Extending the NancyModules

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Extending the NancyModule

Receive Request

Process Request

Return Response

NANCY

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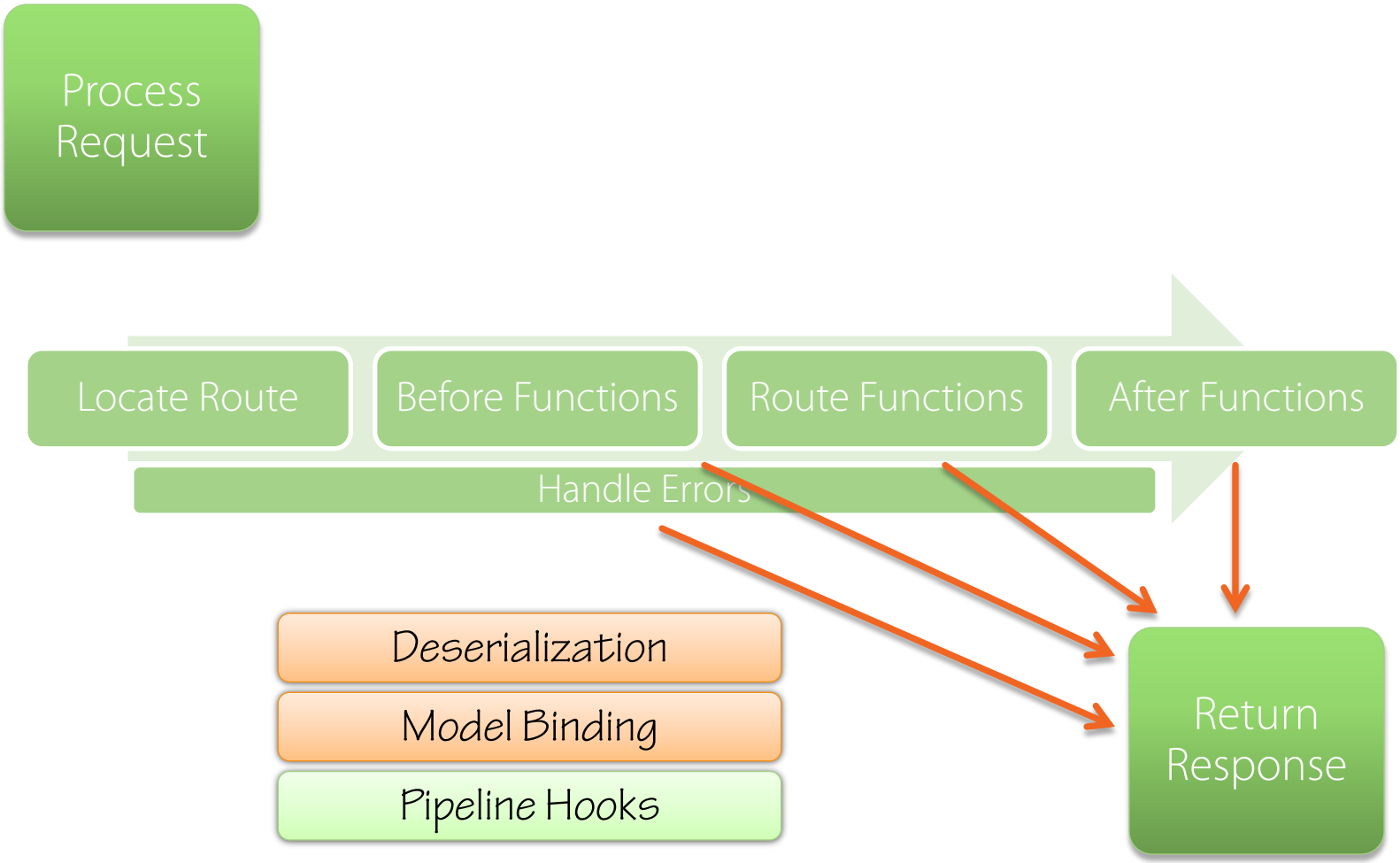

NANCY

Working with Form data

```
var form = this.Request.Form
```

```
POST /names HTTP/1.1
Host: localhost
Content-Type: application/x-www-url-encoded

name=Getting%20Started%20with%20Nancy&author=Ric
hard%20Cirerol
```

As of version 0.10.0.0, Nancy will only parse form data sent using the application/x-www-url-encoded mime-type.

Working with Complex data

```
public class Course
{
    public int Id{ get; set; }
    public string Name { get; set; }
    public string Author { get; set; }
}
```

Working with Complex data

```
public class Course
{
    public int Id{ get; set; }
    public string Name { get; set; }
    public string Author { get; set; }
    public string Module[] { get; set; }
}

public class Module
{
    public int Id{ get; set; }
    public string Topic { get; set; }
}
```

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Working with Complex Types

- **Built-In Deserializers**
  - JSON
    - application/json
    - text/json
    - application/vnd…+json
  - XML
    - application/xml
    - text/xml
    - application/vnd…+xml
- **Other**
  - Protocol Buffers
  - CSV
  - Domain-specific

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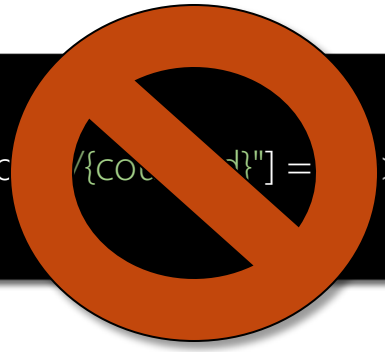
NancyModule: Model Binding

```
var model = this.Bind<TModel>() //returns typed object
TModel model = this.Bind()   //returns dynamic object mapped to a type
```

```
Po      /{cou      d}"] =      > {...}
```



NANCY

Working with Complex data

```
Course course = this.Bind();
```

```
var course = this.Bind<Course>();
```

```
POST /courses HTTP/1.1
Host: localhost
Content-Type: application/json

{
  "name"    : "Getting Started with Nancy",
  "author"  : "Richard Cirerol",
  "modules" : [{ "topic" : "Introduction" }]
}
```

Working with Complex data

```
Course course = this.Bind();
```

```
var course = this.Bind<Course>();
```

```
POST /courses HTTP/1.1
Host: localhost
Content-Type: applicati

<course author=
  <name>Gett
  <modul
    <
  <
</co
```

Wait! We need to prepare first!

Working with Complex data

```
[XmlRoot("course")]
public class Course
{
    [XmlAttribute]
    public int Id{ get; set; }
    [XmlAttribute]
    public string Author{ get; set; }
    public string Title { get; set; }
    [XmlArray("modules")]
    public Module Modules[] { get; set; }
}

[XmlRoot("module")]
public class Module
{
    [XmlAttribute]
    public int Id{ get; set; }
    public string Topic { get; set; }
}
```

Working with Complex data

```
Course course= this.Bind();
```

```
var course = this.Bind<Course>();
```

```
POST /couress HTTP/1.1
Host: localhost
Content-Type: xml

<course author='Richard Cirerol'>
  <name>Getting Started with Nancy</name>
  <modules>
    <module>Introduction</module>
  </modules>
</course>
```

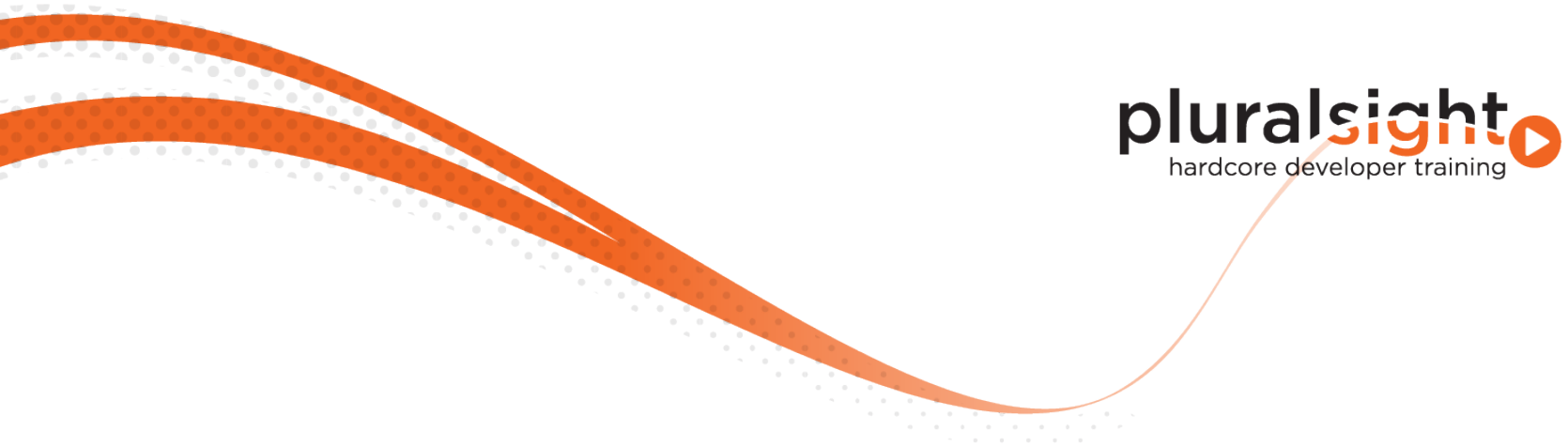
Demo: Working with Complex Types

Requirements:

- **Allow posting via JSON**
  - Update the post route to handle complex model binding
  - Use cUrl to send a POST request with JSON data
- **Allow posting via XML**
  - Annotate the Course class
  - User cUrl to send a POST request with XML data

Pipeline Hooks

Before and After



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Pipeline Hooks: BeforePipeline

```
Before += (Func<NancyContext, Response> ctx) => {
    // returning non-null response exits pipeline and returns response message
};
```

Adds function to the end of the *BeforePipeline*

Ability to add to the beginning or middle of the *BeforePipeline*

Any non-null response will cause the response to be returned

This construct allows us to:

- Alter the context of the request
- Do some work in the context of the request
- Return an alternate response

Pipeline Hooks: BeforePipeline

```
Before += (Func<NancyContext, Response> ctx) => {
    // returning non-null response exits pipeline and returns response message
};
```

Potential uses:

- Redirect to new URI – 301 Permanent Redirect
- Check the incoming request cache headers – 304 Not Modified
- Module-level authorization - 403 Forbidden
- Ensure valid requests – 400 Bad Request
- Analytics – API Usage
- Adding data to the context

Pipeline Hooks: AfterPipeline

```
After += (Action<NancyContext> ctx) =>{
   // alter the response before returning response message
};
```

Adds function to the end of the *AfterPipeline*

Ability to add to the beginning or middle of the *AfterPipeline*

This construct allows us to:

- Do some work in the context of the request
- Alter the response (add or remove headers)
- Return an alternate response

Pipeline Hooks: AfterPipeline

```
After += (Action<NancyContext> ctx) =>{
   // alter the response before returning response message
};
```

Potential uses:

- Adding generated Response to server Cache
- Create and Add ETag/Last-Modified headers to Response
- Compress Response message
- Analytics – API Usage

Demo: Adding Pipeline Hooks

Requirements:

- **Create a BeforePipeline hook to hide course api requests from web browsers**
- **Create an after hook to log the time taken to process the request**
- **Ensure these hooks only apply to the course requests**

Summary

Binding to message body

- **this.Form**
- **this.Bind()**

Use the BeforePipeline and AfterPipeline

- **Modify the incoming context**
- **Return a modified response**
- **Analytics**