

AN INTRODUCTION TO A-FRAME

IT'S **A FRAMEWORK**
FOR EASILY WORKING
WITH **WEBGL AND VR**

USE MARKUP TO CREATE
VR EXPERIENCES THAT WORK
ACROSS DESKTOP, IOS
ANDROID, AND VR HEADSETS

ENTITY: AN OBJECT
<a-entity>

COMMON ENTITIES

<a-box>

<a-sphere>

<a-plane>

<a-obj-model>

AND MANY MORE...

COMPONENT: A PROPERTY
<a-entity width="2">

COMMON COMPONENTS:

width. height. depth. radius

material. geometry. src

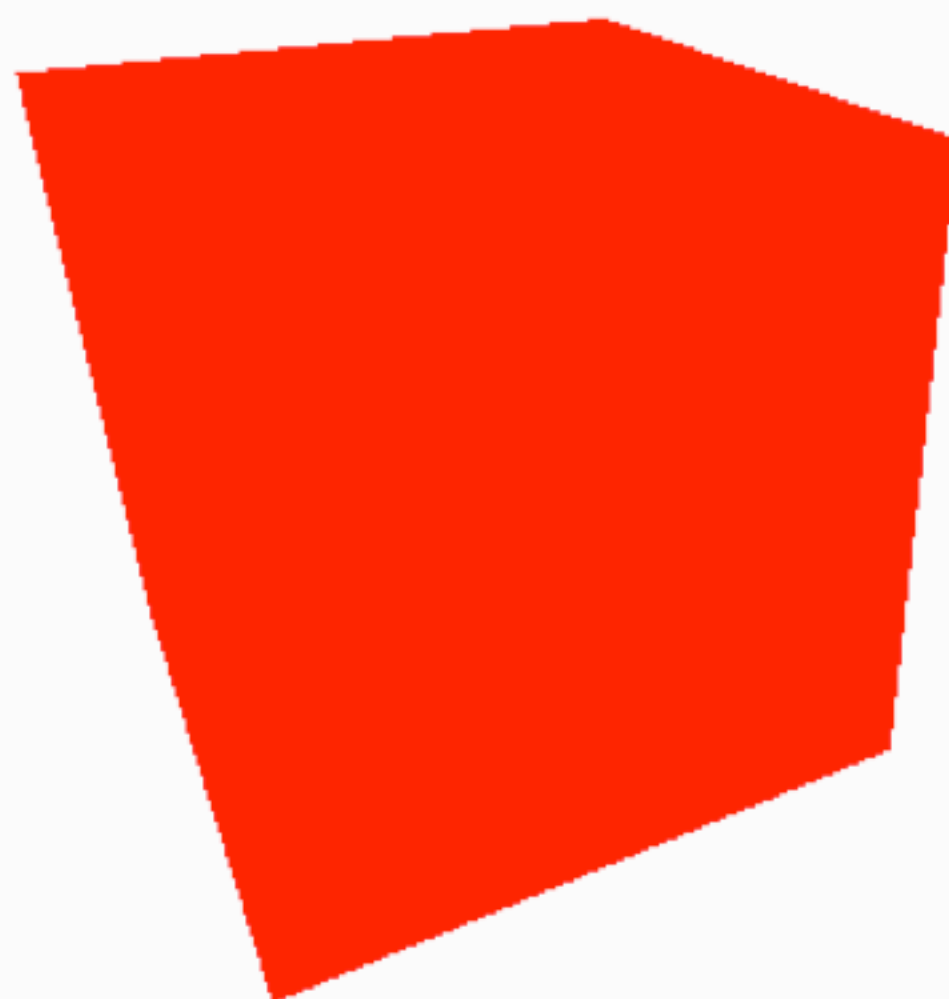
id. position. rotation

AND MANY MORE...

CREATING A RED BOX


```
<a-scene>  
  <a-box  
    color="red"  
  ></a-box>  
</a-scene>
```

... **THAT'S IT!**



I

OH THERE'S A BIT MORE

SIZING

YOU CAN EITHER USE

`width="2" height="2" depth="2"`

OR THE **GEOMETRY** COMPONENT:

`geometry="width: 2; height: 2; depth: 2"`

SCALING

`scale="1 1 1"`

SPECIFIED IN TERMS OF **X**, **Y** AND **Z** AXIS

CAN USE NEGATIVE NUMBERS TO MIRROR ON AN AXIS

POSITIONING

`position="0 0 0"`

STARTS FROM **0 0 0** IN YOUR SCENE

SPECIFIED IN TERMS OF **X, Y** AND **Z** AXIS

MATERIALS

THE APPEARANCE OF AN ENTITY

```
material="color: red; opacity: .5"
```

USED TO DEFINE **COLOR, OPACITY**

RENDERING EFFECT AND TEXTURE **SRC**

LIGHTING

CAST LIGHT IN YOUR SCENE

TYPES: AMBIENT, DIRECTIONAL

HEMISPHERE, POINT, SPOT

CAN ALSO SPECIFY THE COLOR, INTENSITY, ANGLE

ASSETS

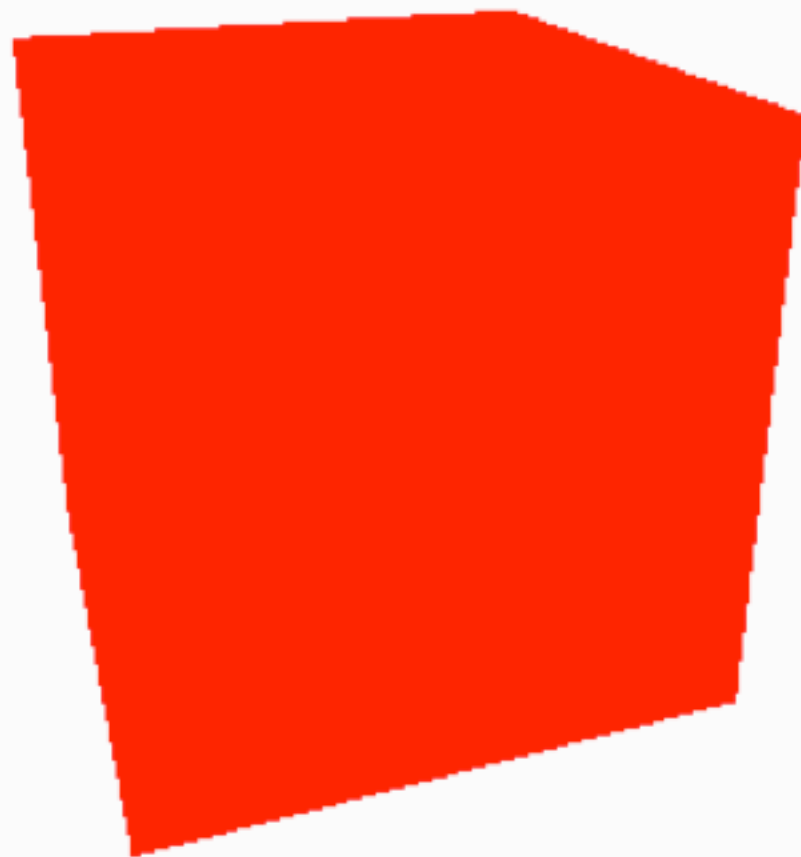
USED FOR PRELOADING TEXTURES
SOUNDS, VIDEOS, AND DEFINING MIXINS

```
<a-assets>
  
  <audio id="coin" src="coin.mp3"></audio>
  <video id="rick" src="nggyu.mp4"></video>
  <a-mixin id="massive" scale="10 10 10"></a-mixin>
</a-assets>
```

ANIMATING

SPECIFY THE **ATTRIBUTE** TO ANIMATE
THE STATE TO GO **FROM** AND **TO**, THE **DUR**
OF THE ANIMATION, THE **FILL** MODE, **REPEAT**
COUNT, **DIRECTION** AND **EASING** METHOD.

```
<a-entity ...>  
  <a-animation  
    attribute="rotation"  
    dur="10000"  
    fill="forwards"  
    to="0 360 0"  
    easing="linear"  
    repeat="indefinite"  
  ></a-animation>  
</a-entity>
```



INTERACTION

INTERACT WITH ENTITIES THROUGH **CLICKING** OR **GAZING**

BASICALLY...

WHEN YOU LOOK AT STUFF

YOU CAN MAKE STUFF HAPPEN

READ THE A-FRAME
DOCS FOR CURSOR

**MANIPULATING
THINGS WITH
JAVASCRIPT**

VANILLA JAVASCRIPT

```
.querySelector('a-image')  
.getAttribute('opacity')  
.setAttribute('material', 'color', 'red')  
.addEventListener('collide')  
.createElement('a-entity')
```

WITH LIBRARIES...

```
// jQuery
```

```
$('a-box').attr('width', 5);
```

```
// d3
```

```
d3.select('a-scene')  
  .selectAll('a-box.bar')  
  .data(data);
```

IF YOU HATE WRITING
HTML-ESQUE MARKUP

USE A TEMPLATING LANGUAGE!

```
// Jade/Pug example
```

```
a-scene(  
  fog='type: linear; far: 20; color: #1a1a1a'  
)  
  a-entity(  
    position='2 2.5 0'  
    rotation='0 12 0'  
  )  
  each foo,index in locals.bar  
    a-entity(  
      position=(index * 1.4) + ' 0 ' + (index * -2)  
      rotation='0 ' + (index * -15) + ' 0'  
    )
```

A SHORT GUIDE

[BLOG.OMGMOG.NET/GDD-AFRAME-GUIDE](https://blog.omgmog.net/gdd-afame-guide)

BOILERPLATE

[GITHUB.COM/AFRAMEVR/AFRAME-BOILERPLATE](https://github.com/aframevr/aframe-boilerplate)

OFFICIAL DOCS

[AFRAME.IO/DOCS/0.2.0/GUIDE](https://aframe.io/docs/0.2.0/guide)

SOME EXAMPLES

[AFRAME.IO / AFRAME / EXAMPLES](https://aframe.io/aframe/examples)