# Level 6

AFNetworking

# Level 6



## 01 Introduction to the AFNetworking

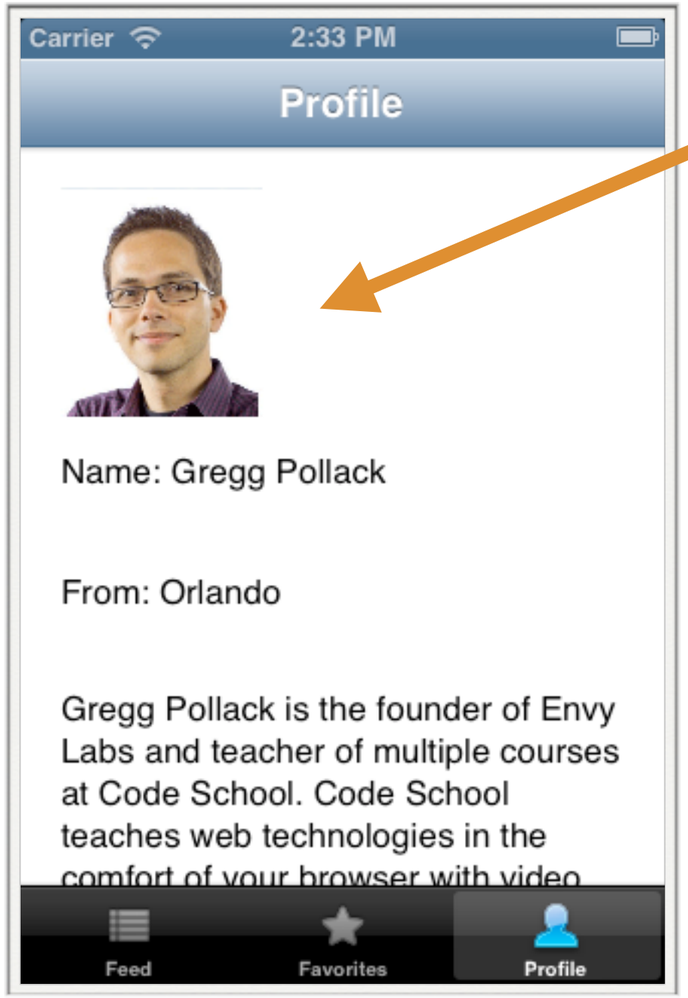
02 Fetching Images from the Internet

03 Fetching JSON data from the Internet

04 The NSDictionary Data Structure

05 Making our FeedTableViewController Real

# Remember our ProfileViewController




## What if we had a URL for this photo?

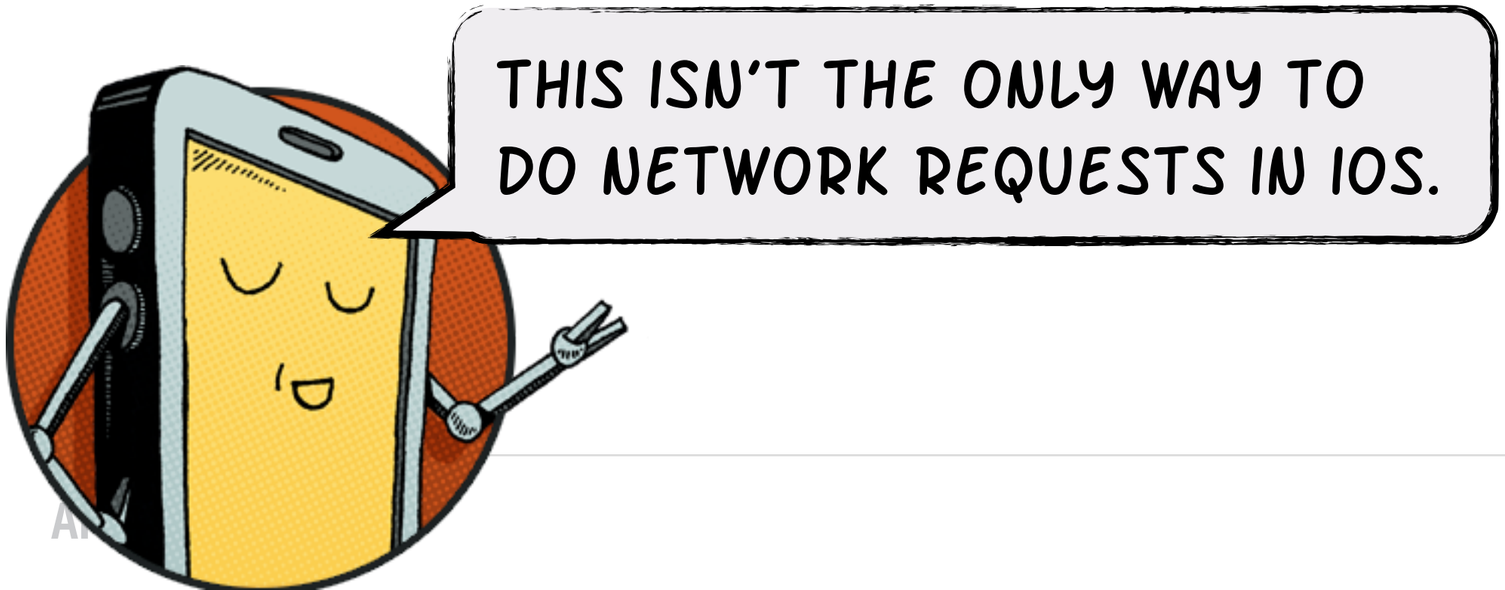
# AFNetworking

An iOS & OS X networking framework

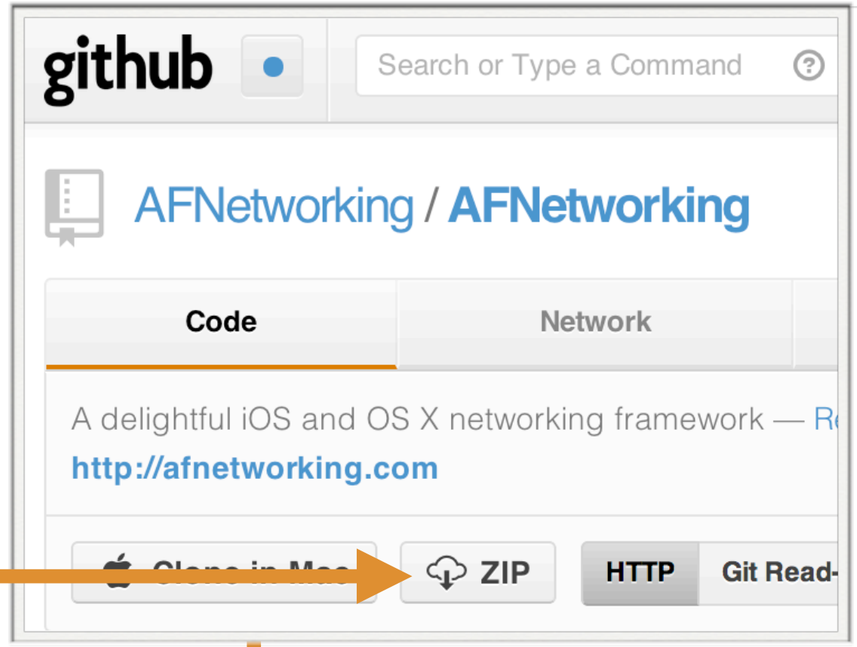
http://afnetworking.com/

Mattt Thompson

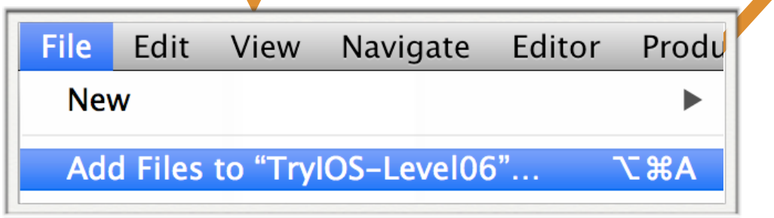
Scott Raymond

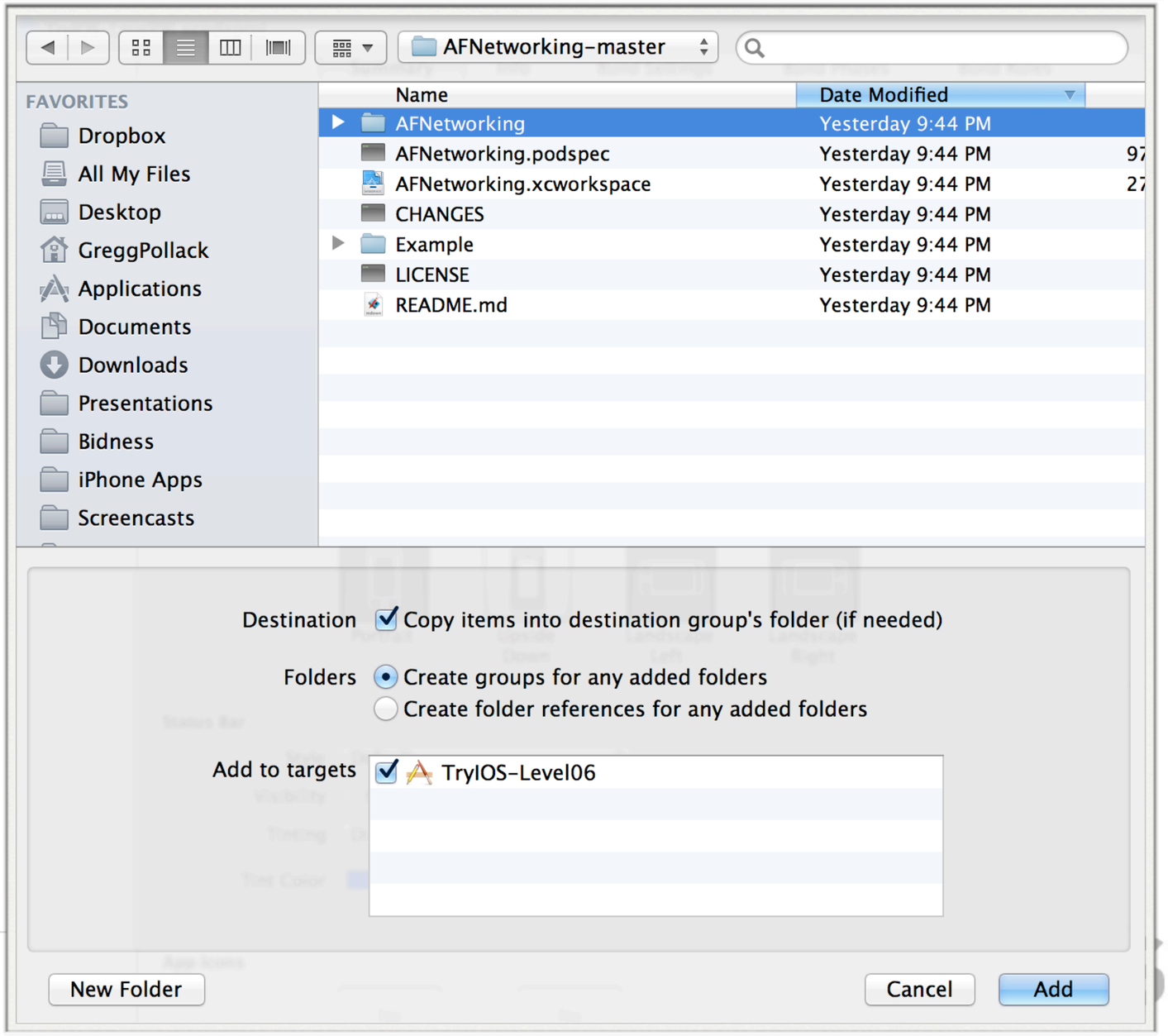


# Installing AFNetworking




Unzip Files



# Pulling an Image from the Internet

**ProfileViewController.m**

*old code*

```
UIImageView *profileImageView = [[UIImageView alloc]
                                 initWithImage:[UIImage imageNamed:@"gregg"]];

profileImageView.frame = CGRectMake(20,20,100,114);

[self.scrollView addSubview:profileImageView];
```

## URL for image is

`http://example.com/gregg.png`

## Also need a placeholder image

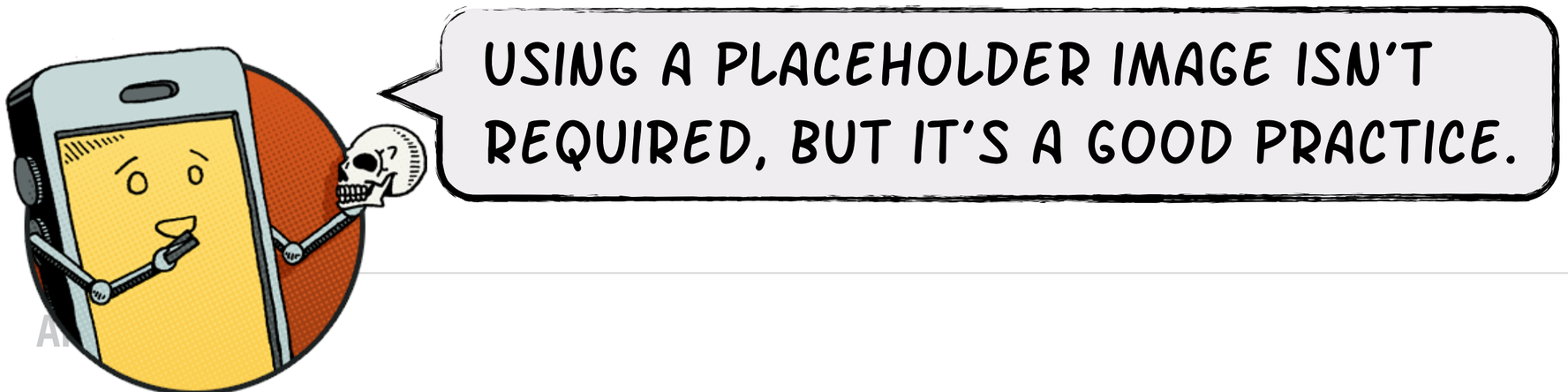
`placeholder.png`

# Pulling an Image from the Internet

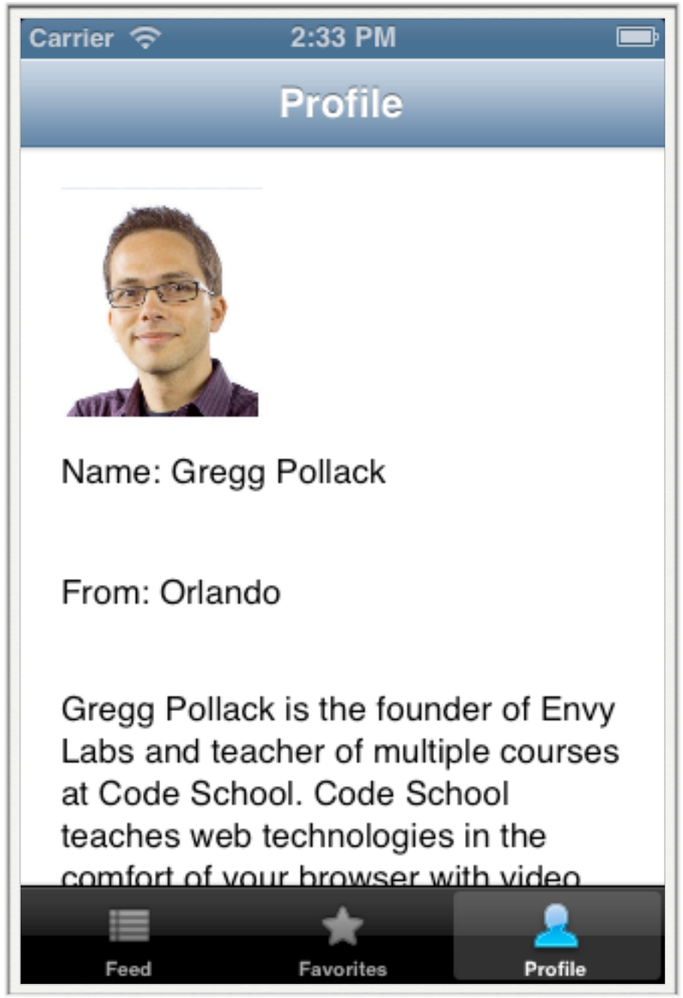


## ProfileViewController.m

```
#import "UIImageView+AFNetworking.h"

...
UIImageView *profileImageView = [[UIImageView alloc]  init];

profileImageView.frame = CGRectMake(20,20,100,114);

[profileImageView setImageWithURL:[NSURL URLWithString:@"http://example.com/gregg.png"]
                 placeholderImage:[UIImage imageNamed:@"placeholder.png"]];

[self.scrollView addSubview:profileImageView];
```



# Pulling All Profile Data from the Internet?




## http://tryios.codeschool.com/users/3.json

```
{
  firstName: "Gregg",
  lastName: "Pollack",
  city: "Orlando",
  profilePhoto: "http://example.com/gregg.png",
  profilePhotoThumbnail: "http://example.c...",
  biography: "...",
  memberSince: "November 2012"
}
```

# Thinking Asynchronously

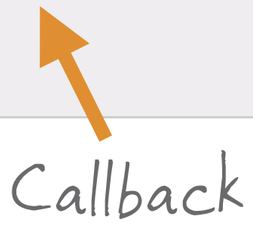


### Synchronous Networking Code

```
Go fetch JSON code from the internet
Once returned load as a Subview
Add other subviews
```

### Asynchronous Networking Code

```
Go fetch JSON code from the internet
   Once returned load as a Subview
Add other subviews
```



# In Objective C .. Asynchronous = Blocks



**ProfileViewController.m**

```
#import "AFJSONRequestOperation.h"
...
- (void)viewDidLoad
{
  ...
      Create a NSURL set to our endpoint to http://example.com/users/3.json
      Create a NSURLRequest with our NSURL
      Create a AFJSONRequestOperation which will do the call to the Internet
          If request has success
              // Read the data from the returned JSON object
          If request has failure
              NSLog(@"NSError: %@",error.localizedDescription);
      start the operation
```

# In Objective C .. Asynchronous = Blocks



**ProfileViewController.m**

```
NSURL *url = [[NSURL alloc] initWithString:@"http://example.com/users/3.json"];

NSURLRequest *request = [[NSURLRequest alloc] initWithURL:url];

AFJSONRequestOperation *operation = [AFJSONRequestOperation
      JSONRequestOperationWithRequest:request
      success:^(NSURLRequest *request, NSHTTPURLResponse *response, id JSON) {

            // Read the data from the returned JSON object


    } failure:^(NSURLRequest *request, NSHTTPURLResponse *response,
                                                    NSError *error, id JSON) {

        NSLog(@"NSError: %@",error.localizedDescription);
    }];

[operation start];
```

<Challenge 1>

Notice below in the ProfileView Controller we've already set the NSURL in a variable called imgURL, and a placeholder UIImage in a variable called placeholder.

Call the `setImageWithURL:placeholderImage:` method sending in these parameters to properly display the profile image.

<Challenge 2>

Log out the JSON which returns when we successfully make a JSON Request by using `NSLog(@"Returned JSON is %@",JSON);`.

# Your Log Message

```
NSLog(@"%@",JSON);
```

```
{
  firstName = "Gregg";
  lastName = "Pollack";
  city = "Orlando";
  profilePhoto = "http://example.com/gregg.png";
  profilePhotoThumbnail = "http://example.c...";
  biography = "...";
  memberSince = "November 2012";
}
```

```
NSLog(@"%@",[JSON class]);
```

```
NSDictionary
```

# NSDictionary A Key Value Store



```
NSLog(@"%@", [JSON allKeys]);
```

```
{
  firstName,
  lastName,
  city,
  profilePhoto,
  profilePhotoThumbnail,
  biography,
  memberSince
}
```

```
NSLog(@"%@", [JSON allValues]);
```

```
{
  "Gregg",
  "Pollack",
  "Orlando",
  "http://example.com/gregg.png",
  "http://example.c...",
  "...",
  "November 2012"
}
```

```
NSLog(@"firstName is %@", JSON[@"firstName"]);
```

```
First Name is Gregg
```

```
NSLog(@"memberSince is %@", JSON[@"memberSince"]);
```

```
memberSince is November 2012
```

# Completing our Network Call



**ProfileViewController.h**

To store the JSON NSDictionary from our request

```
@property (strong, nonatomic) NSDictionary *userProfile;
```

**ProfileViewController.m**

```
...
AFJSONRequestOperation *operation = [AFJSONRequestOperation
   JSONRequestOperationWithRequest:request
   success:^(NSURLRequest *request, NSHTTPURLResponse *response, id JSON) {
        self.userProfile = JSON;
        [self requestSuccessful];

...
- (void)requestSuccessful {
```

Store the JSON and call method

Populate the image and label with the proper data

# Refactoring Our Code



**ProfileViewController.m** Populate the image and label with the proper data

old code

```
- (void)requestSuccessful {

  UIImageView *profileImageView = [[UIImageView alloc]  init];

  profileImageView.frame = CGRectMake(20,20,100,114);

  [profileImageView setImageWithURL:[NSURL URLWithString:@"http://example.com/gregg.png"]
                   placeholderImage:[UIImage imageNamed:@"placeholder.png"]];

  ...

  UILabel *nameLabel = [[UILabel alloc] init];

  nameLabel.frame = CGRectMake(20,140,280,40);

  nameLabel.text = @"Name: Gregg Pollack";
```

# Refactoring Our Code



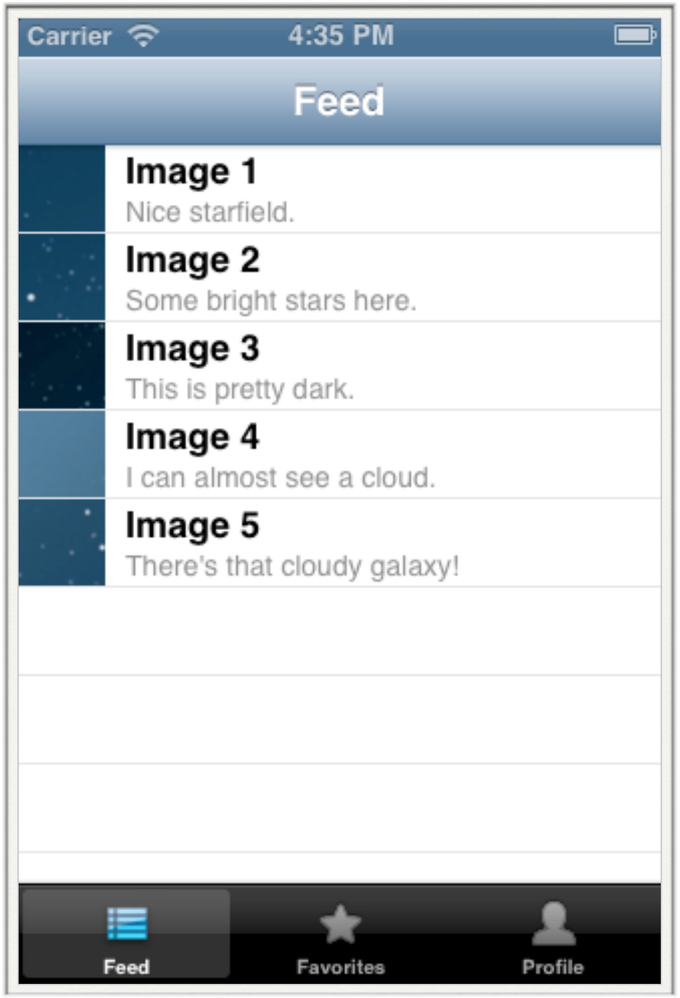
**ProfileViewController.m** Populate the image and label with the proper data

```
- (void)requestSuccessful {

 UIImageView *profileImageView = [[UIImageView alloc]  init];

 profileImageView.frame = CGRectMake(20,20,100,114);

 [profileImageView setImageWithURL:[NSURL URLWithString:self.userProfile[@"profilePhoto"]]
                  placeholderImage:[UIImage imageNamed:@"placeholder.png"]];

 ...

 UILabel *nameLabel = [[UILabel alloc] init];
 nameLabel.frame = CGRectMake(20,140,280,40);
 nameLabel.text = [NSString stringWithFormat:@"Name: %@ %@",
                          self.userProfile[@"firstName"], self.userProfile[@"lastName"]];
```

<Challenge 3>

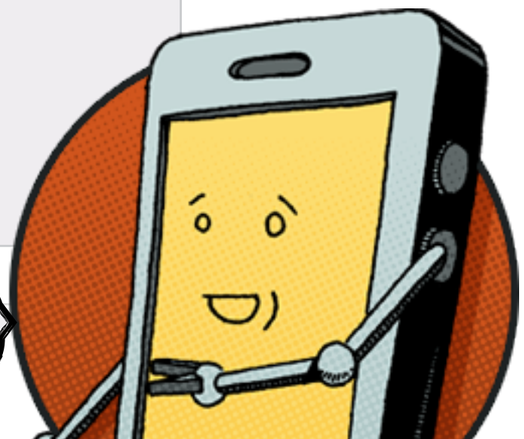
Practice using NSDictionaries by finishing off the rest of the requestSuccessful Function

# Pulling All Feed Data from the Internet?




## http://tryios.codeschool.com/images.json

```
[
  {
    "title": "Image 1",
    "detail": "Nice starfield.",
    "filename": "http://...",
    "thumbnail": "http://..."
  },
  {
     "title": "Image 2",
     "detail": "Some bright stars here.",
     "filename": "http://...",
     "thumbnail": "http://..."
  },
  ...
]
```



# Pulling All Feed Data from the Internet?



## http://tryios.codeschool.com/images.json

```
[
  {
    "title": "Image 1",
    "detail": "Nice starfield.",
    "filename": "http://...",
    "thumbnail": "http://..."
  },
  {
     "title": "Image 2",
     "detail": "Some bright stars here.",
     "filename": "http://...",
     "thumbnail": "http://..."
  },
  ...
]
```

An Array of NSDictionaries

```
JSON[0][@"title"]
```

Image 1

```
JSON[1][@"title"]
```

Image 2

```
JSON[1][@"detail"]
```

Some bright stars here.

# Refactoring the FeedViewController



**FeedViewController.h**

To store the Array of NSDictionaries from our request

```
@property (strong, nonatomic) NSArray *photos;
```

**FeedViewController.m**

```
...
AFJSONRequestOperation *operation = [AFJSONRequestOperation
   JSONRequestOperationWithRequest:request
   success:^(NSURLRequest *request, NSHTTPURLResponse *response, id JSON) {
        self.photos = JSON;
        [self.tableView reloadData];
 } failure:^(NSURLRequest *request, NSHTTPURLResponse *response,
                                        NSError *error, id JSON) {
    NSLog(@"NSError: %@",error.localizedDescription);
 }];
[operation start];
```

Redraw the table

# Refactoring the rest of FeedViewController

**FeedViewController.h** To store the Array of NSDictionaries from our request

```
@property (strong, nonatomic) NSArray *photos;
```

1. **Revise `tableView:numberOfRowsInSection:` to return the number of photos in the Array.**
2. **Revise `tableView:cellForRowAtIndexPath:` to access the particular NSDictionary at indexPath.row.**
3. **Revise `tableView:didSelectRowAtIndexPath:` to pass the proper values to PhotoViewController.**