

Seminar Report on Stairway to Web Development- Django

1. Date of the Seminar/Workshop: 01-05-2021

2. Title of the Seminar/Workshop: “Stairway to Web Development- Django”

3. Name of the Speaker/Resource person with Affiliation with the institute/industry:

1)Hitanshu Panchal

Designation:- Student in the Third Year SFIT

Role:- Team member of CODEX

2)Dwayne Fernandes

Designation:- Student in the Final Year SFIT

Role:- Team member of CODEX

4. Venue of the Seminar/Workshop: Platform used- Google Meet

5. Duration of the Seminar: 4 Hours(Session 1:-11 am to 1 pm, Session 2:- 3 to 5 pm)

6. Conducted For: Second Year Computer Engineering

7. Objective of the Seminar/Workshop /Curriculum Gap identified/Other than that:

Web development made easy using Django, no need for extra coding for hashing or data validation as the framework has built-in plugins. Python being an easy to understand language, makes it very easy to build we applications or webpages. Django makes the UI user friendly and also development of projects or applications on the programmer’s side is super simple too.

8. Contents of the Seminar/Workshop:

Four hours spent were very informative and developed inquisitiveness among students. The speaker started with:

-The road map: as to what, why and who uses Django.

-Installation and project creation.

-Django apps and their framework.

-Django API and React frontend

-Why is Python needed to be able to use Django

-All about Django and the need to use it.

-Features of Django

-How the final project looks like.

and finally the stepwise implementation of the code and queries of the demo project developed by all students.

9. Description of the Entire Event:

The speaker started with how Django is an open-source framework for backend web applications based on Python — one of the top web development languages. Its main goals are simplicity, flexibility, reliability, and scalability. He also continued that, Django has its own naming system for all functions and components (e.g., HTTP responses are called “views”). He then gave some key points about django like it has an admin panel, which is deemed easier to work with, and other technical features, including:

- Simple syntax;
- Its own web server;
- MVC (Model-View-Controller) core architecture;
- “Batteries included” (comes with all the essentials needed to solve solving common cases);
- An ORM (Object Relational Mapper);
- HTTP libraries;
- Middleware support; and
- A Python unit test framework.

Software requirements were:

- VS Code
- Python
- Node Js
- Postman

Firstly, the host started with creating a virtual environment for the device. This helps in making a safe space for the project to be loaded and worked on. It also reduces the redundant packages from being downloaded again and again. The commands were:

- ❖ Open Command Prompt in the project folder:
 - **Check Python is on machine or not by below Command**
 - `python --version`
 - Check PIP version :
 - `pip --version`
 - Create virtual environment
 - `python -m venv env_name`
 - Activate the virtual environment

- env_name\Scripts\activate.bat (Windows)
 - source env_name/bin/activate (Linux)
 - If get error then run: Set-ExecutionPolicy -Scope CurrentUser
- Install required packages in the virtual environment
 - pip install django django-cors-headers djangorestframework
- Create Django Project
 - django-admin startproject todos
 - todos named folder created with projects files:
 - setting.py
 - urls.py
 - wsgi.py
 - Manage.py
- ❖ **Open VsCode in the todos(project_name) folder:**
 - Open the integrated terminal (make sure you have virtual env active)
 - python manage.py migrate
 - python manage.py runserver
- ❖ **Django Templates:**
 - Create “templates” folder in the same folder in which manage.py file is located
 - Open settings.py file
 - import os
 - Specify the templates directory in the TEMPLATES array

SAMPLE CODE:

```
{% extends "base.html" %}

{% block content %}
<div class="container d-flex flex-column justify-content-center align-items-center min-vh-100">
  <h1 class="text-success">Welcome to Django REST API</h1>
  <br>
  {% if users|length > 0 %}
  <h4>Users</h4>
  {% for user in users %}
  <div class="card p-3 w-50">
    USERNAME: {{user.username}}
  </div>
  {% endfor %}
  {% else %}
  <p>No users found</p>
  {% endif %}
</div>
```

```
</div>  
{% endblock %}
```

And further on were the changes in the codes generated by the Django framework. Command prompt is generally used to run the projects and apps we create through Django because with the help of runserver command, you'll probably run the most of all commands. It means to run an emulated server on your local computer. So, after running it, you can go to localhost:8000 or [127.0. ... So python manage.py runserver 8888 would allow you to access django on 127.0.

The speaker introduced students to Postman which is an interactive and automatic **tool** for verifying the APIs of your project. It is a Google Chrome app for interacting with HTTP APIs. It presents you with a friendly GUI for constructing requests and reading responses. It works on the backend, and makes sure that each API is working as intended. The speaker carried the students through the whole process and working of Postman as web-page validations are one of the shortcomings of a well defined project.

There were total 140 Second Year Computer Department students and the team CODEX managed it all. Doubt solving and stepwise carrying out of all activities to be performed, all in all was dealt with without any delay of any part of the workshop. The host and his team encouraged the students to ask any doubts, so that no one gets left behind.

All in all, the workshop conducted surely would help students explore their capabilities when it comes to doing something other than just textbook conventions. The host cleared each and every doubt raised by the students. Django being an absolutely new and high-level Python Web framework that encourages rapid development and clean, pragmatic design, the speaker explained each and every prospect, bit by bit. Students learnt that Django takes care of much of the hassle of Web development, so you can focus on writing your app without needing to reinvent the wheel.

The workshop is very beneficial for students because project development is one of the major areas where every student gets a chance to showcase their vulnerabilities and hence even overcome the shortcomings. Each and every requirement regarding code understanding, implementation, hands on training and very well maintenance of the flow resulted in meeting the important and basic requirements of the workshop.

To conclude, the speaker asked the students to approach with any doubts and questions they had in mind. Github link for the project was made available and also any kind of doubts regarding the whole session was comprehended very aptly by the speaker.

Session Photographs-

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ASHITA TIWARI_19... and 98 more

101

docs.google.com/presentation/d/1Zf_0WY1Le09vKTJ54k1iaITyhUVeXkw1YxkIBArqak/edit#slide=id.p

ROAD MAP

1. What, Why and who uses Django?
2. Installation and Project Creation
3. Django Templates
4. Django Apps
5. Django REST Framework
6. Authentication using APIs
7. Storing Todo tasks in database
8. Django API and React Frontend

details ^

Raise hand Turn on captions

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100

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WHY PYTHON ?

- Written in C – high performance, ability to link to C libraries for extensions
- Interpreted script language compiled on the fly into bytecode
- Easier to read coding standards – whitespace sensitive
- Object Oriented

details ^

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101

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WHAT IS DJANGO AND WHY USE IT?

- High-level framework for rapid web development
- Complete stack of tools
- Data is modelled with Python classes
- Production-ready data admin interface
- Elegant mapping of URLs to python code
- Clear, powerful template language

details ^



Raise hand

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FEATURES OF DJANGO

- Excellent Documentation
<https://docs.djangoproject.com/en/3.2/>
- SEO Optimised
- High Scalability
- Offers High Security
- Provides Rapid Development
- Thoroughly Tested

details ^



Raise hand

Turn on captions

Demo Web-Page:

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localhost:3000/login

Organise all your tasks

Login

Username
username I

Password
password

Sign In

meet.google.com is sharing your screen

Type here to search

11:34 01-05-2021

details ^



Raise hand

Turn on captions

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Kaushik Panchal and 98 more

localhost:3000/todo

My ToDo App

Add task +

Welcome !

Here is the list of all your tasks ,
2 tasks

- 1 Learn django
5/1/2021, 3:54:30 AM
- 2 Learn nodejs
5/1/2021, 3:53:19 AM

meet.google.com is sharing your screen

Type here to search

11:35 01-05-2021

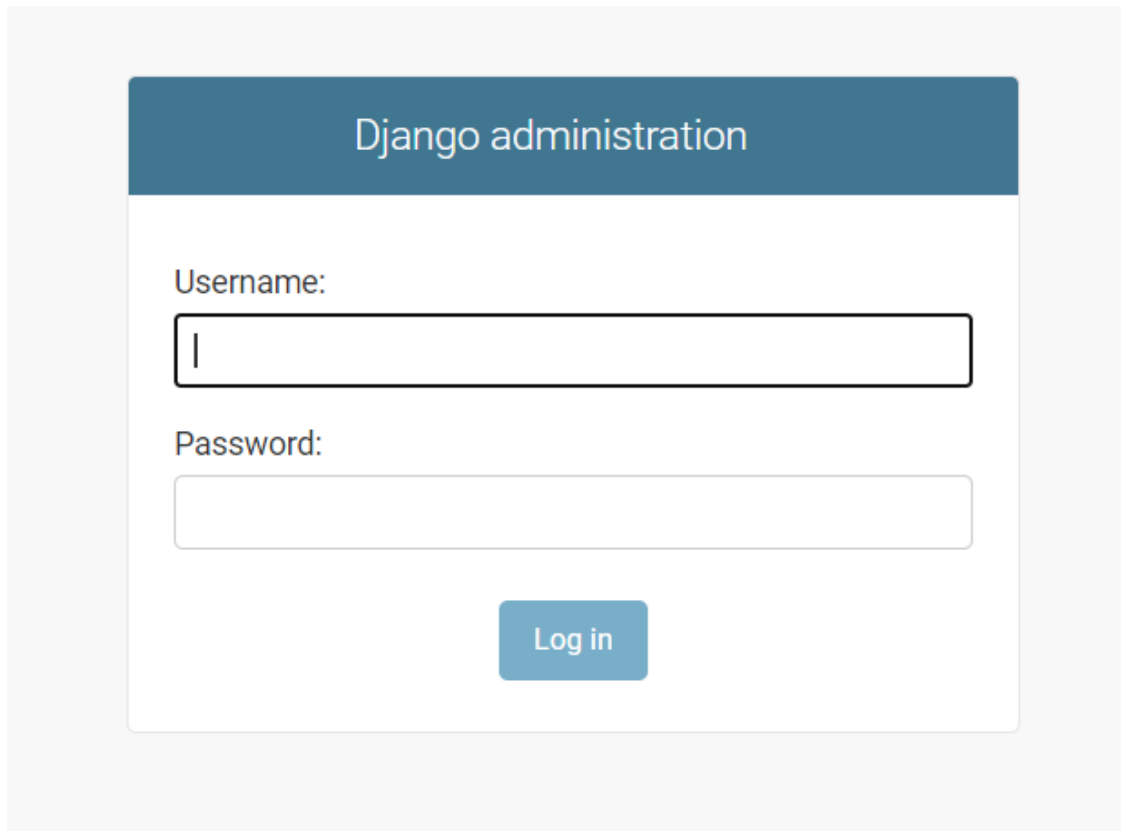
details ^



Raise hand

Turn on captions

Web App:



The image shows a screenshot of the Django administration interface. At the top, there is a dark blue header with the text "Django administration" in white. Below the header, the page is white and contains a login form. The form has two input fields: "Username:" and "Password:". The "Username:" field contains a single vertical bar character. Below the password field is a blue "Log in" button.

Django administration

Username:

Password:

Log in

Django administration WELCOME, ADMIN [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Home > Authentication and Authorization > Users

APL BASICS

Todo items + Add

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

ADD USER +

Select user to change

Action: ----- 0 of 3 selected

| | USERNAME | EMAIL ADDRESS | FIRST NAME | LAST NAME | STAFF STATUS |
|--------------------------|----------|-----------------|------------|-----------|--------------------------------------|
| <input type="checkbox"/> | admin | admin@gmail.com | | | ✔ |
| <input type="checkbox"/> | damon | | | | ✘ |
| <input type="checkbox"/> | klaus | | | | ✘ |

3 users

FILTER

By staff status

All
Yes
No

By superuser status

All
Yes
No

By active

All
Yes
No

Postman Tool:

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Postman

File Edit View Help

Home Workspaces Reports Explore Invite Upgrade

My Workspace New Import POST Register User POST Logout User No Environment

Collections + ≡

- > A/V P
- > A/V P Website APIs
- > Expense Tracker
- > ExpressAuth TrackTrans
- > Laravel
- > Microsoft Bing Maps API
- Mock Servers
 - > TODO Django
 - POST Register User
 - POST Login User
 - POST Logout User
 - GET Get All Todo
 - POST Add Todo
 - Delete Todo
 - > Tour_Manager APIs

Monitors

History

TODO Django / Logout User

POST http://localhost:8000/api/logout/ Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies

| Key | Value | Description |
|-----------------|--|-------------|
| Host | localhost:8000 | |
| User-Agent | PostmanRuntime/7.28.0 | |
| Accept | */* | |
| Accept-Encoding | gzip, deflate, br | |
| Connection | keep-alive | |
| X-CSRF Token | bNY1tTtUS7Xgl.mONJaj73yih1Wawagxu4F3xeQ6Ggg... | |

Response

Hit Send to get a response

- Attach Attendance sheet and the feedback of the seminar

(Note:-Every report should enclosed with appreciation letter, invitation letter and remuneration letter)