

Python for Web Development: A brief Introduction

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Python Programming Language

Flask: A Micro Web Framework

Django Web Framework

Conclusion

Python Programming Language

Python Programming Language

- interpreted
- multi-paradigm programming language
 - object-oriented programming
 - structured programming
 - ...
- dynamic typing
- garbage collection

- large standard library
 - database connection
 - GUI toolkit
 - ...
- Python Package Index
 - third-party software repository
 - more than 290,000 packages (www.modulecounts.com)

- Web Server Gateway Interface (WSGI)
 - nginx: uWSGI
 - apache: mod_wsgi
 - ...
- Asynchronous Server Gateway Interface (ASGI)

Flask: A Micro Web Framework

Flask: A Micro Web Framework

- a microframework for web development initially released on April 1, 2010
- github.com/pallets/flask
- based on
 - Werkzeug: toolkit for WSGI
 - Jinja: template engine
- implements nothing which is implemented by other libraries
- extensions for database connection, form validation, ...

Example

```
from flask import Flask
app = Flask(__name__)

@app.route("/")
def index():
    return "Python for Web Development"

if __name__ == "__main__":
    app.run(debug=False)
```

Django Web Framework

- a framework for developing large and database-driven web applications initially released on July 21, 2005
- www.djangoproject.com
- Model-View-Controller architectural design pattern
- includes libraries for many web-related functionalities

Features

- object-relational mapper to bind python classes (models) to database tables
- auto-generated admin interface based on the models
- template engine (views)
- explicit URL definition (controller)
- form validation
- internationalization
- caching framework
- web server for development
- ...

Conclusion

Conclusion

- Python is an interpreted, multi-paradigm programming language with an extensive standard library and a huge repository for third-party libraries
- Flask is a microframework for web development with extensions for many web-related functionalities
- in contrast Django is a complex framework including a wide range of these functionalities

Questions?

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