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Problem statement :

Design and develop custom application (mini project) using salesforce cloud platform

Title : Design a calculator using salesforce cloud platform

Objective :

1) One will be able to create applications in salesforce.com
2) One will be able to deploy application in salesforce.com in developer consoler
3) Will be able to describe the importance of salesforce.com which is a CRM platform

Outcome :

1) Able to create and deploy applications on salesforce.com developer console using apex programming language
2) Understood the various construct of Apex Programming language
3) Understood the importance of Salesforce.com platform

Methodology :

Salesforce Background:

Salesforce, Inc. is a famous American cloud-based software company that provides CRM services. Salesforce is a popular CRM tool for support, sales, and marketing teams worldwide.

Salesforce services allow businesses to use cloud technology to better connect with partners, customers, and potential customers. Using the Salesforce CRM, companies can track customer activity, market to customers, and many more services.

A CRM platform helps you go deeper with all your metrics and data; you could also set up a dashboard that showcases your data visually. In addition to this,

you can also have personalized outreach with automation. Another significant benefit is that a CRM platform can also improve customer service's ability to help customers or a sales team's outreach efforts.

Salesforce Architecture:

1. Multi-tenant: Salesforce stores data in a single database schema. There can be a single instance of a software server with multiple tenants. Speaking about a multi-tenant architecture, there is a single shared application service to several clients. This makes it cost-effective. On the contrary, in a single tenant, the development and maintenance cost must be entirely owned by one client. Hence the multi-tenant architecture is a boon.
2. Metadata: Salesforce uses a metadata-driven development model. This allows developers to only focus on building the application. This metadata-driven platform makes customization and scaling up easy.
3. API: Salesforce provides a powerful source of APIs. This helps in developing and customizing the Salesforce1 Mobile App. Every feature of the Salesforce design has been planned and implemented precisely.

Salesforce Services :

Moving on, you will explore the Services offered by Salesforce:

- SAAS (Software As A Service): Here, you can directly obtain the built-in software and make use of it.
- PAAS (Platform As A Service): PAAS offers you the framework and platform to build your websites and apps.
- IAAS (Infrastructure As A Service): IAAS plays a vital role in Salesforce development, although not very widely used.

Salesforce Cloud Services:

The next topic is Salesforce Cloud Services. Here's a list of the Salesforce cloud services that are going to be highlighted in this tutorial on what is Salesforce.

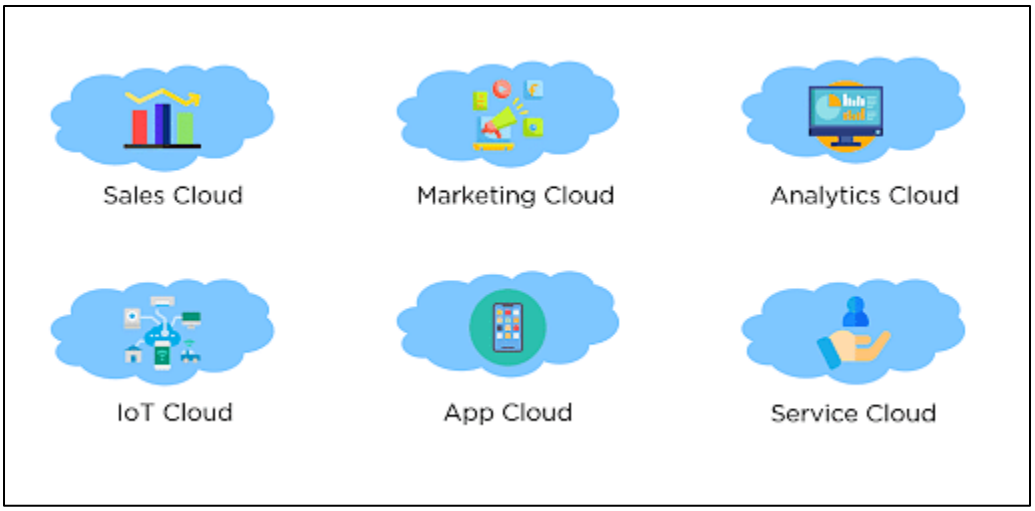


Fig: Different Salesforce Cloud Services

1. Sales Cloud: It is one of the most essential and popular products of Salesforce. It is a CRM platform that allows you to manage your company's sales, marketing, and customer support aspects. Sales Cloud gives you the status of the lead that will be helpful for sales executives.
2. Marketing Cloud: Marketing is crucial when it comes to running a business. Marketing cloud lets you run campaigns, manage emails, messages, social media, content management, data analytics, etc., with the help of a tracking system.
3. Analytics Cloud: This enables users to create a highly visually appealing dashboard of the available data. By doing so, you can get an in-depth understanding and analyze the trends, business, and more.
4. IoT Cloud: Salesforce IoT cloud is used when your company needs to handle the Internet of Things (IoT) data. This platform can take vast

volumes of data generated by various IoT devices; following this, you get real-time responses.

5. Salesforce App Cloud: You can use this service to develop custom apps that will run on the Salesforce platform.
6. Salesforce Service Cloud: Salesforce also helps you serve your customers. This is a service platform for your organization's support team. It provides features like case tracking and social networking plug-in.

These were a few of the top cloud services offered by Salesforce. Due to its diverse options, companies use Salesforce to assist with sales, marketing, and analysis.

Salesforce Applications

The next topic in this tutorial on what is Salesforce is about Salesforce applications. Here, you will have a look at a few applications that make Salesforce popular.

- Customer Service: Salesforce provides excellent customer service from anywhere in the world. It helps in resolving customer issues faster and improves support agent response time. Salesforce allows you to unify email, social, phone, and chat support and helps manage every channel from one view.
- Customize Data: Salesforce allows you to handle and customize different types of data. It helps you track real-time analytics and enhance the customer experience.
- Flexible Data Reporting and Analysis: Salesforce allows flexible data reporting and analysis. Here, sales representatives can create their reports to check the accounts they haven't worked on for a while.
- Understand Customer Data: The Salesforce tool makes you understand customer data, identify their interests and perception. You can locate and

re-engage inactive customers and increase sales by tracking customer interaction.

Resources Used :

Software requirements		
1	Internet Browser - Chrome	Latest version
2	Salesforce cloud platform	Web application
Hardware requirements		
1	Computer / Laptop	Processor : i5 Ram : 8GB HDD : 1TB GPU : 2GB Nvidia

Implementation Details :

Calculator.vfp

```
<apex:page controller="Calculator1">
<apex:form >
   <apex:pageBlock >
      <apex:pageBlockSection >
         <apex:pageBlockSectionItem >
            <apex:outputLabel value="Value 1"/>
         </apex:pageBlockSectionItem>
         <apex:pageBlockSectionItem >
            <apex:inputText value="{!val1}"/>
         </apex:pageBlockSectionItem>
         <apex:pageBlockSectionItem >
            <apex:outputLabel value="Value 2"/>
         </apex:pageBlockSectionItem>
```

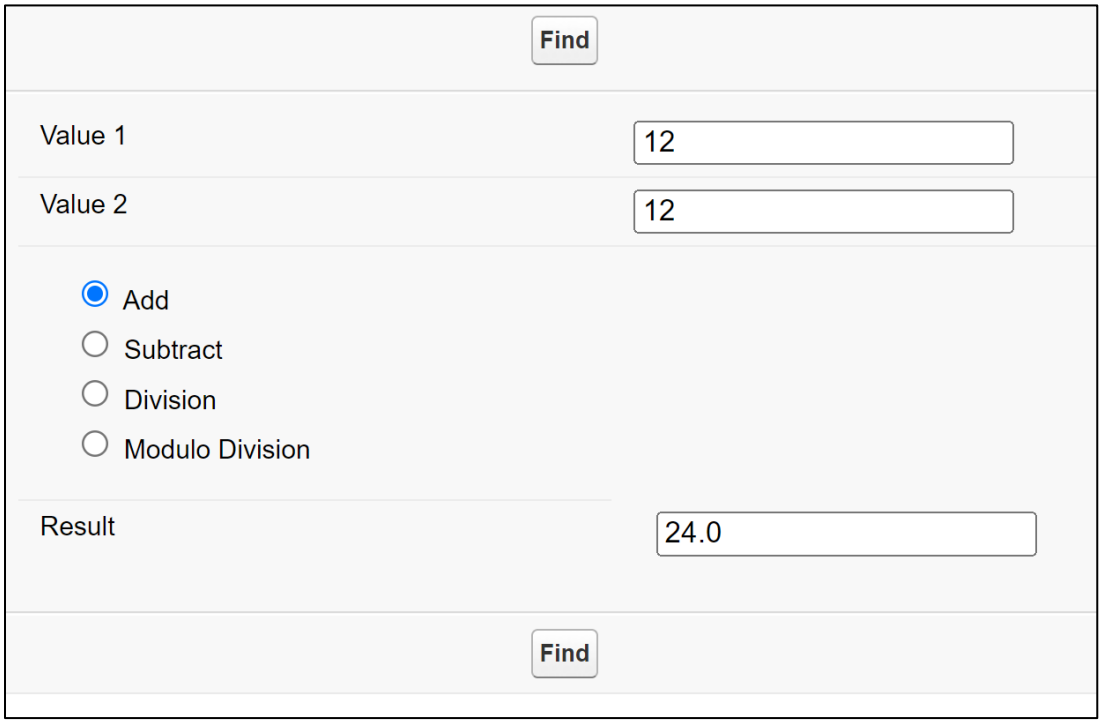
```
            <apex:pageBlockSectionItem >
               <apex:inputText value="{!val2}"/>
            </apex:pageBlockSectionItem>
            <apex:pageBlockSectionItem >
               <apex:selectRadio                    value="{!func}"
   layout="pageDirection">
                  <apex:selectOption                itemValue="add"
   itemLabel="Add"/>
                  <apex:selectOption                itemValue="sub"
   itemLabel="Subtract"/>
                  <apex:selectOption                itemValue="div"
   itemLabel="Division"/>
                  <apex:selectOption                itemValue="mod"
   itemLabel="Modulo Division"/>
               </apex:selectRadio>
            </apex:pageBlockSectionItem>
            <apex:pageBlockSectionItem >
            </apex:pageBlockSectionItem>
            <apex:pageBlockSectionItem >
               <apex:outputLabel value="Result"/>
            </apex:pageBlockSectionItem>
            <apex:pageBlockSectionItem >
               <apex:inputText                       value="{!result}"
id="res"/><apex:actionStatus id="sts" startText="Finding..."/>
            </apex:pageBlockSectionItem>
         </apex:pageBlockSection>
         <apex:pageBlockButtons >
            <apex:commandButton      value="Find"      action="{!find}"
reReRender="res"  status="sts"/>
         </apex:pageBlockButtons>
      </apex:pageBlock>
     </apex:form>
   </apex:page>
```

Calculator.apxc

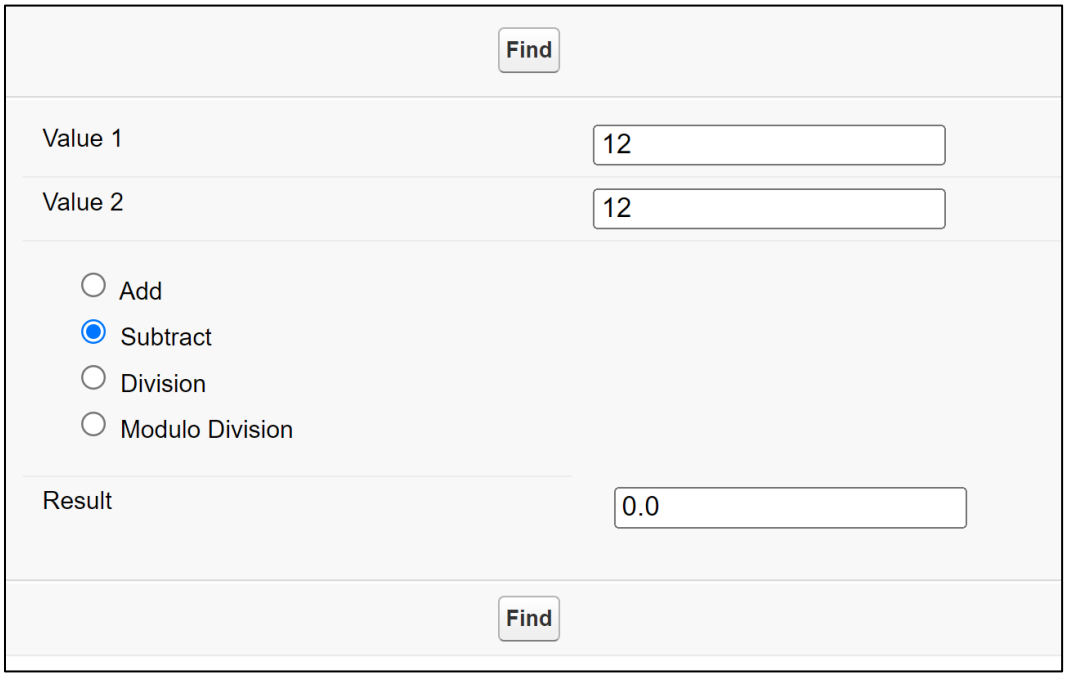
```
public class Calculator1
{
   public Double val1 {get;set;}
   public Double val2 {get;set;}
   public Double result {get;set;}
   public String func {get;set;}
   public Calculator1() {}
   public void find()
   {
      if(func == 'add')
      {
         result = val1 + val2;
      }
      else if(func == 'sub')
      {
          result = val1 - val2;
      }
      else if(func == 'div')
      {
          result = val1 / val2;
      }
      else
      {
          Integer temp = math.mod(Integer.valueOf(val1) ,
          Integer.valueOf(val2));
          result = Double.valueOf(temp);
      }
   }
}
```

Output

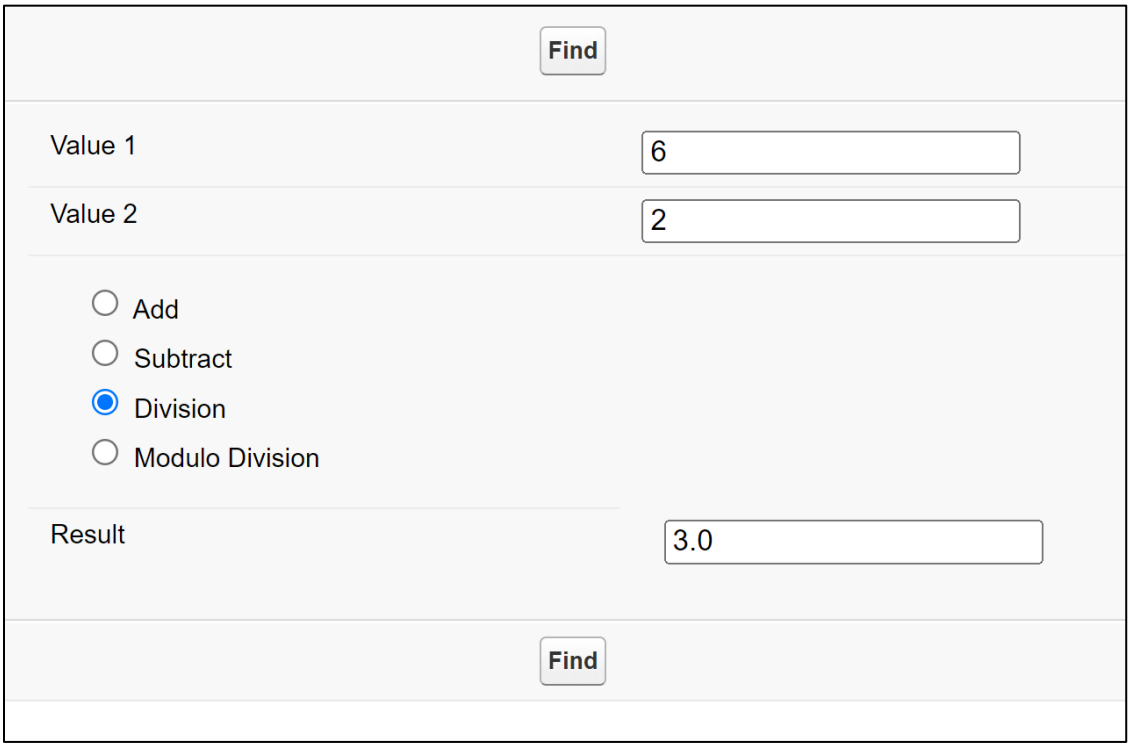
1) Addition operation



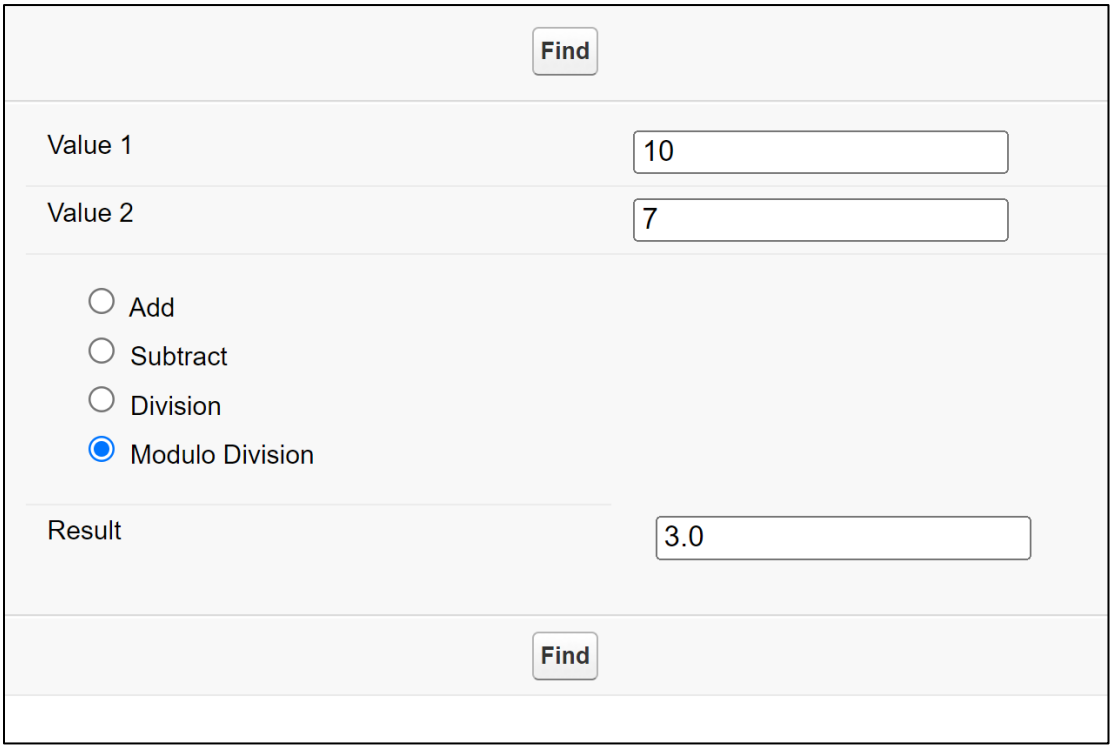
2) Subtraction operation



3) Division operation



4) Modulus operation



Conclusion

Using salesforce developer console, I've successfully created and deployed a fully functional calculator using Apex Programming Language.

References

1) https://www.salesforce.com/products/what-is-salesforce/

2) https://www.simplilearn.com/what-is-salesforce-article

3) https://intellipaat.com/blog/what-is-salesforce/