Project Title: Survey Web Application using Django REST framework

Project Group number : 6

Team Members:

1.) Kalaivani Janaki Raman
2.) Yelena Mujibur Sheikh
3.) Mahalakshmi Senthil Kumar

Project Architecture:

Our project is designed using a modular architecture to ensure scalability, maintainability, and ease of understanding. The core framework used is Django, which follows the Model-View-Template architecture, coupled with a front end powered by HTML, JavaScript, and CSS. The database backend is managed using SQLite, providing lightweight and efficient storage for data.

Github link for the Project: Github   or
Survey-Project/TDS-Survey-Project-24_KYM-main.zip at Projects · yelenas13/Survey-Project

Purpose of Each Module

1.   User Authentication and Security

Need- Handles user registration, login, and session management as required by the professor. Includes password Security like a minimum of 8 characters one Special character and a few numbers for Securing authentication mechanisms to prevent unauthorized access.

How does it interact Communicates with the database for storing and validating user credentials.

Key Features:

-   Password encryption using Django's built-in tools.
-   Prevention of SQL injection through Django.
-   Password Length and security set.

Data Management

It manages data storage, retrieval, and updates in the SQLite database.

Coordination: Directly interacts with the database to store user inputs and retrieve requested information.

Key Features:

- CRUD operations for efficient data manipulation.

- Implementation of database migrations to handle schema changes.

- Manages the data with proper authentication.

Survey Form Module

Need: Allows users to fill out and submit survey forms, storing responses which later get saved securely in the database.

Integration takes place the process of submissions and integrates validation logic on both client and server sides.

Key Features:

- Dynamic form rendering using Django templates.

- JavaScript-powered client-side validations for better UX.

- Used Html for better enhancement.

    Data Visualization and Reporting

    Data gets Processed, survey data and displayed using Percentages for better insights.

    Key Features:

- Percentage analysis for identifying how many people have taken the survey and what is the analysis based on their answers.

- Administrative use.

    Security Enhancements

- Protects the application against common vulnerabilities such as CSRF, XSS, and unauthorized data access.
- Security measures are implemented throughout all layers of the application where everything is protected.
- Only admin has the access to see all the changes from both Survey Creator and Survey taker
- But survey takers cannot access the page under Survey creator like Dashboard under Creator, Published Surveys, Republished Surveys, Close Survey, Edit Survey and Create Survey.

Interaction and Workflow

- User Interaction:
- Users interact with the application via a responsive web interface built using HTML, CSS, and JavaScript.
- Authentication ensures that only authorized users can access specific features.

Backend Processing:

- Requests from users are handled by Django views, which process data using models and templates.
- Validations and business logic are applied before storing or retrieving data from the SQLite database.

Database Communication:

All data transactions are handled via Django, ensuring secure and efficient database interactions.

Data Output:

Survey results are processed and displayed in a user-friendly format through visualizations, I have attached the screenshot of each below please refer.

Design Patterns and Challenges Solved

Design Patterns Used:

➔ Architecture: Streamlines the development process by separating concerns for data handling, logic, and presentation.
➔ Reusable Components: Modular design for reusable views, forms, and templates.
➔ Was getting an error when trying to move another page but it got solved as we mapped it from the backend.

Challenges Addressed:

➔ Scalability: Modular design ensures new features can be integrated seamlessly.
➔ Security: Implemented features like CSRF protection and implementing strong passwords to safeguard sensitive data.
➔ User Experience: Enhanced usability with interactive client-side validations and responsive design.

Tools Used and Project Design

- Development Environment: Visual Studio Code
- Version Control: Git
- Programming Languages: Python, HTML, JavaScript
- Libraries/Frameworks: Django
- Database: SQLite

Team Member Contributions Peer Rating (out of 10)

Yelena Mujibur Sheikh	Frontend & configuration of py files, implementing the direct communication with the backend as we were facing lots of errors. Supported team to merge Front end with Backend	10/10
Kalaivani Janaki Raman	Full-fledged backend work and database design. Also implemented the Bonus feature of Republished Survey for Survey Creator and implemented Wisdom of Crowd concept for Survey Taker.	10/10
Mahalakshmi Senthil Kumar	Worked on research paper and working on future works like publishing in a confernece and worked with kalai for the bonus features of republished survey	8/10

TEAM challenges:

Coordinating contributions from different team members and merging changes without conflicts posed a challenge.

Solution: We followed a Git-based workflow with clear commit messages, proper branching, and regular synchronization to minimize conflicts.

Balancing project work with other academic commitments was difficult for some team members.

Solution: We created a detailed timeline and assigned responsibilities early, ensuring milestones were met without overwhelming individual contributors.

One major challenge was ensuring seamless communication between the frontend (HTML, JavaScript) and the backend (Django framework). Handling dynamic updates and ensuring the forms were correctly processed posed difficulties initially.

Solution: We used Django's template engine to streamline frontend-backend integration and JavaScript for real-time validations.

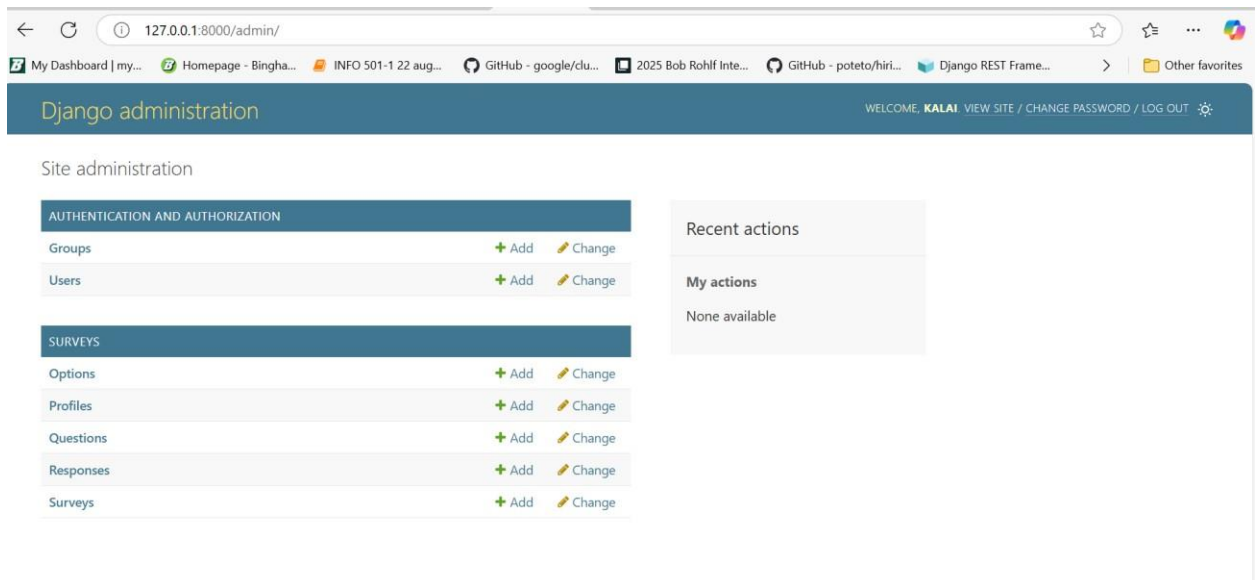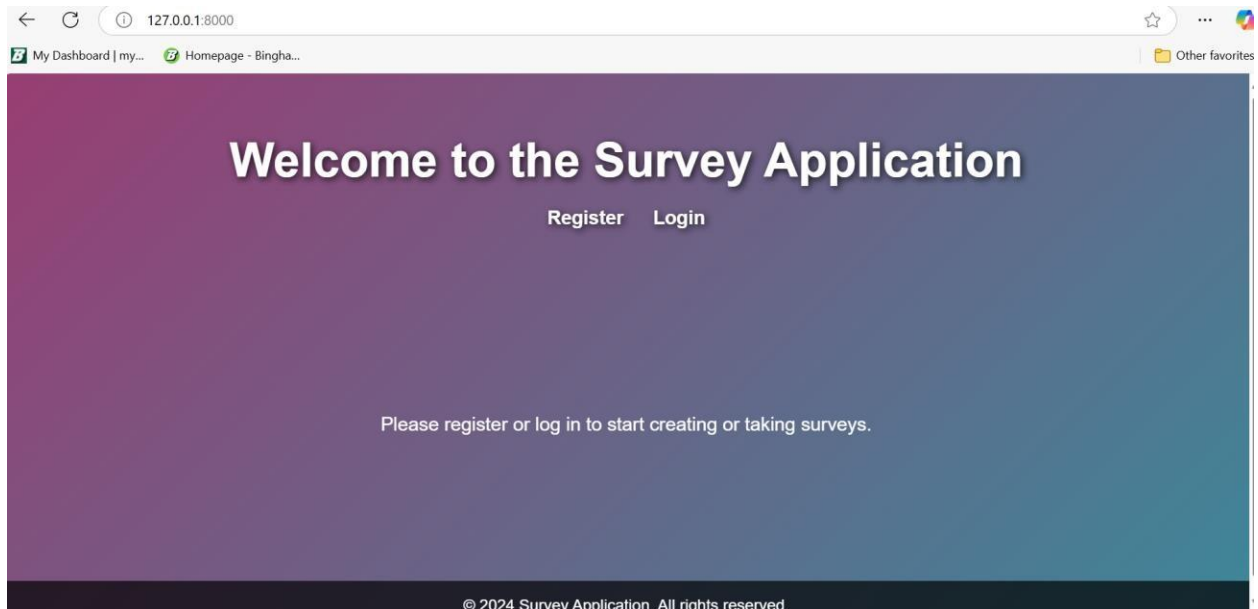## Projects Outputs:

Super user creation:

User name : kalai
Password: 123

```
Type "help", "copyright", "credits" or "license" for more information.
(InteractiveConsole)
>>> from django.contrib.auth import get_user_model
>>>
>>> User = get_user_model()
>>> superuser_exists = User.objects.filter(is_superuser=True).exists()
>>>
>>> if superuser_exists:
...     print("A superuser already exists.")
... else:
...     print("No superuser found. You can create one.")
...
No superuser found. You can create one.
>>> exit()
PS C:\Users\kalai\survey_project> python manage.py createsuperuser
['manage.py', 'createsuperuser']
Username (leave blank to use 'kalai'):
Email address: kalaivanirmn@gmail.com
Password:
Password (again):
This password is too short. It must contain at least 8 characters.
This password is too common.
This password is entirely numeric.
Bypass password validation and create user anyway? [y/N]:
```

```
>>>
>>> if superuser_exists:
...     print("A superuser already exists.")
... else:
...     print("No superuser found. You can create one.")
...
No superuser found. You can create one.
>>> exit()
PS C:\Users\kalai\survey_project> python manage.py createsuperuser
['manage.py', 'createsuperuser']
Username (leave blank to use 'kalai'):
Email address: kalaivanirmn@gmail.com
Password:
Password (again):
This password is too short. It must contain at least 8 characters.
This password is too common.
This password is entirely numeric.
Bypass password validation and create user anyway? [y/N]: y
Superuser created successfully.
PS C:\Users\kalai\survey_project>
```

Login page:

```
[25/Nov/2024 12:33:34] "GET /admin/ HTTP/1.1" 200 9099
[25/Nov/2024 12:33:44] "GET /admin/surveys/option/ HTTP/1.1" 200 9524
[25/Nov/2024 12:33:44] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:45] "GET /admin/surveys/profile/ HTTP/1.1" 200 9531
[25/Nov/2024 12:33:45] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:47] "GET /admin/surveys/question/ HTTP/1.1" 200 9538
[25/Nov/2024 12:33:47] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:49] "GET /admin/surveys/response/ HTTP/1.1" 200 9538
[25/Nov/2024 12:33:49] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:50] "GET /admin/surveys/survey/ HTTP/1.1" 200 9524
[25/Nov/2024 12:33:50] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:52] "GET /admin/surveys/option/ HTTP/1.1" 200 9524
[25/Nov/2024 12:33:52] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:56] "GET /admin/surveys/profile/ HTTP/1.1" 200 9531
[25/Nov/2024 12:33:56] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:57] "GET /admin/surveys/question/ HTTP/1.1" 200 9538
[25/Nov/2024 12:33:57] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:58] "GET /admin/surveys/response/ HTTP/1.1" 200 9538
[25/Nov/2024 12:33:58] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:33:59] "GET /admin/surveys/survey/ HTTP/1.1" 200 9524
[25/Nov/2024 12:33:59] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:34:02] "GET /admin/auth/user/ HTTP/1.1" 200 13444
[25/Nov/2024 12:34:02] "GET /static/admin/img/search.svg HTTP/1.1" 304 0
[25/Nov/2024 12:34:02] "GET /admin/jsi18n/ HTTP/1.1" 200 3342
[25/Nov/2024 12:34:02] "GET /static/admin/img/sorting-icons.svg HTTP/1.1" 304 0
[25/Nov/2024 12:34:02] "GET /static/admin/img/icon-viewlink.svg HTTP/1.1" 304 0
```

Survey Application

Register

Username: Ball

Email: ball@gmail.com

Password: Ball@123456 👁‍🗨

Confirm Password:

Role: Survey Creator ⌄

Register

Already have an account? Login here

© 2024 Survey Application

Survey Application

Register

Username: Ball

Email: ball@gmail.com

Password: ••••••••••

Confirm Password: Ball@123456 👁‍🗨

Role: Survey Creator ⌄

Register

Already have an account? Login here

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My Dashboard | my...   Homepage - Bingha...   INFO 501-1 22 aug...   GitHub - google/clu...   2025 Bob Rohlf Inte...   GitHub - poteto/hiri...

Survey Application

Register

Username: Ball

Email: ball@gmail.com

Password: ●●●●●●●●●●

Confirm Password: ●●●●●●●●●●

Role: Survey Creator ▼

Register

Already have an account? Login here

For Survey creator part:

Tasks : Create survey, Manage Surveys, Edit, publish, close and republish the survey

Create_survey - 5 questions with multiple options

Login   Register   Dashboard   Create Survey   Manage Surveys   Logout

Edit Survey: Basic Skills for Data Science

Survey Title: Basic Skills for Data Scienc

Survey Description: A survey to assess data science skills.

Questions

What programming languag	Multiple Choice (Checkbox) ▼			
Python	Java	JavaScript	C++	Ruby
Other (please specify)				

Add Option

Which data analysis tools d	Multiple Choice (Checkbox) ▼			
Excel	R	Tableau	Power BI	SQL
None of the above				

Add Option

What types of machine lear	Multiple Choice (Checkbox) ▼			
Supervised Learning	Unsupervised Learning	Reinforcement Learning	Neural Networks	Ensemble Methods
None				

Draft surveys

9

Survey Creator Dashboard

Survey Statistics

Total Surveys: 1

Draft Surveys: 1

Published Surveys: 0

Closed Surveys: 0

Republished Surveys:

Draft Surveys

- Basic Skills for Data Science Edit Publish

Draft Surveys

- No draft surveys available.

Published Surveys

- Basic Skills for Data Science (Responses: 0) View Results Close

Closed Surveys

- No closed surveys available.

Republished Surveys

- No republished surveys available.

Create New Survey

Survey Creator Dashboard

Survey Statistics

Total Surveys: 1

Draft Surveys: 0

Published Surveys: 1

Closed Surveys: 0

Republished Surveys:

Draft Surveys

- No draft surveys available.

Published Surveys

- Basic Skills for Data Science (Responses: 0) <u>View Results</u> <u>Close</u>

Since, no Survey Taker has taken the Survey, we can 0 responses with 0 users under Status=Published

Login	Register	Dashboard	Create Survey	Manage Surveys	Logout

Survey Results: Basic Skills for Data Science

A survey to assess data science skills.

Total Responses: 0

Status: Published

1. What programming languages do you have experience with?

Question Type:

- Python: 0 users (0.0%)
- Java: 0 users (0.0%)
- JavaScript: 0 users (0.0%)
- C++: 0 users (0.0%)
- Ruby: 0 users (0.0%)
- Other (please specify): 0 users (0.0%)

For Survey Taker: Survey Taker user name : Malar

Since, there are no completed surveys, it is displaying a message in the taker dashboard navigation page
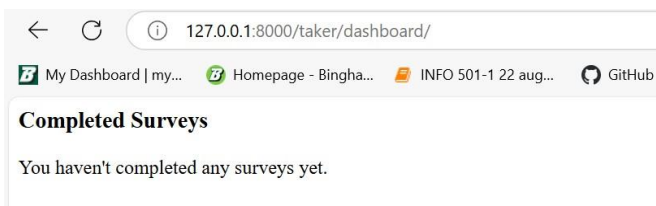
After clicking on to the Available surveys page, it will show the Survey with status =Published

Login   Register   Dashboard   Available Surveys   Logout
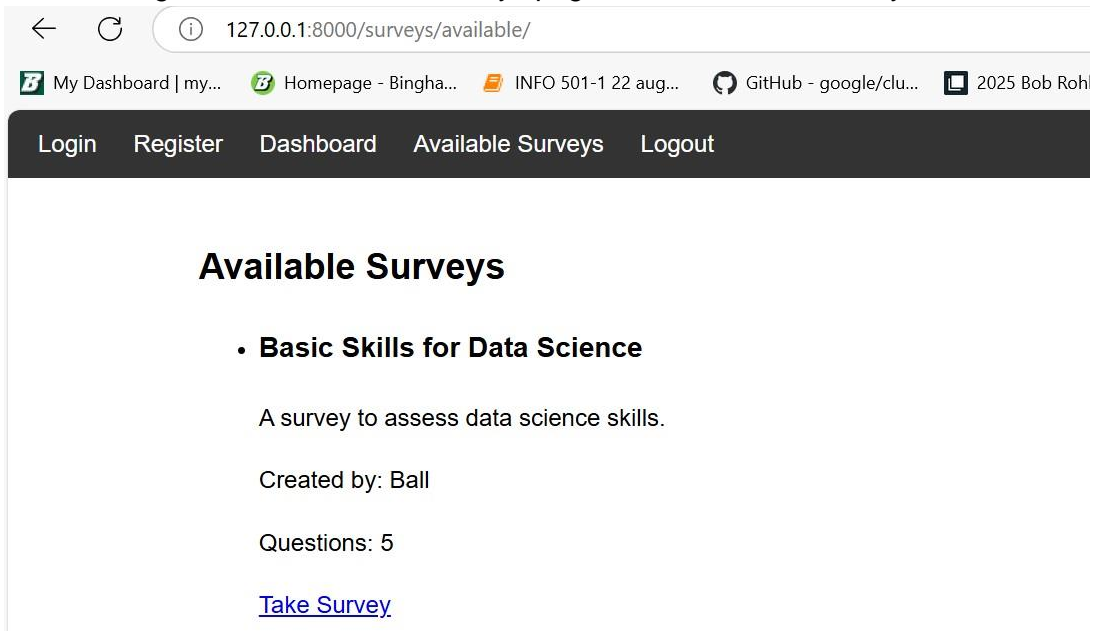
Basic Skills for Data Science

A survey to assess data science skills.

1. What programming languages do you have experience with?

○ Python
○ Java
○ JavaScript
○ C++
○ Ruby
○ Other (please specify)

2. Which data analysis tools do you use regularly?

○ Excel
○ R
○ Tableau
○ Power BI

3. What types of machine learning algorithms are you familiar with?

○ Supervised Learning
○ Unsupervised Learning
○ Reinforcement Learning
○ Neural Networks
○ Ensemble Methods
○ None

4. How do you prefer to learn new technologies?

○ Online courses
○ Books and articles
○ Video tutorials
○ Hands-on projects
○ Workshops and seminars

**5. What challenges do you face when working on data science projects?**

○ Data quality issues
○ Lack of resources (time, tools, etc.)
○ Difficulty in understanding requirements
○ Collaboration with team members
○ Other (please specify)

[Submit Survey]

This survey is currently published. Please fill out the questions.

After clicking the Submit survey button as shown above, it will show the Responses of the Current User
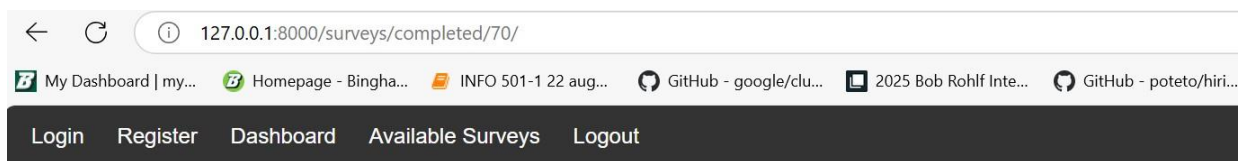
Survey Completed: Basic Skills for Data Science

A survey to assess data science skills.

Your Responses:

- **What programming languages do you have experience with?**: Python
- **Which data analysis tools do you use regularly?**: Excel
- **What types of machine learning algorithms are you familiar with?**: Supervised Learning
- **How do you prefer to learn new technologies?**: Online courses
- **What challenges do you face when working on data science projects?**: Data quality issues

Back to Available Surveys

B My Dashboard | my... | B Homepage - Bingha... | INFO 501-1 22 aug... | GitHub - google/clu... | 2025 Bob Rohlf Inte...

| Login | Register | Dashboard | Available Surveys | Logout |

Available Surveys

- **Basic Skills for Data Science**

  A survey to assess data science skills.

  Created by: Ball

  Questions: 5

  Already completed

Survey Creator Dashboard after logging in using Ball as the User name

Survey Creator Dashboard

Survey Statistics

Total Surveys: 1

Draft Surveys: 0

Published Surveys: 1

Closed Surveys: 0

Republished Surveys: 0

Draft Surveys

- No draft surveys available.

Published Surveys

- Basic Skills for Data Science (Responses: 5) View Results Close

Survey Results: Basic Skills for Data Science

A survey to assess data science skills.

Total Responses: 1

Status: Published

1. What programming languages do you have experience with?

Question Type:

- Python: 1 users (100.0%)
- Java: 0 users (0.0%)
- JavaScript: 0 users (0.0%)
- C++: 0 users (0.0%)
- Ruby: 0 users (0.0%)
- Other (please specify): 0 users (0.0%)

5. What challenges do you face when working on data science projects?

Question Type:

- Data quality issues: 1 users (100.0%)
- Lack of resources (time, tools, etc.): 0 users (0.0%)
- Difficulty in understanding requirements: 0 users (0.0%)
- Collaboration with team members: 0 users (0.0%)
- Other (please specify): 0 users (0.0%)

Close Survey

Back to Manage Surveys

For second Survey taker named "Karthik"

Login

Username: karthik

Password: ••••••••••••

Login

Don't have an account? _Register here_

My Dashboard | my...   Homepage - Bingha...

Login   Register   Dashboard   Available Surveys   Logout

Survey Completed: Basic Skills for Data Science

A survey to assess data science skills.

Your Responses:

- **What programming languages do you have experience with?**: C++
- **Which data analysis tools do you use regularly?**: Power BI
- **What types of machine learning algorithms are you familiar with?**: Reinforcement Learning
- **How do you prefer to learn new technologies?**: Video tutorials
- **What challenges do you face when working on data science projects?**: Difficulty in understanding requirements

Back to Available Surveys

Login   Register   Dashboard   Available Surveys   Logout
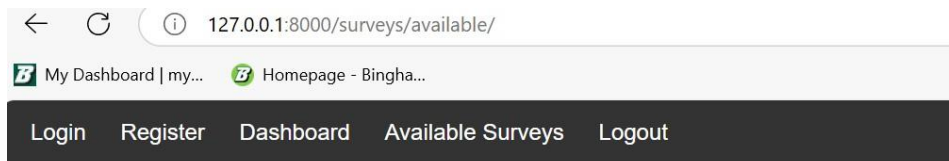
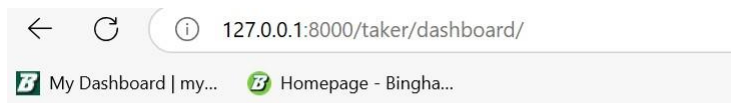## Available Surveys

- **Basic Skills for Data Science**

  A survey to assess data science skills.
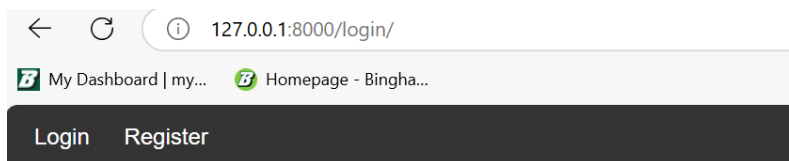
  Created by: Ball

  Questions: 5

  Already completed

Completed Surveys

- **Basic Skills for Data Science**

  Completed on: December 01, 2024

After logging out from the Survey taker "Karthik"

Login   Register

Login

Username: karthik
Password: ••••••••••••
Login

Don't have an account? Register here

For new 3rd user as Survey Taker:

Register

Username: Keya

Email: keya@gmail.com

Password: ••••••••••

Confirm Password: ••••••••••

Role: [Survey Taker ∨]

[Register]

Already have an account? Login here

For Republishing the Survey for Survey Taker

Draft Surveys

- No draft surveys available.

Published Surveys

- No published surveys available.

Closed Surveys

- Basic Skills for Data Science (Total Responses: 5) View Results Republish

Republished Surveys

- No republished surveys available.

Create New Survey

Survey Creator Dashboard

Survey Statistics

Total Surveys: 1

Draft Surveys: 0

Published Surveys: 0

Closed Surveys: 0

Republished Surveys: 1

127.0.0.1:8000/taker/dashboard/

My Dashboard | my...   Homepage - Bingha...   GitHub - google/clu...   2025 Bob Rohlf In

Completed Surveys

- **Basic Skills for Data Science**

  Completed on: December 01, 2024

  Available Survey

Login　Register　Dashboard　Available Surveys　Logout

Available Surveys

- **Basic Skills for Data Science**

  A survey to assess data science skills.

  Created by: Ball

  Questions: 5

  This survey has been republished with previous response statistics.

  [Retake Survey (with Wisdom of Crowd)](#)

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Republished survey to the Survey taker:

Login　Register　Dashboard　Available Surveys　Logout

Data Science Trends 2025 (Republished)

Explore the latest trends and technologies in Data Science for the year 2025

1. Which AI technology do you think will have the biggest impact in 2025?

- ○ Large Language Models (2 responses, 66.7%)
- ○ Computer Vision (0 responses, 0.0%)
- ○ Robotics (0 responses, 0.0%)
- ○ Quantum AI (1 responses, 33.3%)
- ○ Neuromorphic Computing (0 responses, 0.0%)

2. What data storage solution do you predict will be most prevalent in 2025?

- ○ Cloud-based Solutions (2 responses, 66.7%)
- ○ Edge Computing (0 responses, 0.0%)
- ○ Distributed Ledger (0 responses, 0.0%)
- ○ DNA Data Storage (1 responses, 33.3%)
- ○ Holographic Storage (0 responses, 0.0%)

After clicking options on the Survey -Republished with Wisdom of Crowd

Data Science Trends 2025 (Republished)

Explore the latest trends and technologies in Data Science for the year 2025

1. Which AI technology do you think will have the biggest impact in 2025?

- ◉ Large Language Models (2 responses, 66.7%)
- ○ Computer Vision (0 responses, 0.0%)
- ○ Robotics (0 responses, 0.0%)
- ○ Quantum AI (1 responses, 33.3%)
- ○ Neuromorphic Computing (0 responses, 0.0%)

2. What data storage solution do you predict will be most prevalent in 2025?

- ◉ Cloud-based Solutions (2 responses, 66.7%)
- ○ Edge Computing (0 responses, 0.0%)
- ○ Distributed Ledger (0 responses, 0.0%)
- ○ DNA Data Storage (1 responses, 33.3%)
- ○ Holographic Storage (0 responses, 0.0%)

4. What do you think will be the primary focus of data ethics in 2025?

- ◉ Privacy (2 responses, 66.7%)
- ○ Bias Mitigation (0 responses, 0.0%)
- ○ Transparency (0 responses, 0.0%)
- ○ Accountability (1 responses, 33.3%)
- ○ Fairness (0 responses, 0.0%)

5. Which industry do you believe will see the most significant data science breakthroughs by 2025?

- ◉ Healthcare (2 responses, 66.7%)
- ○ Finance (0 responses, 0.0%)
- ○ Environmental Science (0 responses, 0.0%)
- ○ Education (1 responses, 33.3%)
- ○ Manufacturing (0 responses, 0.0%)

Submit Survey

This survey has been republished. You can see how others have responded in the percentages shown next to each option.

After completing the Republished survey:

Available Surveys

- **Data Science Trends 2025**

  Explore the latest trends and technologies in Data Science for the year 2025
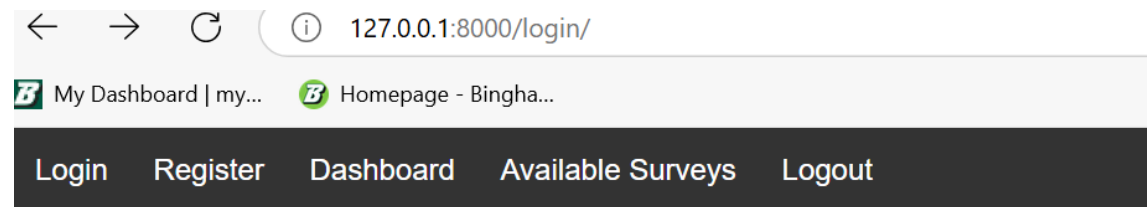
  Created by: Ball

  Questions: 5

  This survey has been republished with previous response statistics.

  Retake Survey (with Wisdom of Crowd)

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For new registration: Yeshwanth as Survey Taker:

← → C (i) 127.0.0.1:8000/login/

B My Dashboard | my...   B Homepage - Bingha...

Login

Username: Yeshwanth
Password: ••••••••••
Login

Don't have an account? Register here

VS code terminal:

```
{}
{'password_mismatch': 'The two password fields didn't match.'}
<bound method BaseForm.has_error of <CustomUserCreationForm bound=True, valid=True, fields=(username;email;password1;password2;ro
le)>>
True
Form data: {'username': 'Yeshwanth', 'email': 'yeshwanth@gmail.com', 'password1': 'Yesh@123456', 'password2': 'Yesh@123456', 'rol
e': 'taker'}
```

Login   Register   Dashboard   Available Surveys   Logout

Survey Completed: Basic Skills for Data Science

A survey to assess data science skills.

Your Responses:

- **What programming languages do you have experience with?**: JavaScript
- **Which data analysis tools do you use regularly?**: Tableau
- **What types of machine learning algorithms are you familiar with?**: Reinforcement Learning
- **How do you prefer to learn new technologies?**: Video tutorials
- **What challenges do you face when working on data science projects?**: Difficulty in understanding requirements

Back to Available Surveys

VS CODE terminal

```
user:
Ball
[30/Nov/2024 21:34:48] "POST /login/ HTTP/1.1" 302 0
[30/Nov/2024 21:34:48] "GET /creator/dashboard/ HTTP/1.1" 200 2440
[30/Nov/2024 21:34:51] "GET /surveys/results/71/ HTTP/1.1" 200 7638
[30/Nov/2024 21:35:20] "GET /surveys/close/71/ HTTP/1.1" 302 0
[30/Nov/2024 21:35:20] "GET /surveys/manage/ HTTP/1.1" 200 2486
Attempting to republish survey with ID: 71
Found survey: Basic Skills for Data Science, current status: closed
Survey status updated to: republished
Redirecting to manage_surveys
[30/Nov/2024 21:35:42] "GET /surveys/republish/71/ HTTP/1.1" 302 0
[30/Nov/2024 21:35:42] "GET /surveys/manage/ HTTP/1.1" 200 2279
[30/Nov/2024 21:35:44] "GET /creator/dashboard/ HTTP/1.1" 200 2445
[30/Nov/2024 21:36:06] "GET /logout/ HTTP/1.1" 302 0
<WSGIRequest: GET '/login/'>
[30/Nov/2024 21:36:06] "GET /login/ HTTP/1.1" 200 1669
<WSGIRequest: POST '/login/'>
POST: POST
```

```
user:
Malar
[30/Nov/2024 21:36:13] "POST /login/ HTTP/1.1" 302 0
[30/Nov/2024 21:36:13] "GET /taker/dashboard/ HTTP/1.1" 200 371
[30/Nov/2024 21:36:17] "GET /surveys/available/ HTTP/1.1" 200 1898
[30/Nov/2024 21:36:19] "GET /surveys/take/republished/71/ HTTP/1.1" 200 12164
[30/Nov/2024 21:38:03] "POST /surveys/take/republished/71/ HTTP/1.1" 302 0
[30/Nov/2024 21:38:03] "GET /surveys/completed/71/ HTTP/1.1" 200 2334
[30/Nov/2024 21:38:12] "GET /surveys/available/ HTTP/1.1" 200 1898
[30/Nov/2024 21:38:15] "GET /logout/ HTTP/1.1" 302 0
<WSGIRequest: GET '/login/'>
[30/Nov/2024 21:38:15] "GET /login/ HTTP/1.1" 200 1669
```

Django administration:

For creating new user Bharath:

Overall Responses:

	RESPONSE
☐	Yeshwanth's response to What challenges do you face when working on data science projects? in Basic Skills for Data Science
☐	Yeshwanth's response to How do you prefer to learn new technologies? in Basic Skills for Data Science
☐	Yeshwanth's response to What types of machine learning algorithms are you familiar with? in Basic Skills for Data Science
☐	Yeshwanth's response to Which data analysis tools do you use regularly? in Basic Skills for Data Science
☐	Yeshwanth's response to What programming languages do you have experience with? in Basic Skills for Data Science
☐	karthik's response to What challenges do you face when working on data science projects? in Basic Skills for Data Science
☐	karthik's response to How do you prefer to learn new technologies? in Basic Skills for Data Science
☐	karthik's response to What types of machine learning algorithms are you familiar with? in Basic Skills for Data Science
☐	karthik's response to Which data analysis tools do you use regularly? in Basic Skills for Data Science
☐	karthik's response to What programming languages do you have experience with? in Basic Skills for Data Science
☐	Malar's response to What challenges do you face when working on data science projects? in Basic Skills for Data Science
☐	Malar's response to How do you prefer to learn new technologies? in Basic Skills for Data Science
☐	Malar's response to What types of machine learning algorithms are you familiar with? in Basic Skills for Data Science
☐	Malar's response to Which data analysis tools do you use regularly? in Basic Skills for Data Science
☐	Malar's response to What programming languages do you have experience with? in Basic Skills for Data Science

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups	+ Add
Users	+ Add

SURVEYS

Options	+ Add
Profiles	+ Add
Questions	+ Add
Responses	+ Add
Surveys	+ Add

Summary

- Surveys: 1
- Questions: 5
- Options: 28
- Responses: 15

Objects

- Survey: Basic Skills for Data Science
  - Question: What programming languages do you have experience with?
    - Option: Python
      - Response: Malar's response to What programming languages do you have experience with? in Basic Skills for Data Science
    - Option: Java
    - Option: JavaScript
      - Response: Yeshwanth's response to What programming languages do you have experience with? in Basic Skills for Data Science
    - Option: C++
      - Response: karthik's response to What programming languages do you have experience with? in Basic Skills for Data Science
    - Option: Ruby
    - Option: Other (please specify)
  - Question: Which data analysis tools do you use regularly?
    - Option: Excel
      - Response: Malar's response to Which data analysis tools do you use regularly? in Basic Skills for Data Science
    - Option: R
    - Option: Tableau