

Getting Started with SalesForce CRM

Apex Code fundamentals Guide Part I

Description:

BISP is committed to provide BEST learning material to the beginners and advance learners. In the same series, we have prepared a complete end-to end Hands-on Beginner's Guide for SalesForce. The document focuses on writing Apex code. Join our professional training program and learn from experts.

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Apex classes in SalesForce

In SalesForce Force.com Apex Code is an object oriented programming language that allows developers to develop on-demand business applications on the Force.com platform.

Define a class, specify the following:

- 1. Access modifiers:
 - You can use access modifiers public or global in the declaration of a top-level class.
 - > Do not use an access modifier in the declaration of an inner class.
- 2. Optional definition modifiers (such as virtual, abstract, and so on)
- 3. Required: The keyword class followed by the name of the class
- 4. Optional extensions:

```
Following syntax for defining classes:

private | public | global

[virtual | abstract | with sharing | without sharing | (none)]

class ClassName [implements InterfaceNameList | (none)] [extends ClassName | (none)]
```

{
//Body of the class

How to Add an Apex Class:

Setup > Developer > Apex classes, there is many option, you can see below.

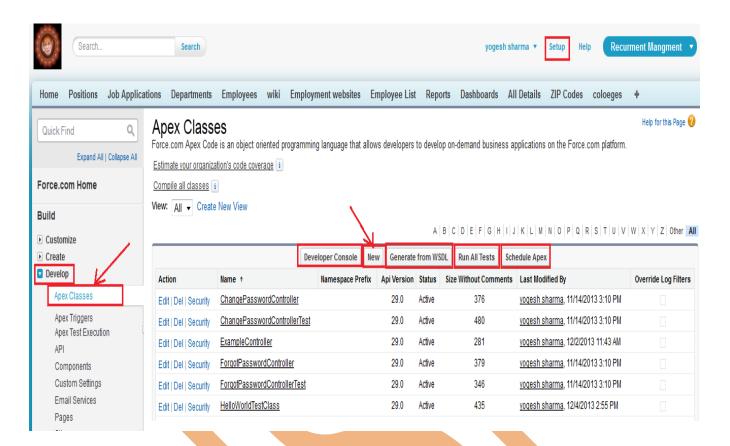
Developer Console : In Salesforce.com developer Console is an integrated development environment with a collection of tools you can use to create, debug, and test applications in your SalesForce organization.

New : Click on New button open new page on this page you can write Apex code here.

Generate From WSDL: To access the Force.com Web service, you need a Web Service Description Language (WSDL) file. The WSDL file defines the Web service that is available to you. Your development platform uses this WSDL to generate an API to access the Force.com Web service it defines.

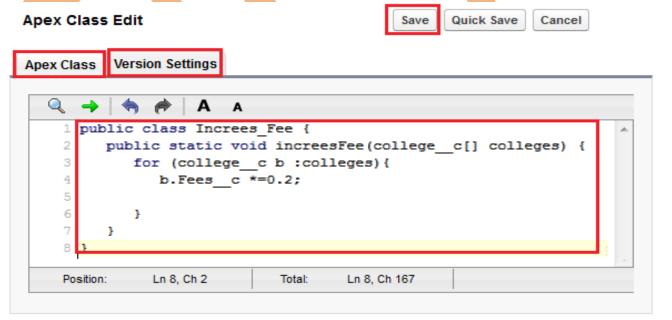
Run All Tests: Click on Run All tests button for run all files.

Schedule Apex: you can schedule Apex code by using Schedule Apex button.



For create new Apex code click on New button.

Click on **New** button, After that open new web page on this page Apex Code editor is available. you can see below. Write here Apex Class after then click on **Save** button.

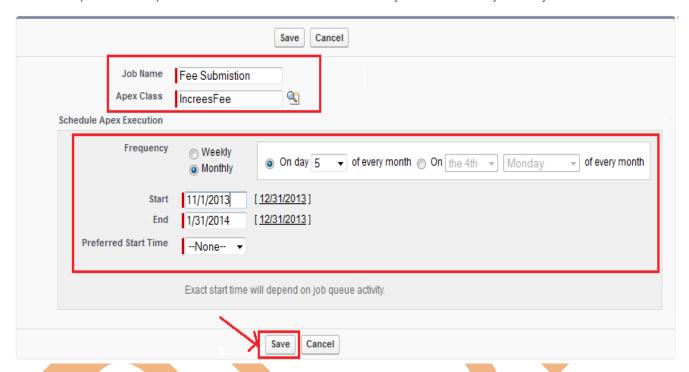


Schedule Apex: Schedule an Apex class that implements the 'Schedulable' interface to be automatically executed on a weekly or monthly interval.

Click on **Schedule Apex** button.

Schedule Apex

Schedule an Apex class that implements the 'Schedulable' interface to be automatically executed on a weekly or monthly interval.



Apex Triggers in SalesForce

Triggers:

Apex can be invoked through the use of triggers. A trigger is executes before or after the following types of operations:

- > insert
- update
- > delete
- upsert
- > merge
- > undelete

Triggers can be divided into two types:

Before triggers can be used to update or validate record values before they are saved to the database.

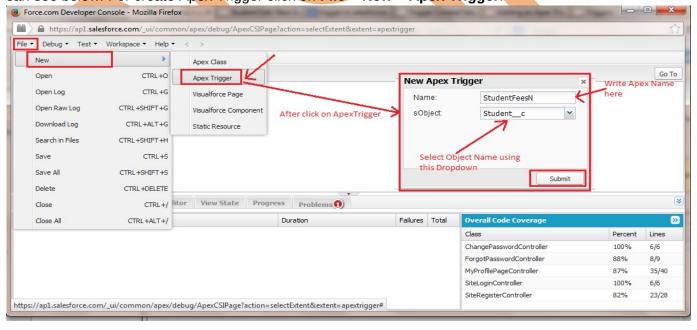
Triggers can be used to access field values that are set by the database, For Example record's Id or lastUpdated field, and to affect changes in other records, such as logging into an audit table or firing asynchronous events with a gueue.

Trigger Context Variables:

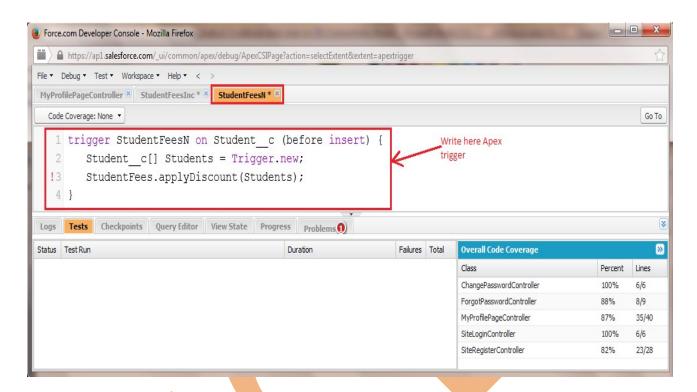
Variable	Usage
isInsert	Returns true if this trigger was fired due to an insert operation, from the
	SalesForces user interface, Apex, or the API.
isUpdate	Returns true if this trigger was fired due to an update operation, from the
	SalesForce user interface, Apex, or the API.
isExecuting	Returns true if the current context for the Apex code is a trigger, not a
	VisualForce page, a Web service, or an executeanonymous() API call.
isDelete	Returns true if this trigger was fired due to an delete operation, from the
	SalesForce user interface, Apex, or the API.
isBefore	Returns true if this trigger was fired before any record was saved.
isAfter	Returns true if this trigger was fired after all records were saved.
isUndelete	Returns true if this trigger was fired after a record is recovered from the
	Recycle Bin (that is, after an undelete operation from the SalesForce user
	interface, Apex, or the API.)
new	Returns a list of the new versions of the sObject records.
newMap	A map of IDs to the new versions of the sObject records.
old	Returns a list of the old versions of the sObject records.
oldMap	A ma <mark>p of I</mark> Ds to the old versions of the sObject records.
size	The total number of records in a trigger invocation, both old and new.

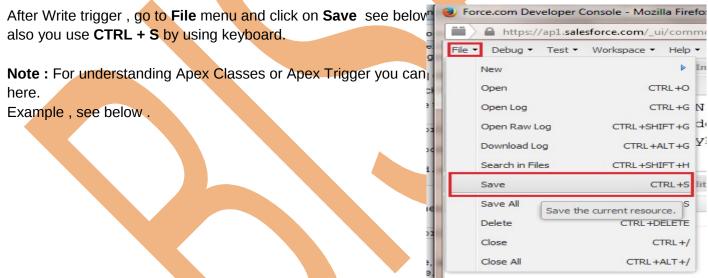
How to write Trigger in SalesForce.com:

Setup > Develop > Apex Triggers, Click on **Developer Console** button. open new web page. You can see below. For create Apex Trigger click on **File > New > Apex Trigger**.



After that open popup window in this window, Write Trigger name and select Object class (which you need to bind with trigger) then click on submit button. Then you can see new page for write new trigger.



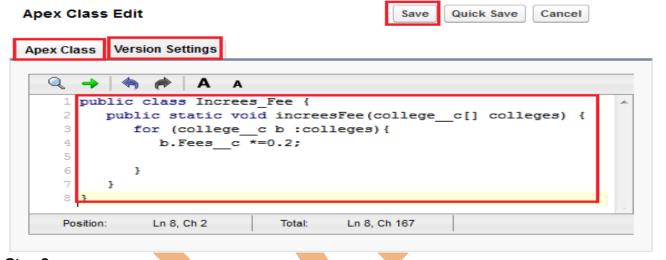


Example: Write apex code for automatically increasing 2% on the submit fees for every student. **Step 1:** Create any custom object tab. For Ex: College you can see below.



Step 2 : After then go to adding Apex code, **Setup > Developer > Apex classes**, click on **New** button.

then write here Apex code.

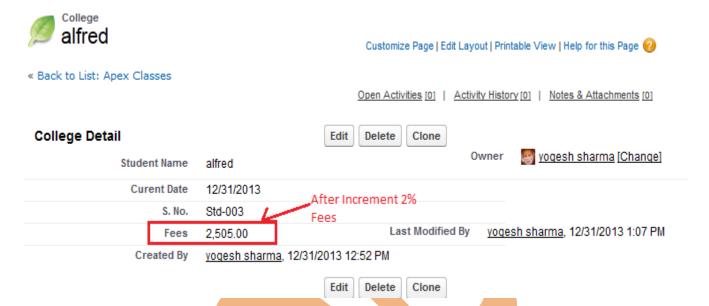


Step 3:

After write Apex classes, Write Apex Trigger Click on Apex Trigger for write Apex Trigger.

```
1 trigger StudentIncFees on college_c (before insert) {
!2   college_c[] colleges = Trigger.new;
3   StudentFees.applyDiscount(colleges);
4 }
```

Step 4 : After that Save fees, then see fees increase 2%.



How Do VisualForce Pages Compare to S-Controls?

S-Controls, is older Force.com technology that has now been superseded by VisualForce, still function on Force.com. You can continue to use existing S-Controls, but restrictions are being placed on creating new ones.

Creating a VisualForce Component

Salesforce.com provides a library of standard, pre-built components, such as <apex:page renderAs="pdf">, <apex:tabPanel > and <apex:dataTable>, that can be used to develop VisualForce pages. In addition, you can build your own custom components to augment this library.

What are Custom Components:

In custom components you can reuse that method several times in a program, you can encapsulate a common design pattern in a custom component and then reuse that component several times in one or more VisualForce pages.

Example, If you want to create a Employee list using VisualForce pages. Each Employee record in the list has its own border. Rather than repeating the VisualForce markup required for displaying every Employee record in the list. Once defined, standard components such as <apex:relatedList> or <apex:dataTable> .

Using Custom Components in a VisualForce Page:

Create a new custom component named recordDisplay.

<apex:page >

<apex:pageBlock title="Employee List" >

 Welcome : {!\$User.FirstName}

<apex:detail />

</apex:pageBlock>

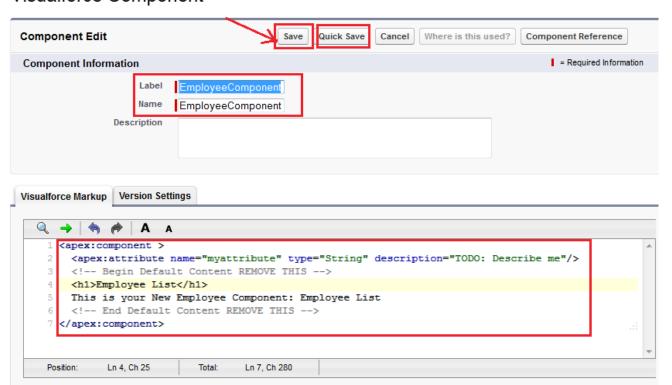
</apex:page>

How to Defining Custom Components:

Setup > Develop > Components, Click on **New** button.

Help for this Page 🕜 Visualforce Components Similar to the way functions work in a programming language, custom Visualforce components allow you to encapsulate common design patterns and then reuse those patterns in one or more Visualforce pages. A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Other All Developer Console Action Label Namespace Prefix Api Version Description Created By Alias Created Date Last Modified By Alias Last Modified Date ↓ 1/2/2014 11:50 Edit | Del Mycustom Mycustom 29.0 1/2/2014 11:50 AM 11/14/2013 3:10 yoqi 29.0 Default Force.com site header SiteHeader SiteHeader yoqi 11/14/2013 3:10 PM Edit | Del component

Step 1: Enter Label Name then write VisualForce Component after then click on **Save** button. Visualforce Component



Step 2: After that create new VisualForce page and write here some cod you can see below.

What is VisualForce

VisualForce is framework that allows developers to build refined, custom user interfaces that can be hosted natively on the Force.com platform. The VisualForce framework includes a tag-based markup language, similar to HTML.

In VisualForce page you can use html code, JavaScript, CSS, Ajax, Flesh.

Developers can use VisualForce to create a VisualForce page definition. A page definition consists of two primary elements:

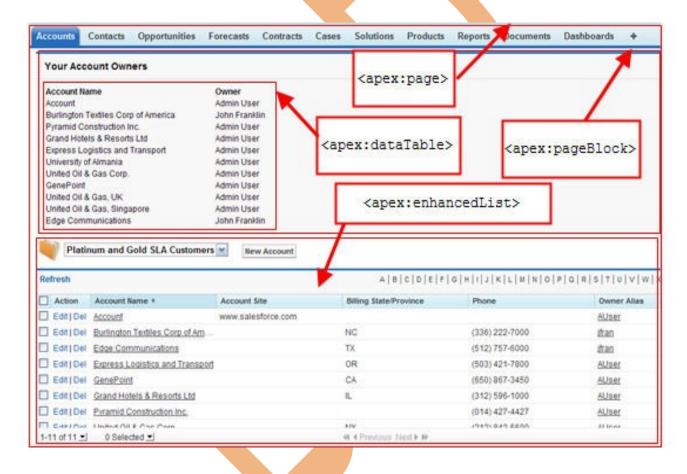
- VisualForce markup.
- A VisualForce controller.

VisualForce Markup:-

VisualForce markup consists of VisualForce tags, HTML, JavaScript, or any other Web-enabled code embedded within a single <apex: page> tag. The markup defines the user interface components that should be included on the page, and the way they should appear.

VisualForce Control :-

A VisualForce controller is a set of instructions that specify what happens when a user interacts with the components specified in associated VisualForce markup, such as when a user clicks a button or link.



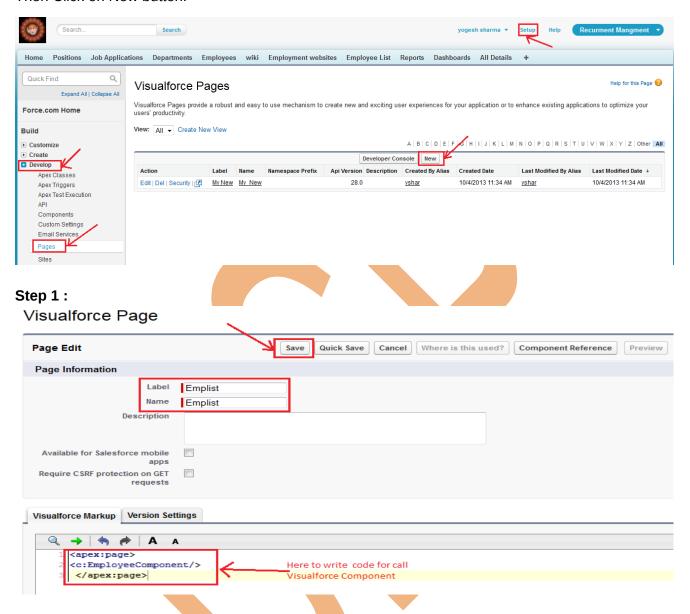
Why use VisualForce:

- To create custom interfaces.
- To build wizards.
- To define custom navigation patterns.

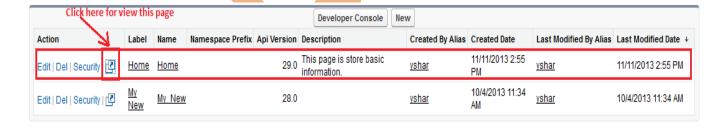
How To Create VisualForce Page

Click on Setup > develop > Pages

Then Click on New button.



After Saving this page, click on this icon to view Home page.



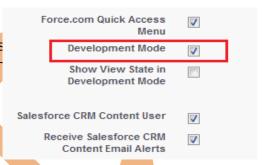
If you are getting error for view page, solve this problem by following some steps. Given below.

Click on Catur > Managa Lloare > Lloare than aliak on Edit link button for adit upor cattings New User Reset Password(s) Add Multiple Users Action Full Name ↑ Role Alias Username Last Login Active Profile Manager | Edit Chatter Expert Chatter chatty.00d9000000000x9eam.ih6mvzuphlxt@chatter.salesforce.com ✓ Chatter Free User System Administrator yadav, Vikram 11/12/2013 8:10 AM Edit yogesh@lvs.com sharma, yoqesh <u>yshar</u> Edit yadav, Vikram Recruiter yp.01012013@gmail.com 11/7/2013 9:00 AM <u>Manager</u> New User Reset Password(s) Add Multiple Users

Then you can find Development Mode and checked check box then click on save button.

After then you can click on view icon that time, there is VisualForce to ask you to create new page because the page is open in development mode.

Visualforce Error



Page Hom does not exist



Second type of create VisualForce page:

go to web browser type UR L, you can see below. Ex : Http:// SalesForce link after login/apex/Page Name



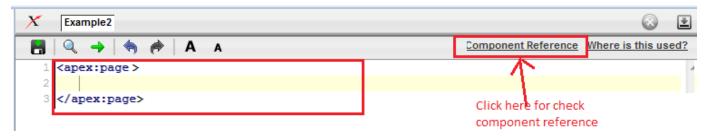
Using the VisualForce Component Library

VisualForce <apex:page></apex:page> tag is use mandatory, tag must be placed at start and end of all VisualForce markup.

and also VisualForce supports all html tag. For example : ,

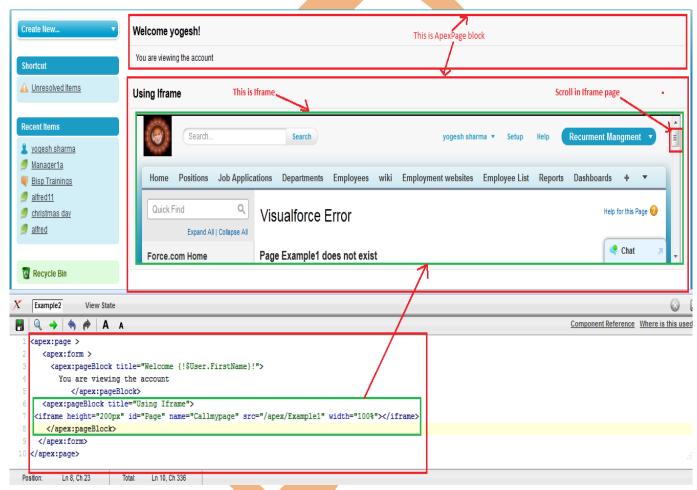
How to use VisualForce Component Library:

Just go to create new page. For example I will create Example2 . You can see below.



When you click on Component Reference link you can see new web page. On this web page all Component with syntax are available, which Component you want to add Just write in code window. see below.

And also see how to use Iframe in VisualForce page.

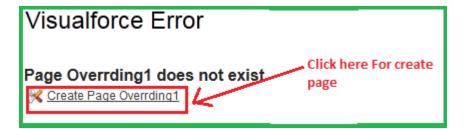


Overriding an Existing Page with a VisualForce Page

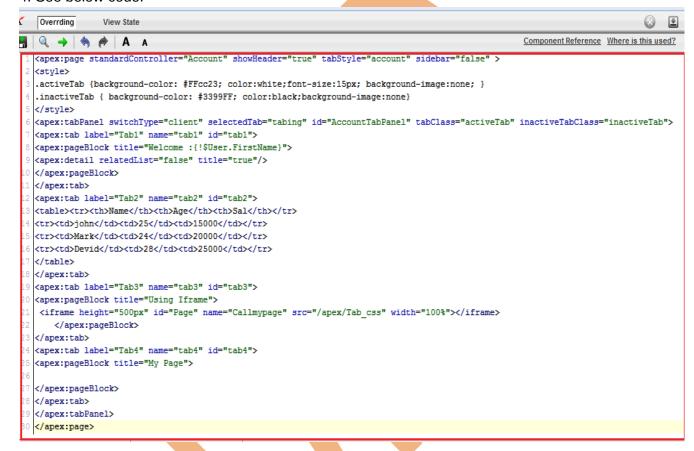
If you need to change the format of an existing page, such as the standard account detail page. All the information displays on a single page. If there's a lot of information, you might end up doing a lot of scrolling. Using VisualForce in a page you can make each section(Tab) for an account display in a tab.

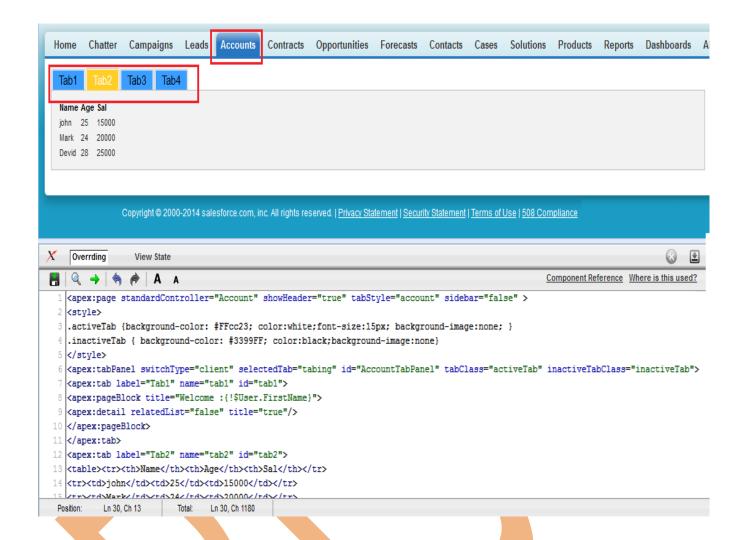
1. Firstly, Create a new VisualForce page using the quick fix. /apex/PageName

For Example We create this page https://c.ap1.visual.force.com/apex/Overrding



- 2. Create Overriding page.
- 3. Delete Existing code. and paste it below code.
- 4. See below code.

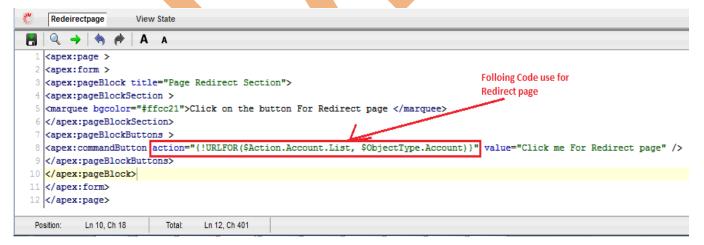




Redirecting to a Standard Object List Page

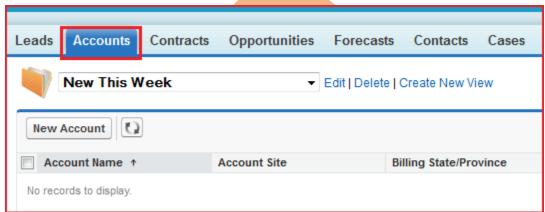
In Salesforce.com, buttons or links that navigate a user to a standard tab, you can redirect the content to present a list of standard objects.

Create a VisualForce page with the following markup: Following code uses command button, see below.





After Click on this button you can see page redirect Account page. you can see below.



Using Input Components in a Page

In VisualForce you can use the <apex:form> tag with one or more input components and a <apex:commandLink> or <apex:commandButton> tag to submit the form.

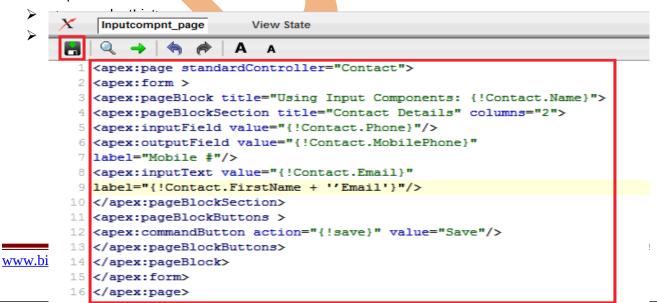
The input component tag:

- <apex:inputCheckbox>
- <apex:inputField>
- <apex:inputSecret>
- <apex:inputText>
- <apex:inputTextarea>
- <apex:outputField>
- <apex:outputText>

Position:

Ln 9, Ch 13

<apex:selectCheckboxes>



Ln 16, Ch 529

Total:

