



# Lightning Experience with Visualforce

## Best Practices

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# Using Visualforce in Lightning Experience

“Just Works,” mostly

The screenshot shows the Salesforce Lightning Experience interface. The top navigation bar includes the Salesforce logo, a search bar, performance metrics (0.49 s, 4231.14 KB), and user profile icons. The navigation menu has items like Home, Calendar, Accounts, Cases, Contacts, and more, with the 'Calendar' item highlighted by a red box. Below the menu is a 'Calendar' section header. A message says 'Loading, please wait...'. It features a 'Calendar Legend' with 'All Items' selected, a 'Filter' button, and options for 'Week' and 'Full Month'. A 'Filter Project By' dropdown is set to 'October 2016'. Below these are tabs for 'Projects', 'Milestones', and 'Tasks'. The main area is a weekly calendar grid for October 2016. Events are listed as follows:

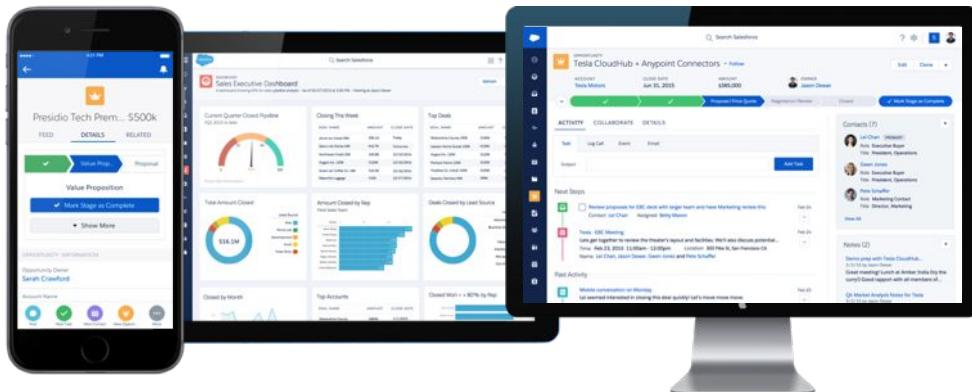
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27	28	29	30	1 October 2016
2	3	4 Dreamforce	5 Dreamforce	6 Dreamforce	7 BIG Presentation Day!! Dreamforce	8 Dreamforce
9	10 Columbus Day	11	12	13	14 Private Cloud Testing Volunteer Triangle Land Conservatory	15
16	17 Boss is away, I will play	18	19	20	21	22
23	24	25	26 All Things Open Conference	27 All Things Open Conference	28 Present on Open Source	29



# We will support Visualforce for the long term

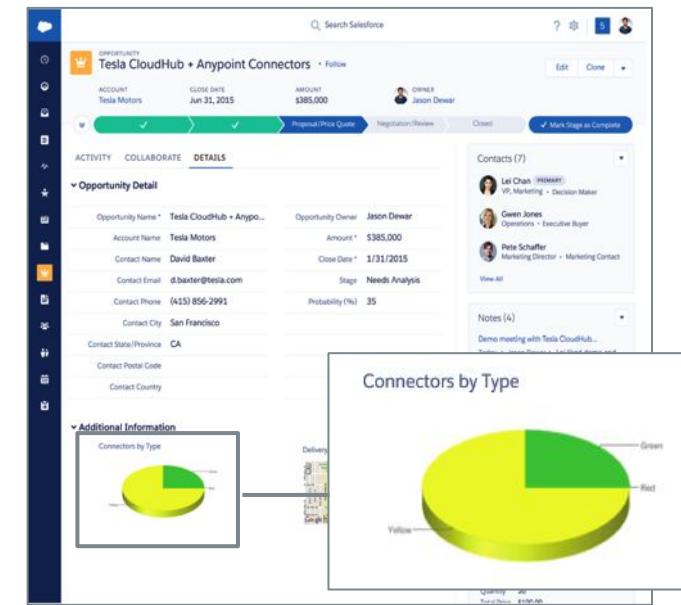
Your customizations will be brought forward

Lightning is the future of  
Salesforce technology



Both our mobile and new desktop are built with  
Lightning Components

Visualforce and your customizations  
will continue to be supported in  
Lightning Experience



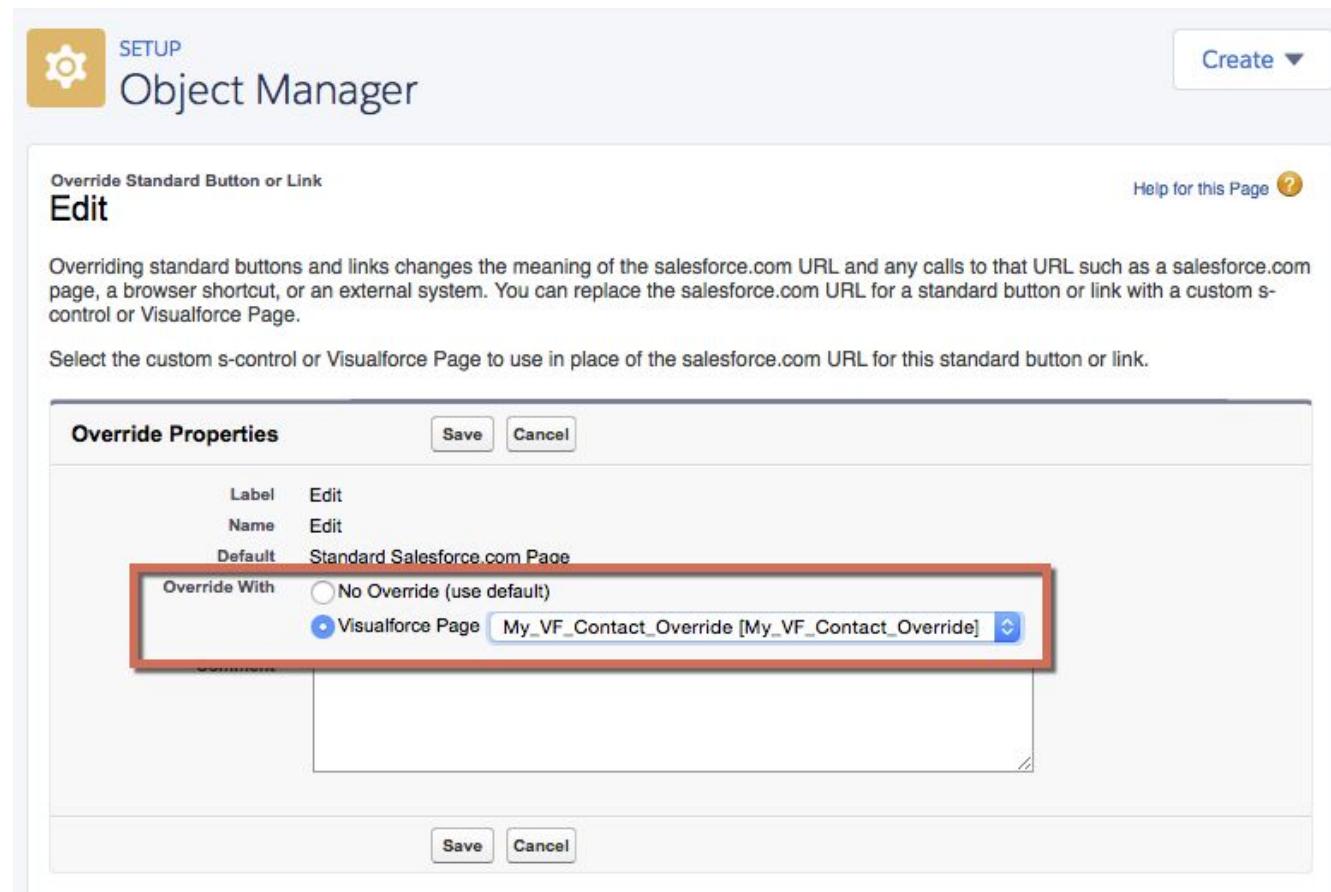


# Visualforce just works in Lightning

Moving a Visualforce app to Lightning Experience

# Using Visualforce in Lightning Experience

## Override



# Using Visualforce in Lightning Experience

## Visualforce Tab

The screenshot shows a Visualforce tab titled "XIRR CALCULATOR" integrated into the Salesforce Lightning Experience interface. The tab is active, indicated by a blue underline. The page contains five input fields for funding, repayment, term, fees, and commissions, each with a corresponding grey input field. A large blue "CALCULATE XIRR" button is centered below the inputs. The top navigation bar includes the Salesforce logo, a search bar, performance metrics (0.63 s, 1284.96 KB), and user icons.

salesforce

Search Salesforce

0.63 s 1284.96 KB + ? ⚙️ 🔔 🧑

Dreamforce XIRR Accounts Contacts

## XIRR CALCULATOR

FUNDING AMOUNT

REPAYMENT AMOUNT

TERM (MONTHS)

FEES (REVENUE)

COMMISSIONS (EXPENSES)

CALCULATE XIRR



# Using Visualforce in Lightning Experience

Visualforce page embedded in page layout

CONTACT  
Carole White (Sample) + Follow

TITLE  
VP Sales

ACCOUNT NAME  
Global Media (Sample)

RELATED DETAILS

Name  
Carole White (Sample)

Contact Owner  
Harry Lime

New Contact  
This is a Visualforce page that can be used with the Contact object.

# Using Visualforce in Lightning Experience

## Global action

The screenshot shows the Salesforce Lightning Experience interface for an Account record. The account name is "Beef Corporation of America". On the right side of the page, there is a horizontal bar with several buttons: "Edit", "My Global VF Action" (which is highlighted with a red box), "Contact", and a dropdown menu. Below this bar, there are sections for "PHONE" (+1.812.332.4838) and "ADDRESS (2)" (1703 N College Av, Bloomington, IN). The "EMPLOYEES" section shows "350".

The screenshot shows the "Account Layout" setup screen. In the "Quick Actions" section, a new action named "My Global VF Action" has been created and is being previewed. The preview shows the "Quick Actions in the Salesforce Classic Publisher" and "Salesforce1 and Lightning Experience Actions" sections. In both sections, the newly created "My Global VF Action" button is highlighted with a red box.

**Account Layout**

Save ▾ Quick Save Preview As... Cancel Undo Redo Layout Properties

Fields Buttons Custom Links **Quick Actions** Salesforce1 Actions Expanded Lookups Related Lists

Quick Find Quick Action Name

Account	Contact	Lead	Log a Call	New Account
Case	Contact	Link	Mobile Smart Actions	New Case
Case	Event	Log a Call	My Global VF Action	New Contact
Child Account	File	Log a Call	My Visualforce Ac...	New Event

**Account Sample**

Quick Actions in the Salesforce Classic Publisher

Post My Visualforce Action File Mobile Smart Actions Thanks Link Poll

Salesforce1 and Lightning Experience Actions

Post My Global VF Action File Task Contact Log a Call Opportunity Link  
Poll Thanks Edit Change Record Type Delete Request Update Submit for Approval  
View Website

# Using Visualforce in Lightning Experience

## Lightning App Builder

The screenshot shows the Lightning App Builder interface. On the left, the 'Lightning Components' sidebar is open, displaying a list of standard components under 'Standard (13)' and a section for 'Custom (0)'. A red arrow points from the 'Visualforce' item in the 'Standard' list to the main workspace. The main workspace displays an 'Account' record for 'Beef Corporation of America' with various fields like Name, Phone, Address, and Employees. A Visualforce component titled 'My Visualforce Component Section' is embedded in the page, also highlighted with a red border. To the right, a configuration panel for the Visualforce component is shown, with fields for 'Label' (set to 'My Visualforce Component Section'), 'Visualforce Page Name\*' (set to 'My Visualforce Page'), and 'Height (in pixels)' (set to '300'). The top navigation bar includes 'Back', 'Help', 'Save', and 'Activation...' buttons.



# Detecting the Experience

UITheme and UIThemeDisplayed possible values

API Name	Usage
Theme3	Salesforce Classic
Theme4d	Lightning Experience (Desktop size)
Theme4t	Salesforce1 (Mobile)



# Detecting the Experience

Where am I?

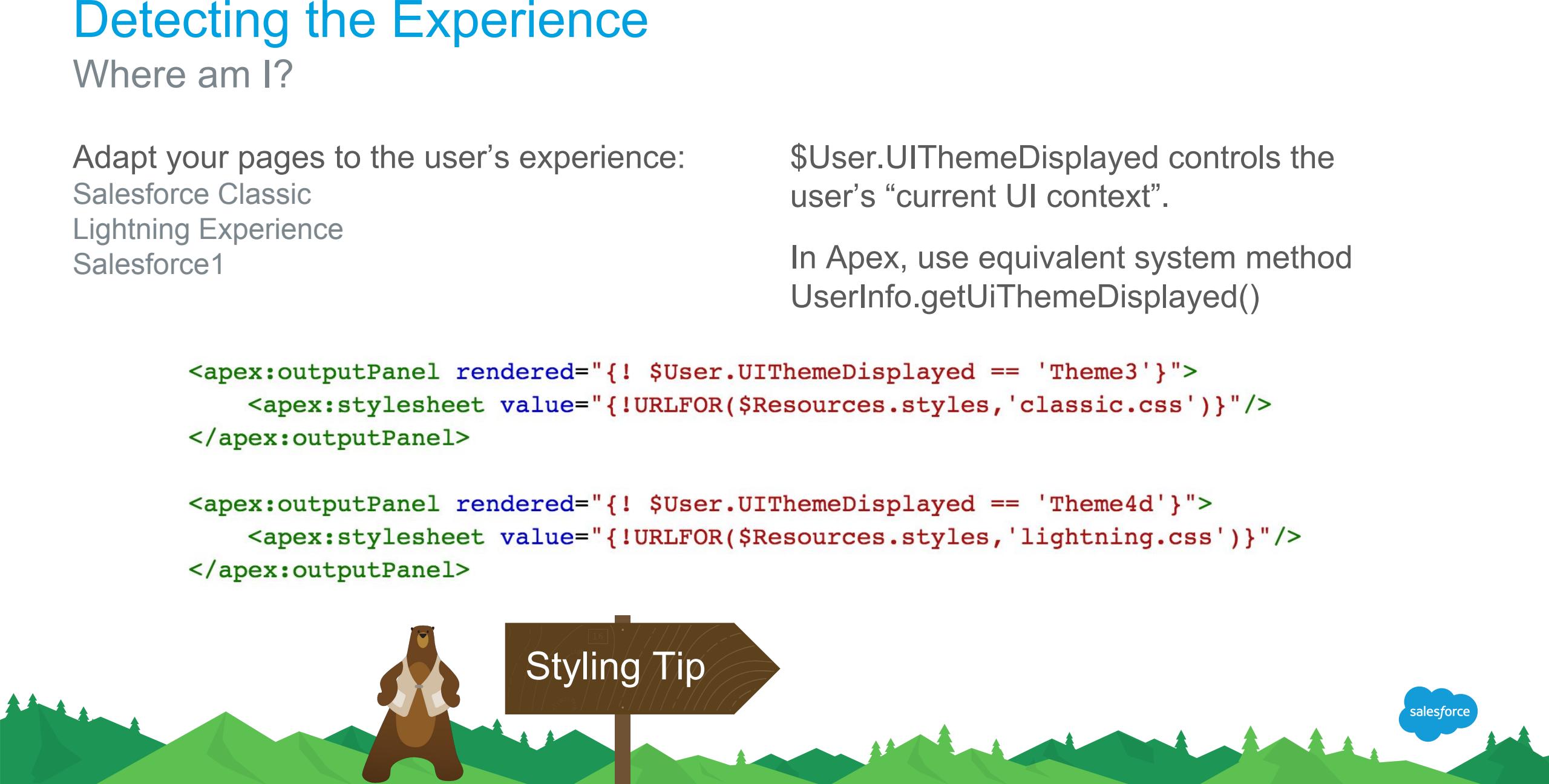
Adapt your pages to the user's experience:  
Salesforce Classic  
Lightning Experience  
Salesforce1

\$User.UIThemeDisplayed controls the user's "current UI context".

In Apex, use equivalent system method UserInfo.getUiThemeDisplayed()

```
<apex:outputPanel rendered="{! $User.UIThemeDisplayed == 'Theme3'}">
    <apex:stylesheet value="{ !URLFOR($Resources.styles,'classic.css') }"/>
</apex:outputPanel>

<apex:outputPanel rendered="{! $User.UIThemeDisplayed == 'Theme4d'}">
    <apex:stylesheet value="{ !URLFOR($Resources.styles,'lightning.css') }"/>
</apex:outputPanel>
```



Styling Tip



# Developing Visualforce for Lightning Experience

Some subtle differences...

/apex/vfpagename shows the page in Salesforce Classic

To test in Lightning, create a Visualforce tab and add it to an App

We encourage you to test on multiple platforms: Classic, Lightning, Salesforce1

Don't wait until you deploy! Test early, test often, test everything!

Visualforce development mode footer is not available in Lightning Experience

Name	Type	Value	Size (KB)	% Of Parent
ftplatform.Store			4.3	100
State			4	93
Controllers			1.41	35
ftplatform.StoreExtension	Page store Controller Extension		1.41	100



# Visualforce in Classic vs Lightning Experience

Some subtle differences...

Unlike in Salesforce Classic, Visualforce is just PART of the page in Lightning.

Visualforce runs in an iframe inside the “one/one.app” Lightning container

Writing to “window.location” will not work

Use “sforce.one” javascript utility for navigation (unavailable in Classic UI)

Lightning navigation appears in Lightning

Salesforce Classic navigation and sidebar DO NOT appear

Classic

```
<script>
window.location = "/{!contact.id}/e";
window.location = "http://www.google.com";
window.history.go(-1);
</script>
```

Lightning

```
<script>
sforce.one.navigateToSObject("{!contact.id}");
sforce.one.navigateToURL("http://www.google.com");
sforce.one.back();
</script>
```



# Visualforce navigation in Lightning Experience

## Classic vs Lightning

Watch out!

DON'T set "window.location"

DON'T create URLs with '/' + accountId + '/e'

Just works!

`sforce.one.navigateToSObject(recordId)` - in JavaScript

`{!URLFOR($Action.Contact.Edit, recordId)}` - in Visualforce markup

`PageReference redirection and navigation` - in Apex controller



# Styling Visualforce for Lightning Experience

## Visual design considerations

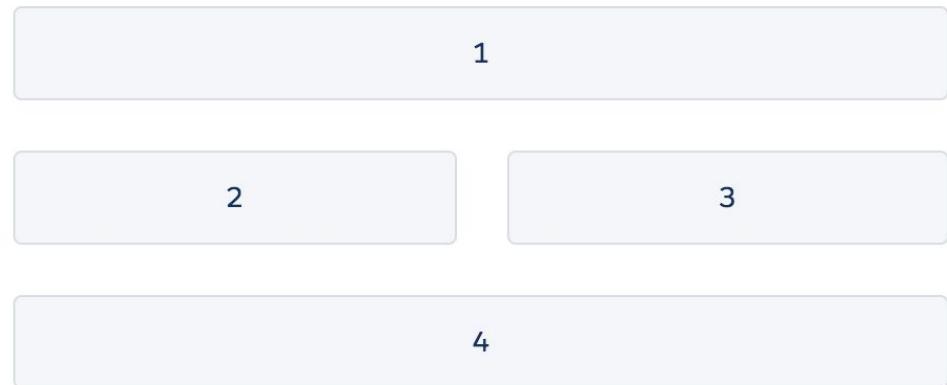
Visualforce using standard components will look the same in Lightning.

Use the same methods to style pages  
`<apex:styleSheet />` and `<link />`

For new Visualforce pages, consider using the “Salesforce Lightning Design System”

You'll get better styling in Salesforce1

You'll get more consistency with Lightning navigation and Visualforce



```
<div class="slds-grid slds-wrap slds-grid--pull-padded">
  <div class="slds-size--1-of-1">1</div>
  <div class="slds-size--1-of-2">2</div>
  <div class="slds-size--1-of-2">3</div>
  <div class="slds-size--1-of-1">4</div>
</div>
```



# Lightning Components in Visualforce

<apex:includeLightning /> and lightning.out.js



# Demo

## Supercharging Visualforce with Lightning Out

# Lightning inside Visualforce

Use Lightning Components inside a Visualforce page

Lightning Components can be added to Visualforce using “Lightning Out”

Lightning Out allows including a Lightning Component inside any external web application outside a Salesforce org.



# Including a Lightning Component in Visualforce

## Step 1 of 3: Reference a Lightning App

Define component dependencies, by creating a special purpose “Lightning Dependency App”, which declares dependencies on any Lightning Components that it uses.

Any Lightning Components you wish to include in the Visualforce page should be declared as dependencies in this app. Give it a name, like “lcvfTest.app”

```
<aura:application access="GLOBAL" extends="ltng:outApp" >  
  
  <aura:dependency resource="markup://ftplatform:StoreItem" />  
  <aura:dependency resource="markup://ftplatform:addToCart" type="EVENT" />  
  
</aura:application>
```



# Including a Lightning Component in Visualforce

## Step 2 of 3: Add Lightning capability in Visualforce

Add `<apex:includeLightning />`  
in your page.  
Loads lightning.out.js

```
<apex:page>
  <apex:includeLightning />
```

Reference the app in the VF page using  
`$Lightning.use()`  
Reference the app from step 1  
Pass a callback function

```
  <script>
    $Lightning.use("ftplatform:StoreDependencies", function() {
      });

    </script>

</apex:page>
```



# Including a Lightning Component in Visualforce

## Step 3 of 3: Create Component on the page

Create the component on a page using `$Lightning.createComponent(String type, Object attributes, String locator, function callback)`

This function is similar to `$A.createComponent()`, but includes an additional parameter, `domLocator`, which specifies the DOM element where you want the component inserted.

```
$Lightning.createComponent(  
    "ftplatform:StoreItem",  
    { "recordId": productId },  
    productElem,  
    function() {}  
)
```



```
$A.createComponent(  
    "ftplatform:StoreItem",  
    { "recordId": productId },  
    function(cmp) {}  
)
```



# Thank You



# Q&A

Visualforce in Lightning – It just works!  
Winter '17 is the perfect time to enable Lightning!



