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# Salesforce Aura组件技术

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# 从不懂到精通

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# 目标：

- ①掌握Aura组件的开发知识
- ②掌握LightningDesignSystem的使用（积木的原材料仓库）
- ③掌握Salesforce提供的常用Aura组件的使用
  - recordEditForm
  - Datatable
  - File Upload
  - Navigation Item API
  - Utility Bar API
  - Workspace API
  - Refresh View等等
- ④Aura之间的通信， Aura与LWC之间的通信
- ⑤开发过程中的注意事项（安全设定等）
- ⑥实践课程：创建一个多条记录同时创建Aura组件（重点学习多组件之间的通信）  
创建一个自定义删除按钮（重点学习页面的迁移）

# 开发环境的选择：

① Developer Edition(DE) ➔ OK

② Sandbox环境 ➔ OK  
需要有签约的正式账号，可以创建Sandbox环境

③ 30-day free trial ➔ NG  
没有API Enabled权限，不能使用VisualStudioCode连接开发环境

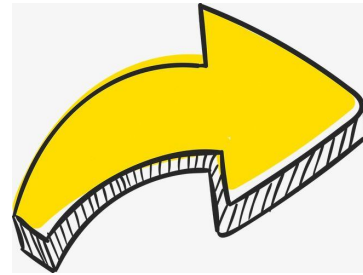


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- 就职 前Rakuten Salesforce架构师
- 出生 浙江杭州市富阳区桐洲岛
  
- 大学毕业  
2006年
- Salesforce开发经验：  
6年



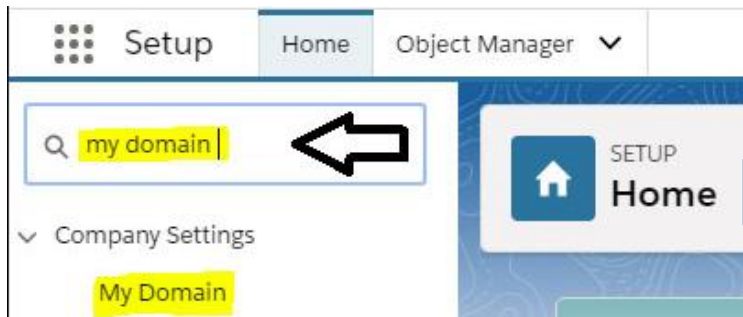


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超 年度大会员

硬币: 65 B币: 0

## 有效化MyDomain



### SETUP My Domain

**Step 1 Choose Domain Name**

**Choose Your Domain Name**

Enter a domain name and check whether it's available. Be sure of your name before registering. Only Salesforce Customer Support can change your domain name once it's registered. Your domain name can be up to 34 characters. It can include letters, numbers, and hyphens; but it can't start or end with a hyphen.

https://-dev-ed.my.salesforce.com/

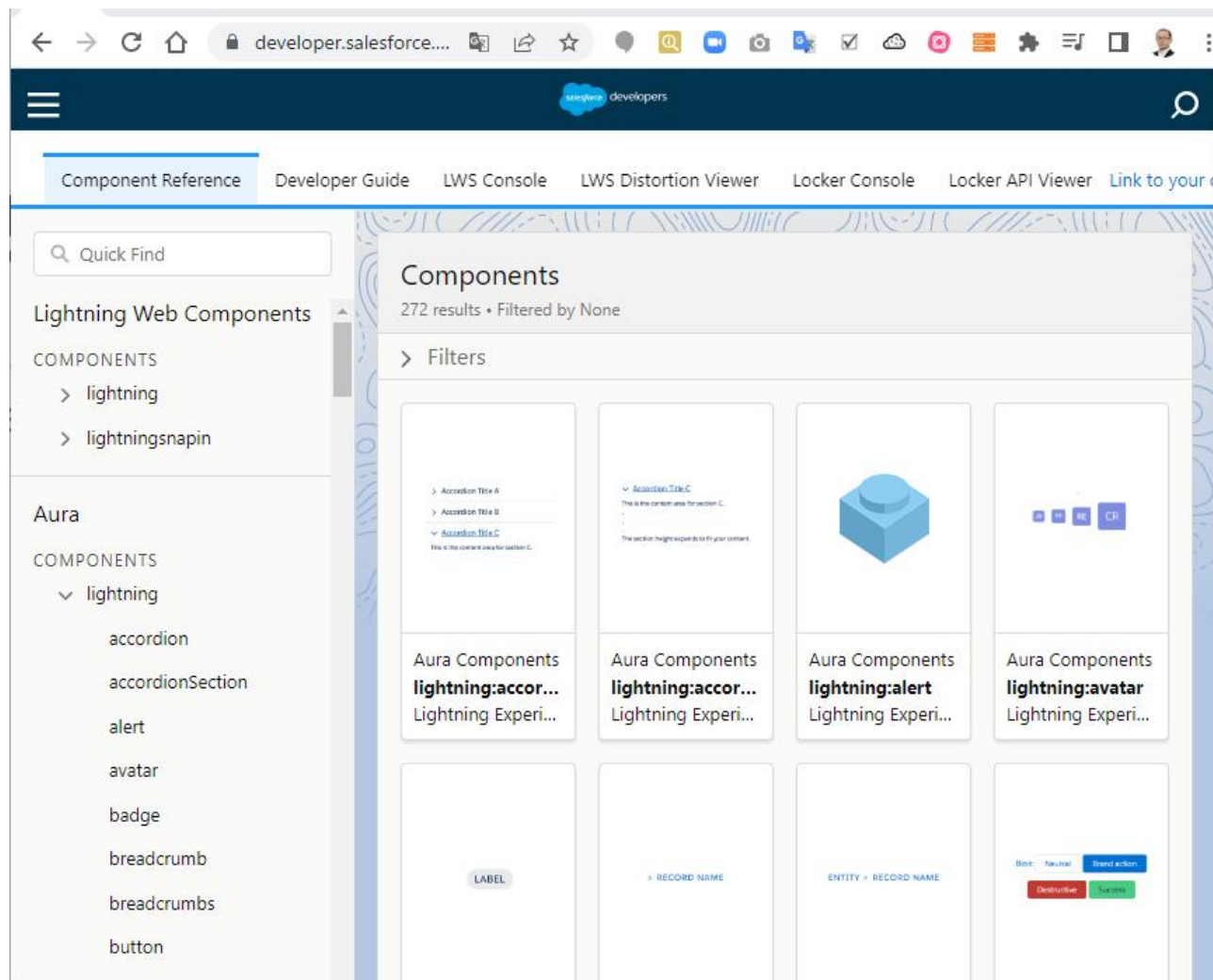
After you click Register Domain, Salesforce takes a few minutes to update its naming registries. You receive an email when it's done.

## 备注

如果是最近申请的开发环境，MyDomain是自动有效化的



## 积木大全：



<https://developer.salesforce.com/docs/component-library/overview/components>

# 第1部分 基础知识

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第1节 什么是组件

第2节 为什么要使用Aura组件

第3节 创建一个Aura组件（如何创建Aura）

第4节 创建一个Application（预览Aura组件方法）

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## ■什么是组件

将大量可重复利用的代码（功能，样式等等）封装起来模块化，哪里需要就放到哪里，写程序就像小孩搭积木一样简单。

最大的好处：**可重用，避免重复开发**

**多个组件可同时进行开发**

```
<lightning:input type="toggle"
  label="Reimbursed?"
  name="reimbursed"
  class="slds-p-around_small"
  checked="{!v.expense.Reimbursed__c}"
  messageToggleActive="Yes"
  messageToggleInactive="No"
  onchange="{!c.clickReimbursed}"/>
```

### 属性

我们可以指定组件的各种属性  
比如

- Type ➔ 类型
- Name ➔ 名称
- Checked ➔ 是否被选中

### 方法

我们还可以指定组件的发生事件时候的方法  
比如

- OnChange ➔ 当值发生变更的时候
- OnClick ➔ 当被点击的时候

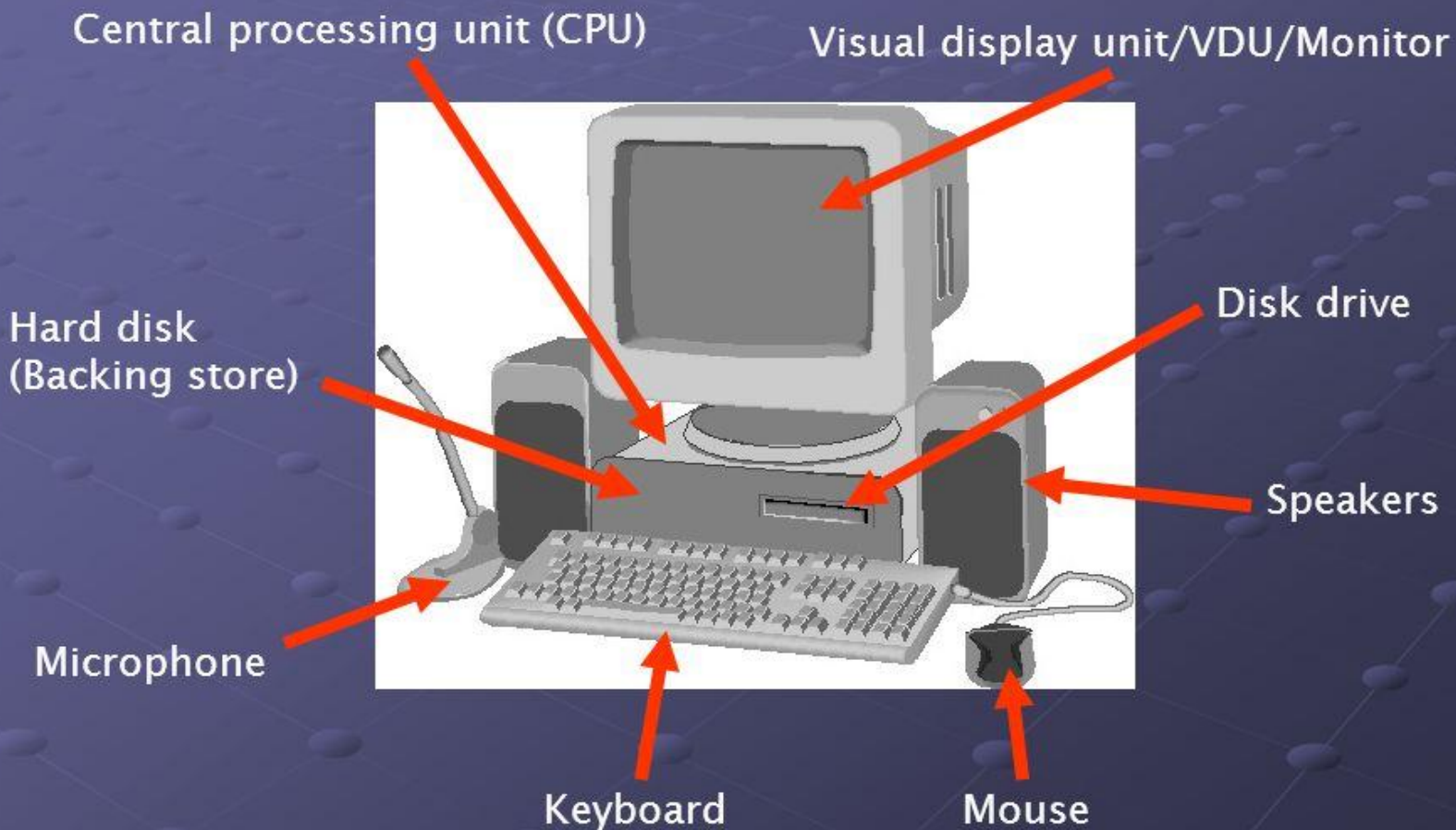
## ■什么是组件

将大量可重复利用的代码（功能，样式等等）封装起来模块化，哪里需要就放到哪里，写程序就像小孩搭积木一样简单。

## ■最大的好处：

可重用，避免重复开发  
多个组件可同时进行开发

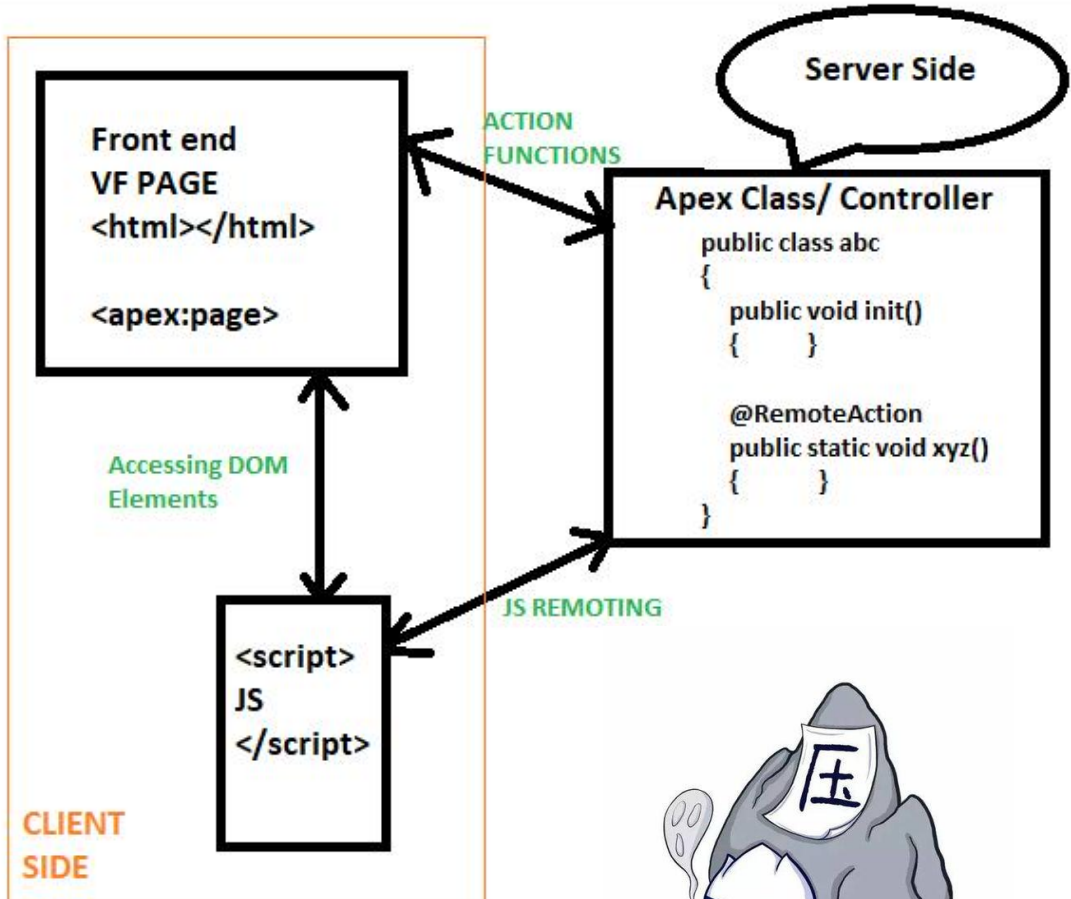
# The parts of a computer



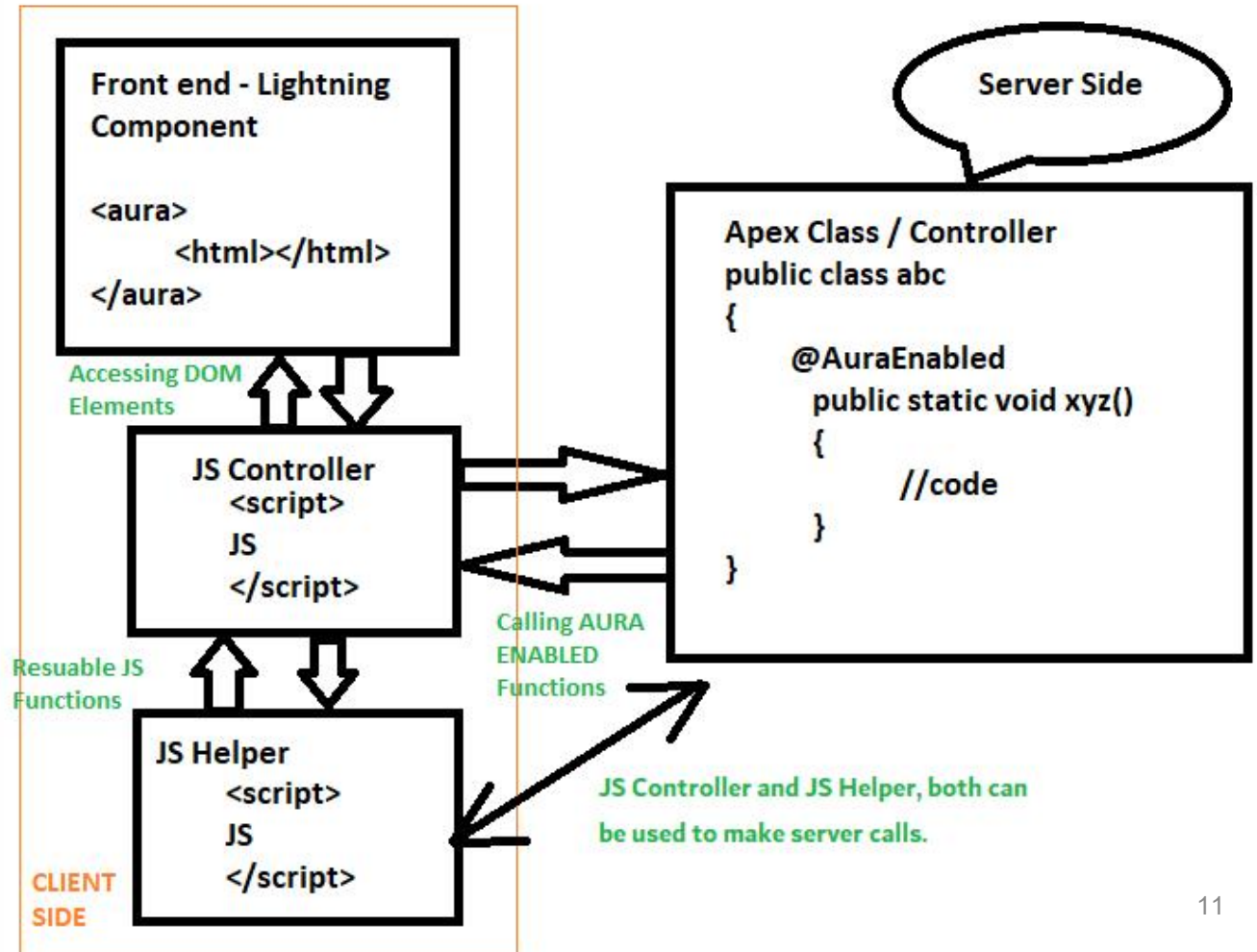
## 优点1

减少服务器请求，从而降低服务器负担

### VISUALFORCE



### LIGHTNING



## 优点2

自带许多开箱即用的组件，支持快速开发

Aura

COMPONENTS

&gt; lightning

v aura

component

expression

html

if

iteration

renderIf

template

text

unescapedHtml

&gt; force

&gt; forceChatter

&gt; forceCommunity

&gt; lightningcommunity

&gt; lightningsnapin

&gt; ltng

&gt; ui

&gt; wave

```
<aura:component>
  <aura:if isTrue="{!v.truthy}">
    True
  <aura:set attribute="else">
    False
  </aura:set>
</aura:if>
</aura:component>
```

```
<aura:component>
  <aura:iteration items="1,2,3,4,5" var="item">
    <meter value="{!item / 5}"/><br/>
  </aura:iteration>
</aura:component>
```

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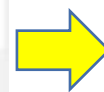
## 优点3

丰富的组件生态  
支持从AppExchange上安装第三方组件 (AppExchange大法好)

The screenshot shows the Salesforce AppExchange interface. At the top, there's a 'Menu' button and a search bar labeled 'Search AppExchange'. Below the search bar, the 'Vidyard Video Player' component is featured. It includes the Vidyard logo, the text 'By Vidyard', a description 'Add video playback and analytics to your Lightning apps', a '4.5 Average Rating (2 Reviews)' with five stars, and a 'Free' price tag with a link to 'Pricing Details'. At the bottom, there are 'Get It Now' and 'More' buttons.



This screenshot shows a selection screen for components. It features a dropdown menu labeled 'Custom - Managed (1)'. Below the dropdown, the 'vidyard\_player' component is selected and highlighted in a grey bar. A small icon of a person is visible to the right of the component name.



This screenshot shows the 'vidyard\_player' component implemented in a Salesforce Lightning component. The video player is displayed in a windowed view, showing a video of two people in a small boat on the water. To the right of the video player, there is a configuration panel with the following settings: 'Page > vidyard\_player', 'Default Player UUID' with the value 'oTDMPIUv--51Th455G5u7Q', 'Player Height' with the value '300', and a 'Set Component Visibility' checkbox. There is also a 'Filters' section with an 'Add Filter' button.

<https://appexchange.salesforce.com/components>



## 优点4

能够避免ViewState错误  
Aura里面根本就没有ViewState的概念

Visualforce Error

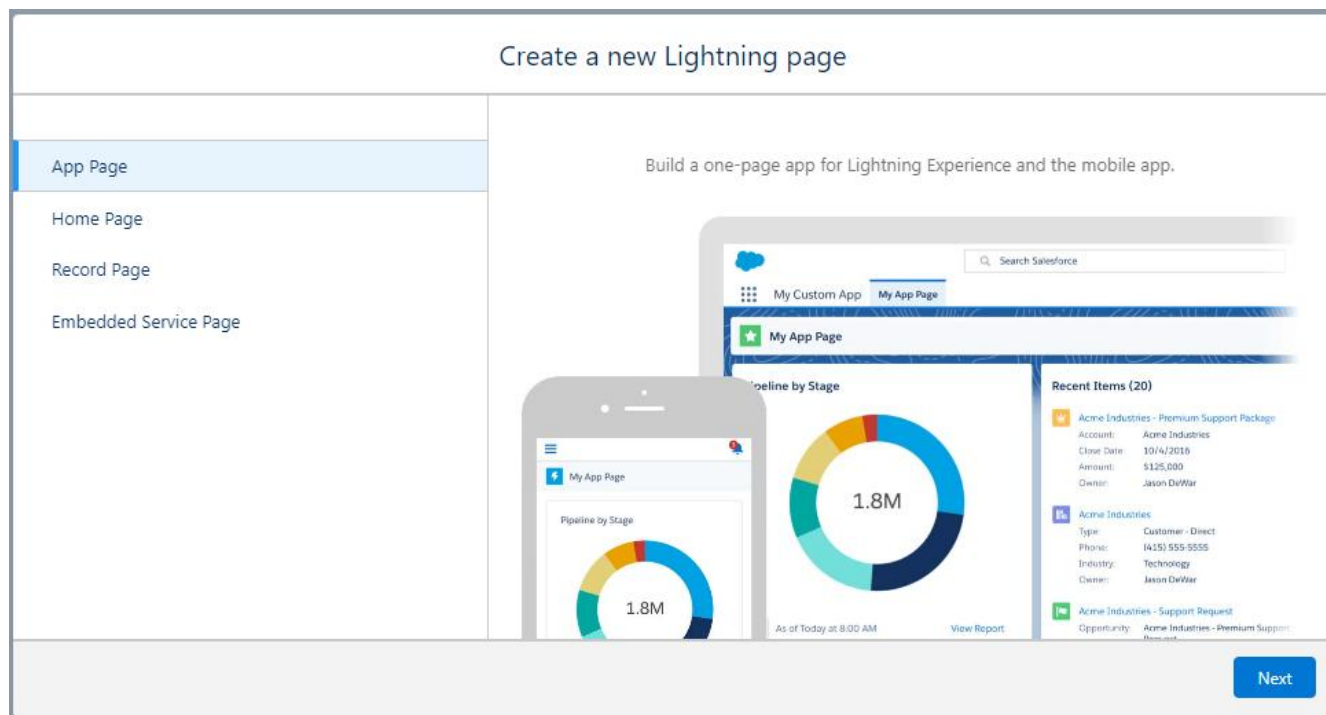
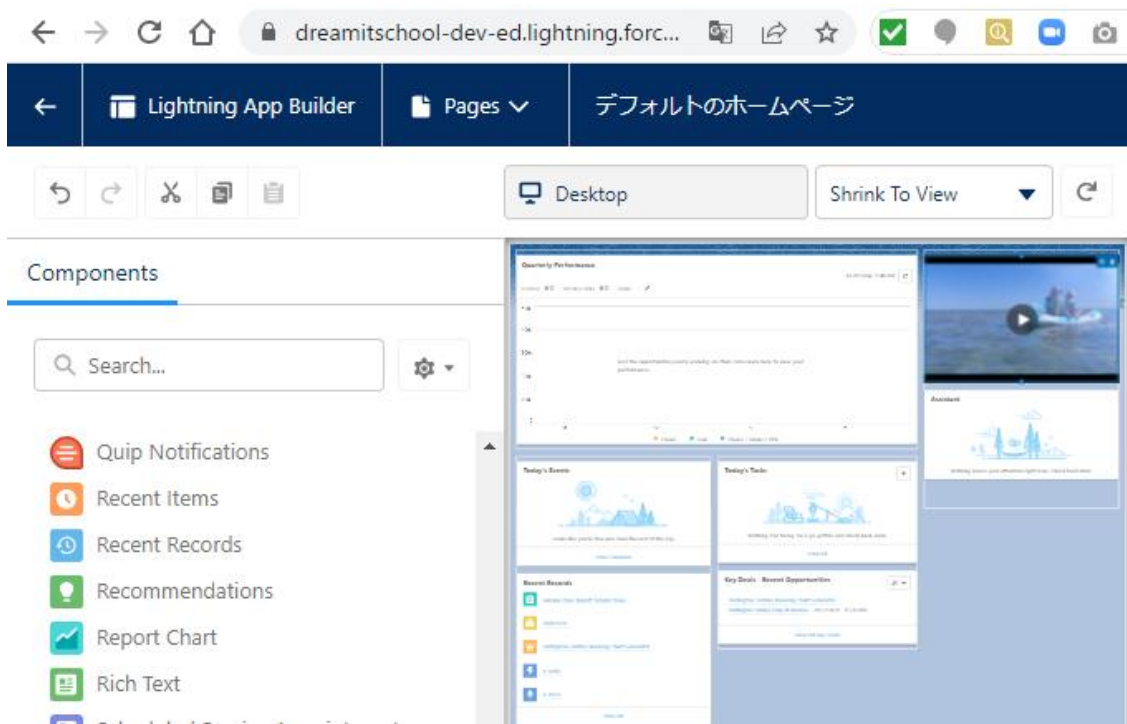
Maximum view state size limit (135KB) exceeded. Actual view state size for this page was 136.031KB

the biggest contributor

Name	Type	Value	Size (KB)	% Of Parent
Migration_AttachmentReport_Vf			136.03	100
State			135.73	100
Controllers			102.02	75
Migration_AttachmentReport_Ctrl	Page migration_attachmentreport_vf Controller		102.02	100
listAttachment [1213]	List<Attachment>		17.41	46
listMigrationObject [1213]	List<Migration_AttachmentReport_Ctrl.MigrationObject>		85.75	84
selectedParent	String	Opportunity	0.06	0.1
Expressions			0.69	0.5
Internal			33.02	24
Component Tree			0.42	0.3

## 优点5

能够利用Lightning App Builder  
无代码创建APP



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### 优点6

智能手机自适应和跨浏览器兼容性

SMARTPHONE



TABLET



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LAPTOP



DESKTOP



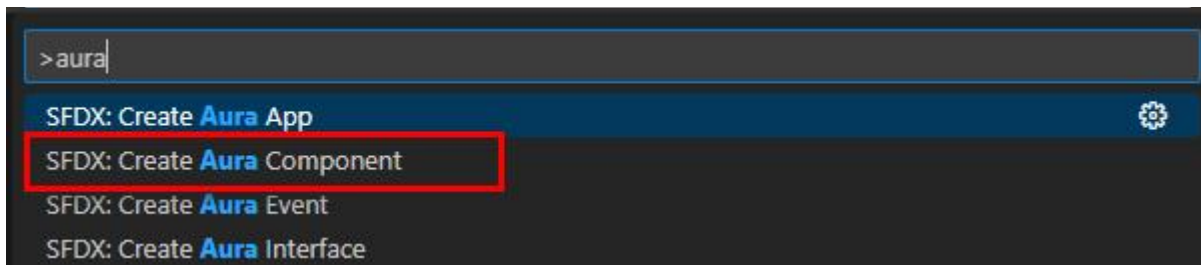
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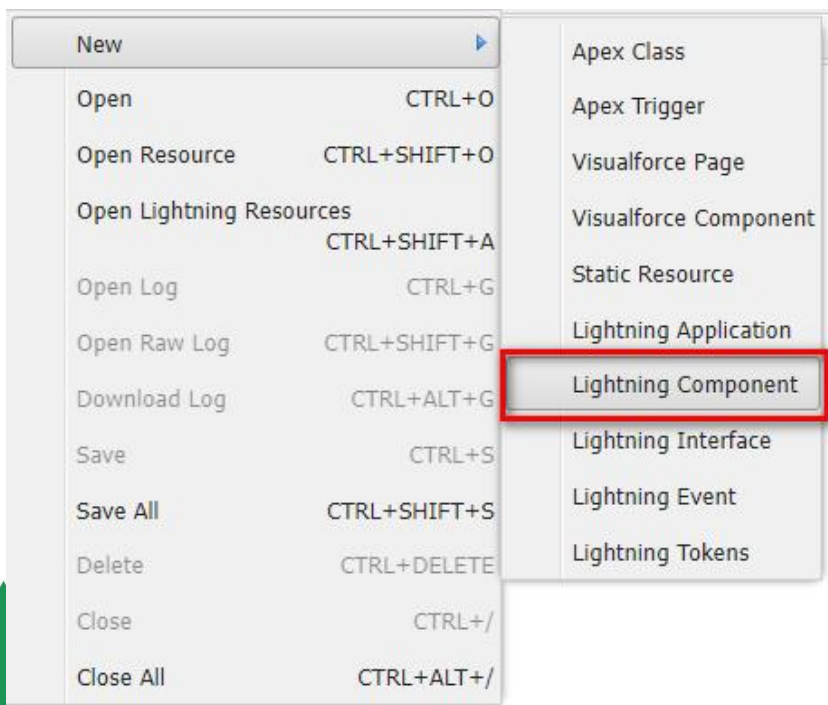
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## ■如何创建 (方法1--用VisualStudioCode的命令)



## ■如何创建 (方法2--打在开发者控制台创建)



```

    v helloworldComponent
      <> helloworldComponent.auradoc
      <> helloworldComponent.cmp
      📄 helloworldComponent.cmp-meta.xml
      # helloworldComponent.css
      <> helloworldComponent.design
      🖼️ helloworldComponent.svg
      JS helloworldComponentController.js
      JS helloworldComponentHelper.js
      JS helloworldComponentRenderer.js
  
```

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文件类型		
.cmp	Component (页面内容)	 Component
.design	Design (属性的设置)	 Design
.js	Controller, (主要的逻辑代码文件) Helper, (写一些共通方法方便调用) Renderer (页面生命周期方法)	 Controller  Helper  Renderer
.svg	SVG image (组件的图标文件)	 SVG
.css	Style (CSS代码)	 Style
.auradoc	Documentation (组件的说明文档)	



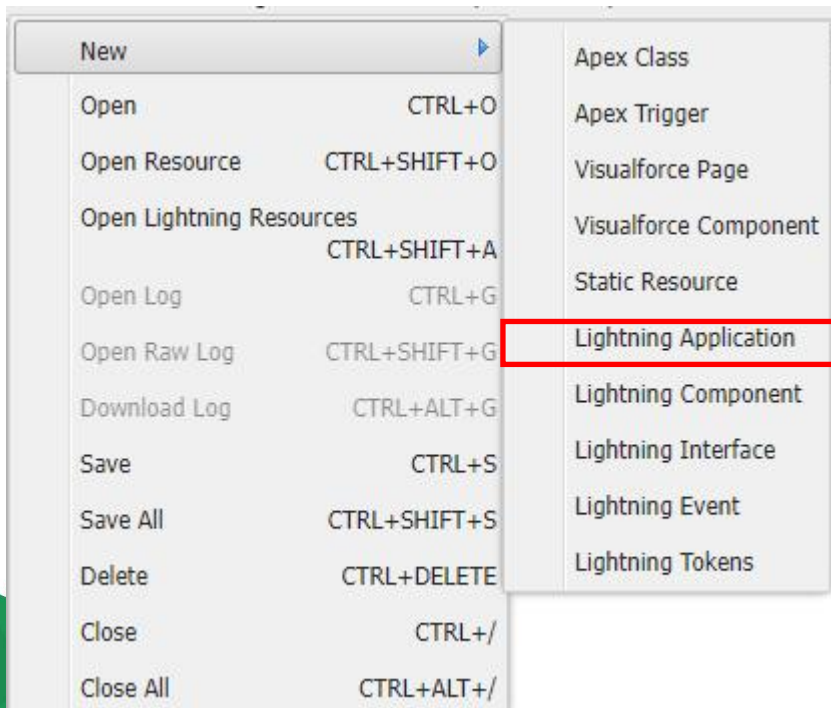
## 学习内容

## 创建Application

## ■如何创建 (方法1--用VisualStudioCode的命令)

```
>aura
SFDX: Create Aura Component      recently used
SFDX: Create Aura App            other commands
SFDX: Create Aura Event
SFDX: Create Aura Interface
```

## ■如何创建 (方法2--打在开发者控制台创建)



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HelloAPP

- HelloAPP.app
- HelloAPP.app-meta.xml
- HelloAPP.auradoc
- HelloAPP.css
- HelloAPP.svg
- HelloAPPController.js
- HelloAPPHelper.js
- HelloAPPRenderer.js

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## 文件类型

.app	app (app的面内容)	 APP
.design	Design (属性的设置)	 Design
.js	Controller, (主要的逻辑代码文件) Helper, (写一些共通方法方便调用) Renderer (页面生命周期方法)	 Controller  Helper  Renderer
.svg	SVG image (组件的图标文件)	 SVG
.css	Style (CSS代码)	 Style
.auradoc	Documentation (组件的说明文档)	

Developer Console - Google Chrome

dreamitschool-dev-ed.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage

File Edit Debug Test Workspace Help

helloWorld helloworldComponent2 helloworldComponent2.cmp HelloworldAPP HelloworldAPP.app

```
1 <aura:application extends="force:slds"
2   <c:helloworldComponent2/>
3   <br/>
4   <c:helloworldComponent/>
5 </aura:application>
```

**HelloworldAPP**

Update Preview  
Updated on 2022/11/25 22:55:07

Ctrl + Shif...	APPLICATION	
Ctrl + Shif...	CONTROLLER	Create
Ctrl + Shif...	HELPER	Create
Ctrl + Shif...	STYLE	Create
Ctrl + Shif...	DOCUMENTATION	Create
Ctrl + Shif...	RENDERER	Create
Ctrl + Shif...	SVG	Create

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点击Preview按钮预览

Aura

dreamitschool-dev-ed.lightning.force.com/c/HelloworldAPP.app

HellowolrdComponent2  
HelloworldComponent

预览的网址

https://MyDomainName.lightning.force.com/<namespace>/<appName>.app



## 第2部分 Aura组件的组成部分

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- 第5节 文件类型的详细说明 (Component)
- 第6节 文件类型的详细说明 (Design) ➡在LightningPage上使用
- 第6节 文件类型的详细说明 (Design) ➡在Flow中使用
- 第7节 文件类型的详细说明 (Controller)
- 第8节 文件类型的详细说明 (Helper)
- 第9节 文件类型的详细说明 (Renderer)
- 第10节 文件类型的详细说明 (SVG )
- 第11节 文件类型的详细说明 (Documentation)
- 第12节 文件类型的详细说明 (自定义的CSS的使用)

## 文件类型

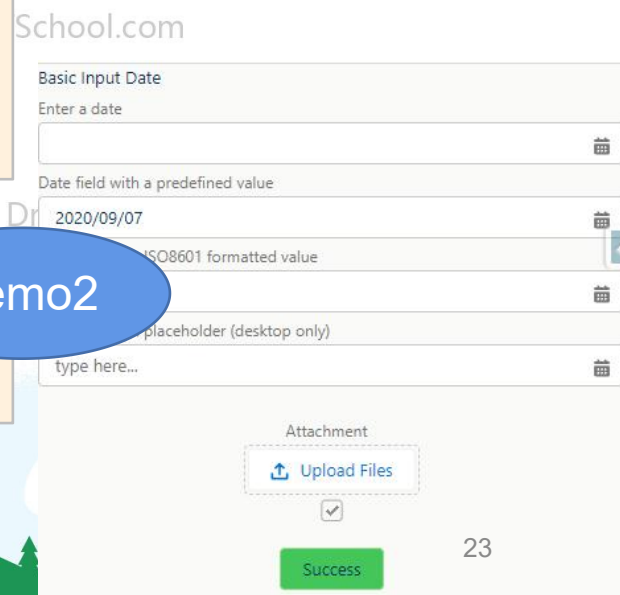
.cmp	Component (页面内容)
------	------------------

```
<aura:component implements="force:appHostable,
    flexipage:availableForAllPageTypes,
    flexipage:availableForRecordHome,
    force:hasRecordId,
    forceCommunity:availableForAllPageTypes" access="global" >
<div>
    <div class="slds-card">
        <div class="slds-p-around_medium">学习Salesforce</div>
    </div>
</div>
</aura:component>
```

Demo1

<https://developer.salesforce.com/docs/component-library/bundle/lightning:input/example>

Demo2



## 文件类型

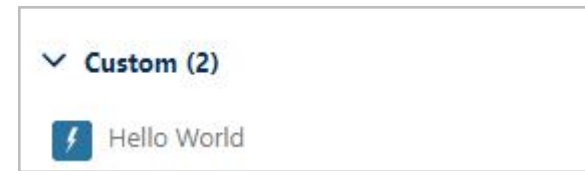
.design Design (属性的设置)

```
<design:component label="Hello World">
  <design:attribute name="subject" label="Subject" description="Name of the person you want to greet" />
  <design:attribute name="greeting" label="Greeting" />
</design:component>
```

```
<aura:component>
<aura:attribute name ="subject" type="String"/>
<aura:attribute name ="greeting" type="String"/>

  subject: <ui:outputText value="{!v.subject}"/>
  Greeting: <ui:outputText value="{!v.greeting}"/>

</aura:component>
```



Demo3



## 文件类型

.design Design (属性的设置)

```
<aura:component  
implements="force:appHostable,flexipage:availableForAllPageTypes,flexipage:available  
ForRecordHome,force:hasRecordId,forceCommunity:availableForAllPageTypes,  
lightning:availableForFlowScreens" access="global" >
```

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Demo3

New Screen

Components Fields

hell

Custom (1)

Hello World

[Flow Label]

Hello World

No preview is available for this component.

Pause Previous Finish

Hello World

\* API Name

Greeting

Enter value or search resources...

Subject

Enter value or search resources...

> Set Component Visibility

> Advanced

salesforce

## 文件类型

.js      Controller, (主要的逻辑代码文件)

Demo4

```
<aura:component implements="force:appHostable,  
    flexipage:availableForAllPageTypes,  
    flexipage:availableForRecordHome,  
    force:hasRecordId,  
    forceCommunity:availableForAllPageTypes" access="global" >  
  
<lightning:button label="CallLwcMethod"  
onclick="{!c.auraCallLWCMethod}"></lightning:button>  
  
</aura:component>
```

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```
({  
    auraCallLWCMethod : function(component, event, helper) {  
        console.log('auraCallLWCMethod被执行了');  
    },  
})
```

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## 文件类型

.js      Helper, (写一些共通方法方便调用)

```
{
  auraCallLWCMethod : function(component, event, helper) {
    console.log('auraCallLWCMethod被执行了');
    helper.helperMethod2(component);
  },
}
```

```
{
  helperMethod2 : function(component) {
    console.log('helperMethod2----被执行了');
    // logic here
    var var2Parameter = 'var2Parameter';
    this.helperMethod3('YuTest', var2Parameter);
  },
  helperMethod3 : function(var1, var2) {
    console.log('helperMethod3----被执行了');
    // do something with var1 and var2 here
  }
}
```

Demo5

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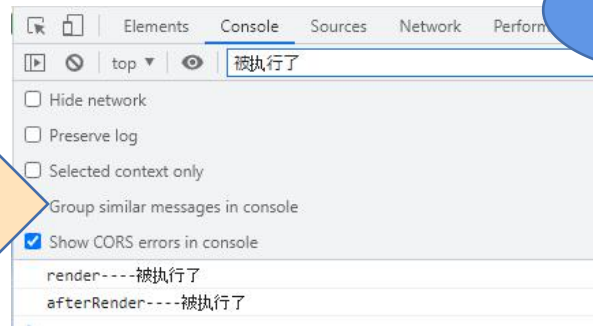
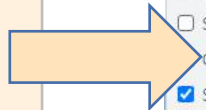
## 文件类型

.js      Renderer (页面生命周期方法)

- ➔render()      渲染
- ➔rerender()    重装渲染
- ➔afterRender() 渲染后
- ➔unrender()    取消渲染

```
{
  render : function(cmp, helper) {
    console.log('render----被执行了');

    var ret = this.superRender();
    // do custom rendering here
    return ret;
  },
}
```



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## 文件类型

.svg SVG image (组件的图标文件)

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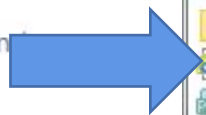
- ▼ Custom (12)
- ⚡ AuraComponent
- ★ AuraExample
- ⚡ BulkInsertLightningComponent
- Hello World
- ⚡ helloworldComponent2
- ⚡ IWClassTest



### Get Icons

Download the SLDS Icons zip folder with both svg and png file types.

Download Icons ↓



名字	大小
..	
activity.svg	3,981
activity_120.png	2,818
activity_60.png	1,606

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- ▼ Custom (12)
- ⚡ AuraComponent
- ★ AuraExample
- ⚡ BulkInsertLightningComponent
- Hello World**



## 文件类型

.auradoc Documentation (组件的说明文档)

<https://dreamitschool-dev-ed.lightning.force.com/auradocs/reference.app>

dreamitschool-dev-e...



The Aura Reference Doc App has moved

**aura**

Search

Overview  
Applications  
Components  
aura  
c

- LightningChartTypeBar
- LightningChartTypeDoughnut
- LightningChartTypeLine
- LightningChartTypePie
- LightningChartTypePolarArea
- LightningChartTypeRadar
- LightningContactList
- LightningContactSearchBar
- LightningDemo
- LightningEventTimeLine**
- LightningEventTimeLineGraph
- LightningEventTimeLineHeader
- LightningEventTimeLineItem
- LightningEventTimeLineItems
- LightningGoogleBookSearch
- LightningNavigationBar
- LightningSkillChecker
- LightningSkillCheckerCards
- LightningSkillSearchBar
- LightningTaskSorter
- LightningWeather
- LightningYouTubeSearch

## c:LightningEventTimeLine component

PROTO

Extends aura:component

Implements force:appHostable flexipage:availableForAllPageTypes

Overview Source apex://controller js://controller js://helper Dependencies Examples

### Description

今週のイベントを表示するためのコンポーネントです。

画面表示時にApex側のクエリで行動(Event)オブジェクトの情報を取得し、曜日ごとのリストにセットします。

※使用時にパラメータのセットは必要ありません。

### Attributes

Name	Type	Description
body	component[]	Inherited from <a href="#">aura:component</a> The body of the component. In markup, this is everything in the body of the tag.

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## 文件类型

.css	Style (CSS代码)
------	---------------

## Demo7

```
<aura:component >
  <div class="white">
    Hello, Lightning!
  </div>

  <div >
    Hello, Aura!
  </div>

  <ul>
    <li class="red">My background is red</li>
    <li class="green">My background is green</li>
  </ul>
</aura:component>
```

```
.THIS {
  background-color: grey;
}
```

```
.THIS.white {
  background-color: white;
}
```

```
.THIS.red {
  background-color: red;
}
```

```
.THIS.blue {
  background-color: blue;
}
```

```
.THIS.green {
  background-color: green;
}
```

## 第2部分 Aura组件的组成部分的练习

目标时间➡20:57

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【创建一个Aura名称为Helloworld的组件】，要求如下

- ①在组件内放置一个按钮【CallControllerMethod】，
- ②点击按钮能够调用Controller里面的方法，
- ③在Controller里调用Helper里面的方法
- ④把Aura组件拖到LightningRecord Page上面
- ⑤把Aura组件的图标修改成LightningDesignSystem上面的Flash图标
- ⑥使用Design文件，设置一个【公司名称】的属性
- ⑦使用自定义的CSS来指定页面的背景颜色，并指定按钮的颜色

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