

Exercise 2.1: Getting Started With Django

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

Django is popular among web developers because of its combination of built-in features, scalability, ease of deployment, and community support. The batteries-included nature of Django greatly reduces the work and time needed to build prototypes (as well as full applications), and though a Django application must be structured and written “the Django way”, this approach allows for a lot of functionality to be precoded by Django. Also, it is well-suited for a wide range of web applications, particularly medium-large applications, so it has many potential use cases.

2. 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.
 - a. Spotify. Service: music and podcast streaming. Use: creating a fast backend with machine learning options, enabling them to provide users with customized, auto-generated playlists.
 - b. DropBox. Service: cloud-based multimedia storage. Use: providing a user history, synch across devices, and file-sharing options.
 - c. The Washington Post. Service: news provider. Use: the Post’s website is written solely with Django.
 - d. Eventbrite. Service: event management and ticketing. Use: transitioned to Django from Python and in-house frameworks in 2010 to address scalability issues.
 - e. Instagram. Service: social media image and video sharing. Use: Instagram was originally built with Django, and it has allowed them to scale smoothly as traffic increased exponentially.
3. 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.
 - i. Depending on the nature of the web app, yes. Django is well-suited for handling a large number of concurrent users.
- You need fast deployment and the ability to make changes as you proceed.
 - i. Yes. Django apps are easy to deploy and make changes to, in part due to its many built-in features.
- You need to build a very basic application, which doesn't require any database access or file operations.
 - i. No. Django's built-in features and database interaction are unneeded and would make it much more server-intensive than is required for this app.
- You want to build an application from scratch and want a lot of control over how it works.
 - i. No. Django works in its own specific way and does not allow for the developer to control the fine details of the system.
- You're about to start working on a big project and are afraid of getting stuck and needing additional support.
 - i. Yes. This application will benefit from Django's scalability and community support. Odds are that any problem faced by this developer has been encountered in Django before, and there will be resources for solving it.

4. Screenshot of Django setup in my terminal:

```
kirk_meyer@Kirks-MacBook-Air achievement2 % python3 --version
Python 3.9.6
kirk_meyer@Kirks-MacBook-Air achievement2 % mkvirtualenv achievement2-practice
created virtual environment CPython3.8.19.final.0-64 in 1334ms
  creator CPython3macOsBrew(dest=/Users/kirk_meyer/.virtualenvs/achievement2-practice, clear=False, no_vc
s_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=
/Users/kirk_meyer/Library/Application Support/virtualenv)
    added seed packages: pip==24.0, setuptools==69.2.0, wheel==0.43.0
  activators BashActivator,CShellActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActiv
ator
virtualenvwrapper.user_scripts creating /Users/kirk_meyer/.virtualenvs/achievement2-practice/bin/predeact
ivate
virtualenvwrapper.user_scripts creating /Users/kirk_meyer/.virtualenvs/achievement2-practice/bin/postdeac
tivate
virtualenvwrapper.user_scripts creating /Users/kirk_meyer/.virtualenvs/achievement2-practice/bin/preactiv
ate
virtualenvwrapper.user_scripts creating /Users/kirk_meyer/.virtualenvs/achievement2-practice/bin/postacti
vate
virtualenvwrapper.user_scripts creating /Users/kirk_meyer/.virtualenvs/achievement2-practice/bin/get_env_
details
(achievement2-practice) kirk_meyer@Kirks-MacBook-Air achievement2 % pip install
django
Collecting django
  Using cached Django-4.2.11-py3-none-any.whl.metadata (4.2 kB)
Collecting asgiref<4,>=3.6.0 (from django)
  Using cached asgiref-3.8.1-py3-none-any.whl.metadata (9.3 kB)
Collecting sqlparse>=0.3.1 (from django)
  Using cached sqlparse-0.5.0-py3-none-any.whl.metadata (3.9 kB)
Collecting backports.zoneinfo (from django)
  Using cached backports.zoneinfo-0.2.1-cp38-cp38-macosx_10_14_x86_64.whl.metadata (4.7 kB)
Collecting typing-extensions>=4 (from asgiref<4,>=3.6.0->django)
  Using cached typing_extensions-4.11.0-py3-none-any.whl.metadata (3.0 kB)
Using cached Django-4.2.11-py3-none-any.whl (8.0 MB)
Using cached asgiref-3.8.1-py3-none-any.whl (23 kB)
Using cached sqlparse-0.5.0-py3-none-any.whl (43 kB)
Using cached backports.zoneinfo-0.2.1-cp38-cp38-macosx_10_14_x86_64.whl (35 kB)
Using cached typing_extensions-4.11.0-py3-none-any.whl (34 kB)
Installing collected packages: typing-extensions, sqlparse, backports.zoneinfo, asgiref, django
Successfully installed asgiref-3.8.1 backports.zoneinfo-0.2.1 django-4.2.11 sqlparse-0.5.0 typing-extensi
ons-4.11.0
(achievement2-practice) kirk_meyer@Kirks-MacBook-Air achievement2 % django --version
zsh: command not found: django
(achievement2-practice) kirk_meyer@Kirks-MacBook-Air achievement2 % django-admin --version
4.2.11
```