.1.3
imcc@imcc-VirtualBox: ~/student/python_lab13/simple-todo-master$ flask --version
Command 'flask' not found, but can be installed with:
sudo apt install python3-flask
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ python3 app.py
python3: can't open file '/home/imcc/student/python_lab13/simple-todo-master/app.py': [Errno 2] No such file or directory
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ cd simple-todo-master/
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master/simple-todo-master$ python3 app.py
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
```

The file manager window shows the contents of the 'simple-todo-master' folder:

- __pycache__
- static
- templates
- app.py
- db.py
- readme.md
- requirements.txt
- todo.sqlite

6. Checked pip version and installed flask in Ubuntu



The screenshot shows an Ubuntu terminal window with the following commands and output:

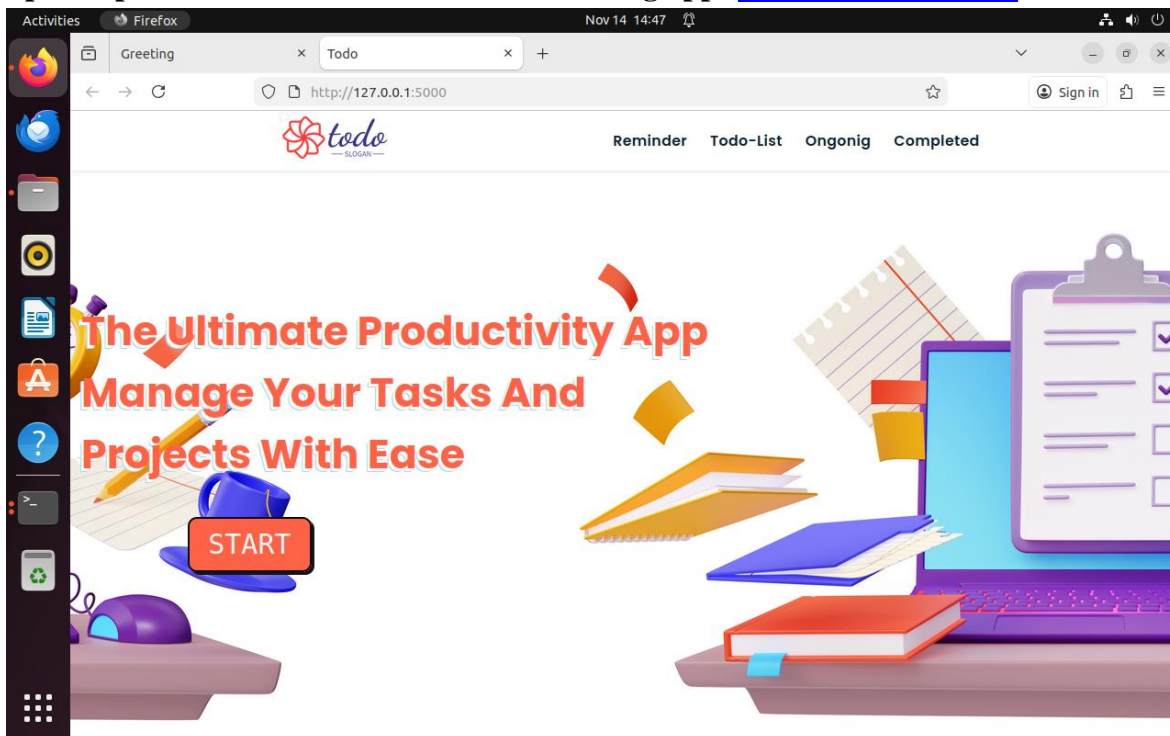
```
imcc@imcc-VirtualBox: ~/student/python_lab13/simple-todo-master/simple-todo-master
--use-deprecated <feature> Enable deprecated functionality, that will be
removed in the future.
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ pip --version
pip 22.0.2 from /usr/lib/python3/dist-packages/pip (python 3.10)
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ pip install flask
Defaulting to user installation because normal site-packages is not writeable
Collecting flask
  Downloading flask-3.1.2-py3-none-any.whl (103 kB)
Collecting jinja2>=3.1.2
  Downloading jinja2-3.1.6-py3-none-any.whl (134 kB)
Collecting itsdangerous>=2.2.0
  Downloading itsdangerous-2.2.0-py3-none-any.whl (16 kB)
Collecting markupsafe>=2.1.1
  Downloading markupsafe-3.0.3-cp310-cp310-manylinux2014_x86_64.manylinux_2_17_x86_64.manylinux_2_28_x86_64.whl (20 kB)
Collecting werkzeug>=3.1.0
  Downloading werkzeug-3.1.3-py3-none-any.whl (224 kB)
Collecting click>=8.1.3
  Downloading click-8.3.0-py3-none-any.whl (107 kB)
Collecting blinker>=1.9.0
  Downloading blinker-1.9.0-py3-none-any.whl (8.5 kB)
Installing collected packages: markupsafe, itsdangerous, click, blinker, werkzeug, jinja2, flask
WARNING: The script flask is installed in '/home/imcc/.local/bin' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed blinker-1.9.0 click-8.3.0 flask-3.1.2 itsdangerous-2.2.0 jinja2-3.1.6 markupsafe-3.0.3 werkzeug-3.1.3
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ flask --version
Command 'flask' not found, but can be installed with:
sudo apt install python3-flask
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ python3 app.py
python3: can't open file '/home/imcc/student/python_lab13/simple-todo-master/app.py': [Errno 2] No such file or directory
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ cd simple-todo-master/
imcc@imcc-VirtualBox:~/student/python_lab13/simple-todo-master/simple-todo-master$ python3 app.py
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
```


7. Run project using python3 app.py command in ubuntu terminal, received Port to run app

```
Activities Terminal Nov 14 14:45
Imcc@Imcc-VirtualBox: ~/student/python_lab13/simple-todo-master/simple-todo-master

Downloading markupsafe-3.0.3-cp310-cp310-manylinux2014_x86_64.manylinux_2_17_x86_64.manylinux_2_28_x86_64.whl (20 kB)
Collecting werkzeug>=3.1.0
  Downloading werkzeug-3.1.3-py3-none-any.whl (224 kB)
    224.5/224.5 KB 10.6 MB/s eta 0:00:00
Collecting click>=8.1.3
  Downloading click-8.3.0-py3-none-any.whl (107 kB)
    107.3/107.3 KB 18.2 MB/s eta 0:00:00
Collecting blinker>=1.9.0
  Downloading blinker-1.9.0-py3-none-any.whl (8.5 kB)
Installing collected packages: markupsafe, itsdangerous, click, blinker, werkzeug, jinja2, flask
WARNING: The script flask is installed in '/home/imcc/.local/bin' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed blinker-1.9.0 click-8.3.0 flask-3.1.2 itsdangerous-2.2.0 jinja2-3.1.6 markupsafe-3.0.3 werkzeug-3.1.3
Imcc@Imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ flask --version
Command 'flask' not found, but can be installed with:
sudo apt install python3-flask
Imcc@Imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ python3 app.py
python3: can't open file '/home/imcc/student/python_lab13/simple-todo-master/app.py': [Errno 2] No such file or directory
Imcc@Imcc-VirtualBox:~/student/python_lab13/simple-todo-master$ cd simple-todo-master/
Imcc@Imcc-VirtualBox:~/student/python_lab13/simple-todo-master/simple-todo-master$ python3 app.py
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 136-536-031
127.0.0.1 - - [14/Nov/2025 14:26:05] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:26:05] "GET /static/css/todo.css HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:26:05] "GET /static/js/todo.js HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:26:05] "GET /static/image/logo.png HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:26:05] "GET /static/js/todo.js HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:26:05] "GET /static/css/todo.css HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:26:05] "GET /static/image/logo.png HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:26:06] "GET /static/image/online-survey-3d-render-laptop-form-with-ticks.jpg HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:26:06] "GET /static/image/online-survey-3d-render-laptop-form-with-ticks.jpg HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:26:06] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [14/Nov/2025 14:26:06] "GET /api/todo HTTP/1.1" 200 -
```

8. Opened port in Firefox browser to view running app (<http://127.0.0.1:5000>)



9. After completing Ubuntu task, run app on windows using command python app.py

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.26200.7171]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ADMIN\Downloads\simple-todo-master\simple-todo-master>python app.py
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 599-570-680
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/css/todo.css HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/image/logo.png HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/js/todo.js HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/image/logo.png HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/js/todo.js HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/css/todo.css HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/image/online-survey-3d-render-laptop-form-with-ticks.jpg HTTP/1.1" 308 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /static/image/online-survey-3d-render-laptop-form-with-ticks.jpg HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /api/todo HTTP/1.1" 200 -
127.0.0.1 - - [14/Nov/2025 14:28:00] "GET /favicon.ico HTTP/1.1" 404 -
```

10. Click on the port provided while running the app using command – python app.py

