

# Autolayout Anchors

처음 보이는 화면은 스토리보드에서 하는 게 좋지만  
애니메이션을 주려면 코드로 해야하기 때문에 코드를 알아야한다.

## **Programmatically Creating Constraints**

**<https://developer.apple.com/library/content/documentation/UserExperience/Conceptual/AutolayoutPG/ProgrammaticallyCreatingConstraints.html>**

## **NSLayoutAnchor Document**

**<https://developer.apple.com/documentation/uikit/nslayoutanchor>**

## **Easier Auto Layout: Coding Constraints in iOS 9**

**<https://www.raywenderlich.com/125718/coding-auto-layout>**

# NSLayoutConstraint

```
// Creating constraints using NSLayoutConstraint
NSLayoutConstraint(item: subview,
                  attribute: .leading,
                  relatedBy: .equal,
                  toItem: view,
                  attribute: .leadingMargin,
                  multiplier: 1.0,
                  constant: 0.0).isActive = true
```

$\text{subview.leading} = \text{view.leadingMargin} * \text{multiplier} + \text{constant}$

```
NSLayoutConstraint(item: subview,
                  attribute: .trailing,
                  relatedBy: .equal,
                  toItem: view,
                  attribute: .trailingMargin,
                  multiplier: 1.0,
                  constant: 0.0).isActive = true
```

# NSLayoutAnchor

---

iOS 9.0 이상에서 사용 가능

```
// Creating the same constraints using Layout Anchors
let margins = view.layoutMarginsGuide

subview.leadingAnchor.constraint(equalTo: margins.leadingAnchor).isActive = true
subview.trailingAnchor.constraint(equalTo: margins.trailingAnchor).isActive = true
```

# Horizontal Layout Anchors

View 의 수평선, X축에 관련된 제약조건  
NSLayoutXAxisAnchor 클래스의 객체

- Leading anchor
  - Trailing anchor
  - Left anchor
  - Right anchor
  - Center-X anchor
- 언어따라 읽는 순서가 다르기 때문에 리드,트레일이 달라짐

```
view.leadingAnchor  
    .constraint(equalTo: NSLayoutConstraint<NSLayoutXAxisAnchor>)
```

# Vertical Layout Anchors

View 의 수직선, Y축에 관련된 제약조건  
NSLayoutYAxisAnchor 클래스의 객체

- Top anchor
- Bottom anchor
- Center-Y anchor
- First baseline anchor
- Last baseline anchor

```
view.topAnchor  
    .constraint(equalTo: NSLayoutAnchor<NSLayoutYAxisAnchor>)
```

# Dimension Layout Anchors

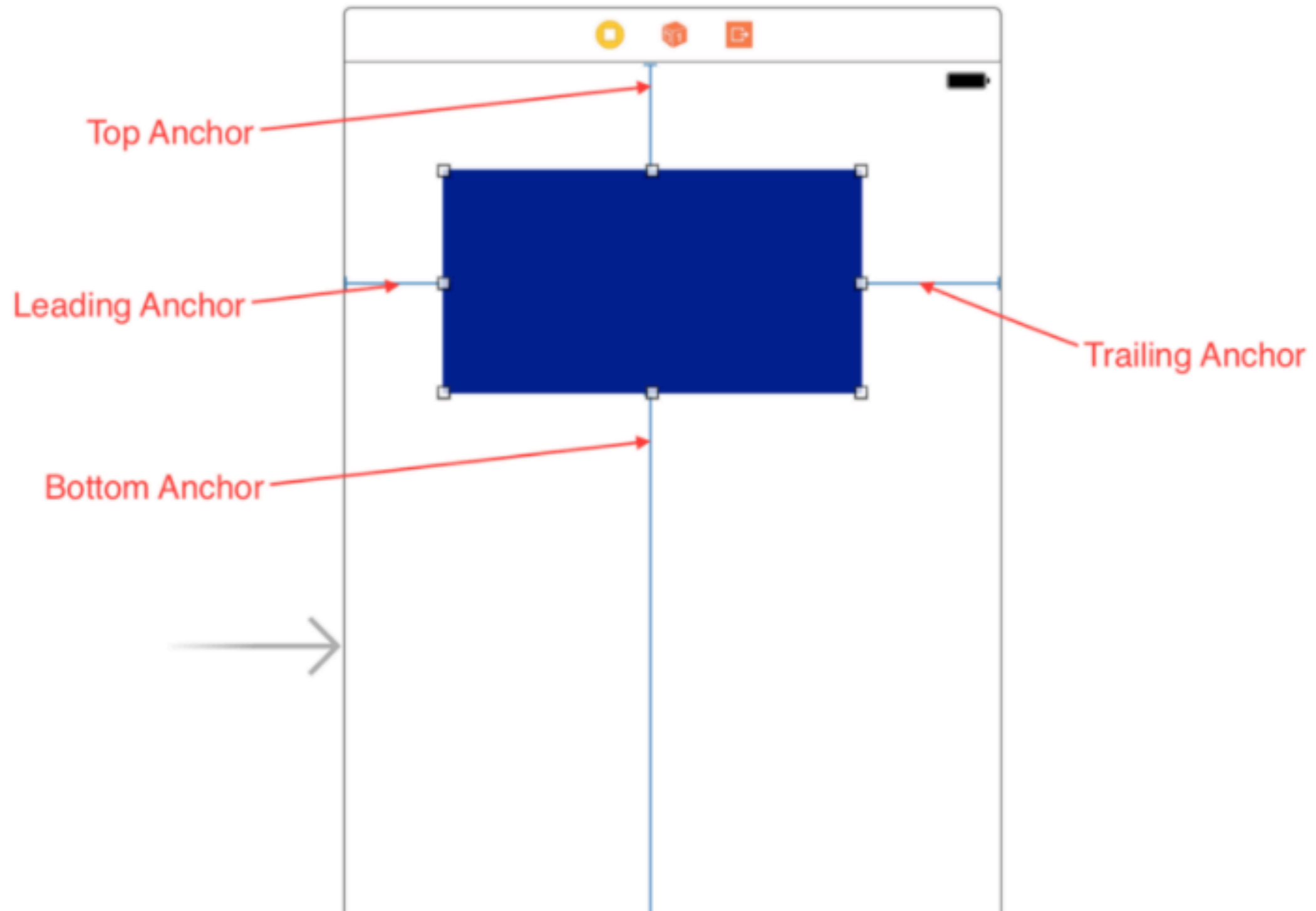
View 의 크기 정의

NSLayoutConstraint 클래스의 객체

- Width anchor
- Height anchor

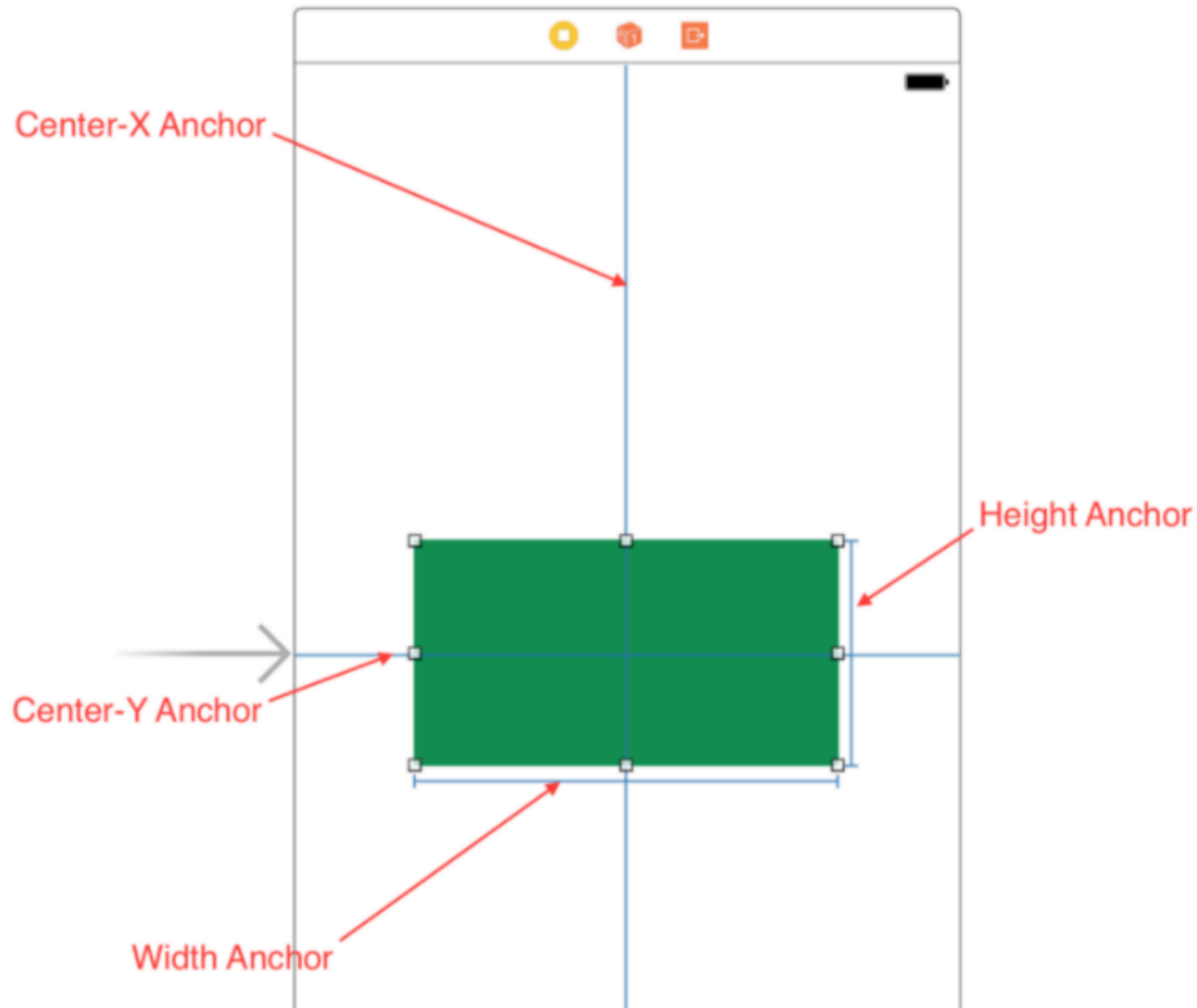
```
view.widthAnchor  
    .constraint(equalToConstant: CGFloat)
```

# Basic Layout Constraints





# Dimension & Center X,Y Layout



# First, Last Baseline Constraints

