Frameworks

Frameworks

A Framework contains an "almost" complete app code, including logic for the flow of control.

You must supply

- configuration data (text file, XML, Json, ...)
- missing methods the framework will invoke, "slots"
- application logic
- domain model ("model") for persistent objects

and optionally

- override frameworks methods with custom code
- add callbacks, "hooks", for extra functionality

Framework versus Library

An application framework "runs" the application.

- the framework calls your code
- "*don't call us, we'll call you*"

Library - provides functions you call

- `Requests` is a library of functions for sending HTTP requests
- `numpy` is a library for numerical computing
- Your app calls `numpy` code, it returns a result

Handling a web request

(1) A web client submits a web request:

`https://superstore.com/products/list`

an https packet is sent to the superstore.com server...

(2) A host (server) receives tcp packet and looks for app listening on port **443**.

NGINX

listen *:443

(3) Give packet body (HTTP) to listening web server.

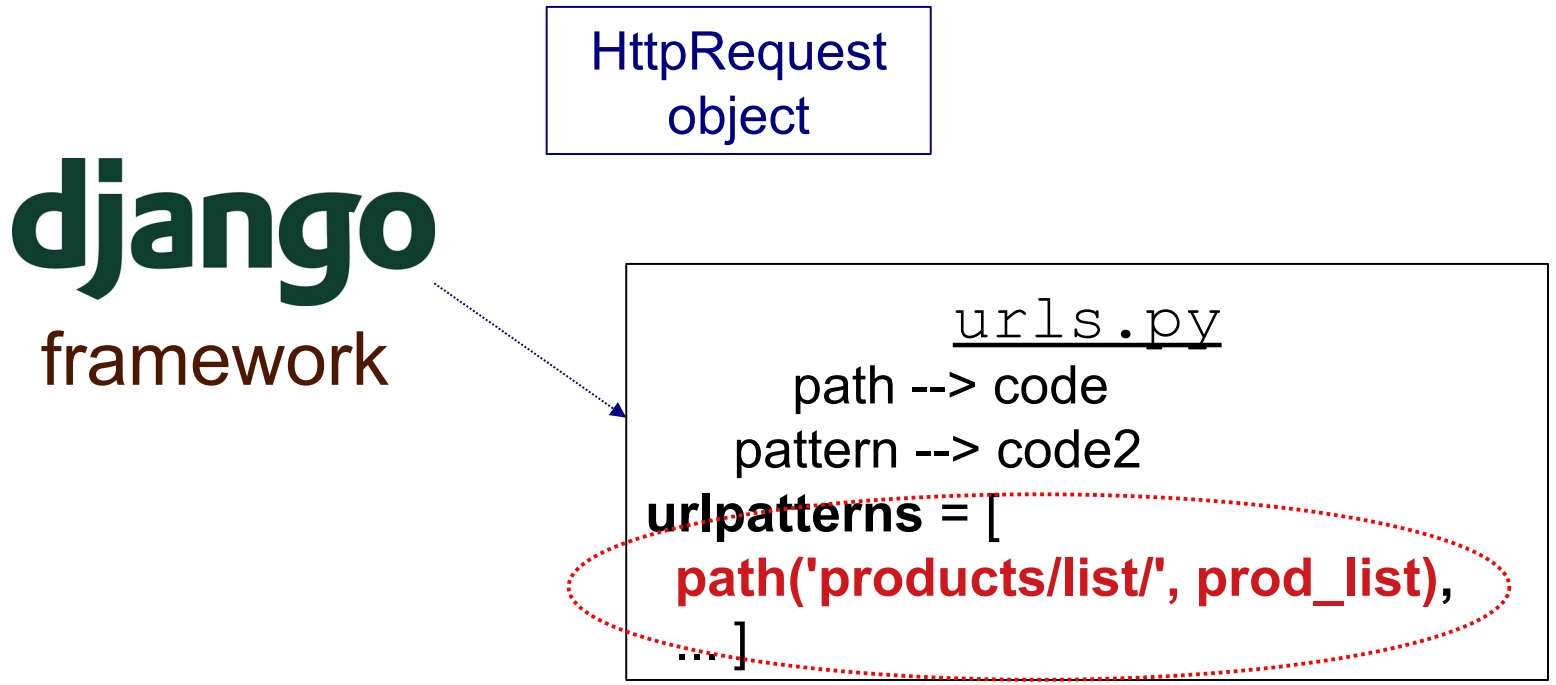
Http Server hands off to web app

(4) The web server gives the web request (or stream) to the web application.
The web server may do some pre-processing first.

Decide which code should handle it

(5) django framework parses the http request and creates a **`HttpRequest`** object containing request path, headers, session info, query params, and request body.

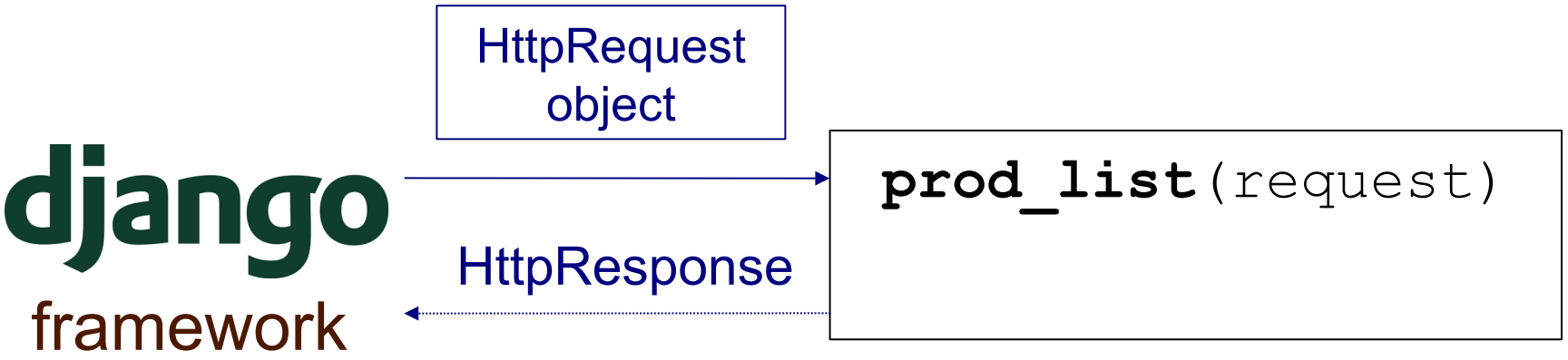
(6) django framework compares the **request path** /`products/list/` to a "**routing**" or "**url mapping**" specified by the app.



Your "controller" handles the request

(7) Django framework invokes your code (**`prod_list`**) with the **`HttpRequest`** object as parameter...

(8) your code must handle the request and return an **`HttpResponse`** object.

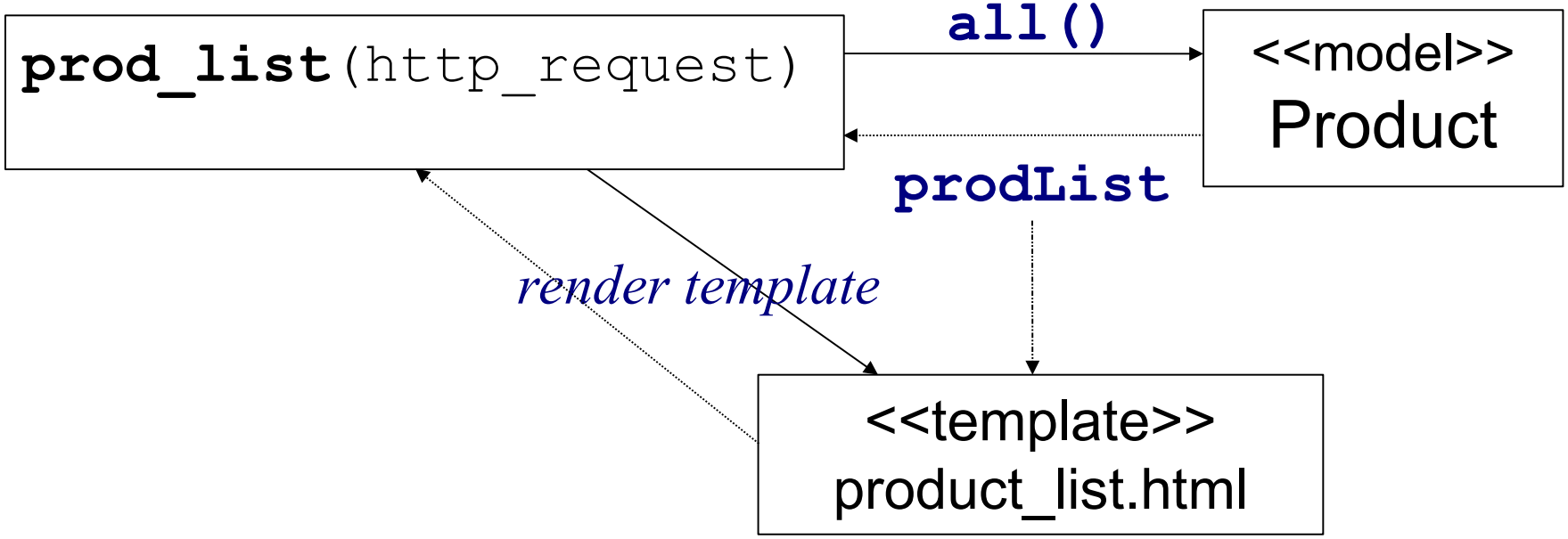


What your "controller" does

(8) Your controller (Django: "view") applies application logic and uses the Django code to handle the request.

For a product list, it uses the Product *model* class to get the products from a database (the Django framework does this).

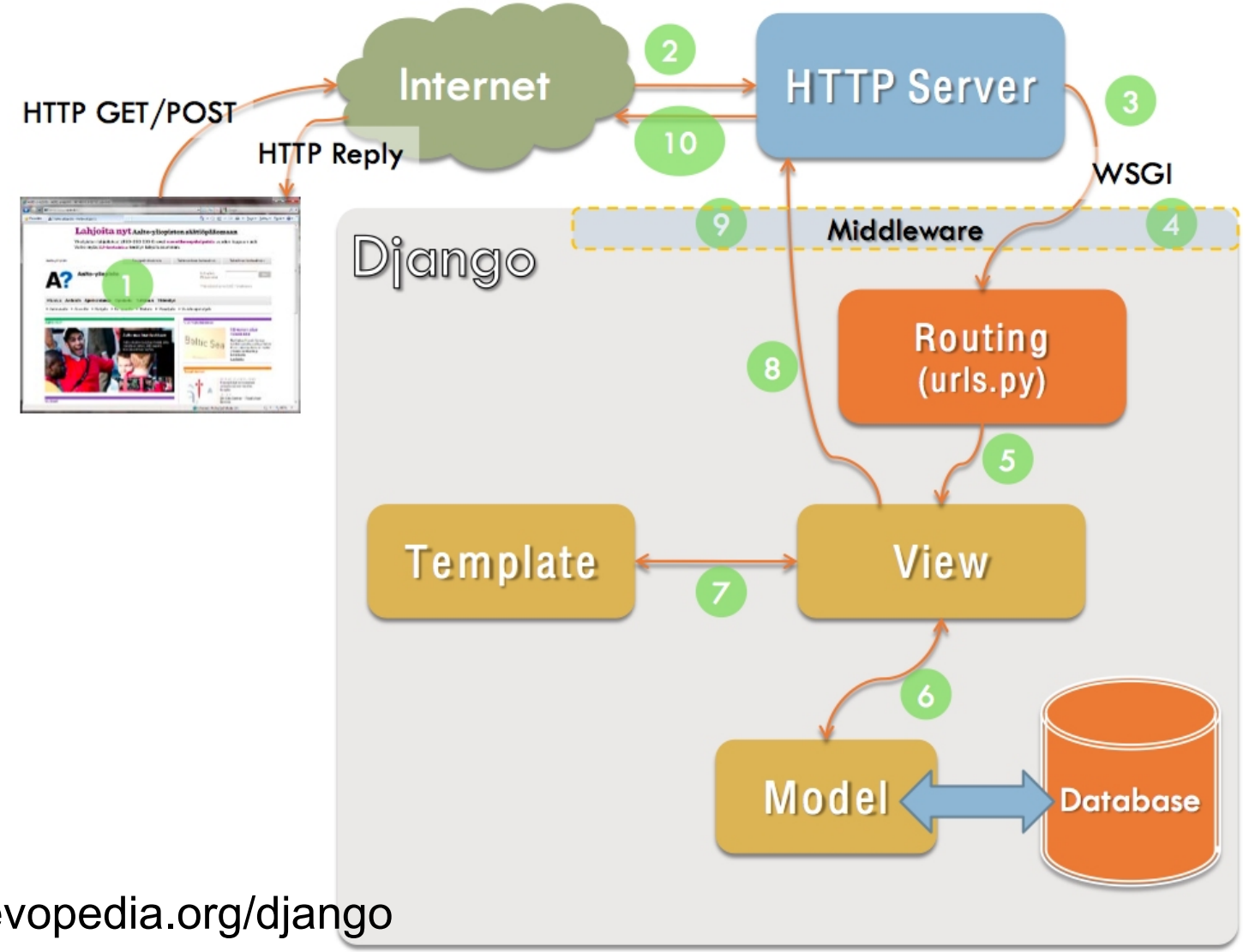
Then, use a template (your code) to create a web page containing products. This is called *rendering*.



Web App Vocabulary

What	Typical Web Framework	Django
Mapping of request path to code	routing, url mapping	routing, uses urls.py
Code that handles requests	controller	view
Class that represents something in the app domain	model	model
Code or template to generate a web page	view	template
Process a template with data to create a web page	rendering	rendering

Summary



Source:

https://devopedia.org/django

Resources