Lab 01

Use of Django

1. Website development
2. Python framework
3. Flask is also framework
4. Django work Model view templates

What is framework?
Framework is set of patterns or structure in which you have to follow to build website. Also it is standard or set of rules to follow. Example coffee machine, coffee with conventional way and with coffee machine

What is Django?
1. Django is a high level python web application framework, rapid development of application
2. It is open source python framework (means you can install using command pip install Django)
3. Follows the model view templates (MVT), It means you have already given models and templates and by manipulating them you have to create your desire websites.
4. Most popular Python framework and also know as most secure web development framework

Why Django?
1. It's fast and simple
2. It's secure
3. You can develop any we application
4. It is well established
5. Built in authentication and authorization available

Which famous companies uses Django?
1. YouTube
2. Instagram
3. Spotify
4. Dropbox
5. Mozilla
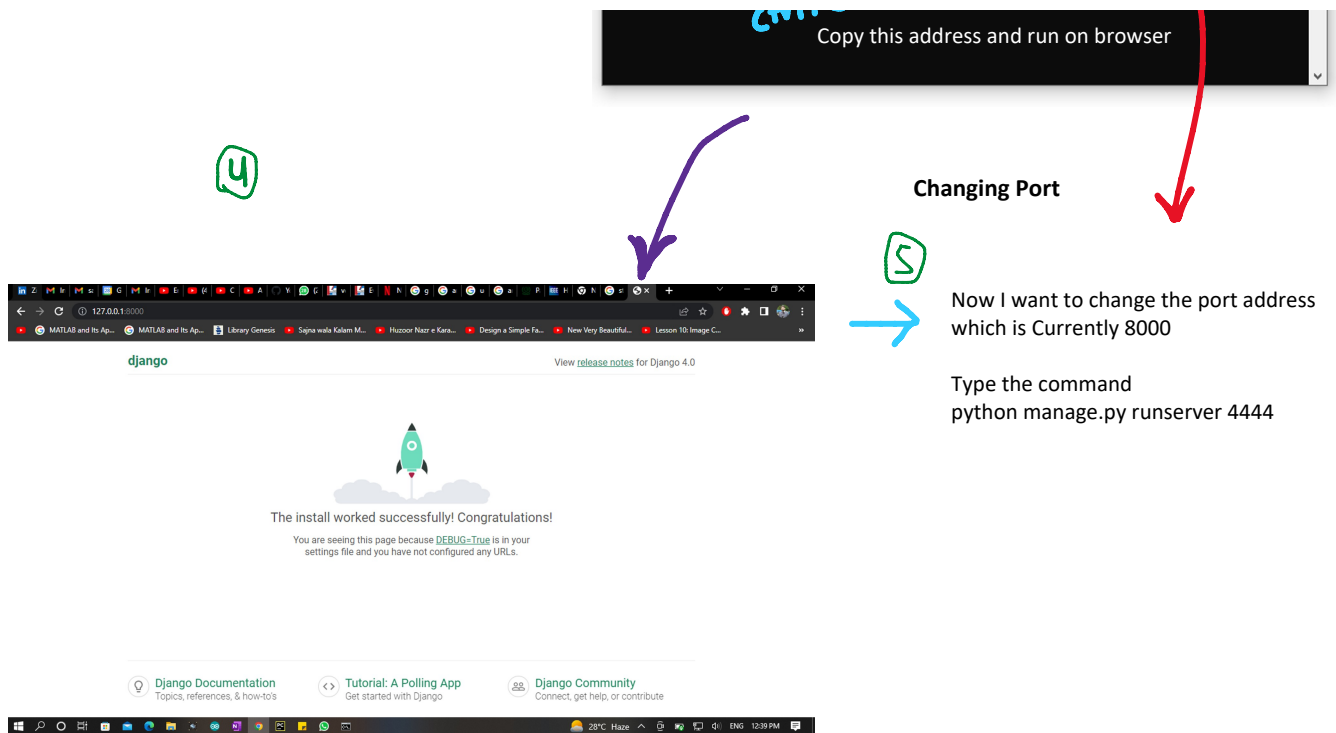
What are the Prerequisites to start the Django?
1. You need to know the syntax of Python (like functions, loops, if else etc.)
2. No prior Knowledge of Django required (you will learn in this lab)
3. Python programming control structures like conditional loops. (if else, loops)
4. HTML, CSS are the fundamental or basic building blocks of web development so must possess the knowledge about it. (for the front end development you need to acquire the basic knowledge about HTML coding but we will learn during the building of web application so don't worry about HTML and CSS)
5. So basically Django deals with Static and dynamic data like dynamic means the backend coding which is done in python
6. Also it deals with Static part which is front end of application, and manipulated with HTML and CSS.

Model View Template (MVT)
1. Django works on Model View Template, so lets discuss what is model? What is View and Template?
2. It is very simple, you just have to understand the pattern or structure.
3. MVT have three important components, Model, View and Template.
4. Model: It deals with your website database, and it is act as the interface between data and web application.
5. View: It is basically a function or class which is run when specific url is being run. And inside a view there is a link for Html file which is being run to give us a view or user interface.
6. Template: it is consist of HTML files.
7. So from Templates we get the data and send to view and view is connected to model.
8. MVT is connected to each other.
9. So these three patterns are used to create any web application in Django.
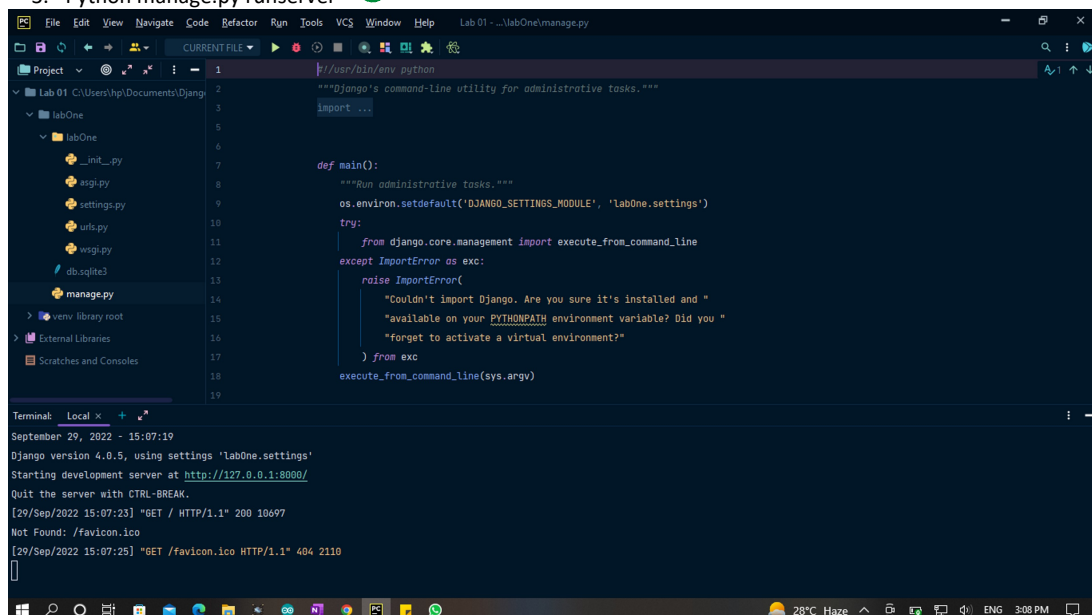
User

User Open Website,
means open URL, it calls
View
View brings the data
from model and leave
on Template

Installing the Django in PyCharm

Creating a new Django Project

① Open command prompt
Write (django- admin)

② Create a new folder in any
Drive and open in cmd, for that
You have to write cmd in the
beginning of folder path

cmd C:\Users\hp\Documents
\Django\Lab 01

```
Command Prompt

C:\Users\hp>django-admin

Type 'django-admin help <subcommand>

Available subcommands:

[django]
        check
        compilemessages
        createcachetable
        dbshell
        diffsettings
        dumpdata
        flush
        inspectdb
        loaddata
        makemessages
        makemigrations
        migrate
        runserver
        sendtestemail
        shell
        showmigrations
        sqlflush
        sqlmigrate
        sqlsequencereset
        squashmigrations
        startproject
```

There are
multiple
commands
available under
django-admin
command

③

```
C:\Windows\System32\cmd.exe                    —  □  ×

Microsoft Windows [Version 10.0.19044.2006]
(c) Microsoft Corporation. All rights reserved.

C:\Users\hp\Documents\Django\Lab 01>django-admin startproject labOne

C:\Users\hp\Documents\Django\Lab 01>
```

django-admin startproject projectname

Now your project is created!   YES!

We need this
command to
Start new project

Starting a development Server

Now How we run the project that created above?

① You have to change
the directory and run
the following
command and

② Cd labOne

③ Python manage.py runserver

```
C:\Users\hp\Documents\Django\Lab 01>cd labOne

C:\Users\hp\Documents\Django\Lab 01\labOne>ls
labOne   manage.py
```

```
C:\Users\hp\Documents\Django\Lab 01\labOne>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you ap
ply the migrations for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
September 29, 2022 - 12:35:35
Django version 4.0.5, using settings 'labOne.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
[29/Sep/2022 12:35:50] "GET / HTTP/1.1" 200 10697
```

port

ctrl+c

Copy this address and run on browser

④

Changing Port

⑤

Now I want to change the port address which is Currently 8000

Type the command
python manage.py runserver 4444

Now create a project using Pycharm terminal

Open Pycharm and create new project   In terminal
And write following commands
1. Django-admin startproject new
2. Cd new ②
3. Python manage.py runserver ③

Python Django Structure

① → Where we need to put HTML, CSS
Where database configuration goes
Where we need to put urls, and views

So let's understand the folder

structure of project.