

## Achievement 2: Exercise 2.1

**Write two to three sentences on why Django is so popular among web developers.**

Django is very popular among web developers because it makes building websites easier and faster. It provides many built-in features like user authentication and database handling, saving developers time and effort. Additionally, Django's strong community and extensive documentation make it a reliable choice for both beginners and experienced developers.

**After some research, list five large companies that use Django. Specify what the company's product or service is and what they use Django for.**

1. Instagram (Product: Social Media Platform) - Instagram uses Django to manage its vast database of user profiles, photos, and comments, ensuring smooth interactions for millions of users worldwide. Django's robust framework helps Instagram maintain the stability and scalability required for a popular social media platform.
2. Pinterest (Product: Visual Discovery and Bookmarking Platform) - Pinterest utilizes Django to handle content creation, user interactions, and data storage. Django's simplicity and versatility enable Pinterest to provide a seamless experience for users looking to discover and save creative ideas.
3. Dropbox (Product: Cloud Storage and File Sharing) - Dropbox employs Django to manage its user authentication, file storage, and sharing functionalities. Django's security features are crucial for ensuring the confidentiality and integrity of user data in this cloud-based service.
4. Mozilla (Product: Firefox Web Browser) - Mozilla relies on Django for various web-based services and tools related to its web browser, Firefox. Django helps streamline the development of these web applications, making it easier for Mozilla to support its global user base.
5. National Aeronautics and Space Administration (NASA) (Product: Space Research and Exploration) - NASA uses Django for its web-based applications that provide data, research findings, and educational resources to the public. Django's flexibility and ease of development assist NASA in sharing its space-related discoveries with the world.

**For each of the following scenarios, explain if you would use Django (and why or why not)**

**You need to develop a web application with multiple users:**

Yes, I should use Django. Django comes with built-in user authentication and permission systems, making it ideal for applications with multiple users. It simplifies user management, security, and access control, reducing development time and potential security risks.

**You need fast deployment and the ability to make changes as you proceed:**

Yes, Django can be a good choice. Django's high-level abstractions and extensive libraries enable rapid development. It follows the "Don't Repeat Yourself" (DRY) principle, allowing me to make changes efficiently. Additionally, Django's robust testing framework ensures that I can iterate quickly with confidence.

**You need to build a very basic application, which doesn't require any database access or file operations:**

No, Django might be overkill for such a basic application. Django's strength lies in its database management, user authentication, and other advanced features. For a simple application without these needs, a lightweight framework like Flask or a simpler solution might be more appropriate.

**You want to build an application from scratch and want a lot of control over how it works:**

It depends on the specific requirements. Django does provide a lot of control and flexibility, but it also comes with a certain amount of predefined structure and conventions. If I want complete control from the ground up, I might prefer a micro-framework like Flask or a lower-level language like Node.js.

**You're about to start working on a big project and are afraid of getting stuck and needing additional support:**

Yes, Django is a good choice for large projects, especially if I'm concerned about needing support. It has a large and active community, extensive documentation, and many third-party packages, making it easier to find help and solutions to common problems. Django's scalability and robustness are also well-suited for handling complex, large-scale projects.

## Download and install Python

```
(web-dev) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> django-admin --version
4.2.4

(web-dev) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> python --version
Python 3.11.4

(web-dev) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2>
```

Open a new terminal window and go to the folder where you want to create your projects.

```
(web-dev) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> deactivate web-dev
C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2>
```

If you haven't done so already, set up and create a virtual environment and name it achievement2-practice

```
(web-dev) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> deactivate web-dev
C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> py -m venv achievement2-practice

C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> .\achievement2-practice\Scripts\activate

(achievement2-practice) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2>
```

Install Django and verify the installation by checking the version.

```
(achievement2-practice) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> py -m pip install Django
Collecting Django
  Using cached Django-4.2.4-py3-none-any.whl (8.0 MB)
Collecting asgiref<4,>=3.6.0 (from Django)
  Using cached asgiref-3.7.2-py3-none-any.whl (24 kB)
Collecting sqlparse>=0.3.1 (from Django)
  Using cached sqlparse-0.4.4-py3-none-any.whl (41 kB)
Collecting tzdata (from Django)
  Using cached tzdata-2023.3-py2.py3-none-any.whl (341 kB)
Installing collected packages: tzdata, sqlparse, asgiref, Django
Successfully installed Django-4.2.4 asgiref-3.7.2 sqlparse-0.4.4 tzdata-2023.3

[notice] A new release of pip is available: 23.1.2 -> 23.2.1
[notice] To update, run: python.exe -m pip install --upgrade pip

(achievement2-practice) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2> django-admin --version
4.2.4

(achievement2-practice) C:\Users\benja\Desktop\CareerFoundry\Python\Achievement2>
```