무료 전자 책

배우기

autolayout

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#autolayout

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1:

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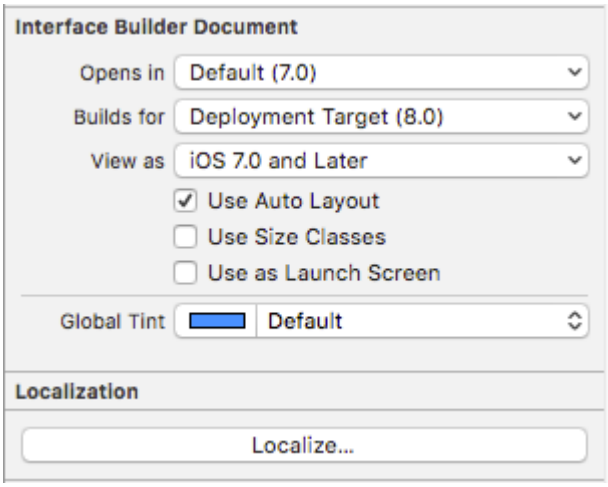
Examples

. . . . . Xcode .



UIImageView

100 UIImageView UIImageView superview center x constraint center y constraint UIIMageView width, height . . .

```
UIImageView *imageView = [[UIImageView alloc] initWithFrame:CGRectMake(0, 0, 100.0, 100.0);
imageView.self.translatesAutoresizingMaskIntoConstraints = NO;

[imageView addConstraint:[NSLayoutConstraint constraintWithItem:imageView
attribute:NSLayoutAttributeWidth relatedBy:NSLayoutRelationEqual toItem:nil
attribute:NSLayoutAttributeNotAnAttribute multiplier:1.0 constant:100.0]];
[imageView addConstraint:[NSLayoutConstraint constraintWithItem:imageView
attribute:NSLayoutAttributeHeight relatedBy:NSLayoutRelationEqual toItem:nil
attribute:NSLayoutAttributeNotAnAttribute multiplier:1.0 constant:100.0]];
[superview addConstraint:[NSLayoutConstraint constraintWithItem:imageView
attribute:NSLayoutAttributeCenterX relatedBy:NSLayoutRelationEqual toItem:superview
attribute:NSLayoutAttributeCenterX multiplier:1.0 constant:0]];
[superview addConstraint:[NSLayoutConstraint constraintWithItem:imageView
attribute:NSLayoutAttributeCenterX relatedBy:NSLayoutRelationEqual toItem:superview
attribute:NSLayoutAttributeCenterX multiplier:1.0 constant:0]];
```

VFL . . :

- | superview .
- H: V: -
- .
- .
-

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- @

---

1. `someView` .

```
H:|[someView]|
```

2. `someView` 10 `value` .

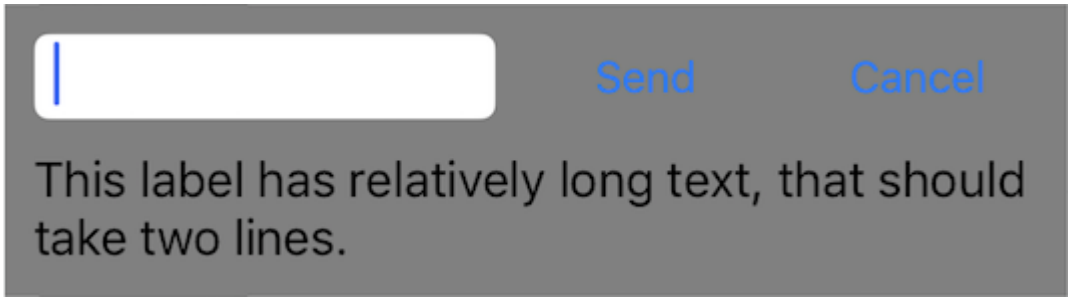
```
V:|-(10)-[someView(value)]
```

3. `someView1` `someView2` - 900 `value1` 800 `value2` :

```
H:[someView1]-(value1@900, value2@800)-[someView2]
```

4. `someView1` `someView2` :

```
V:[someView1(==someView2)]
```



. . .

```
- (void)addView {

    // first lets define a container for our views
    UIView *container = [UIView new];
    // do not forget to disable autoresizing masks for autolayout views
    container.translatesAutoresizingMaskIntoConstraints = NO;
    container.backgroundColor = [UIColor grayColor];

    // now to the subviews. this is mostly boilerplate code:
    UITextField *textField = [UITextField new];
    textField.translatesAutoresizingMaskIntoConstraints = NO;
    textField.borderStyle = UITextBorderStyleRoundedRect;

    UIButton *button1 = [UIButton buttonWithType:UIButtonTypeSystem];
    button1.translatesAutoresizingMaskIntoConstraints = NO;
    [button1 setTitle:@"Send" forState:UIControlStateNormal];

    UIButton *button2 = [UIButton buttonWithType:UIButtonTypeSystem];
    button2.translatesAutoresizingMaskIntoConstraints = NO;
    [button2 setTitle:@"Cancel" forState:UIControlStateNormal];
```

```
    UILabel *label = [UILabel new];
    label.translatesAutoresizingMaskIntoConstraints = NO;
    // this line tells the label to let the text overflow to the next line if needed
    label.numberOfLines = 0;
    label.text = @"This label has relatively long text, that should take two lines.";

    // before adding any constraints the views should be present in the hierarchy
    [container addSubview:textField];
    [container addSubview:button1];
    [container addSubview:button2];
    [container addSubview:label];

    // now lets define two helper dictionaries, one for metrics of our view:
    NSDictionary *metrics = @{@"margin": @10, @"textFieldWidth": @160, @"buttonWidth": @44};
    // and the other for view bindings using a handy macro, which effectively creates a
dictionary with variables of the same name:
    NSDictionary *bindings = NSDictionaryOfVariableBindings(textField, button1, button2,
label);
    // lets define a horizontal format for the first row of views in a variable:
    NSString *horizontalFormat = @"H:|-(margin)-[textField(textFieldWidth)]-(margin)-
[button1(==button2)]-(margin)-[button2]-(margin)-|";
    // this format defines margins of equal size between all views, fixed width for the
textField and sets both buttons to have equal widths
    // lets add these constraints to our container:
    [container addConstraints:[NSLayoutConstraint constraintsWithVisualFormat:horizontalFormat
options:0 metrics:metrics views:bindings]];
    // now lets define horizontal constraints for the second row, where we have the label:
    [container addConstraints:[NSLayoutConstraint constraintsWithVisualFormat:@"H:|-(margin)-
[label]-(margin)-|" options:0 metrics:metrics views:bindings]];
    // another relatively long visual format string:
    NSString *verticalFormat = @"V:|-(margin)-[textField]-(margin)-[label]-(margin)-|";
    // this format string defines vertical constraints for textField and label, and should
also define the height of the container
    // adding these constraints to the container view:
    [container addConstraints:[NSLayoutConstraint constraintsWithVisualFormat:verticalFormat
options:0 metrics:metrics views:bindings]];
    // what we have left are constraints for vertical positions of the buttons
    // lets attach them to the top of the container with a margin:
    [container addConstraints:[NSLayoutConstraint constraintsWithVisualFormat:@"V:|-(margin)-
[button1]" options:0 metrics:metrics views:bindings]];
    [container addConstraints:[NSLayoutConstraint constraintsWithVisualFormat:@"V:|-(margin)-
[button2]" options:0 metrics:metrics views:bindings]];

    // the container is all set up, adding it to the superview:
    [self.view addSubview:container];

    // now lets position our container in its superview
    // you can not use dot notation in the bindings macro, so lets define a temp variable for
the superview:
    UIView *superview = self.view;

    // positioning a view in the center of its superview is not so straightforward
    // we will use a trick from this answer: http://stackoverflow.com/a/14917695/934710
    NSDictionary *containerBindings = NSDictionaryOfVariableBindings(superview, container);
    // width constraint from horizontal format is not part of the trick, but is necessary to
constrain container width
    [self.view addConstraints:[NSLayoutConstraint constraintsWithVisualFormat:@"H:[superview]-
(<=1)-[container(<=superview)]" options:NSLayoutFormatAlignAllCenterY metrics:nil
views:containerBindings]];
    [self.view addConstraints:[NSLayoutConstraint constraintsWithVisualFormat:@"V:[superview]-
```

```
(<=1)-[container]" options:NSLayoutFormatAlignAllCenterX metrics:nil
views:containerBindings]];

}
```

: https://riptutorial.com/ko/autolayout/topic/6858/--

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