

Here is how to create a simple TextView application. This app demonstrates the use of the AppDelegate. The TextView is added using the source code and not the Interface Builder.

Step 1: Create a Single-View application using the template. Name the project "TextView." Select "Automatic Reference Counting" but do NOT select to use the storyboard feature.

Step 2: Xcode automatically creates the directory structure and adds essential frameworks to it. You can explore the directory structure to check out the contents of the directory.

Step 3: Expand classes and notice Interface Builder created the ViewController class and the ViewController.xib for the ViewController.

Step 4: Add the following method to the AppDelegate.m file.

```
- (void)applicationDidFinishLaunching:(UIApplication *)application {  
  
    UINavigationController *navController = [[UINavigationController alloc]  
initWithRootViewController:_viewController];  
    [_window addSubview:navController.view];  
    [_window makeKeyAndVisible];  
}
```

Step 5: We will create variable for the text view and after creating or declaring the variable for the text view will write the property for that. We have also declared an object of type UITextView called textView which will be connected to the label on the view. So make the following changes in the ViewController.h file.

```
#import <UIKit/UIKit.h>  
  
@interface ViewController : UIViewController <UITextViewDelegate>  
{  
    UITextView *textView;  
}  
@property (nonatomic, retain) UITextView *textView;  
  
@end
```

Step 6: Remove all of the code in the ViewController.m file and replace it with the following.

```
#import "ViewController.h"
```

```

@interface ViewController ()
@end

@implementation ViewController
@synthesize textView;

- (void)viewDidUnload
{
    [super viewDidUnload];
}

- (BOOL)shouldAutorotateToInterfaceOrientation:
(UIInterfaceOrientation)interfaceOrientation
{
    return (interfaceOrientation != UIInterfaceOrientationPortraitUpsideDown);
}

-(void)setuptextView
{
    self.textView = [[UITextView alloc] initWithFrame:self.view.frame];
    self.textView.textColor = [UIColor blackColor];
    self.textView.font = [UIFont fontWithName:@"Arial" size:18];
    self.textView.delegate = self;
    self.textView.backgroundColor = [UIColor whiteColor];

    self.textView.text = @"This is the sample text that shows in the window
when the app first starts. Click in the text view and see the keyboard open
up. Now Start typing away to make changes...";
    self.textView.returnKeyType = UIReturnKeyDefault;
    self.textView.keyboardType = UIKeyboardTypeDefault;
    self.textView.scrollEnabled = YES;

    self.textView.autoresizingMask = UIViewAutoresizingFlexibleHeight;
    [self.view addSubview: self.textView];
}

-(void)viewDidLoad
{
    [super viewDidLoad];
    self.title = NSLocalizedString(@"TextViewTitle", @"");
    [self setuptextView];
    self.textView = nil;}

-(void)viewWillAppear:(BOOL)animated
{
    [super viewWillAppear:animated];
    [[NSNotificationCenter defaultCenter] addObserver:self

```

```

selector:@selector(keyboardWillShow:) name:UIKeyboardWillShowNotification
object:nil];
[[NSNotificationCenter defaultCenter] addObserver:self
selector:@selector(keyboardWillHide:) name:UIKeyboardWillHideNotification
object:nil];
}

```

```

-(void)viewDidDisappear:(BOOL)animated
{
    [super viewDidDisappear:animated];
    [[NSNotificationCenter defaultCenter] removeObserver:self
name:UIKeyboardWillShowNotification object:nil];
    [[NSNotificationCenter defaultCenter] removeObserver:self
name:UIKeyboardWillHideNotification object:nil];
}

```

```

-(void)keyboardWillShow:(NSNotification *)aNotification
{
    CGRect keyboardRect = [[[aNotification userInfo]
objectForKey:UIKeyboardBoundsUserInfoKey] CGRectValue];
    NSTimeInterval animationDuration = [[[aNotification userInfo]
objectForKey:UIKeyboardAnimationDurationUserInfoKey] doubleValue];
    CGRect frame = self.view.frame;
    frame.size.height -= keyboardRect.size.height;
    [UIView beginAnimations:@"ResizeForKeyboard" context:nil];
    [UIView setAnimationDuration:animationDuration];
    self.view.frame = frame;
    [UIView commitAnimations];
}

```

```

-(void)keyboardWillHide:(NSNotification *)aNotification
{
    CGRect keyboardRect = [[[aNotification userInfo]
objectForKey:UIKeyboardBoundsUserInfoKey] CGRectValue];
    NSTimeInterval animationDuration = [[[aNotification userInfo]
objectForKey:UIKeyboardAnimationDurationUserInfoKey] doubleValue];
    CGRect frame = self.view.frame;
    frame.size.height += keyboardRect.size.height;
    [UIView beginAnimations:@"ResizeForKeyboard" context:nil];
    [UIView setAnimationDuration:animationDuration];
    self.view.frame = frame;
    [UIView commitAnimations];
}

```

```

- (void)textViewDidBeginEditing:(UITextView *)textView
{
    UIBarButtonItem* saveItem = [[UIBarButtonItem alloc]

```

```
initWithBarButtonSystemItem:UIBarButtonSystemItemDone target:self
action:@selector(saveAction:)]];
    self.navigationItem.rightBarButtonItem = saveItem;

}

- (void)saveAction:(id)sender
{
    [self.textView resignFirstResponder];
    self.navigationItem.rightBarButtonItem = nil;
}

@end
```

Step 6: Compile and run the application in the simulator.