Getting Started with SalesForce CRM

Implementing Business Process in SALESFORCE Part 1

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 SalesForce Developer Certification Hands-On Guide Lab#1. Join our professional training program and learn from experts.

History:

Version	Description Change	Author	Publish Date
0.1	Initial Draft	Chandra Prakash Sharma	10th Jan 2013
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Contents

Vlookup

VLOOKUP() is a function it used in validation, VLOOKUP Function Similar to its Excel counterpart, the VLOOKUP function lets you use data in another object as a basis for validation.

Add a Validation Rule on the Employee which checks whether there are any existing Employee records with the same name if so stop the User from saving it. Here comes the role of VLOOKUP.

- Currently SalesForce uses Vlookup for validations.
- VLOOKUP can only be done on the Name fields.
- The field_to_return must be an auto number, roll-up summary, lookup relationship, master-detail relationship, checkbox, date, date/time, email, number, percent, phone, picklist, text, text area, or URL field type.
- The field_on_lookup_object must be the Record Name field on a custom object.
- The field_on_lookup_object and lookup_value must be the same data type.

VLOOKUP

Description:	Returns a value by looking up a related value on a custom object similar to the VLOOKUP() Excel function.
Use:	VLOOKUP(***field_to_return, field_on_lookup_object, lookup_value***) and replace *field_to_return* with the field that contains the value you want returned, *field_on_lookup_object* with the field on the related object that contains the value you want to match, and *lookup_value* with the value you want to match.
Validation Rule Example:	This example checks that a billing postal code is valid by looking up the first five characters of the value in a custom object called Zip_Code__c that contains a record for every valid zip code in the US. If the zip code is not found in the Zip_Code__c object or the billing state does not match the corresponding State_Code__c in the Zip_Code__c object, an error is displayed.

```
AND( LEN(BillingPostalCode) > 0, OR(BillingCountry = "USA",
BillingCountry = "US"),
                    VLOOKUP(
$ObjectType.Zip_Code__c.Fields.State_Code__c,
$ObjectType.Zip_Code__c.Fields.Name, LEFT(BillingPostalCode,5))
<>
                    BillingState )
```

REGEX(Regular Expression)

Regex is a regular expression it provide validation. A regular expression (regex) is a special text string for describing a search pattern in SalesForce. You are probably familiar with wildcard notations such as *.* or *.txt to find all text files in a file manager. The regex equivalent is **.*\.txt$.**

Character	**Meaning**
$	assert end of string (or line, in multiline mode)
/	general escape character with several uses
^	assert start of string or line, in multiline mode
.	match any character except newline
[	start character class definition
]	End character class definition
|	start of alternative branch

(	start sub pattern
)	end sub pattern
?	extends the meaning of , or 0/1 quantifier, or quantifier minimize
*****	0 or more quantifier
+	1 or more quantifier, also "possessive quantifier"
{	start min/max quantifier

Here the code for Matching String to Email pattern In SalesForce

```
public static Boolean checkEmailFormat(String regemail) {
        String regexemali = '[a-zA-Z0-9\\.\\!\\#\\$\\%\\&\\*\\/\\=\\?\\^\\_\\+\\-\\`\\
{\\|\\}\\~\'._%+-]+@[a-zA-Z0-9\\-.-]+\\.[a-zA-Z]+';
        Pattern MyPattern = Pattern.compile(regexemali);
        Matcher MyMatcher = MyPattern.matcher(reegemail);
        Boolean result = MyMatcher.matches();
        return result;
   }
```

ISCHANGED

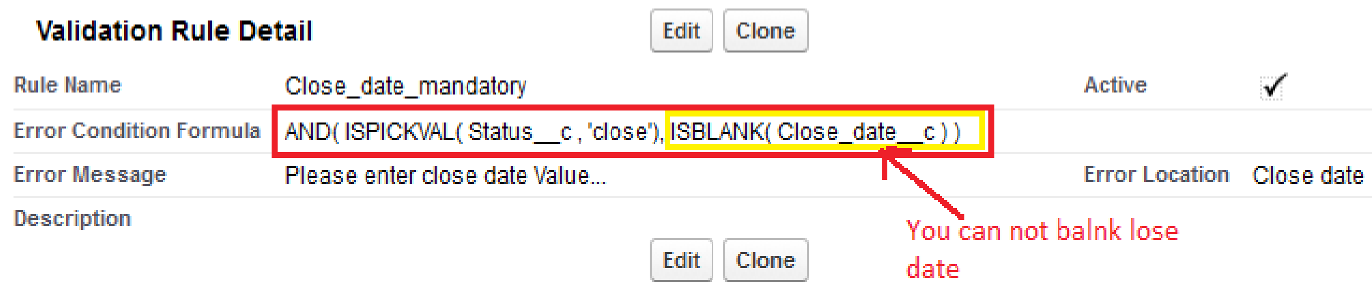
ISBLANK(Expression) check whatever an expression an return TRUE or FALSE.

Function	Description	Use
ISCHANGED	Compares the value of a field to the previous value and returns TRUE if the values are different. If the values are the same, this function returns FALSE.	ISCHANGED(***field***) and replace *field* with the name of the field you want to compare.

Validation Rule Example: The following validation rule prevents users from changing an object name after it has been created: `NOT(ISCHANGED(Name))`

`NOT(AND(ISCHANGED(Priority), ISPICKVAL(Priority, “Low”)))` is a validation rule that ensures if a user changes the Priority of a case, the new priority cannot be “Low.” `NOT(AND(ISCHANGED(CloseDate), OR(MONTH(CloseDate) <> MONTH(TODAY()), YEAR(CloseDate) <> YEAR(TODAY())),$Profile.Name <> "IT Manager"))` is a validation rule that prevents a user from changing the Close Date of an opportunity to a date outside of the current month and year unless that user has the “IT Manager” profile.

Example :- if you want any costume object close date field should not blank you can go **Step** > **Create** > **Objects** > Select **costume object** then find **Validation Rules** and click on **New** button after the you can write formula. then save it.

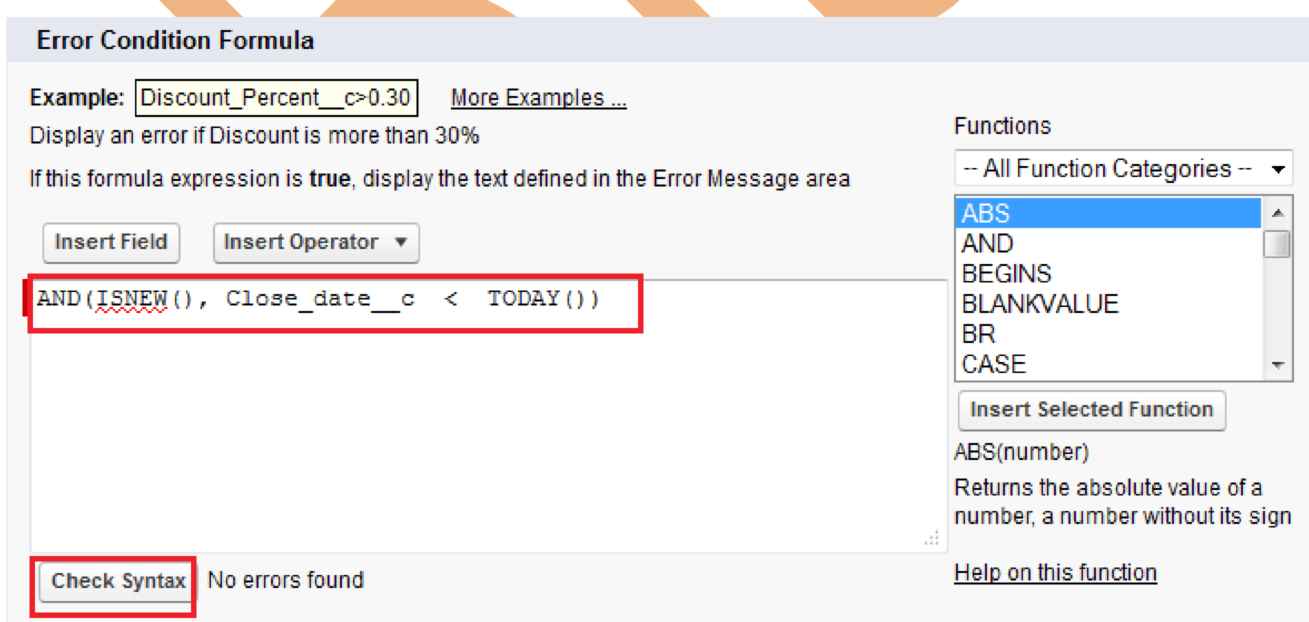


ISNEW

Checks if the formula is running during the creation of a new record and returns TRUE if it is. If an existing record is being updated, this function returns FALSE.

Validation Rule Example:
Use the following validation rule to prevent users from creating a record with a close date in the past. AND (ISNEW(), CloseDate < TODAY()) checks if the user is creating a new opportunity and, if so, ensures that the Close Date is today or after today.
Use this validation rule to ensure users add at least one product to an opportunity after they have created it.
NOT(OR(ISNEW(),HasOpportunityLineItem))
In this example, the validation rule formula displays the following error message when an existing opportunity does not have any products: "You must add products to this opportunity before saving." This does not display an error on the initial save because they cannot add products until after saving the record initially; but it prevents them from resaving or closing an opportunity that does not contain products.

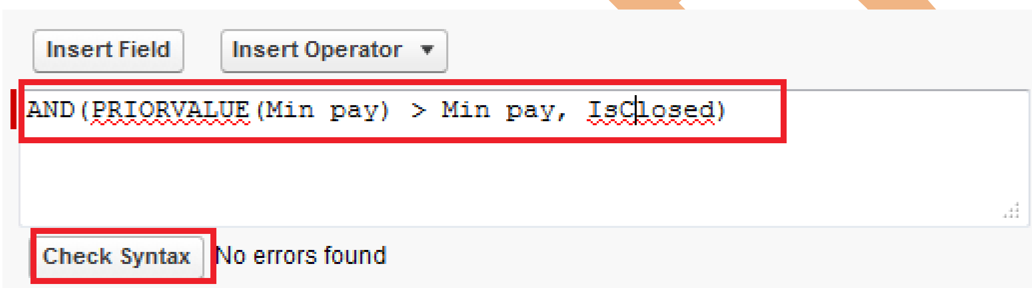
Example :- There is you can check is close date not less then to Today date.



PRIORVALUE

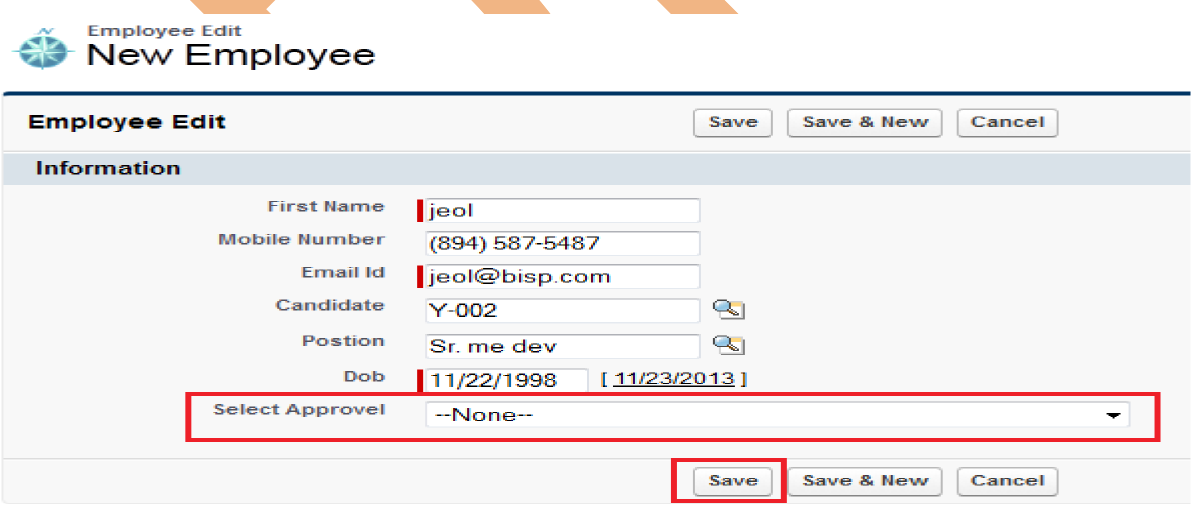
Function	Description	Use
PRIORVALUE	Returns the previous value of a field.	PRIORVALUE(***field***)

Validation Rule Example:
The following validation rule prevents users from changing the expected revenue of an opportunity after it is closed: AND(PRIORVALUE(Min pay) > Min pay, IsClosed).

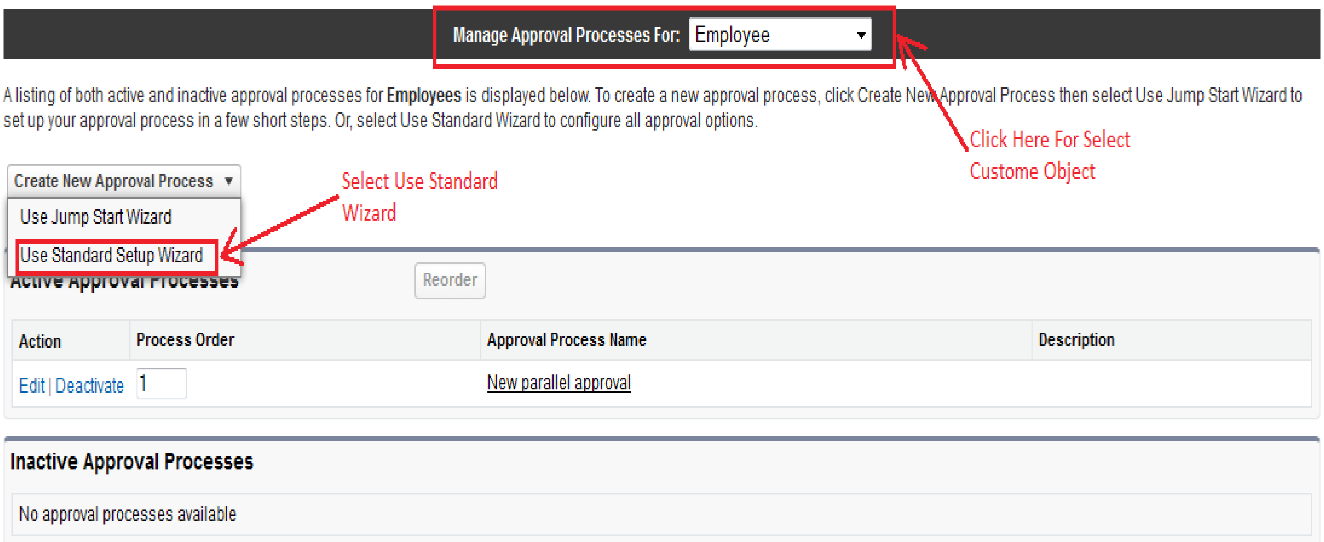


parallel approval processes

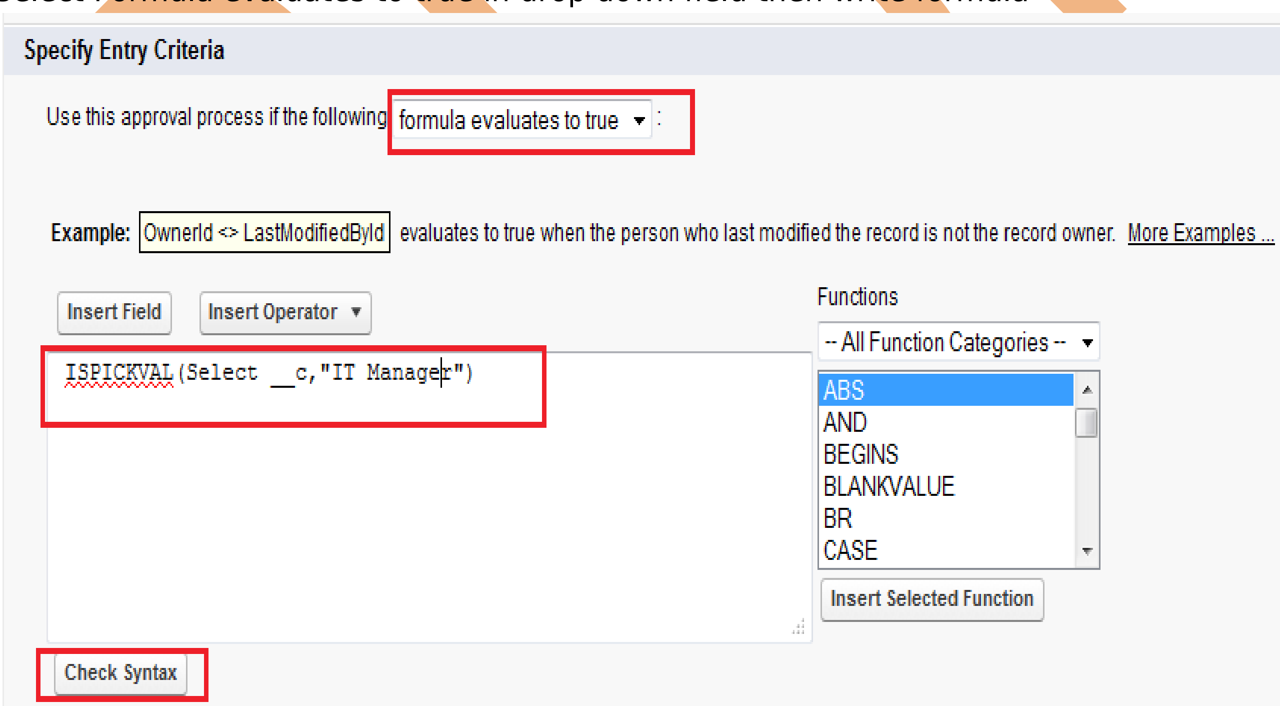
For Create **P**arallel Approval Processes first Create costume object (Ex : Emplyee) then in costume create Drop down (Picklist) field and give any name then add the **values (IT Manager, HR Manager and Sales Manager, IT Manager & HR Manager, IT Manager & Sales Manager, HR Manager & Sales Manager , IT Manager & HR Manager values & Sales Manager)**
Example: Entry criteria:- ISPICKVAL(Select __c,"IT Manager")
Approval only to IT manager.)
You can see below



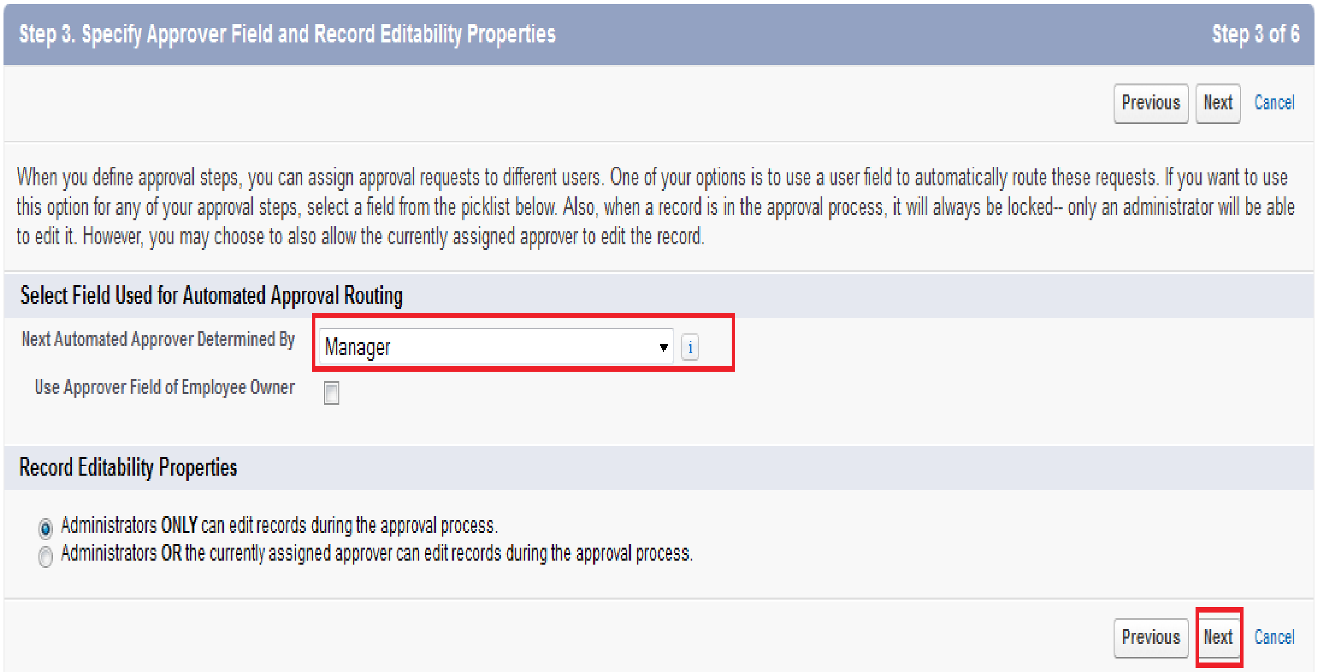
For Create Approval Process :
Setup > Create > Workflow & approvals > Approval Processes



Step 1 :- fill all fields and click **Next** button.
Step 2 :-
Select Formula evaluates to true in drop down field then write formula

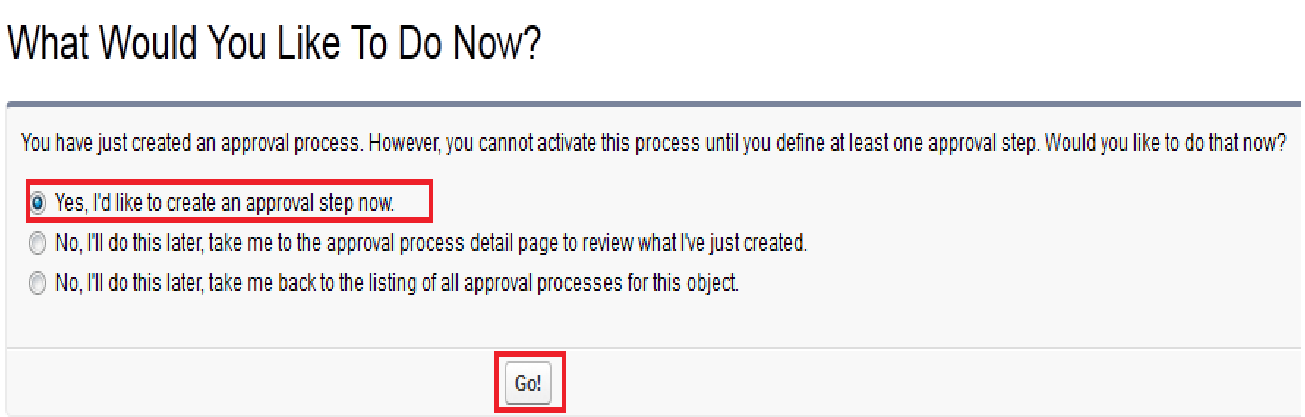


Step 3 :-

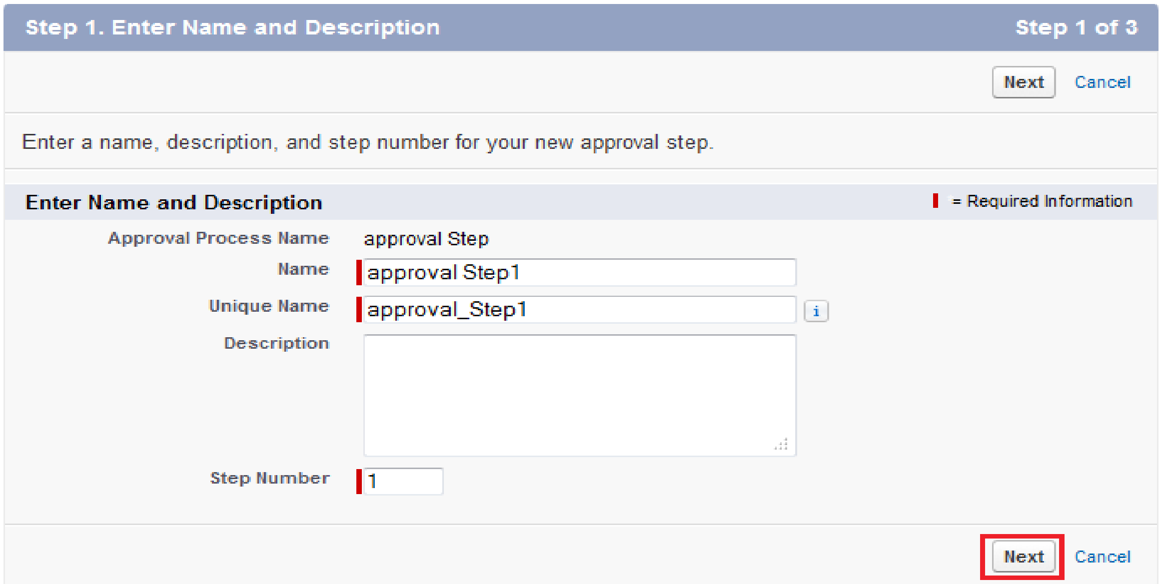


Step 4 :-
Select Notification Templates and click on Next button.
Step 5 :- Select Fields to Display on Approval Page Layout and click to Next button.

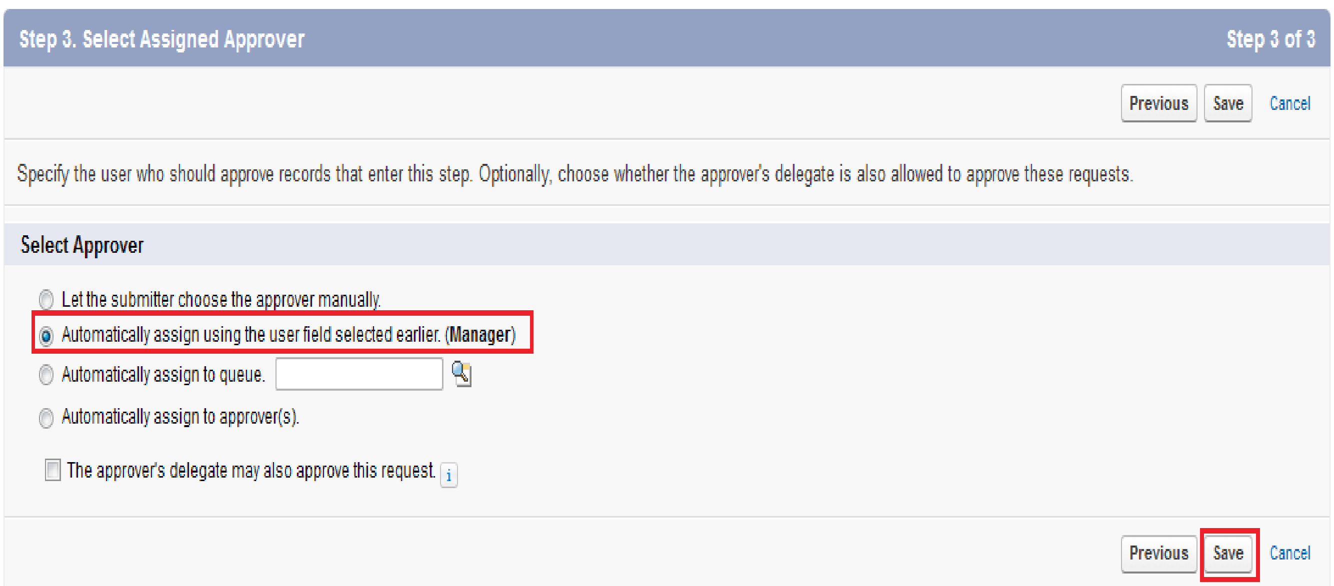
Step 6 :-
Then Click on Save button.
After Then Assigned Approver Process .
Step 1 :-



Step 2 :-



Step 3 :- Select Automatically Assign then click on Save button.



Dynamic Approval Process using Apex and Trigger in SalesForce

Dynamic approval process is used to route approval requests to user listed in lookup fields on the record
requiring approval.
Approval Process, one employee request is approved or rejected is based on his decision.
but there are 4 or 5 employee wait for same process So in this scenario approval process default it give dynamic approval.

1- Automatically submit the record for approval on the basis of field value.
2- Automatically select the next Approver.
3- Approve / Reject the record on the basis of field

dynamic submit the approval process using trigger :

```
public void dynamicApproval(Emplyees emp)
   {
      // Create an approval request for the Emplyees
      Approval.ProcessSubmitRequest req = new Approval.ProcessSubmitRequest();
      req.setComments('Submitting request');
      req.setObjectId(emp.id);
      req.setNextApproverIds(new Id[] {emp.New_Approver__c});

      // Submit the approval request for the Emplyees
      Approval.ProcessResult result = Approval.process(req);
   }
```

Below method is used to dynamic approve the process using trigger.

```
   public void approveNew(Emplyees emp)
   {
      Approval.ProcessWorkitemrequest req2 = new
Approval.ProcessWorkitemrequest();
      req2.setComments('Approving request using Trigger');
      req2.setAction('Approve');
      req2.setNextApproverIds(new Id[] {emp.New_Approver__c});
      Id EmpID = getEmpID(emp.id);
      if(EmpID == null)
      {
         emp.addError('Error');
       }
      else
      {
         req2.setEmpID(EmpID);
         Approval.ProcessResult result =  Approval.process(req2);
```

```
    }
}
```

Field history tracking to audit processes :

Field history tracking :
Field history tracking allows you to save all data when the values create new fields and update value etc.
go to **Setup** > **Create** > **Objects** > Select any **costume object** and **Custom Fields & Relationships** and click on **Set History tracking** then set Tracking.

Audit Processes :
Setup > **Security Controls** > **View Setup Audio Trail**
The setup audit trail history shows you the 20 most recent setup changes made to your organization. you can download .CSV file.

View Setup Audit Trail

Help for this Page

The last 20 entries for your organization are listed below. You can download your organization's setup audit trail for the last six months (Excel .csv file).

View Setup Audit Trail

Date	User	Action	Section	Delegate User
11/23/2013 12:00:16 PM IST	yogesh@lvs.com	Added Action: Schedule Interview for Approval Process: approval Step for Object: Employee	Approval Process	
11/23/2013 12:00:16 PM IST	yogesh@lvs.com	Created Task Schedule Interview for Object: Employee	Workflow Rule	
11/23/2013 11:55:53 AM IST	yogesh@lvs.com	Created Process Step: approval Step1 for Approval Process: approval Step for Object: Employee	Approval Process	
11/23/2013 11:44:49 AM IST	yogesh@lvs.com	Created Approval Process: approval Step for Object: Employee	Approval Process	
11/22/2013 4:19:10 PM IST	yogesh@lvs.com	Activated Approval Process: New parallel approval for Object: Employee	Approval Process	
11/22/2013 2:59:36 PM IST	yogesh@lvs.com	Created custom field Select Approvel (Picklist) on Employees	Custom Objects	
11/22/2013 11:23:11 AM IST	yogesh@lvs.com	New Departments validation rule "Close_date_greter"	Validation Rules	

Download setup audit trail for last six months (Excel .csv file) »

Outbound Messages as part of an approval process

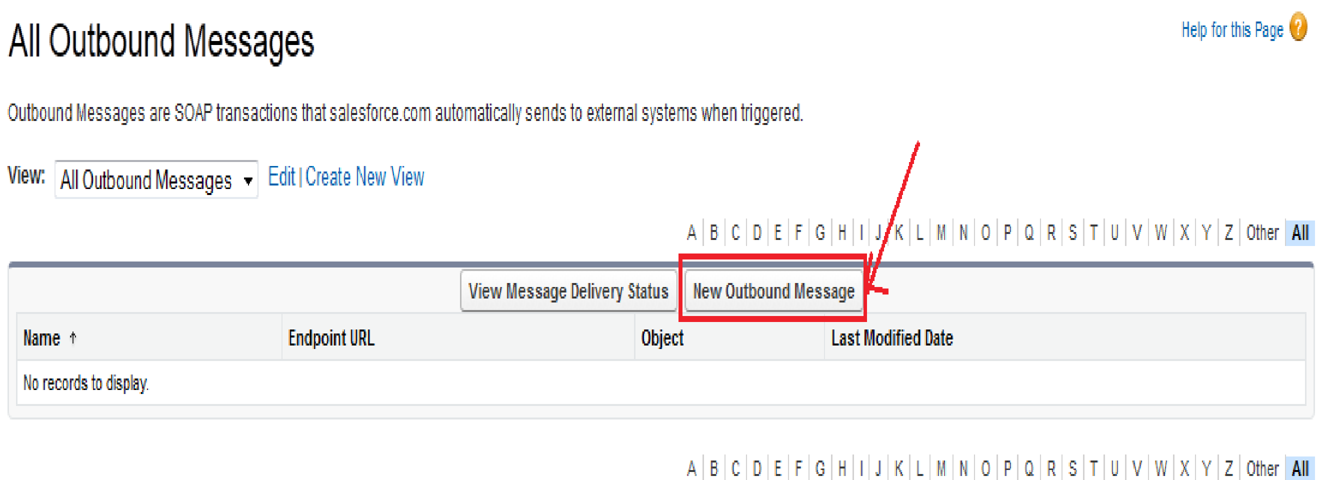
An outbound message is a workflow, approval, or milestone. An outbound message sends the data in the specified fields in the form of a SOAP message to the endpoint.

or

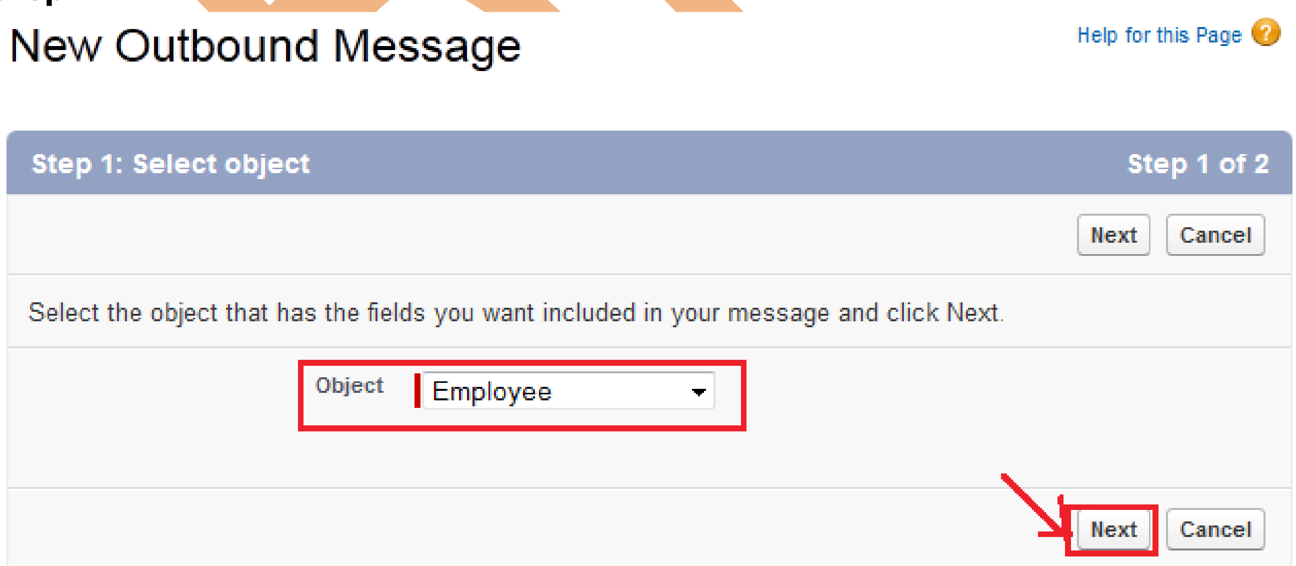
Outbound Messages are SOAP transactions that salesforce.com automatically sends to external systems when triggered.

How to Create Outbound Messages :
Setup > Create > Workflow & Approvals > Outbound Messages

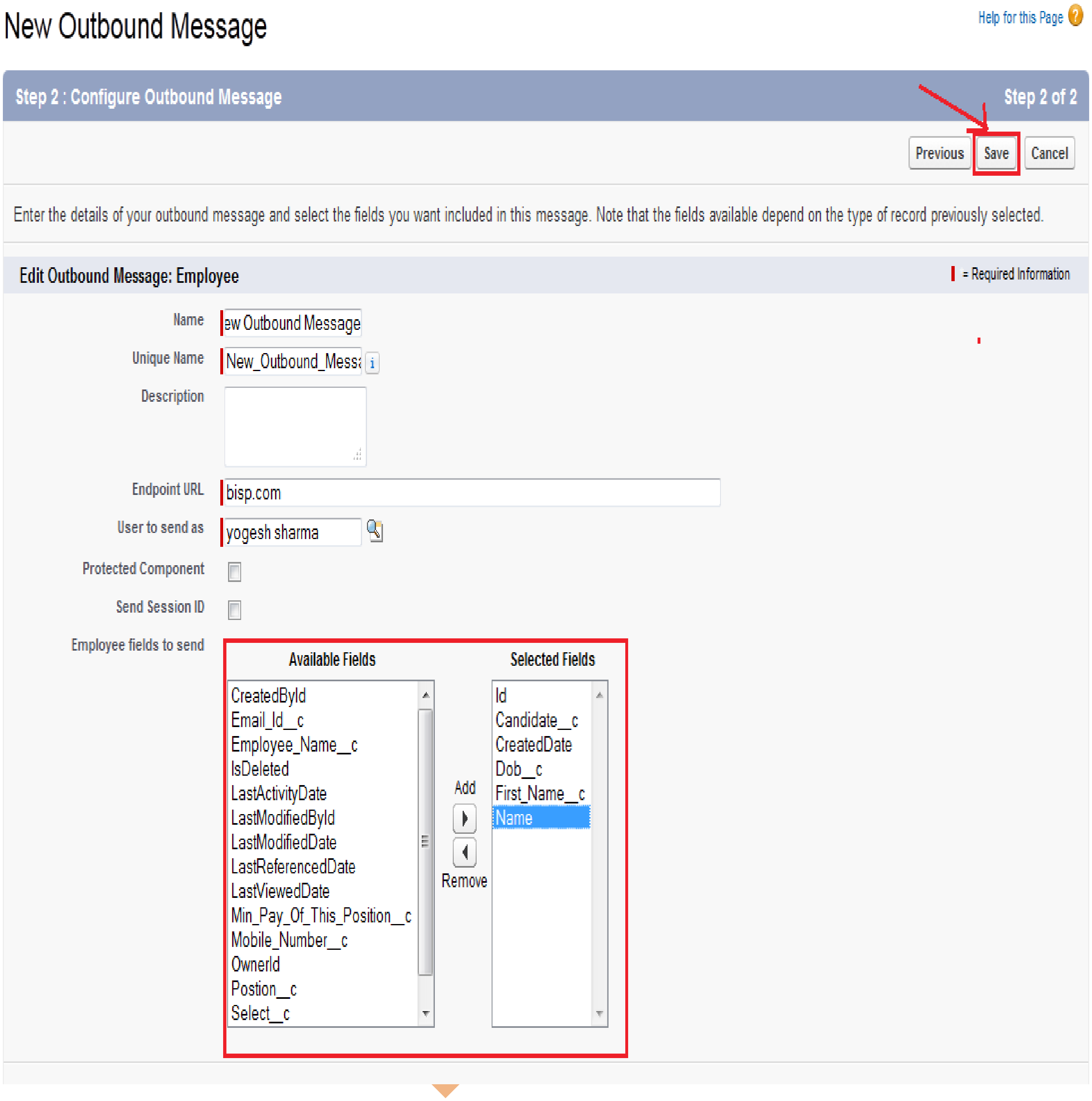
Step 1 :-



Step 2 :-



Step 3:-

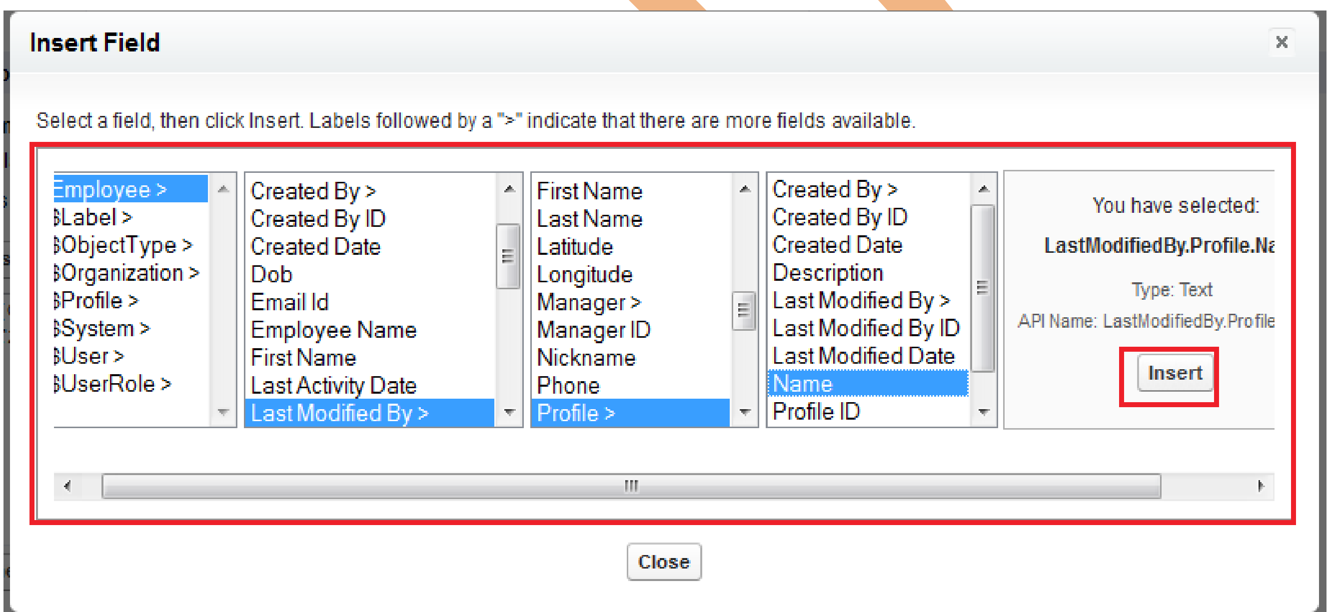

New Outbound Message
Help for this Page
Step 2 : Configure Outbound Message
Step 2 of 2
Previous
Save
Cancel
Enter the details of your outbound message and select the fields you want included in this message. Note that the fields available depend on the type of record previously selected.
Edit Outbound Message: Employee
= Required Information
Name
ew Outbound Message
Unique Name
New_Outbound_Mess
Description
Endpoint URL
bisp.com
User to send as
yogesh sharma
Protected Component
Send Session ID
Employee fields to send
Available Fields
CreatedById
Email_Id__c
Employee_Name__c
IsDeleted
LastActivityDate
LastModifiedById
LastModifiedDate
LastReferencedDate
LastViewedDate
Min_Pay_Of_This_Position__c
Mobile_Number__c
OwnerId
Postion__c
Select__c
Add
Remove
Selected Fields
Id
Candidate__c
CreatedDate
Dob__c
First_Name__c
Name

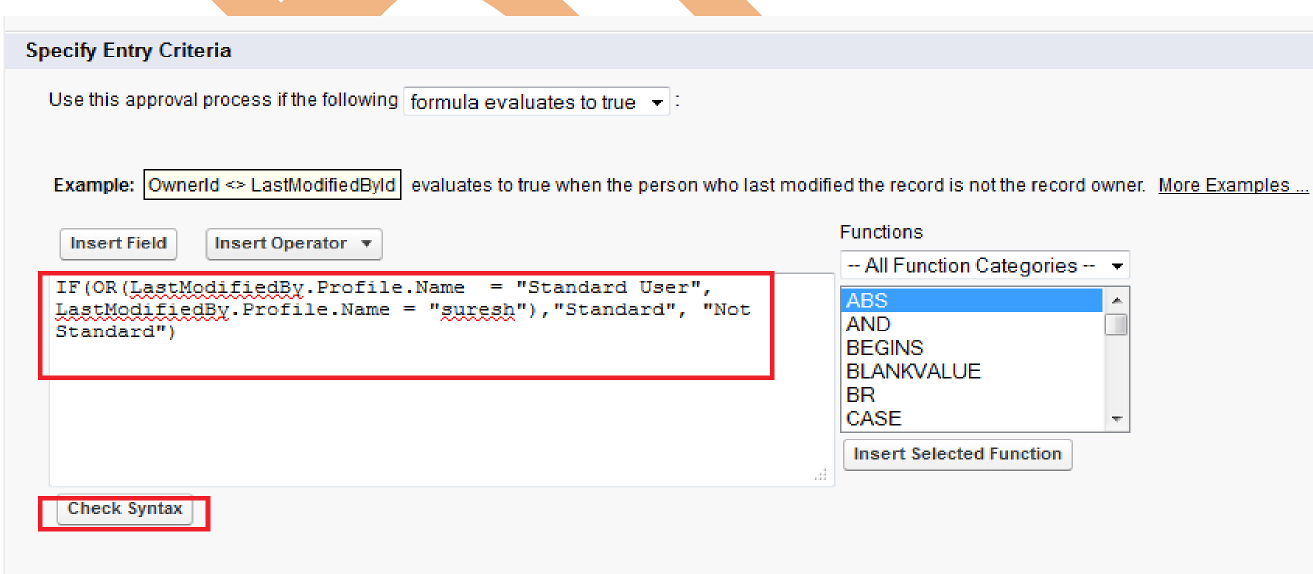
Approval Process With Cross-Object Formulas

What are Cross-Object Formulas?

Cross-object formulas are formulas that span two related objects and reference merge fields on those objects. Cross-object formulas can reference merge fields from a master ("parent") object if an object is on the detail side of a master-detail relationship.

Setup > Create > Workflow & Approvals > Approval Processes then select custom object name and adn write the code.





Record data changes

if need to changes record data there is two way first is direct on SalesForce.com in Data Import Wizard.
second is by using Data Loader.
For instance need file should look like as the exemplar below:
1. One column should be called 'ID' and it is a list of all the records 'IDs'.
2. Second column should be called 'OWNERID' and it is a list of all the users IDs.

	A	B
1	ID	OWNERID
2	0004700000MA0NsAAL	00840000002C1SXAA0
3	0004800000MA1OCAA1	00830000001W1GXAA0
4	0004700000CD8uaAAD	00720000002T1ASVV0
5		

This is a .CSV file

By using Data Loader you can upload this and change Record data changes. you need to id and owner_id the write data like a Name, City etc.

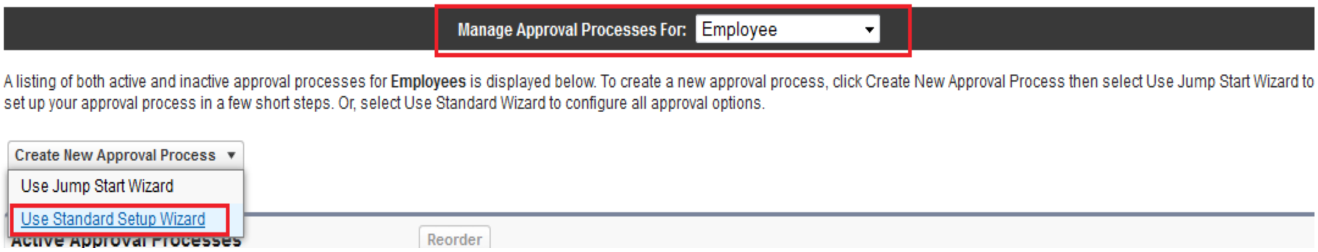
Implement multi-step approval workflows and escalations to automate business processes

Business Requirement :
we want create record Implement multi-step approval workflows.
rules for approval process below :-
- All new recorded that are above 1 automatically enter the process.
- first Step have submit manager approve or reject.
- if reject, email goes to the submitter manager and the record is flagged as "rejected".
- if approved the next approval stage is entered.
if the credit recorded is greater than 400 then the approval goes up management
- if not then final step approval/ rejection.

Create Approval Process

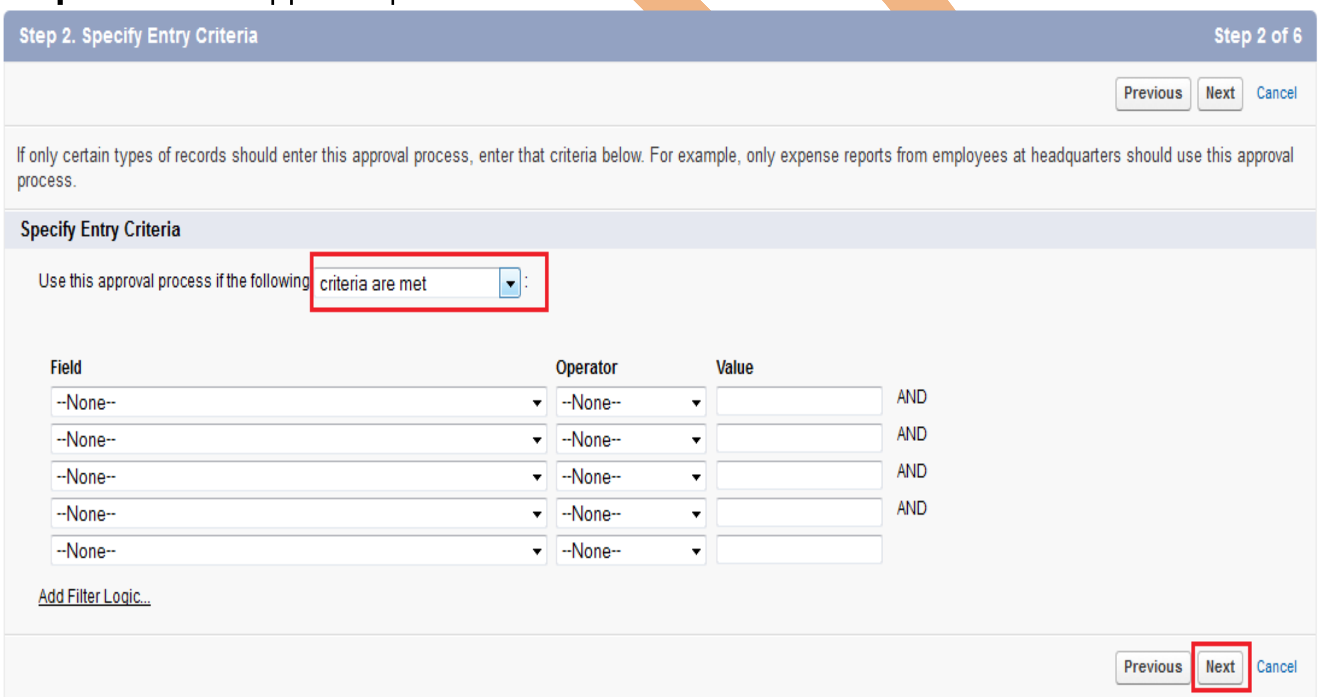
Setup > **create** > **Workflows & approvals** > **Approval Processes**

Then select the costume object

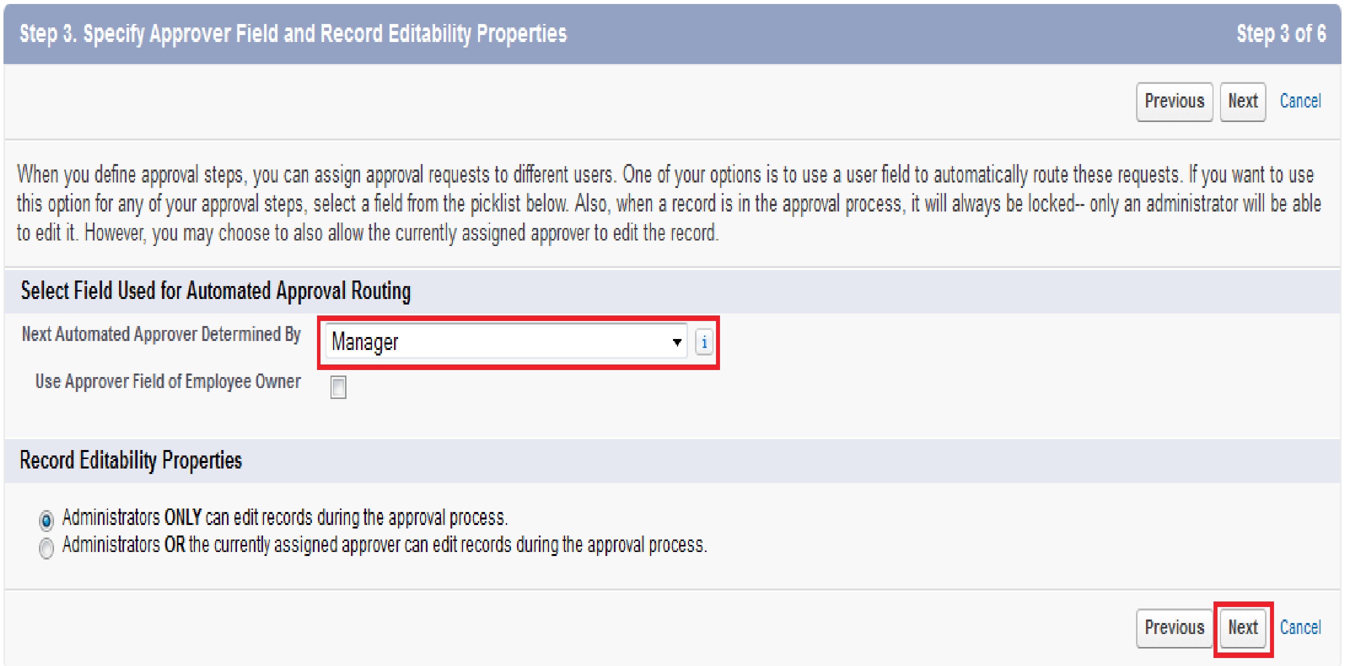


Step 1 :-
Enter Process name or Description then click on next button.

Step 2 :- Select approval process and click to next button.



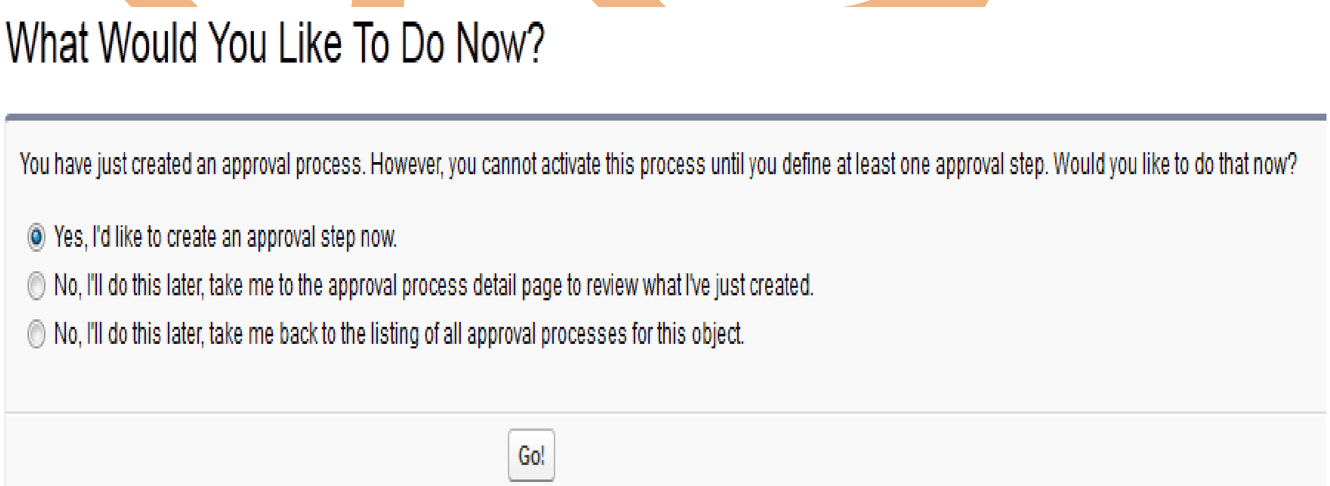
Step 3 :-



Step 4 :- Select Email template and click on **Next** button.

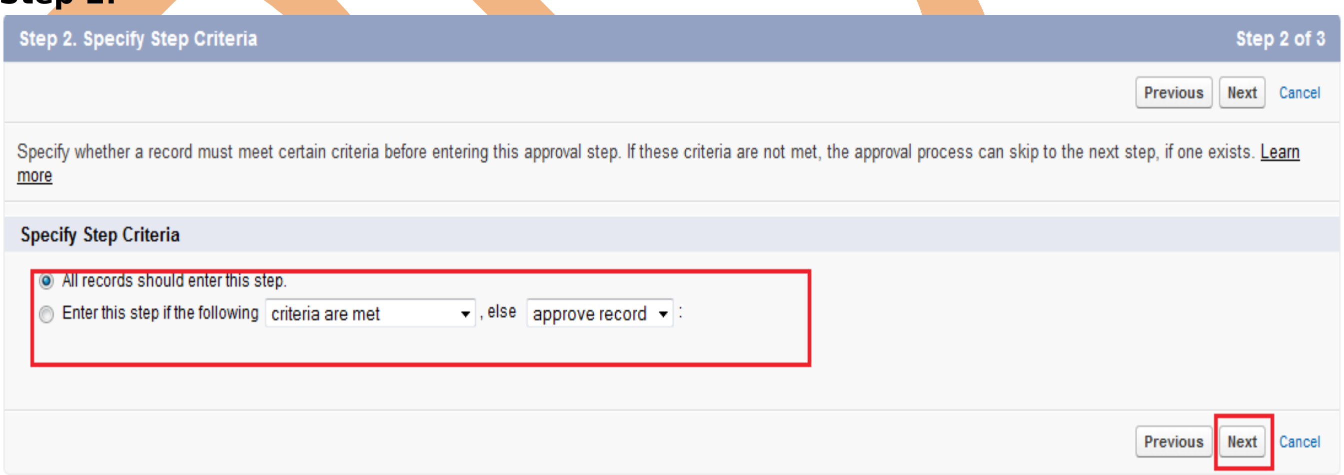
Step 5 :- Select Fields to Display on Approval Page Layout then click on **Next** button.
Step 6 :- **select** Specify Initial Submitters and click on **Save** button.

After then Approval process , select Yes, I'd like to create approval step now. click on Go button.

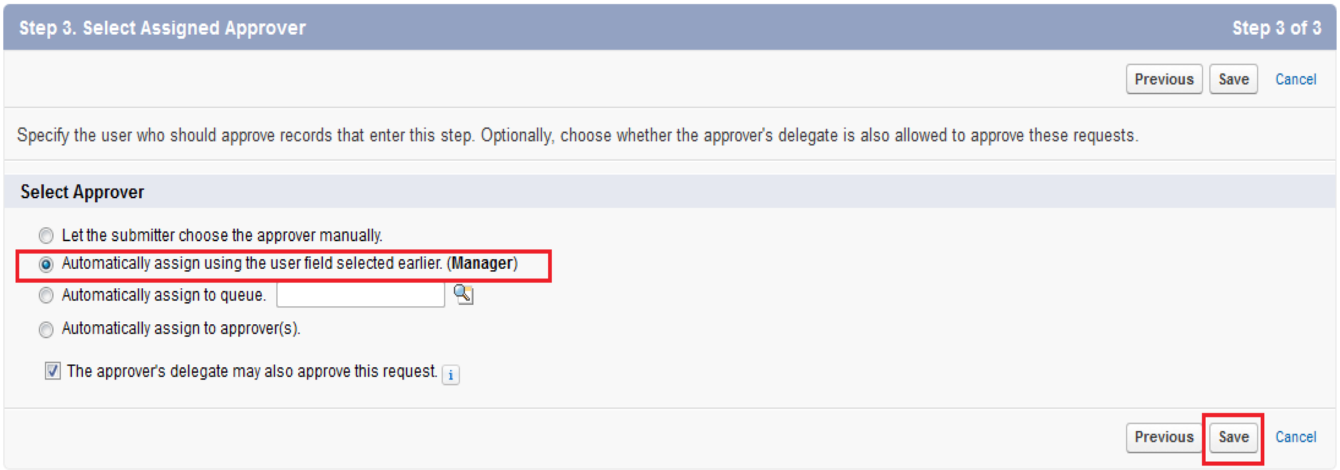


Step 1 :-

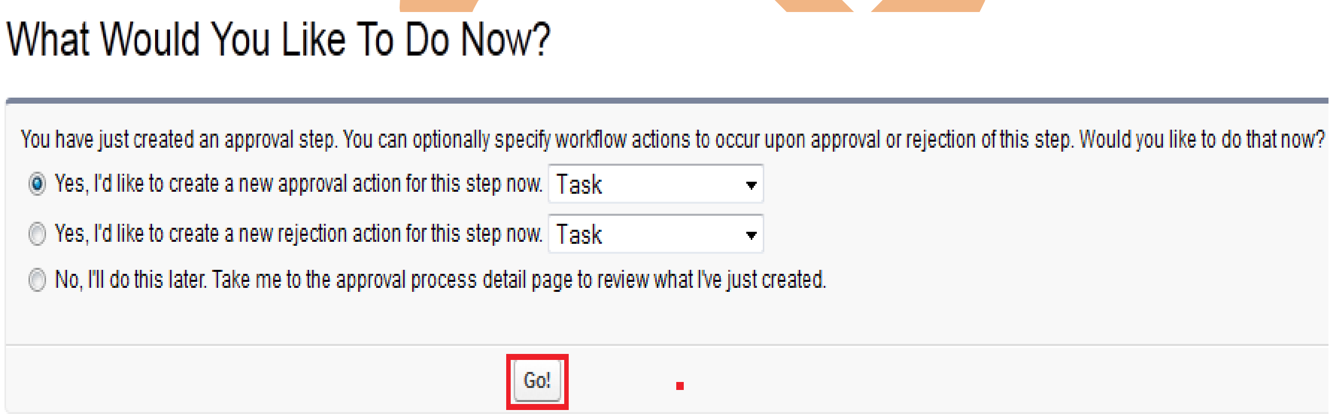
Step 2:-



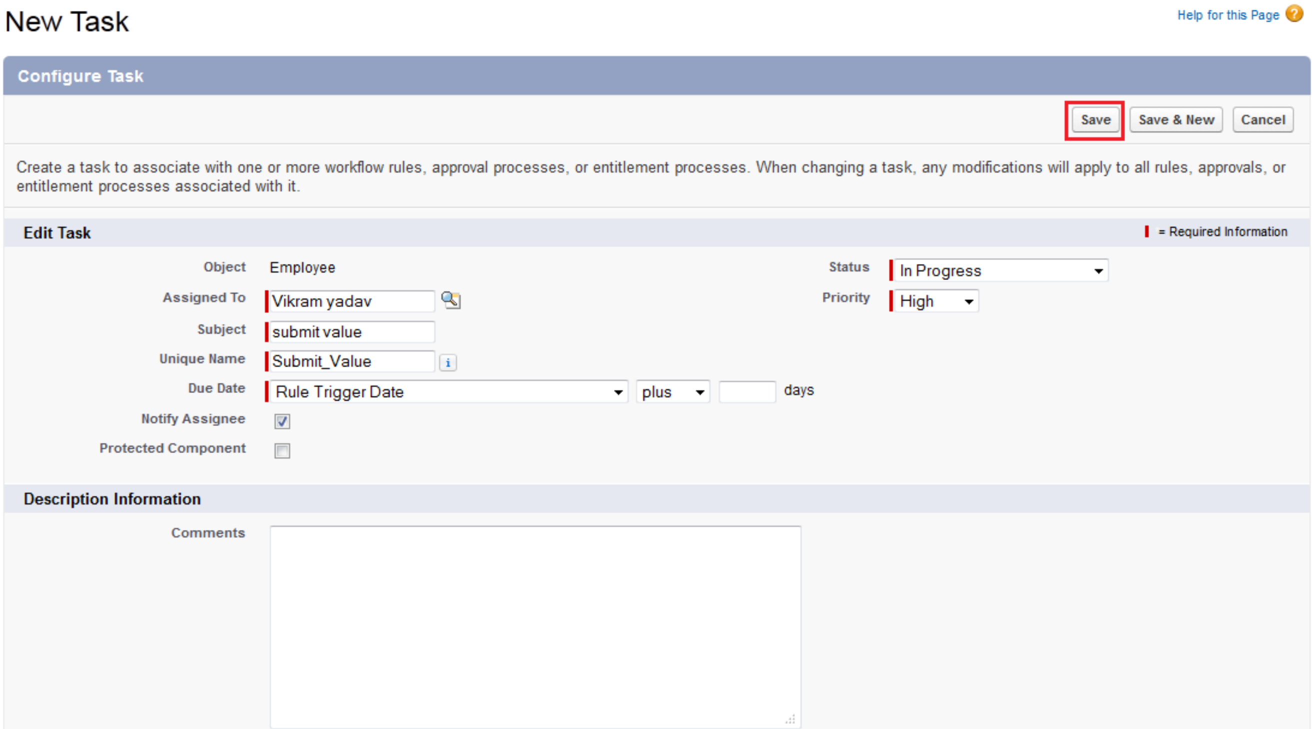
Step 3 :- Select option and click on **Save** button.



Create an approval action for this step :
Step 1 :-



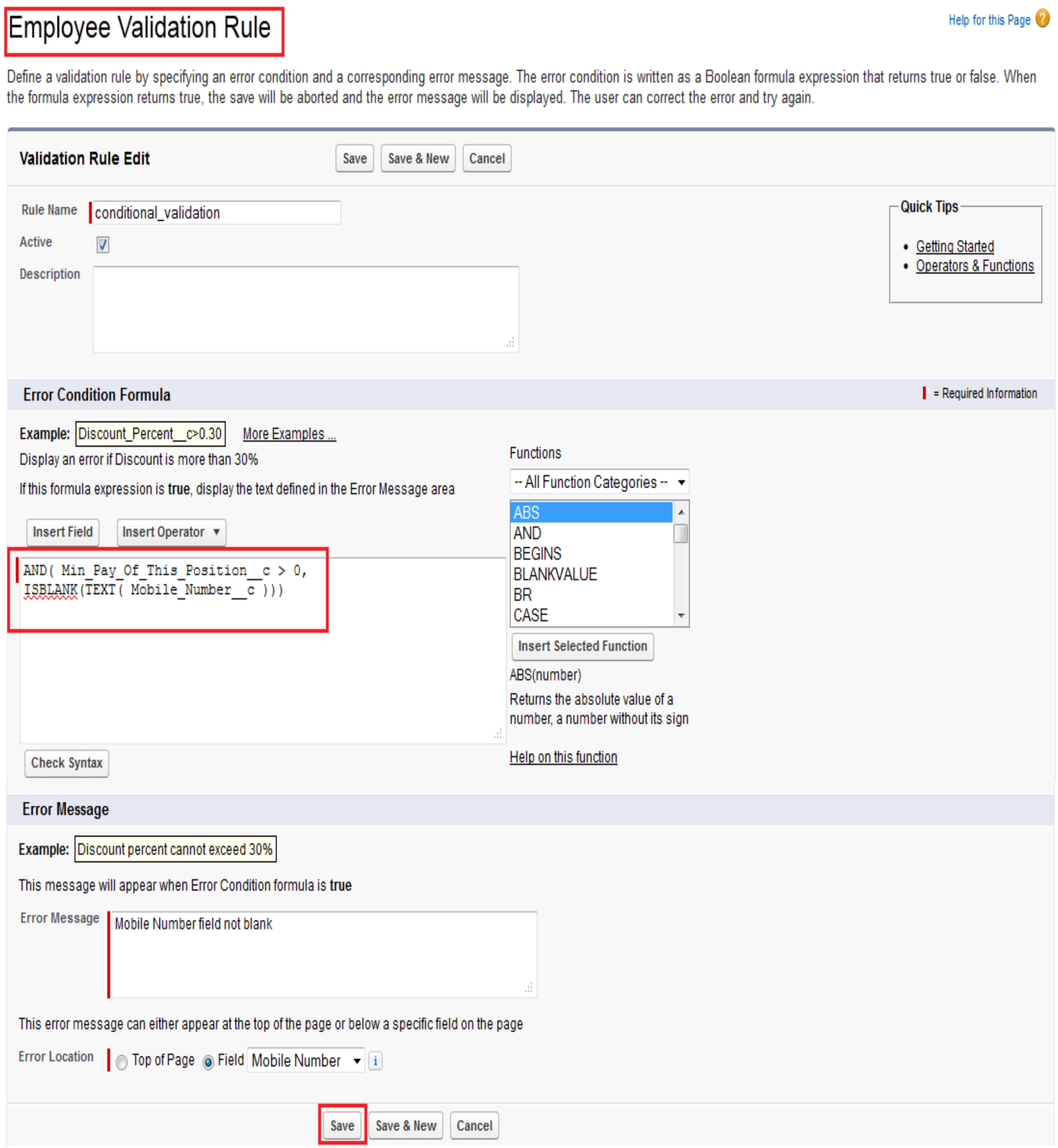
Step 2:-



After then select other approval and finish.

Validation Rules To Enforce Conditional required Behavior

For Creating Validation rules click on **Setup** > **Create** > **Objects** > select any object name then find Validation Rule then Click on **New** button.



Data Format

Auto Number :

A Display Format allows you to control the appearance of the Auto Number field. A Display Format consists of the substitution variables described below, plus any other characters you wish to include as a prefix or suffix.

Substitution Variables in Display Format

{0}	Required	Sequence number. One or more zeros enclosed in curly braces represent the sequence number itself. The number of zeros in the curly braces dictates the minimum number of digits that will be displayed. If the actual number has fewer digits than this, it will be padded with leading zeros. Maximum is 10 digits.
{YY} {YYYY}	Optional	Year. 2 or 4 "Y" characters enclosed in curly braces represent the year of the record creation date. You can display 2 digits (for example, "04") or all 4 digits (for example, "2004") of the year.
{MM}	Optional	Month. 2 "M" characters enclosed in curly braces represent the numeric month (for example, "01" for January, "02" for February) of the record creation date.
{DD}	Optional	Day. 2 "D" characters enclosed in curly braces represent the numeric day of the month (for example, "01" to "31" are valid days in January) of the record creation date.

Checkbox :

Allows users to select a True (checked) or False (unchecked) value. checkbox return value only   (True / False).

Currency :

Please enter the length of the number and the number of decimal places. For example a number with a length of 7 and 4 decimal places can accept values up to "8745125.2548".

In Apex :

```
<apex: outputText value="string: {0,number,$#,###.##}">
<apex: param value="{!anynumber}" />
</apex:outputText>
```

Date :

Example :

```
<apex:outputText value="{0, date, dd'/'MM'/'yyyy HH:mm:ss} >
   <apex:param value="{! Job_Applications.End_Date_Time__c}">
</apex:param>
```

Number :

Please enter the length of the number and the number of decimal places. For example a number with a length of 5 and 2 decimal places can accept values up to "45125.48".

Example :

```
<apex:page standardController="Account">
<apex:outputText value="{0, number, 000,00.00}">
       <apex:param value="{!Account.MaxSal}" />
 </apex:outputText>
</apex:page>
```

Data consistency :

Data Consistency means that each user sees a consistent view of the data, including visible changes made by the user's own transactions and transactions of other users.

- Eliminate Duplicate Data Automatically.
- Cleanse, Standardise and Consolidate your data.
- Create a Single Trusted View of your Customers.
- Integrate Important Data from All of your Systems.
- Generate Accurate and Complete Reports.