

The following is a brief description about why Django is so popular among developers in today's world.

- ☐ Django is a framework that has many libraries to increase productivity with tasks that could take a long time, such as URL routing or database management. The tasks that it speeds up with pre-built components, are usually very common needs for web development.
- ☐ Django promotes modularity by encouraging the use of reusable components. This creates efficiency by the ability to use the same components in different applications.
- ☐ Django has loosely coupled layers which is considered an advantage to some over MVC architecture.
- ☐ Django abstracts many of the tasks commonly used in a controller. The view layer in the MVT pattern abstracts away a lot of common controller concerns, providing fast development for request handling.

The following is a description of 5 different companies that use Django. Includes: Company Name, service the company provides, and why they use the Django framework for web development.

- ☐ Instagram(Social networking platform focused around sharing media) Django was used to scale the application. Django played a key role in its handling of a vast number of users and user interactions. Instagram is the largest scale Django deployment out there currently
- ☐ Spotify(designed as a streaming service for instant access to a vast library of music and podcasts) - Spotify uses django for machine learning and data analytics. This helps with recommending great choices for its users.
- ☐ Youtube(social media/video sharing platform) - Youtube uses Django to scale fast and relies on its fast development speed for updating its platform.
- ☐ NASA(Science and technology related to air and space travel) - NASA has many large scale projects that are managed and secured through Django. The security provided by Django is considered very reliable.
- ☐ Udemy(Online learning platform mainly for IT/Development) - Udemy relies on Django with its large amount of video content, to handle large scale database demands.

The following scenarios are given an answer as to if Django should be used or not.

- ☐ You need to develop a web application with multiple users. Yes, *Django has great features for user authentication and user creation. It provides high security and built in protection against common web threats. Django has an admin interface for easily managing users and regulating the database via C.R.U.D operations. You can easily assign roles in heavy detail as to what can and cannot be accessed per user.*
- ☐ You need fast deployment and the ability to make changes as you proceed. Yes. *Django is component based and modular. This allows for adding new things to the application without affecting the existing parts. Django is designed for handling constant expansion to your application. It is highly scalable due to its design patterns. The pre-built components are designed for speeding up development. Django is well documented and has a built-in testing environment to accelerate the process of debugging your code.*
- ☐ You need to build a very basic application, which doesn't require any database access or file operations. No, *while Django is great for larger/complex applications, its built-in features being unused, could make your application bulkier than it needs to be. Having to follow the principles behind Django, or its rule set, would probably be a waste of time with a more basic application. Additionally, Django has a learning curve. So, if you don't already know Django it would require considerable learning for such a short term use.*
- ☐ You want to build an application from scratch and want a lot of control over how it works. No, *it is built for things to be done a certain way. It has strict guidelines to follow in the development process. It is possible to override features in Django, but it is a difficult process to go through. There is a high level of abstraction in Django, so if you need to have a larger amount of control over things such as controller logic, it is probably not the way to go.*

- ☐ You're about to start working on a big project and are afraid of getting stuck and needing additional support. Yes, *Django is well known for its vast community of development, and extremely well done/extensive documentation. This will make it easy to understand and find help as needed with a larger project that will take a while. Django is well known for its many useful libraries, great security features, building highly scalable applications, and securing applications by enforcing best practices in coding. Also, it includes many built-in features for a high security level application.*

Python Version:

```
C:\WINDOWS\system32\cmd. X + v
Microsoft Windows [Version 10.0.22621.1848]
(c) Microsoft Corporation. All rights reserved.

C:\Users\d1m13>cd C:\Users\d1m13\envs

C:\Users\d1m13\envs>python -m virtualenv recipe_app
created virtual environment CPython3.8.7.final.0-64 in 7120ms
  creator CPython3Windows(dest=C:\Users\d1m13\envs\recipe_app, clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\d1m13\AppData\Local\pypa\virtualenv)
    added seed packages: pip==23.1.2, setuptools==67.8.0, wheel==0.40.0
    activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator

C:\Users\d1m13\envs>python -m virtualenv web-dev
created virtual environment CPython3.8.7.final.0-64 in 6186ms
  creator CPython3Windows(dest=C:\Users\d1m13\envs\web-dev, clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\d1m13\AppData\Local\pypa\virtualenv)
    added seed packages: pip==23.1.2, setuptools==67.8.0, wheel==0.40.0
    activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator

C:\Users\d1m13\envs>python --version
Python 3.8.7

C:\Users\d1m13\envs>
```

Creating Virtual Environment in Command Prompt:

```
C:\Users\d1m13\envs>python -m virtualenv achievement2-practice
created virtual environment CPython3.8.7.final.0-64 in 6098ms
creator CPython3Windows(dest=C:\Users\d1m13\envs\achievement2-practice, clear=False, no_vcs_ignore=False, global=False)
seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\d1m13\AppData\Local\pypa\virtualenv)
added seed packages: pip==23.1.2, setuptools==67.8.0, wheel==0.40.0
activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator
C:\Users\d1m13\envs>
```

Activated in Powershell:

```
PS D:\d1m13\source\careerfoundry\github-uploads\careerfoundry-python-course> cd C:\Users\d1m13\envs\achievement2-practice\Scripts\
>> .\Activate.ps1
(achievement2-practice) PS C:\Users\d1m13\envs\achievement2-practice\Scripts>
```

Activated in Command Prompt:

```
C:\Users\d1m13\envs>achievement2-practice\Scripts\activate.bat
(achievement2-practice) C:\Users\d1m13\envs>
```

Django Install/Version:

```
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE powershell - Scripts
● (achievement2-practice) PS C:\Users\d1m13\envs\achievement2-practice\Scripts> py -m pip install Django
Collecting Django
  Downloading Django-4.2.3-py3-none-any.whl (8.0 MB)
    8.0/8.0 MB 22.2 MB/s eta 0:00:00
Collecting asgiref<4,>=3.6.0 (from Django)
  Downloading asgiref-3.7.2-py3-none-any.whl (24 kB)
Collecting sqlparse<=0.3.1 (from Django)
  Downloading sqlparse-0.4.4-py3-none-any.whl (41 kB)
    41.2/41.2 kB ? eta 0:00:00
Collecting backports.zoneinfo (from Django)
  Downloading backports.zoneinfo-0.2.1-cp38-cp38-win_amd64.whl (38 kB)
Collecting tzdata (from Django)
  Downloading tzdata-2023.3-py2.py3-none-any.whl (341 kB)
    341.8/341.8 kB 20.7 MB/s eta 0:00:00
Collecting typing-extensions>=4 (from asgiref<4,>=3.6.0->Django)
  Using cached typing_extensions-4.7.1-py3-none-any.whl (33 kB)
Installing collected packages: tzdata, typing-extensions, sqlparse, backports.zoneinfo, asgiref, Django
Successfully installed Django-4.2.3 asgiref-3.7.2 backports.zoneinfo-0.2.1 sqlparse-0.4.4 typing-extensions-4.7.1 tzdata-2023.3
● (achievement2-practice) PS C:\Users\d1m13\envs\achievement2-practice\Scripts> django-admin --version
4.2.3
○ (achievement2-practice) PS C:\Users\d1m13\envs\achievement2-practice\Scripts> 
```