Nancy Modules

Requests, Routes and Responses

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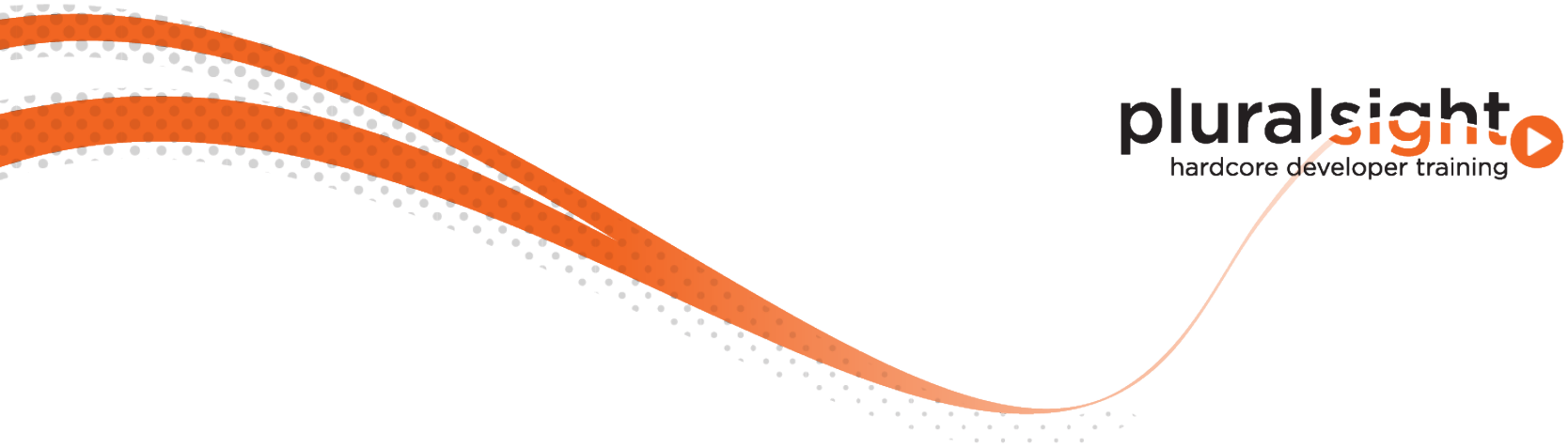


pluralsight

hardcore developer training

```
GET /hello HTTP/1.1
Host: localhost
```

Receive Request

Process Request

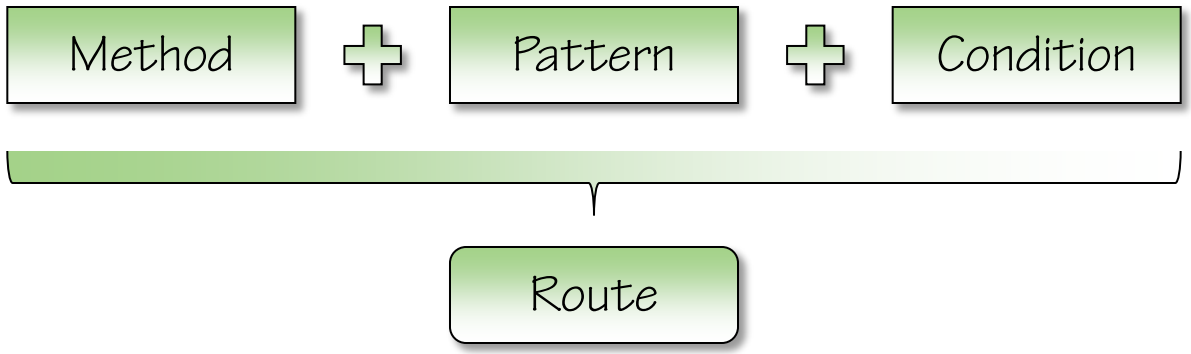
```
200 OK HTTP/1.1
Content-Type: text/html

<html>
…
</html>
```

NANCY

The Nancy Module

Modules define routes



A NancyModule is a container class with a primary purpose of organizing and defining **routes**.

Plus, it has some really helpful properties and extension methods.

NANCY

The Nancy Module

```
public class HelloModule : NancyModule
    {
      public HelloModule ()
      {
        Get["/"] = p => "Hello from Pluralsight!";
      }
    }
```

NANCY

The Nancy Module

The route is located by inspecting the request

```
POST /orders HTTP/1.1
Host: localhost
ContentType: application/json
...

{"widgets":[{"widgetid":"12345","quantity":"2"}]}
```

The Nancy Module

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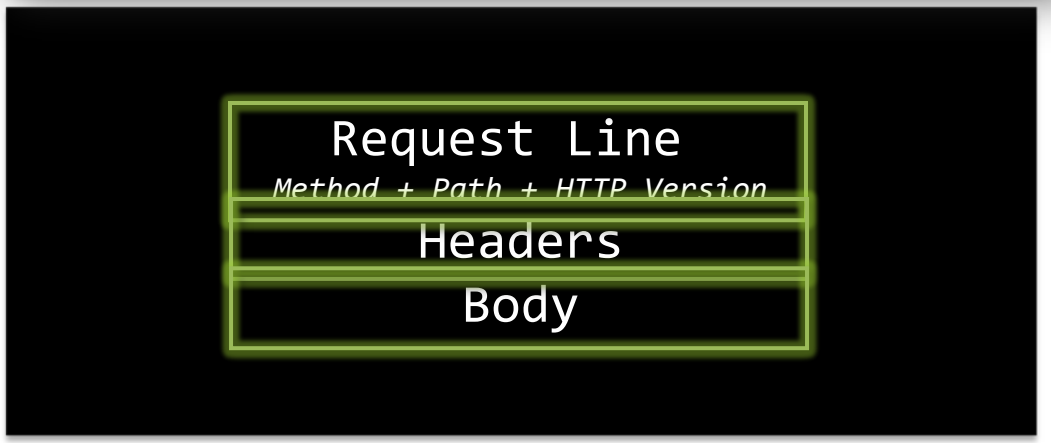

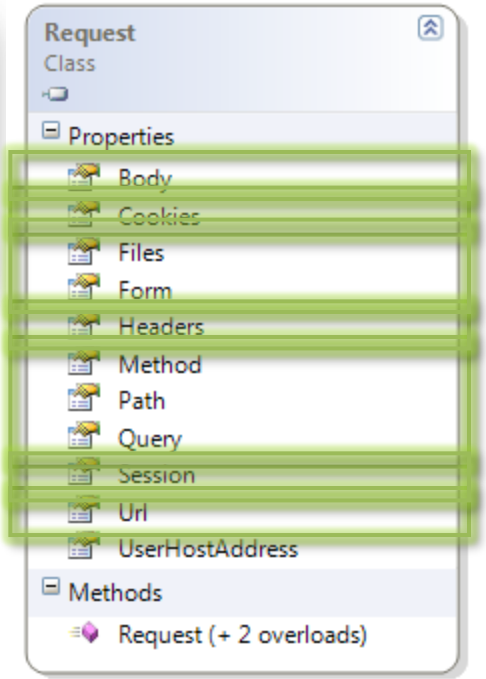

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The Nancy Module


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POST /orders HTTP/1.1
Host: localhost
ContentType: application/json
...

{"widgets":[{"widgetid":"12345","quantity":"2"}]}
```

GET
POST
PUT
DELETE
HEAD
OPTIONS
PATCH

NANCY

The Nancy Module

Method + Pattern + Condition

```
POST /orders HTTP/1.1
Host: localhost
ContentType: application/json
...

{"widgets":[{"widgetid":"12345","quantity":"2"}]}
```

```
Get["/orders"]

Post["/orders"]

Get["/orders/{id}"]
```

NANCY

Route Location and Selection

- **Modules may be loaded in a different order during each startup**
- **Routes in a module are discovered in the order they are defined**
- **Exact matches take precedence**
- **The most specific match will be chosen**
  - Highest number of literal matches
  - Least number of captured matches
- **If two routes are found, the first one is used**

```
/customers/{customerId}/orders

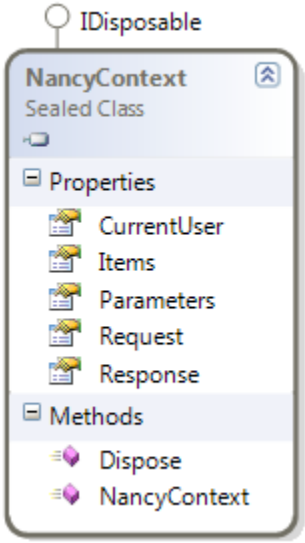
/customers/{customerId}/orders/{orderId}
```

NANCY

The Nancy Module

Method + Pattern + Condition

```
GET /orders HTTP/1.1
Host: localhost
```




```
Get["/orders"]

Get["/orders/{id}"]

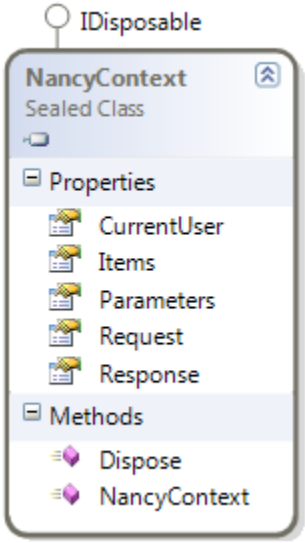
Get["/orders", c => c.Request.Query.Page !=null]
```

NANCY

The Nancy Module

Method + Pattern + Condition

```
GET /orders/3 HTTP/1.1
Host: localhost
```




```
Get["/orders"]

Get["/orders/{id}"]

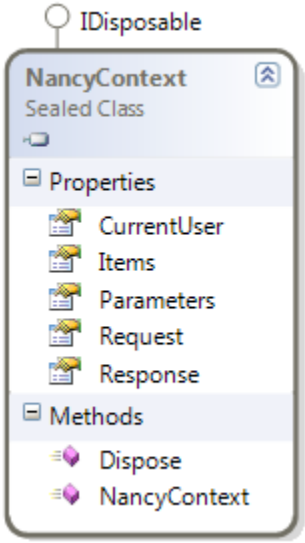
Get["/orders", c => c.Request.Query.Page !=null]
```

NANCY

The Nancy Module

Method + Pattern + Condition

```
GET /orders/?page=3 HTTP/1.1
Host: localhost
```

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NANCY

The Nancy Module

Method + Pattern + Condition

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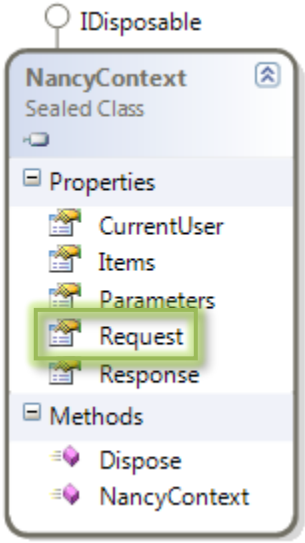



```
Get["/orders", c => c.Request.Query.Page !=null]

Get["/orders"]

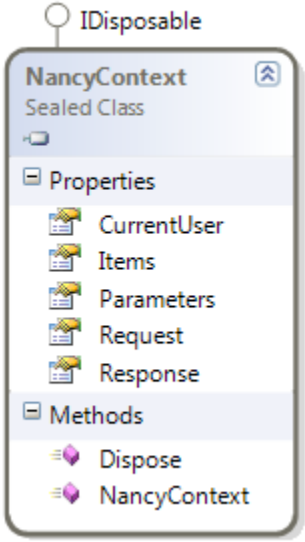
Get["/orders/{id}"]
```

NANCY

The Nancy Module

Method + Pattern + Condition

```
GET /customers/32/orders HTTP/1.1
Host: localhost
```




```
Get["/orders"]

Get["/orders/{i

Get["                c.Request.Query.Page !=null]
```

404 Not Found

NANCY

The Nancy Module

Method + Pattern + Condition

```
GET /customers/32/orders HTTP/1.1
Host: localhost
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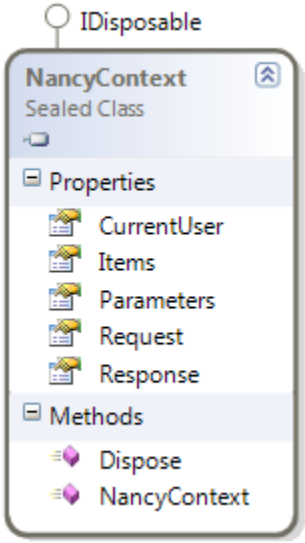


```
Get["/customers"]

Get["/customers/{id}/orders"]

Get["/customers/{id}/orders/{id}"]
```

NANCY

Route Selection Exercise

Requirements:

- A default route for API user agents
  - **cUrl**
- A default route for all other user-agents

cUrl

- cUrl is a command line tool for interacting with endpoints using URL syntax
  - HTTP
  - FTP
  - SMTP
  - A bunch more!
- Its available for download at: http://curl.haxx.se/download.html
- In the demo, I will be using cUrl in a Git Bash shell

cUrl

- Basic syntax
  - `GET: curl` *`url`*

- Pipe response to
  - Python –mjson.tool
  - http://stackoverflow.com/questions/352098/how-to-pretty-print-json-script

NANCY

The Nancy Module

Routes return a response

```
200 OK HTTP/1.1
Content-Type: text/html

Hello from Pluralsight!
```

The Nancy Module

Routes return a response

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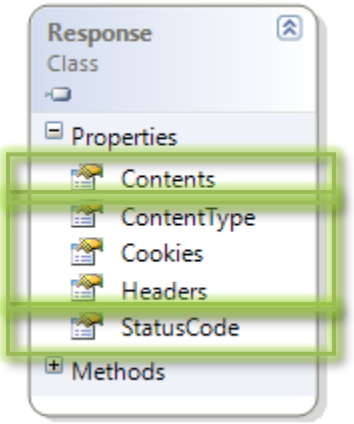

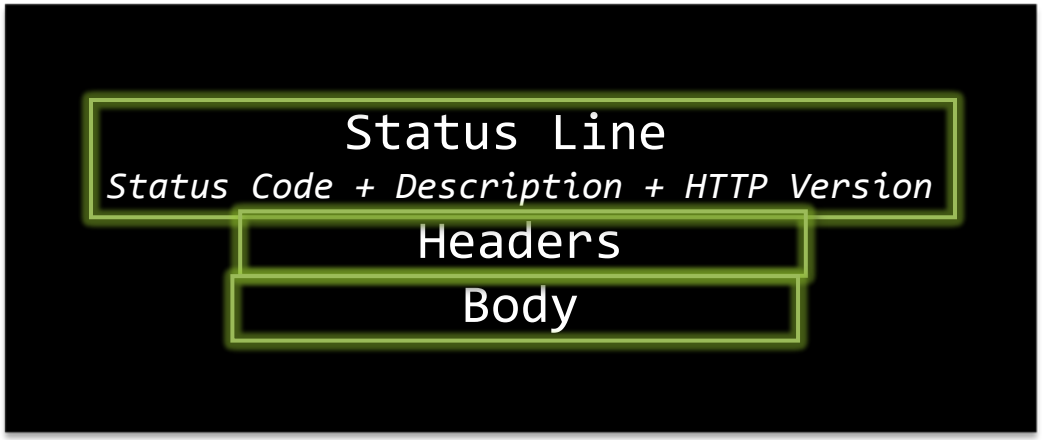

NANCY

Module Creation Exercise

Course Browser Requirements:

- Courses
  - Id
  - Title
  - Author

- GET a list of courses
- GET a single course
- POST a new course
- Returns JSON

cUrl Redux

- Basic syntax
  - `GET: curl [options] url`
- Options
  - -X *Method* : Use a specific method for the request (GET, POST, etc)
  - -i : Includes the headers with the output
  - -d : Add HTTP POST data
    - Will be encoded in the request body
  - -v : Show additional information
    - Request headers
    - Response headers
    - Connection information

Routes

- **Basic GET**
- **GET with URL template values**
  - Template values were provided in a dynamic dictionary
- **POST**
  - Provided a url-encoded body

```
Get["/courses"]

Get["/courses/{id}"]

Post["/courses"]
```

Responses

- **JsonResponse**
  - Model
  - Serializer
- **Response.AsJson(…)**
  - Just provided our model
- **Generic Response**
  - Status Code
  - Header Information
- **Have complete control over response**

```
Get["/courses"]

Get["/courses/{id}"]

Post["/courses"]
```

Summary

Modules

Routes

Requests

Context

Responses