Unit 5—Lesson 5: Working with the Web: Decoding JSON

JSON

JavaScript Object Notation

```
{
    "name": "Daren Estrada",
    "favorite_movie": {
        "title": "Finding Dory",
        "release_year": "2016"
    }
}
```

An open standard format that uses human readable text to transmit objects

- Each object consists of attribute-value pairs

Used primarily to transmit data between a server and applications

Language-independent data format

JSON

The basics

```json
{
    "name": "Daren Estrada",
    "favorite_movies": [
        {
            "title": "Finding Dory",
            "release_year": 2016
        },
        {
            "title": "Inside Out",
            "release_year": 2015
        }
    ]
}
```

JSON

The basics

```
{
    "name": "Daren Estrada",
    "favorite_movies": [
        {
            "title": "Finding Dory",
            "release_year": 2016
        },
        {
            "title": "Inside Out",
            "release_year": 2015
        }
    ]
}
```

JSON

The basics

```json
{
    "name": "Daren Estrada",
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        {
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        {
            "title": "Inside Out",
            "release_year": 2015
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    ]
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```

JSON

The basics

```
{
    "name": "Daren Estrada",
    "favorite_movies": [
        {
            "title": "Finding Dory",
            "release_year": 2016
        },
        {
            "title": "Inside Out",
            "release_year": 2015
        }
    ]
}
```

Convert JSON data to Swift types

```swift
let task = URLSession.shared.dataTask(with: url) { (data, response, error) in
    let jsonDecoder = JSONDecoder()
    if let data = data,
        let report = try? jsonDecoder.decode([String: String].self, from: data) {
        print(report)
    }
}

task.resume()
```

Decoding into custom model objects

```
{
  "report_date": "2018-01-20",
  "profile_id": "136442",
  "name": "Final Results for Q4 2017",
  "read_count": "5"
}
```

Decoding into custom model objects

```swift
struct Report {
    let name: String
    let creationDate: Date
    let profileID: String
    let readCount: Int?
}
```

Decoding into custom model objects

```
struct Report: Codable {
    let name: String
    let creationDate: Date
    let profileID: String
    let readCount: Int?

    enum CodingKeys: String, CodingKey {
        case name
        case creationDate = "report_date"
        case profileID = "profile_id"
        case readCount = "read_count"
    }
}
```

Decoding into custom model objects

```
init(from decoder: Decoder) throws {
    let valueContainer = try decoder.container(keyedBy: CodingKeys.self)
    self.creationDate = try valueContainer.decode(String.self,
        forKey: CodingKeys.creationDate)
    self.profileID = try valueContainer.decode(URL.self, forKey: CodingKeys.profileID)
    self.readCount = try? valueContainer.decode(String.self, forKey: CodingKeys.readCount)
}
```

Update the request completion handler

```swift
let task = URLSession.shared.dataTask(with: url) { (data, response, error) in
    let jsonDecoder = JSONDecoder()
    if let data = data,
        let report = try? jsonDecoder.decode(Report.self, from: data) {
        print(report)
    }
}

task.resume()
```

Unit 5—Lesson 6

Working with the Web: Decoding JSON

Learn how to read and write basic JSON.

Learn how to convert JSON to and from Swift types and into your own custom model objects.

Unit 5—Lesson 4

Lab: iTunes Search (Part 2)

Using the iTunes Search playground you created in the last lesson, serialize the retrieved data into a custom model object.