

Django

(A web development framework for Python)

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Outline....

- ▶ Introduction to Django
- ▶ Django as MVC Design Pattern
- ▶ Django Architecture
- ▶ Django Modules
- ▶ Why Django for Web Development
- ▶ Steps to create New Project
- ▶ What Django generates
- ▶ Sample Application



Introduction – What is Django?

- ▶ Django is pronounced JANG-oh. The “D” is silent.
- ▶ “Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design.”
- ▶ The web framework for perfectionists with deadlines.
- ▶ **Primary Focus**
 - ▶ Dynamic and database driven websites
 - ▶ Content based websites
 - ▶ Example
 - ▶ Websites (Washingtonpost, eBay, craigslist)
 - ▶ Google AppEngine



Introduction...(Cont.)

▶ History

- ▶ Named after famous Guitarist “Django Reinhardt”
- ▶ Developed by Adrian Holovaty and Jacob Kaplan-moss at World Online News for efficient development
- ▶ Open sourced in 2005
- ▶ First Version released September 3, 2008



Django as an MVC Design Pattern

- ▶ MVT Architecture:
 - ▶ Models
 - ▶ Describes your data structure/database schema
 - ▶ Views
 - ▶ Controls **what** a user sees
 - ▶ Templates
 - ▶ **How** a user sees it
 - ▶ Controller
 - ▶ The Django Framework
 - ▶ URL parsing

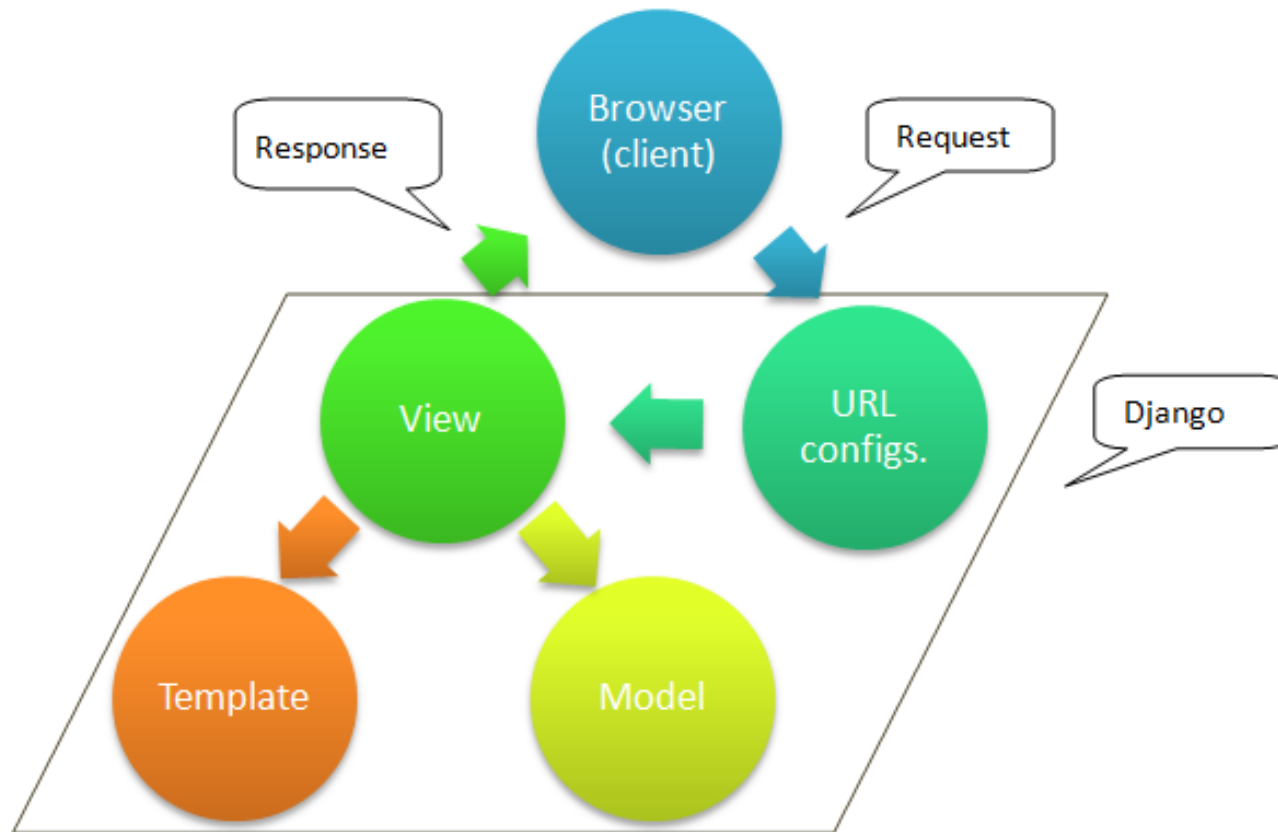


Django Modules

- ▶ Administration interface (CRUD interface)
- ▶ Authentication system
- ▶ Comments system
- ▶ Forms handling
- ▶ Sessions
- ▶ Syndication framework (RSS and Atom Feeds)
- ▶ Caching
- ▶ Internationalization
- ▶ Localization
- ▶ Custom Middleware



Django Architecture



Why Django for Web Development

- ▶ Lets you divide code modules into logical groups to make it flexible to change
 - ▶ MVC design pattern (MVT)
- ▶ Provides auto generated web admin to ease the website administration
- ▶ Provides pre-packaged API for common user tasks
- ▶ Provides you template system to define HTML template for your web pages to avoid code duplication
 - ▶ DRY Principle
- ▶ Allows you to define what URL be for a given Function
 - ▶ Loosely Coupled Principle
- ▶ Allows you to separate business logic from the HTML
 - ▶ Separation of concerns
- ▶ Everything is in python (schema/settings)



Steps to create New Project

- ▶ Create a project
- ▶ Start an application
- ▶ Create the database (MySQL, Postgresql, SQLite)
- ▶ Define DB Settings in Settings.py
- ▶ Define your models
- ▶ Add pluggable modules
- ▶ Write your templates
- ▶ Define your views
- ▶ Create URL mapping
- ▶ Test Application
- ▶ Deploy Application (Linux, Apache, mod_Python, DB)



What Django generates...

- ▶ **MySite/**
 - ▶ `__init__.py`
 - ▶ `Manage.py` // Script to interact with Django
 - ▶ `Settings.py` // Config
 - ▶ `URLs.py` // My Site URL mapping
 - ▶ **MyProject/**
 - ▶ `__init__.py`
 - ▶ `URLs.py` // Project specific URL mapping
 - ▶ `Models.py` // Data Models
 - ▶ `Views.py` // Contains the call back functions
 - ▶ `Admin.py`
 - ▶ `Templates`



Show Sample Application



Questions?

(Questions are guaranteed in life; Answers aren't.)



- ▶ For more information (Documentation, Download and News)
 - ▶ <http://www.djangoproject.com/>
- ▶ A Good book to learn Django
 - ▶ <http://www.djangobook.com/en/1.0/>
- ▶ The best place to start
 - ▶ <http://docs.djangoproject.com/en/dev/>
- ▶ A lot of Django Pluggables available online
 - ▶ Explore at <http://www.djangopluggables.com>

