

# Advanced Features of ConstraintLayout

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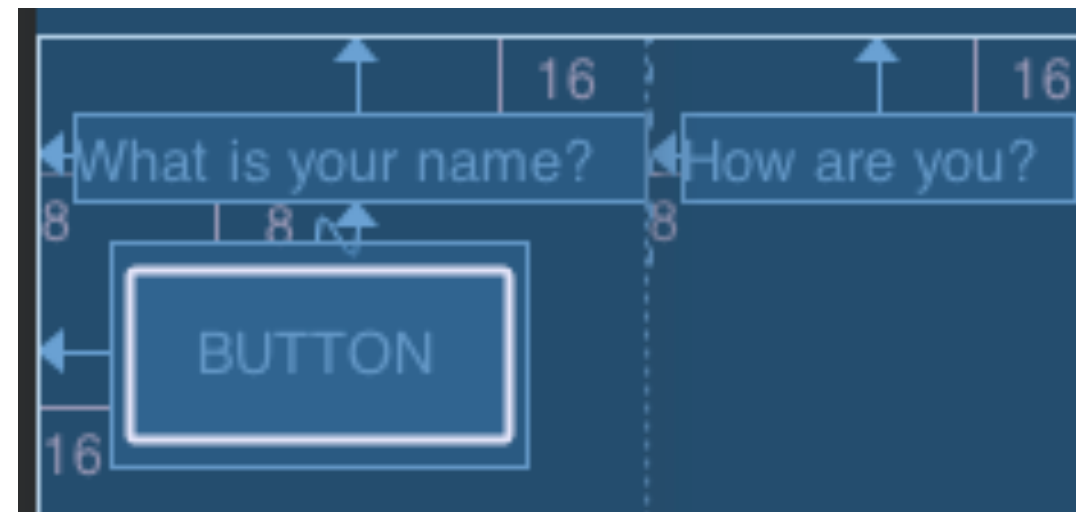
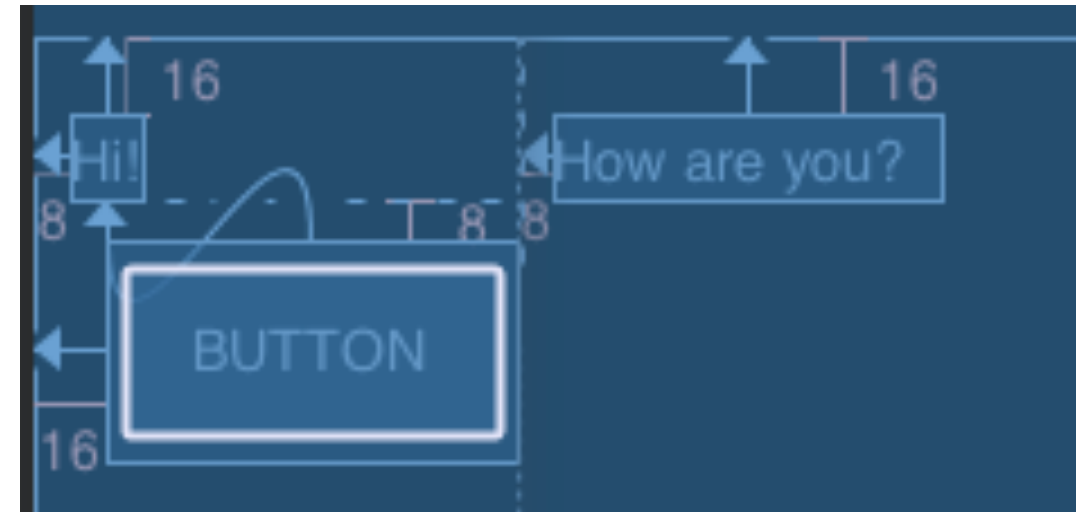
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# Summary

**Covering more advanced topics:**

- **Barriers**
- **Ratios**
- **Circular Positioning**

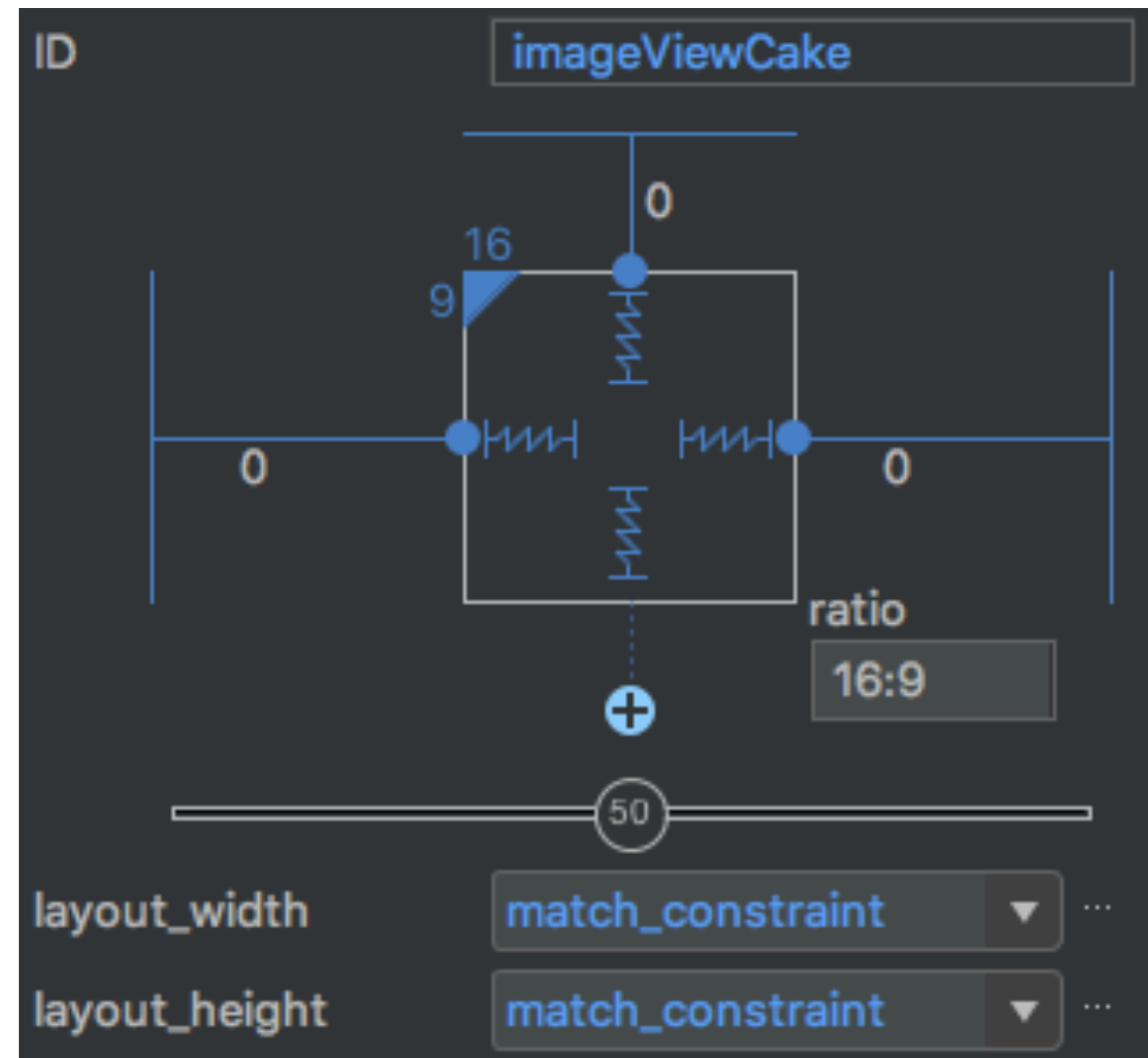
# Barriers



```
<android.support.constraint.Barrier
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/barrier"
    app:barrierDirection="right"
    app:constraint_referenced_ids="button0key,textViewError"/>
```

## Barriers in XML

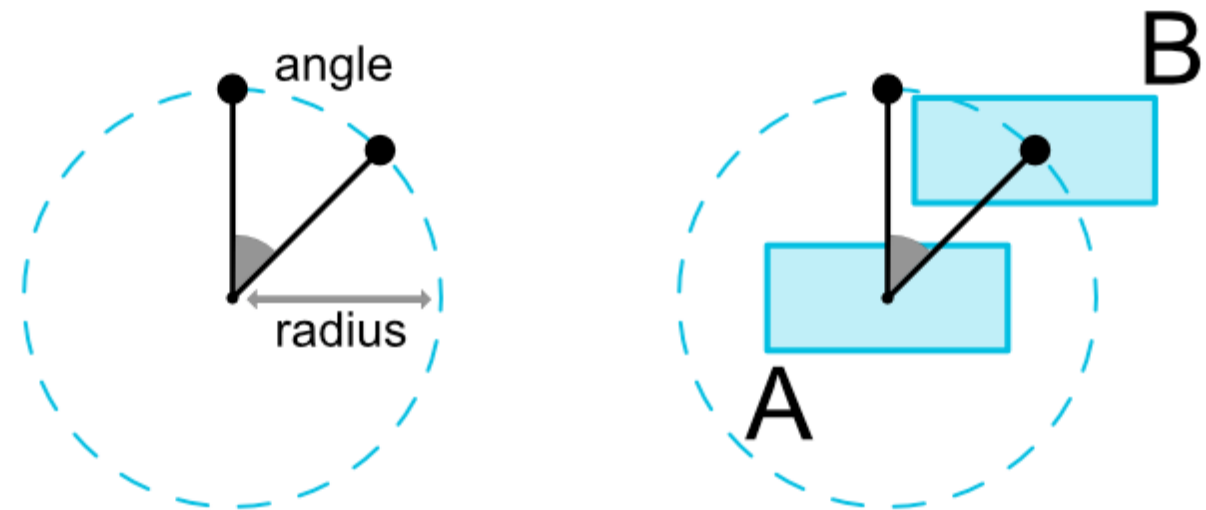
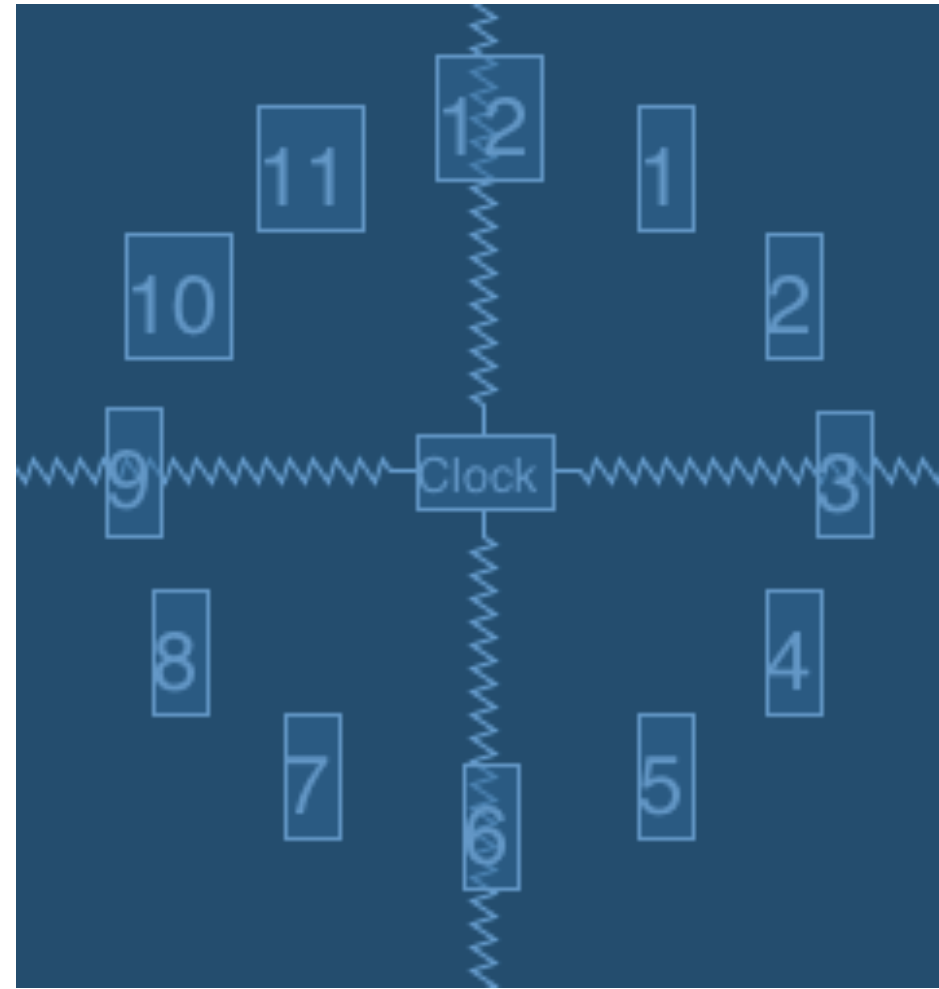
# Ratios



```
<ImageView
    android:layout_width="0dp"
    android:layout_height="0dp"
    app:srcCompat="@drawable/cake"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    android:id="@+id/imageViewCake"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintDimensionRatio="16:9"/>
```

## Ratios in XML

# Circular Positioning



```
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="1"
    app:layout_constraintCircle="@+id/textViewCentre"
    app:layout_constraintCircleAngle="30"
    app:layout_constraintCircleRadius="90dp"/>
```

## Circular Positioning in XML



# Summary

**Covered some advanced topics:**

- **Barriers**
- **Ratios**
- **Circular Constraints**