- **Default Virtual Environment:**
    i. Activate the virtual environment: use the e4_trainor_django_course virtual env
- **Application Description:**
    - The web application is designed to provide information about living in different cities. It caters to both regular users and administrative users.

Regular Users:

Tourists: Tourists can log in using the username "tourist" and the password "{iSchoolUI}". They have active accounts and staff privileges, allowing them to access and interact with various features across the application.

Tourist Guides: Tourist guides have the username "touristguide" and the password "{iSchoolUI}". They possess active accounts and staff privileges, enabling them to use features designed for guiding tourists.

Testers: Testers have the username "tester" and the password "{iSchoolUI}". They have active accounts, staff privileges, and superuser status. This grants them extensive access to the application, facilitating thorough testing and quality assurance.

Administrative Users:

Sysadmins: Sysadmins use the username "sysadmin1" and the password "{iSchoolUI}". They enjoy active accounts, staff privileges, and superuser status, providing them with comprehensive control and management capabilities within the application.

Citizen: Citizens have the username "citizen" and the password "{iSchoolUI}". They are part of the "ci_user" group, with active accounts, staff privileges, and the ability to access and manage different aspects of the application.

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- **Authentication and Authorization Scheme:**

Spreadsheets: 🟩 **group_permissions_finalproje** 🟩 **users_for_finalproject**

Screenshots of spreadsheets (users, permissions):

	A	B	C	D	E	F
1	**Username**	**Group**	**Password**	**Active**	**Staff**	**Superuser**
2	**tourist**	ci_tourist	{iSchoolUI}	x	x	
3	**touristguide**	ci_touristguide	{iSchoolUI}	x	x	
4	**tester**		{iSchoolUI}	x	x	x
5	**sysadmin1**		{iSchoolUI}	x	x	x
6	**citizen**	ci_user	{iSchoolUI}	x	x	

User Group	City	Country	Event	Hotel	Landmark	Museum	Restaurant	Review
Tourist	view	View	View		view	view	view	view
	add		add					add
	change		change					
	delete		delete					
Tourist Guides	view	view	view	add	view		add	
	add	add	add	change	add		change	
	change	change	change	delete	change		delete	
	delete	delete	delete	view	delete		view	
Testers	view	view	view	view	view	view	view	view
	add	add	add	add	add	add	add	add
	change	change	change	change	change	change	change	
	delete	delete	delete	delete	delete	delete	delete	
Sysadmin1	view	view	view	view	view	view	view	view
	add	add	add	add	add	add	add	add
	change	change	change	change	change	change	change	
	delete	delete	delete	delete	delete	delete	delete	
Citizen	view	View	view		view	view	view	view

- ○ The application uses Django's built-in authentication system.
- ● Tourists:
  - ○ Authentication: Tourists are authenticated using a username-password pair. They use the username "tourist" and the password "{iSchoolUI}" to log in.
  - ○ Authorization: Tourists have the following permissions:
    - i. City: View, add, change, delete
    - ii. Country: View countries
    - iii. Event: View, add, change, delete
    - iv. Hotel: Not allowed to view
    - v. Landmark: View landmarks.
    - vi. Museum: View museums.
    - vii. Restaurant: View restaurants.
    - viii. Review: View and add reviews.

- ● Tourist Guides:

- ○ Authentication: Tourist guides authenticate with the username "touristguide" and the password "{iSchoolUI}".
- ○ Authorization: Tourist guides have the following permissions:
  - i. City: View, add, change, delete cities
  - ii. Country: View, add, change, delete countries.
  - iii. Event: View, add, change, delete
  - iv. Hotel: View, add, change, delete
  - v. Landmark: View, add, change, delete landmarks.
  - vi. Museum: Not allowed to view.
  - vii. Restaurant: View, add, delete, change
  - viii. Review: Not allowed to view.
- ○ Tourist guides can add tours and activities to events and hotels.
- ● Testers:
  - ○ Authentication: Testers log in with the username "tester" and the password "{iSchoolUI}".
  - ○ Authorization: Testers have the following permissions:
    - i. City: View, add, change, delete
    - ii. Country: View, add, change, delete
    - iii. Event: View events, add events, change events, and delete events.
    - iv. Hotel: View hotels, add hotels, change hotels, and delete hotels.
    - v. Landmark: View landmarks, add landmarks, change landmarks, and delete landmarks.
    - vi. Museum: View museums, add museums, change museums, and delete museums.
    - vii. Restaurant: View restaurants, add restaurants, change restaurants, and delete restaurants.
    - viii. Review: View reviews, add reviews
- ● Sysadmins:
  - ○ Authentication: Sysadmins authenticate using the username "sysadmin1" and the password "{iSchoolUI}".
  - ○ Authorization: Sysadmins possess superuser status, granting them extensive access and control:
    - i. All permissions available to testers.
    - ii. Ability to add, change, and delete cities, countries, and tourist attractions.
    - iii. City: View, add, change, delete
    - iv. Country: View, add, change, delete
    - v. Event: View events, add events, change events, and delete events.
    - vi. Hotel: View hotels, add hotels, change hotels, and delete hotels.
    - vii. Landmark: View landmarks, add landmarks, change landmarks, and delete landmarks.
    - viii. Museum: View museums, add museums, change museums, and delete museums.
    - ix. Restaurant: View restaurants, add restaurants, change restaurants, and delete restaurants.

x. Review: View reviews, add reviews

- Citizen:
    - Authentication: Citizens log in with the username "citizen" and the password "{iSchoolUI}".
    - Authorization: Citizens are part of the "ci_user" group and have the following permissions:
        i. City: View cities.
        ii. Country: View countries.
        iii. Event: View events.
        iv. Hotel: View hotels.
        v. Landmark: View landmarks.
        vi. Museum: View museums.
        vii. Restaurant: View restaurants.
        viii. Review: View reviews.

- **User IDs and Passwords (Look above for more descriptions):**
    - User: tourist
        i. Password: {iSchoolUI}
        ii. Explanation: This user represents tourists who visit the application. They have limited access to view cities, countries, events, hotels, landmarks, museums, restaurants, and reviews. They can also add reviews to various entities.
    - User: touristguide
        i. Password: {iSchoolUI}
        ii. Explanation: This user represents tourist guides. They have more privileges than tourists, including the ability to view, add, change, and delete events, hotels, landmarks, museums, restaurants, and reviews. They can also add tours and activities to events and hotels.
    - User: tester
        i. Password: {iSchoolUI}
        ii. Explanation: Testers are quality assurance professionals. They have extensive permissions, including viewing and managing cities, countries, events, hotels, landmarks, museums, restaurants, and reviews. They can add, change, and delete these entities for testing purposes.
    - User: sysadmin1
        i. Password: {iSchoolUI}
        ii. Explanation: Sysadmins are system administrators with superuser privileges. They have full control over the application, including the ability to view and manage cities, countries, events, hotels, landmarks, museums, restaurants, and reviews. They can add, change, and delete these entities as needed.

- ○ User: citizen
  - i. Password: {iSchoolUI}
  - ii. Explanation: Citizens are regular users who can view cities, countries, events, hotels, landmarks, museums, restaurants, and reviews

- **Testing Instructions:**
  - ○ To test the application, follow these steps:
    - i. Start the Django development server: `python manage.py runserver`
    - ii. Open a web browser and navigate to the local server URL (e.g., http://localhost:8000/)
    - iii. Use the provided user IDs and passwords to log in as different user types and test the functionalities described above.
    - iv. Test various features, including browsing cities, adding/editing/deleting cities (for administrative users), leaving comments.

Other Relevant Information:

- ○ The application is designed to be responsive and mobile-friendly, ensuring a consistent user experience across different devices.
- ○ The project code follows the PEP 8 style guide for Python code formatting and adheres to Django's best practices.
- ○ Please refer to the code comments and docstrings for additional details about specific functions, classes, or modules.