

Consuming Web Services and Using Local Storage on iOS

Downloading Data from JSON Web Services

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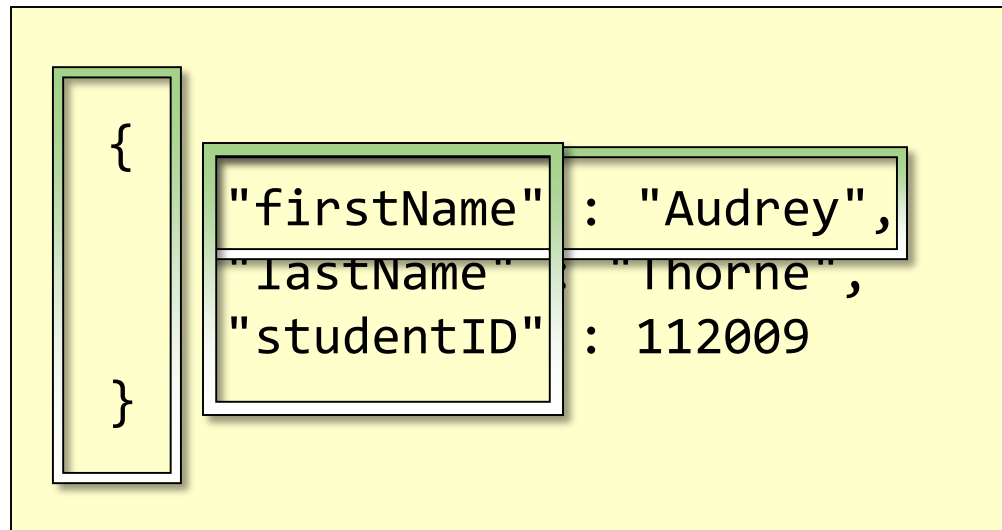
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Consuming JSON Web Services

- **JSON structure and syntax**
- **NSJSONSerialization class**
- **Download JSON from an OData service**
- **Convert JSON to custom model objects**
- **Convert custom model objects to JSON**
- **Send JSON to a web service with HTTP POST (almost!)**

JSON Objects

- Enclosed within curly braces – { }
- Comma-separated key/value pairs
- Keys are strings
- Key : Value

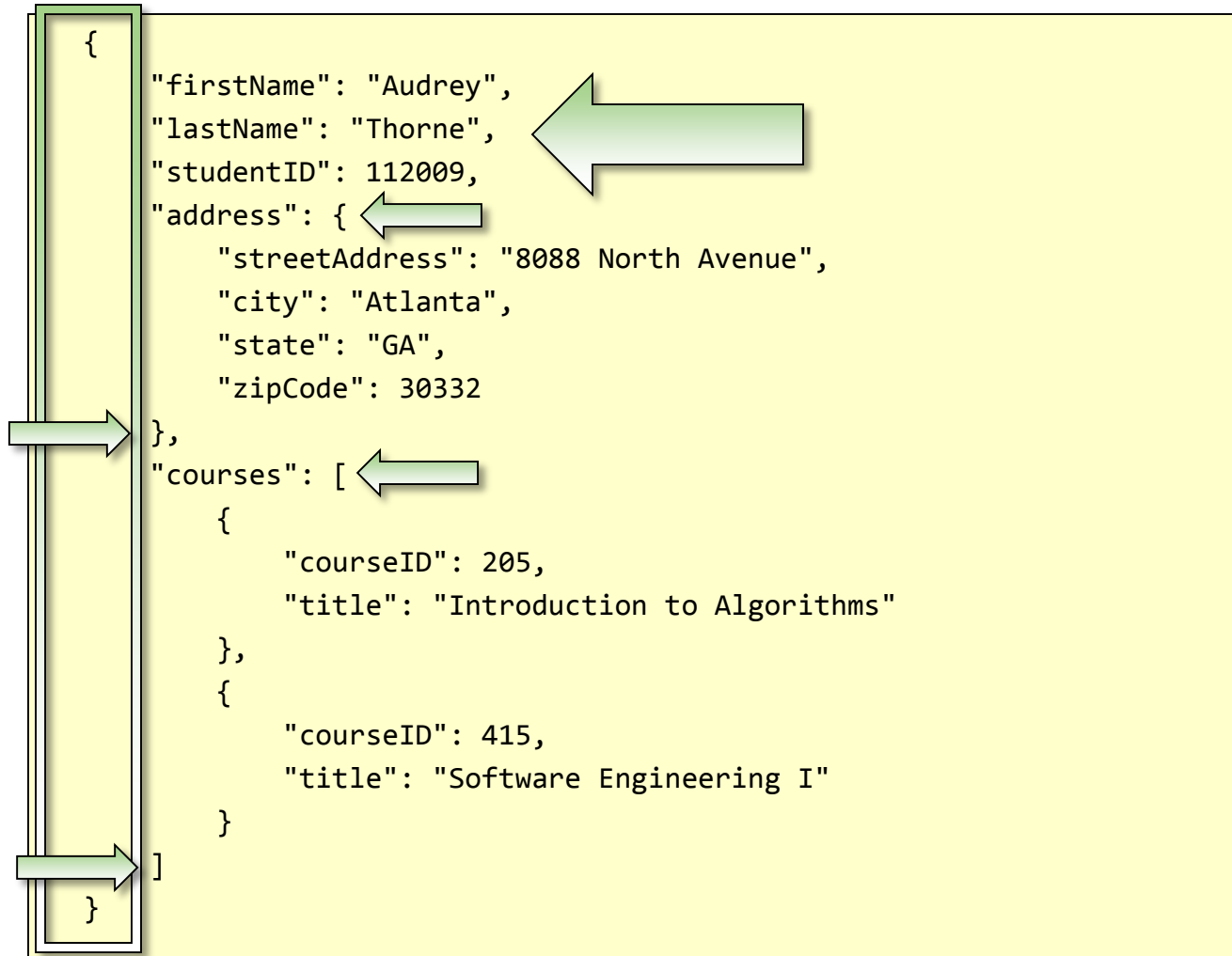


JSON Arrays

- Enclosed within square brackets – []
- Comma-separated ordered values
- Values may be objects

```
[  
  {  
    "courseID": 205,  
    "title": "Introduction to Algorithms"  
  },  
  {  
    "courseID": 415,  
    "title": "Software Engineering I"  
  }  
]
```

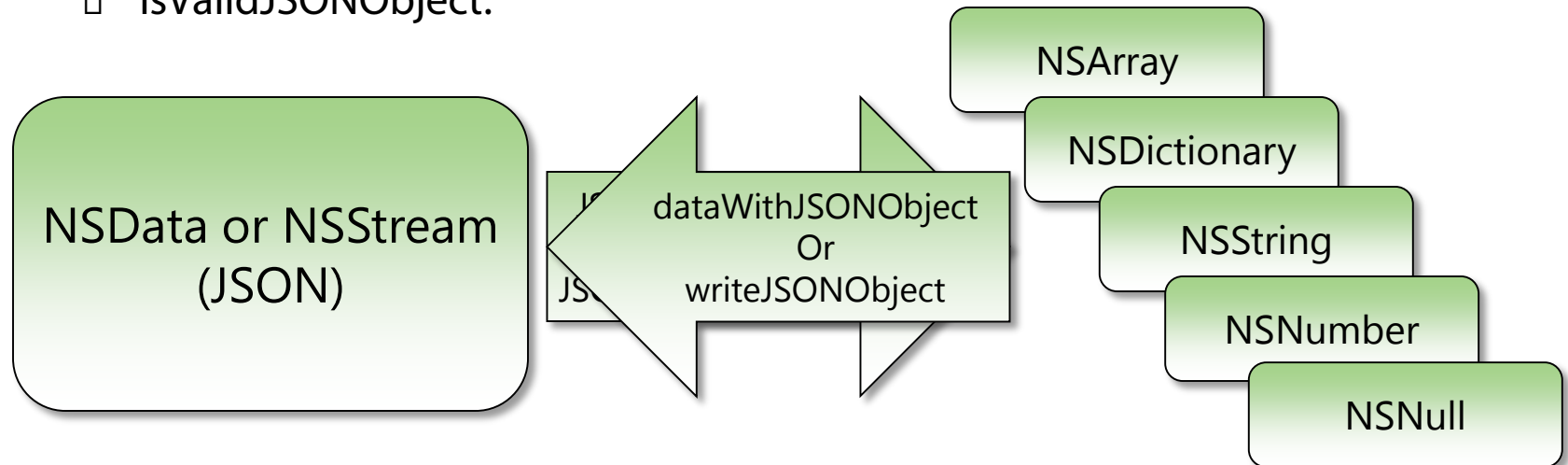
Nesting Objects and Arrays



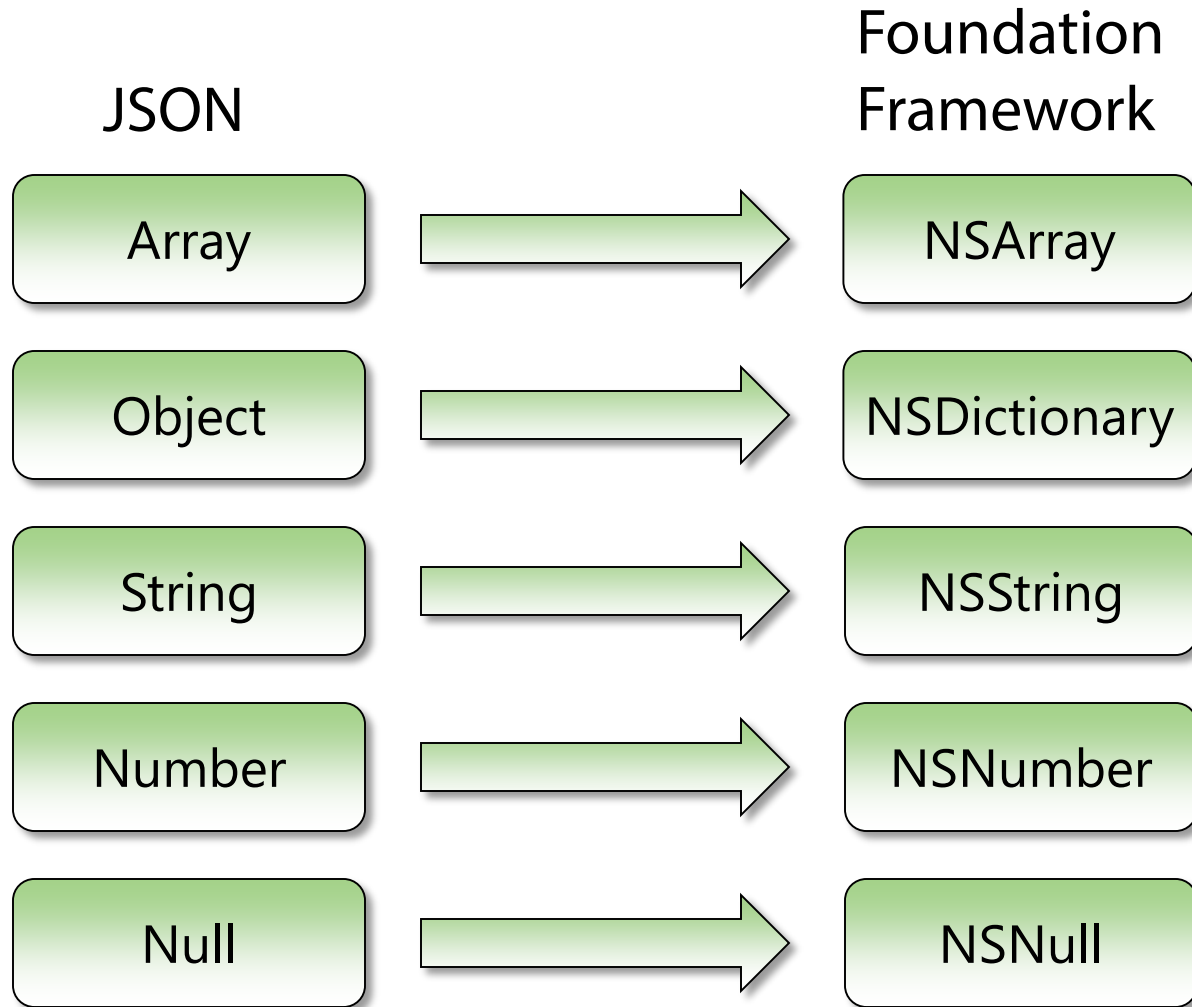
NSJSONSerialization

▪ Class methods serialize to and from “JSON Objects”

- ❑ JSONObjectWithData: options: error:
- ❑ JSONObjectWithStream: options: error:
- ❑ dataWithJSONObject: options: error:
- ❑ writeJSONObject: toStream: options: error:
- ❑ isValidJSONObject:



Mapping to Foundation Classes



NSJSONSerialization Options

NSJSONReadingMutableContainers

NSMutableArray
NSMutableDictionary

NSJSONReadingMutableLeaves

NSMutableString

NSJSONReadingAllowFragments

```
"college" : "College of Engineering"  
"major" : "Computer Engineering"  
{  
  "firstName" : "Audrey",  
  "lastName" : "Thorne",  
  "studentID" : 112009  
}
```

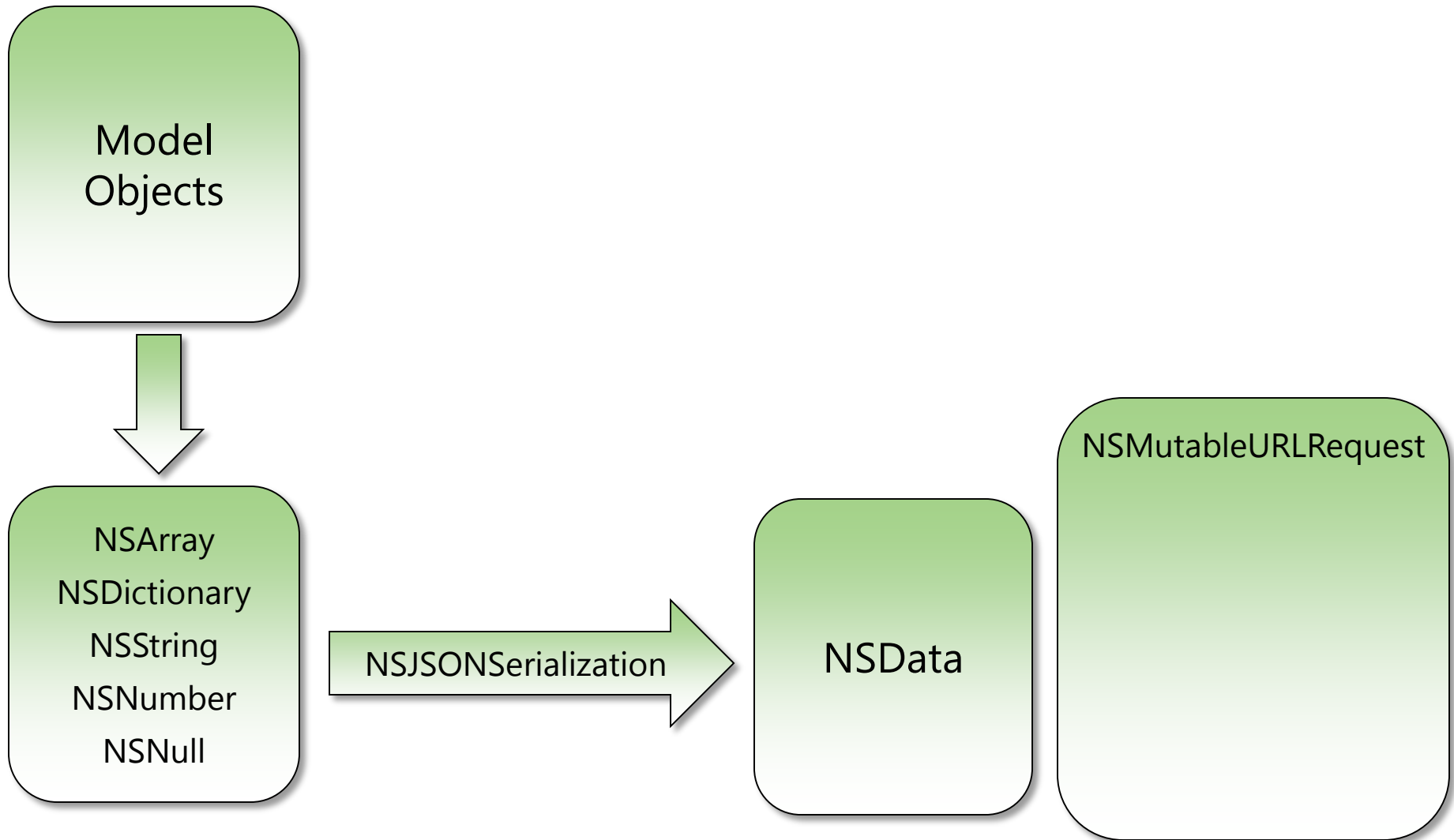
NSJSONWritingPrettyPrinted

```
{"firstName":"Audrey","lastName":"Thorne",  
"studentID":112009}
```

Displays As:

```
{  
  "firstName" : "Audrey",  
  "lastName" : "Thorne",  
  "studentID" : 112009  
}
```


POST Model Objects as JSON



Summary

- **Basic JSON structure**
- **Download JSON from an OData service**
- **NSJSONSerialization**
- **Converting custom model objects to and from JSON**
- **Send JSON to a service with HTTP POST**